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ALL TERRAIN CRANE

OPERATOR'S MANUAL

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ZLJ5721JQZ400V All Terrain Crane

Operator’s Manual

Edition 1 April 2020

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To Users

Zoomlion appreciates your selection of ZOOMLION all terrain crane for your application.

No one should operate the crane unless they read and understand the information in this manual.

This manual contains the instructions and data on the safety and operation of the all terrain crane. Follow the operation procedures to make sure that your machine operates at MAXIMUM EFFICIENCY. The operator must keep this manual in the cab of the crane.

If there is anything in the manual that is not clear or you do not understand, please contact our service technician. We (Zoomlion) are NOT responsible for damages from an operator who does not obey the instructions in the *OPERATOR'S MANUAL*.

The *OPERATOR'S MANUAL* is an important part of the crane. If the crane becomes the property of a different person, make sure that the manual stays in the cab of the crane.

The data (data, specifications, illustrations) in this manual is for cranes in production at the time of this manual's publication. We reserve the right to make changes to this manual at any time, without obligation.

The manual has been translated to be best of our knowledge. Zoomlion assumes no liability for translation errors. The Chinese version of the *OPERATOR'S MANUAL* is solely applicable for factual accuracy.

Thank you!

Mobile Crane Branch Company of Zoomlion Heavy Industry Science and Technology Co., Ltd.

Safety Instructions

⚠ DANGER	Refers to a dangerous situation which, if you do not prevent, will cause death or injury.
⚠ WARNING	Refers to a possible dangerous situation which, if you do not prevent, could cause death or injury.
⚠ CAUTION	Refers to a possible dangerous situation which, if you do not prevent, may cause light or moderate injury.
NOTICE	Refers to a situation which, if you do not prevent, may cause property or equipment damage.

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All Terrain Crane Operator’S Manual

Chapter 1 Description of Crane

Chapter 1　Description of Crane

1.1 Model and name plates

1.1.1 Model

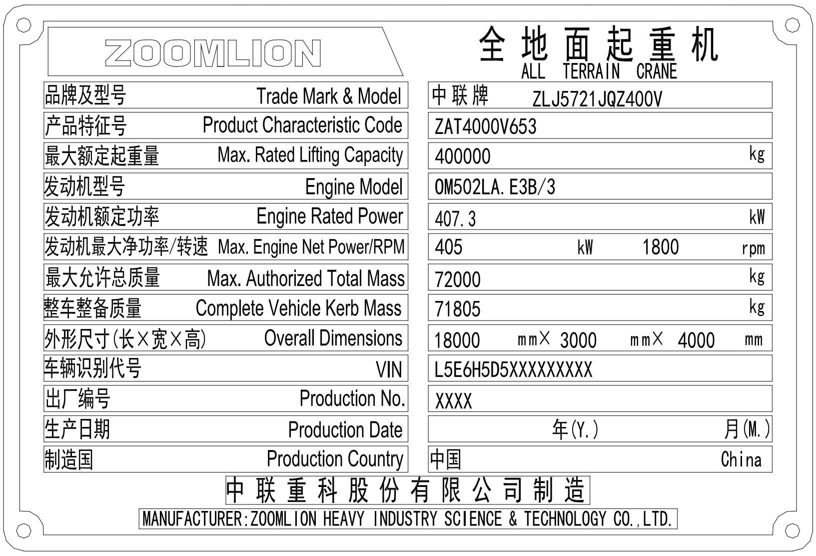
Model in auto industry: ZLJ5721JQZ400V

Model in engineering industry: ZAT4000V

1.1.2 Name plates

For name plate of crane, refer to Figure 1-1.

For name plate of chassis, refer to Figure 1-2.

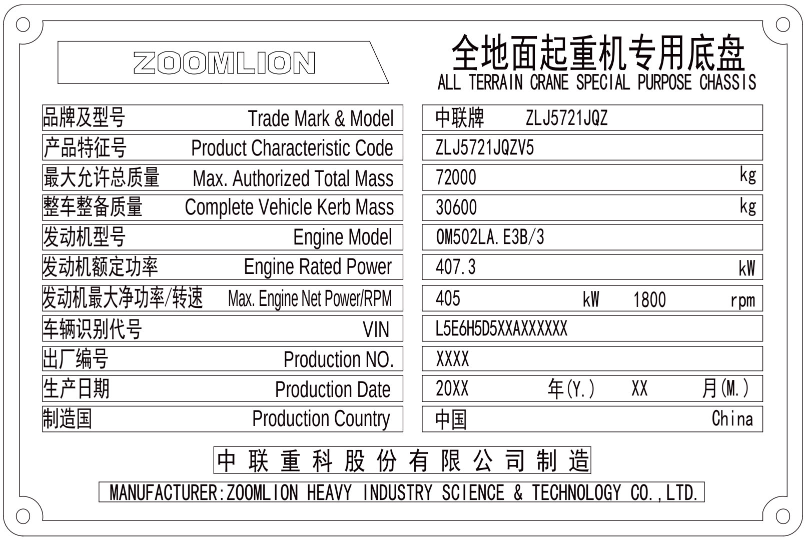


全地面起重机
ALL TERRAIN CRANE

品牌及型号	Trade Mark & Model	中联牌　ZLJ5721JQZ400V
产品特征号	Product Characteristic Code	ZAT4000V653
最大额定起重量	Max. Rated Lifting Capacity	400000 kg
发动机型号	Engine Model	OM502LA. E3B/3
发动机额定功率	Engine Rated Power	407.3 kW
发动机最大净功率/转速	Max. Engine Net Power/RPM	405 kW 1800 rpm
最大允许总质量	Max. Authorized Total Mass	72000 kg
整车整备质量	Complete Vehicle Kerb Mass	71805 kg
外形尺寸(长×宽×高)	Overall Dimensions	18000 mm× 3000 mm× 4000 mm
车辆识别代号	VIN	L5E6H5D5XXXXXXXXX
出厂编号	Production No.	XXXX
生产日期	Production Date	年(Y.) 月(M.)
制造国	Production Country	中国 China

中联重科股份有限公司制造
MANUFACTURER:ZOOMLION HEAVY INDUSTRY SCIENCE & TECHNOLOGY CO.,LTD.

Figure 1-1　Name plate of crane



全地面起重机专用底盘
ALL TERRAIN CRANE SPECIAL PURPOSE CHASSIS

品牌及型号	Trade Mark & Model	中联牌　ZLJ5721JQZ
产品特征号	Product Characteristic Code	ZLJ5721JQZV5
最大允许总质量	Max. Authorized Total Mass	72000 kg
整车整备质量	Complete Vehicle Kerb Mass	30600 kg
发动机型号	Engine Model	OM502LA. E3B/3
发动机额定功率	Engine Rated Power	407.3 kW
发动机最大净功率/转速	Max. Engine Net Power/RPM	405 kW 1800 rpm
车辆识别代号	VIN	L5E6H5D5XXAXXXXXX
出厂编号	Production NO.	XXXX
生产日期	Production Date	20XX 年(Y.) XX 月(M.)
制造国	Production Country	中国 China

中联重科股份有限公司制造
MANUFACTURER:ZOOMLION HEAVY INDUSTRY SCIENCE & TECHNOLOGY CO.,LTD.

Figure 1-2　Name plate of chassis

1.1.3 Name plates installation locations

The name plate of crane is installed on the lower part of operator's cab.

The name plate of chassis is installed on the right longitudinal beam of chassis frame.

For exact installation locations, please refer to Figures 1-3 and 1-4.

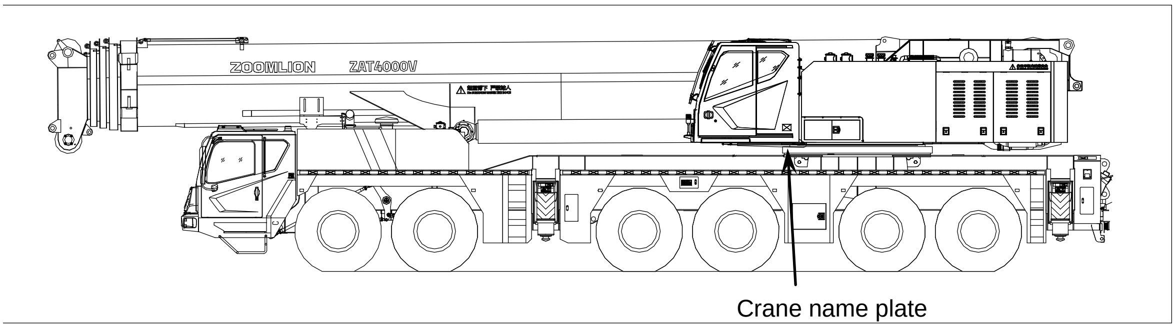


Figure 1-3　Crane name plate location

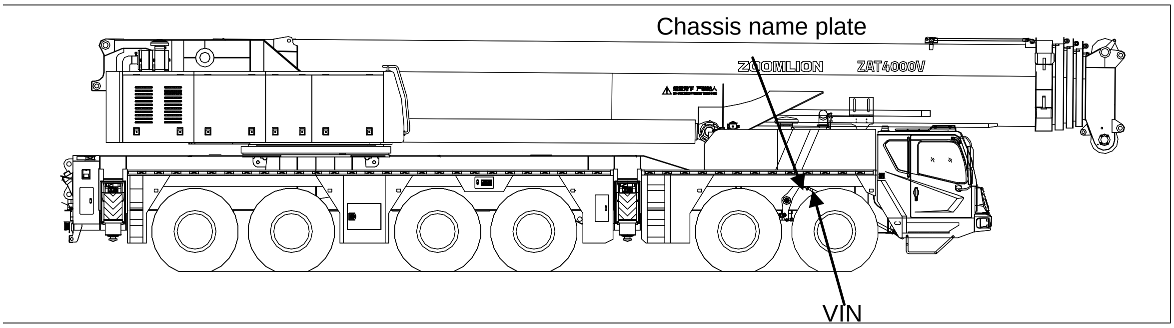


Figure 1-4　Chassis name plate location

1.1.4 Vehicle identification number (VIN) and its locations

The VIN of ZLJ5721JQZ400V is L5E6H5D5×××××××××, and is stamped in the crane name plate, chassis name plate and right longitudinal beam of chassis frame.

The exact location is shown in Figure 1-4.

1.1.5 Engine and its manufacturer

Engine model: OM502LA.E3B/3

Manufacturer: Mercedes – Benz

1.1.6 Engine name plate and their locations

There are two engine nameplates. One is on the left side of the last air cylinder and near the end of flywheel. The other one is installed on the front end of the housing of oil filter, namely the left side of engine is close to the end of fan.

The exact locations are shown in Figures 1-5 and 1-6.

Note: Have the above engine data available when communicating with us.

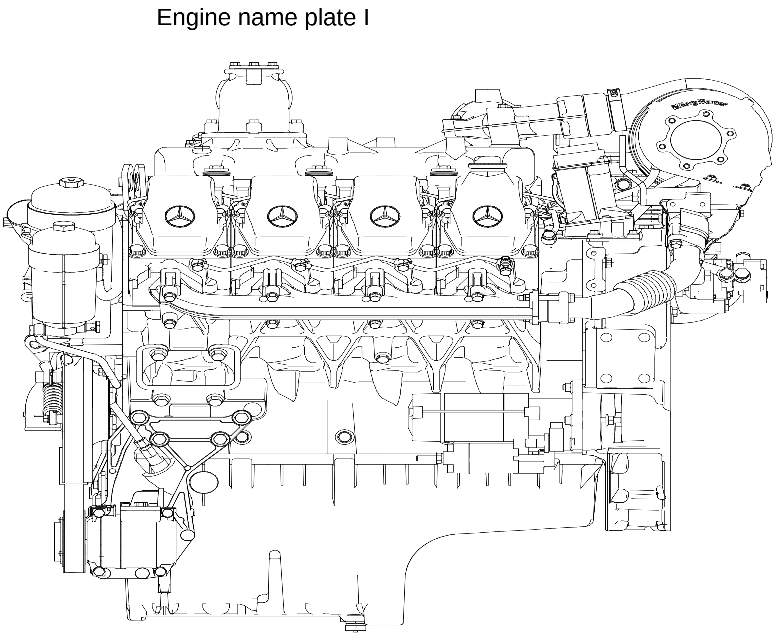


Figure 1-5 Engine name plate location I

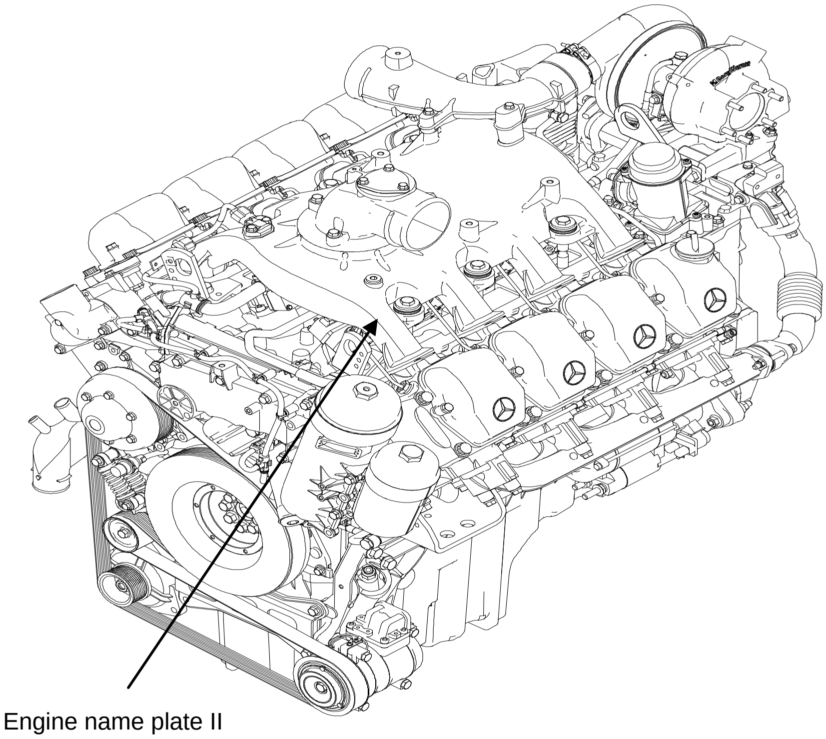


Figure 1-6 Engine name plate location II

1.2 Main components and product description

1.2.1 Main components

For locations of crane main components, please refer to Figures 1-7, 1-8, 1-9 and 1-10.

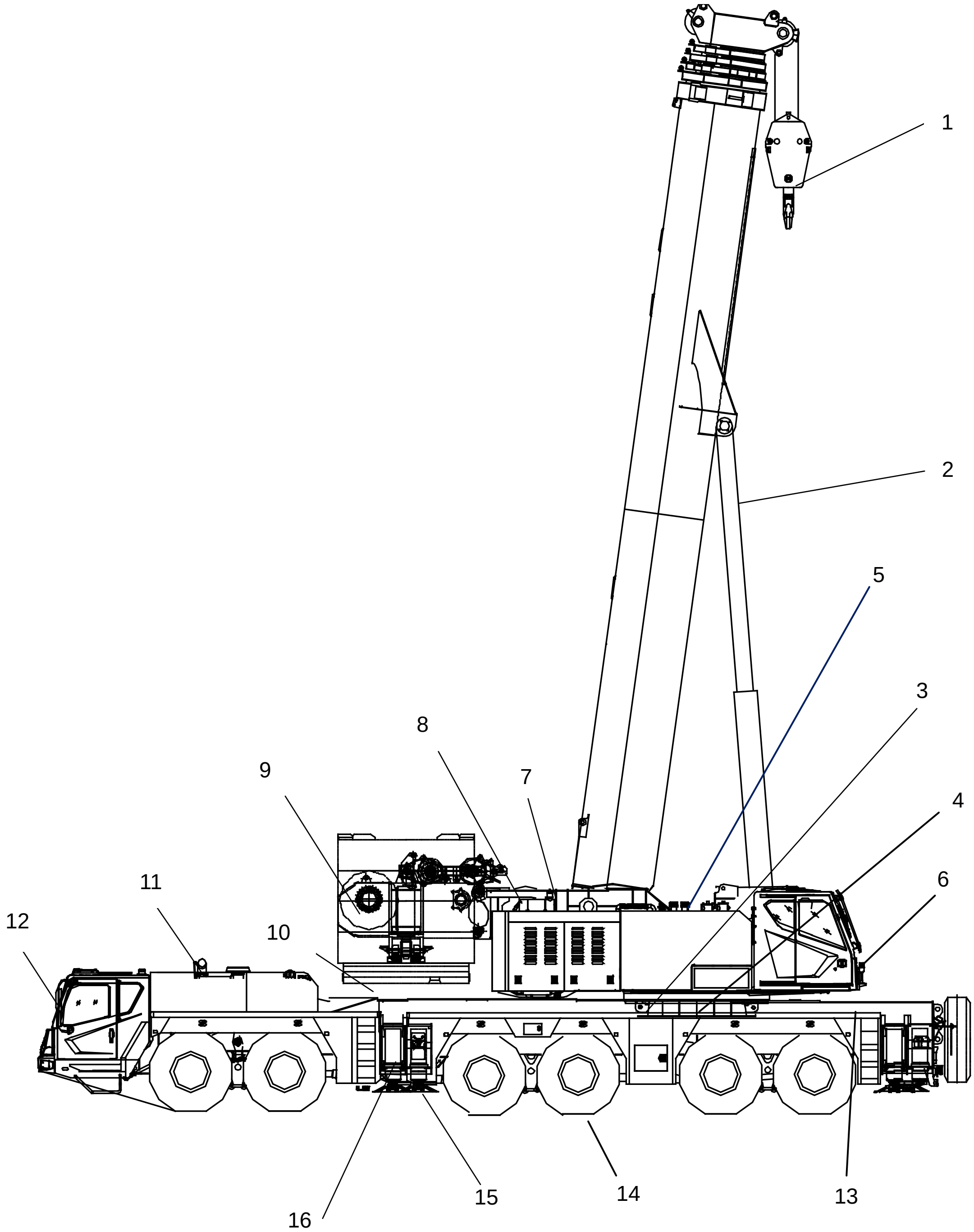


Figure 1-7 Crane main components I

Pos.	Description	Pos.	Description
1	Main hook	9	Auxiliary hoist mechanism
2	Derricking gear	10	Counterweight
3	Slewing gear	11	Chassis engine
4	Slewing ring	12	Driver's cab
5	Superstructure engine	13	6-axle chassis for all terrain crane
6	Operator's cab	14	Tire (single tire)
7	Slewing table	15	Outrigger pad
8	Main hoist mechanism	16	Sliding beam (two-section synchronous telescoping)

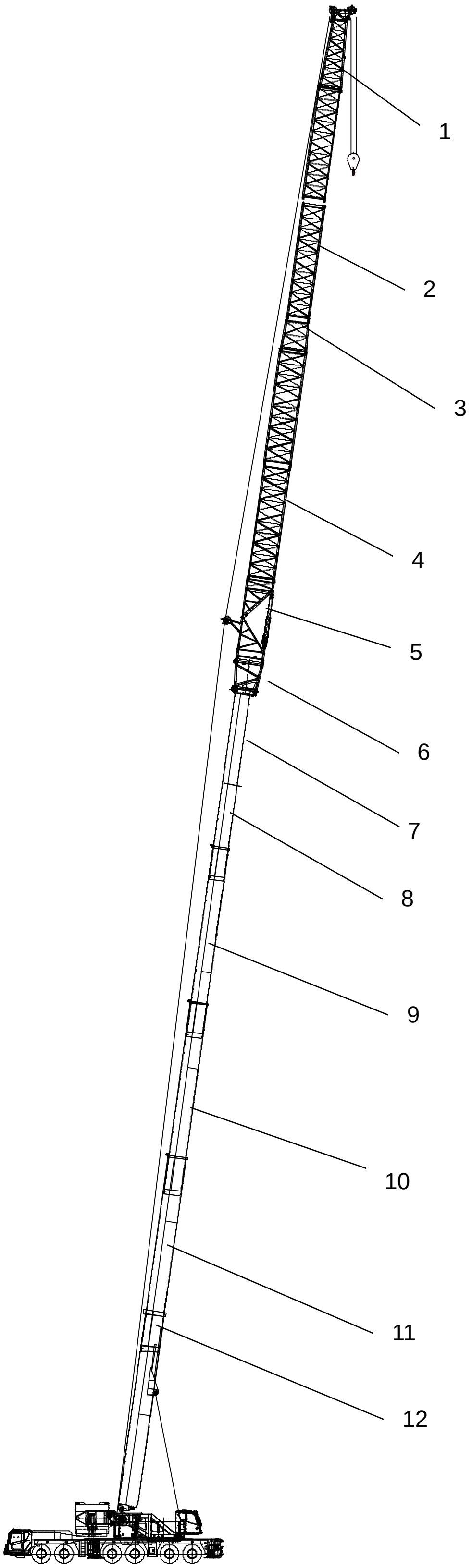


Figure 1-8 Crane main components II

Pos.	Description	Pos.	Description
1	Head section	7	Telescopic section 5
2	Extension 2	8	Telescopic section 4
3	Transition section	9	Telescopic section 3
4	Extension 1	10	Telescopic section 2
5	Adapter 2	11	Telescopic section 1
6	Adapter 1	12	Basic boom

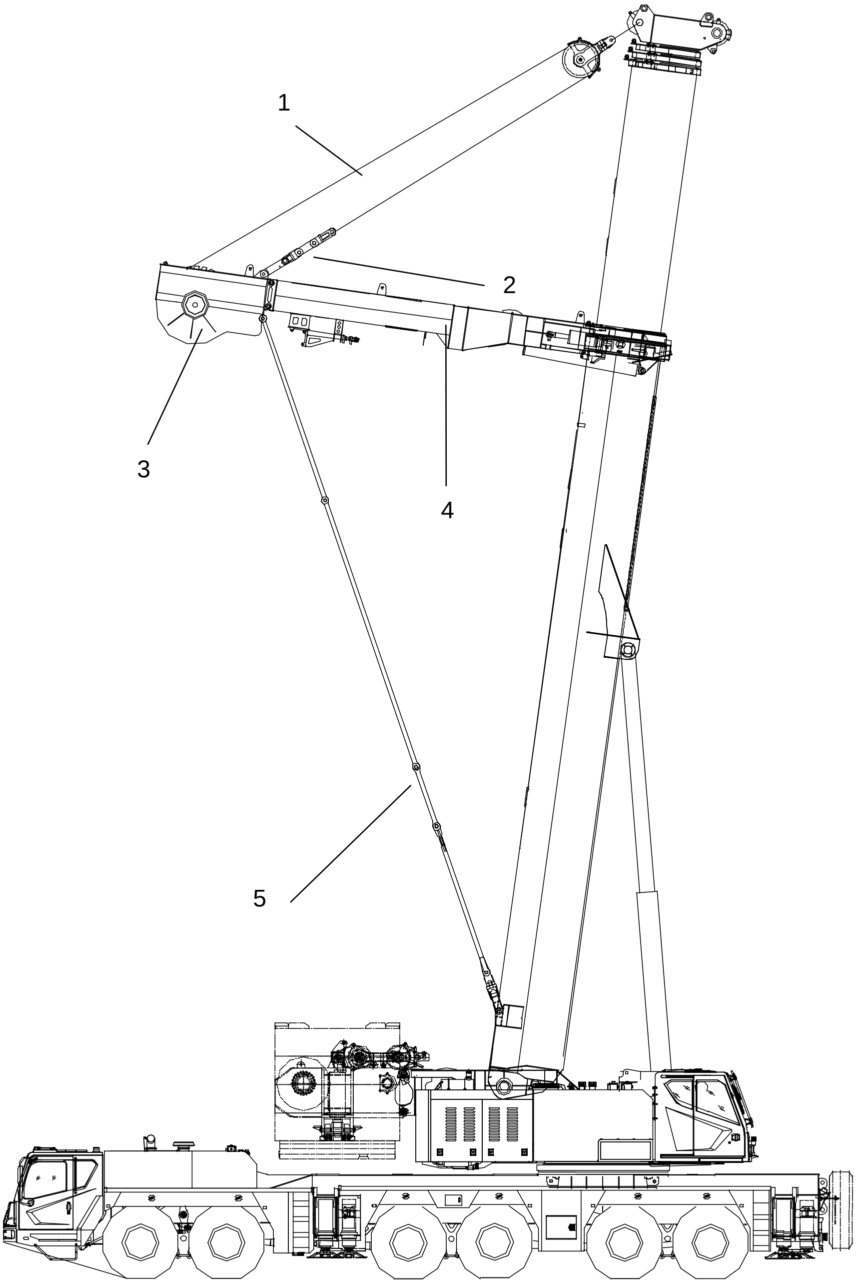


Figure 1-9 Crane main components III

Pos.	Description	Pos.	Description
1	Wire rope of Y-shaped guying system	4	Derrick boom of Y-shaped guying system
2	Tension sensor	5	Anchoring rod
3	Guy winch		

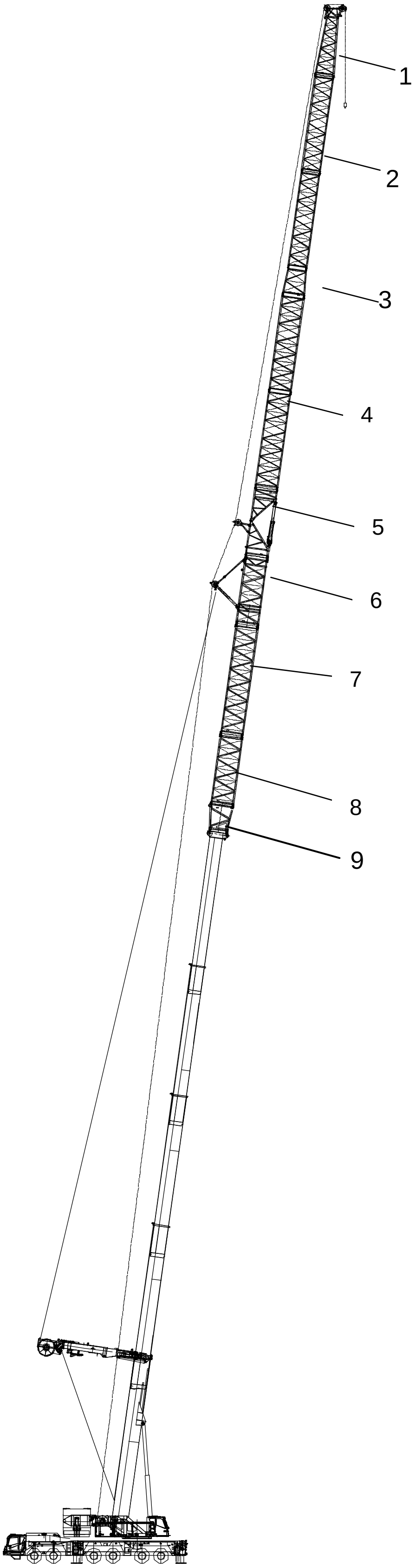


Figure 1-10 Crane main components IV

Pos.	Description	Pos.	Description
1	Head section	6	A-frame
2	Extension 2	7	8 m heavy duty boom
3	Transition section	8	5 m heavy duty boom
4	Extension 1	9	Adapter 1
5	Adapter 2		

1.2.2 Product description

1.2.2.1 Crane chassis

Driver's cab	Full-width luxury cab made of thin metal plate, with the following features: – Safety glass – 3 seats with upper backrest & armrests, driver's seat cushioned pneumatically – Seat belts, height and inclination adjustable steering wheel – Electronic instruments, buttons, control lights – Cigarette lighter, hat-and-coat hook, fire extinguisher, VCD – Visual reversing device – Electrically controlled combined air conditioning & cab heater.
Chassis frame	Distortion-resistant box structure welded from high-tensile steel
Engine	V-type, 8-cylinder electronic fuel injection diesel, manufactured by Benz, model OM502LA series, turbo-charged, inter-cooled (air to air) Maximum net power: 405 kW at 1800 r/min. Rated power: 407.3 kW at 1800 r/min. Maximum torque: 2600 N·m at 1300 r/min. Fuel tank: 400 L
Sliding beam	Two-section synchronous telescoping sliding beams
Clutch	Maintenance-free, dry single-plate clutch manufactured by ZF Service life: about 100,000 km to 150,000 km
Transmission	ZF 16-gear AS-TRONIC mechanical automatic shift transmission
Transfer case	KESSLER VG3750 mechanical 2-gear transfer case, one gear is for road driving, the other gear is for off-road gear, front & rear output with torque proportional distribution, with longitudinal differential and differential lock
Axles	KESSLER axles, disc brake All axles are steered. Axles 1, 3, 5 and 6 are drive. Drive axles 1 and 6 are with transversal differentials and differential locks. Drive axles 3 and 5 are with transversal & longitudinal differentials and differential locks. Axle 5 is with the drive disengage device which can drive disengaged with axle 6.
Suspension	All axles with hydro-pneumatic suspension and automatic leveling system Load equalization between the axle pairs The suspension can be set "Sprung" and be locked hydraulically.

	Entire vehicle can be raised or lowered together, and its left / right side can also be raised or lowered independently. All tires can be raised or lowered after the crane is supported on outriggers.
Tires	All axles are with tubeless radial-ply single tire. Tire size: 445/95R25
Steering	Single-loop steering gear and dual-loop hydraulic steering system with stand-by steering pump and valve All axles are steereable. The steering system has several steerin modes including the crab steering mode. If necessary, rear axles locked for straight travel can be applied.
Brakes	It consists of service brake, parking brake (emergency brake) and auxiliary brake. Service brake: acting on all of wheels Parking brake (Emergency brake): acting on axles 2, 3, 4, 5 and 6 Auxiliary brake: consisting of retarder (engine compression brake & engine exhaust brake) and eddy current brake
ABS	ABS manufactured by Wabco
Electrical system	24 Volt DC, 2 batteries, each with 195 Ah Lighting system complies with National Standards, equipped with sliding beam illumination.
Air conditioning	Combined air conditioning and cab heater
Central lubricating system	All the lubricating points are automatically supplied with the correct grease quantity.
Platform	All aluminium alloy platform with aluminium alloy forming molding
Drive type	12×8 All axles are steered. Axles 1, 3, 5 and 6 are drive. Axles 2 and 4 are driven.

1.2.2.2 Crane superstructure

Operator's cab	All superstructure switches and display unit are arranged in it Equipped with safety glass Cab can be tilted backwards for 20° during operation.
Main boom	1 basic boom and 5 telescopic sections All telescopic sections are hydraulically extendable independently of each other via the rapid-cycle single cylinder telescoping system with hydraulic interlocking device. Telescopic boom length: 15.6 m to 71 m
Slewing table	High-tailed, distortion-resistant box structure, providing horizontal rotation for superstructure components
Engine	6-cylinder in line diesel, manufactured by Benz, model OM926LA series, turbo-charged, inter-cooled (water-air). Maximum rated power: 240 kW at 2200 r/min. Maximum torque: 1300 N·m at 1200 - 1600 r/min. Fuel tank: 290 L
Crane drive	Diesel engine – transfer case - hydraulic pump power system consisting of 3 hydraulic axial plunger pumps, with servo control and power control Hydraulic pump is connected to the compact flange and the transfer case.
Controls	Modern CAN bus technology, computer integrated control, engine load-limit control, computer diagnosis, electron pedal Variable hydraulic system for open and closed loop operation, with electro-hydraulic proportional control The computer can monitor and display the corresponding operation data at real time in order to analysis and process these data. Two 4-way joysticks, self-centering, realize infinitely variable control of all crane movements
Safety system	Load moment limiter overload protection system, balance valves to prevent pipe and hose breakage, hoisting limit switch and lowering limit switch
Derricking gear	Two hydraulic cylinders with a balance valve lifts and lowers the boom from -0.4° to 82°.
Hoist gear	It consists of main and auxiliary hoist gears. Hydraulic motor with planetary reducer and brake Variable motor Wire rope diameter: φ24 mm
Slewing gear	Slewing drive device, constant motor, planetary reducer and brake The crane is equipped with dual slewing gears.

Electrical system	24 Volt DC, 2 batteries, each with 185 Ah
Counterweight	Moveable counterweight plates can be assembled and disassembled by the counterweight handler. Total weights: – 140 t (including the counterweight handler) Weight variants: Weight variant : 0 t, 28 t, 40 t, 60 t, 80 t, 100 t, 120 t, 140 t.
Hook block	5 hooks The maximum lifting capacity in various reevings: 220 t (optional), 130 t, 80 t (optional), 50 t and 12 t (1 reeving,optional) Hooks 220 t, 130 t and 80 t: straight shank with ramshorn hook
Central lubricating system	All the lubricating points are automatically supplied with the correct grease quantity.
Air conditioning	Combined air conditioning and cab heater

1.2.2.3 Additional equipment

Light duty jib	It consists of adapter, articulated piece, extension 1, reduction piece, extension 2 and head piece etc. Light duty jib is mountable at 0°, 20° and 40° on the telescopic boom. Light duty jib can change its angles via two cylinders. Light duty jib variants: 9 m, 14 m, 21 m, 28 m, 35 m, 42 m; The articulated piece of light duty jib variants 28 m, 35 m and 42 m has two installation positions. Under the superlift OM, 5 m extension should be mounted.
Heavy duty jib	Only under the superlift OM, 5 m and 8 m heavy duty jibs should be mounted on the light duty jib.
Luffing jib	It consists of adapter, 5 m extension, adapter of luffing jib, pivot section, extension 1 (5 pieces), transition section, extension 2 (3 pieces) and head piece etc. Among which, transition section, extension 1, extension 2 and head piece can adopt the corresponding extensions of jib assembly.
Y-shaped guying system	It consists of two derrick booms which are primarily used to improve the stress distribution of boom and the lifting performance. Besides, it also can self-assemble and self-dismantle.
Air conditioning	The driver's cab and operator's cab are all equipped with the special air conditioning & cab heater for vehicle.

1.2.3 Boom

Including main boom, light duty jib, heavy duty jib and TBM jib

1.2.3.1 Main boom

1 basic boom and 5 telescopic sections

Boom length (L): 15.6 m to 71 m

Refer to Figure 1-11.

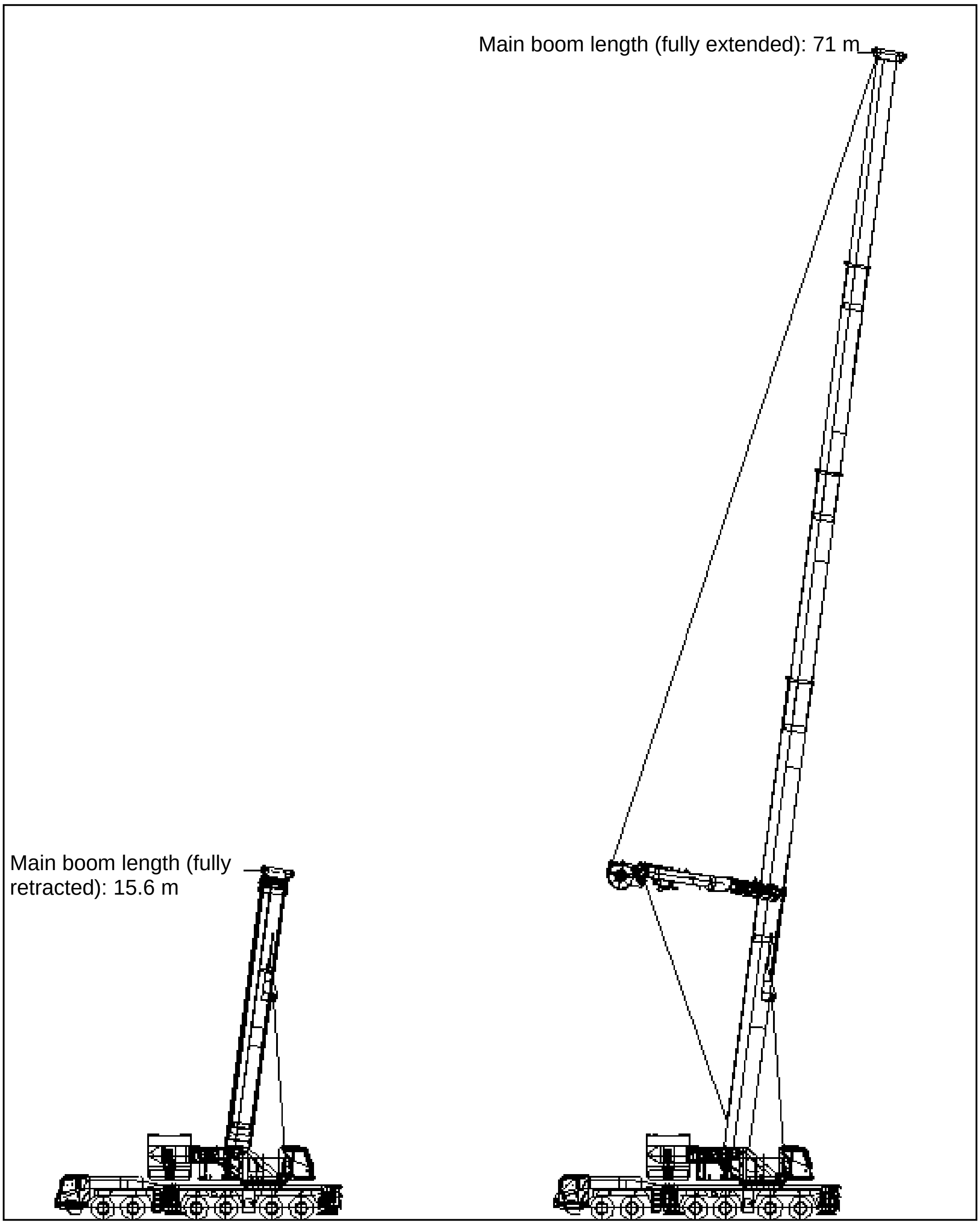


Figure 1-11 Main boom

1.2.3.2 Main boom + light duty jib variant 1 (9 m)

9 m light duty jib on 71 m main boom

Light duty jib variant 1 (9 m): 1 adapter (2 m) + 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 9 m = 80 m

Refer to Figure 1-12.

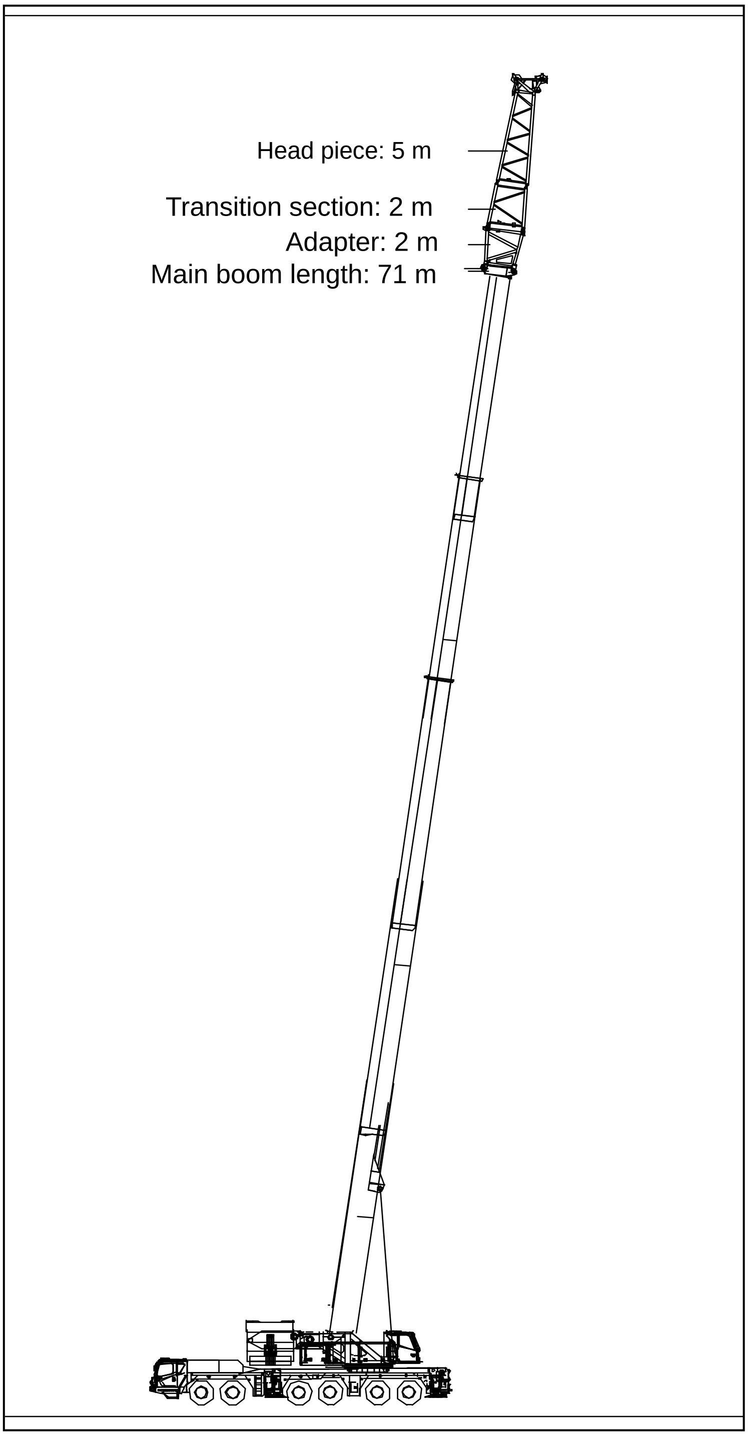


Figure 1-12 Main boom + light duty jib variant 1 (9 m)

1.2.3.3 Main boom + light duty jib variant 2 (14 m)

14 m light duty jib (3 offsets: 0°, 20°, 40°) on 71 m main boom

Light duty jib variant 2 (14 m): 1 adapter (2 m) + 1 articulated piece (5 m) + 1 transition section (2 m)+ 1 head piece (5 m)

Max. boom length (L): 71 m + 14 m = 85 m

Refer to Figure 1-13.

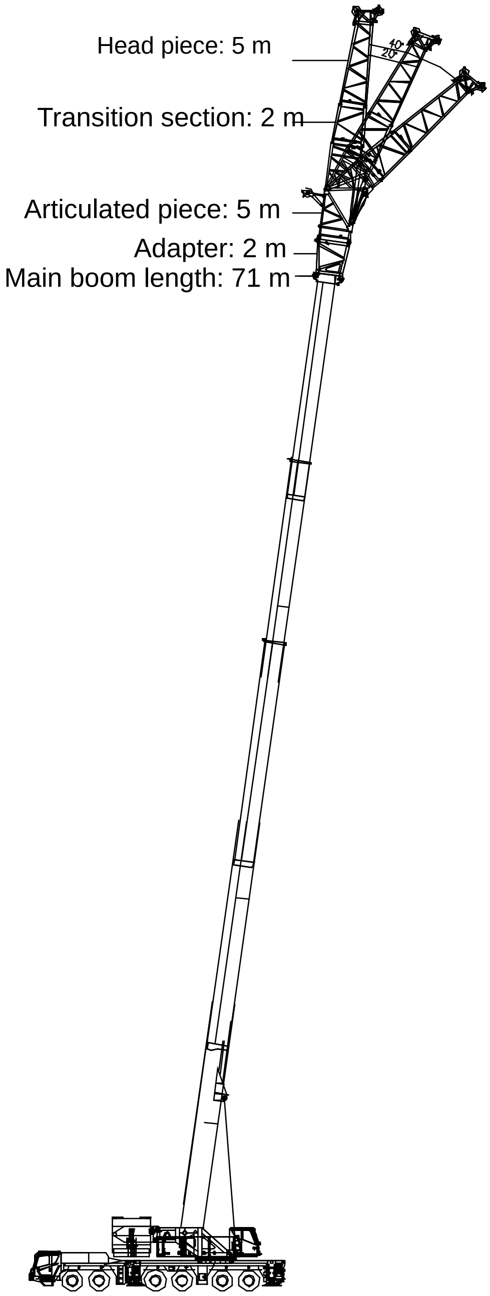


Figure 1-13 Main boom + light duty jib variant 2 (14 m)

1.2.3.4 Main boom + light duty jib variant 3 (21 m)

21 m light duty jib (3 offsets: 0°, 20°, 40°) on 71 m main boom

Light duty jib variant 3 (21 m): 1 adapter (2 m) + 1 articulated piece (5 m) + 1 extension 1 (7 m) + 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 21 m = 92 m

Refer to Figure 1-14.

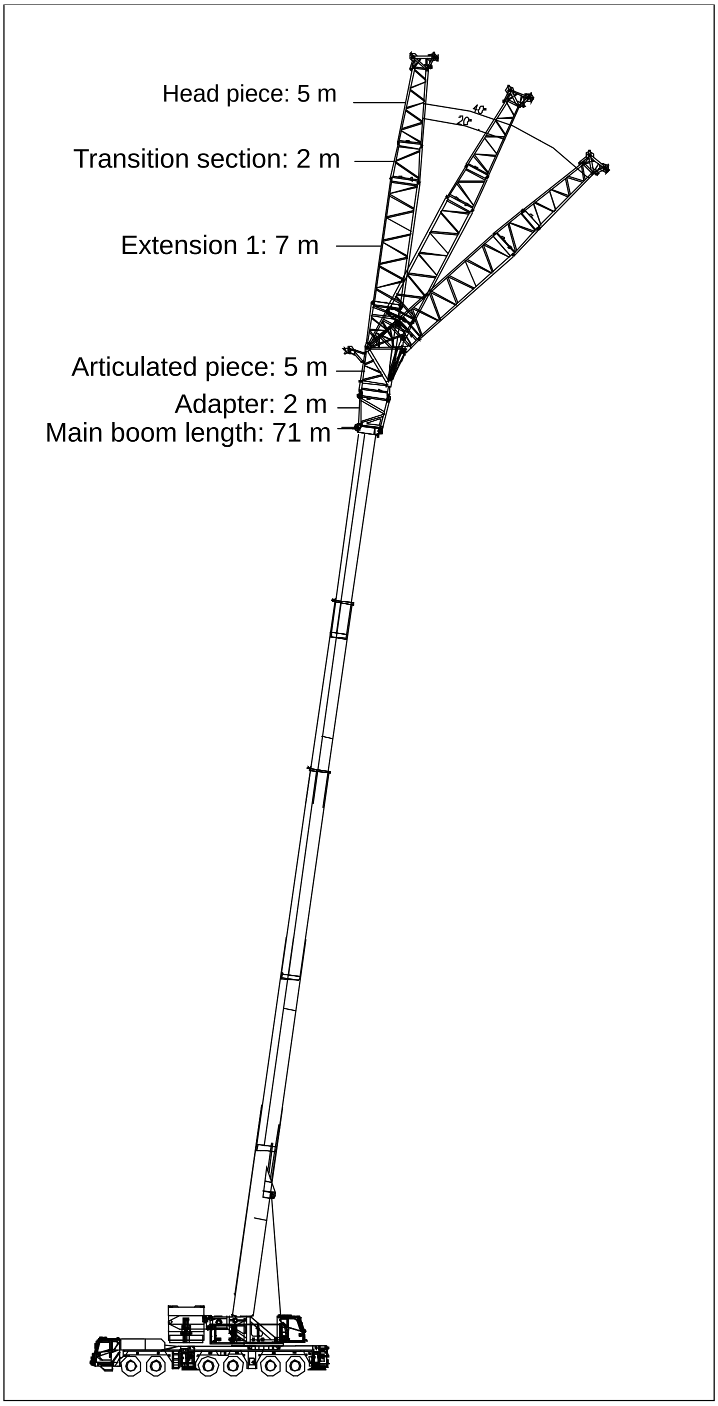


Figure 1-14 Main boom + light duty jib variant 3 (21 m)

1.2.3.5 Main boom + light duty jib variant 4 (28 m)

28 m light duty jib (3 offsets: 0°, 20°, 40°) on 71 m main boom

Light duty jib variant 4 (28 m): 1 adapter (2 m) + 1 articulated piece (5 m) + 2 extension 1 (14 m) +1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 28 m = 99 m

Refer to Figure 1-15.

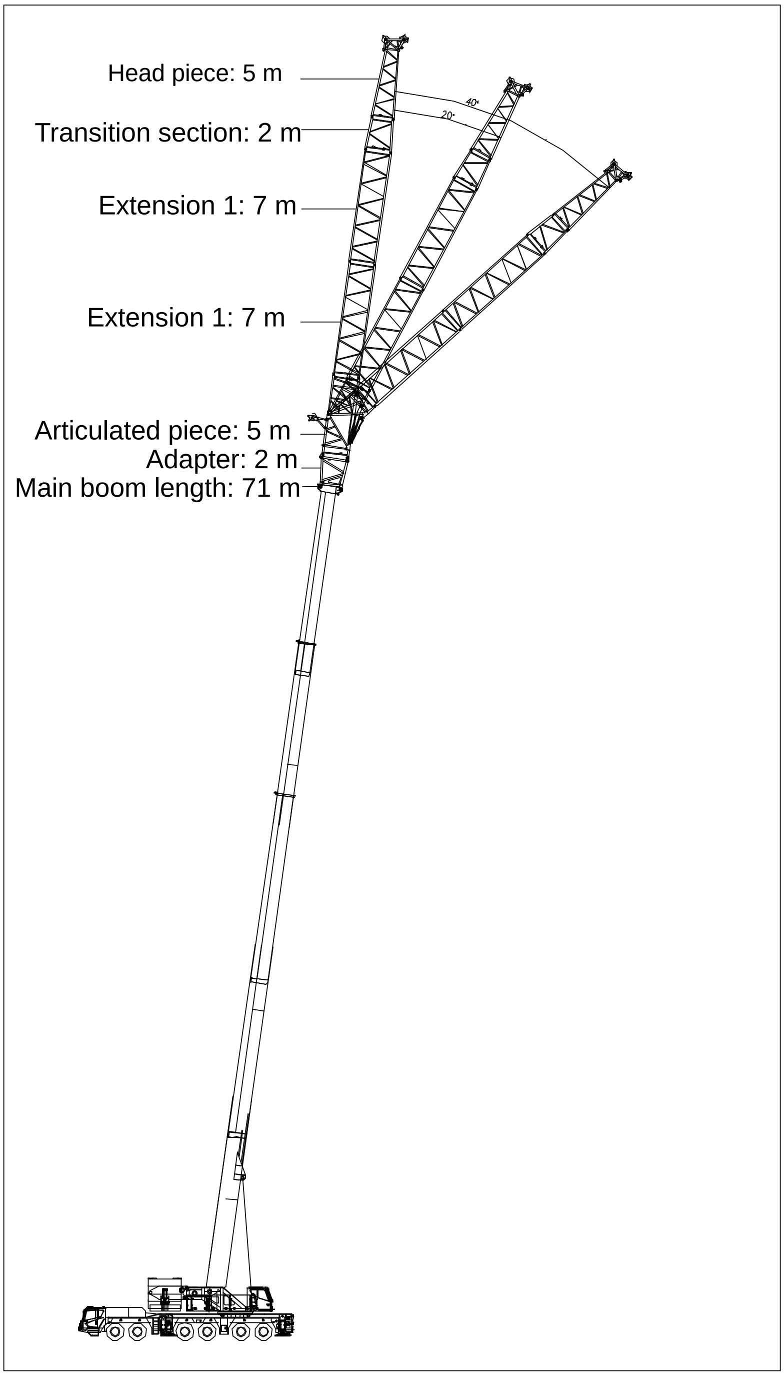


Figure 1-15 Main boom + light duty jib variant 4 (28 m)

1.2.3.6 Main boom + light duty jib variant 5 (28 m) (16 m + 12 m)

28 m light duty jib (3 offsets: 0°, 20°, 40°) on 65.6 m main boom

Light duty jib variant 5 (28 m): 1 adapter (2 m) + 2 extension 1 (14 m) + 1 articulated piece (5 m) +1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 28 m = 93.6 m

Refer to Figure 1-16.

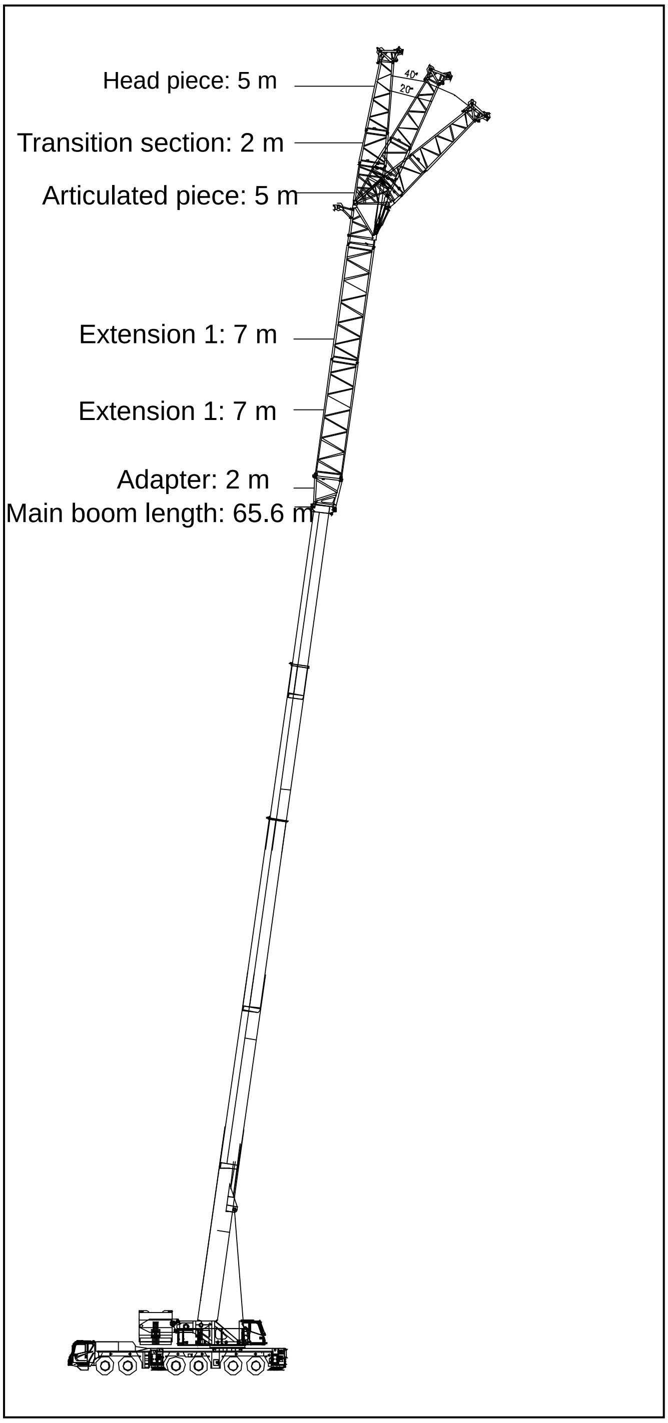


Figure 1-16　Main boom + light duty jib variant 5 (28 m)

1.2.3.7 Main boom + light duty jib variant 6 (35 m)

35 m light duty jib (3 offsets: 0°, 20°, 40°) on 71 m main boom

Light duty jib variant 6 (35 m): 1 adapter (2 m) + 1 articulated piece (5 m) + 2 extension 1 (14 m) +1 transition section (2 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 35 m = 106 m

Refer to Figure 1-17.

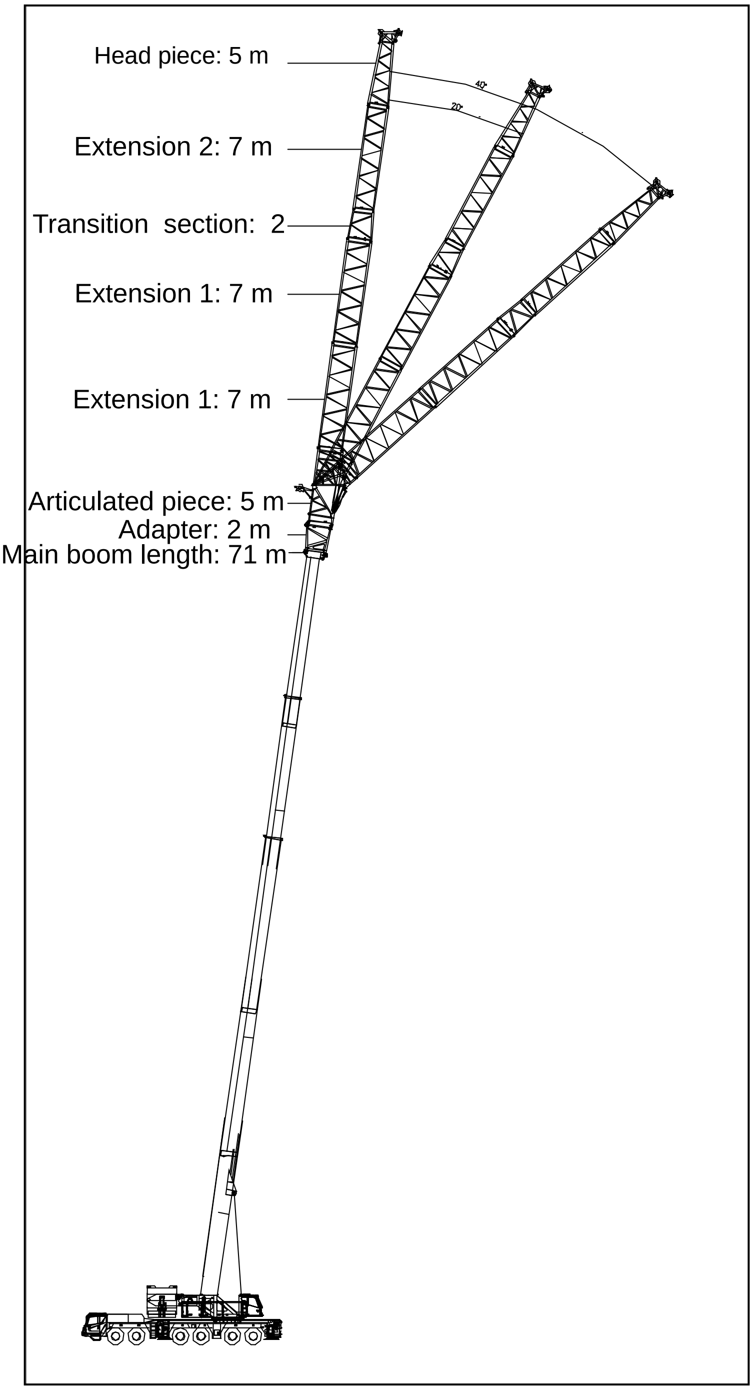


Figure 1-17 Main boom + light duty jib variant 6 (35 m)

1.2.3.8 Main boom + light duty jib variant 7 (35 m) (16 m + 19 m)

35 m light duty jib (3 offsets: 0°, 20°, 40°) on 65.6 m main boom

Light duty jib variant 7 (35 m): 1 adapter (2 m) + 2 extension 1 (14 m) + 1 articulated piece (5 m) +1 transition section (2 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 35 m = 100.6 m

Refer to Figure 1-18.

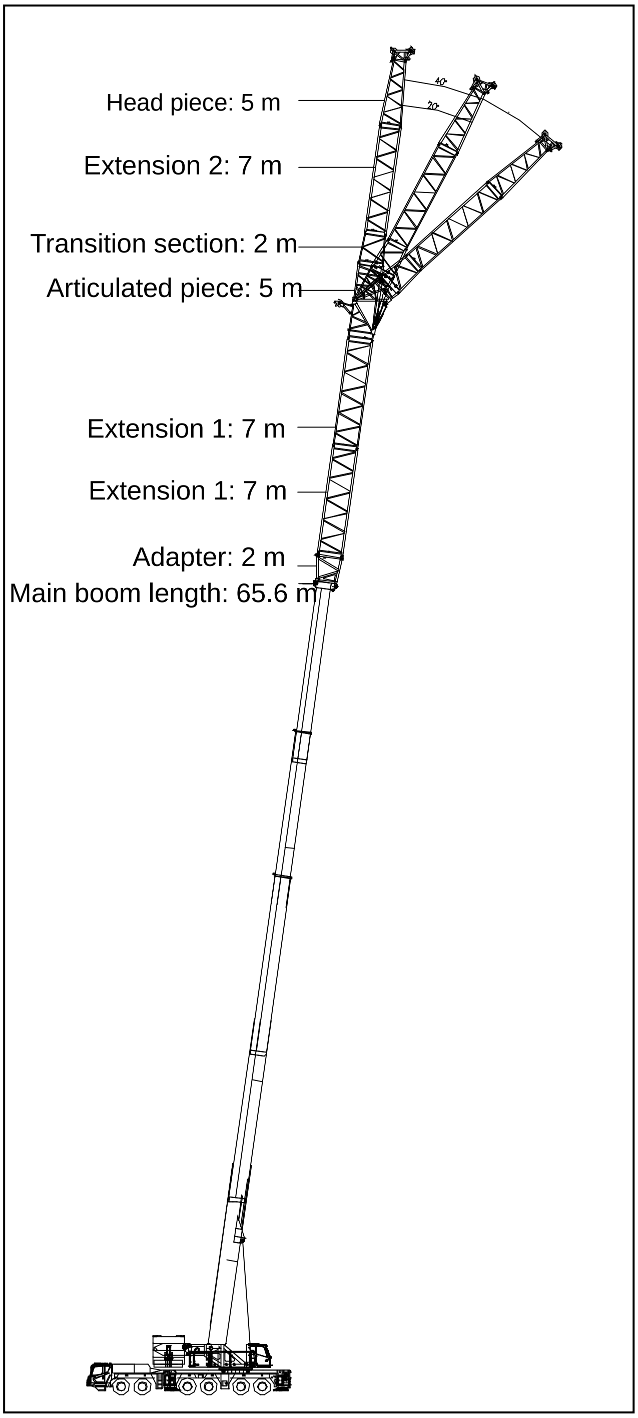


Figure 1-18　Main boom + light duty jib variant 7 (35 m)

1.2.3.9 Main boom + light duty jib variant 8 (42 m)

42 m light duty jib (3 offsets: 0°, 20°, 40°) on 71 m main boom

Light duty jib variant 8 (42 m): 1 adapter (2 m) + 1 articulated piece (5 m) + 2 extension 1 (14 m) +1 transition section (2 m) + 2 extension 2 (14 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 42 m = 113 m

Refer to Figure 1-19.

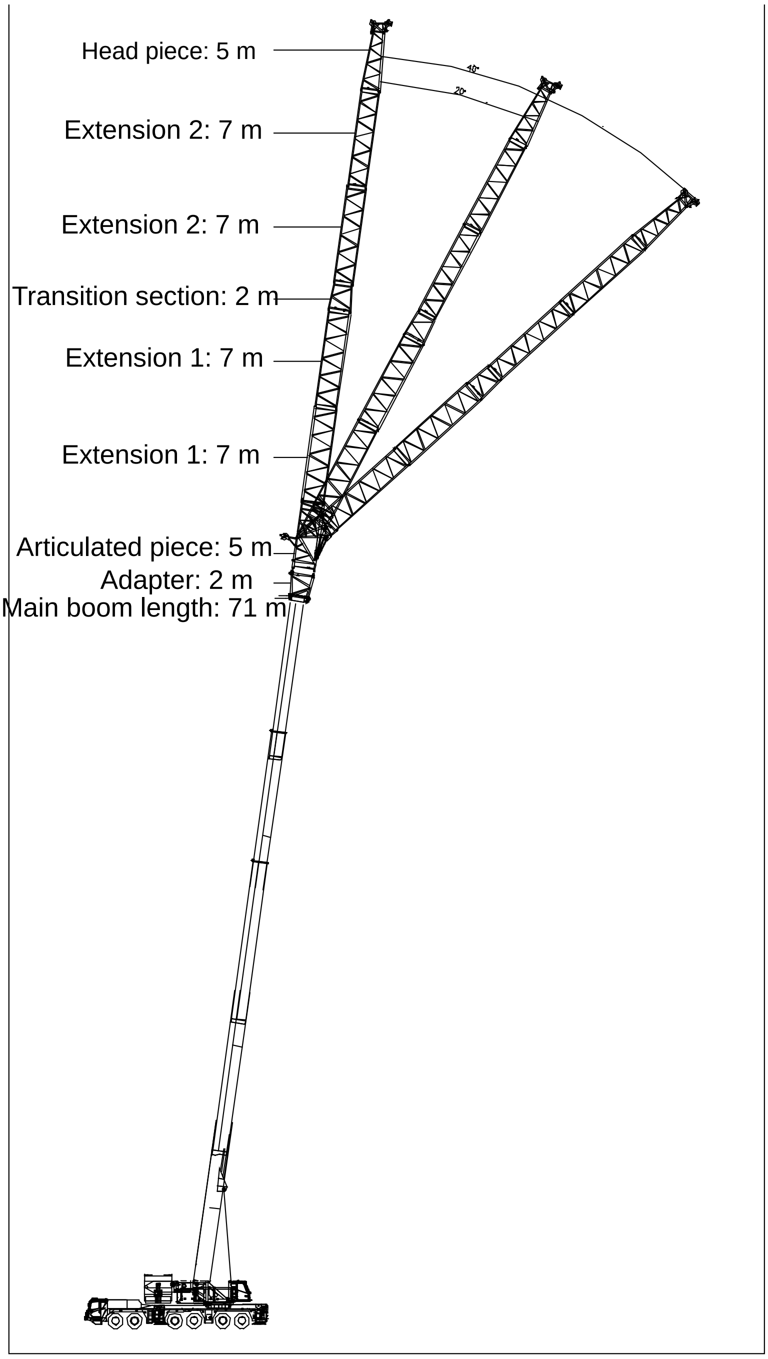


Figure 1-19 Main boom + light duty jib variant 8 (42 m)

1.2.3.10 Main boom + light duty jib variant 9 (42 m) (16 m + 26 m)

42 m light duty jib (3 offsets: 0°, 20°, 40°) on 65.6 m main boom

Light duty jib variant 9 (42 m): 1 adapter (2 m) + 2 extension 1 (14 m) + 1 articulated piece (5 m) +1 transition section (2 m) + 2 extension 2 (14 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 42 m = 107.6 m

Refer to Figure 1-20.

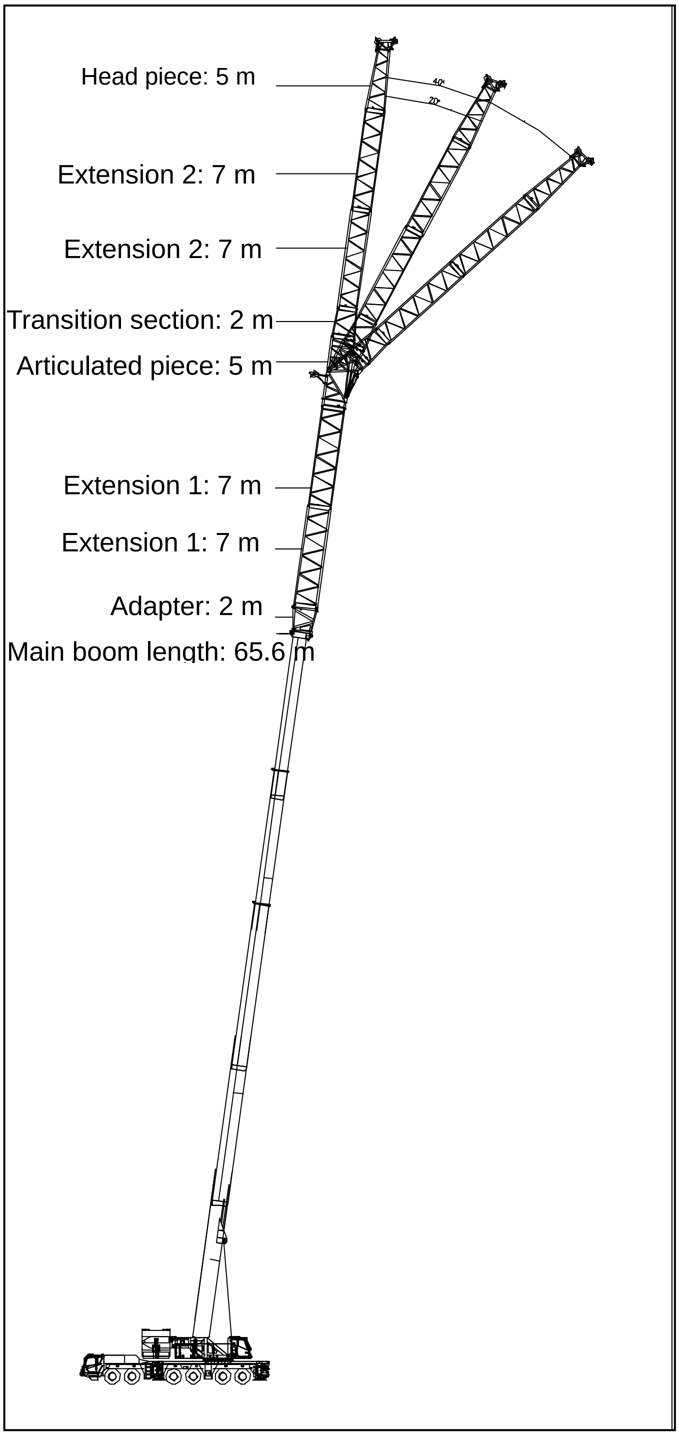


Figure 1-20 Main boom + light duty jib variant 9 (42 m)

1.2.3.11 Main boom + Y-shaped guying system

60 m main boom with Y-shaped guying system

Refer to Figure 1-21.

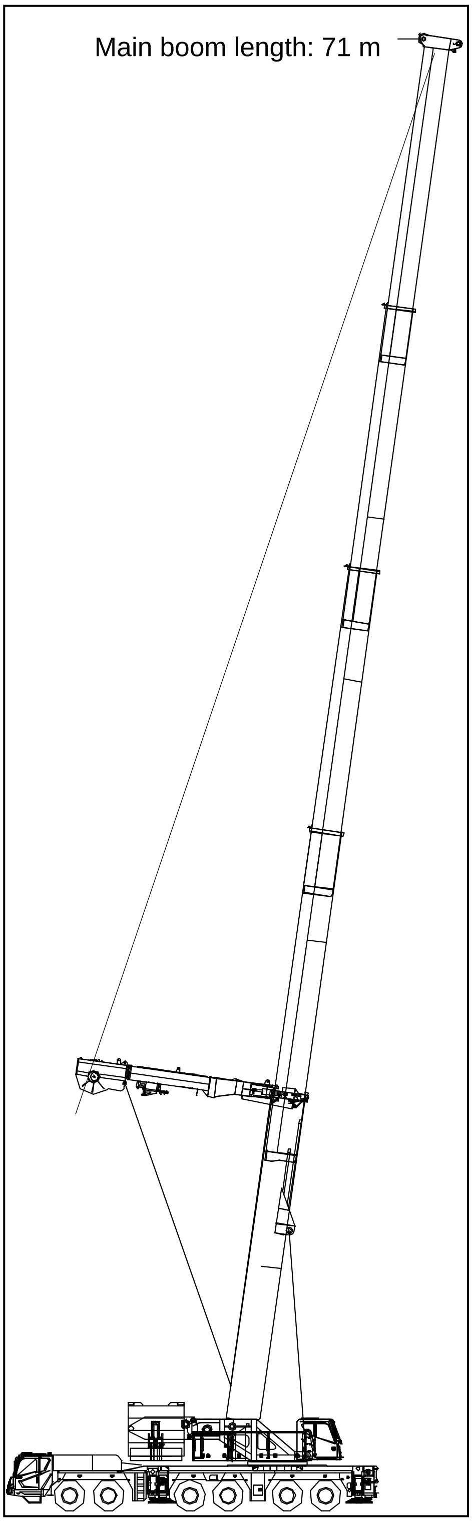


Figure 1-21 Main boom + Y-shaped guying system

1.2.3.12 Main boom + Y-shaped guying system + light duty jib variant 2 (14 m) + A-frame (5 m)

14 m light duty jib (3 offsets: 0°, 20°, 40°) with 5 m A-frame on 71 m main boom

Light duty jib variant 2 (14 m) with 5 m A-frame: 1 adapter (2 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 1 transition section (2 m)+ 1 head piece (5 m)

Max. boom length (L): 71 m + 14 m + 5 m = 90 m

Refer to Figure 1-22.

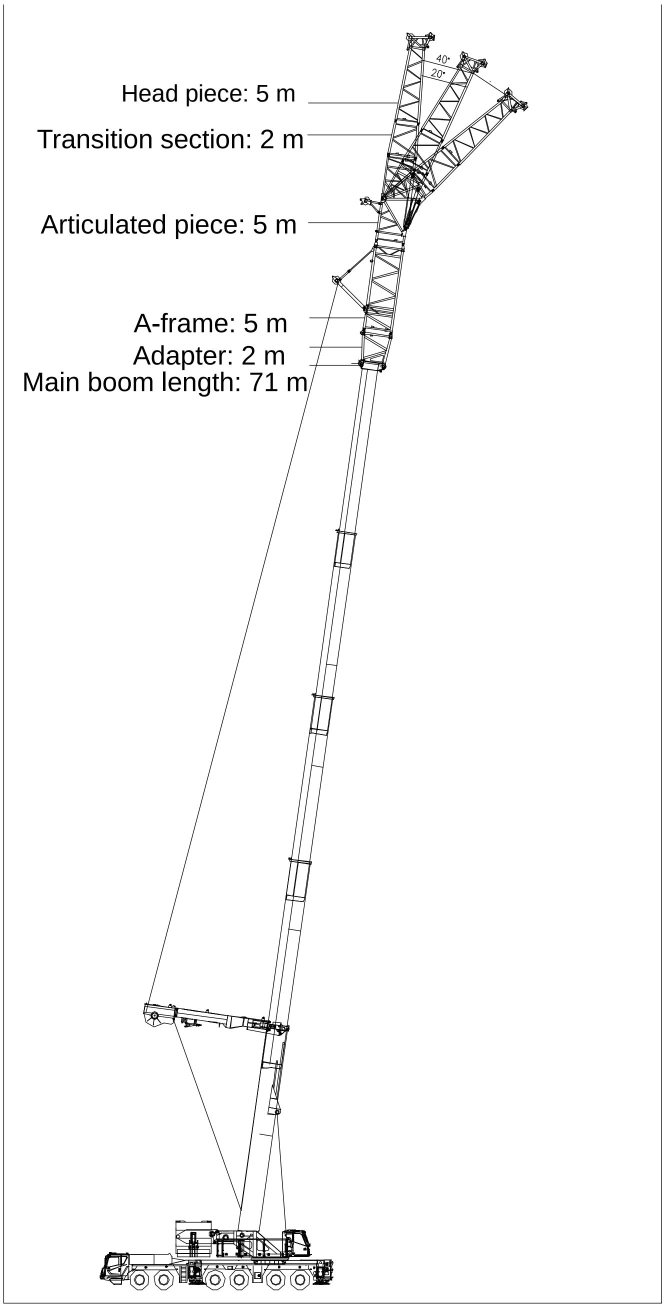


Figure 1-22 Main boom + Y-shaped guying system + light duty jib variant 2 (14 m) + A-frame (5 m)

1.2.3.13 Main boom + Y-shaped guying system + light duty jib variant 3 (21 m) + A-frame (5 m)

21 m light duty jib (3 offsets: 0°, 20°, 40°) with 5 m A-frame on 71 m main boom

Light duty jib variant 3 (21 m) with 5 m A-frame: 1 adapter (2 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 1 extension 1 (7 m)+ 1 transition section (2 m)+ 1 head piece (5 m)

Max. boom length (L): 71 m + 21 m + 5 m = 97 m

Refer to Figure 1-23.

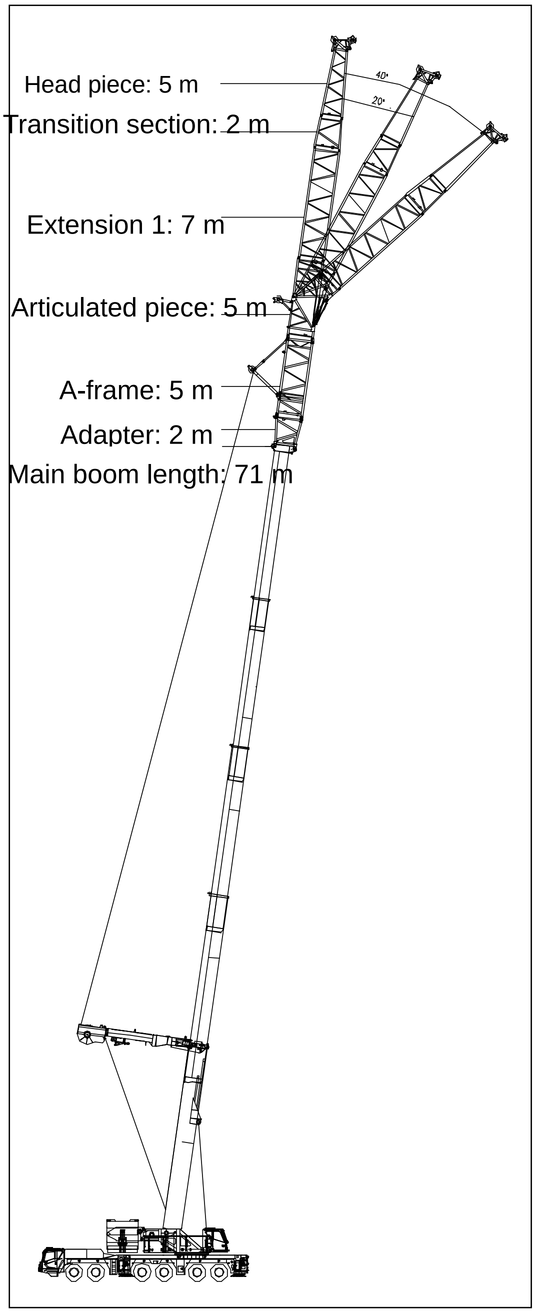


Figure 1-23 Main boom + Y-shaped guying system + light duty jib variant 3 (21 m) + A-frame (5 m)

1.2.3.14 Main boom + Y-shaped guying system + light duty jib variant 4 (28 m) + A-frame (5 m)

28 m light duty jib (3 offsets: 0°, 20°, 40°) with 5 m A-frame on 71 m main boom

Light duty jib variant 4 (28 m) with 5 m A-frame: 1 adapter (2 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 2 extension 1 (14 m)+ 1 transition section (2 m)+ 1 head piece (5 m)

Max. boom length (L): 71 m + 28 m + 5 m = 104 m

Refer to Figure 1-24.

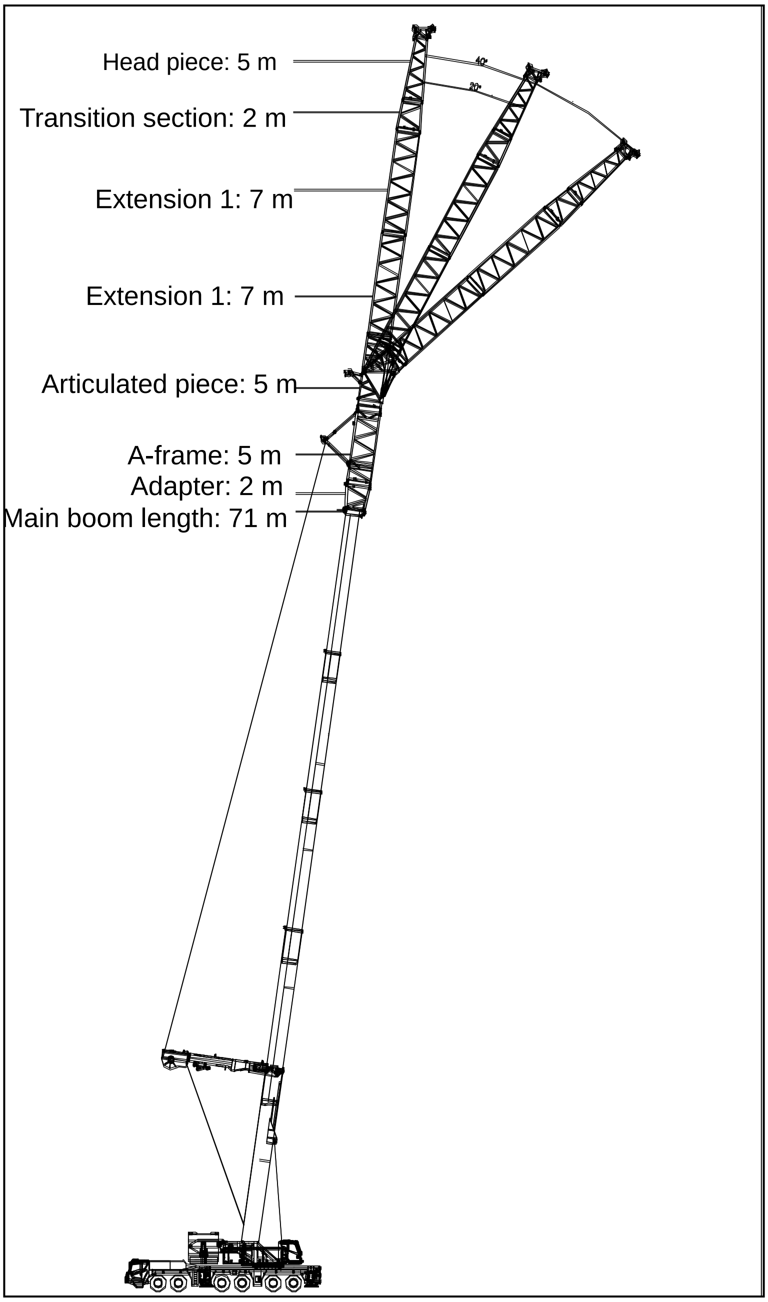


Figure 1-24 Main boom + Y-shaped guying system + light duty jib variant 4 (28 m) + A-frame (5 m)

1.2.3.15 Main boom + Y-shaped guying system + light duty jib variant 5 (28 m) (16 m + 12 m) + A-frame (5 m)

28 m light duty jib (3 offsets: 0°, 20°, 40°) with 5 m A-frame on 65.6 m main boom

Light duty jib variant 5 (28 m) with 5 m A-frame: 1 adapter (2 m) + 1 A-frame (5 m) + 2 extension 1 (14 m)+ 1 articulated piece (5 m) + 1 transition section (2 m)+ 1 head piece (5 m)

Max. boom length (L): 65.6 m + 28 m + 5 m = 98.6 m

Refer to Figure 1-25.

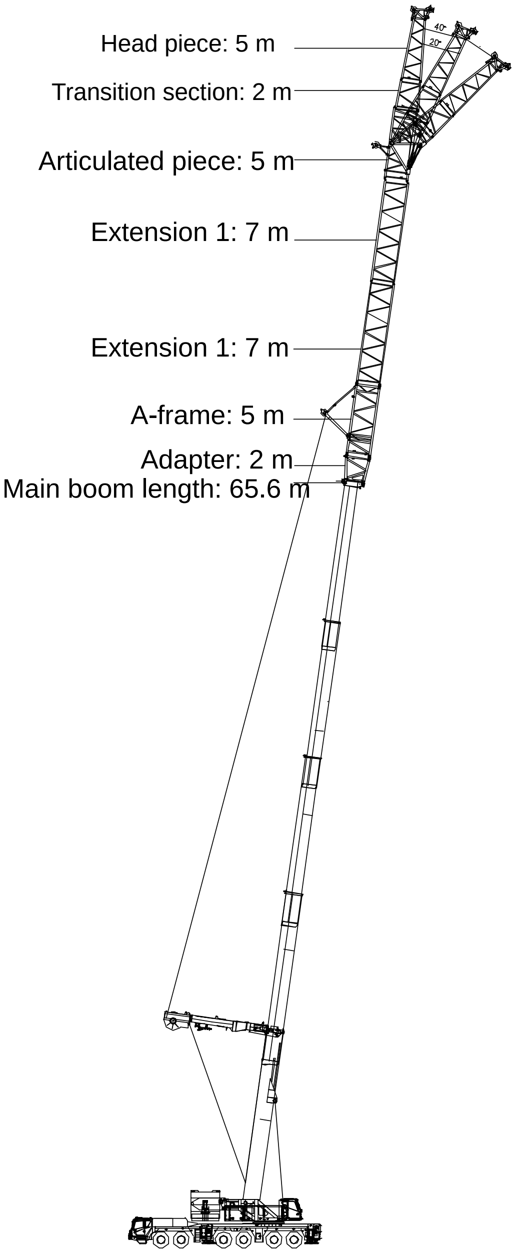


Figure 1-25 Main boom + Y-shaped guying system + light duty jib variant 5 (28 m) (16 m + 12 m) + A-frame (5 m)

1.2.3.16 Main boom + Y-shaped guying system + light duty jib variant 6 (35 m) + A-frame (5 m)

35 m light duty jib (3 offsets: 0°, 20°, 40°) with 5 m A-frame on 71 m main boom

Light duty jib variant 6 (35 m) with 5 m A-frame: 1 adapter (2 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 2 extension 1 (14 m) + 1 transition section (2 m) + 1 extension 2 (7 m)+ 1 head piece (5 m)

Max. boom length (L): 71 m + 35 m + 5 m = 111 m

Refer to Figure 1-26.

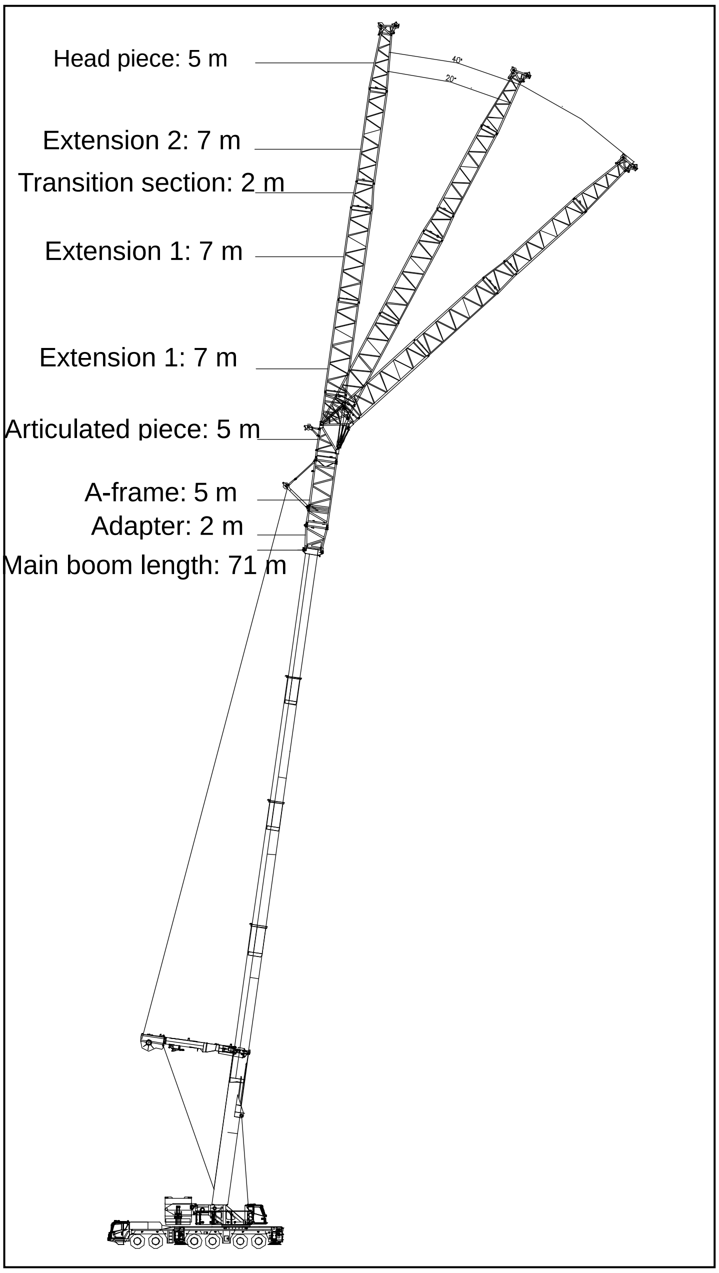


Figure 1-26 Main boom + Y-shaped guying system + light duty jib variant 6 (35 m) + A-frame (5 m)

1.2.3.17 Main boom + Y-shaped guying system + light duty jib variant 7 (35 m) (16 m + 19 m) + A-frame (5 m)

35 m light duty jib (3 offsets: 0°, 20°, 40°) with 5 m A-frame on 65.6 m main boom

Light duty jib variant 7 (35 m) with 5 m A-frame: 1 adapter (2 m) + 1 A-frame (5 m) + 2 extension 1 (14 m) + 1 articulated piece (5 m) + 1 transition section (2 m) + 1 extension 2 (7 m)+ 1 head piece (5 m)

Max. boom length (L): 65.6 m + 35 m + 5 m = 105.6 m

Refer to Figure 1-27.

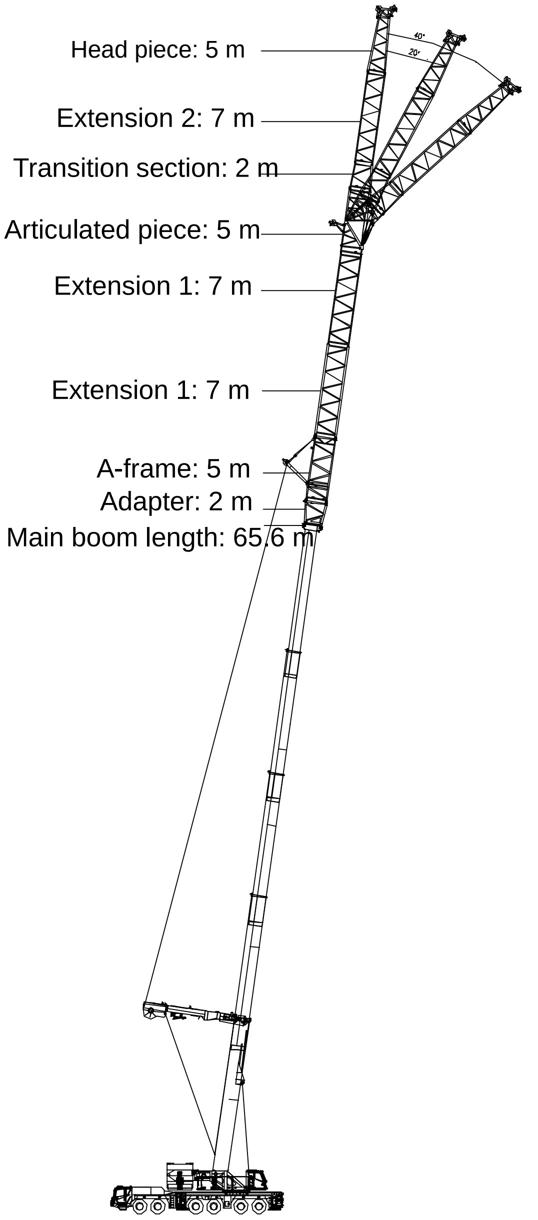


Figure 1-27 Main boom + Y-shaped guying system + light duty jib variant 7 (35 m) + A-frame (5 m)

1.2.3.18 Main boom + Y-shaped guying system + light duty jib variant 8 (42 m) + A-frame (5 m)

42 m light duty jib (3 offsets: 0°, 20°, 40°) with 5 m A-frame on 71 m main boom

Light duty jib variant 8 (42 m) with 5 m A-frame: 1 adapter (2 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 2 extension 1 (14 m) + 1 transition section (2 m) + 2 extension 2 (14 m)+ 1 head piece (5 m)

Max. boom length (L): 71 m + 42 m + 5 m = 118 m

Refer to Figure 1-28.

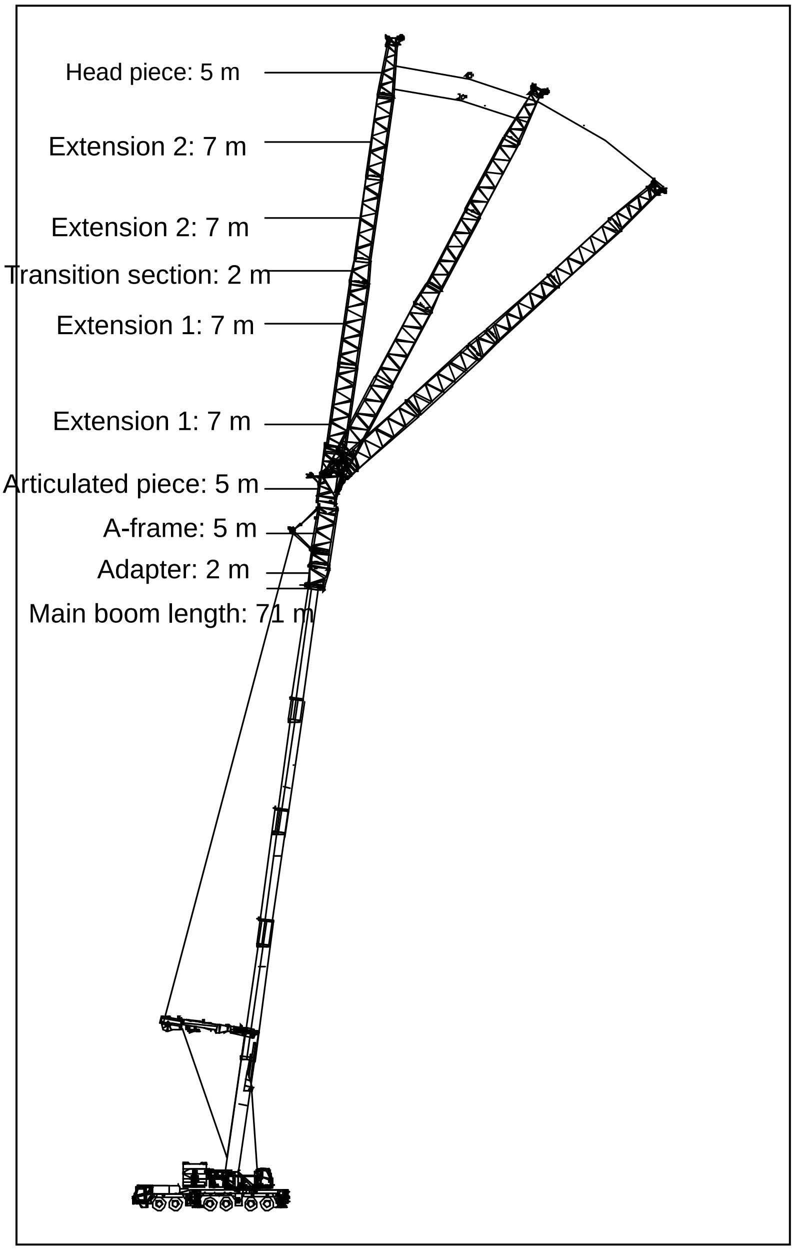


Figure 1-28 Main boom + Y-shaped guying system + light duty jib variant 8 (42 m) + A-frame (5 m)

1.2.3.19 Main boom + Y-shaped guying system + light duty jib variant 9 (42 m) (16 m + 26 m) + A-frame (5 m)

42 m light duty jib (3 offsets: 0°, 20°, 40°) with 5 m A-frame on 65.6 m main boom

Light duty jib variant 9 (42 m) with 5 m A-frame: 1 adapter (2 m) + 1 A-frame (5 m) + 2 extension 1 (14 m) + 1 articulated piece (5 m) + 1 transition section (2 m) + 2 extension 2 (14 m)+ 1 head piece (5 m)

Max. boom length (L): 65.6 m + 42 m + 5 m = 112.6 m

Refer to Figure 1-29.

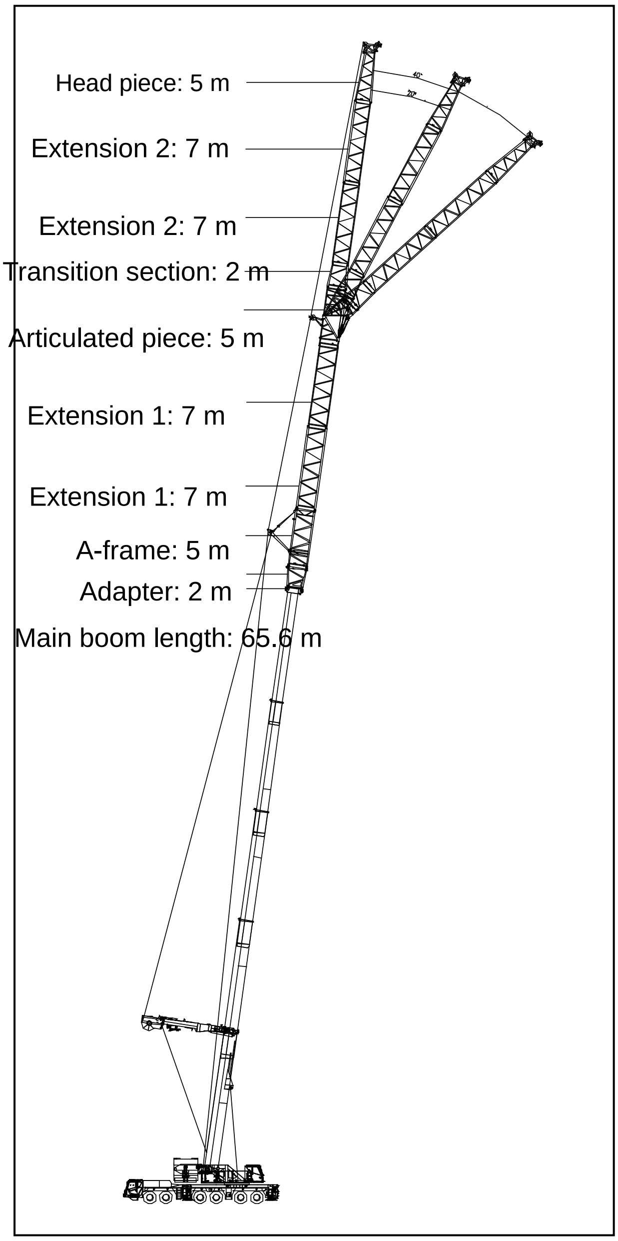


Figure 1-29 Main boom + Y-shaped guying system + light duty jib variant 9 (42 m) (16 m + 26 m) + A-frame (5 m)

1.2.3.20 Main boom + Y-shaped guying system + heavy duty jib variant 1 (14 m)

14 m heavy duty jib on 71 m main boom

Heavy duty jib variant 1 (14 m): 1 adapter (2 m) + 1 A-frame (5 m) + 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 14 m = 85 m

Refer to Figure 1-30.

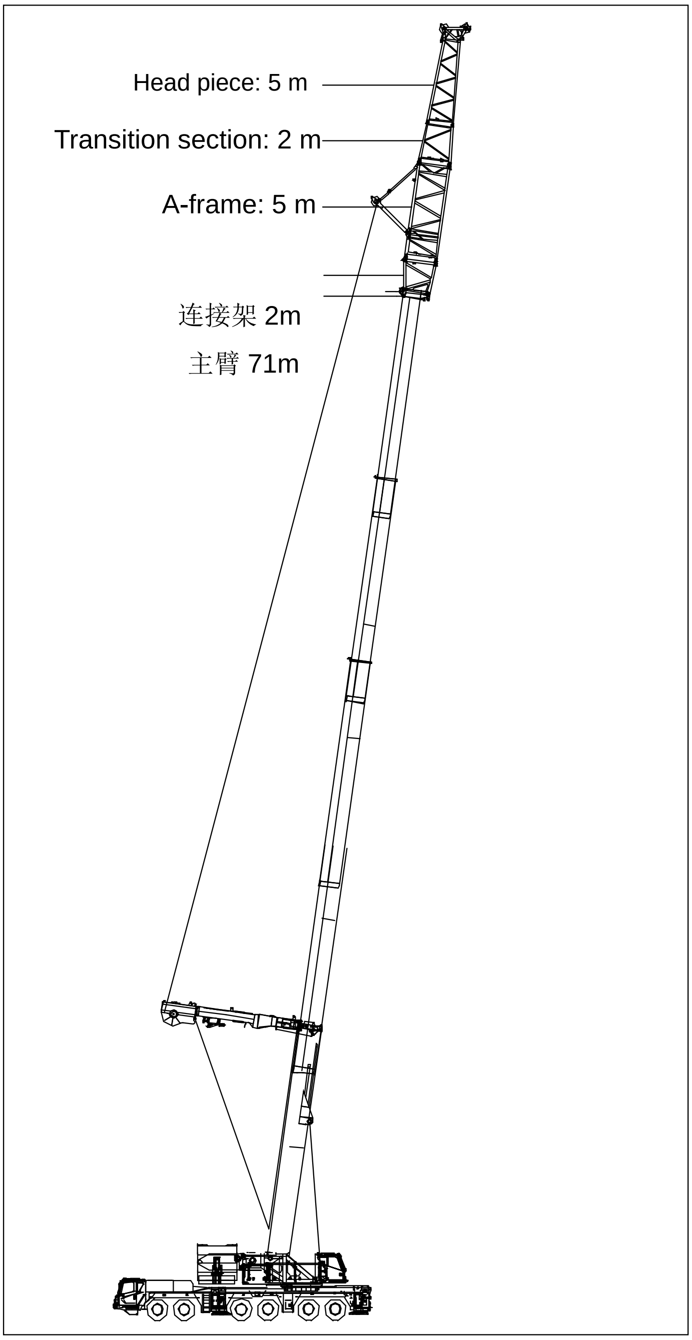


Figure 1-30 Main boom + Y-shaped guying system + heavy duty jib variant 1 (14 m)

1.2.3.21 Main boom + Y-shaped guying system + heavy duty jib variant 2 (19 m)

19 m heavy duty jib on 71 m main boom

Heavy duty jib variant 2 (19 m): 1 adapter (2 m) + 1 heavy duty boom (5 m) + 1 A-frame (5 m) + 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 19 m = 90 m

Refer to Figure 1-31.

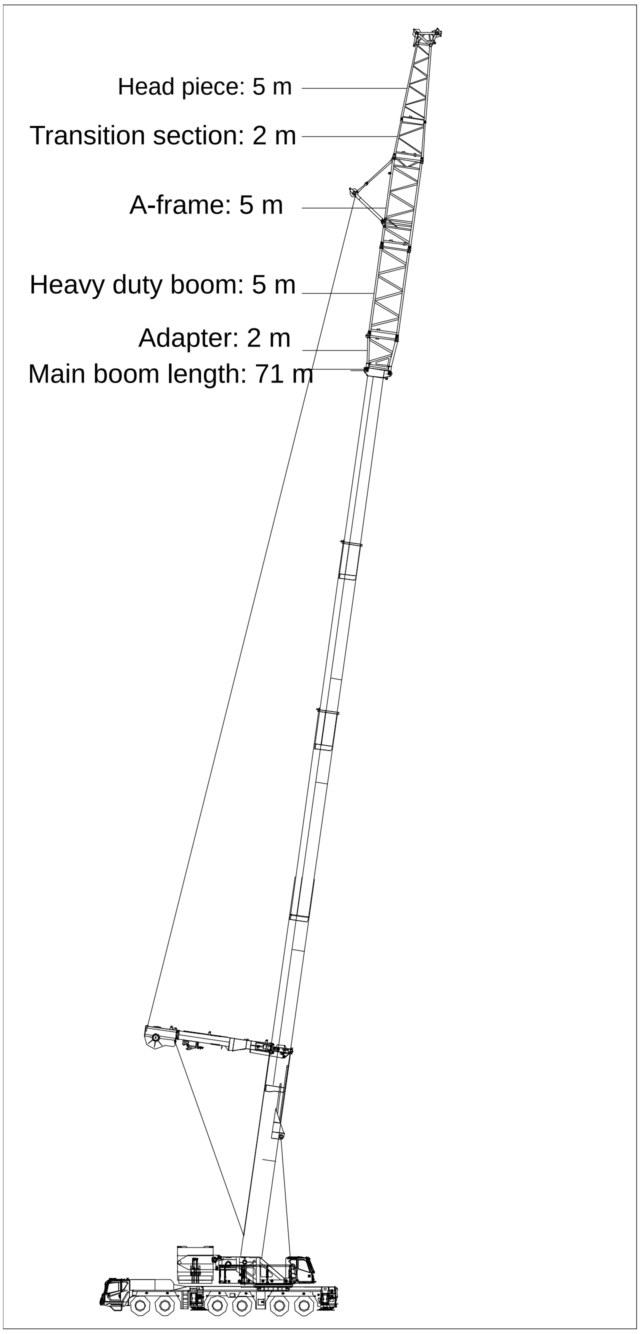


Figure 1-31 Main boom + Y-shaped guying system + heavy duty jib variant 2 (19 m)

1.2.3.22 Main boom + Y-shaped guying system + heavy duty jib variant 3 (22 m)

22 m heavy duty jib on 71 m main boom

Heavy duty jib variant 3 (22 m): 1 adapter (2 m) + 1 heavy duty boom (8 m) + 1 A-frame (5 m) + 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 22 m = 93 m

Refer to Figure 1-32.

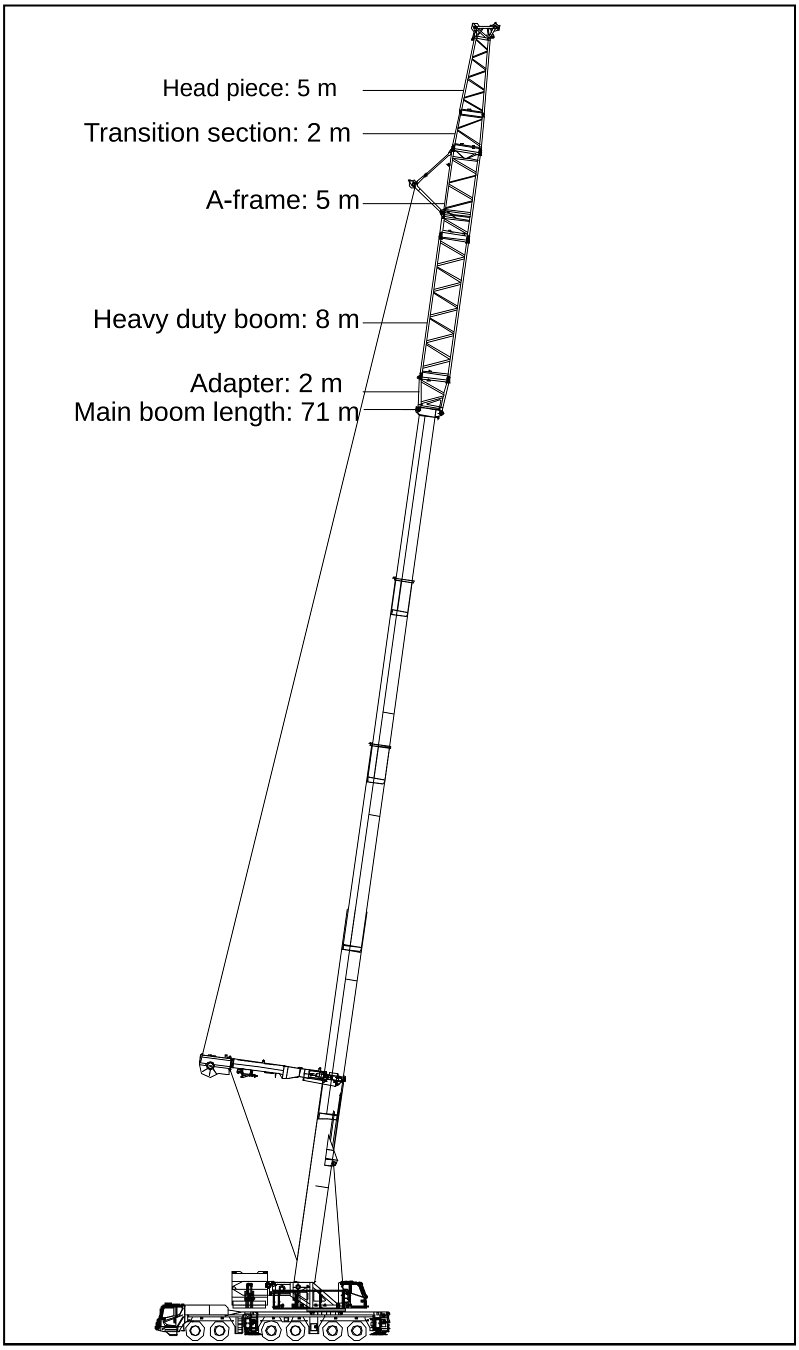


Figure 1-32 Main boom + Y-shaped guying system + heavy duty jib variant 3 (22 m)

1.2.3.23 Main boom + Y-shaped guying system + heavy duty jib variant 4 (27 m)

27 m heavy duty jib on 71 m main boom

Heavy duty jib variant 4 (27 m): 1 adapter (2 m) + 1 heavy duty boom (8 m) + 1 heavy duty boom (5 m) + 1 A-frame (5 m) + 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 27 m = 98 m

Refer to Figure 1-33.

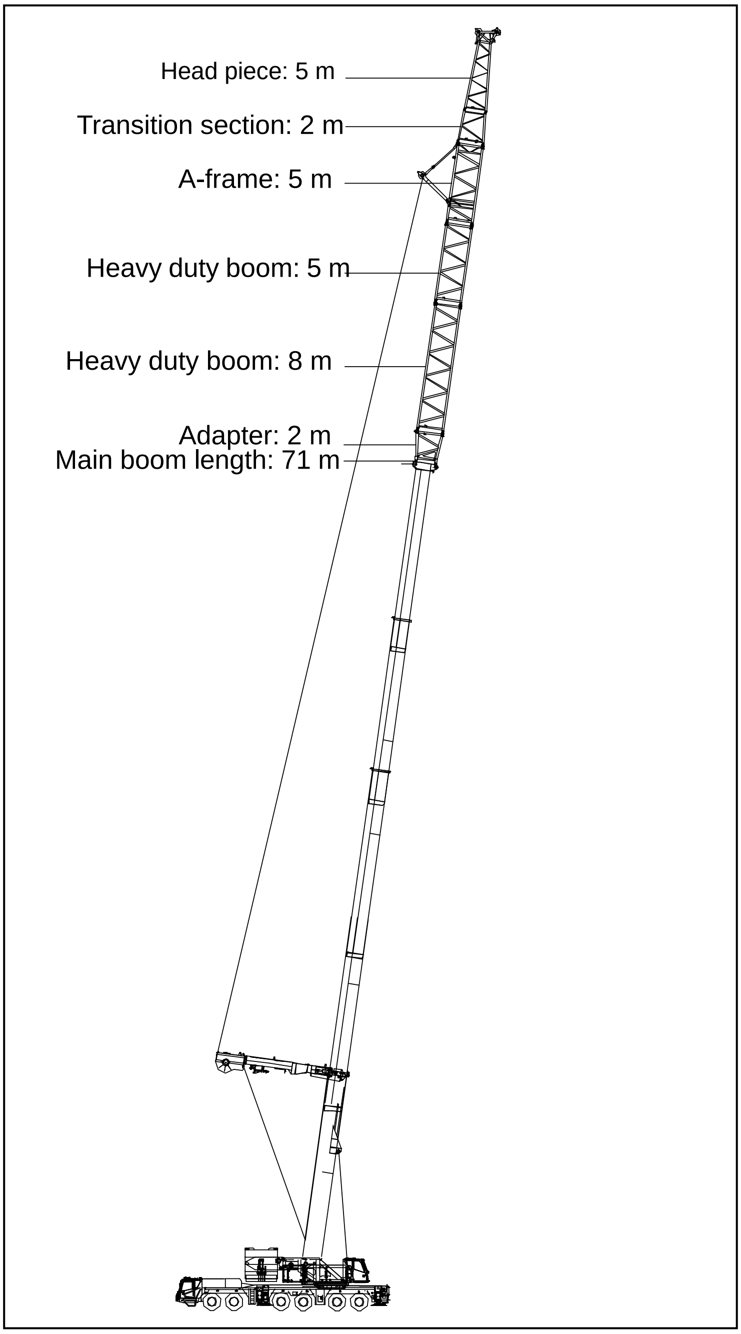


Figure 1-33 Main boom + Y-shaped guying system + heavy duty jib variant 4 (27 m)

1.2.3.24 Main boom + Y-shaped guying system + heavy duty jib variant 5 (32 m)

32 m heavy duty jib (3 offsets: 0°, 20°, 40°) on 65.6 m main boom

Heavy duty jib variant 5 (32 m): 1 adapter (2 m) + 1 heavy duty boom (5 m) + 1 heavy duty boom (8 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 32 m = 97.6 m

Refer to Figure 1-34.

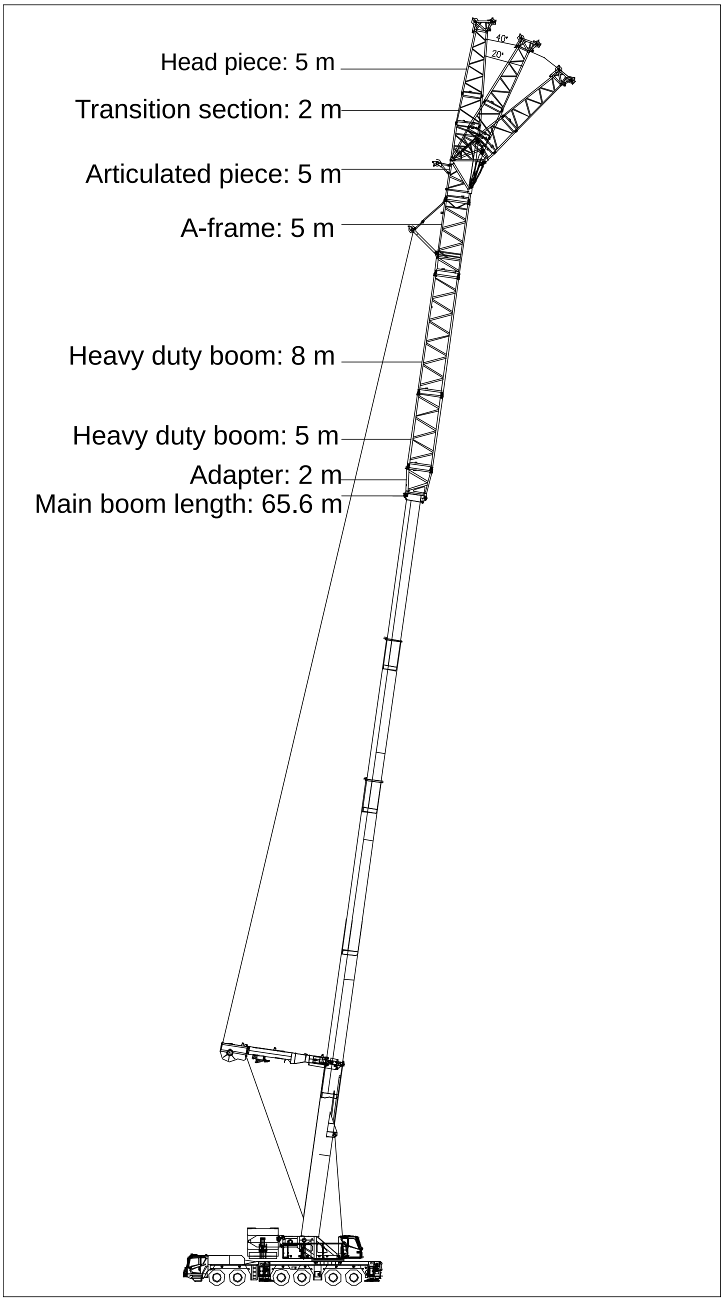


Figure 1-34 Main boom + Y-shaped guying system + heavy duty jib variant 5 (32 m)

1.2.3.25 Main boom + Y-shaped guying system + heavy duty jib variant 6 (39 m)

39 m heavy duty jib (3 offsets: 0°, 20°, 40°) on 65.6 m main boom

Heavy duty jib variant 6 (39 m): 1 adapter (2 m) + 1 heavy duty boom (5 m) + 1 heavy duty boom (8 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 1 extension 1 (7 m)+ 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 39 m = 104.6 m

Refer to Figure 1-35.

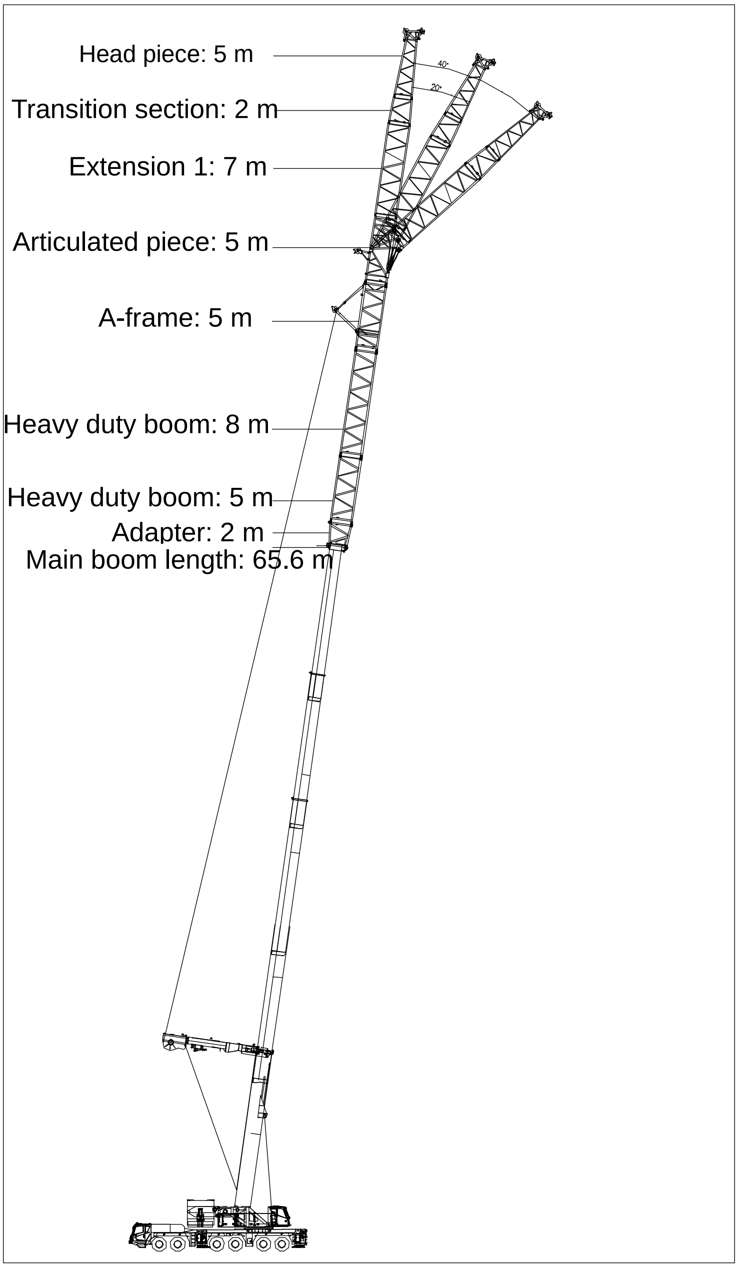


Figure 1-35 Main boom + Y-shaped guying system + heavy duty jib variant 6 (39 m)

1.2.3.26 Main boom + Y-shaped guying system + heavy duty jib variant 7 (46 m)

46 m heavy duty jib (3 offsets: 0°, 20°, 40°) on 65.6 m main boom

Heavy duty jib variant 7 (46 m): 1 adapter (2 m) + 1 heavy duty boom (5 m) + 1 heavy duty boom (8 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 2 extension 1 (14 m)+ 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 46 m = 111.6 m

Refer to Figure 1-36.

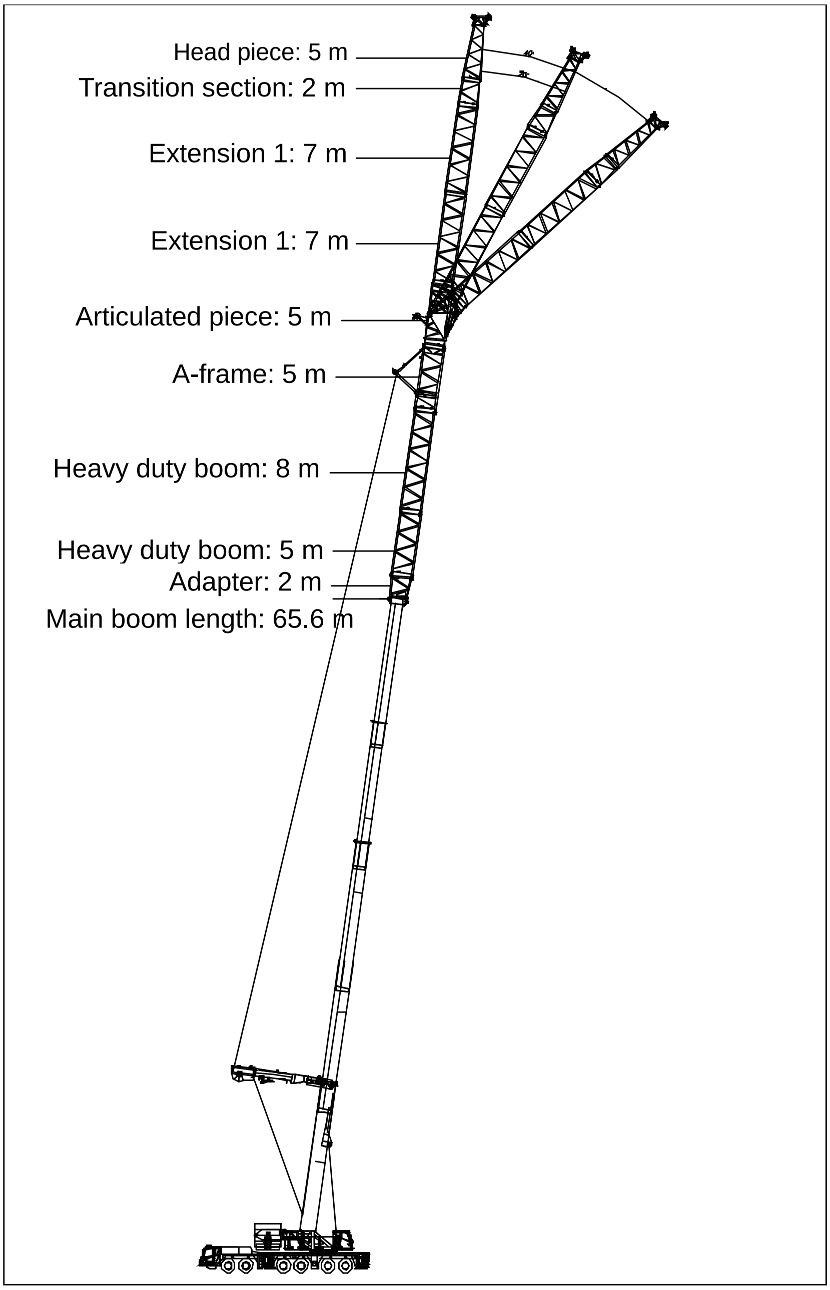


Figure 1-36 Main boom + Y-shaped guying system + heavy duty jib variant 7 (46 m)

1.2.3.27 Main boom + Y-shaped guying system + heavy duty jib variant 8 (53 m)

53 m heavy duty jib (3 offsets: 0°, 20°, 40°) on 65.6 m main boom

Heavy duty jib variant 8 (53 m): 1 adapter (2 m) + 1 heavy duty boom (5 m) + 1 heavy duty boom (8 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 2 extension 1 (14 m)+ 1 transition section (2 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 53 m = 118.6 m

Refer to Figure 1-37.

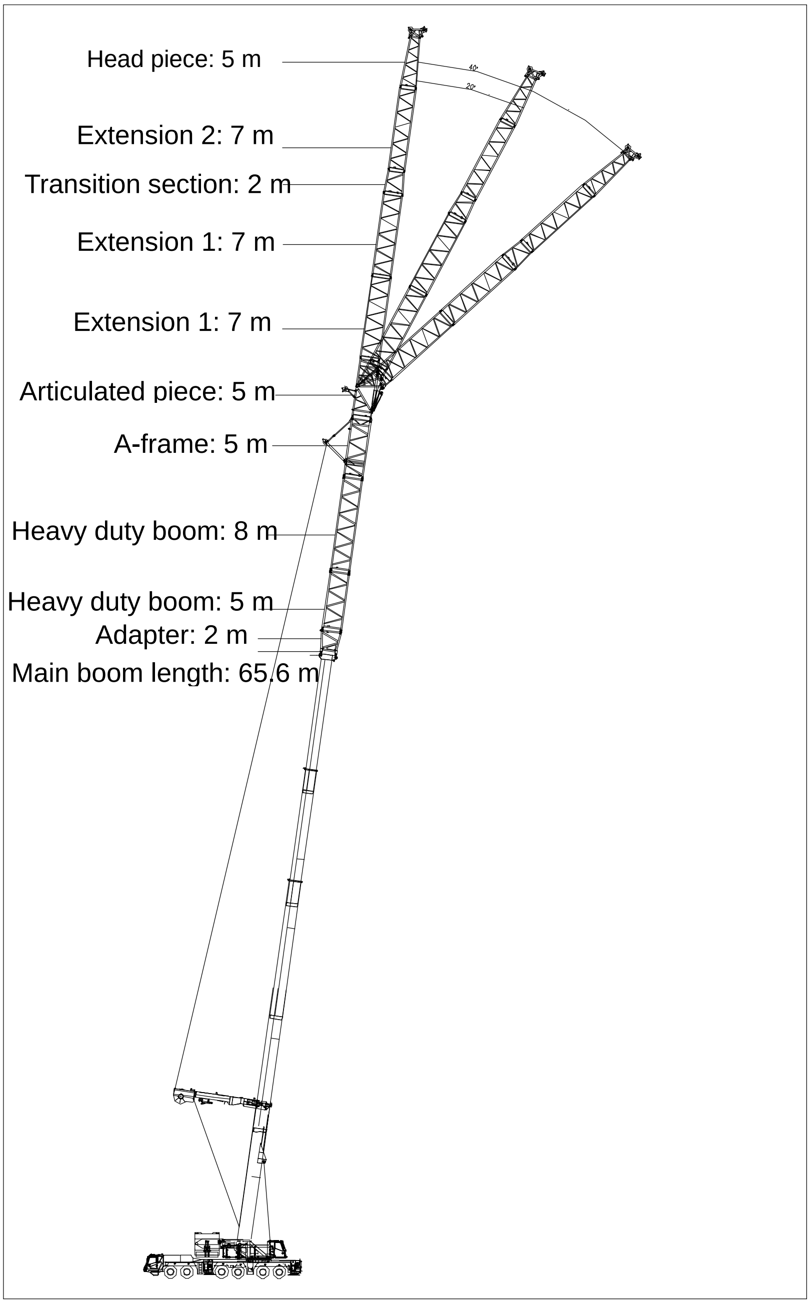


Figure 1-37　Main boom + Y-shaped guying system + heavy duty jib variant 8 (53 m)

1.2.3.28 Main boom + Y-shaped guying system + heavy duty jib variant 9 (60 m)

60 m heavy duty jib (3 offsets: 0°, 20°, 40°) on 65.6 m main boom

Heavy duty jib variant 9 (60 m): 1 adapter (2 m) + 1 heavy duty boom (5 m) + 1 heavy duty boom (8 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 2 extension 1 (14 m)+ 1 transition section (2 m) + 2 extension 2 (14 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 60 m = 125.6 m

Refer to Figure 1-38.

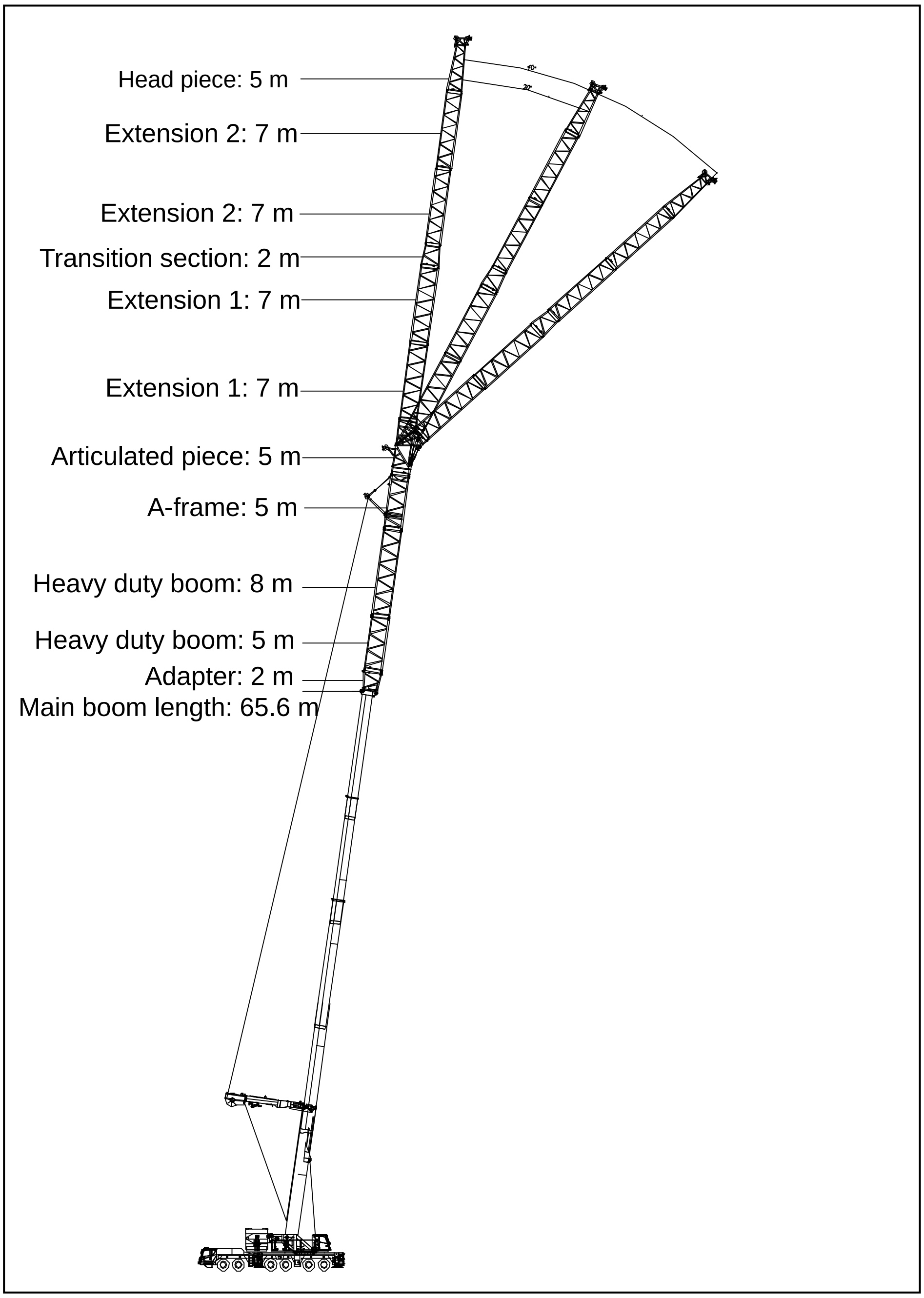


Figure 1-38 Main boom + Y-shaped guying system + heavy duty jib variant 9 (60 m)

1.3 Technical data

1.3.1 Dimensions

1.3.1.1 Overall view

Refer to Figure 1-39.

Unit: mm

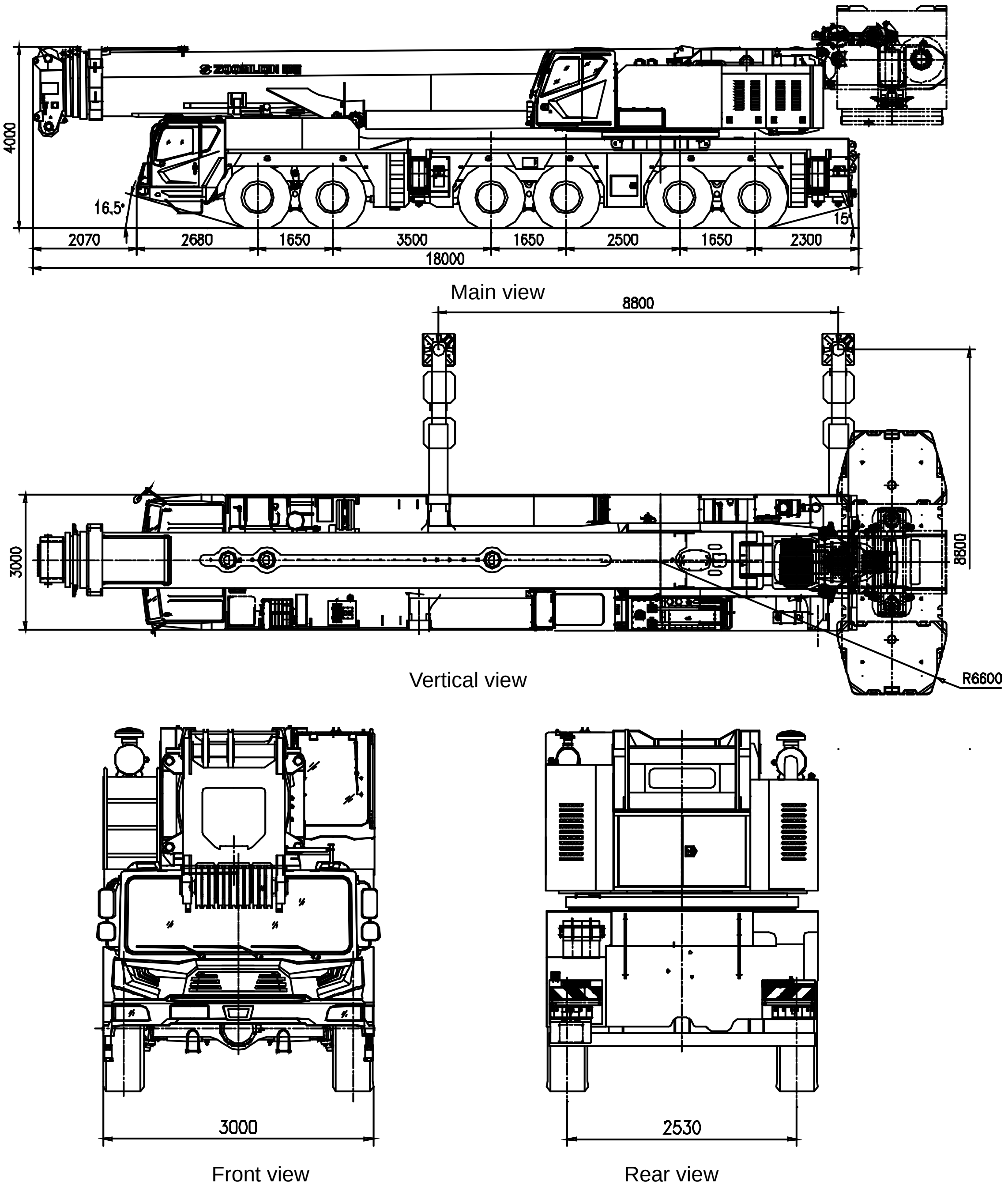


Figure 1-39 Dimensions

1.3.1.2 Rope diameter & length

Refer to Table 1-1.

Table 1-1 Rope diameter & length

Type of rope	Diameter (mm)	Length (m)
Main hoist rope	Φ24	500
Luffing hoist rope	Φ24	670

1.3.1.3 Driving conditions and their data

Driving condition I

Under the National Bulletin condition, you should dismantle the items below:

- Front and rear sliding beams
- Main winch
- Telescoping cylinder
- Superlift rear anchoring rod and bracket (above the boom bracket).

In addition, drain off the fuel and the hydraulic oil of superstructure.

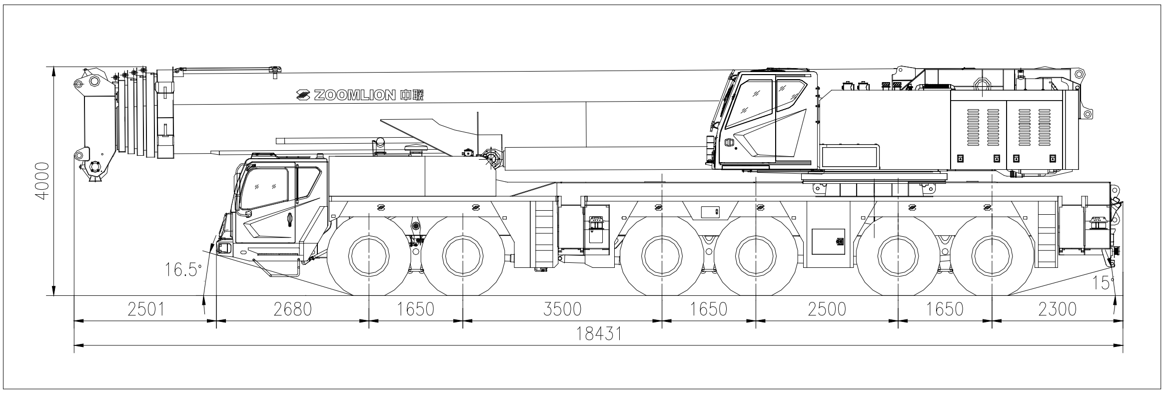


Figure 1-40 Driving condition I

Driving condition II

Under the routine driving condition, do the items that follow in advance:

- Fully retract the telescopic boom. And place it on the boom bracket.
- Fully retract the sliding beams and install the pins.
- Set the axle suspensions to “sprung”.

The equipment of the complete vehicle consists of the telescopic boom (six boom sections in total), the superlift rear anchoring rods, the superlift bracket (above the boom bracket) and the outrigger pad. And the vehicle speed should be below 65 km/h.

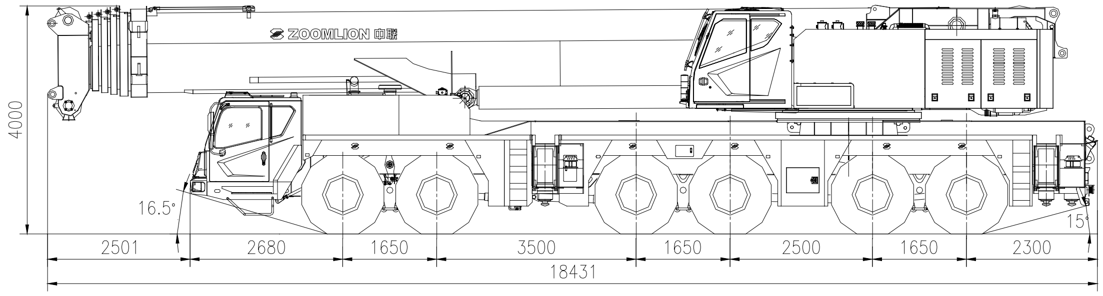


Figure 1-41 Driving condition II

Driving condition III

Under the heavy load jobsite transition condition, do the items that follow in advance:

- The vehicle takes with the superlift mechanism and the counterweight carrier.
- The axle suspensions have been locked.

This condition is suitable for the short-distance driving. And the vehicle speed should be below 20 km/h.

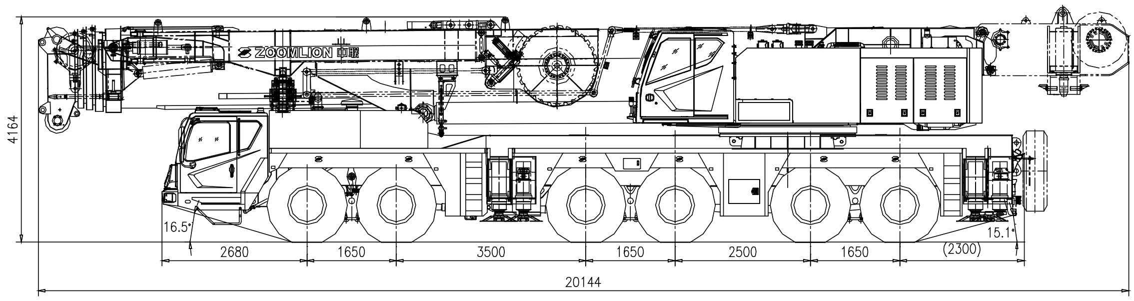


Figure 1-42 Driving condition III

WARNING

(1) Under driving condition I/II/III, drive the vehicle at specified speed. Otherwise, some parts and components may be damaged or other dangerous situations may occur!

(2) Assembly proper deadweight and axle load according to local road rules and regulations.

1.3.2 Lifting capacity

Refer to Table 1-2.

Table 1-2 Lifting capacity

Max. rated lifting capacity (kg)	Max. load moment of basic boom (KN·m)	Max. load moment of 71 m main boom (KN·m)
400000	13000	9600 (with Y-shaped guying system)

1.3.3 Lifting height

Refer to Table 1-3.

Table 1-3 Lifting height

Unit: m

Max. lifting height of basic boom	Max. lifting height of 71 m main boom	Max. lifting height of jib
17	73	126

1.3.4 Axle loads

- Crane in driving condition
- For driving condition, please refer to Chapter 3.
- For axle loads, refer to Table 1-4.

Table 1-4 Axle loads

Unit: kg

Axle	1	2	3	4	5	6	Total
Axle loads, driving condition I	12000	12000	12000	12000	12000	12000	72000
Axle loads, driving condition II	15100	15100	14950	14950	14950	14950	90000
Axle loads, driving condition III	17860	17860	18870	18870	18870	18870	111200

1.3.5 Lifting equipment

Refer to Table 1-5.

Table 1-5 Lifting equipment

Load (t)	Pulleys	Max. reevings	Weight (kg)	Remarks
220	10	20	3410	Optional:straight shank with ramshorn hook
130	8	16	2100	Straight shank with ramshorn hook
80	6	12	1700	Optional:straight shank with ramshorn hook
50	2	4	1060	
12	0	1	695	Optional

1.3.6 Max. support strength per outrigger

Refer to Table 1-6.

Table 1-6 Max. support strength per outrigger

Unit: kN

Front	Rear
1520	1520

1.3.7 Driving speeds in road driving condition

Refer to Table 1-7.

Table 1-7 Driving speeds in road driving condition

Road gear	1	2	3	4	5	6	7	8	9	10	11
Speed	5.2	6.3	7.7	9.3	11.2	13.6	16	19.3	23.6	28.5	35
Road gear	12	13	14	15	16	R1	R2	**Maximum gradeability**			
Speed	42.2	51.1	61.9	73.1	80	4.6	5.6	35% (height above sea level ≤ 2000 m)）			
Min. ground clearance			415 mm								
Min. turning diameter			≤ 24m								
Min. brake distance: ≤ 10 m (driving speed 30 km/h)											

1.3.8 Driving speeds in off-road driving condition

Refer to Table 1-8.

Table 1-8 Driving speeds in off-road driving condition

Road gear	1	2	3	4	5	6	7	8	9	10	11
Speed	5.2	6.3	7.7	9.3	11.2	13.6	16	19.3	23.6	28.5	35
Road gear	12	13	14	15	16	R1	R2	**Maximum gradeability**			
Speed	42.2	51.1	61.9	73.1	80	4.6	5.6	35% (height above sea level ≤ 2000 m)）			
Min. ground clearance		415 mm									
Min. turning diameter		≤ 24 m									

1.3.9 Crane speeds

The drives on crane superstructure can realize infinitely variable control. Refer to Table 1-9.

Table 1-9 Crane speeds

Drives	Speeds	Remarks
Maximum hoist rope speed (main winch)	130 m/min	Drum 5th layer
Maximum hoist rope speed (auxiliary winch)	130 m/min	Drum 6th layer
Slewing gear	0 r/min - 1 r/min	
Derricking gear	85 seconds approach 82°	-0.4° to 82°
Telescoping system	10 minutes (boom fully extended)	Affected by temperature and engine RPM

1.3.10 Energy consumption and environmental protection

Refer to Table 1-10.

Table 1-10 Energy consumption and environmental protection

Engine	Limits for exhaust pollutants and smoke	Fuel consumption
Chassis	GB3847-2005 GB17691-2005 Stage V	95 L/ 100 km (economical consumption of fuel)
Superstructure	GB3847-2005 GB17691-2005 Stage III	

1.3.11 Workplace-related emission value

Table 1-11 Emission value in engine workplace

Sound pressure level at nominal RPM	Stationary noise (dB)	
	Left ear	Right ear
Driver's cab, driver's side	87	87
Driver's cab, passenger’s side	87	
Operator's cab	87	87

1.3.12 Lifting capacity tables

For the lifting capacity tables for main boom, refer to Table 1-12 to Table 1-19.

For the lifting capacity tables for main boom + Y-shaped guying system, refer to Table 1-20 to Table 1-24.

For the lifting capacity tables for main boom + Y-shaped guying system + heavy duty jib, refer to Table 1-25 to Table 1-44.

For the lifting capacity tables for main boom + light duty jib, refer to Table 1-45 to Table 1-64.

For the lifting capacity tables for main boom + Y-shaped guying system + light duty jib, refer to Table 1-65 to Table 1-84.

For the lifting capacity tables for main boom + luffing jib, refer to Table 1-85 to Table 1-94.

For the lifting capacity tables for main boom + Y-shaped guying system + luffing jib, refer to Table 1-95 to Table 1-112.

For the lifting capacity tables for main boom + TBM jib, refer to Table 1-113 to Table 1-114.

Table 1-12 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 140 t counterweight, over full range

Radius (m)		Main boom length (m)															Radius (m)	
		15.6	20.6	20.6	20.6	25.6	20.6	25.6	25.6	25.6	25.6	25.6	30.6	30.6	30.6	30.6		
3		450*															3	
3.5		220	180	170	140	130	100										3.5	
4		220	175	168	138	125	94	165	160	145	110	58					4	
4.5		210	170	165	136	122	88	165	155	136	104	55	145	135	110	85	4.5	
5		200	168	160	134	120	83	165	150	125	95	52	145	130	106	80	5	
6		180	165	155	132	106	76	162	145	115	87	47	145	125	95	72	6	
7		165	162	150	120	95	71	161	132	103	77	42	140	115	87	66	7	
8		155	152	145	114	85	66	150	120	94	70	39	135	106	79	60	8	
9		144	143	132	104	78	62	143	110	86	64	36	125	97	73	55	9	
10		130	130	121	95	72	58	130	101	79	60	33	115	90	67	51	10	
12		100	100	100	82	62	52	100	87	68.4	54	29	100	77	59	47	12	
14			84	84	71	54	48	84	77	60.3	45	26	84.5	68	52	44	14	
16			72	72.5	64	48	44	72	68	54	40	23	73	60	47	39	16	
18			52	53	53	43	41	62	61.5	48.3	36	21	63.5	54	42	35	18	
20								55	56	44	33	19	56	49	38	31	20	
22								46	48	40.5	30	18	49	45	35	28	22	
24													44	41.4	32	26	24	
26													40	38.5	30	24	26	
28																	28	
Reeving		20	16		14	12	10	14	14	14	10	6	14	12	10	8	Reeving	
Telescoping mode	I	1	2	1	1	1	1	2	1	1	1	1	2	1	1	1	I	Telescoping mode
	II	1	1	2	1	1	1	2	2	1	1	1	2	2	1	1	II	
	III	1	1	1	2	1	1	1	2	2	1	1	2	2	2	3	III	
	IV	1	1	1	1	2	1	1	1	2	2	1	1	2	2	2	IV	
	V	1	1	1	1	1	2	1	1	1	2	3	1	1	2	1	V	

注：带*号额定起重量为名义工况；

Table 1-12 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 140 t counterweight, over full range

Radius (m)		Main boom length (m)															Radius (m)	
		30.6	35.6	35.6	35.6	35.6	35.6	40.6	40.6	40.6	40.6	40.6	45.6	45.6	45.6	45.6		
4.5		59															4.5	
5		56	125	104	90	80	54										5	
6		51	122	96	84	70	48										6	
7		47	120	92	81	66	44	100	74	60	70	47					7	
8		43	115	88	74	60	40	95	67	55	66	43.5	84	70	60	70	8	
9		40	108	82	68	55	37	88	62	50	60	40.5	80	66	55	66	9	
10		37	100	76	62	51	34.5	82	57.5	46	56	37.6	74	61	54	61	10	
12		32	89	67	54	47	30	75	50	40	49	32.8	66	54.5	45	54	12	
14		28	79	60	48	44	26.5	67	43	35	43	29	58	48.5	40	47	14	
16		25	70	54	42	38	23.5	61	39	31	38	26	52	43	35.5	42	16	
18		22	63	49	38	34	21.3	56	35	28	34	23.5	47	39	32	38	18	
20		20.5	57	45	34	30	19.3	51	31	25	30	21.5	43	36	29	35	20	
22		19	51	41	31	28	17.5	47	29	23	28	19.2	39	32.5	26.5	32	22	
24		17.5	46	38	28	25	16.2	44	26	21	25	17.5	36	30	24	29	24	
26		16.2	41	35	26	23	15	41	24	19	23	16.2	33	28	22	27	26	
28			37	32	24	21	14	38	22	18	21	15	31	26	20.5	25	28	
30			33	30	22.5	19.5	13	35	21	16.5	20	14	29	24.3	19	23	30	
32			27	26	21	18	12	31.4	19.5	15.5	18.5	13	27	22.5	17.5	21.5	32	
34								28.5	18	14	17	12.2	25	21.3	16.2	20	34	
36								26	17	13.5	16	11.5	23.5	20	15	19	36	
38													22.5	18.9	14	18	38	
40													21	17.8	13.5	16.5	40	
42																	42	
Reeving		6	10	10	8	8	6	10	6	6	6	4	8	6	6	6	Reeving	
Telescoping mode	I	1	2	1	1	1	1	2	1	1	1	1	3	2	1	2	I	Telescoping mode
	II	1	2	2	3	2	1	2	3	2	3	1	2	3	3	3	II	
	III	1	2	2	2	3	1	2	2	3	3	2	2	2	3	3	III	
	IV	2	2	2	2	2	3	2	2	2	2	3	2	2	2	2	IV	
	V	3	1	2	1	1	3	2	2	2	1	3	2	2	2	1	V	

Table 1-12 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 140 t counterweight, over full range

Radius (m)	Main boom length (m)															Radius (m)
	45.6	50.6	50.6	50.6	50.6	50.6	55.6	55.6	55.6	55.6	55.6	60.6	60.6	65.6	71	
8	45															8
9	41	64	58	47	62	42										9
10	38	60	54	44	58	40	50	44	41	48	40					10
12	33	56	48	40	54	35	48	41	37	46	36	40	37			12
14	29	50	43	35	49	31	44	37	33	43	32	38	34	32	26	14
16	26	45	39	32	44	27	40	34	29	39	28	35.5	31	31	25	16
18	23	41	35.4	29.5	40	24	36.7	32	26.5	36	26	32.5	28	29	24	18
20	21	38	32.4	27	37	22	33.7	28.6	24	33	24	30	26	26.5	23	20
22	19	35	29.6	25	34	20	31.1	26.2	22	30	22	27.5	24	24.5	22	22
24	17.5	32	27.2	23	31	18.5	28.8	24	20.5	28	20	25.5	22	22.5	21	24
26	16	30	25.2	21.5	29	17	26.7	22.4	19	26	19	24	20.5	21	20.2	26
28	15	28	23.4	20	27	15.5	24.9	20.5	17.5	24	17.5	22	19	20	19.5	28
30	13.8	26	21.5	19	25	14.5	23.2	19.5	16	22.5	16	21	18	19.2	18.6	30
32	12.8	25	20.2	18	23.5	13.5	21.7	18.2	15	21	15	19.5	16.8	18	17.6	32
34	12	23	19	16.8	22	12.5	20.5	17	14	20	14	18.2	15.8	17	16.6	34
36	11	21	17.8	16	20	11.5	19.2	16	13	18.5	13	17.6	14.8	16	15.6	36
38	10.5	20	16.6	15	19	11	18.2	15	12.2	17.5	12.2	16.5	13.8	15.2	14.6	38
40	10	19	15.6	14.2	18	10.2	17	14.1	11.5	16.5	11.5	15.6	13	14.2	13.8	40
42		18	14.6	13.5	16.5	9.6	16	13.2	11	15.5	11	14.8	12.4	13.5	13.1	42
44		16.5	14	12.8	15.5	9	15	12.5	10	14.5	10	14	11.5	13	12.3	44
46		15	13.2	12	14	8.5	14	12	9.5	13.5	9.5	13	11	12.4	11.6	46
48							13.2	11.2	9	12.5	9	12.5	10.5	11.6	11	48
50							12.5	10.6	8.5	12	8.5	12	10	11	10.2	50
52							11.5	10	8	11	8	11	9.5	10.5	9.8	52
54												10.2	9	9.8	9.3	54
56												9.5	8	9.2	8.8	56
58														8.8	8.4	58
60														8.2	7.9	60
62															7.6	62
64															7.2	64
66															6.8	66
Reeving	4	6	6	4	6	4	4	4	4	4	4	4	4	4	4	Reeving
Telescoping mode I	1	3	2	2	3	1	3	2	2	3	1	3	2	3	4	I Telescoping mode
II	1	3	3	2	3	2	3	3	2	3	3	3	3	3	4	II
III	3	2	3	2	3	3	3	3	3	3	3	3	3	3	4	III
IV	3	2	2	3	2	3	2	3	3	3	3	3	3	3	4	IV
V	3	2	2	3	1	3	2	2	3	1	3	2	3	3	4	V

Table 1-13 Main boom

Unit: Metric tons

Radius (m)	Main boom length (m)															Radius (m)
	15.6	20.6	20.6	20.6	25.6	20.6	25.6	25.6	25.6	25.6	25.6	30.6	30.6	30.6	30.6	
15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range																
3.5	220	180	170	140	130	100										3.5
4	220	175	168	138	125	94	165	160	145	110	58					4
4.5	210	170	165	136	122	88	165	155	136	104	55	145	135	110	85	4.5
5	200	168	160	134	120	83	165	150	125	95	52	145	130	106	80	5
6	180	165	155	132	106	76	162	145	115	87	47	145	125	95	72	6
7	165	162	150	120	95	71	161	132	103	77	42	140	115	87	66	7
8	144	143	144	114	85	66	143	120	94	70	39	135	106	79	60	8
9	125	125	126	104	78	62	125	110	86	64	36	124	97	73	55	9
10	112	111	112	95	72	58	112	101	79	60	33	113	90	67	51	10
12	90	91	92	82	62	52	92.5	87	68.4	54	29	93	77	59	47.1	12
14		77	78	71	54	48	78	77	60.3	45	26	79	68	52	41.6	14
16		63	64	64	48	44	65	66	54	40	23	64.5	60	47	37.9	16
18		45	46	47	43	41	53	55	48.3	36	21	57	54	42	33.3	18
20							48	50	44	33	19	50	49	38	30.4	20
22							40	42	40.5	30	18	44	45	35	27.8	22
24												38	39.56	32	25.7	24
26												34	35.26	30	23.8	26
Reeving	20	16		14	12	10	14	14	14	10	6	14	12	10	8	Reeving
Telescoping mode I	1	2	1	1	1	1	2	1	1	1	1	2	1	1	1	I Telescoping mode
II	1	1	2	1	1	1	2	2	1	1	1	2	2	1	1	II
III	1	1	1	2	1	1	1	2	2	1	1	2	2	2	3	III
IV	1	1	1	1	2	1	1	1	2	2	1	1	2	2	2	IV
V	1	1	1	1	1	2	1	1	1	2	3	1	1	2	1	V

Table 1-13 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range																		
Radius (m)		Main boom length (m)															**Radius (m)**	
		30.6	35.6	35.6	35.6	35.6	35.6	40.6	40.6	40.6	40.6	40.6	45.6	45.6	45.6	45.6		
4.5		59															4.5	
5		56	125	104	90	80	54										5	
6		51	122	96	84	70	48										6	
7		47	120	92	81	66	44	100	74	60	70	47					7	
8		43	115	88	74	60	40	95	67	55	66	43.5	84	70	60	70	8	
9		40	108	82	68	55	37	88	62	50	60	40.5	80	66	55	66	9	
10		37	100	76	62	51	34.5	82	57.5	46	56	37.6	74	61	54	61	10	
12		32	89	67	54	46.5	30	75	50	40	49	32.8	66	54.5	45	54	12	
14		28	79	60	48	41.0	26.5	67	43	35	43	29	58	48.5	40	47	14	
16		25	66	54	42	36.4	23.5	61	39	31	38	26	52	43	35.5	42	16	
18		22	59	49	38	32.7	21.3	56	35	28	34	23.5	47	39	32	38	18	
20		20.5	51	45	34	29.6	19.3	50	31	25	30	21.5	43	36	29	35	20	
22		19	45	41	31	27.0	17.5	45	29	23	28	19.2	39	32.5	26.5	32	22	
24		17.5	40	38	28	24.8	16.2	39	26	21	25	17.5	36	30	24	29	24	
26		16.2	36	35	26	22.8	15	35.5	24	19	23	16.2	33	28	22	27	26	
28			31.5	31.5	24	21.1	14	33	22	18	21	15	31	26	20.5	25	28	
30			28.8	28.5	22.5	19.6	13	29.5	21	16.5	20	14	28.0	24.3	19	23	30	
32			23	24.5	21	18.3	12	27	19.5	15.5	18.5	13	25.3	22.5	17.5	21.5	32	
34								24	18	14	17	12.2	22.9	21.3	16.2	20	34	
36								22.5	17	13.5	16	11.5	20.8	20	15	19	36	
38													19.4	18.9	14	18	38	
40													17.5	17.7	13.5	16.5	40	
42																	42	
Reeving		6	10	10	8	8	6	10	6	6	6	4	8	6	6	6	Reeving	
Telescoping mode	I	1	2	1	1	1	1	2	1	1	1	1	3	2	1	2	I	Telescoping mode
	II	1	2	2	3	2	1	2	3	2	3	1	2	3	3	3	II	
	III	1	2	2	2	3	1	2	2	3	3	2	2	2	3	3	III	
	IV	2	2	2	2	2	3	2	2	2	2	3	2	2	2	2	IV	
	V	3	1	2	1	1	3	2	2	2	1	3	2	2	2	1	V	

Table 1-13 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range

Radius (m)	Main boom length (m)															Radius (m)
	45.6	50.6	50.6	50.6	50.6	50.6	55.6	55.6	55.6	55.6	55.6	60.6	60.6	65.6	71	
8	45															8
9	41	64	58	47	62	42										9
10	38	60	54	44	58	40	50	44	41	48	40					10
12	33	56	48	40	54	35	48	41	37	46	36	40	37			12
14	29	50	43	35	49	31	44	37	33	43	32	38	34	32	26	14
16	26	45	39	32	44	27	40	34	29	39	28	35.5	31	31	25	16
18	23	41	35.4	29.5	40	24	36.7	32	26.5	36	26	32.5	28	29	24	18
20	21	38	32.4	27	37	22	33.7	28.6	24	33	24	30	26	26.5	23	20
22	19	35	29.6	25	34	20	31.1	26.2	22	30	22	27.5	24	24.5	22	22
24	17.5	32	27.2	23	31	18.5	28.8	24	20.5	28	20	25.5	22	22.5	21	24
26	16	30	25.2	21.5	29	17	26.7	22.4	19	26	19	24	20.5	21	20.2	26
28	15	28	23.4	20	27	15.5	24.9	20.5	17.5	24	17.5	22	19	20	19.5	28
30	13.8	26	21.5	19	25	14.5	23.2	19.5	16	22.5	16	21	18	19.2	18.6	30
32	12.8	25	20.2	18	23.5	13.5	21.7	18.2	15	21	15	19.5	16.8	18	17.6	32
34	12	23	19	16.8	22	12.5	20.5	17	14	20	14	18.2	15.8	17	16.6	34
36	11	21	17.8	16	20	11.5	19.2	16	13	18.5	13	17.6	14.8	16	15.6	36
38	10.5	19.9	16.6	15	19	11	18.2	15	12.2	17.5	12.2	16.5	13.8	15.2	14.6	38
40	10	18.2	15.6	14.2	17.6	10.2	17	14.1	11.5	16.5	11.5	15.6	13	14.2	13.8	40
42		16.6	14.6	13.5	16.0	9.6	16	13.2	11	15.5	11	14.8	12.4	13.5	13.1	42
44		14.0	14	12.8	13.9	9	14.5	12.5	10	14.5	10	14	11.5	13	12.3	44
46		13.3	13.2	12	12.6	8.5	14.0	12	9.5	13.4	9.5	13	11	12.4	11.6	46
48							12.8	11.2	9	12.2	9	12.5	10.5	11.6	11	48
50							11.8	10.6	8.5	11.4	8.5	12	10	11	10.2	50
52							10.8	10	8	10.3	8	11	9.5	10.5	9.8	52
54												10	9	9.8	9.3	54
56												9.1	8	9.2	8.8	56
58														8.8	8.4	58
60														8.2	7.9	60
62															7.6	62
64															7.2	64
66															6.8	66
Reeving	4	6	6	4	6	4	4	4	4	4	4	4	4	4	4	Reeving
Telescoping mode I	1	3	2	2	3	1	3	2	2	3	1	3	2	3	4	I Telescoping mode
II	1	3	3	2	3	2	3	3	2	3	3	3	3	3	4	II
III	3	2	3	2	3	3	3	3	3	3	3	3	3	3	4	III
IV	3	2	2	3	2	3	2	3	3	3	3	3	3	3	4	IV
V	3	2	2	3	1	3	2	2	3	1	3	2	3	3	4	V

Table 1-14 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 100 t counterweight, over full range

Radius (m)	Main boom length (m)															**Radius (m)**
	15.6	20.6	20.6	20.6	25.6	20.6	25.6	25.6	25.6	25.6	25.6	30.6	30.6	30.6	30.6	
3.5	200	175	170	140	130	100										3.5
4	190	170	168	138	125	94	165	160	145	110	58					4
4.5	185	168	165	136	122	88	165	155	136	104	55	145	135	110	85	4.5
5	180	165	160	134	120	83	165	150	125	95	52	145	130	106	80	5
6	170	160	155	132	106	76	162	145	115	87	47	145	125	95	72	6
7	158	162	150	120	95	71	161	132	103	77	42	140	115	87	66	7
8	132	133	134	114	85	66	133	120	94	70	39	135	106	79	60	8
9	118	118	119	104	78	62	118	110	86	64	36	120	97	73	55	9
10	105	105	106	95	72	58	104	101	79	60	33	104	90	67	51	10
12	82	83	84	82	62	52	85	86	68.4	54	29	87	77	59	47	12
14		65	66	67	54	48	68	70	60.3	45	26	69	68	52	41.5	14
16		54	55	55	48	44	56	59	54	40	23	56	60	47	38	16
18		39	40	41	43	41	45.6	50	48.3	36	21	48	52	42	33.3	18
20							41	42.5	44	33	19	42	44.5	38	30.4	20
22							33.5	35	37	30	18	37	38.5	35	27.8	22
24												33	33.5	32	25.5	24
26												28	29	30	23.5	26
Reeving	20	16		14	12	10	14	14	14	10	6	14	12	10	8	Reeving
Telescoping mode I	1	2	1	1	1	1	2	1	1	1	1	2	1	1	1	I Telescoping mode
II	1	1	2	1	1	1	2	2	1	1	1	2	2	1	1	II
III	1	1	1	2	1	1	1	2	2	1	1	2	2	2	3	III
IV	1	1	1	1	2	1	1	1	2	2	1	1	2	2	2	IV
V	1	1	1	1	1	2	1	1	1	2	3	1	1	2	1	V

Table 1-14 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 100 t counterweight, over full range

Radius (m)	Main boom length (m)															Radius (m)
	30.6	35.6	35.6	35.6	35.6	35.6	40.6	40.6	40.6	40.6	40.6	45.6	45.6	45.6	45.6	
4.5	59															4.5
5	56	125	104	90	80	54										5
6	51	122	96	84	70	48										6
7	47	120	92	81	66	44	100	74	60	70	47					7
8	43	115	88	74	60	40	95	67	55	66	43.5	84	70	60	70	8
9	40	108	82	68	55	37	88	62	50	60	40.5	80	66	55	66	9
10	37	100	76	62	51	34.5	82	57.5	46	56	37.6	74	61	54	61	10
12	32	89	67	54	46.5	30	75	50	40	49	32.8	66	54.5	45	54	12
14	28	72	60	48	40.9	26.5	67	43	35	43	29	58	48.5	40	47	14
16	25	60	54	42	36.4	23.5	61	39	31	38	26	52	43	35.5	42	16
18	22	51.5	49	38	32.6	21.3	52.5	35	28	34	23.5	47	39	32	38	18
20	20.5	43.5	45	34	29.6	19.3	44.2	31	25	30	21.5	43	36	29	35	20
22	19	38.5	39.5	31	27	17.5	39.2	29	23	28	19.2	37.6	32.5	26.5	32	22
24	17.5	34	34.8	28	24.7	16.2	34.4	26	21	25	17.5	33.2	30	24	29	24
26	16.2	29.5	30.5	26	22.7	15	30.6	24	19	23	16.2	29.2	28	22	27	26
28		26	26.5	24	21	14	28	22	18	21	15	26	26	20.5	25	28
30		23.4	24.3	22.5	19.6	13	25	21	16.5	20	14	23.2	23.6	19	23.3	30
32		19	20.5	20	18	12	22.5	19.5	15.5	18.5	13	20.8	21.1	17.5	20.8	32
34							20.2	18	14	17	12.2	18.6	19	16.2	18.6	34
36							18.2	17	13.5	16	11.5	16.7	17	15	16.7	36
38												15.4	15.5	14	15.1	38
40												14	14.1	13.5	13.7	40
42																42
Reeving	6	10	10	8	8	6	10	6	6	6	4	8	6	6	6	Reeving
Telescoping mode I	1	2	1	1	1	1	2	1	1	1	1	3	2	1	2	I Telescoping mode
II	1	2	2	3	2	1	2	3	2	3	1	2	3	3	3	II
III	1	2	2	2	3	1	2	2	3	3	2	2	2	3	3	III
IV	2	2	2	2	2	3	2	2	2	2	3	2	2	2	2	IV
V	3	1	2	1	1	3	2	2	2	1	3	2	2	2	1	V

Table 1-14 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 100 t counterweight, over full range

Radius (m)	Main boom length (m)															**Radius (m)**
	45.6	50.6	50.6	50.6	50.6	50.6	55.6	55.6	55.6	55.6	55.6	60.6	60.6	65.6	71	
8	45															8
9	41	64	58	47	62	42										9
10	38	60	54	44	58	40	50	44	41	48	40					10
12	33	56	48	40	54	35	48	41	37	46	36	40	37			12
14	29	50	43	35	49	31	44	37	33	43	32	38	34	32	26	14
16	26	45	39	32	44	27	40	34	29	39	28	35.5	31	31	25	16
18	23	41	35.4	29.5	40	24	36.7	32	26.5	36	26	32.5	28	29	24	18
20	21	38	32.4	27	37	22	33.7	28.6	24	33	24	30	26	26.5	23	20
22	19	35	29.6	25	34	20	31.1	26.2	22	30	22	27.5	24	24.5	22	22
24	17.5	32	27.2	23	31	18.5	28.8	24	20.5	28	20	25.5	22	22.5	21	24
26	16	29.3	25.2	21.5	29	17	26.7	22.4	19	26	19	24	20.5	21	20.2	26
28	15	26.1	23.4	20	25.9	15.5	24.9	20.5	17.5	24	17.5	22	19	20	19.5	28
30	13.8	23.5	21.5	19	23.3	14.5	23.2	19.5	16	22.5	16	21	18	19.2	18.6	30
32	12.8	21.7	20.2	18	20.7	13.5	20.7	18.2	15	21	15	19.5	16.8	18	17.6	32
34	12	19.5	19	16.8	19	12.5	18.8	17	14	20	14	18.2	15.8	17	16.6	34
36	11	17.2	17.6	16	17	11.5	16.7	16	13	18.5	13	17.6	14.8	16	15.6	36
38	10.5	15.8	15.8	15	15.3	11	15.3	15	12.2	17.5	12.2	16.2	13.8	15.2	14.6	38
40	10	14.4	14.3	14.2	13.7	10.2	14	14.1	11.5	16.5	11.5	14.8	13	14.2	13.8	40
42		12.9	13	13.5	12.4	9.6	12.7	13.2	11	15.5	11	13.6	12.4	13.5	13.1	42
44		11.5	11.9	12.8	10.6	9	11.3	12.5	10	14.5	10	12.4	11.5	12.8	12.3	44
46		10.1	10.8	12	9.5	8.5	10.3	12	9.5	13.5	9.5	11.2	11	11.8	11.6	46
48							9.3	11.2	9	12.5	9	10.4	10.5	10.8	11	48
50							8.5	10.6	8.5	12	8.5	9.4	9.9	9.9	10.2	50
52							7.6	10	8	11	8	8.4	9.2	9.2	9.4	52
54												7.4	8.4	8.3	8.6	54
56												6.7	7.8	7.5	7.9	56
58														6.9	7.3	58
60														6.0	6.7	60
62															6.1	62
64															5.5	64
66															5.0	66
Reeving	4	6	6	4	6	4	4	4	4	4	4	4	4	4	4	Reeving
Telescoping mode I	1	3	2	2	3	1	3	2	2	3	1	3	2	3	4	I Telescoping mode
II	1	3	3	2	3	2	3	3	2	3	3	3	3	3	4	II
III	3	2	3	2	3	3	3	3	3	3	3	3	3	3	4	III
IV	3	2	2	3	2	3	2	3	3	3	3	3	3	3	4	IV
V	3	2	2	3	1	3	2	2	3	1	3	2	3	3	4	V

Table 1-15 Main boom

Unit: Metric tons

<table>
<tr><th colspan="19">15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 80 t counterweight, over full range</th></tr>
<tr><th colspan="2" rowspan="2">Radius (m)</th><th colspan="15">Main boom length (m)</th><th colspan="2" rowspan="2">Radius (m)</th></tr>
<tr><th>15.6</th><th>20.6</th><th>20.6</th><th>20.6</th><th>25.6</th><th>20.6</th><th>25.6</th><th>25.6</th><th>25.6</th><th>25.6</th><th>25.6</th><th>30.6</th><th>30.6</th><th>30.6</th><th>30.6</th></tr>
<tr><td colspan="2">3.5</td><td>195</td><td>175</td><td>170</td><td>140</td><td>130</td><td>100</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">3.5</td></tr>
<tr><td colspan="2">4</td><td>185</td><td>170</td><td>168</td><td>138</td><td>125</td><td>94</td><td>165</td><td>160</td><td>145</td><td>110</td><td>58</td><td></td><td></td><td></td><td></td><td colspan="2">4</td></tr>
<tr><td colspan="2">4.5</td><td>180</td><td>168</td><td>165</td><td>136</td><td>122</td><td>88</td><td>165</td><td>155</td><td>136</td><td>104</td><td>55</td><td>145</td><td>135</td><td>110</td><td>85</td><td colspan="2">4.5</td></tr>
<tr><td colspan="2">5</td><td>175</td><td>165</td><td>160</td><td>134</td><td>120</td><td>83</td><td>165</td><td>150</td><td>125</td><td>95</td><td>52</td><td>145</td><td>130</td><td>106</td><td>80</td><td colspan="2">5</td></tr>
<tr><td colspan="2">6</td><td>165</td><td>160</td><td>155</td><td>132</td><td>106</td><td>76</td><td>162</td><td>145</td><td>115</td><td>87</td><td>47</td><td>145</td><td>125</td><td>95</td><td>72</td><td colspan="2">6</td></tr>
<tr><td colspan="2">7</td><td>145</td><td>145</td><td>146</td><td>120</td><td>95</td><td>71</td><td>144</td><td>132</td><td>103</td><td>77</td><td>42</td><td>140</td><td>115</td><td>87</td><td>66</td><td colspan="2">7</td></tr>
<tr><td colspan="2">8</td><td>124</td><td>124</td><td>125</td><td>114</td><td>85</td><td>66</td><td>124</td><td>120</td><td>94</td><td>70</td><td>39</td><td>125</td><td>106</td><td>79</td><td>60</td><td colspan="2">8</td></tr>
<tr><td colspan="2">9</td><td>110</td><td>110</td><td>111</td><td>104</td><td>78</td><td>62</td><td>110</td><td>108</td><td>86</td><td>64</td><td>36</td><td>110</td><td>97</td><td>73</td><td>55</td><td colspan="2">9</td></tr>
<tr><td colspan="2">10</td><td>100</td><td>99</td><td>96</td><td>95</td><td>72</td><td>58</td><td>90</td><td>94</td><td>79</td><td>60</td><td>33</td><td>94</td><td>90</td><td>67</td><td>51</td><td colspan="2">10</td></tr>
<tr><td colspan="2">12</td><td>80</td><td>80</td><td>81</td><td>80</td><td>62</td><td>52</td><td>69</td><td>78.5</td><td>68.4</td><td>54</td><td>29</td><td>76</td><td>76.5</td><td>59</td><td>47</td><td colspan="2">12</td></tr>
<tr><td colspan="2">14</td><td></td><td>56</td><td>59</td><td>60</td><td>54</td><td>48</td><td>55</td><td>63.5</td><td>60.3</td><td>45</td><td>26</td><td>58.5</td><td>65</td><td>52</td><td>41.5</td><td colspan="2">14</td></tr>
<tr><td colspan="2">16</td><td></td><td>48</td><td>49</td><td>50</td><td>46</td><td>44</td><td>47</td><td>50</td><td>51</td><td>40</td><td>23</td><td>47.2</td><td>53</td><td>47</td><td>37.5</td><td colspan="2">16</td></tr>
<tr><td colspan="2">18</td><td></td><td>40</td><td>41</td><td>42</td><td>39</td><td>38.5</td><td>37.5</td><td>42.5</td><td>43.3</td><td>36</td><td>21</td><td>41</td><td>43.5</td><td>42</td><td>33.3</td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td></td><td></td><td></td><td></td><td></td><td></td><td>33.5</td><td>34.5</td><td>36.5</td><td>33</td><td>19</td><td>34.4</td><td>37</td><td>38</td><td>30.4</td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td></td><td></td><td></td><td></td><td></td><td></td><td>27</td><td>28.5</td><td>30.5</td><td>30</td><td>18</td><td>30</td><td>31.5</td><td>33</td><td>27.5</td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>26</td><td>27.5</td><td>28.5</td><td>25.5</td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>22.5</td><td>24</td><td>25.3</td><td>23.5</td><td colspan="2">26</td></tr>
<tr><td colspan="2">Reeving</td><td>18</td><td colspan="2">16</td><td>14</td><td>12</td><td>10</td><td>14</td><td>14</td><td>14</td><td>10</td><td>6</td><td>14</td><td>12</td><td>10</td><td>8</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td>1</td><td>2</td><td>1</td><td>1</td><td>1</td><td>1</td><td>2</td><td>1</td><td>1</td><td>1</td><td>1</td><td>2</td><td>1</td><td>1</td><td>1</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td>1</td><td>1</td><td>2</td><td>1</td><td>1</td><td>1</td><td>2</td><td>2</td><td>1</td><td>1</td><td>1</td><td>2</td><td>2</td><td>1</td><td>1</td><td>II</td></tr>
<tr><td>III</td><td>1</td><td>1</td><td>1</td><td>2</td><td>1</td><td>1</td><td>1</td><td>2</td><td>2</td><td>1</td><td>1</td><td>2</td><td>2</td><td>2</td><td>3</td><td>III</td></tr>
<tr><td>IV</td><td>1</td><td>1</td><td>1</td><td>1</td><td>2</td><td>1</td><td>1</td><td>1</td><td>2</td><td>2</td><td>1</td><td>1</td><td>2</td><td>2</td><td>2</td><td>IV</td></tr>
<tr><td>V</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>2</td><td>1</td><td>1</td><td>1</td><td>2</td><td>3</td><td>1</td><td>1</td><td>2</td><td>1</td><td>V</td></tr>
</table>

Table 1-15 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 80 t counterweight, over full range

Radius (m)		Main boom length (m)																Radius (m)
		30.6	35.6	35.6	35.6	35.6	35.6	40.6	40.6	40.6	40.6	40.6	45.6	45.6	45.6	45.6		
4.5		59																4.5
5		56	125	104	90	80	54											5
6		51	122	96	84	70	48											6
7		47	120	92	81	66	44	100	74	60	70	47						7
8		43	115	88	74	60	40	95	67	55	66	43.5	84	70	60	70		8
9		40	108	82	68	55	37	88	62	50	60	40.5	80	66	55	66		9
10		37	96.0	76	62	51	34.5	82	57.5	46	56	37.6	74	61	54	61		10
12		32	77.6	67	54	46.5	30	75	50	40	49	32.8	66	54.5	45	54		12
14		28	64.5	60	48	41.0	26.5	66.5	43	35	43	29	58	48.5	40	47		14
16		25	50.6	54	42	36.4	23.5	53.8	39	31	38	26	52	43	35.5	42		16
18		22	43.0	45.8	38.0	32.7	21.3	44.7	35	28	34	23.5	43.0	39.0	32.0	38.0		18
20		20.5	36.1	38.7	34.0	29.6	19.3	37.2	31	25	30	21.5	36.5	36.0	29.0	35.0		20
22		19	31.0	32.8	30.9	27.0	17.5	32.3	29	23	28	19.2	30.7	31.7	26.5	31.5		22
24		17.5	25.8	28.5	26.7	24.8	16.2	27.8	26	21	25	17.5	26.8	27.4	24.0	27.1		24
26		16.2	23.0	25.0	23.4	22.8	15.0	24.5	24	19	23	16.2	23.3	23.9	22.0	23.6		26
28			20.1	21.8	20.5	21.0	14.0	22.3	21.6	18.0	20.4	15	20.6	21.0	20.5	20.6		28
30			17.5	19.4	18.1	19.5	13.0	19.8	19.4	16.5	18.5	14	18.1	18.6	19.0	18.2		30
32			15.0	16.5	16.0	17.0	12.0	17.6	17.1	15.5	16.4	13	16.1	16.5	17.1	16.1		32
34								15.7	15.3	14.0	14.4	12.2	14.3	14.7	15.4	14.3		34
36								14.0	13.8	13.5	12.9	11.5	12.7	13.2	13.9	12.7		36
38													11.5	11.8	12.3	11.4		38
40													10.3	10.5	11.4	10.1		40
42																		42
Reeving		6	10	10	8	8	6	10	6	6	6	4	8	6	6	6		Reeving
Telescoping mode	I	1	2	1	1	1	1	2	1	1	1	1	3	2	1	2	I	Telescoping mode
	II	1	2	2	3	2	1	2	3	2	3	1	2	3	3	3	II	
	III	1	2	2	2	3	1	2	2	3	3	2	2	2	3	3	III	
	IV	2	2	2	2	2	3	2	2	2	2	3	2	2	2	2	IV	
	V	3	1	2	1	1	3	2	2	2	1	3	2	2	2	1	V	

Table 1-15 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 80 t counterweight, over full range

Radius (m)	Main boom length (m)															Radius (m)
	45.6	50.6	50.6	50.6	50.6	50.6	55.6	55.6	55.6	55.6	55.6	60.6	60.6	65.6	71	
8	45															8
9	41	64	58	47	62	42										9
10	38	60	54	44	58	40	50	44	41	48	40					10
12	33	56	48	40	54	35	48	41	37	46	36	40	37			12
14	29	50	43	35	49	31	44	37	33	43	32	38	34	32	26	14
16	26	45	39	32	44	27	40	34	29	39	28	35.5	31	31	25	16
18	23	41	35.4	29.5	40	24	36.7	32	26.5	36	26	32.5	28	29	24	18
20	21	36.6	32.4	27.0	35.5	22	33.7	28.6	24	33	24	30	26	26.5	23	20
22	19	31.1	29.6	25.0	30.5	20	31.1	26.2	22	30	22	27.5	24	24.5	22	22
24	17.5	26.8	27.2	23.0	25.9	18.5	26.8	24	20.5	26.7	20	25.5	22	22.5	21	24
26	16	23.3	24.3	21.5	23.0	17	23.7	22.4	19	23.4	19	23.7	20.5	21	20.2	26
28	15	20.6	21.4	20.0	20.3	15.5	20.8	20.5	17.5	20.5	17.5	20.7	19	20	19.5	28
30	13.8	18.4	19.0	19.0	18.0	14.5	18.5	19	16	18.1	16	18.7	18	19	18.6	30
32	12.8	16.8	16.8	18.0	15.9	13.5	16.4	17	15	16	15	16.6	16.8	17	17.6	32
34	12	14.9	15.0	16.0	14.4	12.5	14.8	15	14	14.4	14	15.0	15.7	15.3	16.3	34
36	11	13.0	13.5	14.6	12.7	11.5	13.2	13.5	13	12.6	13	13.6	14.2	14	14.6	36
38	10.5	11.9	12.0	13.1	11.3	11	12	12	12.2	11.4	12.2	12.4	12.8	12.7	13.1	38
40	10	10.5	10.8	11.9	10.0	10.2	10.6	10.8	11.5	10.3	11.5	11.1	11.6	11.3	11.9	40
42		9.4	9.7	10.7	8.8	9.6	9.5	9.8	10.5	9.2	10.9	10.1	10.6	10.3	10.9	42
44		8.2	8.7	9.8	7.4	9	8.2	8.9	9.5	8.1	10.0	9.1	9.6	9.5	9.9	44
46		8.0	7.8	9.0	6.5	8.5	7.6	8.2	8.6	7.2	9.1	8.1	8.7	8.7	8.9	46
48							6.8	7.4	7.9	6.3	8.3	7.3	8.0	7.7	8.1	48
50							6.0	6.7	7.2	5.7	7.7	6.5	7.2	7.1	7.3	50
52							5.3	6.1	6.6	4.9	7.0	5.7	6.6	6.5	6.6	52
54												4.9	6.0	5.7	5.9	54
56												4.3	5.4	5.0	5.4	56
58														4.5	4.8	58
60														3.9	4.2	60
62															3.8	62
64															3.3	64
66															2.8	66
Reeving	4	6	6	4	6	4	4	4	4	4	4	4	4	4	4	Reeving
Telescoping mode I	1	3	2	2	3	1	3	2	2	3	1	3	2	3	4	I Telescoping mode
II	1	3	3	2	3	2	3	3	2	3	3	3	3	3	4	II
III	3	2	3	2	3	3	3	3	3	3	3	3	3	3	4	III
IV	3	2	2	3	2	3	2	3	3	3	3	3	3	3	4	IV
V	3	2	2	3	1	3	2	2	3	1	3	2	3	3	4	V

Table 1-16 Main boom

Unit: Metric tons

<table>
<tr><th colspan="19">15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 60 t counterweight, over full range</th></tr>
<tr><th colspan="2" rowspan="2">Radius (m)</th><th colspan="15">Main boom length (m)</th><th colspan="2" rowspan="2">Radius (m)</th></tr>
<tr><th>15.6</th><th>20.6</th><th>20.6</th><th>20.6</th><th>25.6</th><th>20.6</th><th>25.6</th><th>25.6</th><th>25.6</th><th>25.6</th><th>25.6</th><th>30.6</th><th>30.6</th><th>30.6</th><th>30.6</th></tr>
<tr><td colspan="2">3.5</td><td>190</td><td>170</td><td>170</td><td>140</td><td>130</td><td>100</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">3.5</td></tr>
<tr><td colspan="2">4</td><td>180</td><td>165</td><td>165</td><td>138</td><td>125</td><td>94</td><td>160</td><td>158</td><td>145</td><td>110</td><td>58</td><td></td><td></td><td></td><td></td><td colspan="2">4</td></tr>
<tr><td colspan="2">4.5</td><td>175</td><td>160</td><td>160</td><td>136</td><td>122</td><td>88</td><td>158</td><td>155</td><td>136</td><td>104</td><td>55</td><td>140</td><td>135</td><td>110</td><td>85</td><td colspan="2">4.5</td></tr>
<tr><td colspan="2">5</td><td>170</td><td>155</td><td>155</td><td>134</td><td>120</td><td>83</td><td>155</td><td>152</td><td>125</td><td>95</td><td>52</td><td>135</td><td>130</td><td>106</td><td>80</td><td colspan="2">5</td></tr>
<tr><td colspan="2">6</td><td>152</td><td>150</td><td>150</td><td>132</td><td>106</td><td>76</td><td>148</td><td>140</td><td>115</td><td>87</td><td>47</td><td>130</td><td>125</td><td>95</td><td>72</td><td colspan="2">6</td></tr>
<tr><td colspan="2">7</td><td>130</td><td>131</td><td>132</td><td>120</td><td>95</td><td>71</td><td>130</td><td>131</td><td>103</td><td>77</td><td>42</td><td>125</td><td>115</td><td>87</td><td>66</td><td colspan="2">7</td></tr>
<tr><td colspan="2">8</td><td>113</td><td>112</td><td>113</td><td>114</td><td>85</td><td>66</td><td>113</td><td>114</td><td>94</td><td>70</td><td>39</td><td>110</td><td>106</td><td>79</td><td>60</td><td colspan="2">8</td></tr>
<tr><td colspan="2">9</td><td>101</td><td>100</td><td>101</td><td>102</td><td>78</td><td>62</td><td>100</td><td>101</td><td>86</td><td>64</td><td>36</td><td>100</td><td>97</td><td>73</td><td>55</td><td colspan="2">9</td></tr>
<tr><td colspan="2">10</td><td>86</td><td>85.3</td><td>87.2</td><td>88.4</td><td>72</td><td>58</td><td>86</td><td>87.4</td><td>79</td><td>60</td><td>33</td><td>87.4</td><td>90</td><td>67</td><td>51</td><td colspan="2">10</td></tr>
<tr><td colspan="2">12</td><td>62.5</td><td>61.3</td><td>63</td><td>64</td><td>62</td><td>52</td><td>62</td><td>65.7</td><td>68.4</td><td>54</td><td>29</td><td>63.1</td><td>65.5</td><td>59</td><td>47</td><td colspan="2">12</td></tr>
<tr><td colspan="2">14</td><td></td><td>46.2</td><td>48</td><td>49</td><td>50</td><td>48</td><td>49.7</td><td>52.1</td><td>55.2</td><td>45</td><td>26</td><td>47.7</td><td>54.3</td><td>52</td><td>41.6</td><td colspan="2">14</td></tr>
<tr><td colspan="2">16</td><td></td><td>35.8</td><td>37.3</td><td>38.4</td><td>39.3</td><td>40</td><td>37.8</td><td>40</td><td>41.5</td><td>40</td><td>23</td><td>37.4</td><td>42.8</td><td>45.2</td><td>37.9</td><td colspan="2">16</td></tr>
<tr><td colspan="2">18</td><td></td><td>28.5</td><td>30</td><td>31</td><td>31.8</td><td>32.5</td><td>31</td><td>33</td><td>34.7</td><td>36</td><td>21</td><td>31.7</td><td>34.8</td><td>36.2</td><td>33.3</td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td></td><td></td><td></td><td></td><td></td><td></td><td>25.2</td><td>27.3</td><td>28.8</td><td>30.4</td><td>19</td><td>26.7</td><td>29</td><td>30.3</td><td>30.4</td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td></td><td></td><td></td><td></td><td></td><td></td><td>20.2</td><td>22.2</td><td>23.8</td><td>25.9</td><td>18</td><td>22.7</td><td>24.4</td><td>25.8</td><td>26.4</td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>19.5</td><td>20.9</td><td>22.2</td><td>22.6</td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>16.6</td><td>18</td><td>19.4</td><td>19.5</td><td colspan="2">26</td></tr>
<tr><td colspan="2">Reeving</td><td>18</td><td colspan="2">16</td><td>14</td><td>12</td><td>10</td><td>14</td><td>14</td><td>14</td><td>10</td><td>6</td><td>14</td><td>12</td><td>10</td><td>8</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td>1</td><td>2</td><td>1</td><td>1</td><td>1</td><td>1</td><td>2</td><td>1</td><td>1</td><td>1</td><td>1</td><td>2</td><td>1</td><td>1</td><td>1</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td>1</td><td>1</td><td>2</td><td>1</td><td>1</td><td>1</td><td>2</td><td>2</td><td>1</td><td>1</td><td>1</td><td>2</td><td>2</td><td>1</td><td>1</td><td>II</td></tr>
<tr><td>III</td><td>1</td><td>1</td><td>1</td><td>2</td><td>1</td><td>1</td><td>1</td><td>2</td><td>2</td><td>1</td><td>1</td><td>2</td><td>2</td><td>2</td><td>3</td><td>III</td></tr>
<tr><td>IV</td><td>1</td><td>1</td><td>1</td><td>1</td><td>2</td><td>1</td><td>1</td><td>1</td><td>2</td><td>2</td><td>1</td><td>1</td><td>2</td><td>2</td><td>2</td><td>IV</td></tr>
<tr><td>V</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>2</td><td>1</td><td>1</td><td>1</td><td>2</td><td>3</td><td>1</td><td>1</td><td>2</td><td>1</td><td>V</td></tr>
</table>

Table 1-16 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 60 t counterweight, over full range																
Radius (m)	Main boom length (m)															**Radius (m)**
	30.6	35.6	35.6	35.6	35.6	35.6	40.6	40.6	40.6	40.6	40.6	45.6	45.6	45.6	45.6	
4.5	59															4.5
5	56	125	104	90	80	54										5
6	51	125	96	84	70	48										6
7	47	120	92	81	66	44	100	74	60	70	47					7
8	43	112	88	74	60	40	95	67	55	66	43.5	84	70	60	70	8
9	40	105	82	68	55	37	88	62	50	60	40.5	80	66	55	66	9
10	37	88	76	62	51	34.5	82	57.5	46	56	37.6	74	61	54	61	10
12	32	64.5	67	54	46.5	30	68	50	40	49	32.8	66	54.5	45	54	12
14	28	53	55.9	48	41	26.5	54.7	43	35	43	29	52.7	48.5	40	47	14
16	25	40.3	44.3	42	36.4	23.5	43.1	39	31	38	26	41.4	42.7	35.5	42.4	16
18	22	33.7	36.2	34.3	32.7	21.3	35.2	35	28	34	23.5	33.6	34.7	32	34.4	18
20	20.5	28	30.3	28.1	29.6	19.3	28.9	29.4	25	28.3	21.5	28.1	29.2	29	28.5	20
22	19	23.4	25.5	23.8	26.1	17.5	24.8	25.2	23	24.5	19.2	23.4	24.4	25.8	24.0	22
24	17.5	19.9	21.9	20.2	22.3	16.2	21.2	21.4	21	20.4	17.5	20.1	20.8	21.4	20.5	24
26	16.2	17	19	17.5	19.3	15	18.4	18.6	19.3	17.7	16.2	17.3	17.9	18.6	17.5	26
28		14.6	16.5	15.1	16.8	14	16.6	16.2	16.9	15.2	15	15.1	15.6	16.3	15.1	28
30		12.6	14.4	13.2	14.6	13	14.5	14.4	14.9	13.5	14	13.1	13.6	14.3	13.2	30
32		10.5	12.2	11.5	12.9	12	12.7	12.5	13.2	11.8	13	11.4	11.9	12.6	11.4	32
34							11.2	11.1	11.6	10.3	12.2	9.9	10.5	11.2	10.0	34
36							9.8	9.8	10.3	9.0	11	8.6	9.1	9.9	8.6	36
38												7.7	8.0	8.7	7.5	38
40												6.6	7.0	7.9	6.5	40
42																42
Reeving	6	10	10	8	8	6	10	6	6	6	4	8	6	6	6	Reeving
Telescoping mode I	1	2	1	1	1	1	2	1	1	1	1	3	2	1	2	I Telescoping mode
II	1	2	2	3	2	1	2	3	2	3	1	2	3	3	3	II
III	1	2	2	2	3	1	2	2	3	3	2	2	2	3	3	III
IV	2	2	2	2	2	3	2	2	2	2	3	2	2	2	2	IV
V	3	1	2	1	1	3	2	2	2	1	3	2	2	2	1	V

Table 1-16 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 60 t counterweight, over full range

Radius (m)		Main boom length (m)															**Radius (m)**	
		45.6	50.6	50.6	50.6	50.6	50.6	55.6	55.6	55.6	55.6	55.6	60.6	60.6	65.6	71		
8		45															8	
9		41	64	58	47	62	42										9	
10		38	60	54	44	58	40	50	44	41	48	40					10	
12		33	56	48	40	54	35	48	41	37	46	36	40	37			12	
14		29	50	43	35	49	31	44	37	33	43	32	38	34	32	26	14	
16		26	41.5	39	32	40.4	27	40	34	29	39	28	35.5	31	31	25	16	
18		23	33.7	35.6	29.5	32.6	24	34.2	32	26.5	33.5	26	32.5	28	29	24	18	
20		21	28.2	29.58	27	27.3	22	28.3	28.6	24	27.4	24	29.1	26	26.5	23	20	
22		19	23.7	25.03	25	23.1	20	23.9	25.1	22	23.3	22	24.5	24	24.2	22	22	
24		17.5	20.1	21.41	22.3	19.4	18.5	20.3	21.5	20.5	20.1	20	20.8	21.8	20.7	20.2	24	
26		16	17.3	18.49	19.3	16.9	17	17.7	18.6	19	17.5	19	17.9	18.9	17.9	18.2	26	
28		15	15.1	16.83	17.0	14.7	15.5	15.3	16.1	16.9	15.1	17.4	15.3	16.6	15.7	16.4	28	
30		13.8	13.3	14.76	15.0	12.8	14.5	13.5	14.1	14.8	13.1	15.3	13.7	14.6	14.1	14.7	30	
32		12.8	12.0	12.87	13.4	11.1	13.5	11.8	12.5	13.0	11.4	13.4	12.0	13.0	12.4	13.2	32	
34		12	10.4	11.34	11.8	9.8	12.5	10.4	10.8	11.5	10.1	12.0	10.7	11.5	11.1	11.7	34	
36		11	8.8	10.0	10.6	8.5	11.4	9.0	9.6	10.3	8.7	10.8	9.5	10.3	9.9	10.4	36	
38		10.5	7.8	8.8	9.4	7.3	10.2	8.0	8.4	9.2	7.6	9.6	8.4	9.1	8.9	9.2	38	
40		9.2	6.8	7.7	8.4	6.2	9.2	7.0	7.5	8.2	6.7	8.7	7.4	8.1	7.8	8.2	40	
42			5.9	6.8	7.4	5.3	8.4	6.1	6.6	7.4	5.7	7.9	6.6	7.3	7.0	7.3	42	
44			4.8	5.9	6.6	4.2	7.6	5.0	5.8	6.5	4.9	7.0	5.7	6.5	6.3	6.5	44	
46			4.0	5.1	6.0	3.5	6.8	4.5	5.2	5.8	4.1	6.2	5.0	5.7	5.6	5.7	46	
48								3.8	4.6	5.2	3.4	5.6	4.3	5.2	4.8	5.0	48	
50								3.2	4.0	4.6	2.8	5.0	3.7	4.5	4.2	4.4	50	
52								2.6	3.5	4.1	2.3	4.5	3.0	4.0	3.7	3.8	52	
54													2.4	3.5	3.1	3.3	54	
56													2.0	3.0	2.6	2.8	56	
58															2.2	2.3	58	
60															1.7	1.9	60	
62																1.5	62	
Reeving		4	6	6	4	6	4	4	4	4	4	4	4	4	4	4	Reeving	
Telescoping mode	I	1	3	2	2	3	1	3	2	2	3	1	3	2	3	4	I	Telescoping mode
	II	1	3	3	2	3	2	3	3	2	3	3	3	3	3	4	II	
	III	3	2	3	2	3	3	3	3	3	3	3	3	3	3	4	III	
	IV	3	2	2	3	2	3	2	3	3	3	3	3	3	3	4	IV	
	V	3	2	2	3	1	3	2	2	3	1	3	2	3	3	4	V	

Table 1-17 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 40 t counterweight, over full range																
Radius (m)	Main boom length (m)															**Radius (m)**
	15.6	20.6	20.6	20.6	25.6	20.6	25.6	25.6	25.6	25.6	25.6	30.6	30.6	30.6	30.6	
3.5	188	170	160	140	130	100										3.5
4	178	165	160	138	125	94	155	155	145	110	58					4
4.5	172	160	155	136	122	88	152	150	136	104	55	132	130	110	85	4.5
5	165	155	150	134	120	83	148	146	125	95	52	128	128	106	80	5
6	140	140	140	132	106	76	141	140	115	87	47	125	121	95	72	6
7	120	120	121	120	95	71	120	121	103	77	42	116	114	87	66	7
8	104	105	106	106	85	66	105	106	94	70	39	102	103	79	60	8
9	87	85.5	87.5	88.8	78	62	86.9	91.0	86	64	36	90	91	73	55	9
10	70.8	69.4	71.3	72.5	73.5	58	70.7	73.3	77.2	60	33	73.2	75.1	67	51	10
12	48.3	47	48.8	50.1	51.2	52	48.0	50.6	54.0	54	29	50.1	52.4	55.9	47.1	12
14		34	35.7	37	37.9	38.7	35.0	37.3	40.1	45	26	36.8	38.9	41.8	41.6	14
16		25.7	27.4	28.4	29.4	30	26.6	28.8	31.2	32.6	23	28.1	31.3	33.7	33.7	16
18		20	21.4	22.5	23.4	24.1	20.8	22.8	25.1	26.4	21	22.2	25.1	26.6	27.1	18
20							16.5	18.4	20.5	21.8	19	18.2	20.6	22.0	22.2	20
22							13.1	15.1	16.6	18.2	18	15.1	17.0	18.5	18.5	22
24												12.6	14.2	15.7	15.6	24
26												10.3	12.0	13.4	13.2	26
Reeving	18	16		14	12	10	14	14	14	10	6	14	12	10	8	Reeving
Telescoping mode I	1	2	1	1	1	1	2	1	1	1	1	2	1	1	1	I Telescoping mode
II	1	1	2	1	1	1	2	2	1	1	1	2	2	1	1	II
III	1	1	1	2	1	1	1	2	2	1	1	2	2	2	3	III
IV	1	1	1	1	2	1	1	1	2	2	1	1	2	2	2	IV
V	1	1	1	1	1	2	1	1	1	2	3	1	1	2	1	V

Table 1-17 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 40 t counterweight, over full range

Radius (m)	Main boom length (m)															**Radius (m)**
	30.6	35.6	35.6	35.6	35.6	35.6	40.6	40.6	40.6	40.6	40.6	45.6	45.6	45.6	45.6	
4.5	59															4.5
5	56	120	104	90	80	54										5
6	51	116	96	84	70	48										6
7	47	112	92	81	66	44	100	74	60	70	47					7
8	43	104.0	88	74	60	40	95	67	55	66	43.5	84	70	60	70	8
9	40	90.7	82	68	55	37	86	62	50	60	40.5	80	66	55	66	9
10	37	71.3	76	62	51	34.5	74	57.5	46	56	37.6	72	61	54	61	10
12	32	49.4	56.1	53.6	46.5	30	54.8	50	40	49	32.8	53.3	54.5	45	54	12
14	28	39.1	41.9	40.2	41.0	26.5	40.7	40.6	35	40.7	29	39	40.7	40	40	14
16	25	29.1	32.9	30.9	33.4	23.5	31.6	32.5	31	31.3	26	30.1	31.2	32.9	30.8	16
18	22	24.0	26.5	24.7	26.8	21.3	25.3	26.2	26.5	25.1	23.5	24	25	26.5	24.7	18
20	20.5	19.4	21.8	19.9	22.0	19.3	20.5	21	21.9	20	21.5	19.8	20.7	21.9	20	20
22	19	16.0	18.1	16.5	18.3	17.5	17.3	17.8	18.3	17	19.2	16.1	17	28.3	16.5	22
24	16.9	13.2	15.3	13.8	15.4	16.2	14.4	14.8	15.5	14	16.8	13.5	14.2	14.9	13.7	24
26	14.6	11.0	13.1	11.6	13.0	14.5	12.3	12.7	13.2	11.8	14.5	11.3	12	12.8	11.4	26
28		9.1	11.1	9.7	11.0	12.7	10.8	10.8	11.4	9.9	12.7	9.6	10.1	11	9.6	28
30		7.6	9.5	8.2	9.4	10.99	9.2	9.4	9.9	8.6	11.1	8	8.6	9.4	8.1	30
32		6.1	7.8	6.9	7.9	9.4	7.7	8.0	8.5	7.3	9.8	6.7	7.2	8.1	6.7	32
34							6.6	6.8	7.3	6.1	8.6	5.5	6.1	7.0	5.5	34
36							5.5	5.8	6.4	5.1	7.6	4.6	5.1	6.0	4.6	36
38												3.7	4.2	5	3.7	38
40												2.9	3.4	4.4	2.8	40
42																42
Reeving	6	12	10	8	8	6	10	6	6	6	4	8	6	6	6	Reeving
Telescoping mode I	1	2	1	1	1	1	2	1	1	1	1	3	2	1	2	I Telescoping mode
II	1	2	2	3	2	1	2	3	2	3	1	2	3	3	3	II
III	1	2	2	2	3	1	2	2	3	3	2	2	2	3	3	III
IV	2	2	2	2	2	3	2	2	2	2	3	2	2	2	2	IV
V	3	1	2	1	1	3	2	2	2	1	3	2	2	2	1	V

Table 1-17 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 40 t counterweight, over full range

Radius (m)	Main boom length (m)															Radius (m)
	45.6	50.6	50.6	50.6	50.6	50.6	55.6	55.6	55.6	55.6	55.6	60.6	60.6	65.6	71	
8	45															8
9	41	64	58	47	62	42										9
10	38	60	54	44	58	40	50	44	41	48	40					10
12	33	52.8	48	40	50.8	35	48	41	37	46	36	40	37			12
14	29	39	41.2	35	37.8	31	39.6	37	33	38.3	32	38	34	32	26	14
16	26	30.2	32	32	29.2	27	30.6	32.1	29	29.6	28	31.1	31	31	25	16
18	23	24	25.7	26.5	23.2	24	24.5	26.1	26.5	24	26	24.9	26.4	25.2	22.3	18
20	21	19.8	21	21.9	18.9	22	20	21.2	21.9	19.2	22.5	20.7	21.7	20.7	18.8	20
22	19	16.3	17.5	18.4	15.7	19.5	16.4	17.7	18.4	16.1	19	17.1	18.2	17	16.1	22
24	17.2	13.5	14.7	15.6	12.8	16.6	13.7	15	15.6	13.5	16.2	14.2	15.3	14.4	14.0	24
26	15	11.3	12.5	13.4	10.9	14.3	11.6	12.6	13.3	11.5	13.9	12	13.1	12.2	12.3	26
28	13	9.5	11	11.5	9.1	12.5	9.7	10.7	11.5	9.6	12.1	10	11.2	10.4	11.0	28
30	11.4	8.1	7.9	10	7.7	10.9	8.3	9.2	9.9	8.0	10.4	8.7	9.7	9.2	9.6	30
32	10	7.0	4.0	8.8	6.2	9.6	7.1	7.9	8.5	6.7	9.0	7.4	8.4	7.9	8.3	32
34	8.8	5.8	6.8	7.5	5.2	8.4	5.9	6.6	7.4	5.6	7.9	6.3	7.3	6.8	7.2	34
36	7.8	4.6	5.7	6.5	4.1	7.4	4.9	5.7	6.4	4.6	6.9	5.3	6.3	5.9	6.2	36
38	7.0	3.8	4.8	5.6	3.2	6.5	4.0	4.8	5.5	3.7	6.0	4.5	5.4	5.0	5.2	38
40	6.1	3.0	4.0	4.8	2.4	5.7	3.3	4.0	4.8	3.0	5.3	3.7	4.7	4.2	4.4	40
42		2.3	3.2	4.1	1.7	5.0	2.5	3.3	4.1	2.3	4.5	3.0	3.9	3.6	3.8	42
44		1.5	2.5	3.5		4.4	1.8	2.8	3.4	1.6	3.9	2.4	3.4	2.9	3.1	44
46			1.9	2.9		3.6		2.2	2.9		3.4	1.7	2.8	2.3	2.5	46
48								1.7	2.4		2.9		2.3	1.8	1.9	48
50									1.9		2.2		1.8	1.1	1.4	50
52											1.8		1.4			52
54																54
Reeving	4	6	6	4	6	4	6	4	4	4	4	4	4	4	4	Reeving
Telescoping mode I	1	3	2	2	3	1	3	2	2	3	1	3	2	3	4	I Telescoping mode
II	1	3	3	2	3	2	3	3	2	3	3	3	3	3	4	II
III	3	2	3	2	3	3	3	3	3	3	3	3	3	3	4	III
IV	3	2	2	3	2	3	2	3	3	3	3	3	3	3	4	IV
V	3	2	2	3	1	3	2	2	3	1	3	2	3	3	4	V

Table 1-18 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 28 t counterweight, over full range

Radius (m)		Main boom length (m)																**Radius (m)**
		15.6	20.6	20.6	20.6	25.6	20.6	25.6	25.6	25.6	25.6	25.6	30.6	30.6	30.6	30.6		
3.5		160	160	160	140	130	100											3.5
4		158	158	158	138	125	94	135	135	135	110	58						4
4.5		155	155	152	136	122	88	130	130	130	104	55	120.0	120.0	110.0	85.0		4.5
5		145	145	142	134	120	83	125	124	125	95	52	118.0	118.0	106.0	80.0		5
6		122.0	122.0	123.0	122.0	106.0	76.0	122.0	123.0	115.0	87.0	47.0	114.0	112.0	95.0	72.0		6
7		104.0	103.0	104.0	105.0	95.0	71.0	103.0	104.0	103.0	77.0	42.0	103.0	102.0	87.0	66.0		7
8		90.0	80.0	92.0	93.0	85.0	66.0	90.0	91.0	92.0	70.0	39.0	90.0	89.0	79.0	60.0		8
9		73.7	72.1	74.3	75.8	71.4	62.0	73.5	78.6	81.7	64.0	36.0	77.5	80.9	73.0	55.0		9
10		57.3	55.8	57.9	59.4	60.6	57.1	57.0	60.0	63.8	60.0	33.0	60.9	64.3	66.1	51.0		10
12		38.0	36.7	38.6	39.9	40.9	41.8	37.7	40.3	43.4	45.5	29.0	40.6	43.5	45.3	46.6		12
14			26.1	27.8	28.9	29.9	30.7	27.0	29.3	31.8	33.6	26.0	29.2	31.9	33.6	34.3		14
16			19.2	20.8	21.9	22.8	23.5	20.0	22.2	24.4	25.8	23.0	21.9	24.4	26.6	26.5		16
18			14.4	16.0	17.0	17.9	18.5	15.1	17.3	19.3	20.6	21.2	16.9	19.3	20.8	21.0		18
20								11.6	13.6	15.5	16.7	17.3	13.2	15.5	17.0	16.9		20
22								8.8	10.8	12.3	13.8	14.4	10.3	12.6	14.1	13.9		22
24													8.0	10.2	11.7	11.4		24
26													6.2	8.3	9.9	9.5		26
Reeving		20	18		14	12	10	16	16	14	10	6	14	12	10	8		Reeving
Telescoping mode	I	1	2	1	1	1	1	2	1	1	1	1	2	1	1	1	I	Telescoping mode
	II	1	1	2	1	1	1	2	2	1	1	1	2	2	1	1	II	
	III	1	1	1	2	1	1	1	2	2	1	1	2	2	2	3	III	
	IV	1	1	1	1	2	1	1	1	2	2	1	1	2	2	2	IV	
	V	1	1	1	1	1	2	1	1	1	2	3	1	1	2	1	V	

Table 1-18 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 28 t counterweight, over full range

Radius (m)		Main boom length (m)															Radius (m)	
		30.6	35.6	35.6	35.6	35.6	35.6	40.6	40.6	40.6	40.6	40.6	45.6	45.6	45.6	45.6		
4.5		59.0															4.5	
5		56.0	100.0	100.0	90.0	80.0	54.0										5	
6		51.0	108.0	96.0	84.0	70.0	48.0										6	
7		47.0	102.0	92.0	81.0	66.0	44.0	95.0	74.0	60.0	70.0	47.0					7	
8		43.0	90.0	88.0	74.0	60.0	40.0	90.0	67.0	55.0	66.0	43.5	80.0	70.0	60.0	70.0	8	
9		40.0	77.6	81.0	68.0	55.0	37.0	76.8	62.0	50.0	60.0	40.5	75.0	66.0	55.0	66.0	9	
10		37.0	62.9	66.5	62.0	50.9	34.5	63.0	57.5	46.0	56.0	37.6	60.9	61.0	54.0	61.0	10	
12		32.0	42.2	45.3	42.9	43.7	30.0	44.0	45.1	40.0	44.1	32.8	42.6	43.4	45.0	43.1	12	
14		28.0	30.7	33.5	31.5	32.1	26.5	32.3	32.4	33.5	32.3	29.0	30.7	32.3	33.6	31.4	14	
16		25.0	23.3	26.0	24.1	25.0	23.5	24.8	25.6	25.9	24.6	26.0	23.4	24.4	26.0	23.9	16	
18		22.2	18.1	20.6	19.0	19.8	21.3	19.5	20.4	20.7	19.4	22.3	18.3	19.2	20.7	18.7	18	
20		18.2	14.4	16.8	15.1	15.9	18.2	15.6	16.1	16.8	15.2	18.4	14.8	15.7	16.9	15.0	20	
22		15.2	11.5	13.7	12.2	13.0	15.3	12.8	13.4	13.9	12.7	15.3	11.8	12.5	13.8	12.0	22	
24		12.9	9.2	11.4	9.9	10.7	12.9	10.5	11.0	11.6	10.1	12.9	9.6	10.2	11.0	9.7	24	
26		10.9	7.4	9.5	8.2	8.8	11.0	8.7	9.1	9.7	8.3	11.0	7.7	8.3	9.2	7.8	26	
28			5.8	7.8	6.6	7.2	9.5	7.4	7.6	8.2	6.7	9.5	6.3	6.8	7.7	6.3	28	
30			4.6	6.6	5.3	5.9	8.1	6.0	6.4	6.9	5.6	8.2	5.0	5.5	6.5	5.0	30	
32			3.3	5.5	4.2	4.8	6.8	4.9	5.2	5.7	4.5	7.1	3.9	4.4	5.3	3.9	32	
34								3.8	4.2	4.8	3.6	6.1	2.9	3.5	4.4	2.9	34	
36								2.9	3.4	3.9	2.7	5.3	2.1	2.6	3.6	2.1	36	
38													1.3	2.0	2.8	1.4	38	
Reeving		6	12	10	8	8	6	10	6	6	6	4	8	6	6	6	Reeving	
Telescoping mode	I	1	2	1	1	1	1	2	1	1	1	1	3	2	1	2	I	Telescoping mode
	II	1	2	2	3	2	1	2	3	2	3	1	2	3	3	3	II	
	III	1	2	2	2	3	1	2	2	3	3	2	2	2	3	3	III	
	IV	2	2	2	2	2	3	2	2	2	2	3	2	2	2	2	IV	
	V	3	1	2	1	1	3	2	2	2	1	3	2	2	2	1	V	

Table 1-18 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, with 28 t counterweight, over full range

Radius (m)		Main boom length (m)															**Radius (m)**	
		45.6	50.6	50.6	50.6	50.6	50.6	55.6	55.6	55.6	55.6	55.6	60.6	60.6	65.6	71		
8		45.0															8	
9		41.0	60.0	58.0	47.0	62.0	42.0										9	
10		38.0	57.8	54.0	44.0	55.7	40.0	45.0	44.0	41.0	42.0	40.0					10	
12		33.0	42.3	44.6	40.0	40.5	35.0	42.4	41.0	37.0	40.6	36.0	35.0	35.0			12	
14		29.0	30.7	32.8	32.7	29.7	31.0	31.2	32.8	33.0	30.3	32.0	31.4	33.4	28.0	25.0	14	
16		26.0	23.4	25.1	25.7	22.5	27.0	23.9	25.3	26.0	23.0	26.6	24.3	25.8	24.0	23.0	16	
18		22.6	18.3	19.9	20.8	17.5	21.9	18.7	20.3	20.8	18.3	21.4	19.2	20.6	19.5	17.3	18	
20		18.6	14.7	16.0	17.0	13.9	18.1	15.0	16.2	16.9	14.4	17.5	15.6	16.8	15.8	14.4	20	
22		15.6	11.8	13.0	14.0	11.2	15.0	12.1	13.3	14.0	11.7	14.6	12.7	13.9	12.8	12.2	22	
24		13.3	9.5	10.7	11.7	8.9	12.7	9.8	11.0	11.7	9.6	12.3	10.3	11.4	10.6	10.3	24	
26		11.3	7.7	8.8	9.8	7.2	10.8	8.1	9.2	9.9	7.8	10.3	8.5	9.6	8.8	8.9	26	
28		9.8	6.3	7.6	8.3	5.7	9.2	6.5	7.5	8.3	6.3	8.9	6.8	8.0	7.3	7.7	28	
30		8.4	5.0	6.2	7.0	4.5	7.9	5.2	6.2	7.0	5.0	7.5	5.7	6.7	6.2	6.5	30	
32		7.2	4.1	5.0	6.0	3.3	6.8	4.1	5.1	5.8	3.9	6.3	4.6	5.7	5.1	5.4	32	
34		6.3	3.0	4.0	4.9	2.4	5.8	3.2	4.1	4.9	3.0	5.3	3.7	4.8	4.2	4.5	34	
36		5.4	2.1	3.1	4.1	1.5	5.0	2.3	3.3	4.1	2.1	4.5	2.8	3.9	3.4	3.7	36	
38		4.4	1.4	2.3	3.4		4.2	1.7	2.6	3.3	1.4	3.8	2.2	3.2	2.7	2.9	38	
40		3.8		1.6	2.7		3.6		1.9	2.7		3.2	1.5	2.5	2.0	2.2	40	
42					2.1		3.0		1.4	2.1		2.6		2.0	1.4	1.6	42	
44					1.6		2.0			1.6		2.0		1.5			44	
46												1.6					46	
Reeving		4	6	6	4	6	4	4	4	4	4	4	4	4	4	2	Reeving	
Telescoping mode	I	1	3	2	2	3	1	3	2	2	3	1	3	2	3	4	I	Telescoping mode
	II	1	3	3	2	3	2	3	3	2	3	3	3	3	3	4	II	
	III	3	2	3	2	3	3	3	3	3	3	3	3	3	3	4	III	
	IV	3	2	2	3	2	3	2	3	3	3	3	3	3	3	4	IV	
	V	3	2	2	3	1	3	2	2	3	1	3	2	3	3	4	V	

Table 1-19 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, without counterweight, over full range

Radius (m)		Main boom length (m)															Radius (m)	
		15.6	20.6	20.6	20.6	25.6	20.6	25.6	25.6	25.6	25.6	25.6	30.6	30.6	30.6	30.6		
3.5		140.0	125.0	125.0	125.0	125.0	100.0										3.5	
4		130.0	120.0	120.0	120.0	120.0	90.0	100.0	100.0	100.0	100.0	58.0					4	
4.5		115.0	112.0	113.0	114.0	115.0	85.0	106.0	106.0	106.0	106.0	55.0	90.0	90.0	90.0	85.0	4.5	
5		95.0	98.0	100.0	102.0	103.0	80.0	90.0	90.0	90.0	90.0	52.0	86.0	87.0	88.0	76.8	5	
6		79.4	71.1	75.0	74.6	74.2	76.0	67.6	70.6	71.0	72.7	47.0	74.2	75.0	76.0	68.8	6	
7		64.9	60.8	65.1	66.4	66.0	65.1	60.9	62.4	62.9	61.2	40.0	60.1	62.0	64.5	62.4	7	
8		39.9	38.1	40.0	40.2	40.6	41.0	38.9	41.0	41.5	42.2	36.6	37.7	41.1	42.0	42.3	8	
9		27.9	26.4	28.0	31.0	31.0	32.0	27.2	30.0	31.9	20.0	29.5	26.5	29.4	31.6	30.3	9	
10		20.7	19.3	22.3	23.4	23.4	24.2	19.9	22.4	24.2	25.7	26.5	19.6	22.2	24.2	23.0	10	
12		13.9	11.0	13.7	14.6	14.6	15.3	11.6	13.7	15.3	16.6	17.2	11.8	14.0	15.7	14.7	12	
14			6.3	8.8	9.6	9.6	10.3	6.9	8.8	10.3	11.5	12.0	7.3	9.4	10.9	9.9	14	
16			3.4	5.7	6.4	6.4	7.1	3.9	5.7	7.1	8.2	8.7	4.5	6.4	7.8	7.0	16	
18			1.2	3.5	4.2	4.2	4.8	1.8	3.6	4.8	5.9	6.4	2.5	4.3	5.7	4.9	18	
20									2.0	3.2	4.2	4.7	1.0	2.8	4.1	3.3	20	
22										1.9	2.9	3.4		1.6	2.9	2.1	22	
24															2.0	1.2	24	
26															1.2		26	
Reeving		12					10					6	8				Reeving	
Telescoping mode	I	1	2	1	1	1	1	2	1	1	1	1	2	1	1	1	I	Telescoping mode
	II	1	1	2	1	1	1	2	2	1	1	1	2	2	1	1	II	
	III	1	1	1	2	1	1	1	2	2	1	1	2	2	2	3	III	
	IV	1	1	1	1	2	1	1	1	2	2	1	1	2	2	2	IV	
	V	1	1	1	1	1	2	1	1	1	2	3	1	1	2	1	V	

Table 1-19　Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, without counterweight, over full range

Radius (m)	Main boom length (m)															**Radius (m)**
	30.6	35.6	35.6	35.6	35.6	35.6	40.6	40.6	40.6	40.6	40.6	45.6	45.6	45.6	45.6	
4.5	55.2															4.5
5	52.8	72.0	72.6	69.6	62.2	51.7										5
6	48.0	60.2	73.8	62.4	55.7	46.6										6
7	44.0	49.9	52.9	51.1	50.5	42.3	49.8	50.8	42.4	49.9	45.0					7
8	40.0	36.5	39.8	37.9	42.0	31.5	37.6	38.5	38.7	37.7	36.3	35.9	36.6	37.9	35.9	8
9	29.9	25.9	28.7	27.0	27.7	26.8	27.5	28.4	35.5	27.6	33.6	26.6	27.5	28.9	26.7	9
10	25.4	19.4	21.9	20.4	21.1	24.1	20.8	21.7	29.1	20.9	28.1	21.7	22.5	23.9	21.7	10
12	16.6	11.9	14.0	12.8	13.3	15.9	13.1	13.9	22.2	13.1	18.6	13.5	14.1	15.3	13.5	12
14	11.8	8.4	10.5	9.2	9.7	12.3	9.6	10.2	15.5	9.6	12.3	8.8	9.4	10.5	8.8	14
16	8.6	5.5	7.4	6.2	6.7	9.1	6.6	7.2	10.7	6.6	9.1	6.3	6.9	8.0	6.3	16
18	6.5	3.4	5.3	4.2	4.6	6.9	4.5	5.1	7.6	4.5	6.9	4.1	4.7	5.7	4.1	18
20	4.9	2.0	3.8	2.7	3.1	5.3	2.9	3.5	5.5	3.0	5.3	2.5	3.1	4.0	2.5	20
22	3.6		2.6	1.5	2.0	4.0	1.8	2.3	4.0	1.8	4.0		1.8	2.7		22
24	2.7		1.6			3.1		1.4	2.7		3.1			1.7		24
26	1.9					2.3			1.8		2.2					26
28						1.6			1.0		1.6					28
Reeving	6						4					3				Reeving
Telescoping mode																Telescoping mode
I	1	2	1	1	1	1	2	1	1	1	1	3	2	1	2	I
II	1	2	2	3	2	1	2	3	2	3	1	2	3	3	3	II
III	1	2	2	2	3	1	2	2	3	3	2	2	2	3	3	III
IV	2	2	2	2	2	3	2	2	2	2	3	2	2	2	2	IV
V	3	1	2	1	1	3	2	2	2	1	3	2	2	2	1	V

Table 1-19 Main boom

Unit: Metric tons

15.6 m – 71 m main boom without Y-shaped guying system, outriggers fully extended, without counterweight, over full range

Radius (m)		Main boom length (m)															**Radius (m)**	
		45.6	50.6	50.6	50.6	50.6	50.6	55.6	55.6	55.6	55.6	55.6	60.6	60.6	65.6	71		
8		31.5															8	
9		29.0	26.8	28.1	29.7	26.1	30.5										9	
10		26.3	21.8	23.0	24.6	21.1	23.9	20.6	22.0	23.0	20.3	23.6					10	
12		17.3	13.5	14.5	15.8	12.9	15.6	12.8	14.0	14.8	12.6	15.4	13.4	14.7			12	
14		12.3	8.8	9.8	11.0	8.3	11.0	8.5	9.5	10.3	8.3	10.8	9.0	10.1	9.6	8.2	14	
16		9.8	5.9	6.7	7.9	5.3	8.1	5.7	6.7	7.4	5.5	7.9	6.2	7.3	6.7	5.7	16	
18		7.4	3.8	4.6	5.7	3.3	6.1	3.8	4.7	5.4	3.6	5.8	4.2	5.2	4.7	4.0	18	
20		5.7	2.3	3.1	4.1		4.6	2.3	3.2	3.9	2.2	4.3	2.8	3.8	3.3	2.8	20	
22		4.3		1.9	2.9		3.4		2.2	2.8		3.2		2.6	2.2	1.9	22	
24		3.3			2.0		2.5		1.1	1.9		2.3		1.7			24	
26		2.4			1.2		1.8			1.2		1.6					26	
28		1.7															28	
Reeving		3						2							1	1	Reeving	
Telescoping mode	I	1	3	2	2	3	1	3	2	2	3	1	3	2	3	4	I	Telescoping mode
	II	1	3	3	2	3	2	3	3	2	3	3	3	3	3	4	II	
	III	3	2	3	2	3	3	3	3	3	3	3	3	3	3	4	III	
	IV	3	2	2	3	2	3	2	3	3	3	3	3	3	3	4	IV	
	V	3	2	2	3	1	3	2	2	3	1	3	2	3	3	4	V	

Table 1-20 Main boom + Y-shaped guying system

Unit: Metric tons

15.6 m – 71 m main boom with Y-shaped guying system, outriggers fully extended, with 140 t counterweight, over full range

Radius (m)		Main boom length (m)														Radius (m)
		30.6	30.6	30.6	30.6	30.6	35.6	35.6	35.6	35.6	35.6	40.6	40.6	40.6		
5		145	140	130	125	105										5
6		142	138	128	122	100	135	125	125	115	95					6
7		140	135	125	120	96	130	124	120	110	90	125	115	105		7
8		135	132	120	115	90	128	118	115	100	85	120	110	100		8
9		130	128	115	107	86	125	112	107	97	83	114	100	92		9
10		122	120	108	99	82	120	106	99	90	79	108	95	88		10
12		99	100	95	86	75	101	98	86	81	70	100	83	80		12
14		83	85	85	81	67	85	87	79	76	62	86	75	72		14
16		71	73	75	72	60	73	74.5	72	70	55	74	68	65		16
18		61	63	64.5	62	55	63	65	64	62	50	65	63	61		18
20		53	55	56.5	54	48	55	57	55	54	46	57	56	54		20
22		47	48	50	49	44	49	50.5	49.5	48	42	50	50	48		22
24		41	43	44.5	44	40	43	45	44	44	39	45	45	43		24
26		35	37	38	38	38	39	40.5	39.5	40	35	40	41	39		26
28							35	36	35.5	36	33	36	37	35.5		28
30							31	33	32	32	30	32.5	33	33		30
32							23	24.5	24	24	26	29	30	30.5		32
34												26	27.5	28		34
36												22.5	23	23.5		36
Reeving		14		12		10	12	10								Reeving
Telescoping mode	I	2	1	1	1	1	2	1	1	1	1	2	1	1	I	Telescoping mode
	II	2	2	1	1	1	2	2	3	2	1	2	3	2	II	
	III	2	2	2	3	1	2	2	2	3	1	2	2	3	III	
	IV	1	2	2	2	2	2	2	2	2	3	2	2	2	IV	
	V	1	1	2	1	3	1	2	1	1	3	2	2	2	V	

Table 1-20　Main boom + Y-shaped guying system

Unit: Metric tons

15.6 m – 71 m main boom with Y-shaped guying system, outriggers fully extended, with 140 t counterweight, over full range

Radius (m)		Main boom length (m)												Radius (m)	
		40.6	40.6	45.6	45.6	45.6	45.6	45.6	50.6	50.6	50.6	50.6	50.6		
7		110	88											7	
8		105	86	104	100	95	98	82						8	
9		95	80	102	98	92	95	78	90	80	78	84	70	9	
10		90	76	100	95	85	90	73	84	79	75	80	68	10	
12		82	68	94	85	76	82	69	80	75	70	76	66	12	
14		74	62	84	75	70	72	65	76	68	65	72	62	14	
16		67	56	75	68	63	67	61	70	62	60	66	58.5	16	
18		62	51	66	62	58	61	56	64	58	56	61	55	18	
20		55	46	57	56	54	55	52	57	53	52	55	51.2	20	
22		49	42	50.5	51	49	50	47	51	49	47	50	47	22	
24		44	39	45	45.5	43	44.5	41	45	44	42	44	41.5	24	
26		40	36	40	40.5	39	39.5	37	40	40	39	39	37	26	
28		36	33	36	36.5	36	35.5	33	36	37	34.8	35	33	28	
30		32.5	31	32.5	33	33.5	32	31	33	34	32.5	32	30.5	30	
32		29.5	29	29	30	31	29	28	30	31	30	29	28	32	
34		27	27	26.8	27.4	28	26.5	26.5	27	28	27.5	26	26	34	
36		23	24	24.3	24.8	25.5	24	25	25	26	25.5	24	24	36	
38				22	22.5	23	21.5	23.5	23	23.5	24.2	22	23	38	
40				20	20.5	21	20	22	21	21.5	22.2	20	21	40	
42									19	20	20.5	18	20	42	
44									17.5	18	19	16	19	44	
46									14.5	15	15.5	14	16	46	
Reeving		10	8	8	8	8	8	8	8	8	8	8	6	Reeving	
Telescoping mode	I	1	1	3	2	1	2	1	3	2	2	3	1	I	Telescoping mode
	II	3	1	2	3	3	3	1	3	3	2	3	2	II	
	III	3	2	2	2	3	3	3	2	3	2	3	3	III	
	IV	2	3	2	2	2	2	3	2	2	3	2	3	IV	
	V	1	3	2	2	2	1	3	2	2	3	1	3	V	

Table 1-20 Main boom + Y-shaped guying system

Unit: Metric tons

15.6 m – 71 m main boom with Y-shaped guying system, outriggers fully extended, with 140 t counterweight, over full range

Radius (m)	Main boom length (m)									Radius (m)
	55.6	55.6	55.6	55.6	55.6	60.6	60.6	65.6	71	
10	74	66	65	66	64					10
12	68	65	63	64	62	65	60	56		12
14	64	63	61	63	60	61	56	52	48	14
16	61	60	58	60	58	58	54	50	46	16
18	58	56	55	58	55	55	52	48	44	18
20	54	52	51.5	53	51	52	48	46	42	20
22	50	48	47	49	46.5	47	44	43	40	22
24	45	43	42	44.5	42	42	41	40	38	24
26	41.4	39	38	41	38	39	38.2	38	36	26
28	37.2	36	34.3	37	34	35.5	34.5	35	34	28
30	33.6	33	32	33.2	31.3	33	31.5	31	32	30
32	30.4	31	30	30	29.4	31	29.2	29	29	32
34	27.7	28	28	27.4	27.5	28.2	27.4	27.5	26.5	34
36	25.3	26	25.6	25	25.2	25.8	25.4	25.5	25	36
38	23.3	24	24	23	23	23.7	24	23.5	23	38
40	21.4	22	22.5	21	22	22	22.2	22	21	40
42	19.6	20	20.5	19	21	20.2	20.7	20.4	20	42
44	18	19	19.5	17.5	19	18.6	19.2	18.5	18	44
46	16.5	17	17.5	16	18	17.2	17.8	17.5	17	46
48	15.2	16	16.5	15	17	16	16.5	16	16	48
50	13	14	14.5	12.5	15	15	15.3	15	15	50
52						13.5	14	13.8	14	52
54						12	13	12.8	13	54
56						9	10	11.8	12	56
58								10.8	11.2	58
60								10	10.5	60
62									10	62
64									9	64
66									8	66
Reeving	6								4	
Telescoping mode I	3	2	2	3	1	3	2	3	4	I Telescoping mode
II	3	3	2	3	3	3	3	3	4	II
III	3	3	3	3	3	3	3	3	4	III
IV	2	3	3	3	3	3	3	3	4	IV
V	2	2	3	1	3	2	3	3	4	V

Table 1-21 Main boom + Y-shaped guying system

Unit: Metric tons

15.6 m – 71 m main boom with Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range

Radius (m)		Main boom length (m)														Radius (m)
		30.6	30.6	30.6	30.6	30.6	35.6	35.6	35.6	35.6	35.6	40.6	40.6	40.6		
5		145	140	130	125	105									5	
6		142	138	128	122	100	135	125	125	115	95				6	
7		140	135	125	120	96	130	124	120	110	90	125	115	105	7	
8		135	132	120	115	90	128	118	115	100	85	120	110	100	8	
9		125	124	115	107	86	123	112	107	97	83	114	100	92	9	
10		112	114	108	99	82	113	106	99	90	79	108	95	88	10	
12		90	92	93	86	75	93	94	86	81	70	94	83	80	12	
14		76	78	79	78	67	78	79	78	76	62	79	75	72	14	
16		64	66	68	67	60	66	68	67	68	55	70	68.5	65	16	
18		55	57	58.4	58	55	56	59	58	59	50	59	59.5	60	18	
20		47	49	50	50.5	48	49	51	49.8	51	46	52	52.5	53	20	
22		41	42	43.5	42.9	44	42.5	44.5	43.3	45.4	42	45.2	46.4	47.1	22	
24		36	37	38.5	37.6	40	37.2	39.2	39.4	40	39	39.8	40.4	41.8	24	
26		31	32	34	33	37	32.9	35	34.9	35.5	35	35.3	36	37.2	26	
28							29.1	31	30.9	31.4	33	31.6	32.3	34.1	28	
30							25.8	27.8	27.5	28	29	28.3	29	31.1	30	
32							22	23.5	23	23	25	25.4	26.1	28.2	32	
34												22.9	23.6	24.8	34	
36												20.6	21.3	23	36	
Reeving		14		12		10	12	10							Reeving	
Telescoping mode	I	2	1	1	1	1	2	1	1	1	1	2	1	1	I	Telescoping mode
	II	2	2	1	1	1	2	2	3	2	1	2	3	2	II	
	III	2	2	2	3	1	2	2	2	3	1	2	2	3	III	
	IV	1	2	2	2	2	2	2	2	2	3	2	2	2	IV	
	V	1	1	2	1	3	1	2	1	1	3	2	2	2	V	

Table 1-21 Main boom + Y-shaped guying system

Unit: Metric tons

15.6 m – 71 m main boom with Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range

Radius (m)	Main boom length (m)												Radius (m)
	40.6	40.6	45.6	45.6	45.6	45.6	45.6	50.6	50.6	50.6	50.6	50.6	
7	110	88											7
8	105	86	104	100	95	98	82						8
9	95	80	102	98	92	95	78	90	80	78	84	70	9
10	90	76	100	95	85	90	73	84	79	75	80	68	10
12	82	68	94	85	76	82	69	80	75	70	76	66	12
14	74	62	80	75	70	72	65	76	68	65	72	62	14
16	67	56	68	68	63	67	61	68	62	60	66	58.5	16
18	59	51	59	59	58	59	56	59	59	56	58	55	18
20	52	46	51.2	52	53	51.5	52	51.5	52	52	51.5	51.2	20
22	45	42	44.4	46.7	48	46	47	45	47	47	44.4	47	22
24	39.8	39	39	39.7	42.1	39	41	39.9	41	42	39.4	41.5	24
26	35.3	36	34.6	35.2	37.6	34.6	37	35.4	36.3	38	34.8	37	26
28	31.6	33	30.8	31.5	32.5	30.9	33	31.6	32.5	33.3	31	33	28
30	28.3	32.1	27.8	28.4	29.4	27.8	31	28.7	29.6	30.2	28.1	30.5	30
32	25.4	29.1	25	25.6	26.6	25	28	26	26.8	27.1	25.3	28	32
34	22.9	26.4	22.4	23.1	24.1	22.5	25.8	23.5	24.3	24.7	22.8	25.6	34
36	20.7	24.1	20.3	20.9	21.9	20.3	23.6	21.1	22	22.6	20.7	23.5	36
38			18.3	19	20	18.3	21.6	19.1	20.1	20.6	18.7	21.6	38
40			17.2	17.8	18.8	17.2	18.8	17.4	18.3	18.8	16.9	19.8	40
42								15.8	16.7	17.3	15.3	18.2	42
44								14.4	15.3	16	13.9	16.8	44
46								12.6	13	14.7	12.1	15.5	46
Reeving	10	8	8	8	8	8	8	8	8	8	8	6	Reeving
Telescoping mode I	1	1	3	2	1	2	1	3	2	2	3	1	I Telescoping mode
II	3	1	2	3	3	3	1	3	3	2	3	2	II
III	3	2	2	2	3	3	3	2	3	2	3	3	III
IV	2	3	2	2	2	2	3	2	2	3	2	3	IV
V	1	3	2	2	2	1	3	2	2	3	1	3	V

Table 1-21 Main boom + Y-shaped guying system

Unit: Metric tons

15.6 m – 71 m main boom with Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range

Radius (m)	Main boom length (m)									**Radius (m)**
	55.6	55.6	55.6	55.6	55.6	60.6	60.6	65.6	71	
10	74	66	65	66	64					10
12	68	65	63	64	62	65	60	56		12
14	64	63	61	63	60	61	56	52	46	14
16	61	60	58	60	58	58	54	50	44	16
18	58	56	55	58	55	55	52	48	43	18
20	52	52	51.5	52	51	52	48	46	42	20
22	46	47	47	46	46.5	46	44	43	40	22
24	40.7	42	42	40.6	42	41	41	40	38	24
26	36.2	38	38	35.9	38	37	38	36	35	26
28	32.3	33.4	34.3	32	34	33.4	34.2	34	33	28
30	29	30.2	31.7	28.7	31.3	30.2	31.2	30.8	30	30
32	26.2	27.3	28.9	26	28.7	27.4	28	28	27.6	32
34	23.8	24.9	26.3	23.6	26.3	24.3	25.6	25.5	24.8	34
36	21.7	22.8	23.1	21.4	24.1	22.2	23.5	23.2	22.7	36
38	19.7	20.8	21.1	19.4	22.1	20.3	21.5	21.3	20.3	38
40	17.9	18.6	19.2	17.7	20.4	18.5	19.4	19.5	18.7	40
42	16.3	17	17.7	16.1	18.2	17	17.6	18	17.2	42
44	14.9	15.6	16.2	14.7	16.7	15.5	16.2	16.5	15.9	44
46	13.6	14.3	15	13.4	15.4	14.2	15	15.2	14.7	46
48	12.4	13.2	13.8	12.2	14.3	13.1	13.8	14	13.5	48
50	11.3	12	12.8	11	13.2	12	12.7	13	12.5	50
52						11	11.8	12	11.5	52
54						9.5	10.8	11	10.6	54
56						7.6	8.8	10	9.8	56
58								9.2	9	58
60								9.5	8.3	60
62									7.5	62
64									7	64
66									6.2	66
Reeving	6								4	
Telescoping mode I	3	2	2	3	1	3	2	3	4	I Telescoping mode
II	3	3	2	3	3	3	3	3	4	II
III	3	3	3	3	3	3	3	3	4	III
IV	2	3	3	3	3	3	3	3	4	IV
V	2	2	3	1	3	2	3	3	4	V

Table 1-22 Main boom + Y-shaped guying system

Unit: Metric tons

15.6 m – 71 m main boom with Y-shaped guying system, outriggers fully extended, with 100 t counterweight, over full range																
Radius (m)		Main boom length (m)														Radius (m)
		30.6	30.6	30.6	30.6	30.6	35.6	35.6	35.6	35.6	35.6	40.6	40.6	40.6		
5		145	140	130	125	105										5
6		142	138	128	122	100	135	125	125	115	95					6
7		140	135	125	120	96	132	125	120	110	90	125	115	105		7
8		130	128	115	115	90	126	118	115	100	85	120	114	100		8
9		115	112	106	107	86	115	110	107	97	83	114	108	92		9
10		102	103	105	99	82	102	102	99	90	79	96	97	88		10
12		84	86	87	86	75	86	87	86	81	70	86	83	80		12
14		70	72	73	72	67	71	72	73	72	62	72	73	70.5		14
16		60	61	62	61.5	60	57.8	61.5	62	62.5	55	61	62	63		16
18		50	52.3	54	53	54	48.3	51.7	52.2	53	50	52.6	54	55		18
20		42.5	44.7	46.3	43.7	46	42.1	44.3	42.9	45	46	44.8	47.2	48		20
22		36.3	38.4	40	36.8	41	36.4	38.5	37.2	39.1	42	38.9	40	42.5		22
24		31.1	33.2	34.8	31.9	35	31.7	33.8	33.6	34.1	37	34	34.8	37.3		24
26		26.8	29	30.5	27.8	30	27.6	29.7	29.4	29.9	32	30	30.8	33.1		26
28							24.2	26.2	25.8	26.4	29	26.6	27.2	29.4		28
30							21.3	23.4	22.8	23.3	25	23.6	24.3	26.2		30
32							18.3	20.8	20.3	20.8	23	21	21.7	23.5		32
34												18.8	19.5	21.1		34
36												16.9	17.6	19		36
Reeving		14		12		10	12	10								Reeving
Telescoping mode	I	2	1	1	1	1	2	1	1	1	1	2	1	1	I	Telescoping mode
	II	2	2	1	1	1	2	2	3	2	1	2	3	2	II	
	III	2	2	2	3	1	2	2	2	3	1	2	2	3	III	
	IV	1	2	2	2	2	2	2	2	2	3	2	2	2	IV	
	V	1	1	2	1	3	1	2	1	1	3	2	2	2	V	

Table 1-22 Main boom + Y-shaped guying system

Unit: Metric tons

15.6 m – 71 m main boom with Y-shaped guying system, outriggers fully extended, with 100 t counterweight, over full range															
	Radius (m)	Main boom length (m)												Radius (m)	
		40.6	40.6	45.6	45.6	45.6	45.6	45.6	50.6	50.6	50.6	50.6	50.6		
	7	110	88											7	
	8	105	86	104	100	95	98	82						8	
	9	95	80	102	98	92	95	78	90	80	78	84	70	9	
	10	90	76	94	95	85	90	73	84	79	75	80	68	10	
	12	82	68	86	85	76	82	69	80	75	70	76	66	12	
	14	72	62	72	73	70	72	65	73	68	65	72	62	14	
	16	61	56	61	63	62	63	57.1	61	62	60.2	60.7	57.2	16	
	18	53	51	51.7	54.3	55	53.6	51.6	52.4	52.2	52.1	53	51.7	18	
	20	47	46	44.1	46.3	49	45.6	47	44.6	46	48	45	47.4	20	
	22	40.3	43.2	38.1	40.1	42.6	39.5	43.1	38.5	36.7	42.7	38.9	43.2	22	
	24	34.1	38.2	33.3	34	36.2	33.3	39.5	34.1	33.5	38	33.8	39.4	24	
	26	30.1	34	29.4	30	32.2	29.4	35.2	30.1	29.5	33.4	29.8	35.1	26	
	28	26.6	30.3	26	26.7	27.8	26.1	30.6	26.7	26.1	28.5	26.4	30.8	28	
	30	23.6	27.2	23.1	23.8	24.8	23.2	27.5	24.1	23.6	25.7	23.5	27.2	30	
	32	21	24.5	20.6	21.2	22.2	20.6	24	21.5	20.9	22.9	20.9	23.8	32	
	34	28.8	22.2	18.4	19	20	18.4	21.7	19.2	18.6	20.6	18.6	21.6	34	
	36	16.9	20.1	16.5	17	18.1	16.5	19.8	17.2	16.7	18.7	16.7	19.6	36	
	38			14.8	15.3	16.4	14.8	18.1	15.4	14.9	17	14.9	17.9	38	
	40			13.7	14.3	15.4	13.7	16.5	13.9	13.3	15.5	13.3	16.4	40	
	42								12.5	11.9	14.2	11.9	15	42	
	44								11.2	10.7	12.9	10.7	13.7	44	
	46								9.7	8.8	11.8	9.2	12.6	46	
	Reeving	10	8	8	8	8	8	8	8	8	8	8	6	Reeving	
Telescoping mode	I	1	1	3	2	1	2	1	3	2	2	3	1	I	Telescoping mode
	II	3	1	2	3	3	3	1	3	3	2	3	2	II	
	III	3	2	2	2	3	3	3	2	3	2	3	3	III	
	IV	2	3	2	2	2	2	3	2	2	3	2	3	IV	
	V	1	3	2	2	2	1	3	2	2	3	1	3	V	

Table 1-22 Main boom + Y-shaped guying system

Unit: Metric tons

15.6 m – 71 m main boom with Y-shaped guying system, outriggers fully extended, with 100 t counterweight, over full range												
Radius (m)		Main boom length (m)									Radius (m)	
		55.6	55.6	55.6	55.6	55.6	60.6	60.6	65.6	71		
10		74	66	65	66	64					10	
12		68	65	63	64	62	65	60	56		12	
14		64	63	61	63	60	61	56	52	46	14	
16		61	60	57.3	59	57.1	58	54	50	44	16	
18		54	55	52.1	53	52.5	52	48.5	48	42	18	
20		47	49	47.7	47	47	47	44.6	46	40	20	
22		40.7	43	43.9	41.4	42	42	41.1	41.5	38	22	
24		34.8	36.8	38.6	34.5	37	37.3	37.6	34.5	36	24	
26		30.7	32.6	33.5	30.5	33	32	33.4	32.8	27.6	26	
28		27.3	28.5	30	27.1	29.9	28.5	29.8	29.3	27	28	
30		24.4	25.6	27	24.2	27	25.5	26.2	26.3	26.3	30	
32		22	23.1	24.4	21.7	24.4	23	23.7	23.7	23.2	32	
34		19.7	20.8	22.2	19.5	22.2	20.3	21.6	21.5	20.8	34	
36		17.7	18.8	19.2	17.5	20.2	18.4	19.6	19.5	19	36	
38		16	17	17.5	15.7	18.4	16.6	17.8	17.7	16.9	38	
40		14.4	15.2	15.8	14.1	16.9	15	15.9	16.1	15.4	40	
42		13	13.8	14.4	12.7	14.9	13.6	14.3	14.7	14	42	
44		11.8	12.5	13.2	11.5	13.7	12.4	13.1	13.4	12.8	44	
46		10.6	11.4	12	10.3	12.6	11.2	12	12.2	11.7	46	
48		9.6	10.4	11	9.3	11.4	10.2	11	11.2	10.7	48	
50		8.6	9.3	9.8	8.3	10	9.2	10	10.2	9.8	50	
52							8.3	9.2	9.3	8.9	52	
54							7.3	8.5	8.5	8.1	54	
56							5.8	6.8	7.7	7.4	56	
58									7	6.8	58	
60									6.3	6.2	60	
62										5.6	62	
64										5.2	64	
66										4.5	66	
Reeving		6								4		
Telescoping mode	I	3	2	2	3	1	3	2	3	4	I	Telescoping mode
	II	3	3	2	3	3	3	3	3	4	II	
	III	3	3	3	3	3	3	3	3	4	III	
	IV	2	3	3	3	3	3	3	3	4	IV	
	V	2	2	3	1	3	2	3	3	4	V	

Table 1-23 Main boom + Y-shaped guying system

Unit: Metric tons

<table>
<tr><th colspan="17">15.6 m – 71 m main boom with Y-shaped guying system, outriggers fully extended, with 80 t counterweight, over full range</th></tr>
<tr><th colspan="2" rowspan="2">Radius
(m)</th><th colspan="13">Main boom length (m)</th><th colspan="2" rowspan="2">Radius
(m)</th></tr>
<tr><th>30.6</th><th>30.6</th><th>30.6</th><th>30.6</th><th>30.6</th><th>35.6</th><th>35.6</th><th>35.6</th><th>35.6</th><th>35.6</th><th>40.6</th><th>40.6</th><th>40.6</th></tr>
<tr><td colspan="2">5</td><td>145</td><td>140</td><td>130</td><td>125</td><td>105</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">5</td></tr>
<tr><td colspan="2">6</td><td>142</td><td>138</td><td>128</td><td>122</td><td>100</td><td>135</td><td>125</td><td>125</td><td>115</td><td>95</td><td></td><td></td><td></td><td colspan="2">6</td></tr>
<tr><td colspan="2">7</td><td>135</td><td>132</td><td>125</td><td>120</td><td>96</td><td>130</td><td>124</td><td>120</td><td>110</td><td>90</td><td>120</td><td>115</td><td>105</td><td colspan="2">7</td></tr>
<tr><td colspan="2">8</td><td>120</td><td>120</td><td>115</td><td>112</td><td>90</td><td>120</td><td>118</td><td>115</td><td>100</td><td>85</td><td>115</td><td>110</td><td>100</td><td colspan="2">8</td></tr>
<tr><td colspan="2">9</td><td>104</td><td>105</td><td>104</td><td>106</td><td>86</td><td>104</td><td>105</td><td>106</td><td>97</td><td>83</td><td>103</td><td>104</td><td>92</td><td colspan="2">9</td></tr>
<tr><td colspan="2">10</td><td>92.1</td><td>94.5</td><td>95</td><td>96</td><td>82</td><td>95</td><td>96</td><td>96</td><td>90</td><td>79</td><td>94</td><td>95</td><td>88</td><td colspan="2">10</td></tr>
<tr><td colspan="2">12</td><td>79</td><td>81</td><td>82</td><td>81</td><td>75</td><td>78</td><td>79</td><td>78</td><td>78</td><td>70</td><td>78</td><td>79</td><td>80</td><td colspan="2">12</td></tr>
<tr><td colspan="2">14</td><td>63</td><td>65.4</td><td>67.3</td><td>68</td><td>67</td><td>60.6</td><td>64.5</td><td>65.3</td><td>66</td><td>62</td><td>65</td><td>66</td><td>67</td><td colspan="2">14</td></tr>
<tr><td colspan="2">16</td><td>50.8</td><td>53.1</td><td>54.8</td><td>57</td><td>57.8</td><td>49</td><td>52.4</td><td>53.5</td><td>56</td><td>55</td><td>53.3</td><td>56</td><td>57.8</td><td colspan="2">16</td></tr>
<tr><td colspan="2">18</td><td>42</td><td>44.2</td><td>45.9</td><td>44.9</td><td>48.5</td><td>40.7</td><td>43.8</td><td>44.1</td><td>48.3</td><td>49.1</td><td>44.4</td><td>47.8</td><td>48.4</td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>35</td><td>37.2</td><td>38.8</td><td>36.5</td><td>39.9</td><td>35.3</td><td>37.4</td><td>36</td><td>38</td><td>42</td><td>37.7</td><td>39.8</td><td>41.3</td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>29.5</td><td>31.6</td><td>33.2</td><td>30.4</td><td>34.1</td><td>30</td><td>32.1</td><td>30.8</td><td>32.5</td><td>36.4</td><td>32.5</td><td>33.7</td><td>35.7</td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>25</td><td>27.1</td><td>28.7</td><td>26.1</td><td>29.6</td><td>25.7</td><td>27.8</td><td>27.4</td><td>28</td><td>31.7</td><td>28.2</td><td>28.9</td><td>31.1</td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>21.3</td><td>23.3</td><td>25</td><td>22.6</td><td>25.9</td><td>22.2</td><td>24.2</td><td>23.8</td><td>24.4</td><td>27.9</td><td>24.5</td><td>25.2</td><td>27.2</td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td></td><td></td><td></td><td></td><td></td><td>19.2</td><td>21.3</td><td>20.8</td><td>21.3</td><td>24.7</td><td>21.5</td><td>22.1</td><td>24</td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td></td><td></td><td></td><td></td><td></td><td>16.8</td><td>18.7</td><td>18.2</td><td>18.7</td><td>22</td><td>18.9</td><td>19.6</td><td>21.2</td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td></td><td></td><td></td><td></td><td></td><td>14.2</td><td>16.6</td><td>16</td><td>16.5</td><td>19.6</td><td>16.7</td><td>17.4</td><td>18.9</td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>14.8</td><td>15.4</td><td>16.8</td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>13</td><td>13.7</td><td>15</td><td colspan="2">36</td></tr>
<tr><td colspan="2">Reeving</td><td colspan="2">14</td><td colspan="2">12</td><td>10</td><td>12</td><td colspan="7">10</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td>2</td><td>1</td><td>1</td><td>1</td><td>1</td><td>2</td><td>1</td><td>1</td><td>1</td><td>1</td><td>2</td><td>1</td><td>1</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td>2</td><td>2</td><td>1</td><td>1</td><td>1</td><td>2</td><td>2</td><td>3</td><td>2</td><td>1</td><td>2</td><td>3</td><td>2</td><td>II</td></tr>
<tr><td>III</td><td>2</td><td>2</td><td>2</td><td>3</td><td>1</td><td>2</td><td>2</td><td>2</td><td>3</td><td>1</td><td>2</td><td>2</td><td>3</td><td>III</td></tr>
<tr><td>IV</td><td>1</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>3</td><td>2</td><td>2</td><td>2</td><td>IV</td></tr>
<tr><td>V</td><td>1</td><td>1</td><td>2</td><td>1</td><td>3</td><td>1</td><td>2</td><td>1</td><td>1</td><td>3</td><td>2</td><td>2</td><td>2</td><td>V</td></tr>
</table>

Table 1-23 Main boom + Y-shaped guying system

Unit: Metric tons

15.6 m – 71 m main boom with Y-shaped guying system, outriggers fully extended, with 80 t counterweight, over full range

Radius (m)	Main boom length (m)												Radius (m)
	40.6	40.6	45.6	45.6	45.6	45.6	45.6	50.6	50.6	50.6	50.6	50.6	
7	110	88											7
8	105	86	104	100	95	98	82						8
9	95	80	102	98	92	95	78	90	80	78	84	70	9
10	90	76	94	95	85	90	73	84	79	75	80	68	10
12	79	68	78	79	76	80	69	79	75	70	76	66	12
14	66	62	64.9	66	67	65	62.5	65.8	66.2	62.7	63.6	62	14
16	56.5	56	52.5	55.1	56.4	54.4	56.4	53.1	55.5	57	52.8	55.9	16
18	47	48.1	43.7	45.9	47	45.2	50.2	44.2	47.3	48	44.9	49.9	18
20	40	42	36.9	39	40.1	38.2	43	37.4	40.1	43.9	38.2	42.7	20
22	33.8	36.6	31.8	33.6	34.6	32.9	37.4	32.1	34.7	38	32.9	37.1	22
24	28.2	32.1	27.6	28.3	30.3	27.6	34.4	28.2	29.2	31.9	29	32.6	24
26	24.5	28.2	24	24.6	26.6	24	29.4	24.8	25.7	27.9	25.5	29.5	26
28	21.5	25	21	21.6	22.7	21	25.3	21.6	22.6	23.7	22.4	25.7	28
30	18.9	22.3	18.4	19	20.1	18.4	22.6	19.2	20.2	21	20	22.4	30
32	16.7	20	16.2	16.9	17.8	16.3	19.6	17	18	18.5	17.7	19.5	32
34	14.8	18	14.3	14.9	16	14.3	17.6	15	15.9	16.7	15.8	17.5	34
36	13	16.2	12.6	13.2	14.2	12.7	16	13.2	14.3	15	14	15.8	36
38			11.2	11.8	12.8	11.2	14.5	11.8	12.7	13.4	12.5	14.4	38
40			10.2	10.8	11.8	10.3	13.1	10.4	11.4	12.2	11.1	13	40
42								9.2	10.1	11	9.9	11.8	42
44								8.1	9	9.8	8.8	10.8	44
46								6.8	7.4	8.9	7.5	9.7	46
Reeving	10	8	8	8	8	8	8	8	8	8	8	6	Reeving
Telescoping mode I	1	1	3	2	1	2	1	3	2	2	3	1	I Telescoping mode
II	3	1	2	3	3	3	1	3	3	2	3	2	II
III	3	2	2	2	3	3	3	2	3	2	3	3	III
IV	2	3	2	2	2	2	3	2	2	3	2	3	IV
V	1	3	2	2	2	1	3	2	2	3	1	3	V

Table 1-23 Main boom + Y-shaped guying system

Unit: Metric tons

<table>
<tr><th colspan="13">15.6 m – 71 m main boom with Y-shaped guying system, outriggers fully extended, with 80 t counterweight, over full range</th></tr>
<tr><th colspan="2" rowspan="2">Radius (m)</th><th colspan="9">Main boom length (m)</th><th colspan="2" rowspan="2">Radius (m)</th></tr>
<tr><th>55.6</th><th>55.6</th><th>55.6</th><th>55.6</th><th>55.6</th><th>60.6</th><th>60.6</th><th>65.6</th><th>71</th></tr>
<tr><td colspan="2">10</td><td>74</td><td>66</td><td>65</td><td>66</td><td>64</td><td></td><td></td><td></td><td></td><td colspan="2">10</td></tr>
<tr><td colspan="2">12</td><td>68</td><td>65</td><td>63</td><td>64</td><td>62</td><td>65</td><td>60</td><td>56</td><td></td><td colspan="2">12</td></tr>
<tr><td colspan="2">14</td><td>64</td><td>63</td><td>61</td><td>63</td><td>60</td><td>61</td><td>56</td><td>52</td><td>45</td><td colspan="2">14</td></tr>
<tr><td colspan="2">16</td><td>56.2</td><td>57.5</td><td>56.1</td><td>59</td><td>55.9</td><td>58</td><td>54</td><td>50</td><td>44</td><td colspan="2">16</td></tr>
<tr><td colspan="2">18</td><td>46.6</td><td>48</td><td>49</td><td>48.9</td><td>48.5</td><td>47.4</td><td>47.5</td><td>45.6</td><td>42.8</td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>39.5</td><td>40.8</td><td>41.8</td><td>39.2</td><td>42.4</td><td>40.2</td><td>40.7</td><td>40.6</td><td>40.3</td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>34</td><td>35.2</td><td>36.2</td><td>33.8</td><td>36.7</td><td>34.7</td><td>35.2</td><td>35.4</td><td>34.8</td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>28.9</td><td>30.8</td><td>31.7</td><td>28.7</td><td>32.2</td><td>30.2</td><td>30.8</td><td>30.9</td><td>31.1</td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>25.3</td><td>27.1</td><td>28</td><td>25.1</td><td>28.6</td><td>26.6</td><td>27.3</td><td>27.2</td><td>27.4</td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td>22.4</td><td>23.6</td><td>25</td><td>22.2</td><td>25</td><td>23.5</td><td>24.2</td><td>24.1</td><td>24.5</td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>19.7</td><td>20.9</td><td>22.2</td><td>19.5</td><td>22.4</td><td>20.9</td><td>21.7</td><td>21.6</td><td>21.8</td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>17.5</td><td>18.7</td><td>19.9</td><td>17.2</td><td>20</td><td>18.5</td><td>19.4</td><td>19.4</td><td>19</td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>15.5</td><td>16.6</td><td>17.9</td><td>15.3</td><td>18</td><td>16.2</td><td>17.4</td><td>17.3</td><td>16.9</td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td>13.8</td><td>14.9</td><td>15.4</td><td>13.6</td><td>16.3</td><td>14.4</td><td>15.7</td><td>15.5</td><td>15.1</td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td>12.2</td><td>13.4</td><td>13.9</td><td>12.1</td><td>14.7</td><td>12.9</td><td>14.2</td><td>14</td><td>13.3</td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td>10.9</td><td>11.8</td><td>12.4</td><td>10.7</td><td>13.4</td><td>11.5</td><td>12.5</td><td>12.6</td><td>12</td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td>9.7</td><td>10.6</td><td>11.2</td><td>9.5</td><td>11.7</td><td>10.4</td><td>11.1</td><td>11.3</td><td>10.8</td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>8.6</td><td>6.4</td><td>10.2</td><td>8.3</td><td>10.6</td><td>9.2</td><td>10.1</td><td>10.2</td><td>9.7</td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>7.6</td><td>8.5</td><td>9.1</td><td>7.3</td><td>9.7</td><td>8.2</td><td>9.2</td><td>9.1</td><td>8.8</td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td>6.6</td><td>7.6</td><td>8.3</td><td>6.5</td><td>8.8</td><td>7.4</td><td>8.2</td><td>8.2</td><td>7.9</td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td>5.9</td><td>6.7</td><td>7.5</td><td>5.7</td><td>8</td><td>6.5</td><td>7.4</td><td>7.3</td><td>7.1</td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td></td><td></td><td></td><td></td><td></td><td>5.8</td><td>6.7</td><td>6.6</td><td>6.3</td><td colspan="2">52</td></tr>
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<tr><td colspan="2">58</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>4.6</td><td>4.5</td><td colspan="2">58</td></tr>
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<tr><td colspan="2">62</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>3.4</td><td colspan="2">62</td></tr>
<tr><td colspan="2">64</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>3</td><td colspan="2">64</td></tr>
<tr><td colspan="2">66</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2.5</td><td colspan="2">66</td></tr>
<tr><td colspan="2">Reeving</td><td colspan="8">6</td><td>4</td><td colspan="2"></td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td>3</td><td>2</td><td>2</td><td>3</td><td>1</td><td>3</td><td>2</td><td>3</td><td>4</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td>3</td><td>3</td><td>2</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>4</td><td>II</td></tr>
<tr><td>III</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>4</td><td>III</td></tr>
<tr><td>IV</td><td>2</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>4</td><td>IV</td></tr>
<tr><td>V</td><td>2</td><td>2</td><td>3</td><td>1</td><td>3</td><td>2</td><td>3</td><td>3</td><td>4</td><td>V</td></tr>
</table>

Table 1-24 Main boom + Y-shaped guying system

Unit: Metric tons

15.6 m – 71 m main boom with Y-shaped guying system, outriggers fully extended, with 60 t counterweight, over full range

Radius (m)	Main boom length (m)													Radius (m)
	30.6	30.6	30.6	30.6	30.6	35.6	35.6	35.6	35.6	35.6	40.6	40.6	40.6	
5	140	140	130	125	105									5
6	130	130	125	120	100	130	128	125	115	95				6
7	120	115	114	112	96	120	118	120	110	90	120	116	102	7
8	105	105	106	106	90	104	105	105	100	85	105	106	100	8
9	93	95.9	96	97	86	95.2	95.9	96.2	97	83	94	93	92	9
10	87.7	89	90	91	82	89.6	90.4	90	90	79	89	88	88	10
12	63.4	65.8	67.6	69.9	69.8	64.7	68.9	67.3	70.5	66	70.2	71.1	76	12
14	48.7	51	52.7	54.6	55.1	50	53.6	54.1	54.7	59.8	54.5	57.2	59.1	14
16	39	41.1	42.7	44.4	44.8	40.1	43.4	44	44.1	48.7	43.9	46.3	47.9	16
18	31.4	33.6	35.2	36.6	37.1	33	36.1	36	36.6	40.7	36.4	39.3	39.9	18
20	25.8	27.8	29.4	30.6	31.1	28	30.2	28.9	30.4	34.3	30.6	32.5	33.8	20
22	21.3	23.4	24.9	25.4	26.4	23.5	25.6	24.3	25.8	29.4	25.8	26.9	28.7	22
24	17.8	19.8	21.3	21.8	22.7	19.8	21.9	21.3	21.9	25.4	22.1	22.8	24.7	24
26	14.9	16.8	18.3	18.8	19.7	16.9	18.9	18.3	18.8	22.2	19	19.7	21.3	26
28						14.4	16.4	15.7	16.2	19.4	16.4	17.1	18.6	28
30						12.3	14.3	13.5	14	17.2	14.3	15	16.3	30
32						10.2	12.5	11.6	12.2	15.1	12.4	13.1	14.3	32
34											10.8	11.5	12.6	34
36											9.3	10	11.1	36
Reeving	14		12		10	12	10							Reeving
Telescoping mode I	2	1	1	1	1	2	1	1	1	1	2	1	1	I Telescoping mode
II	2	2	1	1	1	2	2	3	2	1	2	3	2	II
III	2	2	2	3	1	2	2	2	3	1	2	2	3	III
IV	1	2	2	2	2	2	2	2	2	3	2	2	2	IV
V	1	1	2	1	3	1	2	1	1	3	2	2	2	V

Table 1-24 Main boom + Y-shaped guying system

Unit: Metric tons

15.6 m – 71 m main boom with Y-shaped guying system, outriggers fully extended, with 60 t counterweight, over full range

Radius (m)		Main boom length (m)													Radius (m)
		40.6	40.6	45.6	45.6	45.6	45.6	45.6	50.6	50.6	50.6	50.6	50.6		
7		110	88												7
8		105	86	100	100	95	98	82							8
9		95	80	95	93	92	94	78	90	80	78	84	70		9
10		90	76	85	82	85	83	73	84	79	75	80	68		10
12		70.3	68	69.4	72.7	74.1	69.4	69	73	72	70	72	66		12
14		56.4	59.8	53.6	56.2	58.9	53.6	59.8	54.3	56	56.8	53.6	59.4		14
16		46.5	48.6	43.1	45.3	47.6	44.6	48.7	43.5	45.2	46	41.9	48.2		16
18		38.5	40.7	35.5	37.5	39.9	36.8	40.7	35.9	37.4	38.3	35.3	40.3		18
20		32.4	34.7	29.9	31.6	34.6	31	34.7	30.2	31.5	32.5	29.6	34.3		20
22		26.8	29.7	25.3	26.9	29	26.2	30	25.7	27	28	25.1	29.7		22
24		22.1	25.7	21.6	22.2	24.1	21.6	26	22.2	23.1	24.3	21.7	25.8		24
26		19	22.5	18.5	19.1	20.9	18.5	22.7	19.1	20	21.1	18.5	22.5		26
28		16.4	19.8	15.9	16.6	17.6	16	20.1	16.4	17.4	18.4	15.9	19.9		28
30		14.3	17.5	13.8	14.4	15.4	13.8	17.8	14.4	15.3	16.3	13.8	17.6		30
32		12.4	15.6	11.9	12.5	13.5	11.9	15.3	12.5	13.4	14.2	12	15.1		32
34		10.8	13.8	10.3	10.9	11.9	10.3	13.6	10.8	11.7	12.6	10.3	13.4		34
36		9.3	12.3	8.9	9.5	10.5	8.9	12.2	9.4	10.3	11.1	8.8	12.1		36
38				7.6	8.2	9.3	7.6	11	8.1	9	9.8	7.5	10.8		38
40				6.7	7.4	7.3	6.7	9.8	6.9	7.8	8.7	6.4	9.7		40
42									5.9	6.7	7.7	5.3	8.6		42
44									5	5.9	6.9	4.5	7.7		44
46									4	4.6	6	3.5	6.9		46
Reeving		10	8	8	8	8	8	8	8	8	8	8	6		Reeving
Telescoping mode	I	1	1	3	2	1	2	1	3	2	2	3	1	I	Telescoping mode
	II	3	1	2	3	3	3	1	3	3	2	3	2	II	
	III	3	2	2	2	3	3	3	2	3	2	3	3	III	
	IV	2	3	2	2	2	2	3	2	2	3	2	3	IV	
	V	1	3	2	2	2	1	3	2	2	3	1	3	V	

Table 1-24 Main boom + Y-shaped guying system

Unit: Metric tons

<table>
<tr><th colspan="12">15.6 m – 71 m main boom with Y-shaped guying system, outriggers fully extended, with 60 t counterweight, over full range</th></tr>
<tr><th colspan="2" rowspan="2">Radius (m)</th><th colspan="9">Main boom length (m)</th><th rowspan="2">Radius (m)</th></tr>
<tr><th>55.6</th><th>55.6</th><th>55.6</th><th>55.6</th><th>55.6</th><th>60.6</th><th>60.6</th><th>65.6</th><th>71</th></tr>
<tr><td colspan="2">10</td><td>72</td><td>66</td><td>65</td><td>66</td><td>64</td><td></td><td></td><td></td><td></td><td>10</td></tr>
<tr><td colspan="2">12</td><td>65</td><td>65</td><td>63</td><td>64</td><td>62</td><td>65</td><td>60</td><td>56</td><td></td><td>12</td></tr>
<tr><td colspan="2">14</td><td>56</td><td>57.4</td><td>56.5</td><td>55.7</td><td>57.3</td><td>58.1</td><td>56</td><td>52</td><td>44</td><td>14</td></tr>
<tr><td colspan="2">16</td><td>45</td><td>46.3</td><td>46.3</td><td>44.7</td><td>48</td><td>46.8</td><td>47.3</td><td>45.1</td><td>42</td><td>16</td></tr>
<tr><td colspan="2">18</td><td>37.1</td><td>38.4</td><td>38.4</td><td>36.9</td><td>40</td><td>38.6</td><td>39.2</td><td>37.3</td><td>38.8</td><td>18</td></tr>
<tr><td colspan="2">20</td><td>31.2</td><td>32.5</td><td>32.6</td><td>31</td><td>34</td><td>32.6</td><td>33.3</td><td>32.9</td><td>32.7</td><td>20</td></tr>
<tr><td colspan="2">22</td><td>26.7</td><td>27.8</td><td>28.1</td><td>26.4</td><td>29.3</td><td>27.8</td><td>28.6</td><td>28.5</td><td>28.1</td><td>22</td></tr>
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<tr><td colspan="2">26</td><td>19.8</td><td>20.9</td><td>21.3</td><td>19.5</td><td>22.4</td><td>20.9</td><td>21.8</td><td>21.6</td><td>21.2</td><td>26</td></tr>
<tr><td colspan="2">28</td><td>17.1</td><td>18.3</td><td>18.7</td><td>16.9</td><td>19.7</td><td>18.2</td><td>19.1</td><td>19</td><td>18.7</td><td>28</td></tr>
<tr><td colspan="2">30</td><td>14.9</td><td>16</td><td>16.5</td><td>14.6</td><td>17.4</td><td>15.8</td><td>16.8</td><td>16.7</td><td>16.5</td><td>30</td></tr>
<tr><td colspan="2">32</td><td>12.9</td><td>14.1</td><td>14.6</td><td>12.8</td><td>15.5</td><td>14</td><td>14.9</td><td>14.7</td><td>14.4</td><td>32</td></tr>
<tr><td colspan="2">34</td><td>11.3</td><td>12.4</td><td>13</td><td>11.1</td><td>13.8</td><td>12</td><td>13.2</td><td>13</td><td>12.6</td><td>34</td></tr>
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<tr><td colspan="2">42</td><td>6.4</td><td>7.3</td><td>8</td><td>6.1</td><td>8.5</td><td>7</td><td>8</td><td>7.9</td><td>7.5</td><td>42</td></tr>
<tr><td colspan="2">44</td><td>5.4</td><td>6.4</td><td>7.1</td><td>5.2</td><td>7.6</td><td>6</td><td>7</td><td>6.9</td><td>6.7</td><td>44</td></tr>
<tr><td colspan="2">46</td><td>4.6</td><td>5.6</td><td>6.3</td><td>4.4</td><td>6.8</td><td>5.2</td><td>6.2</td><td>6.1</td><td>5.8</td><td>46</td></tr>
<tr><td colspan="2">48</td><td>3.8</td><td>4.8</td><td>5.6</td><td>3.7</td><td>6</td><td>4.5</td><td>5.5</td><td>5.3</td><td>7.2</td><td>48</td></tr>
<tr><td colspan="2">50</td><td>3.1</td><td>4</td><td>4.9</td><td>3</td><td>5.3</td><td>3.7</td><td>4.8</td><td>4.6</td><td>4.5</td><td>50</td></tr>
<tr><td colspan="2">52</td><td></td><td></td><td></td><td></td><td></td><td>3.1</td><td>4.2</td><td>3.9</td><td>3.9</td><td>52</td></tr>
<tr><td colspan="2">54</td><td></td><td></td><td></td><td></td><td></td><td>2.4</td><td>3.6</td><td>3.4</td><td>3.3</td><td>54</td></tr>
<tr><td colspan="2">56</td><td></td><td></td><td></td><td></td><td></td><td>1.7</td><td>2.7</td><td>2.8</td><td>5.8</td><td>56</td></tr>
<tr><td colspan="2">58</td><td></td><td></td><td></td><td></td><td></td><td></td><td>2.2</td><td>2.3</td><td>2.3</td><td>58</td></tr>
<tr><td colspan="2">60</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1.8</td><td>1.8</td><td>60</td></tr>
<tr><td colspan="2"></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="2">Reeving</td><td colspan="8">6</td><td>4</td><td></td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td>3</td><td>2</td><td>2</td><td>3</td><td>1</td><td>3</td><td>2</td><td>3</td><td>4</td><td>I</td></tr>
<tr><td>II</td><td>3</td><td>3</td><td>2</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>4</td><td>II</td></tr>
<tr><td>III</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>4</td><td>III</td></tr>
<tr><td>IV</td><td>2</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>4</td><td>IV</td></tr>
<tr><td>V</td><td>2</td><td>2</td><td>3</td><td>1</td><td>3</td><td>2</td><td>3</td><td>3</td><td>4</td><td>V</td></tr>
</table>

Telescoping mode

Table 1-25 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	50.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 120 t counterweight, over full range										Radius m/ Jib length m / Offset
	14	19	22	27	32			39			
	0°	0°	0°	0°	0°	20°	40°	0°	20°	40°	
12	46.0										12
14	43.0	43.0	42.0	40.0	28.0						14
16	40.5	40.0	38.0	38.0	26.0			21.9			16
18	37.9	37.5	34.9	33.0	25.5	21.6		20.0			18
20	35.6	35.6	31.3	30.1	23.6	20.4		18.0			20
22	33.5	33.3	29.6	28.3	22.3	19.3	16.8	17.0	14.0		22
24	31.5	31.2	27.9	26.7	21.0	18.4	16.1	15.9	13.3		24
26	29.7	29.4	26.5	23.9	19.9	17.4	15.4	15.0	12.7		26
28	28.0	27.7	25.1	22.6	18.8	16.1	17.8	14.3	12.1	10.8	28
30	26.4	26.2	23.8	21.5	17.9	15.3	14.2	13.4	11.6	10.4	30
32	24.2	24.1	21.8	20.5	16.4	14.3	13.3	12.8	11.0	10.0	32
34	23.0	22.9	20.7	19.6	15.2	13.7	12.8	12.1	10.6	9.6	34
36	21.8	21.0	19.7	18.7	14.5	13.1	12.3	11.6	10.1	9.5	36
38	19.9	19.1	18.8	17.9	13.8	12.6	11.8	11.0	9.8	8.9	38
40	18.3	17.4	17.9	17.0	13.3	12.1	11.4	10.5	9.4	8.6	40
42	15.8	15.0	16.1	15.2	12.4	11.3	10.8	10.1	9.0	8.3	42
44	14.6	13.8	14.8	14.6	11.9	10.9	10.5	9.7	8.6	8.0	44
46	13.4	12.6	13.7	13.8	11.4	10.5	10.1	9.2	8.3	7.8	46
48	12.4	11.6	12.6	12.7	10.9	10.1	9.8	8.9	8.0	7.6	48
50	11.4	10.6	11.7	11.8	10.3	9.8	9.5	8.5	7.7	7.4	50
52	9.8	9.0	10.1	10.2	9.1	9.2	8.9	8.2	7.5	7.1	52
54	9.0	8.3	9.4	9.5	8.3	8.8	8.6	7.6	6.9	6.6	54
56	8.3	7.5	8.6	8.7	7.7	8.1	8.3	7.3	6.7	6.4	56
58	7.7	6.8	8.0	8.0	7.0	7.4	7.7	7.0	6.5	6.3	58
60	7.0	6.2	7.3	7.4	6.4	6.8	7.0	6.1	5.9	5.7	60
62		5.6	6.8	6.4	5.4	5.7	5.9	5.5	5.8	5.6	62
64			6.0	5.9	4.8	5.2	5.3	4.8	5.3	5.2	64
66				5.4	4.3	4.7	4.8	4.4	4.9	5.1	66
68				4.9	3.9	4.2	4.3	4.0	4.4	4.6	68
70					3.3	3.4	3.5	3.6	4.0	4.2	70
72					2.9	3.1	3.1	2.7	3.0	3.1	72
74					2.5	2.7		2.4	2.7	2.8	74
76					2.1			2.1	2.4	2.4	76
78								1.7	1.9		78
80								1.4			80
82											82
Reeving	4	4	4	4	4	2	2	2	2	1	Reeving
Telescoping mode I	3										I Telescoping mode
II	3										II
III	2										III
IV	2										IV
V	2										V

Table 1-25 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	50.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 120 t counterweight, over full range									Radius m/ Jib length m / Offset
	46			53			60			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	
18	16.7									18
20	15.5			13.2						20
22	14.8			12.5			10.6			22
24	14.0			11.8			10.0			24
26	13.1	10.8		11.2			9.6			26
28	12.5	10.2		10.6			9.4			28
30	11.7	9.8		9.7	8.0		8.7			30
32	11.2	9.4		9.2	7.7		7.3			32
34	10.6	9.0	7.7	8.8	7.4		7.8			34
36	10.1	8.6	7.4	8.3	7.0		7.4	6.2		36
38	9.6	8.3	7.1	7.9	6.7		7.1	6.0		38
40	8.8	7.6	6.8	7.6	6.4	5.6	6.7	5.7		40
42	8.4	7.3	6.6	7.0	6.0	5.4	6.2	5.2		42
44	8.0	7.0	6.4	6.7	5.7	5.2	5.9	5.0		44
46	7.6	6.7	6.2	6.3	5.5	5.0	5.6	4.8	4.2	46
48	7.3	6.5	6.0	6.1	5.3	4.8	5.4	4.6	4.1	48
50	7.0	6.3	5.8	5.8	5.1	4.6	5.1	4.4	4.0	50
52	6.7	6.0	5.6	5.3	4.7	4.3	4.7	4.0	3.7	52
54	6.4	5.8	5.4	5.1	4.5	4.2	4.5	3.9	3.5	54
56	6.2	5.6	5.3	4.7	4.2	3.8	4.1	3.6	3.2	56
58	6.0	5.4	5.1	4.5	4.0	3.7	3.9	3.4	3.0	58
60	5.6	5.0	4.8	4.0	3.6	3.4	3.5	3.1	2.8	60
62	5.2	4.8	4.6	3.8	3.5	3.2	3.4	3.0	2.7	62
64	4.8	4.4	4.2	3.7	3.4	3.1	3.2	2.8	2.6	64
66	4.6	4.2	4.1	3.5	3.2	3.0	3.1	2.7	2.5	66
68	4.2	4.1	4.0	3.4	3.1	2.8	2.9	2.6	2.4	68
70	3.8	4.0	3.9	2.9	2.6	2.5	2.4	2.2	2.1	70
72	2.9	3.3	3.2	2.7	2.5	2.4	2.3	2.1	2.0	72
74	2.6	3.1	3.1	2.6	2.4	2.3	2.2	2.0		74
76	2.3	2.8	2.9	2.3	2.3	2.2	2.0			76
78	1.9	2.2	2.4	2.1	2.2	2.1				78
80				1.8						80
Reeving	2	1	1	2	1	1	1	1	1	Reeving
Telescoping mode I	3									I Telescoping mode
II	3									II
III	2									III
IV	2									IV
V	2									V

Table 1-26 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	55.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 120 t counterweight, over full range										Radius m/ Jib length m / Offset
	14	19	22	27	32			39			
	0°	0°	0°	0°	0°	20°	40°	0°	20°	40°	
12											12
14	44.0										14
16	41.0	42.0	41.0	38.0	23.5						16
18	38.0	37.3	36.0	36.0	22.0			18.3			18
20	35.5	34.9	32.7	30.7	21.7	20.7		17.0			20
22	32.1	31.7	28.7	27.5	20.4	18.7		15.7			22
24	30.2	29.8	27.1	26.1	19.3	16.8	17.0	14.8	12.4		24
26	28.4	28.2	25.8	24.8	18.2	16.0	15.6	14.0	11.7		26
28	26.9	26.7	24.6	21.5	17.2	15.3	14.0	13.3	11.2	10.1	28
30	25.5	25.2	23.5	20.5	16.5	14.6	13.4	12.7	10.8	9.6	30
32	22.7	22.2	21.7	19.0	15.7	14.0	11.7	11.0	9.9	9.0	32
34	21.4	21.0	20.7	18.2	15.0	13.4	12.5	11.1	9.6	8.7	34
36	20.2	19.8	18.6	17.4	14.2	12.9	12.0	10.6	9.2	8.4	36
38	18.7	18.0	17.7	16.3	13.3	12.1	11.3	10.2	8.9	8.1	38
40	17.2	16.5	17.0	15.6	12.8	11.6	10.9	9.7	8.5	7.8	40
42	15.4	15.0	16.0	14.9	12.2	11.2	10.6	9.2	8.2	7.6	42
44	13.7	13.8	14.8	13.7	11.3	10.4	9.8	8.9	7.9	7.4	44
46	12.5	12.6	13.6	12.8	10.9	10.0	9.5	8.5	7.6	7.1	46
48	11.6	11.6	12.6	11.9	10.4	9.7	9.3	8.2	7.4	6.9	48
50	10.7	10.6	11.6	11.0	9.8	9.4	9.0	7.8	7.1	6.7	50
52	9.4	9.7	10.1	9.7	8.6	8.7	8.4	7.3	6.7	6.3	52
54	8.7	8.9	9.3	9.0	7.9	8.4	8.1	7.1	6.5	6.1	54
56	8.0	7.6	8.6	8.3	7.2	7.7	7.9	6.8	6.2	5.9	56
58	7.3	6.9	8.0	7.7	6.6	7.1	7.3	6.5	6.1	5.8	58
60	6.8	6.3	7.0	7.1	6.0	6.4	6.6	5.9	5.8	5.6	60
62	6.0	5.7	6.3	6.3	5.3	5.7	5.9	5.2	5.4	5.2	62
64	5.5	5.1	5.7	5.8	4.8	5.2	5.3	4.7	5.3	5.1	64
66		4.7	5.3	5.3	4.3	4.6	4.8	4.3	4.8	4.9	66
68			4.8	4.9	3.9	4.2	4.3	3.9	4.4	4.6	68
70			4.4	4.5	3.4	3.7	3.8	3.4	3.9	4.2	70
72				4.1	3.0	3.3	3.4	2.6	3.0	3.1	72
74				3.7	2.7	2.9	2.9	2.3	2.6	2.8	74
76					2.0	2.5		2.0	2.3	2.5	76
78					1.6			1.8	2.0		78
Reeving	4	4	4	4	2	2	2	2	1	1	Reeving
Telescoping mode I	3										I Telescoping mode
II	3										II
III	3										III
IV	2										IV
V	2										V
Wind speed m/s	9										Wind speed m/s

Table 1-26 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	55.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 120 t counterweight, over full range									Radius m/ Jib length m / Offset
	46			53			60			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20	14.0									20
22	13.2			11.6						22
24	12.5			11.0			9.6			24
26	11.8			10.4			9.2			26
28	11.2	9.3		9.9			8.8			28
30	10.6	8.8		9.4			8.3			30
32	10.2	8.5		8.9	7.4		7.9			32
34	9.7	8.1	7.2	8.5	7.0		7.5			34
36	9.2	7.8	6.9	8.1	6.7		7.1			36
38	8.8	7.4	6.7	7.7	6.4		6.8	5.7		38
40	8.3	7.1	6.4	7.4	6.2	5.4	6.4	5.4		40
42	8.0	6.9	6.2	7.0	6.0	5.2	6.2	5.2		42
44	7.4	6.4	5.8	6.5	5.5	5.0	5.7	4.8		44
46	7.1	6.2	5.6	6.2	5.3	4.7	5.4	4.6	4.1	46
48	6.8	5.9	5.4	5.9	5.1	4.6	5.2	4.4	3.9	48
50	6.2	5.5	5.1	5.4	4.7	4.3	4.7	4.0	3.8	50
52	6.0	5.3	4.9	5.2	4.6	4.1	4.6	3.9	3.5	52
54	5.7	5.1	4.7	4.9	4.4	4.0	4.3	3.7	3.4	54
56	5.3	4.7	4.4	4.5	4.0	3.7	3.9	3.4	3.1	56
58	5.0	4.5	4.3	4.3	3.8	3.5	3.8	3.3	3.0	58
60	4.5	4.1	3.9	3.9	3.5	3.2	3.4	3.0	2.7	60
62	4.4	3.9	3.8	3.8	3.4	3.1	3.2	2.8	2.6	62
64	4.2	3.8	3.7	3.6	3.2	3.0	3.1	2.7	2.5	64
66	4.0	3.7	3.5	3.5	3.1	2.9	3.0	2.6	2.4	66
68	3.6	3.6	3.4	3.3	3.0	2.8	2.8	2.5	2.3	68
70	2.8	3.0	2.9	2.8	2.5	2.4	2.4	2.1	2.0	70
72	2.5	2.9	2.8	2.7	2.4	2.3	2.3	2.0	1.9	72
74	2.3	2.7	2.7	2.5	2.3	2.2	2.2	1.9	1.8	74
76	2.0	2.5	2.6	2.2	2.2	2.1	2.0	1.8		76
78	1.8	2.2	2.4	2.0	2.1		1.9			78
80	1.5			1.7						80
82										82
Reeving	2	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3									I Telescoping mode
II	3									II
III	3									III
IV	2									IV
V	2									V
Wind speed m/s	9									Wind speed m/s

Table 1-27 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	60.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 120 t counterweight, over full range										Radius m/ Jib length m / Offset
	14	19	22	27	32			39			
	0°	0°	0°	0°	0°	20°	40°	0°	20°	40°	
12											12
14	42.0										14
16	39.0	41.0	40.0	36.0	22.0						16
18	36.2	35.2	34.0	32.0	21.0			16.0			18
20	33.7	32.9	31.5	29.3	20.0	17.8		15.3			20
22	31.4	30.8	27.7	26.5	19.7	17.0		14.6			22
24	28.2	27.6	26.0	25.2	18.2	16.2	14.7	13.9	11.6		24
26	26.4	26.0	24.4	23.9	17.3	15.1	14.2	13.2	11.1		26
28	24.8	24.4	23.0	22.4	16.5	14.4	13.6	12.5	10.6		28
30	23.4	23.1	21.6	20.7	15.7	13.9	12.8	11.9	10.2	9.1	30
32	21.4	21.1	19.7	18.9	15.0	13.3	12.3	11.3	9.8	8.8	32
34	20.3	20.0	18.7	17.9	14.3	12.8	11.9	10.9	9.3	8.5	34
36	19.3	19.0	17.8	17.0	13.7	12.2	11.5	10.4	9.0	8.2	36
38	18.4	18.0	16.8	16.2	12.9	11.9	11.1	9.9	8.6	7.9	38
40	17.5	17.2	16.1	15.3	12.2	11.4	10.7	9.2	8.1	7.4	40
42	15.7	15.3	14.4	13.8	11.3	10.6	10.0	8.8	7.8	7.2	42
44	14.7	14.0	13.8	13.1	10.7	10.2	9.7	8.4	7.5	6.9	44
46	13.6	12.9	13.2	12.5	10.1	9.8	9.4	8.2	7.3	6.7	46
48	12.6	11.8	12.6	12.0	9.6	9.3	9.1	7.8	7.0	6.5	48
50	11.6	10.9	11.8	11.4	9.2	8.9	8.7	7.1	6.5	6.0	50
52	10.1	9.4	10.2	10.2	8.4	8.1	8.0	6.8	6.2	5.9	52
54	9.3	8.8	9.5	9.5	7.9	7.8	7.6	6.4	6.0	5.7	54
56	8.6	8.0	8.7	8.7	7.3	7.4	7.3	6.1	5.9	5.5	56
58	7.9	7.3	8.1	8.0	6.6	7.1	7.1	5.9	5.7	5.4	58
60	6.9	6.7	7.1	7.2	6.0	6.5	6.7	5.2	5.0	4.9	60
62	6.2	6.1	6.4	6.4	5.4	5.7	6.0	4.6	4.6	4.5	62
64	5.7	5.5	5.9	5.9	4.9	5.3	5.5	4.2	4.4	4.4	64
66	5.3	5.0	5.4	5.4	4.4	4.8	4.9	3.8	4.2	4.2	66
68	4.8	4.5	4.9	5.0	3.9	4.3	4.4	3.5	3.9	4.0	68
70		4.0	4.5	4.2	3.3	3.5	3.6	3.1	3.5	3.8	70
72			4.0	3.4	2.6	2.9	3.0	2.4	2.8	3.0	72
74				3.0	2.3	2.6		2.1	2.5	2.6	74
76					2.0			1.9	2.2		76
78								1.6			78
Reeving	4	4	4	4	2	2	2	2	1	1	Reeving
Telescoping mode I	3										I Telescoping mode
II	3										II
III	3										III
IV	3										IV
V	2										V
Wind speed m/s	9										Wind speed m/s

Table 1-27 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	60.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 120 t counterweight, over full range									Radius m/ Jib length m / Offset
	46			53			60			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20	12.2									20
22	12.0			10.0						22
24	11.6			9.9			8.2			24
26	10.9			9.6			8.1			26
28	10.4			9.2			8.0			28
30	9.9	7.9		8.7			7.8			30
32	9.0	7.6		7.9			7.0			32
34	8.6	7.3		7.5	6.3		6.7			34
36	8.3	7.0	6.2	7.2	6.0		6.4			36
38	7.9	6.8	6.0	6.9	5.8		6.0			38
40	7.5	6.5	5.9	6.6	5.6		5.8	4.8		40
42	7.2	6.2	5.7	6.2	5.3	4.7	5.5	4.6		42
44	6.9	6.0	5.5	6.0	5.1	4.6	5.3	4.4		44
46	6.6	5.8	5.3	5.7	4.9	4.4	5.0	4.3		46
48	6.3	5.6	5.1	5.5	4.7	4.3	4.8	4.1	3.6	48
50	6.0	5.3	4.9	5.3	4.6	4.2	4.6	3.9	3.5	50
52	5.9	5.2	4.7	5.1	4.4	4.0	4.4	3.8	3.4	52
54	5.6	5.0	4.6	4.8	4.2	3.8	4.2	3.6	3.3	54
56	5.4	4.8	4.5	4.4	3.9	3.5	3.8	3.3	3.1	56
58	5.1	4.7	4.4	4.2	3.7	3.3	3.7	3.2	2.9	58
60	4.6	4.1	4.0	3.8	3.4	3.1	3.2	2.8	2.6	60
62	4.2	3.9	3.7	3.7	3.2	3.0	3.1	2.7	2.5	62
64	4.1	3.8	3.5	3.5	3.1	2.9	3.0	2.7	2.4	64
66	3.9	3.7	3.4	3.3	3.0	2.8	2.8	2.6	2.3	66
68	3.6	3.5	3.3	3.2	2.9	2.7	2.7	2.4	2.2	68
70	3.2	3.4	3.2	2.6	2.5	2.3	2.2	2.0	1.9	70
72	2.5	2.8	2.7	2.5	2.4	2.2	2.1	2.0	1.8	72
74	2.3	2.7	2.6	2.4	2.3	2.1	2.0	1.9		74
76	2.0	2.5	2.5	2.2	2.3	2.0	1.9			76
78	1.8	2.2		1.9	2.0					78
80	1.5			1.6						80
82										82
Reeving	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3									I Telescoping mode
II	3									II
III	3									III
IV	3									IV
V	2									V
Wind speed m/s	9									Wind speed m/s

Table 1-28 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	65.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 120 t counterweight, over full range										Radius m/ Jib length m / Offset
	14	19	22	27	32			39			
	0°	0°	0°	0°	0°	20°	40°	0°	20°	40°	
16	38.0	36.0									16
18	33.0	32.0	30.0	25.0							18
20	30.0	29.3	28.0	24.0	17.4			13.7			20
22	28.0	27.6	25.0	22.8	16.5			13.6			22
24	24.5	23.8	22.4	21.5	16.4	14.9		13.0			24
26	22.8	22.4	21.1	20.2	15.4	14.0	13.2	12.2			26
28	21.5	21.2	19.9	19.0	14.5	13.3	12.5	11.4	10.5		28
30	20.2	20.1	18.8	18.0	13.7	12.6	11.9	10.8	9.9		30
32	18.5	18.4	17.2	16.4	12.9	11.9	11.2	10.2	9.4		32
34	17.6	17.4	16.3	15.6	12.1	11.2	10.7	9.6	8.7	8.4	34
36	16.7	16.6	15.5	14.7	11.5	10.7	10.1	9.0	8.3	8.0	36
38	15.9	15.7	14.7	14.0	10.8	10.1	9.7	8.5	7.8	7.4	38
40	15.2	15.0	14.0	13.3	10.3	9.7	9.3	7.9	7.3	6.9	40
42	13.7	13.5	12.6	12.0	9.4	8.9	8.5	7.5	6.9	6.5	42
44	13.1	13.0	12.1	11.4	8.9	8.4	8.1	7.1	6.6	6.3	44
46	12.6	12.4	11.5	11.0	8.5	8.0	7.7	6.7	6.3	6.0	46
48	12.0	11.8	11.0	10.5	8.0	7.7	7.4	6.4	6.0	5.7	48
50	11.6	11.2	10.6	10.0	7.7	7.4	7.1	5.8	5.5	5.2	50
52	10.3	9.7	9.5	9.0	7.0	6.7	6.6	5.5	5.2	5.0	52
54	9.5	9.1	9.2	8.6	6.7	6.4	6.3	5.3	4.9	4.8	54
56	8.8	8.4	8.9	8.3	6.4	6.2	6.0	5.0	4.7	4.6	56
58	8.1	7.7	8.3	8.0	5.9	5.9	5.8	4.7	4.6	4.4	58
60	7.2	7.0	7.3	7.3	5.8	5.7	5.5	4.2	4.0	3.9	60
62	6.4	6.4	6.6	6.6	5.5	5.3	5.2	3.9	3.7	3.6	62
64	5.9	5.9	6.1	6.1	5.2	5.0	5.0	3.7	3.5	3.5	64
66	5.4	5.3	5.6	5.6	4.9	4.8	4.8	3.5	3.4	3.3	66
68	5.0	4.8	5.1	5.1	4.4	4.7	4.6	3.4	3.2	3.2	68
70	4.5	4.3	4.7	4.7	3.7	4.0	4.1	3.2	3.1	3.1	70
72			3.5	4.0	3.1	3.4	3.5	2.7	2.6	2.6	72
74				3.4	2.8	3.1	3.2	2.5	2.5	2.5	74
76				3.0	2.5	2.7		2.2	2.4	2.4	76
78					2.0			2.0	2.2		78
80								1.7			80
82											82
Reeving	4	4	4	2	2	2	2	2	1	1	Reeving
Telescoping mode I	3										I Telescoping mode
II	3										II
III	3										III
IV	3										IV
V	3										V
Wind speed m/s	9										Wind speed m/s

Table 1-28 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

<table>
<tr><th rowspan="3" colspan="2">Radius m/ Jib length m / Offset</th><th colspan="9">65.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 120 t counterweight, over full range</th><th rowspan="3" colspan="2">Radius m/ Jib length m / Offset</th></tr>
<tr><th colspan="3">46</th><th colspan="3">53</th><th colspan="3">60</th></tr>
<tr><th>0°</th><th>20°</th><th>40°</th><th>0°</th><th>20°</th><th>40°</th><th>0°</th><th>20°</th><th>40°</th></tr>
<tr><td colspan="2">20</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>10.3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>10.2</td><td></td><td></td><td>8.5</td><td></td><td></td><td></td><td></td><td></td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>10.1</td><td></td><td></td><td>8.4</td><td></td><td></td><td>7.0</td><td></td><td></td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td>10.0</td><td></td><td></td><td>8.3</td><td></td><td></td><td>6.9</td><td></td><td></td><td colspan="2">28</td></tr>
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<tr><td colspan="2">32</td><td>8.3</td><td></td><td></td><td>7.8</td><td></td><td></td><td>6.8</td><td></td><td></td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>7.9</td><td>7.0</td><td></td><td>7.3</td><td></td><td></td><td>6.2</td><td></td><td></td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td>7.4</td><td>6.7</td><td></td><td>6.9</td><td></td><td></td><td>5.9</td><td></td><td></td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td>7.0</td><td>6.4</td><td></td><td>6.2</td><td>5.6</td><td></td><td>5.6</td><td></td><td></td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td>6.6</td><td>6.0</td><td>5.7</td><td>5.9</td><td>5.3</td><td></td><td>5.3</td><td></td><td></td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td>6.3</td><td>5.7</td><td>5.4</td><td>5.6</td><td>5.0</td><td></td><td>5.0</td><td></td><td></td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>6.0</td><td>5.5</td><td>5.1</td><td>5.3</td><td>4.8</td><td></td><td>4.7</td><td>4.2</td><td></td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>5.7</td><td>5.2</td><td>4.9</td><td>5.0</td><td>4.6</td><td>4.3</td><td>4.4</td><td>4.0</td><td></td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td>5.3</td><td>4.9</td><td>4.7</td><td>4.7</td><td>4.4</td><td>4.1</td><td>4.2</td><td>3.8</td><td></td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td>5.1</td><td>4.7</td><td>4.5</td><td>4.5</td><td>4.1</td><td>3.9</td><td>4.0</td><td>3.6</td><td></td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td>4.8</td><td>4.5</td><td>4.3</td><td>4.2</td><td>3.9</td><td>3.7</td><td>3.7</td><td>3.4</td><td>3.3</td><td colspan="2">52</td></tr>
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<tr><td colspan="2">56</td><td>4.4</td><td>4.1</td><td>3.9</td><td>3.6</td><td>3.3</td><td>3.2</td><td>3.2</td><td>2.9</td><td>2.8</td><td colspan="2">56</td></tr>
<tr><td colspan="2">58</td><td>4.1</td><td>3.9</td><td>3.8</td><td>3.4</td><td>3.2</td><td>3.1</td><td>3.0</td><td>2.8</td><td>2.7</td><td colspan="2">58</td></tr>
<tr><td colspan="2">60</td><td>3.6</td><td>3.4</td><td>3.3</td><td>3.0</td><td>2.8</td><td>2.7</td><td>2.7</td><td>2.5</td><td>2.4</td><td colspan="2">60</td></tr>
<tr><td colspan="2">62</td><td>3.3</td><td>3.1</td><td>3.1</td><td>2.9</td><td>2.7</td><td>2.6</td><td>2.5</td><td>2.3</td><td>2.3</td><td colspan="2">62</td></tr>
<tr><td colspan="2">64</td><td>3.1</td><td>3.0</td><td>2.9</td><td>2.7</td><td>2.6</td><td>2.5</td><td>2.3</td><td>2.2</td><td>2.1</td><td colspan="2">64</td></tr>
<tr><td colspan="2">66</td><td>3.0</td><td>2.9</td><td>2.8</td><td>2.6</td><td>2.4</td><td>2.4</td><td>2.2</td><td>2.1</td><td></td><td colspan="2">66</td></tr>
<tr><td colspan="2">68</td><td>2.8</td><td>2.7</td><td>2.7</td><td>2.4</td><td>2.3</td><td>2.3</td><td>2.1</td><td></td><td></td><td colspan="2">68</td></tr>
<tr><td colspan="2">70</td><td>2.7</td><td>2.6</td><td>2.6</td><td>2.0</td><td>1.9</td><td>1.9</td><td>1.7</td><td></td><td></td><td colspan="2">70</td></tr>
<tr><td colspan="2">72</td><td>2.2</td><td>2.2</td><td>2.1</td><td>1.9</td><td>1.8</td><td></td><td></td><td></td><td></td><td colspan="2">72</td></tr>
<tr><td colspan="2">74</td><td>2.1</td><td>2.1</td><td>2.0</td><td>1.8</td><td></td><td></td><td></td><td></td><td></td><td colspan="2">74</td></tr>
<tr><td colspan="2">76</td><td>2.0</td><td>2.0</td><td>1.9</td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">76</td></tr>
<tr><td colspan="2">78</td><td>1.9</td><td>1.9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">78</td></tr>
<tr><td colspan="2">80</td><td>1.5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">80</td></tr>
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<tr><td colspan="2">Reeving</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="9">3</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="9">3</td><td>II</td></tr>
<tr><td>III</td><td colspan="9">3</td><td>III</td></tr>
<tr><td>IV</td><td colspan="9">3</td><td>IV</td></tr>
<tr><td>V</td><td colspan="9">3</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="9">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Table 1-29 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

<table>
<tr><th colspan="2" rowspan="3">Radius m/
Jib length m
/ Offset</th><th colspan="4">71 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 120 t counterweight, over full range</th><th colspan="2" rowspan="3">Radius m/
Jib length m
/ Offset</th></tr>
<tr><th>14</th><th>19</th><th>22</th><th>27</th></tr>
<tr><th>0°</th><th>0°</th><th>0°</th><th>0°</th></tr>
<tr><td colspan="2">16</td><td>29.0</td><td></td><td></td><td></td><td colspan="2">16</td></tr>
<tr><td colspan="2">18</td><td>27.5</td><td>26.5</td><td></td><td></td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>25.8</td><td>25.1</td><td>23.6</td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>24.3</td><td>23.6</td><td>22.3</td><td>20.0</td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>22.9</td><td>22.4</td><td>21.1</td><td>19.5</td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>21.6</td><td>21.2</td><td>19.9</td><td>18.9</td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td>20.4</td><td>20.0</td><td>18.8</td><td>17.9</td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>19.3</td><td>19.0</td><td>17.8</td><td>17.0</td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>18.3</td><td>17.9</td><td>16.8</td><td>16.1</td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>17.4</td><td>17.1</td><td>16.0</td><td>15.2</td><td colspan="2">34</td></tr>
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<tr><td colspan="2">38</td><td>15.8</td><td>15.5</td><td>14.5</td><td>13.8</td><td colspan="2">38</td></tr>
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<tr><td colspan="2">42</td><td>13.6</td><td>13.4</td><td>12.4</td><td>11.8</td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>13.0</td><td>12.8</td><td>11.9</td><td>11.3</td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>12.5</td><td>12.2</td><td>11.4</td><td>10.8</td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td>12.0</td><td>11.8</td><td>11.0</td><td>10.3</td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td>11.6</td><td>11.1</td><td>10.5</td><td>9.3</td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td>10.2</td><td>9.6</td><td>9.5</td><td>8.6</td><td colspan="2">52</td></tr>
<tr><td colspan="2">54</td><td>9.5</td><td>9.1</td><td>9.1</td><td>8.2</td><td colspan="2">54</td></tr>
<tr><td colspan="2">56</td><td>8.8</td><td>8.3</td><td>8.8</td><td>7.9</td><td colspan="2">56</td></tr>
<tr><td colspan="2">58</td><td>8.1</td><td>7.6</td><td>8.2</td><td>7.6</td><td colspan="2">58</td></tr>
<tr><td colspan="2">60</td><td>7.2</td><td>7.0</td><td>7.3</td><td>7.2</td><td colspan="2">60</td></tr>
<tr><td colspan="2">62</td><td>6.4</td><td>6.4</td><td>6.5</td><td>6.4</td><td colspan="2">62</td></tr>
<tr><td colspan="2">64</td><td>5.9</td><td>5.8</td><td>6.0</td><td>6.0</td><td colspan="2">64</td></tr>
<tr><td colspan="2">66</td><td>5.4</td><td>5.2</td><td>5.5</td><td>5.5</td><td colspan="2">66</td></tr>
<tr><td colspan="2">68</td><td>5.0</td><td>4.8</td><td>5.0</td><td>5.0</td><td colspan="2">68</td></tr>
<tr><td colspan="2">70</td><td>4.5</td><td>4.3</td><td>4.3</td><td>4.3</td><td colspan="2">70</td></tr>
<tr><td colspan="2">72</td><td>4.2</td><td>3.9</td><td>3.8</td><td>3.6</td><td colspan="2">72</td></tr>
<tr><td colspan="2">74</td><td></td><td></td><td></td><td>3.2</td><td colspan="2">74</td></tr>
<tr><td colspan="2">76</td><td></td><td></td><td></td><td>2.5</td><td colspan="2">76</td></tr>
<tr><td colspan="2">78</td><td></td><td></td><td></td><td></td><td colspan="2">78</td></tr>
<tr><td colspan="2">Reeving</td><td>4</td><td>4</td><td>2</td><td>2</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="4">4</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="4">4</td><td>II</td></tr>
<tr><td>III</td><td colspan="4">4</td><td>III</td></tr>
<tr><td>IV</td><td colspan="4">4</td><td>IV</td></tr>
<tr><td>V</td><td colspan="4">4</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="4">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Note:

27 m heavy duty jib consists of 1adapter (2 m), 1 heavy duty boom (8 m), 1 A-frame (5 m), 1 heavy duty boom (5 m), 1 transition section (2 m) and 1 head piece (5 m) when main boom is 71 m long.

Table 1-30 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

<table>
<tr><td colspan="2" rowspan="3">Radius m/
Jib length m
/ Offset</td><td colspan="10">50.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 100 t counterweight, over full range</td><td colspan="2" rowspan="3">Radius m/
Jib length m
/ Offset</td></tr>
<tr><td>14</td><td>19</td><td>22</td><td>27</td><td colspan="3">32</td><td colspan="3">39</td></tr>
<tr><td>0°</td><td>0°</td><td>0°</td><td>0°</td><td>0°</td><td>20°</td><td>40°</td><td>0°</td><td>20°</td><td>40°</td></tr>
<tr><td colspan="2">12</td><td>46.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">12</td></tr>
<tr><td colspan="2">14</td><td>43.0</td><td>43.0</td><td>42.0</td><td>40.0</td><td>28.0</td><td></td><td></td><td></td><td></td><td></td><td colspan="2">14</td></tr>
<tr><td colspan="2">16</td><td>40.5</td><td>40.0</td><td>38.0</td><td>38.0</td><td>26.0</td><td></td><td></td><td>21.9</td><td></td><td></td><td colspan="2">16</td></tr>
<tr><td colspan="2">18</td><td>37.9</td><td>37.5</td><td>34.9</td><td>33.0</td><td>25.5</td><td>21.6</td><td></td><td>20.0</td><td></td><td></td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>35.6</td><td>35.6</td><td>31.3</td><td>30.1</td><td>23.6</td><td>20.4</td><td></td><td>18.0</td><td></td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>33.5</td><td>33.3</td><td>29.6</td><td>28.3</td><td>22.3</td><td>19.3</td><td>16.8</td><td>17.0</td><td>14.0</td><td></td><td colspan="2">22</td></tr>
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<tr><td colspan="2">28</td><td>28.0</td><td>27.6</td><td>25.1</td><td>22.6</td><td>18.8</td><td>16.1</td><td>17.8</td><td>14.3</td><td>12.1</td><td>10.8</td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>25.4</td><td>24.6</td><td>23.8</td><td>21.5</td><td>17.9</td><td>15.3</td><td>14.2</td><td>13.4</td><td>11.6</td><td>10.4</td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>22.1</td><td>21.3</td><td>21.8</td><td>20.5</td><td>16.4</td><td>14.3</td><td>13.3</td><td>12.8</td><td>11.0</td><td>10.0</td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>20.0</td><td>19.2</td><td>20.4</td><td>19.6</td><td>15.2</td><td>13.7</td><td>12.8</td><td>12.1</td><td>10.6</td><td>9.6</td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td>18.2</td><td>17.3</td><td>18.4</td><td>18.6</td><td>14.5</td><td>13.1</td><td>12.3</td><td>11.6</td><td>10.1</td><td>9.5</td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td>16.5</td><td>15.7</td><td>16.8</td><td>16.9</td><td>13.8</td><td>12.6</td><td>11.8</td><td>11.0</td><td>9.8</td><td>8.9</td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td>15.0</td><td>14.3</td><td>15.4</td><td>15.5</td><td>13.3</td><td>12.1</td><td>11.4</td><td>10.5</td><td>9.4</td><td>8.6</td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td>13.0</td><td>12.9</td><td>13.2</td><td>13.3</td><td>11.8</td><td>11.3</td><td>10.8</td><td>10.1</td><td>9.0</td><td>8.3</td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>11.8</td><td>11.6</td><td>12.1</td><td>12.2</td><td>10.7</td><td>10.9</td><td>10.5</td><td>9.7</td><td>8.6</td><td>8.0</td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>10.7</td><td>10.5</td><td>11.1</td><td>11.1</td><td>9.7</td><td>10.4</td><td>10.1</td><td>9.2</td><td>8.3</td><td>7.8</td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td>9.8</td><td>9.5</td><td>10.2</td><td>10.2</td><td>8.7</td><td>9.4</td><td>9.8</td><td>8.8</td><td>8.0</td><td>7.6</td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td>8.9</td><td>8.6</td><td>9.3</td><td>9.4</td><td>8.0</td><td>8.6</td><td>9.0</td><td>8.0</td><td>7.7</td><td>7.4</td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td>7.6</td><td>7.7</td><td>7.9</td><td>8.0</td><td>6.9</td><td>7.4</td><td>7.8</td><td>7.2</td><td>7.5</td><td>7.1</td><td colspan="2">52</td></tr>
<tr><td colspan="2">54</td><td>6.9</td><td>7.0</td><td>7.2</td><td>7.3</td><td>6.2</td><td>6.8</td><td>7.1</td><td>6.3</td><td>6.9</td><td>6.6</td><td colspan="2">54</td></tr>
<tr><td colspan="2">56</td><td>6.3</td><td>6.2</td><td>6.6</td><td>6.7</td><td>5.6</td><td>6.1</td><td>6.4</td><td>5.7</td><td>6.4</td><td>6.4</td><td colspan="2">56</td></tr>
<tr><td colspan="2">58</td><td>5.7</td><td>5.5</td><td>6.0</td><td>6.1</td><td>5.0</td><td>5.5</td><td>5.7</td><td>5.1</td><td>5.8</td><td>6.3</td><td colspan="2">58</td></tr>
<tr><td colspan="2">60</td><td>5.1</td><td>4.9</td><td>5.4</td><td>5.5</td><td>4.4</td><td>4.9</td><td>5.1</td><td>4.4</td><td>5.0</td><td>5.4</td><td colspan="2">60</td></tr>
<tr><td colspan="2">62</td><td></td><td>4.3</td><td>4.9</td><td>4.6</td><td>3.6</td><td>4.0</td><td>4.2</td><td>3.9</td><td>4.5</td><td>4.8</td><td colspan="2">62</td></tr>
<tr><td colspan="2">64</td><td></td><td></td><td>4.4</td><td>4.2</td><td>3.2</td><td>3.5</td><td>3.6</td><td>3.3</td><td>3.8</td><td>4.1</td><td colspan="2">64</td></tr>
<tr><td colspan="2">66</td><td></td><td></td><td></td><td>3.8</td><td>2.7</td><td>3.1</td><td>3.2</td><td>2.9</td><td>3.4</td><td>3.6</td><td colspan="2">66</td></tr>
<tr><td colspan="2">68</td><td></td><td></td><td></td><td>3.4</td><td>2.3</td><td>2.6</td><td>2.7</td><td>2.5</td><td>2.9</td><td>3.2</td><td colspan="2">68</td></tr>
<tr><td colspan="2">70</td><td></td><td></td><td></td><td></td><td>1.8</td><td>2.1</td><td>2.1</td><td>2.1</td><td>2.5</td><td>2.7</td><td colspan="2">70</td></tr>
<tr><td colspan="2">72</td><td></td><td></td><td></td><td></td><td></td><td>1.7</td><td>1.7</td><td>1.5</td><td>1.9</td><td>2.0</td><td colspan="2">72</td></tr>
<tr><td colspan="2">74</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1.5</td><td>1.7</td><td colspan="2">74</td></tr>
<tr><td colspan="2">Reeving</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>2</td><td>2</td><td>2</td><td>2</td><td>1</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="10">3</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="10">3</td><td>II</td></tr>
<tr><td>III</td><td colspan="10">2</td><td>III</td></tr>
<tr><td>IV</td><td colspan="10">2</td><td>IV</td></tr>
<tr><td>V</td><td colspan="10">2</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="10">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Table 1-30 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	50.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 100 t counterweight, over full range									Radius m/ Jib length m / Offset
	46			53			60			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	
18	16.7									18
20	15.5			13.2						20
22	14.8			12.5			10.6			22
24	14.0			11.8			10.0			24
26	13.1	10.8		11.2			9.6			26
28	12.5	10.2		10.6			9.4			28
30	11.7	9.8		9.7	8.0		8.7			30
32	11.2	9.4		9.2	7.7		7.3			32
34	10.6	9.0	7.7	8.8	7.4		7.8			34
36	10.1	8.6	7.4	8.3	7.0		7.4	6.2		36
38	9.6	8.3	7.1	7.9	6.7		7.1	6.0		38
40	8.8	7.6	6.8	7.6	6.4	5.6	6.7	5.7		40
42	8.4	7.3	6.6	7.0	6.0	5.4	6.2	5.2		42
44	8.0	7.0	6.4	6.7	5.7	5.2	5.9	5.0		44
46	7.6	6.7	6.2	6.3	5.5	5.0	5.6	4.8	4.2	46
48	7.3	6.5	6.0	6.1	5.3	4.8	5.4	4.6	4.1	48
50	7.0	6.3	5.8	5.8	5.1	4.6	5.1	4.4	4.0	50
52	6.7	6.0	5.6	5.3	4.7	4.3	4.7	4.0	3.7	52
54	6.4	5.8	5.4	5.1	4.5	4.2	4.5	3.9	3.5	54
56	5.9	5.6	5.3	4.7	4.2	3.8	4.1	3.6	3.2	56
58	5.3	5.4	5.1	4.5	4.0	3.7	3.9	3.4	3.0	58
60	4.7	5.0	4.8	3.7	3.6	3.4	3.5	3.1	2.8	60
62	4.1	4.8	4.6	3.3	3.5	3.2	3.4	3.0	2.7	62
64	3.5	4.2	4.2	3.0	3.4	3.1	3.2	2.8	2.6	64
66	3.1	3.8	4.1	2.6	3.2	3.0	3.1	2.7	2.5	66
68	2.7	3.4	3.8	2.0	3.1	2.8	2.8	2.6	2.4	68
70	2.3	3.0	3.4	1.8	2.6	2.5	2.2	2.2	2.1	70
72	1.7	2.3	2.5	1.5	2.4	2.4	1.9	2.1	2.0	72
74		1.9	2.2		2.1	2.3	1.7	2.0		74
76			1.9		1.9	2.2				76
78						1.6				78
Reeving	2	1	1	2	1	1	1	1	1	Reeving
Telescoping mode I	3									I Telescoping mode
II	3									II
III	2									III
IV	2									IV
V	2									V
Wind speed m/s	9									Wind speed m/s

Table 1-31 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	55.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 100 t counterweight, over full range										Radius m/ Jib length m / Offset
	14	19	22	27	32			39			
	0°	0°	0°	0°	0°	20°	40°	0°	20°	40°	
12											12
14	44.0										14
16	41.0	42.0	41.0	38.0	23.5						16
18	38.0	37.3	36.0	36.0	22.0			18.3			18
20	35.5	34.9	32.7	30.7	21.7	20.7		17.0			20
22	32.1	31.7	28.7	27.5	20.4	18.7		15.7			22
24	30.2	29.8	27.1	26.1	19.3	16.8	17.0	14.8	12.4		24
26	28.4	28.2	25.8	24.8	18.2	16.0	15.6	14.0	11.7		26
28	26.9	26.7	24.6	21.5	17.2	15.3	14.0	13.3	11.2	10.1	28
30	24.7	23.9	23.5	20.5	16.5	14.6	13.4	12.7	10.8	9.6	30
32	20.9	20.2	21.7	19.0	15.7	14.0	13.0	11.7	9.9	9.0	32
34	18.8	18.1	19.1	18.2	15.0	13.4	12.5	11.1	9.6	8.7	34
36	17.1	16.3	17.4	17.4	14.2	12.9	12.0	10.6	9.2	8.4	36
38	15.5	14.8	15.8	15.5	13.3	12.1	11.3	10.2	8.9	8.1	38
40	14.2	13.4	14.4	14.1	12.8	11.6	10.9	9.7	8.5	7.8	40
42	12.6	12.2	13.1	12.9	11.7	11.2	10.6	9.2	8.2	7.6	42
44	11.1	11.0	12.0	11.3	10.1	10.4	9.8	8.9	7.9	7.4	44
46	10.1	10.0	11.0	10.4	9.2	9.9	9.5	8.5	7.6	7.1	46
48	9.2	9.0	10.1	9.5	8.3	9.0	9.3	8.1	7.4	6.9	48
50	8.4	8.2	9.2	8.7	7.5	8.2	8.6	7.3	7.1	6.7	50
52	7.3	7.4	7.9	7.6	6.6	7.1	7.4	6.4	6.7	6.3	52
54	6.6	6.6	7.2	7.0	5.9	6.4	6.7	5.8	6.5	6.1	54
56	6.0	5.9	6.5	6.3	5.3	5.8	6.0	5.2	6.0	5.9	56
58	5.5	5.3	5.9	5.8	4.7	5.2	5.5	4.7	5.4	5.8	58
60	5.0	4.6	5.2	5.2	4.2	4.6	4.9	4.2	4.9	5.3	60
62	4.3	4.1	4.6	4.6	3.6	4.0	4.2	3.6	4.2	4.6	62
64	3.9	3.6	4.1	4.1	3.1	3.5	3.6	3.2	3.7	4.1	64
66		3.1	3.6	3.7	2.7	3.0	3.2	2.7	3.3	3.6	66
68			3.3	3.3	2.2	2.6	2.7	2.3	2.9	3.2	68
70			2.9	2.9	1.9	2.2	2.3	2.0	2.5	2.7	70
72				2.6		1.8	1.9	1.4	1.8	2.0	72
74									1.5	1.7	74
Reeving	4	4	4	4	2	2	2	2	1	1	Reeving
Telescoping mode I	3										I Telescoping mode
II	3										II
III	3										III
IV	2										IV
V	2										V
Wind speed m/s	9										Wind speed m/s

Table 1-31 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	55.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 100 t counterweight, over full range									Radius m/ Jib length m / Offset
	46			53			60			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20	14.0									20
22	13.2			11.6						22
24	12.5			11.0			9.6			24
26	11.8			10.4			9.2			26
28	11.2	9.3		9.9			8.8			28
30	10.6	8.8		9.4			8.3			30
32	10.2	8.5		8.9	7.4		7.9			32
34	9.7	8.1	7.2	8.5	7.0		7.5			34
36	9.2	7.8	6.9	8.1	6.7		7.1			36
38	8.8	7.4	6.7	7.7	6.4		6.8	5.7		38
40	8.3	7.1	6.4	7.4	6.2	5.4	6.4	5.4		40
42	8.0	6.9	6.2	7.0	6.0	5.2	6.2	5.2		42
44	7.4	6.4	5.8	6.5	5.5	5.0	5.7	4.8		44
46	7.1	6.2	5.6	6.2	5.3	4.7	5.4	4.6	4.1	46
48	6.8	5.9	5.4	5.9	5.1	4.6	5.2	4.4	3.9	48
50	6.2	5.5	5.1	5.4	4.7	4.3	4.7	4.0	3.8	50
52	6.0	5.3	4.9	5.2	4.6	4.1	4.6	3.9	3.5	52
54	5.7	5.1	4.7	4.9	4.4	4.0	4.3	3.7	3.4	54
56	5.0	4.7	4.4	4.5	4.0	3.7	3.9	3.4	3.1	56
58	4.5	4.5	4.3	4.3	3.8	3.5	3.8	3.3	3.0	58
60	3.7	4.1	3.9	3.9	3.5	3.2	3.4	3.0	2.7	60
62	3.4	3.9	3.8	3.5	3.4	3.1	3.2	2.8	2.6	62
64	3.0	3.7	3.7	3.2	3.2	3.0	3.1	2.7	2.5	64
66	2.6	3.3	3.5	2.8	3.1	2.9	3.0	2.6	2.4	66
68	2.3	3.0	3.4	2.5	3.0	2.8	2.7	2.5	2.3	68
70	1.9	2.3	2.6	1.9	2.5	2.4	2.0	2.1	2.0	70
72	1.6	2.0	2.3	1.6	2.3	2.3	1.8	2.0	1.9	72
74		1.7	2.0		2.0	2.2	1.5	1.8	1.8	74
76			1.7		1.8	2.1				76
78					1.5					78
Reeving	2	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3									I Telescoping mode
II	3									II
III	3									III
IV	2									IV
V	2									V
Wind speed m/s	9									Wind speed m/s

Table 1-32 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	60.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 100 t counterweight, over full range										Radius m/ Jib length m / Offset
	14	19	22	27	32			39			
	0°	0°	0°	0°	0°	20°	40°	0°	20°	40°	
12											12
14	42.0										14
16	39.0	41.0	40.0	36.0	22.0						16
18	36.2	35.2	34.0	32.0	21.0			16.0			18
20	33.7	32.9	31.5	29.3	20.0	17.8		15.3			20
22	31.4	30.8	27.7	26.5	19.7	17.0		14.6			22
24	28.2	27.6	26.0	25.2	18.2	16.2	14.7	13.9	11.6		24
26	26.4	26.0	24.4	23.9	17.3	15.1	14.2	13.2	11.1		26
28	24.8	24.4	23.0	22.4	16.5	14.4	13.6	12.5	10.6		28
30	23.4	23.1	21.6	20.7	15.7	13.9	12.8	11.9	10.2	9.1	30
32	21.4	21.1	19.7	18.9	15.0	13.3	12.3	11.3	9.8	8.8	32
34	20.2	19.6	18.7	17.9	14.3	12.8	11.9	10.9	9.3	8.5	34
36	18.4	17.6	17.8	17.0	13.7	12.2	11.5	10.4	9.0	8.2	36
38	16.7	15.9	16.8	16.2	12.9	11.9	11.1	9.9	8.6	7.9	38
40	15.2	14.5	15.4	15.3	12.2	11.4	10.7	9.2	8.1	7.4	40
42	13.1	12.3	13.3	13.3	11.3	10.6	10.0	8.8	7.8	7.2	42
44	12.0	11.2	12.2	12.2	10.3	10.2	9.7	8.4	7.5	6.9	44
46	11.0	10.2	11.1	11.1	9.3	9.8	9.4	8.2	7.3	6.7	46
48	10.0	9.3	10.2	10.2	8.4	9.1	9.1	7.8	7.0	6.5	48
50	9.1	8.3	9.4	9.4	7.6	8.3	8.7	6.8	6.5	6.0	50
52	7.8	7.5	8.0	8.0	6.6	7.1	8.0	6.2	6.2	5.9	52
54	7.1	6.8	7.3	7.4	5.9	6.5	7.6	5.6	6.0	5.7	54
56	6.5	6.1	6.7	6.7	5.3	5.8	7.3	5.0	5.8	5.5	56
58	5.9	5.4	6.1	6.1	4.8	5.3	7.1	4.5	5.2	5.4	58
60	5.1	4.9	5.3	5.3	4.2	4.7	5.0	3.7	4.3	4.7	60
62	4.5	4.3	4.6	4.7	3.6	4.1	4.3	3.2	3.8	4.1	62
64	4.1	3.8	4.2	4.2	3.2	3.6	3.8	2.8	3.4	3.7	64
66	3.6	3.4	3.8	3.8	2.7	3.1	3.3	2.5	3.0	3.3	66
68	3.2	2.9	3.4	3.4	2.3	2.7	2.9	2.1	2.6	2.9	68
70		2.5	3.0	2.8	1.8	2.1	2.3	1.8	2.3	2.6	70
72			2.7	2.3		1.6	1.7	1.3	1.7	1.9	72
74				2.0					1.4	1.6	74
Reeving	4	4	4	4	2	2	2	2	1	1	Reeving
Telescoping mode I	3										I Telescoping mode
II	3										II
III	3										III
IV	3										IV
V	2										V
Wind speed m/s	9										Wind speed m/s

Table 1-32 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	60.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 100 t counterweight, over full range									Radius m/ Jib length m / Offset
	46			53			60			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20	12.2									20
22	12.0			10.0						22
24	11.6			9.9			8.2			24
26	10.9			9.6			8.1			26
28	10.4			9.2			8.0			28
30	9.9	7.9		8.7			7.8			30
32	9.0	7.6		7.9			7.0			32
34	8.6	7.3		7.5	6.3		6.7			34
36	8.3	7.0	6.2	7.2	6.0		6.4			36
38	7.9	6.8	6.0	6.9	5.8		6.0			38
40	7.5	6.5	5.9	6.6	5.6		5.8	4.8		40
42	7.2	6.2	5.7	6.2	5.3	4.7	5.5	4.6		42
44	6.9	6.0	5.5	6.0	5.1	4.6	5.3	4.4		44
46	6.6	5.8	5.3	5.7	4.9	4.4	5.0	4.3		46
48	6.3	5.6	5.1	5.5	4.7	4.3	4.8	4.1	3.6	48
50	6.0	5.3	4.9	5.3	4.6	4.2	4.6	3.9	3.5	50
52	5.9	5.2	4.7	5.1	4.4	4.0	4.4	3.8	3.4	52
54	5.6	5.0	4.6	4.8	4.2	3.8	4.2	3.6	3.3	54
56	5.2	4.8	4.5	4.4	3.9	3.5	3.8	3.3	3.1	56
58	4.7	4.7	4.4	4.2	3.7	3.3	3.7	3.2	2.9	58
60	3.9	4.1	4.0	3.8	3.4	3.1	3.2	2.8	2.6	60
62	3.4	3.9	3.7	3.6	3.2	3.0	3.1	2.7	2.5	62
64	3.0	3.8	3.5	3.2	3.1	2.9	3.0	2.7	2.4	64
66	2.6	3.4	3.4	2.8	3.0	2.8	2.8	2.6	2.3	66
68	2.3	3.0	3.3	2.4	2.9	2.7	2.7	2.4	2.2	68
70	2.0	2.6	3.0	1.9	2.5	2.3	2.0	2.0	1.9	70
72	1.6	2.0	2.3	1.6	2.3	2.2	1.8	2.0	1.8	72
74		1.7	2.0		2.1	2.1	1.5	1.8		74
76			1.8		1.8	2.0				76
78					1.5					78
Reeving	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3									I Telescoping mode
II	3									II
III	3									III
IV	3									IV
V	2									V
Wind speed m/s	9									Wind speed m/s

Table 1-33 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	65.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 100 t counterweight, over full range										Radius m/ Jib length m / Offset
	14	19	22	27	32			39			
	0°	0°	0°	0°	0°	20°	40°	0°	20°	40°	
16	38.0	36.0									16
18	33.0	32.0	30.0	25.0							18
20	30.0	29.3	28.0	24.0	17.4			13.7			20
22	28.0	27.6	25.0	22.8	16.5			13.6			22
24	24.5	23.8	22.4	21.5	16.4	14.9		13.0			24
26	22.8	22.4	21.1	20.2	15.4	14.0	13.2	12.2			26
28	21.5	21.2	19.9	19.0	14.5	13.3	12.5	11.4	10.5		28
30	20.2	20.1	18.8	18.0	13.7	12.6	11.9	10.8	9.9		30
32	18.5	18.4	17.2	16.4	12.9	11.9	11.2	10.2	9.4		32
34	17.6	17.4	16.3	15.6	12.1	11.2	10.7	9.6	8.7	8.4	34
36	16.7	16.6	15.5	14.7	11.5	10.7	10.1	9.0	8.3	8.0	36
38	15.9	15.7	14.7	14.0	10.8	10.1	9.7	8.5	7.8	7.4	38
40	15.2	14.8	14.0	13.3	10.3	9.7	9.3	7.9	7.3	6.9	40
42	13.3	12.7	12.6	12.0	9.4	8.9	8.5	7.5	6.9	6.5	42
44	12.2	11.5	12.1	11.4	8.9	8.4	8.1	7.1	6.6	6.3	44
46	11.2	10.6	11.4	11.0	8.5	8.0	7.7	6.7	6.3	6.0	46
48	10.2	9.6	10.4	10.4	8.0	7.7	7.4	6.4	6.0	5.7	48
50	9.4	8.7	9.5	9.5	7.7	7.4	7.1	5.8	5.5	5.2	50
52	8.0	7.4	8.3	8.2	7.0	6.7	6.6	5.5	5.2	5.0	52
54	7.4	6.9	7.6	7.5	6.4	6.4	6.3	5.3	4.9	4.8	54
56	6.7	6.2	6.9	6.9	5.8	6.2	6.0	5.0	4.7	4.6	56
58	6.1	5.5	6.3	6.3	5.3	5.8	5.8	4.7	4.6	4.4	58
60	5.3	5.0	5.5	5.5	4.8	5.2	5.5	4.1	4.0	3.9	60
62	4.7	4.5	4.8	4.8	4.1	4.6	4.8	3.5	3.7	3.6	62
64	4.2	4.0	4.4	4.3	3.7	4.1	4.3	3.2	3.5	3.5	64
66	3.8	3.5	4.0	3.9	3.3	3.6	3.9	2.8	3.4	3.3	66
68	3.4	3.1	3.6	3.6	2.9	3.2	3.4	2.5	3.0	3.2	68
70	3.0	2.7	3.2	3.2	2.3	2.6	2.8	2.2	2.7	2.9	70
72			2.8	2.8	1.8	2.1	2.2	1.7	2.0	2.3	72
74				2.1		1.8	1.9	1.4	1.8	2.0	74
76				1.9					1.5	1.7	76
78											78
Reeving	4	4	3	2	2	2	2	2	1	1	Reeving
Telescoping mode I	3										I Telescoping mode
II	3										II
III	3										III
IV	3										IV
V	3										V
Wind speed m/s	9										Wind speed m/s

Table 1-33 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

<table>
<tr><th colspan="2" rowspan="3">Radius m/
Jib length m
/ Offset</th><th colspan="9">65.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 100 t counterweight, over full range</th><th colspan="2" rowspan="3">Radius m/
Jib length m
/ Offset</th></tr>
<tr><th colspan="3">46</th><th colspan="3">53</th><th colspan="3">60</th></tr>
<tr><th>0°</th><th>20°</th><th>40°</th><th>0°</th><th>20°</th><th>40°</th><th>0°</th><th>20°</th><th>40°</th></tr>
<tr><td colspan="2">20</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>10.3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>10.2</td><td></td><td></td><td>8.5</td><td></td><td></td><td></td><td></td><td></td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>10.1</td><td></td><td></td><td>8.4</td><td></td><td></td><td>7.0</td><td></td><td></td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td>10.0</td><td></td><td></td><td>8.3</td><td></td><td></td><td>6.9</td><td></td><td></td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>9.2</td><td></td><td></td><td>8.2</td><td></td><td></td><td>6.9</td><td></td><td></td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>8.3</td><td></td><td></td><td>7.8</td><td></td><td></td><td>6.8</td><td></td><td></td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>7.9</td><td>7.0</td><td></td><td>7.3</td><td></td><td></td><td>6.2</td><td></td><td></td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td>7.4</td><td>6.7</td><td></td><td>6.9</td><td></td><td></td><td>5.9</td><td></td><td></td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td>7.0</td><td>6.4</td><td></td><td>6.2</td><td>5.6</td><td></td><td>5.6</td><td></td><td></td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td>6.6</td><td>6.0</td><td>5.7</td><td>5.9</td><td>5.3</td><td></td><td>5.3</td><td></td><td></td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td>6.3</td><td>5.7</td><td>5.4</td><td>5.6</td><td>5.0</td><td></td><td>5.0</td><td></td><td></td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>6.0</td><td>5.5</td><td>5.1</td><td>5.3</td><td>4.8</td><td></td><td>4.7</td><td>4.2</td><td></td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>5.7</td><td>5.2</td><td>4.9</td><td>5.0</td><td>4.6</td><td>4.3</td><td>4.4</td><td>4.0</td><td></td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td>5.3</td><td>4.9</td><td>4.7</td><td>4.7</td><td>4.4</td><td>4.1</td><td>4.2</td><td>3.8</td><td></td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td>5.1</td><td>4.7</td><td>4.5</td><td>4.5</td><td>4.1</td><td>3.9</td><td>4.0</td><td>3.6</td><td></td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td>4.8</td><td>4.5</td><td>4.3</td><td>4.2</td><td>3.9</td><td>3.7</td><td>3.7</td><td>3.4</td><td>3.3</td><td colspan="2">52</td></tr>
<tr><td colspan="2">54</td><td>4.6</td><td>4.3</td><td>4.1</td><td>4.0</td><td>3.7</td><td>3.5</td><td>3.5</td><td>3.3</td><td>3.1</td><td colspan="2">54</td></tr>
<tr><td colspan="2">56</td><td>4.4</td><td>4.1</td><td>3.9</td><td>3.6</td><td>3.3</td><td>3.2</td><td>3.2</td><td>2.9</td><td>2.8</td><td colspan="2">56</td></tr>
<tr><td colspan="2">58</td><td>4.1</td><td>3.9</td><td>3.8</td><td>3.4</td><td>3.2</td><td>3.1</td><td>3.0</td><td>2.8</td><td>2.7</td><td colspan="2">58</td></tr>
<tr><td colspan="2">60</td><td>3.6</td><td>3.4</td><td>3.3</td><td>3.0</td><td>2.8</td><td>2.7</td><td>2.7</td><td>2.5</td><td>2.4</td><td colspan="2">60</td></tr>
<tr><td colspan="2">62</td><td>3.3</td><td>3.1</td><td>3.1</td><td>2.9</td><td>2.7</td><td>2.6</td><td>2.5</td><td>2.3</td><td>2.3</td><td colspan="2">62</td></tr>
<tr><td colspan="2">64</td><td>3.1</td><td>3.0</td><td>2.9</td><td>2.7</td><td>2.6</td><td>2.5</td><td>2.3</td><td>2.2</td><td>2.1</td><td colspan="2">64</td></tr>
<tr><td colspan="2">66</td><td>2.9</td><td>2.9</td><td>2.8</td><td>2.6</td><td>2.4</td><td>2.4</td><td>2.2</td><td>2.1</td><td></td><td colspan="2">66</td></tr>
<tr><td colspan="2">68</td><td>2.6</td><td>2.7</td><td>2.7</td><td>2.4</td><td>2.3</td><td>2.3</td><td>2.1</td><td></td><td></td><td colspan="2">68</td></tr>
<tr><td colspan="2">70</td><td>2.3</td><td>2.6</td><td>2.6</td><td>2.0</td><td>1.9</td><td>1.9</td><td>1.7</td><td></td><td></td><td colspan="2">70</td></tr>
<tr><td colspan="2">72</td><td>1.7</td><td>2.2</td><td>2.1</td><td>1.7</td><td>1.8</td><td></td><td></td><td></td><td></td><td colspan="2">72</td></tr>
<tr><td colspan="2">74</td><td>1.5</td><td>2.0</td><td>2.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">74</td></tr>
<tr><td colspan="2">76</td><td></td><td>1.7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">76</td></tr>
<tr><td colspan="2">78</td><td></td><td>1.5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">78</td></tr>
<tr><td colspan="2">Reeving</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="9">3</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="9">3</td><td>II</td></tr>
<tr><td>III</td><td colspan="9">3</td><td>III</td></tr>
<tr><td>IV</td><td colspan="9">3</td><td>IV</td></tr>
<tr><td>V</td><td colspan="9">3</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="9">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Table 1-34 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	71 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 100 t counterweight, over full range				Radius m/ Jib length m / Offset
	14	19	22	27	
	0°	0°	0°	0°	
16	29.0				16
18	27.5	26.5			18
20	25.8	25.1	23.6		20
22	24.3	23.6	22.3	20.0	22
24	22.9	22.4	21.1	19.5	24
26	21.6	21.2	19.9	18.9	26
28	20.4	20.0	18.8	17.9	28
30	19.3	19.0	17.8	17.0	30
32	18.3	17.9	16.8	16.1	32
34	17.4	17.1	16.0	15.2	34
36	16.6	16.2	15.2	14.5	36
38	15.8	15.5	14.5	13.8	38
40	15.1	14.8	13.9	13.2	40
42	13.4	12.6	12.4	11.8	42
44	12.2	11.5	11.9	11.3	44
46	11.2	10.5	11.3	10.8	46
48	10.2	9.5	10.3	10.3	48
50	9.4	8.6	9.4	8.9	50
52	8.1	7.4	8.1	7.8	52
54	7.4	6.9	7.4	7.1	54
56	6.8	6.2	6.8	6.5	56
58	6.1	5.5	6.2	5.9	58
60	5.3	4.9	5.4	5.4	60
62	4.7	4.4	4.8	4.8	62
64	4.3	3.9	4.3	4.3	64
66	3.9	3.5	3.9	3.9	66
68	3.4	3.0	3.4	3.4	68
70	3.1	2.6	2.9	2.8	70
72	2.7	2.2	2.5	2.3	72
74				2.0	74
76				1.7	76
78					78
Reeving	4	4	2	2	Reeving
Telescoping mode I	4				I Telescoping mode
II	4				II
III	4				III
IV	4				IV
V	4				V
Wind speed m/s	9				Wind speed m/s

Note:

27 m heavy duty jib consists of 1adapter (2 m), 1 heavy duty boom (8 m), 1 A-frame (5 m), 1 heavy duty boom (5 m), 1 transition section (2 m) and 1 head piece (5 m) when main boom is 71 m long.

Table 1-35 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

<table>
<tr><th colspan="2" rowspan="3">Radius m/ Jib length m / Offset</th><th colspan="10">50.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 80 t counterweight, over full range</th><th colspan="2" rowspan="3">Radius m/ Jib length m / Offset</th></tr>
<tr><th>14</th><th>19</th><th>22</th><th>27</th><th colspan="3">32</th><th colspan="3">39</th></tr>
<tr><th>0°</th><th>0°</th><th>0°</th><th>0°</th><th>0°</th><th>20°</th><th>40°</th><th>0°</th><th>20°</th><th>40°</th></tr>
<tr><td colspan="2">12</td><td>46.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">12</td></tr>
<tr><td colspan="2">14</td><td>43.0</td><td>43.0</td><td>42.0</td><td>40.0</td><td>28.0</td><td></td><td></td><td></td><td></td><td></td><td colspan="2">14</td></tr>
<tr><td colspan="2">16</td><td>40.5</td><td>40.0</td><td>38.0</td><td>38.0</td><td>26.0</td><td></td><td></td><td>21.9</td><td></td><td></td><td colspan="2">16</td></tr>
<tr><td colspan="2">18</td><td>37.9</td><td>37.5</td><td>34.9</td><td>33.0</td><td>25.5</td><td>21.6</td><td></td><td>20.0</td><td></td><td></td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>35.6</td><td>35.6</td><td>31.3</td><td>30.1</td><td>23.6</td><td>20.4</td><td></td><td>18.0</td><td></td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>33.5</td><td>33.3</td><td>29.6</td><td>28.3</td><td>22.3</td><td>19.3</td><td>16.8</td><td>17.0</td><td>14.0</td><td></td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>30.1</td><td>29.3</td><td>27.9</td><td>26.7</td><td>21.0</td><td>18.4</td><td>16.1</td><td>15.9</td><td>13.3</td><td></td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>26.4</td><td>25.7</td><td>26.5</td><td>23.9</td><td>19.9</td><td>17.4</td><td>15.4</td><td>15.0</td><td>12.7</td><td></td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td>23.4</td><td>22.6</td><td>23.8</td><td>22.6</td><td>18.8</td><td>16.1</td><td>17.8</td><td>14.3</td><td>12.1</td><td>10.8</td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>20.9</td><td>20.0</td><td>21.2</td><td>20.7</td><td>17.9</td><td>15.3</td><td>14.2</td><td>13.4</td><td>11.6</td><td>10.4</td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>18.0</td><td>17.2</td><td>18.3</td><td>18.4</td><td>16.4</td><td>14.3</td><td>13.3</td><td>12.8</td><td>11.0</td><td>10.0</td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>16.2</td><td>15.3</td><td>16.4</td><td>16.6</td><td>14.3</td><td>13.7</td><td>12.8</td><td>12.1</td><td>10.6</td><td>9.6</td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td>14.5</td><td>13.7</td><td>14.8</td><td>14.9</td><td>12.7</td><td>13.1</td><td>12.3</td><td>11.6</td><td>10.1</td><td>9.5</td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td>13.1</td><td>12.2</td><td>13.3</td><td>13.4</td><td>11.4</td><td>12.4</td><td>11.8</td><td>11.0</td><td>9.8</td><td>8.9</td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td>11.7</td><td>10.9</td><td>12.1</td><td>12.2</td><td>10.2</td><td>11.1</td><td>11.4</td><td>9.9</td><td>9.4</td><td>8.6</td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td>9.9</td><td>9.7</td><td>10.3</td><td>10.4</td><td>8.9</td><td>9.7</td><td>10.3</td><td>8.9</td><td>9.0</td><td>8.3</td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>8.9</td><td>8.6</td><td>9.3</td><td>9.4</td><td>8.0</td><td>8.7</td><td>9.2</td><td>7.9</td><td>8.6</td><td>8.0</td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>8.0</td><td>7.6</td><td>8.3</td><td>8.5</td><td>7.1</td><td>7.8</td><td>8.3</td><td>7.1</td><td>8.2</td><td>7.8</td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td>7.1</td><td>6.7</td><td>7.5</td><td>7.6</td><td>6.2</td><td>6.9</td><td>7.4</td><td>6.3</td><td>7.4</td><td>7.6</td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td>6.4</td><td>5.9</td><td>6.7</td><td>6.8</td><td>5.5</td><td>6.2</td><td>6.6</td><td>5.6</td><td>6.6</td><td>7.3</td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td>5.3</td><td>5.2</td><td>5.6</td><td>5.7</td><td>4.7</td><td>5.3</td><td>5.6</td><td>5.0</td><td>5.9</td><td>6.5</td><td colspan="2">52</td></tr>
<tr><td colspan="2">54</td><td>4.7</td><td>4.5</td><td>5.0</td><td>5.1</td><td>4.1</td><td>4.6</td><td>5.0</td><td>4.2</td><td>5.0</td><td>5.6</td><td colspan="2">54</td></tr>
<tr><td colspan="2">56</td><td>4.2</td><td>3.8</td><td>4.5</td><td>4.6</td><td>3.5</td><td>4.0</td><td>4.3</td><td>3.7</td><td>4.5</td><td>5.0</td><td colspan="2">56</td></tr>
<tr><td colspan="2">58</td><td>3.7</td><td>3.2</td><td>4.0</td><td>4.1</td><td>2.9</td><td>3.4</td><td>3.7</td><td>3.2</td><td>3.9</td><td>4.4</td><td colspan="2">58</td></tr>
<tr><td colspan="2">60</td><td>3.2</td><td>2.7</td><td>3.5</td><td>3.5</td><td>2.5</td><td>2.9</td><td>3.2</td><td>2.5</td><td>3.2</td><td>3.6</td><td colspan="2">60</td></tr>
<tr><td colspan="2">62</td><td></td><td>2.2</td><td>3.0</td><td>2.9</td><td>1.8</td><td>2.2</td><td>2.5</td><td>2.1</td><td>2.7</td><td>3.1</td><td colspan="2">62</td></tr>
<tr><td colspan="2">64</td><td></td><td></td><td>2.6</td><td>2.5</td><td></td><td>1.8</td><td>2.0</td><td></td><td>2.2</td><td>2.5</td><td colspan="2">64</td></tr>
<tr><td colspan="2">66</td><td></td><td></td><td></td><td>2.2</td><td></td><td></td><td></td><td></td><td>1.8</td><td>2.1</td><td colspan="2">66</td></tr>
<tr><td colspan="2">68</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">68</td></tr>
<tr><td colspan="2">70</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">70</td></tr>
<tr><td colspan="2">Reeving</td><td>4</td><td>4</td><td>4</td><td>4</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>1</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="10">3</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="10">3</td><td>II</td></tr>
<tr><td>III</td><td colspan="10">2</td><td>III</td></tr>
<tr><td>IV</td><td colspan="10">2</td><td>IV</td></tr>
<tr><td>V</td><td colspan="10">2</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="10">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Table 1-35 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	50.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 80 t counterweight, over full range									Radius m/ Jib length m / Offset
	46			53			60			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	
18	16.7									18
20	15.5			13.2						20
22	14.8			12.5			10.6			22
24	14.0			11.8			10.0			24
26	13.1	10.8		11.2			9.6			26
28	12.5	10.2		10.6			9.4			28
30	11.7	9.8		9.7	8.0		8.7			30
32	11.2	9.4		9.2	7.7		7.3			32
34	10.6	9.0	7.7	8.8	7.4		7.8			34
36	10.1	8.6	7.4	8.3	7.0		7.4	6.2		36
38	9.6	8.3	7.1	7.9	6.7		7.1	6.0		38
40	8.8	7.6	6.8	7.6	6.4	5.6	6.7	5.7		40
42	8.4	7.3	6.6	7.0	6.0	5.4	6.2	5.2		42
44	7.8	7.0	6.4	6.7	5.7	5.2	5.9	5.0		44
46	7.0	6.7	6.2	6.3	5.5	5.0	5.6	4.8	4.2	46
48	6.3	6.5	6.0	6.1	5.3	4.8	5.4	4.6	4.1	48
50	5.6	6.3	5.8	5.6	5.1	4.6	5.1	4.4	4.0	50
52	5.0	6.0	5.6	4.7	4.7	4.3	4.7	4.0	3.7	52
54	4.4	5.5	5.4	4.2	4.5	4.2	4.4	3.9	3.5	54
56	3.9	5.0	5.3	3.5	4.2	3.8	3.7	3.6	3.2	56
58	3.4	4.4	5.1	3.1	4.0	3.7	3.3	3.4	3.0	58
60	2.9	3.8	4.4	2.6	3.6	3.4	2.7	3.1	2.8	60
62	2.3	3.2	3.8	2.2	3.2	3.2	2.3	3.0	2.7	62
64	1.9	2.7	3.2	1.9	2.8	3.1	2.0	2.8	2.6	64
66		2.3	2.8		2.4	3.0		2.6		66
68		1.9	2.3		2.1	2.7		2.4		68
70			2.0			2.0		1.9		70
72						1.7				72
Reeving	2	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3									I Telescoping mode
II	3									II
III	2									III
IV	2									IV
V	2									V
Wind speed m/s	9									Wind speed m/s

Table 1-36 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	55.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 80 t counterweight, over full range										Radius m/ Jib length m / Offset
	14	19	22	27	32			39			
	0°	0°	0°	0°	0°	20°	40°	0°	20°	40°	
12											12
14	44.0										14
16	41.0	42.0	41.0	38.0	23.5						16
18	38.0	37.3	36.0	36.0	22.0			18.3			18
20	35.5	34.9	32.7	30.7	21.7	20.7		17.0			20
22	32.1	31.7	28.7	27.5	20.4	18.7		15.7			22
24	29.1	28.4	27.1	26.1	19.3	16.8	17.0	14.8	12.4		24
26	25.6	24.8	25.8	24.8	18.2	16.0	15.6	14.0	11.7		26
28	22.6	21.8	23.8	21.5	17.2	15.3	14.0	13.3	11.2	10.1	28
30	20.1	19.3	21.1	19.8	16.5	14.6	13.4	12.7	10.8	9.6	30
32	16.9	17.2	18.3	17.3	15.7	14.0	13.0	11.7	9.9	9.0	32
34	15.2	15.3	16.4	15.5	14.2	13.4	12.5	11.1	9.6	8.7	34
36	13.7	13.7	13.8	13.9	12.6	12.9	12.0	10.6	9.2	8.4	36
38	12.3	12.2	12.5	12.2	11.0	11.6	11.3	10.2	8.9	8.1	38
40	11.1	10.9	11.3	11.1	9.8	10.4	10.9	9.1	8.5	7.8	40
42	9.7	9.7	10.2	10.0	8.7	9.2	9.8	8.1	8.2	7.6	42
44	8.4	8.7	9.2	8.7	7.5	8.3	8.9	7.3	7.9	7.4	44
46	7.5	7.7	8.3	7.9	6.7	7.4	7.9	6.4	7.6	7.1	46
48	6.8	6.8	7.4	7.1	5.9	6.6	7.1	5.7	6.8	6.9	48
50	6.0	6.0	6.7	6.3	5.3	5.9	6.3	5.1	6.0	6.7	50
52	5.2	5.2	5.6	5.5	4.4	5.0	5.3	4.4	5.2	5.8	52
54	4.6	4.5	5.0	4.8	3.7	4.3	4.7	3.8	4.6	5.2	54
56	4.0	3.9	4.4	4.3	3.2	3.7	4.1	3.3	4.1	4.6	56
58	3.5	3.3	3.9	3.8	2.7	3.2	3.5	2.9	3.6	4.1	58
60	3.1	2.8	3.3	3.3	2.2	2.7	3.0	2.4	3.1	3.6	60
62	2.6	2.3	2.8	2.8		2.2	2.4	1.9	2.5	3.0	62
64	2.2	2.0	2.4	2.5			2.0		2.1	2.5	64
66			2.0	2.1						2.1	66
68											68
Reeving	4	4	4	4	2	2	2	2	2	1	Reeving

Telescoping mode	I	3	I	Telescoping mode
	II	3	II	
	III	3	III	
	IV	2	IV	
	V	2	V	
Wind speed m/s		9		Wind speed m/s

Table 1-36 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	55.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 80 t counterweight, over full range									Radius m/ Jib length m / Offset
	46			53			60			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20	14.0									20
22	13.2			11.6						22
24	12.5			11.0			9.6			24
26	11.8			10.4			9.2			26
28	11.2	9.3		9.9			8.8			28
30	10.6	8.8		9.4			8.3			30
32	10.2	8.5		8.9	7.4		7.9			32
34	9.7	8.1	7.2	8.5	7.0		7.5			34
36	9.2	7.8	6.9	8.1	6.7		7.1			36
38	8.8	7.4	6.7	7.7	6.4		6.8	5.7		38
40	8.3	7.1	6.4	7.4	6.2	5.4	6.4	5.4		40
42	8.0	6.9	6.2	7.0	6.0	5.2	6.2	5.2		42
44	7.3	6.4	5.8	6.5	5.5	5.0	5.7	4.8		44
46	6.5	6.2	5.6	6.2	5.3	4.7	5.4	4.6	4.1	46
48	5.8	5.9	5.4	5.9	5.1	4.6	5.2	4.4	3.9	48
50	4.9	5.5	5.1	5.2	4.7	4.3	4.7	4.0	3.8	50
52	4.4	5.3	4.9	4.6	4.6	4.1	4.6	3.9	3.5	52
54	3.8	4.9	4.7	4.0	4.4	4.0	4.3	3.7	3.4	54
56	3.2	4.2	4.4	3.3	4.0	3.7	3.6	3.4	3.1	56
58	2.7	3.7	4.3	2.9	3.8	3.5	3.1	3.3	3.0	58
60	2.2	3.0	3.7	2.4	3.5	3.2	2.6	3.0	2.7	60
62	1.9	2.7	3.2	2.0	3.1	3.1	2.1	2.8	2.6	62
64	1.6	2.3	2.8	1.7	2.7	3.0	1.9	2.7	2.5	64
66		2.0	2.4		2.3	2.9		2.6	2.4	66
68			2.0		2.0	2.6		2.4	2.3	68
70						2.0		1.8	2.0	70
72						1.7		1.5	1.8	72
74										74
Reeving	2	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3									I Telescoping mode
II	3									II
III	3									III
IV	2									IV
V	2									V
Wind speed m/s	9									Wind speed m/s

Table 1-37 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	60.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 80 t counterweight, over full range										Radius m/ Jib length m / Offset
	14	19	22	27	32			39			
	0°	0°	0°	0°	0°	20°	40°	0°	20°	40°	
14	42.0										14
16	39.0	41.0	40.0	36.0	22.0						16
18	36.2	35.2	34.0	32.0	21.0			16.0			18
20	33.7	32.9	31.5	29.3	20.0	17.8		15.3			20
22	31.4	30.8	27.7	26.5	19.7	17.0		14.6			22
24	28.2	27.6	26.0	25.2	18.2	16.2	14.7	13.9	11.6		24
26	26.4	22.9	24.4	23.9	17.3	15.1	14.2	13.2	11.1		26
28	23.7	20.2	23.0	22.4	16.5	14.4	13.6	12.5	10.6		28
30	21.0	18.0	21.4	20.7	15.7	13.9	12.8	11.9	10.2	9.1	30
32	18.2	15.6	18.4	18.5	15.0	13.3	12.3	11.3	9.8	8.8	32
34	16.3	13.9	16.5	16.6	14.0	12.8	11.9	10.9	9.3	8.5	34
36	14.7	12.4	14.9	15.0	12.5	12.2	11.5	10.4	9.0	8.2	36
38	13.3	11.1	13.4	13.4	11.1	11.9	11.1	9.9	8.6	7.9	38
40	12.0	9.9	12.1	12.2	9.8	10.8	10.7	8.9	8.1	7.4	40
42	10.2	8.3	10.3	10.3	8.5	9.3	10.0	8.0	7.8	7.2	42
44	9.1	7.4	9.4	9.4	7.5	8.3	8.9	7.1	7.5	6.9	44
46	8.2	6.6	8.4	8.4	6.7	7.4	8.0	6.3	7.3	6.7	46
48	7.4	5.8	7.6	7.6	5.9	6.6	7.1	5.6	6.7	6.5	48
50	6.6	5.1	6.8	6.8	5.3	5.9	6.4	4.7	5.7	6.0	50
52	5.6	4.5	5.7	5.7	4.4	5.0	5.4	4.2	5.1	5.7	52
54	5.0	3.8	5.1	5.1	3.8	4.4	4.8	3.6	4.5	5.1	54
56	4.4	3.3	4.5	4.6	3.3	3.8	4.2	3.2	4.0	4.5	56
58	3.9	2.8	4.1	4.1	2.8	3.3	3.6	2.7	3.4	4.0	58
60	3.2	2.3	3.4	3.4	2.3	2.8	3.1	2.2	2.8	3.2	60
62	2.7	1.9	2.9	2.9	1.8	2.2	2.5	1.7	2.3	2.7	62
64	2.4		2.5	2.5		1.8	2.0		2.0	2.3	64
66	2.0		2.1	2.1						1.9	66
68											68
Reeving	4	4	4	4	2	2	2	2	1	1	Reeving
Telescoping mode											Telescoping mode
I	3										I
II	3										II
III	3										III
IV	3										IV
V	2										V
Wind speed m/s	9										Wind speed m/s

Table 1-37 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	60.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 80 t counterweight, over full range									Radius m/ Jib length m / Offset
	46			53			60			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20	12.2									20
22	12.0			10.0						22
24	11.6			9.9			8.2			24
26	10.9			9.6			8.1			26
28	10.4			9.2			8.0			28
30	9.9	7.9		8.7			7.8			30
32	9.0	7.6		7.9			7.0			32
34	8.6	7.3		7.5	6.3		6.7			34
36	8.3	7.0	6.2	7.2	6.0		6.4			36
38	7.9	6.8	6.0	6.9	5.8		6.0			38
40	7.5	6.5	5.9	6.6	5.6		5.8	4.8		40
42	7.2	6.2	5.7	6.2	5.3	4.7	5.5	4.6		42
44	6.9	6.0	5.5	6.0	5.1	4.6	5.3	4.4		44
46	6.2	5.8	5.3	5.7	4.9	4.4	5.0	4.3		46
48	5.5	5.6	5.1	5.5	4.7	4.3	4.8	4.1	3.6	48
50	4.9	5.3	4.9	5.3	4.6	4.2	4.6	3.9	3.5	50
52	4.3	5.2	4.7	4.6	4.4	4.0	4.4	3.8	3.4	52
54	3.8	5.0	4.6	4.0	4.2	3.8	4.2	3.6	3.3	54
56	3.3	4.4	4.5	3.3	3.9	3.5	3.6	3.3	3.1	56
58	2.9	3.9	4.4	2.9	3.7	3.3	3.1	3.2	2.9	58
60	2.3	3.2	3.8	2.3	3.4	3.1	2.5	2.8	2.6	60
62	1.9	2.7	3.2	2.0	3.1	3.0	2.1	2.7	2.5	62
64		2.3	2.8	1.7	2.7	2.9	1.8	2.7	2.4	64
66			2.4		2.3	2.8		2.6	2.3	66
68			2.1		2.0	2.7		2.4	2.2	68
70						2.0		1.8	1.9	70
72						1.7		1.5	1.8	72
74										74
Reeving	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3									I Telescoping mode
II	3									II
III	3									III
IV	3									IV
V	2									V
Wind speed m/s	9									Wind speed m/s

Table 1-38 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	65.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 80 t counterweight, over full range										Radius m/ Jib length m / Offset
	14	19	22	27	32			39			
	0°	0°	0°	0°	0°	20°	40°	0°	20°	40°	
16	38.0	36.0									16
18	33.0	32.0	30.0	25.0							18
20	30.0	29.3	28.0	24.0	17.4			13.7			20
22	28.0	27.6	25.0	22.8	16.5			13.6			22
24	24.5	23.8	22.4	21.5	16.4	14.9		13.0			24
26	22.8	22.4	21.1	20.2	15.4	14.0	13.2	12.2			26
28	21.5	21.2	19.9	19.0	14.5	13.3	12.5	11.4	10.5		28
30	20.2	20.1	18.8	18.0	13.7	12.6	11.9	10.8	9.9		30
32	18.4	17.9	17.2	16.4	12.9	11.9	11.2	10.2	9.4		32
34	16.6	15.9	16.3	15.6	12.1	11.2	10.7	9.6	8.7	8.4	34
36	14.9	14.3	15.1	14.7	11.5	10.7	10.1	9.0	8.3	8.0	36
38	13.4	12.8	13.7	13.7	10.8	10.1	9.7	8.5	7.8	7.4	38
40	12.2	11.5	12.3	12.3	10.3	9.7	9.3	7.9	7.3	6.9	40
42	10.4	10.3	10.6	10.6	9.0	8.9	8.5	7.5	6.9	6.5	42
44	9.4	9.3	9.5	9.5	8.1	8.4	8.1	7.1	6.6	6.3	44
46	8.5	8.2	8.6	8.6	7.2	8.0	7.7	6.7	6.3	6.0	46
48	7.6	7.3	7.8	7.8	6.5	7.1	7.4	6.1	6.0	5.7	48
50	6.8	6.5	7.0	7.0	5.7	6.4	6.9	5.1	5.5	5.2	50
52	5.8	5.8	5.9	5.9	4.9	5.5	5.9	4.6	5.2	5.0	52
54	5.2	5.1	5.3	5.3	4.3	4.9	5.3	4.0	4.9	4.8	54
56	4.6	4.4	4.7	4.7	3.8	4.3	4.7	3.5	4.4	4.6	56
58	4.1	3.8	4.2	4.2	3.3	3.8	4.2	3.1	3.8	4.4	58
60	3.5	3.3	3.6	3.5	2.9	3.3	3.7	2.5	3.1	3.5	60
62	2.9	2.8	3.1	3.0	2.3	2.8	3.1	2.0	2.6	3.0	62
64	2.5	2.3	2.7	2.7	2.0	2.4	2.7	1.7	2.3	2.7	64
66	2.2	1.9	2.3	2.2		2.0	2.2		2.0	2.3	66
68			2.0	1.9			1.8			2.0	68
Reeving	4	4	4	2	2	2	2	2	1	1	Reeving
Telescoping mode I	3										I Telescoping mode
II	3										II
III	3										III
IV	3										IV
V	3										V
Wind speed m/s	9										Wind speed m/s

Table 1-38 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	65.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 80 t counterweight, over full range									Radius m/ Jib length m / Offset
	46			53			60			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20										20
22	10.3									22
24	10.2			8.5						24
26	10.1			8.4			7.0			26
28	10.0			8.3			6.9			28
30	9.2			8.2			6.9			30
32	8.3			7.8			6.8			32
34	7.9	7.0		7.3			6.2			34
36	7.4	6.7		6.9			5.9			36
38	7.0	6.4		6.2	5.6		5.6			38
40	6.6	6.0	5.7	5.9	5.3		5.3			40
42	6.3	5.7	5.4	5.6	5.0		5.0			42
44	6.0	5.5	5.1	5.3	4.8		4.7	4.2		44
46	5.7	5.2	4.9	5.0	4.6	4.3	4.4	4.0		46
48	5.3	4.9	4.7	4.7	4.4	4.1	4.2	3.8		48
50	5.1	4.7	4.5	4.5	4.1	3.9	4.0	3.6		50
52	4.7	4.5	4.3	4.2	3.9	3.7	3.7	3.4	3.3	52
54	4.2	4.3	4.1	4.0	3.7	3.5	3.5	3.3	3.1	54
56	3.6	4.1	3.9	3.5	3.3	3.2	3.2	2.9	2.8	56
58	3.2	3.9	3.8	3.0	3.2	3.1	3.0	2.8	2.7	58
60	2.5	3.4	3.3	2.4	2.8	2.7	2.7	2.5	2.4	60
62	2.1	3.0	3.1	2.0	2.7	2.6	2.3	2.3	2.3	62
64	1.7	2.6	2.9		2.6	2.5	1.9	2.0	2.1	64
66		2.2	2.6		2.4	2.4				66
68		1.9	2.4		2.1	2.0				68
70			2.0							70
Reeving	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3									I Telescoping mode
II	3									II
III	3									III
IV	3									IV
V	3									V
Wind speed m/s	9									Wind speed m/s

Table 1-39 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

<table>
<tr><td rowspan="3" colspan="2">Radius m/
Jib length m
/ Offset</td><td colspan="4">71 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 80 t counterweight, over full range</td><td rowspan="3" colspan="2">Radius m/
Jib length m
/ Offset</td></tr>
<tr><td>14</td><td>19</td><td>22</td><td>27</td></tr>
<tr><td>0°</td><td>0°</td><td>0°</td><td>0°</td></tr>
<tr><td colspan="2">16</td><td>29.0</td><td></td><td></td><td></td><td colspan="2">16</td></tr>
<tr><td colspan="2">18</td><td>27.5</td><td>26.5</td><td></td><td></td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>25.8</td><td>25.1</td><td>23.6</td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>24.3</td><td>23.6</td><td>22.3</td><td>20.0</td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>22.9</td><td>22.4</td><td>21.1</td><td>19.5</td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>21.6</td><td>21.2</td><td>19.9</td><td>18.9</td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td>20.4</td><td>20.0</td><td>18.8</td><td>17.9</td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>19.3</td><td>19.0</td><td>17.8</td><td>17.0</td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>18.3</td><td>17.8</td><td>16.8</td><td>16.1</td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>16.6</td><td>15.9</td><td>16.0</td><td>15.2</td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td>14.9</td><td>14.2</td><td>15.0</td><td>14.5</td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td>13.4</td><td>12.7</td><td>13.6</td><td>13.6</td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td>12.2</td><td>11.4</td><td>12.2</td><td>12.2</td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td>10.3</td><td>9.6</td><td>10.4</td><td>10.4</td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>9.4</td><td>8.6</td><td>9.4</td><td>9.4</td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>8.5</td><td>7.7</td><td>8.5</td><td>8.5</td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td>7.6</td><td>6.9</td><td>7.7</td><td>7.7</td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td>6.9</td><td>6.1</td><td>7.0</td><td>6.5</td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td>5.8</td><td>5.0</td><td>5.9</td><td>5.5</td><td colspan="2">52</td></tr>
<tr><td colspan="2">54</td><td>5.2</td><td>4.5</td><td>5.2</td><td>5.0</td><td colspan="2">54</td></tr>
<tr><td colspan="2">56</td><td>4.6</td><td>3.9</td><td>4.7</td><td>4.4</td><td colspan="2">56</td></tr>
<tr><td colspan="2">58</td><td>4.1</td><td>3.4</td><td>4.1</td><td>3.9</td><td colspan="2">58</td></tr>
<tr><td colspan="2">60</td><td>3.5</td><td>2.9</td><td>3.5</td><td>3.5</td><td colspan="2">60</td></tr>
<tr><td colspan="2">62</td><td>2.9</td><td>2.5</td><td>2.9</td><td>2.9</td><td colspan="2">62</td></tr>
<tr><td colspan="2">64</td><td>2.5</td><td>2.0</td><td>2.6</td><td>2.5</td><td colspan="2">64</td></tr>
<tr><td colspan="2">66</td><td>2.2</td><td>1.8</td><td>2.2</td><td>2.1</td><td colspan="2">66</td></tr>
<tr><td colspan="2">Reeving</td><td>4</td><td>4</td><td>2</td><td>2</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="4">4</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="4">4</td><td>II</td></tr>
<tr><td>III</td><td colspan="4">4</td><td>III</td></tr>
<tr><td>IV</td><td colspan="4">4</td><td>IV</td></tr>
<tr><td>V</td><td colspan="4">4</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="4">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Note:

27 m heavy duty jib consists of 1adapter (2 m), 1 heavy duty boom (8 m), 1 A-frame (5 m), 1 heavy duty boom (5 m), 1 transition section (2 m) and 1 head piece (5 m) when main boom is 71 m long.

Table 1-40 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	50.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 60 t counterweight, over full range										Radius m/ Jib length m / Offset
	14	19	22	27	32			39			
	0°	0°	0°	0°	0°	20°	40°	0°	20°	40°	
12	46.0										12
14	43.0	43.0	42.0	40.0	28.0						14
16	40.5	40.0	38.0	38.0	26.0			21.9			16
18	37.9	37.5	34.9	33.0	25.5	21.6		20.0			18
20	32.6	31.9	31.3	30.1	23.6	20.4		18.0			20
22	27.9	27.0	28.3	28.3	22.3	19.3	16.8	17.0	14.0		22
24	24.0	23.2	24.6	25.3	21.0	18.4	16.1	15.9	13.3		24
26	20.9	20.2	21.4	20.8	19.4	17.4	15.4	15.0	12.7		26
28	18.4	17.5	18.7	18.3	16.7	16.1	17.8	14.3	12.1	10.8	28
30	16.2	15.3	16.5	16.1	14.6	15.3	14.2	13.4	11.6	10.4	30
32	13.9	12.9	14.1	14.2	12.3	13.4	13.3	11.6	11.0	10.0	32
34	12.2	11.3	12.6	12.7	10.6	11.7	12.6	10.2	10.6	9.6	34
36	10.7	9.9	11.1	11.2	9.2	10.3	11.1	8.9	10.1	9.5	36
38	9.4	8.6	9.9	9.9	8.1	9.0	9.8	7.8	9.4	8.9	38
40	8.3	7.4	8.7	8.8	7.0	8.0	8.6	6.8	8.3	8.6	40
42	6.9	6.4	7.2	7.4	5.9	6.8	7.4	6.0	7.3	8.3	42
44	6.0	5.5	6.3	6.5	5.1	5.9	6.5	5.2	6.5	7.4	44
46	5.2	4.7	5.5	5.7	4.4	5.1	5.7	4.5	5.6	6.5	46
48	4.6	3.9	4.9	5.0	3.7	4.4	4.8	3.8	4.9	5.7	48
50	3.9	3.2	4.2	4.3	3.0	3.7	4.1	3.2	4.3	5.0	50
52	3.1	2.6	3.4	3.5	2.3	2.9	3.3	2.6	3.6	4.3	52
54	2.6	2.0	2.9	2.9		2.3	2.7	2.0	3.0	3.5	54
56	2.1	1.8	2.4	2.5			2.2		2.4	3.0	56
58			1.8	1.8						2.4	58
Reeving	4	4	4	4	2	2	2	2	2	1	Reeving
Telescoping mode I	3										I Telescoping mode
II	3										II
III	2										III
IV	2										IV
V	2										V
Wind speed m/s	9										Wind speed m/s

Table 1-40 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	50.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 60 t counterweight, over full range									Radius m/ Jib length m / Offset
	46			53			60			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	
18	16.7									18
20	15.5			13.2						20
22	14.8			12.5			10.6			22
24	14.0			11.8			10.0			24
26	13.1	10.8		11.2			9.6			26
28	12.5	10.2		10.6			9.4			28
30	11.7	9.8		9.7	8.0		8.7			30
32	11.2	9.4		9.2	7.7		7.3			32
34	10.6	9.0	7.7	8.8	7.4		7.8			34
36	9.2	8.6	7.4	8.3	7.0		7.4	6.2		36
38	8.1	8.3	7.1	7.9	6.7		7.1	6.0		38
40	6.8	7.6	6.8	6.9	6.4	5.6	6.7	5.7		40
42	5.9	7.3	6.6	5.8	6.0	5.4	6.2	5.2		42
44	5.2	6.8	6.4	5.1	5.7	5.2	5.4	5.0		44
46	4.5	6.0	6.2	4.4	5.5	5.0	4.7	4.8	4.2	46
48	3.9	5.3	6.0	3.8	5.3	4.8	4.0	4.6	4.1	48
50	3.3	4.6	5.7	3.3	5.0	4.6	3.5	4.4	4.0	50
52	2.7	4.0	5.0	2.7	4.2	4.3	2.8	4.0	3.7	52
54	2.3	3.5	4.3	2.2	3.6	4.2	2.3	3.9	3.5	54
56		3.0	3.7		3.0	3.8	1.9	3.5	3.2	56
58		2.4	3.2		2.5	3.5		3.0	3.0	58
60			2.7		2.0	2.8		2.4	2.8	60
62			2.1			2.4		2.0	2.5	62
64						2.0			2.3	64
66									2.0	66
Reeving	2	1	1	2	1	1	1	1	1	Reeving
Telescoping mode I	3									I Telescoping mode
II	3									II
III	2									III
IV	2									IV
V	2									V
Wind speed m/s	9									Wind speed m/s

Table 1-41 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

<table>
<tr><td colspan="2" rowspan="3">Radius m/
Jib length m
/ Offset</td><td colspan="10">55.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 60 t counterweight, over full range</td><td colspan="2" rowspan="3">Radius m/
Jib length m
/ Offset</td></tr>
<tr><td>14</td><td>19</td><td>22</td><td>27</td><td colspan="3">32</td><td colspan="3">39</td></tr>
<tr><td>0°</td><td>0°</td><td>0°</td><td>0°</td><td>0°</td><td>20°</td><td>40°</td><td>0°</td><td>20°</td><td>40°</td></tr>
<tr><td colspan="2">12</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">12</td></tr>
<tr><td colspan="2">14</td><td>44.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">14</td></tr>
<tr><td colspan="2">16</td><td>41.0</td><td>42.0</td><td>41.0</td><td>38.0</td><td>23.5</td><td></td><td></td><td></td><td></td><td></td><td colspan="2">16</td></tr>
<tr><td colspan="2">18</td><td>38.0</td><td>37.3</td><td>36.0</td><td>36.0</td><td>22.0</td><td></td><td></td><td>18.3</td><td></td><td></td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>32.6</td><td>31.9</td><td>32.7</td><td>30.7</td><td>21.7</td><td>20.7</td><td></td><td>17.0</td><td></td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>26.9</td><td>26.2</td><td>28.3</td><td>27.5</td><td>20.4</td><td>18.7</td><td></td><td>15.7</td><td></td><td></td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>23.2</td><td>22.4</td><td>24.5</td><td>25.2</td><td>19.3</td><td>16.8</td><td>17.0</td><td>14.8</td><td>12.4</td><td></td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>20.2</td><td>19.5</td><td>21.3</td><td>22.0</td><td>18.2</td><td>16.0</td><td>15.6</td><td>14.0</td><td>11.7</td><td></td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td>17.7</td><td>16.9</td><td>18.7</td><td>17.5</td><td>15.7</td><td>15.3</td><td>14.0</td><td>13.3</td><td>11.2</td><td>10.1</td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>15.6</td><td>14.8</td><td>16.5</td><td>15.4</td><td>13.6</td><td>14.6</td><td>13.4</td><td>12.7</td><td>10.8</td><td>9.6</td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>13.0</td><td>13.0</td><td>14.0</td><td>13.3</td><td>11.9</td><td>12.9</td><td>13.0</td><td>10.8</td><td>9.9</td><td>9.0</td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>11.5</td><td>11.3</td><td>12.4</td><td>11.8</td><td>10.4</td><td>11.3</td><td>12.5</td><td>9.4</td><td>9.6</td><td>8.7</td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td>10.2</td><td>9.9</td><td>10.4</td><td>10.5</td><td>9.0</td><td>10.0</td><td>10.8</td><td>8.2</td><td>9.2</td><td>8.4</td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td>8.9</td><td>8.6</td><td>9.2</td><td>9.0</td><td>7.7</td><td>8.7</td><td>9.5</td><td>7.1</td><td>8.7</td><td>8.1</td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td>7.8</td><td>7.5</td><td>8.2</td><td>8.0</td><td>6.7</td><td>7.6</td><td>8.3</td><td>6.2</td><td>7.6</td><td>7.8</td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td>6.7</td><td>6.5</td><td>7.2</td><td>7.0</td><td>5.9</td><td>6.7</td><td>7.3</td><td>5.4</td><td>6.7</td><td>7.6</td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>5.6</td><td>5.5</td><td>6.3</td><td>6.0</td><td>4.8</td><td>5.6</td><td>6.2</td><td>4.7</td><td>5.9</td><td>6.8</td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>5.0</td><td>4.7</td><td>5.5</td><td>5.3</td><td>4.1</td><td>4.9</td><td>5.4</td><td>4.1</td><td>5.1</td><td>6.0</td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td>4.3</td><td>4.0</td><td>4.8</td><td>4.6</td><td>3.4</td><td>4.1</td><td>4.7</td><td>3.4</td><td>4.5</td><td>5.3</td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td>3.7</td><td>3.3</td><td>4.2</td><td>3.9</td><td>2.8</td><td>3.5</td><td>3.9</td><td>2.9</td><td>3.9</td><td>4.6</td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td>3.0</td><td>2.6</td><td>3.3</td><td>3.2</td><td>2.2</td><td>2.7</td><td>3.2</td><td>2.2</td><td>3.2</td><td>3.8</td><td colspan="2">52</td></tr>
<tr><td colspan="2">54</td><td>2.5</td><td>2.1</td><td>2.9</td><td>2.7</td><td></td><td>2.2</td><td>2.6</td><td></td><td>2.7</td><td>3.3</td><td colspan="2">54</td></tr>
<tr><td colspan="2">56</td><td>2.1</td><td></td><td>2.3</td><td>2.3</td><td></td><td></td><td>2.0</td><td></td><td>2.2</td><td>2.8</td><td colspan="2">56</td></tr>
<tr><td colspan="2">58</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2.2</td><td colspan="2">58</td></tr>
<tr><td colspan="2">Reeving</td><td>4</td><td>4</td><td>4</td><td>4</td><td>2</td><td>2</td><td>2</td><td>2</td><td>1</td><td>1</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="10">3</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="10">3</td><td>II</td></tr>
<tr><td>III</td><td colspan="10">3</td><td>III</td></tr>
<tr><td>IV</td><td colspan="10">2</td><td>IV</td></tr>
<tr><td>V</td><td colspan="10">2</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="10">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Table 1-41 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	55.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 60 t counterweight, over full range									Radius m/ Jib length m / Offset
	46			53			60			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20	14.0									20
22	13.2			11.6						22
24	12.5			11.0			9.6			24
26	11.8			10.4			9.2			26
28	11.2	9.3		9.9			8.8			28
30	10.6	8.8		9.4			8.3			30
32	10.2	8.5		8.9	7.4		7.9			32
34	9.7	8.1	7.2	8.5	7.0		7.5			34
36	8.5	7.8	6.9	8.1	6.7		7.1			36
38	7.4	7.4	6.7	7.7	6.4		6.8	5.7		38
40	6.4	7.1	6.4	6.8	6.2	5.4	6.4	5.4		40
42	5.6	6.9	6.2	5.9	6.0	5.2	6.2	5.2		42
44	4.7	6.4	5.8	5.0	5.5	5.0	5.2	4.8		44
46	4.0	5.6	5.6	4.3	5.3	4.7	4.5	4.6	4.1	46
48	3.5	4.9	5.4	3.7	5.1	4.6	3.9	4.4	3.9	48
50	2.8	4.0	5.1	2.9	4.7	4.3	3.1	4.0	3.8	50
52	2.3	3.5	4.4	2.5	4.1	4.1	2.6	3.9	3.5	52
54	1.9	3.0	3.8	2.0	3.5	4.0	2.1	3.7	3.4	54
56		2.4	3.2		2.9	3.7		3.4	3.1	56
58		2.0	2.7		2.4	3.5		2.9	3.0	58
60			2.1		1.9	2.8		2.3	2.7	60
62						2.4		1.9	2.6	62
64						2.0			2.2	64
66										66
Reeving	2	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3									I Telescoping mode
II	3									II
III	3									III
IV	2									IV
V	2									V
Wind speed m/s	9									Wind speed m/s

Table 1-42 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	60.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 60 t counterweight, over full range										Radius m/ Jib length m / Offset
	14	19	22	27	32			39			
	0°	0°	0°	0°	0°	20°	40°	0°	20°	40°	
12											12
14	42.0										14
16	39.0	41.0	40.0	36.0	22.0						16
18	36.2	35.2	34.0	32.0	21.0			16.0			18
20	33.7	32.9	31.5	29.3	20.0	17.8		15.3			20
22	29.4	28.7	27.7	26.5	19.7	17.0		14.6			22
24	24.3	23.6	24.6	25.2	18.2	16.2	14.7	13.9	11.6		24
26	21.2	20.3	21.5	22.1	17.3	15.1	14.2	13.2	11.1		26
28	18.6	17.8	18.8	19.4	15.4	14.4	13.6	12.5	10.6		28
30	16.4	15.5	16.5	16.6	13.4	13.9	12.8	11.9	10.2	9.1	30
32	13.9	13.2	14.1	14.2	11.6	13.1	12.3	10.9	9.8	8.8	32
34	12.4	11.6	12.5	12.6	10.1	11.5	11.9	9.5	9.3	8.5	34
36	11.0	10.1	11.1	11.1	8.9	10.1	10.9	8.3	9.0	8.2	36
38	9.7	8.8	9.9	9.9	7.7	8.8	9.6	7.1	8.6	7.9	38
40	8.6	7.7	8.8	8.8	6.7	7.7	8.4	6.1	7.5	7.4	40
42	7.0	6.6	7.3	7.3	5.6	6.5	7.1	5.2	6.6	7.2	42
44	6.2	5.7	6.4	6.4	4.8	5.6	6.2	4.6	5.7	6.7	44
46	5.4	4.9	5.6	5.6	4.1	4.9	5.4	3.9	5.0	5.8	46
48	4.7	4.2	4.9	4.9	3.5	4.2	4.7	3.3	4.4	5.1	48
50	4.1	3.5	4.2	4.2	2.9	3.5	4.1	2.7	3.6	4.3	50
52	3.3	2.9	3.4	3.5	2.2	2.8	3.2	2.2	3.1	3.7	52
54	2.8	2.3	2.9	2.9		2.3	2.7		2.5	3.2	54
56	2.3	1.8	2.4	2.4			2.2		2.1	2.7	56
58			1.8	1.8						2.2	58
Reeving	4	4	4	4	2	2	2	2	1	1	Reeving
Telescoping mode I	3										I Telescoping mode
II	3										II
III	3										III
IV	3										IV
V	2										V
Wind speed m/s	9										Wind speed m/s

Table 1-42 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	60.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 60 t counterweight, over full range									Radius m/ Jib length m / Offset
	46			53			60			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20	12.2									20
22	12.0			10.0						22
24	11.6			9.9			8.2			24
26	10.9			9.6			8.1			26
28	10.4			9.2			8.0			28
30	9.9	7.9		8.7			7.8			30
32	9.0	7.6		7.9			7.0			32
34	8.6	7.3		7.5	6.3		6.7			34
36	8.0	7.0	6.2	7.2	6.0		6.4			36
38	6.9	6.8	6.0	6.9	5.8		6.0			38
40	6.0	6.5	5.9	6.4	5.6		5.8	4.8		40
42	5.2	6.2	5.7	5.5	5.3	4.7	5.5	4.6		42
44	4.5	6.0	5.5	4.7	5.1	4.6	5.1	4.4		44
46	3.8	5.4	5.3	4.0	4.9	4.4	4.4	4.3		46
48	3.3	4.7	5.1	3.4	4.7	4.3	3.6	4.1	3.6	48
50	2.7	4.1	4.9	2.9	4.4	4.2	3.1	3.9	3.5	50
52	2.3	3.5	4.5	2.4	4.1	4.0	2.5	3.8	3.4	52
54	1.8	3.0	3.9	2.0	3.6	3.8	2.1	3.6	3.3	54
56		2.5	3.4		2.9	3.5		3.3	3.1	56
58		2.1	2.9		2.4	3.3		2.9	2.9	58
60			2.2		1.9	2.8		2.3	2.6	60
62			1.7			2.4		1.9	2.3	62
64						2.0			2.1	64
66										66
Reeving	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3									I Telescoping mode
II	3									II
III	3									III
IV	3									IV
V	2									V
Wind speed m/s	9									Wind speed m/s

Table 1-43 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	65.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 60 t counterweight, over full range										Radius m/ Jib length m / Offset
	14	19	22	27	32			39			
	0°	0°	0°	0°	0°	20°	40°	0°	20°	40°	
16	38.0	36.0									16
18	33.0	32.0	30.0	25.0							18
20	30.0	29.3	28.0	24.0	17.4			13.7			20
22	28.0	27.6	25.0	22.8	16.5			13.6			22
24	24.5	23.8	22.4	21.5	16.4	14.9		13.0			24
26	21.5	20.8	21.1	20.2	15.4	14.0	13.2	12.2			26
28	18.8	18.1	19.1	19.0	14.5	13.3	12.5	11.4	10.5		28
30	16.5	15.8	16.9	16.9	13.7	12.6	11.9	10.8	9.9		30
32	14.2	13.5	14.4	14.5	11.9	11.9	11.2	10.2	9.4		32
34	12.6	11.9	12.8	12.8	10.4	11.2	10.7	9.6	8.7	8.4	34
36	11.2	10.5	11.4	11.3	9.1	10.7	10.1	8.8	8.3	8.0	36
38	9.9	9.2	10.1	10.1	8.0	9.4	9.7	7.6	7.8	7.4	38
40	8.8	8.0	9.0	8.9	7.0	8.3	9.0	6.5	7.3	6.9	40
42	7.3	7.0	7.5	7.5	6.1	7.0	7.7	5.6	6.9	6.5	42
44	6.4	6.0	6.6	6.6	5.3	6.2	6.8	4.9	6.2	6.3	44
46	5.7	5.3	5.8	5.8	4.6	5.3	5.9	4.3	5.4	6.0	46
48	5.0	4.5	5.1	5.1	4.0	4.7	5.2	3.7	4.8	5.6	48
50	4.3	3.8	4.5	4.4	3.4	4.1	4.5	3.0	3.9	4.7	50
52	3.5	3.1	3.6	3.6	2.7	3.3	3.7	2.5	3.4	4.0	52
54	2.9	2.6	3.1	3.1	2.2	2.8	3.2	2.1	2.9	3.5	54
56	2.5	2.0	2.6	2.6		2.3	2.7		2.5	3.1	56
58			2.0	2.0			2.2		2.0	2.6	58
60										2.0	60
62											62
Reeving	4	4	4	4	2	2	2	2	1	1	Reeving
Telescoping mode I	3										I Telescoping mode
II	3										II
III	3										III
IV	3										IV
V	3										V
Wind speed m/s	9										Wind speed m/s

Table 1-43 Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	65.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 60 t counterweight, over full range									Radius m/ Jib length m / Offset
	46			53			60			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20										20
22	10.3									22
24	10.2			8.5						24
26	10.1			8.4			7.0			26
28	10.0			8.3			6.9			28
30	9.2			8.2			6.9			30
32	8.3			7.8			6.8			32
34	7.9	7.0		7.3			6.2			34
36	7.4	6.7		6.9			5.9			36
38	7.0	6.4		6.2	5.6		5.6			38
40	6.5	6.0	5.7	5.9	5.3		5.3			40
42	5.6	5.7	5.4	5.6	5.0		5.0			42
44	4.8	5.5	5.1	4.9	4.8		4.7	4.2		44
46	4.2	5.2	4.9	4.2	4.6	4.3	4.4	4.0		46
48	3.6	4.9	4.7	3.6	4.4	4.1	3.9	3.8		48
50	3.1	4.5	4.5	3.0	4.1	3.9	3.3	3.6		50
52	2.5	3.8	4.3	2.5	3.9	3.7	2.7	3.4	3.3	52
54	2.1	3.3	4.1	2.0	3.7	3.5	2.1	3.3	3.1	54
56		2.8	3.7		3.0	3.2		2.9	2.8	56
58		2.3	3.2		2.5	3.1		2.8	2.7	58
60			2.5		2.0	2.7		2.5	2.4	60
62			2.0			2.5		2.0	2.1	62
64						2.1				64
66										66
Reeving	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3									I Telescoping mode
II	3									II
III	3									III
IV	3									IV
V	3									V
Wind speed m/s	9									Wind speed m/s

Table 1-44　Main boom + Y-shaped guying system + heavy duty jib

Unit: Metric tons

<table>
<tr><th colspan="2" rowspan="3">Radius m/
Jib length m
/ Offset</th><th colspan="4">71 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 60 t counterweight, over full range</th><th colspan="2" rowspan="3">Radius m/
Jib length m
/ Offset</th></tr>
<tr><th>14</th><th>19</th><th>22</th><th>27</th></tr>
<tr><th>0°</th><th>0°</th><th>0°</th><th>0°</th></tr>
<tr><td colspan="2">16</td><td>29.0</td><td></td><td></td><td></td><td colspan="2">16</td></tr>
<tr><td colspan="2">18</td><td>27.5</td><td>26.5</td><td></td><td></td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>25.8</td><td>25.1</td><td>23.6</td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>24.3</td><td>23.6</td><td>22.3</td><td>20.0</td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>22.9</td><td>22.4</td><td>21.1</td><td>19.5</td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>20.7</td><td>20.1</td><td>19.9</td><td>18.9</td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td>18.2</td><td>17.4</td><td>18.4</td><td>17.9</td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>16.0</td><td>15.3</td><td>16.2</td><td>16.2</td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>14.1</td><td>13.3</td><td>14.3</td><td>14.3</td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>12.6</td><td>11.7</td><td>12.7</td><td>12.7</td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td>11.1</td><td>10.4</td><td>11.2</td><td>11.2</td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td>9.9</td><td>9.1</td><td>9.9</td><td>9.9</td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td>8.8</td><td>8.0</td><td>8.8</td><td>8.8</td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td>7.3</td><td>6.9</td><td>7.4</td><td>7.4</td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>6.4</td><td>6.0</td><td>6.5</td><td>6.5</td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>5.6</td><td>5.2</td><td>5.7</td><td>5.7</td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td>5.0</td><td>4.4</td><td>5.0</td><td>5.0</td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td>4.2</td><td>3.7</td><td>4.3</td><td>4.0</td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td>3.5</td><td>3.1</td><td>3.5</td><td>3.3</td><td colspan="2">52</td></tr>
<tr><td colspan="2">54</td><td>2.9</td><td>2.6</td><td>2.9</td><td>2.8</td><td colspan="2">54</td></tr>
<tr><td colspan="2">56</td><td>2.5</td><td>2.0</td><td>2.5</td><td>2.3</td><td colspan="2">56</td></tr>
<tr><td colspan="2">58</td><td></td><td></td><td></td><td></td><td colspan="2">58</td></tr>
<tr><td colspan="2">Reeving</td><td>3</td><td>3</td><td>2</td><td>2</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="4">4</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="4">4</td><td>II</td></tr>
<tr><td>III</td><td colspan="4">4</td><td>III</td></tr>
<tr><td>IV</td><td colspan="4">4</td><td>IV</td></tr>
<tr><td>V</td><td colspan="4">4</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="4">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Note:

27 m heavy duty jib consists of 1adapter (2 m), 1 heavy duty boom (8 m), 1 A-frame (5 m), 1 heavy duty boom (5 m), 1 transition section (2 m) and 1 head piece (5 m) when main boom is 71 m long.

Table 1-45 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	50.6 m main boom without Y-shaped guying system, outriggers fully extended, with 100 t counterweight, over full range													Radius m/ Jib length m / Offset
	9	14			21			28			28（16+12）			
	0°	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
12	42.0													12
14	40.2	32.0												14
16	37.5	29.4	24.0		25.0									16
18	35.4	27.3	22.7	19.9	23.2			18.2			16.3			18
20	32.6	25.4	21.5	19.0	21.6	16.2		17.1			15.4	13.4		20
22	29.9	23.4	20.3	18.2	20.2	15.4		16.0			14.6	12.8	11.6	22
24	27.5	21.5	19.4	17.5	18.9	14.6	12.2	15.0	11.9		13.7	12.2	11.1	24
26	25.5	19.9	18.5	16.8	17.8	13.4	11.4	14.0	11.3		12.8	11.6	10.7	26
28	23.6	18.5	17.5	16.2	16.7	12.8	11.0	13.2	10.8		12.1	11.0	10.3	28
30	22.0	17.1	16.6	15.6	15.8	12.2	10.6	12.5	10.4	8.9	11.4	10.4	9.9	30
32	20.5	16.0	15.5	15.0	14.5	11.7	10.2	11.8	9.9	8.6	10.8	9.9	9.4	32
34	19.0	14.9	14.6	14.3	13.2	11.2	9.9	11.1	9.5	8.3	10.2	9.5	9.0	34
36	17.1	14.0	13.7	13.4	12.5	10.7	9.6	10.6	9.1	8.0	9.7	9.0	8.6	36
38	15.4	13.1	12.8	12.7	11.9	10.3	9.3	10.1	8.8	7.8	9.2	8.6	8.3	38
40	13.9	12.4	12.0	11.9	11.1	9.9	9.0	9.5	8.5	7.6	8.8	8.3	7.9	40
42	12.7	11.2	11.3	11.3	10.5	9.4	8.7	8.7	7.8	7.1	8.0	7.6	7.3	42
44	11.5	10.1	10.2	10.4	9.8	9.1	8.4	8.3	7.4	6.8	7.6	7.2	7.0	44
46	10.4	9.1	9.2	9.4	9.3	8.7	8.1	7.9	7.1	6.7	7.3	6.9	6.7	46
48	9.4	8.3	8.3	8.5	8.5	8.4	7.8	7.6	6.8	6.5	7.0	6.6	6.5	48
50	8.6	7.5	7.5	7.6	7.7	7.8	7.6	7.2	6.6	6.3	6.7	6.3	6.2	50
52	7.7	6.7	6.8	6.8	7.0	7.3	7.2	6.7	6.2	5.9	6.2	6.0	5.8	52
54	7.0	6.0	6.0		6.3	6.6	6.6	6.3	6.0	5.7	6.0	5.7	5.6	54
56		5.5	5.4		5.7	5.9	5.9	5.5	5.5	5.4	5.4	5.4	5.3	56
58		4.8			5.2	5.3	5.3	4.8	5.1	4.9	4.7	4.9	4.9	58
60		4.3			4.7	4.8		4.2	4.7	4.6	4.0	4.2	4.3	60
62					4.1			3.7	4.2	4.3	3.6	3.8	3.8	62
64								3.3	3.7	3.8	3.2	3.3	3.4	64
66								3.0	3.3		2.9	3.0		66
68								2.7			2.5	2.6		68
70											2.2			70
72											2.0			72
Reeving	4	4	2	2	2	2	1	2	1	1	2	2	1	Reeving
Telescoping mode I	3													I Telescoping mode
II	3													II
III	2													III
IV	2													IV
V	2													V
Wind speed m/s	9													Wind speed m/s

Table 1-45 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	50.6 m main boom without Y-shaped guying system, outriggers fully extended, with 100 t counterweight, over full range												Radius m/ Jib length m / Offset
	35			35（16+19）			42			42（16+26）			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20	14.8			12.7									20
22	13.8			12.0			11.3			9.5			22
24	13.0			11.3	9.5		10.6			9.0			24
26	12.2			10.7	9.2		9.9			8.5			26
28	11.5	8.9		10.1	8.7	7.8	9.4			8.1	6.7		28
30	10.8	8.6		9.5	8.3	7.5	8.8			7.6	6.4		30
32	9.8	8.0		8.6	7.6	7.0	8.3	6.3		7.1	6.1		32
34	9.3	7.6		8.1	7.3	6.8	7.9	6.1		6.7	5.8	5.2	34
36	8.8	7.3	6.1	7.7	7.0	6.5	7.5	5.9		6.4	5.6	5.0	36
38	8.3	7.1	6.0	7.3	6.6	6.3	7.1	5.7		6.0	5.4	4.8	38
40	7.7	6.6	5.7	6.8	6.2	5.8	6.5	5.3		5.6	5.0	4.6	40
42	7.1	6.1	5.4	6.3	5.7	5.4	6.2	5.1	4.2	5.2	4.8	4.4	42
44	6.7	5.9	5.2	5.9	5.4	5.2	5.8	5.0	4.1	5.0	4.5	4.2	44
46	6.4	5.7	5.1	5.6	5.2	5.0	5.6	4.8	4.1	4.8	4.3	4.1	46
48	6.1	5.4	5.0	5.4	5.0	4.8	5.3	4.6	4.0	4.5	4.1	3.9	48
50	5.6	5.0	4.6	4.9	4.6	4.4	5.0	4.4	3.9	4.3	3.9	3.7	50
52	5.3	4.8	4.5	4.7	4.4	4.2	4.6	4.1	3.6	3.9	3.6	4.7	52
54	5.1	4.6	4.4	4.6	4.2	4.1	4.4	4.0	3.5	3.7	3.4	3.3	54
56	4.9	4.4	4.2	4.3	4.1	4.0	4.2	3.8	3.4	3.6	3.3	3.0	56
58	4.5	4.1	3.9	4.0	3.7	3.7	4.0	3.6	3.3	3.4	3.0	2.9	58
60	4.1	3.8	3.6	3.7	3.5	3.4	3.8	3.4	3.3	3.1	2.9	2.7	60
62	3.9	3.7	3.5	3.5	3.4	3.3	3.6	3.3	3.2	3.0	2.7	2.4	62
64	3.5	3.5	3.4	3.4	3.2	3.2	3.4	3.2	3.1	2.8	2.4	2.1	64
66	3.2	3.4	3.3	3.1	3.1	3.1	3.2	2.9	2.8	2.4	2.1		66
68	2.6	3.0	3.0	2.5	2.8	2.1	2.9	2.7	2.6	2.1			68
70	2.1	2.5		2.0	2.0		2.5	2.4	2.3				70
72	1.9			1.8			2.1	2.1					72
74							1.9						74
76													76
Reeving	2	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	2												III
IV	2												IV
V	2												V
Wind speed m/sS	9												Wind speed m/sS

Table 1-46 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	55.6 m main boom without Y-shaped guying system, outriggers fully extended, with 100 t counterweight, over full range													Radius m/ Jib length m / Offset
	9	14			21			28			28（16+12）			
	0°	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
14	34.7													14
16	32.6	25.3												16
18	29.8	23.2	22.3		20.6									18
20	27.5	22.3	21.0	18.8	19.3			15.4			14.0			20
22	25.3	20.6	19.5	18.2	18.1	15.2		14.5			13.1	11.8		22
24	23.5	19.1	18.1	17.3	17.0	14.5		13.6			12.3	11.1	10.3	24
26	21.9	17.7	16.9	16.5	16.0	13.7	11.7	12.8	10.7		11.6	10.5	9.8	26
28	20.5	16.5	15.8	15.5	15.0	13.1	11.3	12.1	10.2		10.9	9.9	9.3	28
30	19.9	15.4	14.8	14.5	14.0	12.4	10.9	11.4	9.7		10.3	9.5	8.9	30
32	18.5	14.4	14.0	13.7	13.1	11.9	10.4	10.8	9.3	8.1	9.8	9.0	8.5	32
34	17.3	13.4	13.1	12.9	12.2	11.3	10.0	10.2	8.9	7.9	9.2	8.5	8.1	34
36	16.2	12.5	12.3	12.2	11.4	10.8	9.6	9.7	8.4	7.7	8.8	8.1	7.8	36
38	15.1	11.6	11.5	11.4	10.7	10.4	9.3	9.2	8.1	7.4	8.4	7.8	7.4	38
40	14.1	10.9	10.8	10.7	10.0	9.8	8.9	8.8	7.7	7.1	8.0	7.4	7.3	40
42	12.8	10.2	10.1	10.1	9.4	9.2	8.6	8.0	7.2	6.7	7.6	7.1	6.9	42
44	11.6	9.5	9.5	9.5	8.8	8.7	8.3	7.5	6.9	6.4	7.2	6.8	6.6	44
46	10.6	9.2	8.9	8.9	8.3	8.2	7.8	7.0	6.7	6.2	6.9	6.5	6.3	46
48	9.6	8.3	8.3	8.4	7.7	7.7	7.4	6.6	6.4	6.0	6.6	6.3	6.1	48
50	8.8	7.6	7.6	7.7	7.3	7.3	7.0	6.2	6.1	5.8	6.2	6.0	5.9	50
52	7.9	6.8	6.8	7.0	6.8	6.8	6.6	5.6	5.7	5.4	5.6	5.6	5.5	52
54	7.2	6.1	6.2	6.2	6.0	6.2	6.2	5.3	5.4	5.2	5.3	5.4	5.3	54
56	6.5	5.5	5.5	5.6	5.5	5.8	5.8	5.0	5.0	5.1	5.0	5.0	5.0	56
58	5.5	4.9	4.9		5.0	5.4	5.5	4.7	4.8	4.8	4.7	4.7	4.8	58
60		4.4	4.4		4.5	4.8	5.0	4.2	4.3	3.9	4.2	4.2	4.2	60
62		3.8			4.0	4.3	4.4	3.5	3.6	3.6	3.3	3.5	3.5	62
64					3.5	3.8		3.1	3.4	3.4	3.0	3.1	3.2	64
66					3.1			2.7	3.1	3.2	2.6	2.8	2.8	66
68								2.4	2.8	2.9	2.3	2.4	2.5	68
70								2.1	2.4		2.0	2.1		70
Reeving	3	2	2	2	2	2	1	2	1	1	2	1	1	Reeving
Telescoping mode I	3													I Telescoping mode
II	3													II
III	3													III
IV	2													IV
V	2													V
Wind speed m/s	9													Wind speed m/s

Table 1-46 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	55.6 m main boom without Y-shaped guying system, outriggers fully extended, with 100 t counterweight, over full range												Radius m/ Jib length m / Offset
	35			35（16+19）			42			42（16+26）			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20													20
22	12.0			10.9									22
24	11.3			10.2			10.0			8.7			24
26	10.7			9.6	8.4		9.3			8.1			26
28	10.1			9.0	8.0		8.8			7.7			28
30	9.5	7.8		8.5	7.6	7.0	8.3			7.2	6.3		30
32	9.0	7.4		8.1	7.2	6.7	7.8			6.9	6.0		32
34	8.5	7.1		7.6	6.9	6.4	7.4			6.4	5.7		34
36	8.1	6.9		7.3	6.5	6.1	7.1	5.7		6.1	5.4	5.0	36
38	7.5	6.4	5.5	6.7	6.1	5.6	6.5	5.3		5.8	5.1	4.8	38
40	7.1	6.2	5.4	6.4	5.8	5.4	6.2	5.1		5.5	4.9	4.6	40
42	6.7	5.9	5.2	6.1	5.5	5.2	5.8	4.9		5.0	4.6	4.2	42
44	6.5	5.6	5.0	5.8	5.3	5.0	5.6	4.7	4.1	4.8	4.4	4.0	44
46	5.9	5.2	4.7	5.3	4.8	4.6	5.1	4.4	3.8	4.6	4.1	3.9	46
48	5.6	4.9	4.6	5.0	4.6	4.4	4.8	4.2	3.6	4.4	3.9	3.7	48
50	5.3	4.7	4.4	4.7	4.4	4.2	4.6	4.0	3.5	4.0	3.6	3.4	50
52	5.1	4.6	4.3	4.6	4.2	4.1	4.4	3.9	3.4	3.8	3.4	3.3	52
54	4.7	4.4	4.1	4.4	4.1	3.9	4.2	3.7	3.3	3.6	3.3	3.1	54
56	4.1	3.9	3.7	3.8	3.6	3.5	3.7	3.3	3.0	3.4	3.1	3.0	56
58	3.7	3.7	3.4	3.6	3.4	3.2	3.4	3.0	2.8	3.3	3.0	2.9	58
60	3.5	3.5	3.3	3.4	3.2	3.1	3.2	2.9	2.7	2.9	2.6	2.5	60
62	3.2	3.4	3.2	3.2	3.1	3.0	3.0	2.8	2.6	2.7	2.4	2.4	62
64	3.1	3.2	3.1	3.0	3.0	3.0	2.8	2.7	2.6	2.6	2.4	2.3	64
66	2.9	3.0	3.0	2.8	2.9	2.8	2.3	2.2	2.1	2.4	2.3	1.9	66
68	2.5	2.6	2.7	2.5	2.6	2.6	2.1	2.2	2.1	2.3	1.9		68
70	2.1	2.3	2.3	2.0	2.2	2.2	2.0	2.1	2.0	1.9			70
72	1.8	2.1		1.8	2.0		1.9	2.0					72
74				1.5			1.7						74
76													76
Reeving	1	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	2												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-47　Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	60.6 m main boom without Y-shaped guying system, outriggers fully extended, with 100 t counterweight, over full range													Radius m/ Jib length m / Offset
	9	14			21			28			28（16+12）			
	0°	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
16	27.0	21.0												16
18	26.0	20.0			16.0									18
20	23.9	19.7	17.3		15.8			12.5			12.0			20
22	22.2	18.4	16.3	15.0	14.8			12.3			12.0			22
24	20.6	17.3	15.4	14.3	13.1	11.9		11.6			11.3	10.2		24
26	19.2	16.2	14.6	13.6	13.0	11.2		10.9			10.7	9.7	9.0	26
28	17.9	15.2	13.8	12.9	12.2	10.7	9.7	10.2	8.7		10.1	9.2	8.6	28
30	16.8	14.2	13.1	12.4	11.6	10.2	9.3	9.7	8.3		9.5	8.8	8.2	30
32	15.7	13.2	12.5	11.0	10.9	9.6	8.9	9.1	7.8		9.0	8.4	7.9	32
34	14.7	12.2	11.9	11.3	10.4	9.2	8.5	8.6	7.5	6.8	8.6	8.0	7.5	34
36	13.7	11.4	11.3	10.8	9.8	8.8	8.1	8.1	7.1	6.5	8.2	7.5	7.2	36
38	12.8	10.7	10.6	10.4	9.3	8.4	7.8	7.7	6.8	6.2	7.7	7.2	6.9	38
40	12.0	10.0	9.9	9.9	8.7	8.0	7.6	7.3	6.4	6.0	7.3	6.9	6.7	40
42	11.3	9.3	9.2	9.2	8.1	7.7	7.3	6.9	6.2	5.7	6.9	6.6	6.4	42
44	10.6	8.7	8.7	8.6	7.6	7.3	7.0	6.6	6.0	5.5	6.5	6.3	6.1	44
46	10.0	8.1	8.1	8.1	7.1	7.1	6.8	6.2	5.7	5.3	6.2	6.0	5.9	46
48	9.1	7.7	7.7	7.7	6.7	6.7	6.5	6.0	5.5	5.1	5.8	5.7	5.6	48
50	8.3	7.1	7.1	7.1	6.3	6.3	6.3	5.2	4.8	4.6	5.3	5.2	5.1	50
52	7.6	6.7	6.7	6.8	5.7	5.7	5.8	4.9	4.6	4.4	4.9	4.9	4.9	52
54	6.9	6.4	6.3	6.3	5.4	5.4	5.5	4.6	4.4	4.2	4.6	4.6	4.6	54
56	6.3	5.7	5.8	5.9	5.0	5.1	5.1	4.2	4.2	4.1	4.2	4.4	4.4	56
58	5.7	5.1	5.2	5.3	4.7	4.8	4.8	4.0	4.0	3.9	4.0	4.0	4.1	58
60	5.1	4.6	4.7	4.7	4.3	4.5	4.5	3.4	3.5	3.5	3.4	3.5	3.5	60
62	4.7	4.1	4.1		3.7	3.9	3.9	3.1	3.2	3.2	3.1	3.1	3.2	62
64		3.6	3.6		3.3	3.6	3.6	2.9	3.0	3.0	2.9	2.3	3.0	64
66		3.2			2.9	3.3	3.3	2.7	2.8	2.8	2.7	2.7	2.7	66
68					2.6	2.9		2.5	2.6	2.6	2.4	2.5	2.6	68
70					2.3			2.2	2.4	2.4	2.1	2.3		70
72								1.7	1.9	2.0	1.6			72
74								1.5	1.7					74
76														76
Reeving	3	2	2	2	2	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3													I Telescoping mode
II	3													II
III	3													III
IV	3													IV
V	2													V
Wind speed m/s	9													Wind speed m/s

Table 1-47 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	60.6 m main boom without Y-shaped guying system, outriggers fully extended, with 100 t counterweight, over full range												Radius m/ Jib length m / Offset
	35			35（16+19）			42			42（16+26）			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
22	9.5			9.0									22
24	9.4			8.9			7.5			7.0			24
26	8.8			8.4			7.5			7.0			26
28	8.3			7.9	7.0		7.4			6.7			28
30	7.9			7.5	6.7		7.0			6.3			30
32	7.4			7.1	6.4	5.9	6.6			6.0	5.2		32
34	7.0	6.0		6.8	6.0	5.6	6.2			5.7	4.9		34
36	6.6	5.7		6.4	5.8	5.4	5.9			5.3	4.7		36
38	6.2	5.4		6.1	5.5	5.1	5.5	4.7		5.1	4.5	4.2	38
40	5.9	5.2	4.7	5.8	5.3	4.9	5.2	4.5		4.8	4.3	4.0	40
42	5.6	4.9	4.5	5.5	5.0	4.7	4.9	4.3		4.6	4.1	3.8	42
44	5.3	4.7	4.4	5.3	4.8	4.6	4.7	4.1		4.4	3.9	3.6	44
46	5.1	4.5	4.2	5.0	4.6	4.4	4.4	3.9	3.5	4.2	3.7	3.5	46
48	4.8	4.3	4.0	4.8	4.4	4.2	4.2	3.7	3.4	3.9	3.6	3.3	48
50	4.6	4.1	3.8	4.6	4.2	4.0	4.0	3.5	3.3	3.8	3.4	3.2	50
52	4.3	4.0	3.7	4.4	4.0	3.9	3.7	3.4	3.1	3.6	3.3	3.1	52
54	4.1	3.8	3.5	4.1	3.9	3.8	3.5	3.2	3.0	3.4	3.1	2.9	54
56	3.9	3.6	3.4	3.9	3.8	3.6	3.3	3.1	2.9	3.3	3.0	2.8	56
58	3.4	3.2	3.0	3.4	3.3	3.2	3.2	2.9	2.7	3.1	2.8	2.7	58
60	3.1	3.0	2.8	3.1	3.1	3.0	2.8	2.6	2.4	2.5	2.3	2.2	60
62	2.8	2.8	2.7	2.8	2.9	2.9	2.5	2.4	2.3	2.4	2.2	2.1	62
64	2.7	2.7	2.6	2.7	2.7	2.7	2.4	2.3	2.1	2.3	2.1	2.0	64
66	2.5	2.6	2.5	2.5	2.6	2.6	2.3	2.1	2.0	2.1	2.0	1.8	66
68	2.2	2.3	2.3	2.1	2.3	2.3	2.0	1.9		2.0	1.8		68
70	1.9	2.0		1.8	1.9		1.7			1.7			70
72	1.7			1.7									72
Reeving	1	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	3												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-48 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	65.6 m main boom without Y-shaped guying system, outriggers fully extended, with 100 t counterweight, over full range													Radius m/ Jib length m / Offset
	9	14			21			28			28（16+12）			
	0°	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
16	22.0													16
18	20.6	16.2												18
20	19.3	15.2	12.9		12.3									20
22	18.1	14.2	12.3	11.0	11.5			9.6			9.4			22
24	16.9	13.4	11.6	10.5	10.8	8.9		9.0			8.8	8.1		24
26	16.0	12.6	11.1	10.1	10.2	8.4		8.4			8.3	7.6	7.2	26
28	15.1	11.9	10.5	9.7	9.6	8.1	7.1	7.9			7.8	7.2	6.8	28
30	14.1	11.3	10.0	9.2	9.0	7.6	6.8	7.5	6.1		7.3	6.8	6.4	30
32	13.2	10.7	9.6	8.9	8.5	7.3	6.5	7.1	5.1		6.9	6.4	6.1	32
34	12.3	10.2	9.1	8.5	8.1	7.0	6.3	6.7	5.5	4.9	6.5	6.0	5.9	34
36	11.5	9.7	8.8	8.2	7.7	6.7	6.0	6.3	5.3	4.7	6.2	5.8	5.5	36
38	10.8	9.2	8.4	7.9	7.4	6.4	5.8	6.0	5.0	4.5	5.8	5.5	5.3	38
40	10.2	8.6	8.0	7.6	7.0	6.1	5.6	5.7	4.8	4.3	5.5	5.2	5.0	40
42	9.5	8.1	7.7	7.4	6.7	5.9	5.5	5.4	4.6	4.1	5.0	4.7	4.6	42
44	9.0	7.5	7.5	7.1	6.4	5.7	5.3	5.1	4.4	4.0	4.7	4.5	4.3	44
46	8.4	7.1	7.1	6.9	6.1	5.4	5.0	4.9	4.2	3.9	4.3	4.3	4.2	46
48	7.9	6.6	6.6	6.7	5.8	5.3	4.9	4.6	4.1	3.7	4.1	4.1	4.0	48
50	7.5	6.2	6.2	6.2	5.4	4.9	4.6	4.1	3.6	3.3	3.9	3.9	3.8	50
52	7.1	5.8	5.8	5.8	5.1	4.7	4.5	4.0	3.4	3.2	3.7	3.6	3.5	52
54	6.6	5.4	5.5	5.5	4.8	4.6	4.4	3.8	3.3	3.1	3.5	3.4	3.4	54
56	6.0	5.0	5.1	5.1	4.5	4.4	4.2	3.6	3.2	3.0	3.3	3.2	3.2	56
58	5.5	4.8	4.8	4.8	4.1	4.2	4.1	3.4	3.1	2.9	3.2	3.1	3.1	58
60	5.0	4.4	4.5	4.5	3.7	3.8	3.8	3.0	2.8	2.6	2.8	2.8	2.7	60
62	4.6	4.0	4.1	4.2	3.5	3.6	3.6	2.8	2.6	2.4	2.6	2.6	2.6	62
64	4.1	3.6	3.7		3.3	3.3	3.3	2.6	2.4	2.3	2.4	2.5	2.5	64
66	3.7	3.2	3.3		3.0	3.1	3.1	2.4	2.4	2.3	2.3	2.4	2.4	66
68		2.8			2.8	2.9		2.2	2.3	2.2	2.1	2.1		68
70					2.5			2.0	2.1		1.8			70
72														72
Reeving	2	2	2	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3													I Telescoping mode
II	3													II
III	3													III
IV	3													IV
V	3													V
Wind speed m/s	9													Wind speed m/s

Table 1-48 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	65.6 m main boom without Y-shaped guying system, outriggers fully extended, with 100 t counterweight, over full range												Radius m/ Jib length m / Offset
	35			35（16+19）			42			42（16+26）			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
24	7.2			7.0									24
26	7.0			6.8			5.5			5.4			26
28	6.3			6.3			5.2			5.1			28
30	5.9			6.0	5.3		4.9			4.8			30
32	5.6			5.6	5.0		4.6			4.5			32
34	5.3	4.3		5.3	4.8	4.5	4.4			4.2	3.8		34
36	4.9	4.0		5.0	4.5	4.3	4.1			3.9	3.5		36
38	4.7	3.8		4.7	4.3	4.0	3.9	3.1		3.7	3.4		38
40	4.4	3.6	3.3	4.4	4.1	3.8	3.7	2.9		3.5	3.2	3.0	40
42	4.2	3.5	3.1	4.2	3.8	3.7	3.5	2.8		3.3	3.0	2.8	42
44	4.0	3.3	2.9	4.0	3.7	3.5	3.2	2.6		3.1	2.8	2.7	44
46	3.8	3.2	2.9	3.7	3.5	3.3	3.1	2.5	2.2	3.0	2.7	2.6	46
48	3.6	3.1	2.7	3.5	3.3	3.2	2.9	2.4	2.0	2.8	2.6	2.4	48
50	3.4	2.9	2.6	3.3	3.2	3.0	2.5	2.1	1.8	2.5	2.3	2.2	50
52	3.3	2.8	2.5	3.2	3.0	2.9	2.4	2.0	1.7	2.3	2.2	2.0	52
54	3.1	2.7	2.4	3.0	2.9	2.8	2.3	1.9	1.6	2.2	2.0	1.8	54
56	2.9	2.5	2.4	2.9	2.7	2.7	2.1	1.8	1.5	2.1	1.9		56
58	2.6	2.2	2.2	2.6	2.5	2.5	2.0	1.7		1.9			58
60	2.4	2.1	2.0	2.4	2.3	2.1	1.9						60
62	2.2	2.0	1.9	2.3	2.1	2.0	1.6						62
64	2.0	1.8	1.8	2.0	2.0	1.7							64
66	1.9	1.8	1.7	1.9	1.7								66
68	1.7	1.6		1.7									68
70	1.6												70
72													72
Reeving	1	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	3												IV
V	3												V
Wind speed m/s	9												Wind speed m/s

Table 1-49 Main boom + light duty jib

Unit: Metric tons

<table>
<tr><th colspan="2" rowspan="3">Radius m/
Jib length m
/ Offset</th><th colspan="6">71 m main boom without Y-shaped guying system, outriggers fully extended, with 100 t counterweight, over full range</th><th colspan="2" rowspan="3">Radius m/
Jib length m
/ Offset</th></tr>
<tr><th>9</th><th>14</th><th>21</th><th>28</th><th>35</th><th>42</th></tr>
<tr><th>0°</th><th>0°</th><th>0°</th><th>0°</th><th>0°</th><th>0°</th></tr>
<tr><td colspan="2">16</td><td>16.0</td><td>14.0</td><td></td><td></td><td></td><td></td><td colspan="2"></td></tr>
<tr><td colspan="2">18</td><td>15.9</td><td>14.0</td><td>11.0</td><td></td><td></td><td></td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>15.7</td><td>13.5</td><td>11.0</td><td>8.0</td><td></td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>15.5</td><td>12.7</td><td>10.3</td><td>8.0</td><td>6.0</td><td></td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>15.0</td><td>12.0</td><td>9.7</td><td>7.9</td><td>6.0</td><td>4.0</td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>14.1</td><td>11.4</td><td>9.2</td><td>7.8</td><td>5.9</td><td>4.0</td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td>13.3</td><td>10.7</td><td>8.6</td><td>7.3</td><td>5.6</td><td>3.9</td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>12.5</td><td>10.1</td><td>8.2</td><td>6.9</td><td>5.3</td><td>3.8</td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>11.7</td><td>9.6</td><td>7.8</td><td>6.5</td><td>5.0</td><td>3.6</td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>10.9</td><td>9.0</td><td>7.4</td><td>6.1</td><td>4.7</td><td>3.3</td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td>10.1</td><td>8.5</td><td>7.0</td><td>5.8</td><td>4.5</td><td>3.2</td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td>9.5</td><td>8.1</td><td>6.7</td><td>5.5</td><td>4.3</td><td>3.0</td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td>8.9</td><td>7.5</td><td>6.4</td><td>5.2</td><td>4.0</td><td>2.8</td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td>8.4</td><td>7.0</td><td>6.1</td><td>5.0</td><td>3.8</td><td>2.6</td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>7.9</td><td>6.5</td><td>5.8</td><td>4.7</td><td>3.6</td><td>2.5</td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>7.4</td><td>6.1</td><td>5.5</td><td>4.5</td><td>3.4</td><td>2.4</td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td>7.0</td><td>5.7</td><td>5.2</td><td>4.3</td><td>3.1</td><td>2.2</td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td>6.6</td><td>5.1</td><td>4.7</td><td>4.0</td><td>2.8</td><td>2.1</td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td>6.2</td><td>4.7</td><td>4.3</td><td>3.8</td><td>2.7</td><td></td><td colspan="2">52</td></tr>
<tr><td colspan="2">54</td><td>5.8</td><td>4.4</td><td>4.0</td><td>3.7</td><td>2.5</td><td></td><td colspan="2">54</td></tr>
<tr><td colspan="2">56</td><td>5.5</td><td>4.2</td><td>3.7</td><td>3.5</td><td>2.4</td><td></td><td colspan="2">56</td></tr>
<tr><td colspan="2">58</td><td>4.9</td><td>3.8</td><td>3.5</td><td>3.2</td><td>2.1</td><td></td><td colspan="2">58</td></tr>
<tr><td colspan="2">60</td><td>4.3</td><td>3.6</td><td>3.2</td><td>3.0</td><td></td><td></td><td colspan="2">60</td></tr>
<tr><td colspan="2">62</td><td>3.9</td><td>3.3</td><td>3.0</td><td>2.8</td><td></td><td></td><td colspan="2">62</td></tr>
<tr><td colspan="2">64</td><td>3.5</td><td>3.1</td><td>2.8</td><td>2.5</td><td></td><td></td><td colspan="2">64</td></tr>
<tr><td colspan="2">66</td><td>3.2</td><td>2.7</td><td>2.4</td><td></td><td></td><td></td><td colspan="2">66</td></tr>
<tr><td colspan="2">68</td><td>2.9</td><td>2.3</td><td>2.3</td><td></td><td></td><td></td><td colspan="2">68</td></tr>
<tr><td colspan="2">70</td><td>2.2</td><td>1.7</td><td>1.8</td><td></td><td></td><td></td><td colspan="2">70</td></tr>
<tr><td colspan="2">72</td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">72</td></tr>
<tr><td colspan="2">Reeving</td><td>2</td><td>2</td><td>1</td><td>1</td><td>1</td><td>1</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="6">4</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="6">4</td><td>II</td></tr>
<tr><td>III</td><td colspan="6">4</td><td>III</td></tr>
<tr><td>IV</td><td colspan="6">4</td><td>IV</td></tr>
<tr><td>V</td><td colspan="6">4</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="6">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Note:

The light duty jib cannot change its offset and cannot connect to its hydraulic hose either when the main boom is 71 m long.

Table 1-50 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	50.6 m main boom without Y-shaped guying system, outriggers fully extended, with 80 t counterweight, over full range													Radius m/ Jib length m / Offset
	9	14			21			28			28（16+12）			
	0°	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
12	42.0													12
14	40.2	32.0												14
16	37.5	29.4	24.0		25.0									16
18	35.4	27.3	22.7	19.9	23.2			18.2			16.3			18
20	32.6	25.4	21.5	19.0	21.6	16.2		17.1			15.4	13.4		20
22	29.9	23.4	20.3	18.2	20.2	15.4		16.0			14.6	12.8	11.6	22
24	27.5	21.5	19.4	17.5	18.9	14.6	12.2	15.0	11.9		13.7	12.2	11.1	24
26	24.0	19.9	18.5	16.8	17.8	13.4	11.4	14.0	11.3		12.8	11.6	10.7	26
28	21.0	19.0	17.5	16.2	16.7	12.8	11.0	13.2	10.8		12.1	11.0	10.3	28
30	18.5	16.7	16.6	15.6	15.8	12.2	10.6	12.5	10.4	8.9	11.4	10.4	9.9	30
32	16.4	14.7	15.0	15.0	14.5	11.7	10.2	11.8	9.9	8.6	10.8	9.9	9.4	32
34	14.6	13.5	13.3	13.4	13.2	11.2	9.9	11.1	9.5	8.3	10.2	9.5	9.0	34
36	13.0	12.0	11.8	11.9	11.7	10.7	9.6	10.6	9.1	8.0	9.7	9.0	8.6	36
38	11.6	10.8	10.5	10.6	10.4	10.3	9.3	10.1	8.8	7.8	9.2	8.6	8.3	38
40	10.4	9.6	9.4	9.3	9.3	9.5	9.0	9.5	8.5	7.6	8.8	8.3	7.9	40
42	9.3	0.6	8.3	8.3	8.3	8.6	8.7	8.4	7.8	7.1	8.0	7.6	7.3	42
44	8.2	7.6	7.4	7.4	7.4	7.8	8.3	7.6	7.4	6.8	7.4	7.2	7.0	44
46	7.4	6.8	6.5	6.5	6.6	7.1	7.4	6.8	7.1	6.7	6.6	6.9	6.7	46
48	6.5	6.0	5.7	5.7	5.9	6.3	6.5	6.0	6.8	6.5	5.9	6.3	6.5	48
50	5.8	5.3	5.0	5.0	5.2	5.6	5.8	5.4	6.3	6.3	5.3	5.6	5.8	50
52	5.1	4.5	4.4	4.3	4.6	5.0	5.1	4.6	5.5	5.9	4.5	4.8	5.0	52
54	4.5	3.9	3.8		4.1	4.4	4.5	4.1	4.9	5.4	4.0	4.3	4.4	54
56		3.3	3.2		3.5	3.8	3.9	3.5	4.2	4.6	3.4	3.7	3.8	56
58		2.7			3.1	3.3	3.3	2.9	3.5	3.9	2.8	3.1	3.1	58
60		2.2			2.6	2.8		2.4	3.0	3.2	2.3	2.5	2.6	60
62					2.2			2.1	2.5	2.8	2.0	2.2	2.2	62
64								1.7	2.2	2.4	1.6	1.8	1.9	64
66								1.5	1.8		1.4	1.5		66
68								1.2			1.1	1.2		68
Reeving	4	4	2	2	2	2	1	2	1	1	2	2	2	Reeving
Telescoping mode I	3													I Telescoping mode
II	3													II
III	2													III
IV	2													IV
V	2													V
Wind speed m/s	9													Wind speed m/s

Table 1-50 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	50.6 m main boom without Y-shaped guying system, outriggers fully extended, with 80 t counterweight, over full range												Radius m/ Jib length m / Offset
	35			35（16+19）			42			42（16+26）			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20	14.8			12.7									20
22	13.8			12.0			11.3			9.5			22
24	13.0			11.3	9.5		10.6			9.0			24
26	12.2			10.7	9.2		9.9			8.5			26
28	11.5	8.9		10.1	8.7	7.8	9.4			8.1	6.7		28
30	10.8	8.6		9.5	8.3	7.5	8.8			7.6	6.4		30
32	9.8	8.0		8.6	7.6	7.0	8.3	6.3		7.1	6.1		32
34	9.3	7.6		8.1	7.3	6.8	7.9	6.1		6.7	5.8	5.2	34
36	8.8	7.3	6.1	7.7	7.0	6.5	7.5	5.9		6.4	5.6	5.0	36
38	8.3	7.1	6.0	7.3	6.6	6.3	7.1	5.7		6.0	5.4	4.8	38
40	7.7	6.6	5.7	6.8	6.2	5.8	6.5	5.3		5.6	5.0	4.6	40
42	7.1	6.1	5.4	6.3	5.7	5.4	6.2	5.1	4.2	5.2	4.8	4.4	42
44	6.7	5.9	5.2	5.9	5.4	5.2	5.8	5.0	4.1	5.0	4.5	4.2	44
46	6.4	5.7	5.1	5.6	5.2	5.0	5.6	4.8	4.1	4.8	4.3	4.1	46
48	6.1	5.4	5.0	5.4	5.0	4.8	5.3	4.6	4.0	4.5	4.1	3.9	48
50	5.2	5.0	4.6	4.9	4.6	4.4	5.0	4.4	3.9	4.3	3.9	3.7	50
52	4.7	4.8	4.5	4.6	4.4	4.2	4.6	4.1	3.6	3.9	3.6	4.7	52
54	4.2	4.6	4.4	4.0	4.2	4.1	4.4	4.0	3.5	3.7	3.4	3.3	54
56	3.7	4.4	4.2	3.6	4.1	4.0	4.0	3.8	3.4	3.6	3.3	3.0	56
58	3.1	3.9	3.9	3.0	3.5	3.7	3.5	3.6	3.3	3.4	3.0	2.9	58
60	2.6	3.4	3.6	2.5	2.9	3.1	3.1	3.4	3.3	2.9	2.9	2.7	60
62	2.3	3.0	3.4	2.2	2.6	2.8	2.7	3.3	3.2	2.5	2.7	2.4	62
64	2.0	2.6	3.0	1.9	2.2	2.3	2.4	3.2	3.1	2.1	2.1	2.1	64
66	1.7	2.2	2.6	1.6	1.9	2.0	2.0	2.8	2.8	1.7	1.7		66
68	1.3	1.8	2.0	1.2	1.4	1.4	1.6	2.3	2.6	1.3			68
70	1.0	1.4		1.0			1.2	1.9	1.9				70
72							1.0	1.5					72
Reeving	2	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	2												III
IV	2												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-51　Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	55.6 m main boom without Y-shaped guying system, outriggers fully extended, with 80 t counterweight, over full range													Radius m/ Jib length m / Offset
	9	14			21			28			28（16+12）			
	0°	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
14	34.7													14
16	32.6	25.3												16
18	29.8	23.2	22.3		20.6									18
20	27.5	22.3	21.0	18.8	19.3			15.4			14.0			20
22	25.3	20.6	19.5	18.2	18.1	15.2		14.5			13.1	11.8		22
24	23.5	19.1	18.1	17.3	17.0	14.5		13.6			12.3	11.1	10.3	24
26	21.9	17.7	16.9	16.5	16.0	13.7	11.7	12.8	10.7		11.6	10.5	9.8	26
28	20.4	16.5	15.8	15.5	15.0	13.1	11.3	12.1	10.2		10.9	9.9	9.3	28
30	18.8	15.4	14.8	14.5	14.0	12.4	10.9	11.4	9.7		10.3	9.5	8.9	30
32	16.7	14.8	14.0	13.7	13.1	11.9	10.4	10.8	9.3	8.1	9.8	9.0	8.5	32
34	14.8	13.1	13.1	12.9	12.2	11.3	10.0	10.2	8.9	7.9	9.2	8.5	8.1	34
36	13.2	12.0	11.9	12.2	11.4	10.8	9.6	9.7	8.4	7.7	8.8	8.1	7.8	36
38	11.7	10.8	10.6	11.0	10.5	10.4	9.3	9.2	8.1	7.4	8.4	7.8	7.4	38
40	10.5	9.7	9.5	9.8	9.4	9.8	8.9	8.8	7.7	7.1	8.0	7.4	7.3	40
42	9.4	8.6	8.4	8.7	8.3	9.2	8.6	8.0	7.2	6.7	7.6	7.1	6.9	42
44	8.4	7.6	7.4	7.7	7.4	8.3	8.3	7.4	6.9	6.4	7.2	6.8	6.6	44
46	7.5	6.8	6.6	6.8	6.6	7.4	7.7	6.5	6.7	6.2	6.4	6.5	6.3	46
48	6.7	6.2	5.9	6.0	5.9	6.7	6.8	5.8	6.4	6.0	5.7	6.2	6.1	48
50	6.0	5.3	5.1	5.3	5.2	5.9	6.0	5.2	6.1	5.8	5.0	5.5	5.7	50
52	5.3	4.8	4.5	4.6	4.6	5.3	5.3	4.5	5.4	5.4	4.4	4.7	4.9	52
54	4.6	4.2	3.9	4.0	3.9	4.4	4.7	3.9	4.8	5.2	3.8	4.1	4.4	54
56	4.1	3.5	3.3	3.4	3.4	3.9	4.1	3.5	4.2	4.7	3.3	3.7	3.8	56
58	3.5	3.0	2.9	2.9	2.9	3.4	3.5	3.0	3.7	4.1	2.9	3.2	3.3	58
60		2.3	2.3		2.4	2.9	3.0	2.5	3.1	3.4	2.4	2.6	2.7	60
62		1.8			2.1	2.4	2.5	1.9	2.4	2.7	1.8	2.0	2.1	62
64					1.7	2.0		1.6	2.0	2.3	1.5	1.7	1.7	64
66					1.4			1.3	1.7	1.9	1.2	1.4	1.4	66
68								1.0	1.4	1.6	1.0	1.1	1.1	68
70									1.1					70
Reeving	3	2	2	2	2	2	1	2	1	1	2	1	1	Reeving
Telescoping mode I	3													I Telescoping mode
II	3													II
III	3													III
IV	2													IV
V	2													V
Wind speed m/s	9													Wind speed m/s

Table 1-51 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	55.6 m main boom without Y-shaped guying system, outriggers fully extended, with 80 t counterweight, over full range												Radius m/ Jib length m / Offset
	35			35（16+19）			42			42（16+26）			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
22	12.0			10.9									22
24	11.3			10.2			10.0			8.7			24
26	10.7			9.6	8.4		9.3			8.1			26
28	10.1			9.0	8.0		8.8			7.7			28
30	9.5	7.8		8.5	7.6	7.0	8.3			7.2	6.3		30
32	9.0	7.4		8.1	7.2	6.7	7.8			6.9	6.0		32
34	8.5	7.1		7.6	6.9	6.4	7.4			6.4	5.7		34
36	8.1	6.9		7.3	6.5	6.1	7.1	5.7		6.1	5.4	5.0	36
38	7.5	6.4	5.5	6.7	6.1	5.6	6.5	5.3		5.8	5.1	4.8	38
40	7.1	6.2	5.4	6.4	5.8	5.4	6.2	5.1		5.5	4.9	4.6	40
42	6.7	5.9	5.2	6.1	5.5	5.2	5.8	4.9		5.0	4.6	4.2	42
44	6.5	5.6	5.0	5.8	5.3	5.0	5.6	4.7	4.1	4.8	4.4	4.0	44
46	5.9	5.2	4.7	5.3	4.8	4.6	5.1	4.4	3.8	4.6	4.1	3.9	46
48	5.6	4.9	4.6	5.0	4.6	4.4	4.8	4.2	3.6	4.4	3.9	3.7	48
50	5.2	4.7	4.4	4.7	4.4	4.2	4.6	4.0	3.5	4.0	3.6	3.4	50
52	4.6	4.6	4.3	4.5	4.2	4.1	4.4	3.9	3.4	3.8	3.4	3.3	52
54	4.1	4.4	4.1	4.0	4.1	3.9	4.2	3.7	3.3	3.6	3.3	3.1	54
56	3.4	3.9	3.7	3.2	3.6	3.5	3.6	3.3	3.0	3.4	3.1	3.0	56
58	2.8	3.7	3.4	2.8	3.2	3.2	3.1	3.0	2.8	3.3	3.0	2.9	58
60	2.5	3.2	3.3	2.4	2.8	3.1	2.7	2.9	2.7	2.8	2.6	2.5	60
62	2.1	2.9	3.2	2.1	2.4	2.7	2.4	2.8	2.6	2.3	2.4	2.4	62
64	1.9	2.5	3.0	1.7	2.1	2.3	2.0	2.7	2.6	2.0	2.4	2.3	64
66	1.6	2.1	2.6	1.5	1.8	2.0	1.5	2.2	2.1	1.7	1.9	1.9	66
68	1.2	1.8	2.0	1.2	1.4	1.5	1.3	2.0	2.1	1.4	1.7		68
70	1.0	1.4	1.6	1.0	1.1	1.2	1.1	1.7	1.8	1.0			70
72		1.1					1.0	1.4					72
74													74
Reeving	1	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	2												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-52　Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	60.6 m main boom without Y-shaped guying system, outriggers fully extended, with 80 t counterweight, over full range													Radius m/ Jib length m / Offset
	9	14			21			28			28（16+12）			
	0°	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
16	27.0	21.0												16
18	26.0	20.0			16.0									18
20	23.9	19.7	17.3		15.8			12.5			12.0			20
22	22.2	18.4	16.3	15.0	14.8			12.3			12.0			22
24	20.6	17.3	15.4	14.3	13.1	11.9		11.6			11.3	10.2		24
26	19.2	16.2	14.6	13.6	13.0	11.2		10.9			10.7	9.7	9.0	26
28	17.9	15.2	13.8	12.9	12.2	10.7	9.7	10.2	8.7		10.1	9.2	8.6	28
30	16.8	14.2	13.1	12.4	11.6	10.2	9.3	9.7	8.3		9.5	8.8	8.2	30
32	15.7	13.2	12.5	11.0	10.9	9.6	8.9	9.1	7.8		9.0	8.4	7.9	32
34	14.0	12.2	11.9	11.3	10.4	9.2	8.5	8.6	7.5	6.8	8.6	8.0	7.5	34
36	12.5	11.4	11.3	10.8	9.8	8.8	8.1	8.1	7.1	6.5	8.2	7.5	7.2	36
38	11.2	10.6	10.6	10.4	9.3	8.4	7.8	7.7	6.8	6.2	7.7	7.2	6.9	38
40	10.0	9.9	9.8	9.9	8.7	8.0	7.6	7.3	6.4	6.0	7.3	6.9	6.7	40
42	9.0	8.7	8.6	9.0	8.1	7.7	7.3	6.9	6.2	5.7	6.9	6.6	6.4	42
44	8.0	7.8	7.7	8.0	7.3	7.3	7.0	6.6	6.0	5.5	6.5	6.3	6.1	44
46	7.3	7.0	6.8	7.1	6.6	7.1	6.8	6.2	5.7	5.3	6.2	6.0	5.9	46
48	6.5	6.2	6.1	6.3	5.8	6.6	6.5	6.0	5.5	5.1	5.7	5.7	5.6	48
50	5.8	5.5	5.4	5.6	5.2	5.9	6.3	4.9	4.8	4.6	4.8	5.2	5.1	50
52	5.1	4.8	4.7	4.9	4.5	5.0	5.5	4.4	4.6	4.4	4.3	4.6	4.9	52
54	4.5	4.2	4.1	4.3	3.9	4.5	4.8	3.9	4.4	4.2	3.8	4.1	4.3	54
56	4.1	3.7	3.6	3.7	3.4	3.9	4.2	3.4	4.2	4.1	3.3	3.6	3.8	56
58	3.5	3.0	3.1	3.2	2.9	3.4	3.7	3.0	3.7	3.9	2.9	3.2	3.3	58
60	3.0	2.7	2.6	2.6	2.4	3.0	3.2	2.4	3.0	3.4	2.3	2.5	2.6	60
62	2.7	2.3	2.2	2.2	2.0	2.3	2.5	2.0	2.5	2.8	1.9	2.1	2.2	62
64		1.6	1.7		1.7	2.0	2.1	1.7	2.1	2.4	1.6	1.8	1.9	64
66		1.2			1.4	1.6	1.7	1.4	1.9	2.1	1.3	1.5	1.6	66
68						1.3		1.1	1.5	1.7	1.0	1.2	1.2	68
70								1.0	1.2	1.4		1.0	1.0	70
72									1.0	1.0				72
Reeving	3	2	2	2	2	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3													I Telescoping mode
II	3													II
III	3													III
IV	3													IV
V	2													V
Wind speed m/s	9													Wind speed m/s

Table 1-52 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	60.6 m main boom without Y-shaped guying system, outriggers fully extended, with 80 t counterweight, over full range												Radius m/ Jib length m / Offset
	35			35（16+19）			42			42（16+26）			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
22	9.5			9.0									22
24	9.4			8.9			7.5			7.0			24
26	8.8			8.4			7.5			7.0			26
28	8.3			7.9	7.0		7.4			6.7			28
30	7.9			7.5	6.7		7.0			6.3			30
32	7.4			7.1	6.4	5.9	6.6			6.0	5.2		32
34	7.0	6.0		6.8	6.0	5.6	6.2			5.7	4.9		34
36	6.6	5.7		6.4	5.8	5.4	5.9			5.3	4.7		36
38	6.2	5.4		6.1	5.5	5.1	5.5	4.7		5.1	4.5	4.2	38
40	5.9	5.2	4.7	5.8	5.3	4.9	5.2	4.5		4.8	4.3	4.0	40
42	5.6	4.9	4.5	5.5	5.0	4.7	4.9	4.3		4.6	4.1	3.8	42
44	5.3	4.7	4.4	5.3	4.8	4.6	4.7	4.1		4.4	3.9	3.6	44
46	5.1	4.5	4.2	5.0	4.6	4.4	4.4	3.9	3.5	4.2	3.7	3.5	46
48	4.8	4.3	4.0	4.8	4.4	4.2	4.2	3.7	3.4	3.9	3.6	3.3	48
50	4.6	4.1	3.8	4.6	4.2	4.0	4.0	3.5	3.3	3.8	3.4	3.2	50
52	4.3	4.0	3.7	4.4	4.0	3.9	3.7	3.4	3.1	3.6	3.3	3.1	52
54	4.1	3.8	3.5	4.1	3.9	3.8	3.5	3.2	3.0	3.4	3.1	2.9	54
56	3.7	3.6	3.4	3.6	3.8	3.6	3.3	3.1	2.9	3.3	3.0	2.8	56
58	3.0	3.2	3.0	2.9	3.3	3.2	3.2	2.9	2.7	3.1	2.8	2.7	58
60	2.6	3.0	2.8	2.5	2.9	3.0	2.8	2.6	2.4	2.5	2.3	2.2	60
62	2.2	2.8	2.7	2.1	2.6	2.8	2.4	2.4	2.3	2.4	2.2	2.1	62
64	1.9	2.6	2.6	1.8	2.2	2.4	2.1	2.3	2.1	2.3	2.1	2.0	64
66	1.6	2.3	2.3	1.5	1.9	2.1	1.8	2.1	2.0	2.1	2.0	1.8	66
68	1.3	1.9	1.9	1.2	1.5	1.7	1.4	1.9		2.0	1.8		68
70	1.0	1.4		1.0	1.1	1.4	1.1			1.7			70
Reeving	1	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	3												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-53 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	65.6 m main boom without Y-shaped guying system, outriggers fully extended, with 80 t counterweight, over full range													Radius m/ Jib length m / Offset
	9	14			21			28			28（16+12）			
	0°	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
16	22.0													16
18	20.6	16.2												18
20	19.3	15.2	12.9		12.3									20
22	18.1	14.2	12.3	11.0	11.5			9.6			9.4			22
24	16.9	13.4	11.6	10.5	10.8	8.9		9.0			8.8	8.1		24
26	16.0	12.6	11.1	10.1	10.2	8.4		8.4			8.3	7.6	7.2	26
28	15.1	11.9	10.5	9.7	9.6	8.1	7.1	7.9			7.8	7.2	6.8	28
30	14.1	11.3	10.0	9.2	9.0	7.6	6.8	7.5	6.1		7.3	6.8	6.4	30
32	13.2	10.7	9.6	8.9	8.5	7.3	6.5	7.1	5.1		6.9	6.4	6.1	32
34	12.3	10.2	9.1	8.5	8.1	7.0	6.3	6.7	5.5	4.9	6.5	6.0	5.9	34
36	11.5	9.7	8.8	8.2	7.7	6.7	6.0	6.3	5.3	4.7	6.2	5.8	5.5	36
38	10.4	9.2	8.4	7.9	7.4	6.4	5.8	6.0	5.0	4.5	5.8	5.5	5.3	38
40	9.4	8.6	8.0	7.6	7.0	6.1	5.6	5.7	4.8	4.3	5.5	5.2	5.0	40
42	8.5	8.0	7.7	7.4	6.7	5.9	5.5	5.4	4.6	4.1	5.0	4.7	4.6	42
44	7.6	7.1	6.8	7.1	6.4	5.7	5.3	5.1	4.4	4.0	4.7	4.5	4.3	44
46	6.9	6.3	6.0	6.3	6.1	5.4	5.0	4.9	4.2	3.9	4.3	4.3	4.2	46
48	6.2	5.6	5.4	5.6	5.8	5.3	4.9	4.6	4.1	3.7	4.1	4.1	4.0	48
50	5.6	5.0	4.8	5.0	5.2	4.9	4.6	4.1	3.6	3.3	3.9	3.9	3.8	50
52	5.0	4.4	4.2	4.3	4.6	4.7	4.5	4.0	3.4	3.2	3.7	3.6	3.5	52
54	4.5	3.9	3.7	3.9	4.1	4.6	4.4	3.8	3.3	3.1	3.5	3.4	3.4	54
56	4.0	3.4	3.2	3.3	3.6	4.1	4.2	3.6	3.2	3.0	3.3	3.2	3.2	56
58	3.6	2.9	2.8	2.9	3.1	3.6	3.9	3.3	3.1	2.9	2.9	3.1	3.1	58
60	3.2	2.5	2.4	2.4	2.6	3.1	3.3	2.6	2.8	2.6	2.3	2.5	2.6	60
62	2.7	2.2	2.0	2.0	2.2	2.7	2.8	2.1	2.6	2.4	2.0	2.2	2.3	62
64	2.4	1.8	1.6	1.6	1.9	2.3	2.4	1.9	2.4	2.3	1.7	1.9	2.0	64
66	2.0	1.5	1.3		1.6	1.9	2.0	1.6	2.0	2.0	1.4	1.6	1.7	66
68		1.1			1.3	1.6		1.3	1.7	1.6	1.2	1.3	1.4	68
70								1.0	1.5		1.0	1.1		70
72														72
Reeving	2	2	2	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3													I Telescoping mode
II	3													II
III	3													III
IV	3													IV
V	3													V
Wind speed m/s	9													Wind speed m/s

Table 1-53 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	65.6 m main boom without Y-shaped guying system, outriggers fully extended, with 80 t counterweight, over full range											Radius m/ Jib length m / Offset
	35			35（16+19）			42			42（16+26）		
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
24	7.2			7.0									24
26	7.0			6.8			5.5			5.4			26
28	6.3			6.3			5.2			5.1			28
30	5.9			6.0	5.3		4.9			4.8			30
32	5.6			5.6	5.0		4.6			4.5			32
34	5.3	4.3		5.3	4.8	4.5	4.4			4.2	3.8		34
36	4.9	4.0		5.0	4.5	4.3	4.1			3.9	3.5		36
38	4.7	3.8		4.7	4.3	4.0	3.9	3.1		3.7	3.4		38
40	4.4	3.6	3.3	4.4	4.1	3.8	3.7	2.9		3.5	3.2	3.0	40
42	4.2	3.5	3.1	4.2	3.8	3.7	3.5	2.8		3.3	3.0	2.8	42
44	4.0	3.3	2.9	4.0	3.7	3.5	3.2	2.6		3.1	2.8	2.7	44
46	3.8	3.2	2.9	3.7	3.5	3.3	3.1	2.5	2.2	3.0	2.7	2.6	46
48	3.6	3.1	2.7	3.5	3.3	3.2	2.9	2.4	2.0	2.8	2.6	2.4	48
50	3.4	2.9	2.6	3.3	3.2	3.0	2.5	2.1	1.8	2.5	2.3	2.2	50
52	3.3	2.8	2.5	3.2	3.0	2.9	2.4	2.0	1.7	2.3	2.2	2.0	52
54	3.1	2.7	2.4	3.0	2.9	2.8	2.3	1.9	1.6	2.2	2.0	1.8	54
56	2.9	2.5	2.4	2.9	2.7	2.7	2.1	1.8	1.5	2.1	1.9		56
58	2.6	2.2	2.2	2.6	2.5	2.5	2.0	1.7		1.9			58
60	2.4	2.1	2.0	2.4	2.3	2.1	1.9						60
62	2.2	2.0	1.9	2.3	2.1	2.0	1.6						62
64	2.0	1.8	1.8	1.9	2.0	1.7							64
66	1.7	1.8	1.7	1.6	1.5								66
68	1.4	1.6		1.2									68
70	1.1												70
72													72
Reeving	1	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	3												IV
V	3												V
Wind speed m/s	9												Wind speed m/s

Table 1-54 Main boom + light duty jib

Unit: Metric tons

<table>
<tr><th colspan="2" rowspan="3">Radius m/ Jib length m / Offset</th><th colspan="6">71 m main boom without Y-shaped guying system, outriggers fully extended, with 80 t counterweight, over full range</th><th colspan="2" rowspan="3">Radius m/ Jib length m / Offset</th></tr>
<tr><th>9</th><th>14</th><th>21</th><th>28</th><th>35</th><th>42</th></tr>
<tr><th>0°</th><th>0°</th><th>0°</th><th>0°</th><th>0°</th><th>0°</th></tr>
<tr><td colspan="2">16</td><td>16.0</td><td></td><td></td><td></td><td></td><td></td><td colspan="2"></td></tr>
<tr><td colspan="2">18</td><td>15.9</td><td>14.0</td><td></td><td></td><td></td><td></td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>15.7</td><td>13.5</td><td>11.0</td><td></td><td></td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>15.5</td><td>12.7</td><td>10.3</td><td>8.0</td><td></td><td></td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>15.0</td><td>12.0</td><td>9.7</td><td>7.9</td><td>6.0</td><td>4.0</td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>14.1</td><td>11.4</td><td>9.2</td><td>7.8</td><td>5.9</td><td>4.0</td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td>13.3</td><td>10.7</td><td>8.6</td><td>7.3</td><td>5.6</td><td>3.9</td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>12.5</td><td>10.1</td><td>8.2</td><td>6.9</td><td>5.3</td><td>3.8</td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>11.7</td><td>9.6</td><td>7.8</td><td>6.5</td><td>5.0</td><td>3.6</td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>10.9</td><td>9.0</td><td>7.4</td><td>6.1</td><td>4.7</td><td>3.3</td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td>10.1</td><td>8.5</td><td>7.0</td><td>5.8</td><td>4.5</td><td>3.2</td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td>9.5</td><td>8.1</td><td>6.7</td><td>5.5</td><td>4.3</td><td>3.0</td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td>8.8</td><td>7.5</td><td>6.4</td><td>5.2</td><td>4.0</td><td>2.8</td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td>7.9</td><td>7.0</td><td>6.1</td><td>5.0</td><td>3.8</td><td>2.6</td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>7.2</td><td>6.5</td><td>5.8</td><td>4.7</td><td>3.6</td><td>2.5</td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>6.4</td><td>5.9</td><td>5.5</td><td>4.5</td><td>3.4</td><td>2.4</td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td>5.8</td><td>5.2</td><td>5.2</td><td>4.3</td><td>3.1</td><td>2.2</td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td>5.2</td><td>4.4</td><td>4.7</td><td>4.0</td><td>2.8</td><td>2.1</td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td>4.7</td><td>3.9</td><td>3.9</td><td>3.8</td><td>2.7</td><td></td><td colspan="2">52</td></tr>
<tr><td colspan="2">54</td><td>4.2</td><td>3.4</td><td>3.4</td><td>3.7</td><td>2.5</td><td></td><td colspan="2">54</td></tr>
<tr><td colspan="2">56</td><td>3.7</td><td>3.0</td><td>3.0</td><td>3.5</td><td>2.4</td><td></td><td colspan="2">56</td></tr>
<tr><td colspan="2">58</td><td>3.2</td><td>2.6</td><td>2.6</td><td>2.7</td><td>2.1</td><td></td><td colspan="2">58</td></tr>
<tr><td colspan="2">60</td><td>2.7</td><td>2.2</td><td>2.3</td><td>2.1</td><td></td><td></td><td colspan="2">60</td></tr>
<tr><td colspan="2">62</td><td>2.3</td><td>1.7</td><td>1.8</td><td>1.8</td><td></td><td></td><td colspan="2">62</td></tr>
<tr><td colspan="2">64</td><td>2.0</td><td>1.4</td><td>1.5</td><td>1.6</td><td></td><td></td><td colspan="2">64</td></tr>
<tr><td colspan="2">66</td><td>1.7</td><td>1.1</td><td>1.3</td><td></td><td></td><td></td><td colspan="2">66</td></tr>
<tr><td colspan="2">68</td><td>1.5</td><td></td><td></td><td></td><td></td><td></td><td colspan="2">68</td></tr>
<tr><td colspan="2">70</td><td>1.0</td><td></td><td></td><td></td><td></td><td></td><td colspan="2">70</td></tr>
<tr><td colspan="2">72</td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">72</td></tr>
<tr><td colspan="2">Reeving</td><td>2</td><td>2</td><td>1</td><td>1</td><td>1</td><td>1</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="6">4</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="6">4</td><td>II</td></tr>
<tr><td>III</td><td colspan="6">4</td><td>III</td></tr>
<tr><td>IV</td><td colspan="6">4</td><td>IV</td></tr>
<tr><td>V</td><td colspan="6">4</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="6">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Note:

The light duty jib cannot change its offset and cannot connect to its hydraulic hose either when the main boom is 71 m long.

Table 1-55 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	50.6 m main boom without Y-shaped guying system, outriggers fully extended, with 60 t counterweight, over full range													Radius m/ Jib length m / Offset
	9	14			21			28			28（16+12）			
	0°	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
12	42.0													12
14	40.2	32.0												14
16	37.5	29.4	24.0		25.0									16
18	35.2	27.3	22.7	19.9	23.2			18.2			16.3			18
20	29.1	25.4	21.5	19.0	21.6	16.2		17.1			15.4	13.4		20
22	24.5	21.4	20.3	18.2	20.2	15.4		16.0			14.6	12.8	11.6	22
24	20.9	18.1	19.4	17.5	18.9	14.6	12.2	15.0	11.9		13.7	12.2	11.1	24
26	17.9	15.5	16.7	16.8	17.4	13.4	11.4	14.0	11.3		12.8	11.6	10.7	26
28	15.5	13.3	14.4	15.2	15.0	12.8	11.0	13.2	10.8		12.1	11.0	10.3	28
30	13.4	11.5	12.5	13.1	13.0	12.2	10.6	12.5	10.4	8.9	11.4	10.4	9.9	30
32	11.7	9.9	10.8	11.4	11.0	11.6	10.2	11.1	9.9	8.6	10.8	9.9	9.4	32
34	10.2	8.6	9.4	9.9	9.2	10.2	9.9	9.7	9.5	8.3	9.5	9.5	9.0	34
36	8.9	7.4	8.1	8.6	8.0	8.9	9.5	8.5	9.1	8.0	8.3	9.0	8.6	36
38	7.7	6.5	7.1	7.4	7.0	7.8	8.3	7.4	8.8	7.8	7.3	8.0	8.3	38
40	6.7	5.6	6.1	6.5	6.1	6.8	7.3	6.5	8.0	7.6	6.3	6.9	7.4	40
42	5.9	4.7	5.3	5.5	5.3	5.9	6.4	5.4	6.7	7.1	5.3	5.8	6.2	42
44	5.0	4.0	4.4	4.7	4.5	5.1	5.5	4.7	5.9	6.8	4.5	5.0	5.4	44
46	4.3	3.4	3.8	4.0	3.8	4.4	4.8	4.0	5.1	6.0	3.9	4.4	4.6	46
48	3.6	2.8	3.1	3.3	3.2	3.7	4.1	3.5	4.5	5.3	3.3	3.7	4.0	48
50	3.0	2.2	2.6	2.6	2.7	3.2	3.4	2.9	3.9	4.5	2.8	3.2	3.4	50
52	2.5	1.7	2.0	2.0	2.2	2.7	2.9	2.4	3.2	3.8	2.2	2.6	2.7	52
54	1.9	1.3	1.5	1.5	1.7	2.2	2.3	1.9	2.7	3.2	1.8	2.1	2.2	54
56					1.3	1.7	1.8	1.5	2.2	2.6	1.4	1.6	1.8	56
58						1.3	1.3	1.0	1.7	2.0		1.2	1.4	58
60									1.2	1.5				60
62										1.1				62
64														64
Reeving	4	4	2	2	2	2	1	2	1	1	2	2	1	Reeving
Telescoping mode I	3													I Telescoping mode
II	3													II
III	2													III
IV	2													IV
V	2													V
Wind speed m/s	9													Wind speed m/s

Table 1-55　Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	50.6 m main boom without Y-shaped guying system, outriggers fully extended, with 60 t counterweight, over full range												Radius m/ Jib length m / Offset
	35			35（16+19）			42			42（16+26）			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20	14.8			12.7									20
22	13.8			12.0			11.3			9.5			22
24	13.0			11.3	9.5		10.6			9.0			24
26	12.2			10.7	9.2		9.9			8.5			26
28	11.5	8.9		10.1	8.7	7.8	9.4			8.1	6.7		28
30	10.8	8.6		9.5	8.3	7.5	8.8			7.6	6.4		30
32	9.8	8.0		8.6	7.6	7.0	8.3	6.3		7.1	6.1		32
34	9.3	7.6		8.1	7.3	6.8	7.9	6.1		6.7	5.8	5.2	34
36	8.6	7.3	6.1	7.7	7.0	6.5	7.5	5.9		6.4	5.6	5.0	36
38	7.6	7.1	6.0	7.3	6.6	6.3	7.1	5.7		6.0	5.4	4.8	38
40	6.4	6.6	5.7	6.4	6.2	5.8	6.5	5.3		5.6	5.0	4.6	40
42	5.4	6.1	5.4	5.4	5.7	5.4	5.8	5.1	4.2	5.2	4.8	4.4	42
44	4.8	5.9	5.2	4.7	5.4	5.2	5.1	5.0	4.1	5.0	4.5	4.2	44
46	4.1	5.6	5.1	4.1	4.8	5.0	4.4	4.8	4.1	4.4	4.3	4.1	46
48	3.6	4.9	5.0	3.5	4.2	4.7	3.9	4.6	4.0	3.8	4.1	3.9	48
50	2.9	4.1	4.6	2.9	3.5	3.9	3.3	4.4	3.9	3.3	3.9	3.7	50
52	2.5	3.6	4.4	2.4	3.0	3.4	2.7	4.1	3.6	2.7	3.6	4.7	52
54	2.1	3.1	3.8	2.0	2.5	2.9	2.3	3.6	3.5	2.2	3.1	3.3	54
56	1.7	2.6	3.3	1.6	2.1	2.4	1.9	3.1	3.4	1.9	2.7	3.0	56
58	1.3	2.1	2.7	1.2	1.7	1.9	1.6	2.7	3.3	1.5	2.1	2.6	58
60	1.0	1.7	2.2		1.3	1.5	1.2	2.3	3.1	1.1	1.7	2.1	60
62		1.3	1.8		1.0	1.1		1.9	2.7		1.4	1.6	62
64		1.0	1.4					1.6	2.3		1.0	1.2	64
66			1.1					1.2	1.7				66
68									1.4				68
70									1.0				70
72													72
Reeving	2	1	1	2	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	2												III
IV	2												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-56 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	55.6 m main boom without Y-shaped guying system, outriggers fully extended, with 60 t counterweight, over full range													Radius m/ Jib length m / Offset
	9	14			21			28			28（16+12）			
	0°	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
14	34.7													14
16	32.6	25.3												16
18	29.8	23.2	22.3		20.6									18
20	27.5	22.3	21.0	18.8	19.3			15.4			14.0			20
22	23.9	20.6	19.5	18.2	18.1	15.2		14.5			13.1	11.8		22
24	20.3	18.3	18.1	17.3	17.0	14.5		13.6			12.3	11.1	10.3	24
26	17.5	15.6	16.9	16.5	16.0	13.7	11.7	12.8	10.7		11.6	10.5	9.8	26
28	15.2	13.4	14.6	15.5	14.1	13.1	11.3	12.1	10.2		10.9	9.9	9.3	28
30	13.7	11.6	12.6	13.3	12.2	12.4	10.9	11.4	9.7		10.3	9.5	8.9	30
32	11.9	10.1	10.9	11.6	10.6	11.9	10.4	10.7	9.3	8.1	9.8	9.0	8.5	32
34	10.4	8.7	9.5	10.1	9.2	10.7	10.0	9.3	8.9	7.9	8.9	8.5	8.1	34
36	9.1	7.5	8.3	8.7	8.0	9.3	9.6	8.1	8.4	7.7	7.8	8.1	7.8	36
38	7.9	6.5	7.1	7.6	7.0	8.2	8.6	7.1	8.1	7.4	6.8	7.4	7.4	38
40	6.9	5.6	6.2	6.5	6.1	7.1	7.6	6.2	7.7	7.1	5.9	6.5	7.1	40
42	6.0	4.8	5.3	5.6	5.3	6.2	6.6	5.2	6.6	6.7	5.1	5.7	6.0	42
44	5.2	4.1	4.5	4.8	4.5	5.4	5.8	4.5	5.7	6.4	4.4	4.9	5.3	44
46	4.4	3.4	3.8	4.1	3.8	4.7	5.0	3.9	5.0	5.9	3.8	4.2	4.6	46
48	3.7	2.8	3.2	3.4	3.2	4.0	4.2	3.3	4.3	5.1	3.2	3.6	3.9	48
50	3.1	2.3	2.6	2.8	2.6	3.4	3.6	2.7	3.8	4.5	2.7	3.1	3.3	50
52	2.6	1.7	2.1	2.2	2.2	2.8	3.0	2.2	3.1	3.7	2.1	2.4	2.7	52
54	2.0	1.3	1.6	1.7	1.7	2.2	2.5	1.8	2.6	3.2	1.7	2.0	2.2	54
56	1.5		1.1	1.2	1.2	1.7	2.0	1.4	2.2	2.7	1.3	1.6	1.8	56
58						1.3	1.5	1.0	1.8	2.2		1.2	1.4	58
60							1.1		1.3	1.6				60
62										1.1				62
Reeving	4	2	2	2	2	2	1	2	1	1	2	1	1	Reeving
Telescoping mode I	3													I Telescoping mode
II	3													II
III	3													III
IV	2													IV
V	2													V
Wind speed m/s	9													Wind speed m/s

Table 1-56 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	55.6 m main boom without Y-shaped guying system, outriggers fully extended, with 60 t counterweight, over full range												Radius m/ Jib length m / Offset
	35			35（16+19）			42			42（16+26）			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
22	12.0			10.9									22
24	11.3			10.2			10.0			8.7			24
26	10.7			9.6	8.4		9.3			8.1			26
28	10.1			9.0	8.0		8.8			7.7			28
30	9.5	7.8		8.5	7.6	7.0	8.3			7.2	6.3		30
32	9.0	7.4		8.1	7.2	6.7	7.8			6.9	6.0		32
34	8.5	7.1		7.6	6.9	6.4	7.4			6.4	5.7		34
36	8.1	6.9		7.3	6.5	6.1	7.1	5.7		6.1	5.4	5.0	36
38	7.1	6.4	5.5	6.7	6.1	5.6	6.5	5.3		5.8	5.1	4.8	38
40	6.3	6.2	5.4	6.1	5.8	5.4	6.2	5.1		5.5	4.9	4.6	40
42	5.4	5.9	5.2	5.4	5.5	5.2	5.8	4.9		5.0	4.6	4.2	42
44	4.7	5.6	5.0	4.6	5.3	5.0	5.0	4.7	4.1	4.8	4.4	4.0	44
46	3.9	5.2	4.7	3.8	4.6	4.6	4.2	4.4	3.8	4.4	4.1	3.9	46
48	3.3	4.7	4.6	3.3	4.0	4.4	3.6	4.2	3.6	3.7	3.9	3.7	48
50	2.9	4.1	4.4	2.8	3.4	3.9	3.1	4.0	3.5	3.1	3.6	3.4	50
52	2.4	3.6	4.3	2.3	3.0	3.4	2.6	3.9	3.4	2.6	3.4	3.3	52
54	2.0	3.1	3.9	1.9	2.5	2.9	2.2	3.6	3.3	2.1	3.1	3.1	54
56	1.5	2.4	3.1	1.4	1.9	2.2	1.7	2.9	3.0	1.8	2.6	3.0	56
58	1.1	2.0	2.6	1.0	1.5	1.8	1.3	2.4	2.8	1.4	2.1	2.7	58
60		1.6	2.1				1.0	2.0	2.7	1.0	1.7	2.0	60
62		1.3	1.8					1.7	2.4		1.3	1.7	62
64		1.0	1.4					1.3	2.0			1.3	64
66			1.1					1.0	1.5			1.0	66
68									1.2				68
70									1.0				70
Reeving	1	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	2												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-57 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	60.6 m main boom without Y-shaped guying system, outriggers fully extended, with 60 t counterweight, over full range													Radius m/ Jib length m / Offset
	9	14			21			28			28（16+12）			
	0°	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
16	27.0	21.0												16
18	26.0	20.0			16.0									18
20	23.9	19.7	17.3		15.8			12.5			12.0			20
22	22.2	18.4	16.3	15.0	14.8			12.3			12.0			22
24	20.6	17.3	15.4	14.3	13.1	11.9		11.6			11.3	10.2		24
26	19.2	16.2	14.6	13.6	13.0	11.2		10.9			10.7	9.7	9.0	26
28	14.8	13.8	13.8	12.9	12.2	10.7	9.7	10.2	8.7		10.1	9.2	8.6	28
30	12.9	11.9	12.9	12.4	11.6	10.2	9.3	9.7	8.3		9.5	8.8	8.2	30
32	11.3	10.4	11.3	11.0	10.4	9.6	8.9	9.1	7.8		9.0	8.4	7.9	32
34	9.9	8.9	9.8	10.4	9.1	9.2	8.5	8.6	7.5	6.8	8.6	8.0	7.5	34
36	8.7	7.8	8.6	9.0	7.9	8.8	8.1	8.1	7.1	6.5	7.8	7.5	7.2	36
38	7.6	6.8	7.4	7.9	6.9	8.1	7.8	7.1	6.8	6.2	6.7	7.2	6.9	38
40	6.6	5.9	6.5	6.8	6.0	7.1	7.6	6.2	6.4	6.0	5.8	6.5	6.7	40
42	5.8	5.0	5.6	5.9	5.2	6.2	6.8	5.4	6.2	5.7	5.1	5.6	6.1	42
44	5.1	4.3	4.8	5.1	4.5	5.3	6.0	4.6	6.0	5.5	4.4	4.9	5.2	44
46	4.4	3.6	4.1	4.4	3.8	4.6	5.2	4.0	5.2	5.3	3.7	4.2	4.6	46
48	3.7	3.0	3.5	3.7	3.2	4.0	4.5	3.4	4.6	5.1	3.2	3.7	3.9	48
50	3.2	2.5	2.9	3.1	2.7	3.4	3.9	2.7	3.6	4.3	2.6	3.0	3.2	50
52	2.7	2.0	2.3	2.5	2.2	2.8	3.2	2.2	3.1	3.7	2.1	2.5	2.7	52
54	2.2	1.5	1.8	2.0	1.7	2.3	2.7	1.8	2.6	3.2	1.7	2.0	2.2	54
56	1.7		1.4	1.5	1.3	1.8	2.2	1.4	2.2	2.7	1.4	1.6	1.8	56
58	1.3					1.4	1.7	1.0	1.8	2.3	1.0	1.3	1.4	58
60						1.1	1.3		1.3	1.7		0.9	1.0	60
62									1.0	1.3				62
64										1.0				64
Reeving	3	2	2	2	2	1	1	2	1	1	1	1	1	Reeving
Telescoping mode I	3													I Telescoping mode
II	3													II
III	3													III
IV	3													IV
V	2													V
Wind speed m/s	9													Wind speed m/s

Table 1-57 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	60.6 m main boom without Y-shaped guying system, outriggers fully extended, with 60 t counterweight, over full range												Radius m/ Jib length m / Offset
	35			35（16+19）			42			42（16+26）			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
22	9.5			9.0									22
24	9.4			8.9			7.5			7.0			24
26	8.8			8.4			7.5			7.0			26
28	8.3			7.9	7.0		7.4			6.7			28
30	7.9			7.5	6.7		7.0			6.3			30
32	7.4			7.1	6.4	5.9	6.6			6.0	5.2		32
34	7.0	6.0		6.8	6.0	5.6	6.2			5.7	4.9		34
36	6.6	5.7		6.4	5.8	5.4	5.9			5.3	4.7		36
38	6.2	5.4		6.1	5.5	5.1	5.5	4.7		5.1	4.5	4.2	38
40	5.9	5.2	4.7	5.8	5.3	4.9	5.2	4.5		4.8	4.3	4.0	40
42	5.3	4.9	4.5	5.3	5.0	4.7	4.9	4.3		4.6	4.1	3.8	42
44	4.6	4.7	4.4	4.6	4.8	4.6	4.7	4.1		4.4	3.9	3.6	44
46	4.0	4.5	4.2	4.0	4.6	4.4	4.4	3.9	3.5	4.2	3.7	3.5	46
48	3.4	4.3	4.0	3.4	4.2	4.2	3.7	3.7	3.4	3.7	3.6	3.3	48
50	2.9	4.1	3.8	2.9	3.6	4.0	3.2	3.5	3.3	3.1	3.4	3.2	50
52	2.5	3.7	3.7	2.4	3.1	3.5	2.7	3.4	3.1	2.7	3.3	3.1	52
54	2.0	3.2	3.5	2.0	2.6	3.0	2.3	3.2	3.0	2.2	3.1	2.9	54
56	1.6	2.7	3.4	1.6	2.1	2.5	1.9	3.1	2.9	1.8	2.7	2.8	56
58	1.2	2.1	2.8	1.1	1.6	1.9	1.5	2.8	2.7	1.4	2.3	2.7	58
60	1.0	1.7	2.3				1.1	2.2	2.4	1.0	1.6	2.0	60
62		1.3	1.9					1.7			1.3	1.7	62
64		1.0	1.6					1.5			1.0	1.4	64
66			1.2					1.1				1.0	66
Reeving	1	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	3												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-58 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	65.6 m main boom without Y-shaped guying system, outriggers fully extended, with 60 t counterweight, over full range													Radius m/ Jib length m / Offset
	9	14			21			28			28（16+12）			
	0°	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
16	22.0													16
18	20.6	16.2												18
20	19.3	15.2	12.9		12.3									20
22	18.1	14.2	12.3	11.0	11.5			9.6			9.4			22
24	16.9	13.4	11.6	10.5	10.8	8.9		9.0			8.8	8.1		24
26	15.9	12.6	11.1	10.1	10.2	8.4		8.4			8.3	7.6	7.2	26
28	13.8	11.9	10.5	9.7	9.6	8.1	7.1	7.9			7.8	7.2	6.8	28
30	12.0	11.3	10.0	9.2	9.0	7.6	6.8	7.5	6.1		7.3	6.8	6.4	30
32	10.6	10.1	9.6	8.9	8.5	7.3	6.5	7.1	5.1		6.9	6.4	6.1	32
34	9.3	8.8	9.1	8.5	8.1	7.0	6.3	6.7	5.5	4.9	6.5	6.0	5.9	34
36	8.2	7.6	8.3	8.2	7.7	6.7	6.0	6.3	5.3	4.7	6.2	5.8	5.5	36
38	7.2	6.7	7.3	7.8	7.1	6.4	5.8	6.0	5.0	4.5	5.8	5.5	5.3	38
40	6.4	5.8	6.4	6.8	6.2	6.1	5.6	5.7	4.8	4.3	5.5	5.2	5.0	40
42	5.6	5.0	5.5	5.9	5.4	5.9	5.5	5.4	4.6	4.1	4.9	4.7	4.6	42
44	4.9	4.3	4.8	5.1	4.6	5.5	5.3	5.0	4.4	4.0	4.3	4.5	4.3	44
46	4.3	3.7	4.1	4.4	4.0	4.8	5.0	4.3	4.2	3.9	3.7	4.1	4.2	46
48	3.7	3.2	3.6	3.8	3.4	4.2	4.7	3.6	4.1	3.7	3.2	3.5	3.8	48
50	3.2	2.6	3.0	3.2	2.8	3.5	3.9	2.9	3.6	3.3	2.7	3.0	3.3	50
52	2.7	2.2	2.5	2.7	2.3	3.0	3.4	2.4	3.4	3.2	2.2	2.5	2.7	52
54	2.3	1.7	2.0	2.2	1.9	2.5	2.9	2.0	2.9	3.1	1.8	2.1	2.3	54
56	1.9	1.3	1.6	1.8	1.5	2.0	2.4	1.6	2.4	2.9	1.4	1.7	1.9	56
58	1.5		1.2	1.3	1.2	1.6	1.9	1.2	2.0	2.5	1.1	1.4	1.5	58
60	1.2					1.2	1.4		1.5	1.9		1.0		60
62							1.1		1.1	1.5				62
64										1.2				64
Reeving	2	2	2	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3													I Telescoping mode
II	3													II
III	3													III
IV	3													IV
V	3													V
Wind speed m/s	9													Wind speed m/s

Table 1-58　Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	65.6 m main boom without Y-shaped guying system, outriggers fully extended, with 60 t counterweight, over full range												Radius m/ Jib length m / Offset
	35			35（16+19）			42			42（16+26）			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
24	7.2			7.0									24
26	7.0			6.8			5.5			5.4			26
28	6.3			6.3			5.2			5.1			28
30	5.9			6.0	5.3		4.9			4.8			30
32	5.6			5.6	5.0		4.6			4.5			32
34	5.3	4.3		5.3	4.8	4.5	4.4			4.2	3.8		34
36	4.9	4.0		5.0	4.5	4.3	4.1			3.9	3.5		36
38	4.7	3.8		4.7	4.3	4.0	3.9	3.1		3.7	3.4		38
40	4.4	3.6	3.3	4.4	4.1	3.8	3.7	2.9		3.5	3.2	3.0	40
42	4.2	3.5	3.1	4.2	3.8	3.7	3.5	2.8		3.3	3.0	2.8	42
44	4.0	3.3	2.9	4.0	3.7	3.5	3.2	2.6		3.1	2.8	2.7	44
46	3.8	3.2	2.9	3.7	3.5	3.3	3.1	2.5	2.2	3.0	2.7	2.6	46
48	3.6	3.1	2.7	3.5	3.3	3.2	2.9	2.4	2.0	2.8	2.6	2.4	48
50	3.2	2.9	2.6	3.0	3.2	3.0	2.5	2.1	1.8	2.5	2.3	2.2	50
52	2.7	2.8	2.5	2.5	3.0	2.9	2.3	2.0	1.7	2.3	2.2	2.0	52
54	2.3	2.7	2.4	2.1	2.7	2.8	1.9	1.9	1.6	2.0	2.0	1.8	54
56	1.8	2.5	2.4	1.7	2.3	2.6	1.5	1.8	1.5	1.7	1.9		56
58	1.4	2.2	2.2	1.3	1.8	2.2	1.2	1.7		1.4			58
60	1.0	1.9	2.0	1.0	1.4	1.6	1.0						60
62		1.5											62
64		1.2											64
66		1.0											66
68													68
Reeving	1	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	3												IV
V	3												V
Wind speed m/s	9												Wind speed m/s

Table 1-59 Main boom + light duty jib

Unit: Metric tons

<table>
<tr><th colspan="2" rowspan="3">Radius m/
Jib length m
/ Offset</th><th colspan="6">71 m main boom without Y-shaped guying system, outriggers fully extended, with 60 t counterweight, over full range</th><th colspan="2" rowspan="3">Radius m/
Jib length m
/ Offset</th></tr>
<tr><th>9</th><th>14</th><th>21</th><th>28</th><th>35</th><th>42</th></tr>
<tr><th>0°</th><th>0°</th><th>0°</th><th>0°</th><th>0°</th><th>0°</th></tr>
<tr><td colspan="2">16</td><td>16.0</td><td></td><td></td><td></td><td></td><td></td><td colspan="2"></td></tr>
<tr><td colspan="2">18</td><td>15.9</td><td>14.0</td><td></td><td></td><td></td><td></td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>15.7</td><td>13.5</td><td>11.0</td><td></td><td></td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>15.5</td><td>12.7</td><td>10.3</td><td>8.0</td><td></td><td></td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>15.0</td><td>12.0</td><td>9.7</td><td>7.9</td><td>6.0</td><td>4.0</td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>14.1</td><td>11.4</td><td>9.2</td><td>7.8</td><td>5.9</td><td>4.0</td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td>12.9</td><td>10.7</td><td>8.6</td><td>7.3</td><td>5.6</td><td>3.9</td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>11.2</td><td>10.1</td><td>8.2</td><td>6.9</td><td>5.3</td><td>3.8</td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>9.9</td><td>9.4</td><td>7.8</td><td>6.5</td><td>5.0</td><td>3.6</td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>8.7</td><td>8.2</td><td>7.4</td><td>6.1</td><td>4.7</td><td>3.3</td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td>7.7</td><td>7.2</td><td>7.0</td><td>5.8</td><td>4.5</td><td>3.2</td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td>6.8</td><td>6.7</td><td>6.6</td><td>5.5</td><td>4.3</td><td>3.0</td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td>5.9</td><td>5.8</td><td>5.7</td><td>5.2</td><td>4.0</td><td>2.8</td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td>5.2</td><td>5.0</td><td>4.9</td><td>4.7</td><td>3.8</td><td>2.6</td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>4.6</td><td>4.4</td><td>4.3</td><td>4.3</td><td>3.6</td><td>2.5</td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>4.0</td><td>3.7</td><td>3.6</td><td>3.7</td><td>3.4</td><td>2.4</td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td>3.4</td><td>3.2</td><td>3.1</td><td>3.2</td><td>3.1</td><td>2.2</td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td>3.0</td><td>2.4</td><td>2.5</td><td>2.6</td><td>2.8</td><td>2.1</td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td>2.5</td><td>2.1</td><td>1.9</td><td>2.0</td><td>2.2</td><td></td><td colspan="2">52</td></tr>
<tr><td colspan="2">54</td><td>2.1</td><td>1.8</td><td>1.6</td><td>1.7</td><td>1.8</td><td></td><td colspan="2">54</td></tr>
<tr><td colspan="2">56</td><td>1.8</td><td>1.4</td><td>1.2</td><td>1.3</td><td>1.5</td><td></td><td colspan="2">56</td></tr>
<tr><td colspan="2">58</td><td>1.4</td><td></td><td></td><td>1.0</td><td>1.2</td><td></td><td colspan="2">58</td></tr>
<tr><td colspan="2">60</td><td>1.0</td><td></td><td></td><td></td><td>1.0</td><td></td><td colspan="2">60</td></tr>
<tr><td colspan="2">Reeving</td><td>2</td><td>2</td><td>1</td><td>1</td><td>1</td><td>1</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="6">4</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="6">4</td><td>II</td></tr>
<tr><td>III</td><td colspan="6">4</td><td>III</td></tr>
<tr><td>IV</td><td colspan="6">4</td><td>IV</td></tr>
<tr><td>V</td><td colspan="6">4</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="6">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Note:

The light duty jib cannot change its offset and cannot connect to its hydraulic hose either when the main boom is 71 m long.

Table 1-60 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	50.6 m main boom without Y-shaped guying system, outriggers fully extended, with 40 t counterweight, over full range													Radius m/ Jib length m / Offset
	9	14			21			28			28（16+12）			
	0°	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
12	42.0													12
14	38.6	32.0												14
16	30.7	27.9	24.0		25.0									16
18	25.3	22.1	22.7	19.9	23.2			18.2			16.3			18
20	20.7	17.9	19.7	19.0	20.0	16.2		17.1			15.4	13.4		20
22	17.0	14.6	16.2	17.4	16.5	15.4		16.0			14.6	12.8	11.6	22
24	14.2	12.1	13.4	14.5	13.7	14.6	12.2	13.4	11.9		13.3	12.2	11.1	24
26	11.9	10.1	11.3	12.2	11.4	12.3	11.4	11.3	11.3		11.2	11.6	10.7	26
28	9.9	8.3	9.5	10.2	9.5	10.4	11.0	9.5	10.8		9.4	10.5	10.3	28
30	8.3	7.0	7.9	8.6	8.0	8.8	9.8	8.0	10.4	8.9	7.9	8.9	9.6	30
32	7.0	5.7	6.6	7.2	6.6	7.5	8.3	6.7	8.9	8.6	6.6	7.5	8.2	32
34	5.9	4.7	5.5	6.0	5.2	6.3	7.1	5.6	7.6	8.3	5.6	6.3	6.9	34
36	4.8	3.8	4.5	5.0	4.3	5.3	6.0	4.7	6.5	8.0	4.6	5.3	5.9	36
38	3.9	3.0	3.6	4.1	3.5	4.4	5.0	3.8	5.5	6.8	3.8	4.4	4.9	38
40	3.1	2.3	2.9	3.2	2.8	3.6	4.2	3.1	4.6	5.8	3.0	3.7	4.1	40
42	2.4	1.7	2.2	2.5	2.1	3.0	3.5	2.4	3.7	4.8	2.3	2.8	3.2	42
44	1.8	1.1	1.6	1.8	1.6	2.3	2.8	1.8	3.0	4.0	1.7	2.2	2.5	44
46				1.2		1.7	2.2	1.3	2.4	3.3	1.2	1.7	1.9	46
48						1.2	1.6		1.9	2.7		1.2	1.4	48
50							1.1		1.4	2.1				50
52										1.5				52
Reeving	4	3	2	2	2	2	1	2	1	1	2	2	1	Reeving
Telescoping mode I	3													I Telescoping mode
II	3													II
III	2													III
IV	2													IV
V	2													V
Wind speed m/s	9													Wind speed m/s

Table 1-60 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	50.6 m main boom without Y-shaped guying system, outriggers fully extended, with 40 t counterweight, over full range												Radius m/ Jib length m / Offset
	35			35（16+19）			42			42（16+26）			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20	14.8			12.7									20
22	13.8			12.0			11.3			9.5			22
24	13.0			11.3	9.5		10.6			9.0			24
26	11.9			10.7	9.2		9.9			8.5			26
28	10.1	8.9		10.0	8.7	7.8	9.4			8.1	6.7		28
30	8.5	8.6		8.4	8.3	7.5	8.3			7.6	6.4		30
32	6.8	8.0		6.8	7.6	7.0	7.1	6.3		7.1	6.1		32
34	5.8	7.6		5.8	7.1	6.8	6.0	6.1		6.0	5.8	5.2	34
36	4.8	7.1	6.1	4.8	6.1	6.5	5.0	5.9		5.0	5.6	5.0	36
38	4.0	6.1	6.0	4.0	5.2	6.0	4.2	5.7		4.2	5.4	4.8	38
40	3.2	5.1	5.7	3.2	4.2	5.0	3.4	5.3		3.4	4.9	4.6	40
42	2.5	4.2	5.4	2.5	3.4	4.1	2.8	4.2	4.2	2.8	4.1	4.4	42
44	2.0	3.5	4.8	2.0	2.8	3.4	2.2	3.5	4.1	2.2	3.5	4.2	44
46	1.5	2.9	4.1	1.5	2.2	2.8	1.7	2.7	4.1	1.7	2.9	3.8	46
48	1.1	2.4	3.5	1.0	1.8	2.2	1.3	1.8	4.0	1.3	2.4	3.2	48
50		1.8	2.5		1.2	1.7							50
52		1.4	2.0			1.2							52
Reeving	2	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	2												III
IV	2												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-61 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	55.6 m main boom without Y-shaped guying system, outriggers fully extended, with 40 t counterweight, over full range													Radius m/ Jib length m / Offset
	9	14			21			28			28（16+12）			
	0°	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
12														12
14	34.7													14
16	31.0	25.3												16
18	24.8	21.5	22.3		20.6									18
20	20.2	18.0	20.0	18.8	19.0			15.4			14.0			20
22	16.6	14.8	16.4	17.6	15.5	15.2		14.5			13.1	11.8		22
24	13.9	12.2	13.6	14.7	12.9	14.5		13.0			12.3	11.1	10.3	24
26	11.6	10.1	11.3	12.3	10.7	13.0	11.7	10.9	10.7		10.4	10.5	9.8	26
28	9.8	8.4	9.5	10.4	9.0	11.0	11.3	9.1	10.2		8.8	9.8	9.3	28
30	8.5	7.0	8.0	8.7	7.5	9.2	10.2	7.6	9.7		7.4	8.3	8.9	30
32	7.1	5.8	6.7	7.3	6.3	7.8	8.7	6.4	8.6	8.1	6.2	7.0	7.6	32
34	6.0	4.7	5.6	6.1	5.2	6.6	7.4	5.3	7.3	7.9	5.1	5.9	6.5	34
36	4.9	3.8	4.6	5.0	4.3	5.6	6.3	4.4	6.2	7.7	4.3	5.0	5.5	36
38	4.1	3.0	3.7	4.1	3.5	4.7	5.3	3.6	5.3	6.6	3.4	4.1	4.6	38
40	3.2	2.3	2.9	3.3	2.7	3.8	4.4	2.9	4.4	5.6	2.8	3.4	3.9	40
42	2.6	1.7	2.3	2.6	2.1	3.1	3.7	2.2	3.6	4.6	2.2	2.7	3.1	42
44	1.9	1.1	1.7	2.0	1.5	2.4	3.0	1.7	2.9	3.9	1.6	2.1	2.5	44
46	1.3		1.1	1.4		1.8	2.3	1.2	2.3	3.2	1.1	1.6	1.9	46
48						1.3	1.7		1.8	2.6				48
50							1.2		1.3	2.0				50
52										1.5				52
54										1.0				54
56														56
Reeving	4	2	2	2	2	2	1	2	1	1	2	1	1	Reeving
Telescoping mode I	3													I Telescoping mode
II	3													II
III	3													III
IV	2													IV
V	2													V
Wind speed m/s	9													Wind speed m/s

Table 1-61 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	55.6 m main boom without Y-shaped guying system, outriggers fully extended, with 40 t counterweight, over full range												Radius m/ Jib length m / Offset
	35			35（16+19）			42			42（16+26）			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20													20
22	12.0			10.9									22
24	11.3			10.2			10.0			8.7			24
26	10.7			9.6	8.4		9.3			8.1			26
28	9.5			9.0	8.0		8.8			7.7			28
30	7.9	7.8		7.8	7.6	7.0	8.3			7.2	6.3		30
32	6.7	7.4		6.6	7.2	6.7	7.1			6.9	6.0		32
34	5.6	7.1		5.5	6.9	6.4	6.0			6.0	5.7		34
36	4.6	6.9		4.6	6.0	6.1	5.0	5.7		5.0	5.4	5.0	36
38	3.7	5.8	5.5	3.7	4.9	5.6	4.0	5.3		4.1	5.1	4.8	38
40	3.1	5.0	5.4	3.1	4.1	4.9	3.3	5.1		3.4	4.9	4.6	40
42	2.4	4.2	5.2	2.4	3.4	4.1	2.7	4.9		2.7	4.1	4.2	42
44	1.9	3.5	4.9	1.9	2.8	3.4	2.1	4.2	4.1	2.1	3.5	4.0	44
46	1.4	2.8	4.0	1.3	2.1	2.7	1.6	3.4	3.8	1.6	2.9	3.0	46
48		2.3	3.4		1.6	2.1							48
50		1.8	2.8		1.2	1.7							50
52		1.4	2.3			1.2							52
54			1.8										54
56			1.4										56
Reeving	1	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	2												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-62 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	60.6 m main boom without Y-shaped guying system, outriggers fully extended, with 40 t counterweight, over full range													Radius m/ Jib length m / Offset
	9	14			21			28			28（16+12）			
	0°	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
16	27.0	21.0												16
18	24.1	20.0			16.0									18
20	19.7	18.5	17.3		15.8			12.5			12.0			20
22	16.3	15.2	16.3	15.0	14.8			12.3			12.0			22
24	13.6	12.5	14.0	14.3	12.7	11.9		11.6			11.3	10.2		24
26	11.5	10.4	11.7	12.7	10.6	11.2		10.9			10.4	9.7	9.0	26
28	9.7	8.7	9.8	10.7	8.9	10.7	9.7	9.1	8.7		8.7	9.2	8.6	28
30	8.2	7.3	8.3	9.0	7.4	9.1	9.3	7.6	8.3		7.3	8.3	8.2	30
32	6.9	6.1	6.9	7.6	6.2	7.8	8.9	6.4	7.8		6.1	7.0	7.6	32
34	5.9	5.0	5.8	6.4	5.2	6.6	7.6	5.3	7.4	6.8	5.1	5.9	6.5	34
36	4.8	4.1	4.8	5.3	4.2	5.5	6.5	4.4	6.2	6.5	4.3	5.0	5.5	36
38	4.1	3.2	3.9	4.4	3.5	4.6	5.5	3.6	5.3	6.2	3.5	4.1	4.6	38
40	3.3	2.6	3.2	3.6	2.8	3.8	4.6	2.9	4.5	5.7	2.8	3.4	3.8	40
42	2.7	1.9	2.5	2.9	2.2	3.1	3.8	2.3	3.7	4.8	2.2	2.8	3.1	42
44	2.0	1.4	1.9	2.2	1.6	2.5	3.2	1.8	3.1	4.1	1.6	2.2	2.5	44
46	1.5		1.3	1.6	1.1	1.9	2.5	1.3	2.5	3.4	1.2	1.6	2.0	46
48						1.4	1.9		1.9	2.7		1.2	1.5	48
50							1.4		1.3	2.0				50
52										1.6				52
54										1.1				54
56														56
Reeving	3	2	2	2	2	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3													I Telescoping mode
II	3													II
III	3													III
IV	3													IV
V	2													V
Wind speed m/s	9													Wind speed m/s

Table 1-62　Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	60.6 m main boom without Y-shaped guying system, outriggers fully extended, with 40 t counterweight, over full range												Radius m/ Jib length m / Offset
	35			35（16+19）			42			42（16+26）			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
22	9.5			9.0									22
24	9.4			8.9			75.0			7.0			24
26	8.8			8.4			7.5			7.0			26
28	8.3			7.9	7.0		7.4			6.7			28
30	7.6			7.5	6.7		7.0			6.3			30
32	6.4			6.3	6.4	5.9	6.6			6.0	5.2		32
34	5.3	6.0		5.3	6.0	5.6	5.7			5.7	4.9		34
36	4.4	5.7		4.4	5.7	5.4	4.8			4.8	4.7		36
38	3.7	5.4		3.6	4.8	5.1	4.0	4.7		4.0	4.5	4.2	38
40	3.0	4.9	4.7	3.0	4.0	4.8	3.3	4.5		3.3	4.3	4.0	40
42	2.4	4.2	4.5	2.4	3.4	4.0	2.7	4.3		2.7	4.1	3.8	42
44	1.9	3.5	4.4	1.9	2.7	3.4	2.1	4.1		2.1	3.4	3.6	44
46	1.4	2.9	4.2	1.4	2.2	2.8	1.6	3.5	3.5	1.6	2.8	3.5	46
48	1.0	2.3	3.5	1.0	1.7	2.3	1.2	2.9	3.4	1.2	2.3	3.2	48
50		1.9	2.9		1.2	1.8		2.4	3.3		1.8	2.6	50
52		1.4	2.4			1.3		2.0	3.1		1.4	2.1	52
54		1.0	1.9					1.5	2.7			1.6	54
56			1.5					1.1	2.2			1.2	56
58									1.8				58
60									1.3				60
Reeving	1	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	3												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-63 Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	65.6 m main boom without Y-shaped guying system, outriggers fully extended, with 40 t counterweight, over full range													Radius m/ Jib length m / Offset
	9	14			21			28			28（16+12）			
	0°	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
16	22.0													16
18	20.6	16.2												18
20	18.3	15.2	12.9		12.3									20
22	15.2	14.2	12.3	11.0	11.5			9.6			9.4			22
24	12.7	12.3	11.6	10.5	10.8	8.9		9.0			8.8	8.1		24
26	10.8	10.2	11.1	10.1	10.2	8.4		8.4			8.3	7.6	7.2	26
28	9.2	8.5	9.6	9.7	9.1	8.1	7.1	7.9			7.8	7.2	6.8	28
30	7.8	7.2	8.1	8.8	7.6	7.6	6.8	7.5	6.1		7.3	6.8	6.4	30
32	6.7	6.0	6.9	7.5	6.4	7.3	6.5	7.1	5.1		6.2	6.4	6.1	32
34	5.7	5.0	5.7	6.3	5.4	7.0	6.3	6.8	5.5	4.9	5.2	6.0	5.9	34
36	4.8	4.1	4.8	5.3	4.5	6.7	6.7	5.7	5.3	4.7	4.4	5.0	5.5	36
38	4.0	3.4	4.0	4.4	3.6	5.7	6.4	4.8	5.0	4.5	3.6	4.2	4.7	38
40	3.4	2.7	3.3	3.6	2.9	4.8	5.7	3.9	4.8	4.3	2.9	3.5	3.9	40
42	2.7	2.1	2.7	3.0	2.4	4.0	4.8	3.2	4.8	4.1	2.2	2.7	3.1	42
44	2.2	1.5	2.0	2.4	1.8	3.3	4.0	2.6	4.0	4.0	1.7	2.2	2.5	44
46	1.7	1.1	1.5	1.8	1.3	2.7	3.4	2.0	3.3	3.9	1.2	1.7	2.0	46
48	1.3		1.1	1.3		2.1	2.7	1.5	2.7	3.6			1.6	48
50						1.6	2.2	1.1	2.2	3.0			1.1	50
52						1.1	1.6		1.6	2.3				52
54							1.2		1.1	1.8				54
56										1.4				56
Reeving	2	2	2	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3													I Telescoping mode
II	3													II
III	3													III
IV	3													IV
V	3													V
Wind speed m/s	9													Wind speed m/s

Table 1-63　Main boom + light duty jib

Unit: Metric tons

Radius m/ Jib length m / Offset	65.6 m main boom without Y-shaped guying system, outriggers fully extended, with 40 t counterweight, over full range												Radius m/ Jib length m / Offset
	35			35（16+19）			42			42（16+26）			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
24	7.2			7.0									24
26	7.0			6.8			5.5			5.4			26
28	6.3			6.3			5.2			5.1			28
30	5.9			6.0	5.3		4.9			4.8			30
32	5.6			5.6	5.0		4.6			4.5			32
34	5.3	4.3		5.3	4.8	4.5	4.4			4.2	3.8		34
36	4.8	4.0		4.5	4.5	4.3	4.1			3.9	3.5		36
38	4.0	3.8		3.7	4.3	4.0	3.8	3.1		3.7	3.4		38
40	3.3	3.6	3.3	3.1	4.1	3.8	3.1	2.9		3.2	3.2	3.0	40
42	2.7	3.5	3.1	2.5	3.4	3.7	2.5	2.8		2.6	3.0	2.8	42
44	2.1	3.3	2.9	2.0	2.9	3.5	1.9	2.6		2.0	2.8	2.7	44
46	1.6	2.9	2.9	1.5	2.3	2.9	1.4	2.5	2.2	1.6	2.7	2.6	46
48	1.2	2.6	2.7	1.1	1.8	2.4	1.0	2.4	2.0	1.2	2.2	2.4	48
50		2.1	2.6		1.4	1.9		2.1	1.8		1.7	2.2	50
52		1.6	2.5			1.4		1.7	1.7		1.3	1.9	52
54		1.2	2.1			1.1		1.3	1.6		1.0	1.4	54
56			1.7					1.0	1.5				56
58			1.1										58
60													60
Reeving	1	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	3												IV
V	3												V
Wind speed m/s	9												Wind speed m/s

Table 1-64 Main boom + light duty jib

Unit: Metric tons

<table>
<tr><td colspan="2" rowspan="3">Radius m/ Jib length m / Offset</td><td colspan="6">71 m main boom without Y-shaped guying system, outriggers fully extended, with 40 t counterweight, over full range</td><td colspan="2" rowspan="3">Radius m/ Jib length m / Offset</td></tr>
<tr><td>9</td><td>14</td><td>21</td><td>28</td><td>35</td><td>42</td></tr>
<tr><td>0°</td><td>0°</td><td>0°</td><td>0°</td><td>0°</td><td>0°</td></tr>
<tr><td colspan="2">16</td><td>16.0</td><td></td><td></td><td></td><td></td><td></td><td colspan="2"></td></tr>
<tr><td colspan="2">18</td><td>15.9</td><td>14.0</td><td></td><td></td><td></td><td></td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>15.7</td><td>13.5</td><td>11.0</td><td></td><td></td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>13.5</td><td>12.7</td><td>10.3</td><td>8.0</td><td></td><td></td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>11.9</td><td>11.5</td><td>9.7</td><td>7.9</td><td>6.0</td><td>4.0</td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>10.1</td><td>9.6</td><td>9.2</td><td>7.8</td><td>5.9</td><td>4.0</td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td>8.5</td><td>8.5</td><td>8.5</td><td>7.3</td><td>5.6</td><td>3.9</td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>7.3</td><td>7.2</td><td>7.1</td><td>6.9</td><td>5.3</td><td>3.8</td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>6.2</td><td>6.1</td><td>6.0</td><td>6.1</td><td>5.0</td><td>3.6</td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>5.3</td><td>5.0</td><td>4.9</td><td>5.0</td><td>4.7</td><td>3.3</td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td>4.4</td><td>4.2</td><td>4.1</td><td>4.2</td><td>4.4</td><td>3.2</td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td>3.7</td><td>3.5</td><td>3.4</td><td>3.4</td><td>3.7</td><td>3.0</td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td>3.1</td><td>2.9</td><td>2.7</td><td>2.8</td><td>2.9</td><td>2.8</td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td>2.5</td><td>2.3</td><td>2.1</td><td>2.2</td><td>2.3</td><td>2.2</td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>2.0</td><td>1.8</td><td>1.6</td><td>1.7</td><td>1.9</td><td>1.7</td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>1.6</td><td>1.3</td><td>1.1</td><td>1.2</td><td>1.4</td><td>1.3</td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td>1.2</td><td></td><td></td><td></td><td></td><td>1.0</td><td colspan="2">48</td></tr>
<tr><td colspan="2">Reeving</td><td>2</td><td>2</td><td>1</td><td>1</td><td>1</td><td>1</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="6">4</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="6">4</td><td>II</td></tr>
<tr><td>III</td><td colspan="6">4</td><td>III</td></tr>
<tr><td>IV</td><td colspan="6">4</td><td>IV</td></tr>
<tr><td>V</td><td colspan="6">4</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="6">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Note:

The light duty jib cannot change its offset and cannot connect to its hydraulic hose either when the main boom is 71 m long.

Table 1-65 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	50.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 120 t counterweight, over full range												Radius m/ Jib length m/ Offset
	19			26			33			33(21+12)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
12	40.0												12
14	37.5	27.1		30.0									14
16	33.1	24.6		28.4			22.5			18.6			16
18	31.1	23.4	19.5	26.5	19.4		21.7			17.6	15.0		18
20	29.2	22.4	18.8	24.0	18.5		20.3			16.6	14.5		20
22	26.8	21.3	18.2	22.7	17.2		19.1	14.0		15.7	13.8	12.6	22
24	25.3	20.4	17.6	21.4	16.5	13.6	17.9	13.3		14.7	13.1	12.0	24
26	24.1	19.5	17.0	20.2	15.8	13.2	16.9	12.8		13.9	12.5	11.5	26
28	22.9	18.7	16.5	19.4	15.1	12.8	16.1	12.2		13.0	11.9	11.1	28
30	21.8	18.1	16.0	18.3	14.5	12.4	15.2	11.7	9.7	12.3	11.3	10.7	30
32	20.1	16.8	15.0	16.8	13.5	11.6	13.9	10.9	9.1	11.9	10.9	10.3	32
34	19.2	16.2	14.6	16.1	13.0	11.3	13.3	10.5	8.8	11.2	10.4	9.9	34
36	18.4	15.7	14.3	15.3	12.6	11.1	12.7	10.0	8.6	10.6	9.9	9.5	36
38	17.7	15.2	13.9	14.7	12.2	10.7	12.1	9.7	8.3	10.1	9.4	9.1	38
40	17.0	14.8	13.6	14.1	11.7	10.5	11.6	9.4	8.1	9.7	9.1	8.7	40
42	14.6	13.5	12.6	12.7	10.7	9.6	10.4	8.6	7.4	8.8	8.3	8.0	42
44	13.4	13.1	12.3	12.2	10.4	9.4	10.0	8.2	7.2	8.4	7.9	7.7	44
46	12.2	12.8	12.1	11.8	10.1	9.2	9.6	8.0	7.0	8.0	7.6	7.4	46
48	11.2	11.8	11.8	11.4	9.8	9.0	9.3	7.8	6.9	7.7	7.3	7.1	48
50	10.3	10.8	11.1	10.7	9.5	8.8	8.9	7.5	6.7	7.4	7.0	6.8	50
52	8.8	9.3	9.5	9.2	8.7	8.2	8.0	6.8	6.2	6.9	6.5	6.4	52
54	8.0	8.4	8.6	8.5	8.5	8.0	7.7	6.7	6.1	6.5	6.3	6.2	54
56	7.3	7.7	7.8	7.8	8.3	7.9	7.5	6.5	5.9	6.2	6.2	6.1	56
58	6.6	6.9	7.1	7.1	7.7	7.8	7.2	6.3	5.9	5.6	5.9	5.9	58
60	5.9	6.2	6.3	6.5	7.1	7.4	6.9	6.2	5.7	4.8	5.1	5.1	60
62	5.3	5.5	5.6	5.5	6.0	6.2	5.9	5.6	5.3	4.3	4.5	4.5	62
64				5.0	5.4		5.4	5.5	5.2	3.9	4.0	4.1	64
66				4.5			4.9	5.4	5.1	3.4	3.6	3.8	66
68							4.4	5.0	4.8	3.0	3.1		68
70							3.7	4.2		2.6			70
72							3.3						72
Reeving	4	3	2	3	2	2	2	2	1	2	2	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	2												III
IV	2												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-65 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	50.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 120 t counterweight, over full range												Radius m/ Jib length m/ Offset
	40			40(21+19)			47			47(21+26)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
18	17.0			14.2									18
20	16.0			13.3			14.3			12.2			20
22	15.0			12.6			13.5			11.4			22
24	14.2			11.9	10.5		12.7			10.7	9.0		24
26	13.4			11.3	10.1		12.0			10.1	8.0		26
28	12.6	9.4		10.6	9.6	8.6	11.4			9.5	7.3	7.0	28
30	11.8	9.0		10.0	9.2	8.3	10.4	7.7		9.0	6.8	6.6	30
32	11.3	8.6		9.5	8.4	7.7	9.8	7.4		8.5	6.6	6.4	32
34	10.7	8.2		8.9	8.1	7.4	9.4	7.1		8.1	6.4	6.0	34
36	10.2	7.9	6.6	8.5	7.7	7.1	8.9	6.8		7.6	6.1	5.7	36
38	9.8	7.6	6.4	8.1	7.3	6.9	8.5	6.6		7.3	5.9	5.5	38
40	9.3	7.4	6.2	7.6	6.9	6.4	8.1	6.3	5.3	6.9	5.7	5.2	40
42	8.7	6.9	5.9	7.0	6.4	6.0	7.7	6.1	5.1	6.5	5.6	5.0	42
44	8.3	6.7	5.7	6.6	6.1	5.7	7.4	5.9	5.0	6.2	5.3	4.7	44
46	8.0	6.5	5.5	6.2	5.8	5.5	7.1	5.7	4.8	5.9	5.1	4.6	46
48	7.6	6.2	5.4	6.0	5.5	5.3	6.8	5.5	4.7	5.6	5.0	4.4	48
50	7.3	6.0	5.3	5.7	5.3	5.1	6.5	5.3	4.6	5.3	4.7	4.2	50
52	6.5	5.4	4.8	5.4	5.1	4.9	6.0	5.0	4.2	5.1	4.6	4.0	52
54	6.3	5.3	4.6	5.2	4.9	4.7	5.8	4.8	4.2	4.8	4.3	4.0	54
56	6.0	5.1	4.5	4.9	4.7	4.6	5.6	4.6	4.0	4.6	4.2	3.8	56
58	5.8	5.0	4.5	4.6	4.3	4.2	5.4	4.5	4.0	4.4	4.0	3.7	58
60	5.6	4.8	4.3	4.5	4.2	3.9	5.0	4.4	3.9	4.2	3.8	3.6	60
62	5.1	4.4	4.0	4.3	4.1	3.8	4.8	4.0	3.6	4.0	3.7	3.5	62
64	4.7	4.1	3.8	4.1	4.0	3.7	4.4	3.7	3.4	3.6	3.4	3.2	64
66	4.6	4.0	3.7	3.7	3.8	3.5	4.2	3.6	3.3	3.4	3.1	3.0	66
68	4.4	3.9	3.6	3.3	3.6	2.6	4.1	3.5	3.3	2.9	2.7	2.7	68
70	4.1	3.8	3.6	2.6	2.5		4.0	3.4	3.2	2.4	2.4	2.5	70
72	3.1	3.1	3.0	2.3			3.2	2.9	2.6	2.1	2.2		72
74	2.8	3.1					3.1	2.8	2.6	2.0			74
76	2.5						2.7	2.7					76
78							2.2						78
80													80
Reeving	2	1	1	2	1	1	2	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	2												III
IV	2												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-66 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	55.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 120 t counterweight, over full range												Radius m/ Jib length m/ Offset
	19			26			33			33(21+12)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
14	36.0												14
16	33.8	26.0		26.6									16
18	30.3	23.0		25.3			20.4			17.0			18
20	28.0	21.9	18.5	23.0	17.6		19.2			16.1	14.0		20
22	25.5	20.2	17.3	21.6	16.2		18.0			15.1	13.5		22
24	24.2	19.5	16.7	20.4	15.6	13.0	17.1	12.6		14.2	12.7	11.3	24
26	23.0	18.7	16.2	19.3	15.0	12.5	16.2	12.0		13.3	12.1	10.8	26
28	21.9	17.9	15.6	18.3	14.4	12.1	15.2	11.6		12.6	11.4	10.2	28
30	20.9	17.3	15.2	17.4	13.9	11.7	14.5	11.1	9.2	11.8	10.9	9.8	30
32	18.9	15.7	13.9	15.8	12.6	10.7	13.0	10.1	8.4	11.3	10.3	9.3	32
34	18.1	15.2	13.5	15.0	12.1	10.5	12.4	9.7	8.2	10.6	9.8	8.9	34
36	17.4	14.7	13.2	14.4	11.7	10.2	11.8	9.4	7.9	10.1	9.3	8.5	36
38	16.6	14.2	12.6	13.4	11.0	9.7	11.1	8.8	7.5	9.7	8.9	8.2	38
40	16.0	13.8	12.3	12.9	10.7	9.4	10.6	8.5	7.3	9.2	8.5	7.7	40
42	14.3	13.1	12.0	12.4	10.4	9.2	10.1	8.2	7.1	8.7	8.1	7.2	42
44	12.5	12.2	11.3	11.5	9.7	8.7	9.4	7.7	6.7	8.3	7.8	6.9	44
46	11.5	11.9	11.1	11.0	9.4	8.5	9.0	7.4	6.5	8.0	7.5	6.6	46
48	10.5	11.1	11.0	10.7	9.2	8.3	8.6	7.2	6.4	7.6	7.2	6.4	48
50	9.6	10.1	10.4	10.0	8.9	8.2	8.3	7.0	6.2	7.2	6.9	6.2	50
52	8.5	8.9	9.1	8.8	8.3	7.7	7.7	6.5	5.8	6.5	6.5	5.8	52
54	7.7	8.1	8.4	8.1	8.1	7.6	7.4	6.3	5.7	6.1	6.2	5.6	54
56	7.0	7.4	7.6	7.4	7.9	7.4	7.2	6.1	5.6	5.7	5.8	5.3	56
58	6.3	6.8	6.9	6.8	7.4	7.3	7.0	6.0	5.5	5.4	5.4	5.0	58
60	5.8	6.1	6.2	6.2	6.8	7.1	6.5	5.8	5.4	5.0	5.1	4.6	60
62	5.0	5.3	5.4	5.5	6.0	6.3	5.8	5.5	5.2	4.0	4.2	4.1	62
64	4.6	4.8	4.8	5.0	5.5	5.7	5.3	5.4	5.0	3.5	3.8	3.7	64
66	4.1	4.3		4.5	4.9	5.1	4.8	5.3	5.0	3.1	3.3	3.3	66
68				4.0	4.4		4.3	5.0	4.9	2.8	2.9	2.9	68
70				3.6			3.9	4.6	4.8	2.4	2.6	2.3	70
72							3.5	3.8		2.3	2.4		72
74							2.9			2.2			74
Reeving	3	3	2	3	2	2	2	1	1	2	2	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	2												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-66 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	55.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 120 t counterweight, over full range												Radius m/ Jib length m/ Offset
	40			40(21+19)			47			47(21+26)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20	14.6			12.5									20
22	13.7			11.9			12.1			10.6			22
24	12.9			11.2	10.0		11.4			10.0	8.8		24
26	12.2			10.5	9.2		10.8			9.3	8.1		26
28	11.6	8.6		9.9	8.8	8.0	10.3			8.9	7.6	6.4	28
30	11.0	8.3		9.4	8.3	7.7	9.8			8.3	7.2	6.0	30
32	10.0	7.6		8.9	7.9	7.3	9.0	6.7		7.9	6.8	5.7	32
34	9.6	7.3		8.4	7.5	7.0	8.6	6.5		7.4	6.5	5.5	34
36	9.1	7.0	5.8	8.0	7.2	6.7	8.2	6.2		7.0	6.2	5.2	36
38	8.6	6.8	5.6	7.5	6.8	6.3	7.8	6.0		6.7	5.9	5.0	38
40	8.3	6.5	5.5	7.2	6.5	6.1	7.5	5.8	4.8	6.3	5.6	4.7	40
42	7.7	6.1	5.2	6.8	6.2	5.8	7.1	5.6	4.6	5.9	5.4	4.5	42
44	7.4	5.9	5.0	6.5	5.9	5.6	6.7	5.2	4.4	5.7	5.1	4.3	44
46	7.1	5.7	4.9	6.2	5.4	5.2	6.4	5.0	4.3	5.4	4.9	4.2	46
48	6.8	5.5	4.8	6.0	5.2	5.0	6.1	4.9	4.1	5.1	4.7	4.1	48
50	6.5	5.3	4.6	5.7	5.1	4.9	5.7	4.6	3.9	4.8	4.3	4.0	50
52	6.1	5.0	4.4	5.5	4.9	4.7	5.4	4.4	3.8	4.5	4.1	3.9	52
54	5.9	4.9	4.3	5.2	4.7	4.5	5.2	4.2	3.6	4.3	4.0	3.7	54
56	5.7	4.8	4.1	4.6	4.2	4.0	4.8	3.9	3.4	4.1	3.7	3.6	56
58	5.4	4.6	4.1	4.3	3.9	3.8	4.6	3.8	3.3	3.9	3.6	3.4	58
60	5.3	4.5	4.0	4.1	3.8	3.7	4.2	3.5	3.1	3.6	3.3	3.1	60
62	4.9	4.2	3.8	3.9	3.8	3.6	4.0	3.4	3.0	3.3	3.0	3.0	62
64	4.7	4.0	3.6	3.6	3.6	3.5	3.9	3.2	2.9	3.2	3.0	2.8	64
66	4.6	3.9	3.6	3.5	3.5	3.5	3.8	3.2	2.8	3.0	2.8	2.4	66
68	4.4	3.8	3.5	3.2	3.3	3.3	3.7	3.1	2.8	2.9	2.3	2.3	68
70	4.0	3.8	3.4	2.6	2.8	2.9	3.1	2.6	2.4	2.4	2.3	2.1	70
72	3.1	3.1	2.9	2.3	2.5	2.6	3.0	2.6	2.3	2.3	2.1		72
74	2.8	3.0	2.8	2.2	2.3		2.9	2.5	2.2	2.1			74
76	2.3	2.5		2.0			2.5	2.4					76
78	1.8						2.2						78
80													80
Reeving	2	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	2												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-67 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	60.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 120 t counterweight, over full range												Radius m/ Jib length m/ Offset
	19			26			33			33(21+12)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
16	30.0												16
18	29.3			23.7									18
20	26.3	22.0		22.9			18.0			14.8			20
22	24.9	19.8	16.9	20.2	15.8		17.3			14.6			22
24	23.7	19.0	16.3	19.1	15.1		16.4			13.8	11.7		24
26	22.5	18.3	15.9	18.2	14.0	11.8	15.1	11.2		13.0	11.1		26
28	21.2	17.6	15.4	17.3	13.5	11.4	14.4	10.9		12.3	10.6	9.9	28
30	20.0	17.0	15.0	16.6	13.0	11.1	13.6	10.4		11.6	10.1	9.5	30
32	18.2	15.8	14.1	15.4	12.3	10.6	12.7	9.8	8.2	11.0	9.6	9.1	32
34	16.8	15.0	13.4	14.6	11.8	10.2	12.2	9.4	7.9	10.5	9.1	8.7	34
36	15.8	14.5	13.0	13.8	11.5	10.0	11.6	9.1	7.7	10.0	8.7	8.3	36
38	15.0	13.9	12.7	13.1	11.1	9.8	11.1	8.8	7.5	9.4	8.3	8.0	38
40	14.3	13.3	12.5	12.5	10.8	9.5	10.6	8.6	7.3	9.1	8.0	7.7	40
42	12.8	11.9	11.4	11.2	9.8	8.7	9.6	7.7	6.7	8.6	7.6	7.4	42
44	12.2	11.4	11.0	10.6	9.5	8.5	9.2	7.5	6.5	8.2	7.3	7.0	44
46	11.6	11.0	10.6	10.1	9.2	8.3	8.9	7.3	6.4	7.7	6.9	6.8	46
48	10.7	10.5	10.2	9.7	8.9	8.2	8.5	7.1	6.2	7.3	6.6	6.5	48
50	9.8	10.1	9.8	9.2	8.6	8.0	8.1	6.8	6.1	6.6	6.0	5.9	50
52	8.6	9.1	9.1	8.5	7.9	7.6	7.4	6.4	5.7	6.1	5.7	5.6	52
54	7.8	8.3	8.6	8.1	7.6	7.3	7.1	6.2	5.5	5.7	5.3	5.3	54
56	7.2	7.6	7.8	7.5	7.3	7.1	6.8	6.0	5.5	5.3	5.0	5.0	56
58	6.6	7.0	7.2	6.9	7.1	6.8	6.5	5.9	5.3	5.0	4.6	4.7	58
60	5.9	6.3	6.5	6.3	6.8	6.6	6.2	5.8	5.3	4.3	4.4	4.4	60
62	5.2	5.5	5.7	5.6	6.2	6.2	5.8	5.4	5.0	3.8	3.9	4.0	62
64	4.7	5.0	5.1	5.1	5.6	5.9	5.4	5.3	5.0	3.6	2.9	3.7	64
66	4.2	4.5	4.6	4.6	5.1	5.3	4.9	5.0	4.9	3.3	3.4	3.4	66
68	3.8	4.0		4.1	4.6	4.8	4.5	4.8	4.8	3.0	3.1	3.2	68
70				3.4	3.8		3.8	4.3	4.2	2.6	2.8	2.6	70
72				2.8			3.1	3.6	3.8	2.0	1.9		72
74							2.8	3.2		1.9			74
76							2.5						76
Reeving	3	2	2	2	2	1	2	1	1	2	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	3												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-67 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	60.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 120 t counterweight, over full range												Radius m/ Jib length m/ Offset
	40			40(21+19)			47			47(21+26)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
22	12.7			10.8									22
24	11.9			10.2			10.4			9.2			24
26	11.3			9.6	8.5		9.9			8.7			26
28	10.7			9.1	8.1		9.4			8.2	7.0		28
30	10.2	7.6		8.7	7.7	7.0	8.9			7.8	6.8		30
32	9.5	7.2		8.1	7.3	6.7	8.1	6.0		7.4	6.4	5.5	32
34	9.0	6.9		7.8	7.0	6.4	7.7	5.9		6.9	6.1	5.2	34
36	8.6	6.7		7.4	6.7	6.2	7.4	5.7		6.6	5.8	5.0	36
38	8.3	6.4	5.3	7.0	6.4	5.9	7.1	5.5		6.3	5.6	4.8	38
40	7.7	6.0	5.0	6.7	6.1	5.7	6.8	5.3		5.9	5.3	4.5	40
42	7.3	5.8	4.9	6.4	5.8	5.5	6.5	5.1	4.2	5.7	5.1	4.4	42
44	7.1	5.6	4.8	6.1	5.5	5.2	6.2	4.9	4.1	5.4	4.8	4.2	44
46	6.7	5.4	4.6	5.8	5.3	5.0	6.0	4.7	4.0	5.1	4.6	4.0	46
48	6.5	5.2	4.5	5.5	5.1	4.9	5.8	4.6	3.8	4.9	4.4	4.1	48
50	6.0	4.9	4.2	5.2	4.9	4.6	5.5	4.4	3.8	4.6	4.2	4.0	50
52	5.8	4.7	4.1	5.0	4.6	4.5	5.3	4.3	3.6	4.4	4.0	3.8	52
54	5.5	4.6	4.0	4.7	4.5	4.3	5.1	4.2	3.6	4.2	3.9	3.6	54
56	5.3	4.4	3.9	4.5	4.3	4.2	4.9	4.0	3.5	4.1	3.7	3.5	56
58	5.1	4.3	3.8	3.9	3.8	3.7	4.8	3.9	3.4	3.8	3.5	3.3	58
60	4.6	3.8	3.4	3.8	3.7	3.6	4.3	3.5	3.1	3.5	3.2	3.0	60
62	4.2	3.6	3.2	3.6	3.5	3.5	4.0	3.3	2.9	3.2	3.0	2.9	62
64	4.1	3.5	3.2	3.3	3.3	3.3	3.8	3.2	2.8	3.1	2.8	2.7	64
66	3.9	3.4	3.1	3.1	3.1	3.1	3.7	3.1	2.8	3.0	2.7	2.6	66
68	3.8	3.4	3.1	2.7	2.7	2.8	3.6	3.0	2.7	2.8	2.6	2.4	68
70	3.6	3.2	3.0	2.3	2.3	2.6	3.5	3.0	2.7	2.7	2.4	2.3	70
72	2.8	2.8	2.6	2.1	2.2	2.4	2.9	2.5	2.3	2.6	2.3	2.2	72
74	2.6	2.7	2.5	2.0	2.0		2.8	2.5	2.2	2.4	2.2		74
76	2.3	2.4		1.8			2.7	2.4	2.2	2.0			76
78	2.0						2.4	2.3					78
80							2.0						80
82													82
Reeving	1	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	3												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-68 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	65.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 120 t counterweight, over full range												Radius m/ Jib length m/ Offset
	19			26			33			33(21+12)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
16													16
18	26.5												18
20	24.1	20.3		19.6									20
22	21.8	18.4	16.4	17.7			16.0			12.7			22
24	20.3	17.4	15.6	16.6	14.2		15.0			12.0	10.8		24
26	19.0	16.5	14.9	15.6	13.0		13.4			11.0	9.9		26
28	17.9	15.6	14.2	14.7	12.3	10.8	12.7	10.3		10.4	9.4	8.4	28
30	17.0	14.8	13.6	13.9	11.6	10.4	12.0	9.8		9.8	8.9	8.0	30
32	15.4	13.6	12.5	12.7	10.9	9.7	11.0	9.1		9.3	8.4	7.5	32
34	14.2	12.6	11.7	12.1	10.3	9.3	10.4	8.7	7.7	8.8	7.9	7.1	34
36	13.4	12.1	11.2	11.4	9.8	8.9	9.8	8.2	7.4	7.8	7.0	6.3	36
38	12.8	11.5	10.7	10.8	9.4	8.6	9.3	7.9	7.0	7.4	6.7	6.0	38
40	12.2	11.0	10.3	10.2	9.0	8.2	8.8	7.5	6.7	7.1	6.3	5.7	40
42	10.9	9.9	9.3	9.2	8.1	7.4	7.8	6.8	6.1	6.8	6.1	5.5	42
44	10.4	9.5	9.0	8.7	7.7	7.1	7.4	6.5	5.9	6.4	5.7	5.2	44
46	9.9	9.1	8.6	8.3	7.4	6.9	7.1	6.2	5.6	5.9	5.3	4.8	46
48	9.5	8.8	8.3	7.9	7.1	6.6	6.8	5.9	5.4	5.6	5.1	4.5	48
50	9.1	8.4	8.1	7.6	6.8	6.4	6.4	5.7	5.3	5.3	4.8	4.3	50
52	8.4	7.8	7.5	6.9	6.3	5.9	5.9	5.2	4.8	5.1	4.6	4.1	52
54	8.0	7.5	7.3	6.6	6.0	5.8	5.6	5.0	4.7	4.9	4.4	4.0	54
56	7.4	7.2	7.0	6.3	5.8	5.5	5.3	4.8	4.5	4.6	4.1	3.7	56
58	6.8	7.0	6.8	6.1	5.6	5.3	5.1	4.6	4.3	4.3	3.9	3.5	58
60	6.2	6.6	6.6	5.8	5.4	5.2	4.9	4.5	4.2	4.2	3.8	3.4	60
62	5.5	5.9	6.0	5.5	5.0	4.9	4.6	4.1	3.7	4.0	3.6	3.2	62
64	5.0	5.3	5.5	5.3	4.9	4.8	4.3	4.0	3.8	3.8	3.4	3.1	64
66	4.5	4.8	4.9	4.8	4.8	4.6	4.2	3.9	3.6	3.6	3.2	2.9	66
68	4.1	4.3	4.4	4.3	4.6	4.5	4.0	3.7	3.5	3.4	3.1	2.8	68
70	3.6	3.9	3.9	3.6	4.1	4.3	3.6	3.3	3.2	3.2	2.9	2.6	70
72	2.8	2.9		3.0	3.4		3.1	2.9	2.8	3.0	2.7	2.4	72
74				2.7			2.9	2.8		2.8	2.5		74
76							2.4			2.3			76
Reeving	3	2	2	2	2	1	2	1	1	1	1	1	Reeving

Telescoping mode				Telescoping mode
	I	3	I	
	II	3	II	
	III	3	III	
	IV	3	IV	
	V	3	V	
Wind speed m/s		9		Wind speed m/s

Table 1-68 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

<table>
<tr><th rowspan="3">Radius m/ Jib length m/ Offset</th><th colspan="12">65.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 120 t counterweight, over full range</th><th rowspan="3">Radius m/ Jib length m/ Offset</th></tr>
<tr><th colspan="3">40</th><th colspan="3">40(21+19)</th><th colspan="3">47</th><th colspan="3">47(21+26)</th></tr>
<tr><th>0°</th><th>20°</th><th>40°</th><th>0°</th><th>20°</th><th>40°</th><th>0°</th><th>20°</th><th>40°</th><th>0°</th><th>20°</th><th>40°</th></tr>
<tr><td>22</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>22</td></tr>
<tr><td>24</td><td>11.0</td><td></td><td></td><td>9.5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>24</td></tr>
<tr><td>26</td><td>10.4</td><td></td><td></td><td>9.1</td><td></td><td></td><td>9.1</td><td></td><td></td><td>8.3</td><td></td><td></td><td>26</td></tr>
<tr><td>28</td><td>9.8</td><td></td><td></td><td>8.5</td><td>7.2</td><td></td><td>8.7</td><td></td><td></td><td>7.4</td><td></td><td></td><td>28</td></tr>
<tr><td>30</td><td>9.2</td><td></td><td></td><td>8.0</td><td>6.9</td><td></td><td>8.3</td><td></td><td></td><td>7.0</td><td>6.2</td><td></td><td>30</td></tr>
<tr><td>32</td><td>8.5</td><td>6.9</td><td></td><td>7.5</td><td>6.5</td><td></td><td>7.4</td><td></td><td></td><td>6.7</td><td>5.9</td><td></td><td>32</td></tr>
<tr><td>34</td><td>8.0</td><td>6.6</td><td></td><td>7.1</td><td>6.2</td><td>5.8</td><td>7.0</td><td></td><td></td><td>6.3</td><td>5.5</td><td>4.7</td><td>34</td></tr>
<tr><td>36</td><td>7.6</td><td>6.3</td><td></td><td>6.7</td><td>5.9</td><td>5.6</td><td>6.7</td><td>6.1</td><td></td><td>6.0</td><td>5.3</td><td>4.5</td><td>36</td></tr>
<tr><td>38</td><td>7.1</td><td>6.0</td><td></td><td>6.4</td><td>5.6</td><td>5.2</td><td>6.3</td><td>5.2</td><td></td><td>5.7</td><td>5.0</td><td>4.3</td><td>38</td></tr>
<tr><td>40</td><td>6.6</td><td>5.5</td><td>4.9</td><td>5.9</td><td>5.3</td><td>5.0</td><td>6.0</td><td>5.0</td><td></td><td>5.4</td><td>4.7</td><td>4.0</td><td>40</td></tr>
<tr><td>42</td><td>6.3</td><td>5.3</td><td>4.7</td><td>5.6</td><td>5.0</td><td>4.8</td><td>5.7</td><td>4.7</td><td></td><td>5.1</td><td>4.5</td><td>3.8</td><td>42</td></tr>
<tr><td>44</td><td>5.9</td><td>5.0</td><td>4.5</td><td>5.4</td><td>4.8</td><td>4.6</td><td>5.4</td><td>4.6</td><td>4.0</td><td>4.9</td><td>4.3</td><td>3.6</td><td>44</td></tr>
<tr><td>46</td><td>5.6</td><td>4.8</td><td>4.4</td><td>5.0</td><td>4.5</td><td>4.4</td><td>5.1</td><td>4.4</td><td>3.9</td><td>4.6</td><td>4.1</td><td>3.5</td><td>46</td></tr>
<tr><td>48</td><td>5.3</td><td>4.6</td><td>4.1</td><td>4.8</td><td>4.3</td><td>4.1</td><td>4.9</td><td>4.2</td><td>3.7</td><td>4.4</td><td>3.9</td><td>3.3</td><td>48</td></tr>
<tr><td>50</td><td>4.8</td><td>4.2</td><td>3.8</td><td>4.5</td><td>4.1</td><td>3.9</td><td>4.6</td><td>4.0</td><td>3.6</td><td>4.2</td><td>3.7</td><td>3.2</td><td>50</td></tr>
<tr><td>52</td><td>4.6</td><td>4.0</td><td>3.6</td><td>4.3</td><td>3.9</td><td>3.8</td><td>4.4</td><td>3.8</td><td>3.4</td><td>4.0</td><td>3.5</td><td>3.0</td><td>52</td></tr>
<tr><td>54</td><td>4.4</td><td>3.8</td><td>3.5</td><td>4.1</td><td>3.7</td><td>3.6</td><td>4.2</td><td>3.6</td><td>3.3</td><td>3.8</td><td>3.4</td><td>2.9</td><td>54</td></tr>
<tr><td>56</td><td>4.2</td><td>3.7</td><td>3.4</td><td>3.9</td><td>3.5</td><td>3.5</td><td>4.0</td><td>3.5</td><td>3.2</td><td>3.4</td><td>3.0</td><td>2.5</td><td>56</td></tr>
<tr><td>58</td><td>4.0</td><td>3.5</td><td>3.3</td><td>3.6</td><td>3.4</td><td>3.3</td><td>3.8</td><td>3.4</td><td>3.1</td><td>3.1</td><td>2.8</td><td>2.3</td><td>58</td></tr>
<tr><td>60</td><td>3.5</td><td>3.1</td><td>2.9</td><td>3.3</td><td>3.1</td><td>2.9</td><td>3.4</td><td>3.0</td><td>2.7</td><td>3.0</td><td>2.6</td><td>2.2</td><td>60</td></tr>
<tr><td>62</td><td>3.2</td><td>2.9</td><td>2.7</td><td>3.1</td><td>2.8</td><td>2.7</td><td>3.1</td><td>2.7</td><td>2.6</td><td>2.8</td><td>2.5</td><td>2.1</td><td>62</td></tr>
<tr><td>64</td><td>3.1</td><td>2.8</td><td>2.6</td><td>2.7</td><td>2.7</td><td>2.3</td><td>3.0</td><td>2.6</td><td>2.4</td><td>2.7</td><td>2.4</td><td>2.0</td><td>64</td></tr>
<tr><td>66</td><td>3.0</td><td>2.7</td><td>2.5</td><td>2.6</td><td>2.3</td><td>2.2</td><td>2.8</td><td>2.6</td><td>2.3</td><td>2.6</td><td>2.3</td><td>2.0</td><td>66</td></tr>
<tr><td>68</td><td>2.8</td><td>2.6</td><td>2.4</td><td>2.4</td><td>2.2</td><td>2.0</td><td>2.7</td><td>2.4</td><td>2.3</td><td>2.2</td><td>1.9</td><td>1.6</td><td>68</td></tr>
<tr><td>70</td><td>2.7</td><td>2.4</td><td>2.3</td><td>2.3</td><td>2.0</td><td>1.9</td><td>2.6</td><td>2.3</td><td>2.1</td><td>2.1</td><td>1.8</td><td>1.5</td><td>70</td></tr>
<tr><td>72</td><td>2.2</td><td>2.0</td><td>2.0</td><td>2.2</td><td>1.9</td><td></td><td>2.2</td><td>1.9</td><td>1.8</td><td>2.0</td><td>1.7</td><td></td><td>72</td></tr>
<tr><td>74</td><td>2.1</td><td>2.0</td><td>1.9</td><td>2.0</td><td></td><td></td><td>2.1</td><td>1.8</td><td></td><td>1.8</td><td></td><td></td><td>74</td></tr>
<tr><td>76</td><td>2.0</td><td>1.9</td><td></td><td>1.9</td><td></td><td></td><td>2.0</td><td></td><td></td><td></td><td></td><td></td><td>76</td></tr>
<tr><td>78</td><td>1.9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>78</td></tr>
<tr><td>Reeving</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>Reeving</td></tr>
<tr><td>Telescoping mode I</td><td colspan="12">3</td><td>I Telescoping mode</td></tr>
<tr><td>II</td><td colspan="12">3</td><td>II</td></tr>
<tr><td>III</td><td colspan="12">3</td><td>III</td></tr>
<tr><td>IV</td><td colspan="12">3</td><td>IV</td></tr>
<tr><td>V</td><td colspan="12">3</td><td>V</td></tr>
<tr><td>Wind speed m/s</td><td colspan="12">9</td><td>Wind speed m/s</td></tr>
</table>

Table 1-69 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	71 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 120 t counterweight, over full range						Radius m/ Jib length m/ Offset
	9	19	26	33	40	47	
	0°	0°	0°	0°	0°	0°	
14	30.0						14
16	28.7						16
18	27.1	21.0					18
20	25.4	20.5	17.2				20
22	23.9	19.3	16.3	13.7			22
24	22.5	18.0	15.3	13.2	9.5		24
26	21.3	17.0	14.4	12.4	9.5	8.2	26
28	20.2	16.1	13.5	11.6	9.1	8.2	28
30	18.0	15.1	12.8	11.0	8.7	7.9	30
32	17.2	14.3	12.1	10.4	8.2	7.2	32
34	16.4	13.6	11.5	9.8	7.7	6.8	34
36	15.6	12.9	10.8	9.3	7.3	6.4	36
38	15.0	12.2	10.3	8.8	6.9	6.1	38
40	14.3	11.6	9.8	8.3	6.4	5.8	40
42	13.8	10.7	8.9	7.7	6.1	5.5	42
44	13.2	10.2	8.6	7.3	5.7	5.3	44
46	12.3	9.8	8.1	6.9	5.4	5.0	46
48	11.4	9.3	7.7	6.6	5.2	4.7	48
50	10.2	8.6	7.1	6.0	4.7	4.5	50
52	8.7	7.8	6.4	5.4	4.5	4.3	52
54	8.1	7.4	6.1	5.2	4.2	4.1	54
56	7.4	6.9	5.9	4.9	4.0	3.9	56
58	6.8	6.3	5.6	4.7	3.8	3.7	58
60	5.8	5.5	5.2	4.3	3.4	3.3	60
62	4.8	4.7	4.6	3.8	3.1		62
64	4.5	4.2	4.4	3.7	3.0		64
66	4.1	3.8	4.0	3.5			66
68	3.7	3.4	3.6	3.3			68
70	3.0	2.6	2.8				70
Reeving	3	2	2	2	1	1	Reeving
Telescoping mode I	4						I Telescoping mode
II	4						II
III	4						III
IV	4						IV
V	4						V
Wind speed m/s	9						Wind speed m/s

Note:

The light duty jib cannot change its offset and cannot connect to its hydraulic hose either when the main boom is 71 m long.

Table 1-70 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	50.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 100 t counterweight, over full range												Radius m/ Jib length m/ Offset
	19			26			33			33(21+12)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
12	40.0												12
14	37.5	27.1		30.0									14
16	33.1	24.6		28.4			22.5			18.6			16
18	31.1	23.4	19.5	26.5	19.4		21.7			17.6	15.0		18
20	29.2	22.4	18.8	24.0	18.5		20.3			16.6	14.5		20
22	26.8	21.3	18.2	22.7	17.2		19.1	14.0		15.7	13.8	12.6	22
24	25.3	20.4	17.6	21.4	16.5	13.6	17.9	13.3		14.7	13.1	12.0	24
26	24.1	19.5	17.0	20.2	15.8	13.2	16.9	12.8		13.9	12.5	11.5	26
28	22.9	18.7	16.5	19.4	15.1	12.8	16.1	12.2		13.0	11.9	11.1	28
30	21.8	18.1	16.0	18.3	14.5	12.4	15.2	11.7	9.7	12.3	11.3	10.7	30
32	20.1	16.8	15.0	16.8	13.5	11.6	13.9	10.9	9.1	11.9	10.9	10.3	32
34	18.8	16.2	14.6	16.1	13.0	11.3	13.3	10.5	8.8	11.2	10.4	9.9	34
36	16.9	15.7	14.3	15.3	12.6	11.1	12.7	10.0	8.6	10.6	9.9	9.5	36
38	15.3	15.2	13.9	14.7	12.2	10.7	12.1	9.7	8.3	10.1	9.4	9.1	38
40	13.8	14.7	13.6	14.1	11.7	10.5	11.6	9.4	8.1	9.7	9.1	8.7	40
42	11.8	12.6	12.6	12.2	10.7	9.6	10.4	8.6	7.4	8.8	8.3	8.0	42
44	10.6	11.4	11.8	11.1	10.4	9.4	10.0	8.2	7.2	8.4	7.9	7.7	44
46	9.7	10.3	10.7	10.1	10.1	9.2	9.6	8.0	7.0	8.0	7.6	7.4	46
48	8.6	9.4	9.7	9.2	9.8	9.0	9.3	7.8	6.9	7.7	7.3	7.1	48
50	7.8	8.4	8.7	8.4	9.3	8.8	8.7	7.5	6.7	7.3	7.0	6.8	50
52	6.5	7.1	7.3	7.1	7.9	8.2	7.4	6.8	6.2	6.2	6.5	6.4	52
54	5.9	6.3	6.5	6.4	7.1	7.6	6.8	6.7	6.1	5.6	6.3	6.2	54
56	5.2	5.6	5.8	5.7	6.5	6.8	6.2	6.5	5.9	5.1	6.2	6.0	56
58	4.6	5.0	5.1	5.1	5.8	6.2	5.6	6.3	5.9	4.3	5.9	5.6	58
60	4.1	4.4	4.4	4.6	5.2	5.5	5.0	6.2	5.7	3.8	5.1	4.8	60
62	3.5	3.8	3.8	3.8	4.3	4.5	4.1	5.5	5.3	3.2	4.2	4.0	62
64				3.3	3.7	3.9	3.6	5.0	4.8	2.8	3.6	3.6	64
66				2.9	3.3	3.4	3.2	4.4	4.3	2.3	3.2	3.0	66
68							2.8	3.9	3.7	2.0	2.8		68
70							2.3	3.2		1.6			70
72							2.0						72
Reeving	4	3	2	3	2	2	2	2	1	2	2	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	2												III
IV	2												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-70 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	50.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 100 t counterweight, over full range												Radius m/ Jib length m/ Offset
	40			40(21+19)			47			47(21+26)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
16													16
18	17.0			14.2									18
20	16.0			13.3			14.3			12.2			20
22	15.0			12.6			13.5			11.4			22
24	14.2			11.9	10.5		12.7			10.7	9.0		24
26	13.4			11.3	10.1		12.0			10.1	8.0		26
28	12.6	9.4		10.6	9.6	8.6	11.4			9.5	7.3	7.0	28
30	11.8	9.0		10.0	9.2	8.3	10.4	7.7		9.0	6.8	6.6	30
32	11.3	8.6		9.5	8.4	7.7	9.8	7.4		8.5	6.6	6.4	32
34	10.7	8.2		8.9	8.1	7.4	9.4	7.1		8.1	6.4	6.0	34
36	10.2	7.9	6.6	8.5	7.7	7.1	8.9	6.8		7.6	6.1	5.7	36
38	9.8	7.6	6.4	8.1	7.3	6.9	8.5	6.6		7.3	5.9	5.5	38
40	9.3	7.4	6.2	7.6	6.9	6.4	8.1	6.3	5.3	6.9	5.7	5.2	40
42	8.7	6.9	5.9	7.0	6.4	6.0	7.7	6.1	5.1	6.5	5.6	5.0	42
44	8.3	6.7	5.7	6.6	6.1	5.7	7.4	5.9	5.0	6.2	5.3	4.7	44
46	8.0	6.5	5.5	6.2	5.8	5.5	7.1	5.7	4.8	5.9	5.1	4.6	46
48	7.6	6.2	5.4	6.0	5.5	5.3	6.8	5.5	4.7	5.6	5.0	4.4	48
50	7.3	6.0	5.3	5.7	5.3	5.1	6.5	5.3	4.6	5.3	4.7	4.2	50
52	6.5	5.4	4.8	5.4	5.1	4.9	6.0	5.0	4.2	5.1	4.6	4.0	52
54	6.3	5.3	4.6	5.2	4.9	4.7	5.8	4.8	4.2	4.8	4.3	4.0	54
56	6.0	5.1	4.5	4.9	4.7	4.6	5.6	4.6	4.0	4.6	4.2	3.8	56
58	5.7	5.0	4.5	4.5	4.5	4.2	5.4	4.5	4.0	4.4	4.0	3.7	58
60	5.1	4.8	4.3	4.2	4.3	3.9	5.0	4.4	3.9	4.2	3.8	3.6	60
62	4.4	4.4	4.0	3.8	3.9	3.6	4.8	4.0	3.6	4.0	3.7	3.5	62
64	3.8	4.1	3.8	3.2	3.4	3.4	4.3	3.7	3.4	3.6	3.4	3.2	64
66	3.4	4.0	3.7	2.6	2.8	3.2	3.9	3.6	3.3	3.2	3.1	3.0	66
68	3.0	3.8	3.6	2.2	2.4	2.6	3.5	3.5	3.3	2.6	2.7	2.7	68
70	2.6	3.4	3.6	1.8	2.0		3.1	3.4	3.2	2.2	2.3	2.4	70
72	1.9	2.5	3.0				2.4	2.9	2.8	2.0	2.0		72
74	1.7	2.0					2.1	2.5	2.6	1.8			74
76							1.7	2.0					76
Reeving	2	1	1	2	1	1	2	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	2												III
IV	2												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-71 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	55.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 100 t counterweight, over full range												Radius m/ Jib length m/ Offset
	19			26			33			33(21+12)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
14	36.0												14
16	33.8	26.0		26.6									16
18	30.3	23.0		25.3			20.4			17.0			18
20	28.0	21.9	18.5	23.0	17.6		19.2			16.1	14.0		20
22	25.5	20.2	17.3	21.6	16.2		18.0			15.1	13.5		22
24	24.2	19.5	16.7	20.4	15.6	13.0	17.1	12.6		14.2	12.7	11.3	24
26	23.0	18.7	16.2	19.3	15.0	12.5	16.2	12.0		13.3	12.1	10.8	26
28	21.9	17.9	15.6	18.3	14.4	12.1	15.2	11.6		12.6	11.4	10.2	28
30	20.9	17.3	15.2	17.4	13.9	11.7	14.5	11.1	9.2	11.8	10.9	9.8	30
32	18.9	15.7	13.9	15.8	12.6	10.7	13.0	10.1	8.4	11.3	10.3	9.3	32
34	17.7	15.2	13.5	15.0	12.1	10.5	12.4	9.7	8.2	10.6	9.8	8.9	34
36	15.9	14.7	13.2	14.4	11.7	10.2	11.8	9.4	7.9	10.1	9.3	8.5	36
38	14.3	14.2	12.6	13.4	11.0	9.7	11.1	8.8	7.5	9.7	8.9	8.2	38
40	13.0	13.8	12.3	12.9	10.7	9.4	10.6	8.5	7.3	9.2	8.5	7.7	40
42	11.5	12.2	12.0	11.9	10.4	9.2	10.1	8.2	7.1	8.7	8.1	7.2	42
44	10.0	10.7	11.1	10.4	9.7	8.7	9.4	7.7	6.7	8.3	7.8	6.9	44
46	9.0	9.7	10.1	9.4	9.4	8.5	9.0	7.4	6.5	8.0	7.5	6.6	46
48	8.2	8.8	9.1	8.6	9.2	8.3	8.6	7.2	6.4	7.6	7.2	6.4	48
50	7.4	8.0	8.3	7.7	8.6	8.2	8.0	7.0	6.2	6.7	6.9	6.2	50
52	6.3	6.8	7.1	6.8	7.6	7.7	7.1	6.5	5.8	5.9	6.5	5.8	52
54	5.6	6.1	6.3	6.1	6.8	7.3	6.3	6.3	5.7	5.3	6.2	5.6	54
56	5.0	5.5	5.7	5.5	6.2	6.6	5.8	6.1	5.6	4.8	5.6	5.3	56
58	4.5	4.8	5.0	4.9	5.5	6.0	5.2	6.0	5.5	4.1	5.0	5.0	58
60	3.9	4.2	4.4	4.3	5.0	5.3	4.7	5.5	5.4	3.6	4.5	4.6	60
62	3.3	3.6	3.7	3.7	4.3	4.6	4.1	4.9	5.2	3.1	4.1	4.1	62
64	2.9	3.2	3.2	3.3	3.8	4.1	3.6	4.4	4.8	2.8	3.4	3.7	64
66	2.5	2.7	2.7	2.8	3.3	3.5	3.2	3.9	4.3	2.4	3.0	3.2	66
68				2.5	2.9		2.7	3.4	3.9	2.1	2.6	2.6	68
70				2.0			2.4	3.0	3.3	1.8	2.3	2.0	70
72								2.2			1.7		72
74													74
Reeving	3	3	2	3	2	2	2	1	1	2	2	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	2												IV
V	2												V
	9												Wind speed m/s

Table 1-71 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	55.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 100 t counterweight, over full range												Radius m/ Jib length m/ Offset
	40			40(21+19)			47			47(21+26)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20	14.6			12.5									20
22	13.7			11.9			12.1			10.6			22
24	12.9			11.2	10.0		11.4			10.0	8.8		24
26	12.2			10.5	9.2		10.8			9.3	8.1		26
28	11.6	8.6		9.9	8.8	8.0	10.3			8.9	7.6	6.4	28
30	11.0	8.3		9.4	8.3	7.7	9.8			8.3	7.2	6.0	30
32	10.0	7.6		8.9	7.9	7.3	9.0	6.7		7.9	6.8	5.7	32
34	9.6	7.3		8.4	7.5	7.0	8.6	6.5		7.4	6.5	5.5	34
36	9.1	7.0	5.8	8.0	7.2	6.4	8.2	6.2		7.0	6.2	5.2	36
38	8.6	6.8	5.6	7.5	6.8	6.3	7.8	6.0		6.7	5.9	5.0	38
40	8.3	6.5	5.5	7.2	6.5	6.1	7.5	5.8	4.8	6.3	5.6	4.7	40
42	7.7	6.1	5.2	6.8	6.2	5.8	7.1	5.6	4.6	5.9	5.4	4.5	42
44	7.4	5.9	5.0	6.5	5.9	5.6	6.7	5.2	4.4	5.7	5.1	4.3	44
46	7.1	5.7	4.9	6.2	5.4	5.2	6.4	5.0	4.3	5.4	4.9	4.2	46
48	6.8	5.5	4.8	6.0	5.2	5.0	6.1	4.9	4.1	5.1	4.7	4.1	48
50	6.5	5.3	4.6	5.7	5.1	4.9	5.7	4.6	3.9	4.8	4.3	4.0	50
52	6.1	5.0	4.4	5.5	4.9	4.7	5.4	4.4	3.8	4.5	4.1	3.9	52
54	5.9	4.9	4.3	5.2	4.7	4.5	5.2	4.2	3.6	4.3	4.0	3.7	54
56	5.7	4.8	4.1	4.6	4.2	4.0	4.8	3.9	3.4	4.0	3.7	3.6	56
58	5.2	4.6	4.1	4.0	3.9	3.8	4.6	3.8	3.3	3.7	3.6	3.4	58
60	4.7	4.5	4.0	3.5	3.7	3.6	4.2	3.5	3.1	3.4	3.3	3.1	60
62	4.1	4.2	3.8	3.1	3.4	3.4	4.0	3.4	3.0	3.0	3.0	3.0	62
64	3.6	4.0	3.6	2.7	3.1	3.2	3.7	3.2	2.8	2.6	2.7	2.8	64
66	3.3	3.9	3.6	2.4	2.8	3.0	3.4	3.0	2.6	2.2	2.3	2.4	66
68	2.9	3.7	3.5	2.1	2.5	2.6	3.0	2.7	2.4	2.0	2.1	2.2	68
70	2.5	3.3	3.4	1.8	2.2	2.3	2.4	2.5	2.2		1.8		70
72	1.9	2.5	2.6		2.0		2.1	2.3	2.0				72
74		2.2	2.3				1.9	2.1	1.8				74
76		1.9					1.6	2.0					76
Reeving	2	1	1	1	1	1	1	1	1	1	1	1	Reeving

Telescoping mode	I	3	I	Telescoping mode
	II	3	II	
	III	3	III	
	IV	2	IV	
	V	2	V	
Wind speed m/s		9		Wind speed m/s

Table 1-72 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	60.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 100 t counterweight, over full range												Radius m/ Jib length m/ Offset
	19			26			33			33(21+12)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
16	30.0												16
18	29.3			23.7									18
20	26.3	22.0		22.9			18.0			14.8			20
22	24.9	19.8	16.9	20.2	15.8		17.3			14.6			22
24	23.7	19.0	16.3	19.1	15.1		16.4			13.8	11.7		24
26	22.5	18.3	15.9	18.2	14.0	11.8	15.1	11.2		13.0	11.1		26
28	21.2	17.6	15.4	17.3	13.5	11.4	14.4	10.9		12.3	10.6	9.9	28
30	20.0	17.0	15.0	16.6	13.0	11.1	13.6	10.4		11.6	10.1	9.5	30
32	18.2	15.8	14.1	15.4	12.3	10.6	12.7	9.8	8.2	11.0	9.6	9.1	32
34	16.8	15.0	13.4	14.6	11.8	10.2	12.2	9.4	7.9	10.5	9.1	8.7	34
36	15.8	14.5	13.0	13.8	11.5	10.0	11.6	9.1	7.7	10.0	8.7	8.3	36
38	14.5	13.9	12.7	13.1	11.1	9.8	11.1	8.8	7.5	9.4	8.3	8.0	38
40	13.1	13.3	12.5	12.5	10.8	9.5	10.6	8.6	7.3	9.1	8.0	7.7	40
42	11.1	11.9	11.4	11.2	9.8	8.7	9.6	7.7	6.7	8.6	7.6	7.4	42
44	10.1	10.8	11.0	10.5	9.5	8.5	9.2	7.5	6.5	8.2	7.3	7.0	44
46	9.2	9.8	10.2	9.5	9.2	8.3	8.9	7.3	6.4	7.7	6.9	6.8	46
48	8.3	8.9	9.3	8.6	8.9	8.2	8.5	7.1	6.2	7.3	6.6	6.5	48
50	7.5	8.1	8.4	7.9	8.6	8.0	8.1	6.8	6.1	6.6	6.0	5.9	50
52	6.5	7.0	7.3	6.8	7.7	7.6	7.1	6.4	5.7	5.9	5.7	5.6	52
54	5.8	6.3	6.6	6.2	7.0	7.3	6.4	6.2	5.5	5.3	5.3	5.3	54
56	5.2	5.6	5.9	5.6	6.3	6.8	5.8	6.0	5.5	4.9	5.0	5.0	56
58	4.6	5.0	5.3	5.0	5.7	6.1	5.3	5.9	5.3	4.4	4.5	4.7	58
60	4.1	4.5	4.7	4.5	5.2	5.5	4.8	5.7	5.3	4.0	4.4	4.4	60
62	3.5	3.9	4.0	3.9	4.5	4.8	4.1	5.0	5.0	3.3	3.8	4.0	62
64	3.0	3.4	3.4	3.4	4.0	4.3	3.7	4.5	5.0	3.0	3.4	3.7	64
66	2.6	2.9	2.9	2.9	3.5	3.7	3.2	4.0	4.5	2.6	3.1	3.4	66
68	2.2	2.5		2.5	3.0	3.2	2.9	3.6	4.0	2.3	2.7	3.0	68
70				2.0	2.4		2.3	2.9	3.3	1.8	2.3	2.4	70
72							1.8	2.3	2.6		1.8		72
74								2.0					74
76													76
Reeving	3	2	2	2	2	1	2	1	1	2	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
Telescoping mode II	3												II Telescoping mode
Telescoping mode III	3												III Telescoping mode
Telescoping mode IV	3												IV Telescoping mode
Telescoping mode V	2												V Telescoping mode
Wind speed m/s	9												Wind speed m/s

Table 1-72 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	60.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 100 t counterweight, over full range												Radius m/ Jib length m/ Offset
	40			40(21+19)			47			47(21+26)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
22	12.7			10.8									22
24	11.9			10.2			10.4			9.2			24
26	11.3			9.6	8.5		9.9			8.7			26
28	10.7			9.1	8.1		9.4			8.2	7.0		28
30	10.2	7.6		8.7	7.7	7.0	8.9			7.8	6.8		30
32	9.5	7.2		8.1	7.3	6.7	8.1	6.0		7.4	6.4	5.5	32
34	9.0	6.9		7.8	7.0	6.4	7.7	5.9		6.9	6.1	5.2	34
36	8.6	6.7		7.4	6.7	6.2	7.4	5.7		6.6	5.8	5.0	36
38	8.3	6.4	5.3	7.0	6.4	5.9	7.1	5.5		6.3	5.6	4.8	38
40	7.7	6.0	5.0	6.7	6.1	5.7	6.8	5.3		5.9	5.3	4.5	40
42	7.3	5.8	4.9	6.4	5.8	5.5	6.5	5.1	4.2	5.7	5.1	4.4	42
44	7.1	5.6	4.8	6.1	5.5	5.2	6.2	4.9	4.1	5.4	4.8	4.2	44
46	6.7	5.4	4.6	5.8	5.3	5.0	6.0	4.7	4.0	5.1	4.6	4.0	46
48	6.5	5.2	4.5	5.5	5.1	4.9	5.8	4.6	3.8	4.9	4.4	4.1	48
50	6.0	4.9	4.2	5.2	4.9	4.6	5.5	4.4	3.8	4.6	4.2	4.0	50
52	5.8	4.7	4.1	5.0	4.6	4.5	5.3	4.3	3.6	4.4	4.0	3.8	52
54	5.5	4.6	4.0	4.7	4.5	4.3	5.1	4.2	3.6	4.2	3.9	3.6	54
56	5.3	4.4	3.9	4.5	4.3	4.2	4.9	4.0	3.5	4.1	3.7	3.5	56
58	5.1	4.3	3.8	3.9	3.8	3.7	4.8	3.9	3.4	3.8	3.5	3.3	58
60	4.2	3.8	3.4	3.6	3.7	3.6	4.3	3.5	3.1	3.5	3.2	3.0	60
62	3.7	3.6	3.2	3.3	3.4	3.5	4.0	3.3	2.9	3.2	3.0	2.9	62
64	3.3	3.5	3.2	3.0	3.1	3.3	3.8	3.2	2.8	3.0	2.8	2.7	64
66	3.0	3.4	3.1	2.7	2.8	3.0	3.4	3.1	2.7	2.8	2.7	2.6	66
68	2.6	3.4	3.1	2.4	2.5		3.1	3.0	2.6	2.5	2.6	2.4	68
70	2.3	3.0	3.0	2.0			2.7	3.0	2.5	2.2	2.3	2.2	70
72	1.7	2.3	2.5				2.1	2.5	2.3	2.0	2.0		72
74		2.1	2.2				1.9	2.3	2.2	1.7			74
76		1.8					1.6	2.0	2.0				76
78													78
Reeving	1	1	1	1	1	1	1	1	1	1	1	1	Reeving

Telescoping mode	I	3	I	Telescoping mode
	II	3	II	
	III	3	III	
	IV	3	IV	
	V	2	V	
Wind speed m/s		9		Wind speed m/s

Table 1-73 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	65.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 100 t counterweight, over full range												Radius m/ Jib length m/ Offset
	19			26			33			33(21+12)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
18	26.5												18
20	24.1	20.3		19.6									20
22	21.8	18.4	16.4	17.7			16.0			12.7			22
24	20.3	17.4	15.6	16.6	14.2		15.0			12.0	10.8		24
26	19.0	16.5	14.9	15.6	13.0		13.4			11.0	9.9		26
28	17.9	15.6	14.2	14.7	12.3	10.8	12.7	10.3		10.4	9.4	8.4	28
30	17.0	14.8	13.6	13.9	11.6	10.4	12.0	9.8		9.8	8.9	8.0	30
32	15.4	13.6	12.5	12.7	10.9	9.7	11.0	9.1		9.3	8.4	7.5	32
34	14.2	12.6	11.7	12.1	10.3	9.3	10.4	8.7	7.7	8.8	7.9	7.1	34
36	13.4	12.1	11.2	11.4	9.8	8.9	9.8	8.2	7.4	7.8	7.0	6.3	36
38	12.8	11.5	10.7	10.8	9.4	8.6	9.3	7.9	7.0	7.4	6.7	6.0	38
40	12.2	11.0	10.3	10.2	9.0	8.2	8.8	7.5	6.7	7.1	6.3	5.7	40
42	10.9	9.9	9.3	9.2	8.1	7.4	7.8	6.8	6.1	6.8	6.1	5.5	42
44	10.4	9.5	9.0	8.7	7.7	7.1	7.4	6.5	5.9	6.4	5.7	5.2	44
46	9.4	9.1	8.6	8.3	7.4	6.9	7.1	6.2	5.6	5.9	5.3	4.8	46
48	8.6	8.8	8.3	7.9	7.1	6.6	6.8	5.9	5.4	5.6	5.1	4.5	48
50	7.7	8.3	8.1	7.6	6.8	6.4	6.4	5.7	5.3	5.3	4.8	4.3	50
52	6.8	7.3	7.5	6.9	6.3	5.9	5.9	5.2	4.8	5.1	4.6	4.1	52
54	6.1	6.6	6.8	6.3	6.0	5.8	5.6	5.0	4.7	4.9	4.4	4.0	54
56	5.5	6.0	6.2	5.8	5.8	5.5	5.3	4.8	4.5	4.6	4.1	3.7	56
58	4.9	5.3	5.6	5.2	5.6	5.3	5.1	4.6	4.3	4.3	3.8	3.5	58
60	4.3	4.8	5.0	4.7	5.3	5.2	4.9	4.5	4.2	4.1	3.7	3.3	60
62	3.7	4.1	4.3	4.1	4.7	4.9	4.3	4.1	3.7	3.6	3.2	2.9	62
64	3.3	3.6	3.8	3.6	4.2	4.5	3.9	4.0	3.8	3.1	2.8	2.5	64
66	2.9	3.2	3.3	3.2	3.7	4.0	3.4	3.9	3.6	2.6	2.4	2.1	66
68	2.5	2.7	2.9	2.7	3.3	3.5	3.0	3.7	3.5	2.3	2.1	1.9	68
70	2.1	2.3	2.4	2.2	2.7	2.9	2.4	3.1	3.2	1.9	1.7	1.5	70
72					2.1		1.9	2.5	2.6				72
74								2.2					74
Reeving	3	2	2	2	2	1	2	1	1	1	1	1	Reeving

Telescoping mode	I	3	I	Telescoping mode
	II	3	II	
	III	3	III	
	IV	3	IV	
	V	3	V	
Wind speed m/s		9		Wind speed m/s

Table 1-73 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	65.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 100 t counterweight, over full range												Radius m/ Jib length m/ Offset
	40			40(21+19)			47			47(21+26)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
24	11.0			9.5									24
26	10.4			9.1			9.1			8.3			26
28	9.8			8.5	7.2		8.7			7.4			28
30	9.2			8.0	6.9		8.3			7.0	6.2		30
32	8.5	6.9		7.5	6.5		7.4			6.7	5.9		32
34	8.0	6.6		7.1	6.2	5.8	7.0			6.3	5.5	4.7	34
36	7.6	6.3		6.7	5.9	5.6	6.7	6.1		6.0	5.3	4.5	36
38	7.1	6.0		6.4	5.6	5.2	6.3	5.2		5.7	5.0	4.3	38
40	6.6	5.5	4.9	5.9	5.3	5.0	6.0	5.0		5.4	4.7	4.0	40
42	6.3	5.3	4.7	5.6	5.0	4.8	5.7	4.7		5.1	4.5	3.8	42
44	5.9	5.0	4.5	5.4	4.8	4.6	5.4	4.6	4.0	4.9	4.3	3.6	44
46	5.6	4.8	4.4	5.0	4.5	4.4	5.1	4.4	3.9	4.6	4.1	3.5	46
48	5.3	4.6	4.1	4.8	4.3	4.1	4.9	4.2	3.7	4.4	3.9	3.3	48
50	4.8	4.2	3.8	4.5	4.1	3.9	4.6	4.0	3.6	4.2	3.7	3.2	50
52	4.6	4.0	3.6	4.3	3.9	3.8	4.4	3.8	3.4	4.0	3.5	3.0	52
54	4.4	3.8	3.5	4.0	3.7	3.6	4.2	3.6	3.3	3.8	3.4	2.9	54
56	4.2	3.7	3.4	3.8	3.5	3.5	4.0	3.5	3.2	3.4	3.0	2.5	56
58	4.0	3.5	3.3	3.5	3.4	3.3	3.8	3.4	3.1	3.1	2.8	2.3	58
60	3.5	3.1	2.9	3.2	3.1	2.9	3.4	3.0	2.7	3.0	2.6	2.2	60
62	3.2	2.9	2.7	3.0	2.8	2.7	3.1	2.7	2.6	2.8	2.5	2.1	62
64	3.1	2.8	2.6	2.7	2.7	2.3	3.0	2.6	2.4	2.6	2.3	1.9	64
66	3.0	2.7	2.5	2.3	2.3	2.2	2.8	2.6	2.3	2.4	2.1	1.8	66
68	2.7	2.6	2.4	2.0	2.2		2.7	2.4	2.3	2.0	1.8		68
70	2.4	2.4	2.3	1.8			2.6	2.3	2.1	1.8			70
72	1.8	2.0	2.0				2.2	1.9	1.8				72
74	1.6	1.8	1.9				2.0	1.8					74
76		1.6					1.7						76
Reeving	1	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	3												IV
V	3												V
Wind speed m/s	9												Wind speed m/s

Table 1-74 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	71 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 100 t counterweight, over full range						Radius m/ Jib length m/ Offset
	9	19	26	33	40	47	
	0°	0°	0°	0°	0°	0°	
14	30.0						14
16	28.7						16
18	27.1	21.0					18
20	25.4	20.5	17.2				20
22	23.9	19.3	16.3	13.7			22
24	22.5	18.0	15.3	13.2	9.5		24
26	21.3	17.0	14.4	12.4	9.5	8.2	26
28	20.2	16.1	13.5	11.6	9.1	8.2	28
30	18.0	15.1	12.8	11.0	8.7	7.9	30
32	17.2	14.3	12.1	10.4	8.2	7.2	32
34	16.4	13.6	11.5	9.8	7.7	6.8	34
36	15.6	12.9	10.8	9.3	7.3	6.4	36
38	14.2	12.2	10.3	8.8	6.9	6.1	38
40	13.0	11.6	9.8	8.3	6.4	5.8	40
42	11.8	10.7	8.9	7.7	6.1	5.5	42
44	10.9	10.2	8.6	7.3	5.7	5.3	44
46	9.9	9.3	8.1	6.9	5.4	5.0	46
48	9.1	8.5	7.7	6.6	5.2	4.7	48
50	7.9	7.3	7.1	6.0	4.7	4.5	50
52	6.7	6.3	6.4	5.4	4.5	4.3	52
54	6.1	5.6	5.9	5.2	4.2	4.1	54
56	5.5	5.1	5.3	4.9	4.0	3.9	56
58	5.1	4.6	4.8	4.7	3.8	3.7	58
60	4.2	3.8	4.1	4.3	3.4	3.3	60
62	3.5	3.1	3.4	3.5	3.1		62
64	3.1	2.8	3.0	3.2	3.0		64
66	2.8	2.4	2.6	2.8			66
68	2.5	2.0	2.3	2.5			68
70	2.0	1.5	1.6				70
Reeving	3	2	2	2	1	1	Reeving
Telescoping mod I	4						I Telescoping mode
II	4						II
III	4						III
IV	4						IV
V	4						V
Wind speed m/s	9						Wind speed m/s

Note:

The light duty jib cannot change its offset and cannot connect to its hydraulic hose either when the main boom is 71 m long.

Table 1-75 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	50.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 80 t counterweight, over full range												Radius m/ Jib length m/ Offset
	19			26			33			33(21+12)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
12	40.0												12
14	37.5	27.1		30.0									14
16	33.1	24.6		28.4			22.5			18.6			16
18	31.1	23.4	19.5	26.5	19.4		21.7			17.6	15.0		18
20	29.2	22.4	18.8	24.0	18.5		20.3			16.6	14.5		20
22	26.8	21.3	18.2	22.7	17.2		19.1	14.0		15.7	13.8	12.6	22
24	25.3	20.4	17.6	21.4	16.5	13.6	17.9	13.3		14.7	13.1	12.0	24
26	24.1	19.5	17.0	20.2	15.8	13.2	16.9	12.8		13.9	12.5	11.5	26
28	22.0	18.7	16.5	19.4	15.1	12.8	16.1	12.2		13.0	11.9	11.1	28
30	19.4	18.1	16.0	18.3	14.5	12.4	15.2	11.7	9.7	12.3	11.3	10.7	30
32	16.7	16.8	15.0	16.8	13.5	11.6	13.9	10.9	9.1	11.9	10.9	10.3	32
34	14.9	16.0	14.6	15.4	13.0	11.3	13.3	10.5	8.8	11.2	10.4	9.9	34
36	13.3	14.3	14.3	13.8	12.6	11.1	12.7	10.0	8.6	10.6	9.9	9.5	36
38	11.8	12.8	13.4	12.3	12.2	10.7	12.1	9.7	8.3	10.1	9.4	9.1	38
40	10.5	11.4	12.1	11.1	11.7	10.5	11.4	9.4	8.1	9.5	9.1	8.7	40
42	8.8	9.6	10.2	9.3	10.6	9.6	9.7	8.6	7.4	8.1	8.3	8.0	42
44	7.8	8.6	9.0	8.3	9.4	9.4	8.6	8.2	7.2	7.2	7.5	6.9	44
46	6.9	7.6	8.0	7.4	8.5	9.2	7.8	8.0	7.0	6.5	6.7	6.4	46
48	6.0	6.6	7.0	6.6	7.6	8.3	7.0	7.8	6.9	5.8	6.5	6.0	48
50	5.3	5.8	6.2	5.8	6.8	7.4	6.2	7.5	6.7	5.2	6.3	5.7	50
52	4.3	4.8	5.0	4.8	5.6	6.2	5.2	6.4	6.2	4.3	5.3	5.1	52
54	3.7	4.1	4.4	4.1	5.0	5.5	4.6	5.7	6.1	3.8	4.8	5.1	54
56	3.1	3.5	3.7	3.6	4.4	4.8	4.0	5.1	5.8	3.3	4.1	4.6	56
58	2.6	2.9	3.1	3.1	3.8	4.1	3.5	4.5	5.1	2.9	3.6	4.2	58
60	2.0	2.3	2.4	2.6	3.2	3.5	3.0	3.9	4.5	2.5	3.1	3.5	60
62					2.5	2.7	2.3	3.2	3.6	1.9	2.5	2.8	62
64					2.0			2.7	3.2		2.1	2.4	64
66								2.2	2.6		1.8	1.8	66
68									2.2				68
Reeving	4	3	2	3	2	2	2	2	1	2	2	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	2												III
IV	2												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-75 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset		50.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 80 t counterweight, over full range											Radius m/ Jib length m/ Offset
		40			40(21+19)			47			47(21+26)		
		0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°
18		17.0			14.2								18
20		16.0			13.3			14.3			12.2		20
22		15.0			12.6			13.5			11.4		22
24		14.2			11.9	10.5		12.7			10.7	9.0		24
26		13.4			11.3	10.1		12.0			10.1	8.0		26
28		12.6	9.4		10.6	9.6	8.6	11.4			9.5	7.3	7.0	28
30		11.8	9.0		10.0	9.2	8.3	10.4	7.7		9.0	6.8	6.6	30
32		11.3	8.6		9.5	8.4	7.7	9.8	7.4		8.5	6.6	6.4	32
34		10.7	8.2		8.9	8.1	7.4	9.4	7.1		8.1	6.4	6.0	34
36		10.2	7.9	6.6	8.5	7.7	7.1	8.9	6.8		7.6	6.1	5.7	36
38		9.8	7.6	6.4	8.1	7.3	6.9	8.5	6.6		7.3	5.9	5.5	38
40		9.3	7.4	6.2	7.6	6.9	6.4	8.1	6.3	5.3	6.9	5.7	5.2	40
42		8.7	6.9	5.9	7.0	6.4	6.0	7.7	6.1	5.1	6.5	5.6	5.0	42
44		8.3	6.7	5.7	6.6	6.1	5.7	7.4	5.9	5.0	6.2	5.3	4.7	44
46		8.0	6.5	5.5	6.0	5.8	5.5	7.1	5.7	4.8	5.9	5.1	4.6	46
48		7.2	6.2	5.4	5.6	5.5	5.3	6.8	5.5	4.7	5.6	5.0	4.4	48
50		6.4	6.0	5.3	5.2	5.3	5.1	6.5	5.3	4.6	5.3	4.7	4.2	50
52		5.3	5.4	4.8	4.5	4.6	4.8	5.9	5.0	4.2	4.8	4.6	4.0	52
54		4.8	5.3	4.6	4.1	4.3	4.5	5.3	4.8	4.2	4.4	4.3	4.0	54
56		4.2	5.1	4.5	3.6	3.8	4.0	4.8	4.6	4.0	4.0	4.1	3.8	56
58		3.7	4.9	4.5	3.0	3.2	3.3	4.3	4.5	4.0	3.6	3.7	3.7	58
60		3.2	4.4	4.3	2.5	2.8	3.0	3.7	4.4	3.9	3.2	3.3	3.4	60
62		2.7	3.7	4.0	2.0	2.4	2.8	3.2	4.0	3.6	2.8	2.9	3.0	62
64		2.1	3.1	3.4	1.8	2.0	2.4	2.7	3.7	3.4	2.4	2.5	2.6	64
66			2.7	3.0		1.8	2.0	2.3	3.3	3.3	2.0	2.1	2.2	66
68			2.3	2.6			1.8	2.0	2.9	3.0		1.8	2.0	68
70				2.2					2.5	2.8			1.8	70
72				1.8					1.8	2.3				72
74										2.0				74
Reeving		2	1	1	2	1	1	2	1	1	1	1	1	Reeving
Telescoping mode	I	3											I
	II	3											II
	III	2											III
	IV	2											IV
	V	2											V
Wind speed m/s		9											Wind speed m/s

Table 1-76 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	55.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 80 t counterweight, over full range												Radius m/ Jib length m/ Offset
	19			26			33			33(21+12)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
14	36.0												14
16	33.8	26.0		26.6									16
18	30.3	23.0		25.3			20.4			17.0			18
20	28.0	21.9	18.5	23.0	17.6		19.2			16.1	14.0		20
22	25.5	20.2	17.3	21.6	16.2		18.0			15.1	13.5		22
24	24.2	19.5	16.7	20.4	15.6	13.0	17.1	12.6		14.2	12.7	11.3	24
26	23.0	18.7	16.2	19.3	15.0	12.5	16.2	12.0		13.3	12.1	10.8	26
28	21.3	17.9	15.6	18.3	14.4	12.1	15.2	11.6		12.6	11.4	10.2	28
30	18.8	17.3	15.2	17.4	13.9	11.7	14.5	11.1	9.2	11.8	10.9	9.8	30
32	15.7	15.7	13.9	15.8	12.6	10.7	13.0	10.1	8.4	11.3	10.3	9.3	32
34	13.9	15.0	13.5	14.4	12.1	10.5	12.4	9.7	8.2	10.6	9.8	8.9	34
36	12.4	13.4	13.2	12.9	11.7	10.2	11.8	9.4	7.9	10.1	9.3	8.5	36
38	11.0	12.0	12.4	11.2	11.0	9.7	11.1	8.8	7.5	9.7	8.9	8.2	38
40	9.8	10.7	11.1	10.0	10.7	9.4	10.4	8.5	7.3	9.4	8.5	7.7	40
42	8.6	9.4	9.9	9.0	10.2	9.2	9.3	8.2	7.1	8.4	8.1	7.2	42
44	7.4	8.0	8.6	7.7	8.9	8.7	8.0	7.7	6.7	7.3	7.0	6.4	44
46	6.5	7.1	7.6	6.9	8.0	8.5	7.1	7.4	6.5	6.2	6.8	5.9	46
48	5.6	6.3	6.8	6.2	7.1	7.8	6.4	7.2	6.4	5.3	6.5	5.8	48
50	5.0	5.6	5.9	5.4	6.4	7.0	5.7	7.0	6.2	4.8	6.1	5.4	50
52	4.1	4.6	5.0	4.5	5.4	6.0	4.9	6.0	5.8	4.1	5.0	4.9	52
54	3.5	4.0	4.2	4.0	4.8	5.3	4.3	5.4	5.7	3.6	4.5	4.7	54
56	3.0	3.5	3.7	3.4	4.2	4.7	3.7	4.8	5.5	3.0	4.0	4.3	56
58	2.5	2.9	3.1	2.9	3.6	4.0	3.2	4.2	4.9	2.5	3.5	3.8	58
60	2.0	2.4	2.5	2.4	3.1	3.5	2.7	3.7	4.3	2.1	2.9	3.3	60
62					2.5	2.9	2.2	3.2	3.7	1.7	2.4	2.9	62
64					2.1	2.3		2.7	3.2		2.0	2.4	64
66								2.2	2.7		1.7	2.0	66
68									2.2			1.7	68
70													70
Reeving	3	3	2	3	2	2	2	1	1	2	2	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	2												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-76　Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	55.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 80 t counterweight, over full range												Radius m/ Jib length m/ Offset
	40			40(21+19)			47			47(21+26)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20	14.6			12.5									20
22	13.7			11.9			12.1			10.6			22
24	12.9			11.2	10.0		11.4			10.0	8.8		24
26	12.2			10.5	9.2		10.8			9.3	8.1		26
28	11.6	8.6		9.9	8.8	8.0	10.3			8.9	7.6	6.4	28
30	11.0	8.3		9.4	8.3	7.7	9.8			8.3	7.2	6.0	30
32	10.0	7.6		8.9	7.9	7.3	9.0	6.7		7.9	6.8	5.7	32
34	9.6	7.3		8.4	7.5	7.0	8.6	6.5		7.4	6.5	5.5	34
36	9.1	7.0	5.8	8.0	7.2	6.4	8.2	6.2		7.0	6.2	5.2	36
38	8.6	6.8	5.6	7.5	6.8	6.3	7.8	6.0		6.7	5.9	5.0	38
40	8.3	6.5	5.5	7.2	6.5	6.1	7.5	5.8	4.8	6.3	5.6	4.7	40
42	7.7	6.1	5.2	6.8	6.2	5.8	7.1	5.6	4.6	5.9	5.4	4.5	42
44	7.4	5.9	5.0	6.3	5.9	5.6	6.7	5.2	4.4	5.7	5.1	4.3	44
46	7.0	5.7	4.9	5.8	5.4	5.2	6.4	5.0	4.3	5.4	4.9	4.2	46
48	6.3	5.5	4.8	5.2	5.2	5.0	6.1	4.9	4.1	5.1	4.7	4.1	48
50	5.6	5.3	4.6	4.7	5.0	4.9	5.7	4.6	3.9	4.8	4.3	4.0	50
52	4.9	5.0	4.4	4.4	4.6	4.5	5.2	4.4	3.8	4.4	4.1	3.9	52
54	4.4	4.9	4.3	4.0	4.2	4.0	4.7	4.2	3.6	4.0	4.0	3.7	54
56	3.8	4.8	4.1	3.4	3.6	3.3	4.0	3.9	3.4	3.5	3.7	3.4	56
58	3.4	4.6	4.1	3.0	3.2	3.0	3.5	3.8	3.3	3.0	3.2	3.1	58
60	2.9	4.1	4.0	2.5	2.8	2.6	3.0	3.5	3.1	2.5	2.8	2.6	60
62	2.4	3.4	3.8	2.0	2.2	2.1	2.6	3.4	3.0	2.1	2.3	2.1	62
64	2.0	3.0	3.6		1.8	1.9	2.3	3.2	2.9	1.8	2.0	1.8	64
66		2.6	3.3				2.0	2.9	2.8		1.8		66
68		2.3	2.8					2.6	2.8				68
70			2.4					1.9	2.4				70
72			1.7					1.7	2.1				72
74									1.8				74
76													76
Reeving	2	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	2												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-77　Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset		60.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 80 t counterweight, over full range												Radius m/ Jib length m/ Offset	
		19			26			33			33(21+12)				
		0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°		
16		30.0												16	
18		29.3			23.7									18	
20		26.3	22.0		22.9			18.0			14.8			20	
22		24.9	19.8	16.9	20.2	15.8		17.3			14.6			22	
24		23.7	19.0	16.3	19.1	15.1		16.4			13.8	11.7		24	
26		22.5	18.3	15.9	18.2	14.0	11.8	15.1	11.2		13.0	11.1		26	
28		21.2	17.6	15.4	17.3	13.5	11.4	14.4	10.9		12.3	10.6	9.9	28	
30		19.0	17.0	15.0	16.6	13.0	11.1	13.6	10.4		11.6	10.1	9.5	30	
32		16.2	15.8	14.1	15.4	12.3	10.6	12.7	9.8	8.2	11.0	9.6	9.1	32	
34		14.1	15.0	13.4	14.6	11.8	10.2	12.2	9.4	7.9	10.5	9.1	8.7	34	
36		12.6	13.6	13.0	13.0	11.5	10.0	11.6	9.1	7.7	10.0	8.7	8.3	36	
38		11.2	12.2	12.7	11.6	11.1	9.8	11.1	8.8	7.5	9.4	8.3	8.0	38	
40		10.0	10.9	11.5	10.4	10.8	9.5	10.6	8.6	7.3	9.1	8.0	7.7	40	
42		8.4	9.2	9.7	8.7	9.8	8.7	9.1	7.7	6.7	8.3	7.6	7.4	42	
44		7.5	8.2	8.7	7.8	9.0	8.5	8.1	7.5	6.5	7.4	7.3	7.0	44	
46		6.6	7.3	7.7	7.0	8.0	8.3	7.2	7.3	6.4	6.5	6.6	6.8	46	
48		5.9	6.5	6.9	6.2	7.2	8.0	6.5	7.1	6.2	5.6	6.4	6.5	48	
50		5.1	5.7	6.2	5.6	6.5	7.1	5.8	6.8	6.1	4.8	5.9	5.9	50	
52		4.2	4.8	5.2	4.7	5.5	6.1	4.9	6.1	5.7	4.1	5.1	5.2	52	
54		3.7	4.2	4.5	4.1	4.9	5.5	4.3	5.5	5.5	3.6	4.6	4.8	54	
56		3.2	3.6	3.9	3.5	4.3	4.8	3.8	4.9	5.5	3.2	4.1	4.6	56	
58		2.7	3.1	3.3	3.0	3.7	4.2	3.3	4.3	5.0	2.8	3.3	3.9	58	
60		2.2	2.6	2.8	2.5	3.2	3.7	2.8	3.8	4.5	2.2	2.9	3.4	60	
62			2.2	2.3	2.0	2.7	3.1	2.3	3.2	3.8	1.8	2.5	2.9	62	
64						2.2	2.5		2.8	3.4		2.2	2.6	64	
66							2.1		2.3	2.9		1.8	2.2	66	
68										2.4			1.8	68	
Reeving		3	2	2	2	2	1	2	1	1	2	1	1	Reeving	
Telescoping mode	I	3												I	Telescoping mode
	II	3												II	
	III	3												III	
	IV	3												IV	
	V	2												V	
Wind speed m/s		9												Wind speed m/s	

Table 1-77 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	60.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 80 t counterweight, over full range												Radius m/ Jib length m/ Offset
	40			40(21+19)			47			47(21+26)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
22	12.7			10.8									22
24	11.9			10.2			10.4			9.2			24
26	11.3			9.6	8.5		9.9			8.7			26
28	10.7			9.1	8.1		9.4			8.2	7.0		28
30	10.2	7.6		8.7	7.7	7.0	8.9			7.8	6.8		30
32	9.5	7.2		8.1	7.3	6.7	8.1	6.0		7.4	6.4	5.5	32
34	9.0	6.9		7.8	7.0	6.4	7.7	5.9		6.9	6.1	5.2	34
36	8.6	6.7		7.4	6.7	6.2	7.4	5.7		6.6	5.8	5.0	36
38	8.3	6.4	5.3	7.0	6.4	5.9	7.1	5.5		6.3	5.6	4.8	38
40	7.7	6.0	5.0	6.7	6.1	5.7	6.8	5.3		5.9	5.3	4.5	40
42	7.3	5.8	4.9	6.4	5.8	5.5	6.5	5.1	4.2	5.7	5.1	4.4	42
44	7.1	5.6	4.8	6.1	5.5	5.2	6.2	4.9	4.1	5.4	4.8	4.2	44
46	6.7	5.4	4.6	5.8	5.3	5.0	6.0	4.7	4.0	5.1	4.6	4.0	46
48	6.2	5.2	4.5	5.4	5.1	4.9	5.8	4.6	3.8	4.9	4.4	4.1	48
50	5.3	4.9	4.2	4.8	4.6	4.6	5.5	4.4	3.8	4.6	4.2	4.0	50
52	4.7	4.7	4.1	4.2	4.3	4.2	5.3	4.3	3.6	4.4	4.0	3.8	52
54	4.2	4.6	4.0	3.6	3.7	3.7	4.7	4.2	3.6	4.0	3.9	3.6	54
56	3.6	4.4	3.9	3.1	3.2	3.1	4.2	4.0	3.5	3.5	3.3	3.4	56
58	3.3	4.3	3.8	2.6	2.7	2.8	3.8	3.9	3.4	3.0	2.8	2.9	58
60	2.6	3.7	3.4	2.2	2.3	2.4	3.1	3.5	3.1	2.5	2.4	2.3	60
62	2.1	3.1	3.2	1.8	2.0	2.0	2.6	3.3	2.9	2.0	2.1		62
64	1.9	2.7	3.2		1.8	1.9	2.3	3.2	2.8	1.8			64
66		2.4	3.0				2.0	2.9	2.8				66
68		2.0	2.6					2.6	2.7				68
70		1.7	2.3					2.3	2.7				70
72			1.7					1.7	2.2				72
74									1.9				74
Reeving	1	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	3												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-78 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	65.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 80 t counterweight, over full range												Radius m/ Jib length m/ Offset
	19			26			33			33(21+12)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
18	26.5												18
20	24.1	20.3		19.6									20
22	21.8	18.4	16.4	17.7			16.0			12.7			22
24	20.3	17.4	15.6	16.6	14.2		15.0			12.0	10.8		24
26	19.0	16.5	14.9	15.6	13.0		13.4			11.0	9.9		26
28	17.9	15.6	14.2	14.7	12.3	10.8	12.7	10.3		10.4	9.4	8.4	28
30	17.0	14.8	13.6	13.9	11.6	10.4	12.0	9.8		9.8	8.9	8.0	30
32	15.4	13.6	12.5	12.7	10.9	9.7	11.0	9.1		9.3	8.4	7.5	32
34	14.2	12.6	11.7	12.1	10.3	9.3	10.4	8.7	7.7	8.8	7.9	7.1	34
36	12.9	12.1	11.2	11.4	9.8	8.9	9.8	8.2	7.4	7.8	7.0	6.3	36
38	11.5	11.5	10.7	10.8	9.4	8.6	9.3	7.9	7.0	7.4	6.7	6.0	38
40	10.2	11.0	10.3	10.2	9.0	8.2	8.8	7.5	6.7	7.1	6.3	5.7	40
42	8.6	9.5	9.3	8.9	8.1	7.4	7.8	6.8	6.1	6.8	6.1	5.5	42
44	7.7	8.4	8.9	8.0	7.7	7.1	7.4	6.5	5.9	6.4	5.7	5.2	44
46	6.9	7.6	8.0	7.1	7.4	6.9	7.1	6.2	5.6	5.9	5.3	4.8	46
48	6.2	6.8	7.2	6.4	7.1	6.6	6.7	5.9	5.4	5.6	5.0	4.5	48
50	5.4	6.0	6.5	5.7	6.7	6.4	5.9	5.7	5.3	5.2	4.6	4.2	50
52	4.5	5.1	5.5	4.8	5.7	5.9	5.0	5.2	4.8	4.4	3.9	3.5	52
54	4.0	4.5	4.8	4.2	5.1	5.7	4.5	5.0	4.7	3.7	3.3	3.0	54
56	3.4	3.9	4.2	3.7	4.5	5.0	4.0	4.8	4.5	3.3	3.0	2.7	56
58	2.9	3.4	3.6	3.2	4.0	4.5	3.5	4.3	4.3	2.9	3.1	2.8	58
60	2.4	2.9	3.1	2.7	3.5	3.9	3.0	4.0	4.2	2.3	2.8	2.5	60
62		2.4	2.6	2.2	2.9	3.3	2.5	3.4	3.7	2.0	2.4	2.2	62
64			2.2		2.5	2.8		2.9	3.5		2.1	2.0	64
66						2.4		2.5	3.0		1.8	1.8	66
68								2.1	2.6			1.6	68
70									2.0				70
Reeving	3	2	2	2	2	1	2	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	3												IV
V	3												V
Wind speed m/s	9												Wind speed m/s

Table 1-78 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	65.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 80 t counterweight, over full range												Radius m/ Jib length m/ Offset
	40			40(21+19)			47			47(21+26)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
24	11.0			9.5									24
26	10.4			9.1			9.1			8.3			26
28	9.8			8.5	7.2		8.7			7.4			28
30	9.2			8.0	6.9		8.3			7.0	6.2		30
32	8.5	6.9		7.5	6.5		7.4			6.7	5.9		32
34	8.0	6.6		7.1	6.2	5.8	7.0			6.3	5.5	4.7	34
36	7.6	6.3		6.7	5.9	5.6	6.7	6.1		6.0	5.3	4.5	36
38	7.1	6.0		6.4	5.6	5.2	6.3	5.2		5.7	5.0	4.3	38
40	6.6	5.5	4.9	5.9	5.3	5.0	6.0	5.0		5.4	4.7	4.0	40
42	6.3	5.3	4.7	5.6	5.0	4.8	5.7	4.7		5.1	4.5	3.8	42
44	5.9	5.0	4.5	5.4	4.8	4.6	5.4	4.6	4.0	4.9	4.3	3.6	44
46	5.6	4.8	4.4	5.0	4.5	4.4	5.1	4.4	3.9	4.6	4.1	3.5	46
48	5.3	4.6	4.1	4.8	4.3	4.1	4.9	4.2	3.7	4.4	3.9	3.3	48
50	4.8	4.2	3.8	4.5	4.1	3.9	4.6	4.0	3.6	4.2	3.7	3.2	50
52	4.6	4.0	3.6	4.0	3.9	3.8	4.4	3.8	3.4	4.0	3.5	3.0	52
54	4.3	3.8	3.5	3.5	3.6	3.6	4.2	3.6	3.3	3.8	3.4	2.9	54
56	3.8	3.7	3.4	3.0	3.1	3.0	4.0	3.5	3.2	3.4	3.0	2.5	56
58	3.3	3.5	3.3	2.5	2.6	2.7	3.8	3.4	3.1	3.0	2.6	2.2	58
60	2.7	3.1	2.9	2.0	2.2	2.3	3.2	3.0	2.7	2.6	2.3	1.9	60
62	2.3	2.9	2.7	1.8	2.0	2.0	2.7	2.7	2.6	2.2	1.9	1.6	62
64	1.9	2.8	2.6		1.8	1.9	2.4	2.6	2.4	2.0	1.8		64
66		2.5	2.5				2.0	2.6	2.3	1.8			66
68		2.1	2.2				1.7	2.3	2.3				68
70		1.9	2.0					2.0	2.1				70
72			1.8					1.8	1.8				72
Reeving	1	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	3												IV
V	3												V
Wind speed m/s	9												Wind speed m/s

Table 1-79 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

<table>
<tr><th rowspan="3" colspan="2">Radius m/ Jib length m/ Offset</th><th colspan="6">71 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 80 t counterweight, over full range</th><th rowspan="3" colspan="2">Radius m/ Jib length m/ Offset</th></tr>
<tr><th>9</th><th>19</th><th>26</th><th>33</th><th>40</th><th>47</th></tr>
<tr><th>0°</th><th>0°</th><th>0°</th><th>0°</th><th>0°</th><th>0°</th></tr>
<tr><td colspan="2">14</td><td>30.0</td><td></td><td></td><td></td><td></td><td></td><td colspan="2">14</td></tr>
<tr><td colspan="2">16</td><td>28.7</td><td></td><td></td><td></td><td></td><td></td><td colspan="2">16</td></tr>
<tr><td colspan="2">18</td><td>27.1</td><td>21.0</td><td></td><td></td><td></td><td></td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>25.4</td><td>20.5</td><td>17.2</td><td></td><td></td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>23.9</td><td>19.3</td><td>16.3</td><td>13.7</td><td></td><td></td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>22.5</td><td>18.0</td><td>15.3</td><td>13.2</td><td>9.5</td><td></td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>21.3</td><td>17.0</td><td>14.4</td><td>12.4</td><td>9.5</td><td>8.2</td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td>20.2</td><td>16.1</td><td>13.5</td><td>11.6</td><td>9.1</td><td>8.2</td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>17.3</td><td>15.1</td><td>12.8</td><td>11.0</td><td>8.7</td><td>7.9</td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>15.9</td><td>14.3</td><td>12.1</td><td>10.4</td><td>8.2</td><td>7.2</td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>14.3</td><td>13.6</td><td>11.5</td><td>9.8</td><td>7.7</td><td>6.8</td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td>12.8</td><td>12.5</td><td>10.8</td><td>9.3</td><td>7.3</td><td>6.4</td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td>11.6</td><td>11.1</td><td>10.3</td><td>8.8</td><td>6.9</td><td>6.1</td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td>10.4</td><td>9.9</td><td>9.8</td><td>8.3</td><td>6.4</td><td>5.8</td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td>9.2</td><td>8.5</td><td>8.9</td><td>7.7</td><td>6.1</td><td>5.5</td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>8.2</td><td>7.6</td><td>7.9</td><td>7.3</td><td>5.7</td><td>5.3</td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>7.4</td><td>6.8</td><td>7.1</td><td>6.9</td><td>5.4</td><td>5.0</td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td>6.6</td><td>6.0</td><td>6.2</td><td>6.5</td><td>5.2</td><td>4.7</td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td>5.7</td><td>5.1</td><td>5.3</td><td>5.5</td><td>4.7</td><td>4.5</td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td>4.7</td><td>4.2</td><td>4.4</td><td>4.6</td><td>4.5</td><td>4.3</td><td colspan="2">52</td></tr>
<tr><td colspan="2">54</td><td>4.2</td><td>3.7</td><td>3.9</td><td>4.1</td><td>4.2</td><td>4.1</td><td colspan="2">54</td></tr>
<tr><td colspan="2">56</td><td>3.7</td><td>3.1</td><td>3.4</td><td>3.5</td><td>3.6</td><td>3.9</td><td colspan="2">56</td></tr>
<tr><td colspan="2">58</td><td>3.3</td><td>2.7</td><td>2.9</td><td>3.1</td><td>3.2</td><td>3.7</td><td colspan="2">58</td></tr>
<tr><td colspan="2">60</td><td>2.6</td><td>2.1</td><td>2.3</td><td>2.5</td><td>2.5</td><td>2.6</td><td colspan="2">60</td></tr>
<tr><td colspan="2">62</td><td></td><td></td><td>1.8</td><td>2.0</td><td>2.1</td><td></td><td colspan="2">62</td></tr>
<tr><td colspan="2">64</td><td></td><td></td><td></td><td></td><td>1.7</td><td></td><td colspan="2">64</td></tr>
<tr><td colspan="2">66</td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">66</td></tr>
<tr><td colspan="2">Reeving</td><td>3</td><td>2</td><td>2</td><td>2</td><td>1</td><td>1</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="6">4</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="6">4</td><td>II</td></tr>
<tr><td>III</td><td colspan="6">4</td><td>III</td></tr>
<tr><td>IV</td><td colspan="6">4</td><td>IV</td></tr>
<tr><td>V</td><td colspan="6">4</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="6">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Note:

The light duty jib cannot change its offset and cannot connect to its hydraulic hose either when the main boom is 71 m long.

Table 1-80 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

<table>
<tr><th colspan="2" rowspan="3">Radius m/ Jib length m/ Offset</th><th colspan="12">50.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 60 t counterweight, over full range</th><th colspan="2" rowspan="3">Radius m/ Jib length m/ Offset</th></tr>
<tr><th colspan="3">19</th><th colspan="3">26</th><th colspan="3">33</th><th colspan="3">33(21+12)</th></tr>
<tr><th>0°</th><th>20°</th><th>40°</th><th>0°</th><th>20°</th><th>40°</th><th>0°</th><th>20°</th><th>40°</th><th>0°</th><th>20°</th><th>40°</th></tr>
<tr><td colspan="2">12</td><td>40.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">12</td></tr>
<tr><td colspan="2">14</td><td>37.5</td><td>27.1</td><td></td><td>30.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">14</td></tr>
<tr><td colspan="2">16</td><td>33.1</td><td>24.6</td><td></td><td>28.4</td><td></td><td></td><td>22.5</td><td></td><td></td><td>18.6</td><td></td><td></td><td colspan="2">16</td></tr>
<tr><td colspan="2">18</td><td>31.1</td><td>23.4</td><td>19.5</td><td>26.5</td><td>19.4</td><td></td><td>21.7</td><td></td><td></td><td>17.6</td><td>15.0</td><td></td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>29.2</td><td>22.4</td><td>18.8</td><td>24.0</td><td>18.5</td><td></td><td>20.3</td><td></td><td></td><td>16.6</td><td>14.5</td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>26.4</td><td>21.3</td><td>18.2</td><td>22.7</td><td>17.2</td><td></td><td>19.1</td><td>14.0</td><td></td><td>15.7</td><td>13.8</td><td>12.6</td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>22.6</td><td>20.4</td><td>17.6</td><td>21.4</td><td>16.5</td><td>13.6</td><td>17.9</td><td>13.3</td><td></td><td>14.7</td><td>13.1</td><td>12.0</td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>19.5</td><td>19.5</td><td>17.0</td><td>20.2</td><td>15.8</td><td>13.2</td><td>16.9</td><td>12.8</td><td></td><td>13.9</td><td>12.5</td><td>11.5</td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td>17.0</td><td>18.6</td><td>16.5</td><td>17.5</td><td>15.1</td><td>12.8</td><td>16.1</td><td>12.2</td><td></td><td>13.0</td><td>11.9</td><td>11.1</td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>14.8</td><td>16.2</td><td>16.0</td><td>15.3</td><td>14.5</td><td>12.4</td><td>15.2</td><td>11.7</td><td>9.7</td><td>12.3</td><td>11.3</td><td>10.7</td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>12.5</td><td>13.8</td><td>14.7</td><td>12.9</td><td>13.5</td><td>11.6</td><td>13.4</td><td>10.9</td><td>9.1</td><td>11.7</td><td>10.9</td><td>10.3</td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>11.0</td><td>12.1</td><td>12.9</td><td>11.4</td><td>13.0</td><td>11.3</td><td>11.7</td><td>10.5</td><td>8.8</td><td>10.7</td><td>10.4</td><td>9.9</td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td>9.5</td><td>10.6</td><td>11.4</td><td>10.0</td><td>11.7</td><td>11.1</td><td>10.4</td><td>10.0</td><td>8.6</td><td>9.4</td><td>9.9</td><td>8.6</td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td>8.2</td><td>9.4</td><td>10.0</td><td>8.8</td><td>10.4</td><td>10.7</td><td>9.1</td><td>9.7</td><td>8.3</td><td>7.6</td><td>8.1</td><td>7.8</td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td>7.1</td><td>8.1</td><td>8.8</td><td>7.7</td><td>9.2</td><td>10.2</td><td>8.0</td><td>9.4</td><td>8.1</td><td>6.7</td><td>7.8</td><td>6.7</td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td>5.8</td><td>6.6</td><td>7.1</td><td>6.2</td><td>7.6</td><td>8.6</td><td>6.6</td><td>8.4</td><td>7.4</td><td>5.5</td><td>7.0</td><td>6.2</td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>4.9</td><td>5.6</td><td>6.2</td><td>5.4</td><td>6.6</td><td>7.5</td><td>5.8</td><td>7.4</td><td>7.2</td><td>4.9</td><td>6.2</td><td>6.0</td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>4.1</td><td>4.8</td><td>5.3</td><td>4.6</td><td>5.8</td><td>6.6</td><td>5.0</td><td>6.6</td><td>7.0</td><td>4.2</td><td>5.5</td><td>5.9</td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td>3.4</td><td>4.0</td><td>4.4</td><td>3.9</td><td>5.0</td><td>5.8</td><td>4.3</td><td>5.8</td><td>6.9</td><td>3.5</td><td>4.8</td><td>5.7</td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td>2.7</td><td>3.4</td><td>3.7</td><td>3.3</td><td>4.2</td><td>5.0</td><td>3.7</td><td>5.0</td><td>6.1</td><td>2.9</td><td>4.0</td><td>4.9</td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td></td><td>2.7</td><td>3.0</td><td>2.5</td><td>3.4</td><td>3.9</td><td>2.9</td><td>4.1</td><td>5.0</td><td>2.3</td><td>3.3</td><td>4.0</td><td colspan="2">52</td></tr>
<tr><td colspan="2">54</td><td></td><td></td><td>2.3</td><td></td><td>2.8</td><td>3.3</td><td>2.3</td><td>3.5</td><td>4.2</td><td>1.9</td><td>2.8</td><td>3.5</td><td colspan="2">54</td></tr>
<tr><td colspan="2">56</td><td></td><td></td><td></td><td></td><td>2.3</td><td>2.7</td><td></td><td>2.9</td><td>3.4</td><td></td><td>2.3</td><td>2.6</td><td colspan="2">56</td></tr>
<tr><td colspan="2">58</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2.4</td><td>2.8</td><td></td><td>1.9</td><td>2.2</td><td colspan="2">58</td></tr>
<tr><td colspan="2">60</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2.2</td><td></td><td></td><td>2.0</td><td colspan="2">60</td></tr>
<tr><td colspan="2">Reeving</td><td>4</td><td>3</td><td>2</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td><td>1</td><td>2</td><td>2</td><td>1</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="12">3</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="12">3</td><td>II</td></tr>
<tr><td>III</td><td colspan="12">2</td><td>III</td></tr>
<tr><td>IV</td><td colspan="12">2</td><td>IV</td></tr>
<tr><td>V</td><td colspan="12">2</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="12">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Table 1-80 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

<table>
<tr><th colspan="2" rowspan="3">Radius m/ Jib length m/ Offset</th><th colspan="12">50.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 60 t counterweight, over full range</th><th colspan="2" rowspan="3">Radius m/ Jib length m/ Offset</th></tr>
<tr><th colspan="3">40</th><th colspan="3">40(21+19)</th><th colspan="3">47</th><th colspan="3">47(21+26)</th></tr>
<tr><th>0°</th><th>20°</th><th>40°</th><th>0°</th><th>20°</th><th>40°</th><th>0°</th><th>20°</th><th>40°</th><th>0°</th><th>20°</th><th>40°</th></tr>
<tr><td colspan="2">16</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">16</td></tr>
<tr><td colspan="2">18</td><td>17.0</td><td></td><td></td><td>14.2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>16.0</td><td></td><td></td><td>13.3</td><td></td><td></td><td>14.3</td><td></td><td></td><td>12.2</td><td></td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>15.0</td><td></td><td></td><td>12.6</td><td></td><td></td><td>13.5</td><td></td><td></td><td>11.4</td><td></td><td></td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>14.2</td><td></td><td></td><td>11.9</td><td>10.5</td><td></td><td>12.7</td><td></td><td></td><td>10.7</td><td>9.0</td><td></td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>13.4</td><td></td><td></td><td>11.3</td><td>10.1</td><td></td><td>12.0</td><td></td><td></td><td>10.1</td><td>8.0</td><td></td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td>12.6</td><td>9.4</td><td></td><td>10.6</td><td>9.6</td><td>8.6</td><td>11.4</td><td></td><td></td><td>9.5</td><td>7.3</td><td>7.0</td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>11.8</td><td>9.0</td><td></td><td>10.0</td><td>9.2</td><td>8.3</td><td>10.4</td><td>7.7</td><td></td><td>9.0</td><td>6.8</td><td>6.6</td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>11.3</td><td>8.6</td><td></td><td>9.5</td><td>8.4</td><td>7.7</td><td>9.8</td><td>7.4</td><td></td><td>8.5</td><td>6.6</td><td>6.4</td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>10.7</td><td>8.2</td><td></td><td>8.9</td><td>8.1</td><td>7.4</td><td>9.4</td><td>7.1</td><td></td><td>8.1</td><td>6.4</td><td>6.0</td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td>10.2</td><td>7.9</td><td>6.6</td><td>8.5</td><td>7.7</td><td>7.1</td><td>8.9</td><td>6.8</td><td></td><td>7.6</td><td>6.1</td><td>5.7</td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td>9.0</td><td>7.6</td><td>6.4</td><td>8.0</td><td>7.3</td><td>6.9</td><td>8.5</td><td>6.6</td><td></td><td>7.3</td><td>5.9</td><td>5.5</td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td>7.9</td><td>7.4</td><td>6.2</td><td>7.2</td><td>6.9</td><td>6.4</td><td>8.1</td><td>6.3</td><td>5.3</td><td>6.9</td><td>5.7</td><td>5.2</td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td>6.8</td><td>6.9</td><td>5.9</td><td>6.2</td><td>6.4</td><td>6.0</td><td>7.2</td><td>6.1</td><td>5.1</td><td>6.4</td><td>5.6</td><td>5.0</td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>6.0</td><td>6.7</td><td>5.7</td><td>5.4</td><td>5.6</td><td>5.5</td><td>6.4</td><td>5.9</td><td>5.0</td><td>5.8</td><td>5.3</td><td>4.7</td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>5.2</td><td>6.5</td><td>5.5</td><td>4.6</td><td>5.0</td><td>4.8</td><td>5.6</td><td>5.7</td><td>4.8</td><td>5.2</td><td>5.0</td><td>4.6</td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td>4.6</td><td>6.2</td><td>5.4</td><td>4.0</td><td>4.5</td><td>4.3</td><td>5.0</td><td>5.5</td><td>4.7</td><td>4.6</td><td>4.7</td><td>4.4</td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td>4.0</td><td>5.6</td><td>5.3</td><td>3.5</td><td>4.0</td><td>3.7</td><td>4.4</td><td>5.3</td><td>4.6</td><td>4.0</td><td>4.2</td><td>4.2</td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td>3.1</td><td>4.5</td><td>4.8</td><td>3.0</td><td>3.5</td><td>3.4</td><td>3.7</td><td>5.0</td><td>4.2</td><td>3.4</td><td>3.6</td><td>3.8</td><td colspan="2">52</td></tr>
<tr><td colspan="2">54</td><td>2.6</td><td>4.0</td><td>4.6</td><td>2.3</td><td>2.8</td><td>3.0</td><td>3.2</td><td>4.7</td><td>4.2</td><td>2.6</td><td>3.0</td><td>3.2</td><td colspan="2">54</td></tr>
<tr><td colspan="2">56</td><td>2.2</td><td>3.5</td><td>4.2</td><td>2.0</td><td>2.3</td><td>2.5</td><td>2.7</td><td>4.2</td><td>4.0</td><td>2.0</td><td>2.6</td><td>2.8</td><td colspan="2">56</td></tr>
<tr><td colspan="2">58</td><td></td><td>3.0</td><td>3.6</td><td></td><td>2.0</td><td>2.2</td><td>2.2</td><td>3.7</td><td>3.9</td><td>1.8</td><td>2.2</td><td>2.4</td><td colspan="2">58</td></tr>
<tr><td colspan="2">60</td><td></td><td>2.5</td><td>3.2</td><td></td><td>1.8</td><td>2.0</td><td></td><td>3.2</td><td>3.5</td><td></td><td>2.0</td><td>2.1</td><td colspan="2">60</td></tr>
<tr><td colspan="2">62</td><td></td><td></td><td>2.4</td><td></td><td></td><td></td><td></td><td>2.6</td><td>3.2</td><td></td><td>1.8</td><td>1.9</td><td colspan="2">62</td></tr>
<tr><td colspan="2">64</td><td></td><td></td><td>2.1</td><td></td><td></td><td></td><td></td><td>2.1</td><td>2.6</td><td></td><td></td><td></td><td colspan="2">64</td></tr>
<tr><td colspan="2">66</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2.2</td><td></td><td></td><td></td><td colspan="2">66</td></tr>
<tr><td colspan="2">68</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1.8</td><td></td><td></td><td></td><td colspan="2">68</td></tr>
<tr><td colspan="2">Reeving</td><td>2</td><td>1</td><td>1</td><td>2</td><td>1</td><td>1</td><td>2</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="12">3</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="12">3</td><td>II</td></tr>
<tr><td>III</td><td colspan="12">2</td><td>III</td></tr>
<tr><td>IV</td><td colspan="12">2</td><td>IV</td></tr>
<tr><td>V</td><td colspan="12">2</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="12">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Table 1-81 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	55.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 60 t counterweight, over full range												Radius m/ Jib length m/ Offset
	19			26			33			33(21+12)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
14	36.0												14
16	33.8	26.0		26.6									16
18	30.3	23.0		25.3			20.4			17.0			18
20	28.0	21.9	18.5	23.0	17.6		19.2			16.1	14.0		20
22	25.5	20.2	17.3	21.6	16.2		18.0			15.1	13.5		22
24	21.8	19.5	16.7	20.4	15.6	13.0	17.1	12.6		14.2	12.7	11.3	24
26	18.8	18.7	16.2	19.3	15.0	12.5	16.2	12.0		13.3	12.1	10.8	26
28	16.3	17.9	15.6	16.8	14.4	12.1	15.2	11.6		12.6	11.4	10.2	28
30	14.2	15.6	15.2	14.7	13.9	11.7	14.5	11.1	9.2	11.8	10.9	9.8	30
32	11.7	12.9	13.8	12.1	12.6	10.7	12.5	10.1	8.4	11.0	10.3	9.3	32
34	10.2	11.4	12.2	10.6	12.1	10.5	11.0	9.7	8.2	10.0	9.5	8.9	34
36	9.0	9.9	10.7	9.3	11.0	10.2	9.6	9.4	7.9	8.7	8.1	7.2	36
38	7.8	8.7	9.2	8.0	9.4	9.7	8.2	8.8	7.5	7.4	7.7	6.8	38
40	6.6	7.7	8.1	6.9	8.3	9.4	7.2	8.5	7.3	6.5	7.4	6.6	40
42	5.6	6.5	7.1	6.1	7.3	8.3	6.3	7.8	7.1	5.7	6.8	6.2	42
44	4.6	5.3	5.9	5.0	6.2	7.1	5.3	6.9	6.7	4.8	6.0	5.8	44
46	3.8	4.5	5.0	4.3	5.4	6.2	4.6	6.1	6.5	3.8	5.3	5.5	46
48	3.2	3.8	4.3	3.6	4.7	5.4	4.0	5.3	6.4	3.3	4.6	5.0	48
50	2.6	3.2	3.5	3.0	4.0	4.7	3.3	4.7	5.6	2.8	3.9	4.5	50
52		2.6	2.9	2.3	3.2	3.8	2.7	3.9	4.8	2.2	3.2	3.8	52
54			2.3		2.7	3.2	2.2	3.3	4.1	1.8	2.8	3.3	54
56					2.2	2.6		2.8	3.5		2.3	2.8	56
58						2.1		2.2	3.0		1.9	2.4	58
60									2.4			2.0	60
62													62
Reeving	3	3	2	3	2	2	2	1	1	2	2	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	2												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-81 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	55.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 60 t counterweight, over full range												Radius m/ Jib length m/ Offset
	40			40(21+19)			47			47(21+26)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
20	14.6			12.5									20
22	13.7			11.9			12.1			10.6			22
24	12.9			11.2	10.0		11.4			10.0	8.8		24
26	12.2			10.5	9.2		10.8			9.3	8.1		26
28	11.6	8.6		9.9	8.8	8.0	10.3			8.9	7.6	6.4	28
30	11.0	8.3		9.4	8.3	7.7	9.8			8.3	7.2	6.0	30
32	10.0	7.6		8.9	7.9	7.3	9.0	6.7		7.9	6.8	5.7	32
34	9.6	7.3		8.4	7.5	7.0	8.6	6.5		7.4	6.5	5.5	34
36	9.1	7.0	5.8	8.0	7.2	6.4	8.2	6.2		7.0	6.2	5.2	36
38	7.9	6.8	5.6	7.0	6.8	5.8	7.8	6.0		6.7	5.9	5.0	38
40	7.0	6.5	5.5	6.2	6.3	5.5	7.5	5.8	4.8	6.3	5.6	4.7	40
42	6.0	6.1	5.2	5.4	5.5	5.3	6.6	5.6	4.6	5.6	5.4	4.5	42
44	5.2	5.9	5.0	4.6	4.8	5.0	5.6	5.2	4.4	5.0	5.1	4.3	44
46	4.6	5.7	4.9	4.0	4.2	4.6	5.0	5.0	4.3	4.5	4.6	4.2	46
48	3.9	5.5	4.8	3.4	3.6	4.0	4.4	4.9	4.1	3.8	4.0	4.1	48
50	3.4	5.0	4.6	2.8	3.0	3.5	3.6	4.6	3.9	3.2	3.5	3.6	50
52	2.8	4.2	4.4	2.2	2.5	3.0	3.2	4.4	3.8	2.5	2.8	3.0	52
54	2.3	3.7	4.3	1.8	2.2	2.5	2.7	4.2	3.6	2.0	2.5	2.6	54
56		3.2	4.0		2.0	2.2	2.2	3.5	3.4	1.6	2.2	2.4	56
58		2.7	3.5		1.8	2.0		3.0	3.2		2.0	2.2	58
60		2.3	3.0			1.8		2.5	3.0			1.8	60
62			2.5					2.1	2.5				62
64			2.1					1.8	2.2				64
66									2.0				66
68									1.8				68
Reeving	2	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	2												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-82 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	60.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 60 t counterweight, over full range												Radius m/ Jib length m/ Offset
	19			26			33			33(21+12)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
16	30.0												16
18	29.3			23.7									18
20	26.3	22.0		22.9			18.0			14.8			20
22	24.9	19.8	16.9	20.2	15.8		17.3			14.6			22
24	22.1	19.0	16.3	19.1	15.1		16.4			13.8	11.7		24
26	19.0	18.3	15.9	18.2	14.0	11.8	15.1	11.2		13.0	11.1		26
28	16.5	17.6	15.4	16.5	13.5	11.4	14.4	10.9		12.3	10.6	9.9	28
30	14.4	15.9	15.0	14.4	13.0	11.1	13.6	10.4		11.6	10.1	9.5	30
32	12.1	13.4	14.1	12.2	12.3	10.6	12.7	9.8	8.2	11.0	9.6	9.1	32
34	10.3	11.5	12.4	10.7	11.8	10.2	11.1	9.4	7.9	10.1	8.6	8.7	34
36	9.0	10.1	10.9	9.4	11.1	10.0	9.7	9.1	7.7	8.8	7.9	7.0	36
38	7.9	8.9	9.6	8.2	9.8	9.8	8.5	8.8	7.5	7.7	7.7	6.8	38
40	6.9	7.8	8.4	7.2	8.6	9.5	7.4	8.6	7.3	6.8	7.4	6.6	40
42	5.6	6.4	7.0	5.9	7.1	8.1	6.1	7.7	6.7	5.5	6.4	5.8	42
44	4.7	5.5	6.1	5.1	6.3	7.2	5.3	7.0	6.5	4.8	5.8	5.2	44
46	4.0	4.7	5.3	4.4	5.5	6.3	4.6	6.2	6.4	4.0	5.1	5.1	46
48	3.3	4.0	4.4	3.7	4.8	5.6	4.0	5.4	6.2	3.3	4.5	4.6	48
50	2.7	3.3	3.8	3.1	4.1	4.8	3.4	4.7	5.8	2.8	3.6	3.8	50
52	2.1	2.6	3.0	2.4	3.3	4.0	2.7	3.9	4.8	2.2	3.0	3.2	52
54		2.1	2.4		2.8	3.4	2.2	3.4	4.2	1.8	2.6	2.8	54
56					2.2	2.8		2.9	3.7		2.2	2.4	56
58						2.3		2.4	3.1		1.8	2.0	58
60									2.6			1.8	60
Reeving	3	2	2	2	2	1	2	1	1	2	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	3												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-82 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	60.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 60 t counterweight, over full range												Radius m/ Jib length m/ Offset
	40			40(21+19)			47			47(21+26)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
22	12.7			10.8									22
24	11.9			10.2			10.4			9.2			24
26	11.3			9.6	8.5		9.9			8.7			26
28	10.7			9.1	8.1		9.4			8.2	7.0		28
30	10.2	7.6		8.7	7.7	7.0	8.9			7.8	6.8		30
32	9.5	7.2		8.1	7.3	6.7	8.1	6.0		7.4	6.4	5.5	32
34	9.0	6.9		7.8	7.0	6.4	7.7	5.9		6.9	6.1	5.2	34
36	8.6	6.7		7.4	6.7	6.2	7.4	5.7		6.6	5.8	5.0	36
38	7.8	6.4	5.3	7.0	6.4	5.9	7.1	5.5		6.3	5.6	4.8	38
40	6.7	6.0	5.0	6.2	6.1	5.7	6.8	5.3		5.9	5.3	4.5	40
42	5.8	5.8	4.9	5.4	5.6	5.5	6.2	5.1	4.2	5.4	5.1	4.4	42
44	5.0	5.6	4.8	4.6	5.0	4.8	5.5	4.9	4.1	4.8	4.6	4.2	44
46	4.4	5.4	4.6	4.0	4.4	4.2	4.7	4.7	4.0	4.2	4.0	3.8	46
48	3.8	5.2	4.5	3.2	3.6	3.5	4.2	4.6	3.8	3.6	3.5	3.2	48
50	3.1	4.5	4.2	2.4	3.0	3.1	3.6	4.4	3.8	3.0	3.1	2.8	50
52	2.7	4.0	4.1	2.0	2.5	2.6	3.1	4.3	3.6	2.5	2.6	2.4	52
54	2.2	3.5	4.0	1.8	2.0	2.1	2.7	4.2	3.6	2.0	2.2	2.1	54
56		3.0	3.6		1.8	1.9	2.3	3.7	3.5	1.8	2.0	1.8	56
58		2.5	3.2					3.3	3.4		1.8		58
60		2.0	2.6					2.6	3.0				60
62			2.2					2.1	2.8				62
64			2.0					1.8	2.5				64
66									2.1				66
68									1.8				68
70													70
Reeving	2	1	1	1	1	1	1	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	3												IV
V	2												V
Wind speed m/s	9												Wind speed m/s

Table 1-83 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	65.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 60 t counterweight, over full range												Radius m/ Jib length m/ Offset
	19			26			33			33(21+12)			
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	
18	26.5												18
20	24.1	20.3		19.6									20
22	21.8	18.4	16.4	17.7			16.0			12.7			22
24	20.3	17.4	15.6	16.6	14.2		15.0			12.0	10.8		24
26	19.0	16.5	14.9	15.6	13.0		13.4			11.0	9.9		26
28	16.8	15.6	14.2	14.7	12.3	10.8	12.7	10.3		10.4	9.4	8.4	28
30	14.7	14.8	13.6	13.9	11.6	10.4	12.0	9.8		9.8	8.9	8.0	30
32	12.4	13.6	12.5	12.6	10.9	9.7	11.0	9.1		9.3	8.4	7.5	32
34	10.6	11.8	11.7	11.0	10.3	9.3	10.4	8.7	7.7	8.8	7.9	7.1	34
36	9.3	10.4	11.2	9.6	9.8	8.9	9.8	8.2	7.4	7.8	7.0	6.3	36
38	8.1	9.1	9.8	8.4	9.4	8.6	8.7	7.9	7.0	7.4	6.7	6.0	38
40	7.1	8.0	8.7	7.4	8.9	8.2	7.6	7.5	6.7	6.6	5.9	5.4	40
42	5.8	6.6	7.2	6.0	7.4	7.4	6.2	6.8	6.1	5.4	4.9	4.4	42
44	5.0	5.8	6.3	5.3	6.5	7.1	5.4	6.5	5.9	4.7	4.2	3.8	44
46	4.2	5.0	5.6	4.6	5.7	6.5	4.7	6.2	5.6	4.1	3.7	3.3	46
48	3.6	4.3	4.7	3.9	5.0	5.7	4.1	5.6	5.4	3.5	3.2	2.9	48
50	3.0	3.6	4.1	3.3	4.3	5.0	3.5	4.9	5.3	2.9	2.6	2.3	50
52	2.3	2.9	3.2	2.6	3.5	4.2	2.8	4.0	4.8	2.3	2.3	2.1	52
54		2.4	2.7	2.1	3.0	3.6	2.3	3.5	4.4	1.9	2.1	1.9	54
56			2.2		2.4	3.0		3.0	3.8		1.8	1.6	56
58						2.5		2.5	3.2				58
60									2.7				60
62									2.2				62
Reeving	3	2	2	2	2	1	2	1	1	1	1	1	Reeving
Telescoping mode I	3												I Telescoping mode
II	3												II
III	3												III
IV	3												IV
V	3												V
Wind speed m/s	9												Wind speed m/s

Table 1-83 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

<table>
<tr><th colspan="2" rowspan="3">Radius m/ Jib length m/ Offset</th><th colspan="12">65.6 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 60 t counterweight, over full range</th><th colspan="2" rowspan="3">Radius m/ Jib length m/ Offset</th></tr>
<tr><th colspan="3">40</th><th colspan="3">40(21+19)</th><th colspan="3">47</th><th colspan="3">47(21+26)</th></tr>
<tr><th>0°</th><th>20°</th><th>40°</th><th>0°</th><th>20°</th><th>40°</th><th>0°</th><th>20°</th><th>40°</th><th>0°</th><th>20°</th><th>40°</th></tr>
<tr><td colspan="2">24</td><td>11.0</td><td></td><td></td><td>9.5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>10.4</td><td></td><td></td><td>9.1</td><td></td><td></td><td>9.1</td><td></td><td></td><td>8.3</td><td></td><td></td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td>9.8</td><td></td><td></td><td>8.5</td><td>7.2</td><td></td><td>8.7</td><td></td><td></td><td>7.4</td><td></td><td></td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>9.2</td><td></td><td></td><td>8.0</td><td>6.9</td><td></td><td>8.3</td><td></td><td></td><td>7.0</td><td>6.2</td><td></td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>8.5</td><td>6.9</td><td></td><td>7.5</td><td>6.5</td><td></td><td>7.4</td><td></td><td></td><td>6.7</td><td>5.9</td><td></td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>8.0</td><td>6.6</td><td></td><td>7.1</td><td>6.2</td><td>5.8</td><td>7.0</td><td></td><td></td><td>6.3</td><td>5.5</td><td>4.7</td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td>7.6</td><td>6.3</td><td></td><td>6.7</td><td>5.9</td><td>5.6</td><td>6.7</td><td>6.1</td><td></td><td>6.0</td><td>5.3</td><td>4.5</td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td>7.1</td><td>6.0</td><td></td><td>6.4</td><td>5.6</td><td>5.2</td><td>6.3</td><td>5.2</td><td></td><td>5.7</td><td>5.0</td><td>4.3</td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td>6.6</td><td>5.5</td><td>4.9</td><td>5.9</td><td>5.3</td><td>5.0</td><td>6.0</td><td>5.0</td><td></td><td>5.4</td><td>4.7</td><td>4.0</td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td>6.1</td><td>5.3</td><td>4.7</td><td>5.4</td><td>5.0</td><td>4.8</td><td>5.7</td><td>4.7</td><td></td><td>5.1</td><td>4.5</td><td>3.8</td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>5.2</td><td>5.0</td><td>4.5</td><td>4.8</td><td>4.7</td><td>4.4</td><td>5.4</td><td>4.6</td><td>4.0</td><td>4.9</td><td>4.3</td><td>3.6</td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>4.6</td><td>4.8</td><td>4.4</td><td>4.2</td><td>4.3</td><td>4.1</td><td>4.9</td><td>4.4</td><td>3.9</td><td>4.5</td><td>4.0</td><td>3.4</td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td>3.9</td><td>4.5</td><td>4.1</td><td>3.5</td><td>3.6</td><td>3.7</td><td>4.3</td><td>4.2</td><td>3.7</td><td>4.0</td><td>3.6</td><td>3.1</td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td>3.2</td><td>4.2</td><td>3.8</td><td>2.8</td><td>3.0</td><td>3.2</td><td>3.8</td><td>4.0</td><td>3.6</td><td>3.5</td><td>3.2</td><td>2.7</td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td>2.7</td><td>4.0</td><td>3.6</td><td>2.2</td><td>2.5</td><td>2.6</td><td>3.3</td><td>3.8</td><td>3.4</td><td>3.0</td><td>3.0</td><td>2.6</td><td colspan="2">52</td></tr>
<tr><td colspan="2">54</td><td>2.3</td><td>3.7</td><td>3.5</td><td>1.8</td><td>2.2</td><td>2.3</td><td>2.8</td><td>3.6</td><td>3.3</td><td>2.5</td><td>2.6</td><td>2.2</td><td colspan="2">54</td></tr>
<tr><td colspan="2">56</td><td></td><td>3.2</td><td>3.4</td><td></td><td>1.8</td><td>2.0</td><td>2.3</td><td>3.5</td><td>3.2</td><td>2.0</td><td>2.2</td><td>1.9</td><td colspan="2">56</td></tr>
<tr><td colspan="2">58</td><td></td><td>2.7</td><td>3.2</td><td></td><td></td><td>1.8</td><td>2.0</td><td>3.4</td><td>3.1</td><td>1.6</td><td>2.0</td><td>1.7</td><td colspan="2">58</td></tr>
<tr><td colspan="2">60</td><td></td><td>2.0</td><td>2.8</td><td></td><td></td><td></td><td></td><td>2.7</td><td>2.7</td><td></td><td>1.8</td><td>1.5</td><td colspan="2">60</td></tr>
<tr><td colspan="2">62</td><td></td><td></td><td>2.5</td><td></td><td></td><td></td><td></td><td>2.3</td><td>2.6</td><td></td><td></td><td></td><td colspan="2">62</td></tr>
<tr><td colspan="2">64</td><td></td><td></td><td>2.1</td><td></td><td></td><td></td><td></td><td>1.9</td><td>2.4</td><td></td><td></td><td></td><td colspan="2">64</td></tr>
<tr><td colspan="2">66</td><td></td><td></td><td>1.7</td><td></td><td></td><td></td><td></td><td></td><td>2.2</td><td></td><td></td><td></td><td colspan="2">66</td></tr>
<tr><td colspan="2">68</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2.0</td><td></td><td></td><td></td><td colspan="2">68</td></tr>
<tr><td colspan="2">Reeving</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td colspan="2">Reeving</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="12">3</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="12">3</td><td>II</td></tr>
<tr><td>III</td><td colspan="12">3</td><td>III</td></tr>
<tr><td>IV</td><td colspan="12">3</td><td>IV</td></tr>
<tr><td>V</td><td colspan="12">3</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="12">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Table 1-84 Main boom + Y-shaped guying system + light duty jib

Unit: Metric tons

Radius m/ Jib length m/ Offset	71 m main boom with Y-shaped guying system (angle of single side: 38°), outriggers fully extended, with 60 t counterweight, over full range						Radius m/ Jib length m/ Offset
	9	19	26	33	40	47	
	0°	0°	0°	0°	0°	0°	
14	30.0						14
16	28.7						16
18	27.1	21.0					18
20	25.4	20.5	17.2				20
22	23.9	19.3	16.3	13.7			22
24	21.3	18.0	15.3	13.2	9.5		24
26	18.5	17.0	14.4	12.4	9.5	8.2	26
28	16.1	15.4	13.5	11.6	9.1	8.0	28
30	13.7	13.4	12.8	11.0	8.7	7.9	30
32	12.1	11.7	12.1	10.4	8.2	7.2	32
34	10.7	10.2	10.6	9.8	7.7	6.8	34
36	9.5	8.9	9.2	9.3	7.3	6.4	36
38	8.4	7.8	8.0	8.4	6.9	6.1	38
40	7.2	6.8	7.0	7.3	6.4	5.8	40
42	6.4	5.6	5.9	6.1	5.9	5.5	42
44	5.5	4.9	5.1	5.3	5.1	5.3	44
46	4.8	4.1	4.4	4.5	4.4	4.9	46
48	4.2	3.5	3.8	3.8	3.7	4.2	48
50	3.5	2.7	3.0	3.1	3.0	3.6	50
52	2.7	2.1	2.3	2.4	2.5	3.1	52
54					2.1	2.4	54
56						2.0	56
58							58
Reeving	3	2	2	2	1	1	Reeving
Telescoping mode I	4						I Telescoping mode
II	4						II
III	4						III
IV	4						IV
V	4						V
Wind speed m/s	9						Wind speed m/s

Note:

The light duty jib cannot change its offset and cannot connect to its hydraulic hose either when the main boom is 71 m long.

Table 1-85 Main boom + luffing jib

Unit: Metric tons

<table>
<tr><th colspan="15">15 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range</th></tr>
<tr><th colspan="2" rowspan="4">Radius (m)</th><th colspan="12">Main boom + Adaptor</th><th colspan="1" rowspan="4">Radius (m)</th></tr>
<tr><th colspan="3">15.6m+3.5m</th><th colspan="3">25.6m+3.5m</th><th colspan="3">35.6m+3.5m</th><th colspan="3">40.6m+3.5m</th></tr>
<tr><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th></tr>
<tr><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th></tr>
<tr><td colspan="2">8</td><td>78.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>8</td></tr>
<tr><td colspan="2">9</td><td>76.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>9</td></tr>
<tr><td colspan="2">10</td><td>75.0</td><td></td><td></td><td>70.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>10</td></tr>
<tr><td colspan="2">12</td><td>72.0</td><td>68.0</td><td></td><td>67.0</td><td></td><td></td><td>52.0</td><td></td><td></td><td></td><td></td><td></td><td>12</td></tr>
<tr><td colspan="2">14</td><td>68.0</td><td>63.0</td><td>58.0</td><td>64.0</td><td>62.0</td><td></td><td>49.0</td><td></td><td></td><td>37.0</td><td></td><td></td><td>14</td></tr>
<tr><td colspan="2">16</td><td></td><td>58.0</td><td>53.0</td><td>58.0</td><td>58.0</td><td></td><td>46.0</td><td></td><td></td><td>35.6</td><td></td><td></td><td>16</td></tr>
<tr><td colspan="2">18</td><td></td><td></td><td>50.0</td><td></td><td>52.0</td><td>50.0</td><td></td><td>43.0</td><td></td><td>33.6</td><td></td><td></td><td>18</td></tr>
<tr><td colspan="2">20</td><td></td><td></td><td></td><td></td><td></td><td>48.0</td><td></td><td>42.0</td><td></td><td></td><td>30.8</td><td></td><td>20</td></tr>
<tr><td colspan="2">22</td><td></td><td></td><td></td><td></td><td></td><td>44.0</td><td></td><td>40.0</td><td></td><td></td><td>28.6</td><td></td><td>22</td></tr>
<tr><td colspan="2">24</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>36.0</td><td></td><td></td><td></td><td>24</td></tr>
<tr><td colspan="2">26</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>32.0</td><td></td><td></td><td>24.2</td><td>26</td></tr>
<tr><td colspan="2">28</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>22.0</td><td>28</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="3">1</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td>I Telescoping mode</td></tr>
<tr><td>II</td><td colspan="3">1</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td>II</td></tr>
<tr><td>III</td><td colspan="3">1</td><td colspan="3">1</td><td colspan="3">2</td><td colspan="3">2</td><td>III</td></tr>
<tr><td>IV</td><td colspan="3">1</td><td colspan="3">1</td><td colspan="3">2</td><td colspan="3">2</td><td>IV</td></tr>
<tr><td>V</td><td colspan="3">1</td><td colspan="3">1</td><td colspan="3">1</td><td colspan="3">2</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td>Wind speed m/s</td></tr>
</table>

Table 1-85 Main boom + luffing jib *(continued)*

Unit: Metric tons

<table>
<tr><th colspan="18">15 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range</th></tr>
<tr><th colspan="2" rowspan="4">Radius (m)</th><th colspan="12">Main boom + Adaptor</th><th colspan="2" rowspan="4">Radius (m)</th></tr>
<tr><th colspan="3">45.6m+3.5m</th><th colspan="3">50.6m+3.5m</th><th colspan="3">55.6m+3.5m</th><th colspan="3">60.6m+3.5m</th></tr>
<tr><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th></tr>
<tr><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th></tr>
<tr><td colspan="2">14</td><td>30.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">14</td></tr>
<tr><td colspan="2">16</td><td>28.0</td><td></td><td></td><td>22.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">16</td></tr>
<tr><td colspan="2">18</td><td>26.0</td><td></td><td></td><td>19.8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>25.0</td><td></td><td></td><td>17.6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td></td><td>24.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td></td><td>22.0</td><td></td><td></td><td>16.5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td></td><td></td><td></td><td></td><td>14.9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td></td><td></td><td>16.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td></td><td></td><td>14.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">30</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="3">3</td><td colspan="3">3</td><td colspan="3">3</td><td colspan="3">3</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="3">2</td><td colspan="3">3</td><td colspan="3">3</td><td colspan="3">3</td><td>II</td></tr>
<tr><td>III</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">3</td><td colspan="3">3</td><td>III</td></tr>
<tr><td>IV</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">3</td><td>IV</td></tr>
<tr><td>V</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Table 1-86 Main boom + luffing jib

Unit: Metric tons

<table>
<tr><td colspan="16">22 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range</td></tr>
<tr><td colspan="2" rowspan="4">Radius (m)</td><td colspan="12">Main boom + Adaptor</td><td colspan="2" rowspan="4">Radius (m)</td></tr>
<tr><td colspan="3">15.6m+3.5m</td><td colspan="3">25.6m+3.5m</td><td colspan="3">35.6m+3.5m</td><td colspan="3">40.6m+3.5m</td></tr>
<tr><td colspan="3">Main boom angle</td><td colspan="3">Main boom angle</td><td colspan="3">Main boom angle</td><td colspan="3">Main boom angle</td></tr>
<tr><td>82°</td><td>75°</td><td>68°</td><td>82°</td><td>75°</td><td>68°</td><td>82°</td><td>75°</td><td>68°</td><td>82°</td><td>75°</td><td>68°</td></tr>
<tr><td colspan="2">10</td><td>60.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">10</td></tr>
<tr><td colspan="2">12</td><td>59.0</td><td></td><td></td><td>54.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">12</td></tr>
<tr><td colspan="2">14</td><td>58.0</td><td>56.0</td><td></td><td>53.5</td><td></td><td></td><td>44.0</td><td></td><td></td><td>29.7</td><td></td><td></td><td colspan="2">14</td></tr>
<tr><td colspan="2">16</td><td>57.0</td><td>55.0</td><td></td><td>53.0</td><td></td><td></td><td>43.5</td><td></td><td></td><td>29.2</td><td></td><td></td><td colspan="2">16</td></tr>
<tr><td colspan="2">18</td><td>56.0</td><td>54.0</td><td></td><td>52.0</td><td>50.0</td><td></td><td>43.0</td><td></td><td></td><td>28.5</td><td></td><td></td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>55.0</td><td>52.0</td><td>50.0</td><td>50.0</td><td>48.0</td><td></td><td>42.0</td><td></td><td></td><td>28.4</td><td></td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td></td><td>49.0</td><td>47.0</td><td></td><td>46.0</td><td></td><td>40.5</td><td>38.0</td><td></td><td>28.1</td><td>27.5</td><td></td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td></td><td></td><td>43.0</td><td></td><td>44.0</td><td>40.5</td><td>38.0</td><td>36.0</td><td></td><td>26.6</td><td>26.2</td><td></td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td></td><td></td><td></td><td></td><td></td><td>37.5</td><td></td><td>34.0</td><td></td><td></td><td>25.6</td><td></td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td></td><td></td><td></td><td></td><td></td><td>35.0</td><td></td><td>32.0</td><td>30.0</td><td></td><td>25.1</td><td></td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>30.0</td><td>28.5</td><td></td><td>22.0</td><td>20.4</td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>27.0</td><td></td><td></td><td>18.7</td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>17.6</td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">36</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="3">1</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="3">1</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td>II</td></tr>
<tr><td>III</td><td colspan="3">1</td><td colspan="3">1</td><td colspan="3">2</td><td colspan="3">2</td><td>III</td></tr>
<tr><td>IV</td><td colspan="3">1</td><td colspan="3">1</td><td colspan="3">2</td><td colspan="3">2</td><td>IV</td></tr>
<tr><td>V</td><td colspan="3">1</td><td colspan="3">1</td><td colspan="3">1</td><td colspan="3">2</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Table 1-86 Main boom + luffing jib *(continued)*

Unit: Metric tons

22 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius (m)	Main boom + Adaptor												Radius (m)
	45.6m+3.5m			50.6m+3.5m			55.6m+3.5m			60.6m+3.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
16	25.1												16
18	24.6			18.4			15.5						18
20	24.3			18.2			15.1			10.0			20
22	23.4			17.9			14.6			9.5			22
24	22.3	19.8		17.7			14.4			9.0			24
26	20.9	18.3		17.5	16.5		14.0			8.5			26
28		17.1			15.8			13.3					28
30		15.4			15.0			13.0			7.0		30
32			14.6					12.1			6.5		32
34			13.0			11.6		11.0			6.0		34
36						10.2							36
38													38
Telescoping mode I	3			3			3			3			I Telescoping mode
II	2			3			3			3			II
III	2			2			3			3			III
IV	2			2			2			3			IV
V	2			2			2			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-87 Main boom + luffing jib

Unit: Metric tons

29 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius (m)	Main boom + Adaptor												Radius (m)
	15.6m+3.5m			25.6m+3.5m			35.6m+3.5m			40.6m+3.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
14	50.0												14
16	49.0			45.0									16
18	48.0	45.0		42.5			30.8			25.3			18
20	46.5	43.0		41.8			30.4			24.8			20
22	45.4	41.5		41.1	39.0		29.2			24.4			22
24	43.7	40.5	36.3	40.4	37.6		27.9			23.8			24
26	40.7	39.6	34.8	39.6	36.7		27.1	25.0		23.4	21.6		26
28		38.0	33.0	39.0	34.5	32.6	25.9	24.0		22.9	21.2		28
30			31.8		32.4	30.1	25.0	23.0		22.3	20.9		30
32			30.4		30.8	27.8		22.0	20.6	22.0	20.6		32
34						25.9		21.0	19.8		20.0	18.8	34
36						24.2		20.0	19.4		19.6	18.0	36
38									18.7			17.1	38
40									18.1			15.6	40
42												15.0	42
44													44
Telescoping mode I	1			2			2			2			I Telescoping mode
II	1			2			2			2			II
III	1			1			2			2			III
IV	1			1			2			2			IV
V	1			1			1			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-87 Main boom + luffing jib *(continued)*

Unit: Metric tons

29 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius (m)	Main boom + Adaptor												Radius (m)
	45.6m+3.5m			50.6m+3.5m			55.6m+3.5m			60.6m+3.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
20	20.0												20
22	19.4			15.9									22
24	18.9			15.6			10.0						24
26	18.5			15.3			9.9			6.0			26
28	17.9	16.2		15.1			9.8			5.9			28
30	17.4	15.2		14.7	13.0		9.5			5.8			30
32	16.5	13.8		14.0	12.5		9.2	8.2		5.7			32
34		12.8		13.0	12.0		9.0	7.7			4.6		34
36		11.2	10.5		11.2			7.2			4.4		36
38		10.7	9.2		10.4			6.8			4.2		38
40			8.4		9.0	7.4		6.4			4.0		40
42			7.7			6.8							42
44			7.2			6.4			5.7				44
46						6.0			5.2			3.8	46
48									4.8			3.6	48
50													50
Telescoping mode I	3			3			3			3			I Telescoping mode
II	2			3			3			3			II
III	2			2			3			3			III
IV	2			2			2			3			IV
V	2			2			2			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-88 Main boom + luffing jib

Unit: Metric tons

36 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius (m)	Main boom + Adaptor												Radius (m)
	15.6m+3.5m			25.6m+3.5m			35.6m+3.5m			40.6m+3.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
16	45.0												16
18	44.0			34.0									18
20	43.0			33.0			24.0						20
22	41.5	39.4		32.3			23.8			19.0			22
24	40.0	37.0		31.0	27.7		23.5			18.4			24
26	38.0	35.0		30.3	26.7		23.1			18.0			26
28	36.0	33.0	32.4	27.8	25.5		22.6	20.2		17.6			28
30	33.0	31.7	30.5	26.1	23.5		20.0	19.6		17.4	16.7		30
32	30.0	29.0	28.2	24.6	22.3	21.5	21.4	19.2		17.2	16.6		32
34	26.0	25.8	25.6	24.2	21.5	20.2	20.6	18.6		17.0	16.5		34
36			24.4		20.9	19.8	20.0	18.0	15.5	16.9	16.1		36
38					19.8	18.9		17.2	14.2	16.8	15.6	13.5	38
40						17.2		16.4	13.0		15.2	12.7	40
42									12.0		15.0	11.9	42
44									11.7			11.4	44
46									11.2			10.9	44
48												10.5	48
50													50
Telescoping mode I	1			2			2			2			I Telescoping mode
II	1			2			2			2			II
III	1			1			2			2			III
IV	1			1			2			2			IV
V	1			1			1			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-88 Main boom + luffing jib *(continued)*

Unit: Metric tons

36 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius (m)	Main boom + Adaptor												Radius (m)
	45.6m+3.5m			50.6m+3.5m			55.6m+3.5m			60.6m+3.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
24	15.6			11.4									24
26	15.2			11.2			8.0						26
28	14.9			11.0			7.9			5.0			28
30	14.5			10.8			7.7			5.0			30
32	14.2	12.4		10.6			7.6			5.0			32
34	13.8	12.2		10.4	9.6		7.5			5.0			34
36	13.5	12.1		10.2	9.4		7.4	6.2		5.0			36
38	13.1	12.0		10.0	9.2		7.2	6.1		5.0			38
40		11.6	10.2	9.8	9.0		7.0	6.0			4.2		40
42		11.4	9.8		8.8	8.0		5.9			4.0		42
44		11.2	9.3		8.6	7.4		5.8			3.8		44
46			8.8		8.4	7.0		5.7	4.6		3.6		46
48			8.2			6.4		5.6	4.4				48
50			8.0			6.0			4.2			3.0	50
52						5.6			4.0			3.0	52
54									3.8			2.8	54
56													56
58													58
Telescoping mode I	3			3			3			3			I Telescoping mode
II	2			3			3			3			II
III	2			2			3			3			III
IV	2			2			2			3			IV
V	2			2			2			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-89 Main boom + luffing jib

Unit: Metric tons

43 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius (m)	Main boom + Adaptor												Radius (m)
	15.6m+3.5m			25.6m+3.5m			35.6m+3.5m			40.6m+3.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
18	38.0												18
20	37.0			30.0									20
22	36.0			29.0			23.0						22
24	35.0			28.5			22.2			18.0			24
26	34.0	30.8		28.0			22.1			17.7			26
28	33.0	28.2		27.0			21.8			17.3			28
30	31.8	27.0		26.0	24.0		21.1			16.9			30
32	28.6	25.4	23.5	25.0	23.4		20.7	20.0		16.6			32
34	25.9	23.9	22.9	24.0	23.0		20.4	19.8		16.3	15.4		34
36	24.1	22.8	22.0	23.0	22.5		20.0	19.4		16.0	14.8		36
38	22.6	21.6	21.0	21.5	21.3	21.2	19.4	19.0		15.4	14.1		38
40		20.6	20.2	20.0	20.4	20.6	18.8	18.2		14.9	13.6		40
42		19.6	19.0		19.6	19.5	18.0	17.5	16.5		13.0		42
44			18.0			18.0		16.8	16.0		12.4	11.2	44
46						16.8		16.0	15.4		11.8	10.7	44
48						15.6			14.8		11.3	10.2	48
50									14.3			9.7	50
52									13.8			9.3	52
54												8.9	54
56													56
Telescoping mode I	1			2			2			2			I Telescoping mode
II	1			2			2			2			II
III	1			1			2			2			III
IV	1			1			2			2			IV
V	1			1			1			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-89 Main boom + luffing jib *(continued)*

Unit: Metric tons

43 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius (m)	Main boom + Adaptor												Radius (m)
	45.6m+3.5m			50.6m+3.5m			55.6m+3.5m			60.6m+3.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
24	15.0												24
26	14.4			11.0									26
28	13.8			11.0			7.0						28
30	13.6			11.0			6.9			4.0			30
32	13.5			10.5			6.7			4.0			32
34	13.3			10.0			6.6			4.0			34
36	13.0	12.2		9.5			6.5			4.0			36
38	12.6	11.6		9.0	8.6		6.4			4.0			38
40	12.2	11.0		8.6	8.2		6.3	5.8		4.0			40
42	11.0	10.4		8.0	7.8		6.2	5.6		4.0			42
44	10.0	9.8		7.5	7.4		6.0	5.4		4.0	3.6		44
46		9.2	9.0		7.0		5.5	5.2			3.6		46
48		8.7	8.4		6.8			5.0			3.5		48
50		8.0	7.8		6.6	5.6		4.8			3.2		50
52			7.4		6.4	5.4		4.6	3.5		3.1		52
54			6.9			5.2		4.2	3.3				54
56			6.0			5.0			3.2			2.4	56
58						4.7			3.0			2.3	58
60						4.4			2.8			2.1	60
62									2.5				62
Telescoping mode I	3			3			3			3			I Telescoping mode
II	2			3			3			3			II
III	2			2			3			3			III
IV	2			2			2			3			IV
V	2			2			2			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-90 Main boom + luffing jib

Unit: Metric tons

50 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius (m)	Main boom + Adaptor												Radius (m)
	15.6m+3.5m			25.6m+3.5m			35.6m+3.5m			40.6m+3.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
20	30.0												20
22	29.0			24.0									22
24	28.0			22.0									24
26	27.0			21.5			18.0						26
28	26.0			21.0			17.5			14.0			28
30	25.0	21.9		20.6			17.0			13.9			30
32	24.0	21.4		20.2	19.0		16.7			13.8			32
34	23.0	20.8		19.8	18.5		16.4			13.6			34
36	22.0	20.2		19.4	18.0		16.0	15.5		13.4			36
38	21.0	19.4	16.8	19.0	17.0		15.5	15.0		13.3	12.8		38
40	20.0	18.8	16.6	18.8	16.0		14.8	14.2		13.2	12.5		40
42	19.0	18.2	16.0	18.5	15.0	14.0	14.2	13.4		12.2	11.1		42
44	18.0	16.9	15.4	17.5	14.2	13.5	13.6	12.6		10.9	9.9		44
46	17.0	15.8	14.8	16.5	13.4	13.0	13.0	11.8	10.5	9.7	8.7		44
48		14.1	14.1	15.5	13.0	12.5	12.2	11.0	10.0	8.5	7.6	6.8	48
50			11.9		12.5	12.0	11.0	10.0	9.4	7.8	6.6	5.9	50
52			10.3		12.0	11.5		9.0	8.5		6.3	5.6	52
54						10.0		8.0	7.6		6.0	5.4	54
56									6.8		5.8	5.1	56
58									6.0			4.9	58
60									5.4			4.7	60
62												4.5	62
Telescoping mode I	1			2			2			2			I Telescoping mode
II	1			2			2			2			II
III	1			1			2			2			III
IV	1			1			2			2			IV
V	1			1			1			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-90 Main boom + luffing jib *(continued)*

Unit: Metric tons

50 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius (m)	Main boom + Adaptor												Radius (m)
	45.6m+3.5m			50.6m+3.5m			55.6m+3.5m			60.6m+3.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
28	11.4												28
30	11.3			8.0			4.5						30
32	11.2			8.0			4.5			2.4			32
34	11.1			7.8			4.5			2.4			34
36	11.0			7.8			4.5			2.4			36
38	10.8			7.6			4.5			2.4			38
40	10.4	9.8		7.4			4.5			2.4			40
42	9.8	9.0		7.2	7.0		4.5			2.4			42
44	9.0	8.2		7.0	6.5		4.4	4.0		2.4			44
46	8.2	7.4		6.8	5.7		4.3	3.8		2.4	2.2		46
48	7.6	6.6		6.6	5.0		4.2	3.5		2.3	2.2		48
50	7.0	5.8		6.0	4.3		4.0	3.2		2.3	2.2		50
52		5.4	4.2		4.1			3.1			2.2		52
54		5.0	4.0		3.9	3.2		2.9			2.1		54
56		4.6	3.8		3.8	3.0		2.8	2.4		2.1		56
58		4.4	3.6		3.6	2.9		2.6	2.3			1.8	58
60			3.4		3.5	2.7		2.4	2.1			1.6	60
62			3.3			2.6			2.0			1.5	62
64			3.2			2.5			1.9			1.4	64
66						2.4			1.8				66
68									1.7				68
70													70

Telescoping mode	I	3	3	3	3	I	Telescoping mode
	II	2	3	3	3	II	
	III	2	2	3	3	III	
	IV	2	2	2	3	IV	
	V	2	2	2	2	V	
Wind speed m/s		9	9	9	9	Wind speed m/s	

Table 1-91 Main boom + luffing jib

Unit: Metric tons

57 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range														
Radius (m)		Main boom + Adaptor												Radius (m)
		15.6m+3.5m			25.6m+3.5m			35.6m+3.5m			40.6m+3.5m			
		Main boom angle			Main boom angle			Main boom angle			Main boom angle			
		82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
22		24.0												22
24		22.0												24
26		21.0			18.0									26
28		20.5			17.6			14.4						28
30		20.0			17.2			14.2			11.4			30
32		19.5	18.0		16.8			14.0			11.2			32
34		19.0	17.5		16.4	15.5		13.6			11.0			34
36		18.5	17.0		16.0	15.2		13.2			10.8			36
38		18.0	16.5		15.6	14.8		12.8	12.4		10.5			38
40		17.5	16.0	15.0	15.2	14.4		12.4	12.0		10.2			40
42		17.0	15.5	14.5	14.8	14.0		12.0	11.6		9.9	8.0		42
44		16.5	15.0	14.0	14.4	13.6	12.4	11.6	11.2		9.6	7.8		44
46		16.0	14.5	13.5	14.0	13.2	12.2	11.3	10.8		9.3	7.6		44
48		15.5	14.0	13.0	13.6	12.8	11.9	11.0	10.5		9.0	7.4		48
50		15.0	13.5	12.5	13.2	12.4	11.5	10.8	10.2	9.6	8.8	7.2		50
52		14.5	13.0	12.0	12.8	12.0	11.2	10.6	10.0	9.4	8.6	7.0	5.6	52
54			12.5	11.5	12.4	11.6	10.8	10.4	9.8	9.2	8.3	6.8	5.4	54
56			12.0	11.0		11.2	10.4	10.2	9.6	9.0	8.0	6.6	5.2	56
58				10.5		10.8	10.0		9.3	8.6		6.4	5.0	58
60							9.5		9.0	8.2		6.2	4.8	60
62							9.0			7.8		6.0	4.6	62
64										7.4			4.4	64
66										7.0			4.2	66
68													4.0	68
70														70
Telescoping mode	I	1			2			2			2			I Telescoping mode
	II	1			2			2			2			II
	III	1			1			2			2			III
	IV	1			1			2			2			IV
	V	1			1			1			2			V
Wind speed m/s		9			9			9			9			Wind speed m/s

Table 1-91 Main boom + luffing jib *(continued)*

Unit: Metric tons

57 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius (m)	Main boom + Adaptor												Radius (m)
	45.6m+3.5m			50.6m+3.5m			55.6m+3.5m			60.6m+3.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
30	7.6												30
32	7.6			4.0									32
34	7.6			4.0			2.5						34
36	7.6			3.9			2.5						36
38	7.5			3.9			2.5						38
40	7.4			3.8			2.5						40
42	7.2			3.8			2.5						42
44	7.0	6.6		3.8			2.5						44
46	6.8	6.4		3.8	3.2		2.5						46
48	6.6	6.2		3.8	3.2		2.4	2.2					48
50	6.4	6.0		3.6	3.2		2.4	2.2					50
52	6.2	5.8		3.6	3.2		2.4	2.2					52
54	6.0	5.6	4.6	3.4	3.0		2.4	2.2					54
56	5.8	5.4	4.4	3.4	3.0		2.4	2.1					56
58	5.6	5.2	4.2	3.4	3.0	2.2	2.3	2.1					58
60		5.0	4.0		3.0	2.2	2.3	2.1	1.8				60
62		4.8	3.8		3.0	2.2		2.1	1.6				62
64		4.6	3.6		3.0	2.2		2.0	1.5				64
66			3.4		3.0	2.2		2.0	1.4				66
68			3.2			2.2			1.3				68
70			3.0			2.2			1.2				70
72									1.1				72
Telescoping mode I	3			3			3			3			I Telescoping mode
II	2			3			3			3			II
III	2			2			3			3			III
IV	2			2			2			3			IV
V	2			2			2			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-92 Main boom + luffing jib

Unit: Metric tons

64 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius (m)	Main boom + Adaptor												Radius (m)
	15.6m+3.5m			25.6m+3.5m			35.6m+3.5m			40.6m+3.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
26	18												26
28	17.6			15.0									28
30	17.2			14.6			12.0						30
32	16.8			14.2			12.0			9.0			32
34	16.4			13.8			12.0			8.9			34
36	16	15.0		13.4			11.8			8.8			36
38	15.6	14.8		13.2			11.6			8.7			38
40	15.2	14.4		13.0	12.0		11.4			8.6			40
42	14.8	14.0		12.8	11.8		11.2	10.6		8.5			42
44	14.4	13.6		12.6	11.6		11.0	10.4		8.4	7.0		44
46	14.1	13.2	12.0	12.4	11.4		10.8	10.2		8.3	6.9		44
48	13.8	12.8	11.6	12.2	11.2		10.6	10.0		8.2	6.8		48
50	13.5	12.4	11.2	12.0	11.0	10.0	10.4	9.8		8.1	6.7		50
52	13.2	12.0	10.8	11.6	10.7	9.8	10.2	9.6		8.0	6.6		52
54	12.9	11.6	10.4	11.2	10.3	9.6	10.0	9.4	8.5	7.8	6.5		54
56	12.6	11.2	10.0	10.8	10.0	9.4	9.8	9.2	8.2	7.6	6.4	4.5	56
58	12.3	10.8	9.6	10.4	9.7	9.2	9.6	9.0	8.0	7.4	6.2	4.4	58
60	12	10.4	9.2	10.0	9.4	9.0	9.4	8.8	7.8	7.2	6.0	4.3	60
62		10.2	8.8	9.6	9.0	8.7	9.2	8.5	7.5	7.0	5.8	4.2	62
64			8.5		8.6	8.4	9.0	8.2	7.2	6.8	5.6	4.1	64
66						8.2		7.8	6.9		5.4	4.0	66
68						8.0		7.4	6.6		5.2	3.8	68
70									6.3		5.0	3.6	70
72									6.0			3.4	72
74												3.2	74
Telescoping mode I	1			2			2			2			I Telescoping mode
II	1			2			2			2			II
III	1			1			2			2			III
IV	1			1			2			2			IV
V	1			1			1			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-92 Main boom + luffing jib *(continued)*

Unit: Metric tons

64 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range										
Radius (m)	Main boom + Adaptor									Radius (m)
	40.6m+3.5m			45.6m+3.5m			50.6m+3.5m			
	Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	
34	6.0									34
36	5.9			3.2						36
38	5.8			3.2			2.2			38
40	5.7			3.2			2.2			40
42	5.6			3.2			2.2			42
44	5.5			3.2			2.2			44
46	5.4	4.0		3.0			2.2			44
48	5.3	4.0		3.0	2.5		2.2			48
50	5.2	4.0		3.0	2.5		2.2	2.0		50
52	5.1	4.0		3.0	2.5		2.2	2.0		52
54	5.0	3.9		3.0	2.5		2.2	2.0		54
56	4.9	3.8		3.0	2.5		2.2	2.0		56
58	4.8	3.7		3.0	2.5		2.2	2.0		58
60	4.7	3.6	3.0	3.0	2.5		2.2	2.0		60
62	4.6	3.5	2.9	3.0	2.5	2.0	2.2	2.0		62
64	4.5	3.4	2.8	3.0	2.5	2.0	2.2	2.0	1.8	64
66		3.3	2.7		2.5	2.0		2.0	1.8	66
68		3.2	2.6		2.5	1.9		2.0	1.8	68
70		3.0	2.5		2.5	1.8		2.0	1.6	70
72			2.4			1.7		2.0	1.5	72
74			2.3			1.6			1.4	74
76			2.2						1.3	76
Telescoping mode I	2			3			2			I Telescoping mode
II	2			2			3			II
III	2			2			3			III
IV	2			2			2			IV
V	2			2			2			V
Wind speed m/s	9			9			9			Wind speed m/s

Table 1-93 Main boom + luffing jib

Unit: Metric tons

<table>
<tr><th colspan="13">71 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range</th></tr>
<tr><th colspan="2" rowspan="4">Radius (m)</th><th colspan="9">Main boom + Adaptor</th><th colspan="2" rowspan="4">Radius (m)</th></tr>
<tr><th colspan="3">15.6m+3.5m</th><th colspan="3">25.6m+3.5m</th><th colspan="3">35.6m+3.5m</th></tr>
<tr><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th></tr>
<tr><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th></tr>
<tr><td colspan="2">28</td><td>14.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>13.8</td><td></td><td></td><td>12.0</td><td></td><td></td><td></td><td></td><td></td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>13.6</td><td></td><td></td><td>11.8</td><td></td><td></td><td>10.0</td><td></td><td></td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>13.4</td><td></td><td></td><td>11.6</td><td></td><td></td><td>10.0</td><td></td><td></td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td>13.1</td><td></td><td></td><td>11.4</td><td></td><td></td><td>9.9</td><td></td><td></td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td>12.8</td><td>12.5</td><td></td><td>11.2</td><td></td><td></td><td>9.8</td><td></td><td></td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td>12.5</td><td>12.2</td><td></td><td>11.0</td><td></td><td></td><td>9.7</td><td></td><td></td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td>12.2</td><td>12.0</td><td></td><td>10.8</td><td>10.2</td><td></td><td>9.6</td><td></td><td></td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>11.9</td><td>11.7</td><td></td><td>10.6</td><td>10.0</td><td></td><td>9.5</td><td></td><td></td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>11.6</td><td>11.4</td><td></td><td>10.4</td><td>9.8</td><td></td><td>9.4</td><td>8.6</td><td></td><td colspan="2">44</td></tr>
<tr><td colspan="2">48</td><td>11.3</td><td>11.1</td><td>10.2</td><td>10.2</td><td>9.6</td><td></td><td>9.3</td><td>8.4</td><td></td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td>11.0</td><td>10.8</td><td>10.0</td><td>10.0</td><td>9.4</td><td></td><td>9.2</td><td>8.2</td><td></td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td>10.7</td><td>10.5</td><td>9.8</td><td>9.8</td><td>9.2</td><td></td><td>9.1</td><td>8.0</td><td></td><td colspan="2">52</td></tr>
<tr><td colspan="2">54</td><td>10.4</td><td>10.2</td><td>9.6</td><td>9.6</td><td>9.0</td><td>8.0</td><td>9.0</td><td>7.8</td><td></td><td colspan="2">54</td></tr>
<tr><td colspan="2">56</td><td>10.1</td><td>9.8</td><td>9.4</td><td>9.4</td><td>8.8</td><td>7.8</td><td>8.9</td><td>7.6</td><td></td><td colspan="2">56</td></tr>
<tr><td colspan="2">58</td><td>9.8</td><td>9.5</td><td>9.2</td><td>9.2</td><td>8.6</td><td>7.6</td><td>8.8</td><td>7.4</td><td>6.2</td><td colspan="2">58</td></tr>
<tr><td colspan="2">60</td><td>9.6</td><td>9.2</td><td>9.0</td><td>9.0</td><td>8.4</td><td>7.4</td><td>8.6</td><td>7.2</td><td>6.0</td><td colspan="2">60</td></tr>
<tr><td colspan="2">62</td><td>9.4</td><td>9.0</td><td>8.8</td><td>8.8</td><td>8.2</td><td>7.2</td><td>8.4</td><td>7.0</td><td>5.8</td><td colspan="2">62</td></tr>
<tr><td colspan="2">64</td><td>9.2</td><td>8.8</td><td>8.6</td><td>8.6</td><td>8.0</td><td>7.0</td><td>8.2</td><td>6.8</td><td>5.6</td><td colspan="2">64</td></tr>
<tr><td colspan="2">66</td><td>9.0</td><td>8.6</td><td>8.4</td><td>8.4</td><td>7.8</td><td>6.8</td><td>8.0</td><td>6.6</td><td>5.4</td><td colspan="2">66</td></tr>
<tr><td colspan="2">68</td><td></td><td>8.4</td><td>8.2</td><td>8.2</td><td>7.6</td><td>6.6</td><td>7.8</td><td>6.4</td><td>5.2</td><td colspan="2">68</td></tr>
<tr><td colspan="2">70</td><td></td><td>8.0</td><td>7.8</td><td></td><td>7.4</td><td>6.4</td><td>7.5</td><td>6.2</td><td>5.0</td><td colspan="2">70</td></tr>
<tr><td colspan="2">72</td><td></td><td></td><td>7.5</td><td></td><td></td><td>6.2</td><td></td><td>6.0</td><td>4.8</td><td colspan="2">72</td></tr>
<tr><td colspan="2">74</td><td></td><td></td><td></td><td></td><td></td><td>6.0</td><td></td><td>5.5</td><td>4.6</td><td colspan="2">74</td></tr>
<tr><td colspan="2">76</td><td></td><td></td><td></td><td></td><td></td><td>5.5</td><td></td><td></td><td>4.4</td><td colspan="2">76</td></tr>
<tr><td colspan="2">78</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>4.2</td><td colspan="2">78</td></tr>
<tr><td colspan="2">80</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>4.0</td><td colspan="2">80</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="3">1</td><td colspan="3">2</td><td colspan="3">2</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="3">1</td><td colspan="3">2</td><td colspan="3">2</td><td>II</td></tr>
<tr><td>III</td><td colspan="3">1</td><td colspan="3">1</td><td colspan="3">2</td><td>III</td></tr>
<tr><td>IV</td><td colspan="3">1</td><td colspan="3">1</td><td colspan="3">2</td><td>IV</td></tr>
<tr><td>V</td><td colspan="3">1</td><td colspan="3">1</td><td colspan="3">1</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Table 1-93 Main boom + luffing jib *(continued)*

Unit: Metric tons

71 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range										
Radius (m)	Main boom + Adaptor									Radius (m)
	40.6m+3.5m			45.6m+3.5m			50.6m+3.5m			
	Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	
34	7.0									34
36	6.9			4.0						36
38	6.8			4.0			2.0			38
40	6.7			4.0			2.0			40
42	6.6			4.0			2.0			42
44	6.5			4.0			2.0			44
46	6.4			4.0			2.0			44
48	6.3	5.0		4.0			2.0			48
50	6.2	5.0		4.0	3.0		2.0			50
52	6.1	4.9		3.9	3.0		2.0	2.0		52
54	6.0	4.9		3.9	3.0		2.0	2.0		54
56	5.9	4.8		3.9	3.0		2.0	2.0		56
58	5.8	4.8		3.9	3.0		2.0	2.0		58
60	5.7	4.7	3.6	3.8	2.8		2.0	2.0		60
62	5.6	4.7	3.5	3.8	2.8		2.0	2.0		62
64	5.5	4.6	3.4	3.8	2.8	2.3	2.0	2.0	2.0	64
66	5.4	4.5	3.3	3.8	2.8	2.3	2.0	2.0	2.0	66
68	5.3	4.4	3.2	3.7	2.7	2.3		2.0	2.0	68
70	5.2	4.3	3.1	3.6	2.6	2.2		2.0	1.9	70
72		4.2	3.0	3.5	2.5	2.2		2.0	1.8	72
74		4.1	2.9		2.4	2.1			1.7	74
76		4.0	2.8		2.4	2.1			1.6	76
78			2.7			2.0				78
80			2.6			2.0				80
Telescoping mode I	2			3			2			I Telescoping mode
II	2			2			3			II
III	2			2			3			III
IV	2			2			2			IV
V	2			2			2			V
Wind speed m/s	9			9			9			Wind speed m/s

Table 1-94 Main boom + luffing jib

Unit: Metric tons

78 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range										
Radius (m)	Main boom + Adaptor									Radius (m)
	15.6m+3.5m			25.6m+3.5m			35.6m+3.5m			
	Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	
30	10.0									30
32	9.9			9.0						32
34	9.8			8.9			7.0			34
36	9.6			8.8			7.0			36
38	9.4			8.7			6.9			38
40	9.2			8.6			6.8			40
42	9.0			8.5			6.7			42
44	8.8	8.4		8.4			6.7			44
46	8.6	8.2		8.2	8.0		6.7			44
48	8.4	8.0		8.0	7.8		6.7			48
50	8.2	7.8		7.8	7.6		6.7	6.2		50
52	8.0	7.6		7.6	7.4		6.6	6.2		52
54	7.8	7.4	7.2	7.4	7.2		6.5	6.2		54
56	7.6	7.2	7.0	7.2	7.0		6.4	6.2		56
58	7.4	7.0	6.8	7.0	6.8	6.6	6.3	6.1		58
60	7.2	6.8	6.6	6.8	6.6	6.4	6.2	6.0	5.4	60
62	7.0	6.6	6.4	6.6	6.4	6.2	6.0	5.8	5.2	62
64	6.6	6.4	6.2	6.4	6.2	6.0	5.8	5.6	5.0	64
66	6.3	6.2	6.0	6.1	6.0	5.8	5.6	5.4	4.8	66
68	6.0	6.0	5.8	5.8	5.8	5.6	5.4	5.2	4.6	68
70	5.5	5.8	5.6	5.6	5.6	5.4	5.2	5.0	4.4	70
72	5.0	5.6	5.4	5.4	5.4	5.2	5.0	4.8	4.2	72
74		5.4	5.2	5.0	5.2	5.0	4.8	4.6	4.0	74
76		5.2	5.0		5.0	4.8	4.6	4.4	3.8	76
78			4.8			4.6		4.2	3.6	78
80						4.2		4.0	3.4	80
82									3.2	82
Telescoping mode I	1			2			2			I Telescoping mode
II	1			2			2			II
III	1			1			2			III
IV	1			1			2			IV
V	1			1			1			V
Wind speed m/s	9			9			9			Wind speed m/s

Table 1-94 Main boom + luffing jib *(continued)*

Unit: Metric tons

78 m luffing jib without Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range										
Radius (m)	Main boom + Adaptor									Radius (m)
	40.6m+3.5m			45.6m+3.5m			50.6m+3.5m			
	Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	
36	4.5			2.2						36
38	4.5			2.2						38
40	4.5			2.2						40
42	4.5			2.2						42
44	4.5			2.2						44
46	4.4			2.2						44
48	4.4			2.2						48
50	4.4	4.2		2.2	2.0					50
52	4.4	4.2		2.2	2.0					52
54	4.4	4.2		2.2	2.0					54
56	4.4	4.2		2.2	2.0					56
58	4.4	4.2		2.2	2.0					58
60	4.3	4.2		2.2	2.0					60
62	4.3	4.2	3.0	2.2	2.0					62
64	4.3	4.2	3.0	2.2	2.0	2.0				64
66	4.3	4.1	3.0	2.2	2.0	2.0				66
68	4.3	4.0	2.9	2.2	2.0	2.0				68
70	4.3	4.0	2.9	2.2	2.0	2.0				70
72	4.2	4.0	2.9	2.2	2.0	1.9				72
74	4.1	3.8	2.8		2.0	1.8				74
76	4.0	3.6	2.7		2.0	1.7				76
78		3.4	2.6			1.6				78
80		3.2	2.5			1.5				80
82		3.0	2.4			1.4				82
84			2.3			1.3				84
Telescoping mode I	2			2			2			I Telescoping mode
II	2			3			3			II
III	2			2			3			III
IV	2			2			2			IV
V	2			2			2			V
Wind speed m/s	9			9			9			Wind speed m/s

Table 1-95 Main boom + Y-shaped guying system + luffing jib

Unit: Metric tons

<table>
<tr><th colspan="16">22m 塔臂，支腿全伸，360° 作业，带超起，140t 配重</th></tr>
<tr><th colspan="2" rowspan="4">Radius(m)</th><th colspan="12">Main boom + Adaptor</th><th colspan="2" rowspan="4">Radius (m)</th></tr>
<tr><th colspan="3">30.6m+8.5</th><th colspan="3">35.6m+8.5m</th><th colspan="3">40.6m+8.5m</th><th colspan="3">45.6m+8.5m</th></tr>
<tr><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th></tr>
<tr><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th></tr>
<tr><td colspan="2">13</td><td>56.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">13</td></tr>
<tr><td colspan="2">14</td><td>55.0</td><td></td><td></td><td>52.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">14</td></tr>
<tr><td colspan="2">16</td><td>53.9</td><td></td><td></td><td>50.0</td><td></td><td></td><td>42.0</td><td></td><td></td><td>36.0</td><td></td><td></td><td colspan="2">16</td></tr>
<tr><td colspan="2">18</td><td>50.2</td><td></td><td></td><td>47.0</td><td></td><td></td><td>41.0</td><td></td><td></td><td>35.8</td><td></td><td></td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>46.5</td><td>43.0</td><td></td><td>44.0</td><td></td><td></td><td>40.4</td><td></td><td></td><td>35.5</td><td></td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>43.0</td><td>41.0</td><td></td><td>41.5</td><td>39.0</td><td></td><td>38.0</td><td></td><td></td><td>34.5</td><td></td><td></td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td></td><td>39.2</td><td></td><td></td><td>38.0</td><td></td><td>35.0</td><td>31.5</td><td></td><td>33.0</td><td></td><td></td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td></td><td>37.1</td><td>33.5</td><td></td><td>36.3</td><td></td><td></td><td>30.2</td><td></td><td>30.5</td><td>28.4</td><td></td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td></td><td></td><td>31.6</td><td></td><td>34.0</td><td>29.1</td><td></td><td>28.8</td><td></td><td></td><td>27.3</td><td></td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td></td><td></td><td>29.6</td><td></td><td></td><td>28.2</td><td></td><td>27.0</td><td>24.4</td><td></td><td>26.3</td><td></td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td></td><td></td><td></td><td></td><td></td><td>26.0</td><td></td><td></td><td>23.3</td><td></td><td>25.0</td><td></td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>22.2</td><td></td><td></td><td>21.0</td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>20.4</td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>19.6</td><td colspan="2">38</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">3</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td>II</td></tr>
<tr><td>III</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td>III</td></tr>
<tr><td>IV</td><td colspan="3">1</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td>IV</td></tr>
<tr><td>V</td><td colspan="3">1</td><td colspan="3">1</td><td colspan="3">2</td><td colspan="3">2</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Table 1-95 Main boom + Y-shaped guying system + luffing jib *(continued)*

Unit: Metric tons

22 m luffing jib with Y-shaped guying system, outriggers fully extended, with 140 t counterweight, over full range													
Radius(m)	Main boom + Adaptor												Radius(m)
	50.6m+8.5m			55.6m+8.5m			60.6m+8.5m			65.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
18	30.0			24.0									18
20	29.5			23.0			20.0						20
22	28.6			22.8			19.0			14.3			22
24	27.2			22.0			18.5			13.9			24
26	25.8			21.2			17.8			13.4			26
28		23.0		20.0	19.0		17.2			12.9			28
30		22.0			18.4			16.8					30
32		21.0			17.8			16.3			12.7		32
34		19.5			17.0			15.8			12.3		34
36			18.6			14.6		15.2			11.9		36
38			17.5			14.0					11.5		38
40			16.8			13.0			12.0				40
42									11.8			9.6	42
44									11.4			9.3	44
46												9.1	46
48													48
Telescoping mode I	3			3			3			3			I Telescoping mode
II	3			3			3			3			II
III	2			3			3			3			III
IV	2			2			3			3			IV
V	2			2			2			3			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-96 Main boom + Y-shaped guying system + luffing jib

Unit: Metric tons

29 m luffing jib with Y-shaped guying system, outriggers fully extended, with 140 t counterweight, over full range													
Radius(m)	Main boom + Adaptor												Radius(m)
	30.6m+8.5			35.6m+8.5m			40.6m+8.5m			45.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
16	48.0												16
18	46.0			44.0									18
20	44.0			42.0			38.0			32.0			20
22	42.0	37.2		40.0			35.0			31.0			22
24	39.0	35.4		38.0	34.0		33.5			30.5			24
26	36.0	33.2		35.0	32.0		31.4	28.0		29.8			26
28	33.5	31.8		33.0	30.0		29.5	27.0		27.8	25.0		28
30	31.0	30.2	29.0	30.0	28.1		27.8	26.0		25.6	24.5		30
32		28.6	28.0		26.5	25.0	26.0	25.0		24.2	23.5		32
34		27.0	26.0		25.0	24.0		24.0	21.0	23.0	22.6		34
36			24.0		23.5	23.0		23.0	20.0		21.8	18.0	36
38			22.0			22.0		21.5	19.0		20.0	17.1	38
40						21.0			18.0			16.2	40
42									16.9			15.3	42
44												14.4	44
46													46
Telescoping mode I	2			2			2			3			I Telescoping mode
II	2			2			2			2			II
III	2			2			2			2			III
IV	1			2			2			2			IV
V	1			1			2			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-96 Main boom + Y-shaped guying system + luffing jib *(continued)*

Unit: Metric tons

<table>
<tr><th colspan="16">29 m luffing jib with Y-shaped guying system,
outriggers fully extended, with 140 t counterweight, over full range</th></tr>
<tr><th colspan="2" rowspan="4">Radius(m)</th><th colspan="12">Main boom + Adaptor</th><th colspan="2" rowspan="4">Radius(m)</th></tr>
<tr><th colspan="3">50.6m+8.5m</th><th colspan="3">55.6m+8.5m</th><th colspan="3">60.6m+8.5m</th><th colspan="3">65.6m+8.5m</th></tr>
<tr><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th></tr>
<tr><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th></tr>
<tr><td colspan="2">22</td><td>27.0</td><td></td><td></td><td>22.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>25.5</td><td></td><td></td><td>21.6</td><td></td><td></td><td>17.0</td><td></td><td></td><td>12.6</td><td></td><td></td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>24.0</td><td></td><td></td><td>21.0</td><td></td><td></td><td>16.4</td><td></td><td></td><td>12.2</td><td></td><td></td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td>23.0</td><td></td><td></td><td>20.3</td><td></td><td></td><td>16.0</td><td></td><td></td><td>11.8</td><td></td><td></td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>22.0</td><td>20.0</td><td></td><td>19.4</td><td></td><td></td><td>15.5</td><td></td><td></td><td>11.4</td><td></td><td></td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>21.0</td><td>19.4</td><td></td><td>18.2</td><td>17.0</td><td></td><td>15.0</td><td>14.8</td><td></td><td>11.0</td><td></td><td></td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>19.5</td><td>18.8</td><td></td><td>17.0</td><td>16.8</td><td></td><td>14.5</td><td>14.4</td><td></td><td>10.7</td><td>11.0</td><td></td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td></td><td>18.2</td><td></td><td></td><td>15.3</td><td></td><td>14</td><td>14.0</td><td></td><td>10.4</td><td>10.6</td><td></td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td></td><td>17.6</td><td>14.5</td><td></td><td>15.6</td><td></td><td></td><td>13.6</td><td></td><td></td><td>10.2</td><td></td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td></td><td>16.5</td><td>13.8</td><td></td><td>15.0</td><td>11.0</td><td></td><td>13.2</td><td></td><td></td><td>10.0</td><td></td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td></td><td></td><td>13.2</td><td></td><td>13.5</td><td>10.6</td><td></td><td>12.8</td><td></td><td></td><td>9.6</td><td></td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td></td><td></td><td>12.5</td><td></td><td></td><td>10.3</td><td></td><td></td><td>10.0</td><td></td><td>9.4</td><td></td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td></td><td></td><td>12.0</td><td></td><td></td><td>10.0</td><td></td><td></td><td>9.5</td><td></td><td></td><td>9.0</td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td></td><td></td><td></td><td></td><td></td><td>9.5</td><td></td><td></td><td>9.0</td><td></td><td></td><td>8.5</td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>8.5</td><td></td><td></td><td>8.0</td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>7.5</td><td colspan="2">52</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="3">3</td><td colspan="3">3</td><td colspan="3">3</td><td colspan="3">3</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="3">3</td><td colspan="3">3</td><td colspan="3">3</td><td colspan="3">3</td><td>II</td></tr>
<tr><td>III</td><td colspan="3">2</td><td colspan="3">3</td><td colspan="3">3</td><td colspan="3">3</td><td>III</td></tr>
<tr><td>IV</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">3</td><td colspan="3">3</td><td>IV</td></tr>
<tr><td>V</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">3</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Table 1-97 Main boom + Y-shaped guying system + luffing jib

Unit: Metric tons

<table>
<tr><th colspan="15">36 m luffing jib with Y-shaped guying system,
outriggers fully extended, with 140 t counterweight, over full range</th></tr>
<tr><th colspan="2" rowspan="4">Radius(m)</th><th colspan="12">Main boom + Adaptor</th><th rowspan="4">Radius(m)</th></tr>
<tr><th colspan="3">30.6m+8.5</th><th colspan="3">35.6m+8.5m</th><th colspan="3">40.6m+8.5m</th><th colspan="3">45.6m+8.5m</th></tr>
<tr><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th></tr>
<tr><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th></tr>
<tr><td colspan="2">18</td><td>42.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>18</td></tr>
<tr><td colspan="2">20</td><td>41.0</td><td></td><td></td><td>40.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>20</td></tr>
<tr><td colspan="2">22</td><td>40.0</td><td></td><td></td><td>39.0</td><td></td><td></td><td>34.0</td><td></td><td></td><td>28.0</td><td></td><td></td><td>22</td></tr>
<tr><td colspan="2">24</td><td>38.0</td><td></td><td></td><td>37.0</td><td></td><td></td><td>32.0</td><td></td><td></td><td>27.5</td><td></td><td></td><td>24</td></tr>
<tr><td colspan="2">26</td><td>36.0</td><td>33.3</td><td></td><td>35.0</td><td></td><td></td><td>31.0</td><td></td><td></td><td>26.5</td><td></td><td></td><td>26</td></tr>
<tr><td colspan="2">28</td><td>34.0</td><td>31.9</td><td></td><td>33.0</td><td>29.0</td><td></td><td>30.0</td><td></td><td></td><td>25.5</td><td></td><td></td><td>28</td></tr>
<tr><td colspan="2">30</td><td>32.0</td><td>30.4</td><td></td><td>31.0</td><td>27.5</td><td></td><td>28.0</td><td>24.0</td><td></td><td>24.0</td><td></td><td></td><td>30</td></tr>
<tr><td colspan="2">32</td><td>30.0</td><td>28.5</td><td></td><td>29.0</td><td>26.0</td><td></td><td>26.0</td><td>23.2</td><td></td><td>23.0</td><td>21.0</td><td></td><td>32</td></tr>
<tr><td colspan="2">34</td><td>28.0</td><td>26.8</td><td>25.0</td><td>26.5</td><td>24.6</td><td></td><td>24.0</td><td>22.4</td><td></td><td>22.0</td><td>20.4</td><td></td><td>34</td></tr>
<tr><td colspan="2">36</td><td>26.0</td><td>25.0</td><td>23.5</td><td>24.5</td><td>23.2</td><td>22.0</td><td>22.5</td><td>21.5</td><td></td><td>21.0</td><td>19.8</td><td></td><td>36</td></tr>
<tr><td colspan="2">38</td><td>24.0</td><td>23.0</td><td>22.0</td><td>22.5</td><td>21.8</td><td>21.0</td><td>21.0</td><td>20.0</td><td>18.0</td><td>20.0</td><td>19.2</td><td></td><td>38</td></tr>
<tr><td colspan="2">40</td><td></td><td>21.5</td><td>21.0</td><td></td><td>21.0</td><td>20.0</td><td>20.0</td><td>19.0</td><td>17.5</td><td></td><td>18.6</td><td></td><td>40</td></tr>
<tr><td colspan="2">42</td><td></td><td></td><td>20.0</td><td></td><td>20.0</td><td>19.0</td><td></td><td>18.0</td><td>16.8</td><td></td><td>17.6</td><td>16.5</td><td>42</td></tr>
<tr><td colspan="2">44</td><td></td><td></td><td>19.0</td><td></td><td></td><td>18.5</td><td></td><td>17.0</td><td>16.0</td><td></td><td>16.4</td><td>16.0</td><td>44</td></tr>
<tr><td colspan="2">46</td><td></td><td></td><td></td><td></td><td></td><td>17.5</td><td></td><td></td><td>15.5</td><td></td><td>15.6</td><td>15.6</td><td>46</td></tr>
<tr><td colspan="2">48</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>15.0</td><td></td><td></td><td>15.1</td><td>48</td></tr>
<tr><td colspan="2">50</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>14.4</td><td>50</td></tr>
<tr><td colspan="2">52</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>52</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">3</td><td>I Telescoping mode</td></tr>
<tr><td>II</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td>II</td></tr>
<tr><td>III</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td>III</td></tr>
<tr><td>IV</td><td colspan="3">1</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td>IV</td></tr>
<tr><td>V</td><td colspan="3">1</td><td colspan="3">1</td><td colspan="3">2</td><td colspan="3">2</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td>Wind speed m/s</td></tr>
</table>

Table 1-97 Main boom + Y-shaped guying system + luffing jib *(continued)*

Unit: Metric tons

36 m luffing jib with Y-shaped guying system, outriggers fully extended, with 140 t counterweight, over full range													
Radius(m)	Main boom + Adaptor												Radius(m)
	50.6m+8.5m			55.6m+8.5m			60.6m+8.5m			65.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
24	23.0			19.0									24
26	22.5			18.5			15.4						26
28	22.0			18.0			14.9			11.0			28
30	21.0			17.5			14.5			10.8			30
32	20.0			17.0			14.0			10.4			32
34	19.2	18.0		16.5			13.6			10.1			34
36	18.4	17.4		16.0	15.0		13.2	12.0		9.8			36
38	17.6	16.8		15.4	14.4		12.8	11.8		9.5	8.9		38
40	16.8	16.4		14.6	14.0		12.4	11.4		9.2	8.7		40
42		16.0			13.8		11.9	11.0		8.8	8.4		42
44		15.6	13.6		13.4			10.8			8.2		44
46		15.0	13.2		12.6	10.0		10.5			7.9		46
48		14.0	12.8		12.0	9.5		10.2	8.1		7.7		48
50			12.4			9.0		9.9	7.9		7.5	6.5	50
52			11.8			8.5			7.7		7.0	6.3	52
54						8.0			7.5			6.1	54
56									7.3			6.0	56
58												5.8	58
60												5.4	60
62													62
Telescoping mode I	3			3			3			3			I Telescoping mode
II	3			3			3			3			II
III	2			3			3			3			III
IV	2			2			3			3			IV
V	2			2			2			3			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-98 Main boom + Y-shaped guying system + luffing jib

Unit: Metric tons

43 m luffing jib with Y-shaped guying system, outriggers fully extended, with 140 t counterweight, over full range													
Radius(m)	Main boom + Adaptor												Radius(m)
	30.6m+8.5			35.6m+8.5m			40.6m+8.5m			45.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
20	35.0												20
22	35.0			34.0									22
24	34.0			33.0			30.0			25.0			24
26	33.0			32.0			29.5			24.0			26
28	32.0			31.0			29.0			23.5			28
30	30.5	29.5		29.5	25.0		27.0			23.0			30
32	29.0	28.0		28.0	24.6		25.5			22.6			32
34	27.0	26.4		26.0	24.3		23.5	20.0		21.5			34
36	25.5	24.8		24.5	23.2		22.0	19.3		20.4	17.5		36
38	24.0	23.2	21.0	23.0	21.9		21.0	18.6		19.3	17.0		38
40	22.0	21.5	20.5	21.5	20.7	19.0	19.8	17.9		18.2	16.4		40
42	21.0	20.2	19.3	20.3	19.7	18.2	18.7	17.2	15.4	17.1	15.8		42
44		19.0	18.4	19.0	18.6	17.2	17.8	16.5	15.0	16.0	15.0		44
46		18.2	17.8		17.2	16.6		16.0	14.5	15.5	14.2	13.4	46
48			17.0		16.6	16.2		15.5	14.0		13.6	13.0	48
50			16.2			15.9		14.6	13.5		13.0	12.6	50
52						15.6			13.0		12.4	12.2	52
54									12.0			11.6	54
56												11.0	56
58												10.5	58
Telescoping mode I	2			2			2			3			I Telescoping mode
II	2			2			2			2			II
III	2			2			2			2			III
IV	1			2			2			2			IV
V	1			1			2			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-98 Main boom + Y-shaped guying system + luffing jib *(continued)*

Unit: Metric tons

43 m luffing jib with Y-shaped guying system, outriggers fully extended, with 140 t counterweight, over full range													
Radius(m)	Main boom + Adaptor												Radius(m)
	50.6m+8.5m			55.6m+8.5m			60.6m+8.5m			65.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
26	20.0			16.0									26
28	19.5			15.9			13.0						28
30	19.0			15.8			12.8			9.5			30
32	18.5			15.6			12.6			9.2			32
34	18.0			15.4			12.3			9.0			34
36	17.4			14.8			11.9			8.8			36
38	16.8	15.0		14.2			11.4			8.6			38
40	16.0	14.4		13.6	12.0		11.2	9.9		8.4			40
42	15.2	13.8		13.0	11.4		10.8	9.5		8.2	7.4		42
44	14.4	13.2		12.4	10.9		10.3	9.1		8.0	7.0		44
46	13.6	12.6		11.5	10.5		9.8	8.7		7.8	6.8		46
48	13.0	12.0	10.5	10.5	10.1		9.4	8.3			6.4		48
50		11.4	10.2		9.7	8.0	9.0	7.9			6.2		50
52		10.8	9.9		9.3	7.8		7.5	6.9		5.9		52
54		10.0	9.6		8.8	7.6		7.2	6.4		5.6		54
56			9.2			7.2		6.8	5.9			4.7	56
58			8.8			6.8			5.5			4.4	58
60			8.2			6.4			5.2			4.2	60
62						6.0			5.0			4.0	62
64												3.8	64
Telescoping mode I	3			3			3			3			I Telescoping mode
II	3			3			3			3			II
III	2			3			3			3			III
IV	2			2			3			3			IV
V	2			2			2			3			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-99 Main boom + Y-shaped guying system + luffing jib

Unit: Metric tons

50 m luffing jib with Y-shaped guying system,
outriggers fully extended, with 140 t counterweight, over full range

Radius(m)	Main boom + Adaptor												Radius(m)
	30.6m+8.5			35.6m+8.5m			40.6m+8.5m			45.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
24	28.0			26.0									24
26	28.0			25.8			24.0			20.0			26
28	27.5			25.7			23.0			20.0			28
30	27.0			25.5			22.4			20.0			30
32	26.0	24.0		25.2			21.8			19.8			32
34	25.0	23.0		24.0	21.0		21.2			19.2			34
36	24.0	22.0		23.0	20.4		20.6	17.5		18.6			36
38	23.0	21.2		22.0	19.8		20.0	17.0		18.0	15.5		38
40	22.0	20.4		21.1	19.2		19.4	16.5		17.4	15.0		40
42	21.1	19.6	18.5	20.2	18.6		18.7	16.0		16.8	14.4		42
44	20.2	18.8	17.8	19.3	18.2	17.0	18.0	15.5		16.2	13.8		44
46	19.3	18.2	17.0	18.4	17.8	16.2	17.3	15.0	13.5	15.6	13.2		46
48	18.4	17.6	16.2	17.5	17.2	15.4	16.6	14.4	13.0	15.0	12.6		48
50	17.0	17.0	15.5	16.5	16.8	14.6	15.9	13.8	12.6	14.2	12.0	10.5	50
52		16.6	14.8		16.4	13.8	15.2	13.2	12.0	13.8	11.5	10.0	52
54		16.0	14.0		16.0	13.0		12.6	11.4	13.0	11.1	9.6	54
56			13.0		14.0	12.2		12.0	10.8		10.7	9.2	56
58			12.0			11.6			10.2		10.3	8.8	58
60						11.0			9.6		10.0	8.4	60
62									9.0			8.2	62
64												8.0	64
66													66
Telescoping mode I	2			2			2			3			I Telescoping mode
II	2			2			2			2			II
III	2			2			2			2			III
IV	1			2			2			2			IV
V	1			1			2			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-99 Main boom + Y-shaped guying system + luffing jib *(continued)*

Unit: Metric tons

50 m luffing jib with Y-shaped guying system,
outriggers fully extended, with 140 t counterweight, over full range

Radius(m)	Main boom + Adaptor												Radius(m)
	50.6m+8.5m			55.6m+8.5m			60.6m+8.5m			65.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
28	16.0												28
30	16.0			13.0									30
32	16.0			12.9			10.0			8.0			32
34	16.0			12.8			10.0			7.6			34
36	16.0			12.7			9.8			7.2			36
38	15.5			12.6			9.6			7.0			38
40	15.0	13.0		12.4			9.4			6.8			40
42	14.5	12.6		12.2	10.0		9.0			6.6			42
44	14.0	12.0		11.6	9.4		8.5	7.8		6.2			44
46	13.5	11.5		11.0	8.8		8.0	7.3		5.8			46
48	13.0	11.0		10.4	8.4		7.5	6.8		5.4	5.0		48
50	12.5	10.5		9.8	8.0		7.0	6.3		5.0	4.6		50
52	11.8	10.0	8.2	9.0	7.6		6.5	5.8		4.6	4.2		52
54	11.0	9.5	7.7		7.4	5.6	6.0	5.4			4.0		54
56		9.0	7.3		6.8	5.3		5.0			3.8		56
58		8.5	6.9		6.4	5.0		4.6	4.2		3.6		58
60		8.0	6.5		6.2	4.8		4.4	4.0		3.4		60
62			6.1		6.0	4.6		4.0	3.8			3.0	62
64			5.7			4.4			3.5			2.8	64
66			5.2			4.2			3.0			2.6	66
68						4.0			2.8			2.4	68
70												2.0	70
Telescoping mode I	3			3			3			3			I Telescoping mode
II	3			3			3			3			II
III	2			3			3			3			III
IV	2			2			3			3			IV
V	2			2			2			3			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-100 Main boom + Y-shaped guying system + luffing jib

Unit: Metric tons

57 m luffing jib with Y-shaped guying system, outriggers fully extended, with 140 t counterweight, over full range													
Radius(m)	Main boom + Adaptor												Radius(m)
	30.6m+8.5			35.6m+8.5m			40.6m+8.5m			45.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
26	22.0												26
28	21.5			20.0			18.0						28
30	21.0			20.0			17.8			16.0			30
32	20.5			19.5			17.6			16.0			32
34	20.0			19.0			17.4			16.0			34
36	19.5	19.0		18.5			17.0			16.0			36
38	19.0	18.5		18.0	17.5		16.5			15.5			38
40	18.5	18.0		17.5	16.8		16.0	14.8		15.0			40
42	18.0	17.5		17.0	16.2		15.5	14.4		14.5	13.0		42
44	17.5	17.0		16.5	15.6		15.0	13.8		14.0	12.5		44
46	17.0	16.5	15.8	16.0	15.0		14.5	13.4		13.5	12.0		46
48	16.5	16.0	15.2	15.5	14.6	13.8	14.0	13.0		13.0	11.5		48
50	16.0	15.5	14.7	15.0	14.2	13.3	13.5	12.6		12.5	11.0		50
52	15.5	15.0	14.2	14.5	13.8	12.8	13.0	12.2	10.2	12.0	10.6		52
54	14.8	14.5	13.7	14.0	13.4	12.3	12.5	11.8	9.8	11.5	10.2	8.5	54
56	14.0	14.0	13.2	13.5	13.0	11.9	12.0	11.4	9.4	11.0	9.8	8.1	56
58		13.5	12.7	13.0	12.5	11.5	11.5	11.0	9.0	10.5	9.4	7.7	58
60		12.8	12.2		12.0	11.0		10.5	8.6	10.0	9.0	7.3	60
62			11.7		11.5	10.5		10.0	8.2		8.6	7.0	62
64			11.0			10.0		9.5	7.8		8.2	6.7	64
66						9.5			7.4		8.0	6.4	66
68									7.0			6.1	68
70									6.5			5.8	70
72												5.5	72
Telescoping mode I	2			2			2			3			I Telescoping mode
II	2			2			2			2			II
III	2			2			2			2			III
IV	1			2			2			2			IV
V	1			1			2			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-100 Main boom + Y-shaped guying system + luffing jib *(continued)*

Unit: Metric tons

57 m luffing jib with Y-shaped guying system, outriggers fully extended, with 140 t counterweight, over full range													
Radius(m)	Main boom + Adaptor												Radius(m)
	50.6m+8.5m			55.6m+8.5m			60.6m+8.5m			65.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
32	13.0												32
34	13.0			10.0			7.0						34
36	13.0			10.0			6.8						36
38	13.0			10.0			6.6						38
40	13.0			10.0			6.4						40
42	12.6			10.0			6.2						42
44	12.2	10.5		9.7			6.0						44
46	11.8	10.0		9.4	8.5		5.8						46
48	11.4	9.6		9.2	8.0		5.6	6.0					48
50	11.0	9.2		9.0	7.5		5.4	5.5					50
52	10.6	8.9		8.8	7.0		5.2	5.2					52
54	10.2	8.6		8.6	6.6		5.0	5.0					54
56	9.8	8.3	6.5	8.3	6.3		4.8	4.6					56
58	9.2	8.0	6.2	8.0	6.0		4.6	4.3					58
60	8.6	7.7	6.0	7.6	5.7	4.4	4.4	4.0					60
62		7.4	5.8		5.5	4.2		3.7	3.8				62
64		7.1	5.6		5.3	4.0		3.4	3.6				64
66		6.8	5.4		5.2	3.8		3.2	3.2				66
68		6.5	5.1		5.0	3.7		3.0	2.9				68
70			4.7			3.6			2.7				70
72			4.3			3.4			2.4				72
74			4.0			3.2			2.0				74
76						3.0							76
78													78
Telescoping mode I	3			3			3			3			I Telescoping mode
II	3			3			3			3			II
III	2			3			3			3			III
IV	2			2			3			3			IV
V	2			2			2			3			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-101 Main boom + Y-shaped guying system + luffing jib

Unit: Metric tons

64 m luffing jib with Y-shaped guying system, outriggers fully extended, with 140 t counterweight, over full range											
Radius(m)		Main boom + Adaptor									Radius(m)
		30.6m+8.5			35.6m+8.5m			40.6m+8.5m			
		Main boom angle			Main boom angle			Main boom angle			
		82°	75°	68°	82°	75°	68°	82°	75°	68°	
28		16.0									28
30		16.0			15.0			14.0			30
32		16.0			15.0			14.0			32
34		16.0			15.0			14.0			34
36		16.0			15.0			14.0			36
38		16.0			15.0			14.0			38
40		15.6	15.2		15.0			13.8			40
42		15.2	14.8		14.8	14.5		13.4			42
44		14.8	14.4		14.4	14.1		13.0	12.5		44
46		14.4	14.1		14.1	13.8		12.7	12.1		44
48		14.1	13.8		13.8	13.5		12.4	11.8		48
50		13.8	13.5	13.2	13.5	13.2		12.1	11.5		50
52		13.5	13.2	12.9	13.2	12.9	12.6	11.8	11.2		52
54		13.2	12.9	12.6	12.9	12.6	12.3	11.5	10.9	9.5	54
56		12.9	12.6	12.3	12.6	12.3	11.9	11.2	10.6	9.2	56
58		12.5	12.3	12	12.2	11.9	11.5	10.9	10.2	8.8	58
60		12.0	12	11.7	11.8	11.5	11.0	10.6	9.8	8.5	60
62		11.5	11.7	11.4	11.4	11.0	10.5	10.2	9.4	8.2	62
64			11.4	11	10.8	10.5	10.0	9.8	9.0	7.8	64
66			11	10.5		10.0	9.5	9.4	8.6	7.4	66
68			10.5	10.0		9.5	9		8.2	7.0	68
70				9.5		9.0	8.5		7.8	6.6	70
72				9.0			8.0			6.2	72
74							7.5			5.8	74
76										5.4	76
78											78
Telescoping mode	I	2			2			2			I Telescoping mode
	II	2			2			2			II
	III	2			2			2			III
	IV	1			2			2			IV
	V	1			1			2			V
Wind speed m/s		9			9			9			Wind speed m/s

Table 1-101 Main boom + Y-shaped guying system + luffing jib *(continued)*

Unit: Metric tons

64 m luffing jib with Y-shaped guying system, outriggers fully extended, with 140 t counterweight, over full range										
Radius(m)	Main boom + Adaptor									Radius(m)
	45.6m+3.5m			50.6m+3.5m			55.6m+3.5m			
	Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	
32	12.0									32
34	12.0			9.0						34
36	12.0			9.0			6.5			36
38	12.0			9.0			6.5			38
40	12.0			9.0			6.5			40
42	12.0			9.0			6.5			42
44	12.0			9.0			6.5			44
46	11.9	11.0		9.0			6.5			46
48	11.8	10.5		8.9	8.0		6.5			48
50	11.5	10.0		8.8	7.8		6.4	6.0		50
52	11.2	9.5		8.7	7.6		6.4	5.9		52
54	10.9	9.1		8.6	7.4		6.4	5.6		54
56	10.3	8.8		8.4	7.2		6.4	5.4		56
58	10.0	8.5	7.0	8.2	7.0		6.4	5.2		58
60	9.7	8.2	6.6	8.0	6.8	5.2	6.4	5.0		60
62	9.4	7.9	6.3	7.8	6.6	5.0	6.3	4.8		62
64	9.1	7.6	6.0	7.6	6.4	4.8	6.2	4.6	3.2	64
66	8.6	7.4	5.6	7.3	6.2	4.6		4.4	3.0	66
68	8.0	7.2	5.3	7.0	6.0	4.4		4.2	2.8	68
70		7.0	5.0		5.8	4.2		4.0	2.6	70
72		6.8	4.6		5.6	4.0		3.8	2.4	72
74			4.4		5.4	3.6			2.3	74
76			4.2			3.4			2.2	76
78			4.0			3.2			2.1	78
80						3.0			2.0	80
82										82
Telescoping mode I	3			3			2			I Telescoping mode
II	2			3			3			II
III	2			2			3			III
IV	2			2			3			IV
V	2			2			2			V
Wind speed m/s	9			9			9			Wind speed m/s

Table 1-102 Main boom + Y-shaped guying system + luffing jib

Unit: Metric tons

71 m luffing jib with Y-shaped guying system, outriggers fully extended, with 140 t counterweight, over full range										
Radius(m)	Main boom + Adaptor									Radius(m)
	30.6m+8.5			35.6m+8.5m			40.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	
30	13.0									30
32	13.0			12.0						32
34	13.0			12.0			11.0			34
36	13.0			12.0			11.0			36
38	12.9			12.0			11.0			38
40	12.8			11.9			11.0			40
42	12.5	11.6		11.8			10.9			42
44	12.2	11.3		11.7	11.0		10.8			44
46	11.9	11.0		11.6	10.7		10.7	10.2		44
48	11.6	10.7		11.3	10.4		10.6	10.0		48
50	11.3	10.4		11.0	10.2		10.5	9.7		50
52	11.0	10.2		10.7	10.0		10.2	9.5		52
54	10.7	10.0	9.6	10.4	9.7		9.9	9.2		54
56	10.4	9.8	9.4	10.1	9.5	9.0	9.6	9.0		56
58	10.1	9.6	9.2	9.8	9.2	8.8	9.3	8.8	8.0	58
60	9.8	9.4	9.0	9.6	9.0	8.6	9.0	8.6	7.8	60
62	9.6	9.2	8.8	9.4	8.8	8.4	8.8	8.4	7.6	62
64	9.3	9.0	8.6	9.2	8.6	8.2	8.6	8.2	7.4	64
66	9.0	8.8	8.4	9.0	8.4	8.0	8.4	8.0	7.2	66
68	8.8	8.6	8.2	8.6	8.2	7.8	8.2	7.8	7.0	68
70		8.4	8.0	8.2	8.0	7.6	8.0	7.5	6.8	70
72		8.2	7.8		7.8	7.4	7.8	7.2	6.6	72
74		7.8	7.5		7.2	7.2		7.0	6.4	74
76			7.2			7.0		6.5	6.2	76
78			7.0			6.8		6.0	6.0	78
80						6.5			5.5	80
82									5.0	82
Telescoping mode I	2			2			2			I Telescoping mode
II	2			2			2			II
III	2			2			2			III
IV	1			2			2			IV
V	1			1			2			V
Wind speed m/s	9			9			9			Wind speed m/s

Table 1-102 Main boom + Y-shaped guying system + luffing jib *(continued)*

Unit: Metric tons

71 m luffing jib with Y-shaped guying system, outriggers fully extended, with 140 t counterweight, over full range										
Radius(m)	Main boom + Adaptor									Radius(m)
	45.6m+3.5m			50.6m+3.5m			55.6m+3.5m			
	Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	
36	8.8									36
38	8.7			6.5						38
40	8.6			6.5						40
42	8.5			6.5						42
44	8.4			6.5						44
46	8.3			6.4						46
48	8.2	8.0		6.3						48
50	8.1	7.9		6.2	5.9					50
52	8.0	7.8		6.1	5.8					52
54	7.9	7.7		6.0	5.7					54
56	7.8	7.6		5.9	5.6					56
58	7.7	7.5		5.8	5.5					58
60	7.6	7.4	5.6	5.7	5.4					60
62	7.5	7.3	5.4	5.6	5.3					62
64	7.4	7.2	5.2	5.5	5.2	4.0				64
66	7.3	7.0	5.0	5.4	5.1	3.9				66
68	7.2	6.8	4.8	5.3	5.0	3.8				68
70	7.0	6.6	4.6	5.2	4.9	3.7				70
72	6.8	6.3	4.4	5.1	4.8	3.6				72
74	6.5	6.1	4.2	5.0	4.6	3.4				74
76		5.9	4.0		4.4	3.2				76
78		5.7	3.8		4.2	3.0				78
80		5.5	3.6		4.0	2.8				80
82			3.4		3.8	2.5				82
84			3.2			2.2				84
86			3.0			2.1				86
88						2.0				88
Telescoping mode I	3			3			2			I Telescoping mode
II	2			3			3			II
III	2			2			3			III
IV	2			2			3			IV
V	2			2			2			V
Wind speed m/s	9			9			9			Wind speed m/s

Table 1-103 Main boom + Y-shaped guying system + luffing jib

Unit: Metric tons

78 m luffing jib with Y-shaped guying system, outriggers fully extended, with 140 t counterweight, over full range														
Radius(m)		Main boom + Adaptor												Radius(m)
		30.6m+8.5			35.6m+8.5m			40.6m+8.5m			45.6m+8.5m			
		Main boom angle			Main boom angle			Main boom angle			Main boom angle			
		82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
34		10.0												34
36		9.8			9.0			8.0						36
38		9.6			9.0			8.0			7.0			38
40		9.4			9.0			8.0			7.0			40
42		9.2			9.0			8.0			7.0			42
44		9.0			8.8			8.0			7.0			44
46		8.8	8.4		8.6			8.0			7.0			46
48		8.6	8.4		8.4	8.0		8.0			7.0			48
50		8.4	8.2		8.2	8.0		7.9	7.5		6.9			50
52		8.2	8.0		8.0	7.8		7.8	7.5		6.8	6.0		52
54		8.0	7.8		7.8	7.6		7.6	7.4		6.6	6.0		54
56		7.8	7.6		7.6	7.4		7.4	7.2		6.5	5.9		56
58		7.6	7.4	7.2	7.4	7.2		7.2	7.0		6.4	5.8		58
60		7.4	7.2	7.0	7.2	7.0	6.5	7.0	6.8		6.3	5.7		60
62		7.2	7.0	6.8	7.0	6.8	6.4	6.8	6.6	6.0	6.2	5.6		62
64		7.0	6.8	6.6	6.8	6.6	6.2	6.5	6.3	5.8	6.0	5.5	4.0	64
66		6.8	6.6	6.4	6.5	6.4	6.0	6.2	6.0	5.6	5.8	5.4	4.0	66
68		6.4	6.4	6.2	6.2	6.0	5.7	5.9	5.7	5.4	5.6	5.3	3.8	68
70		6.0	6.1	6.0	5.9	5.7	5.4	5.6	5.4	5.2	5.4	5.2	3.6	70
72		5.7	5.8	5.7	5.6	5.4	5.2	5.3	5.2	5.0	5.2	5.0	3.4	72
74		5.4	5.5	5.4	5.2	5.2	5.0	5.0	4.9	4.8	4.8	4.8	3.2	74
76			5.3	5.2		5.0	4.8	4.8	4.7	4.6	4.5	4.6	3.0	76
78			5.0	5.0		4.8	4.6		4.5	4.4	4.2	4.4	2.8	78
80				4.8		4.6	4.4		4.3	4.2		4.2	2.6	80
82				4.5			4.2		4.0	4.0		4.0	2.5	82
84							4.0			3.8		3.8	2.4	84
86										3.6			2.2	86
88													2.0	88
Telescoping mode	I	2			2			2			2			I Telescoping mode
	II	2			2			2			3			II
	III	2			2			2			2			III
	IV	1			2			2			2			IV
	V	1			1			2			2			V
Wind speed m/s		9			9			9			9			Wind speed m/s

Table 1-104 Main boom + Y-shaped guying system + luffing jib

Unit: Metric tons

22 m luffing jib with Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius(m)	Main boom + Adaptor												Radius(m)
	30.6m+8.5			35.6m+8.5m			40.6m+8.5m			45.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
13	56.0												13
14	55.0			52.0									14
16	53.9			50.0			42.0			36.0			16
18	50.2			47.0			41.0			35.8			18
20	46.5	43.0		44.0			40.4			35.5			20
22	43.0	41.0		41.5	39.0		38.0			34.5			22
24		39.2			38.0		35.0	31.5		33.0			24
26		36.2	33.5		36.3			30.2		30.5	28.4		26
28			31.0		33.0	29.1		28.8			27.3		28
30			29.0			28.2		27.0	24.4		26.3		30
32						25.4			23.3		25.0		32
34									22.2			21.0	34
36												20.4	36
38												19.0	38
Telescoping mode I	2			2			2			3			I Telescoping mode
II	2			2			2			2			II
III	2			2			2			2			III
IV	1			2			2			2			IV
V	1			1			2			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-104 Main boom + Y-shaped guying system + luffing jib *(continued)*

Unit: Metric tons

<table>
<tr><th colspan="16">22 m luffing jib with Y-shaped guying system,
outriggers fully extended, with 120 t counterweight, over full range</th></tr>
<tr><th colspan="2" rowspan="4">Radius(m)</th><th colspan="12">Main boom + Adaptor</th><th colspan="2" rowspan="4">Radius(m)</th></tr>
<tr><th colspan="3">50.6m+8.5m</th><th colspan="3">55.6m+8.5m</th><th colspan="3">60.6m+8.5m</th><th colspan="3">65.6m+8.5m</th></tr>
<tr><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th></tr>
<tr><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th></tr>
<tr><td colspan="2">18</td><td>30.0</td><td></td><td></td><td>24.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">18</td></tr>
<tr><td colspan="2">20</td><td>29.5</td><td></td><td></td><td>23.0</td><td></td><td></td><td>20.0</td><td></td><td></td><td></td><td></td><td></td><td colspan="2">20</td></tr>
<tr><td colspan="2">22</td><td>28.6</td><td></td><td></td><td>22.8</td><td></td><td></td><td>19.0</td><td></td><td></td><td>14.3</td><td></td><td></td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>27.2</td><td></td><td></td><td>22.0</td><td></td><td></td><td>18.5</td><td></td><td></td><td>13.9</td><td></td><td></td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>25.8</td><td></td><td></td><td>21.2</td><td></td><td></td><td>17.8</td><td></td><td></td><td>13.4</td><td></td><td></td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td></td><td>23.0</td><td></td><td>20.0</td><td>19.0</td><td></td><td>17.2</td><td></td><td></td><td>12.9</td><td></td><td></td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td></td><td>22.0</td><td></td><td></td><td>18.4</td><td></td><td></td><td>16.8</td><td></td><td></td><td></td><td></td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td></td><td>21.0</td><td></td><td></td><td>17.8</td><td></td><td></td><td>16.3</td><td></td><td></td><td>12.7</td><td></td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td></td><td>19.5</td><td></td><td></td><td>17.0</td><td></td><td></td><td>15.8</td><td></td><td></td><td>12.3</td><td></td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td></td><td></td><td>18.6</td><td></td><td></td><td>14.6</td><td></td><td>15.2</td><td></td><td></td><td>11.9</td><td></td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td></td><td></td><td>17.5</td><td></td><td></td><td>14.0</td><td></td><td></td><td></td><td></td><td>11.5</td><td></td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td></td><td></td><td>16.8</td><td></td><td></td><td>13.0</td><td></td><td></td><td>12.0</td><td></td><td></td><td></td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>11.8</td><td></td><td></td><td>9.6</td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>11.4</td><td></td><td></td><td>9.3</td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>9.1</td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">48</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="3">3</td><td colspan="3">3</td><td colspan="3">3</td><td colspan="3">3</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="3">3</td><td colspan="3">3</td><td colspan="3">3</td><td colspan="3">3</td><td>II</td></tr>
<tr><td>III</td><td colspan="3">2</td><td colspan="3">3</td><td colspan="3">3</td><td colspan="3">3</td><td>III</td></tr>
<tr><td>IV</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">3</td><td colspan="3">3</td><td>IV</td></tr>
<tr><td>V</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">3</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Table 1-105 Main boom + Y-shaped guying system + luffing jib

Unit: Metric tons

29 m luffing jib with Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range															
	Radius(m)	Main boom + Adaptor												Radius(m)	
		30.6m+8.5			35.6m+8.5m			40.6m+8.5m			45.6m+8.5m				
		Main boom angle			Main boom angle			Main boom angle			Main boom angle				
		82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°		
	16	48.0												16	
	18	46.0			44.0									18	
	20	44.0			42.0			38.0			32.0			20	
	22	42.0	37.2		40.0			35.0			31.0			22	
	24	39.0	35.4		38.0	34.0		33.5			30.5			24	
	26	35.8	33.2		35.0	32.0		31.4	28.0		29.8			26	
	28	33.0	31.4		32.6	30.0		29.5	27.0		27.8	25.0		28	
	30	30.5	29.6	28.8	29.4	28.1		27.8	26.0		25.6	24.5		30	
	32		27.8	27.4		26.0	25.0	25.8	25.0		24.2	23.5		32	
	34		26.0	25.6		24.4	24.0		24.0	21.0	22.8	22.6		34	
	36			23.4		22.8	22.4		23.0	20.0		21.8	18.0	36	
	38			20.8			20.6		21.0	19.0		19.8	17.1	38	
	40						19.0			18.0			16.2	40	
	42									16.9			15.0	42	
	44												14.0	44	
	46													46	
Telescoping mode	I	2			2			2			3			I	Telescoping mode
	II	2			2			2			2			II	
	III	2			2			2			2			III	
	IV	1			2			2			2			IV	
	V	1			1			2			2			V	
Wind speed m/s		9			9			9			9			Wind speed m/s	

Table 1-105 Main boom + Y-shaped guying system + luffing jib *(continued)*

Unit: Metric tons

<table>
<tr><th colspan="16">29 m luffing jib with Y-shaped guying system,
outriggers fully extended, with 120 t counterweight, over full range</th></tr>
<tr><th colspan="2" rowspan="4">Radius(m)</th><th colspan="12">Main boom + Adaptor</th><th colspan="2" rowspan="4">Radius(m)</th></tr>
<tr><th colspan="3">50.6m+8.5m</th><th colspan="3">55.6m+8.5m</th><th colspan="3">60.6m+8.5m</th><th colspan="3">65.6m+8.5m</th></tr>
<tr><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th></tr>
<tr><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th></tr>
<tr><td colspan="2">22</td><td>27.0</td><td></td><td></td><td>22.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">22</td></tr>
<tr><td colspan="2">24</td><td>25.5</td><td></td><td></td><td>21.6</td><td></td><td></td><td>17.0</td><td></td><td></td><td>12.6</td><td></td><td></td><td colspan="2">24</td></tr>
<tr><td colspan="2">26</td><td>24.0</td><td></td><td></td><td>21.0</td><td></td><td></td><td>16.4</td><td></td><td></td><td>12.2</td><td></td><td></td><td colspan="2">26</td></tr>
<tr><td colspan="2">28</td><td>23.0</td><td></td><td></td><td>20.3</td><td></td><td></td><td>16.0</td><td></td><td></td><td>11.8</td><td></td><td></td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>22.0</td><td>20.0</td><td></td><td>19.4</td><td></td><td></td><td>15.5</td><td></td><td></td><td>11.4</td><td></td><td></td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>21.0</td><td>19.4</td><td></td><td>18.2</td><td>17.0</td><td></td><td>15.0</td><td>14.8</td><td></td><td>11.0</td><td></td><td></td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>19.5</td><td>18.8</td><td></td><td>17.0</td><td>16.8</td><td></td><td>14.5</td><td>14.4</td><td></td><td>10.7</td><td>11.0</td><td></td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td></td><td>18.2</td><td></td><td></td><td>15.3</td><td></td><td>14.0</td><td>14.0</td><td></td><td>10.4</td><td>10.6</td><td></td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td></td><td>17.6</td><td>14.5</td><td></td><td>15.6</td><td></td><td></td><td>13.6</td><td></td><td></td><td>10.2</td><td></td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td></td><td>16.5</td><td>13.8</td><td></td><td>15.0</td><td>11.0</td><td></td><td>13.2</td><td></td><td></td><td>10.0</td><td></td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td></td><td></td><td>13.2</td><td></td><td>13.5</td><td>10.6</td><td></td><td>12.8</td><td></td><td></td><td>9.6</td><td></td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td></td><td></td><td>12.5</td><td></td><td></td><td>10.3</td><td></td><td></td><td>10.0</td><td></td><td>9.4</td><td></td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td></td><td></td><td>12.0</td><td></td><td></td><td>10.0</td><td></td><td></td><td>9.5</td><td></td><td></td><td>9.0</td><td colspan="2">46</td></tr>
<tr><td colspan="2">48</td><td></td><td></td><td></td><td></td><td></td><td>9.5</td><td></td><td></td><td>9.0</td><td></td><td></td><td>8.5</td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>8.5</td><td></td><td></td><td>8.0</td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>7.5</td><td colspan="2">52</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="3">3</td><td colspan="3">3</td><td colspan="3">3</td><td colspan="3">3</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="3">3</td><td colspan="3">3</td><td colspan="3">3</td><td colspan="3">3</td><td>II</td></tr>
<tr><td>III</td><td colspan="3">2</td><td colspan="3">3</td><td colspan="3">3</td><td colspan="3">3</td><td>III</td></tr>
<tr><td>IV</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">3</td><td colspan="3">3</td><td>IV</td></tr>
<tr><td>V</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">3</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Table 1-106 Main boom + Y-shaped guying system + luffing jib

Unit: Metric tons

36 m luffing jib with Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius(m)	Main boom + Adaptor												Radius(m)
	30.6m+8.5			35.6m+8.5m			40.6m+8.5m			45.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
18	42.0												18
20	41.0			40.0									20
22	40.0			39.0			34.0			28.0			22
24	38.0			37.0			32.0			27.5			24
26	36.0	33.3		35.0			31.0			26.5			26
28	33.0	30.0		32.5	29.0		30.0			25.5			28
30	30.4	29.0		30.0	27.5		28.0	24.0		24.0			30
32	28.8	27.6		28.0	25.8		26.0	23.2		23.0	21.0		32
34	26.4	25.8	24.6	25.8	24.2		24.0	22.4		22.0	20.4		34
36	24.0	23.4	22.8	23.6	22.6	21.4	22.0	21.5		21.0	19.8		36
38	22.0	21.0	20.6	21.0	20.8	20.4	20.5	19.6	18.0	19.5	19.0		38
40		19.6	19.4		19.0	18.8	19.0	18.6	17.5		18.0		40
42			18.0		18.0	17.6		17.2	16.5		17.0	16.0	42
44			17.0			16.4		16.0	15.5		16.0	15.0	44
46						15.0			14.3		15.0	14.0	46
48									13.0			13.0	48
50												12.0	50
52													52
Telescoping mode I	2			2			2			3			I Telescoping mode
II	2			2			2			2			II
III	2			2			2			2			III
IV	1			2			2			2			IV
V	1			1			2			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-106 Main boom + Y-shaped guying system + luffing jib *(continued)*

Unit: Metric tons

36 m luffing jib with Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius(m)	Main boom + Adaptor												Radius(m)
	50.6m+8.5m			55.6m+8.5m			60.6m+8.5m			65.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
24	23.0			19.0									24
26	22.5			18.5			15.4						26
28	22.0			18.0			14.9			11.0			28
30	21.0			17.5			14.5			10.8			30
32	20.0			17.0			14.0			10.4			32
34	19.2	18.0		16.5			13.6			10.1			34
36	18.4	17.4		16.0	15.0		13.2	12.0		9.8			36
38	17.6	16.8		15.4	14.4		12.8	11.8		9.5	8.9		38
40	16.8	16.4		14.6	14.0		12.4	11.4		9.2	8.7		40
42		16.0			13.8		11.9	11.0		8.8	8.4		42
44		15.6	13.6		13.4			10.8			8.2		44
46		14.6	13.2		12.6	10.0		10.5			7.9		46
48		13.6	12.4		12.0	9.5		10.2	8.1		7.7		48
50			11.6			9.0		9.9	7.9		7.5	6.5	50
52			11.0			8.5			7.7		7.0	6.3	52
54						8.0			7.5			6.1	54
56									7.3			6.0	56
58												5.8	58
60												5.4	60
62													62
Telescoping mode I	3			3			3			3			I Telescoping mode
II	3			3			3			3			II
III	2			3			3			3			III
IV	2			2			3			3			IV
V	2			2			2			3			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-107 Main boom + Y-shaped guying system + luffing jib

Unit: Metric tons

43 m luffing jib with Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius(m)	Main boom + Adaptor												Radius(m)
	30.6m+8.5			35.6m+8.5m			40.6m+8.5m			45.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
20	35.0												20
22	35.0			34.0									22
24	34.0			33.0			30.0			25.0			24
26	33.0			32.0			29.5			24.0			26
28	32.0			31.0			29.0			23.5			28
30	30.0	29.0		29.5	25.0		27.0			23.0			30
32	28.0	27.0		27.6	24.6		25.5			22.6			32
34	26.0	25.0		25.6	23.8		23.5	20.0		21.5			34
36	24.0	23.0		23.5	22.6		22.0	19.3		20.4	17.5		36
38	22.0	21.2	20.6	21.2	21.2		20.5	18.6		19.3	17.0		38
40	19.6	19.4	19.2	18.8	18.6	18.4	18.5	17.9		18.2	16.4		40
42	18.0	17.8	17.6	17.8	17.6	17.4	17.5	16.8	15.4	17.0	15.6		42
44		16.6	16.2	16.6	16.4	16.0	16.0	15.8	14.8	15.6	14.8		44
46		15.6	15.2		15.4	15.0		14.8	14.2	14.4	14.0	13.2	46
48			14.2		14.6	14.0		13.9	13.6		13.2	12.6	48
50			13.2			13.0		13.0	12.8		12.4	12.0	50
52						12.0			12.0		11.6	11.2	52
54									11.0			10.4	54
56												9.6	56
58												9.0	58
Telescoping mode I	2			2			2			3			I Telescoping mode
II	2			2			2			2			II
III	2			2			2			2			III
IV	1			2			2			2			IV
V	1			1			2			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-107 Main boom + Y-shaped guying system + luffing jib *(continued)*

Unit: Metric tons

43 m luffing jib with Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius(m)	Main boom + Adaptor												Radius(m)
	50.6m+8.5m			55.6m+8.5m			60.6m+8.5m			65.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
26	20.0			16.0									26
28	19.5			15.9			13.0						28
30	19.0			15.8			12.8			9.5			30
32	18.5			15.6			12.6			9.2			32
34	18.0			15.4			12.3			9.0			34
36	17.4			14.8			11.9			8.8			36
38	16.8	15.0		14.2			11.4			8.6			38
40	16.0	14.4		13.6	12.0		11.2	9.9		8.4			40
42	15.2	13.8		13.0	11.4		10.8	9.5		8.2	7.4		42
44	14.4	13.2		12.4	10.9		10.3	9.1		8.0	7.0		44
46	13.6	12.6		11.5	10.5		9.8	8.7		7.8	6.8		46
48	13.0	12.0	10.2		10.1		9.4	8.3			6.4		48
50		11.2	9.8		9.6	7.8	9.0	7.9			6.2		50
52		10.4	9.4		9.1	7.5		7.5	6.9		5.9		52
54		9.6	9.0		8.5	7.2		7.2	6.4		5.6		54
56			8.6			6.9		6.8	5.9			4.7	56
58			8.0			6.3			5.5			4.4	58
60			7.4			6.0			5.2			4.2	60
62						5.6			5.0			4.0	62
64												3.8	64
Telescoping mode I	3			3			3			3			Ⅰ Telescoping mode
II	3			3			3			3			Ⅱ
III	2			3			3			3			Ⅲ
IV	2			2			3			3			Ⅳ
V	2			2			2			3			Ⅴ
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-108 Main boom + Y-shaped guying system + luffing jib

Unit: Metric tons

50 m luffing jib with Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius(m)	Main boom + Adaptor												Radius(m)
	30.6m+8.5			35.6m+8.5m			40.6m+8.5m			45.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
24	28.0			26.0									24
26	28.0			25.8			24.0			20.0			26
28	27.5			25.7			23.0			20.0			28
30	27.0			25.5			22.4			20.0			30
32	26.0	24.0		25.2			21.8			19.8			32
34	25.0	23.0		24.0	21.0		21.2			19.2			34
36	24.0	21.8		23.0	20.2		20.6	17.5		18.6			36
38	22.8	21.0		21.8	19.4		20.0	17.0		18.0	15.5		38
40	21.6	20.2		20.8	18.6		19.2	16.5		17.4	15.0		40
42	20.4	19.4	18.2	19.6	17.8		18.4	16.0		16.8	14.4		42
44	19.2	18.6	17.4	18.4	17.0	16.8	17.6	15.4		16.2	13.6		44
46	18.0	17.8	16.6	17.2	16.2	16.0	16.8	14.8	13.2	15.4	12.8		46
48	17.0	16.8	15.8	16.0	15.4	15.0	15.8	14.0	12.8	14.6	12.0		48
50	16.0	15.8	15.0	15.0	14.6	14.0	14.6	13.2	12.3	13.8	11.2	10.2	50
52		14.8	14.2		13.8	13.0	13.4	12.4	11.7	12.8	10.6	9.6	52
54		13.6	13.2		13.0	12.0		11.6	11.0	11.6	10.0	9.0	54
56			12.2		12.0	11.0		10.8	10.2		9.4	8.4	56
58			11.0			10.0			9.2		8.8	7.8	58
60						9.0			8.0		8.0	7.2	60
62									7.0			6.6	62
64												6.0	64
66													66
Telescoping mode I	2			2			2			3			I Telescoping mode
II	2			2			2			2			II
III	2			2			2			2			III
IV	1			2			2			2			IV
V	1			1			2			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-108 Main boom + Y-shaped guying system + luffing jib *(continued)*

Unit: Metric tons

50 m luffing jib with Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius(m)	Main boom + Adaptor												Radius(m)
	50.6m+8.5m			55.6m+8.5m			60.6m+8.5m			65.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
28	16.0												28
30	16.0			13.0									30
32	16.0			12.9			10.0			8.0			32
34	16.0			12.8			10.0			7.0			34
36	16.0			12.7			9.8			7.0			36
38	15.5			12.6			9.6			6.9			38
40	15.0	13.0		12.4			9.4			6.8			40
42	14.5	12.6		12.2	10.0		9.0			6.6			42
44	14.0	12.0		11.6	9.4		8.5	7.8		6.2			44
46	13.5	11.5		11.0	8.8		8.0	7.3		5.8			46
48	13.0	11.0		10.4	8.4		7.5	6.8		5.4	5.0		48
50	12.5	10.5		9.8	8.0		7.0	6.3		5.0	4.6		50
52	11.5	10.0	8.0	9.0	7.6		6.5	5.8		4.6	4.2		52
54	10.5	9.4	7.5		7.4	5.5	6.0	5.4			4.0		54
56		8.8	7.0		6.8	5.2		5.0			3.8		56
58		8.0	6.5		6.2	4.9		4.6	4.2		3.6		58
60		7.0	6.0		5.6	4.6		4.4	4.0		3.4		60
62			5.5		5.0	4.3		4.0	3.8			3.0	62
64			5.0			4.0			3.5			2.8	64
66			4.5			3.6			3.0			2.6	66
68						3.2			2.8			2.4	68
70												2.0	70
Telescoping mode I	3			3			3			3			I Telescoping mode
II	3			3			3			3			II
III	2			3			3			3			III
IV	2			2			3			3			IV
V	2			2			2			3			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-109 Main boom + Y-shaped guying system + luffing jib

Unit: Metric tons

57 m luffing jib with Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius(m)	Main boom + Adaptor												Radius(m)
	30.6m+8.5			35.6m+8.5m			40.6m+8.5m			45.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
26	22.0												26
28	21.5			20.0			18.0						28
30	21.0			20.0			17.8			16.0			30
32	20.5			19.5			17.6			16.0			32
34	20.0			19.0			17.4			16.0			34
36	19.5	19.0		18.5			17.0			16.0			36
38	19.0	18.5		18.0	17.5		16.5			15.5			38
40	18.5	18.0		17.5	16.8		16.0	14.8		15.0			40
42	18.0	17.5		17.0	16.2		15.5	14.4		14.5	13.0		42
44	17.5	17.0		16.5	15.6		15.0	13.8		14.0	12.5		44
46	17.0	16.5	15.5	16.0	15.0		14.5	13.2		13.5	11.8		46
48	16.5	15.8	15.0	15.5	14.4	13.5	14.0	12.6		12.8	11.2		48
50	15.8	15.0	14.4	14.8	13.8	13.0	13.3	12.0		12.2	10.6		50
52	15.0	14.2	13.6	14.0	13.2	12.4	12.6	11.4	10.0	11.6	10.0		52
54	14.0	13.4	12.8	13.2	12.4	11.8	11.8	10.8	9.6	11.0	9.4	8.2	54
56	13.0	12.6	12.0	12.2	11.6	11.2	11.0	10.2	9.2	10.4	8.8	7.9	56
58		11.8	11.0	11.0	10.6	10.4	10.2	9.6	8.8	9.7	8.3	7.5	58
60		11.0	10.0		9.8	9.6		9.0	8.2	9.0	7.8	7.0	60
62			9.0		9.0	8.6		8.5	7.6		7.3	6.5	62
64			8.0			7.8		8.0	7.0		6.8	6.0	64
66						7.0			6.4		6.2	5.5	66
68									5.8			5.0	68
70									5.0			4.5	70
72												4.0	72
Telescoping mode I	2			2			2			3			I Telescoping mode
II	2			2			2			2			II
III	2			2			2			2			III
IV	1			2			2			2			IV
V	1			1			2			2			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-109 Main boom + Y-shaped guying system + luffing jib *(continued)*

Unit: Metric tons

57 m luffing jib with Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range													
Radius(m)	Main boom + Adaptor												Radius(m)
	50.6m+8.5m			55.6m+8.5m			60.6m+8.5m			65.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	82°	75°	68°	
32	13.0												32
34	13.0			10.0			7.0						34
36	13.0			10.0			6.8						36
38	13.0			10.0			6.6						38
40	13.0			10.0			6.4						40
42	12.6			10.0			6.2						42
44	12.2	10.5		9.7			6.0						44
46	11.8	10.0		9.4	8.5		5.8						46
48	11.4	9.6		9.2	8.0		5.6	6.0					48
50	11.0	9.2		9.0	7.5		5.4	5.5					50
52	10.6	8.9		8.8	7.0		5.2	5.2					52
54	10.2	8.6		8.6	6.6		5.0	5.0					54
56	9.8	8.2	6.2	8.3	6.3		4.8	4.6					56
58	9.2	7.8	5.8	8.0	6.0			4.3					58
60	8.2	7.2	5.4	7.6	5.7	4.4		4.0					60
62		6.6	5.0		5.5	4.2		3.7	3.8				62
64		6.0	4.6		5.2	4.0		3.4	3.6				64
66		5.5	4.2		4.8	3.7			3.2				66
68		5.0	3.8		4.4	3.4			2.9				68
70			3.5			3.1			2.7				70
72			3.2			2.8							72
74			3.0			2.5							74
76						2.2							76
78													78
Telescoping mode I	3			3			3			3			I Telescoping mode
II	3			3			3			3			II
III	2			3			3			3			III
IV	2			2			3			3			IV
V	2			2			2			3			V
Wind speed m/s	9			9			9			9			Wind speed m/s

Table 1-110 Main boom + Y-shaped guying system + luffing jib

Unit: Metric tons

<table>
<tr><th colspan="13">64 m luffing jib with Y-shaped guying system,
outriggers fully extended, with 120 t counterweight, over full range</th></tr>
<tr><th colspan="2" rowspan="4">Radius(m)</th><th colspan="9">Main boom + Adaptor</th><th colspan="2" rowspan="4">Radius(m)</th></tr>
<tr><th colspan="3">30.6m+8.5</th><th colspan="3">35.6m+8.5m</th><th colspan="3">40.6m+8.5m</th></tr>
<tr><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th></tr>
<tr><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th></tr>
<tr><td colspan="2">28</td><td>16.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">28</td></tr>
<tr><td colspan="2">30</td><td>16.0</td><td></td><td></td><td>15.0</td><td></td><td></td><td>14.0</td><td></td><td></td><td colspan="2">30</td></tr>
<tr><td colspan="2">32</td><td>16.0</td><td></td><td></td><td>15.0</td><td></td><td></td><td>14.0</td><td></td><td></td><td colspan="2">32</td></tr>
<tr><td colspan="2">34</td><td>16.0</td><td></td><td></td><td>15.0</td><td></td><td></td><td>14.0</td><td></td><td></td><td colspan="2">34</td></tr>
<tr><td colspan="2">36</td><td>16.0</td><td></td><td></td><td>15.0</td><td></td><td></td><td>14.0</td><td></td><td></td><td colspan="2">36</td></tr>
<tr><td colspan="2">38</td><td>16.0</td><td></td><td></td><td>15.0</td><td></td><td></td><td>14.0</td><td></td><td></td><td colspan="2">38</td></tr>
<tr><td colspan="2">40</td><td>15.6</td><td>15.2</td><td></td><td>15.0</td><td></td><td></td><td>13.8</td><td></td><td></td><td colspan="2">40</td></tr>
<tr><td colspan="2">42</td><td>15.2</td><td>14.8</td><td></td><td>14.8</td><td>14.5</td><td></td><td>13.4</td><td></td><td></td><td colspan="2">42</td></tr>
<tr><td colspan="2">44</td><td>14.8</td><td>14.4</td><td></td><td>14.4</td><td>14.1</td><td></td><td>13.0</td><td>12.5</td><td></td><td colspan="2">44</td></tr>
<tr><td colspan="2">46</td><td>14.4</td><td>14.1</td><td></td><td>14.1</td><td>13.8</td><td></td><td>12.7</td><td>12.1</td><td></td><td colspan="2">44</td></tr>
<tr><td colspan="2">48</td><td>14.1</td><td>13.8</td><td></td><td>13.8</td><td>13.5</td><td></td><td>12.4</td><td>11.8</td><td></td><td colspan="2">48</td></tr>
<tr><td colspan="2">50</td><td>13.8</td><td>13.5</td><td>13.2</td><td>13.5</td><td>13.2</td><td></td><td>12.1</td><td>11.5</td><td></td><td colspan="2">50</td></tr>
<tr><td colspan="2">52</td><td>13.5</td><td>13.2</td><td>12.9</td><td>13.2</td><td>12.9</td><td>12.6</td><td>11.8</td><td>11.2</td><td></td><td colspan="2">52</td></tr>
<tr><td colspan="2">54</td><td>13.2</td><td>12.9</td><td>12.6</td><td>12.9</td><td>12.6</td><td>12.3</td><td>11.5</td><td>10.9</td><td>9.5</td><td colspan="2">54</td></tr>
<tr><td colspan="2">56</td><td>12.9</td><td>12.6</td><td>12.3</td><td>12.6</td><td>12.3</td><td>11.9</td><td>11.2</td><td>10.6</td><td>9.2</td><td colspan="2">56</td></tr>
<tr><td colspan="2">58</td><td>12.5</td><td>12.3</td><td>12</td><td>12.2</td><td>11.9</td><td>11.5</td><td>10.9</td><td>10.2</td><td>8.6</td><td colspan="2">58</td></tr>
<tr><td colspan="2">60</td><td>12</td><td>12</td><td>11.7</td><td>11.8</td><td>11.5</td><td>11.0</td><td>10.6</td><td>9.8</td><td>8.2</td><td colspan="2">60</td></tr>
<tr><td colspan="2">62</td><td>11.2</td><td>11.7</td><td>11.2</td><td>11.4</td><td>11.0</td><td>10.3</td><td>10.2</td><td>9.4</td><td>7.8</td><td colspan="2">62</td></tr>
<tr><td colspan="2">64</td><td></td><td>11.4</td><td>10.6</td><td>10.8</td><td>10.3</td><td>9.6</td><td>9.8</td><td>8.8</td><td>7.3</td><td colspan="2">64</td></tr>
<tr><td colspan="2">66</td><td></td><td>10.5</td><td>10</td><td></td><td>9.6</td><td>9.1</td><td>9.4</td><td>8.2</td><td>6.8</td><td colspan="2">66</td></tr>
<tr><td colspan="2">68</td><td></td><td>9.5</td><td>9.4</td><td></td><td>9.0</td><td>8.6</td><td></td><td>7.6</td><td>6.3</td><td colspan="2">68</td></tr>
<tr><td colspan="2">70</td><td></td><td></td><td>9.0</td><td></td><td>8.4</td><td>8.0</td><td></td><td>7.0</td><td>5.8</td><td colspan="2">70</td></tr>
<tr><td colspan="2">72</td><td></td><td></td><td>8.5</td><td></td><td></td><td>7.2</td><td></td><td></td><td>5.2</td><td colspan="2">72</td></tr>
<tr><td colspan="2">74</td><td></td><td></td><td></td><td></td><td></td><td>6.6</td><td></td><td></td><td>4.7</td><td colspan="2">74</td></tr>
<tr><td colspan="2">76</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>4.2</td><td colspan="2">76</td></tr>
<tr><td colspan="2">78</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">78</td></tr>
<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td>I</td><td rowspan="5">Telescoping mode</td></tr>
<tr><td>II</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td>II</td></tr>
<tr><td>III</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td>III</td></tr>
<tr><td>IV</td><td colspan="3">1</td><td colspan="3">2</td><td colspan="3">2</td><td>IV</td></tr>
<tr><td>V</td><td colspan="3">1</td><td colspan="3">1</td><td colspan="3">2</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="2">Wind speed m/s</td></tr>
</table>

Table 1-110 Main boom + Y-shaped guying system + luffing jib *(continued)*

Unit: Metric tons

64 m luffing jib with Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range												
Radius(m)		Main boom + Adaptor										Radius(m)
		45.6m+3.5m			50.6m+3.5m			55.6m+3.5m				
		Main boom angle			Main boom angle			Main boom angle				
		82°	75°	68°	82°	75°	68°	82°	75°	68°		
32		12.0										32
34		12.0			9.0							34
36		12.0			9.0			6.5				36
38		12.0			9.0			6.5				38
40		12.0			9.0			6.5				40
42		12.0			9.0			6.5				42
44		12.0			9.0			6.5				44
46		11.9	11.0		9.0			6.5				46
48		11.8	10.5		8.9	8.0		6.5				48
50		11.5	10.0		8.8	7.8		6.4	6.0			50
52		11.2	9.5		8.7	7.6		6.4	5.9			52
54		10.9	9.1		8.6	7.4		6.4	5.6			54
56		10.3	8.8		8.4	7.2		6.4	5.4			56
58		10.0	8.5	6.8	8.2	7.0		6.4	5.2			58
60		9.7	8.2	6.4	8.0	6.8	5.0	6.4	5.0			60
62		9.4	7.7	6.0	7.8	6.3	4.7	6.3	4.8			62
64		9.1	7.3	5.6	7.6	6.0	4.4	6.2	4.6	3.2		64
66		8.6	7.0	5.2	7.3	5.6	4.1		4.4	3.0		66
68		7.5	6.6	4.8	6.6	5.2	3.8		4.2	2.8		68
70			6.3	4.4		4.8	3.5		4.0	2.6		70
72			6.0	4.0		4.4	3.2		3.8	2.4		72
74				3.8		4.0	2.9			2.2		74
76				3.4			2.6			2.0		76
78				3.0			2.3			1.8		78
80							2.0			1.6		80
82												82
Telescoping mode	I	3			3			2			I	Telescoping mode
	II	2			3			3			II	
	III	2			2			3			III	
	IV	2			2			3			IV	
	V	2			2			2			V	
Wind speed m/s		9			9			9				Wind speed m/s

Table 1-111 Main boom + Y-shaped guying system + luffing jib

Unit: Metric tons

71 m luffing jib with Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range										
Radius(m)	Main boom + Adaptor									Radius(m)
	30.6m+8.5			35.6m+8.5m			40.6m+8.5m			
	Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	
30	13.0									30
32	13.0			12.0						32
34	13.0			12.0			11.0			34
36	13.0			12.0			11.0			36
38	12.9			12.0			11.0			38
40	12.8			11.9			11.0			40
42	12.5	11.6		11.8			10.9			42
44	12.2	11.3		11.7	11.0		10.8			44
46	11.9	11.0		11.6	10.7		10.7	10.2		44
48	11.6	10.7		11.3	10.4		10.6	10.0		48
50	11.3	10.4		11.0	10.2		10.5	9.7		50
52	11.0	10.2		10.7	10.0		10.2	9.5		52
54	10.7	10.0	9.6	10.4	9.7		9.9	9.2		54
56	10.4	9.8	9.4	10.1	9.5	9.0	9.6	9.0		56
58	10.1	9.6	9.2	9.8	9.2	8.8	9.3	8.8	8.0	58
60	9.8	9.4	9.0	9.6	9.0	8.6	9.0	8.6	7.8	60
62	9.6	9.2	8.8	9.4	8.8	8.4	8.8	8.4	7.6	62
64	9.4	9.0	8.6	9.2	8.6	8.2	8.6	8.2	7.4	64
66	9.0	8.8	8.4	9.0	8.4	8.0	8.4	8.0	7.2	66
68	8.6	8.6	8.2	8.6	8.2	7.8	8.2	7.8	7.0	68
70		8.4	8.0	8.2	8.0	7.6	8.0	7.5	6.8	70
72		8.2	7.8		7.8	7.4	7.8	7.2	6.6	72
74		7.8	7.5		7.2	7.2		7.0	6.4	74
76			7.2			7.0		6.5	6.2	76
78			7.0			6.8		6.0	6.0	78
80						6.5			5.5	80
82									5.0	82
Telescoping mode I	2			2			2			I Telescoping mode
II	2			2			2			II
III	2			2			2			III
IV	1			2			2			IV
V	1			1			2			V
Wind speed m/s	9			9			9			Wind speed m/s

Table 1-111 Main boom + Y-shaped guying system + luffing jib *(continued)*

Unit: Metric tons

71 m luffing jib with Y-shaped guying system, outriggers fully extended, with 120 t counterweight, over full range										
Radius(m)	Main boom + Adaptor									Radius(m)
	45.6m+3.5m			50.6m+3.5m			55.6m+3.5m			
	Main boom angle			Main boom angle			Main boom angle			
	82°	75°	68°	82°	75°	68°	82°	75°	68°	
36	8.7									36
38	8.6			6.5						38
40	8.5			6.5						40
42	8.4			6.5						42
44	8.3			6.5						44
46	8.2	8.0		6.4						46
48	8.1	7.9		6.3						48
50	8.0	7.8		6.2	5.9					50
52	7.9	7.7		6.1	5.8					52
54	7.8	7.6		6.0	5.7					54
56	7.7	7.5		5.9	5.6					56
58	7.6	7.4		5.8	5.5					58
60	7.5	7.3	5.6	5.7	5.4					60
62	7.4	7.2	5.4	5.6	5.3					62
64	7.3	7.0	5.2	5.5	5.2	4.0				64
66	7.2	6.8	5.0	5.4	5.1	3.9				66
68	7.0	6.6	4.8	5.3	5.0	3.8				68
70	6.8	6.3	4.6	5.2	4.9	3.7				70
72	6.5	6.1	4.4	5.1	4.8	3.6				72
74		5.9	4.2	5.0	4.6	3.4				74
76		5.7	4.0		4.4	3.2				76
78		5.5	3.8		4.2	3.0				78
80		5.0	3.6		4.0	2.8				80
82			3.4		3.8	2.5				82
84			3.2			2.2				84
86			3.0			2.1				86
88						2.0				88
Telescoping mode I	3			3			2			I Telescoping mode
II	2			3			3			II
III	2			2			3			III
IV	2			2			3			IV
V	2			2			2			V
Wind speed m/s	9			9			9			Wind speed m/s

Table 1-112 Main boom + Y-shaped guying system + luffing jib

Unit: Metric tons

<table>
<tr><th colspan="15">78 m luffing jib with Y-shaped guying system,
outriggers fully extended, with 120 t counterweight, over full range</th></tr>
<tr><th colspan="2" rowspan="4">Radius(m)</th><th colspan="12">Main boom + Adaptor</th><th rowspan="4">Radius(m)</th></tr>
<tr><th colspan="3">30.6m+8.5</th><th colspan="3">35.6m+8.5m</th><th colspan="3">40.6m+8.5m</th><th colspan="3">45.6m+8.5m</th></tr>
<tr><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th><th colspan="3">Main boom angle</th></tr>
<tr><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th><th>82°</th><th>75°</th><th>68°</th></tr>
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<tr><td colspan="2">38</td><td>9.6</td><td></td><td></td><td>9.0</td><td></td><td></td><td>8.0</td><td></td><td></td><td>7.0</td><td></td><td></td><td>38</td></tr>
<tr><td colspan="2">40</td><td>9.4</td><td></td><td></td><td>9.0</td><td></td><td></td><td>8.0</td><td></td><td></td><td>7.0</td><td></td><td></td><td>40</td></tr>
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<tr><td colspan="2">48</td><td>8.6</td><td>8.4</td><td></td><td>8.4</td><td>8.0</td><td></td><td>8.0</td><td></td><td></td><td>7.0</td><td></td><td></td><td>48</td></tr>
<tr><td colspan="2">50</td><td>8.4</td><td>8.2</td><td></td><td>8.2</td><td>8.0</td><td></td><td>7.9</td><td>7.5</td><td></td><td>6.9</td><td></td><td></td><td>50</td></tr>
<tr><td colspan="2">52</td><td>8.2</td><td>8.0</td><td></td><td>8.0</td><td>7.8</td><td></td><td>7.8</td><td>7.5</td><td></td><td>6.8</td><td>6.0</td><td></td><td>52</td></tr>
<tr><td colspan="2">54</td><td>8.0</td><td>7.8</td><td></td><td>7.8</td><td>7.6</td><td></td><td>7.6</td><td>7.4</td><td></td><td>6.6</td><td>6.0</td><td></td><td>54</td></tr>
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<tr><td colspan="2">58</td><td>7.6</td><td>7.4</td><td>7.2</td><td>7.4</td><td>7.2</td><td></td><td>7.2</td><td>7.0</td><td></td><td>6.4</td><td>5.8</td><td></td><td>58</td></tr>
<tr><td colspan="2">60</td><td>7.4</td><td>7.2</td><td>7.0</td><td>7.2</td><td>7.0</td><td>6.5</td><td>7.0</td><td>6.8</td><td></td><td>6.3</td><td>5.7</td><td></td><td>60</td></tr>
<tr><td colspan="2">62</td><td>7.2</td><td>7.0</td><td>6.8</td><td>7.0</td><td>6.8</td><td>6.4</td><td>6.8</td><td>6.6</td><td>6.0</td><td>6.2</td><td>5.6</td><td></td><td>62</td></tr>
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<tr><td colspan="2">84</td><td></td><td></td><td></td><td></td><td></td><td>4.0</td><td></td><td></td><td>3.8</td><td></td><td>3.8</td><td>2.4</td><td>84</td></tr>
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<tr><td rowspan="5">Telescoping mode</td><td>I</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td>I Telescoping mode</td></tr>
<tr><td>II</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">3</td><td>II</td></tr>
<tr><td>III</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td>III</td></tr>
<tr><td>IV</td><td colspan="3">1</td><td colspan="3">2</td><td colspan="3">2</td><td colspan="3">2</td><td>IV</td></tr>
<tr><td>V</td><td colspan="3">1</td><td colspan="3">1</td><td colspan="3">2</td><td colspan="3">2</td><td>V</td></tr>
<tr><td colspan="2">Wind speed m/s</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td colspan="3">9</td><td>Wind speed m/s</td></tr>
</table>

Table 1-113 Main boom + TBM jib

Unit: Metric tons

<table>
<tr><th colspan="8">25.6 m main boom + 6 m TBM jib, outriggers fully extended,
with 140 t counterweight, over full range</th></tr>
<tr><th colspan="2">Radius, main hook m</th><th>Radius, auxiliary hook m</th><th>Load, main hook t</th><th>Load, auxiliary hook t</th><th>Reference radius, main hook + auxiliary hook m</th><th colspan="2">Total load, main hook + auxiliary hook t</th></tr>
<tr><td colspan="2">6.0</td><td>9.2</td><td>162.0</td><td>70.0</td><td>7.6</td><td colspan="2">128.0</td></tr>
<tr><td colspan="2">6.5</td><td>9.8</td><td>161.0</td><td>70.0</td><td>8.3</td><td colspan="2">128.0</td></tr>
<tr><td colspan="2">7.0</td><td>10.4</td><td>161.0</td><td>70.0</td><td>8.7</td><td colspan="2">127.0</td></tr>
<tr><td colspan="2">7.5</td><td>11.0</td><td>155.0</td><td>70.0</td><td>9.3</td><td colspan="2">125.0</td></tr>
<tr><td colspan="2">8.0</td><td>11.6</td><td>150.0</td><td>70.0</td><td>9.8</td><td colspan="2">120.0</td></tr>
<tr><td colspan="2">9.0</td><td>12.8</td><td>140.0</td><td>68.0</td><td>10.9</td><td colspan="2">104.0</td></tr>
<tr><td colspan="2">10.0</td><td>14.0</td><td>130.0</td><td>65.0</td><td>12.0</td><td colspan="2">97.5</td></tr>
<tr><td colspan="2">11.0</td><td>15.2</td><td>115.0</td><td>62.0</td><td>13.1</td><td colspan="2">88.0</td></tr>
<tr><td colspan="2">12.0</td><td>16.4</td><td>100.0</td><td>58.0</td><td>14.2</td><td colspan="2">79.0</td></tr>
<tr><td colspan="2">13.0</td><td>17.5</td><td>90.0</td><td>54.0</td><td>15.3</td><td colspan="2">72.0</td></tr>
<tr><td colspan="2">14.0</td><td>18.8</td><td>84.0</td><td>50.0</td><td>16.4</td><td colspan="2">67.0</td></tr>
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<tr><td>II</td><td colspan="4">2</td><td>II</td></tr>
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<tr><td>IV</td><td colspan="4">1</td><td>IV</td></tr>
<tr><td>V</td><td colspan="4">1</td><td>V</td></tr>
<tr><td colspan="2">Reeving</td><td colspan="4">Main hook 12
Auxiliary hook 6</td><td colspan="2">Reeving</td></tr>
</table>

Table 1-114 Main boom + TBM jib

Unit: Metric tons

<table>
<tr><th colspan="8">30.6 m main boom + 6 m TBM jib, outriggers fully extended,
with 140 t counterweight, over full range</th></tr>
<tr><th colspan="2">Radius, main hook m</th><th>Radius, auxiliary hook m</th><th>Load, main hook t</th><th>Load, auxiliary hook t</th><th>Reference radius, main hook + auxiliary hook m</th><th colspan="2">Total load, main hook + auxiliary hook t</th></tr>
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<tr><td colspan="2">7.0</td><td>10.2</td><td>140.0</td><td>70.0</td><td>8.6</td><td colspan="2">105.0</td></tr>
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<tr><td colspan="2">11.0</td><td>14.8</td><td>106.0</td><td>62.0</td><td>12.9</td><td colspan="2">84.0</td></tr>
<tr><td colspan="2">12.0</td><td>16.0</td><td>900.0</td><td>58.0</td><td>14.0</td><td colspan="2">79.0</td></tr>
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<tr><td colspan="2">15.0</td><td>19.6</td><td>78.0</td><td>45.0</td><td>17.3</td><td colspan="2">61.5</td></tr>
<tr><td colspan="2">16.0</td><td>21.0</td><td>73.0</td><td>40.0</td><td>18.5</td><td colspan="2">56.5</td></tr>
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<tr><td>II</td><td colspan="4">2</td><td>II</td></tr>
<tr><td>III</td><td colspan="4">2</td><td>III</td></tr>
<tr><td>IV</td><td colspan="4">1</td><td>IV</td></tr>
<tr><td>V</td><td colspan="4">1</td><td>V</td></tr>
<tr><td colspan="2">Reeving</td><td colspan="4">Main hook 12
Auxiliary hook 6</td><td colspan="2">Reeving</td></tr>
</table>

1.3.13 Lifting height charts

1.3.13.1 Main boom

Refer to Figure 1-43.

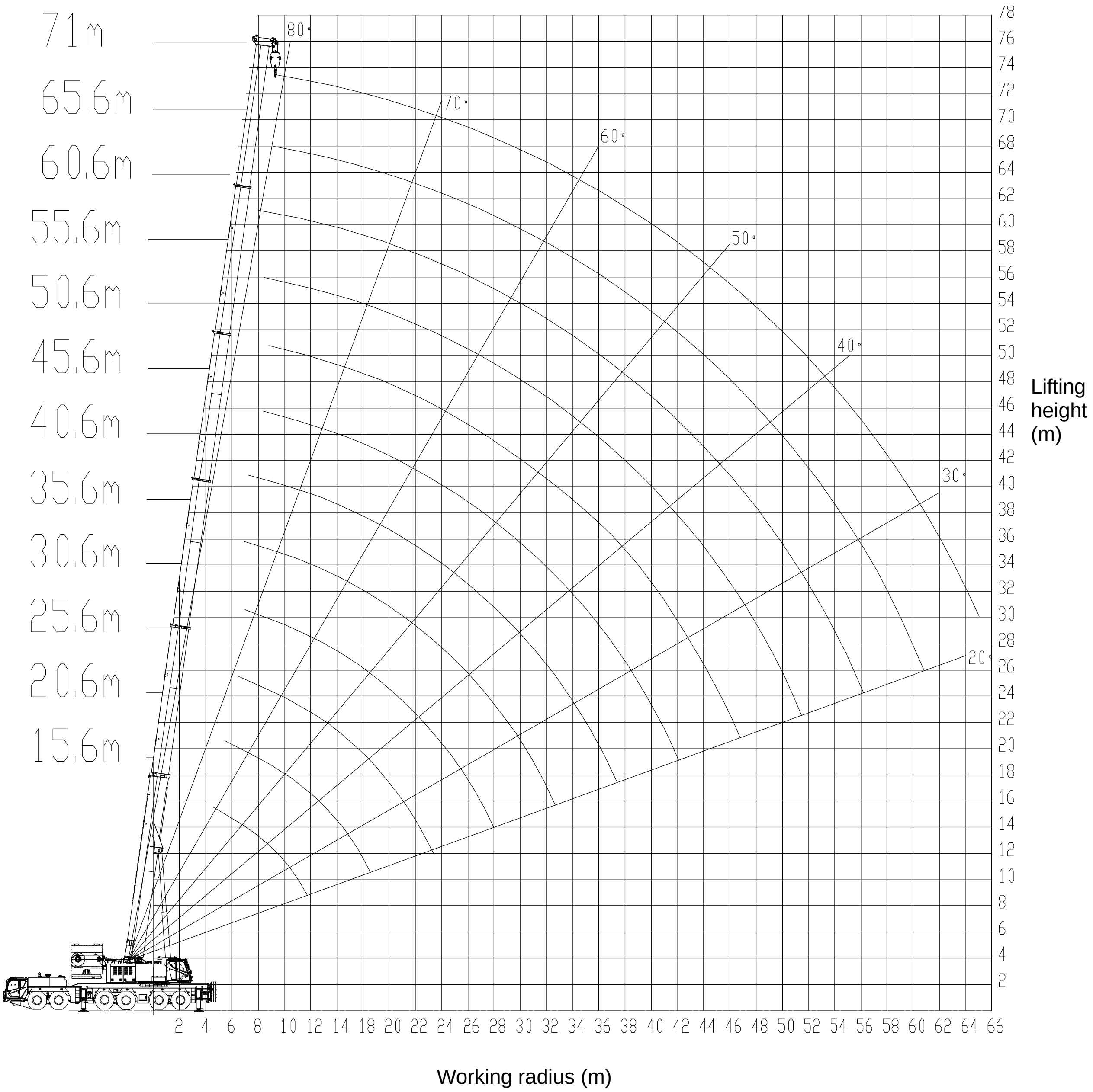


Figure 1-43 Main boom

1.3.13.2 Main boom + light duty jib variant 1 (9 m)

9 m light duty jib on 71 m main boom

Light duty jib variant 1 (9 m): 1 adapter (2 m) + 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 9 m = 80 m

Refer to Figure 1-44.

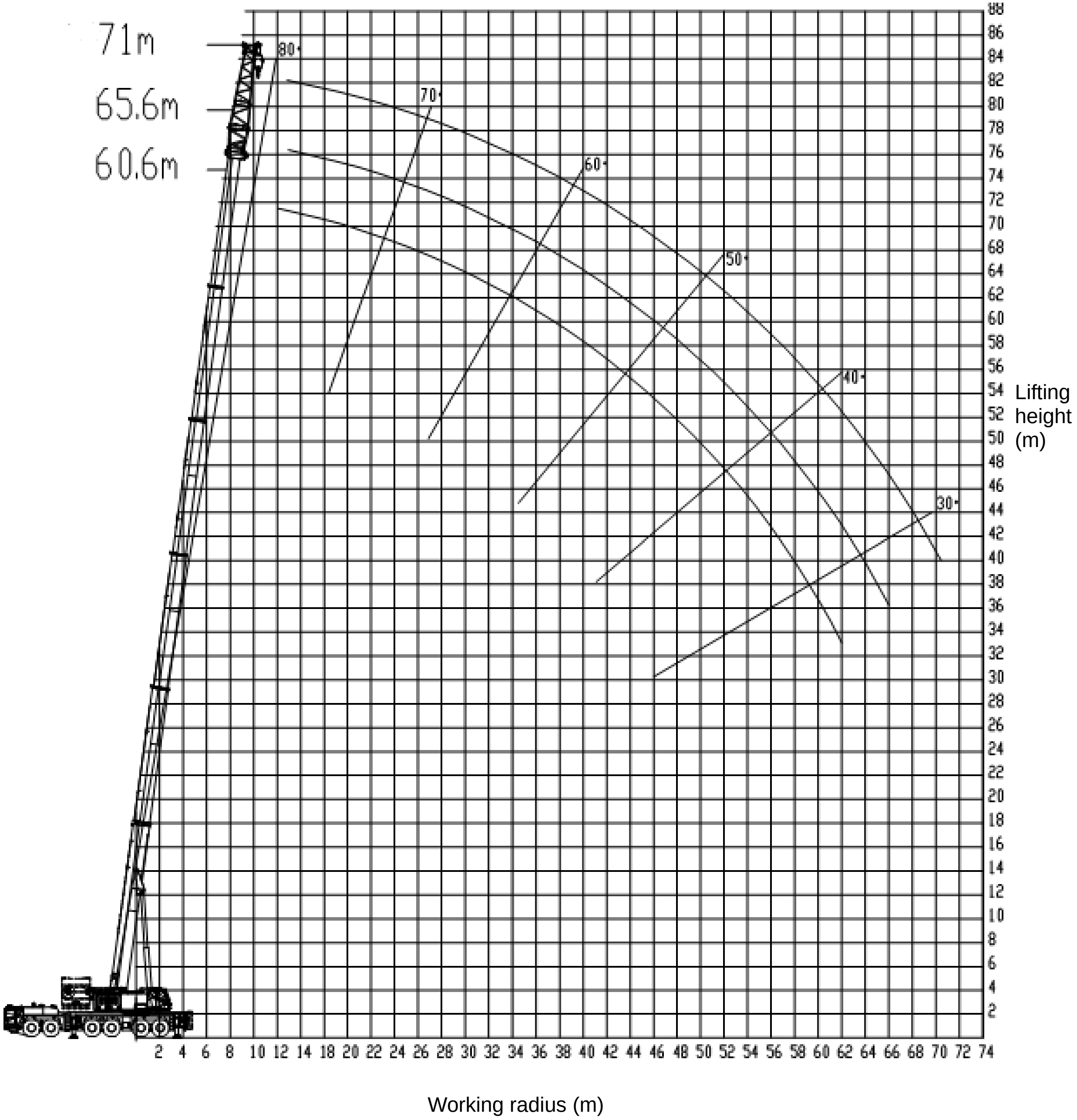


Figure 1-44 Main boom + light duty jib variant 1 (9 m)

1.3.13.3 Main boom + light duty jib variant 2 (14 m)

14 m light duty jib (3 offsets: 0°, 20°, 40°) on 71 m main boom

Light duty jib variant 2 (14 m): 1 adapter (2 m) + 1 articulated piece (5 m) + 1 transition section (2 m)+ 1 head piece (5 m)

Max. boom length (L): 71 m + 14 m = 85 m

Refer to Figure 1-45.

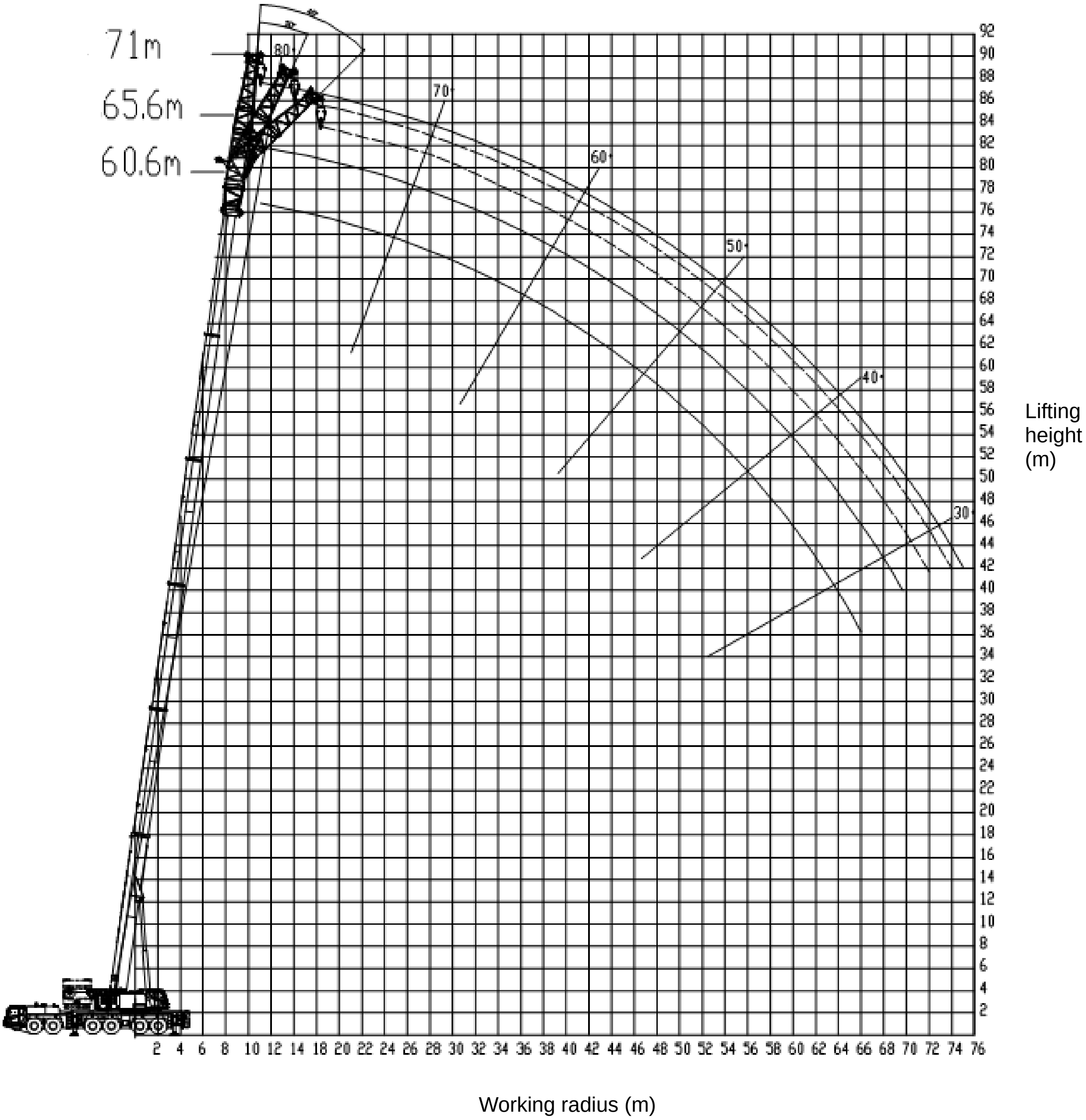


Figure 1-45 Main boom + light duty jib variant 2 (14 m)

1.3.13.4 Main boom + light duty jib variant 3 (21 m)

21 m light duty jib (3 offsets: 0°, 20°, 40°) on 71 m main boom

Light duty jib variant 3 (21 m): 1 adapter (2 m) + 1 articulated piece (5 m) + 1 extension 1 (7 m) + 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 21 m = 92 m

Refer to Figure 1-46.

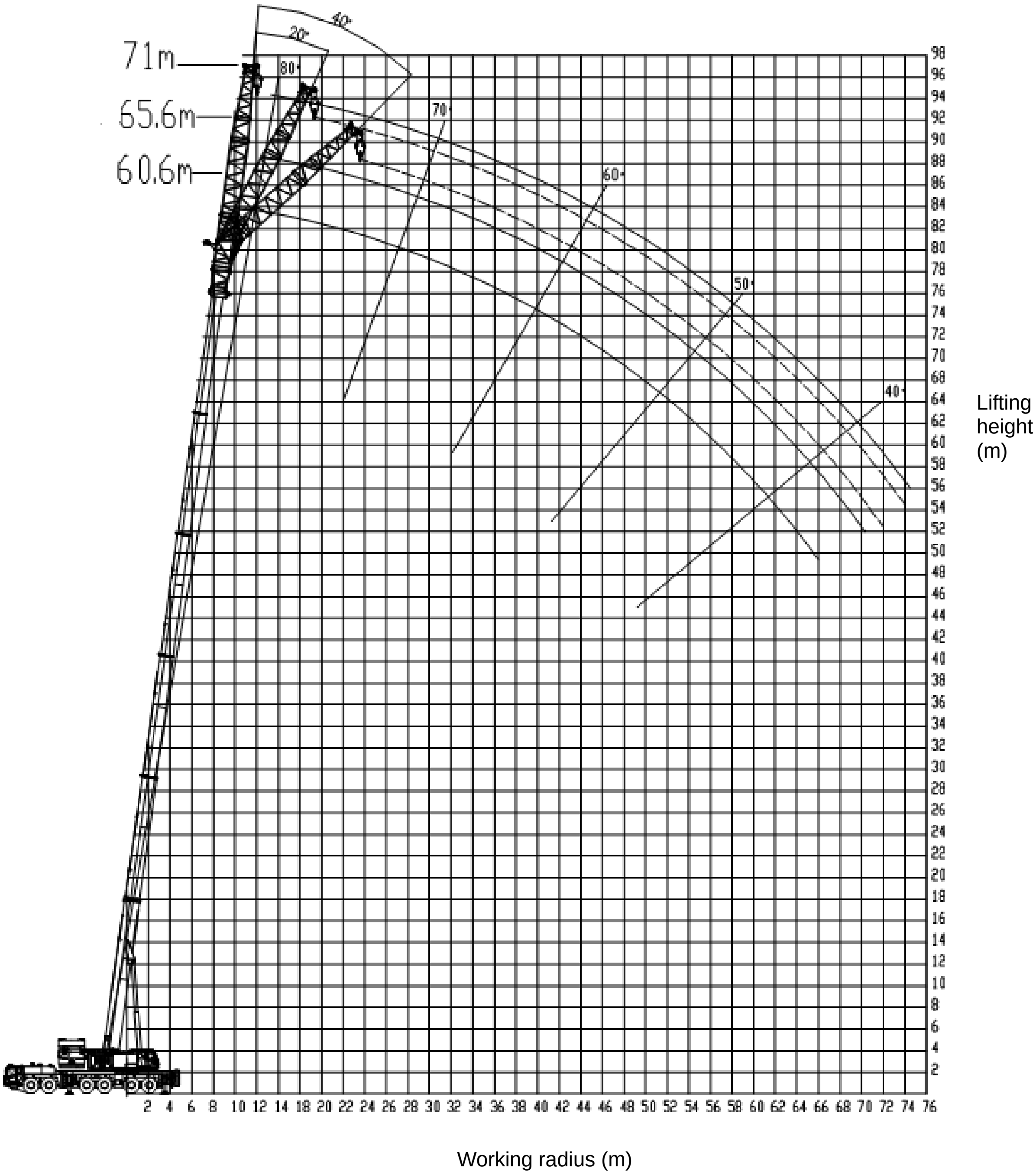


Figure 1-46 Main boom + light duty jib variant 3 (21 m)

1.3.13.5 Main boom + light duty jib variant 4 (28 m)

28 m light duty jib (3 offsets: 0°, 20°, 40°) on 71 m main boom

Light duty jib variant 4 (28 m): 1 adapter (2 m) + 1 articulated piece (5 m) + 2 extension 1 (14 m) +1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 28 m = 99 m

Refer to Figure 1-47.

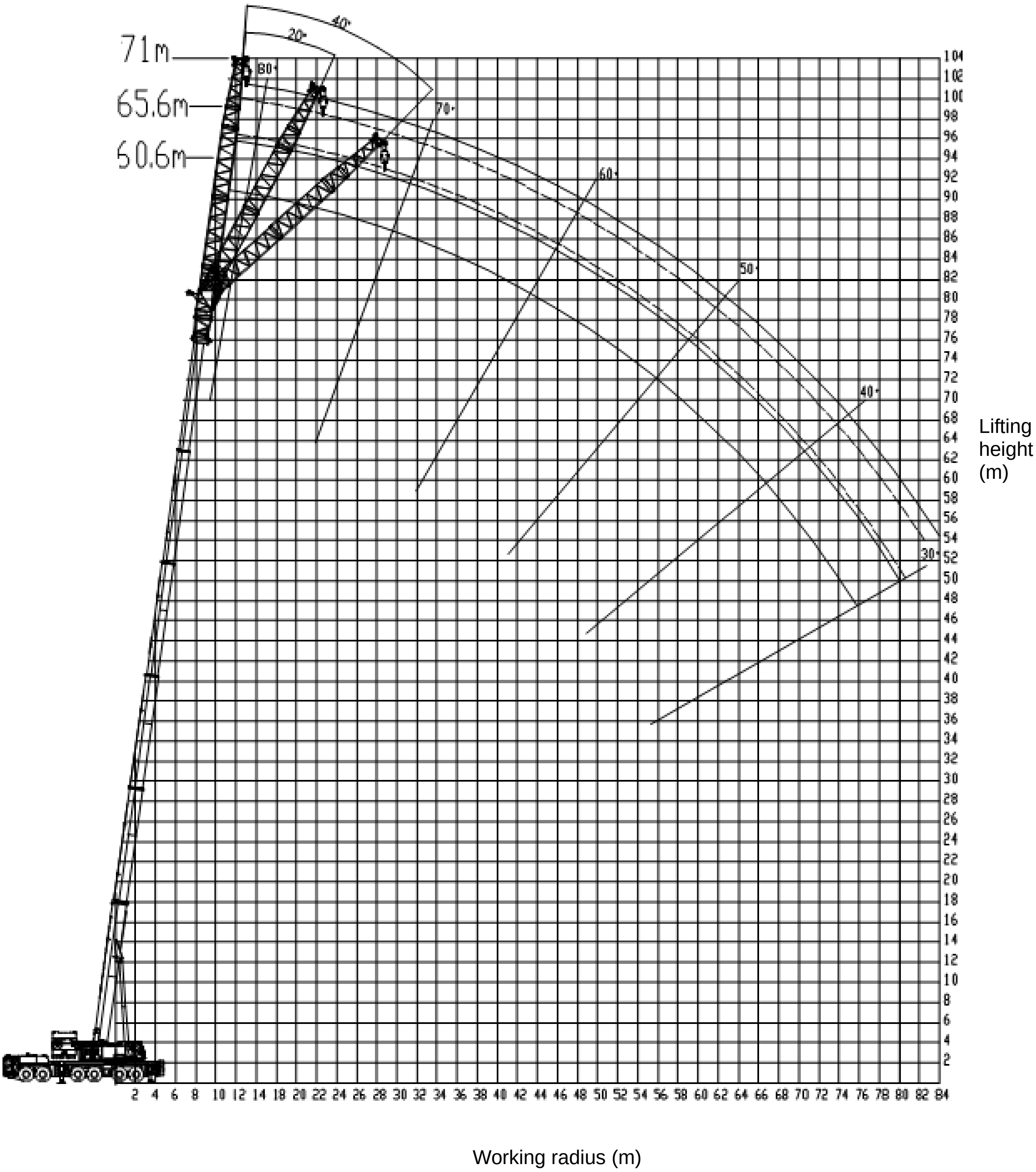


Figure 1-47 Main boom + light duty jib variant 4 (28 m)

1.3.13.6 Main boom + light duty jib variant 5 (28 m) (16 m + 12 m)

28 m light duty jib (3 offsets: 0°, 20°, 40°) on 71 m main boom

Light duty jib variant 5 (28 m): 1 adapter (2 m) + 2 extension 1 (14 m) + 1 articulated piece (5 m) +1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 28 m = 99 m

Refer to Figure 1-48.

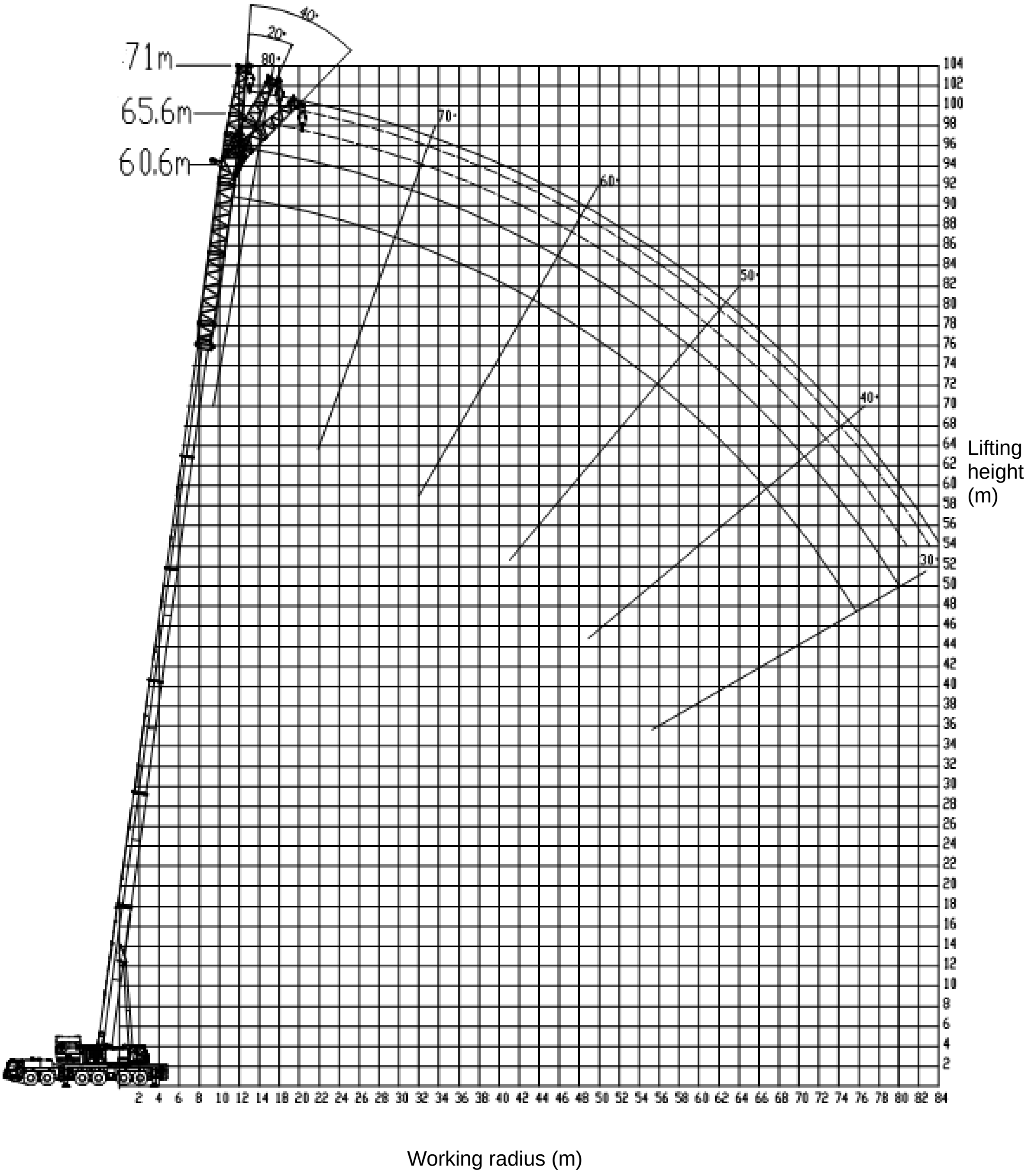


Figure 1-48 Main boom + light duty jib variant 5 (28 m)

1.3.13.7 Main boom + light duty jib variant 6 (35 m)

35 m light duty jib (3 offsets: 0°, 20°, 40°) on 71 m main boom

Light duty jib variant 6 (35 m): 1 adapter (2 m) + 1 articulated piece (5 m) + 2 extension 1 (14 m) +1 transition section (2 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 35 m = 106 m

Refer to Figure 1-49.

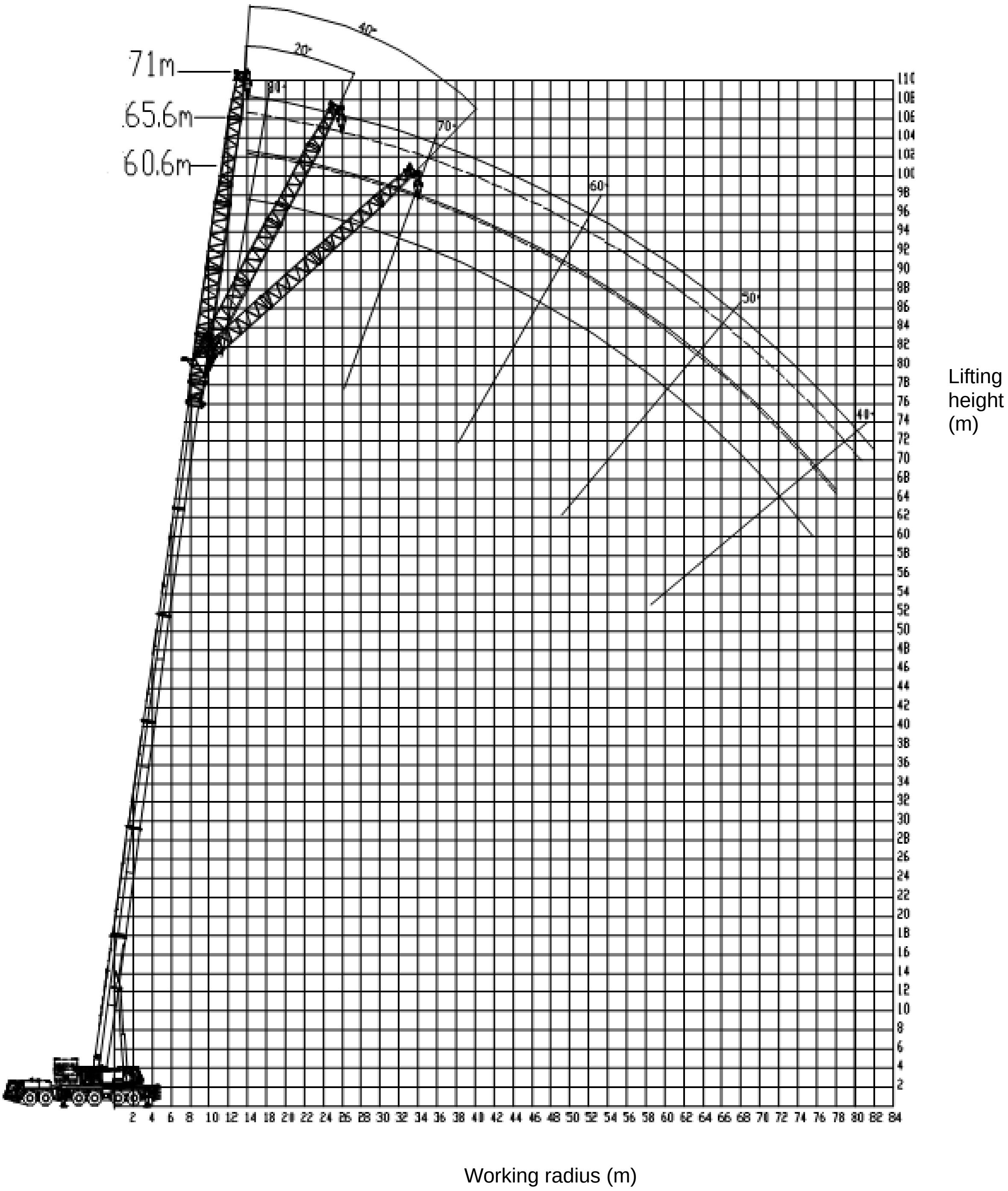


Figure 1-49 Main boom + light duty jib variant 6 (35 m)

1.3.13.8 Main boom + light duty jib variant 7 (35 m) (16 m + 19 m)

35 m light duty jib (3 offsets: 0°, 20°, 40°) on 71 m main boom

Light duty jib variant 7 (35 m): 1 adapter (2 m) + 2 extension 1 (14 m) + 1 articulated piece (5 m) +1 transition section (2 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 35 m = 106 m

Refer to Figure 1-50.

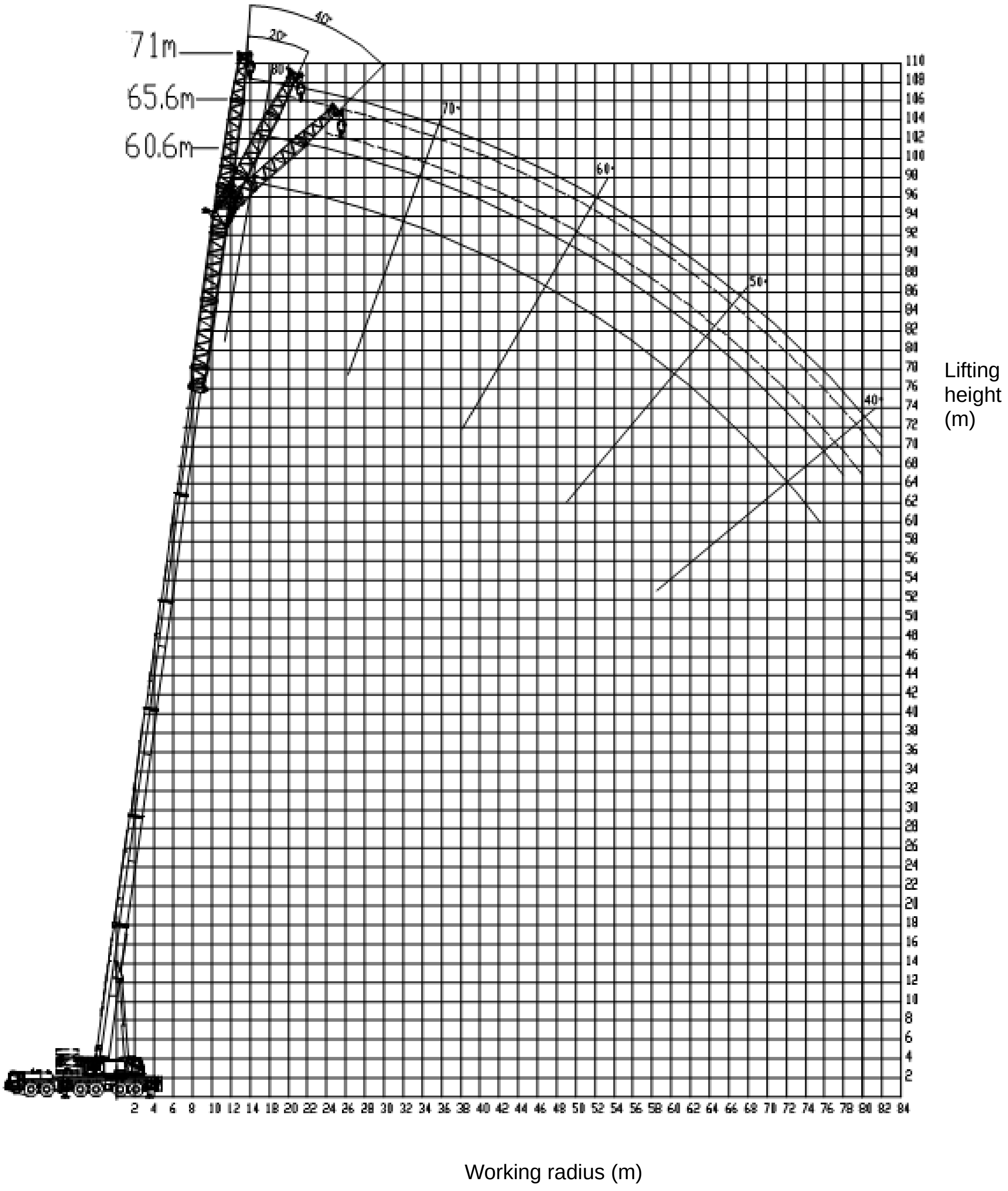


Figure 1-50 Main boom + light duty jib variant 7 (35 m)

1.3.13.9 Main boom + light duty jib variant 8 (42 m)

42 m light duty jib (3 offsets: 0°, 20°, 40°) on 71 m main boom

Light duty jib variant 8 (42 m): 1 adapter (2 m) + 1 articulated piece (5 m) + 2 extension 1 (14 m) +1 transition section (2 m) + 2 extension 2 (14 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 42 m = 113 m

Refer to Figure 1-51.

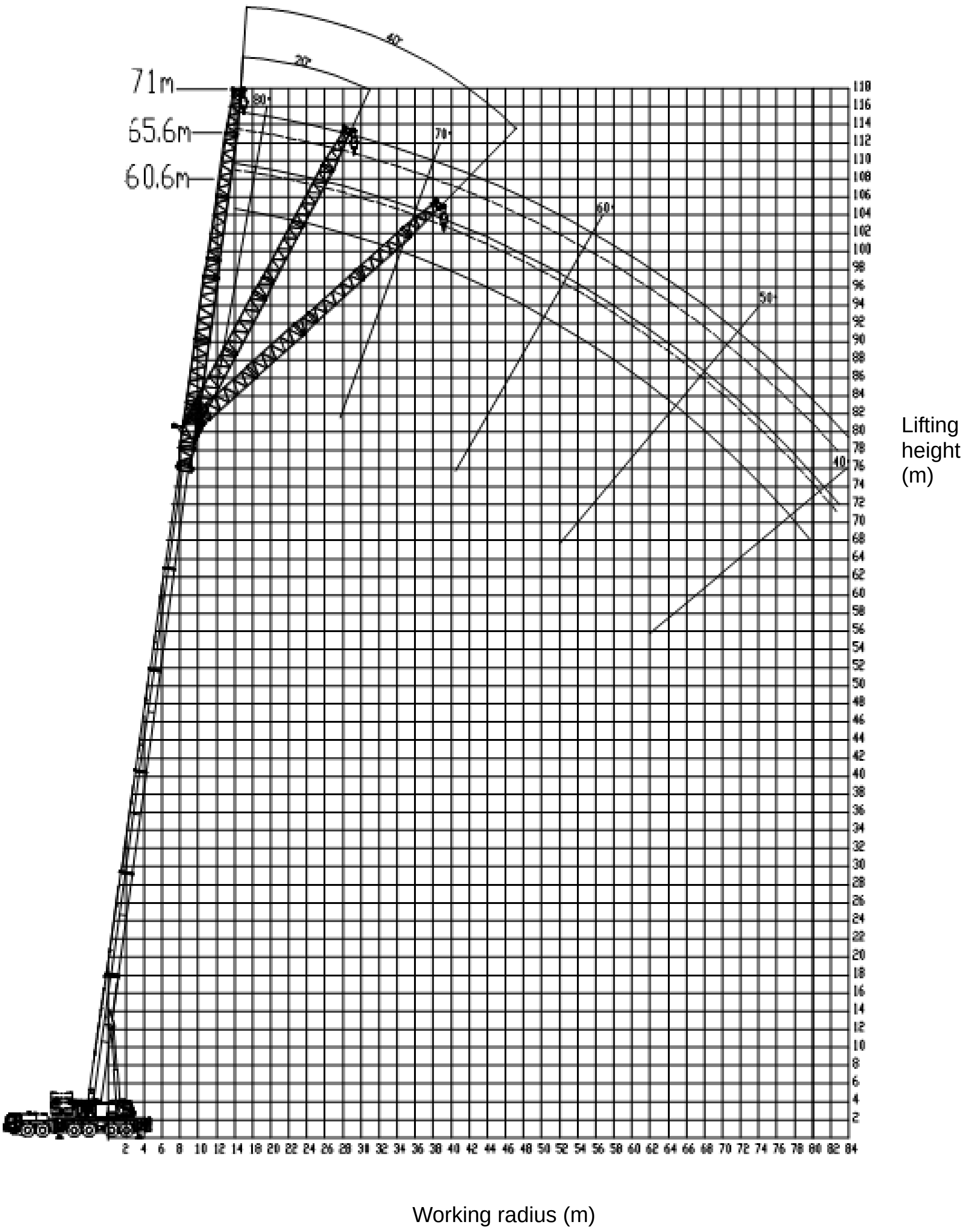


Figure 1-51 Main boom + light duty jib variant 8 (42 m)

1.3.13.10 Main boom + light duty jib variant 9 (42 m) (16 m + 26 m)

42 m light duty jib (3 offsets: 0°, 20°, 40°) on 71 m main boom

Light duty jib variant 9 (42 m): 1 adapter (2 m) + 2 extension 1 (14 m) + 1 articulated piece (5 m) +1 transition section (2 m) + 2 extension 2 (14 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 42 m = 113 m

Refer to Figure 1-52.

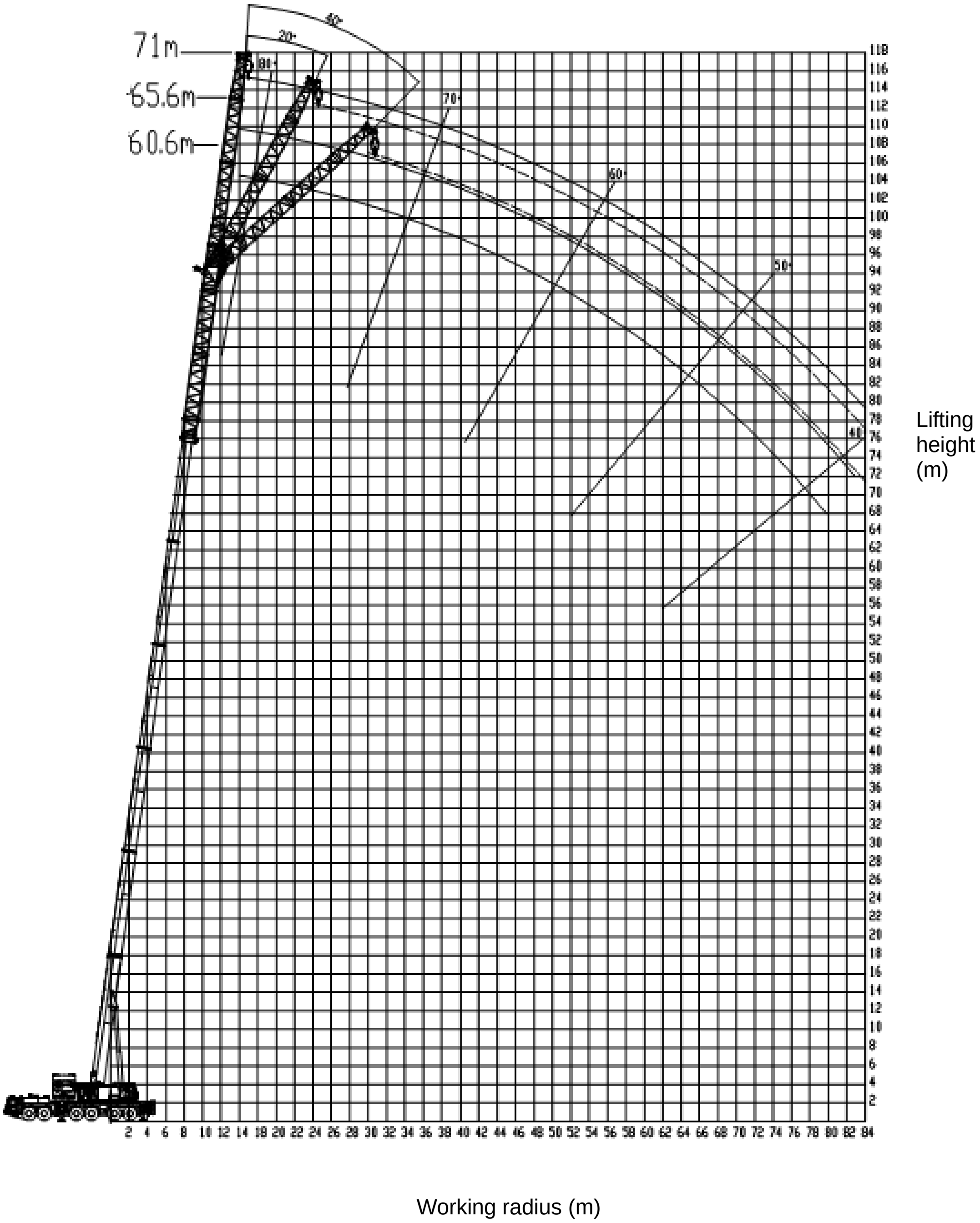


Figure 1-52 Main boom + light duty jib variant 9 (42 m)

1.3.13.11 Main boom + Y-shaped guying system

71 m main boom with Y-shaped guying system

Max. boom length (L): 71 m

Refer to Figure 1-53.

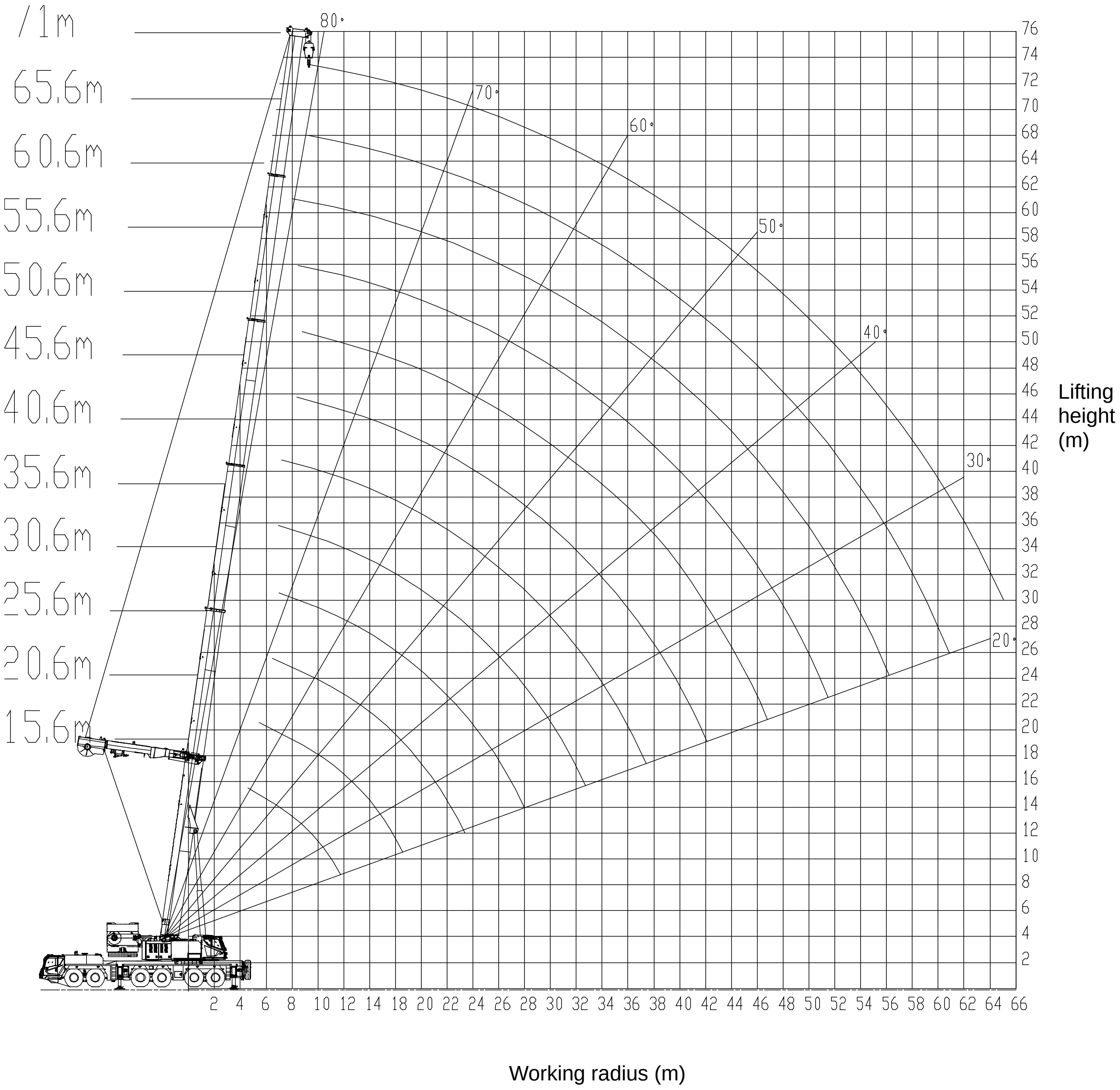


Figure 1-53　Main boom + Y-shaped guying system

1.3.13.12 Main boom + Y-shaped guying system + light duty jib variant 2 (14 m) + A-frame (5 m)

14 m light duty jib (3 offsets: 0°, 20°, 40°) with 5 m A-frame on 71 m main boom

Light duty jib variant 2 (14 m) with 5 m A-frame: 1 adapter (2 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 1 transition section (2 m)+ 1 head piece (5 m)

Max. boom length (L): 71 m + 14 m + 5 m = 90 m

Refer to Figure 1-54.

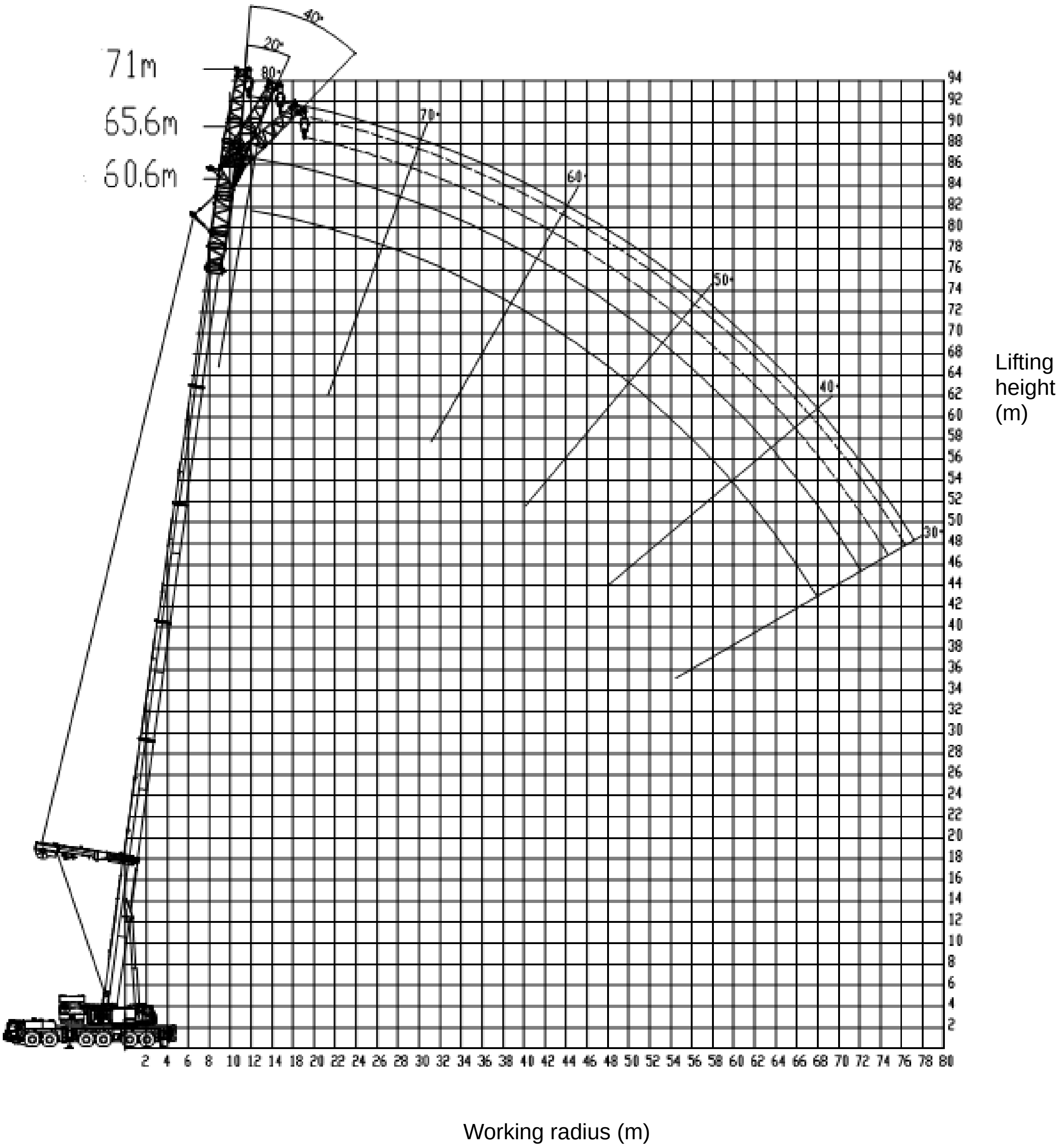


Figure 1-54 Main boom + Y-shaped guying system + light duty jib variant 2 (14 m) + A-frame (5 m)

1.3.13.13 Main boom + Y-shaped guying system + light duty jib variant 3 (21 m) + A-frame (5 m)

21 m light duty jib (3 offsets: 0°, 20°, 40°) with 5 m A-frame on 71 m main boom

Light duty jib variant 3 (21 m) with 5 m A-frame: 1 adapter (2 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 1 extension 1 (7 m)+ 1 transition section (2 m)+ 1 head piece (5 m)

Max. boom length (L): 71 m + 21 m + 5 m = 97 m

Refer to Figure 1-55.

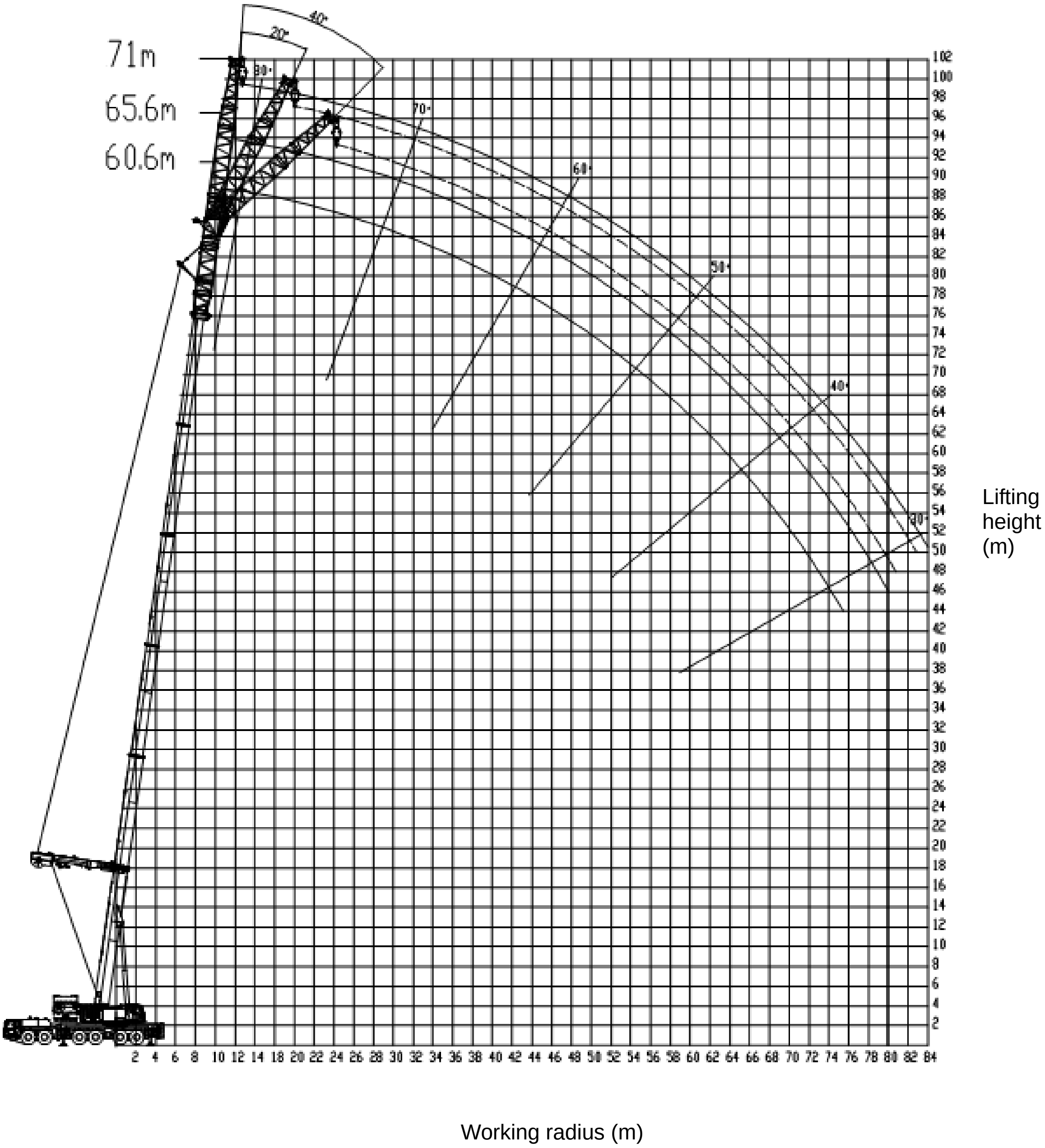


Figure 1-55 Main boom + Y-shaped guying system + light duty jib variant 3 (21 m) + A-frame (5 m)

1.3.13.14 Main boom + Y-shaped guying system + light duty jib variant 4 (28 m) + A-frame (5 m)

28 m light duty jib (3 offsets: 0°, 20°, 40°) with 5 m A-frame on 71 m main boom

Light duty jib variant 4 (28 m) with 5 m A-frame: 1 adapter (2 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 2 extension 1 (14 m)+ 1 transition section (2 m)+ 1 head piece (5 m)

Max. boom length (L): 71 m + 28 m + 5 m = 104 m

Refer to Figure 1-56.

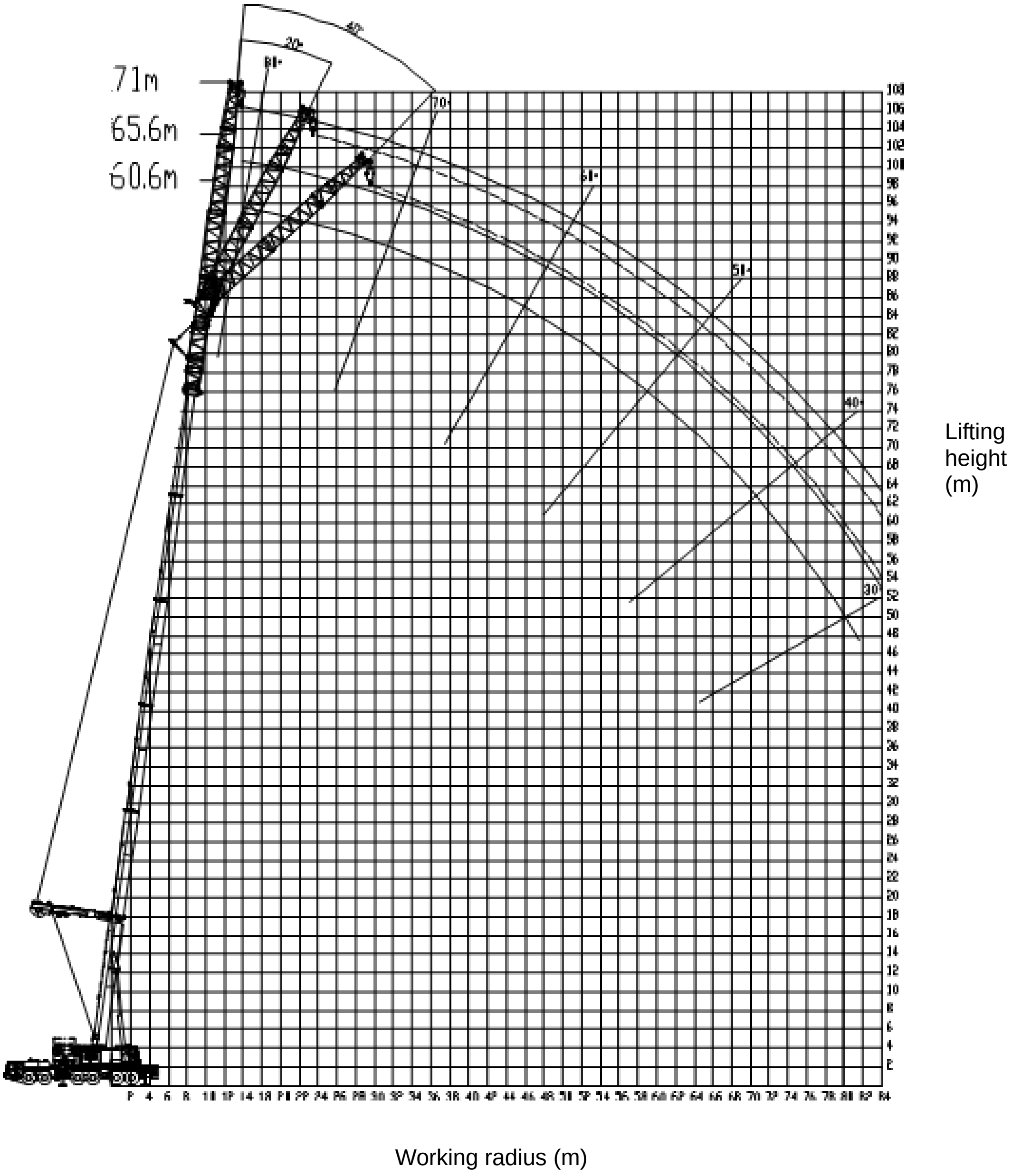


Figure 1-56 Main boom + Y-shaped guying system + light duty jib variant 4 (28 m) + A-frame (5 m)

1.3.13.15 Main boom + Y-shaped guying system + light duty jib variant 5 (28 m) (16 m + 12 m) + A-frame (5 m)

28 m light duty jib (3 offsets: 0°, 20°, 40°) with 5 m A-frame on 71 m main boom

Light duty jib variant 5 (28 m) with 5 m A-frame: 1 adapter (2 m) + 1 A-frame (5 m) + 2 extension 1 (14 m)+ 1 articulated piece (5 m) + 1 transition section (2 m)+ 1 head piece (5 m)

Max. boom length (L): 71 m + 28 m + 5 m = 104 m

Refer to Figure 1-57.

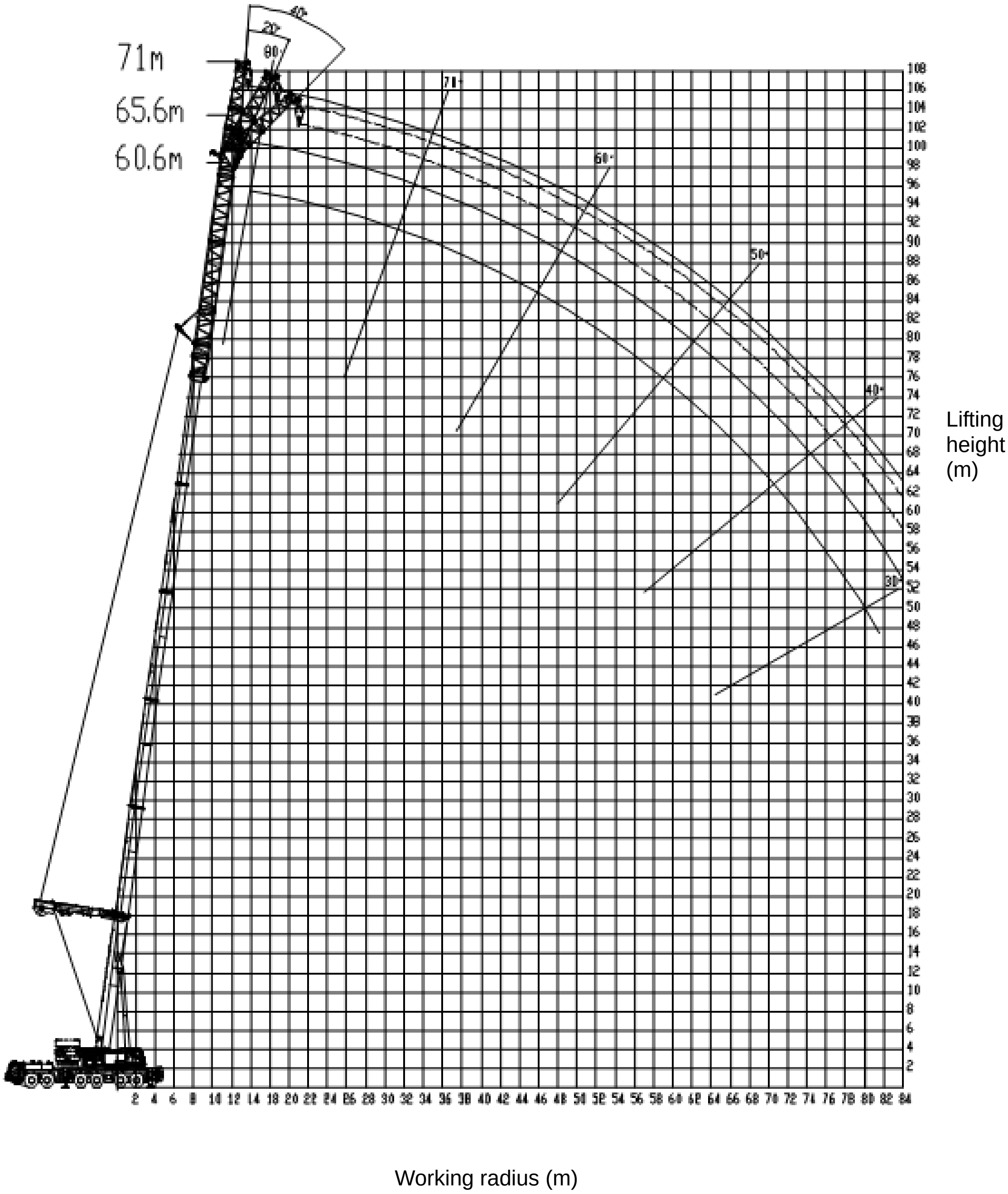


Figure 1-57 Main boom + Y-shaped guying system + light duty jib variant 5 (28 m) (16 m + 12 m) + A-frame (5 m)

1.3.13.16 Main boom + Y-shaped guying system + light duty jib variant 6 (35 m) + A-frame (5 m)

35 m light duty jib (3 offsets: 0°, 20°, 40°) with 5 m A-frame on 71 m main boom

Light duty jib variant 6 (35 m) with 5 m A-frame: 1 adapter (2 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 2 extension 1 (14 m) + 1 transition section (2 m) + 1 extension 2 (7 m)+ 1 head piece (5 m)

Max. boom length (L): 71 m + 35 m + 5 m = 111 m

Refer to Figure 1-58.

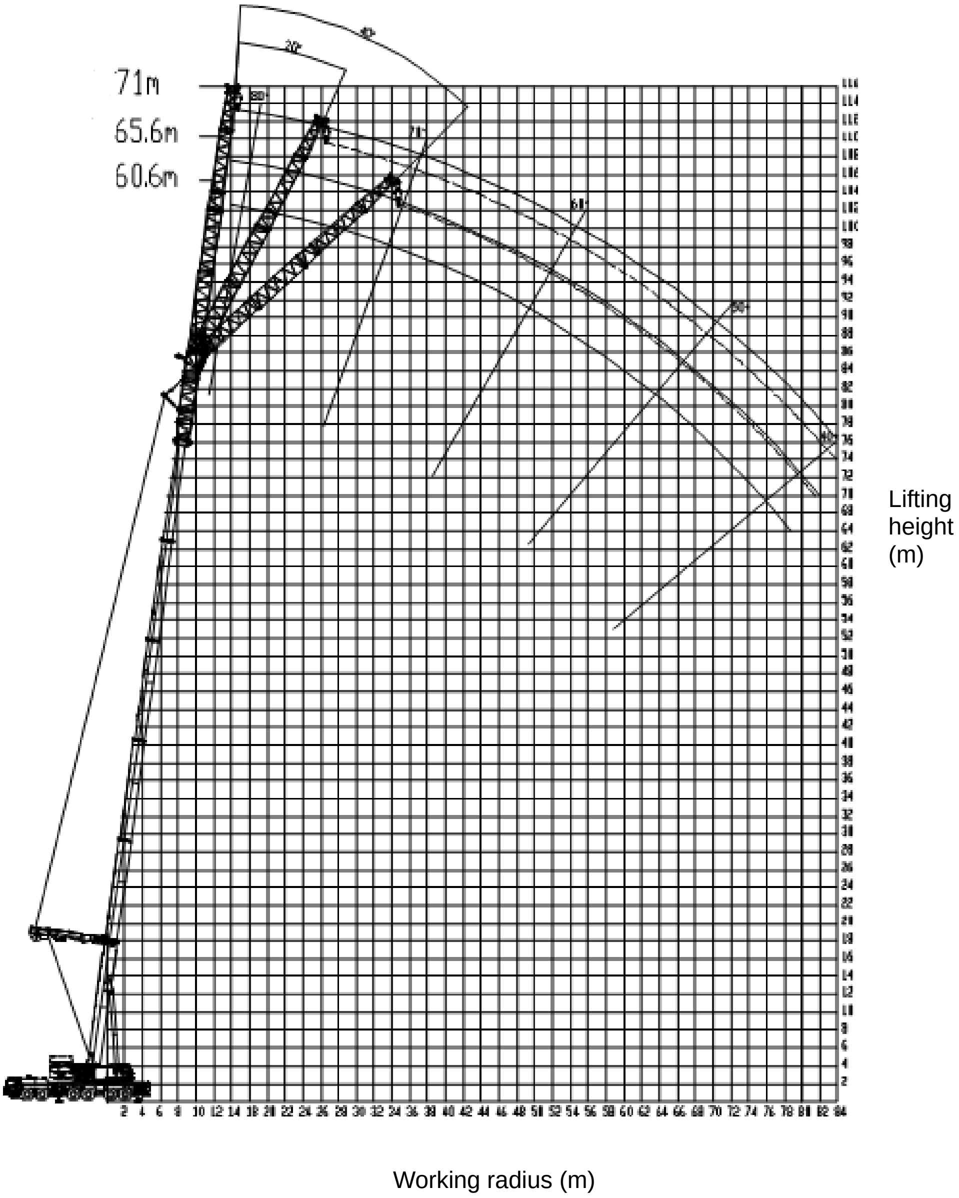


Figure 1-58　Main boom + Y-shaped guying system + light duty jib variant 6 (35 m) + A-frame (5 m)

1.3.13.17 Main boom + Y-shaped guying system + light duty jib variant 7 (35 m) (16 m + 19 m) + A-frame (5 m)

35 m light duty jib (3 offsets: 0°, 20°, 40°) with 5 m A-frame on 71 m main boom

Light duty jib variant 7 (35 m) with 5 m A-frame: 1 adapter (2 m) + 1 A-frame (5 m) + 2 extension 1 (14 m) + 1 articulated piece (5 m) + 1 transition section (2 m) + 1 extension 2 (7 m)+ 1 head piece (5 m)

Max. boom length (L): 71 m + 35 m + 5 m = 111 m

Refer to Figure 1-59.

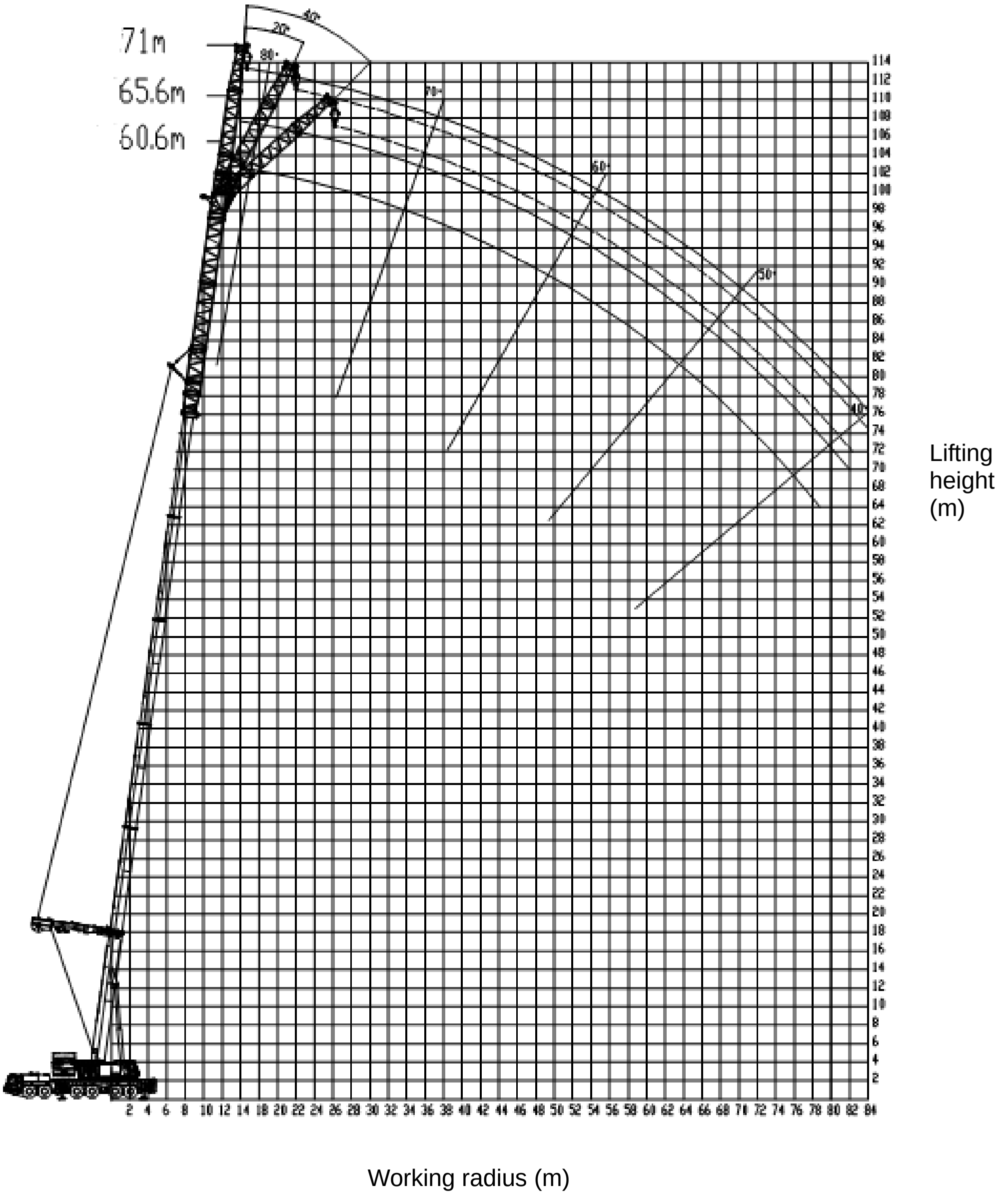


Figure 1-59 Main boom + Y-shaped guying system + light duty jib variant 7 (35 m) + A-frame (5 m)

1.3.13.18 Main boom + Y-shaped guying system + light duty jib variant 8 (42 m) + A-frame (5 m)

42 m light duty jib (3 offsets: 0°, 20°, 40°) with 5 m A-frame on 71 m main boom

Light duty jib variant 8 (42 m) with 5 m A-frame: 1 adapter (2 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 2 extension 1 (14 m) + 1 transition section (2 m) + 2 extension 2 (14 m)+ 1 head piece (5 m)

Max. boom length (L): 71 m + 42 m + 5 m = 118 m

Refer to Figure 1-60.

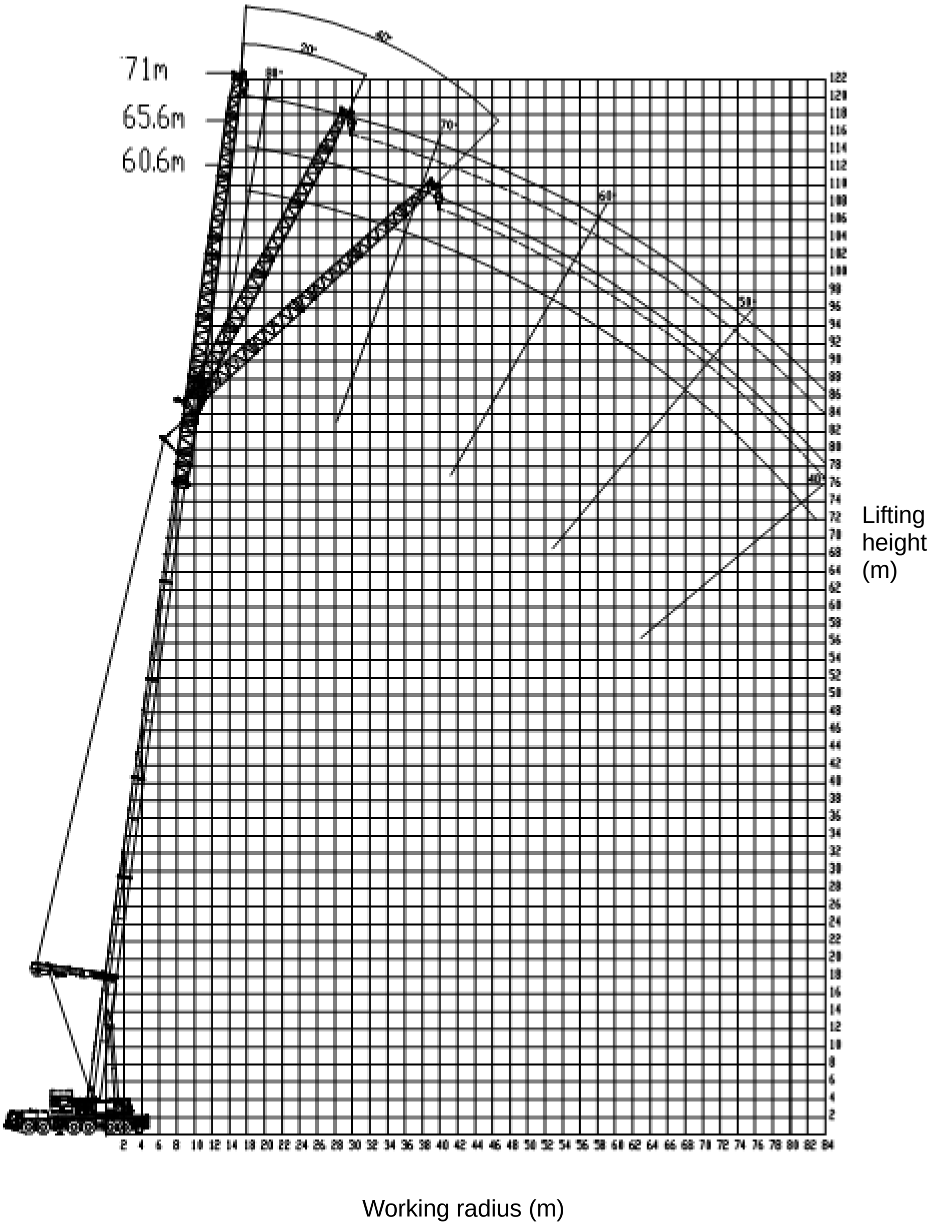


Figure 1-60 Main boom + Y-shaped guying system + light duty jib variant 8 (42 m) + A-frame (5 m)

1.3.13.19 Main boom + Y-shaped guying system + light duty jib variant 9 (42 m) (16 m + 26 m) + A-frame (5 m)

42 m light duty jib (3 offsets: 0°, 20°, 40°) with 5 m A-frame on 71 m main boom

Light duty jib variant 9 (42 m) with 5 m A-frame: 1 adapter (2 m) + 1 A-frame (5 m) + 2 extension 1 (14 m) + 1 articulated piece (5 m) + 1 transition section (2 m) + 2 extension 2 (14 m)+ 1 head piece (5 m)

Max. boom length (L): 71 m + 42 m + 5 m = 118 m

Refer to Figure 1-61.

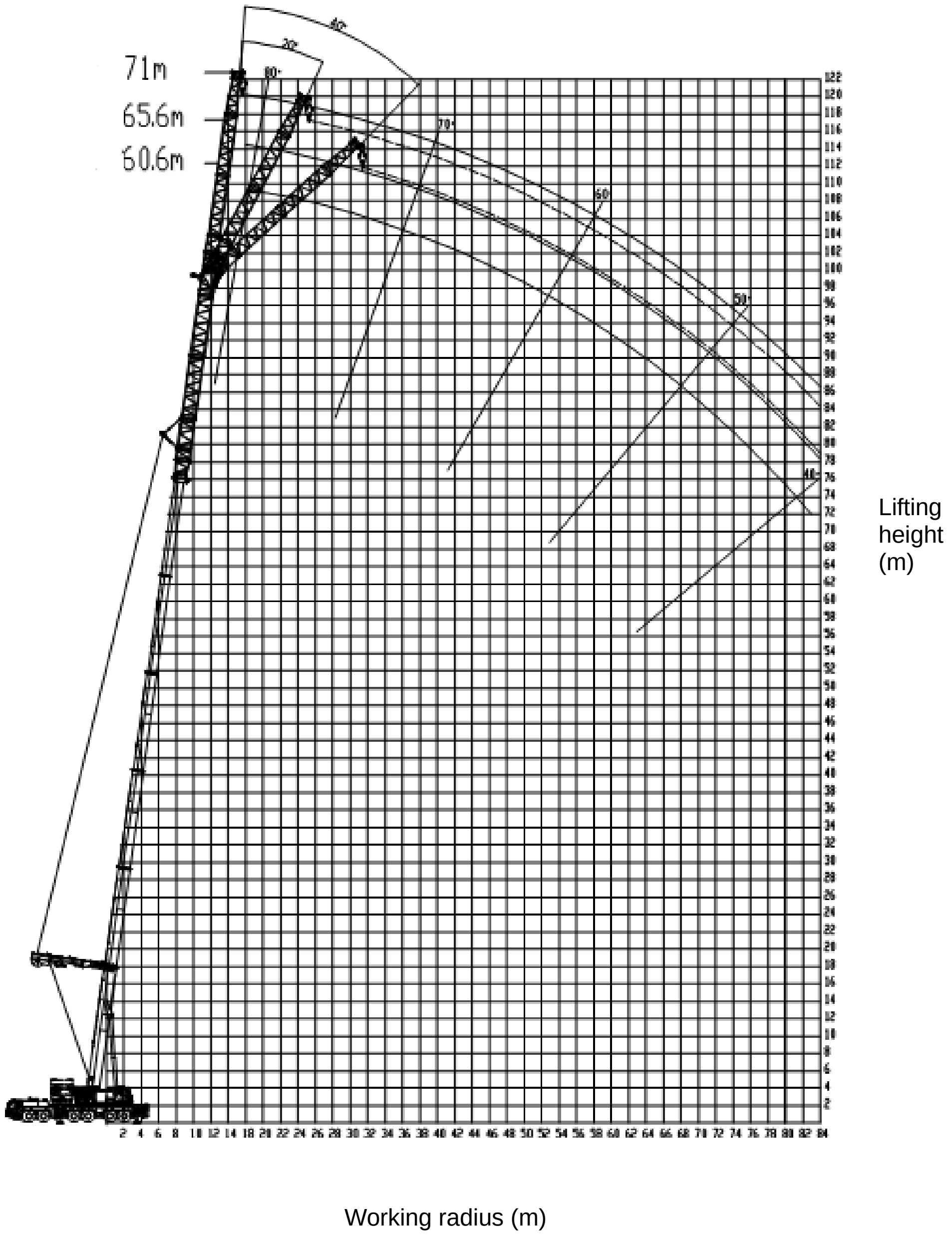


Figure 1-61 Main boom + Y-shaped guying system + light duty jib variant 9 (42 m) (16 m + 26 m) + A-frame (5 m)

1.3.13.20 Main boom + Y-shaped guying system + heavy duty jib variant 1 (14 m)

14 m heavy duty jib on 71 m main boom

Heavy duty jib variant 1 (14 m): 1 adapter (2 m) + 1 A-frame (5 m) + 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 14 m = 85 m

Refer to Figure 1-62.

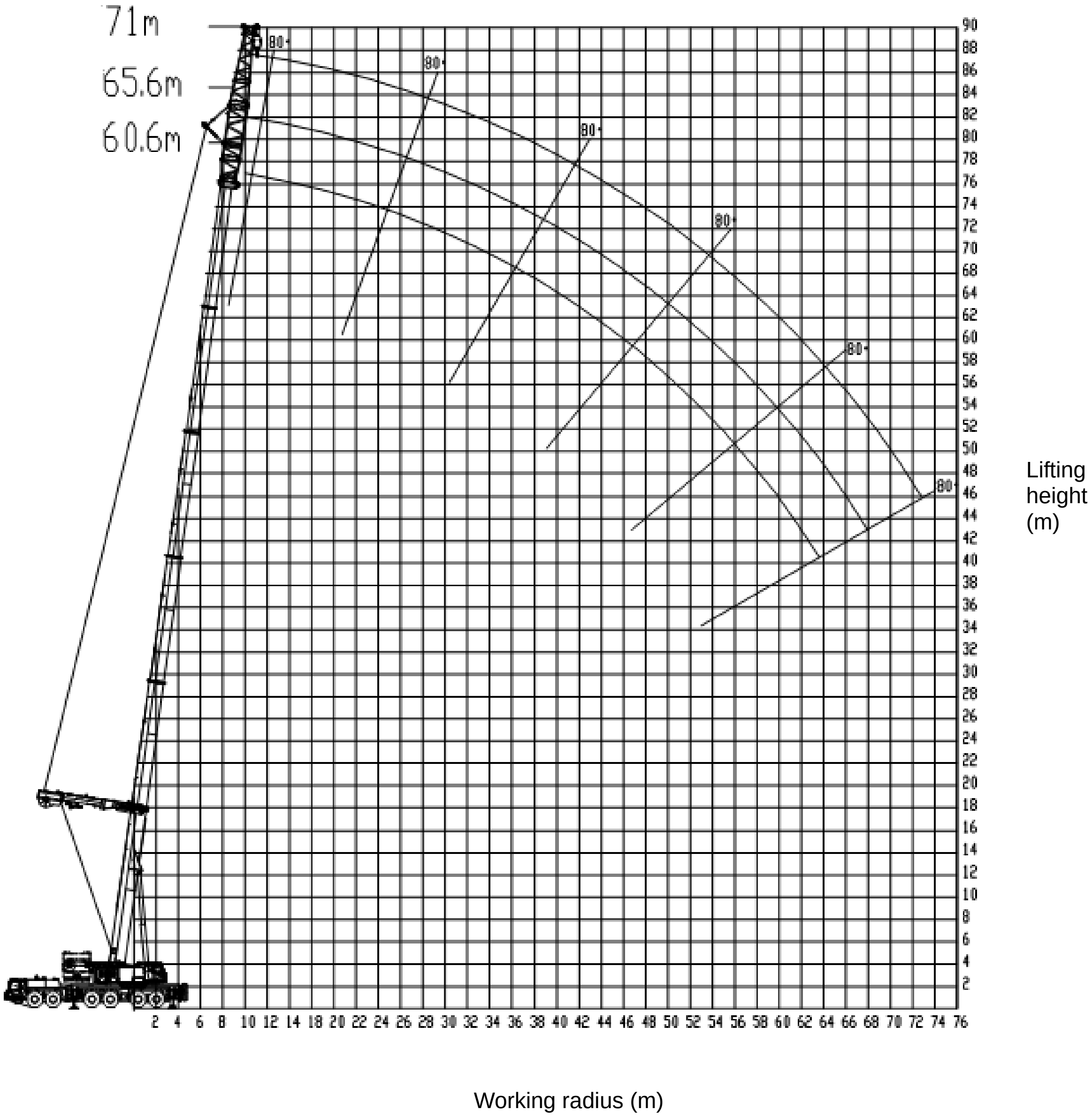


Figure 1-62 Main boom + Y-shaped guying system + heavy duty jib variant 1 (14 m)

1.3.13.21 Main boom + Y-shaped guying system + heavy duty jib variant 2 (19 m)

19 m heavy duty jib on 71 m main boom

Heavy duty jib variant 2 (19 m): 1 adapter (2 m) + 1 heavy duty boom (5 m) + 1 A-frame (5 m) + 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 19 m = 90 m

Refer to Figure 1-63.

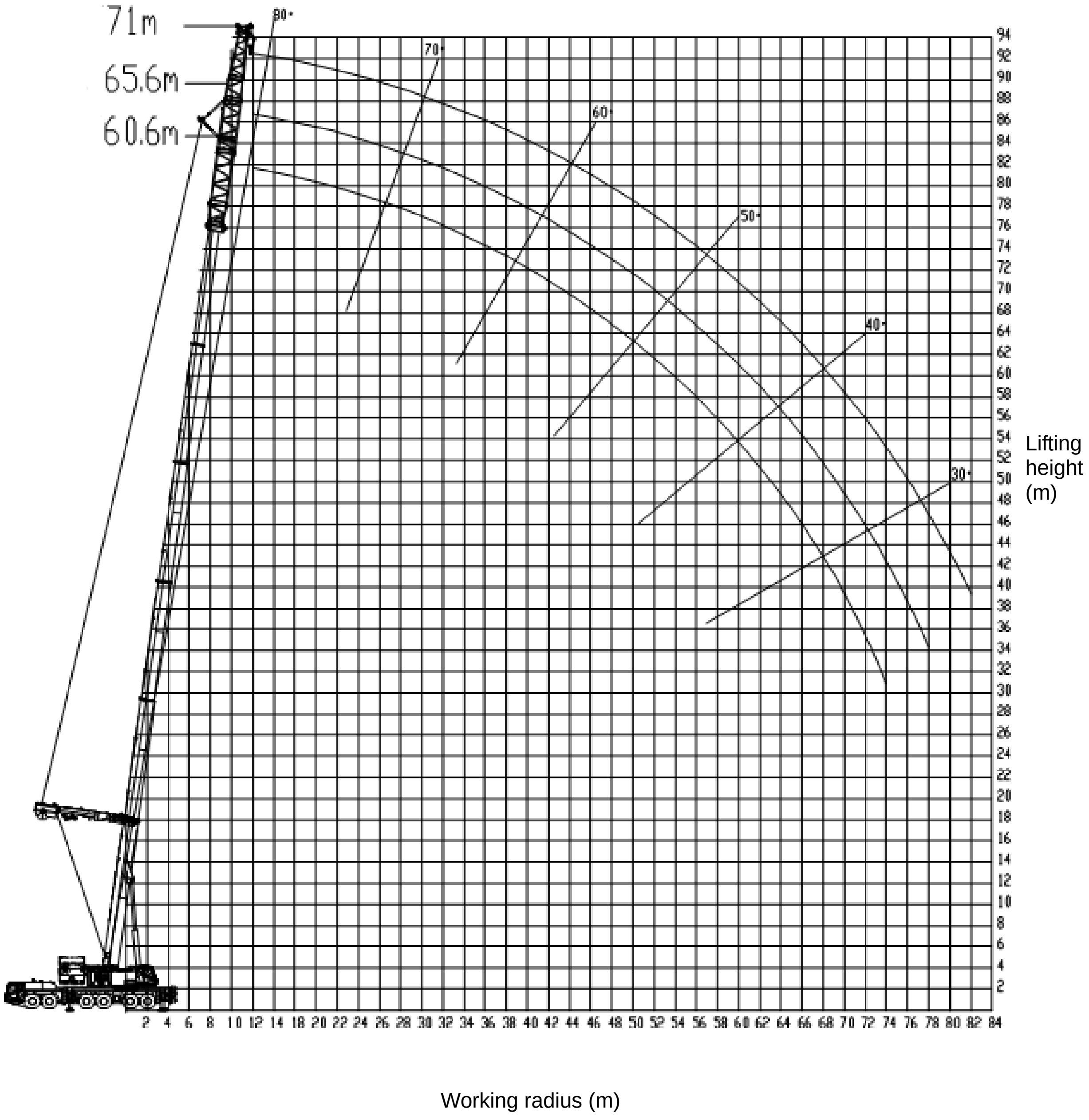


Figure 1-63 Main boom + Y-shaped guying system + heavy duty jib variant 2 (19 m)

1.3.13.22 Main boom + Y-shaped guying system + heavy duty jib variant 3 (22 m)

22 m heavy duty jib on 71 m main boom

Heavy duty jib variant 3 (22 m): 1 adapter (2 m) + 1 heavy duty boom (8 m) + 1 A-frame (5 m) + 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 22 m = 93 m

Refer to Figure 1-64.

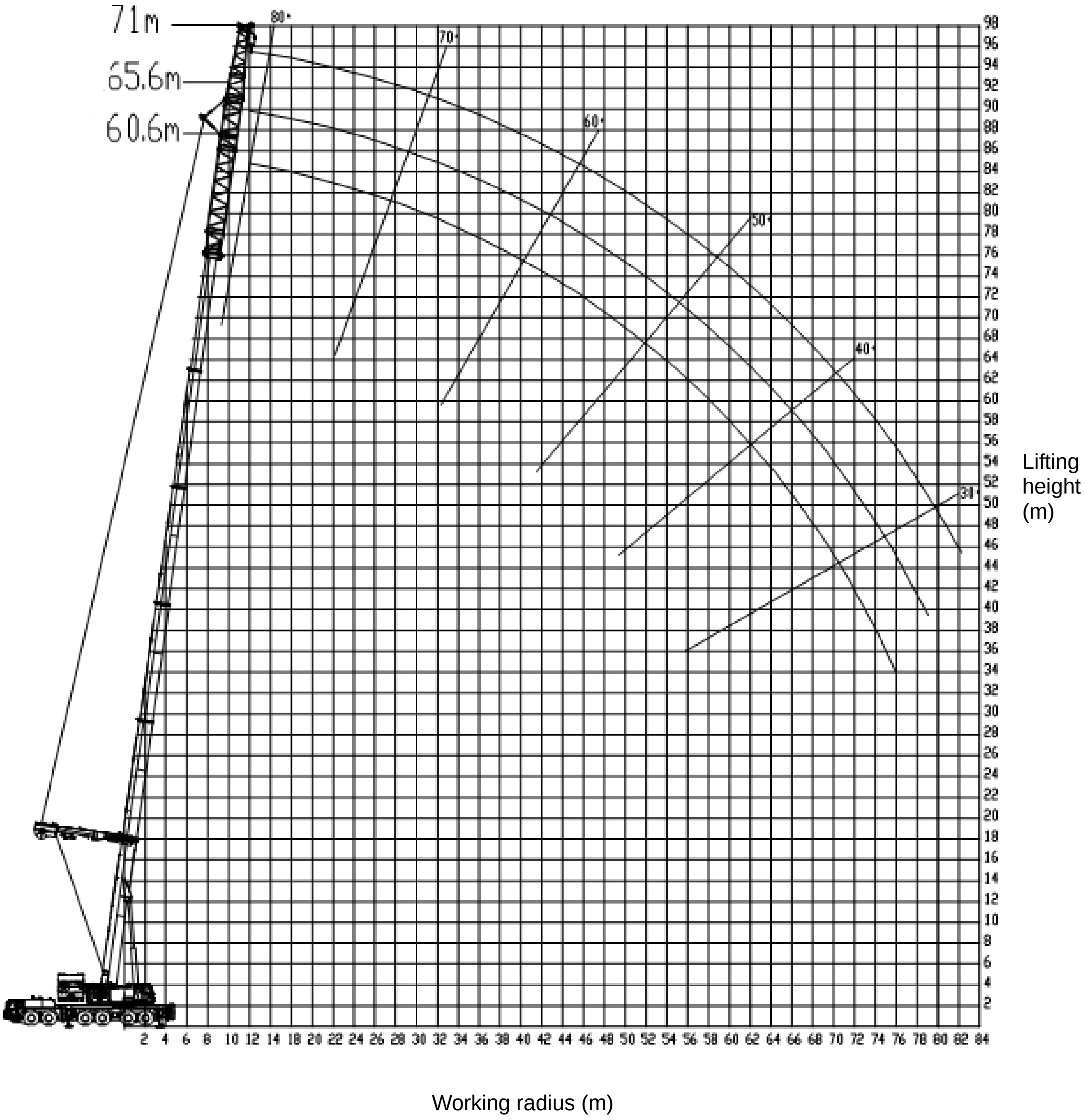


Figure 1-64 Main boom + Y-shaped guying system + heavy duty jib variant 3 (22 m)

1.3.13.23 Main boom + Y-shaped guying system + heavy duty jib variant 4 (27 m)

27 m heavy duty jib on 71 m main boom

Heavy duty jib variant 4 (27 m): 1 adapter (2 m) + 1 heavy duty boom (8 m) + 1 heavy duty boom (5 m) + 1 A-frame (5 m) + 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 27 m = 98 m

Refer to Figure 1-65.

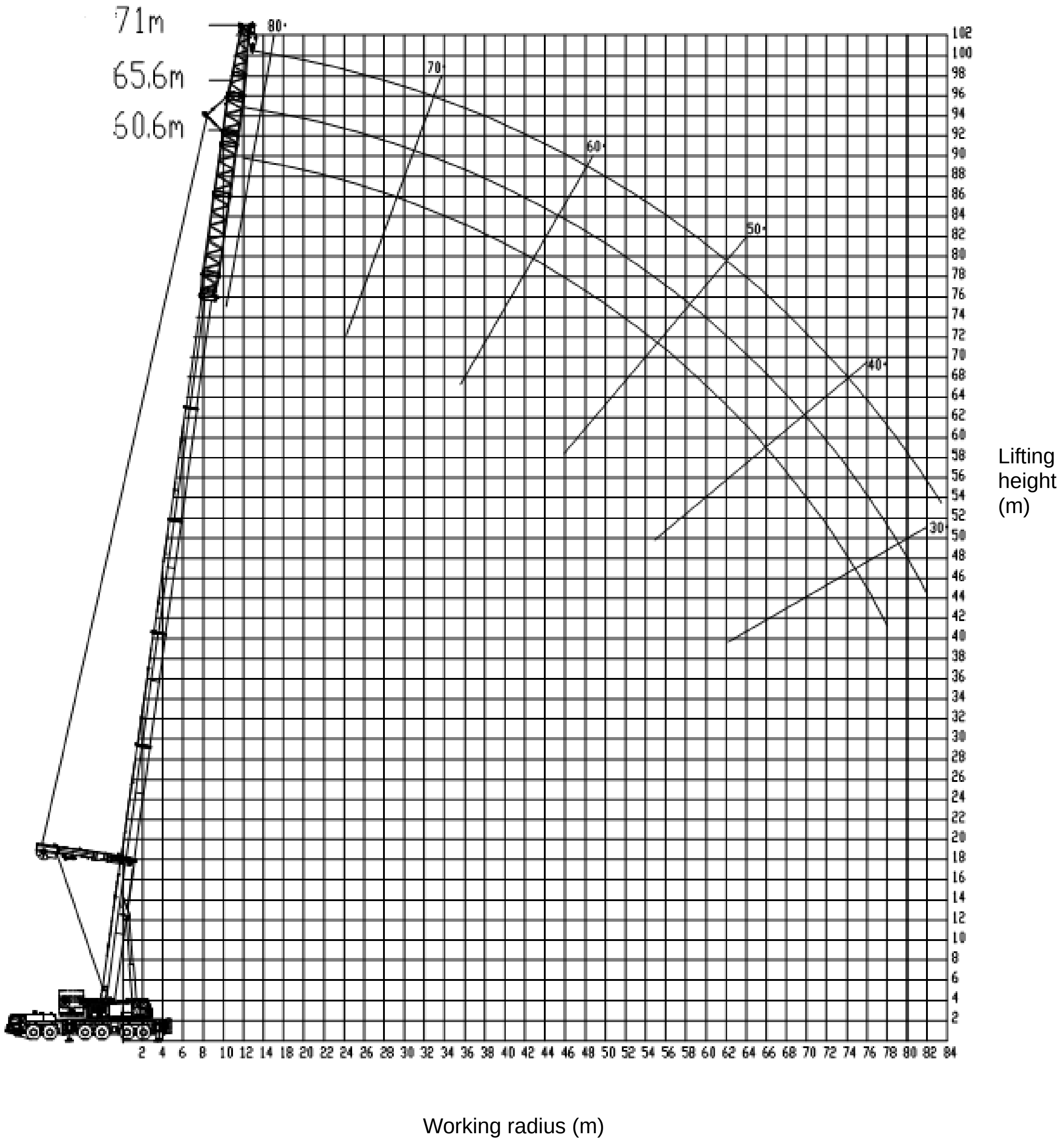


Figure 1-65 Main boom + Y-shaped guying system + heavy duty jib variant 4 (27 m)

1.3.13.24 Main boom + Y-shaped guying system + heavy duty jib variant 5 (32 m)

32 m heavy duty jib (3 offsets: 0°, 20°, 40°) on 65.6 m main boom

Heavy duty jib variant 5 (32 m): 1 adapter (2 m) + 1 heavy duty boom (5 m) + 1 heavy duty boom (8 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 32 m = 103 m

Refer to Figure 1-66.

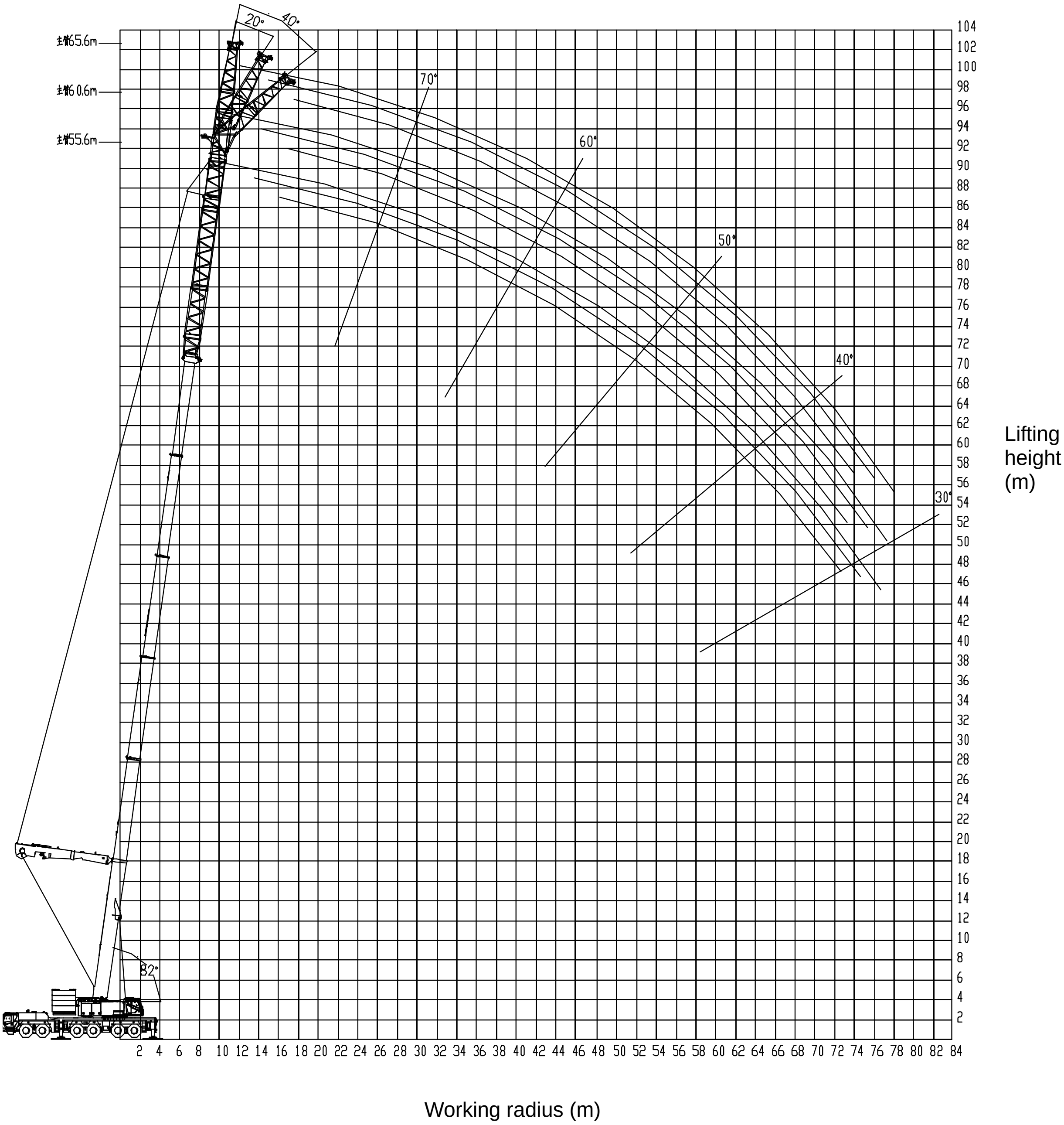


Figure 1-66 Main boom + Y-shaped guying system + heavy duty jib variant 5 (32 m)

1.3.13.25 Main boom + Y-shaped guying system + heavy duty jib variant 6 (39 m)

39 m heavy duty jib (3 offsets: 0°, 20°, 40°) on 65.6 m main boom

Heavy duty jib variant 6 (39 m): 1 adapter (2 m) + 1 heavy duty boom (5 m) + 1 heavy duty boom (8 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 1 extension 1 (7 m)+ 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 39 m = 110 m

Refer to Figure 1-67.

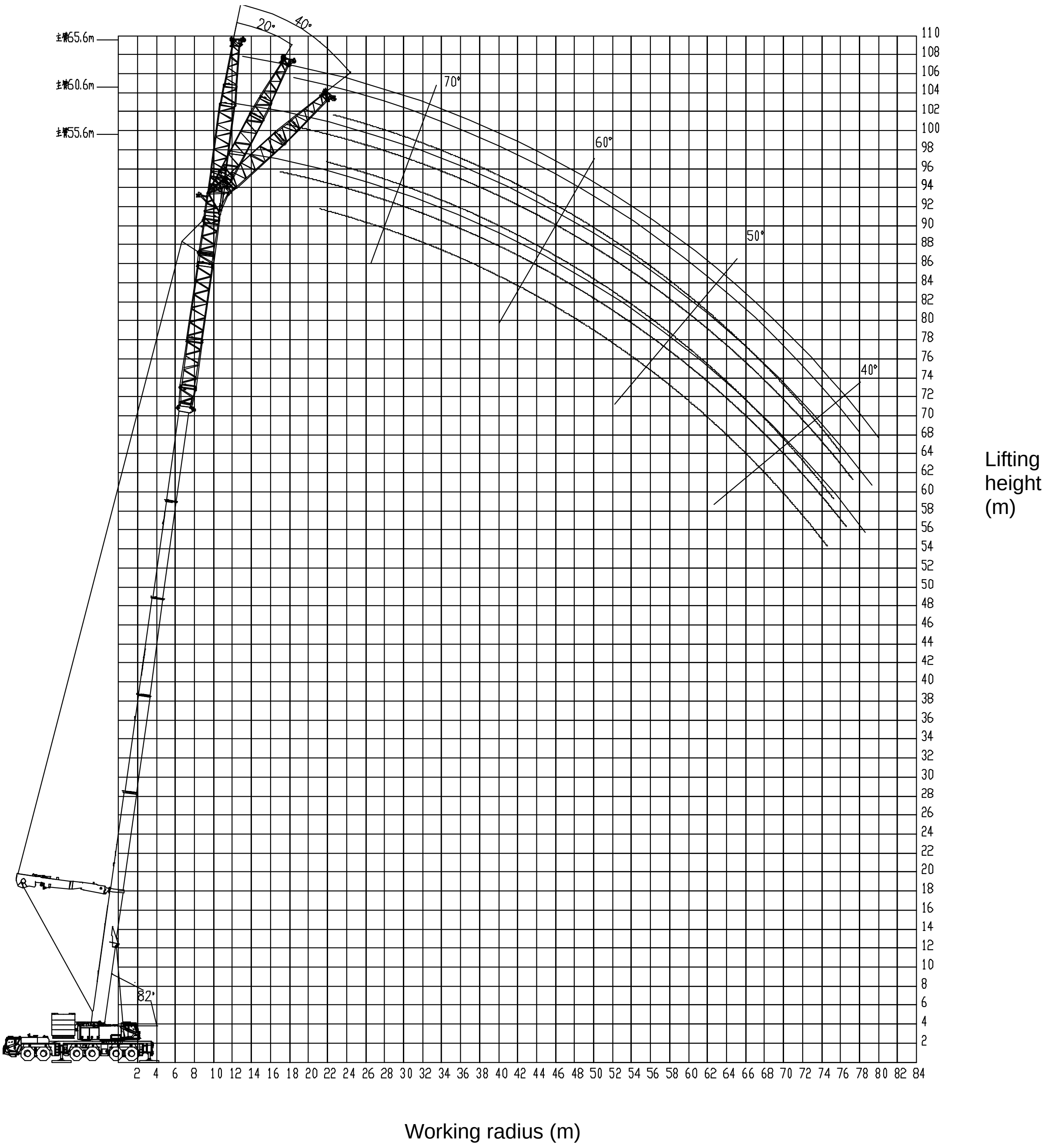


Figure 1-67 Main boom + Y-shaped guying system + heavy duty jib variant 6 (39 m)

1.3.13.26 Main boom + Y-shaped guying system + heavy duty jib variant 7 (46 m)

46 m heavy duty jib (3 offsets: 0°, 20°, 40°) on 65.6 m main boom

Heavy duty jib variant 7 (46 m): 1 adapter (2 m) + 1 heavy duty boom (5 m) + 1 heavy duty boom (8 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 2 extension 1 (14 m)+ 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 46 m = 117 m

Refer to Figure 1-68.

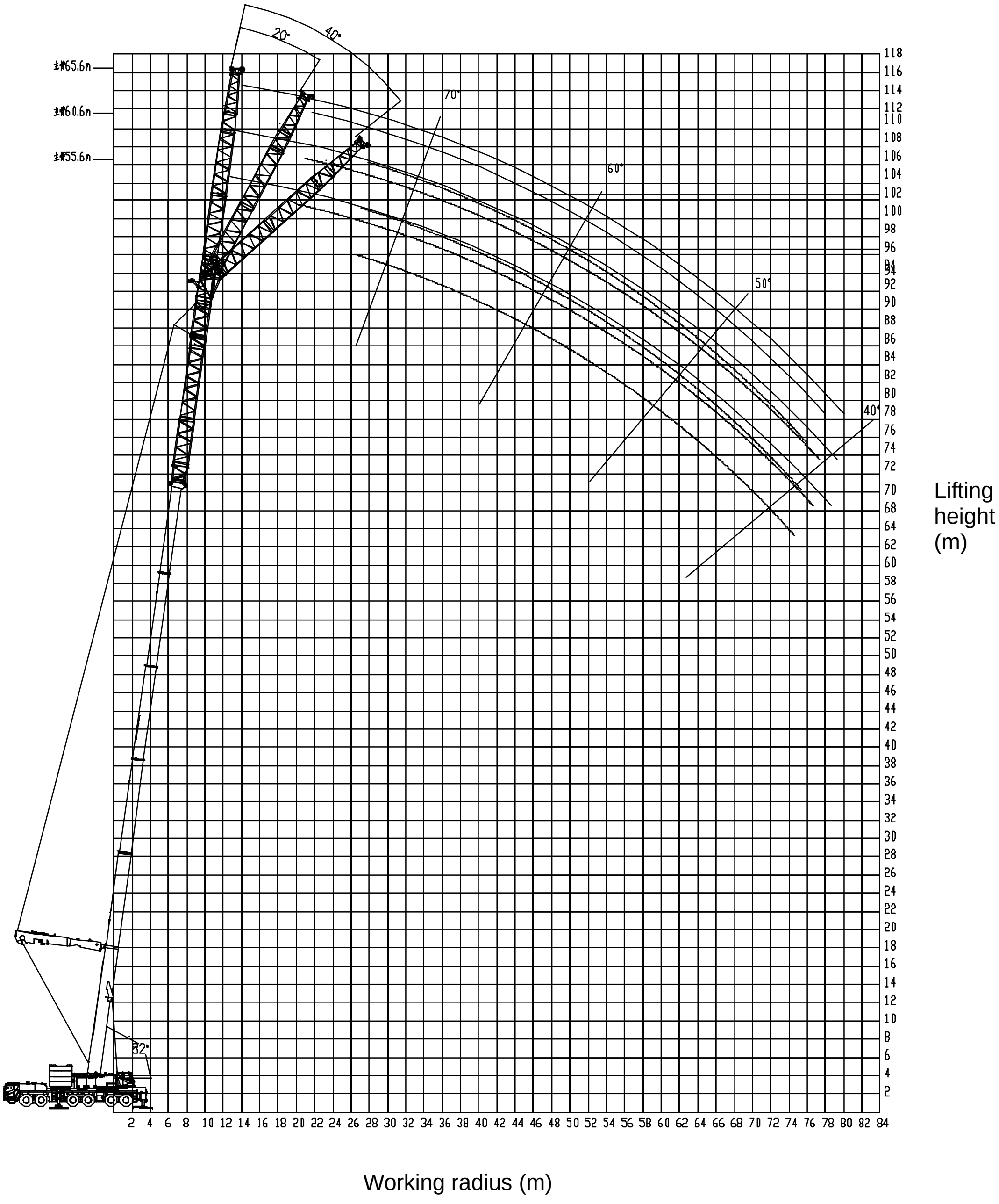


Figure 1-68 Main boom + Y-shaped guying system + heavy duty jib variant 7 (46 m)

1.3.13.27 Main boom + Y-shaped guying system + heavy duty jib variant 8 (53 m)

53 m heavy duty jib (3 offsets: 0°, 20°, 40°) on 65.6 m main boom

Heavy duty jib variant 8 (53 m): 1 adapter (2 m) + 1 heavy duty boom (5 m) + 1 heavy duty boom (8 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 2 extension 1 (14 m)+ 1 transition section (2 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 53 m = 124 m

Refer to Figure 1-69.

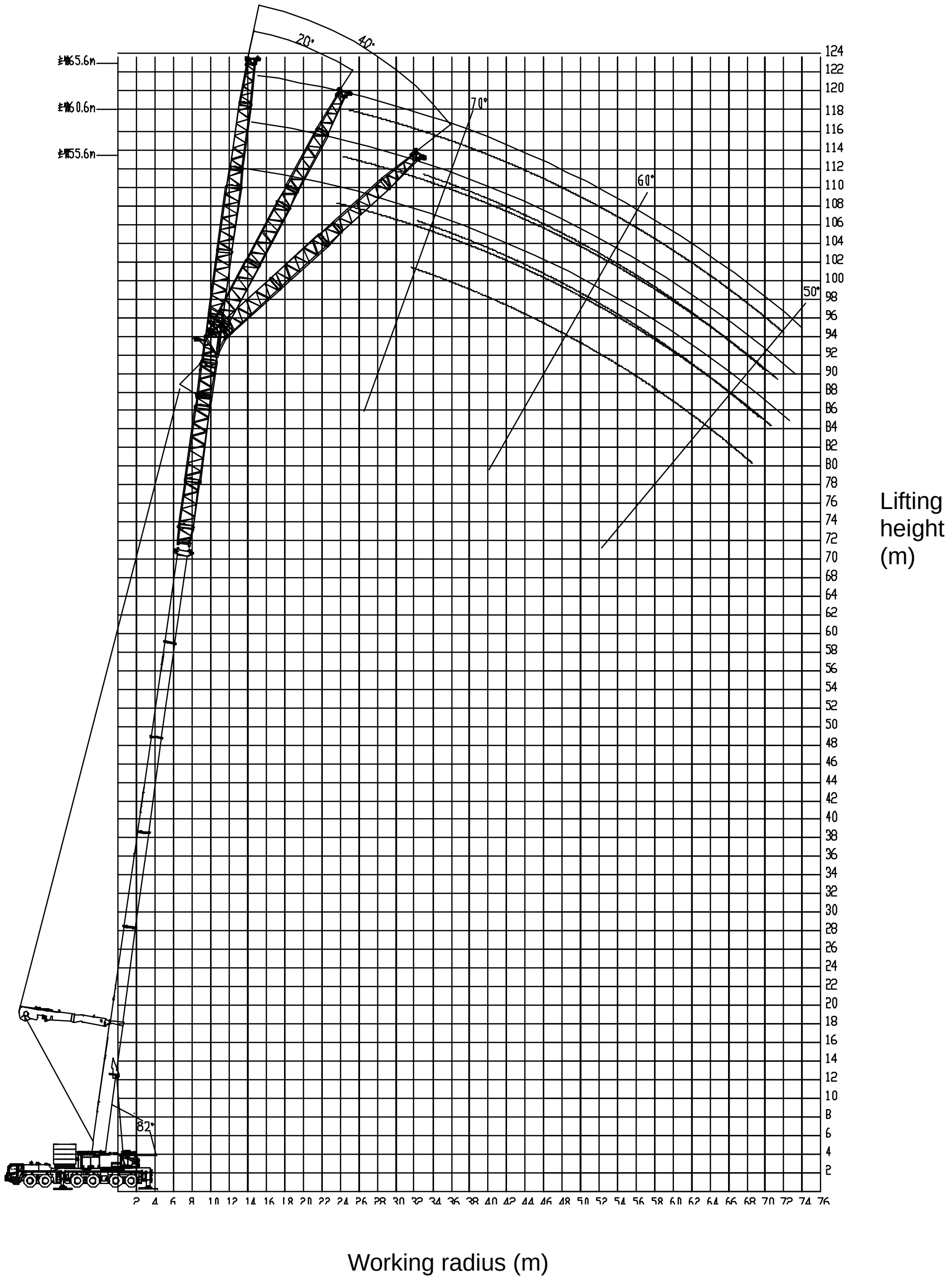


Figure 1-69 Main boom + Y-shaped guying system + heavy duty jib variant 8 (53 m)

1.3.13.28 Main boom + Y-shaped guying system + heavy duty jib variant 9 (60 m)

60 m heavy duty jib (3 offsets: 0°, 20°, 40°) on 65.6 m main boom

Heavy duty jib variant 9 (60 m): 1 adapter (2 m) + 1 heavy duty boom (5 m) + 1 heavy duty boom (8 m) + 1 A-frame (5 m) + 1 articulated piece (5 m) + 2 extension 1 (14 m)+ 1 transition section (2 m) + 2 extension 2 (14 m) + 1 head piece (5 m)

Max. boom length (L): 71 m + 60 m = 131 m

Refer to Figure 1-70.

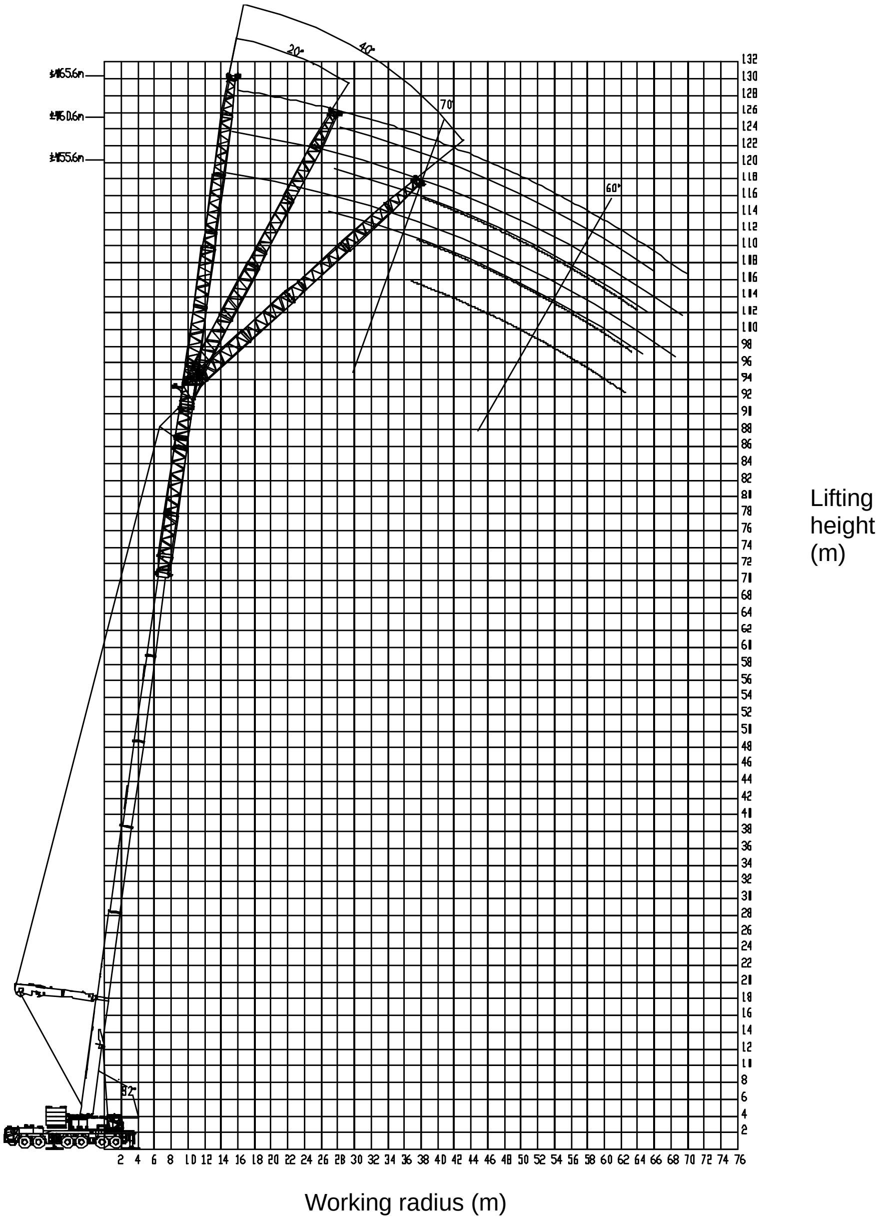


Figure 1-70 Main boom + Y-shaped guying system + heavy duty jib variant 9 (60 m)

1.3.13.29 Main boom + luffing jib variant 1 (15 m) (main boom angle 82°)

15 m luffing jib on 50.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 1 (15 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 50.6 m + 18.5 m = 69.1 m

Refer to Figure 1-71.

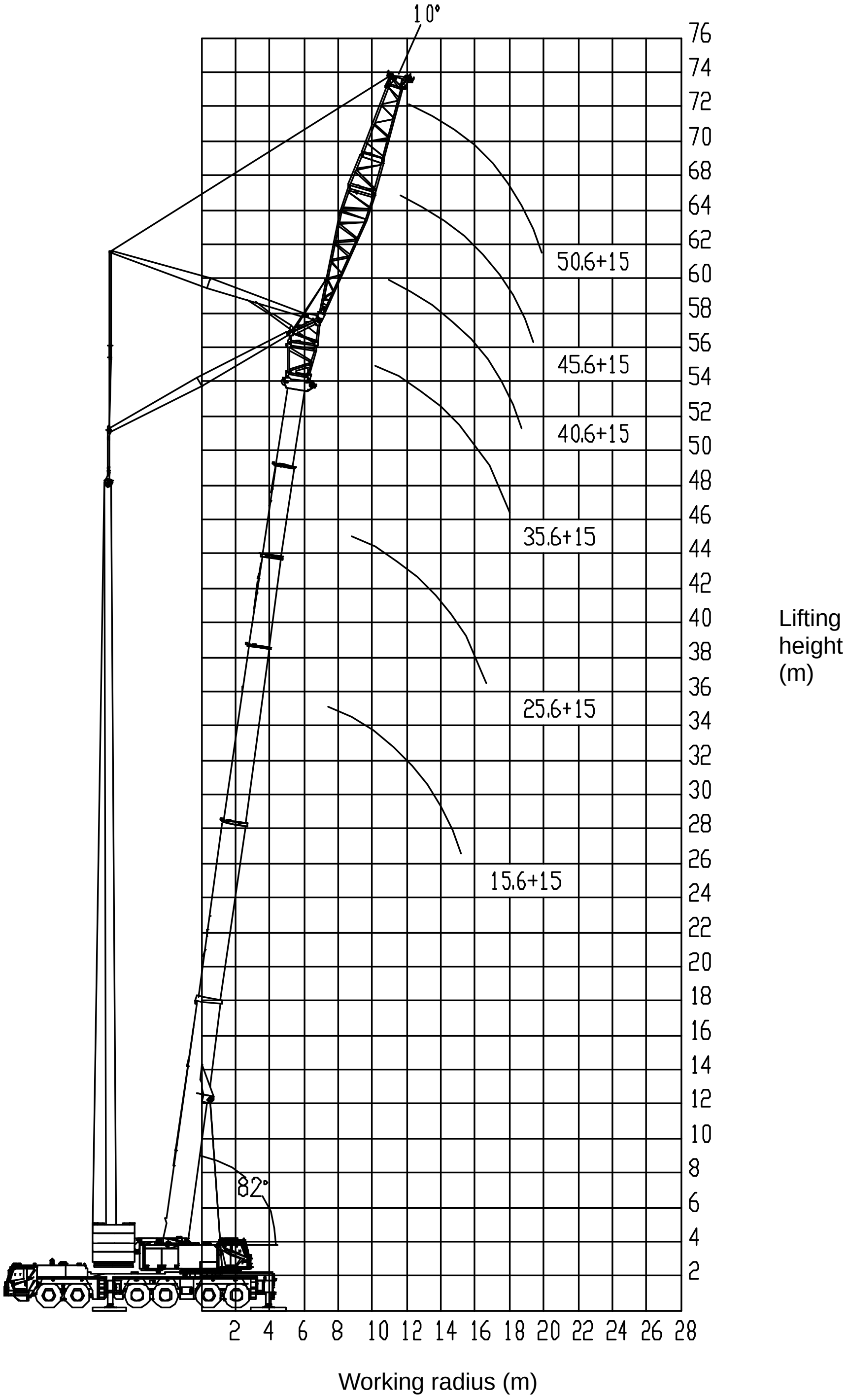


Figure 1-71 Main boom (82°) + luffing jib variant 1 (15 m)

1.3.13.30 Main boom + luffing jib variant 2 (22 m) (main boom angle 82°)

22 m luffing jib on 60.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 2 (22 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 1 extension 1 (7 m) + 1 head piece (5 m)

Max. boom length (L): 60.6 m + 25.5 m = 86.1 m

Refer to Figure 1-72.

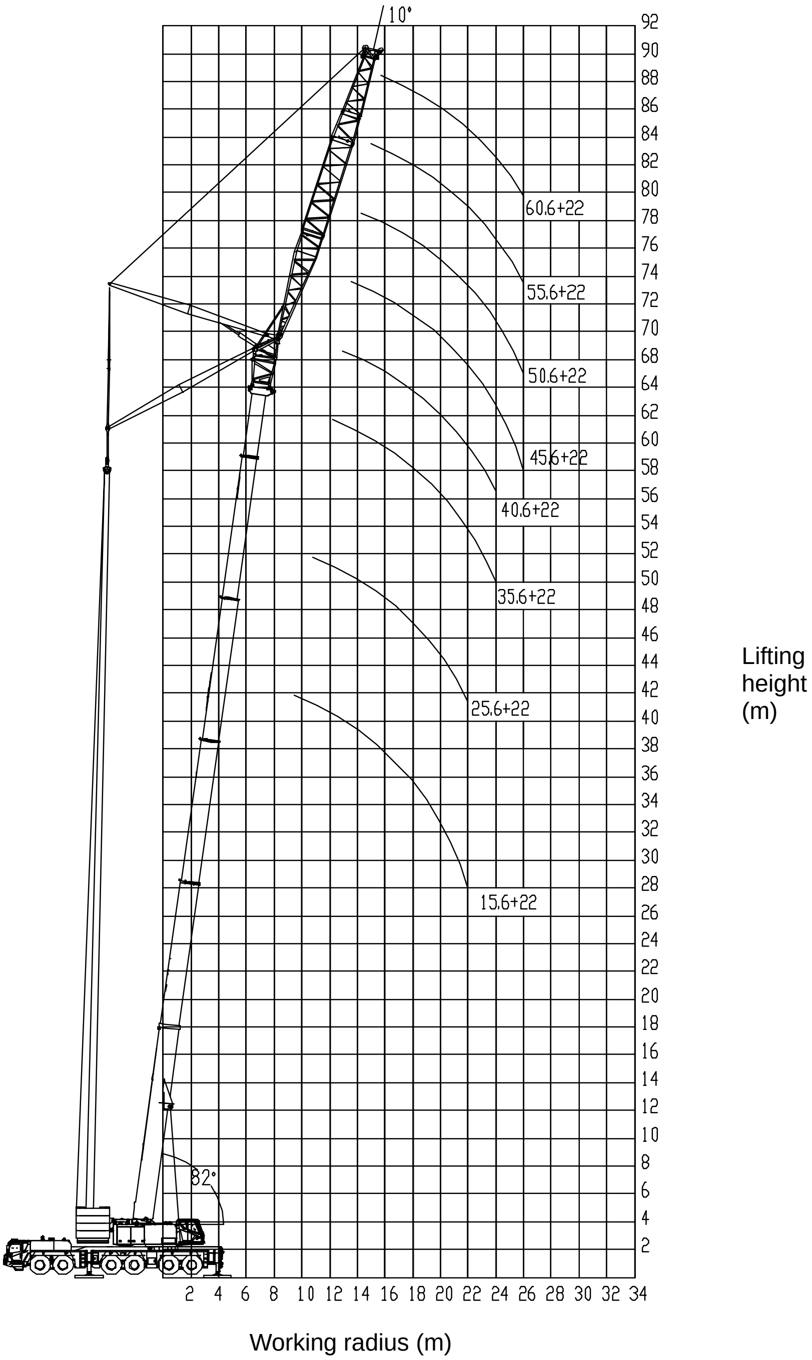


Figure 1-72 Main boom (82°) + luffing jib variant 2 (22 m)

1.3.13.31 Main boom + luffing jib variant 3 (29 m) (main boom angle 82°)

29 m luffing jib on 60.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 3 (29 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 2 extension 1 (14 m) + 1 head piece (5 m)

Max. boom length (L): 60.6 m + 32.5 m = 93.1 m

Refer to Figure 1-73.

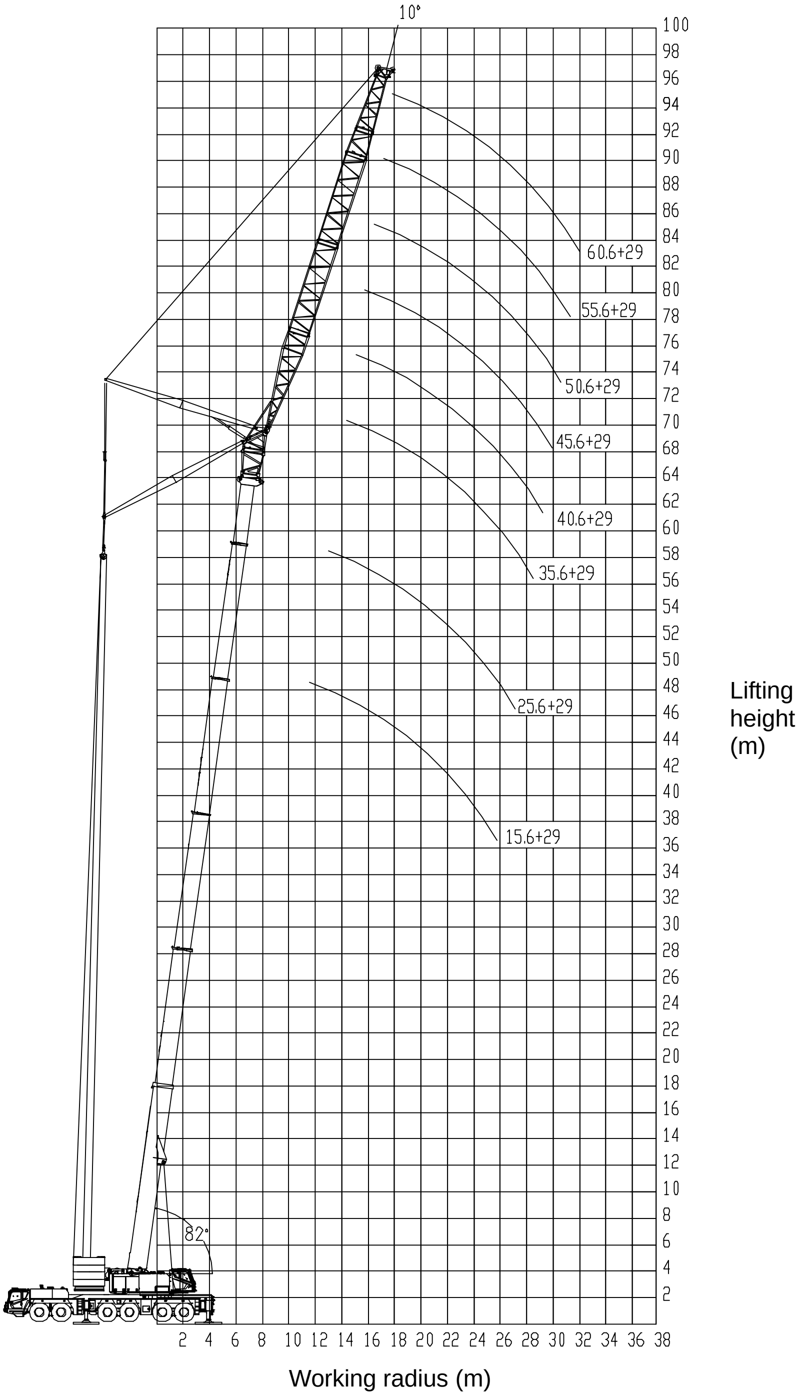


Figure 1-73　Main boom (82°) + luffing jib variant 3 (29 m)

1.3.13.32 Main boom + luffing jib variant 4 (36 m) (main boom angle 82°)

36 m luffing jib on 60.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 4 (36 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 2 extension 1 (14 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 60.6 m + 39.5 m = 100.1 m

Refer to Figure 1-74.

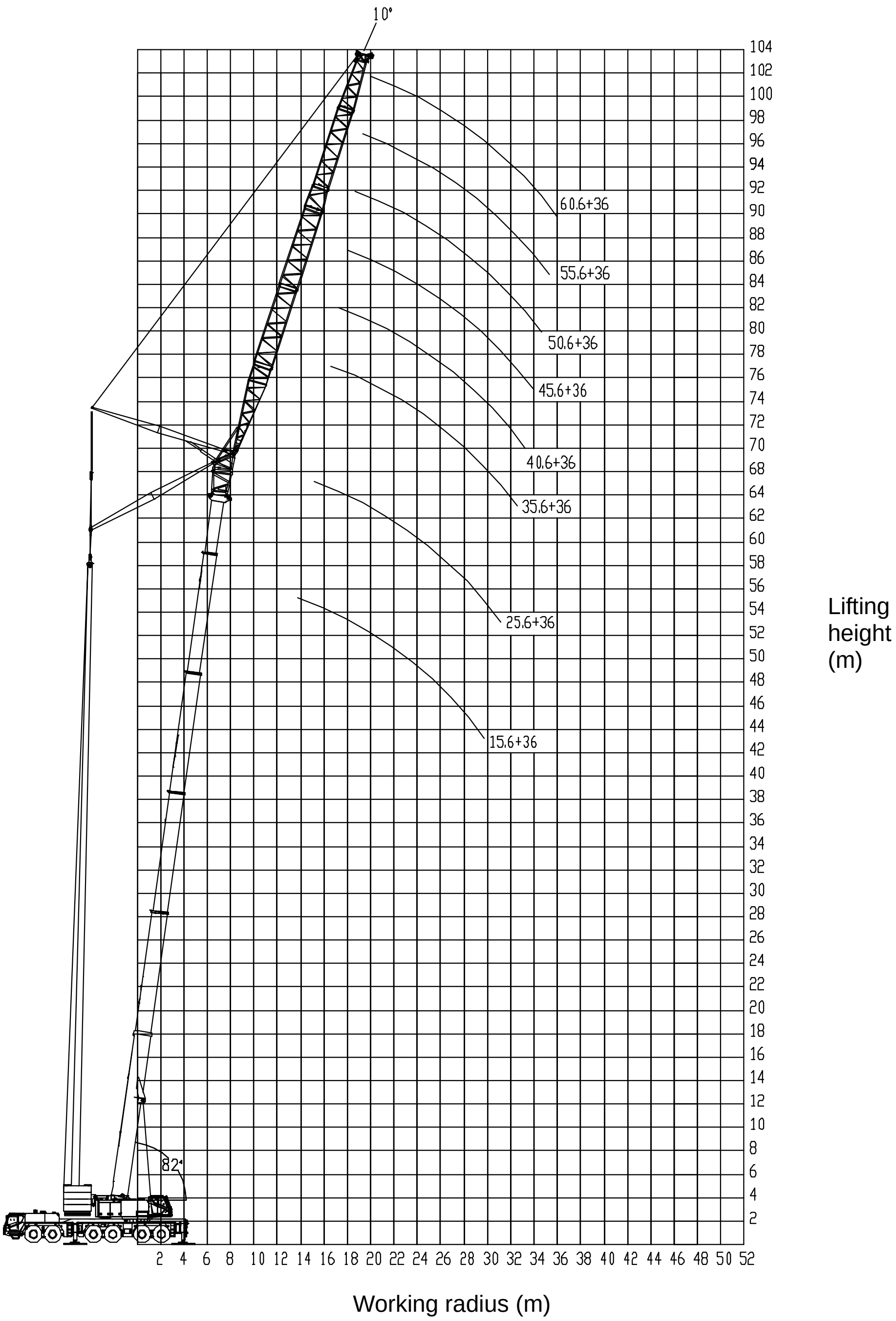


Figure 1-74 Main boom (82°) + luffing jib variant 4 (36 m)

1.3.13.33 Main boom + luffing jib variant 5 (43 m) (main boom angle 82°)

43 m luffing jib on 60.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 5 (43 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 3 extension 1 (21 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 60.6 m + 46.5 m = 107.1 m

Refer to Figure 1-75.

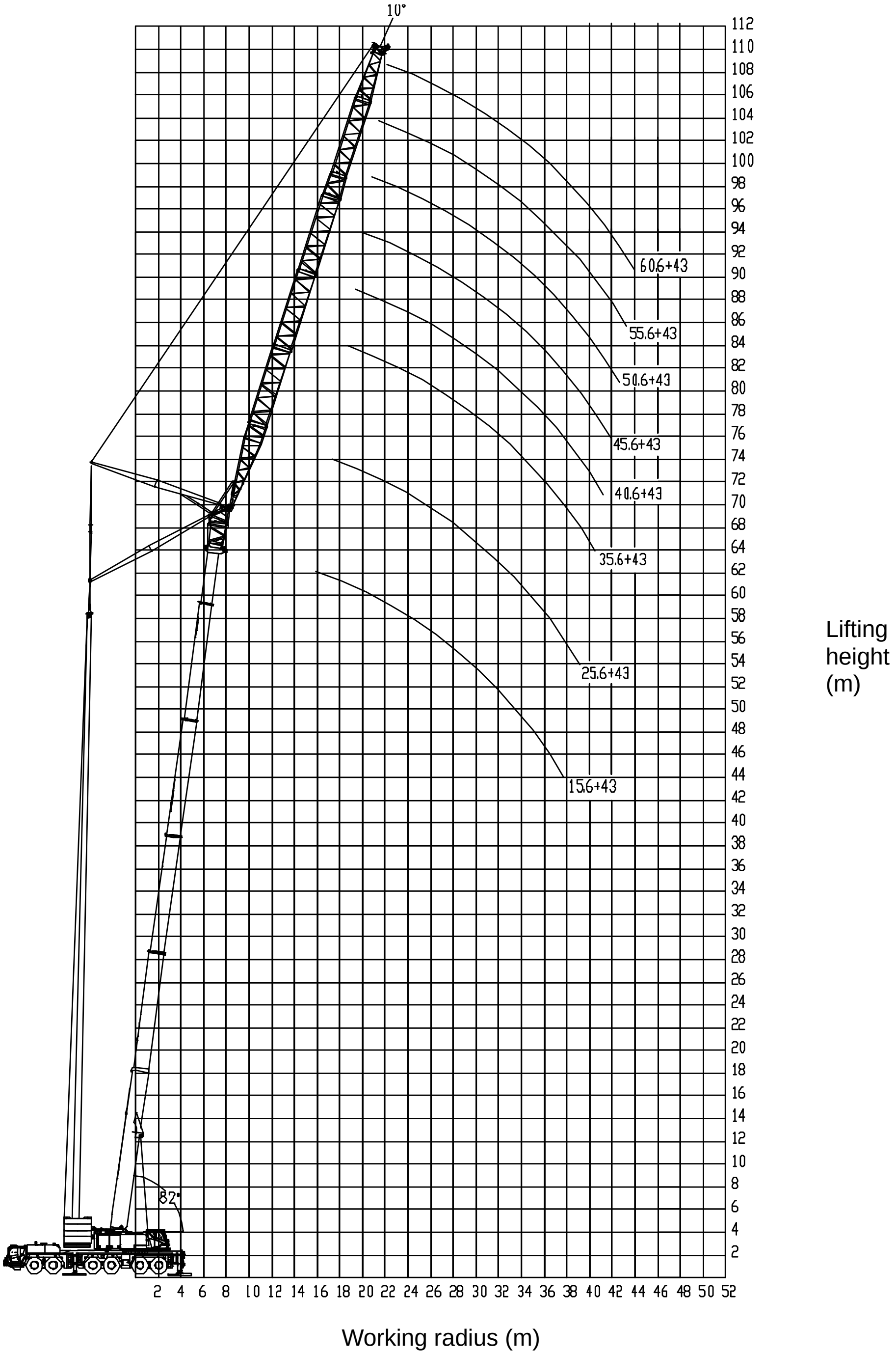


Figure 1-75 Main boom (82°) + luffing jib variant 5 (43 m)

1.3.13.34 Main boom + luffing jib variant 6 (50 m) (main boom angle 82°)

50 m luffing jib on 60.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 6 (50 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 4 extension 1 (28 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 60.6 m + 53.5 m = 114.1 m

Refer to Figure 1-76.

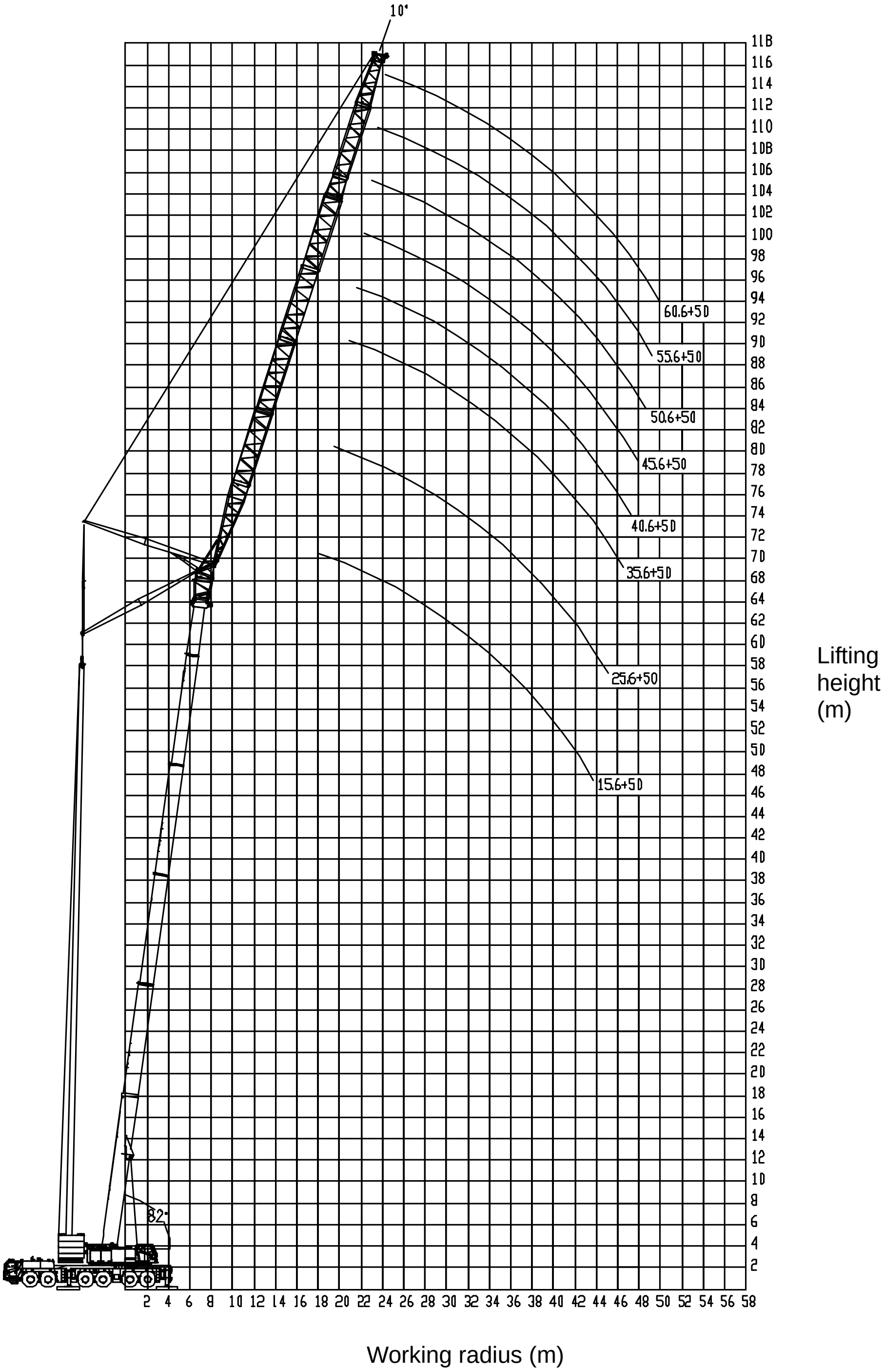


Figure 1-76 Main boom (82°) + luffing jib variant 6 (50 m)

1.3.13.35 Main boom + luffing jib variant 7 (57 m) (main boom angle 82°)

57 m luffing jib on 55.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 7 (57 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 55.6 m + 60.5 m = 116.1 m

Refer to Figure 1-77.

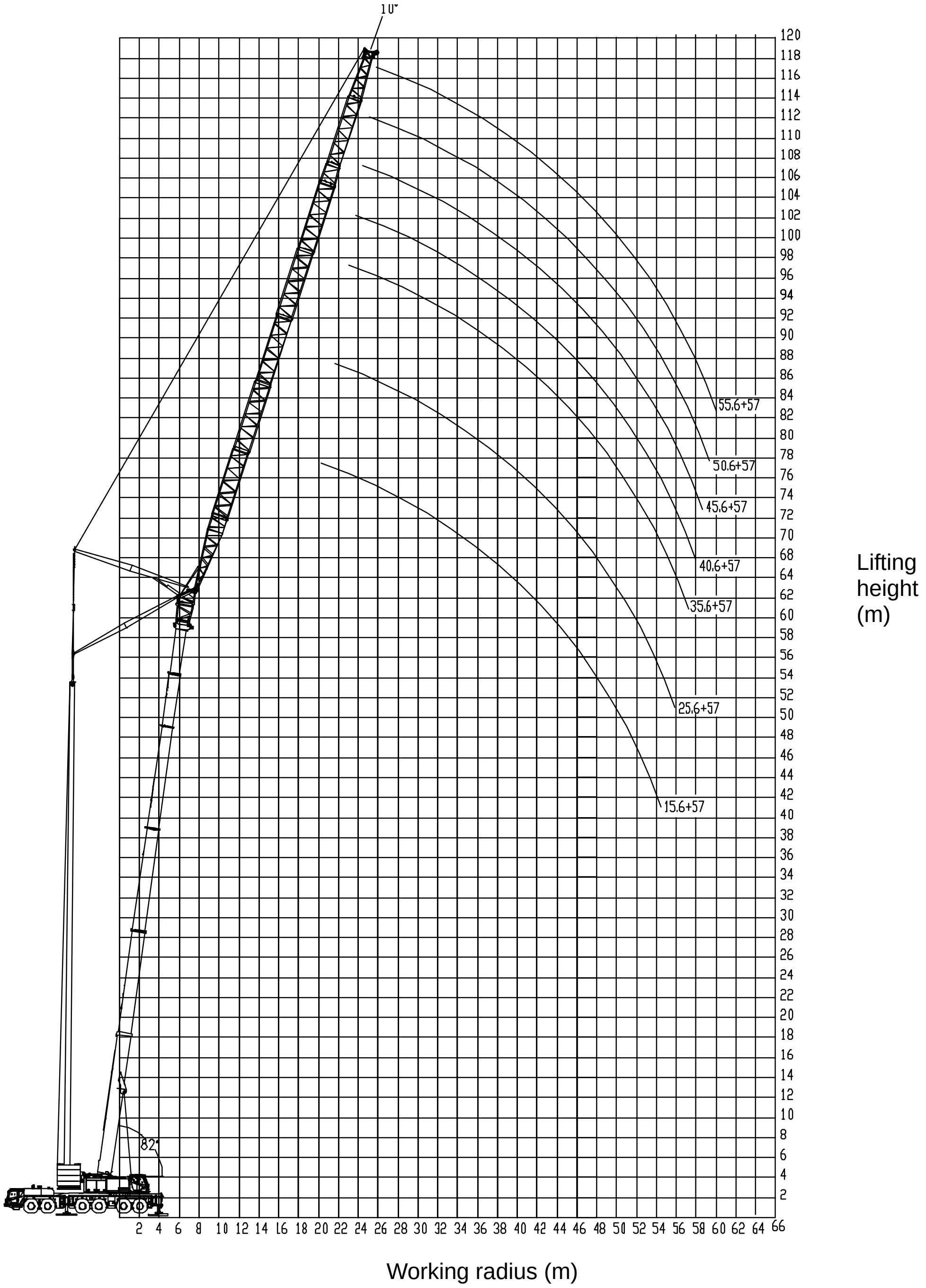


Figure 1-77 Main boom (82°) + luffing jib variant 7 (57 m)

1.3.13.36 Main boom + luffing jib variant 8 (64 m) (main boom angle 82°)

64 m luffing jib on 55.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 8 (64 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 2 extension 2 (14 m) + 1 head piece (5 m)

Max. boom length (L): 55.6 m + 67.5 m = 123.1 m

Refer to Figure 1-78.

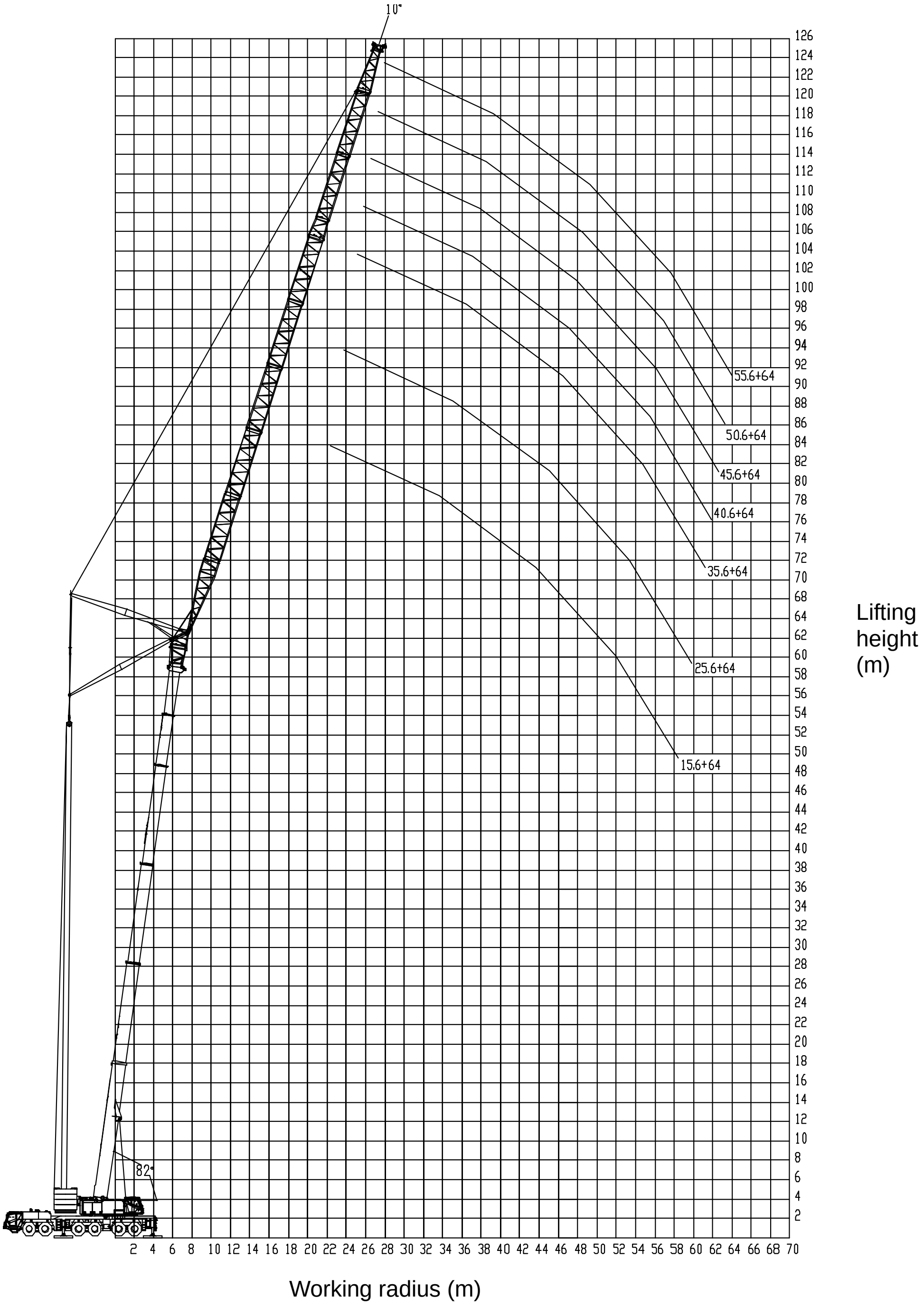


Figure 1-78 Main boom (82°) + luffing jib variant 8 (64 m)

1.3.13.37 Main boom + luffing jib variant 9 (71 m) (main boom angle 82°)

71 m luffing jib on 50.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 9 (71 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 2 extension 2 (14 m) + 1 extension 1 of luffing jib (7 m) + 1 head piece (5 m)

Max. boom length (L): 50.6 m + 74.5 m = 125.1 m

Refer to Figure 1-79.

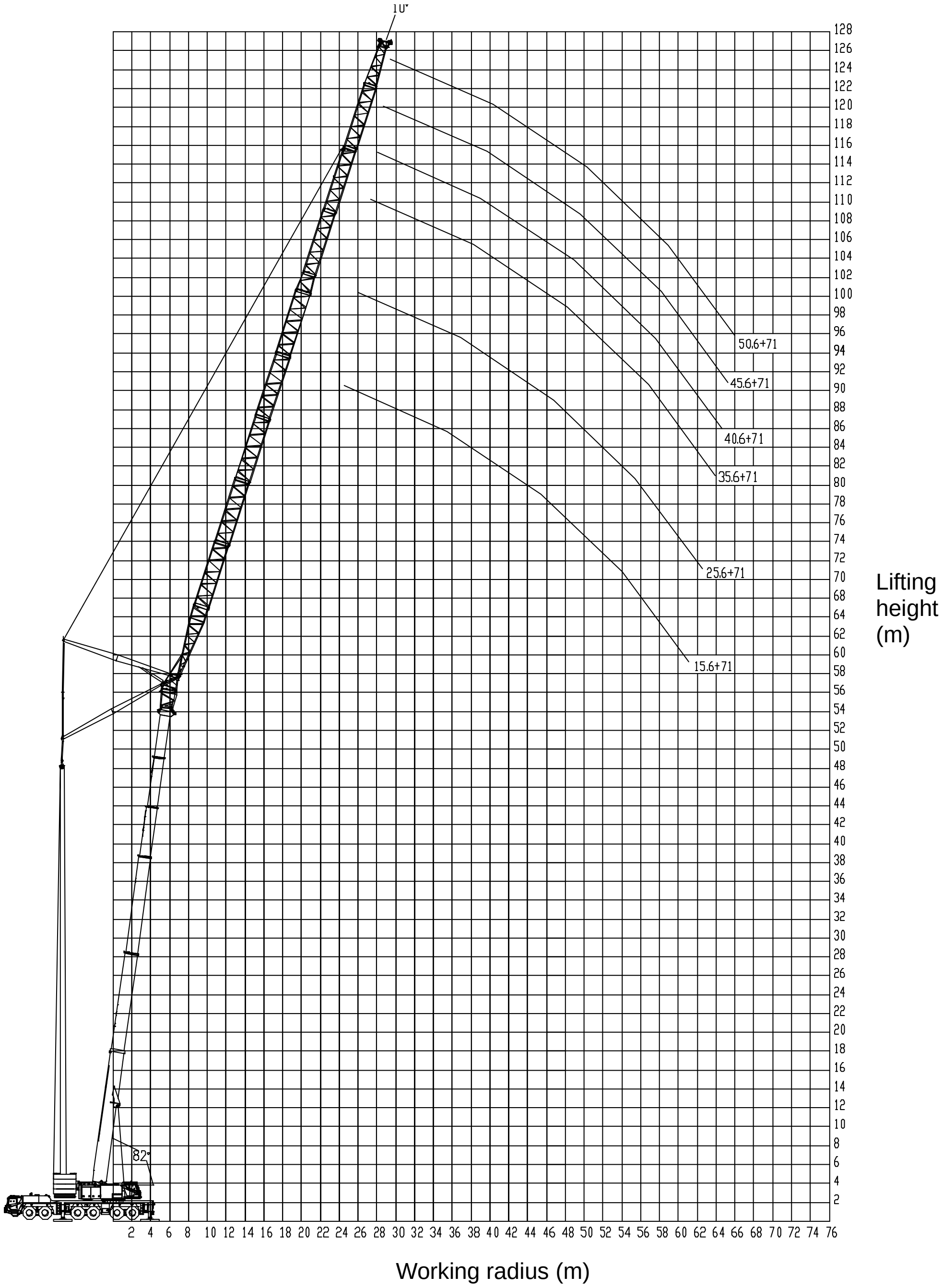


Figure 1-79 Main boom (82°) + luffing jib variant 9 (71 m)

1.3.13.38 Main boom + luffing jib variant 10 (78 m) (main boom angle 82°)

78 m luffing jib on 45.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 10 (78 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 3 extension 2 (21 m) + 1 extension 1 of luffing jib (7 m)+ 1 head piece (5 m)

Max. boom length (L): 45.6 m + 81.5 m = 127.1 m

Refer to Figure 1-80.

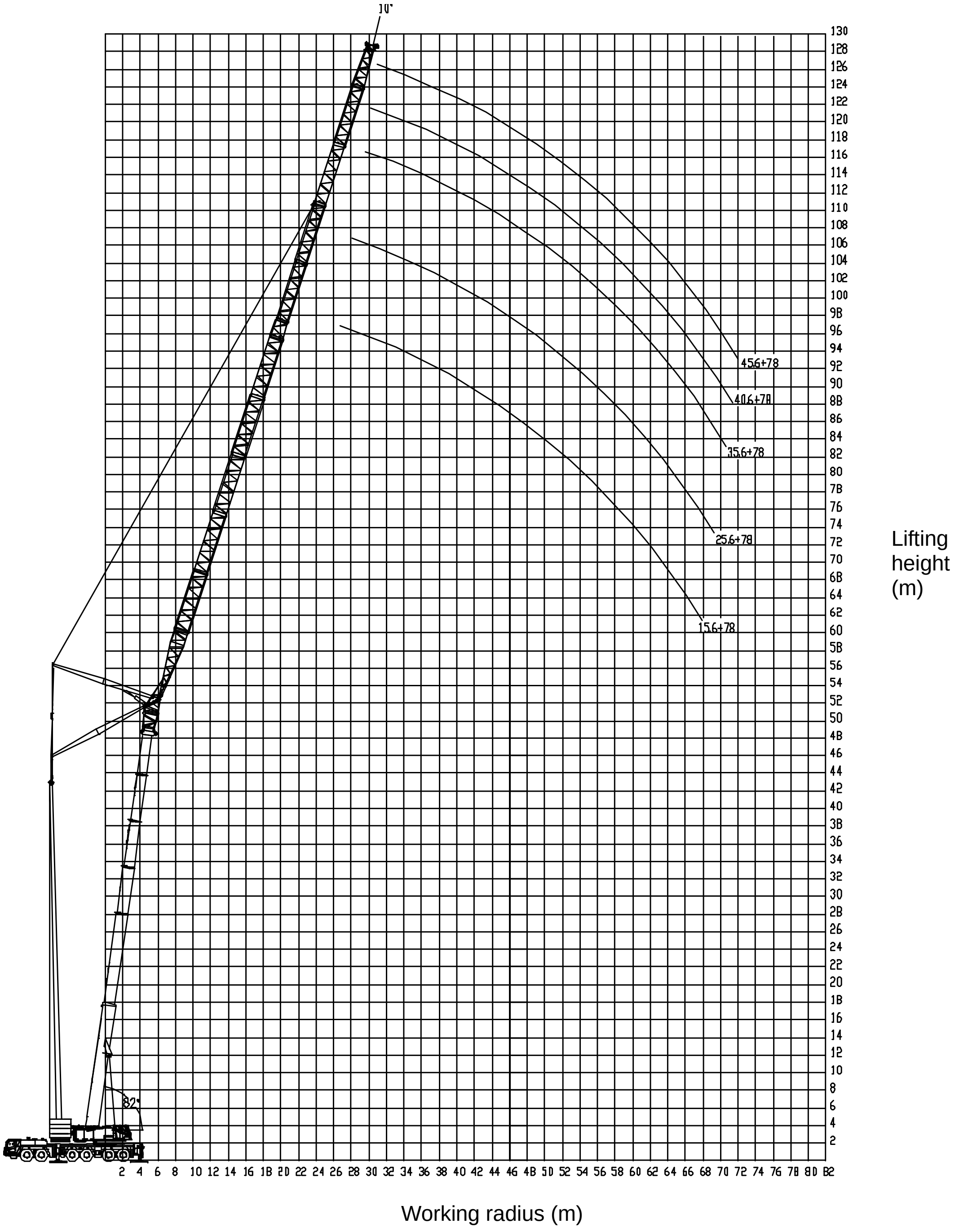


Figure 1-80 Main boom (82°) + luffing jib variant 10 (78 m)

1.3.13.39 Main boom + luffing jib variant 1 (15 m) (main boom angle 75°)

15 m luffing jib on 50.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 1 (15 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 50.6 m + 18.5 m = 69.1 m

Refer to Figure 1-81.

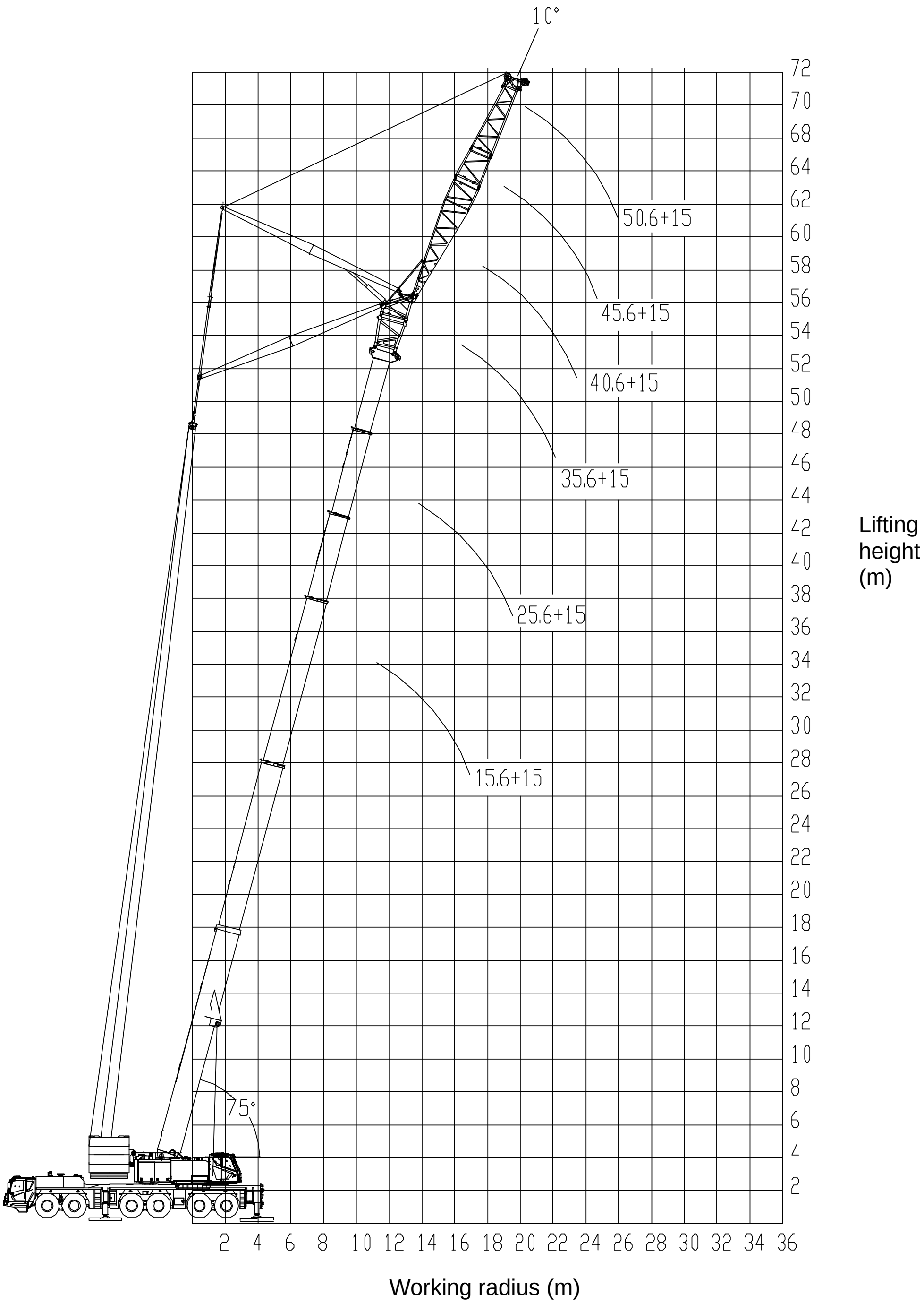


Figure 1-81 Main boom (75°) + luffing jib variant 1 (15 m)

1.3.13.40 Main boom + luffing jib variant 2 (22 m) (main boom angle 75°)

22 m luffing jib on 60.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 2 (22 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 1 extension 1 (7 m) + 1 head piece (5 m)

Max. boom length (L): 60.6 m + 25.5 m = 86.1 m

Refer to Figure 1-82.

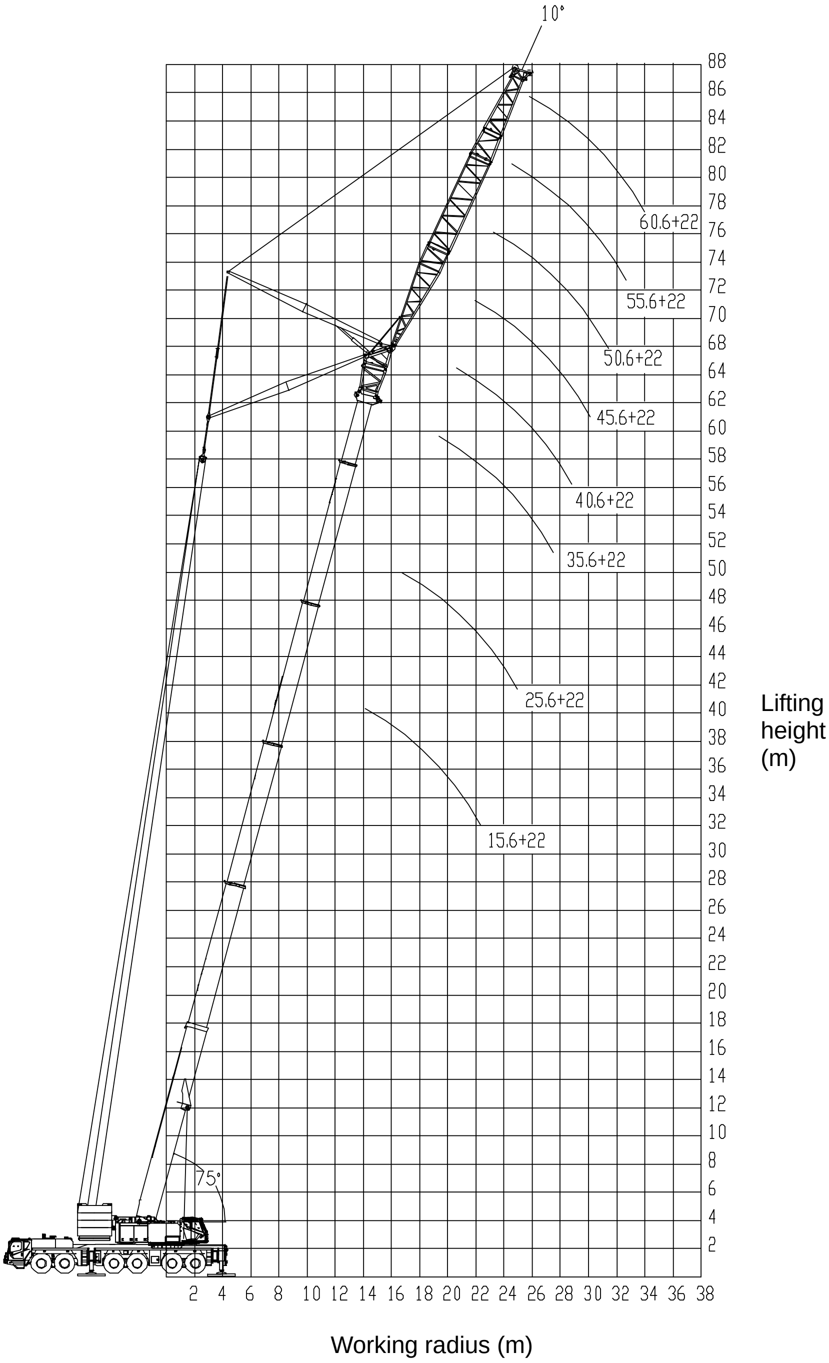


Figure 1-82 Main boom (75°) + luffing jib variant 2 (22 m)

1.3.13.41 Main boom + luffing jib variant 3 (29 m) (main boom angle 75°)

29 m luffing jib on 60.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 3 (29 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 2 extension 1 (14 m) + 1 head piece (5 m)

Max. boom length (L): 60.6 m + 32.5 m = 93.1 m

Refer to Figure 1-83.

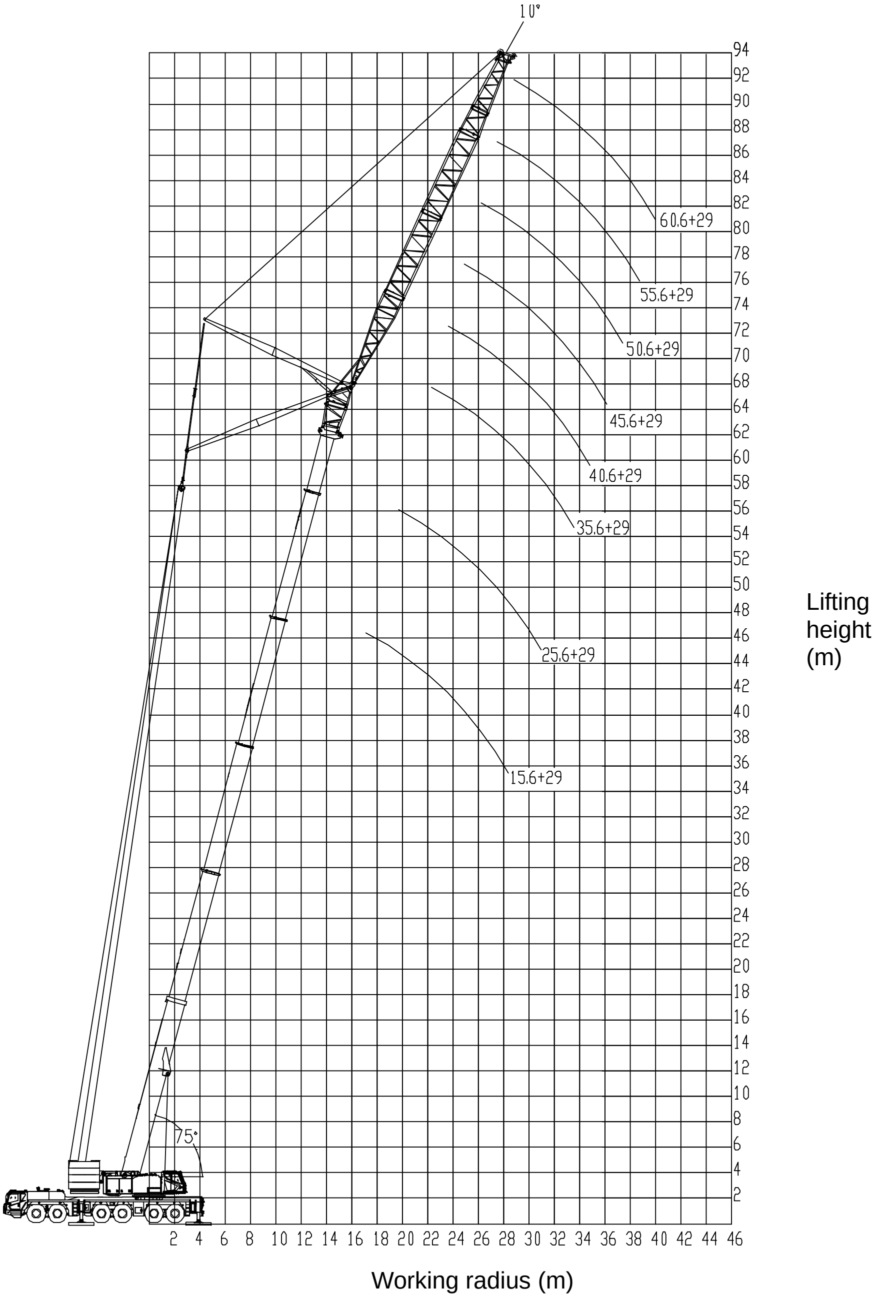


Figure 1-83 Main boom (75°) + luffing jib variant 3 (29 m)

1.3.13.42 Main boom + luffing jib variant 4 (36 m) (main boom angle 75°)

36 m luffing jib on 60.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 4 (36 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 2 extension 1 (14 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 60.6 m + 39.5 m = 100.1 m

Refer to Figure 1-84.

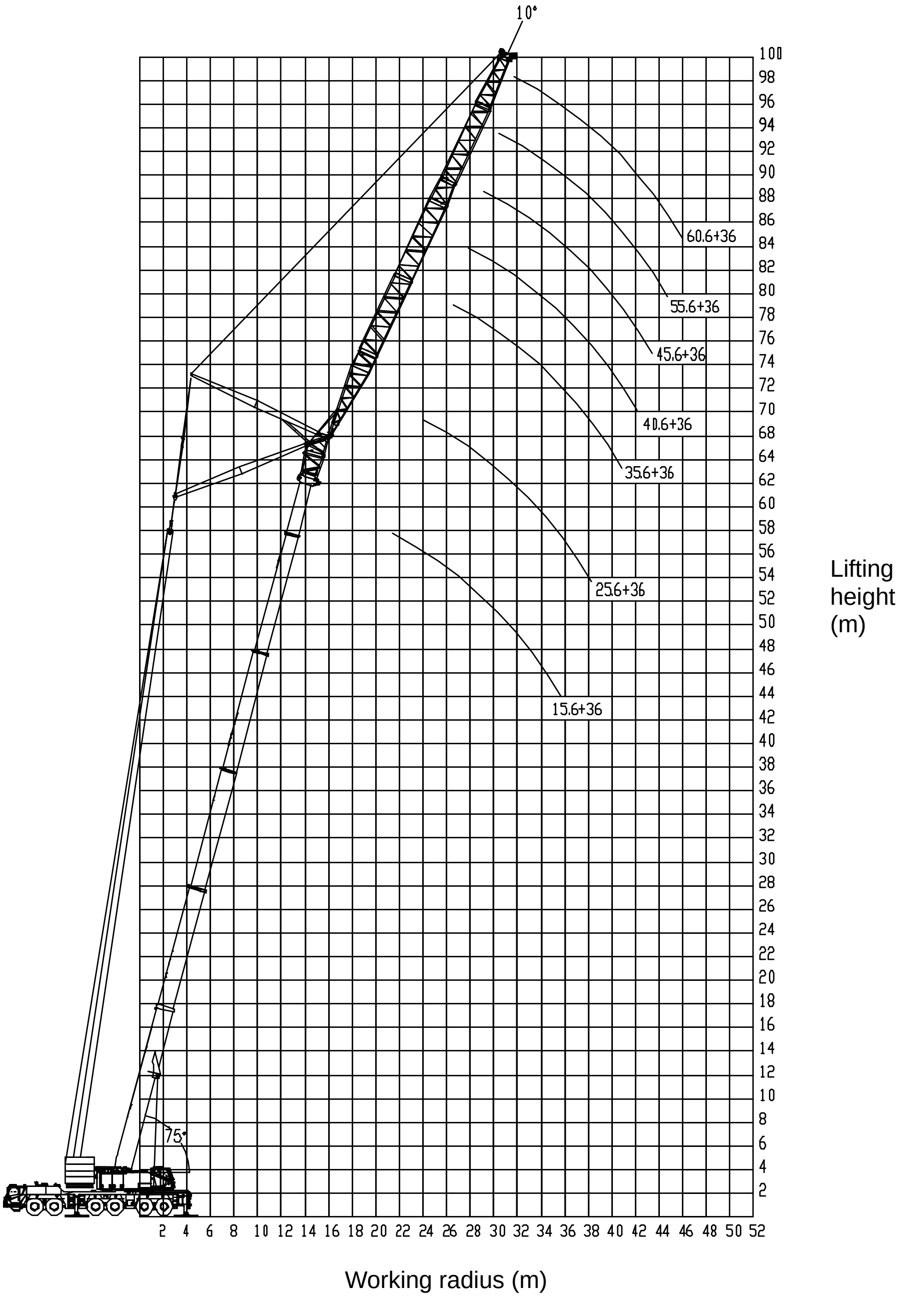


Figure 1-84 Main boom (75°) + luffing jib variant 4 (36 m)

1.3.13.43 Main boom + luffing jib variant 5 (43 m) (main boom angle 75°)

43 m luffing jib on 60.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 5 (43 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 3 extension 1 (21 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 60.6 m + 46.5 m = 107.1 m

Refer to Figure 1-85.

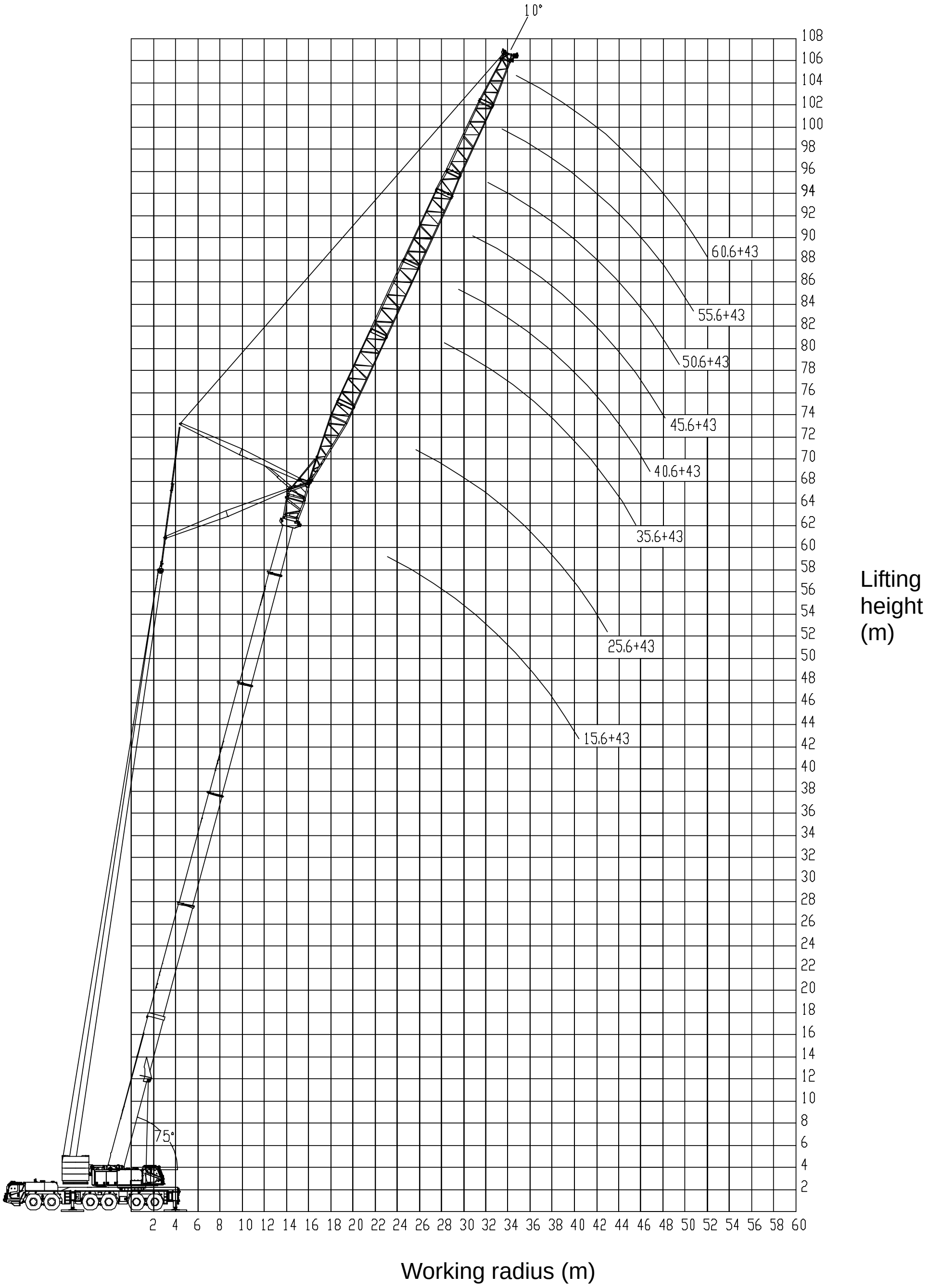


Figure 1-85 Main boom (75°) + luffing jib variant 5 (43 m)

1.3.13.44 Main boom + luffing jib variant 6 (50 m) (main boom angle 75°)

50 m luffing jib on 60.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 6 (50 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 4 extension 1 (28 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 60.6 m + 53.5 m = 114.1 m

Refer to Figure 1-86.

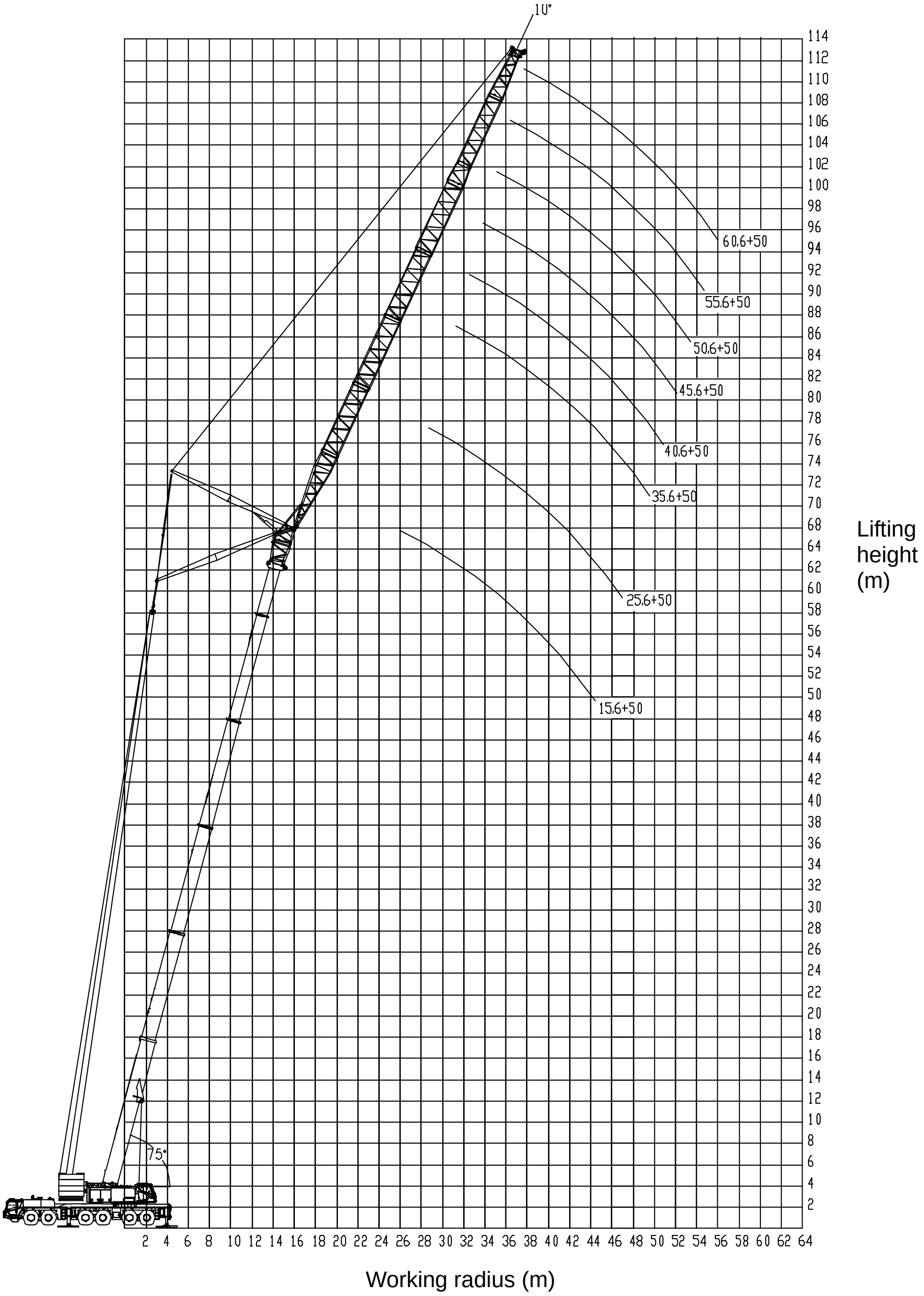


Figure 1-86 Main boom (75°) + luffing jib variant 6 (50 m)

1.3.13.45 Main boom + luffing jib variant 7 (57 m) (main boom angle 75°)

57 m luffing jib on 55.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 7 (57 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 55.6 m + 60.5 m = 116.1 m

Refer to Figure 1-87.

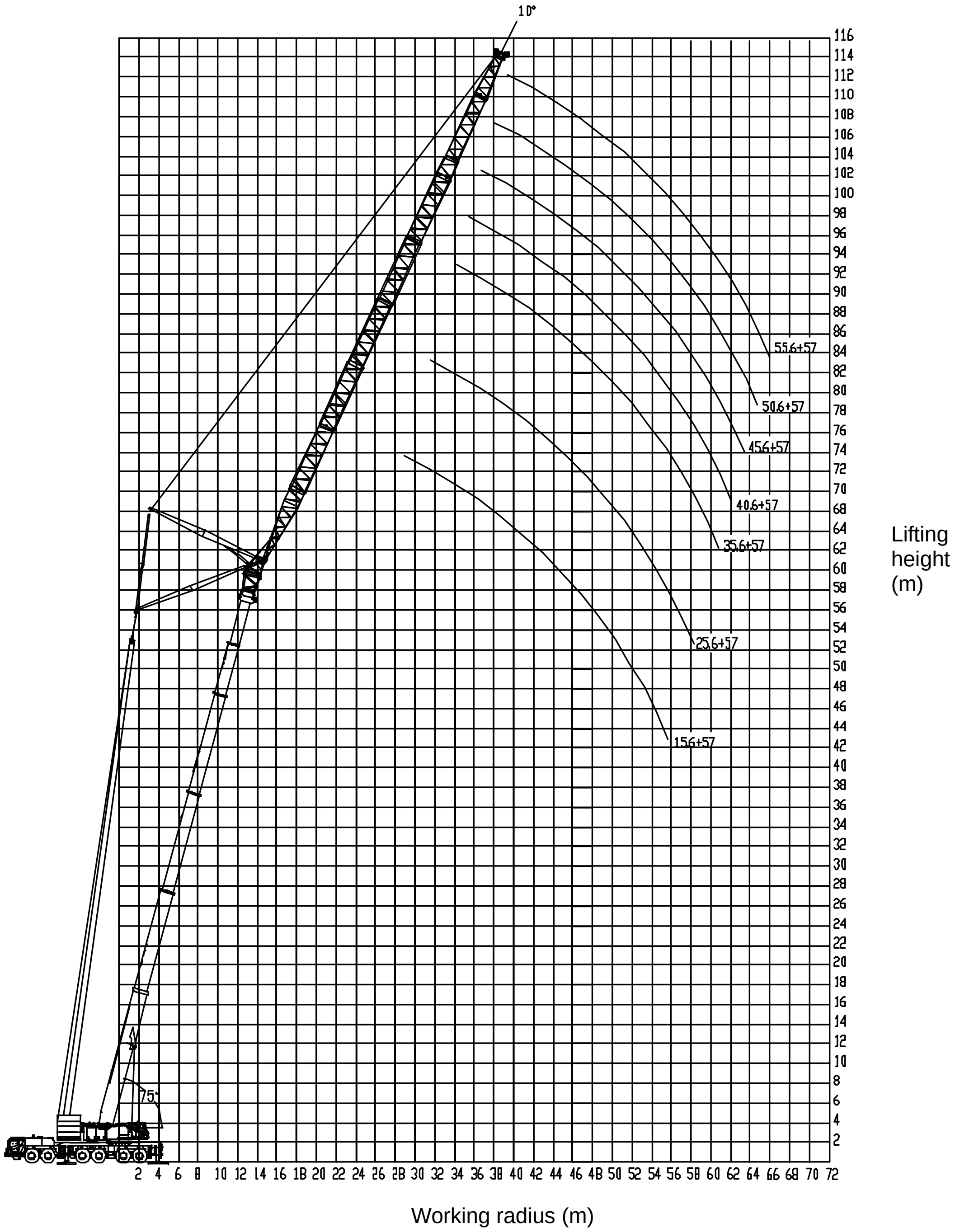


Figure 1-87 Main boom (75°) + luffing jib variant 7 (57 m)

1.3.13.46 Main boom + luffing jib variant 8 (64 m) (main boom angle 75°)

64 m luffing jib on 55.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 8 (64 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 2 extension 2 (14 m) + 1 head piece (5 m)

Max. boom length (L): 55.6 m + 67.5 m = 123.1 m

Refer to Figure 1-88.

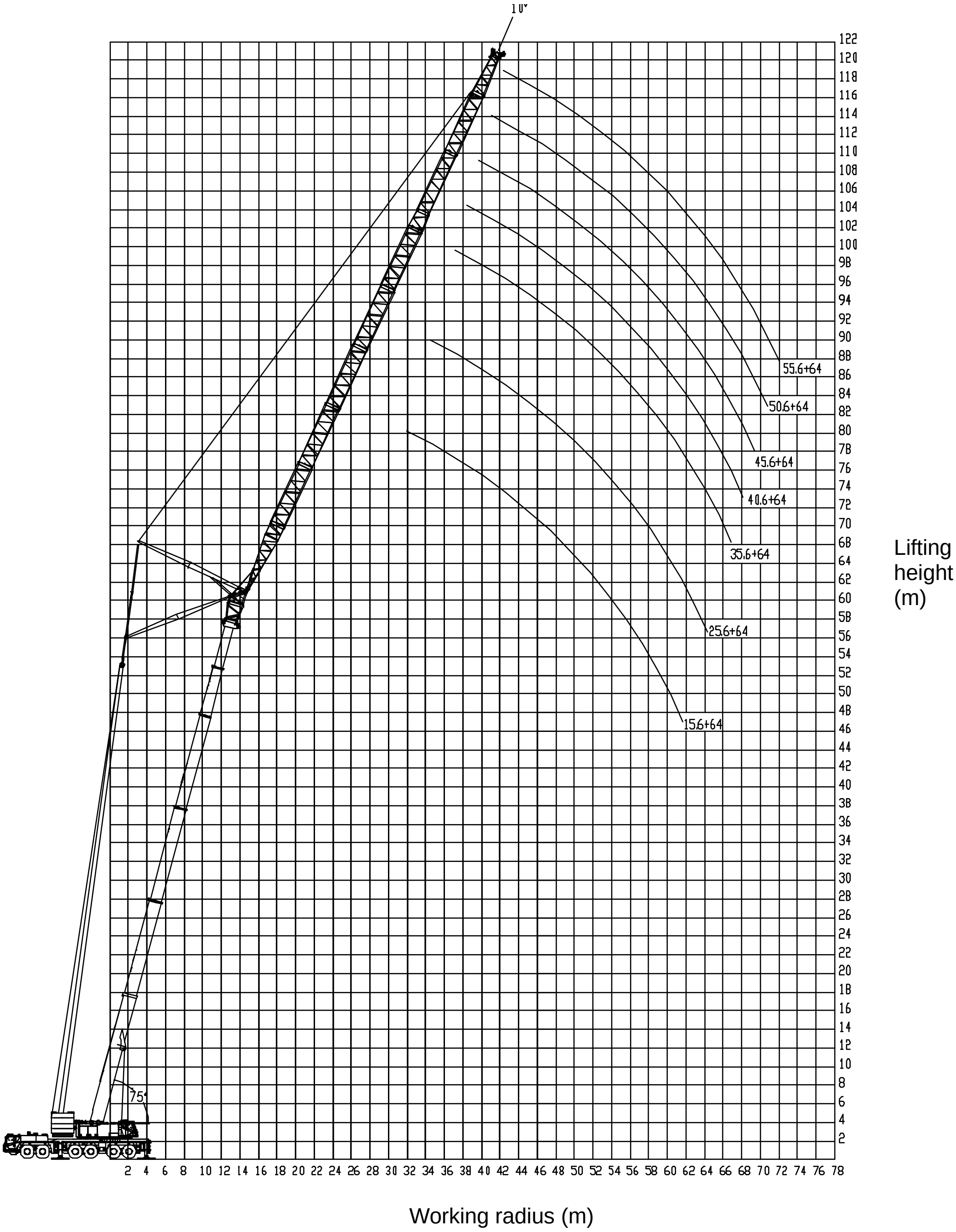


Figure 1-88 Main boom (75°) + luffing jib variant 8 (64 m)

1.3.13.47 Main boom + luffing jib variant 9 (71 m) (main boom angle 75°)

71 m luffing jib on 50.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 9 (71 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 2 extension 2 (14 m) + 1 extension 1 of luffing jib (7 m) + 1 head piece (5 m)

Max. boom length (L): 50.6 m + 74.5 m = 125.1 m

Refer to Figure 1-89.

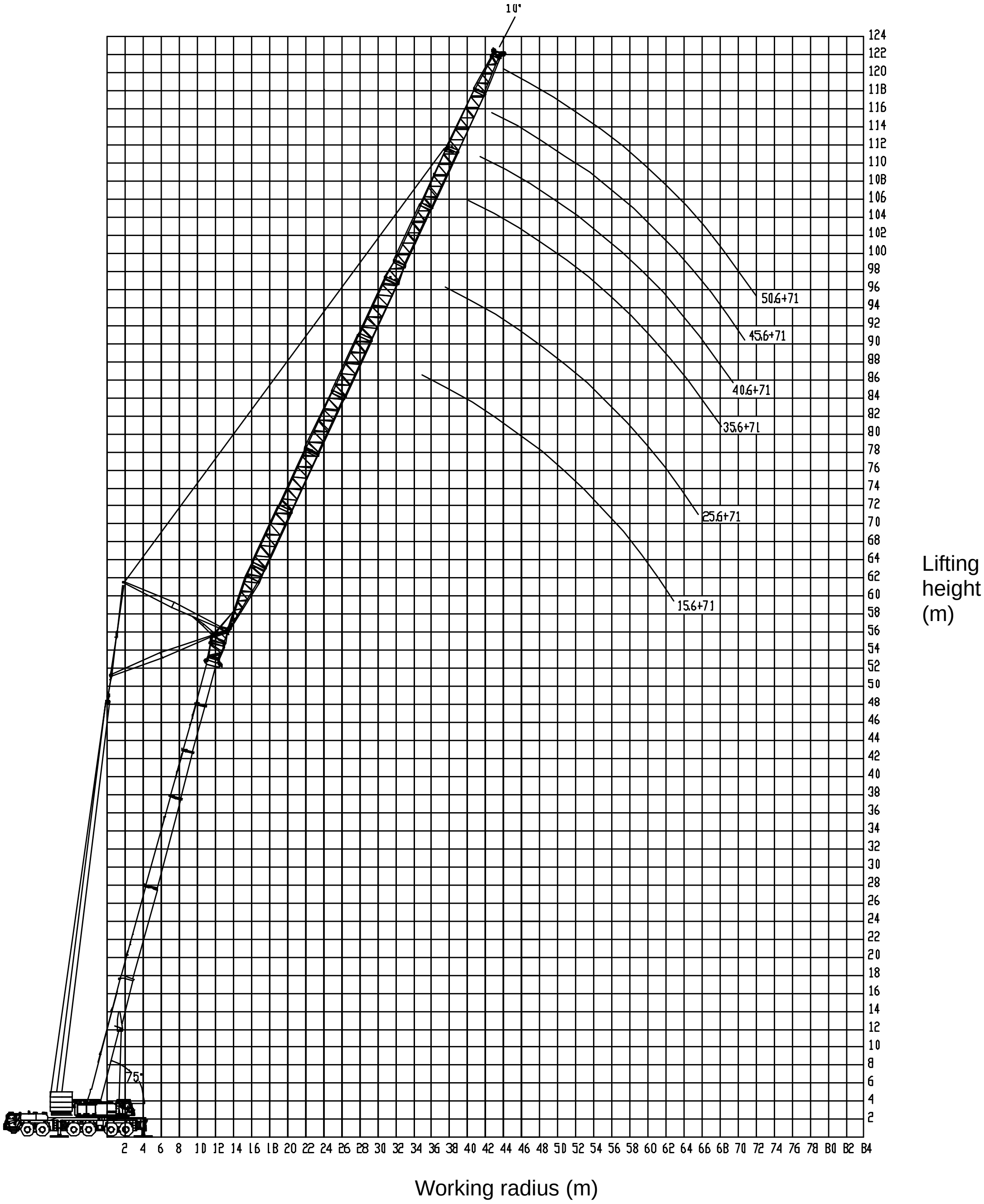


Figure 1-89 Main boom (75°) + luffing jib variant 9 (71 m)

1.3.13.48 Main boom + luffing jib variant 10 (78 m) (main boom angle 75°)

78 m luffing jib on 45.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 10 (78 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 3 extension 2 (21 m) + 1 extension 1 of luffing jib (7 m)+ 1 head piece (5 m)

Max. boom length (L): 45.6 m + 81.5 m = 127.1 m

Refer to Figure 1-90.

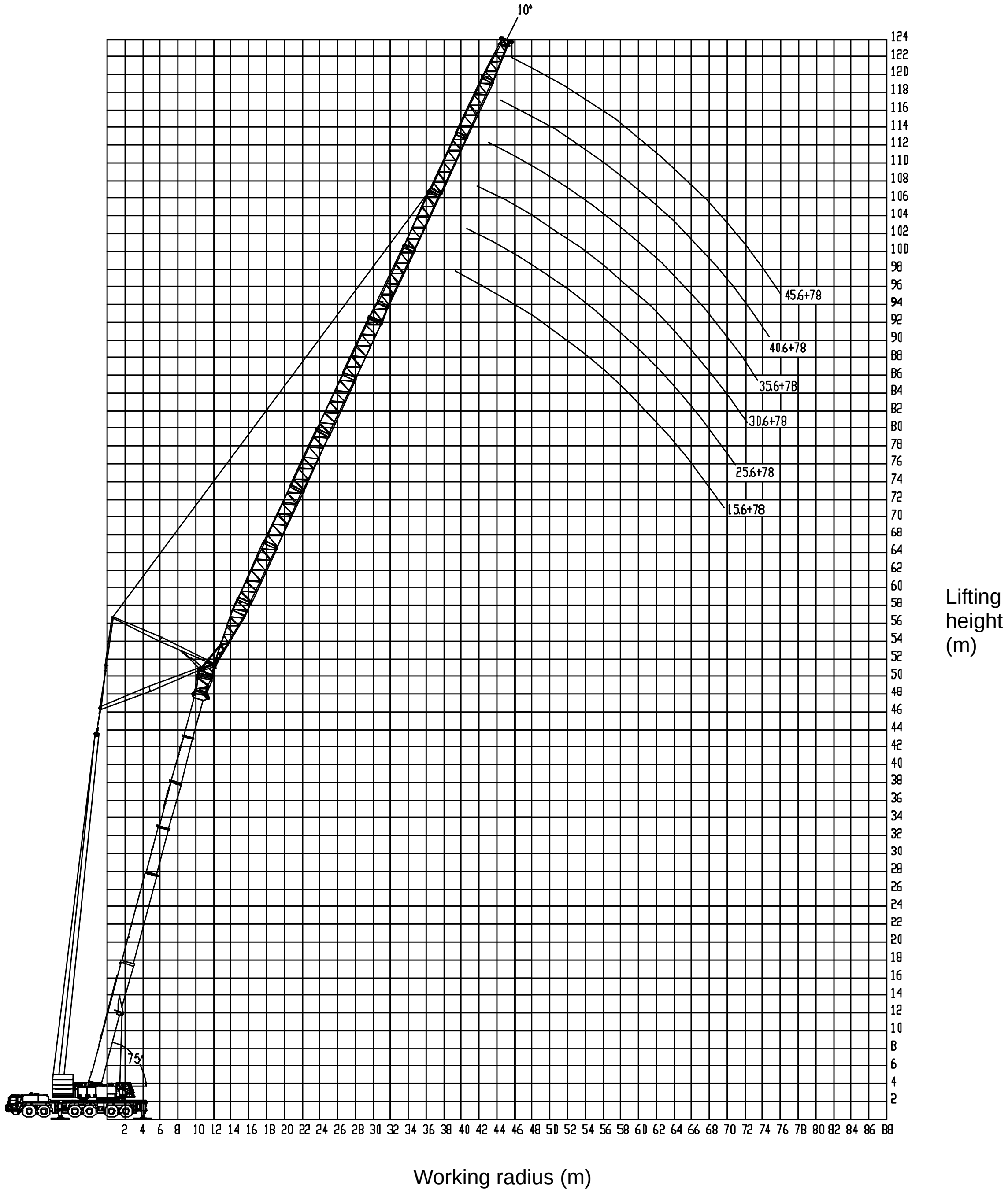


Figure 1-90 Main boom (75°) + luffing jib variant 10 (78 m)

1.3.13.49 Main boom + luffing jib variant 1 (15 m) (main boom angle 68°)

15 m luffing jib on 45.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 1 (15 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 1 head piece (5 m)

Max. boom length (L): 45.6 m + 18.5 m = 64.1 m

Refer to Figure 1-91.

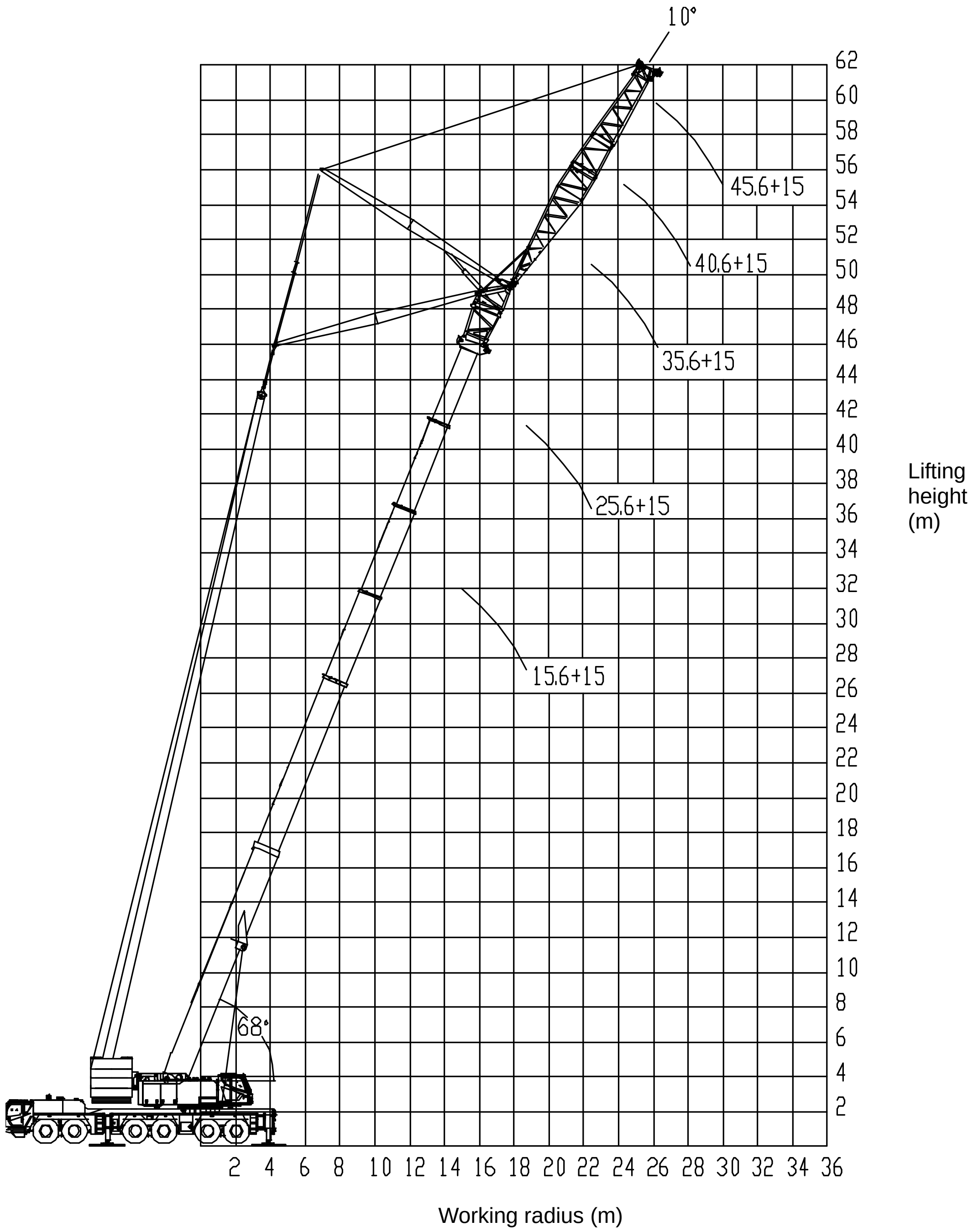


Figure 1-91 Main boom (68°) + luffing jib variant 1 (15 m)

1.3.13.50 Main boom + luffing jib variant 2 (22 m) (main boom angle 68°)

22 m luffing jib on 50.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 2 (22 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 1 extension 1 (7 m) + 1 head piece (5 m)

Max. boom length (L): 50.6 m + 25.5 m = 76.1 m

Refer to Figure 1-92.

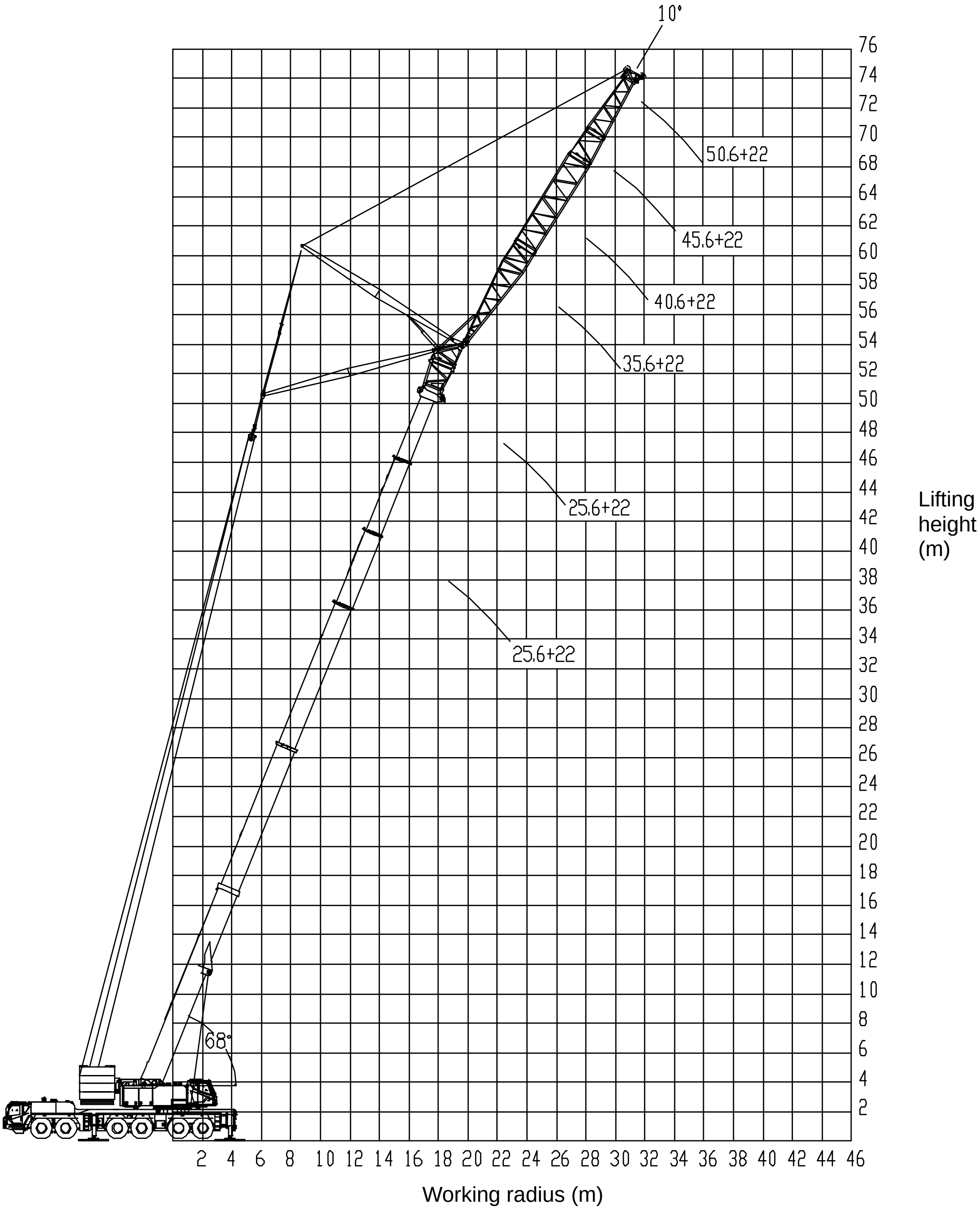


Figure 1-92 Main boom (68°) + luffing jib variant 2 (22 m)

1.3.13.51 Main boom + luffing jib variant 3 (29 m) (main boom angle 68°)

29 m luffing jib on 60.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 3 (29 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 2 extension 1 (14 m) + 1 head piece (5 m)

Max. boom length (L): 60.6 m + 32.5 m = 93.1 m

Refer to Figure 1-93.

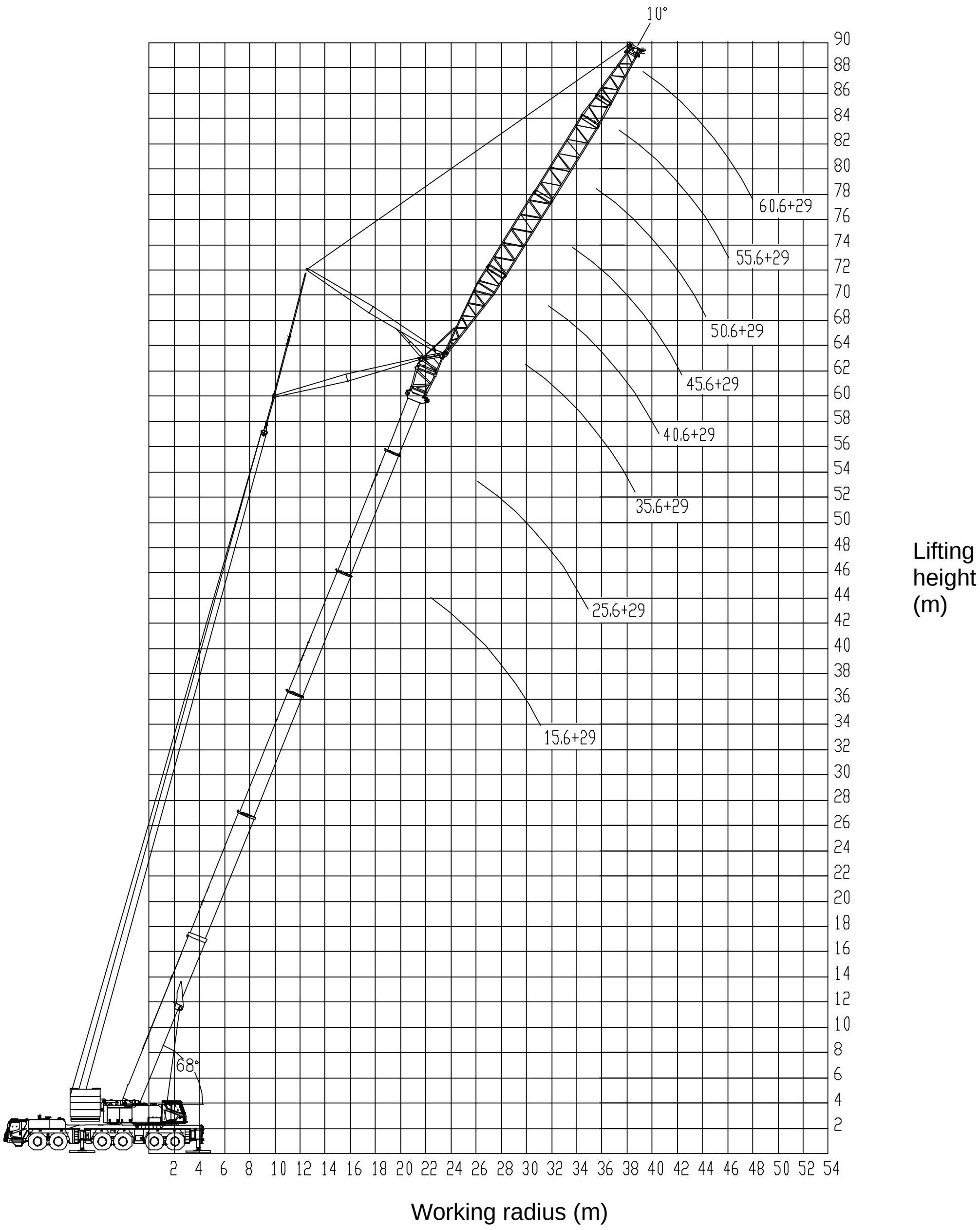


Figure 1-93 Main boom (68°) + luffing jib variant 3 (29 m)

1.3.13.52 Main boom + luffing jib variant 4 (36 m) (main boom angle 68°)

36 m luffing jib on 60.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 4 (36 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 2 extension 1 (14 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 60.6 m + 39.5 m = 100.1 m

Refer to Figure 1-94.

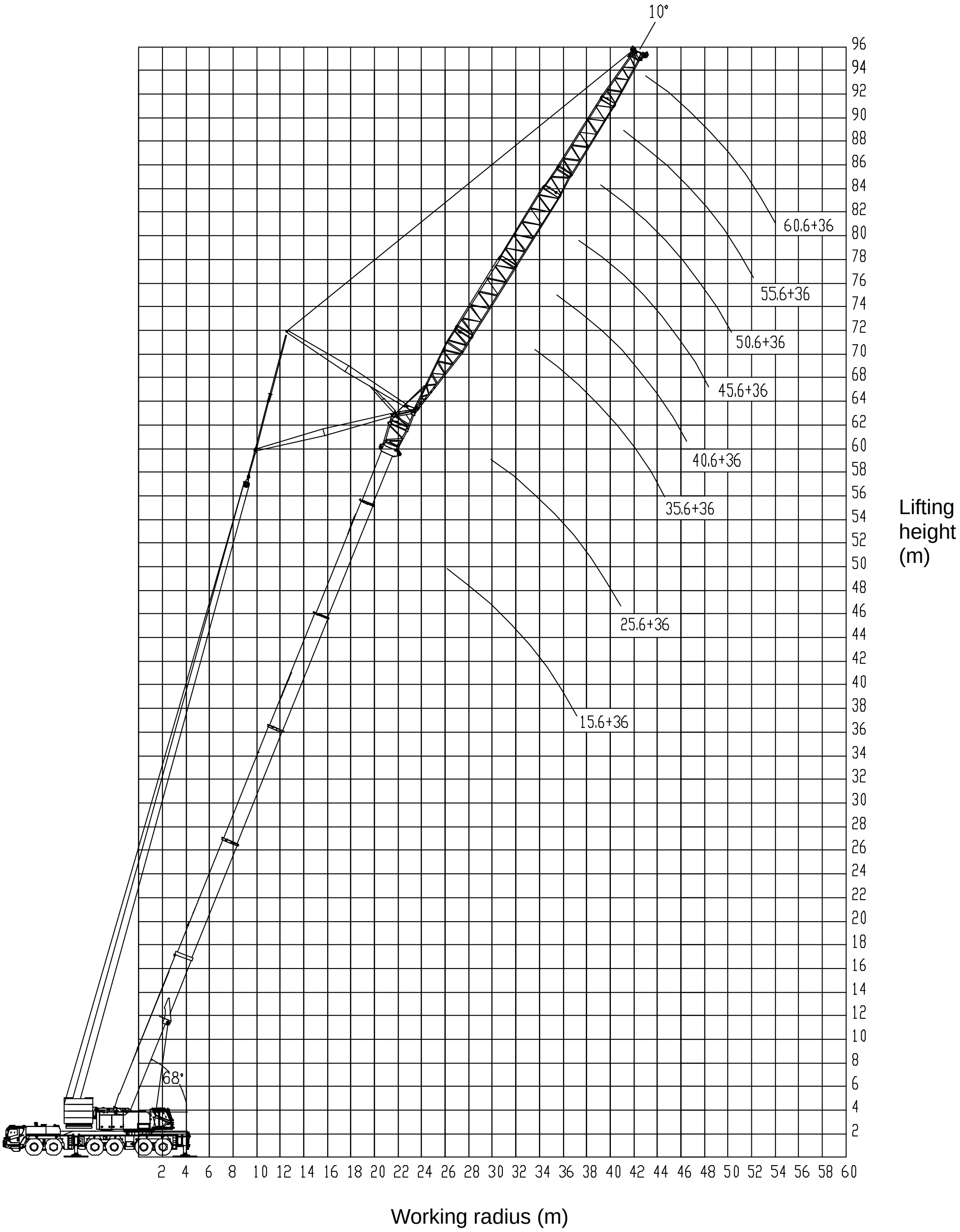


Figure 1-94 Main boom (68°) + luffing jib variant 4 (36 m)

1.3.13.53 Main boom + luffing jib variant 5 (43 m) (main boom angle 68°)

43 m luffing jib on 60.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 5 (43 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 3 extension 1 (21 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 60.6 m + 46.5 m = 107.1 m

Refer to Figure 1-95.

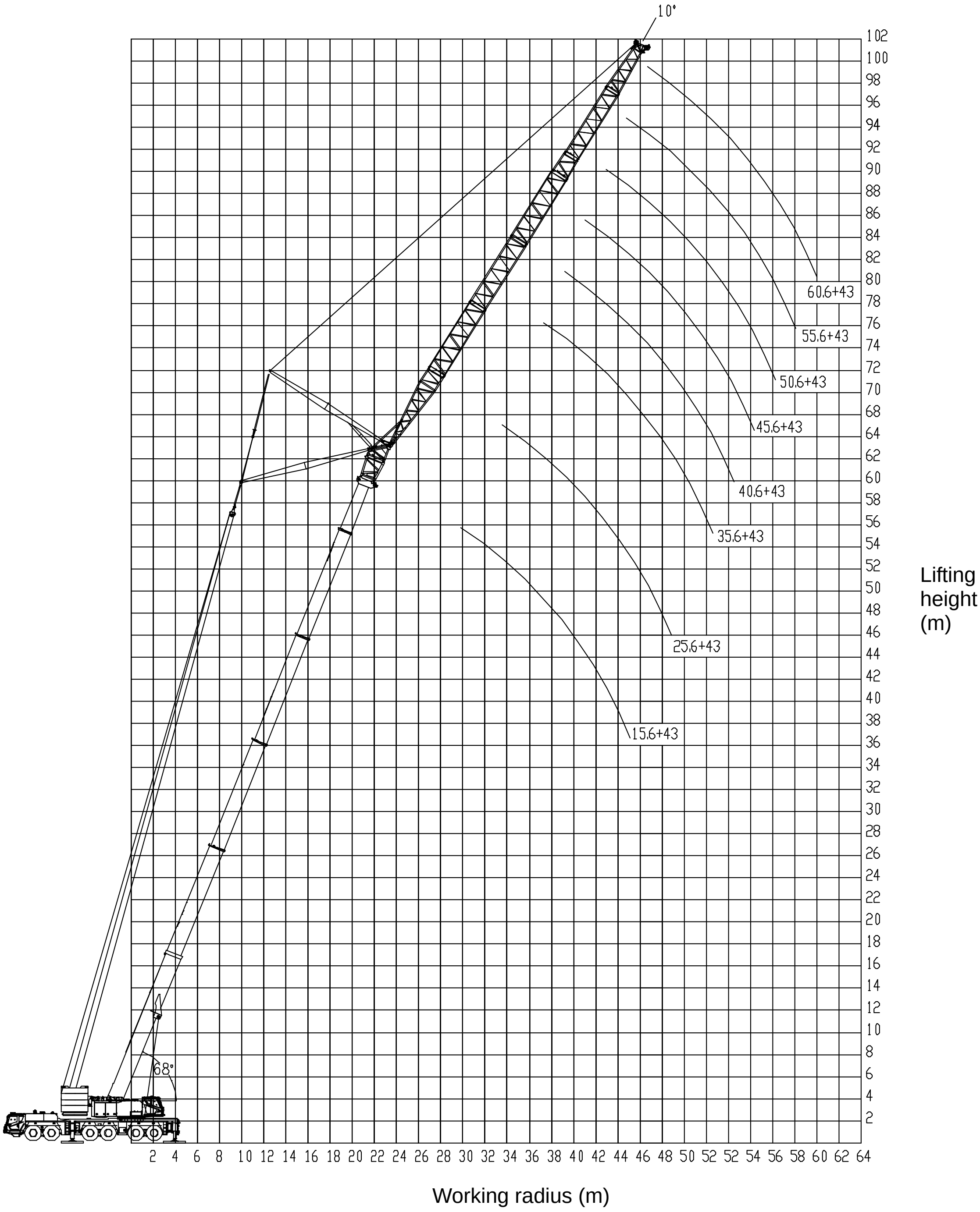


Figure 1-95 Main boom (68°) + luffing jib variant 5 (43 m)

1.3.13.54 Main boom + luffing jib variant 6 (50 m) (main boom angle 68°)

50 m luffing jib on 60.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 6 (50 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 4 extension 1 (28 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 60.6 m + 53.5 m = 114.1 m

Refer to Figure 1-96.

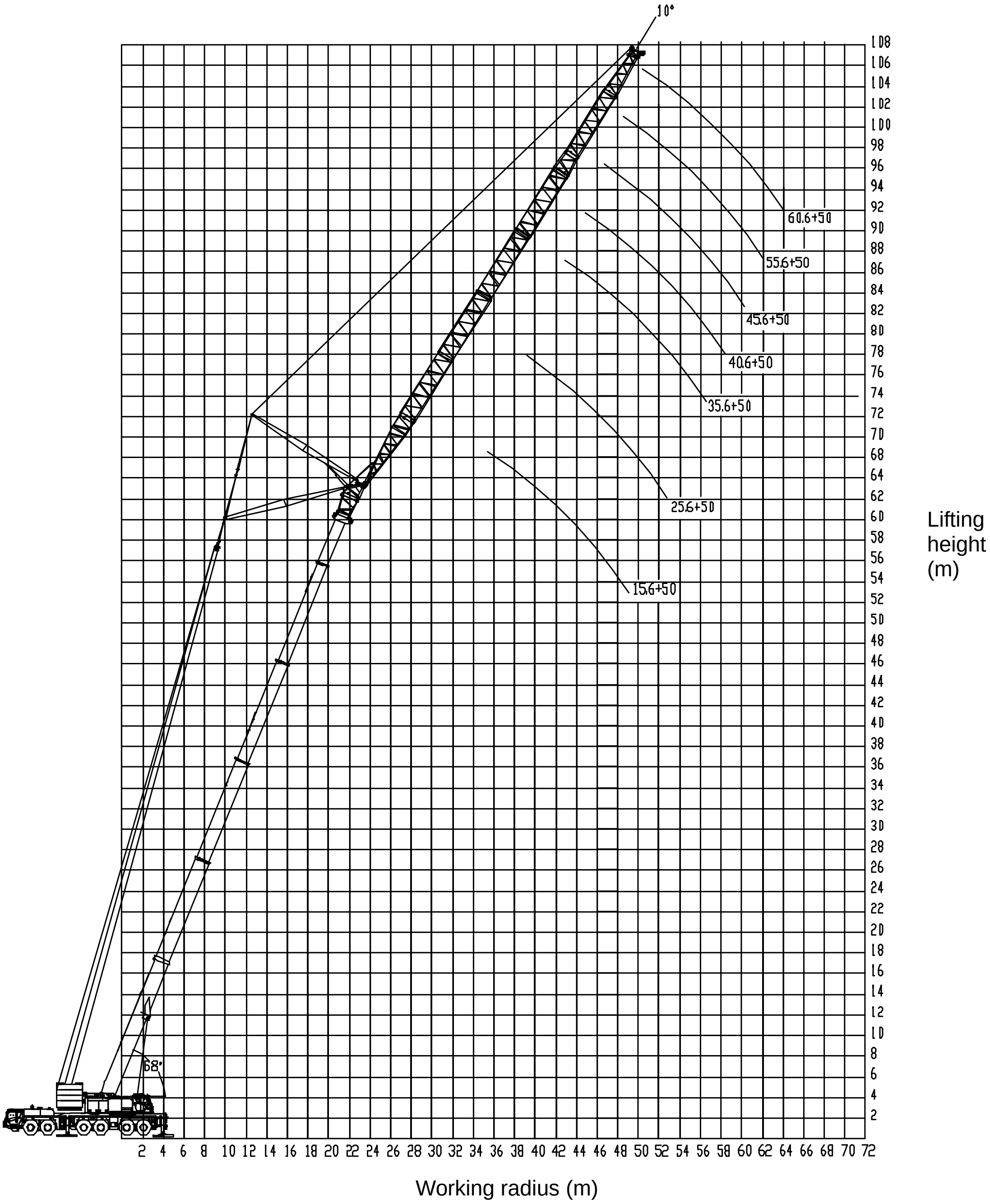


Figure 1-96 Main boom (68°) + luffing jib variant 6 (50 m)

1.3.13.55 Main boom + luffing jib variant 7 (57 m) (main boom angle 68°)

57 m luffing jib on 55.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 7 (57 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 55.6 m + 60.5 m = 116.1 m

Refer to Figure 1-97.

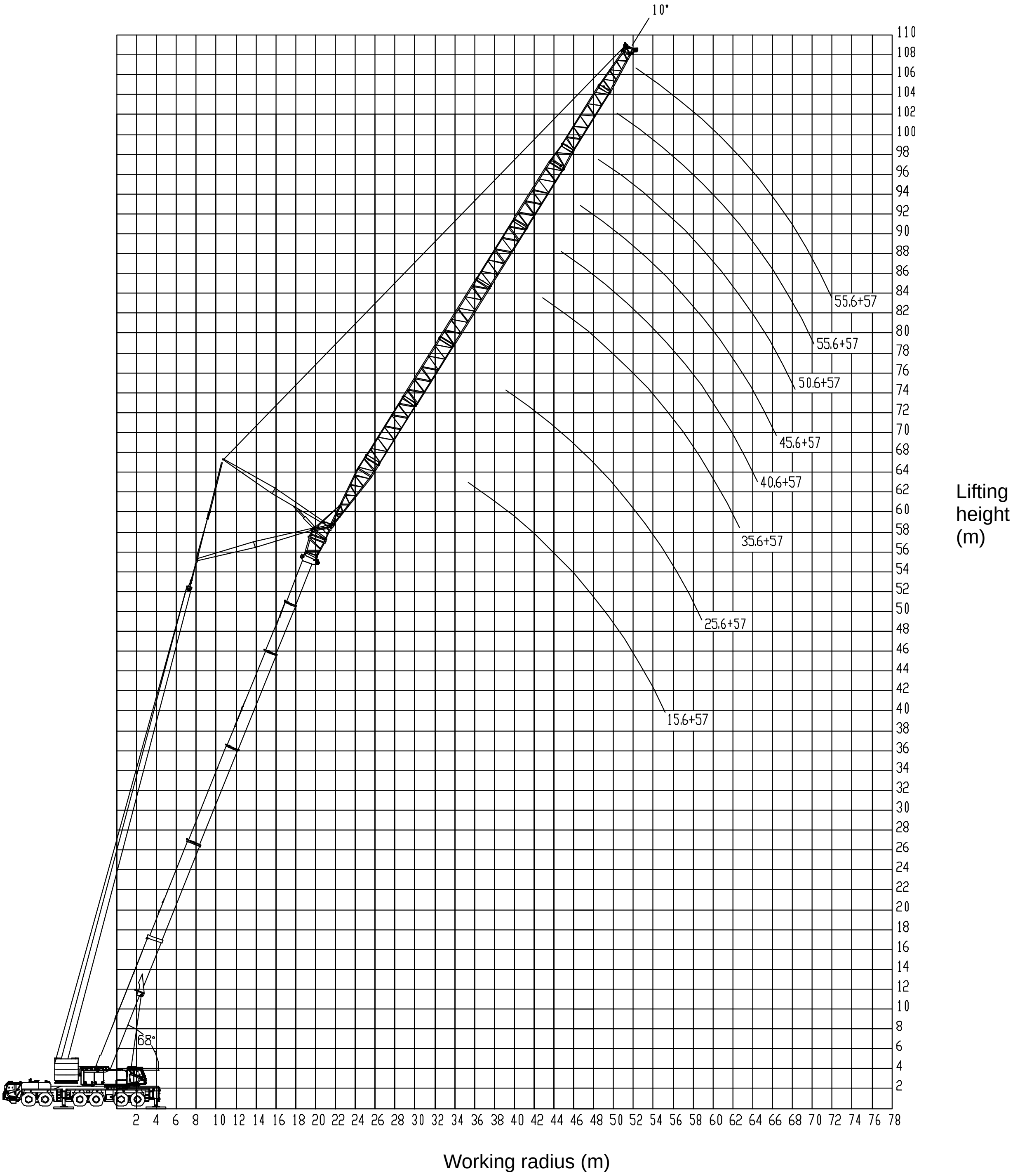


Figure 1-97 Main boom (68°) + luffing jib variant 7 (57 m)

1.3.13.56 Main boom + luffing jib variant 8 (64 m) (main boom angle 68°)

64 m luffing jib on 55.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 8 (64 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 2 extension 2 (14 m) + 1 head piece (5 m)

Max. boom length (L): 55.6 m + 67.5 m = 123.1 m

Refer to Figure 1-98.

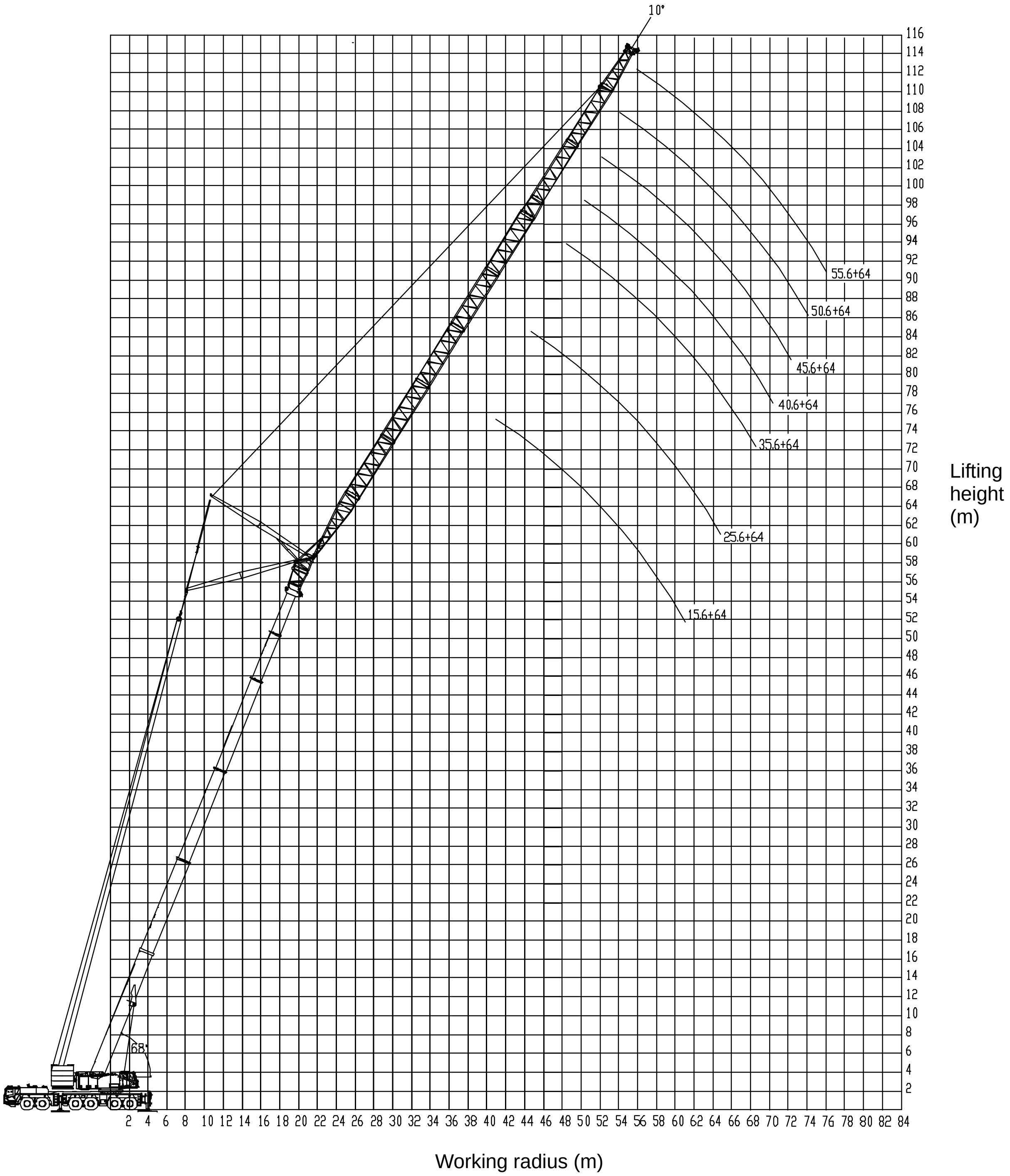


Figure 1-98 Main boom (68°) + luffing jib variant 8 (64 m)

1.3.13.57 Main boom + luffing jib variant 9 (71 m) (main boom angle 68°)

71 m luffing jib on 50.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 9 (71 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 2 extension 2 (14 m) + 1 extension 1 of luffing jib (7 m)+ 1 head piece (5 m)

Max. boom length (L): 50.6 m + 74.5 m = 125.1 m

Refer to Figure 1-99.

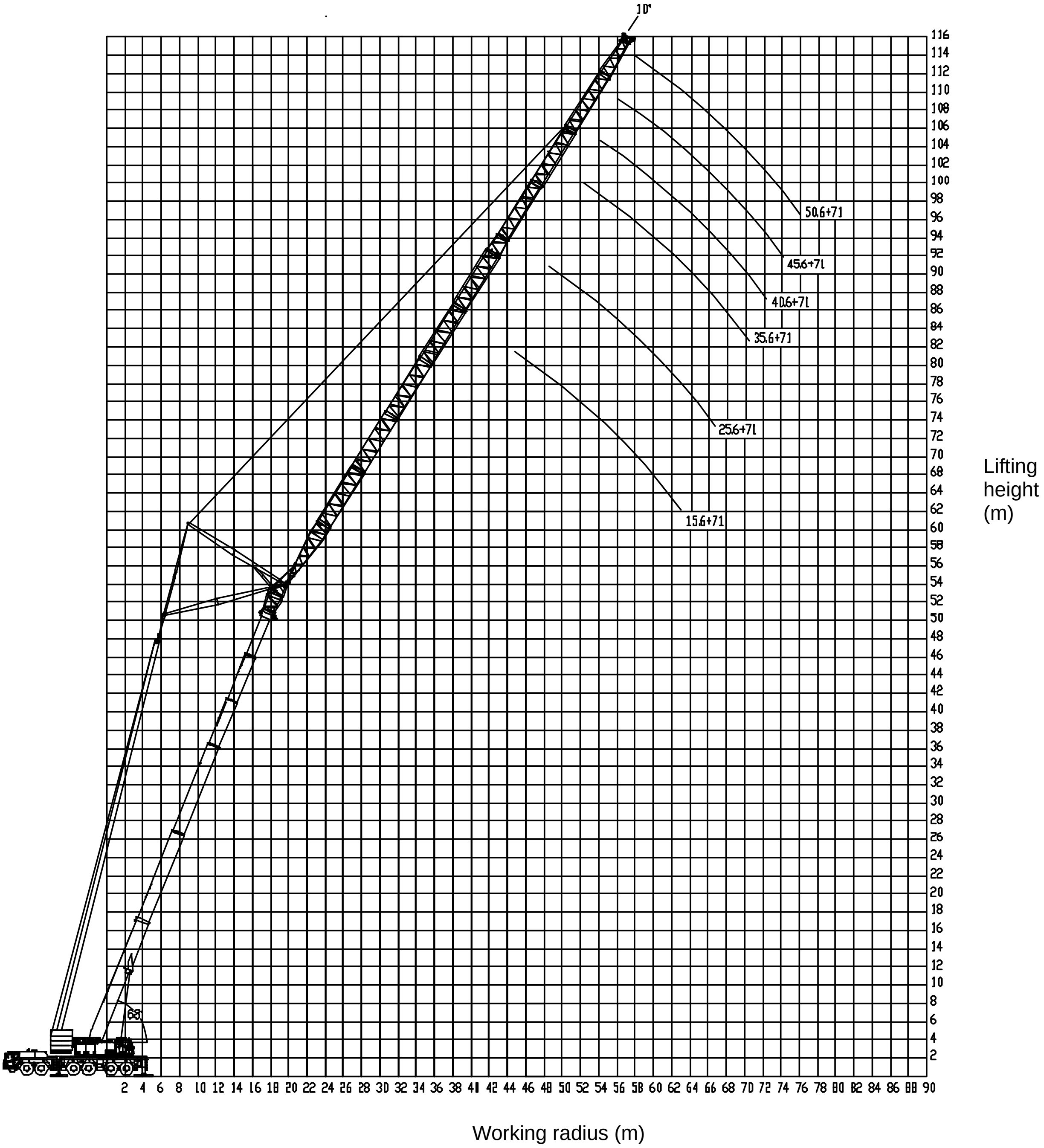


Figure 1-99 Main boom (68°) + luffing jib variant 9 (71 m)

1.3.13.58 Main boom + luffing jib variant 10 (78 m) (main boom angle 68°)

78 m luffing jib on 45.6 m main boom via an adapter (2 m) and an adapter of luffing jib (1.5 m)

Luffing jib variant 10 (78 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 3 extension 2 (21 m) + 1 extension 1 of luffing jib (7 m)+ 1 head piece (5 m)

Max. boom length (L): 45.6 m + 81.5 m = 127.1 m

Refer to Figure 1-100.

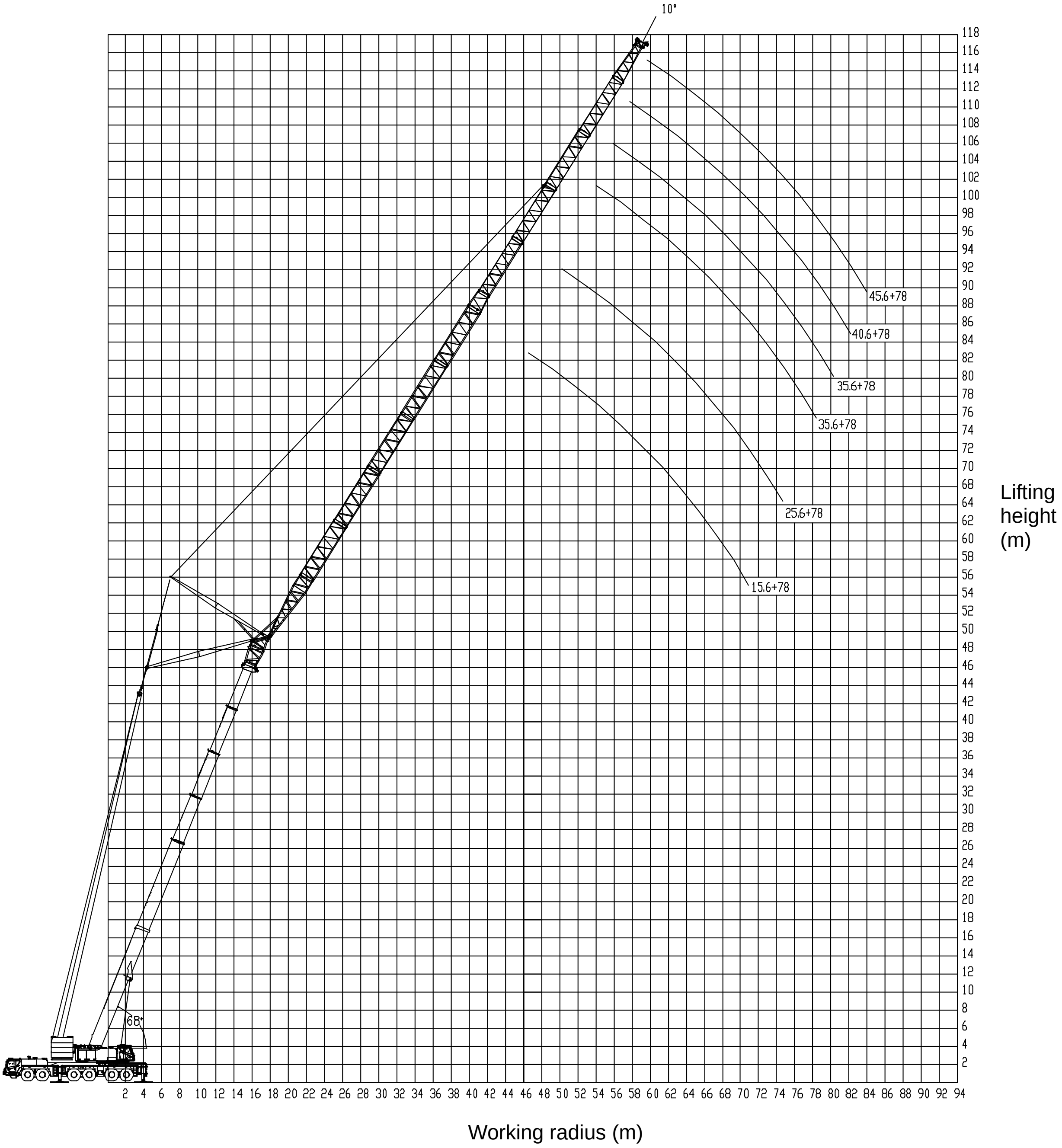


Figure 1-100   Main boom (68°) + luffing jib variant 10 (78 m)

1.3.13.59 Main boom + Y-shaped guying system + luffing jib variant 2 (22 m) (main boom angle 82°)

22 m luffing jib on 65.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 2 (22 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 1 extension 1 (7 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 30.5 m = 96.1 m

Refer to Figure 1-101.

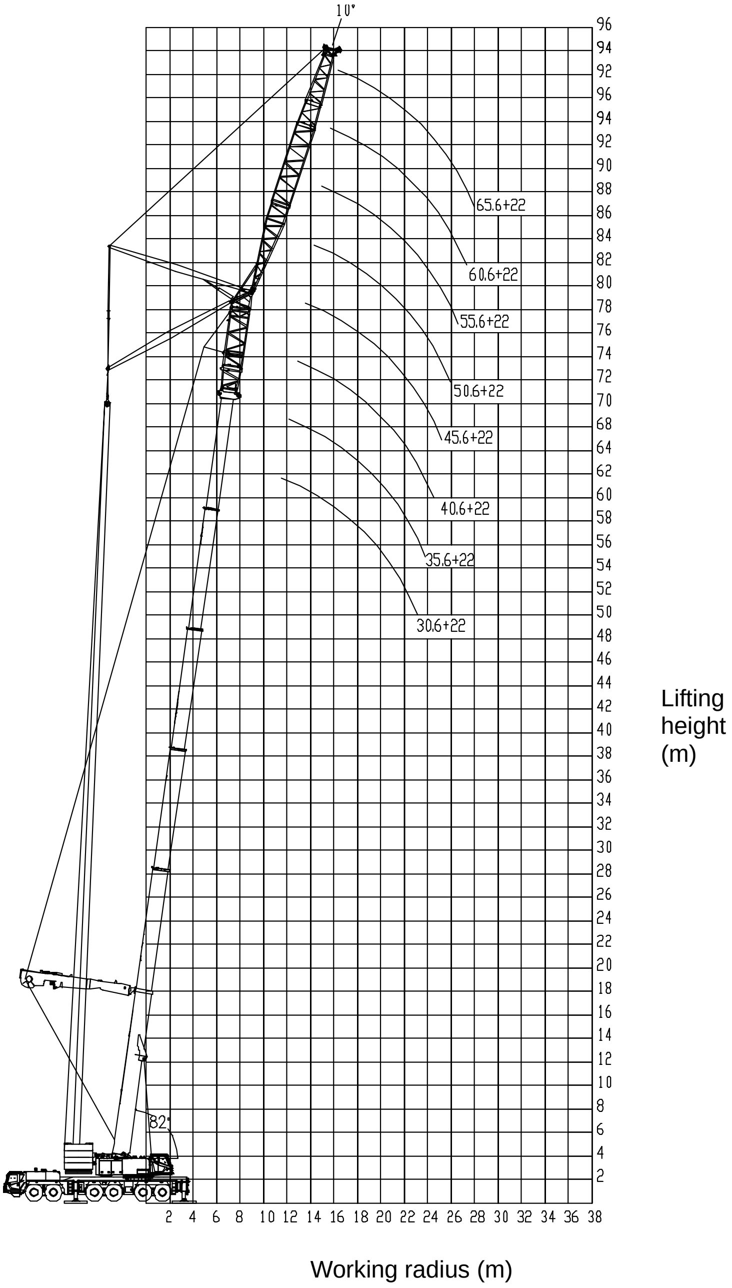


Figure 1-101 Main boom (82°) + Y-shaped guying system + luffing jib variant 2 (22 m)

1.3.13.60 Main boom + Y-shaped guying system + luffing jib variant 3 (29 m) (main boom angle 82°)

29 m luffing jib on 65.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 3 (29 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 2 extension 1 (14 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 37.5 m = 103.1 m

Refer to Figure 1-102.

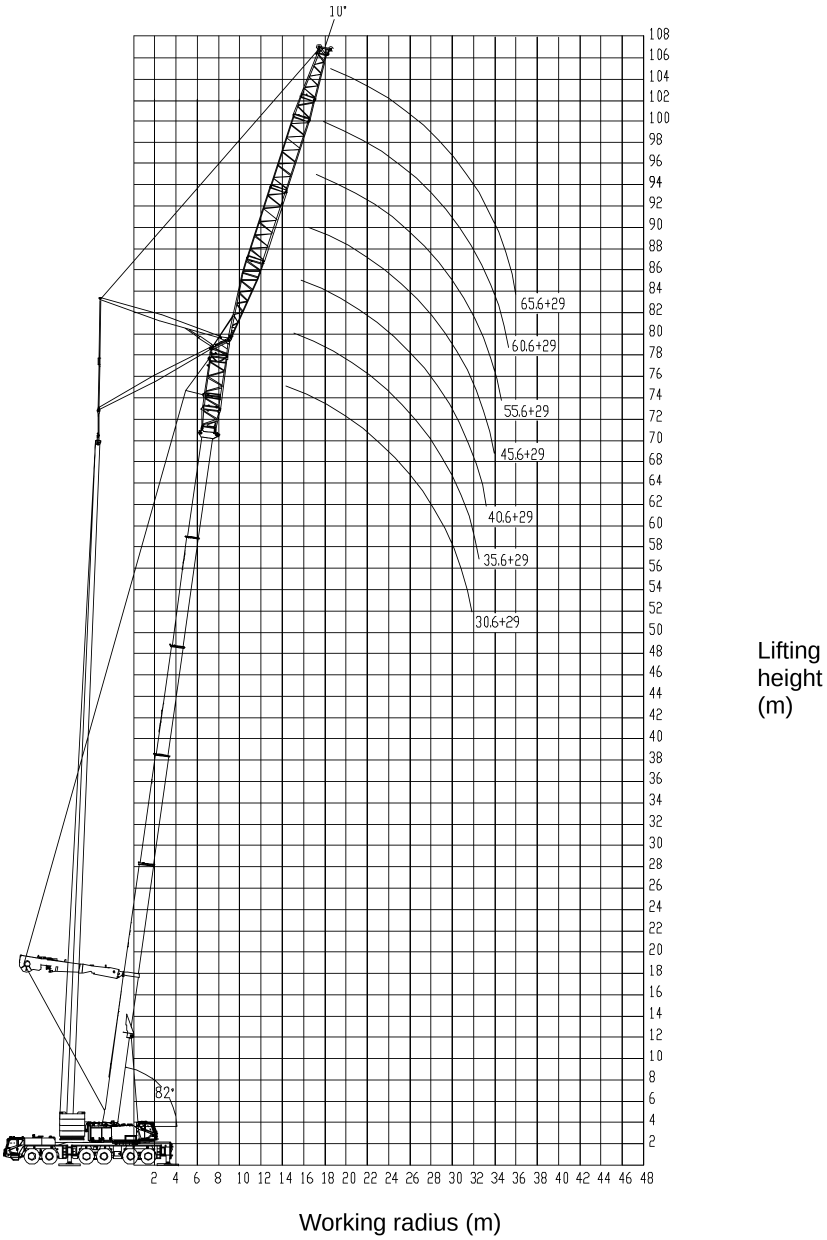


Figure 1-102 Main boom (82°) + Y-shaped guying system + luffing jib variant 3 (29 m)

1.3.13.61 Main boom + Y-shaped guying system + luffing jib variant 4 (36 m) (main boom angle 82°)

36 m luffing jib on 65.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 4 (36 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 2 extension 1 (14 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 44.5 m = 110.1 m

Refer to Figure 1-103.

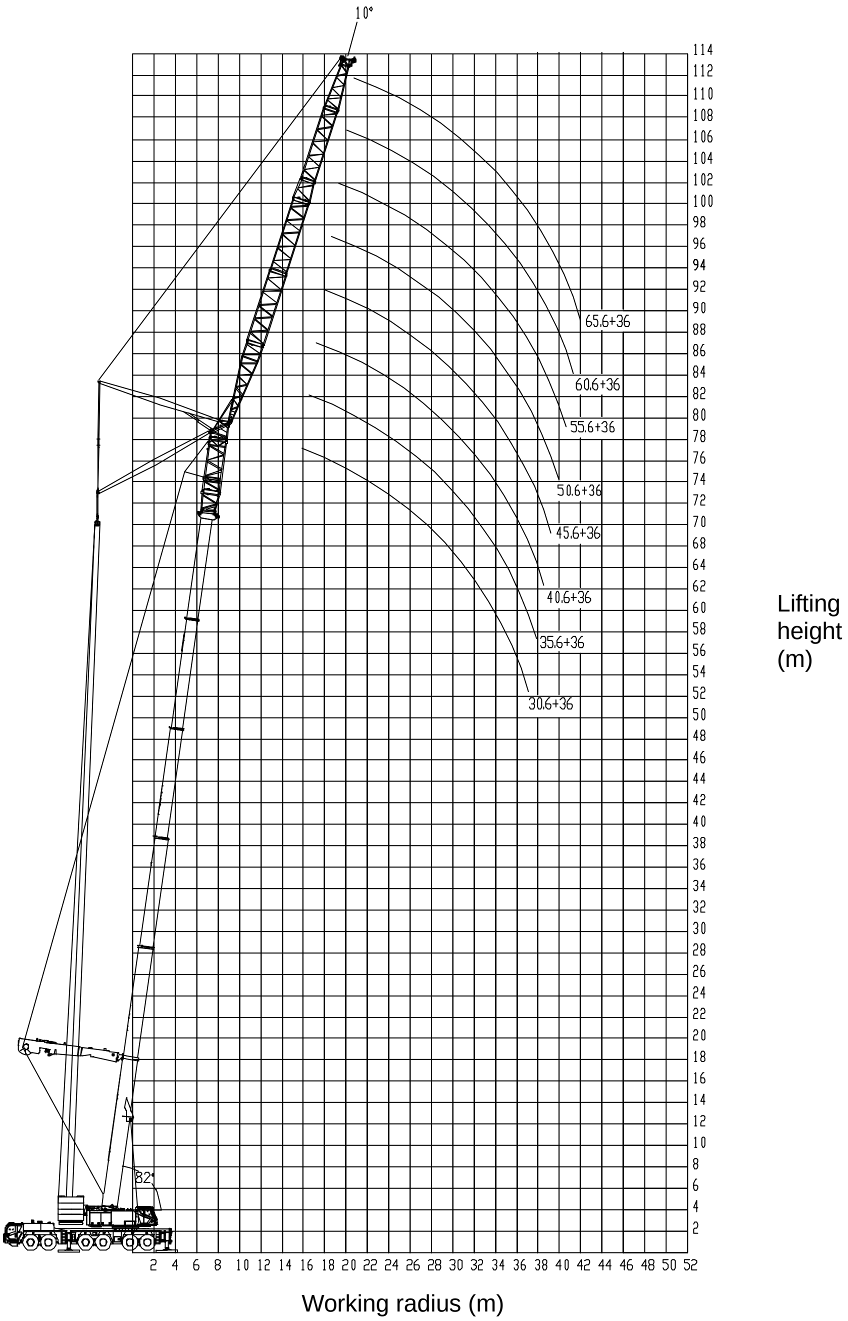


Figure 1-103 Main boom (82°) + Y-shaped guying system + luffing jib variant 4 (36 m)

1.3.13.62 Main boom + Y-shaped guying system + luffing jib variant 5 (43 m) (main boom angle 82°)

43 m luffing jib on 65.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 5 (43 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 3 extension 1 (21 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 51.5 m = 117.1 m

Refer to Figure 1-104.

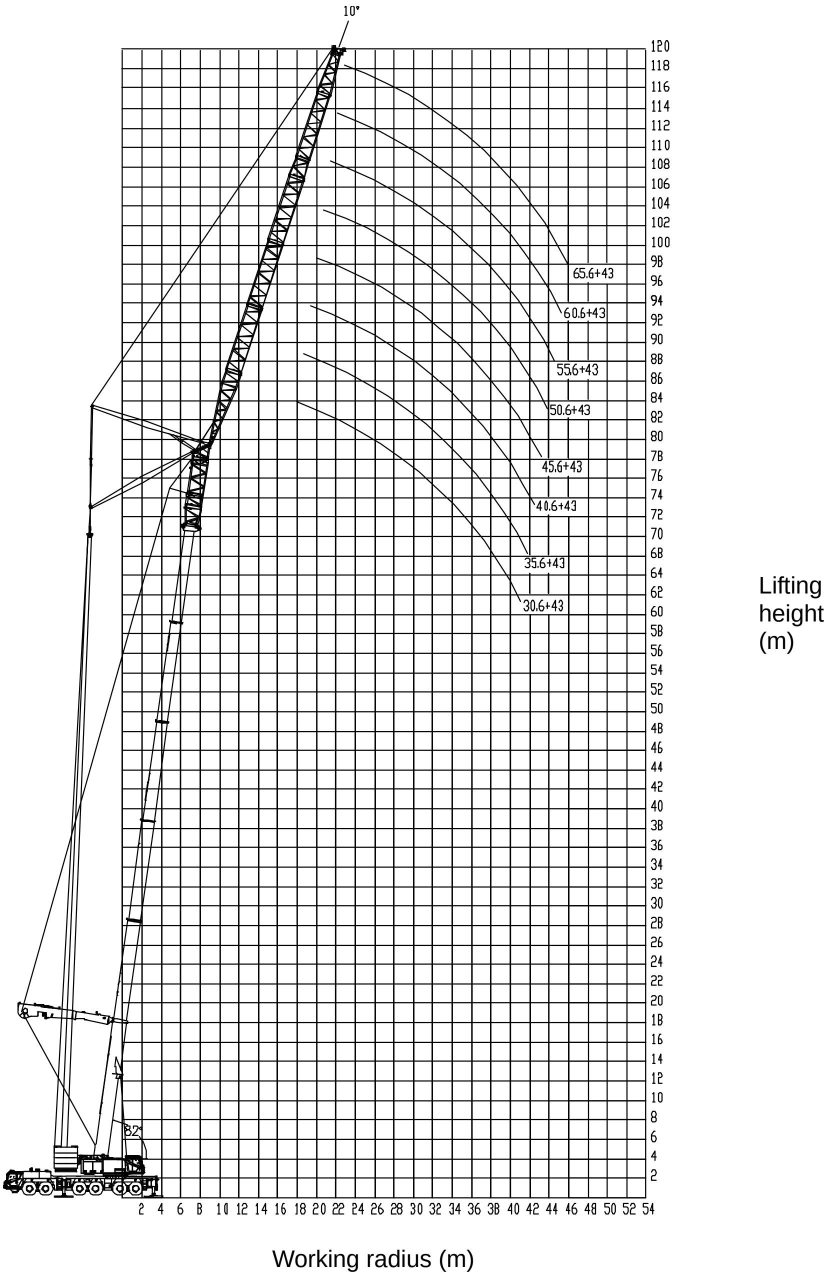


Figure 1-104 Main boom (82°) + Y-shaped guying system + luffing jib variant 5 (43 m)

1.3.13.63 Main boom + Y-shaped guying system + luffing jib variant 6 (50 m) (main boom angle 82°)

50 m luffing jib on 65.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 6 (50 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 4 extension 1 (28 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 58.5 m = 124.1 m

Refer to Figure 1-105.

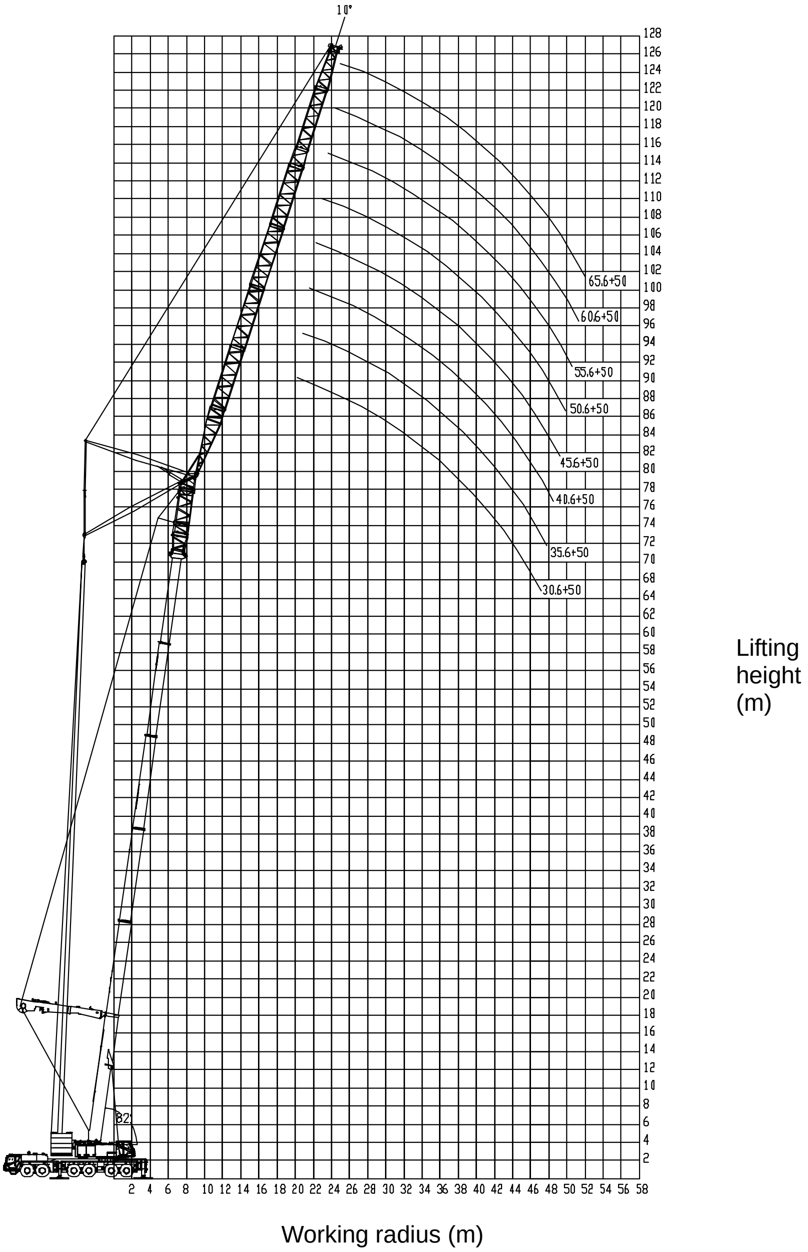


Figure 1-105 Main boom (82°) + Y-shaped guying system + luffing jib variant 6 (50 m)

1.3.13.64 Main boom + Y-shaped guying system + luffing jib variant 7 (57 m) (main boom angle 82°)

57 m luffing jib on 60.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 7 (57 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 60.6 m + 65.5 m = 126.1 m

Refer to Figure 1-106.

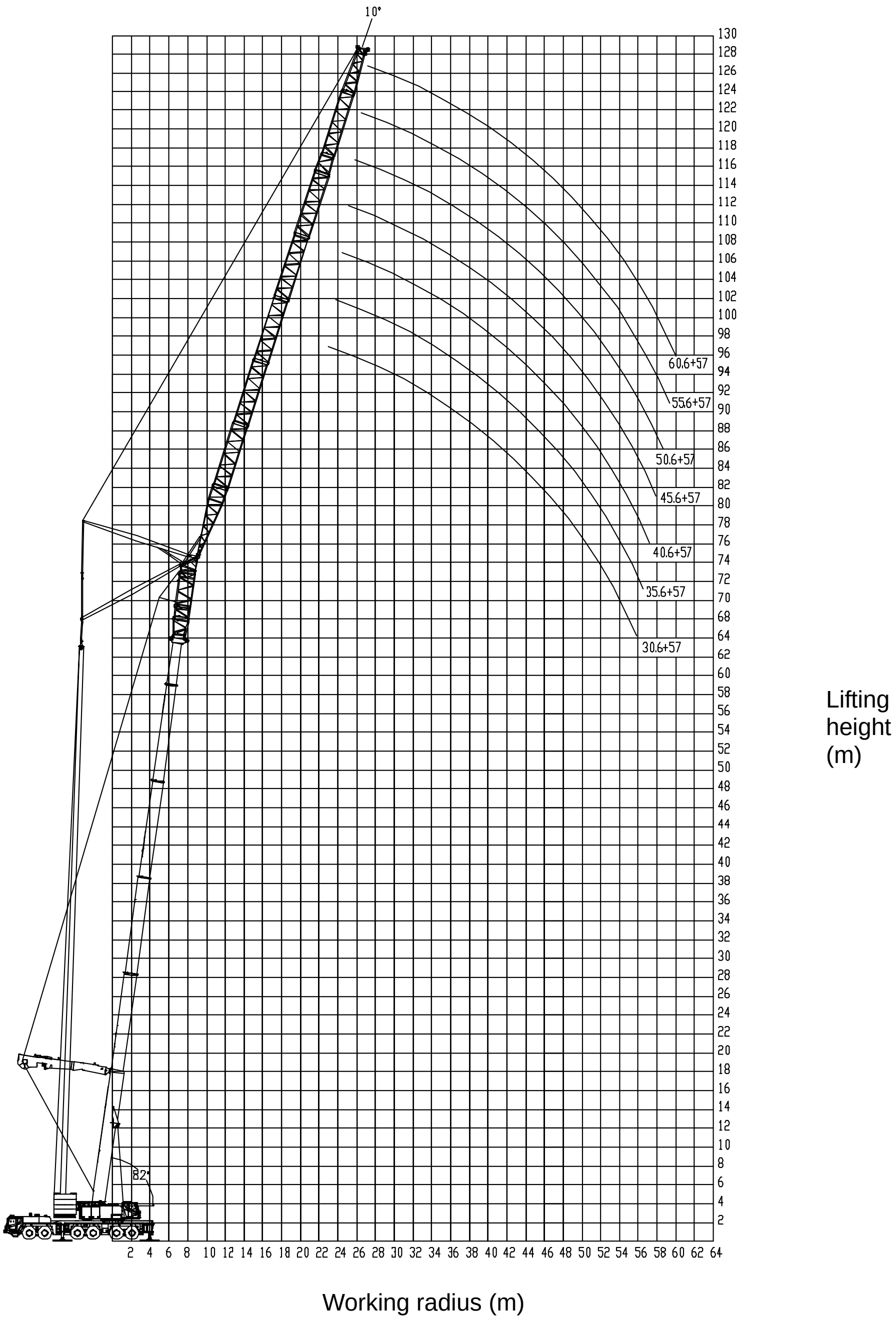


Figure 1-106 Main boom (82°) + Y-shaped guying system + luffing jib variant 7 (57 m)

1.3.13.65 Main boom + Y-shaped guying system + luffing jib variant 8 (64 m) (main boom angle 82°)

64 m luffing jib on 55.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 8 (64 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 2 extension 2 (14 m) + 1 head piece (5 m)

Max. boom length (L): 55.6 m + 72.5 m = 128.1 m

Refer to Figure 1-107.

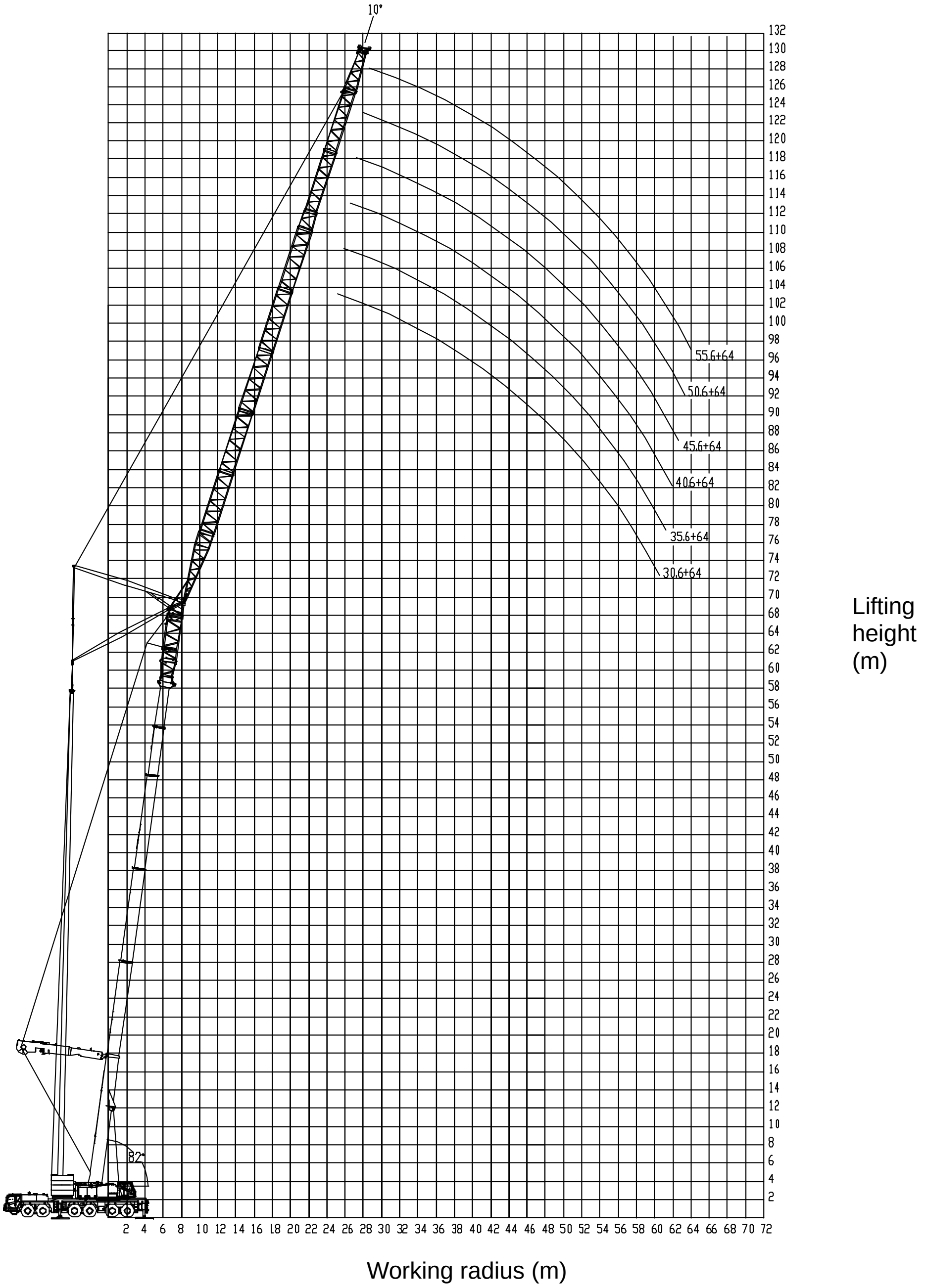


Figure 1-107 Main boom (82°) + Y-shaped guying system + luffing jib variant 8 (64 m)

1.3.13.66 Main boom + Y-shaped guying system + luffing jib variant 9 (71 m) (main boom angle 82°)

71 m luffing jib on 50.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 9 (71 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 2 extension 2 (14 m) + 1 extension 1 of luffing jib (7 m)+ 1 head piece (5 m)

Max. boom length (L): 50.6 m + 79.5 m = 130.1 m

Refer to Figure 1-108.

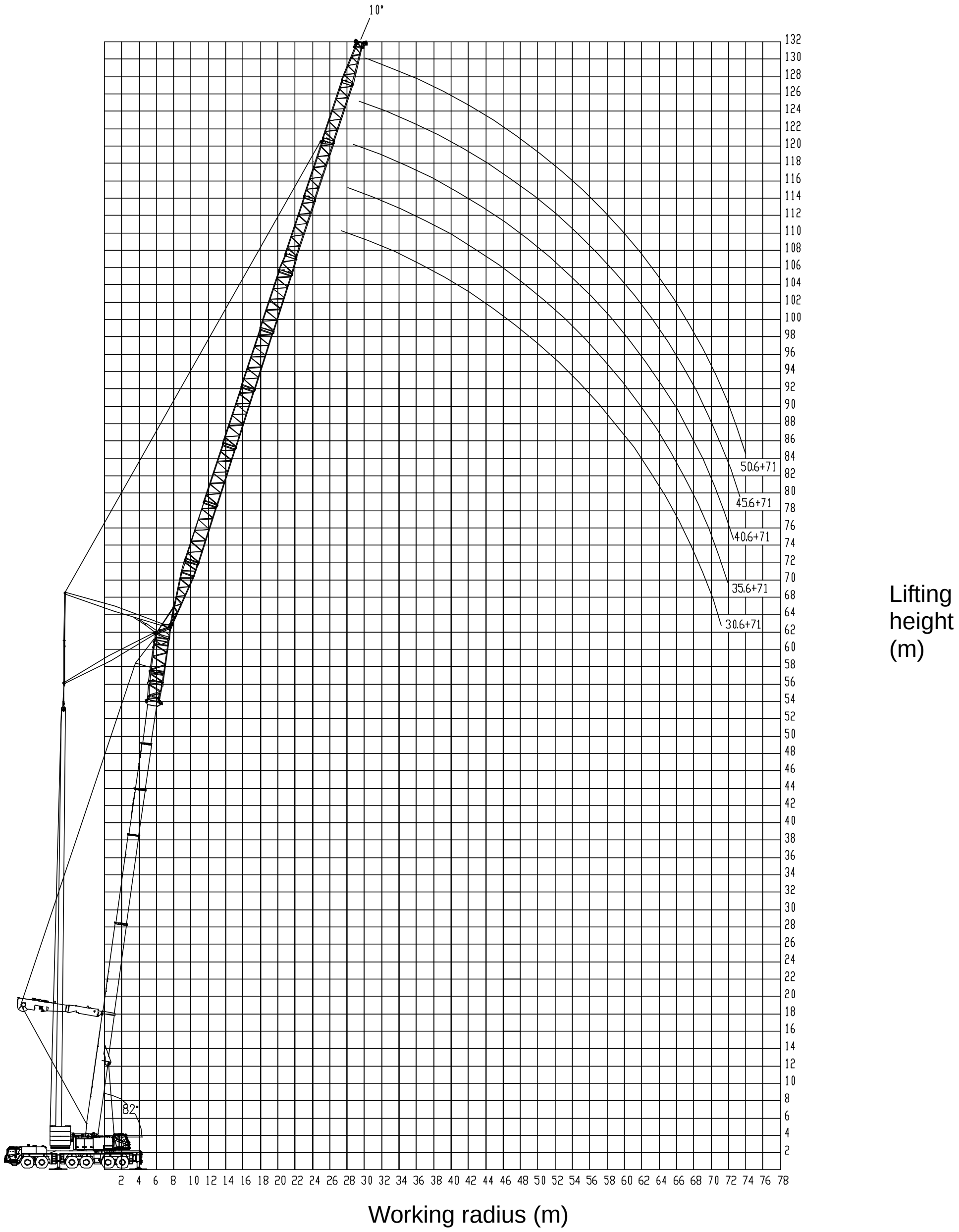


Figure 1-108 Main boom (82°) + Y-shaped guying system + luffing jib variant 9 (71 m)

1.3.13.67 Main boom + Y-shaped guying system + luffing jib variant 10 (78 m) (main boom angle 82°)

78 m luffing jib on 45.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 10 (78 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 3 extension 2 (21 m) + 1 extension 1 of luffing jib (7 m)+ 1 head piece (5 m)

Max. boom length (L): 45.6 m + 86.5 m = 132.1 m

Refer to Figure 1-109.

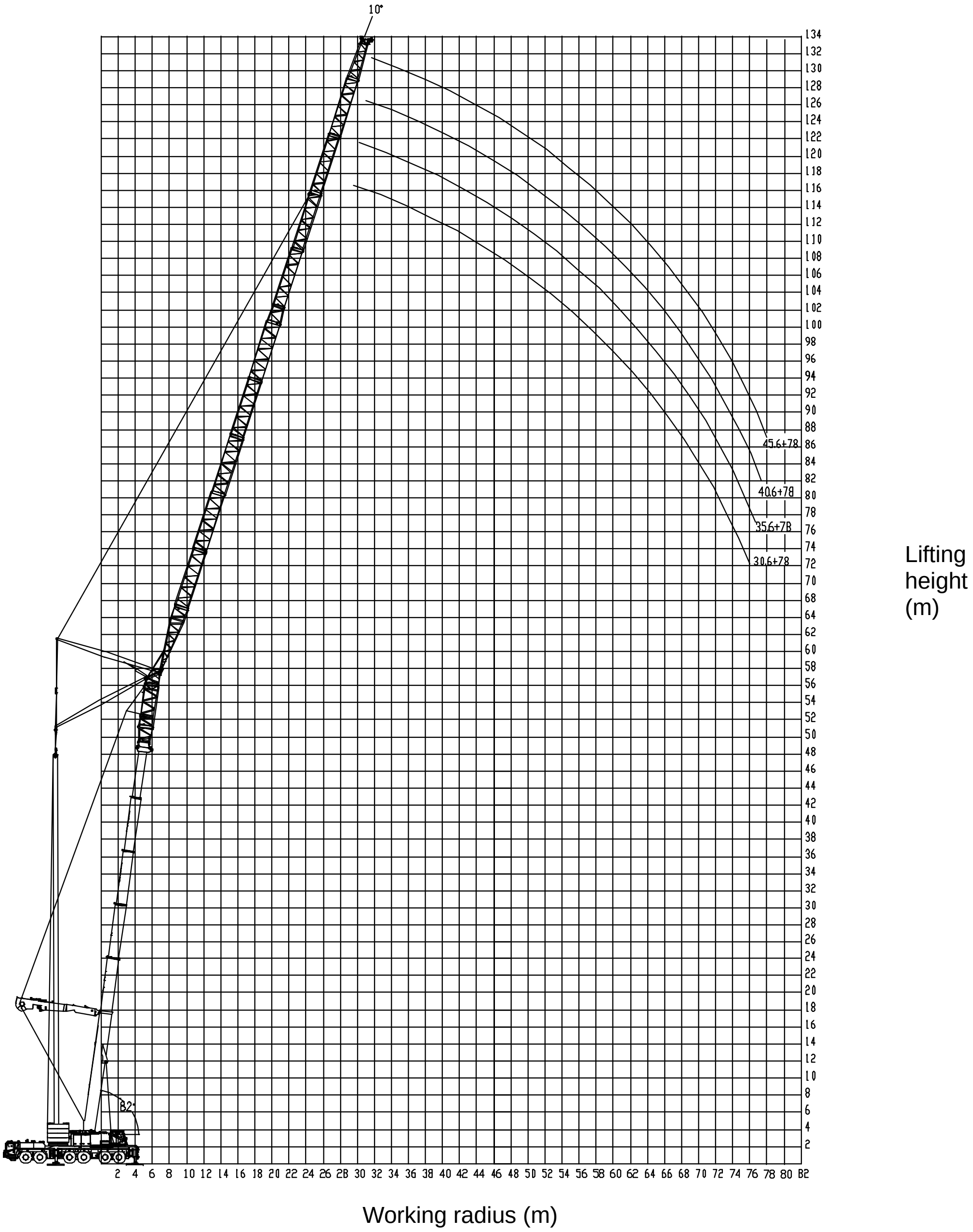


Figure 1-109 Main boom (82°) + Y-shaped guying system + luffing jib variant 10 (78 m)

1.3.13.68 Main boom + Y-shaped guying system + luffing jib variant 2 (22 m) (main boom angle 75°)

22 m luffing jib on 65.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 2 (22 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 1 extension 1 (7 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 30.5 m = 96.1 m

Refer to Figure 1-110.

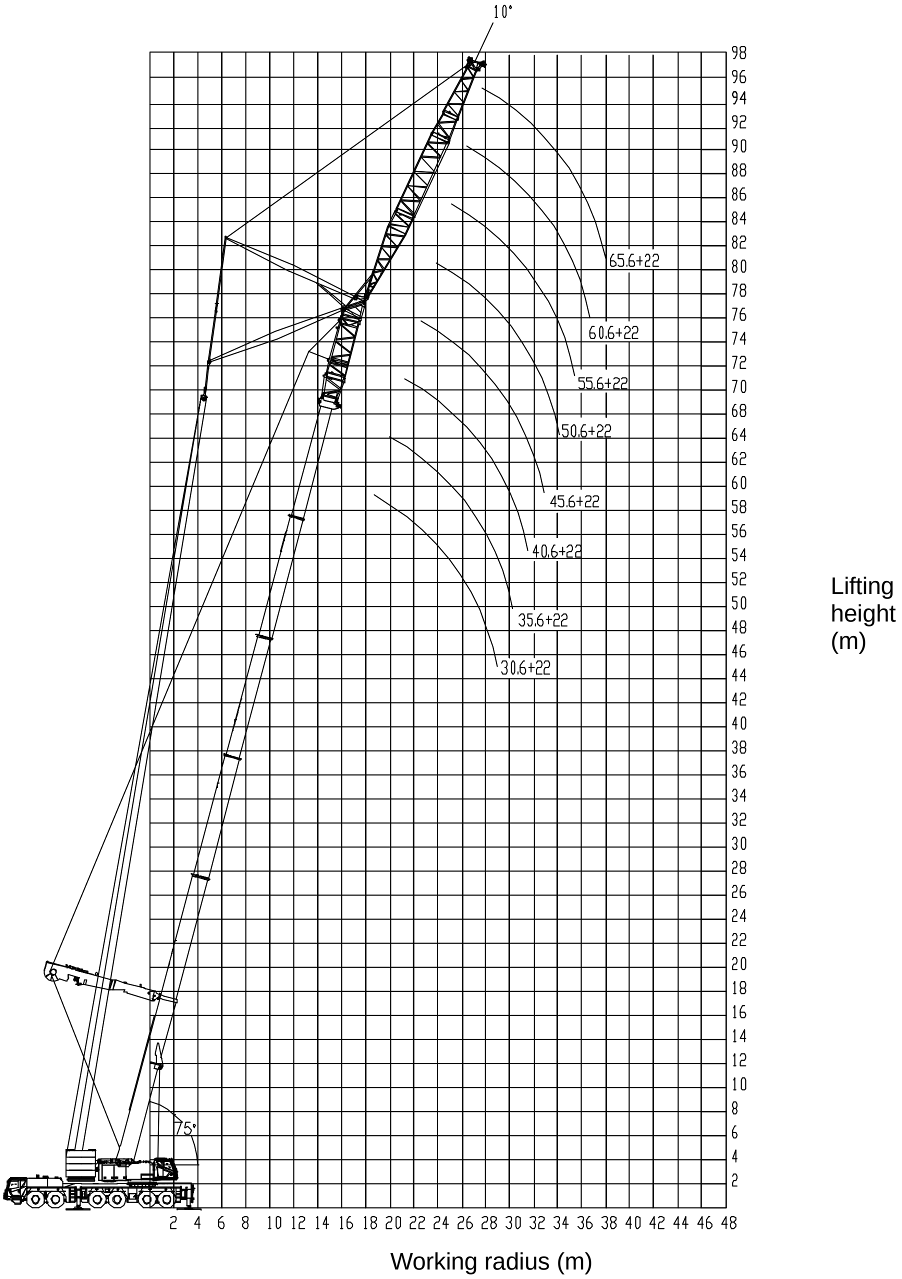


Figure 1-110 Main boom (75°) + Y-shaped guying system + luffing jib variant 2 (22 m)

1.3.13.69 Main boom + Y-shaped guying system + luffing jib variant 3 (29 m) (main boom angle 75°)

29 m luffing jib on 65.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 3 (29 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 2 extension 1 (14 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 37.5 m = 103.1 m

Refer to Figure 1-111.

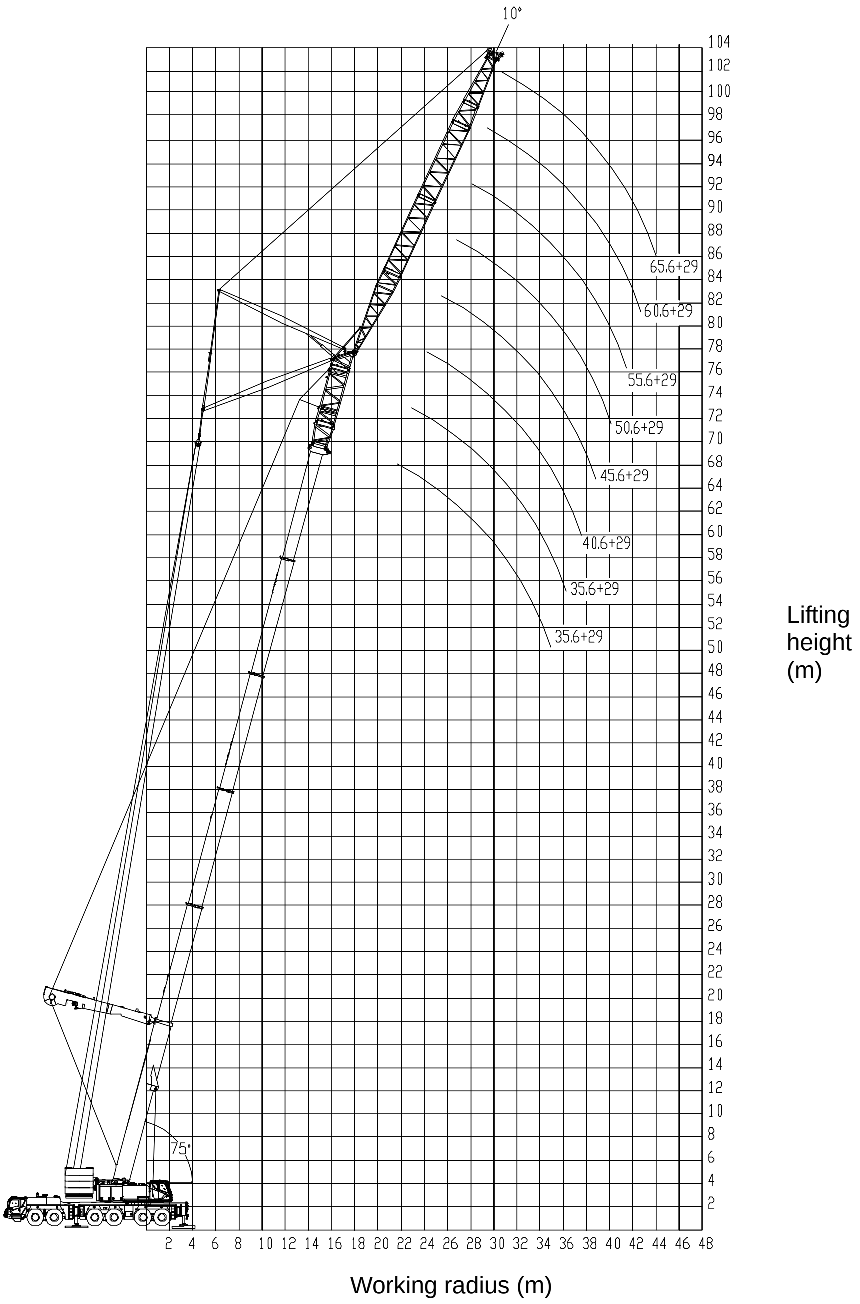


Figure 1-111 Main boom (75°) + Y-shaped guying system + luffing jib variant 3 (29 m)

1.3.13.70 Main boom + Y-shaped guying system + luffing jib variant 4 (36 m) (main boom angle 75°)

36 m luffing jib on 65.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 4 (36 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 2 extension 1 (14 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 44.5 m = 110.1 m

Refer to Figure 1-112.

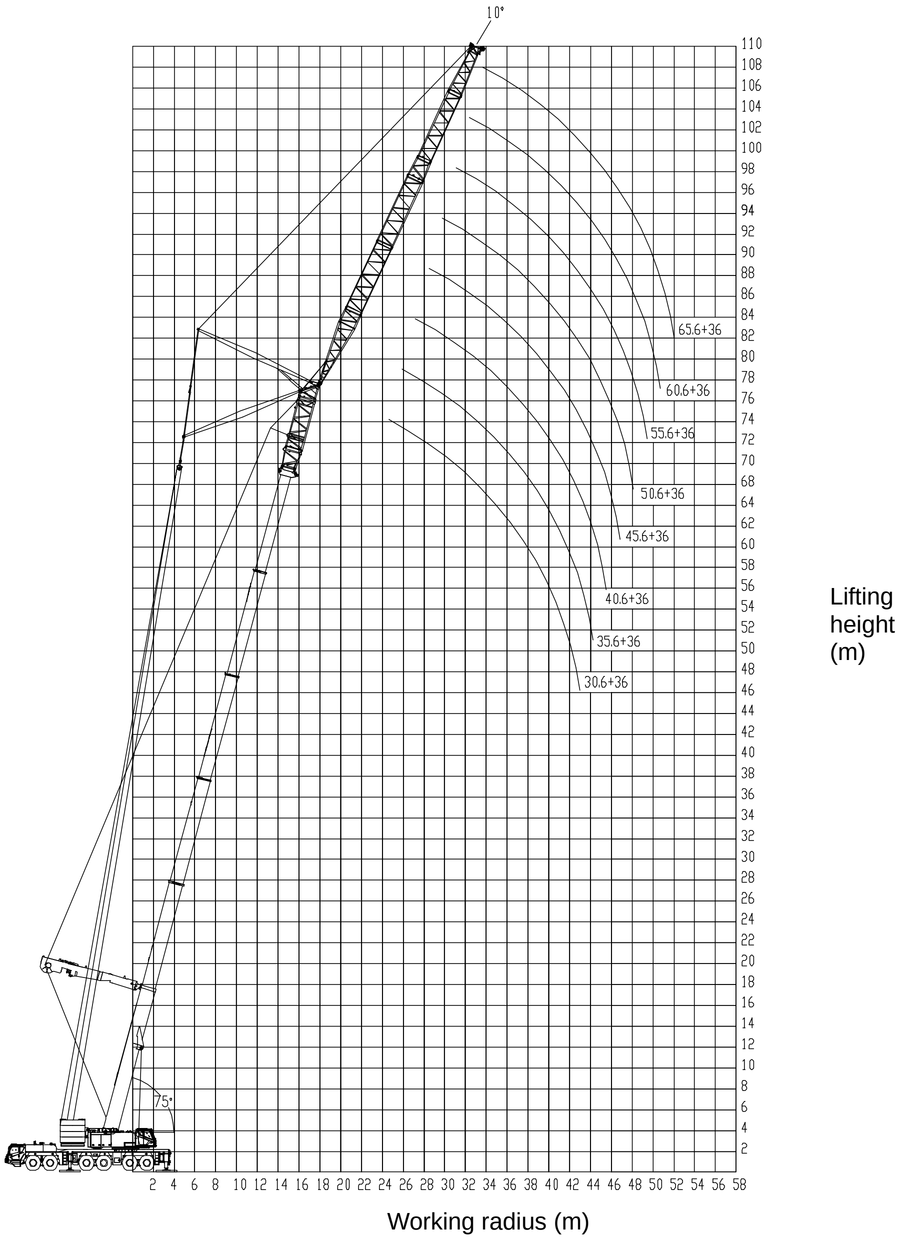


Figure 1-112 Main boom (75°) + Y-shaped guying system + luffing jib variant 4 (36 m)

1.3.13.71 Main boom + Y-shaped guying system + luffing jib variant 5 (43 m) (main boom angle 75°)

43 m luffing jib on 65.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 5 (43 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 3 extension 1 (21 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 51.5 m = 117.1 m

Refer to Figure 1-113.

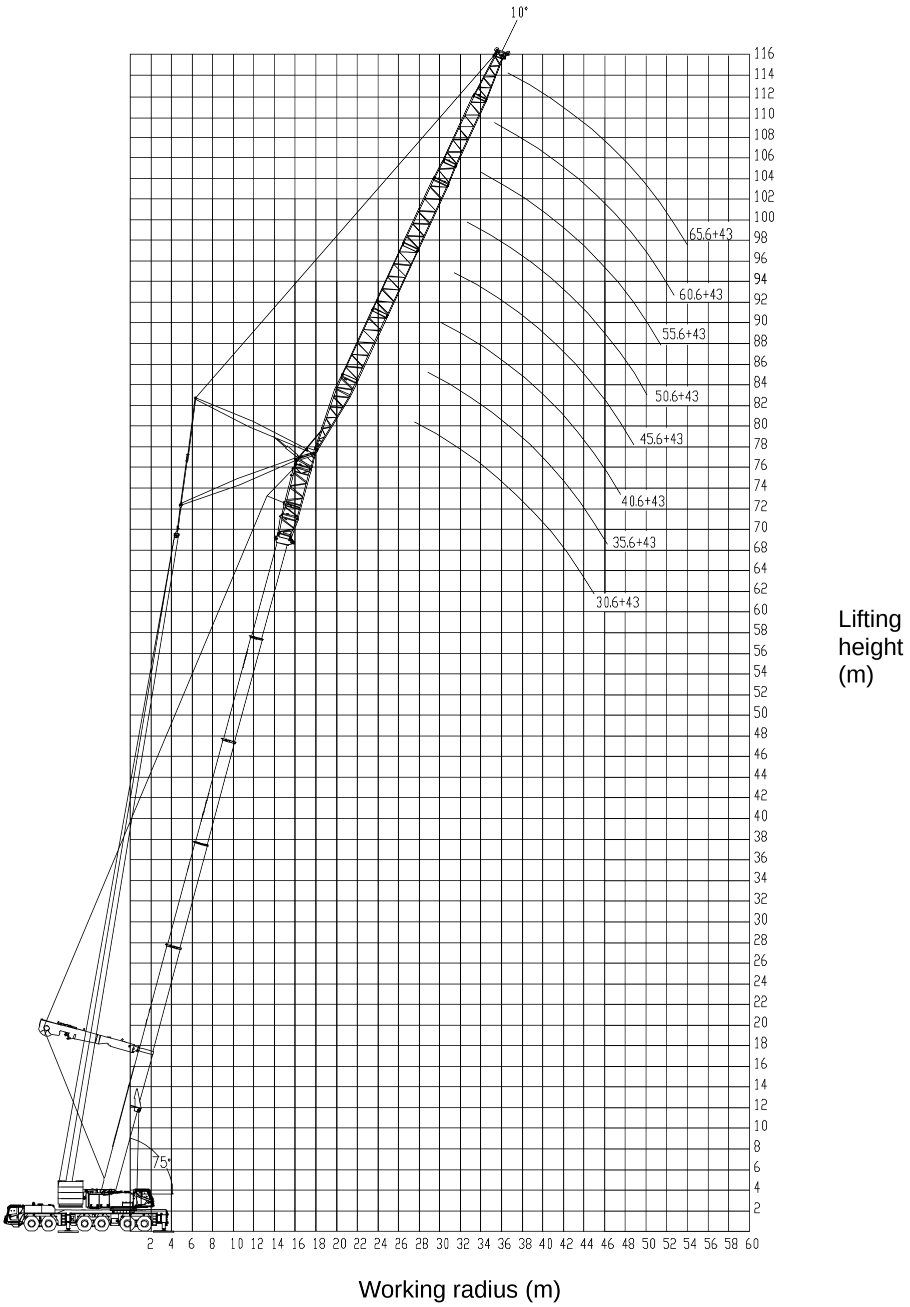


Figure 1-113 Main boom (75°) + Y-shaped guying system + luffing jib variant 5 (43 m)

1.3.13.72 Main boom + Y-shaped guying system + luffing jib variant 6 (50 m) (main boom angle 75°)

50 m luffing jib on 65.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 6 (50 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 4 extension 1 (28 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 58.5 m = 124.1 m

Refer to Figure 1-114.

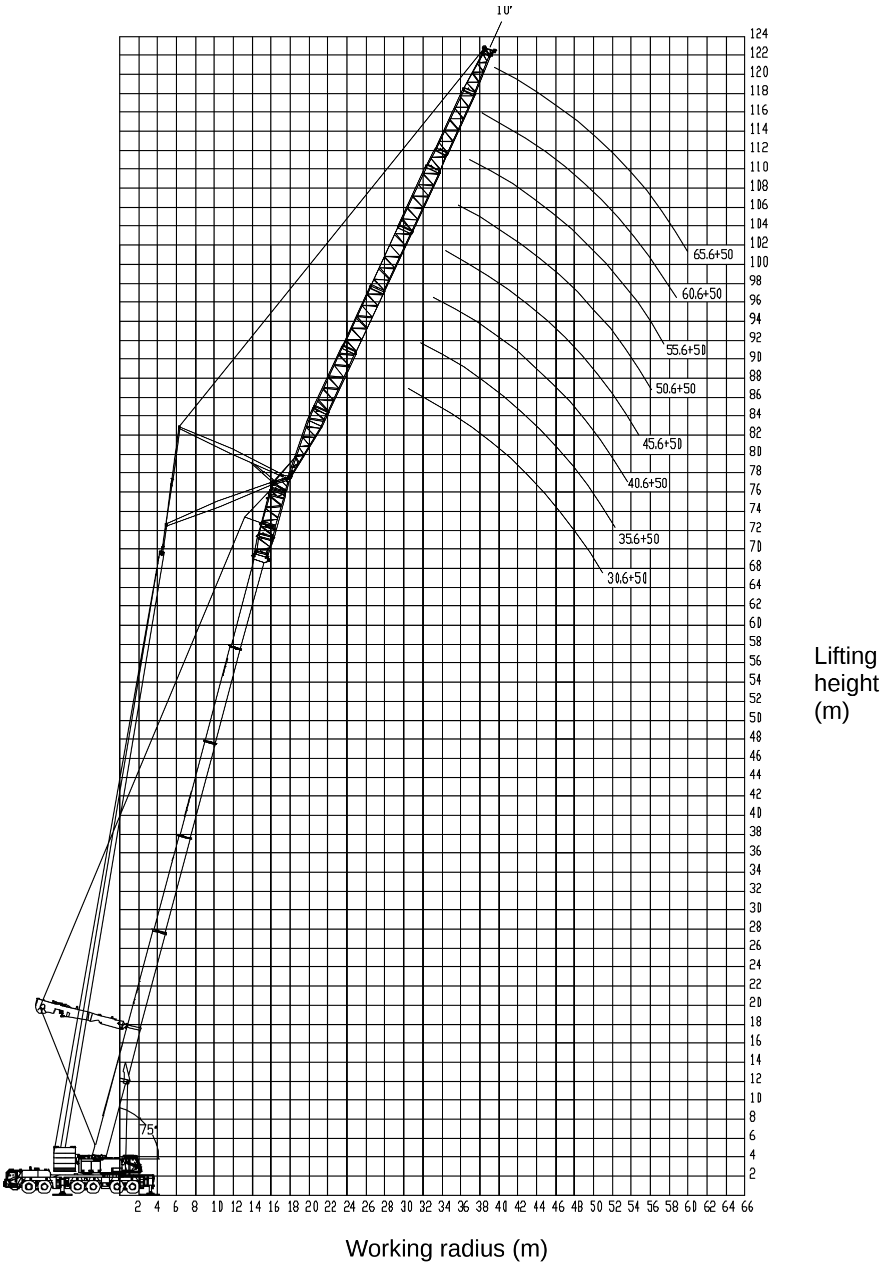


Figure 1-114 Main boom (75°) + Y-shaped guying system + luffing jib variant 6 (50 m)

1.3.13.73 Main boom + Y-shaped guying system + luffing jib variant 7 (57 m) (main boom angle 75°)

57 m luffing jib on 60.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 7 (57 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 60.6 m + 65.5 m = 126.1 m

Refer to Figure 1-115.

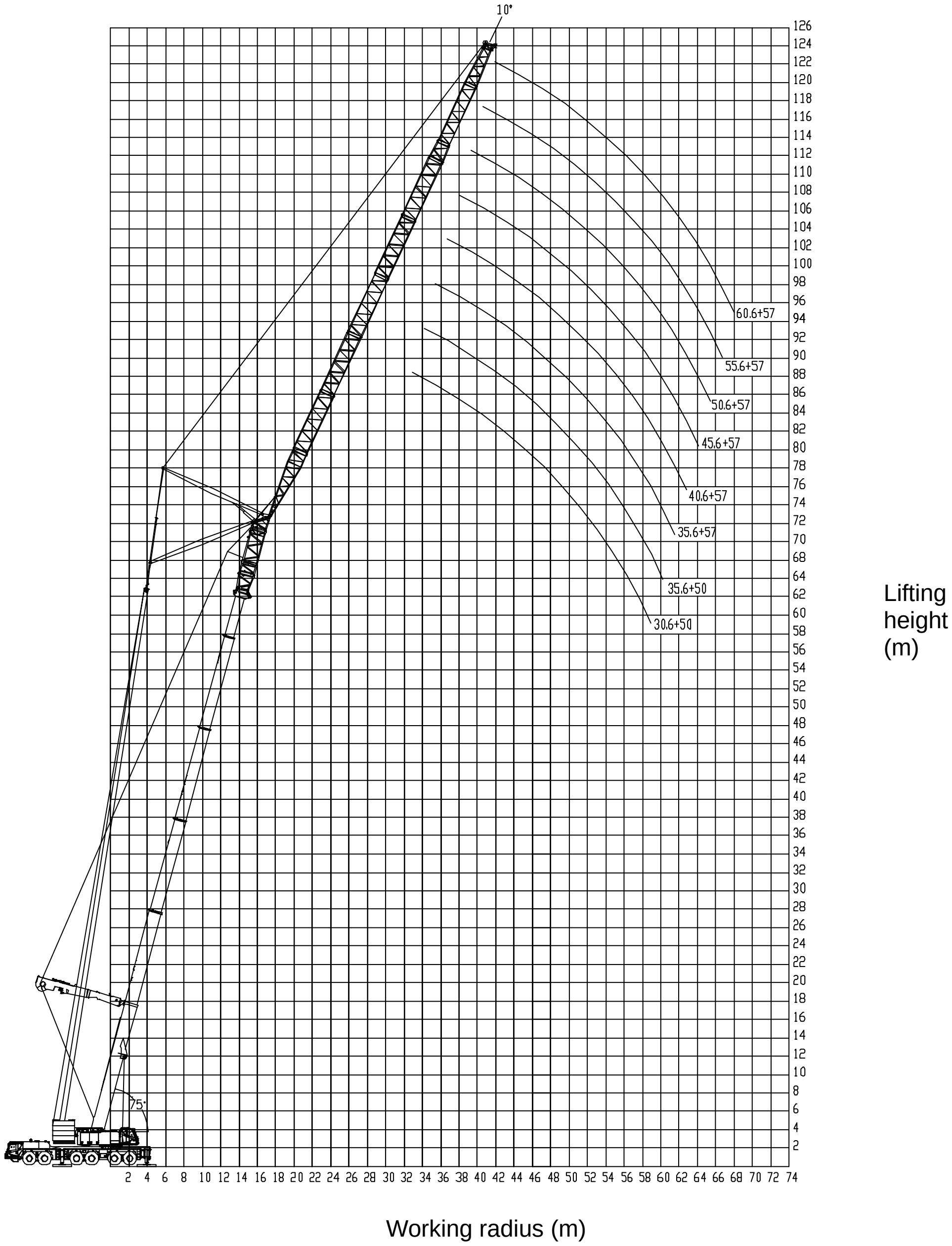


Figure 1-115 Main boom (75°) + Y-shaped guying system + luffing jib variant 7 (57 m)

1.3.13.74 Main boom + Y-shaped guying system + luffing jib variant 8 (64 m) (main boom angle 75°)

64 m luffing jib on 55.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 8 (64 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 2 extension 2 (14 m) + 1 head piece (5 m)

Max. boom length (L): 55.6 m + 72.5 m = 128.1 m

Refer to Figure 1-116.

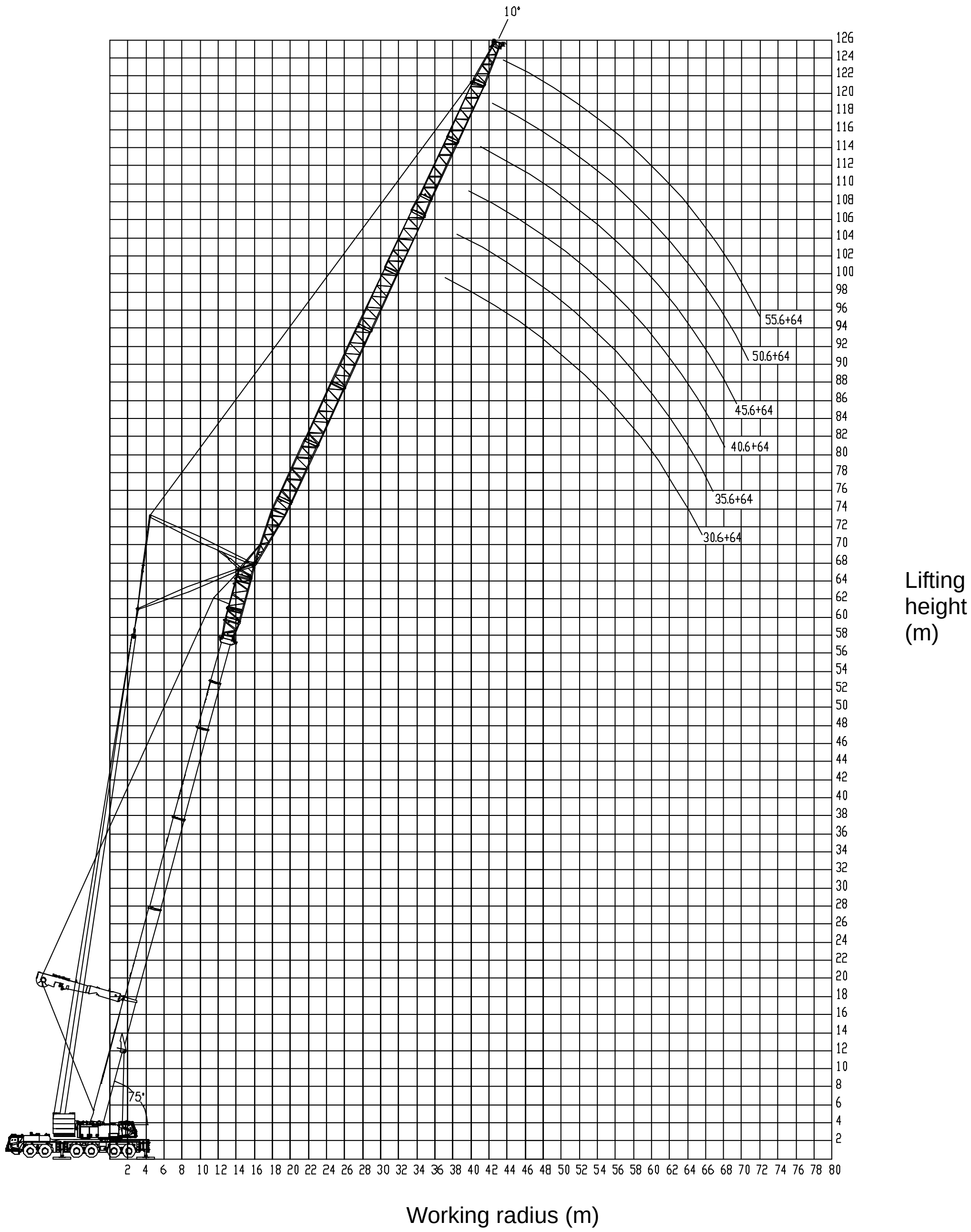


Figure 1-116　Main boom (75°) + Y-shaped guying system + luffing jib variant 8 (64 m)

1.3.13.75 Main boom + Y-shaped guying system + luffing jib variant 9 (71 m) (main boom angle 75°)

71 m luffing jib on 50.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 9 (71 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 2 extension 2 (14 m) + 1 extension 1 of luffing jib (7 m) + 1 head piece (5 m)

Max. boom length (L): 50.6 m + 79.5 m = 130.1 m

Refer to Figure 1-117.

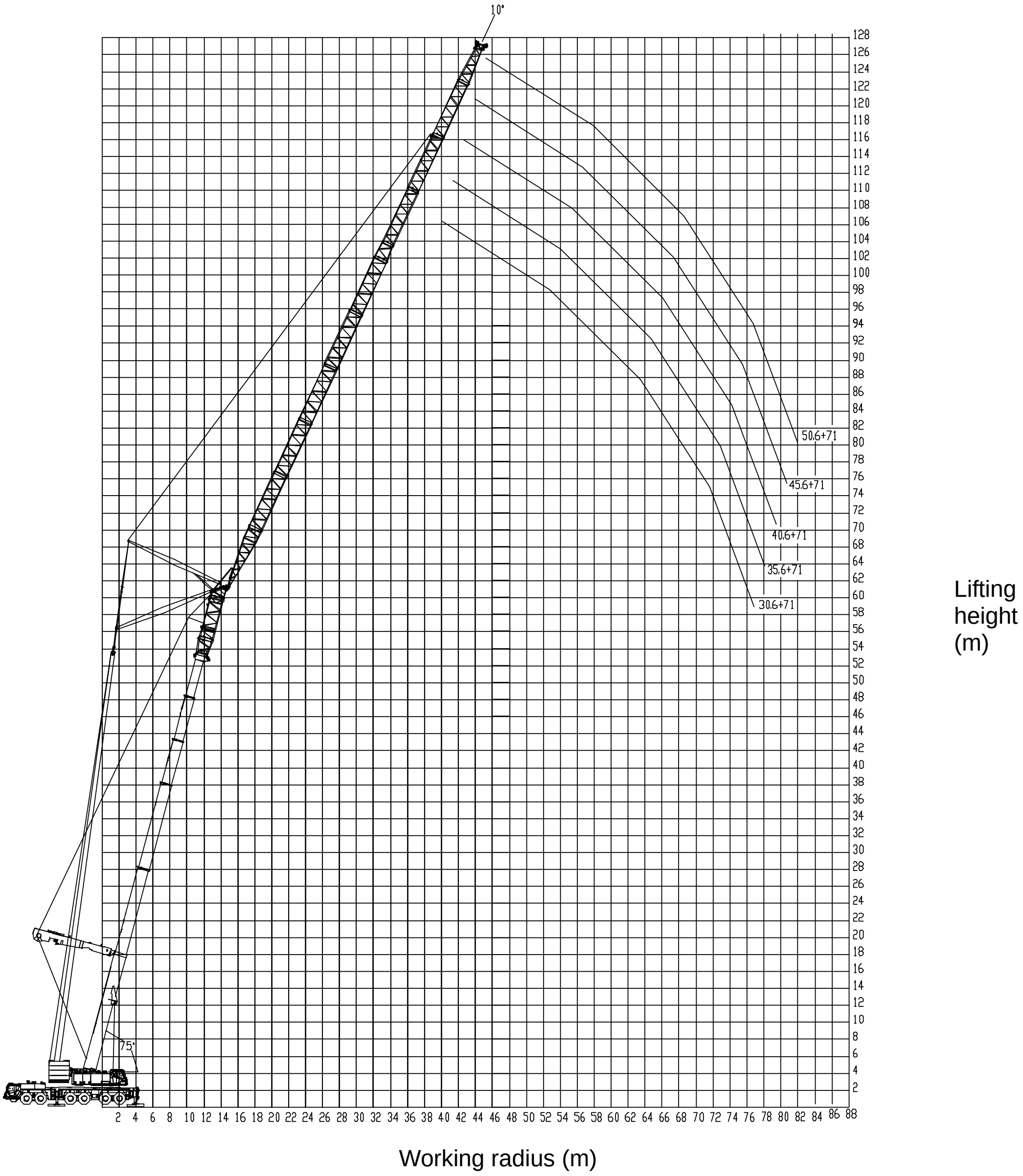


Figure 1-117 Main boom (75°) + Y-shaped guying system + luffing jib variant 9 (71 m)

1.3.13.76 Main boom + Y-shaped guying system + luffing jib variant 10 (78 m) (main boom angle 75°)

78 m luffing jib on 45.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 10 (78 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 3 extension 2 (21 m) + 1 extension 1 of luffing jib (7 m)+ 1 head piece (5 m)

Max. boom length (L): 45.6 m + 86.5 m = 132.1 m

Refer to Figure 1-118.

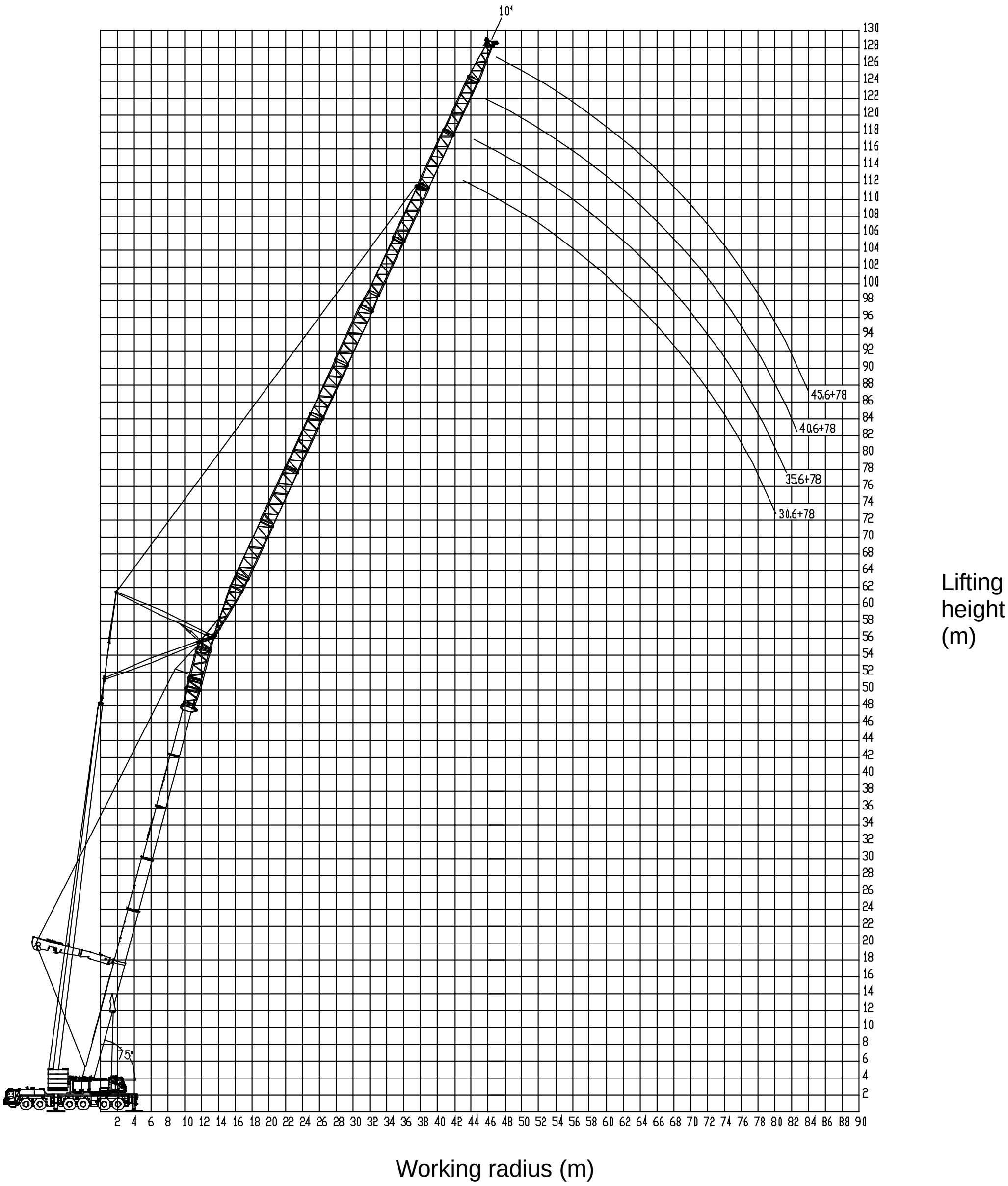


Figure 1-118 Main boom (75°) + Y-shaped guying system + luffing jib variant 10 (78 m)

1.3.13.77 Main boom + Y-shaped guying system + luffing jib variant 2 (22 m) (main boom angle 68°)

22 m luffing jib on 65.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 2 (22 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 1 extension 1 (7 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 30.5 m = 96.1 m

Refer to Figure 1-119.

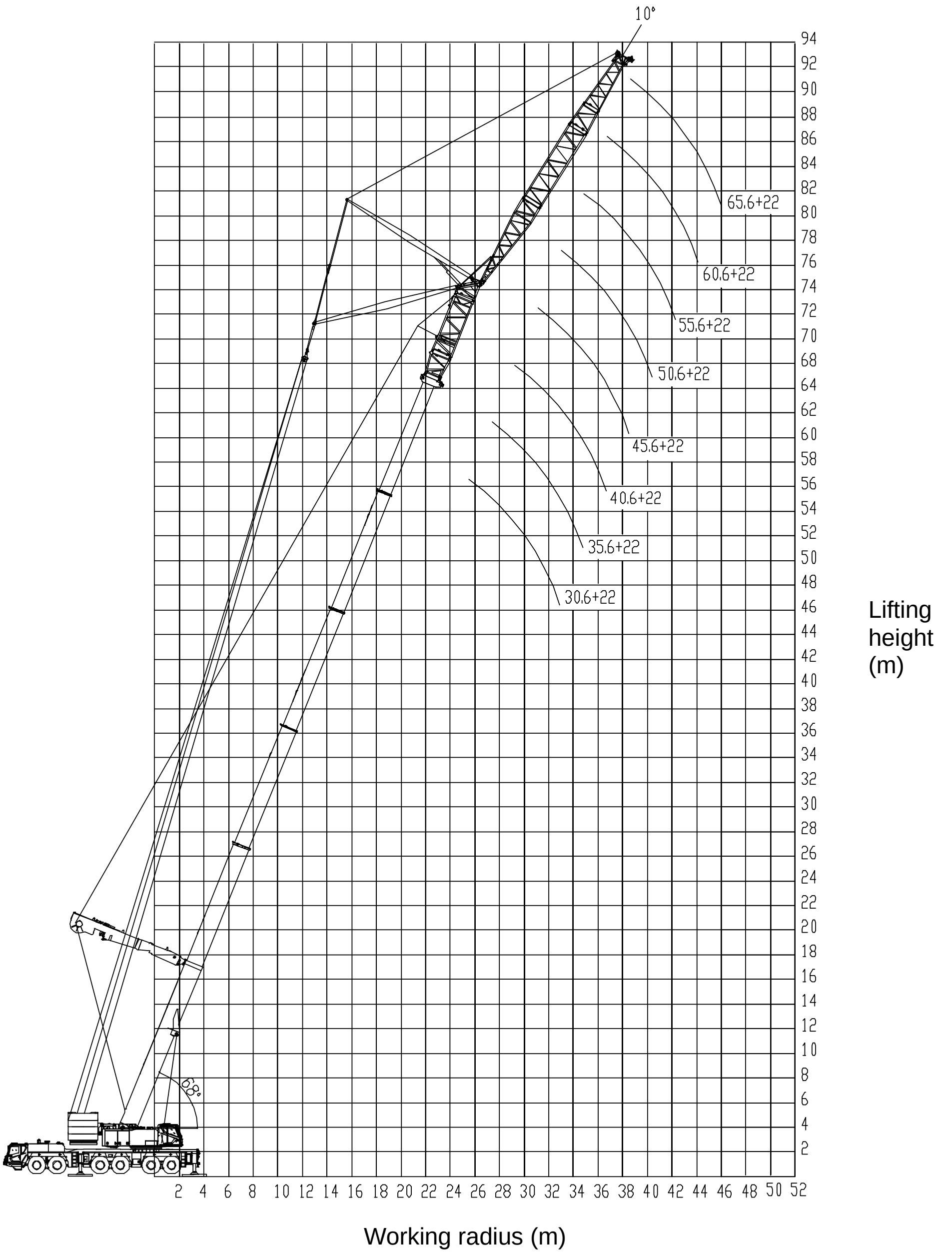


Figure 1-119 Main boom (68°) + Y-shaped guying system + luffing jib variant 2 (22 m)

1.3.13.78 Main boom + Y-shaped guying system + luffing jib variant 3 (29 m) (main boom angle 68°)

29 m luffing jib on 65.6ain boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 3 (29 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 2 extension 1 (14 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 37.5 m = 103.1 m

Refer to Figure 1-120.

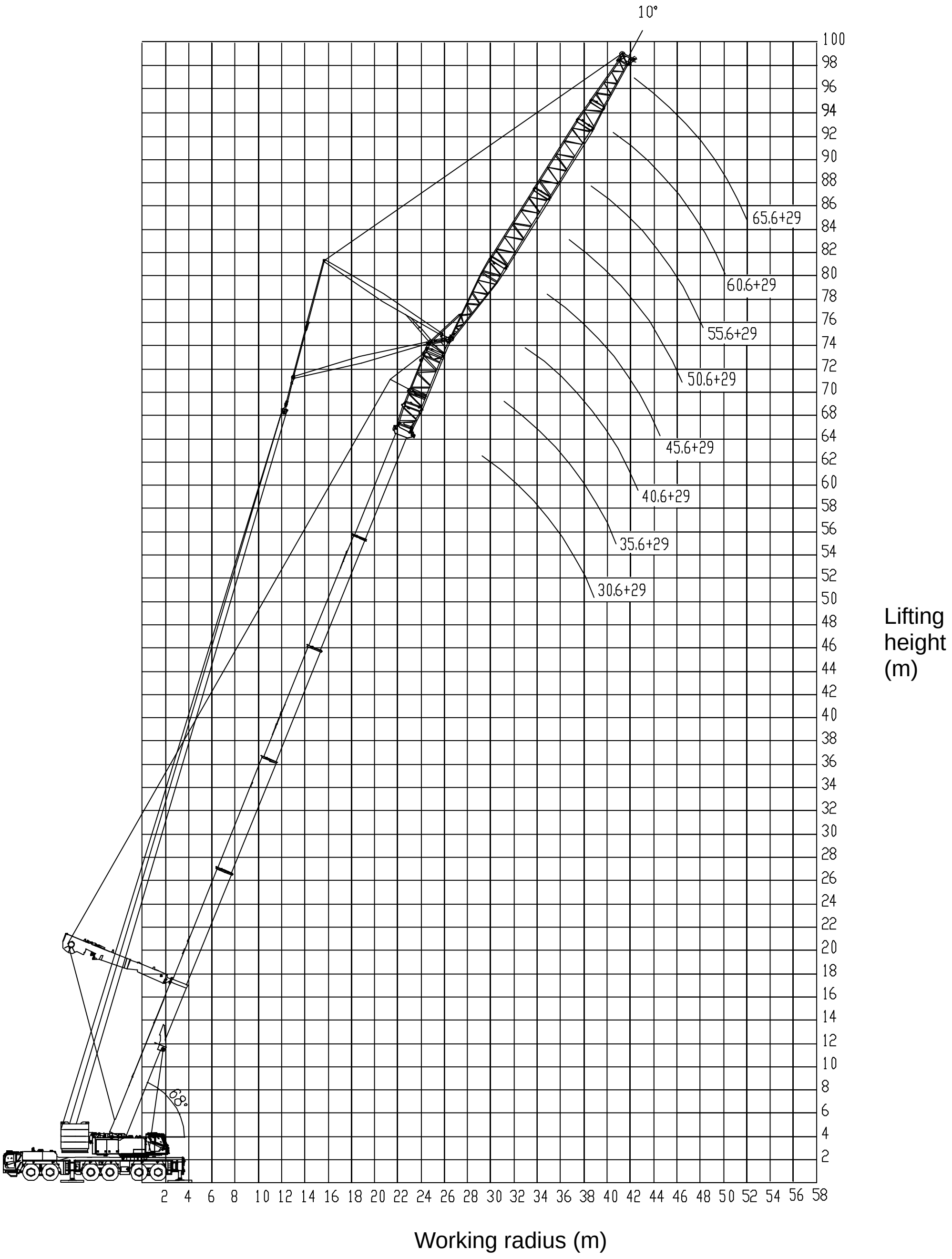


Figure 1-120 Main boom (68°) + Y-shaped guying system + luffing jib variant 3 (29 m)

1.3.13.79 Main boom + Y-shaped guying system + luffing jib variant 4 (36 m) (main boom angle 68°)

36 m luffing jib on 65.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 4 (36 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 2 extension 1 (14 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 44.5 m = 110.1 m

Refer to Figure 1-121.

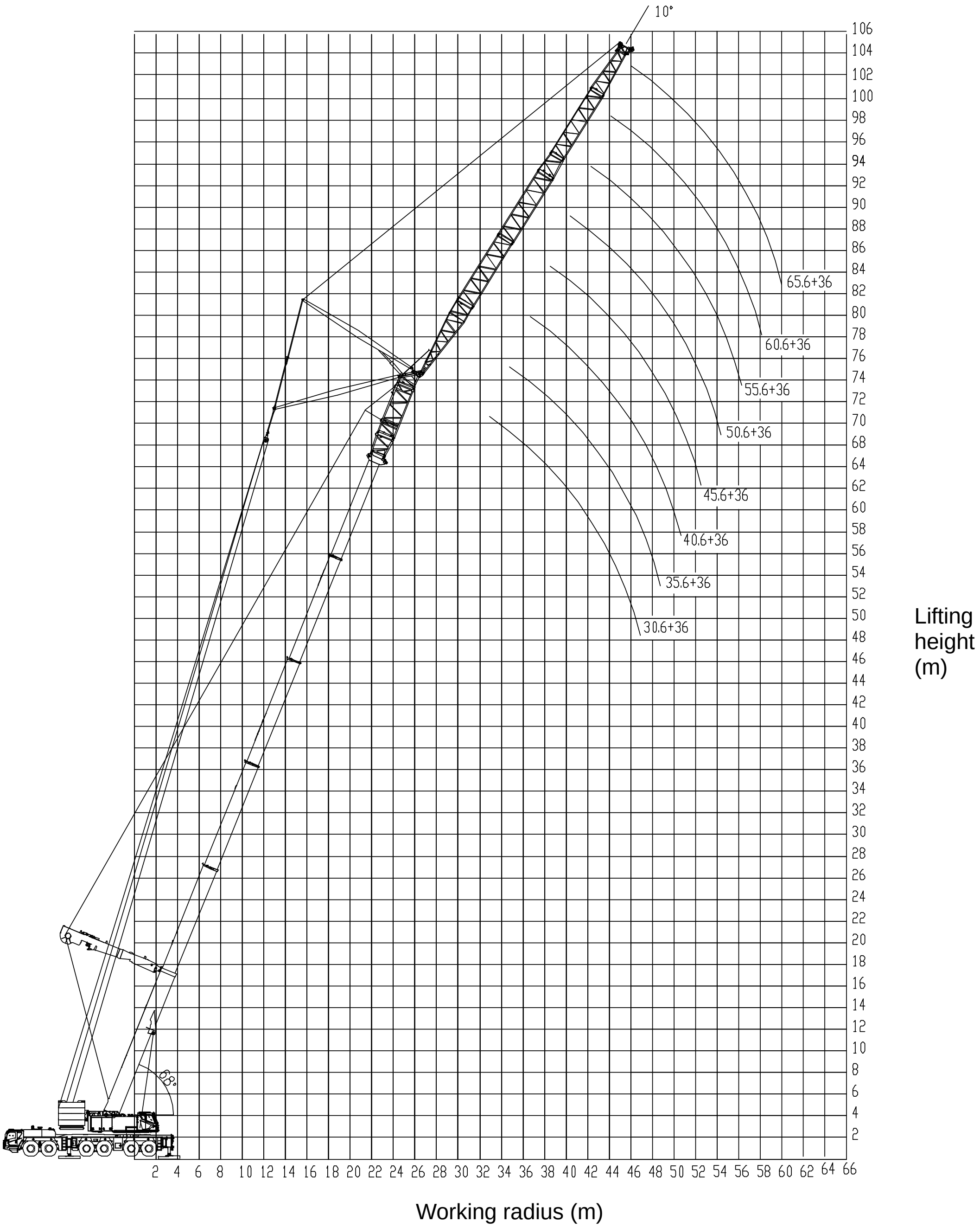


Figure 1-121 Main boom (68°) + Y-shaped guying system + luffing jib variant 4 (36 m)

1.3.13.80 Main boom + Y-shaped guying system + luffing jib variant 5 (43 m) (main boom angle 68°)

43 m luffing jib on 65.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 5 (43 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 3 extension 1 (21 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 51.5 m = 117.1 m

Refer to Figure 1-122.

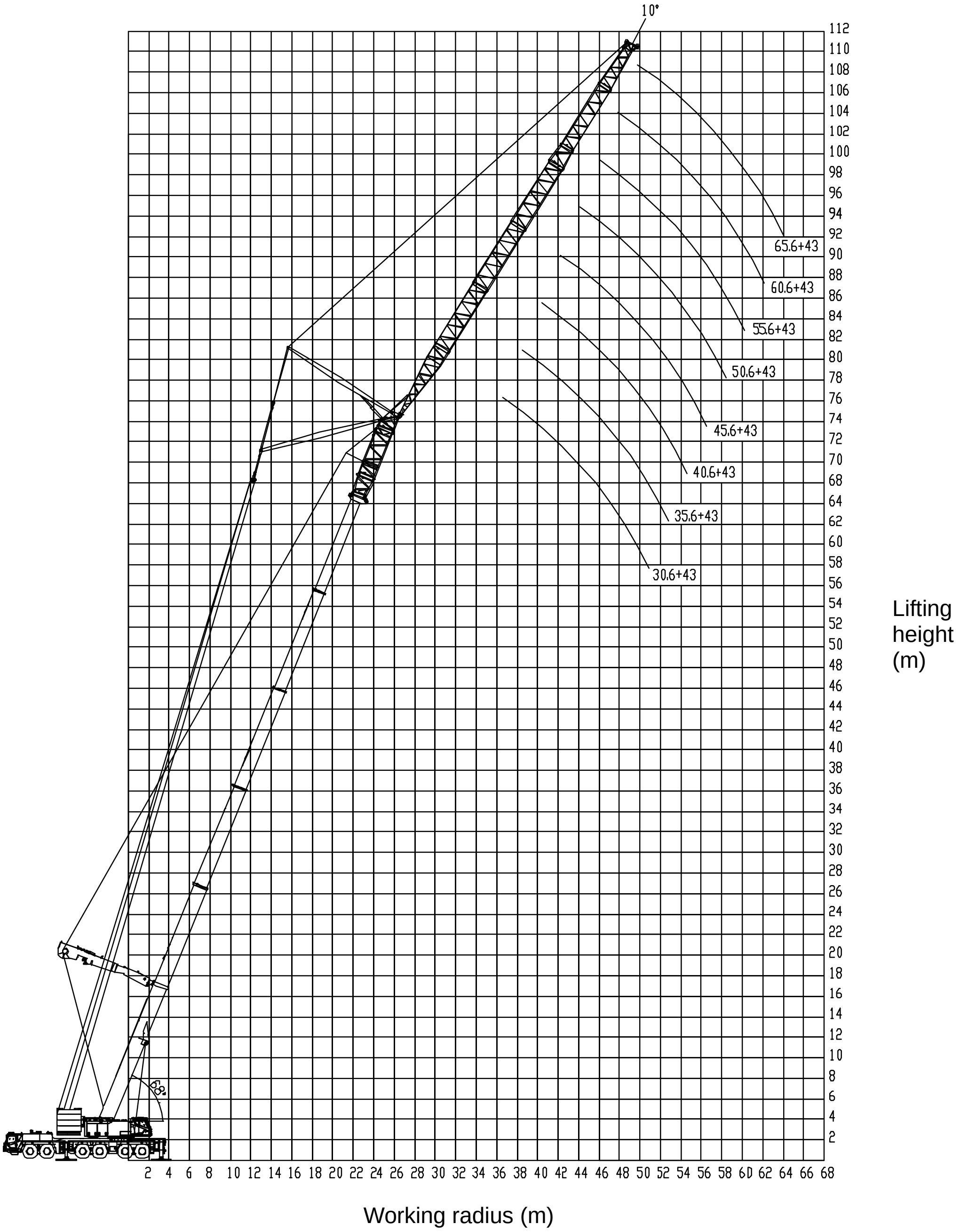


Figure 1-122 Main boom (68°) + Y-shaped guying system + luffing jib variant 5 (43 m)

1.3.13.81 Main boom + Y-shaped guying system + luffing jib variant 6 (50 m) (main boom angle 68°)

50 m luffing jib on 65.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 6 (50 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 4 extension 1 (28 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 65.6 m + 58.5 m = 124.1 m

Refer to Figure 1-123.

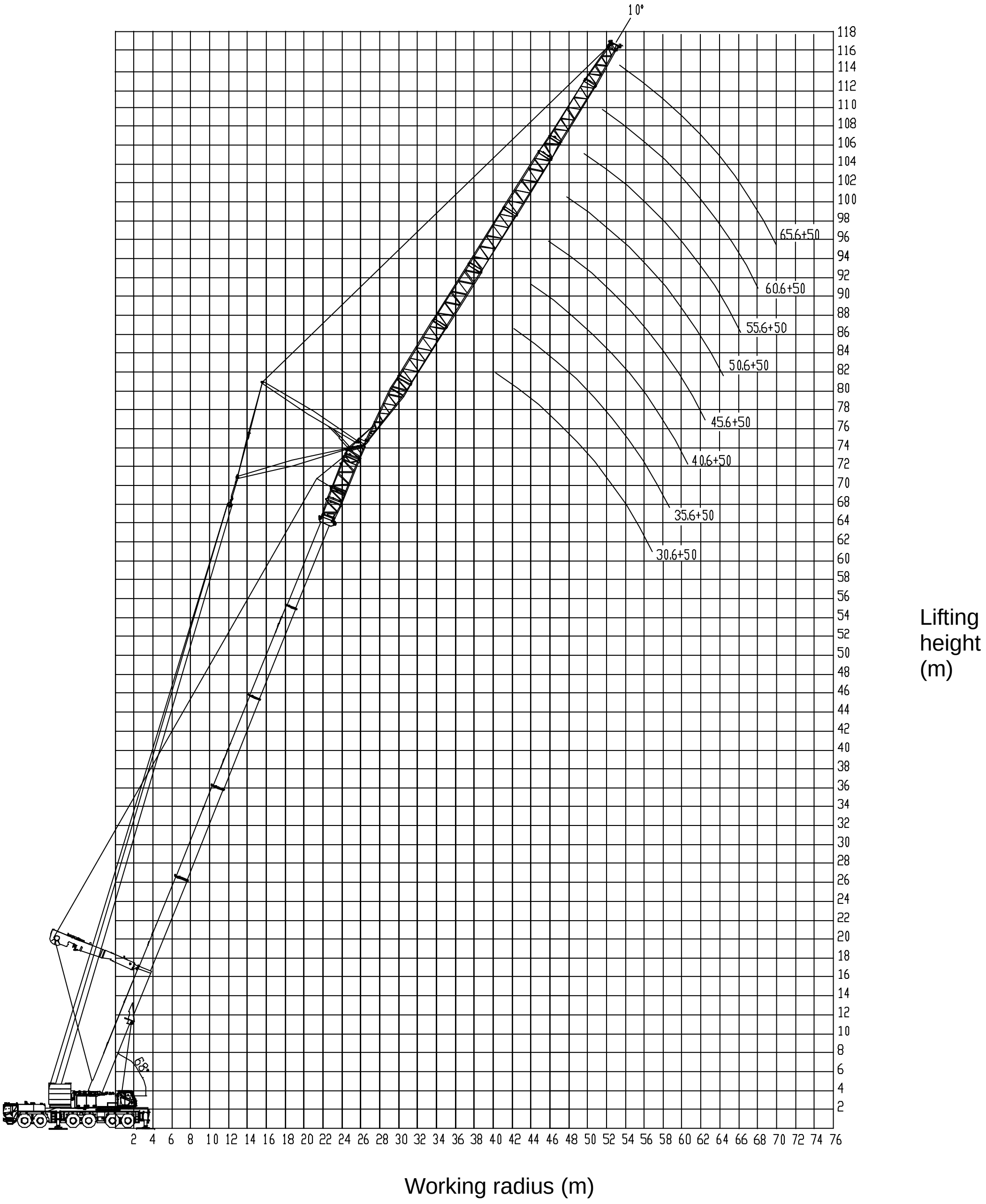


Figure 1-123 Main boom (68°) + Y-shaped guying system + luffing jib variant 6 (50 m)

1.3.13.82 Main boom + Y-shaped guying system + luffing jib variant 7 (57 m) (main boom angle 68°)

57 m luffing jib on 60.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 7 (57 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 1 extension 2 (7 m) + 1 head piece (5 m)

Max. boom length (L): 60.6 m + 65.5 m = 126.1 m

Refer to Figure 1-124.

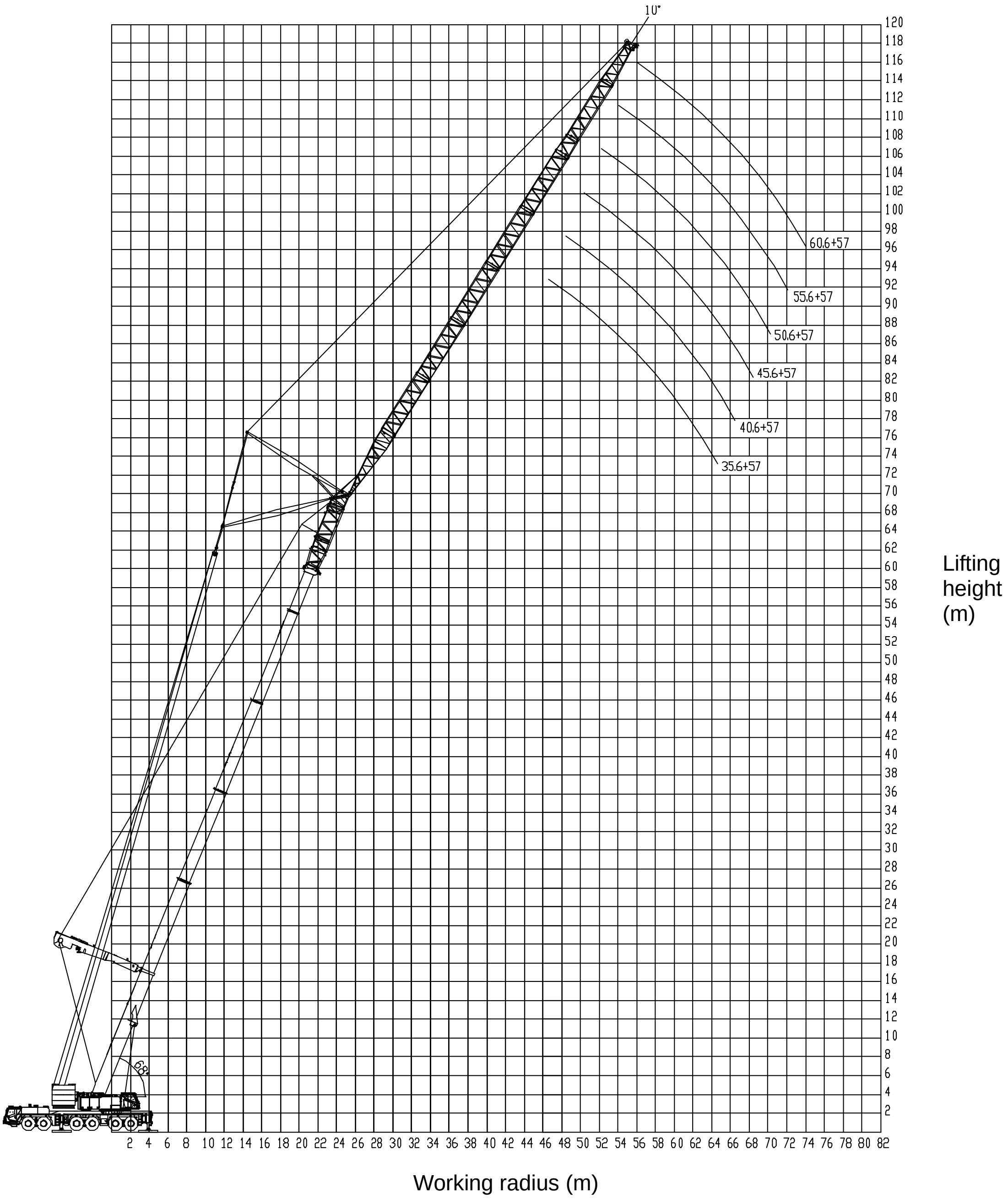


Figure 1-124 Main boom (68°) + Y-shaped guying system + luffing jib variant 7 (57 m)

1.3.13.83 Main boom + Y-shaped guying system + luffing jib variant 8 (64 m) (main boom angle 68°)

64 m luffing jib on 55.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 8 (64 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 2 extension 2 (14 m) + 1 head piece (5 m)

Max. boom length (L): 55.6 m + 72.5 m = 128.1 m

Refer to Figure 1-125.

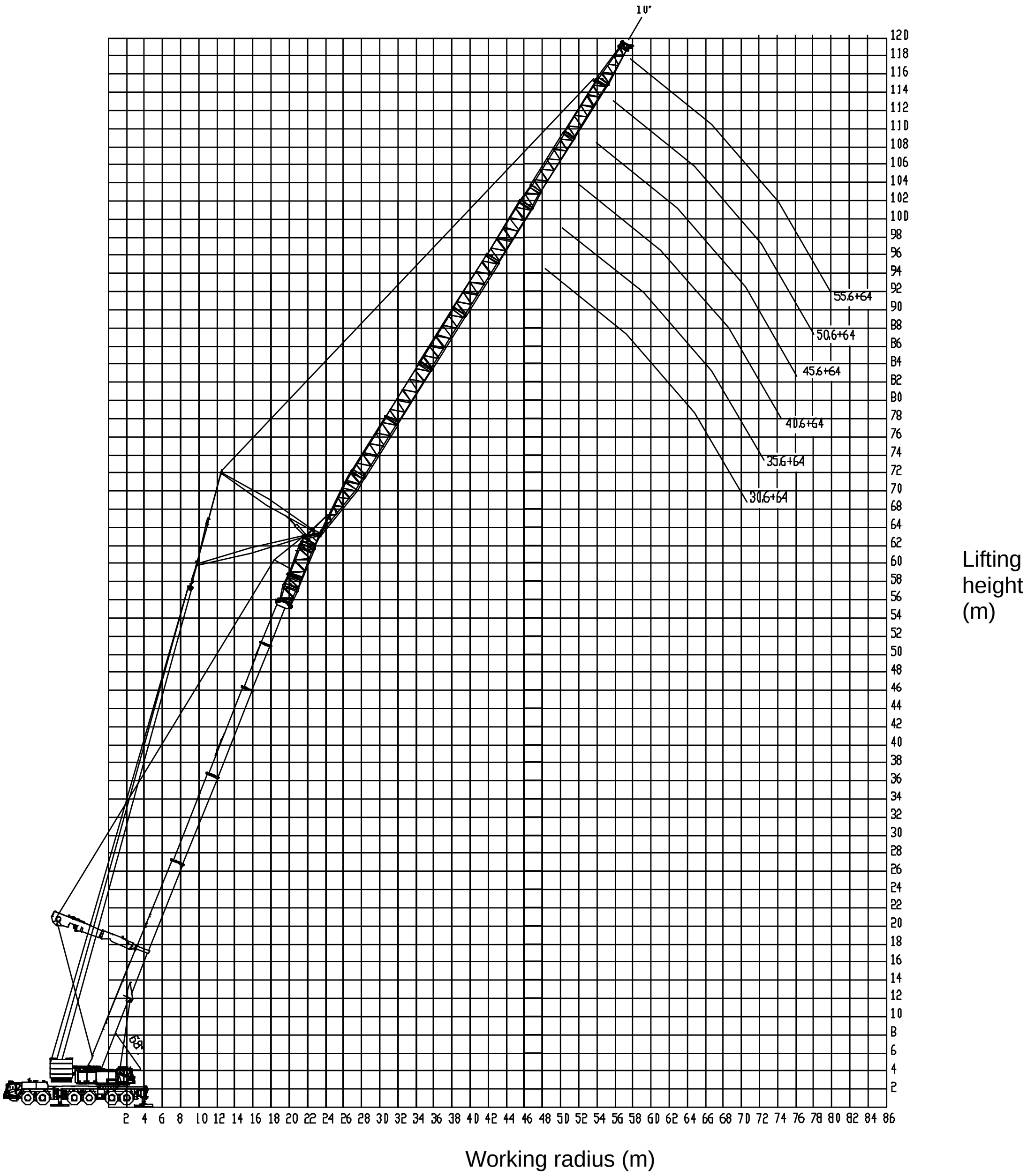


Figure 1-125 Main boom (68°) + Y-shaped guying system + luffing jib variant 8 (64 m)

1.3.13.84 Main boom + Y-shaped guying system + luffing jib variant 9 (71 m) (main boom angle 68°)

71 m luffing jib on 50.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 9 (71 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 2 extension 2 (14 m) + 1 extension 1 of luffing jib (7 m)+ 1 head piece (5 m)

Max. boom length (L): 50.6 m + 79.5 m = 130.1 m

Refer to Figure 1-126.

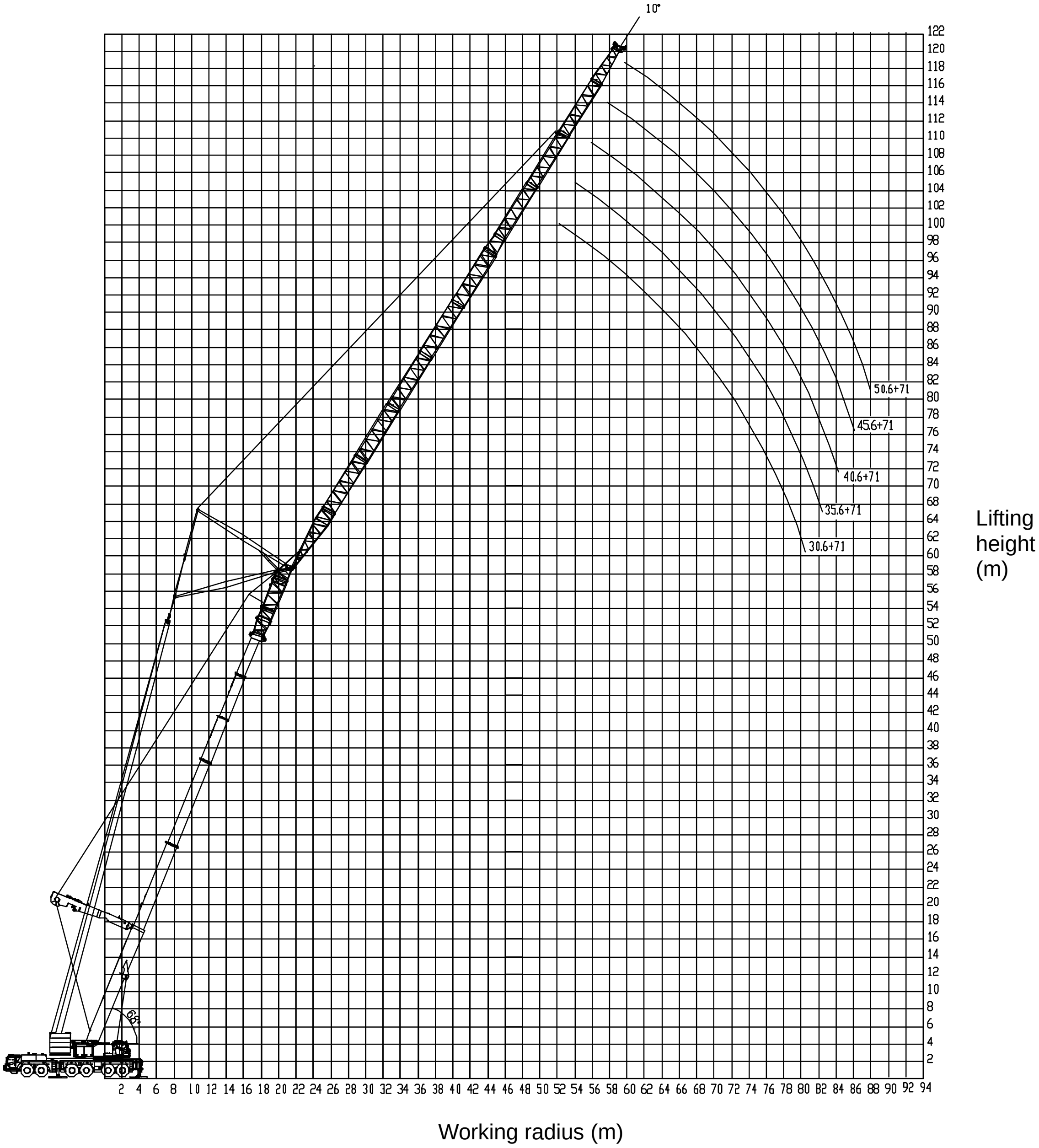


Figure 1-126 Main boom (68°) + Y-shaped guying system + luffing jib variant 9 (71 m)

1.3.13.85 Main boom + Y-shaped guying system + luffing jib variant 10 (78 m) (main boom angle 68°)

78 m luffing jib on 45.6 m main boom via an adapter (2 m), an adapter of luffing jib (1.5 m) and 1 extension 3 (5 m)

Luffing jib variant 10 (78 m): 1 pivot section of luffing jib (8 m) + 1 transition section (2 m) + 5 extension 1 (35 m) + 3 extension 2 (21 m) + 1 extension 1 of luffing jib (7 m)+ 1 head piece (5 m)

Max. boom length (L): 45.6 m + 86.5 m = 132.1 m

Refer to Figure 1-127.

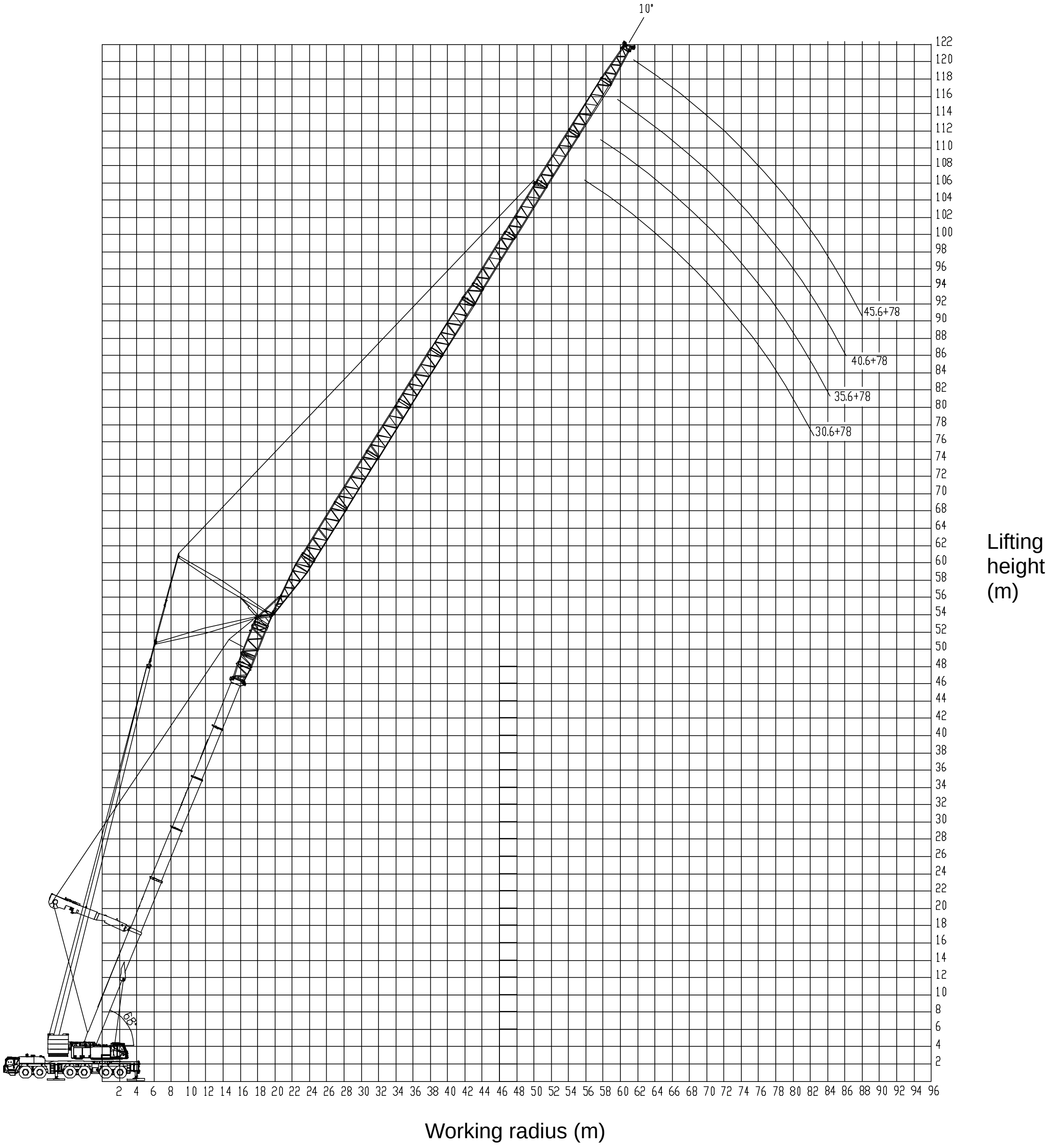


Figure 1-127 Main boom (68°) + Y-shaped guying system + luffing jib variant 10 (78 m)

CAUTION

(1) The outriggers must be fully or intermediately extended under the above-mentioned OMs. Support the crane on outriggers before operation. After the sliding beams are in position, install the retaining pins.

(2) The values given in the lifting capacity tables are suitable for 360° full range operation.

(3) The rated lifting capacities given in the lifting capacity tables are the max. permissible lifting capacities under the corresponding OMs when the crane works on a flat, solid and even ground. And the unit of rated lifting capacity is tons.

(4) The values given in the lifting capacity tables are the max. permissible lifting capacities under various OMs and specified operating conditions. The values include the mass of the hook (Refer to Table 1-5) and slings. Refer to Figure 1-128.

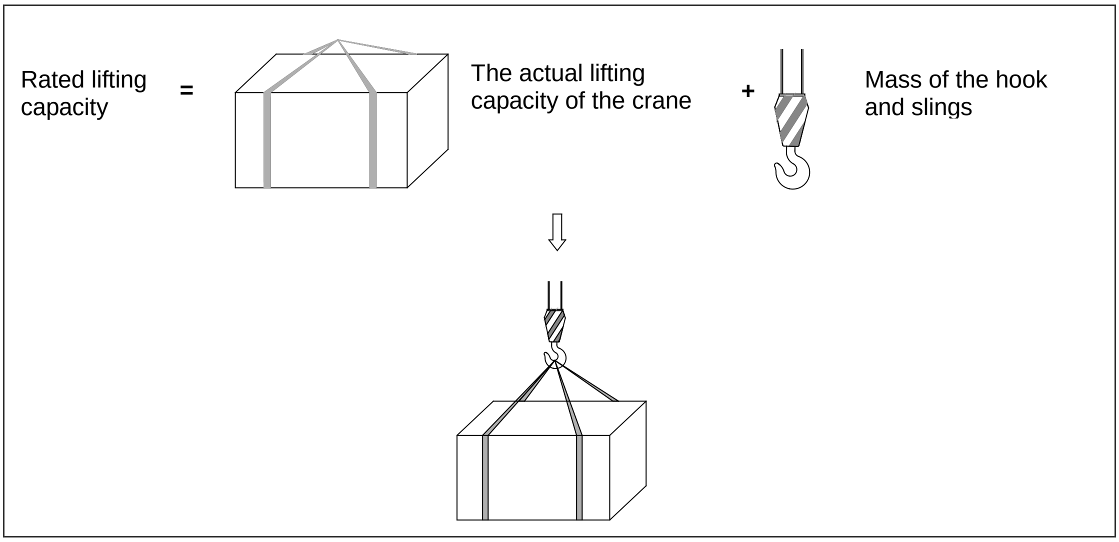


Figure 1-128 Rated lifting capacity

(5) The working radius in lifting capacity table is measured from hook center to slewing centerline. Its unit is metric meter. The radius stated is valid under load conditions.

(6) Use next lower rated capacity when working at radius between the figures on the rated lifting capacity table.

(7) The numbers I, II, III and V in the table indicate the corresponding telescopic sections (highest number = furthest telescopic section). The numbers 1, 2, 3 and 4, display the boom status of the telescope. 1 represents the telescope extends 0%, 2 represents the telescope extends 45%, 3 represents the telescope extends 90% and 4 represents the telescope extends 100%.

(8) Properly use the hook and select the rope reeving in order to reduce the max. pull force of single rope. And thus, you can prevent the winch from working on the 5th layer (of wire rope) or more as little as possible. Arrange the wire rope on the drum at regular intervals to make sure that the lower layers of wire rope tightly wind on the drum.

(9) Do not lift a load with both main hook and auxiliary hook simultaneously excluding special OMs.

(10) All the working radius and lifting heights in lifting height charts do not include the deflection of main boom and jib.

(11) The working radius of the crane must be strictly limited within the range listed in the lifting capacity table. If the specified working radius is exceeded, the crane will tip over even without a load.

(12) Before crane operation, extend the sliding beams (to a uniform length on both sides) to the extent stated in the lifting capacity tables. After the sliding beams are in position, install the retaining pins.

(13) Before you begin a lift operation, all wheels must be raised clear of the ground.

(14) Level the crane with the support control unit prior to lifting loads, examine frequently and relevel when necessary during operation.

If the support control unit fails, you should level the vehicle manually.

How to level the vehicle manually?

- **Fully extend the boom and the outriggers.**
- **Apply 100 tons counterweight.**
- **Turn the superstructure for 360° full range operation.**
- **Adjust the outrigger vertical cylinders to make sure that the working radius of the boom varies between 0.1 m and 0.2 m.**

(15) The lifting capacity for the main boom is the value calculated without jib assembled. When you use the main boom with jib assembled, the weight jib applied on main boom head plus the mass of hook block and slings should be subtracted from the rated lifting capacities.

(16) The lifting capacities marked with the asterisk "*" in the lifting capacity tables are the nominal lifting capacities.

(17) "8.5 m" in the lifting capacity table: 2 m adapter + 5 m extension + 1.5 m luffing jib adapter = 8.5 m. As for luffing jib + superlift OM, both of the single flare angle of superlift mechanism is 39° .

(18) When the boom is working with the jib and the superlift mechanism, the single flare angle of superlift mechanism is 39° .

(19) When the boom is working with the superlift mechanism, the single flare angle of superlift mechanism is 15° when the main boom length is between 30.6 m and 60.6 m. Also, the single flare angle of superlift mechanism is 39° when the main boom length is between 65.6 m and 71 m.

(20) Do not telescope the boom with a suspended load.

ZOOMLION

All Terrain Crane Operator’S Manual

Chapter 2 Safety Guidelines

Chapter 2 Safety Guidelines

2.1 Road traffic rules

Be sure to comply with all valid national and regional traffic regulations when driving the crane on roads! No person is allowed to stay in operator's cab during driving.The crane must be made to comply with the relevant local traffic regulations, before it is driven on public streets, roads and other places. Make sure the weights, axle loads and dimensions are within the permits specified in the vehicle license.

For axle load, it is necessary to differentiate the maximum permissible axle load specified by technology design from the maximum permissible one stipulated in the traffic rules. For countries that adopt the EEC rules, the axle load of vehicles on the road and highway should be no more than 12 tons.

⚠ DANGER

(1) If the axle load or total weight exceed the permissible limit value, the vehicle braking force will reduce in proportion to the weight exceeded.
(2) The risk of brake lining wearing and brake overheating will increase.
(3) The steering system, service brake, parking brake and reduction gear will no longer meet the requirements of corresponding rules.
(4) The steering system, service brake, parking brake and reduction gear will no longer meet the requirements of corresponding rules.
(5) During the driving process, no one is allowed to be in the operator's cab.

Only in the following circumstances, can the crane hook hang in front of the driver's cab:

a) The rope reeving is no more than 4.
b) If the wire rope has been tightly bound on the front towing hook and the crane hook has been tightly bound with an auxiliary wire rope on the towing hook connector

⚠ DANGER

Do not allow the hook block to impair the driver's field of vision when you drive the crane on public roads!

2.2 Running-in instructions

The crane as leaving the factory is in running-in state, so the following instaurations must be observed:

a) In the process of crane driving, the oil pressure gauge and thermometer readings must be constantly monitored.

⚠ WARNING

If any meter reading is abnormal, we should immediately stop the crane driving.

b) The user, after driving the crane 50 km and 100 km for the first time, should undertake the following checks:

   1) Check the wheel nut for tight fit (the maximum permissible tightening torque of wheel nut is 600 N.m);
   2) Check the engine coolant level and oil level;
   3) Check the transmission and oil level of transfer case and drive axle;
   4) Check whether the installation of engine, transmission device and shaft is firm and check for leaks(visual check);
   5) Check whether the drive axle is reliably connected;
   6) Check whether the connection of steering system, suspension cylinder and other parts is reliable;
   7) Check whether the other parts on the chassis are firmly installed;；
   8) Check the tire pressure.

c) Break in the brake linings:

To achieve optimum braking performance, all new brake linings must be broken in by activating the brakes. Activate the brakes by pumping them at low to high speed. Hard braking is not permitted. In general, the break-in distance depends on the type of vehicle, but a minimum of 500 km is recommended. During this phase, the maximum temperature of brake hub or braking lining may not exceed 200° C. Temperature rise caused by each individual braking, shall not exceed 15% of the maximum value.

⚠ DANGER

Risk of accident!

The risk of accident increases when new brake linings are subjected to one or more braking operations over extended periods of time or if the vehicle is forced to a stop by hard braking from maximum speed several times.

Hard braking and continuous braking are not permitted!

d) During initial crane operation (less than 100 operating hours), you must follow the below instructions:

1) The work load and work speed must not be too high.
2) The maximum lifting capacity should not be larger than 80% of the rated one.
3) Do not operate the crane at a speed that is more than the maximum limits.

2.3 Planning crane operation

In addition to a perfectly working crane and a well-trained crew, crane operation planning is an important principle of safe crane operation.

The crane operator must obtain or receive necessary information in a timely fashion before driving to the job-site. In particular:

a) Natural environment around job-site
b) Site location and travel distance
c) Route
d) Height and width clearance measurements
e) Electric transmission lines (its voltage values)
f) Space restrictions at the job-site
g) Movement restrictions caused by buildings
h) Weight and dimensions of the loads to be lifted and the required hoisting height and working radius
i) Geological conditions or ground bearing capacity at the job-site.

Basing on the above information, the crane operator must assemble the equipment required to operate the crane:

a) Load hook / hook block
b) Load handling device
c) Counterweight
d) Jib
e) Underlay materials for outrigger pads.

⚠ WARNING

Crane operation may not be possible or improvisation can result if a crane operator does not have all the required data.

2.4 General safety technical guidelines

2.4.1 Requirements of the crane operator, rigger and signalman

The primary responsibility of crane operator, rigger and signalman is to control, operate, adjust the crane and conduct the operation in a manner that is safe for both themselves and others.

Many crane accidents are caused by incorrect crane operation.

The main **operating errors**, which are made again and again while operating or driving a crane, are as follows:

a) Not paying careful attention while working, for example:
    1) Slewing too quickly
    2) Quick braking of the load
    3) Diagonal pulling when the load is still on the ground
    4) Loose wire rope formations.
b) Overloading
c) Crashing into bridges, roofs or high voltage wiring due to insufficient vertical clearance
d) Unsuitable operation when lifting a load with several cranes at the same time.

About 20% of accidents are caused by improper maintenance:

a) Insufficient or deteriorated lubricating oil, lubricating grease or antifreeze
b) Broken wire rope, worn parts
c) Limit switches or load moment limiter not operating properly
d) Brake or transmission failure
e) Hydraulic defects (for example: cracked hoses)
f) Loose bolts

⚠ DANGER

In the interest of both yourself and others, make sure you understand how your crane operates and familiarize yourself with all the risks associated with the work to be done.

2.4.1.1 General qualifications for operator

Make sure that only authorized personnel are allowed to operate the crane.

Qualifications for operator:

a) Drivers holding a qualification license.
b) Apprentices and other trainees that accept training for more than half a year under the supervision of qualified personnel.
c) Maintenance and inspection personnel that require crane operation in order to perform a task.
d) Healthy and agile
e) Eyesight (remedied eyesight included) is above 0.7, no color blindness.
f) Hearing is qualified.

g) The ability to estimate and monitor load is enough.

h) Be familiar with the *Operator's Manual* and *Maintenance Manual* for the crane, and know the working principle, lifting performance, structural performance and the function and adjusting method of the safety devices as well as master the operation essentials and maintenance skills.

i) Be familiar with safety rules, safety signals and symbols.

j) Be qualified with the work in hearing, eyesight and reaction ability. Have the requisite physical to operate the crane safely. Be able to estimate the distance, height and clearance correctly.

k) Know how to administer first aid and know how to use a fire extinguisher. Know how to survive in an emergency.

Make sure that only the personnel who are qualified and authorized are allowed to operate the crane.

⚠ DANGER

(1) The operator should examine the brakes, hook block, wire rope and safety devices before operation. Correct the malfunction.

(2) The operator must focus his attention on his work during operation and is forbidden to chat with others. Generally speaking, the operator can only follow the signal sent out by appointed persons. However, for a stop signal, the operator should obey it at all times, no matter who send it out. He should refuse to follow signal which violates operation regulations. Stop the crane immediately if somebody is found climbing the crane.

(3) Operator who is in low spirits or poor health is not allowed to operate the crane. Do not drink before operation.

2.4.1.2 General qualifications for rigger

The rigger is responsible for ensuring that the load is slung or released safely and carefully and decides which hook and load handling device to be used in accordance with work plan. The rigger is also responsible for the safety of the crane.

Qualifications for rigger:

a) Hold a crane operation certificate。

b) Be qualified with the work in hearing, eyesight and reaction ability.

c) Be strong enough to move sling and its components.

d) Be able to estimate the load mass and balance the load.

e) Be able to estimate and monitor the distance, height, clearance and load correctly.

f) Apprentices and other trainees have accepted lifting training.

g) Be able to choose the proper hook and load handling device according to conditions of the load.

h) Have been trained in hand signals for operation and is familiar to use them.

i) Be able to safely use audio equipment (such as interphone) to send out oral order exactly and clearly.

j) Be able to control, command the crane, and move the load safely.

k) Be able to undertake the job after being authorized.

Make sure that only the personnel who are qualified and authorized are allowed to carry out the work

2.4.1.3 General qualifications for signalman

The signalman is to transfer the signal from the rigger to operator. He can substitute for the rigger to conduct the crane operation, but such work can only be done by one person at any time.

Qualifications for signalman:

a) Be qualified with the work in hearing, eyesight and reaction ability.

b) Be able to estimate the distance, height and clearance correctly.

c) Have been trained in hand signals for operating and is familiar to use them.

d) Be able to safely use audio equipment (such as interphone) to send out oral order exactly and clearly.

e) Be able to control, command the crane, and move the load safely.

f) Be able to undertake the job after being authorized.

2.4.2 Selecting an operating site

It is very important to choose an appropriate location for crane operation in order to minimize safety risks.

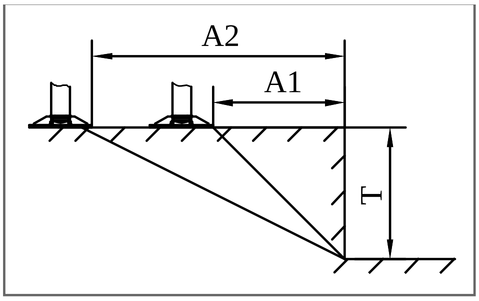
When you select the placement location of the crane, observe the following:

a) Crane operations can be carried out within the necessary radius (working radius and counterweight slewing radius).

b) Support the crane and other things only on the ground with sufficient load bearing capacity.

2.4.2.1 Slopes and ditches

The crane may not be set up too close to slopes or ditches. Maintain adequate safety clearances in accordance with the type of soil. The formulas for calculating the safety clearance are as follows:



For non-cohesive and soft cohesive ground:

$A_2 = 2T$

For stiff or semi-solid cohesive ground:

$A_1 = T$

T refers to the depth of ditch.

⚠ DANGER

If the safety distance cannot be maintained, fill and level up the slope and ditch. Otherwise the crane may topple!

2.4.2.2 Permissible ground pressure of outrigger

When the crane is supported on outriggers for a lift operation, the outriggers transmit significant forces to the ground. In certain cases, a single outrigger has to transmit almost the entire weight of the crane, plus the load weight, to the ground. The ground must be able to safely absorb this pressure every time. If the outrigger pad area is inadequate, then it must be supported from below according to the load bearing capacity of the ground.

The formula for calculating the required support area is as follows:

Support area = maximum crane support force / load bearing capacity of the ground

⚠ WARNING

Although the crane is supported by multiple outriggers at the same time, but the calculation is conducted on the assumption that all weight is exerted on one outriggers, however, the maximum pressure on the front and back outriggers cannot exceed the value listed in section 1.3.3.

As for the load bearing capacity of the ground, please refer to the table below.

Table 2-1 Load bearing capacity of the ground

Soil type		Load bearing capacity (kg/cm^2)
A	Back-filled, naturally compacted ground	0 – 1
B	Natural, clearly undisturbed ground:	
	1. Mud, peat, marshy soil	0
	2. Non-cohesive ground, sufficient compactly layered soil	
	Fine to medium grained sand	1.5
	Coarse-grained sand to gravel	2.0
	3. Cohesive ground:	
	Sludgy	0
	Soft	0.4
	Firm	1.0
	Semi-compact	2.0
	Hard	4.0
	4. Rock with few fissures, in healthy, unweathered condition and in a favorable location:	
	In cohesive layer order	15
	In massive or column-style shape	30
C	Artificially compacted ground:	
	1. Asphalt	5 – 15
	2. Concrete	
	Concrete group B I	50 – 250
	Concrete group B II	350 – 550

Note:

If there is anything about the load bearing capacity of the ground at the placement site that you do not understand, use a special detecting instrument to do a soil test.

⚠ CAUTION

Only use strong materials, such as properly dimensioned wooden timbers, for the outrigger pad bases.

In order to make sure that pressure is evenly distributed over the base surface, position the outrigger pads in the center of the support base.

2.4.3 Supporting

a) Before operation, all wheels must be raised clear of the ground.

b) Before you extend the vertical cylinders, extend the sliding beams to the specified positions.

c) Extend all the sliding beams according to the data in the lifting capacity tables and secure them by pins.

d) Before operation, level the crane. Under any working conditions, the inclination angle α of the crane cannot be more than 0.6°.

⚠ DANGER

If the crane is positioned at an incline and the boom is turned towards the downslope, then the radius is increased as a result. It is possible that the crane can topple in extreme cases.

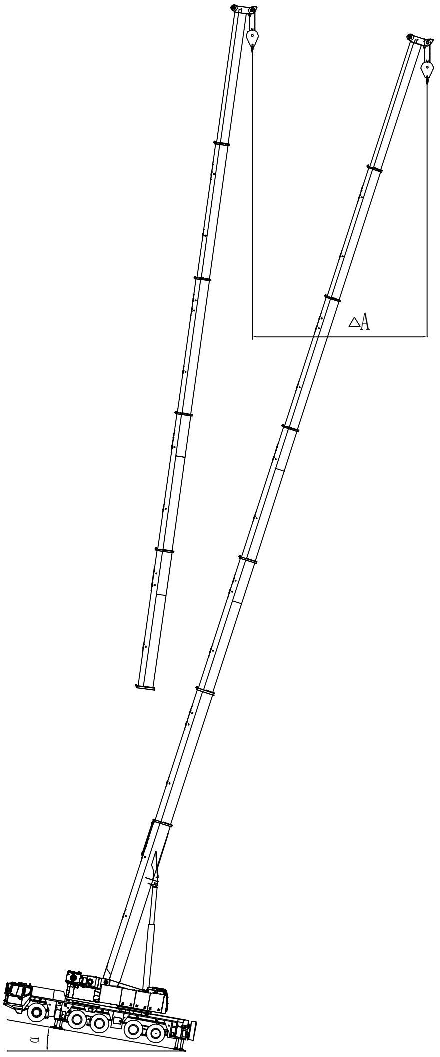


Figure 2-1 Inclination angle of the crane

After the crane is supported, examine the following safety measures:

a) The placement location has been selected in such a way that the crane can be operated with the least possible radius.

b) The load bearing capacity of the ground is adequate.

c) There is a sufficient safe distance to slopes or ditches.

d) All outriggers have been extended to the specified positions.

e) The outriggers are secured with pins.

f) The outrigger pads are secured.

g) The crane has been leveled.

h) All tires do not touch the ground.

i) There are no live electrical wires within the working range of the crane.

j) There are no obstacles which will hinder the required crane movements.

2.4.4 Working conditions

2.4.4.1 Direct sunshine

Do not let the single side of telescopic boom face the sun for a long time when the boom is telescoped out. A temperature difference occurs between the side facing the sun and the side facing away from the sun in cranes with telescopic booms. This causes telescopic boom side distortion, which can reduce the load-bearing capacity of the telescopic boom.

⚠ DANGER

Risk of accident because of component overloading!

(1) If the telescopic boom has become distorted because of one-sided sunlight, this can cause component overloading and therefore accidents.

(2) When a telescopic boom extension such as a jib is being used, the equipment and the work site must be visually inspected before picking up the load in order to ensure that the boom is not showing signs of side deformation because the sun shining on one side. According to the condition of the work site, adjust the operation posture of crane. Turn crane directly towards the sun or behind the sun so that both sides of the boom are brought to about the same temperature, therefore preventing side deformation!

2.4.4.2 Temperature

Do not operate the crane if the temperature at the job-site is not in the proper range (-20°C to 40°C).

NOTICE

Pay attention to the ambient temperature in the job-site.

2.4.4.3 Wind load

Before operation, measure the wind speed with the anemometer on boom head. At the same time, judge the instantaneous wind speed according to physical phenomenon. The maximum wind force during crane operation is Beaufort 5. That is to say, the wind speed is 14.1 m/s and the wind pressure is 125 N/m^2.

1) Main boom OM or Y-shaped guying system OM
   - When L ≤ 20 m, V ≤ 14.1 m/s;
   - When L ≤ 30 m, V ≤ 12.8 m/s;
   - When L ≤ 60 m, V ≤ 11.1 m/s;
   - When L > 60 m, V ≤ 9 m/s;
2) Jib OM or luffing jib OM
   - V ≤ 9 m/s.

2.4.4.3.1 Wind speed

During operation, the instantaneous wind speed should be taken as the actual one. Wind speed during crane operation should not exceed 14.1 m/s.

The wind speed during crane operation (3 seconds instantaneous wind speed) = average value of wind speed for 10 minutes of 10 m above the ground × conversion coefficient 1.5.

For the Beaufort and wind speed in weather forecast, please refer to Table 2-2.

Table 2-2 Wind speed

Beaufort	Description	Average wind speed (m/s)	Instantaneous wind speed (m/s)	Effect of the wind on the land
0	Calm	0 – 0.2	0 – 0.3	No wind, smoke rises vertically
1	Slight air (draft)	0.3 – 1.5	0.5 – 2.3	Wind direction shown by smoke drift but not by wind vanes
2	Light breeze	1.6 – 3.3	2.4 – 5.0	Wind felt on face, leaves rustle, vanes move by wind
3	Gentle breeze	3.4 – 5.4	5.1 – 8.1	Leaves and small twigs in constant motion, wind extends light flag
4	Moderate breeze	5.5 – 7.9	8.3 – 11.9	Dust swirls up, small branches move
5	Fresh breeze	8.0 – 10.7	12 – 16.1	Small trees in leaf begin to sway
6	Strong breeze	10.8 – 13.8	16.2 – 20.7	Large branches in motion, difficult to use umbrellas, whistling heard in telegraph wires
7	Stiff wind	13.9 – 17.1	20.9 – 25.7	Whole trees in motion, difficult to walk against the wind
8	Gale force wind	17.2 – 20.7	25.8 – 31.1	Breaks twigs off trees, impedes progress
9	Gale	20.8 – 24.4	31.2 – 36.6	Slight structural damage (roof tiles and chimney covers, etc. blown off)
10	Severe gale	24.5 – 28.4	36.8 – 42.6	Trees uprooted, considerable damage occurs
11	Violent storm	28.5 – 32.6	42.8 – 48.9	Extensive, widespread storm damage
12	Hurricane	> 32.7	> 49.1	Major destruction

2.4.4.3.2 Wind pressure

Crane operation is affected by wind speed. The higher the height above the ground is, the stronger the wind speed is, and the higher the wind pressure is.

Wind pressure = ground wind pressure × height changing coefficient of wind pressure

The equation of wind pressure and wind speed: $p = 0.625 v_s{}^2$ (where, p represents the wind pressure (unit: N/m^2), and v_s represents the average instantaneous wind speed (unit: m/s).

K_h represents the height changing coefficient of wind pressure.

Take the ground wind speed of 14.1 m/s as an example. For the wind pressure and wind speed of different heights, please refer to Table 2-3.

Table 2-3 Wind speeds for different heights above ground

Height above ground (m)	≤ 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
K_h	1	1.13	1.32	1.46	1.57	1.67	1.75	1.83
Wind speed v_s (m/s)	14.1	15.03	16.25	17.09	17.72	20.02	20.49	20.96
Height above ground (m)	80 – 90	90 – 100	100 – 110	110 – 120	120 – 130	130 – 140	140 – 150	
K_h	1.90	1.96	2.02	2.08	2.13	2.18	2.23	
Wind speed v_s (m/s)	21.35	21.69	22.02	22.34	22.61	22.87	23.13	

WARNING

If the instantaneous wind speed is greater than the permissible value of 14.1 m/s (beaufort 5), while the crane is in operation, do the tasks that follow:

(1) Stop the work (safely lower the load).

(2) Retract the boom.

(3) Correctly stow the boom.

2.4.4.4 Height above sea level

During crane operation, the height above sea level of the job-site should not be higher than 2000 m.

If the height above sea level of the job-site is higher than 2000 m, have the crane made to order.

The technical data of this crane such as gradeability and fuel consumption etc. are applied to the job-site of which the height above sea level is below 2000 m.

NOTICE

The higher the height above sea level is, the lower the air pressure is, and the less the oxygen content is.

When the height above sea level is higher than 2000 m, the following crane performance will be affected:

(1) The gradeability is reduced.
(2) The fuel consumption is increased.
(3) The boiling temperature of the engine coolant decreases.
(4) The exhaust system emits black smoke.

2.4.4.5 Other conditions

a) During crane operation, if the visibility is less than 200 m, do the tasks that follow:
    1) Stop the work (safely lower the load).
    2) Retract the boom.
    3) Correctly stow the boom.

b) During crane operation, stop working in case of thunderbolt or rainstorm. At the same time, take action to prevent lightning and thunderbolt to ensure personnel safety.

⚠ WARNING

During crane operation, stop working in case of thunderbolt or rainstorm. At the same time, fully retract and correctly stow the boom.

c) Strong electromagnetic fields are likely to be present if the construction site is close to a transmitter. Before you operate a crane in the vicinity of transmitters, consult a high frequency specialist or contact the local distributor and the manufacturer.

⚠ DANGER

Electromagnetic fields can expose people and objects to direct and indirect risks, such as:

- **Effect on human organs due to radiation**
- **Spark or electric arc formation.**

To reduce the risk caused by high frequency radiation, the operator must comply with the following instructions:

a) The whole crane needs to be grounded, and make checks with naked eye or simple detector to ensure the ladders, cab and wire rope are completely grounded;

b) All staff that stand on the crane or on large pieces of metal plate should wear special insulating gloves and clothing to prevent burns;

c) If you feel the temperature rise, don't panic, this is because the temperature of tools and crane parts rises under the influence of high frequency radiation;

d) The influence of high frequency radiation on the temperature of an object is related to the volume of the object, for example, the temperature of the crane cover will be higher;

e) When driving the crane, be careful to prevent the crane from coming into contact with load object lifted by other cranes, which is prone to generate arc and thus might damage the wire rope. Once such circumstance occurs, check the wire rope immediately;

f) Between the crane hook and sling must be equipped with insulators, and the insulators can't contact with the steel wire rope;

g) When the crane lifts or lowers load without an insulator, not to touch the crane;

h) The operator cannot work with naked upper body or with shorts and vest dressed;

i) If possible, please try to move the load horizontally, in order to reduce the high frequency radiation doses of the suspended object;

j) When performing necessary hand operation, be sure to make the suspended object grounded or insulated first, and the operator can place rubber cloth between the tools used and gloves;

k) Measure the temperature of the tools used with an appropriate detecting instrument. For example, if the voltage measured in the range of 1~2 cm away from the tool is 500V, the tools cannot be touched by hand;

l) To prevent the accident, please fasten your seat belt when working in high altitude;

m) Combustible materials should be put at least 6m away from the position where the electric spark caused by large pieces of metal plate is easily generated. Do not add fuel in such environment as possible as you can, if it is needed, you can only use reliable rubber hose to add fuel;

n) Once an accident or a special phenomenon occurs, please report to the local departments in charge of the security

2.4.5 Points for attention for safe operation

Before you begin a lift operation, meet the requirements below:

- The crane is in safe operating conditions.
- All safety devices, such as load moment limiter, hoisting limit switch, lowering limit switch, brakes, etc., are functional.

Set the load moment limiter to the current crane configuration. Obey the lifting capacity table in a lift operation. Do not try to lift a load that weighs more than the lifting capacity of the crane. The slings, load carriers and ropes must meet specified requirements. The rated load in the lifting capacity tables includes the weight of the hook and slings.

The counterweight required depends on:

- The weight of the load to be lifted
- The boom radius required for operation.

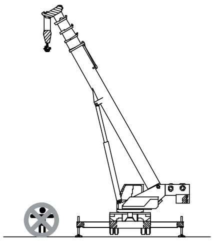
The deciding factor for the selection of the counterweight is the data in the corresponding lifting capacity table.

⚠ DANGER

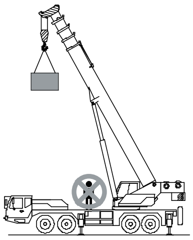
(1) The crane may topple over if the counterweight is not installed according to the lifting capacity table!

(2) In a lift operation, use the reevings in the lifting capacity table. Otherwise the wire rope may break off and the winch reducer and motor may be damaged.

a) Personnel must stay away from the area below the boom.。

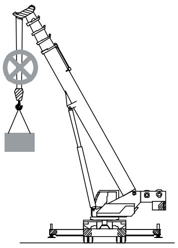


b) Do not let personnel on the slewing table while you operate the crane.

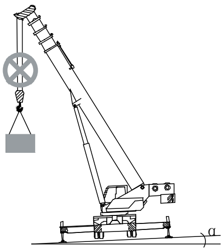


c) Personnel must stay away from the reach of the boom.

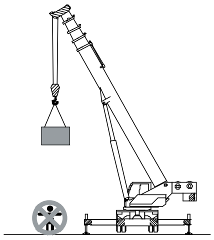
d) Support the crane on outriggers before operation.



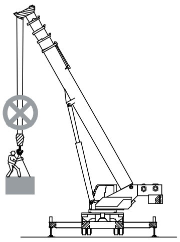
e) The crane, with extended outriggers, must be on the ground with a slope α of less than 0.6° during operation.



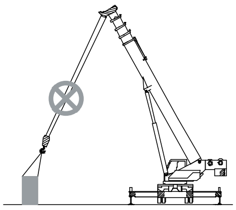
f) Do not move a load above personnel.



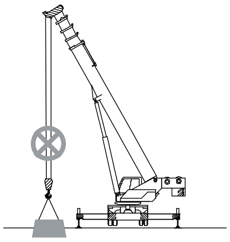
g) Do not move personnel on the load or other equipment used to lift.



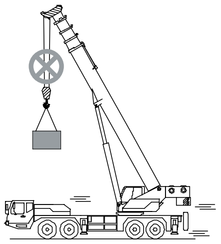
h) Do not lift a load that is above the capacity of the crane. Do not pull load at an angle and do not lift a load that is not in balance.



i) Do not try to lift a load that is buried or frozen on the ground.

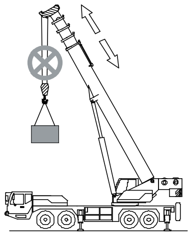


j) Do not pick-and-carry a load.



k) It is forbidden to drive the crane with moveable counterweight.

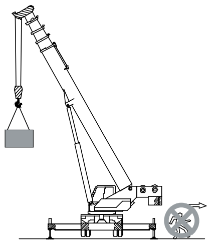
l) Do not telescope the boom with a suspended load.



m) Keep no less than 3 wraps of wire rope on the drum.

n) Do not adjust the hoist gear brake when the crane is with a load.

o) When the load is off the ground, the operator must stay in the cab.



p) When the job-site is in the vicinity of live power lines, you must keep a safe distance. Make sure that you comply with the related regulations. For the minimum safe distance, refer to Table 2-3.

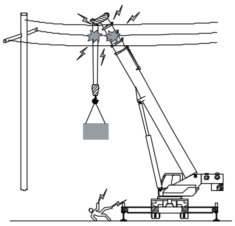


Table 2-3 Minimum safe distance to power lines

Rated voltage (kV)	Minimum safe distance (m)
< 1	1
1 – 110	3
110 – 220	4
220 – 380	5
Unknown rated voltage	5

Although all possible factors have been taken into consideration, and the minimum distance has been calculated in advance, but if the wire suffers electric discharge, please observe the following steps:

1) Keep calm;
2) he operator must not leave the cab;
3) Warn other people around not to contact or close to the crane;
4) Move the boom away from the dangerous area;

q) Do not carry out any jerky movements with the joysticks. Avoid any sudden acceleration or braking or conversion operation.

r) Examine the crane frequently during operation. If you find a malfunction, find out the cause and correct the malfunction.

s) When the actual lifting load reaches 90% of the rated one, the warning light will light up and the buzzer will send out acoustic warning. When this occurs, be careful as you continue to lift.

t) No modification of the crane is allowed. Otherwise, you must bear full responsibility for all the consequences arising therefrom.

u) Under normal conditions, do not lift a load with two or more cranes at the same time. Under special conditions, obey the GB6067-85 standards to lift a load with two or more cranes at the same time. You should make the hoist rope straight and make sure the lift operation is simultaneous. The load born by the crane shall not exceed the rated lifting capacity. If the above requirements cannot be met, the rated lifting capacity shall be reduced to 80% of it. When lifting, chief engineer should be on the spot to provide guidance;

⚠ WARNING

Stop the operation or do not start to lift a load, if one of the items that follow occurs:

(1) An overload or if the weight of the load is unknown.

(2) The load lift moves out of position, the rigging becomes too loose or the load is out of balance.

(3) The protective material between the edges of load and wire rope is missing.

(4) The light level at the job-site goes below a safe work condition.

(5) Equipment malfunction or damage to the crane that decreases the safe operation of the crane, such as failure of brake and safety devices or damage to wire rope.

2.5 Safety signs

If the crane is posted with some safety signs, and their meanings are as follows:

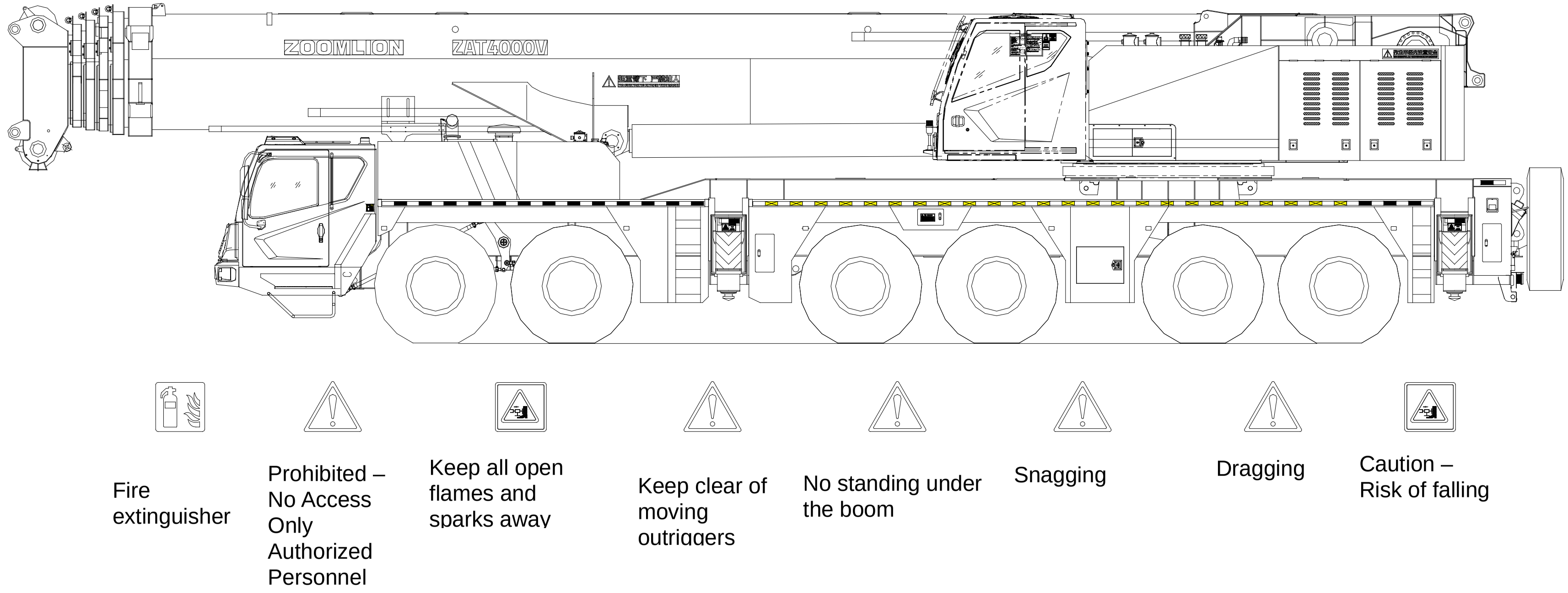


Figure 2-2 Safety sign locations

2.6 Command hand signals

Whenever the crane is operated, the operator must always pay attention to the suspended objects, even if the crane does not lift a load, the operator should also constantly observe the crane hook and lifting slings. When the operator can't see the suspended objects , hook, and lifting slings clearly, he should operate the crane in accordance with the commander's hand signals. The operator can obtain each step operation instruction through the commander's hand signals or through interphone, but no matter either kind of the ways is adopted, it is necessary to eliminate the risk caused by information misunderstanding.

⚠ WARNING

The hand signals must be discussed in advance, and the operator cannot operate the crane until a consensus is reached to the hand signals. Any misunderstandings of the hand signals will cause serious accident!

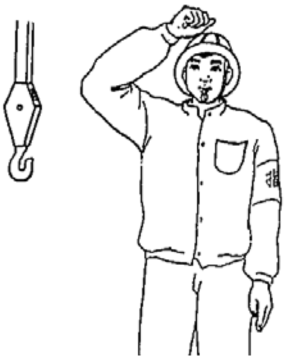
For the meaning of hand signals, please see the following hand signal figures. In order to guarantee safe operation, it is recommended to use the following hand signals.

a) Start

Hold the right arm stretched vertically upwards. The palm faces forwards.

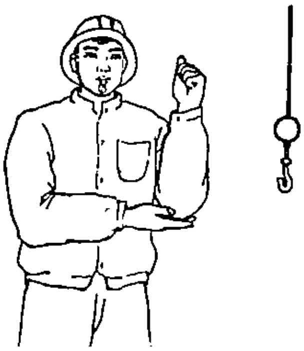
b) Use main winch

Tap fist on head, then use regular signal.



c) Use auxiliary winch

Tap elbow with one hand, then use regular signal.



d) Lift the load

With forearm vertical, extended fingers pointing up, move hand in small horizontal circle.

e) Lower the load

With arm extended downward with a 30° angle to the body, forefinger pointing down, move hand in small horizontal circle.

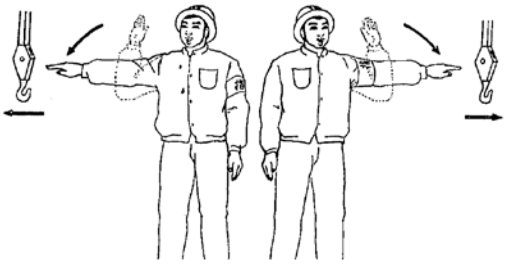
f) Lift the load slowly

With forearm vertical, palm of the hand facing upwards, wave hand up repeatedly.

g) Rotate

Turn left: With right forearm vertical, the palm of the hand facing outwards, lower the forearm sideways horizontally, fingers pointing in the direction of rotation.

Turn right: With left forearm vertical, the palm of the hand facing outwards, lower the forearm sideways horizontally, fingers pointing in the direction of rotation.



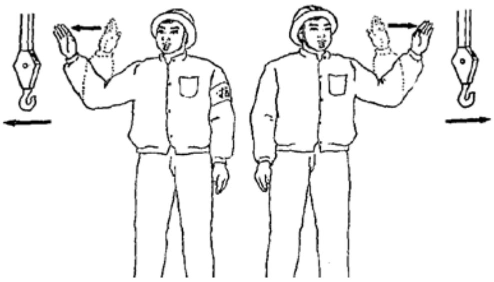
h) Lower the load slowly

With arm extended downwards with a 30° angle to the body, palm of the hand facing downwards, wave hand down repeatedly.

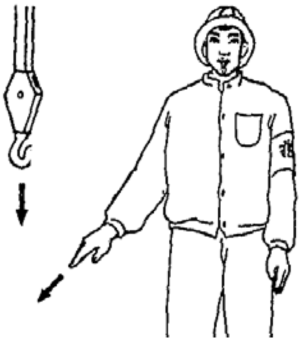
i) Rotate slowly

Turn left: With right forearm vertical, the palm of the hand facing outwards, move forearm horizontally and repeatedly, fingers pointing in the direction of rotation.

Turn right: With left forearm vertical, the palm of the hand facing outwards, move forearm horizontally and repeatedly, fingers pointing in the direction of rotation.

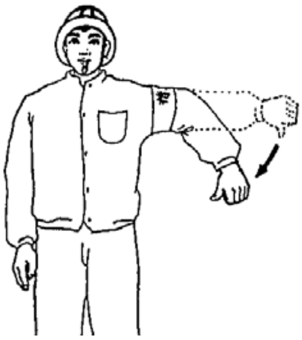


j) Indicate load lowering position
Extend the fingers to point at the position the load should fall on.



k) Raise boom
Arm extended, finger closed, thumb pointing upward.

l) Lower boom
Arm extended, finger closed, thumb pointing downward.



m) Raise boom slowly
Forearm extends in front of body with palm facing downwards, another hand moves up and down with thumb pointing upwards.

n) Lower boom slowly

Forearm extends in front of body with palm facing upwards, another hand moves up and down with thumb pointing downwards.

o) Extend boom

Both fists in front of body with thumbs pointing outwards.

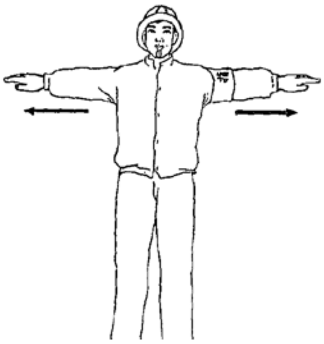
p) Retract boom

Both fists in front of body with thumbs pointing toward each other.

q) Stop

Arm extended, palm down, and move the arm back and forth horizontally.

r) Emergency stop
Both arms extended, palms down, move arms back and forth horizontally



s) End a movement
Cross your hands in front of your forehead.

ZOOMLION

All Terrain Crane Operator’S Manual

Chapter 3 Operation – Crane Chassis

Chapter 3 Operation – Crane Chassis

3.1 Driver's cab

3.1.1 Overall view

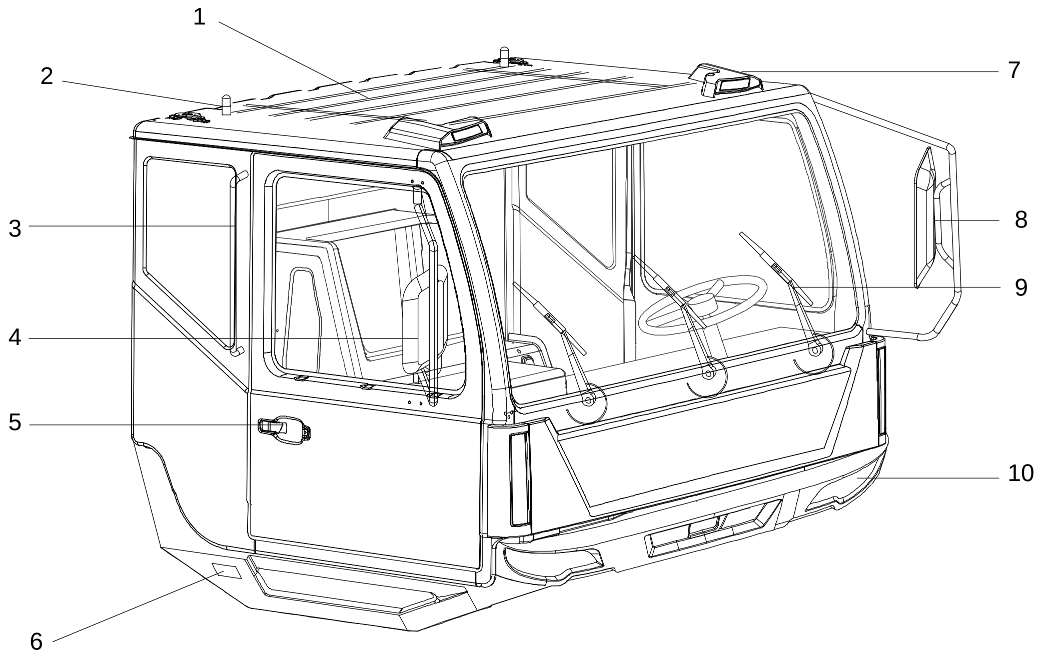


Figure 3-1 Cab exterior

Pos.	Description	Pos.	Description
1	Wire rope holder	6	Side turn signal
2	Rotating beacon (optional)	7	Corner marker light
3	Handrail	8	Mirror (L)
4	Mirrors (R)	9	Front windshield wiper
5	Door handle	10	Front combination signals

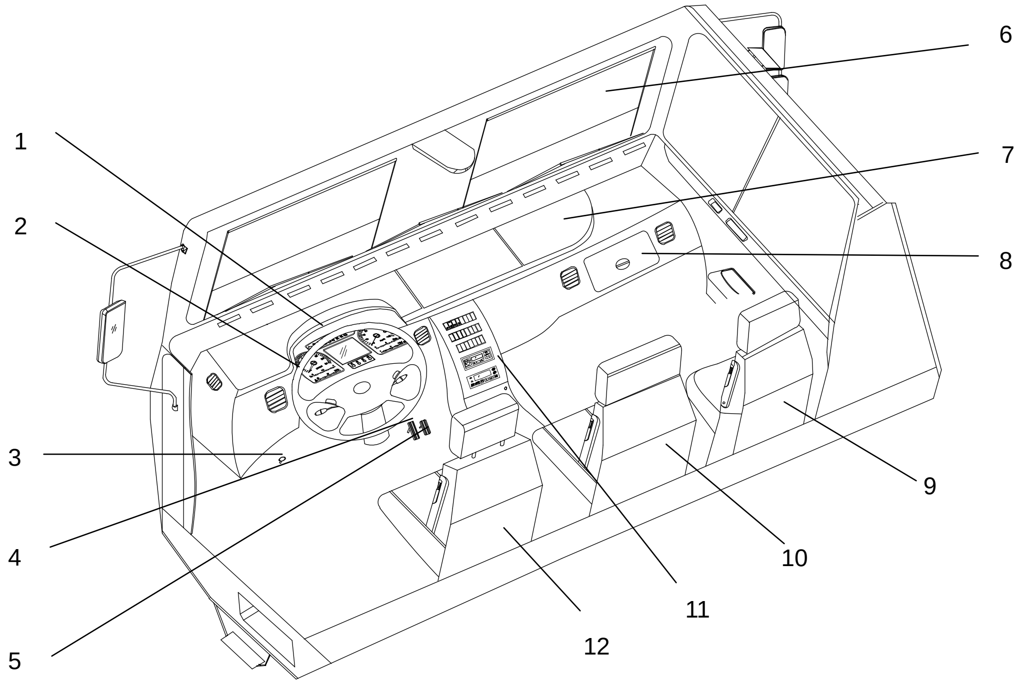


Figure 3-2 Cab interior

Pos.	Description	Pos.	Description
1	Instrument console	7	Toolbox
2	Steering wheel assy.	8	Fuse box
3	Air horn button	9	Co-driver's seat
4	Foot pedal (L): Service brake	10	Passenger's seat
5	Foot pedal (R): Engine control	11	Center console
6	Sun visor	12	Driver's seat

3.1.2 Steering wheel assy.

See Figure 3-3.

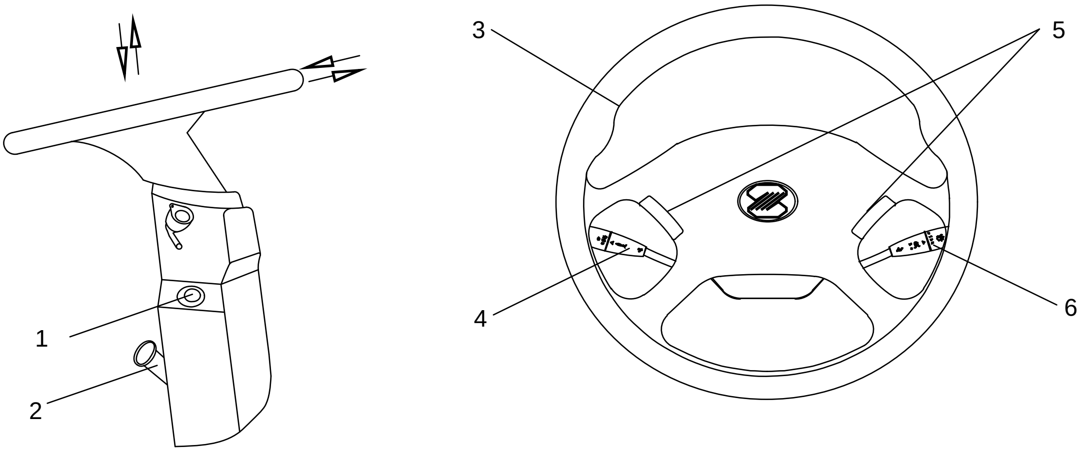


Figure 3-3 Steering wheel assy.

Pos.	Description	Pos.	Description
1	Ignition starter switch	4	Left-hand steering column switch
2	Steering wheel adjustment handle	5	Electric horn buttons
3	Steering wheel	6	Right-hand steering column switch

3.1.2.1 Steering wheel adjustment handle

The angle and height of the steering wheel can be adjusted to suit the driver.

You can adjust the steering wheel height and angle when you pull the adjustment handle upwards.

⚠ DANGER

(1) DO NOT adjust the steering wheel while you move the crane. This can kill you.

(2) Pull the handle downwards to lock the steering wheel after adjustment.

3.1.2.2 Left-hand steering column switch

See Figure 3-4.

a) Turn signal activation (left / right)

Jog steering column switch forwards (in direction 1): activate turn signal (right).

Jog steering column switch backwards (in direction 2): activate turn signal (left).

b) Switch between the low beam and high beam and operate the headlamp flasher

Jog the switch upwards (in direction 3) to turn on the high beam and headlamp.

Jog the switch upwards and downwards continuously to operate headlamp flasher.

No matter what working conditions other lamps are in, once the headlamp flasher is on, the headlamp will light up.

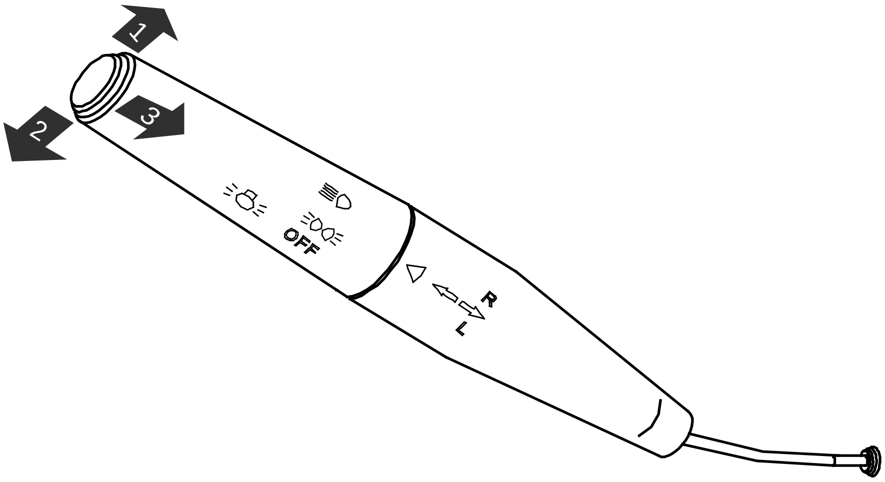


Figure 3-4 Left-hand steering column switch

c) Switch on lighting

Rotate the end of the steering column switch to the ≡◯◯≡ position to activate the front width lamp, rear width lamp, corner marker light, license plate lamp, operating instrument lamp and low beam.

Rotate the end of the steering column switch to the ≡◯ position to activate the high beam.

⚠ CAUTION

Switch off the high beam when you meet or follow another vehicle at night.

3.1.2.3 Right-hand steering column switch

See Figure 3-5.

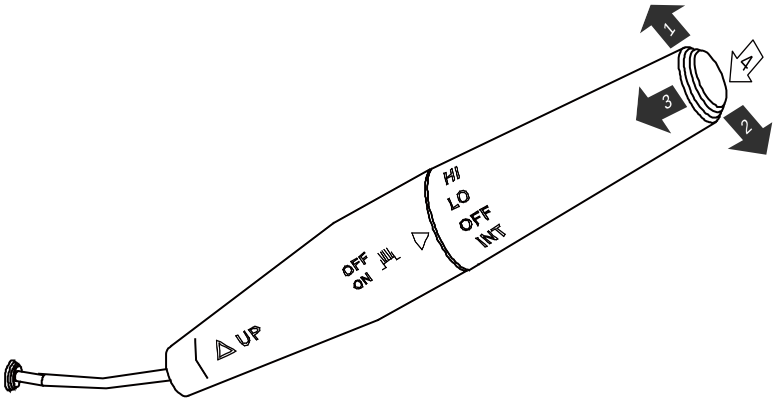


Figure 3-5 Right-hand steering column switch

a) Activate the windshield wiper

Rotate the end of this steering column switch to activate the windshield wiper. The windshield wiper has 4 stages:

INT:	Intermittent
LOW:	Low speed
HI:	High speed
OFF:	Off

b) Activate the windshield washer system

Press the button (in position 4) on the end of this steering column switch. The washer and wiper begin to work. They will not stop working until the button is released.

⚠ CAUTION

The wiper stops if the washer system sprays washer fluid for 15 seconds or if the washer fluid tank is empty.

Do not operate the wipers on sunny days unless you spray the window with wiper fluid.

When the temperature is below freezing, make sure that the wiper blades are not stuck to the window before you set the wipers to ON.

c) Activate the retarder

- Jog the switch backwards (in direction 2) to activate the retarder.
- Jog the switch forwards (in direction 1) to deactivate the retarder.

CAUTION

You can depress the engine control pedal or the clutch pedal to deactivate the retarder temporarily. The retarder will continue its work after you release the pedal. When the engine RPM is below 1100 r/min., the retarder will be deactivated automatically.

d) Activate the parking signal

Jog the switch upwards (in direction 3) to activate the left and right turn signals simultaneously, thus the parking signal is given. Repeat the operation, the switch will return to the neutral position.

3.1.2.4 Electric horn buttons

They are in the central area of the steering wheel. Press either of the two buttons on the left or right side of the central area to activate the electric horn.

3.1.2.5 Ignition starter switch

The 4 positions of the switch in clockwise direction are as follows:

LOCK	All circuits are OFF. You can plug in or pull out the key.
ACC	The battery begins to supply electricity and parts of the electrical system begin to work.
ON	The entire electrical system of chassis is electrified.
S	A temporary position, use it to operate the starter. The key will return to position "ON" automatically after you release the key when the engine starts.

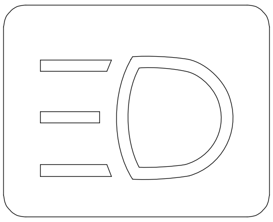
CAUTION

You cannot remove the key from the ignition until the switch is in the position LOCK.

3.1.2.6 Front fog lamp Switch

Activate the switch to turn on the front fog lamp.

Note: This switch is NOT USED in this crane.



CAUTION

Switch off the front fog lamp when you meet or follow another vehicle at night.

3.1.3 General operating instruments

3.1.3.1 Instrument panel assy.

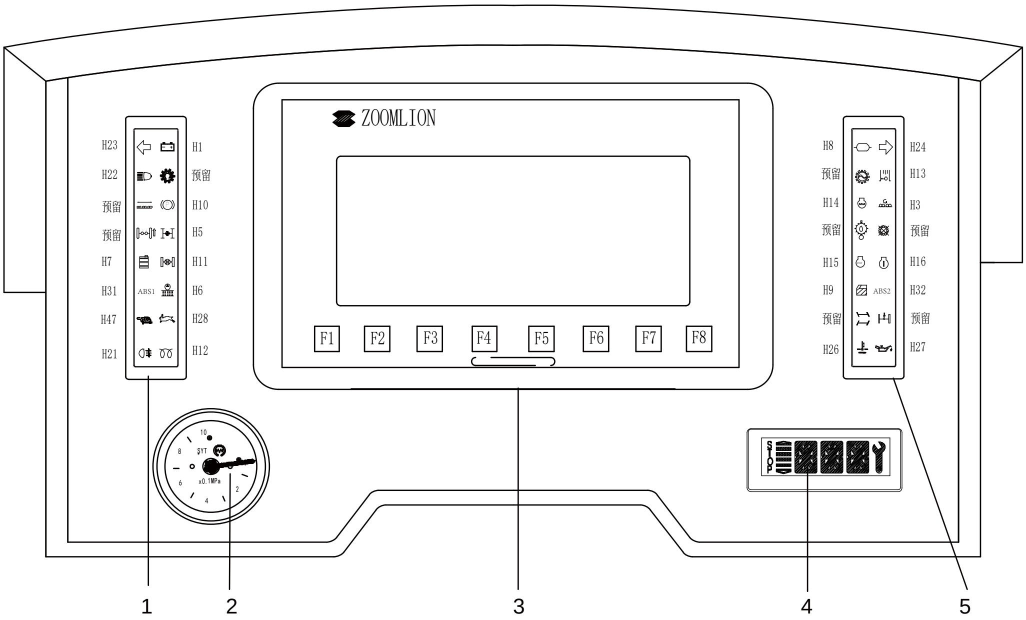


Figure 3-6 Instrument panel assy.

Pos.	Description	Pos.	Description
1	Display unit 1	4	ZF transmission diagnosis display
2	Barometer	5	Display unit 2
3	Monitor		

3.1.3.2 Display unit 1

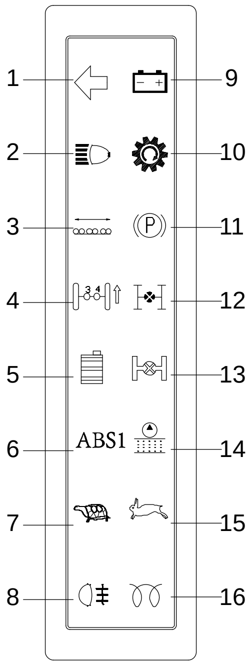


Figure 3-7 Display unit 1

Pos.	Description	Pos.	Description
1	Control light Vehicle direction of travel left	9	Warning light Charge monitoring
2	Control light High beam	10	Control light (not used) PTO engaged
3	Control light (not used) Entire vehicle leveled	11	Control light Parking brake closed
4	Control light (not used) Axles 3 and 4 raised	12	Warning light Longitudinal differential lock
5	Warning light Engine coolant level low	13	Control light Transversal differential lock
6	Warning light ABS$_1$ defects	14	Warning light Filter soiled
7	Control light (not used) Creeper gear activated	15	Warning light Engine speed high
8	Control light Rear fog lamp	16	Control light Diesel engine preheating system

CAUTION

(1) Control lights 4 and 10 are NOT USED in this crane.

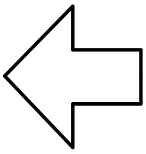
(2) Control lights 3 and 7 illuminate in the monitor instead of the display unit 1.

1) Control light

Vehicle direction of travel left

Illuminates:

The vehicle is to turn left.

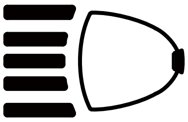


2) Control light

High beam

Illuminates:

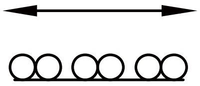
The high beam or headlamp flasher is ON.



3) Control light (not used)

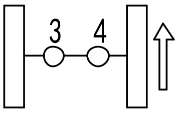
Entire vehicle leveled

The control light illuminates in the monitor instead of the display unit 1.



4) Control light (not used)

Axles 3 and 4 raised



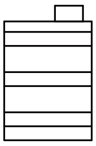
5) Warning light

Engine coolant level low

Illuminates:

Engine coolant level in the expansion tank is low.

Under this condition, add coolant in time.

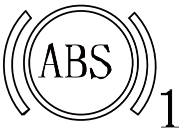


6) **Warning light**

ABS$_1$ defects

Illuminates:

The ABS$_1$ has a malfunction.

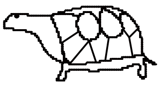


7) **Control light (not used)**

Creeper gear activated

Illuminates:

The creeper gear is activated.

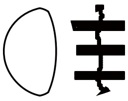


8) **Control light**

Rear fog lamp

Illuminates:

The rear fog lamp is ON.



9) **Warning light**

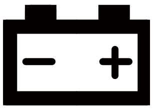
Charge monitoring

Illuminates:

The ignition starter switch is in position ON.

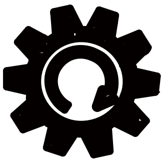
Extinguishes after engine starts:

The generator begins to charge the battery.



10) **Control light (not used)**

PTO engaged



11) **Warning light**

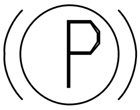
Parking brake closed

Illuminates:

The parking brake is closed.

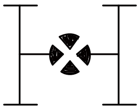
Note:

Do not start the vehicle until the parking brake is released and the control light extinguishes.



12) Control light

Longitudinal differential lock

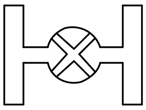


Illuminates:

The longitudinal differential lock is activated and locked.

13) Control light

Transversal differential lock

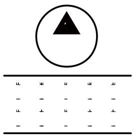


Illuminates:

The transversal differential lock is activated and locked.

14) Warning light

Filter soiled



Illuminates:

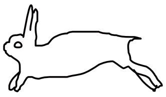
The filter in chassis hydraulic system is soiled.

Note:

Clean or replace the filter when the warning light illuminates.

15) Warning light

Engine speed high



Illuminates:

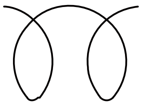
Engine speed is high.

Note:

Decrease the engine speed to avoid engine damage.

16) Control light

Diesel engine preheating system



Note:

In winter (the engine coolant temperature below -4°C), preheat the engine before vehicle start up. Turn the key to ON position.

Illuminates:

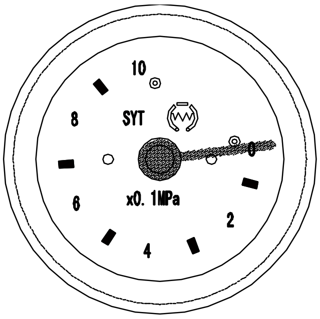
Preheat the engine.

Extinguishes after about 20 sec.:

You can start the engine.

3.1.3.3 Barometer

The two pointers resp. display the pressure of main brake air reservoir for the front axle and the pressure of main brake air reservoir for the intermediate and rear axles.



⚠ CAUTION

If the air pressure is less than 0.55 MPa, the warning light "Brake pressure low" will illuminate and the buzzer will send out alarm. Risk of danger if start off at this time!

3.1.3.4 Monitor

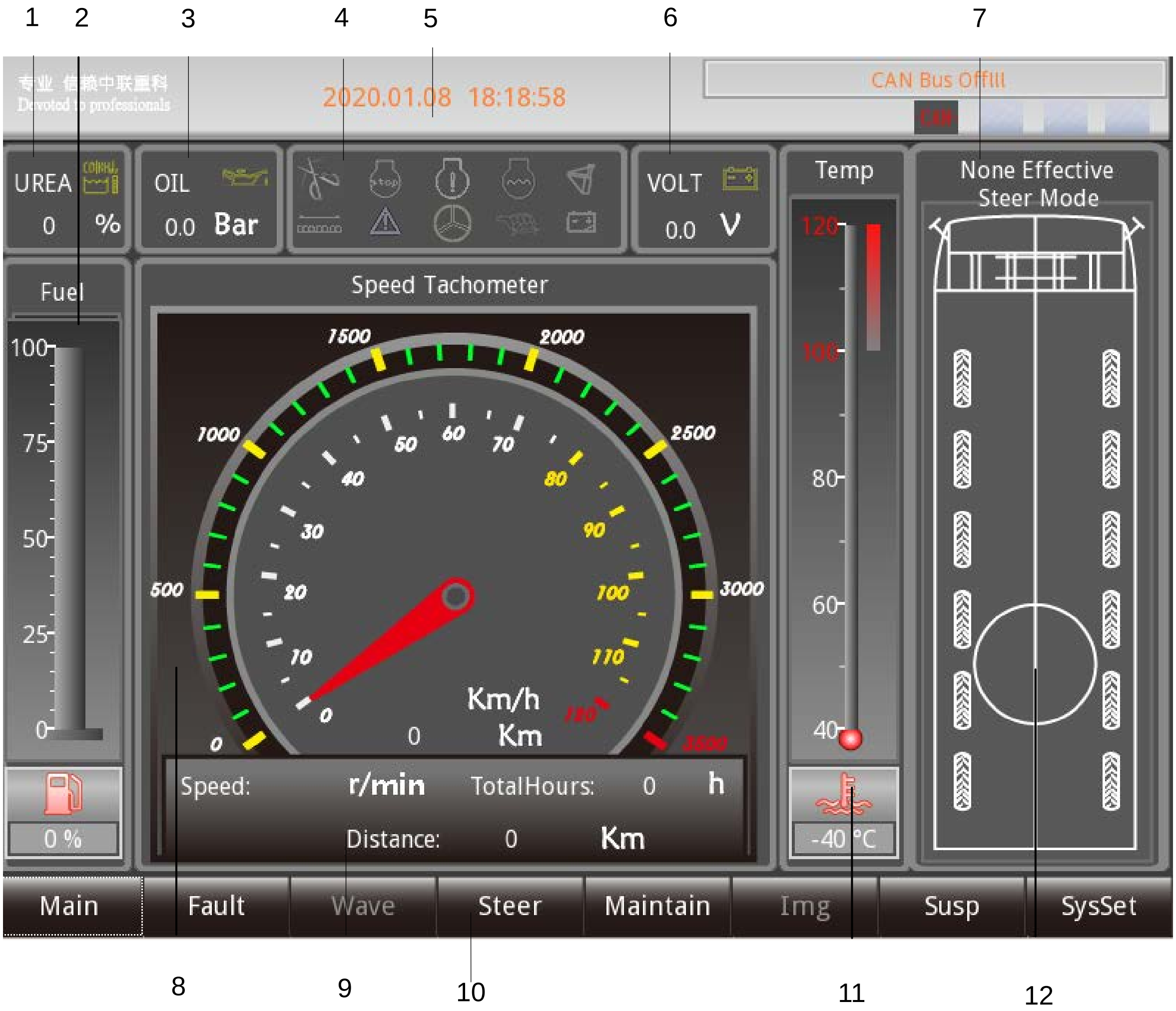
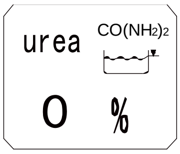


Figure 3-8 Main screen

Pos.	Description	Pos.	Description
1	AdBlue level	7	Current steering mode
2	Fuel reserve	8	Tachometer and odometer
3	Engine oil pressure	9	Engine working hour and driving distance
4	Display unit	10	Function keys
5	Current date and time	11	Engine coolant temperature
6	Battery voltage	12	Axle steering monitoring

a) **AdBlue level**

Displays, as a percent full, the amount of AdBlue in the AdBlue tank.

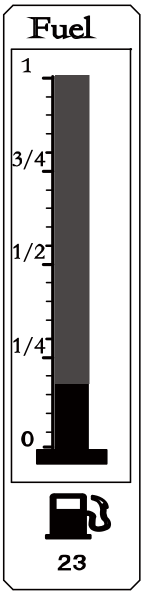


b) **Fuel reserve**

After you switch the ignition starter switch position ON:

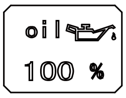
The red bar shows the fuel reserve, 0 to 1.

The percentage figure on the bottom shows exact fuel reserve.



c) **Engine oil pressure**

Display of current engine oil pressure after engine starts.



d) **Display unit**

Display of the short circuit / broken circuit, suspension status (leveled or unleveled), steering sensor status and steering status etc.

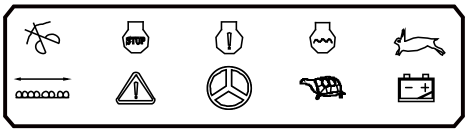
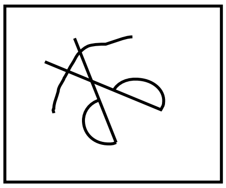


Table 3-1 Display unit

1) **Warning light**

Short circuit / broken circuit

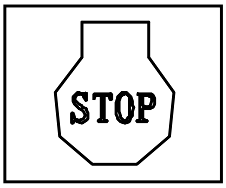
Shows the suspension system or steering system has short circuit / broken circuit.



2) **Warning light**

Engine stop owing to serious engine defects

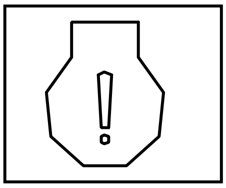
Shows the engine shuts down owing to serious engine defects. Do no start off until rectify it.



3) **Warning light**

Engine defects

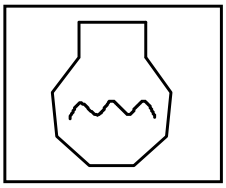
Shows the engine has a malfunction. Bring the vehicle to a standstill and rectify it. The display unit 2 also has this control light.



4) **Warning light**

Engine oil level low

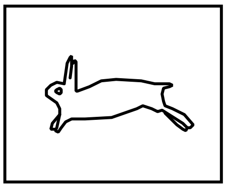
Shows the engine oil level is low. The display unit 2 also has this control light.



5) **Warning light**

Engine speed high

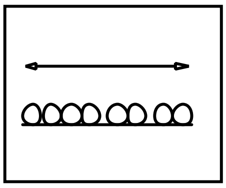
Shows the engine speed is high. Decrease the engine speed to avoid hydraulic pump or other parts damage. The display unit 1 also has this control light. When the engine speed is high, these two warning lights will illuminate at the same time.



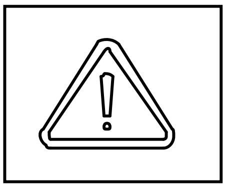
6) **Control light**

Entire vehicle leveled

Shows the entire vehicle is leveled. This control light goes off after the button "Automatic level control" is in the original position.



7) **Warning light**



Steering angle sensor defects

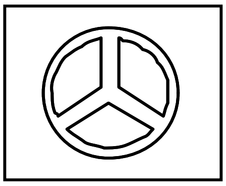
Shows there is a serious sensor error (buzzer sounds at the same time).

Sensors for steering angles of axles 1, 3, 4, 5 and 6 are defective.

The screen will be automatically switched to the screen of “Error contents”.

Bring the vehicle to a standstill, and rectify it immediately.

8) **Warning light**



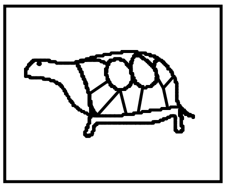
Steering system defects

Shows the steering system has a malfunction (buzzer sounds at the same time).

Differences between the target steering angles and the actual steering angles for axles 3, 4, 5 and 6 are extremely large.

Bring the vehicle to a standstill, and rectify it immediately.

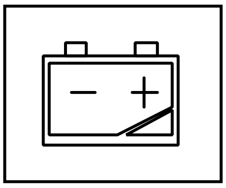
9) **Control light**



Creeper gear activated

Shows the creeper gear activated. Press the button “Switchover creeper gear / road gear” to apply the creeper gear when driving in off-road or in bad road conditions.

10) **Warning light**



Battery voltage low

Shows the battery voltage is low. Charge the battery immediately if it is below 21 V.

Note:

If the warning light illuminates, it shows the battery drains. Examine and make sure the control lever for eddy current brake is in neutral position.

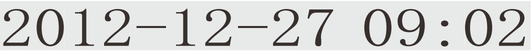
Observe the control light for eddy current brake whether it is illuminated. Do not let the control lever for eddy current brake is engaged for a long time.

CAUTION

If the warning light “Battery voltage low” illuminates, it shows the battery drains. Examine and make sure the control lever for eddy current brake is in neutral position. Do not place the control lever for eddy current brake in work position for a long time.

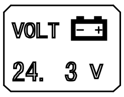
e) Current date and time

Display of current date and time



f) Battery voltage

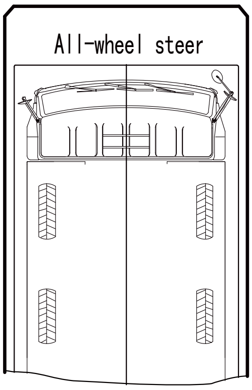
Display of the current battery voltage of complete vehicle



g) Current steering mode

Display of the current steering mode

The driver can judge whether the required steering mode is selected.



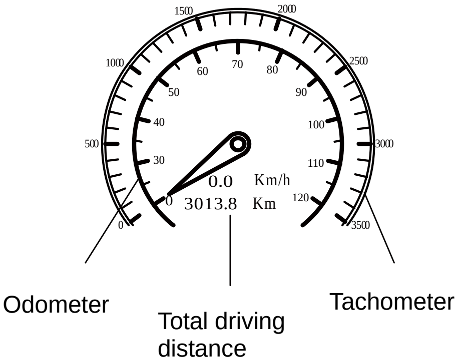
h) Tachometer and odometer

Odometer

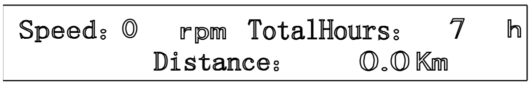
Displays the speed of the crane in kilometers per hour (km/h) when the crane is moving and displays its total driving distance, which can be used as a reference for vehicle's maintenance intervals

Tachometer

Displays engine speed (RPM) and equipment operating time.



i) **Engine working hour and driving distance**



```
Speed: 0   rpm  TotalHours:   7   h
     Distance:        0.0 Km
```

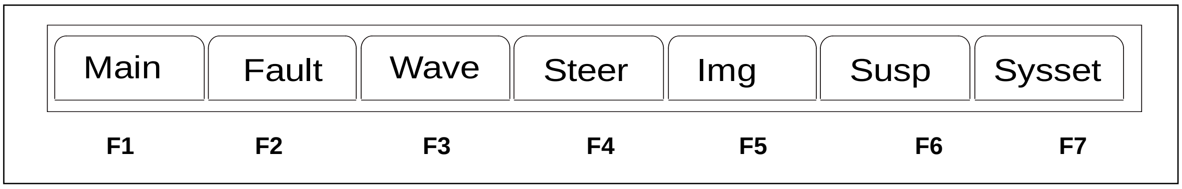
Display of the current engine RPM, total working hours and single driving distance, which can be used as a reference for maintenance intervals of the vehicle

How to delete the single distance

- Press "Distance" and then "Yes".

j) **Function keys**

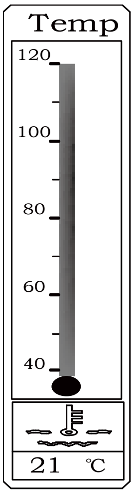
F1	Main screen
F2	Fault diagnosis
F3	Wave
F4	Steer
F5	Image
F6	Suspension
F7	System set



k) **Engine coolant temperature**

Displays the engine coolant temperature in degrees Celsius (C°) when you turn the ignition starter switch to position "ON".

The exact temperature is shown on the bottom numerically.



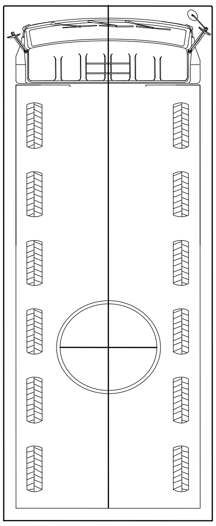
⚠ CAUTION

When the engine coolant temperature exceeds 100°C, the engine speed and torque are limited. Run the engine at idle until the coolant temperature goes below 100°C.

l) Axle steering monitoring

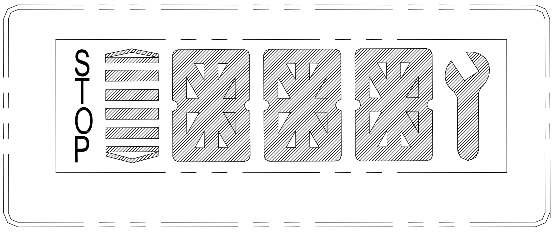
Display of the steering angle and direction for axles 1 – 6 in the form of animation

The driver can observe whether the current vehicle steering is normal.



3.1.3.5 ZF transmission diagnosis display

The information and error codes of the transmission will be displayed on ZF diagnosis display. For detailed information, refer to section 3.3.4.



3.1.3.6 Display unit 2

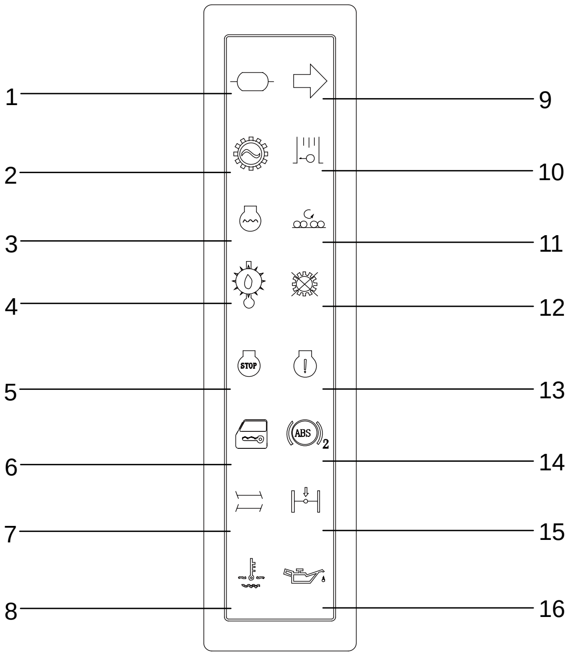
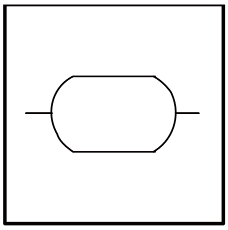


Figure 3-9 Display unit 2

Pos.	Description	Pos.	Description
1	Warning light Brake pressure low	9	Control light Vehicle direction of travel right
2	Control light (not used) Transmission intarder active	10	Control light Retarder active
3	Warning light Engine oil level low	11	Control light 4 axles drive
4	Warning light (not used) Torque converter oil temperature high	12	Warning light Transmission defects
5	Warning light Engine stop owing to serious engine defects	13	Warning light Engine defects
6	Warning light Door opened	14	Warning light ABS_2 defects
7	Control light (not used) “Independent steering” or “Rear axle affixed for straight travel” operational	15	Control light (not used) Axle suspension locked
8	Warning light Engine coolant temperature high	16	Warning light Oil pressure low



1. **Warning light**

   Brake pressure low

   Illuminates:

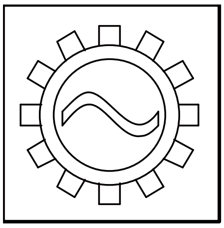
   Brake pressure is low.

   Extinguishes:

   Brake pressure increases to the specified value.

   CAUTION

   Do not drive the vehicle if the warning light lights up!



2. **Control light (not used)**

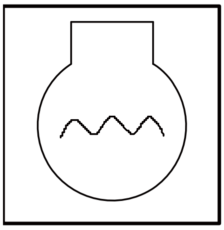
   Transmission intarder active

   Illuminates:

   The transmission intarder is active.

   Flashes:

   The transmission intarder has a malfunction.

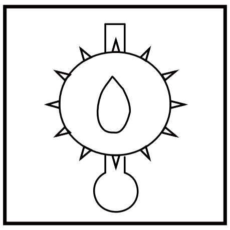


3. **Warning light (not used)**

   Engine oil level low

   Illuminates:

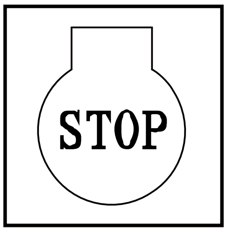
   The engine oil level is lower than the minimum value.



4. **Warning light (not used)**

   Transmission oil temperature high

   The control light illuminates in the monitor instead of the display unit 2.



5. **Warning light**

   Engine stop owing to serious engine defects

   Illuminates:

   The engine shuts down owing to serious engine defects.

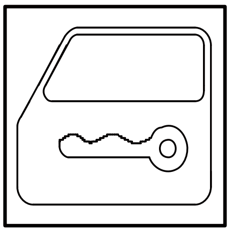
   Never start off until rectify it.

6. **Warning light**

   Door opened

   Illuminates:

   The door is opened.



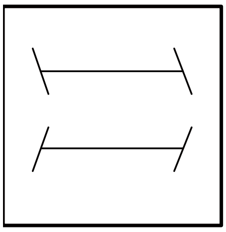
⚠ DANGER

It is very dangerous to drive the vehicle with the door opened. Stop the vehicle and examine the doors if this light lights up!

7. **Control light (not used)**

   "Independent steering" or "Rear axle affixed for straight travel" operational

   The control light is NOT USED in this crane.

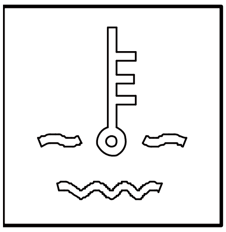


8. **Warning light**

   Engine coolant temperature high

   Illuminates:

   The engine coolant temperature is high.

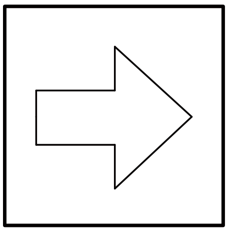


9. **Control light**

   Vehicle direction of travel right

   Illuminates:

   The vehicle is to turn right.

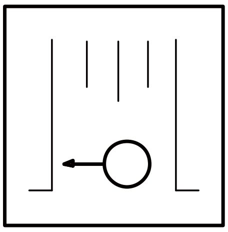


10. **Control light**

    Retarder active

    Illuminates:

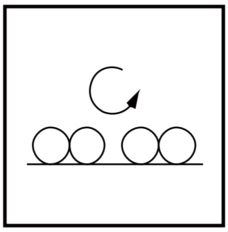
    The retarder (including compression release engine brake and engine exhaust brake) is active.



11. Control light

4 axles driven

The control light is NOT USED in this crane.

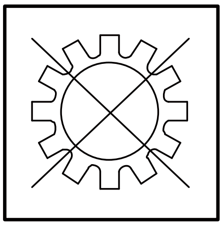


12. Warning light

Transmission defects

Flashes:

The transmission has a malfunction. Bring the vehicle to a standstill and rectify it.



13. Warning light

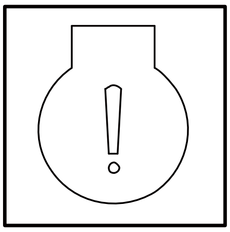
Engine defects

Illuminates:

The engine has a malfunction.

Note:

Bring the vehicle to a standstill and rectify it.

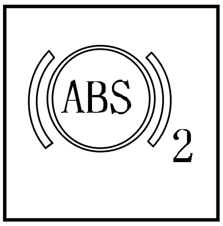


14. Warning light

ABS_2 defects

Illuminates:

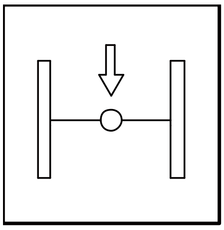
The ABS_2 system has a malfunction.



15. Control light

Axle suspension locked

The control light illuminates in the monitor instead of the display unit 2.



16. Warning light

Oil pressure low

Illuminates:

The engine oil pressure is low.

Note:

You can see the current oil pressure from the monitor.

3.1.3.7 Inspection and diagnosis

You can press function key F2 to detect the errors of transmission, engine, ABS, steering system and suspension system, etc. See Figure 3-10.

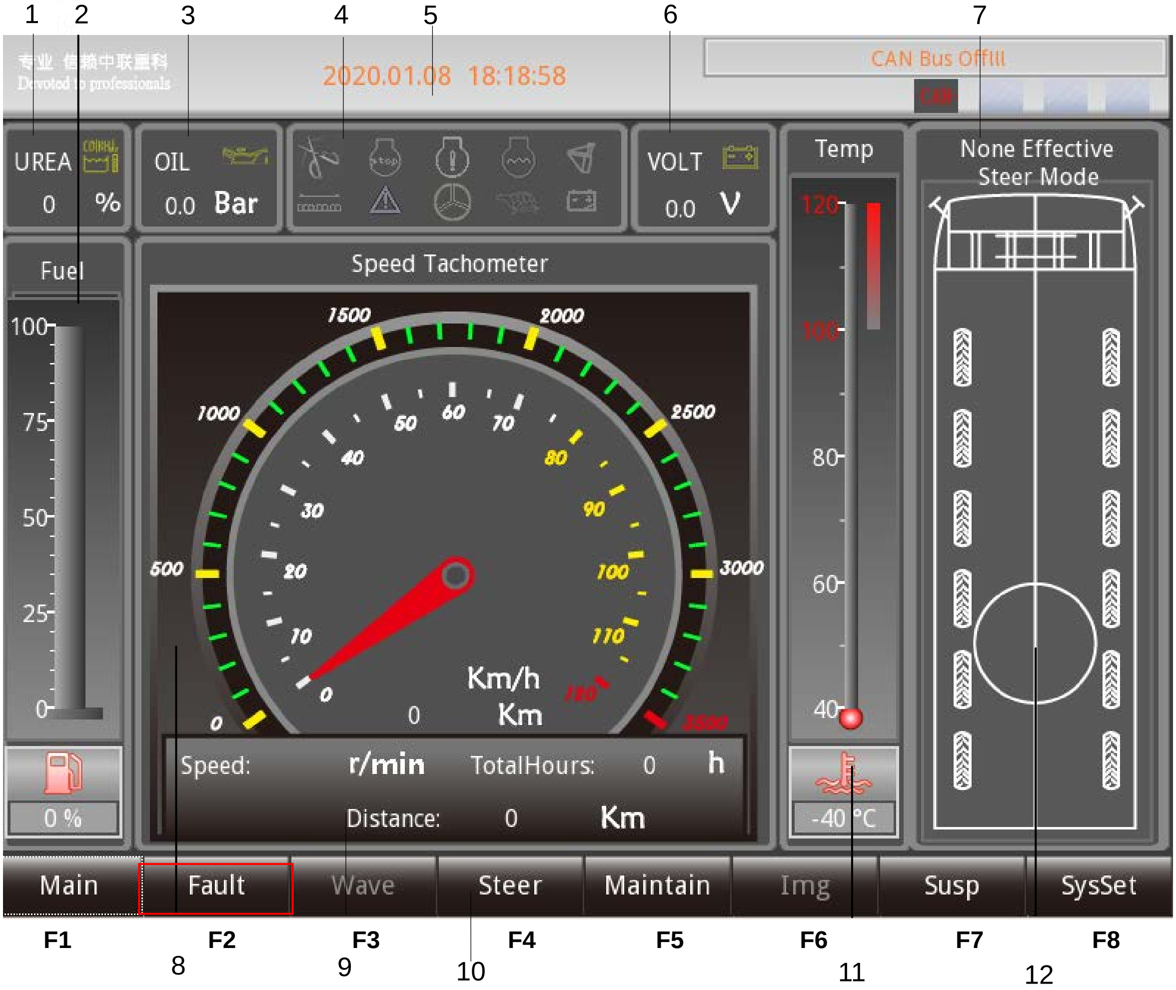
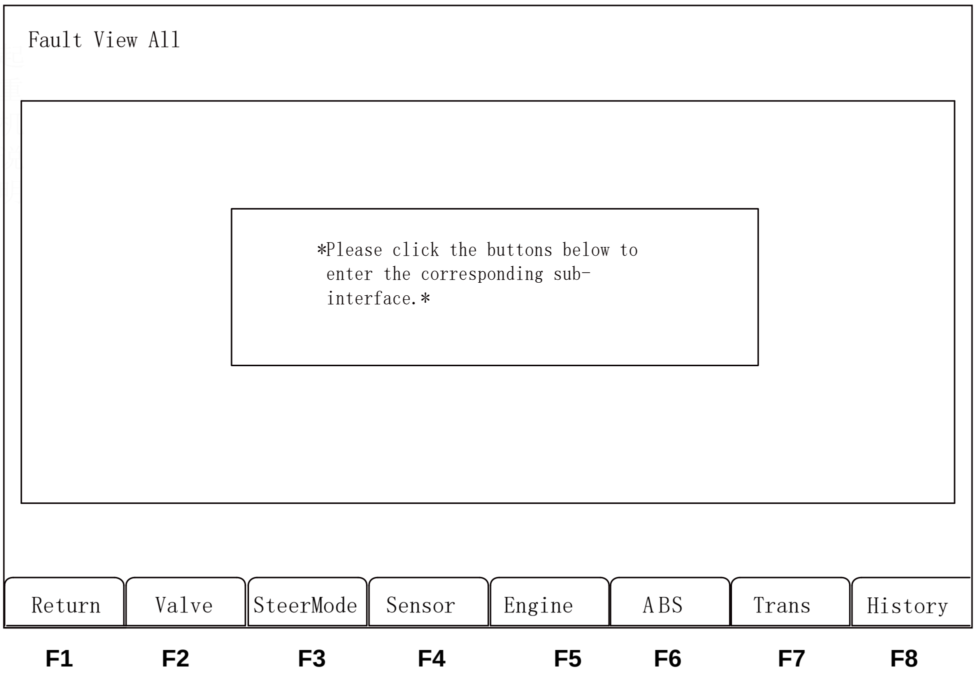


Figure 3-10 Main screen

Press function key F2 in Figure 3-10 to switch to the following screen. See Figure 3-11.



Fault View All

Please click the buttons below to enter the corresponding sub-interface.

Figure 3-11 Fault view all

Press the corresponding function keys for detailed information about the errors.

For example:

Press function key 5 “Engine” in Figure 3-11.

Result:

- You can view the engine error information.

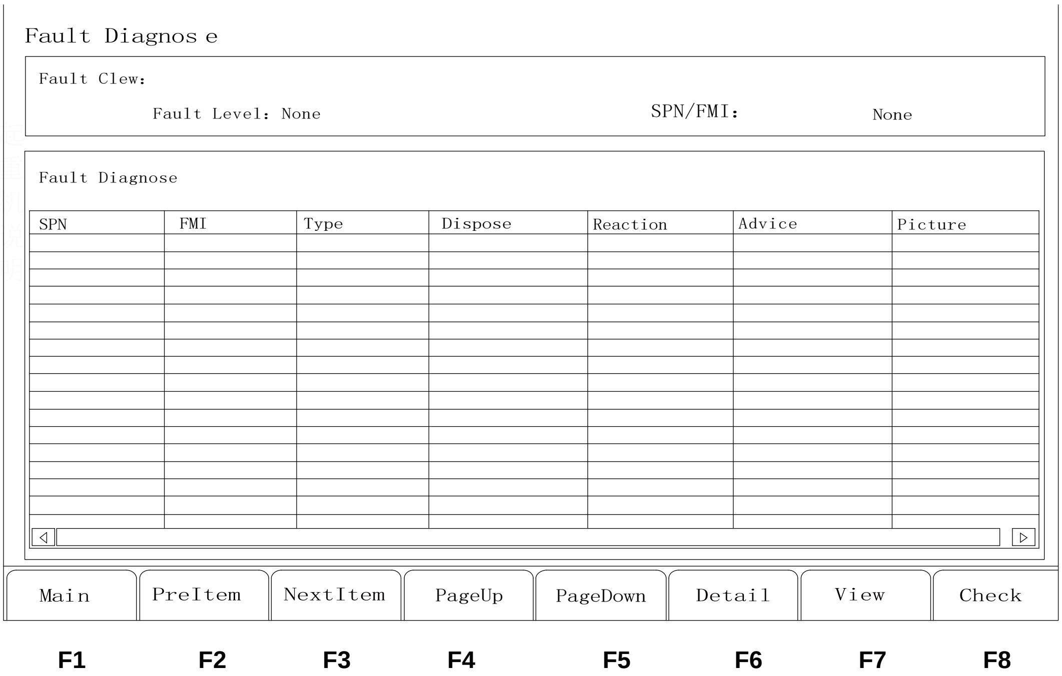
The detailed information about the diagnosis, please refer to the following sections.

a) **Engine defects**

If the engine has a malfunction, the warning light “Engine defects” lights up and the following screen is automatically displayed. Refer to Figure 3-12.

Press the function key F6 “Detail” you can view the detailed error information and troubleshooting methods for engine control pedal, etc. Rectify the errors according to the instructions.

After the errors are rectified, the information in the screen will disappear. If you want to return to the main screen when the errors are still not rectified, press key “Main”.



Fault Diagnos e

Fault Clew:

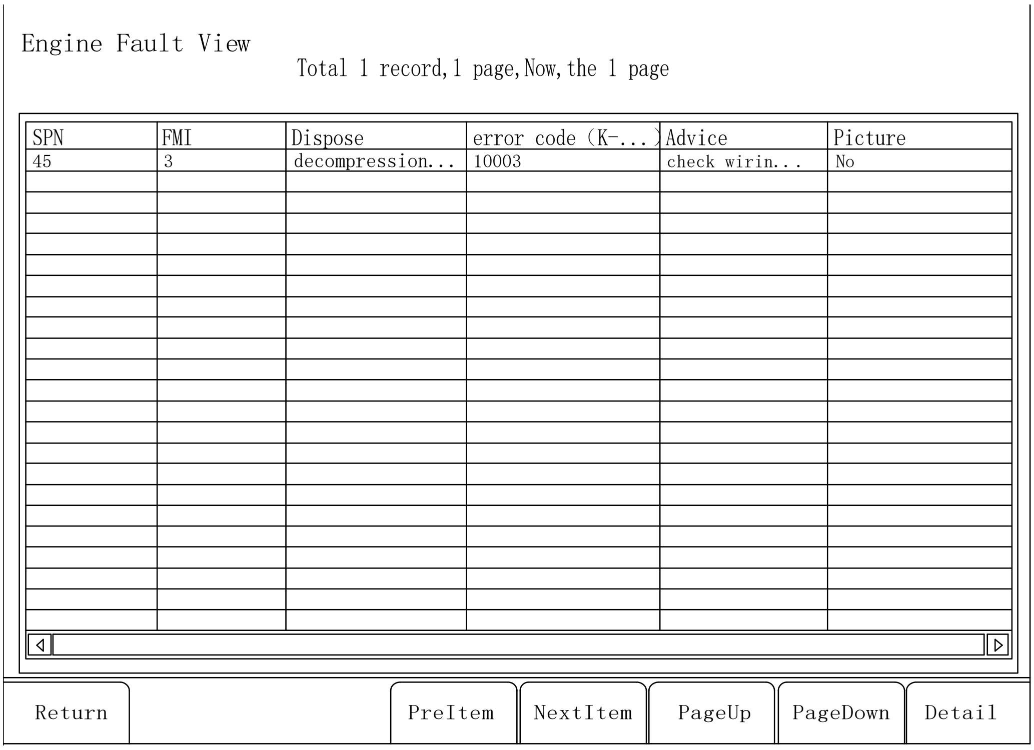
Fault Level: None SPN/FMI: None

Fault Diagnose

SPN	FMI	Type	Dispose	Reaction	Advice	Picture

Figure 3-12 Fault diagnosis

b) Press the function key 2 "Fault" in Figure 3-10 and then function key 5 "Engine" in Figure 3-11 to view all the engine error codes in the Engine fault view screen. See Figure 3-13. You can view the detailed error description and troubleshooting methods, etc. in this screen.



Engine Fault View

Total 1 record,1 page,Now,the 1 page

SPN	FMI	Dispose	error code (K-...)	Advice	Picture
45	3	decompression...	10003	check wirin...	No

Figure 3-13 Engine fault view

c) Steering system and sensor defects

If the steering system or steering angle sensor has a malfunction, the following screen is automatically displayed. See Figure 3-14.

The contents highlighted in green are the detailed error information. Rectify the errors according to the instructions.

Press the function key “Return” to return to the main screen.

Troubleshooting:

If the steering angle sensors and oil filter blocker for axles 1, 3, 4, 5 and 6 are defective (The sensors are fitted at the right side of each steering mechanism. The oil filter blocker is fitted at the right rear side of axle 2.):

– Examine the connectors for each sensor for loose connection or examine whether water enters into the connectors.

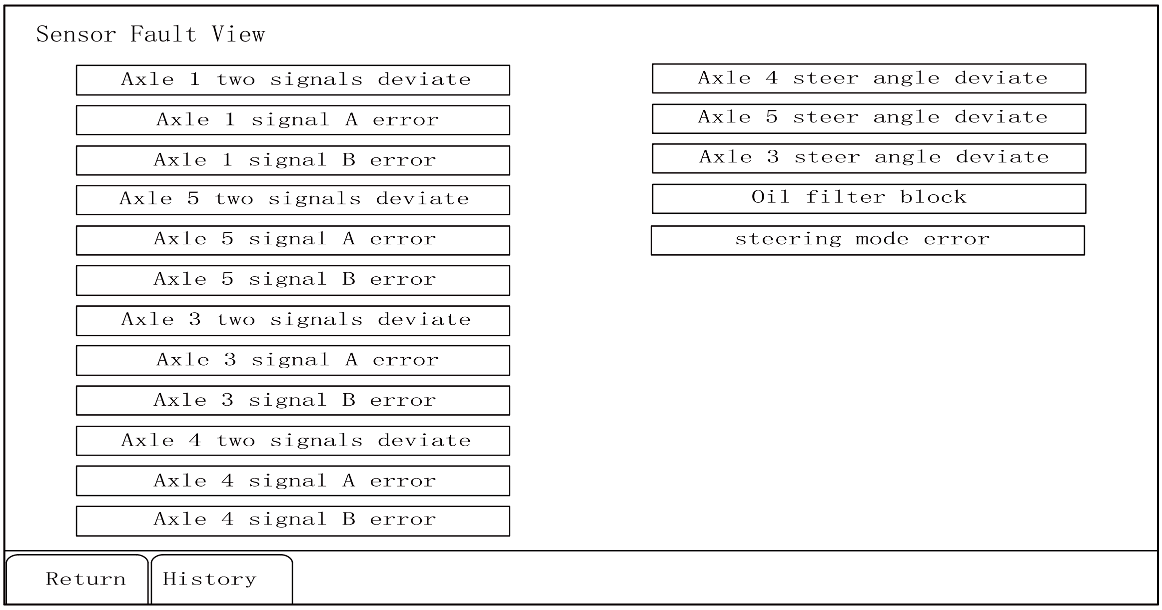
Note:

(1) Extremely large deviation for steering angle:

The difference between the target steering angle and actual steering angle of axle 3 / axle 4 is larger than 5° within 6 seconds and the difference between the target steering angle and actual steering angle of axle 5 /axle 6 is larger than 7°.

(2) Faulty steering mode:

After the computer system is switched on, no steering mode is selected & the button is not in the neutral position or buttons of two steering modes are pressed at the same time.



Sensor Fault View

Axle 1 two signals deviate
Axle 1 signal A error
Axle 1 signal B error
Axle 5 two signals deviate
Axle 5 signal A error
Axle 5 signal B error
Axle 3 two signals deviate
Axle 3 signal A error
Axle 3 signal B error
Axle 4 two signals deviate
Axle 4 signal A error
Axle 4 signal B error

Axle 4 steer angle deviate
Axle 5 steer angle deviate
Axle 3 steer angle deviate
Oil filter block
steering mode error

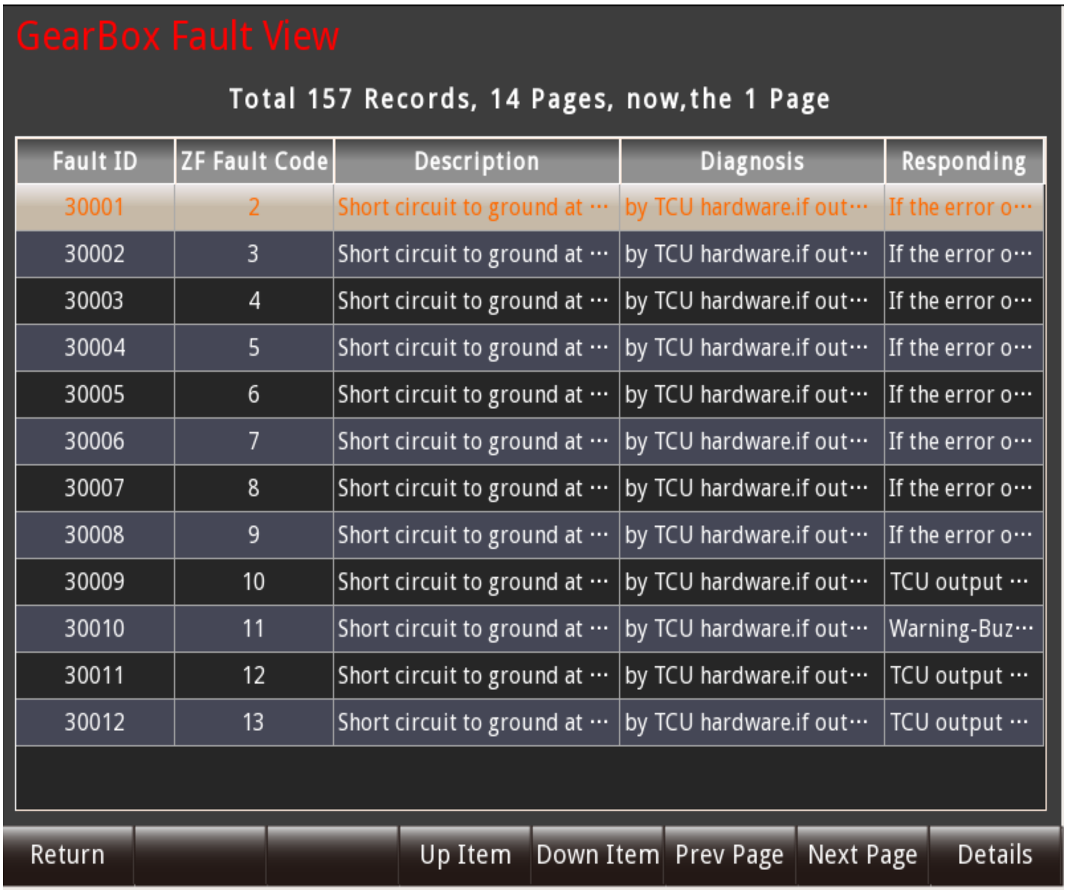
Figure 3-14 Sensor fault view

d) Transmission defects

If the warning light “Transmission defects” lights up or the error code appears on ZF transmission diagnosis display (fitted at right lower part of the monitor):

– Press function key F2 “Fault” in the main screen to switch to the fault view screen.
– Press “Transmission” in the fault view screen to switch to the following screen.
– Find out the corresponding error code.
– Rectify the errors according to the instructions.

See Figure 3-15.



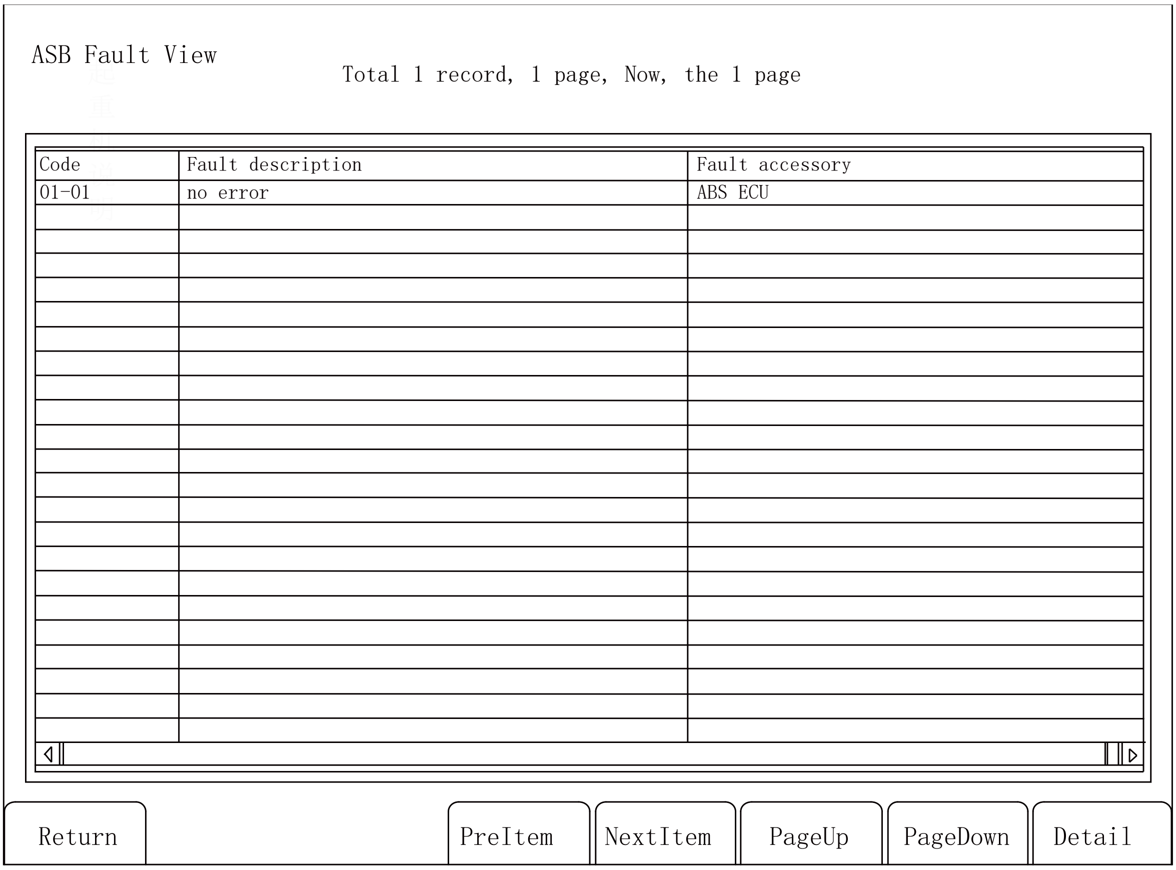
GearBox Fault View

Total 157 Records, 14 Pages, now,the 1 Page

Fault ID	ZF Fault Code	Description	Diagnosis	Responding
30001	2	Short circuit to ground at ···	by TCU hardware.if out···	If the error o···
30002	3	Short circuit to ground at ···	by TCU hardware.if out···	If the error o···
30003	4	Short circuit to ground at ···	by TCU hardware.if out···	If the error o···
30004	5	Short circuit to ground at ···	by TCU hardware.if out···	If the error o···
30005	6	Short circuit to ground at ···	by TCU hardware.if out···	If the error o···
30006	7	Short circuit to ground at ···	by TCU hardware.if out···	If the error o···
30007	8	Short circuit to ground at ···	by TCU hardware.if out···	If the error o···
30008	9	Short circuit to ground at ···	by TCU hardware.if out···	If the error o···
30009	10	Short circuit to ground at ···	by TCU hardware.if out···	TCU output ···
30010	11	Short circuit to ground at ···	by TCU hardware.if out···	Warning-Buz···
30011	12	Short circuit to ground at ···	by TCU hardware.if out···	TCU output ···
30012	13	Short circuit to ground at ···	by TCU hardware.if out···	TCU output ···

Figure 3-15 Transmission fault view

e) ABS defects



ASB Fault View

Total 1 record, 1 page, Now, the 1 page

Code	Fault description	Fault accessory
01-01	no error	ABS ECU

Figure 3-16 ABS fault view

How to view the ABS fault:

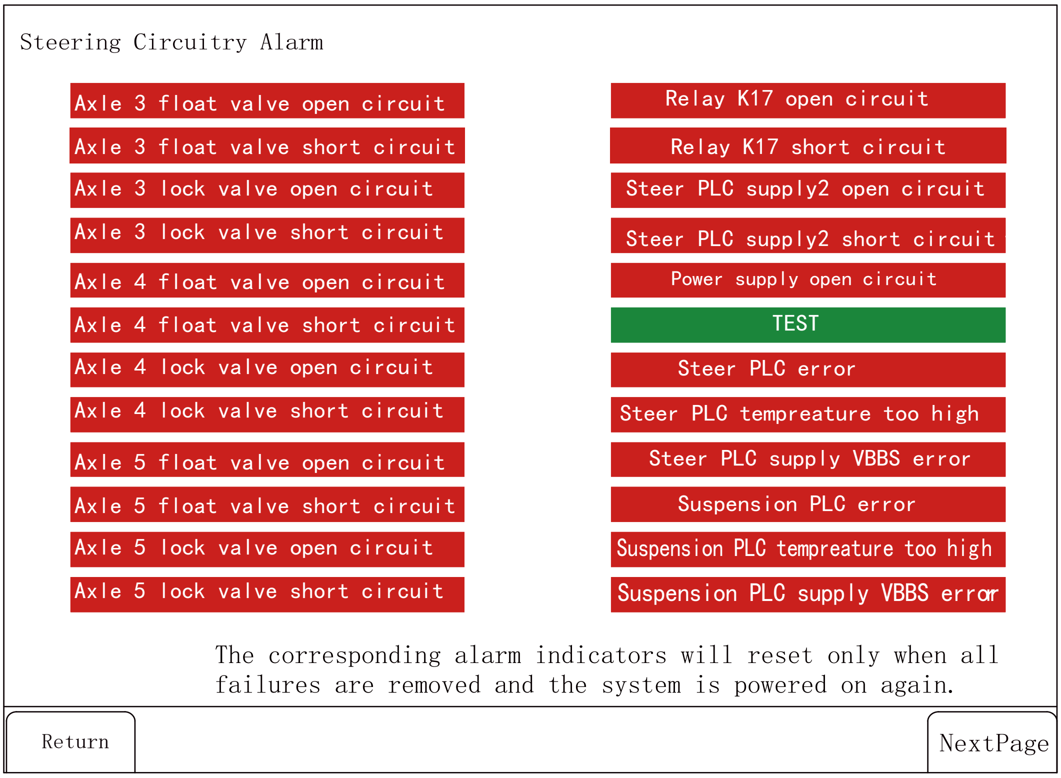
- Press the information button (diagnostics) “ABS defects” to obtain flash codes (For how to obtain the flash codes, please refer to section 3.1.4.3).
- Press function key F2 “Fault” in the main screen to switch to the fault view screen.
- Press function key “ABS” in the fault view screen to switch to the following screen.
- Find out the detailed information corresponding to error codes.
- Rectify the errors according to the instructions.

f) Valve defects

If the solenoid valve of the steering system or suspension system has short circuit / broken circuit, the following screens are automatically displayed. See Figure 3-17, Figure 3-18 and Figure 3-19.

The contents highlighted in green are the detailed error information. Rectify the errors according to the instructions.

Press the function key “Return” to return to main screen.



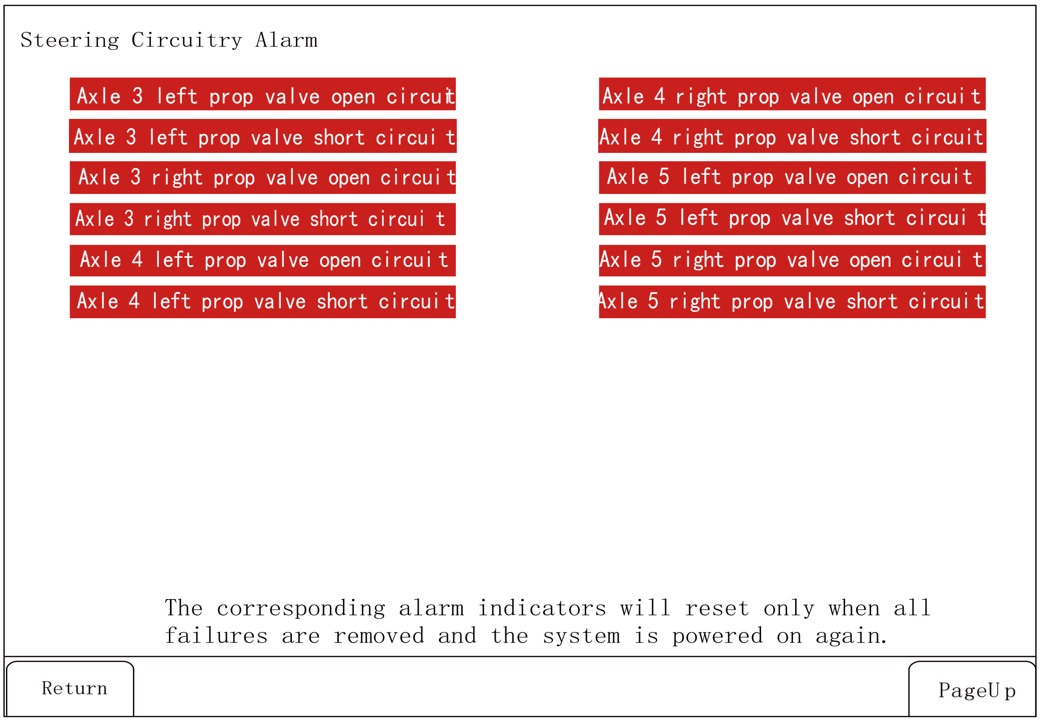
Steering Circuitry Alarm

Axle 3 float valve open circuit
Axle 3 float valve short circuit
Axle 3 lock valve open circuit
Axle 3 lock valve short circuit
Axle 4 float valve open circuit
Axle 4 float valve short circuit
Axle 4 lock valve open circuit
Axle 4 lock valve short circuit
Axle 5 float valve open circuit
Axle 5 float valve short circuit
Axle 5 lock valve open circuit
Axle 5 lock valve short circuit

Relay K17 open circuit
Relay K17 short circuit
Steer PLC supply2 open circuit
Steer PLC supply2 short circuit
Power supply open circuit
TEST
Steer PLC error
Steer PLC tempreature too high
Steer PLC supply VBBS error
Suspension PLC error
Suspension PLC tempreature too high
Suspension PLC supply VBBS error

The corresponding alarm indicators will reset only when all failures are removed and the system is powered on again.

Figure 3-17 Steering circuitry alarm 1



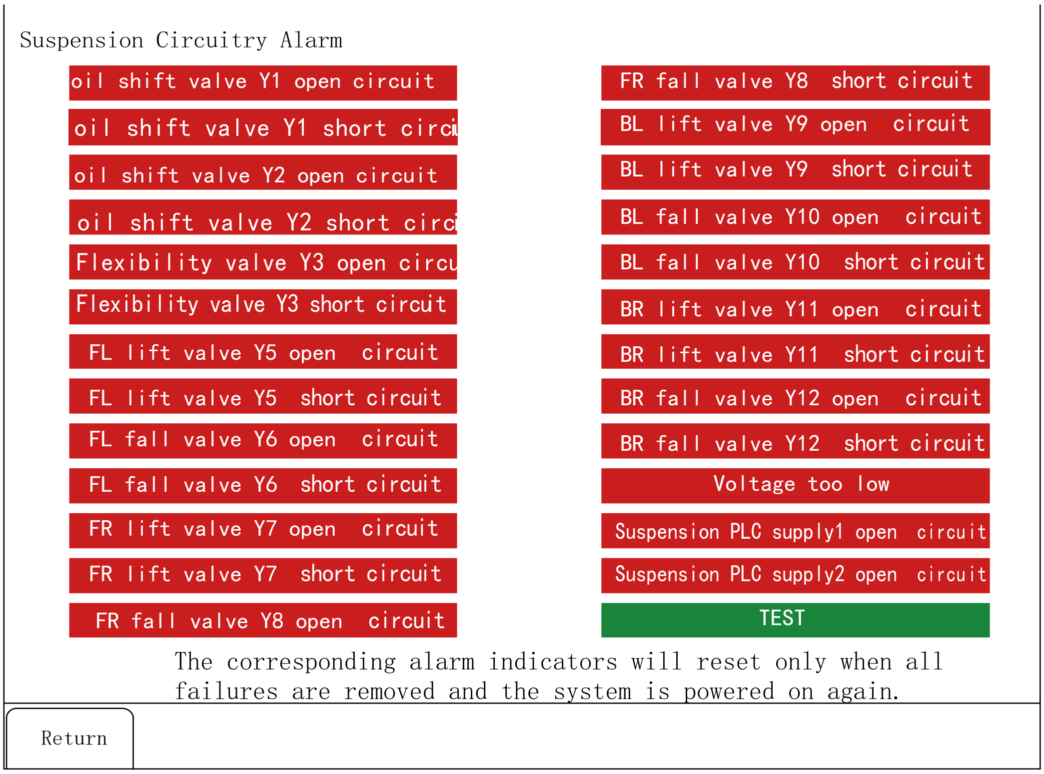
Steering Circuitry Alarm

Axle 3 left prop valve open circuit
Axle 3 left prop valve short circuit
Axle 3 right prop valve open circuit
Axle 3 right prop valve short circuit
Axle 4 left prop valve open circuit
Axle 4 left prop valve short circuit

Axle 4 right prop valve open circuit
Axle 4 right prop valve short circuit
Axle 5 left prop valve open circuit
Axle 5 left prop valve short circuit
Axle 5 right prop valve open circuit
Axle 5 right prop valve short circuit

The corresponding alarm indicators will reset only when all failures are removed and the system is powered on again.

Figure 3-18 Steering circuitry alarm 2



Suspension Circuitry Alarm

oil shift valve Y1 open circuit
oil shift valve Y1 short circi
oil shift valve Y2 open circuit
oil shift valve Y2 short circ
Flexibility valve Y3 open circu
Flexibility valve Y3 short circuit
FL lift valve Y5 open circuit
FL lift valve Y5 short circuit
FL fall valve Y6 open circuit
FL fall valve Y6 short circuit
FR lift valve Y7 open circuit
FR lift valve Y7 short circuit
FR fall valve Y8 open circuit

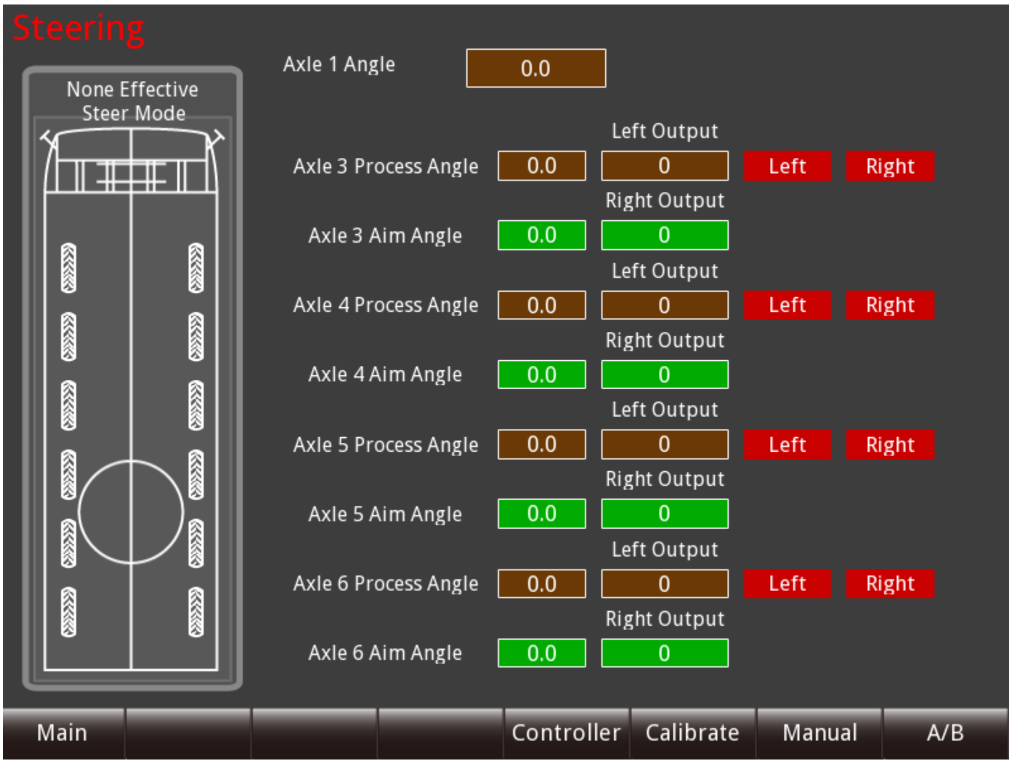
FR fall valve Y8 short circuit
BL lift valve Y9 open circuit
BL lift valve Y9 short circuit
BL fall valve Y10 open circuit
BL fall valve Y10 short circuit
BR lift valve Y11 open circuit
BR lift valve Y11 short circuit
BR fall valve Y12 open circuit
BR fall valve Y12 short circuit
Voltage too low
Suspension PLC supply1 open circuit
Suspension PLC supply2 open circuit

The corresponding alarm indicators will reset only when all failures are removed and the system is powered on again.

Figure 3-19 Suspension circuitry alarm

3.1.3.8 Steering

Press the function key F4 “Steer” in the main screen to switch to the following screen. See Figure 3-20.



Steering

None Effective Steer Mode

Axle 1 Angle 0.0

Axle 3 Process Angle 0.0 Left Output 0

Axle 3 Aim Angle 0.0 Right Output 0

Axle 4 Process Angle 0.0 Left Output 0

Axle 4 Aim Angle 0.0 Right Output 0

Axle 5 Process Angle 0.0 Left Output 0

Axle 5 Aim Angle 0.0 Right Output 0

Axle 6 Process Angle 0.0 Left Output 0

Axle 6 Aim Angle 0.0 Right Output 0

Figure 3-20 Steering

The screen displays:

- the current steering angles of axles 1, 3, 4, 5 and 6
- the target steering angles of axles 3 to 6 calculated according to the current steering angle of axle 1 and the selected steering mode

Note:

The angles of steering to the left are in positive value and the angles of steering to the right are in negative value.

The left part of the screen displays the crane steering condition animatedly.

When the difference between the target steering angle and actual steering angle reaches 0.3°, the icon “Turn left” or “Turn right” illuminates.

Calibrating steering angle sensor to 0°:

How to calibrate:

a) Press the function key “Sensor calibration” in Figure 3-20.

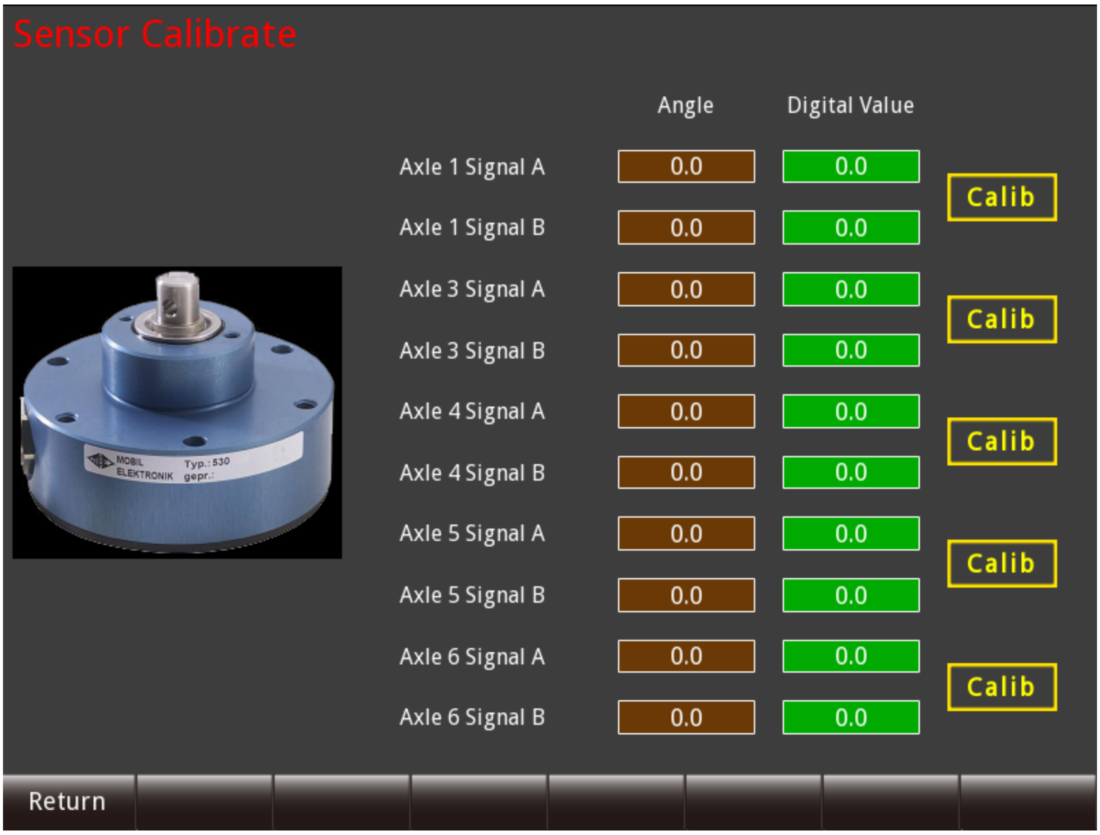
b) Press icon “Calibrate” of the axle to be calibrated (Refer to Figure 3-21).

Result:

- The actual steering angle indicates 0°.

Note:

Do not press the key of other axles.



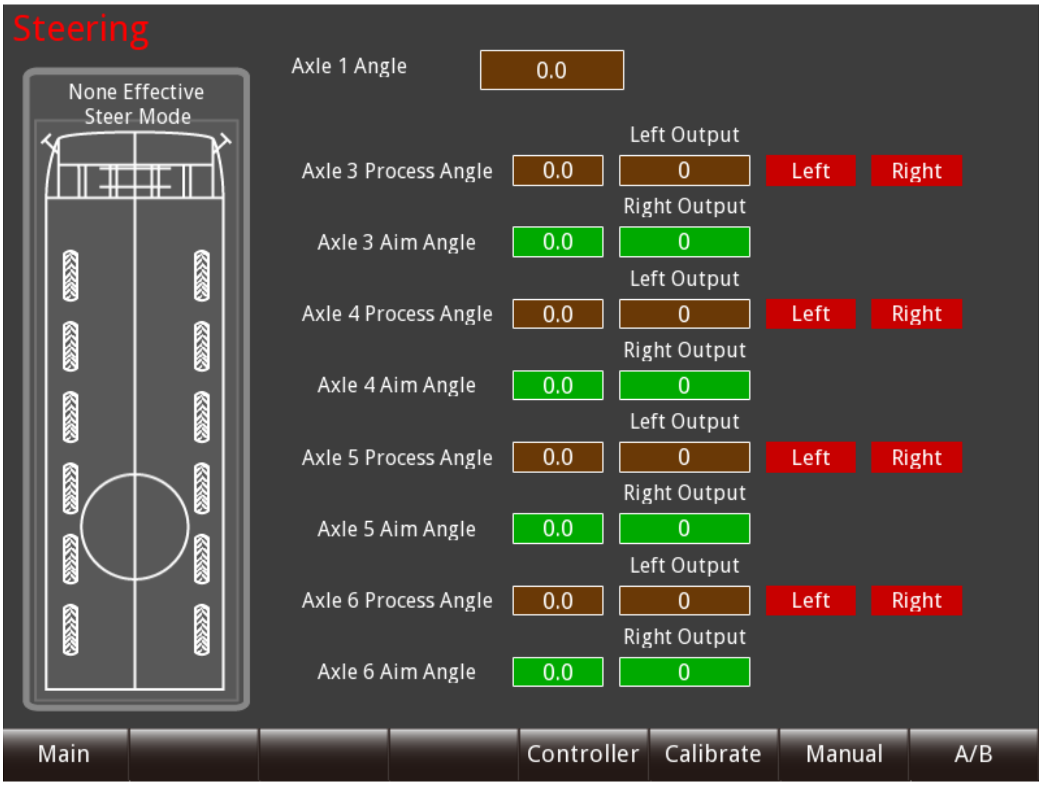
Sensor Calibrate

	Angle	Digital Value	
Axle 1 Signal A	0.0	0.0	Calib
Axle 1 Signal B	0.0	0.0	
Axle 3 Signal A	0.0	0.0	Calib
Axle 3 Signal B	0.0	0.0	
Axle 4 Signal A	0.0	0.0	Calib
Axle 4 Signal B	0.0	0.0	
Axle 5 Signal A	0.0	0.0	Calib
Axle 5 Signal B	0.0	0.0	
Axle 6 Signal A	0.0	0.0	Calib
Axle 6 Signal B	0.0	0.0	

Figure 3-21 Sensor calibration

Manual steering:

Press the function key "Steering" in the steering screen to enter the "Manual steer" screen. Press the icon "Turn left" or "Turn right" to steer the vehicle manually. See Figure 3-22 and Figure 3-23.



Axle 1 Angle 0.0

Axle 3 Process Angle 0.0 0

Axle 3 Aim Angle 0.0 0

Axle 4 Process Angle 0.0 0

Axle 4 Aim Angle 0.0 0

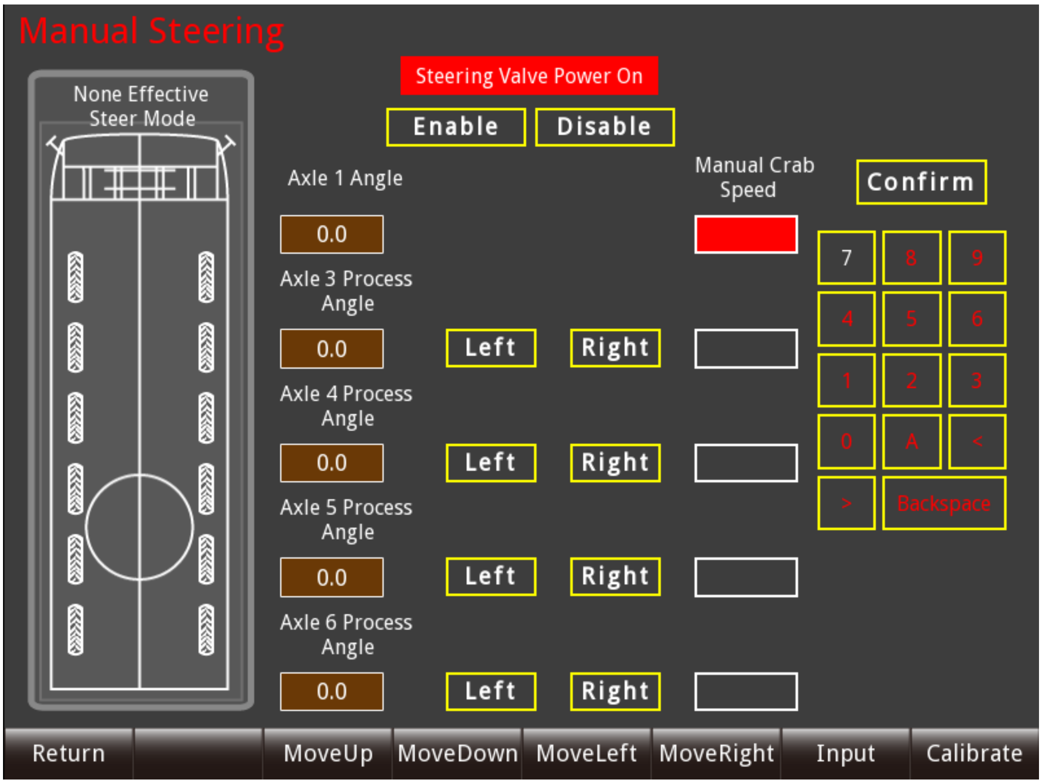
Axle 5 Process Angle 0.0 0

Axle 5 Aim Angle 0.0 0

Axle 6 Process Angle 0.0 0

Axle 6 Aim Angle 0.0 0

Figure 3-22 Manual steering 1



Axle 1 Angle 0.0

Axle 3 Process Angle 0.0

Axle 4 Process Angle 0.0

Axle 5 Process Angle 0.0

Axle 6 Process Angle 0.0

Figure 3-23 Manual steering 2

How to change the steering speed:

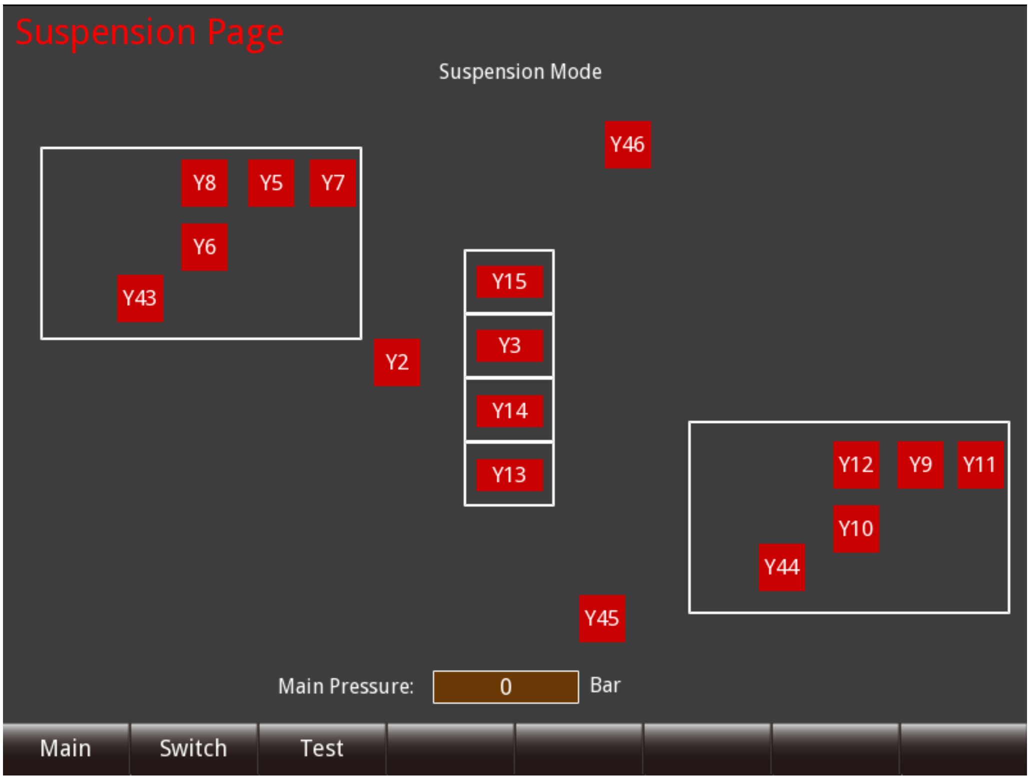
Enter the target speed (The larger the value is, the faster the speed is.) and press “Confirm”.

Result:

– The steering speed has been changed.

3.1.3.9 Suspension

Press the function key F6 “Suspension” in the main screen to switch to the following screen. See Figure 3-24.



Suspension Page

Suspension Mode

Main Pressure: 0 Bar

Figure 3-24 Suspension

You can view the items below from the above screen (the green-highlighted one is energized).

– Whether the suspension solenoid valve is energized

– The current suspension control mode.

The operator can judge whether the current suspension control (selected by the button) is valid according to the displayed one. If the two matches, the suspension is valid.

Note:

The button “Locking the axle suspension” is invalid during driving.

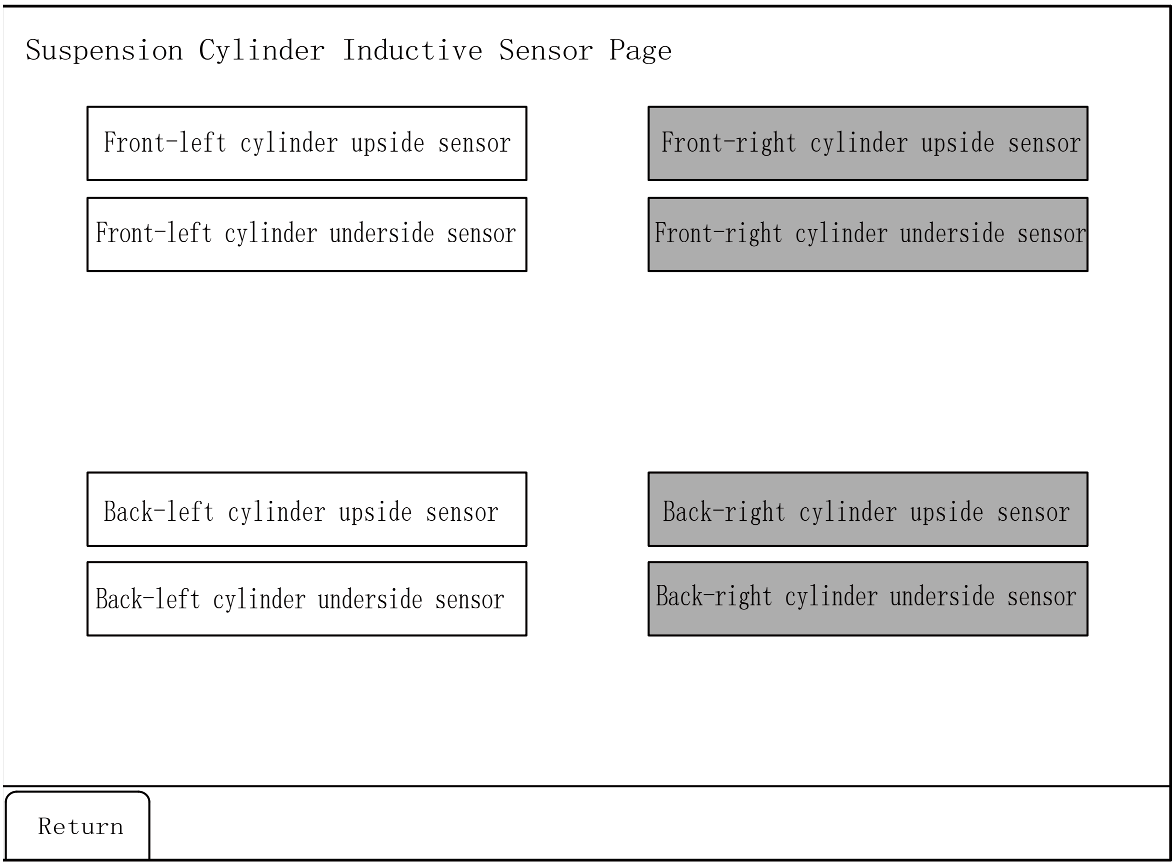
If the automatic level control is selected, press function key “Switch” to switch in Figure 3-25. In the screen, you can observe the working condition of proximity switches on left and right sides of axles 1 and 6. Namely the status of proximity switches on chassis frame left front / right front / left rear / right rear.

In the automatic level control:

- The icons “left front cylinder underside sensor”, “right front cylinder underside sensor”, “left rear cylinder underside sensor” and “right rear cylinder underside sensor” should be highlighted in green.
- The icons “left front cylinder upside sensor”, “right front cylinder upside sensor”, “left rear cylinder upside sensor” and “right rear cylinder upside sensor” should be highlighted in red.
- The control light “Entire vehicle leveled” in the main screen of the monitor lights up.

When the crane is lowered to the lowest position, all the icons should be highlighted. When the crane is raised to the highest position, all the icons should not be highlighted. So you can judge whether the proximity switches are damaged or whether you should adjust the mounting clearance of proximity switches.

In the figure, the icons “Front-right cylinder upside sensor”, “Front-right cylinder underside sensor”, “Back-right cylinder upside sensor” and “Back-right cylinder underside sensor” are highlighted in green. So, the right side of the vehicle is lower than the left side.



Suspension Cylinder Inductive Sensor Page

Front-left cylinder upside sensor

Front-left cylinder underside sensor

Front-right cylinder upside sensor

Front-right cylinder underside sensor

Back-left cylinder upside sensor

Back-left cylinder underside sensor

Back-right cylinder upside sensor

Back-right cylinder underside sensor

Return

Figure 3-25　Suspension cylinder inductive sensor

Press function key F3 in the Suspension screen to enter the Commissioning screen. You can energize or deenergize the outrigger changeover valve manually. See Figure 3-26.

How to operate:

- Energizing:

  Press the icon “Energize the outrigger changeover valve” in the Commissioning screen until the icon “Y2” is highlighted in green.

- Deenergizing:

  Press the icon “Deenergize the outrigger changeover valve” in the Commissioning screen until the icon “Y2” is highlighted in red.

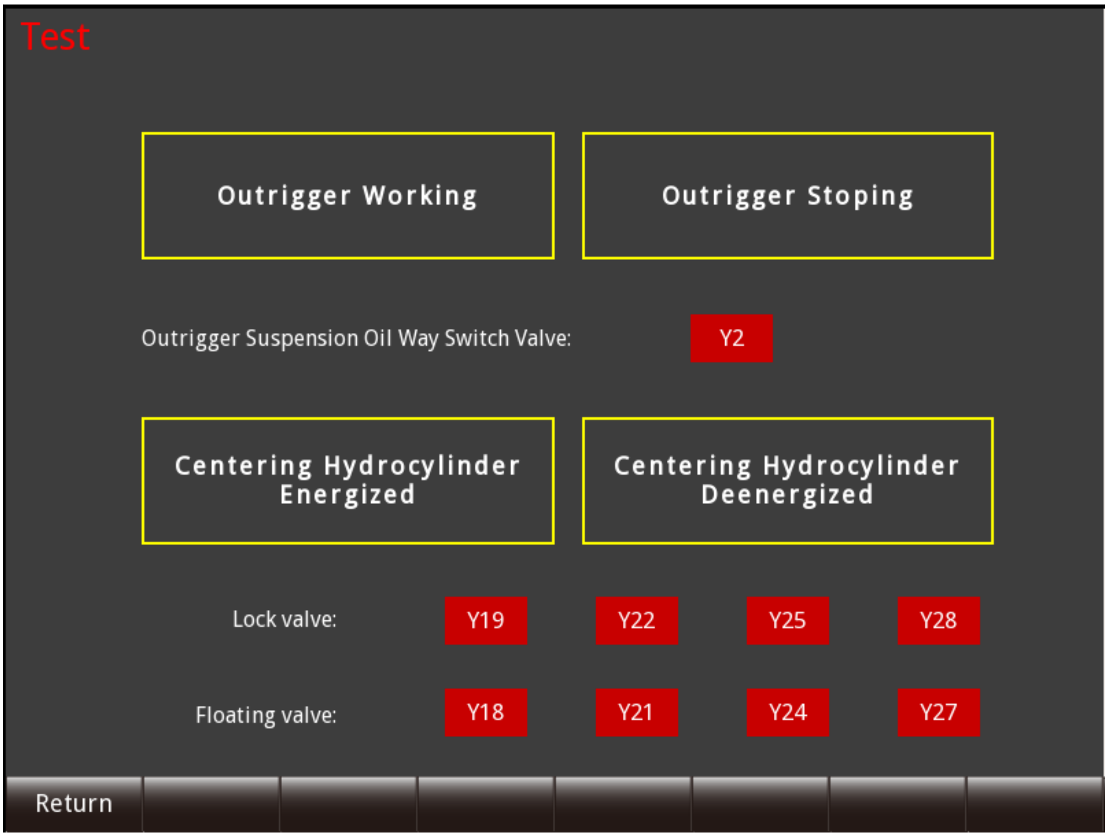
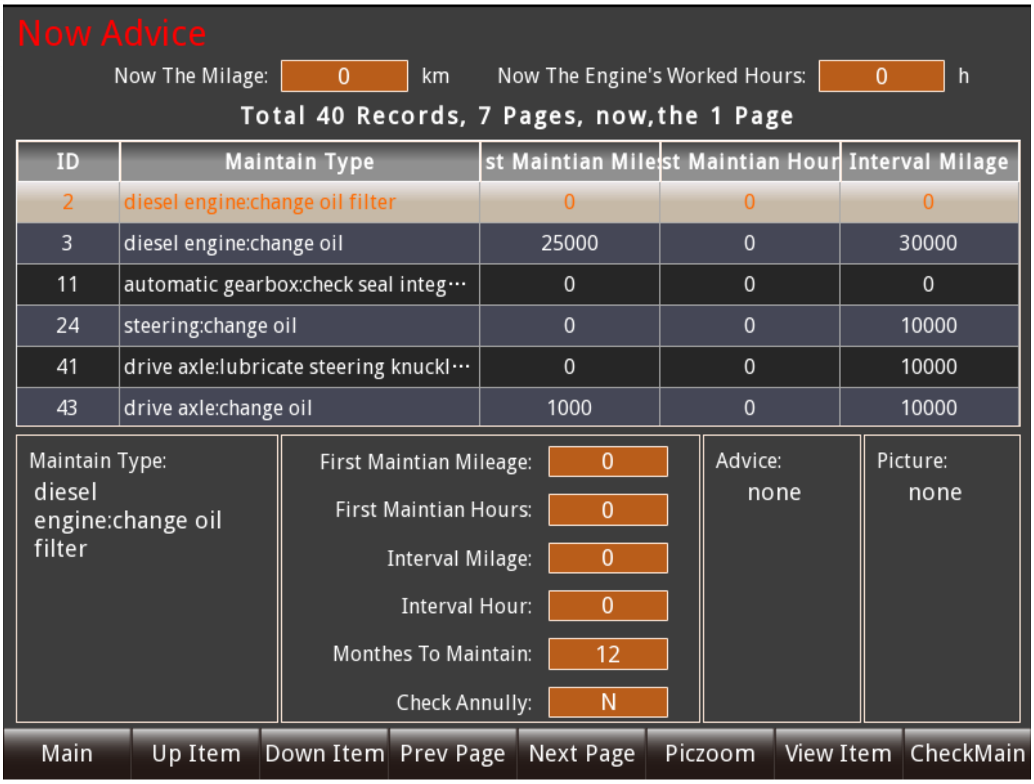


Figure 3-26 Suspension test

3.1.3.10 Maintenance

Press function key F5 “Maintain” in the main screen to switch to the the Maintenance screen. See Figure 3-27.



Now Advice

Now The Milage: 0 km Now The Engine's Worked Hours: 0 h

Total 40 Records, 7 Pages, now,the 1 Page

ID	Maintain Type	st Maintian Mile	st Maintian Hour	Interval Milage
2	diesel engine:change oil filter	0	0	0
3	diesel engine:change oil	25000	0	30000
11	automatic gearbox:check seal integ···	0	0	0
24	steering:change oil	0	0	10000
41	drive axle:lubricate steering knuckl···	0	0	10000
43	drive axle:change oil	1000	0	10000

Maintain Type: diesel engine:change oil filter

First Maintian Mileage: 0

First Maintian Hours: 0

Interval Milage: 0

Interval Hour: 0

Monthes To Maintain: 12

Check Annully: N

Advice: none

Picture: none

Figure 3-27 Maintenance

3.1.4 Center console

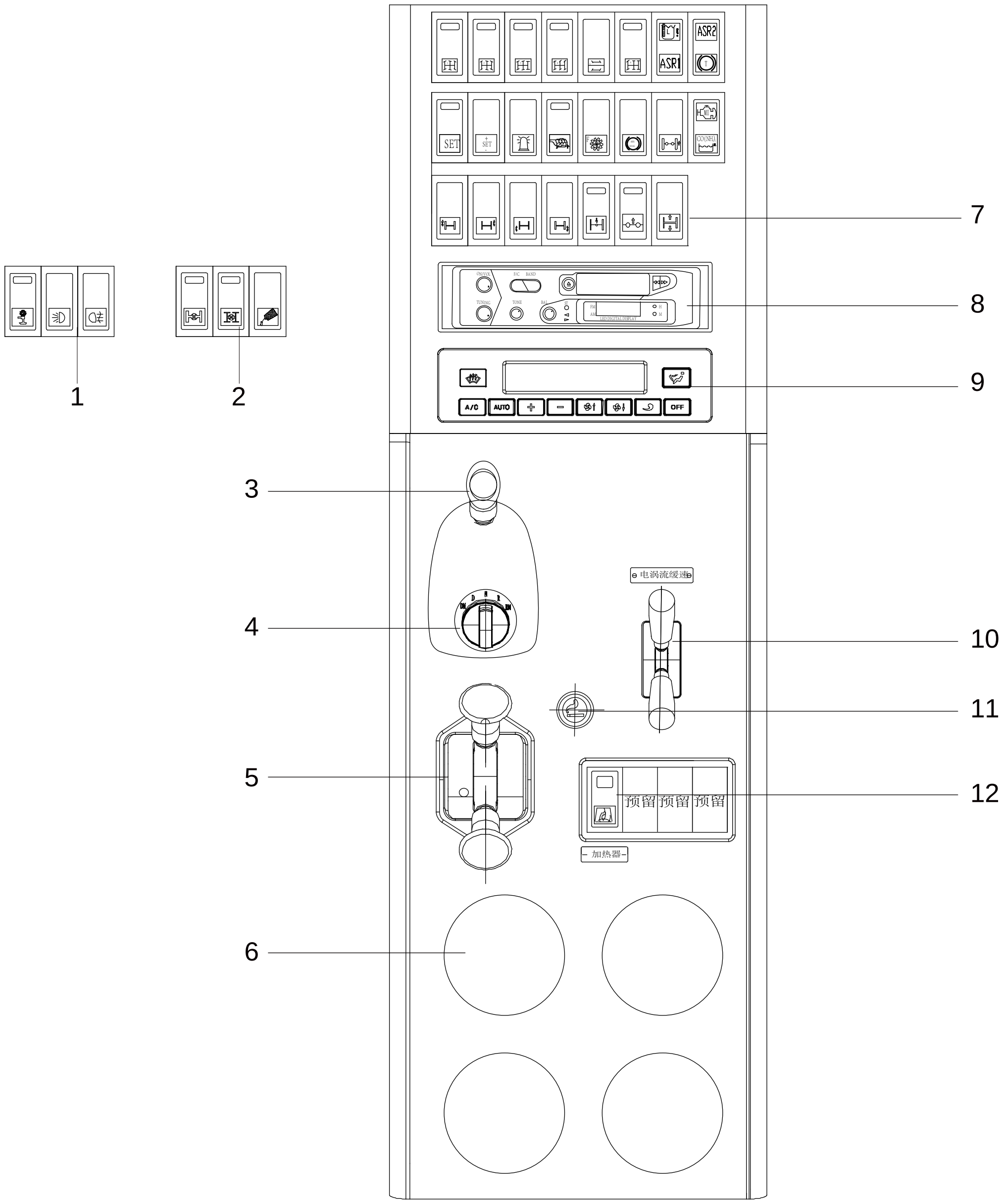


Figure 3-28 Center console

Pos.	Description	Pos.	Description
1	Left-hand buttons	7	Buttons and control lights
2	Right-hand buttons	8	MP3 player
3	Range selector	9	A/C control panel
4	Drive range switch	10	Control lever for eddy current brake
5	Parking brake hand lever	11	Cigarette lighter
6	Pressure gauges, suspension cylinders	12	Coolant heater switch

3.1.4.1 Left-hand buttons

a) **Button**

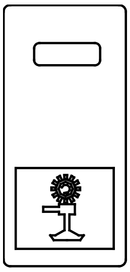
Outrigger power source

This button is with a lock.

Before activating this button, move the lock downwards.

Pressed:

Outrigger power source is switched on.

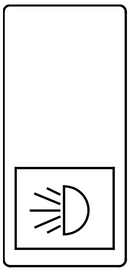


b) **Button**

Sliding beam illumination

Pressed:

The sliding beam illumination is ON.

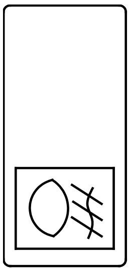


c) **Button**

Rear fog lamp

Pressed:

The rear fog lamp is ON.



3.1.4.2 Right-hand buttons

a) **Button**

Transversal differential lock

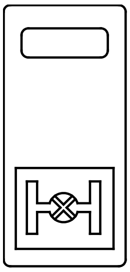
Pressed down:

The transversal differential lock is activated.

Activate this button in off-road driving to prevent wheels from skidding.

Pressed up:

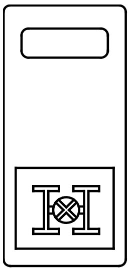
The transversal differential lock is deactivated.



⚠ CAUTION

1. **Only operate the button when the vehicle is stationary. Once it drives on road, press up the button to release the transversal differential lock to avoid axle damage.**
2. **Only add the differential lock when the vehicle is stationary. Do not add the differential lock when the wheels are turning.**
3. **Do not attempt to corner after you add the transversal differential lock.**
4. **Only activate the differential lock within the standard crane transport weight (without the counterweight or not overweight).**

b) **Button**



Longitudinal differential lock

Pressed down:

The longitudinal differential lock is activated.

Activate it in off-road driving to prevent front / rear wheels from skidding.

Pressed up:

The longitudinal differential lock is deactivated.

CAUTION

(1) **Only operate the button when the vehicle is stationary. Once it drives on road, press up the button to release the longitudinal differential lock to avoid axle damage.**

(2) **Only add the differential lock when the vehicle is stationary. Do not add the differential lock when the wheels are turning.**

(3) **Straightly drive as possible after engaging longitudinal differential lock. Be cautious when you attempt to corner after you add the longitudinal differential lock.**

(4) **Only activate the differential lock within the standard crane transport weight (without the counterweight or not overweight).**

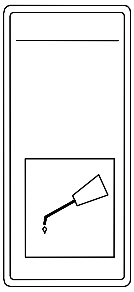
(5) **Start off at low engine speed.**

c) **Switch**

Central lubricating system

Pressed:

The central lubricating system works forcedly and lubricates each lubricating point.



3.1.4.3 Buttons and control lights

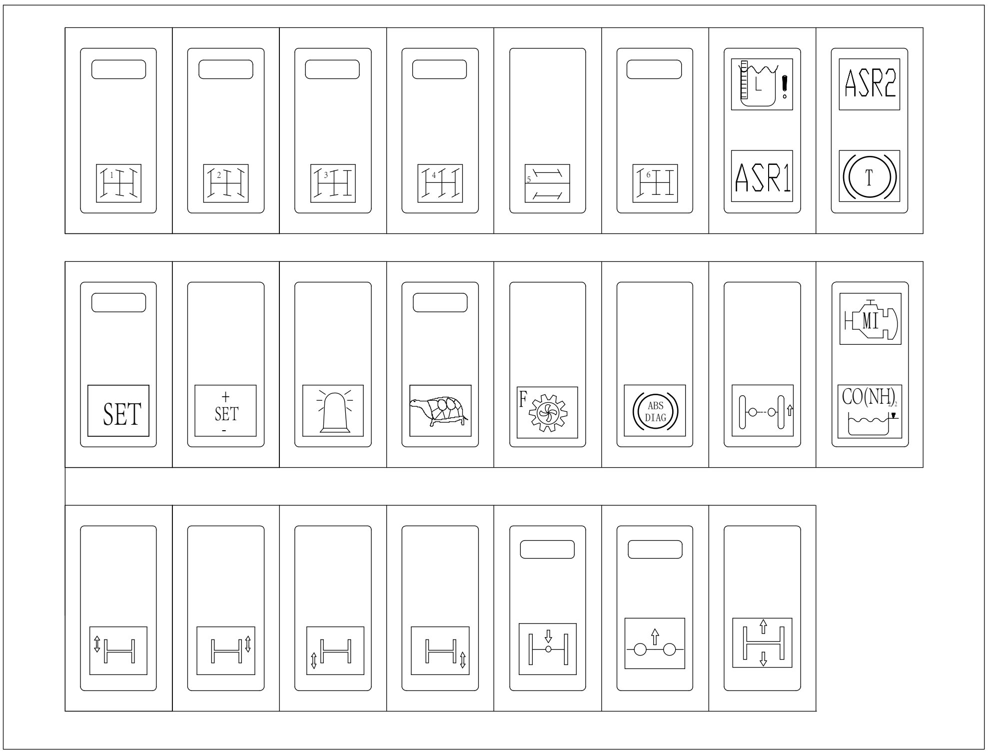
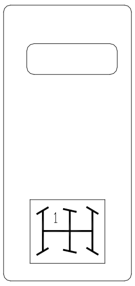


Figure 3-29 Buttons and control lights



a) **Button**

Switch on "Road steering" operating mode

Pressed down:

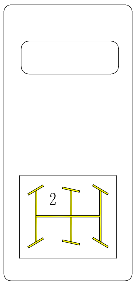
The "Road steering" operating mode is selected.

In this mode, the front axles 1 and 2 are mechanically steered by the steering wheel. The rear axles 3, 4, 5 and 6 are steered depending on the speed and the steering of axle 1.

Steer axles 3, 5 and 6 are steered depending on the steering of the axle 1 when the vehicle speed is below 30 km/h. And steer axle 4 is moved back to the 0° position

Steer axles 3 and 6 are steered depending on the steering of the axle 1 when the vehicle speed is between 30 – 55 km/h. And steer axles 4 and 5 are moved back to the 0° position.

Steer axles 3, 4, 5 and 6 are moved back to the 0° position when the speed exceeds 55 km/h.



b) **Button**

Switch on "Steering with the smallest turning radius" operating mode

This button is with a lock.

Before you activate this button:

- Move the lock downwards.
- Make sure that the steering angle for axle 1 is within ± 0.5° and the steering angles for axles 2, 3, 4, 5 and 6 are within ± 1°.

Pressed down:

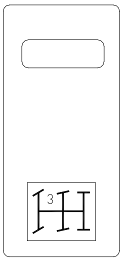
The "Steering with the smallest turning radius" operating mode is selected.

In the "Steering with the smallest turning radius" operating mode, the rear steer axles 3, 4, 5 and 6 are steered dependent on the steering effort of the front axle1 so that the vehicle attains as small a turn as possible. In this mode, the front axles 1 and 2 are mechanically steered by the steering wheel.

The maximum driving speed is limited to 5 km/h.

c) Button

Switch on "Reduced swing-out rate" operating mode



This button is with a lock.

Before you activate this button:

- Move the lock downwards.
- Make sure that the steering angle for axle 1 is within ± 0.5° and the steering angles for axles 2, 3, 4, 5 and 6 are within ± 1°.

Pressed down:

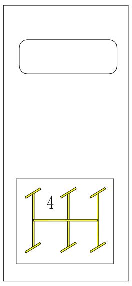
The "Reduced swing-out rate" operating mode is selected.

In the "Reduced swing-out rate" operating mode, the rear axles 3, 4 and 5 are steered dependent on the front axle 1 so that the swing-out rate of the vehicle rear-end is reduced to a minimum.

Under this condition, the steering angle of axle 1 is turned to a maximum, while the angle of axle 5 is to a minimum. And the axle 6 is moved back to 0° position. All steer axles are steered to the same direction. The maximum driving speed is limited to 5 km/h.

d) Button

Switch on "Crab steering" operating mode



This button is with a lock.

Before you activate this button:

- Move the lock downwards.
- Make sure that the steering angles for all axles are within ± 3°
- Make sure that the driving speed is smaller than 5km/h.

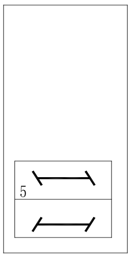
Pressed down:

The "Crab steering" operating mode is selected.

In the "Crab steering" operating mode, the rear axles 3, 4, 5 and 6 are steered in the same direction as the front axle 1. In this mode, all axle steer in the same direction. Besides, the maximum driving speed is limited to 5 km/h.

This operating mode would typically be selected when driving away from a narrow place (e.g. parking lot).

Switch off this operating mode after operation and switch on the "Road steering" operating mode.



e) **Button**

Switch on "Independent steering" operating mode

This button is a 3-stage automatic resetting button.

Before you activate this button:

- Make sure that the steering angle for axle 1 is within ± 3°.

Pressed up / down:

"Independent steering" operating mode is selected.

In the "Independent steering" operating mode, the rear axles 3, 4, 5 and 6 are steered independent of the steering effort of the front axles 1 and 2 using this button.

The front axles 1 and 2 are steered by the steering wheel.

- **Pressed up**

  Result:

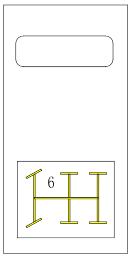
  Axles 3, 4, 5 and 6 are steered to left.

- **Pressed down**

  Result:

  Axles 3, 4, 5 and 6 are steered to right.

In this mode, the maximum driving speed is limited to 5 km/h.



f) **Button**

Switch on "Rear axle affixed for straight travel" operating mode

This button is with a lock.

Before you activate this button:

- Move the lock downwards.

Pressed down:

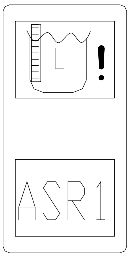
The "Rear axles affixed for straight travel" operating mode is selected.

In the "Rear axles affixed for straight travel" operating mode, only the front axles 1 and 2 are steered by the steering wheel.

The rear axles 3, 4, 5 and 6 are affixed for straight travel.

In this operating mode, turning radius of the front axles is large.

The maximum driving speed is limited to 20 km/h.



g) **Warning light**

Hydraulic oil level low / ASR1

Illuminates (See upper part of the figure on the right):

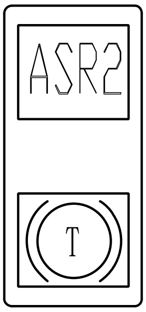
Hydraulic oil level is lower than the permitted value.

Add the hydraulic oil to the specified level.

Illuminates (See lower part of the figure on the right):

The valve for ASR is activated.

When the information button (diagnostics) "ABS defects" is pressed, the error codes will be flashed out by this warning light.



h) **Control light**

ASR2 / eddy current brake active

Illuminates (See upper part of the figure on the right):

The valve for ASR is activated.

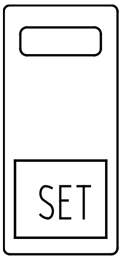
When the information button (diagnostics) "ABS defects" is pressed, the error codes will be flashed out by this warning light.

Illuminates (See lower part of the figure on the right):

The eddy current brake is active when the vehicle speed is higher than 5 km /h.

Note:

Do not use the eddy current brake for a long time. The battery drains in this condition.



i) **Button**

Tempomat

Pressed:

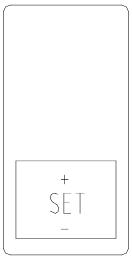
Tempomat is active.

⚠ CAUTION

(1) Tempomat refers to driving the vehicle at a constant speed set by ECU without applying engine control. It is usually used in long-distance driving to release the driver's fatigue.

(2) A driving speed of more than 48 km/h can be stored using SET + or – to regulate the driving speed between 50 to 75 km/h.

(3) The engine RPM can be regulated by engine control pedal or SET + or – when the Tempomat is activated.



j) **Button**

Tempest

Pressed:

Temposet is activated.

- Press SET + or – one time.

  Result:

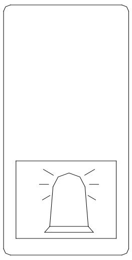
  The speed is increased / decreased by 2 km/h.

- Press and hold + or –

  Result:

  The speed is continuously increased / decreased to the desired speed.

If the transmission is in neutral / parking position, press SET + or – to regulate the engine speed between 650 to 2300 r/min.

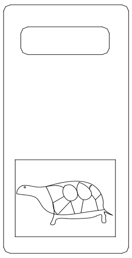


k) **Button**

Rotating beacons

Pressed:

The rotating beacons on the top of driver's cab and on the tail of slewing table are active.



l) **Button**

Switch on "4 axles drive" operating mode

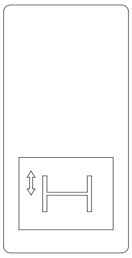
Pressed:

Only activate this switch when the vehicle is driving in off-road or in bad road conditions.

The 4 axles driven mode is activated.

⚠ CAUTION

Only operate the button when the vehicle is stationary.



m) **3-handed button**

Vehicle level, raise / lower left front

Pressed up:

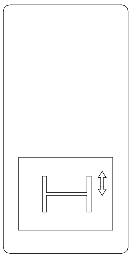
The left front vehicle (axles 1 to 3) level is raised.

Pressed down:

The left front vehicle (axles 1 to 3) level is lowered.

Middle position:

The left front vehicle level (axles 1 to 3) is kept on its original height.



n) 3-handed button

Vehicle level, raise / lower right front

Pressed up:

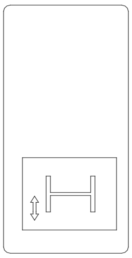
The right front vehicle (axles 1 to 3) level is raised.

Pressed down:

The right front vehicle (axles 1 to 3) level is lowered.

Middle position:

The right front vehicle level (axles 1 to 3) is kept on its original height.



o) 3-handed button

Vehicle level, raise / lower left rear

Pressed up:

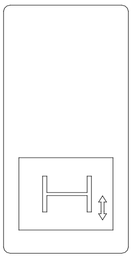
The left rear vehicle (axles 4 to 6) level is raised.

Pressed down:

The left rear vehicle (axles 4 to 6) level is lowered.

Middle position:

The left rear vehicle level (axles 4 to 6) is kept on its original height.



p) 3-handed button

Vehicle level, raise / lower right rear

Pressed up:

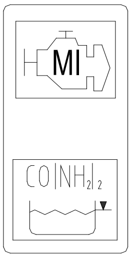
The right rear vehicle (axles 4 to 6) level is raised.

Pressed down:

The right rear vehicle (axles 4 to 6) level is lowered.

Pressed on middle position:

The right rear vehicle level (axles 4 to 6) is kept on its original height.



q) Warning light

SCR defects / AdBlue level low

Illuminates (See upper part of the figure on the right):

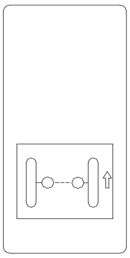
Engine SCR has a malfunction.

Bring the vehicle to a standstill, and rectify it immediately.

Illuminates (See lower part of the figure on the right):

The fluid level in the AdBlue tank is lower than the permitted value.

Add the AdBlue in time.



r) **Button**

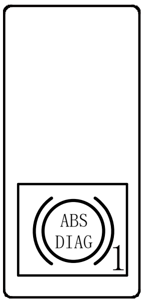
All axles raised

Before you press this button:

- Lock the axle suspension.
- Support the crane on outriggers.

Pressed:

All axles are raised.



s) **Information button (diagnostics)**

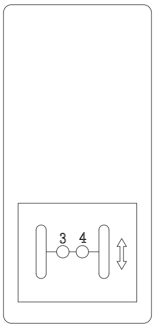
ABS defects

This is an automatic resetting button. Press the button and release, it will be reset automatically. This button is used to carry out diagnosis on the ABS$_1$.

If the button is hold down for 1 to 3 seconds, the error codes will be flashed out after 1.5 seconds.

An error code consists of two parts. The first part of error code will be flashed out 1 to 8 times. And the second part of error code will be flashed out 1 to 6 times. Each part is flashed out every 1.5 seconds. Each code is flashed out every 4 seconds. If an error code appears repeatedly, it is "actual error". If different error codes are flashed out and extinguished, they are "stored error".

You can find out the error code in flash code list to confirm the error type (See Section 3.1.3.7).



t) **3-handed button**

Axles 3 and 4 raised or lowered

This is an automatic resetting button. Press the button and release, it will be reset automatically.

Pressed:

Axles 3 and 4 are raised or lowered under the condition that the button "Lock the axle suspension" is pressed.

Table 3-1 Flash code list

First part of error code	Second part of error code
1. No error	1. No error
2. ABS modulator 3. Sensor clearance 4. Sensor short circuit / interrupt 5. Sensor defective 6. Sensor pole wheel	1. 1st axle right 2. 1st axle left 3. 3rd axle right 4. 3rd axle left
7. System function	1. Data connection 2. ASR valve 3. Sustained action brake relay 4. Warning lamp - ABS 5. ASR configuration 6. ASR proportional valve / differential valve
8. ECU	1. Undervoltage 2. Excess voltage 3. Internal defects 4. Configuration error 5. Ground connection

For the example of “Actual error code”, refer to Figure 3-30.

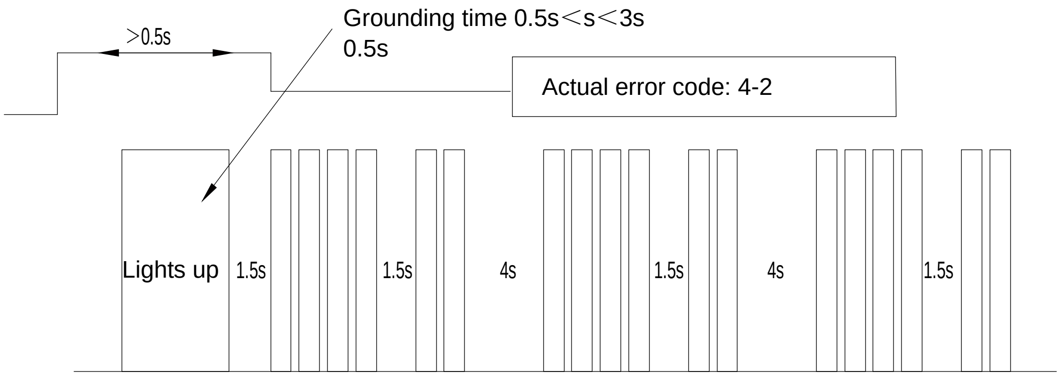


Figure 3-30 Example of ABS error code

If the error code is flashing 4 times continuously and is followed by 2 times flash, it is the “actual error” and its code is “4-2”. Refer to the above flash code list. The error is “the sensor of 1st axle left is short circuit / interrupts”.

For the example of “Stored error code”, refer to 3-31.

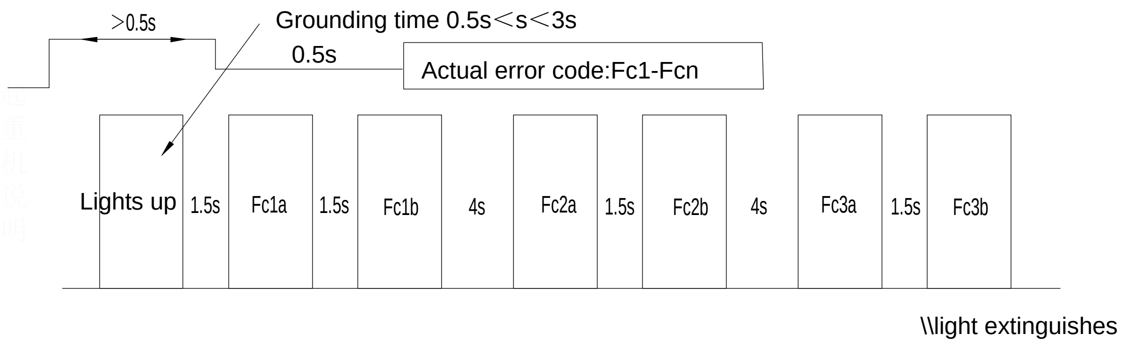


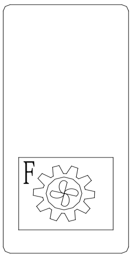
Figure 3-31 Example of stored error code

If no actual error is detected, press the button for above 3 seconds to delete the stored errors. The deletion is confirmed by 8 quick flashings of the warning light and followed by system code flashing out.

If system code flashes out without 8 quick flashings of the warning light, it indicates the error is not deleted. Repeat the above steps.

If the fault still cannot be deleted, there is "actual error” existing. Carry out diagnosis to confirm the fault and delete the stored error after rectifying.

After you read the flash codes, the fault diagnosis screen will appear. Press the ABS error index button to change over to display the Flash Code List. Rectify corresponding errors according to the list.



u) Button

Switch radiator-fan of transfer case

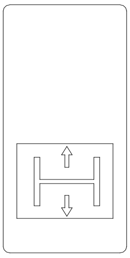
ON

Pressed down:

Radiator-fan of transfer case is activated.

Note:

Activate the button during long-distance travel in summer.



v) 3-handed button

Entire vehicle raised or lowered

Pressed up:

The entire vehicle is raised.

Pressed down:

The entire vehicle is lowered.

Pressed on middle position:

The entire vehicle is kept on its original height.

w) **Button**

Automatic level control

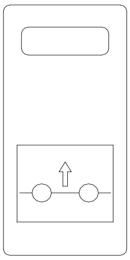
This button is with a lock.

Pressed:

The entire vehicle is leveled automatically.

Note:

You can depress the engine control pedal to increase engine RPM if this function is selected.



x) **2-handed button**

Lock the axle suspension

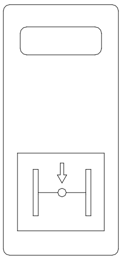
Pressed:

The axle suspension is locked.

Released:

The axle suspension system has been set to "Sprung".

Under the heavy load mode, no matter this button is pressed or released, the axle suspension will be locked automatically.



3.1.4.4 MP3 player

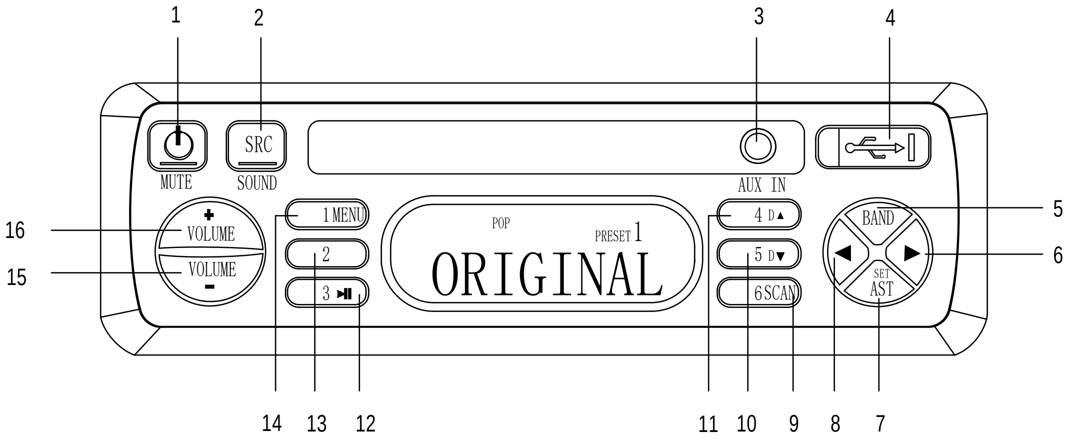


Figure 3-32 MP3 player

Pos.	Description	Use 1	Use 2	Use 3
1	POWER/MUTE	Power on (long press)	Mute (short press)	
2	SRC/SOUND	Set sound mode (long press)	Switch sound source(short press)	
3	AUX IN	Standard audio input interface		
4	USB PLUG	USB interface		
5	BAND	Radio band selection		
6	▶	Search radio station backward(Radio mode)	Next song(USB mode)	Regulating the minute (time adjustment mode)
7	AST/SET	Automatic save radio(short press)	Enter\exit setup interface (long press)	
8	◀	Search radio station forward(Radio mode)	Previous song (USB mode)	Regulating the hour (time adjustment mode)
9	6 SCAN	Collected radio preset key 6	radio scan (USB mode)	
10	5 D▼	Collected radio preset key 5	Next programme (USB mode)	
11	4 D▲	Collected radio preset key 4	Previous programme (USB mode)	
12	3 ▶ll	Collected radio preset key 3	pause, play (USB mode)	
13	2	Collected radio preset key 2		
14	1 MENU	Collected radio preset key 1	Song or programme position (USB mode)	
15	VALUME+	Volume increase		
16	VALUME-	Volume decrease		

CAUTION

(1) **Do not touch the connector with hand, which will result in poor contact. If the connector is polluted, clean it with soft cloth. Dismantle the control panel as few as possible to reduce the chance of touching the connector.**

(2) **Set the ignition starter switch to the "ACC" position, when you use the MP3 player with the engine in the "OFF" position.**

3.1.4.5 A/C control panel

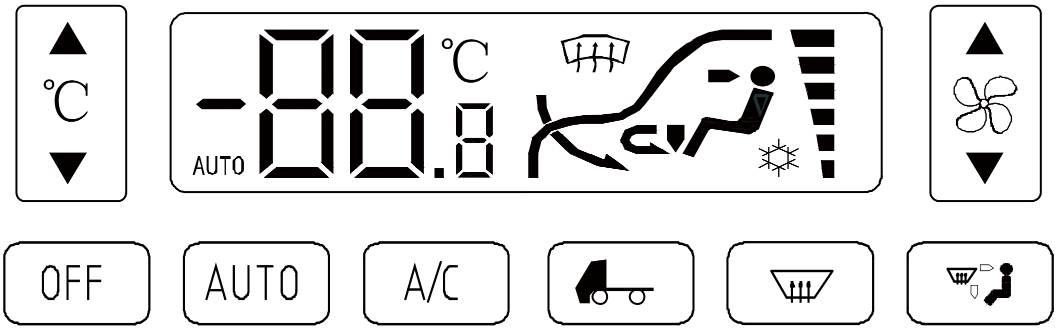
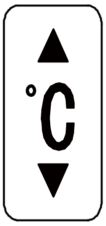


Figure 3-33 A/C control panel

a) **Temperature adjustment button**

Pressed:

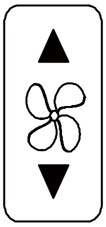
Increase / decrease the temperature.



b) **Fan speed button**

Pressed:

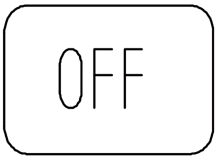
Increase / decrease the fan speed.



c) **OFF button**

Pressed:

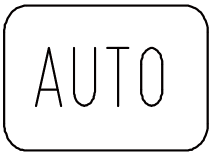
Turn off the air conditioning system.



d) **AUTO button**

Pressed:

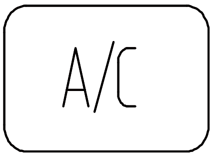
Activate the auto operating mode.



e) **A/C button**

Pressed:

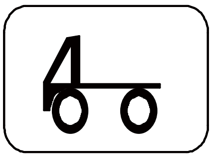
The A/C begins to refrigerate.



f) **Circulation button**

Pressed:

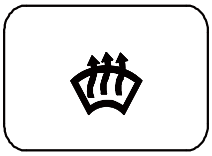
Changeover interior / outer air circulation.



g) **Front window air supply button**

Pressed:

Activate the front window air supply mode.



h) **Mode button**

Pressed:

Changeover different air supply modes.

Symbol description

Description	Symbol	Description	Symbol	Description	Symbol
Set:	SET	Auto	AUTO	Temperature	-88.8℃℉
Outer air circulation:	↘	Interior air circulation:	↩	Footwell air supply	▼
Fresh air:	➡	Front window air supply	♨	Refrigeration	❄
1 bar – stage 1	▮	2 bars – stage 2	▮▮	3 bars – stage 3	▮▮▮
4 bars – stage 4	▮▮▮▮	5 bars – stage 5	▮▮▮▮▮	6 bars – stage 6	▮▮▮▮▮▮
Vehicle body	🪑				

a) **Temperature**

1) Interior temperature range: -30.0°C to 80.0°C

2) If the interior temperature sensor is defective, 25.0°C will be displayed and never changed.

b) **Fan speed bar chart:**

1 bar – stage 1, 2 bars – stage 2, 3 bars – stage 3,

4 bars – stage 4, 5 bars – stage 5, 6 bars – stage 6

c) **Fan speed button**

Arrow up – fan speed (blower), faster

Arrow down – fan speed (blower), slower

If the fan speed button is not activated, arrows up / down are invalid.

If the fan speed button is activated, press arrows up / down to increase / decrease the fan speed.

If the fan speed is increased / decreased to the highest / lowest stage, arrows up / down will be invalid.

d) **Mode button**

Changeover fresh air supply / footwell supply / footwell & defrosting air supply

e) **A/C button**

The control light illuminates: The compressor is activated.

The control light extinguishes: The compressor is deactivated.

f) **Temperature adjustment button**

Temperature range: 17°C to 29°C.

Pressed: The temperature is increased or decreased by 1°C between 17°C and 29°C

Press this button and hold, the temperature will be continuously increased or decreased.

The set temperature will flash and the interior temperature will be displayed after 5 seconds.

LO: set temperature below 17°C

HI: set temperature above 29°C

The air conditioning system is of diagnosis function.

a) Press and hold OFF.

b) The error codes will appear on the display after 10 seconds.

C0: Normal

C3: The interior temperature sensor uninstalled or defects

C5: The evaporator temperature sensor uninstalled or defects

C6: The water valve steering gear uninstalled or defects

C7: The air door for mode adjustment uninstalled or defects

How to correct the malfunctions:

- For C3 and C5, install or repair the sensor.
- For C6, install or repair the steering gear and then restart the air conditioning system.
- For C7, install or repair the air door and then restart the air conditioning system.

⚠ WARNING

Do not use the cab heater if engine coolant temperature is below 70ºC.

⚠ CAUTION

(1) Make sure that the A/C is in the OFF mode when the engine is OFF or at idle speed for a long time. The battery drains in these conditions.

(2) When you move the crane for a long distance at low speed, with the A/C in the ON mode, put the transmission in a low gear. This increases the engine RPM and decreases the load on the transmission.

(3) Set the A/C to the OFF position when you do one of the items that follow:

- **Move the crane quickly.**
- **Move up a long hill slope.**

(4) In winter or other periods without using air conditioning, run the air conditioning for several minutes once a month to benefit the lubricating circulation and make sure the system in good state.

(5) Make sure that the refrigerant in the A/C system is at the correct level at regular intervals.

(6) If there are unusual vibrations, noises or smells during operation, stop and examine the crane immediately. Do not operate the crane that has a malfunction.

(7) Keep the surface of the condenser clean. When you clean the condenser, do not use steam. Clean it with compressed air or cold water.

(8) Do not disassemble the belt or pipeline of compressor when you do not use it for a long time.

(9) In summer, close the shutoff gate valve on the hot-water pipe of heater at the bottom of driver's cab. Otherwise, refrigeration effect may be affected. In winter, open the shutoff gate valve to make hot water enter into the heater. For hot water type heater, engine coolant temperature will affect the interior temperature. If the engine coolant temperature cannot be heated, the driver's cab will not be warmed.

3.1.4.6 Range selector, transmission

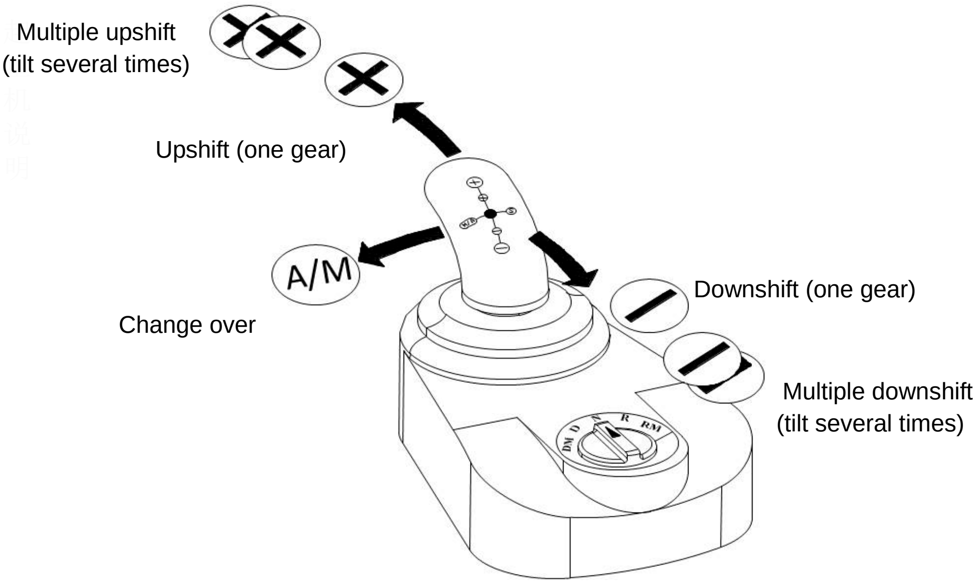


Figure 3-34 Transmission gear shift selector lever

Tilt the selector forwards one time and return, the gear will upshift 1 gear. If you tilt the selector forwards and hold, the gear will upshift to the highest gear, and vice versa. If you push the selector leftwards and return, the working conditions will be changed over automatic mode and manual mode (see above Figure).

3.1.4.7 Drive range switch

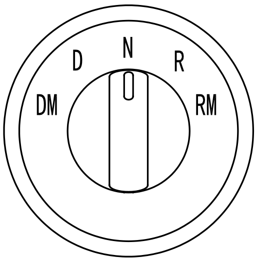
DM: Maneuver forwards

D: Drive (forwards). 16-forwards shift. Turn the switch to D no matter in automatic mode or manual mode when drive the vehicle forwards.

N: Neutral. Shift to N when starting.

R: Reverse. 2-reverse shift can be changed over automatically.

RM: Maneuver in reverse.



CAUTION

The transmission oil temperature must be less than 110ºC in normal conditions.

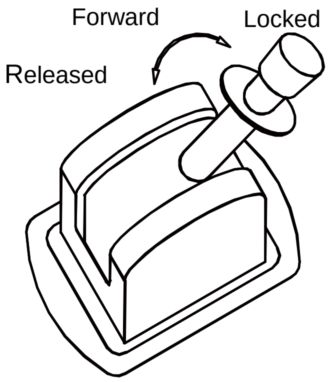
When transmission oil temperature is in the range of 110ºC – 130ºC, do not drive the crane for a long time. If the oil temperature reaches 130ºC for 30 minutes, stop the crane to cool down the oil. If the oil temperature cannot be cooled down, rectify the transmission.

DANGER

When the oil temperature is more than 150C°, it can cause damage to the transmission.

3.1.4.8 Parking brake

Pull the hand lever of parking brake backwards to lock the vehicle. Pull back the hand lever of parking brake as far as the stop in the hand lever's longitudinal direction and push forward to release vehicle locking. Release the parking brake before driving.



CAUTION

Do not start the vehicle unless the parking brake is released and the control light "Parking brake closed" extinguishes.

3.1.4.9 Pressure gauges for suspension cylinders

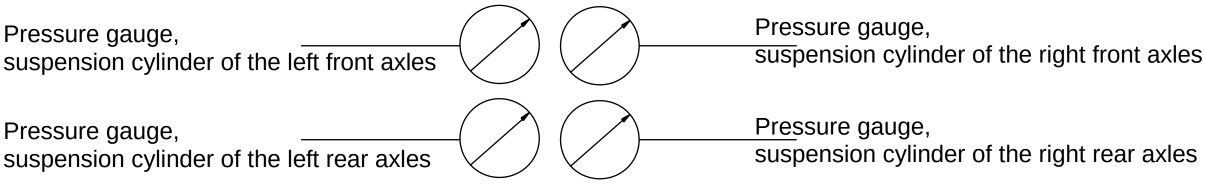
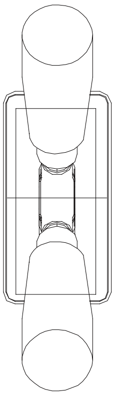


Figure 3-35 Pressure gauges for suspension cylinders

3.1.4.10 Control lever for eddy current brake

The eddy current brake is installed on the 4th axle.

Its control level has 4 stages, including 1 neutral stage in the front. Tilt the control level backward once, upshift one stage.

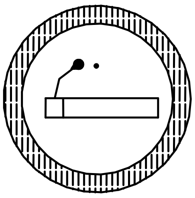


CAUTION

When the eddy current brake is not used, make sure that its control lever in neutral position. The battery drains in this condition.

3.1.4.11Cigarette lighter

Push-in the cigarette lighter for 3 to 5 seconds. Pull it out to use it. After you use it, put it in its initial position.

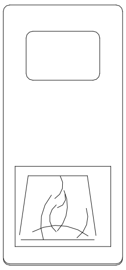


CAUTION

Set the ignition starter switch to "ACC", when you use the cigarette lighter with the engine in the OFF position.

3.1.4.12 Coolant heater switch

When the vehicle is ready for work under the low temperature environment (≤-20°C), press this switch to heat the coolant before the vehicle starts up. When the coolant heater works, the control light on this switch will illuminate. Observe the temperature meter of coolant. After the coolant temperature is equal to or above 4°C, reset this switch and then start up the vehicle.



CAUTION

The coolant heater is available for options.

When the coolant heater is optional, this switch is Not Used in this crane.

3.1.5 Air horn button

It is situated on the side of driver’s left foot.

Pressed: The air horn alarms.

Released: The air horn stops alarming.

3.1.6 Foot pedal (R): Engine control

It is an electron pedal.

Depressed: The vehicle accelerates.

Released: The vehicle decelerates.

3.1.7 Foot pedal (L): Service brake

Depressed: The vehicle decelerates or stops.

3.1.8 Clutch pedal

The crane has no clutch pedal.

3.1.9 Crane lighting

3.1.9.1 Front combination signals

Take the lights on the left as an example. The lights on right side are the same as the left ones. For details, refer to Figure 3-36.

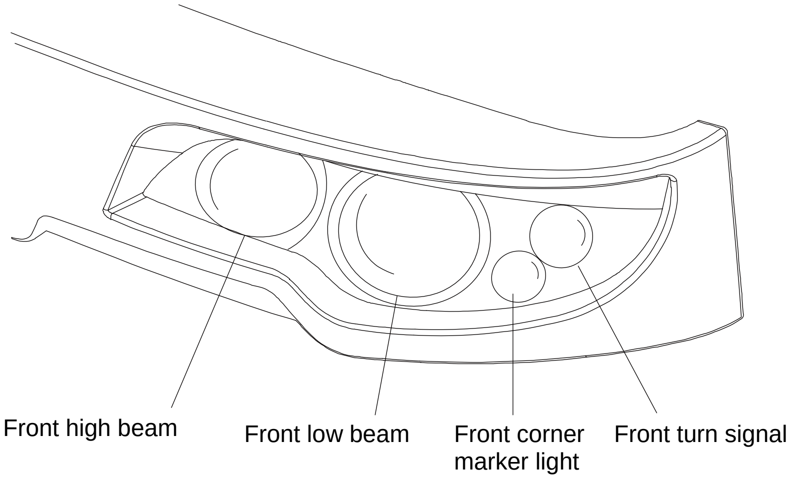


Figure 3-35　Front combination signals

3.1.9.2 Interior illumination

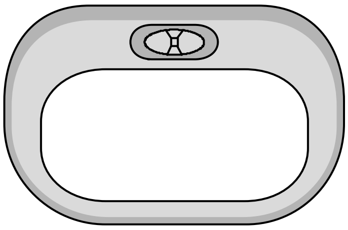
It is installed on the roof of the driver's cab to supply interior illumination.

The door lamp button is a 3-handed button:

Center position: off

Left and right positions: on

The door lamp will light up if any door is open. If the doors are closed well, the door lamp will go out. In addition, the door lamp can also be controlled manually.



3.1.9.3 DVD reversing system

The display of DVD is installed at the middle top position above the front panel of driver's cab. As for detailed information, please refer to the operating instructions attached to the crane.

⚠ CAUTION

If you want to use DVD when engine is not started, please place the ignition starter switch to “ACC” position.

3.1.9.4 Reversing radar

Introduction:

The crane is mounted with reversing radars to measure the distances to nearby objects. They can be used to alert the driver to unseen obstacles during reversing maneuvers. Depending on the speed of the vehicle and the distance to the obstacle, the system will warn the driver by audible means about the risk of collision.

Work process:

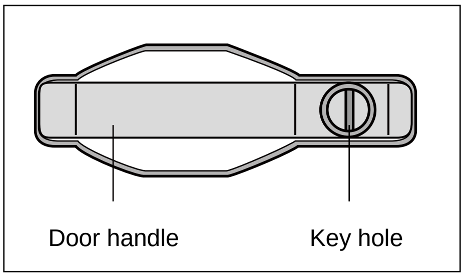
The reversing radars will be automatically activated after you turn the drive range switch to “R”. When you move the vehicle slowly and smoothly toward rear, the radars will give signals of presence of the obstacle and the car’s computer voice issues the warning statement once detected the obstacle.

When the distance to the nearby object is between 1.5 m and 3 m, the car’s computer voice issues “The actual distance”. When the distance is less than 1.5 m, the car’s computer voice issues the “Stop” statement, warning the driver to stop immediately to avoid collision.

3.1.10 Door – driver's cab

a) Open the door from outside
Hold the handle and pull it outwards.

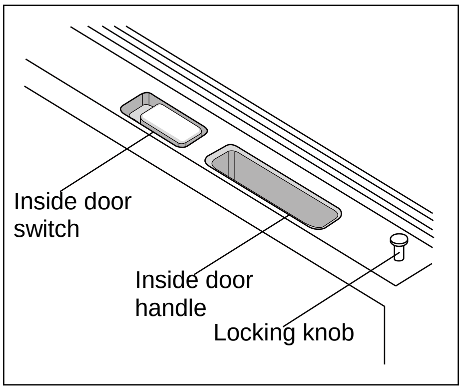
b) Close the door
The door will be locked automatically when the door is closed.



⚠ CAUTION

Do not drive the vehicle if the doors are not properly closed and locked!

c) Open the door from inside
Pull the inside door switch upwards and hold the handle to push the door outwards.

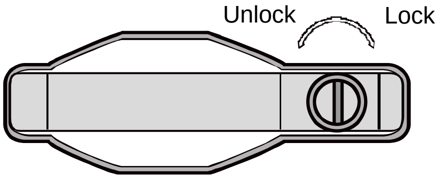


d) Lock the door from inside
The locking knob is on the lower edge of door window.
Press down the locking knob to lock the door from inside.
Pull the locking knob upwards before you open the door.

⚠ CAUTION

If the door is not closed well, the locking knob cannot be pressed.

e) Lock the door from outside
Insert vehicle key into the key hole. Turn it clockwise to lock the door, turn it counterclockwise to unlock the door.



3.1.11 Seats in driver's cab

3.1.11.1 Driver's seat

The driver’s seat with single armrest has pneumatic suspension and can be adjusted to suit any driver height or size. Adjust driver's seat before setting off. Refer to Figure 3-37.

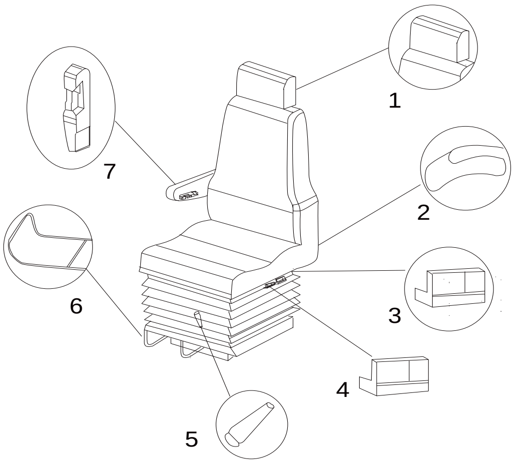


Figure 3-37 Driver’s seat

Pos.	Description	Pos.	Description
1	Switch, adjust headrest setting	5	Handle, adjust damper
2	Handle, adjust backrest setting	6	Lever, adjust horizontal setting
3	Handle, adjust seat cushion angle (rear section)	7	Rotary switch
4	Handle, adjust seat cushion angle (front section)		

1) **Switch, adjust headrest setting**

Press this switch to move the headrest upwards or downwards. Release the switch to lock the headrest.

2) **Handle, adjust backrest setting**

Pull handle 2 forwards. Release it until the backrest stops at a suitable angle.

3) **Handle, adjust seat cushion angle (rear section)**

Pull handle 3 upwards. Release it until the cushion (rear section) stops at a suitable angle.

4) **Handle, adjust seat cushion angle (front section)**

Pull handle 4 upwards. Release it until the cushion (front section) stops at a suitable angle.

CAUTION

For handles 3 and 4, shake the seat after seat adjustment to make sure the seat is locked.

5) **Handle, adjust damper**

Rotate handle 5 anticlockwise to lock the damper for air bag. Rotate it clockwise to unlock and activate the damper.

6) **Lever, adjust horizontal setting**

Pull lever 6 upwards. Release it until the cushion stops at a suitable position.

7) **Rotary switch**

Turn the switch clockwise to raise the armrest and anticlockwise to lower the armrest.

3.1.11.2 Co-driver's seat

The co-driver's seat is equipped with double armrests. Its stiffness of suspension is adjusted mechanically.

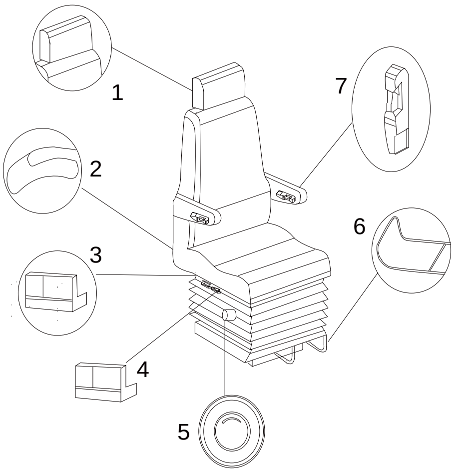


Figure 3-38 Co-driver's seat

Pos.	Description	Pos.	Description
1	Switch, adjust headrest setting	5	Handle, adjust damper
2	Handle, adjust backrest setting	6	Lever, adjust horizontal setting
3	Handle, adjust seat cushion angle (rear section)	7	Rotary switch
4	Handle, adjust seat cushion angle (front section)		

a) **Switch, adjust headrest setting**

Press this switch to move the headrest upwards or downwards. Release the switch to lock the headrest.

b) **Handle, adjust backrest setting**

Pull handle 2 forwards. Release it until the backrest stops at a suitable angle.

c) **Handle, adjust seat cushion angle (rear section)**

Pull handle 3 upwards. Release it until the cushion (rear section) stops at a suitable angle.

d) **Handle, adjust seat cushion angle (front section)**

Pull handle 4 upwards. Release it until the cushion (front section) stops at a suitable angle.

⚠ CAUTION

For handles 3 and 4, shake the seat after seat adjustment to make sure the seat is locked.

e) **Rotary switch, adjust stiffness of the suspension**

Turn the switch clockwise or anticlockwise to adjust the seat cushion depth according to co-driver's actual conditions.

⚠ CAUTION

Do not turn the switch below the range of 40 kg or above the range of 130 kg.

f) **Lever, adjust horizontal setting**

Pull lever 6 upwards. Release it until the cushion stops at a suitable position.

g) **Rotary switch**

Turn the switch clockwise to raise the armrest and anticlockwise to lower the armrest.

3.1.11.3 Passenger's seat

The passenger's seat is equipped with double armrests and seat belt.

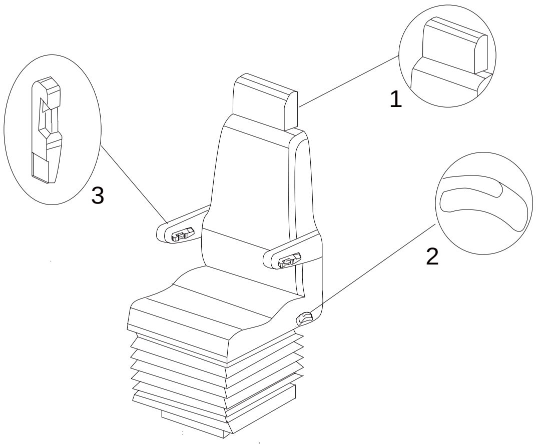


Figure 3-39 Passenger's seat

Pos.	Description	Pos.	Description
1	Switch, adjust headrest setting	3	Rotary switch
2	Handle, adjust backrest setting		

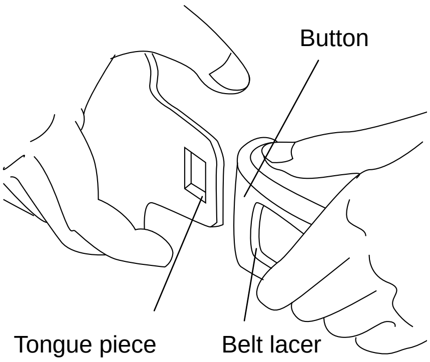
Note: The operating modes of the switches or handle are the same as those of the driver's seat.

3.1.11.4 Putting on seat belt

Fasten and adjust the three-point seat belt to suitable position before setting off.

Insert tongue piece into belt lacer to fasten the belt.

Press the button to unfasten the belt.



⚠ CAUTION

Risk of fatal injury if seat belt is not worn!

All occupants must be belted in before setting off in the crane and during the drive.

3.1.12 Attachments

a) Sun visor

The sun visor is located above front windshield inside driver's cab.

Pull the sun visor downwards to shut out the sunshine.

Push the sun visor upwards to roll it up.

b) Toolbox

The toolbox is in the instrument console of the driver's cab, in which there are two toolboxes in different sizes.

Press the switch to open the toolbox and push down the cover to close it.

⚠ CAUTION

Set the ignition starter switch to "ACC", when you use the cigarette lighter with the engine in the OFF position.

3.2 Before starting up the vehicle

3.2.1 Operating conditions

a) If the crane is used for the first time, make sure the crane is in proper working condition (without damage or abnormalities).

b) Always use the correct light diesel oil and engine oil. Make your selection on the lowest ambient temperature where you are to do the work. Obey the *Operation and Maintenance Manual for OM500 Series Diesel Engine* to choose the brand.

3.2.2 General checks before setting off

a) Examining the oil level
   1) Examine oil level in the vehicle engine.
   2) Examine oil level in transmission, transfer case and axles.
   3) Examine oil level in chassis hydraulic oil tank.

b) Examining the fuel reserve

Examine fuel reserve on the display screen in driver's cab.

⚠ CAUTION

Do not run the fuel tank dry!

If the fuel tank has been run dry, always de-aerate the entire fuel system. Otherwise, the vehicle will breakdown.

⚠ WARNING

As for Benz Nation IV engine, use the diesel oil with sulphur content less than 50 ppm. Even if under the special condition, the sulphur content of the diesel oil cannot be more than 300 ppm.

Otherwise, the exhaust system will be damaged. And the injection nozzle of engine is likely to deposit the carbon, even be damaged. And then, the effect of emission will become worse further, and the limited torque function of the engine will be activated. And thus, the engine fault occurs. Under such situation, the engine is not under warranty.

c) Examining the coolant level

Examine the coolant level from the liquid level gauge in the expansion tank. Fill auxiliary coolant reservoir up to near the "MAX" mark.

⚠ WARNING

Risk of injury due to scalding of the skin.

Engine must be cold when performing cooling water level check.

d) Examining the AdBlue level

Examine the AdBlue level from the main interface on the instrument panel in the driver's cab.

⚠ WARNING

When the engine SCR system works, the engine will sound and give an alarm if the following conditions occur:

- **You didn't add the AdBlue.**
- **The AdBlue solution is unqualified.**
- **The AdBlue solution in the AdBlue tank is less than 20%.**

Meanwhile, limit the output toque of the engine (to 60% of max. output torque) until the proper AdBlue solution is added after the engine continuously runs for 60 min. or when the engine starts once again.

⚠ WARNING

If the engine SCR system cannot recover to normal work, the warning lights "SCR defects" and "Engine defects" will stay illuminated after the vehicle is electrified and the engine starts.

⚠ DANGER

The user always sees that the warning lights "SCR defects" and "Engine defects" stay illuminated because the engine SCR system cannot work. Consequently, when the warning light "engine defects" illuminates due to other engine faults, the user will not bring the vehicle to a standstill and rectify it immediately due to ignorance of real causes.

⚠ WARNING

When the vehicle emission cannot reach the nation IV emission standard, the local environmental protection department and transport department will punish the owner of the vehicle.

e) Examining the tires

1) Examine working conditions of the tires.
2) Examine air pressure and inflate tires (Michelin, Bridgestone) to 0.9 MPa or inflate tires (Techking) to 1 MPa.

⚠ CAUTION

Do not exceed the maximum air pressure during inflation.

f) Examining the mounting connections

  1) Make sure that the parts that follow are tight:

    – Bolts in steering and drive systems
    – Retaining bolts of pin in suspension cylinder
    – Wheel bolts.

  2) Make sure that the parts in the steering and brake systems are flexible, safe, and reliable. Especially make sure that the parts that follow are tight:

    – Fittings of steering tie rods
    – Ball heads of steering booster cylinders
    – Retaining bolts of steering wheels
    – Brake chambers of axles
    – Pipes.

g) Examining the items that follow for damage:

  – Door locks
  – Doors
  – Windows
  – Operating mechanisms.

h) Examining the outside mirrors for proper position.

i) Examining the electrical system

  1) Examine the battery terminals for too much corrosion and make sure that the power wires are tight.

  2) Examine the level of the battery electrolyte.

  3) Turn the ignition switch to stage “ON” and examine the functions of the items that follow:

    – Instruments
    – Switches and buttons
    – Lighting
    – Control lights and warning lights
    – Wipers.

j) Examining the pipes

  1) Examine the fittings of oil pipes, air pipes and water pipes for leakage.

  2) Examine the air reservoir for condensation (drain the water as necessary). See Figure 3-40.

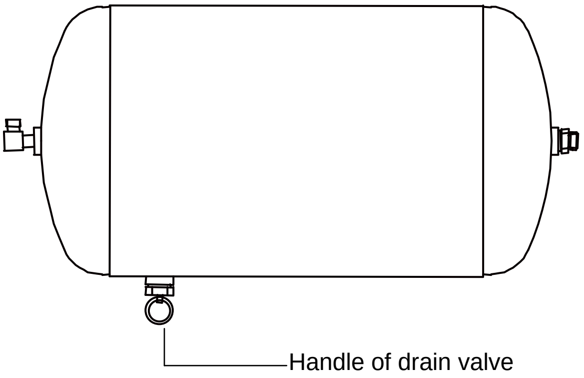


Figure 3-40 Air reservoir

CAUTION

(1) Prop up or withdraw the handle of drain valve to drain the water.

(2) Do not start off the vehicle until the drain valve is closed after the water is drained out.

(3) For the region in an ambient temperature below 0°C, drain the water after you stop crane operation within 20 min. to prevent the air reservoir from freezing.

k) Examine the air filter vacuum actuated indicator. If the light is in the red area, clean or replace the filter element.

CAUTION

Remove all contamination (dust and sand) from the dust collector at the bottom of the air filter at least once a month.

l) Examining the central lubricating system

1) Examine the indicator of the central lubricating system for function.

2) Examine the high pressure oil pipe for leakage and swell.

3) Examine the oil storage barrel for low oil level and the corresponding warning. Add the lubricating grease if necessary. And make sure that the lubricating grease level is between the high level and the low level.

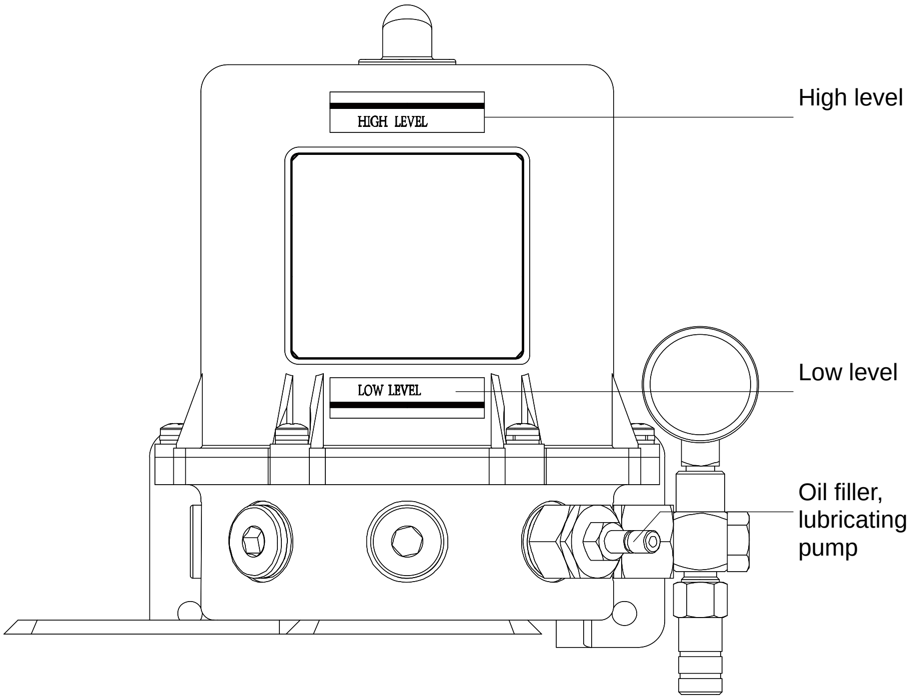


Figure 3-41 Central lubricating system

WARNING

As for the central lubricating system, use ZL-2 lubricating grease when the ambient temperature is above -10°C and use lower brand lithium base grease when the ambient temperature is below -10°C.

m) Examining the lighting

Turn the ignition key to position ON, and examine the lighting. Refer to Figure 3-42.

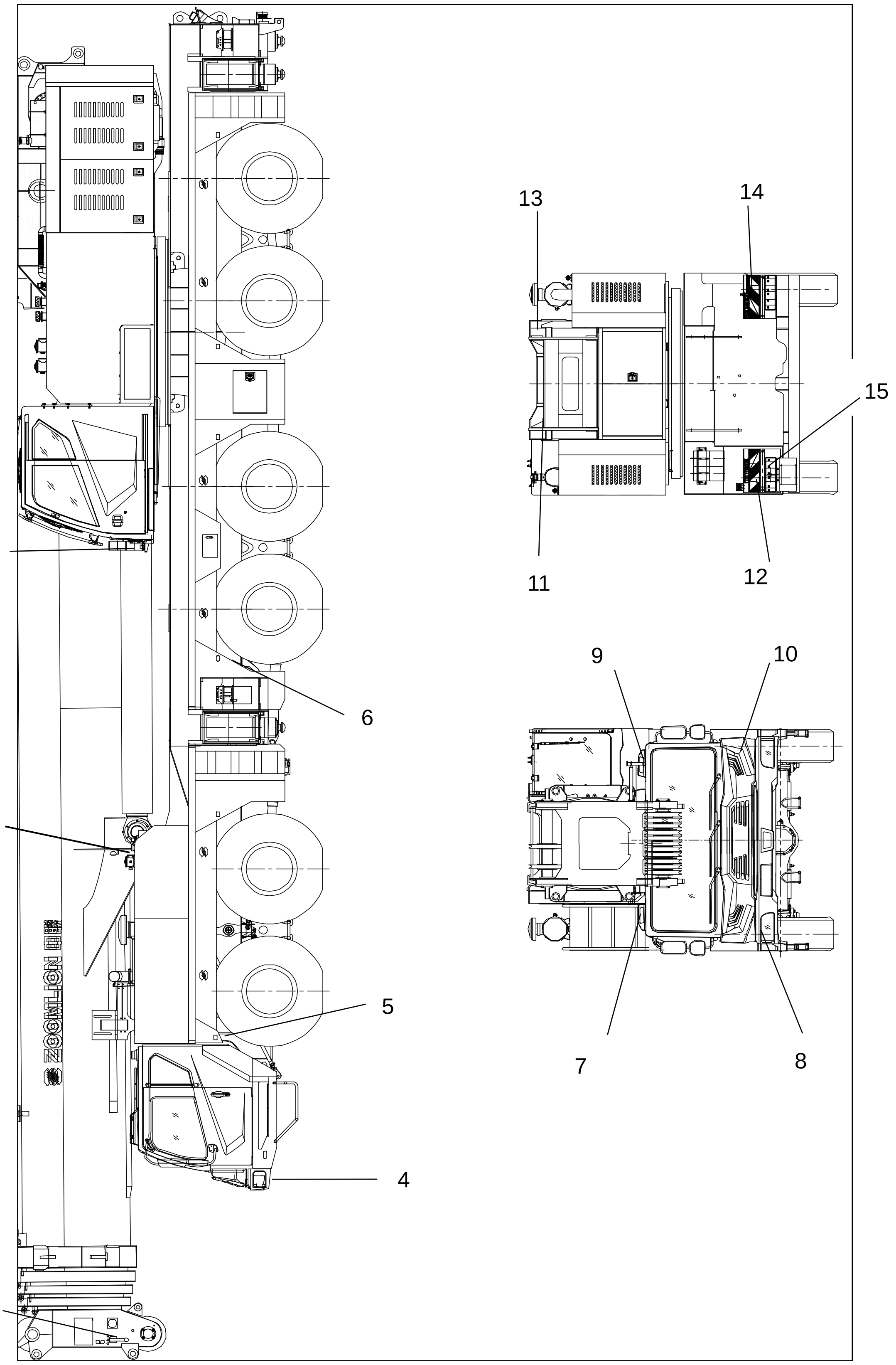


Figure 3-42 Lighting locations

Pos.	Description	Pos.	Description
1	Work lights on boom head	9	Front corner marker lights
2	Work light on boom	10	Left front combination signals
3	Trichromatic lamp	11	Rear corner marker lights
4	Side turn signals	12	Left rear combination signals
5	Side marking lights and reflectors	13	Rear corner marker lights
6	Sliding beam illumination	14	Right rear combination signals
7	Front corner marker lights	15	License plate lamp
8	Right front combination signals		

Examine the lighting before setting off:

1) Side turn signals

Side marking lights and reflectors

2) Front turn signals

3) Front width lights

4) Left rear combination signals

Refer to Figure 3-43.

The left rear combination signals are combined in a rectangle plate.

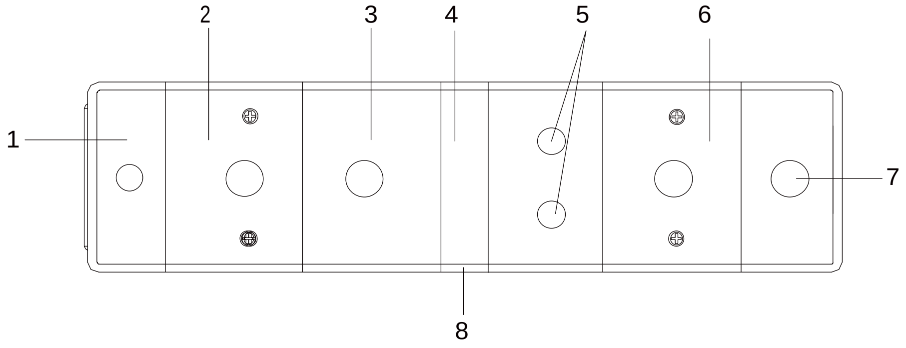


Figure 3-43 Left rear combination signals

Pos.	Description	Pos.	Description	Pos.	Description
1	Corner marker light (red)	2	Turn signal (Amber)	3	Brake lights (red)
4	Reflector	5	Rear width lamp (red)	6	Rear fog lamp (red)
7	Reversing light (white)	8	License plate lamp (Not Used)		

5) Right rear combination signals

The right rear combination signals are the same as the left rear combination signals.

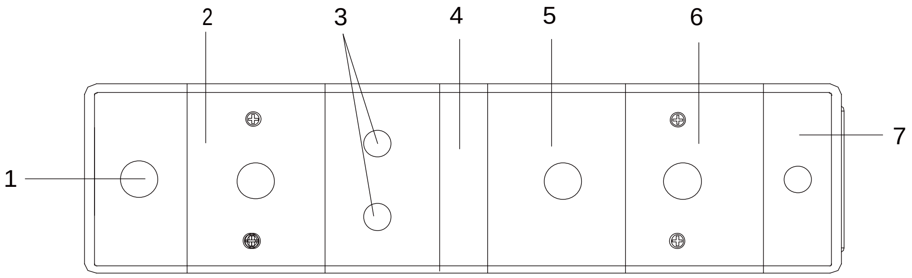


Figure 3-44 Right rear combination signals

Pos.	Description	Pos.	Description	Pos.	Description
1	Reversing light (white)	2	Rear fog lamp (red)	3	Rear width lamp (red)
4	Reflector	5	Brake lights (red)	6	Turn signal (Amber)
7	Reversing light(white)				

6) Front high lights

Front low lights and front high lights are used to illuminate the road in front of the vehicle. Their colors are white and the low lights are anti-dazzling.

7) Front corner marker lights

8) Front low lights

9) Front high lights

Examine the following illuminations and warning devices before setting off.

1) Interior illumination

It is installed on the roof of the driver's cab to supply interior illumination.

2) Sliding beam illumination

It is installed near the outrigger box to supply illumination for sliding beam. It is convenient for the operator to observe working conditions of sliding beam at night.

3) Buzzer

The reversing light will illuminate and the buzzer will send out slow alarm when reversing gear is applied.

The warning light “Brake pressure low” will illuminate and the buzzer will send out slow alarm when the pressure of the air brake system is low.

The warning light “Engine coolant temperature high” will illuminate and the buzzer will send out slow alarm when the engine coolant temperature is high.

⚠ DANGER

Danger of accident if lighting is defective!

Arrange to have any defective lights repaired by an expert before setting off!

n) Driver's cab

1) Adjusting driver's seat

The driver's seat has pneumatic suspension and can be adjusted to suit any driver height or size.

⚠ CAUTION

Functions of driver's seat are not completely the same as the co-driver's seat's. For detailed information, refer to Section 3.1.8.

2) Adjusting the mirror

Clean outside mirrors before setting off and adjust to suit driver's field of view.

Adjust the outside mirrors manually.

Result:

- You can switch between the left and right outside mirrors.
- Mirror is adjusted.

3) Adjusting the steering wheel

The steering wheel is adjusted mechanically.

Operate the steering wheel adjustment switch (See Section 3.1.2).

Result:

- The angle and height of the steering wheel are adjusted to suit the driver.

⚠ DANGER

Do not adjust the steering wheel, driver's seat and outside mirrors while driving.

4) Turning heater / ventilation on

The cab can be heated or ventilated to the desired temperature.

For a detailed operation, see Section 3.1.4.5.

To adjust the heater or ventilation, use the buttons in air conditioning control panel.

⚠ CAUTION

Turn off the shutoff gate valve on the hot-water pipe of heater at the bottom of driver's cab when you use air conditioning in summer and turned on the valve in winter.

5) Examining main controls

Make sure that the battery master switch is on when carrying out the following checks.

Examine the following components:

- High beam
- Rear fog lamp
- Fan
- Windshield wiper / washer system / windshield washing fluid container
- Horn
- Rotating beacons

⚠ DANGER

Danger of fatal injury due to defective main controls! Arrange to have any defective functions repaired by an expert before setting off.

o) Fuse

1) Open the cover of the center console and take it out.
2) Open the cover of fuse box.
3) Examine the fuse and replace the defective one.

⚠ WARNING

Use the fuse of same size and specification. Otherwise, the electrical system will be damaged.

3.2.3 Axle suspension / axle locking system

3.2.3.1 Introduction

The axles are hydro-pneumatically sprung via maintenance-free hydraulic cylinder and can be hydraulically locked. Their height can be adjusted. Activate the 2-handed button "Locking the axle suspension" to lock suspension for all axles.

3.2.3.2 Driving conditions of axle suspension

a) Driving condition 1

Used for driving on roads. All axles are sprung. Spring travel is between + 140 mm to - 100 mm. In order to improve fording capacity, the entire chassis can be raised by 140 mm. In order to reduce height to clear low obstacles, the entire chassis can be lowered by 100 mm. The side stability of the vehicle when cornering is safeguarded by the hydraulic axle suspension.

b) Driving condition 2

Used for "Driving with equipment in place" on level ground. All axles are locked. The axle compensation exists within the axle groups. Refer to Section 3.3.12.

3.2.3.3 Controls and functions of hydro-pneumatic suspension

The following controls are automatic.

a) Automatic level control

The button "Automatic level control" operates the automatic level control. The crane is automatically moved to a level position (driving height for road driving). Press button "Automatic level control" and change engine control to increase engine RPM until control light "Entire vehicle leveled" lights up. Turn off the button after the entire vehicle is leveled. For level control, make sure that the following preconditions are met:

1) The vehicle is on a level surface.
2) The chassis engine is running.
3) The axle suspension is set to "sprung". (Under heavy load mode, the vehicle can be leveled even if the axle suspension is locked.)
4) The transmission is in neutral "N".

⚠ WARNING

Level the crane on a level and load-bearing surface before road driving.

b) Raising / lowering the left vehicle level

- Press upper part of 3-handed button "Vehicle level, raise / lower left".

  Result:

  The left vehicle level is raised.
- Press lower part of 3-handed button "Vehicle level, raise / lower left".

  Result:

  The left vehicle level is lowered.

c) Raising / lowering the right vehicle level

- Press upper part of 3-handed button "Vehicle level, raise / lower right".

  Result:

  The right vehicle level is raised.
- Press lower part of 3-handed button "Vehicle level, raise / lower right".

  Result:

  The right vehicle level is lowered.

d) Raising / lowering the entire vehicle

- Press upper part of 3-handed button "Entire vehicle raised or lowered".

  Result:

  The vehicle level is fully raised.

- Press lower part of 3-handed button “Entire vehicle raised or lowered”.

  Result:

  The vehicle level is fully lowered.

e) Raising / lowering axles 3 and 4

- Press upper part of 3-handed button “Axles 3 and 4 raised or lowered”. (raising /lowering switch, right side)

  Result:

  The axles 3 and 4 are raised.

- Press lower part of 3-handed button “Axles 3 and 4 raised or lowered”. (raising /lowering switch, right side)

  Result:

  The axles 3 and 4 are lowered.

A detailed description of the above 3-handed buttons can be found in Section 3.1.4.3.

⚠ WARNING

The above 6 controls must only be performed in special situations and with the vehicle stationary!

⚠ WARNING

Performing level control is only permitted in order to adapt the crane to special situations such as lowering the crane to drive under a bridge. You can only adjust the travel height when the crane is stationary!

Remember that the max. steering angle of axle 1 cannot exceed 25° at this time!

Once the special situation is finished, level the vehicle and reset it to the normal driving condition.

⚠ WARNING

Risk of injury when operating axle suspension / axle locking system!

Make sure that no persons are presented in the crane danger zone!

Perform level control on a level and load-bearing surface.

WARNING

When the vehicle is with the superlift mechanism, the chassis suspension system automatically enters into the heavy load mode and the vehicle speed is limited to 20 km/h. Refer to Figure 3-24.

Before the axle suspension changes from locked condition to sprung condition under heavy load mode, lower the suspension to the limit!

After the axle suspension has been set to "Sprung", raise the suspension to the intermediate position, and then level the other suspensions automatically.

3.2.4 General checks at vehicle start up

Examine the controls and instruments.

a) Examine the engine oil pressure gauge.
   1) Idle speed: the engine oil pressure must exceed 0.1 MPa.
   2) Engine RPM (1200 r/min.), the engine oil pressure must be between 0.25 and 0.55 MPa.

b) Examine the barometers.

   If the brake pressure is less than 0.55 MPa, the warning light "Brake pressure low" will illuminate and the buzzer will send out alarm. Risk of danger if start off at this time!

c) Examine the thermometer.

   The pointer must point to the green range (above 60°C)

d) Make sure that the parking brake is released.

3.3 Driving the crane

3.3.1 Crane driving conditions

Before the crane can be driven on public roads, make sure that the following prerequisites are met:

- All loose parts are secured onto the crane.
- The axle suspension system has been set to "Sprung".
- The telescopic boom is fully telescoped in and placed on the boom support.
- The operator's cab is in the driving direction and secured mechanically.
- The doors and windows of the operator's cab are closed.
- Sliding beams must be fully retracted and secured with pins.
- Engine housing and toolbox door have been locked.

3.3.1.1 72 tons crane deadweight

In order to maintain 72 tons crane deadweight, you should dismantle the items below to avoid axle overload:

- Hook block
- Counterweight
- Jib
- Sliding beams
- Main winch
- Telescoping cylinder
- Superlift rear anchoring rod and bracket (above the boom bracket)

In addition, drain off the fuel and the hydraulic oil of superstructure.

Refer to Figure 3-45.

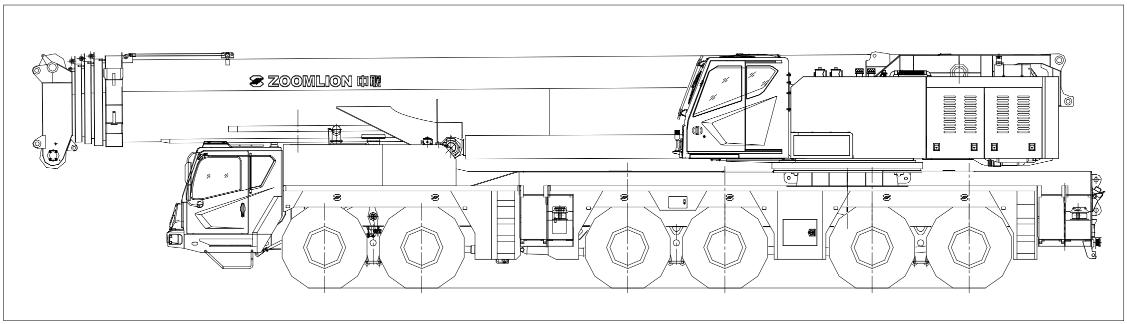


Figure 3-45 Overall view – 72 tons deadweight in driving condition

CAUTION

Crane deadweight of 72 tons is the total deadweight for applying for being listed in the *National Bulletin (Catalog)*.

3.3.1.2 Routine driving condition

Under the routine driving condition, do the items that follow in advance:

- Fully retract the telescopic boom. And place it on the boom bracket.
- Fully retract the sliding beams and install the pins.
- Set the axle suspensions to "sprung".

The equipment of the complete vehicle consists of the telescopic boom (five boom sections in total), the superlift rear anchoring rods, the superlift bracket (above the boom bracket) and the outrigger pad. And the vehicle speed should be below 65 km/h.

Refer to Figure 3-46.

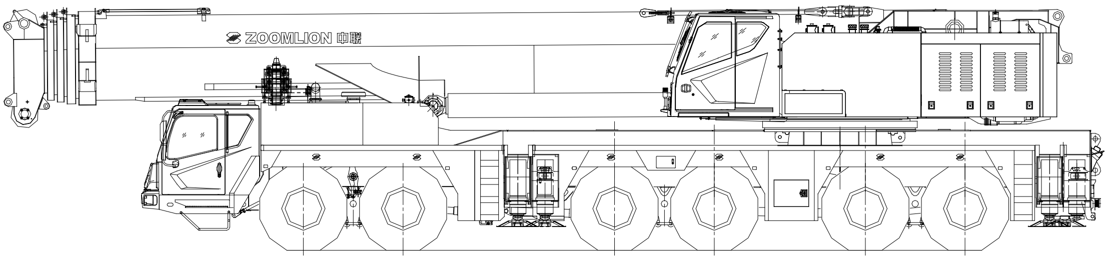


Figure 3-46 Routine driving condition

3.3.1.3 Heavy load jobsite transition condition

Under the heavy load jobsite transition condition, do the items that follow in advance:

- The vehicle takes with the superlift mechanism and the counterweight carrier.
- The axle suspensions have been locked.

This condition is suitable for the short-distance driving. And the vehicle speed should be below 20 km/h.

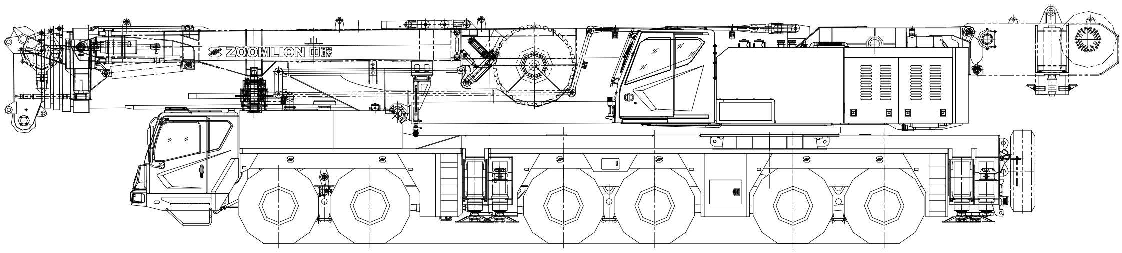


Figure 3-47 Heavy load jobsite transition condition

WARNING

Under the heavy load jobsite transition condition, the axle suspensions should be locked and the vehicle speed should be below 20 km/h.

3.3.2 Starting and stopping the engine

3.3.2.1 Starting the engine

a) Examine the items that follow:
   1) Engine oil for correct level and make sure that it is clean.
   2) Coolant for correct level.
   3) Fuel tank for correct level.
   4) AdBlue for correct level.

b) How to start the engine:
   1) Put the transmission in the "Neutral" position.
   2) Apply the parking brake.
   3) Turn the ignition starter switch to stage "ON" for preparation.
   4) Check whether the PTO switch is deactivated (At this time, the control light "PTO engaged" extinguishes.)
   5) In winter, the engine will be preheated automatically before starting (The control light "Diesel engine preheating system" lights up).
   6) After the control light "Diesel engine preheating system" goes off, apply the engine control and turn the ignition starter switch to stage "S" to start the engine.

⚠ CAUTION

(1) Turn the ignition starter switch to stage "S" within 30 s after the control light "Diesel engine preheating system" extinguishes.

(2) If the engine does not start after a maximum of 15 seconds, wait for 30 s. The starter can be operated three times for 15 seconds per attempt with a pause in between of 30 s respectively. If the engine cannot be started for 3 times, rectify the errors.

c) Preheat the engine and examine instruments for functions:

After the engine is started, run the engine at 1000 r/min – 1500 r/min.. At this time, examine the instruments and control lights / warning lights for functions.

⚠ CAUTION

(1) In order to make the engine oil flow into each part of engine and raise up water temperature to burn the fuel normally, it is necessary to warm up the engine before starting.

(2) Do not run the engine at high speed without a load during warming up. Otherwise, the engine will be damaged and its service life will be shortened.

(3) Do not run the engine at idle speed for a long time. Otherwise, the engine performance might be weakened.

(4) Do not run the engine at high speed with a heavy load when the coolant temperature is below 60ºC.

(5) The engine oil pressure should not be lower than 0.1 MPa when the engine runs at idle speed. With the engine warming up, the oil pressure is going to be stable gradually.

⚠ DANGER

Do not run the engine in a place where combustible gas exists.

The gas may be inhaled into the engine through the air intake system to make the engine speed up even overspeed, which may cause fire, explosion and heavy wealth losses.

3.3.2.2 Turning off the engine

a) Depress the service brake pedal slightly to decelerate the vehicle, at the same time, gradually shift down the transmission to gear 1.

b) When the engine decelerates to the low speed, depress the clutch pedal and the service brake pedal at the same time to bring the vehicle to a standstill at the specified location.

⚠ DANGER

Except in an emergency, do not depress the service brake pedal jerkily!

1) Pull the parking brake hand lever backwards to the locking position to park the vehicle and then shift the transmission to neutral position.
2) Run the engine at idle speed for several minutes after the vehicle stops so as to cool the engine down gradually.
3) First, press the switch “Engine stop” for 2-3 seconds. And then, release this switch after the engine completely stops.
4) Turn the ignition starter switch to position “LOCK” and pull the key out after the engine is stopped about 30 seconds.
5) Do not keep the ignition starter switch in the “ON” or “ACC” position after you park the crane. The battery drains in these conditions.
6) If you park the crane on a slope, you must put the chocks before and behind the wheels to avoid accident.
7) To prevent an accident when you park the crane in the dark, you must turn on the hazard lights.

3.3.3 Driving

a) Changing the idling speed

⚠ CAUTION

Apply service brake before shifting from "N" to "D". The engine RPM will be decreased a little after you select the required gear.

⚠ WARNING

Run the engine at idle speed before shifting from "N" to "D" or "R" when the crane is stationary.

b) Setting axle suspension and applying level control

Set axle suspension to "Sprung" and level the vehicle.

c) Releasing parking brake

Pull back the hand lever of parking brake as far as the stop in the hand lever's longitudinal direction and push forward.

⚠ CAUTION

Do not release parking brake until the warning light "Brake pressure low" goes off (air pressure achieves 0.55 MPa).

Pull the hand lever again and fill compressed air supply until the warning light turns off!

NOTICE

When the parking brake is released, the crane can immediately start moving.

d) Vehicle start-up

Depress the service brake pedal and shift into the desired gear. Release the service brake and apply the accelerate pedal to increase the engine speed. And then, the vehicle starts up and begins to move.

e) Service brake

Depress the service brake pedal and examine the service brake.

f) Retarder

The retarder consists of compression release engine brake and engine exhaust brake.

⚠ WARNING

Utmost care should be taken when you operate the retarder!

⚠ CAUTION

Only operate the retarder with engine running.

Sensible use of the retarder with anticipating driving methods reduces wear on the service brake and thereby reduces operating cost.

On long descending gradients

On long descending gradients, select a switching stage that leaves further switching stages available for any other adjusting braking procedures which may be required.

Correctly use the retarder as possible as you can to relax the service brake.

⚠ CAUTION

Apply the same gear as in ascending gradients.

If there is no sufficient braking effect, shift down the transmission if engine RPM permits.

On snow, ice and dirty road surfaces

Careful use of the retarder will ensure safe and sure deceleration even under bad road conditions.

⚠ WARNING

In the event that the wheels lock when operating the retarder, select a lower switching stage!

3.3.4 Transmission operation

The shift module contains transmission control unit (TCU), directional control valve, shift cylinder and sensor to activate the automatic shift operations.

A detailed description can be found in Section 3.1.4.

a) Select direction

D: Drive

R: Reverse

N: Neutral

DM: Maneuver forwards

RM: Maneuver in reverse

A detailed description can be found in Section 3.1.4.7. Refer to Figure 3-48.

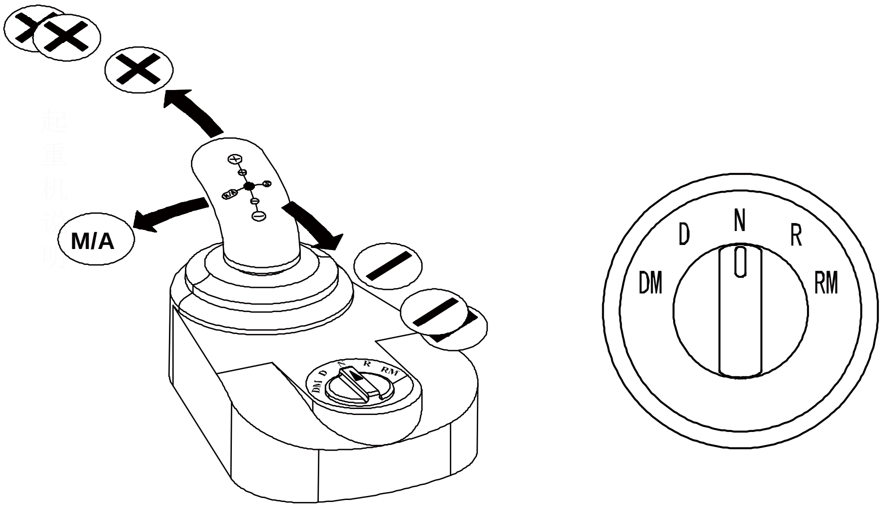


Figure 3-48 Drive range switch

b) **Diagnosis display**

ZF transmission diagnosis display

Refer to Figure 3-49.

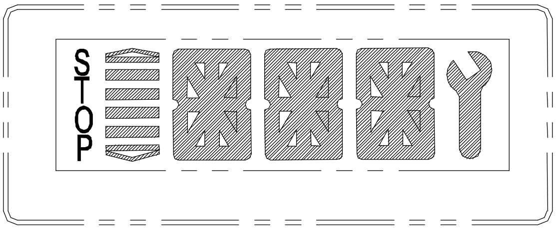


Figure 3-49 ZF transmission diagnosis display

CAUTION

Only in drive range "D", the gearshift mode can be changed between automatic and manual mode.

Automatic mode is activated automatically when the ignition is switched on. In the neutral "N" and reverse "R" drive range, automatic mode is always activated.

WARNING

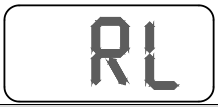
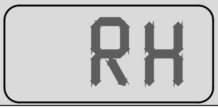
When parking brake is released, the vehicle starts to roll immediately.

When the parking brake is released, brake the crane with service brake or accelerate with engine control.

The transmission display is set on the instrument panel of driver's cab to display the error codes. The main information and error codes calling up are as follows (For detailed information, please refer to *AS-Tronic Transmission Operation and Maintenance Manual* attached to the crane).

Table 3-3　Transmission display

Symbol	Description
CH	System self check (with ignition ON)
N	Transmission in neutral
⇕	Automatic driving mode display
5	Manual driving mode display (Here: 5th gear)
🔧	System error. Restricted further travel possible
STOP 🔧	Serious system error! Stop.
AL	Low air pressure
FP	Foot away from accelerator (Accelerator test)
CL	Clutch overload
EE	Communication error with display
CW	Clutch wear display
=▼ 10	Shift from 10th to 8th gear (1 bar apply as 1 gear)

Symbol	Description
	Lo reverse gear engaged
	Hi reverse gear engaged
	Example of error code: 53
	Example of error code: 153 (4 bars apply as “100”)
	Example of error code: 227 (4 bars and 2 arrows apply as “200”)

Calling up the error numbers:

1) Switch on ignition.
2) Turn the drive range switch to “N”.
3) Hold control lever in “+” position.

⚠ DANGER

(1) Do not select reverse “R” if the vehicle does not completely stop. Stop the vehicle at first and then select reverse “R”.

(2) Change reverse “R” to drive “D” or drive “D” to reverse “R” when the vehicle completely stops. Otherwise, the gear range will keep in neutral “N”.

(3) If select neutral “N” in drive, the power transmission will be cut off and the retarder will be invalid.

3.3.5 Important control instruments while driving

a) Examining the engine oil pressure

The main interface of the instrument display will indicate the engine oil pressure after the engine starts. Engine oil pressure display on bar chart in display unit of 1 bar – 5.5 bar.

⚠ CAUTION

In case of low oil pressure (the engine oil pressure is below 0.06 ± 0.015 MPa, there is no engine lubrication. This results in engine damage. Immediately bring the crane to a standstill and turn off the engine. Examine the lubricating system.

b) Examining compressed air supply

The two barometers resp. display the pressure of main brake air reservoir for the front axle and the pressure of main brake air reservoir for the intermediate and rear axles.

⚠ CAUTION

If the pressures of the air reservoirs are below 0.55 Mpa, the warning light “Brake pressure low” will light up and the buzzer will send out alarm simultaneously. Immediately bring the crane to a standstill and rectify the cause of the defect. Otherwise, it is very dangerous.

c) Examining the fuel reserve

Fuel quantity display on bar chart in 1 or 0

1 means fuel tank is full. 0 means fuel tank is empty.

⚠ DANGER

If the pointer is near “0”, refill the fuel reserve. Do not drive when the fuel tank is empty, or the fuel system will have to be vented.

d) Examining the coolant temperature

Coolant temperature displays on the water thermometer. The pointer will point to the red range when driving in high temperature area or climbing slopes.

⚠ CAUTION

If the pointer points to the red range (above 100ºC) for a long time while driving, immediately bring the crane to a standstill and examine the engine coolant system. Otherwise, this will result in engine damage.

e) Examining the AdBlue level

The current Adblue level is indicated in figures on the main interface of the display in real time.

⚠ CAUTION

If the AdBlue level is lower than 14%, add the AdBlue in time. Otherwise, the engine will sound and give an alarm. And limit the output torque of the engine.

3.3.6 Off-road driving

This vehicle is equipped with differential locks for driving off-road, on tracks and in winery conditions.

⚠ CAUTION

Add the differential locks only when the crane is stationary.

⚠ WARNING

In order to avoid damage to drive axles, make sure that the following prerequisites are met:

(1) Only add differential locks and off when the vehicle is stationary!

(2) Do not add differential locks when the driving wheels are turning!

(3) Drive carefully, do not start jerkily, only drive on straight routes and do not attempt to corner!

(4) Only drive on difficult terrain (e.g. sand, slush, loose or slippery subsoil etc.) with differential locks.

The vehicle is equipped with the following off-road drive devices:

- Longitudinal differential lock in transfer case
- Longitudinal differential lock for axle 3
- Drive changeover switch of axle 6.
- Transversal differential locks for axles 1, 3, 5 and 6.

⚠ DANGER

Danger of damage to drive axles and entire drive train! Considerable damage can be caused by driving on solid subsoil with good grip when a differential lock is on. Turn the differential locks off as soon as possible.

3.3.7 Driving on long ascending gradients

When the crane is driving on long ascending gradients, activate the button “Switchover creeper gear / road gear” to apply creeper gear.

⚠ CAUTION

Bring the vehicle to a standstill before you engage the transfer case with creeper gear.

⚠ DANGER

Do not drive on long ascending gradients at high speed. Otherwise, components in power system and drive system will be damaged.

Besides, the engine RPM is low and the load on the engine is heavy, resulting in excessively high coolant temperature.

3.3.8 Maneuvering

For extremely slow-speed driving, a maneuvering option is provided.

For maneuvering purposes, the system can call on gears of maneuver forwards and maneuver in reverse. If maneuvering function is used, upshift is limited.

⚠ WARNING

(1) In maneuvering mode, the force of clutch will be increased. Only select this operating mode when absolutely necessary. Lower gear is recommended to reduce clutch force.

(2) Do not apply maneuvering mode when the vehicle is struck.

3.3.9 Steering operation

When you go into a corner, look around before you turn the steering wheel. Turn the steering wheel after you make sure that it is safe to move. Then put the transmission in a lower gear and apply a small quantity of pressure on the service brake.

⚠ DANGER

(1) The steering wheel has a mechanical limit. Do not continue to turn the wheel when at the limit. Do not keep the wheel at the limit for more than 5 seconds.

(2) If the vehicle is steered insufficiently, decrease the speed slowly while you turn the steering wheel in the same direction as the turn.

(3) If you over-steer, release the engine control pedal or depress the service brake pedal while you turn the wheel in the opposite direction of the turn.

(4) Do not turn the steering wheel quickly in one direction unless it is an emergency. Make your turns smoothly to keep the crane laterally stable.

(5) Decrease the speed of the vehicle and move down the transmission gear if you have a sharp turn.

3.3.9.1 Road steering

In this mode, the front axles 1 and 2 are mechanically steered by the steering wheel. The rear axles 3, 4, 5 and 6 are steered depending on the speed and the steering angle of axle 1.

Steer axles 3, 5 and 6 are steered depending on the steering angle of axle 1 when the vehicle speed is below 28 km/h and axle 4 is moves back to the 0° position.

Steer axles 3 and 6 are steered depending on the steering angle of axle 1 when the vehicle speed reaches between 33 km/h – 52 km/h and axles 4 and 5 are moves back to the 0° position.

Steer axles 3, 4, 5 and 6 are moved back to the 0° position when the speed is above 56 km/h. Refer to Figure 3-50.

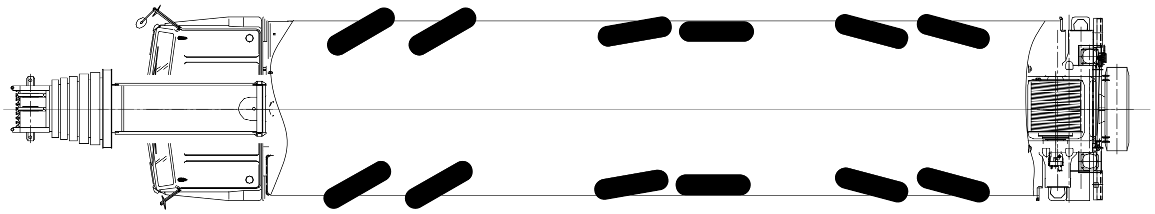


Figure 3-50 Road steering

CAUTION

In this operating mode, the steering of the vehicle is dependent upon the vehicle speed, thus providing the vehicle with good maneuverability at low vehicle speed and with high stability at high vehicle speed. Therefore, road steering is strongly recommended.

3.3.9.2 Steering with the smallest turning radius

In the “Steering with the smallest turning radius” operating mode, the front axles 1 and 2 are mechanically steered by the steering wheel. The rear axles 3, 4, 5 and 6 are steered depending on the steering angle of axle 1.Refer to Figure 3-51.

Make sure the following prerequisites are met before selecting this mode:

- the steering angle for axle 1 is within ± 0.5° and the steering angles for axles 2, 3, 4, 5 and 6 are within ± 1°.
- the maximum driving speed is limited to 5 km/h.

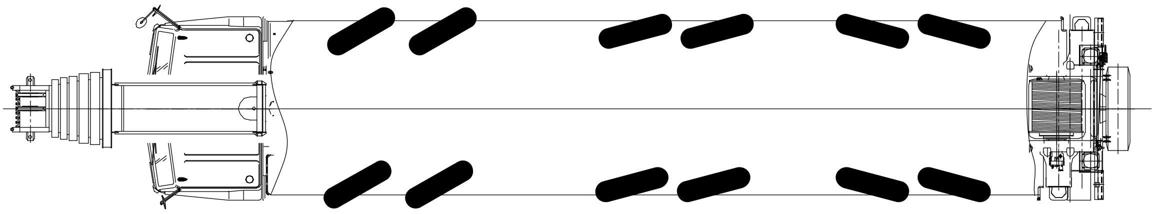


Figure 3-51 Steering with the smallest turning radius

When other buttons are not pressed down, press the button "Switch on 'Steering with the smallest turning radius' operating mode" to activate the "Steering with the smallest turning radius" operating mode.

This mode is suitable for moving crane from narrow space.

After the crane is moved to required position, operate the steering wheel to move all axles back to 0° position and change over to road steering.

The maximum driving speed is limited to 5 km/h.

3.3.9.3 Reduced swing-out rate

In this mode, the rear axles 3, 4 and 5 are locked dependent on axle 1 so that the swing-out rate of the vehicle rear-end is reduced to a minimum. At this time, the steering angle for axle 1 is the maximum one and the steering angle for axle 5 is the minimum one. And axle 6 is locked into the 0° position. Moreover, all of steering axles are steered in the same direction in order to prevent the vehicle rear-end from swinging out. Refer to Figure 3-52.

Make sure the following prerequisites are met before selecting this mode:

- the steering angle for axle 1 is within ± 0.5° and the steering angles for axles 2, 3, 4, 5 and 6 are within ± 1°.
- the maximum driving speed is limited to 5 km/h.

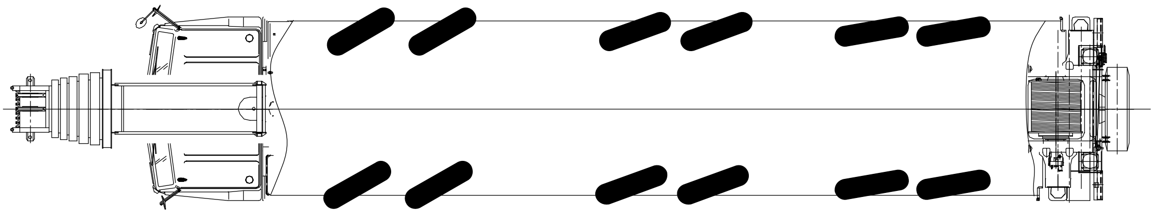


Figure 3-52 Reduced swing-out rate

When other buttons are not pressed down, press the button "Reduced swing-out rate" operating mode" to activate "Reduced swing-out rate" operating mode.

This mode is suitable for moving crane from narrow space.

After the crane is moved to required position, operate the steering wheel to move all axles back to 0° position and change over to road steering.

The maximum driving speed is limited to 5 km/h.

3.3.9.4 Crab steering

In the "Crab steering" operating mode, the rear axles 3, 4, 5 and 6 are steered in the same direction as the front axles 1 and 2. At this time, all of axles are steered in the same direction. Refer to Figure 3-53.

Make sure the following prerequisites are met before selecting this mode:

- the steering angle for axle 1 should be within ± 3°
- the maximum driving speed is below 5 km/h.

When other buttons are not pressed down, press the button “Crab steering" operating mode” to activate "Crab steering" operating mode.

This mode is suitable for moving crane from narrow space.

After the crane is moved to required position, operate the steering wheel to move all axles back to 0° position and change over to road steering.

The maximum driving speed is limited to 5 km/h.

⚠ CAUTION

In this operating mode, the maximum steering angle of axle 1 is limited. It is recommended that the maximum right steering angle is below 28° (the angle displayed in the monitor is below -28°) and the maximum left steering angle is below 34° (the angle displayed in the monitor is below 34°). Once the maximum steering angle of axle 1 exceeds the set limit, the buzzer will sound.

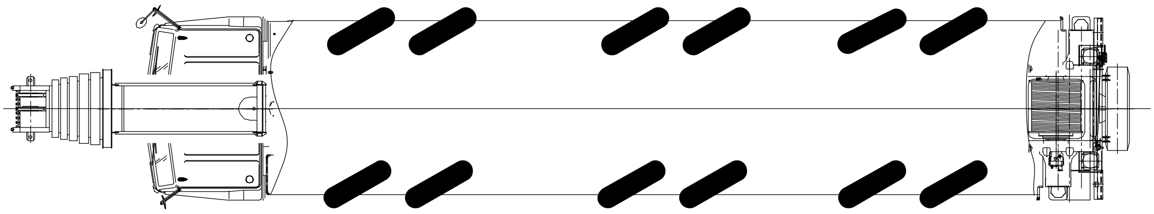


Figure 3-53 Crab steering

3.3.9.5 Independent steering

In the "Independent steering" operating mode, the front axles 1 and 2 are steered by the steering wheel. The rear axles 3, 4, 5 and 6 are steered independent of the steering effort of the front axles using the button “Switch on ‘Independent steering’ operating mode”. See Figure 3-54.

Make sure the following prerequisites are met before selecting this mode:

a) the steering angle for axle 1 should be within ± 3°

b) the maximum driving speed is limited to 5 km/h.

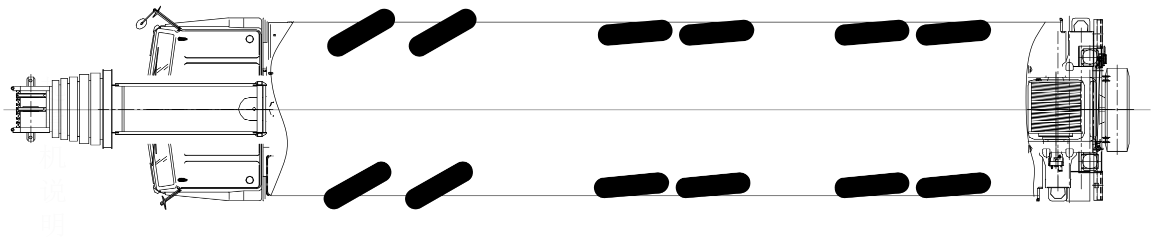


Figure 3-54 Independent steering

When other buttons are not pressed down, press the button "Switch on 'Independent steering' operating mode" to activate the "Independent steering" operating mode.

Press up:

Axles 3, 4, 5 and 6 are steered, steering effort to left.

Press down:

Axles 3, 4, 5 and 6 are steered, steering effort to right.

This mode is suitable for moving crane from narrow space.

After the crane is moved to required position, move axles 1 and 2 back to 0° position by steering wheel and move axles 3, 4, 5 and 6 to 0° position by using the button.

Change over to road steering.

The maximum driving speed is limited to 5 km/h.

3.3.9.6 Rear axles affixed for straight travel

In the "Rear axles affixed for straight travel" operating mode, only the front axles 1 and 2 are steered by the steering wheel. The rear axles 3, 4, 5 and 6 are locked in 0° positions. See Figure 3-55.

Make sure the following prerequisite is met before selecting this mode:

the maximum driving speed is limited to 20 km/h.

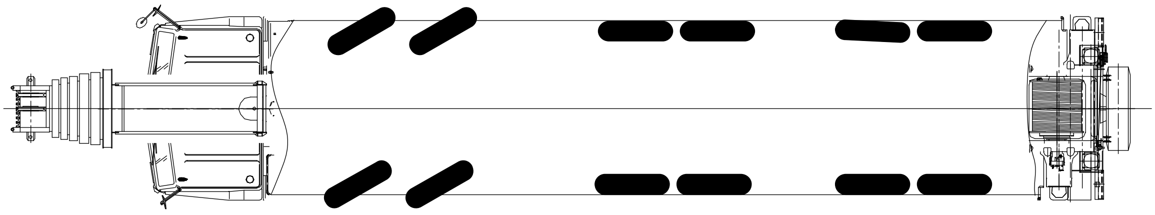


Figure 3-55 Rear axles affixed for straight travel

When other buttons are not pressed down, press the button "Switch on 'Rear axles affixed for straight travel' operating mode" to activate the "'affixed for straight travel' operating mode.

This mode is suitable for moving crane from narrow space and the defective rear axles.

After the crane is moved to required position or when the problems of the defective rear axles are rectified, move axles 1 and 2 back to 0° position by steering wheel.

Change over to road steering.

3.3.10 Braking operation

The brake system consists of service brake, parking brake (emergency brake) and auxiliary brake. You can also use the parking brake to park the vehicle in normal condition and on slopes.

3.3.10.1 Operation

a) Service brake

There are several cases of braking. For details, please refer to the following instructions:

1) Normal brake during driving, release the engine control pedal ahead to slow down the vehicle according to the actual road conditions (with regard to the road surface, traffic, etc.), and then continuously or intermittently apply the service brake to slow down stably or stop the vehicle.

2) Slow brake after rapid brake: when there is an accident in front, apply the service brake rapidly and then apply it again slowly. Release the pedal slowly according to the distance away from the accident spot and shift gear in accordance with the actual driving speed. At last, apply the engine control pedal to drive at normal speed.

3) Cadence brake: apply the service brake and release it. Repeat the operation to decelerate the vehicle gradually. The operation should be very gentle.

4) Rapid brake: in a sudden emergency, release the engine control pedal immediately and apply the service brake jerkily (sometimes apply the parking brake at the same time) to bring the vehicle to a standstill as soon as possible. As a result, the accident will be avoided.

⚠ CAUTION

When you make many hard brake stops, the tire, brake drum and brake lining wear prematurely and service life of each part shortens. Use more caution when the roads are wet or frozen.

b) Auxiliary brake

The auxiliary brake consists of retarder (including engine exhaust brake and compression release engine brake) and eddy current brake used for long descending gradients.

When driving on a long descending gradient, the vehicle decelerates by retarder instead of service brake. In doing so, the driving safety is improved, and the braking performance decreasing and the brake defect which caused by brake disc overheating by applying service brake frequently can be avoided.

Before you operate the auxiliary brake, release the engine control pedal.

How to operate the auxiliary brake:

1) Retarder

Jog the right steering column switch backwards (direction 2) to switch on retarder. The control light "Retarder active" illuminates.

⚠ CAUTION

You can deactivate the engine brake after you depress the engine control pedal.

⚠ CAUTION

You cannot deactivate the eddy current brake after you depress the engine control pedal and the service brake pedal.

⚠ DANGER

Do not use the eddy current brake for more than 20 minutes. Otherwise, it will be damaged.

2) Parking brake (emergency brake)

If service brake fails or there is no time to apply the service brake during driving, you can pull the hand lever of parking brake backwards to lock the vehicle. To release the parking brake, pull back the hand lever of parking brake as far as the stop in the hand lever's longitudinal direction and push forward.

⚠ CAUTION

You can also use the emergency brake (namely parking brake) to park the vehicle in normal condition or on slopes.

Do not start the vehicle unless the parking brake is released and the control light "Parking brake closed" extinguishes.

3.3.10.2 Points for attention

a) After the engine control pedal is released during driving, do not step on the service brake pedal when there is no necessity to brake the vehicle.

b) Do not apply the emergency brake when the vehicle is driving on the narrow, frozen or muddy road or in a rainy / snowy day. Under the conditions, such as crossing the railway, driving under the bridge, or driving on a road with pools of water, or one side of the vehicle is driving on frozen or muddy road, avoid applying the service brake as much as possible. Otherwise the vehicle may be shut down suddenly.

c) After driving across a road with pools of water, depress the service brake pedal for several times to eliminate the water on the braking shoe so as to ensure the brake performance.

d) Before you drive on a long descending gradient, shift the gear lever to low gear range. Under this condition, the driving speed is mainly controlled by the traction resistance from the engine and with the assistance of engine exhaust brake and service brake. Do not let the vehicle move forward when transmission is in neutral.

e) When the parking brake is used as the auxiliary brake, do not pull the hand lever to its limit position. When you park the vehicle under any conditions, pull back the parking brake hand lever into locking position, especially parking the vehicle on a slope. Otherwise, risk of fatal injury and accident!

3.3.11 Towing

General towing regulations

⚠ WARNING

The following towing regulations must be adhered to:

(1) Release the parking brake when towing, or the brake system will be damaged.

(2) When towing, the speed must always remain below 20 km/h.

(3) Use the towing coupling to tow the vehicle.

(4) Only tow with a tow bar.

(5) Turn on the hazard lights and the driving light.

a) Towing with a defective drive motor and / or shift transmission

If the driving motor cannot be started, a compressed air supply must be established from the towing vehicle to the mobile crane. A hose coupling is attached at the front under the bumper to supply compressed air to the mobile crane to be towed.

Use a hose pipe to connect this attachment for the external supply with the towing vehicle.

⚠ WARNING

The supply pressure of the compressed air brake system of the mobile crane to be towed must be at least 0.6 MPa.

With the engine turned off, the vehicle can only be steered at the speed within 5 – 10 km/h.

b) Towing with an intact drive motor

1) Towing with damage to the transfer case

- Disconnect the propeller shafts from the transfer case to the drive axles at the drive axles and tie up.
- Disconnect the propeller shafts from the transmission to the transfer case at the drive axles and tie up.
- Using the drive range switch, switch the transmission to neutral "N".
- Allow the engine to run at idling speed.

2) Towing with damage to the drive axles

⚠ WARNING

Only authorized and specially trained personnel can carry out towing arrangements in case of damage to the drive axles.

Remove the damaged one.

3.3.12 Driving with equipment in place

The crane can drive with equipment in place, such as auxiliary winch, auxiliary hook, outrigger pads and rear sliding beams etc., for short distance driving. Make sure that the following prerequisites are met:

a) The axle suspension system must be leveled.
b) The axle suspension must be locked.
c) The superstructure is correctly positioned.
d) The superstructure is secured with pins (and the slewing table is secured with pins).
e) The outrigger oil cylinders are correctly positioned.

⚠ WARNING

Do not drive with the counterweight and the hook above 50 tons. Otherwise, the crane will tip over.

3.3.13 Finishing driving operations

a) Stopping
  1) Brake the crane until it comes to a standstill.
  2) The selected drive range can remain switched on.
  3) Use the service brake or parking brake to make sure that the crane does not roll away.

⚠ CAUTION

If stop the crane for more than 1 minute, shift the transmission to neutral “N” to avoid clutch wear and prolong clutch service life.

b) Stopping the vehicle when the engine is running
  1) Brake the crane until it comes to a standstill.
  2) Shift the transmission into neutral "N".
  3) Apply the parking brake and the control light “Parking brake closed” illuminates.

3.4 Outrigger operation

The crane is equipped with 4 outriggers. Its outrigger boxes are connected with the chassis frame and the 2 sections of sliding beams can extend and retract synchronously. A support control unit with buttons is attached to both sides of the vehicle for controlling the 4 sliding beams to extend and retract simultaneously or independently.

Illustration – Sliding beam sections 1 and 2 both extended (Refer to Figure 3-57)

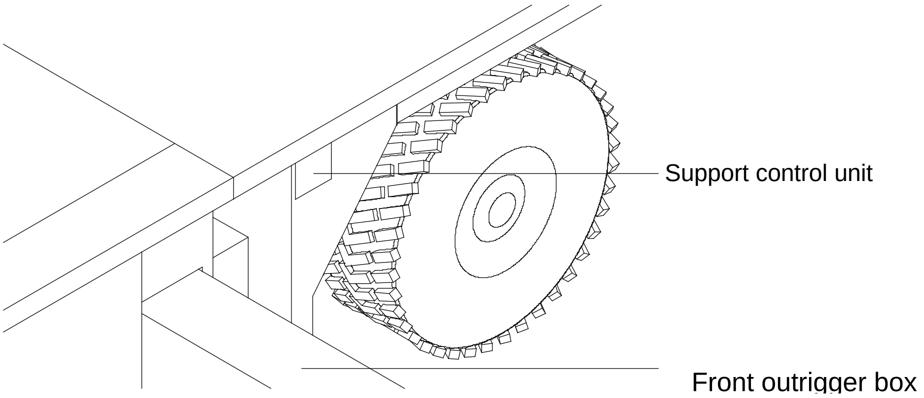


Figure 3-56 Outrigger and its support control unit

As for the extending outrigger, refer to the figure below.

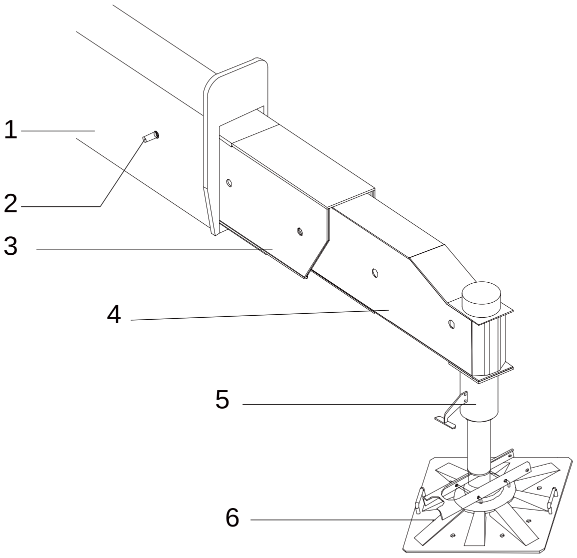


Figure 3-57 Extending outrigger

Pos.	Description	Pos.	Description
1	Outrigger box	4	Sliding beam section 2
2	Retaining pin	5	Vertical cylinder
3	Sliding beam section 1	6	Outrigger pad

⚠ WARNING

Extend the outriggers before crane operation.

Make sure that you do all of the work on level ground that is hard. The ground must hold more than the load bearing capacity.

Use material (such as wooden timbers) below the outrigger pads if the work area is soft or not flat.

3.4.1 Install and remove the outrigger pads

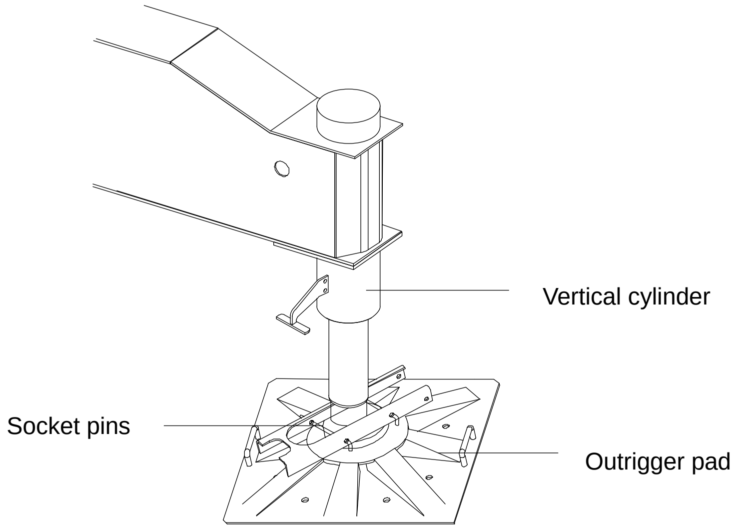


Figure 3-58 Installation and removal of outrigger pads

a) Installing the outrigger pad

Before you extend the outriggers, remove the socket pin from the outrigger pads and pull out the outrigger pads. When the hole aligns with the vertical cylinder, install the socket pin.

b) Removing the outrigger pad

After you fully retract the outriggers, remove the socket pin and push in the outrigger pad until it is in the correct position. Install the socket pins.

3.4.2 Extend and retract the outriggers

The two support control units with buttons are attached to both sides of the vehicle. Their functions are the same and the layouts of their buttons are symmetrically arranged. The extending / retracting of the outriggers and vertical cylinders, engine on / off and engine RPM regulation, etc. can be controlled simultaneously or independently. The inclinometers on the center of the units display the crane's deviation (at the slewing bearing). The two support control units are connected by cables. The signals of the right support control unit (auxiliary control unit) are transmitted to the left support control unit (main control unit) via the cables, and then to the valves and engine controllers etc. If you operate one support control unit, the operation to the other one is invalid indeed.

Note:

Extend the outriggers before crane operation.

Make sure that you do all of the work on level ground that is hard. The ground must hold more than the load bearing capacity.

Use material (such as wooden timbers) below the outrigger pads if the work area is soft or not flat.

For the left support control unit, refer to Figure 3-59.

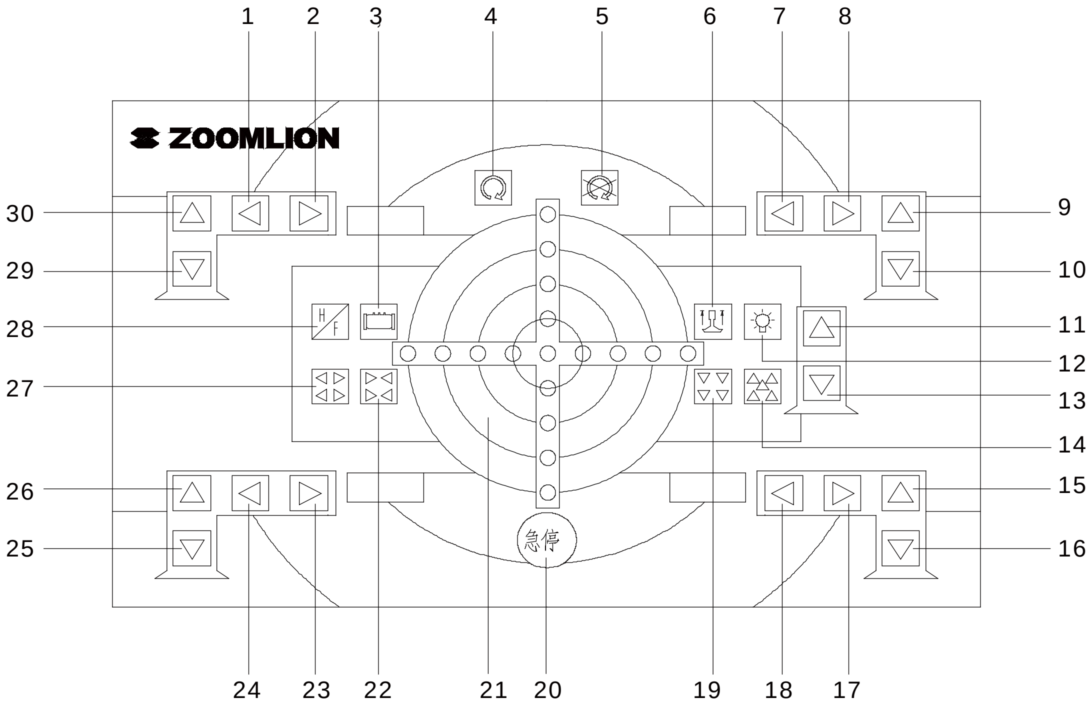


Figure 3-59 Left support control unit

Pos.	Description	Pos.	Description
1	Extend right front horizontal cylinder	16	Extend left rear vertical cylinder
2	Retract right front horizontal cylinder	17	Extend left rear horizontal cylinder
3	Engine accelerator	18	Retract left rear horizontal cylinder
4	Engine on	19	Extend all vertical cylinders
5	Engine off	20	Emergency stop
6	Force-retract vertical cylinders	21	Inclinometer
7	Retract right rear horizontal cylinder	22	Retract all horizontal cylinders
8	Extend right rear horizontal cylinder	23	Retract left front horizontal cylinder
9	Retract right rear vertical cylinder	24	Extend left front horizontal cylinder
10	Extend right rear vertical cylinder	25	Extend left front vertical cylinder
11	Retract the 5th outrigger	26	Retract left front vertical cylinder
12	Background lighting	27	Extend all horizontal cylinders
13	Extend the 5th outrigger	28	Changeover outrigger full and half extension
14	Retract all vertical cylinders	29	Extend right front vertical cylinder
15	Retract left rear vertical cylinder	30	Retract right front vertical cylinder

For the right support control unit, refer to Figure 3-60.

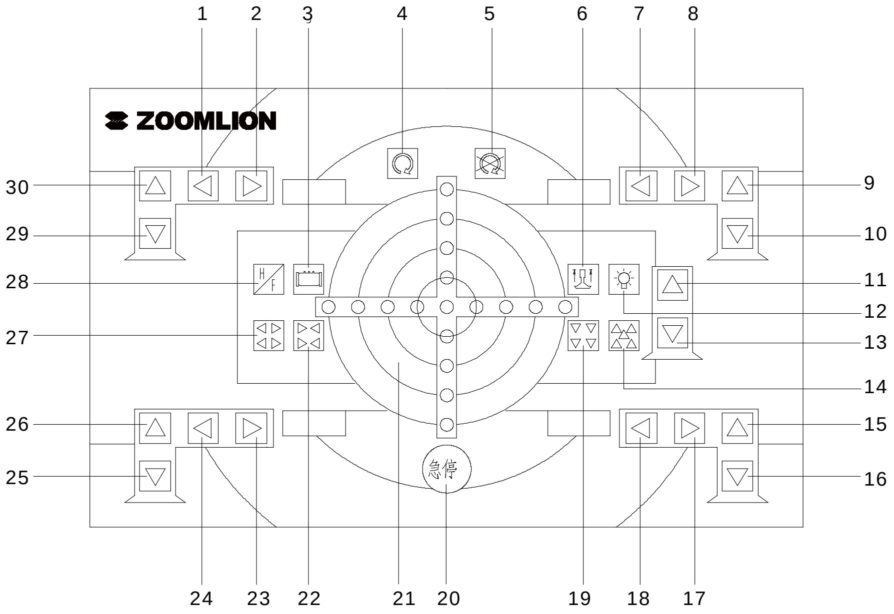


Figure 3-60 Right support control unit

Pos.	Description	Pos.	Description
1	Extend left rear horizontal cylinder	16	Extend right front vertical cylinder
2	Retract left rear horizontal cylinder	17	Extend right front horizontal cylinder
3	Engine accelerator	18	Retract right front horizontal cylinder
4	Engine on	19	Extend all vertical cylinders
5	Engine off	20	Emergency stop
6	Force-retract vertical cylinders	21	Inclinometer
7	Retract left front horizontal cylinder	22	Retract all horizontal cylinders
8	Extend left front horizontal cylinder	23	Retract right rear horizontal cylinder
9	Retract left front vertical cylinder	24	Extend right rear horizontal cylinder
10	Extend left front vertical cylinder	25	Extend right rear vertical cylinder
11	Retract the 5th outrigger	26	Retract right rear vertical cylinder
12	Background lighting	27	Extend all horizontal cylinders
13	Extend the 5th outrigger	28	Changeover outrigger full and half extension
14	Retract all vertical cylinders	29	Extend left rear vertical cylinder
15	Retract right front vertical cylinder	30	Retract left rear vertical cylinder

⚠ CAUTION

Press down the button "Outrigger power source" on the keyboard to switch on outrigger power source (For detailed information, refer to Section 3.1.5). Only when the left and right outriggers control boxes are energized and the power control light illuminates, the following procedures can be activated. Only if the emergency stop button of the outrigger control box on one side is pressed down, all of the outrigger movements stop. Make sure that both emergency stop buttons are not pressed down before operating outriggers with support control unit.

How to extend outriggers with support control unit (Take the left support control unit as an example):

a) Put the outrigger pad to working position according to Section 3.4.1.

b) Remove the retaining pins from the sliding beams.

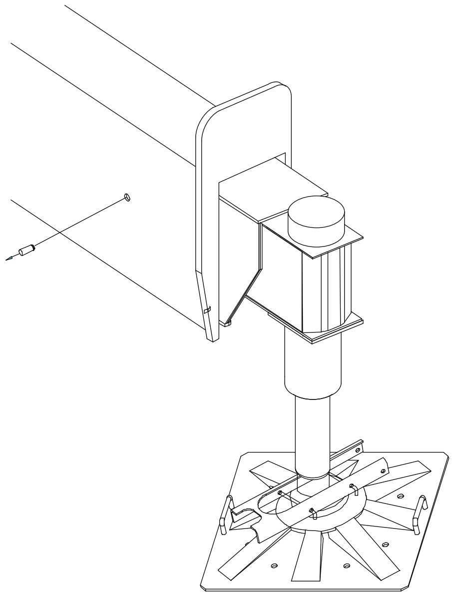


Figure 3-61　Retaining pins removal

c) Open the cover of support control unit with its key.

d) Press down the button "Engine on" to start the chassis engine and the hydraulic system.

e) Press corresponding buttons to extend right rear sliding beam and right front sliding beam. Release the buttons until the sliding beams are extended to the required position.

f) Press corresponding buttons to extend left rear sliding beam and left front sliding beam. Release the buttons until the sliding beams are extended to the required position.

Note:

You can also press corresponding button to extend all sliding beams simultaneously.

g) Press corresponding buttons to extend right front, left front, right rear and left rear vertical cylinders to lift the crane up.

Note:

You can also press corresponding button to extend all vertical cylinders simultaneously.

h) Examine whether the crane is level with the inclinometer (Refer to Figure 3-62). Inclination angle should be no more than 0.2° . Press buttons to align the crane horizontally. If the vehicle is not horizontal, retract or extend the outrigger to level the crane.

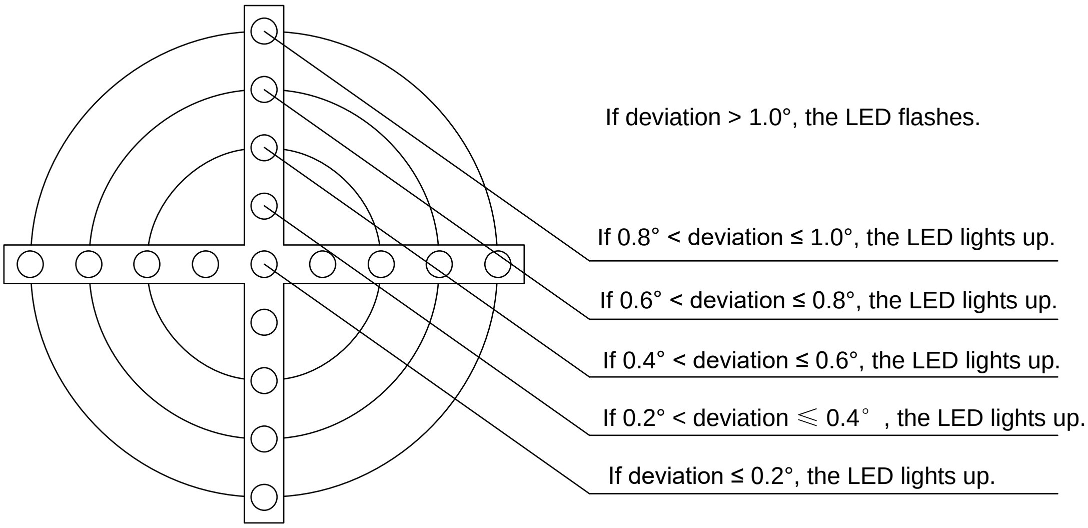


Figure 3-62 Inclinometer

i) Secure and lock the sliding beams with retaining pins when the outriggers are extended to a desired position. Retract the outriggers according to the reverse sequences.

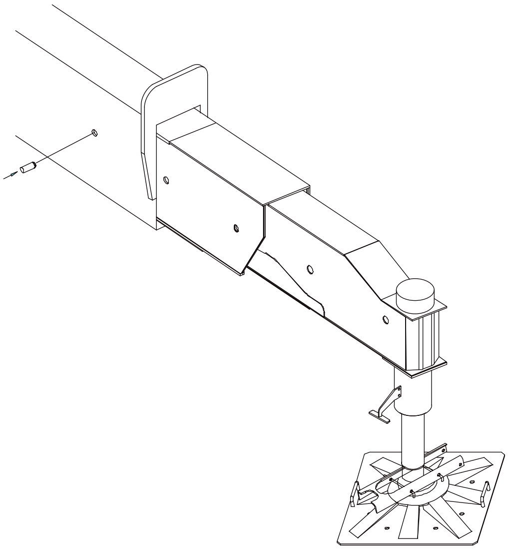


Figure 3-63 Secure and lock the sliding beams

⚠ CAUTION

(1) Press down the button "Engine off" to stop the chassis engine.

(2) Press down the button "Changeover engine RPM / idle speed" to changeover engine RPM / idle speed to increase engine RPM. Press again to return to idle speed. The outrigger speed can be changed via operating this button. Press button "Background lighting" to light up the background lighting. Press again to turn off the lighting.

(3) The buttons "Force-retract the 5th outrigger" and "Changeover outrigger full and intermediate extension" are NOT USED in this crane. The outrigger extension and retraction movements are interlocked. If outrigger extend movement is operated, outrigger retract movement cannot be operated. If 4 outriggers extend / retract movement is operated, 1 outrigger extend / retract cannot be operated.

(4) The outrigger box has a proximity switch. The sliding beam has a sensor for detecting the full extension and intermediate extension signals which can be observed from the monitor. The superstructure controller can decide whether the OM (full extension or intermediate extension) is valid according to the detected signal and vehicle deviation value. If the set value does not conform to the actual one, the alarm sounds to remind you to extend or retract the outrigger to the required length.

(5) Calibrating vehicle deviation sensor to 0°.

The vehicle deviation sensor must be calibrated to 0° if you have reinstalled or replaced the sensor or if you have replaced the left support control unit.

How to calibrate:

- Extend the sliding beams and vertical cylinders.
- Level the crane (Be sure the crane is level!).
- Press and hold buttons "Emergency stop", "Extend the 5th outrigger" and "Retract the 5th outrigger" simultaneously for more than 10 seconds.
- Release these buttons until the central LED on the inclinometer lights up.

⚠ CAUTION

Points for attention:

(1) Turn chassis engine off when crane superstructure works.

(2) Remove the retaining pins from outriggers before extending and retracting the outriggers. Install all retaining pins.

(3) The speed for extending or retracting the outriggers can be adjusted by the engine control.

(4) The clearance between sliding beam and outrigger box can be regulated by the adjusting bolts.

(5) Set down the telescopic boom on the boom support before you retract and extend the outriggers.

(6) Close covers for the support control units after operation or before cleaning the crane, so as to prevent water from entering.

(7) If any of the emergency stop buttons is pressed, other buttons will be invalid.

⚠ DANGER

Only operate the crane with outriggers intermediately or fully extended. Install the retaining pins after the outriggers are in position.

(Completely expose the mark on the sliding beam section 2 after you fully or intermediately extend the outrigger.)

⚠ CAUTION

Completely expose the mark on the sliding beam section 2 after you fully or intermediately extend the outrigger.

3.5 Driving operation

3.5.1 Move the crane to the job site

a) Do not skip a gear when you move through the gear cycle.

b) Stop the vehicle if there are unusual conditions with the items in the below list:

- Steering
- Braking
- Sounds or smells
- Vibrations
- Sudden speed increase or decrease.

If you cannot find or correct the problem, send the vehicle for repair.

c) Do not operate a vehicle if a warning light illuminates. Stop the vehicle and have it repaired.

d) Examine the following instruments for functions:

- Barometer
- Engine oil pressure gauge
- Water thermometer, etc.

e) Put the crane in a lower gear before you move up a slope to decrease the load on the engine and drive-line.

f) Do the items that follow before you go down a long hill slope:

- Make sure that the brake system can stop the crane before you go onto the slope.
- Put the transmission in the low gear range before you go down the slope. Activate the retarder.
- Prevent the engine from overrunning. Overrunning of the engine refers to the phenomenon that the engine driven by the wheel runs at the RPM which exceeds its rated maximum engine RPM. Maximum engine RPM is limit to below 2300 r/min.

⚠ DANGER

(1) Engine racing will cause damage to the engine.

(2) Slow the crane down before you change to a lower gear.

g) If the engine stops because the fuel tank is empty, air can go into the fuel system. When this occurs, you remove the air from the fuel lines.

⚠ DANGER

Do not let the vehicle move forward when the engine is off.

3.5.2 Crane movement in off-road conditions

When the axles are in the mud (no traction) or on rough terrain, follow these steps:

a) Add transversal and longitudinal differential locks and apply the creeper gear.
b) Put the transmission in the “F1” position. Otherwise crane service life will be shortened.
c) Make sure that the engine RPM is around maximum.
d) Tow the vehicle or put rigid materials, e.g. pieces of wood or iron plates, below the wheels.

3.5.3 Park the vehicle

a) When you park the vehicle, follow the instructions below:
    1) In bad weather condition (rain, snow, ice) or on a slope, make sure that there is a lot of clearance in front and to the aft of the vehicle.
    2) Apply the parking brake. Always put the chocks before and behind the wheels on a slope.
    3) Put the transmission in the "Neutral" position.
b) Before you stop the engine, do the items that follow:
    1) Depress the engine control pedal 2 or 3 times to increase the engine RPM. This makes the oil flow into each part of the engine.
    2) Let the engine idle while you monitor the coolant temperature.
    3) Stop the engine, when the coolant temperature is in the correct range.

⚠ DANGER

Make sure that the hazard lights illuminate when the vehicle is parked on the road at night.

3.5.4 Emergency stop on the roadway

If the crane malfunctions on the roadway, do the items that follow:

a) Stop the crane in a safe place.
b) Set the hazard lights to ON and put the warning triangle in position.
c) Apply the parking brake if you stop because of a drive train (propeller shaft, axle) failure or you make an emergency stop on a slope. Put the chocks before and behind the wheels
d) Examine the vehicle to find the part that caused the malfunction. Be careful of the road conditions while you move around the vehicle.
e) If you cannot repair the vehicle, tell the servicing and repair facility.

ZOOMLION

Truck Crane Operator’S Manual

Chapter 4 Operation- Crane Superstructure

Chapter 4 Operation – Crane Superstructure

4.1 Operator's cab

4.1.1 Overview

For the overall view of the cab interior, refer to Figure 4-1. For the operating elements in the cab, refer to Table 4-1.

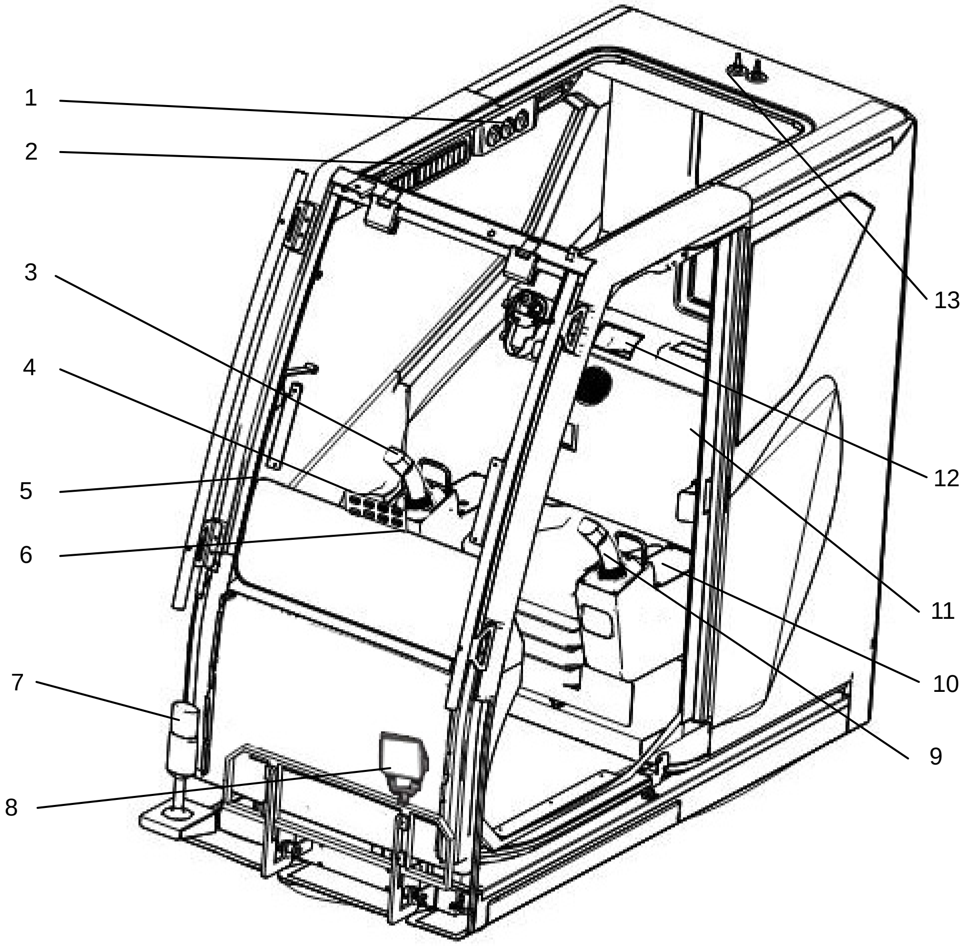


Figure 4-1 Cab interior

Table 4-1 Operating elements in the cab

Pos.	Description	Pos.	Description
1	Control panel, A/C and cab heater	8	Working lamp
2	Warping switch and indicator light	9	Left joystick
3	Right joystick	10	Left control box
4	Switch panel	11	Air conditioning outlet
5	Front windshield wiper	12	Radio receiver
6	Instrument panel	13	Roof windshield wiper
7	Trichromatic lamp		

4.1.2 Instrument panel

For the instrument panel, refer to Figure 4-2. For the operating instruments on the instrument panel, refer to Table 4-2.

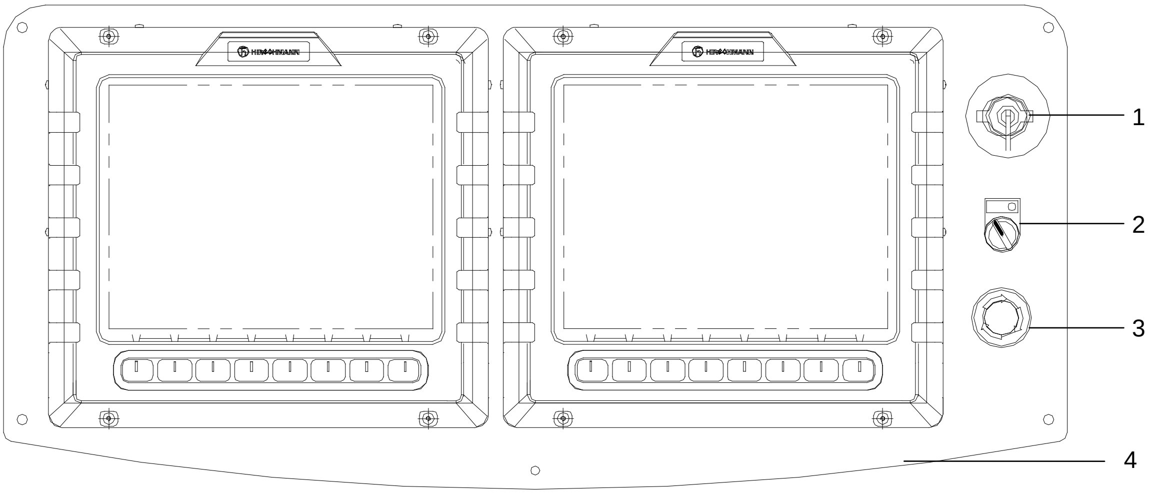
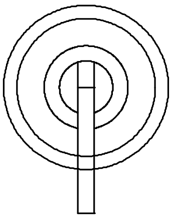


Figure 4-2 Instrument panel

Table 4-2 Operating instruments on the instrument panel

Pos.	Description	Pos.	Description
1	Ignition starter switch	3	Switch Emergency stop
2	Battery master switch	4	Cigarette lighter

1 **Ignition starter switch**



The positions of the switch (in clockwise direction) are as follows:

Position 0:

All circuits are OFF.

Position 1:

The battery begins to supply electricity to the superstructure electrical system.

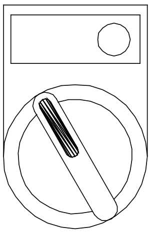
Position 2:

The engine starts (from position 1 to position 2).

⚠ CAUTION

Release the key to position 1 when the engine starts. Return the key to the "0" position first if you want to restart the engine.

2 **Battery master switch**

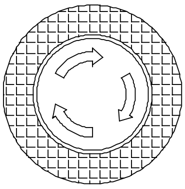


Right position:

- The battery master switch near the battery on slewing table is switched on.
- The switch background lights up.

The superstructure is energized.

3 **Switch**



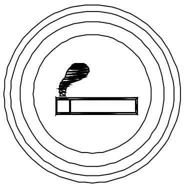
Emergency stop

Pressed:

All superstructure movements are cut off in order to prevent property loss and personal injury.

4 **Cigarette lighter**

Push-in the cigarette lighter for several seconds. Pull it out to use it.



4.1.3 Switch panel

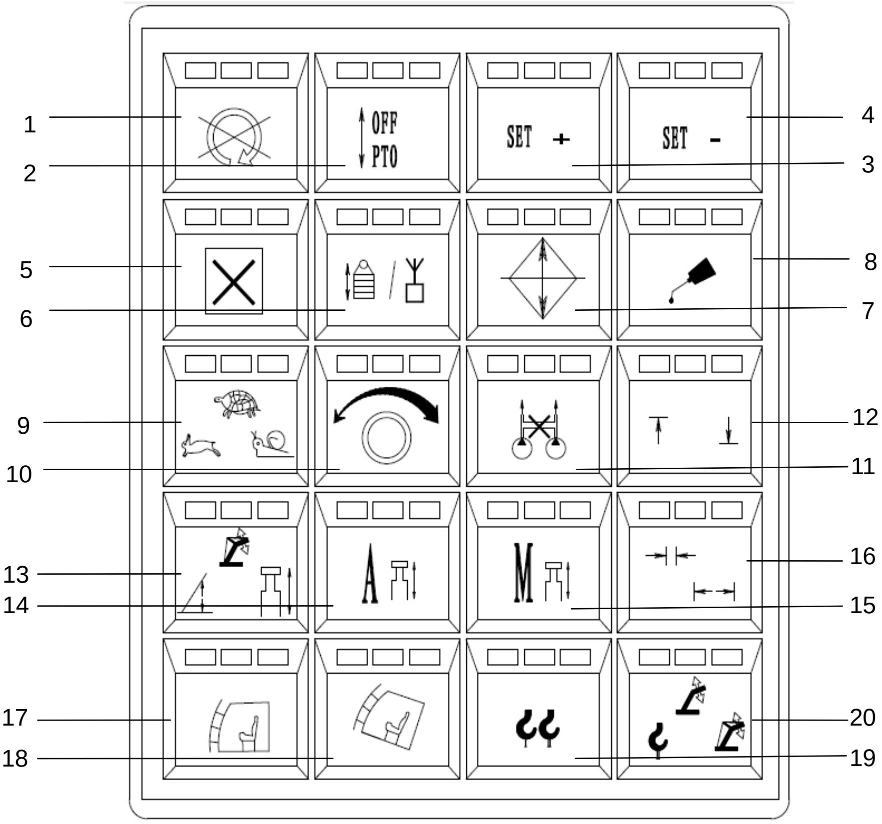


Figure 4-3 Switch panel, operator's cab

Table 4-3 Switch panel

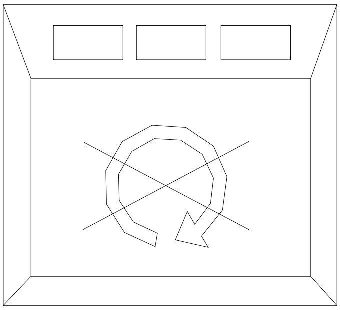
Pos.	Description	Pos.	Description
1	Button Engine stop	11	Button Shunt
2	Button PTO	12	Button Boom pin operation
3	Button Set engine RPM +	13	Button Pre-selection of boom derricking / luffing jib derricking / telescoping
4	Button Set engine RPM -	14	Button Automatic telescoping
5	Deadman button	15	Button Manual telescoping
6	Button Pre-selection of counterweight remote control box / remote controller	16	Button Cylinder pin operation
7	Button Oil cooler fan	17	Button Operator’s cab tilting downwards
8	Warning light Lubricant level low	18	Button Operator’s cab tilting upwards
9	Button Pre-selection of high / medium / low speed	19	Button Synchronization of the main and auxiliary winch
10	Button Inching mode	20	Button Pre-selection of auxiliary winch / jib derricking / luffing jib derricking

1 **Button Engine stop**

Pressed:

The middle light turns red.

When the superstructure works, press this button to shut down the engine.



2 **Button**

PTO

Pressed:

The middle control light (red) illuminates.PTO is engaged and the superstructure engine RPM is increased to 1000 r/min.

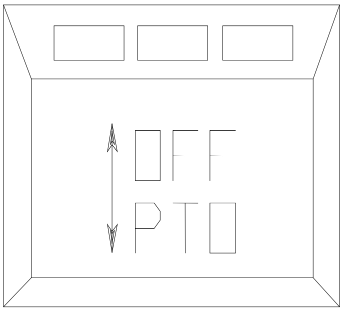
Pressed again twice:

When this button is pressed again once, the middle control light goes off.

When it is pressed again, the control light illuminates again. At this time, engine RPM is increased by 200rpm each time, i.e. 1000 rpm→1200 rpm→1400 rpm→1600 rpm.

Pressed again once:

The middle control light goes off, PTO is disengaged, and the superstructure engine RPM is decreased to idle speed.

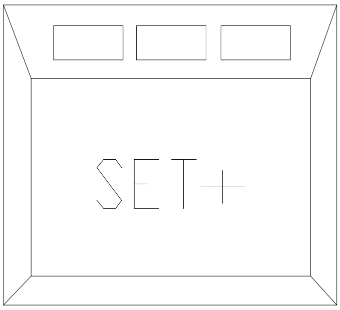


⚠ CAUTION

Engage the PTO before you begin a lift operation.

Do not begin a lift operation until the PTO is engaged.

3 **Button**



Set engine RPM +

After the engine enters into PTO mode:

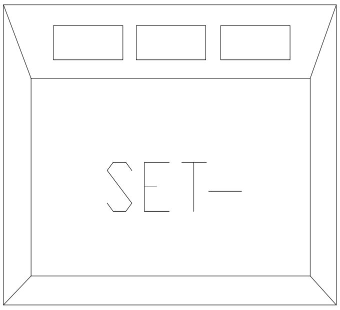
Pressed:

The middle control light turns red.

The superstructure engine RPM is increased by 200 r/min. until 1600 r/min. is reached. (Sequence: 1000 r/min.→1200 r/min.→1400 r/min.→1600 r/min.)

(Not configured for this crane model).

4 **Button**



Set engine RPM -

After the engine enters into PTO mode:

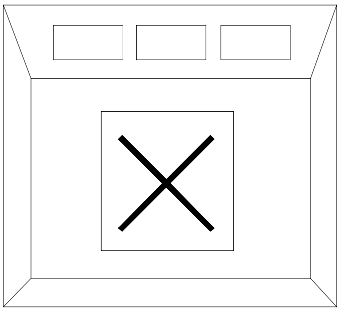
Pressed:

The middle control light turns red.

The superstructure engine RPM is decreased by 200 r/min. until 1000 r/min. is reached. (Sequence: 1600 r/min.→1400 r/min.→1200 r/min.→1000 r/min.)

(Not configured for this crane model).

5 **Deadman button**



Pressed:

The middle control light turns red.

Functions of the joysticks can be operated.

It has the same function as the deadman buttons on the left and right joysticks.

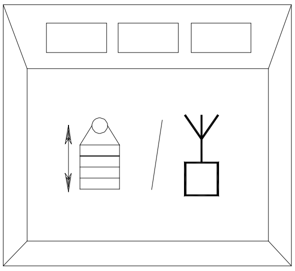
⚠ CAUTION

Deactivate the button after operation. Otherwise, risk of inestimable losses!

6 **Button**

Pre-selection of counterweight remote control box / remote controller

When these three lights extinguish, the counterweight remote control box / remote controller stop working and the joystick in operator's cab can work normally.



Pressed once:

The right control light illuminates.

The controller is permitted to work and the joystick in operator's cab stops working.

Pressed twice:

The left control light illuminates.

The controller is permitted to work and can conduct the counterweight operation.

Pressed three times:

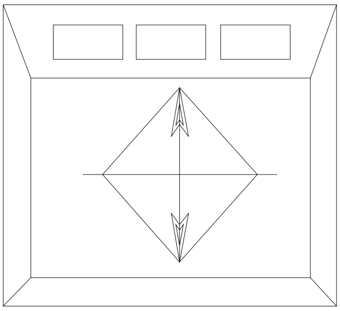
These three lights extinguish.

Activate this switch in this cycle.

7 **Button**

Oil cooler fan

Pressed:



The oil cooler fan begins to work. The oil cooler fan works if one of the following conditions is met:

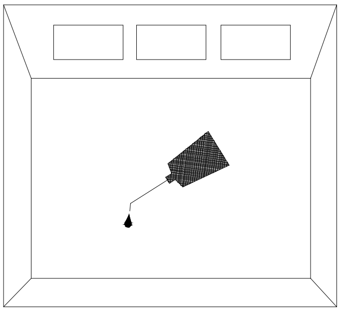
- When the engine runs and the button "oil cooler fan" is activated.
- When the engine runs and the hydraulic oil temperature exceeds 50°C. When the hydraulic oil temperature is below 46°C, the oil cooler fan automatically stops.

8 Button

Central lubricating system

Pressed once:

The central lubricating system starts forcedly. And the lubricating device is forcedly electrified. The central lubricating system starts to work for a work cycle.



9 Button

Pre-selection of high / medium / low speed

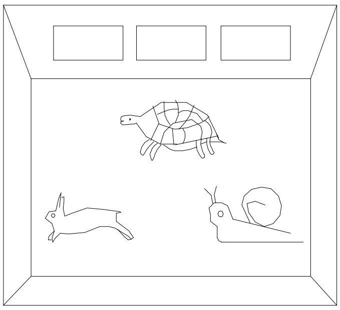
(1) Crane movements "Slew" and "Hoist" have 3 speeds which depend on the position of switch.

(2) Crane movements "Telescope" have 2 stages at low speed:

- (Extremely slow): intermediately deflect the right joystick to the right / left
- (Slow): fully deflect the right joystick to the right / left.

(3) Crane movements "Derrick" also have 3 speeds.

Considering the controllability, crane movements "Derrick" speed will automatically limit to the safety range when the boom length is equal to or more than moderate one.



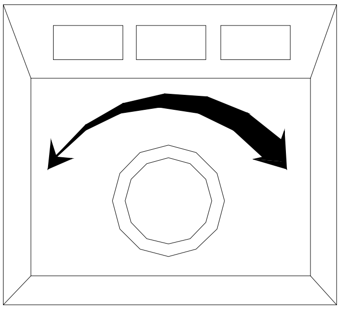
10 Button

Inching mode

Pressed:

The middle light illuminates.

Crane movements "Slew", "Derrick" and "Hoist" can realize stepless speed regulation by the speed switch on left control box. And thus each crane movement has good inching



function.

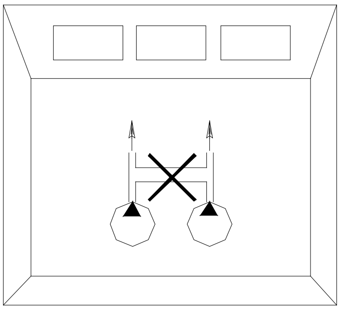
11 Button Shunt

Pressed:

The middle light illuminates.

The main pump partially flows.

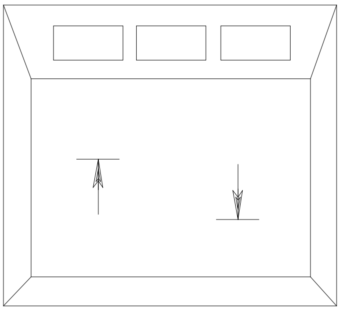
When it requires to align the mounting hole or to achieve high inching performance, the crane movements will become slow and smooth by activating this switch. Before simultaneous crane movements “hoist” and “derrick”, you can activate this button to obtain better operation performance.



12 Button

Boom pin operation

Manual telescoping mode: activate the switch till the right light illuminates to conduct boom pin retracting operation; activate the switch till the left light illuminates to conduct boom pin extending operation;



13 Button

Pre-selection of boom derricking / luffing jib derricking / telescoping

Pressed (to illuminate the left light):

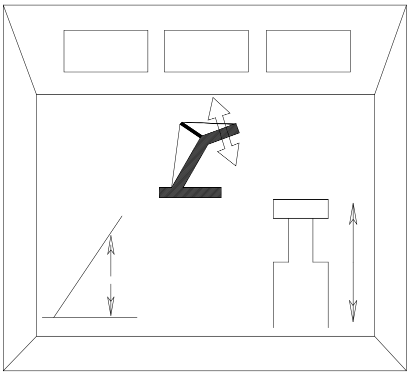
Boom derricking can be operated.

Pressed (to illuminate the middle light):

Under the installation mode, spooling up/reeling off of the derricking winch of the luffing jib can be operated.

Pressed (to illuminate the right light):

Telescoping can be operated.

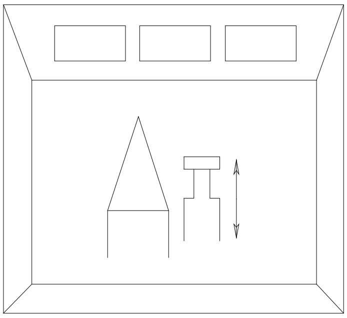


14 Button Automatic telescoping

Pressed:

The middle light illuminates.

The boom can perform automatic telescoping.

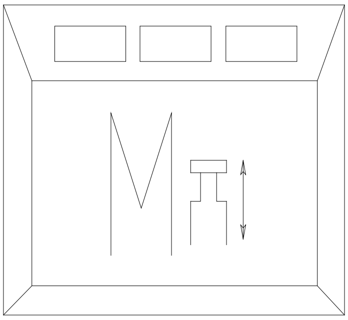


15 Button Manual telescoping

Pressed:

The middle light illuminates.

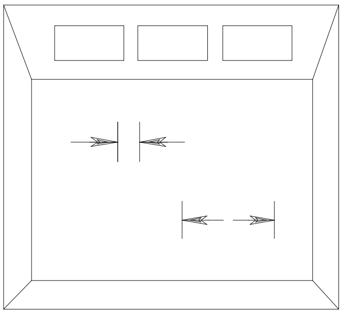
The boom can perform manual telescoping.



16 Button

Cylinder pin operation

Manual telescoping mode: activate the switch till the left light illuminates to conduct boom pin retracting operation; activate the switch till the right light illuminates to conduct boom pin extending operation;



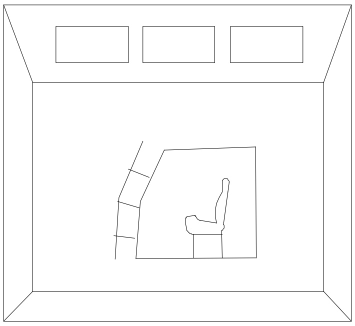
17 Button

Operator's cab tilting downwards

Pressed:

The middle light illuminates.

Tilt the cab downwards.



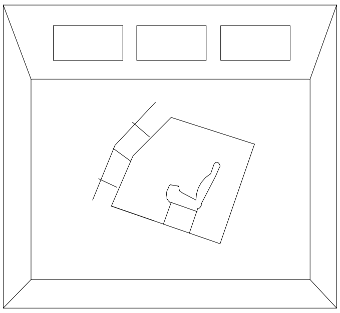
18 Button

Operator’s cab tilting upwards

Pressed:

The middle light illuminates.

The cab is tilted upwards.



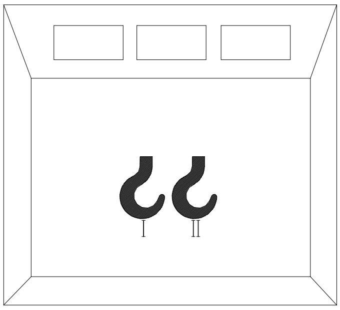
19 Button

Synchronization of the main and auxiliary winch

Pressed:

The middle control light illuminates.

Synchronous lifting and lowering of the main and auxiliary winch can be operated under the TBM operating mode.



20 Button

Pre-selection of auxiliary winch / jib derricking / luffing jib derricking

Pressed (to illuminate the left control light):

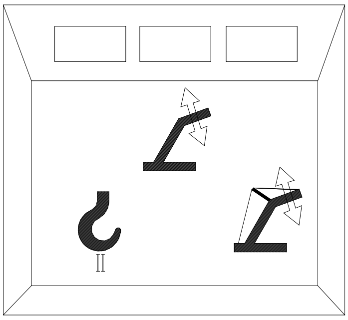
The right joystick can be operated to control spooling up and reeling off of the auxiliary winch.

Pressed (to illuminate the middle control light):

The right joystick can be operated to control derricking of the jib.

Pressed (to illuminate the right control light):

The right joystick can be operated to control derricking of the luffing jib.



4.1.4 Warping switch and indicator light

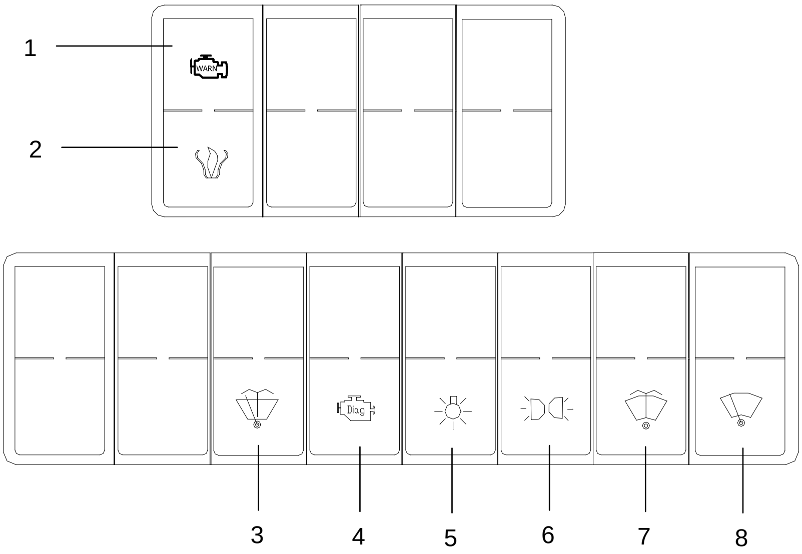


Figure 4-4 Warping switch and indicator light

Table 4-4 Warping switch and indicator light

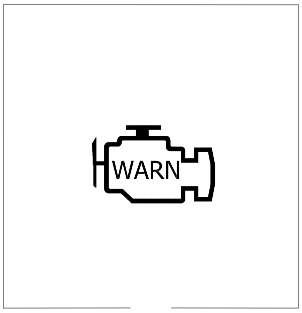
Pos.	Description	Pos.	Description
1	Warning light Engine error code displayed	5	Button Work lights
2	Warning light Cab heater fault	6	Button Corner marker lights
3	Button Roof window wiper and washer	7	Button Front windshield washer system
4	Button Engine fault diagnosis	8	Button Front windshield wiper

1 Warning light

Engine error code displayed

Illuminates:

You can read the engine error code.



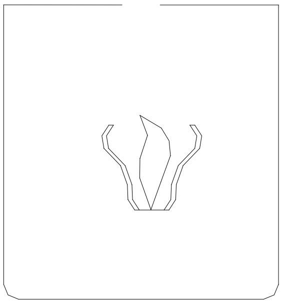
2 Warning light

Cab heater fault

Illuminates:

Cab heater fails.

It is suggested that stop the cab heater and rectify it.



3 Button

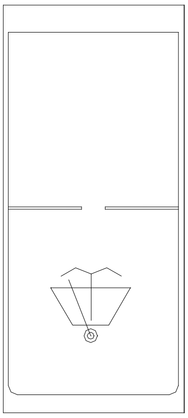
Roof window wiper and washer system

Position 1:

Roof window wiper works.

Position 2:

Roof window washer system works.

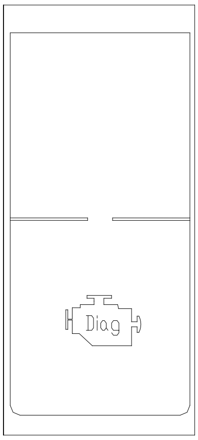


4 Button

Engine fault diagnosis

Pressed:

You can read the flash code of engine fault.

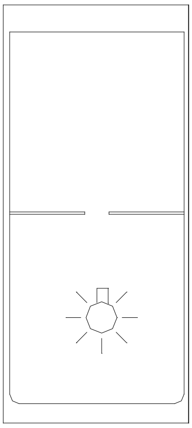


5 Button

Work lights

2 stages:

1. Background lighting
2. Background lighting, work lights on cab front and boom sections

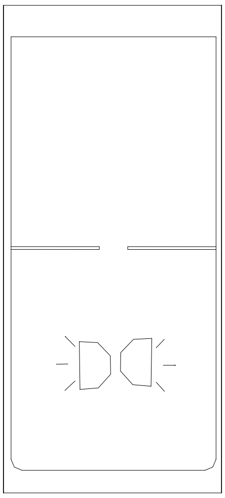


6 Button

Corner marker lights

Pressed:

Turn on the corner marker lights and work lights on boom head.

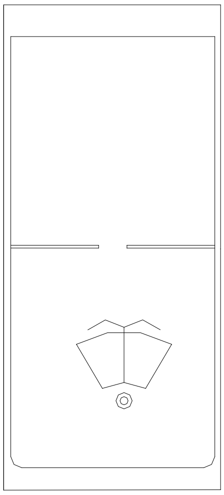


7 Button

Front windshield washer system

Pressed:

Turn on the windshield washer system on the front window.



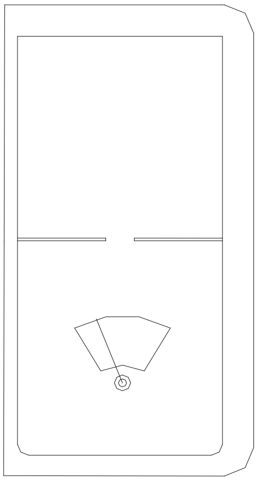
8 Button

Front windshield wiper

2 stages:

Intermittent

Wipe



4.1.5 Control boxes

4.1.5.1 Left control box

For the left control box, refer to Figure 4-5.

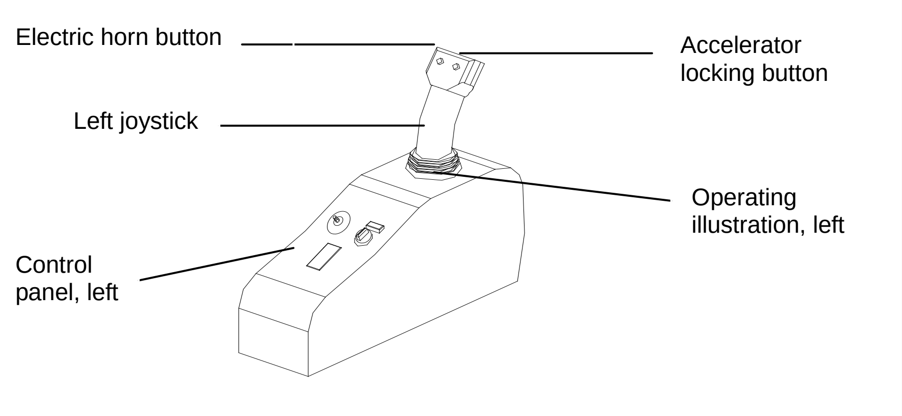


Figure 4-5 Left control box

For the left joystick and its operating illustration, refer to Figure 4-6.

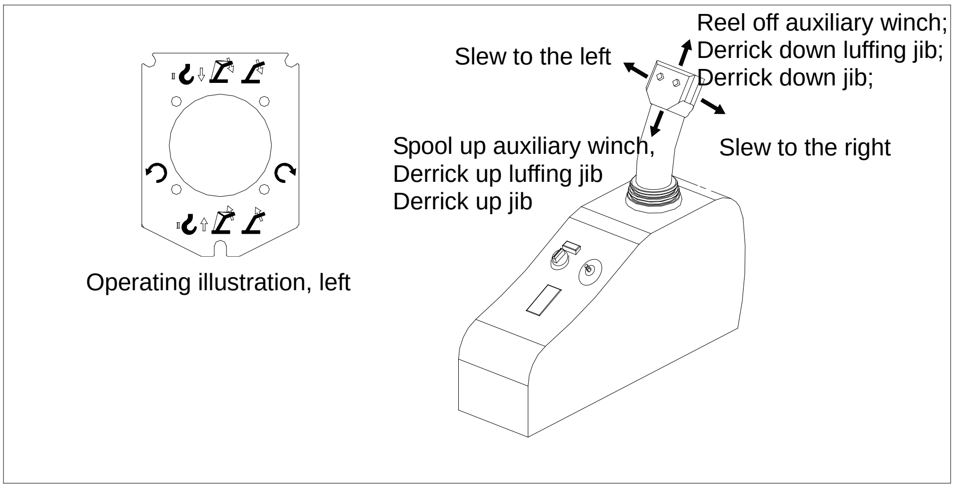


Figure 4-6 Left joystick and its operating illustration

For the left control panel, refer to Figure 4-7.

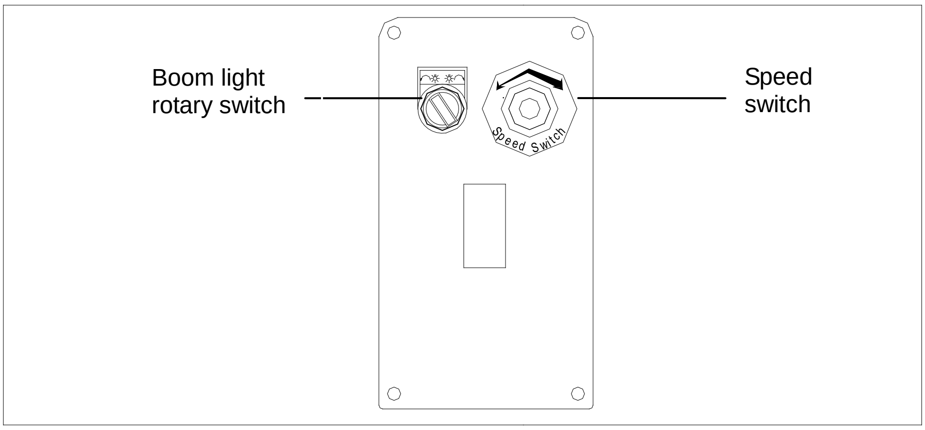
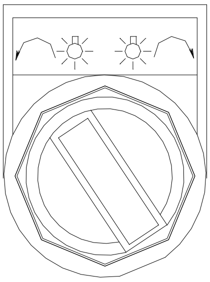


Figure 4-7 Left control panel



1 **Boom light rotary switch**

(Not used)

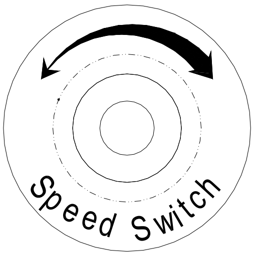
Left position:

The boom light turns anticlockwise.

Right position:

The boom light turns clockwise.

(This boom light is available for options, but not standard configuration.)



2 **Speed switch**

Pressed:

After the inching mode button is pressed, turn this switch clockwise to realize stepless speed adjustment of crane slewing, derricking up/down and spooling up / reeling off.

4.1.5.2 Right control box

For the right control box, refer to Figure 4-8.

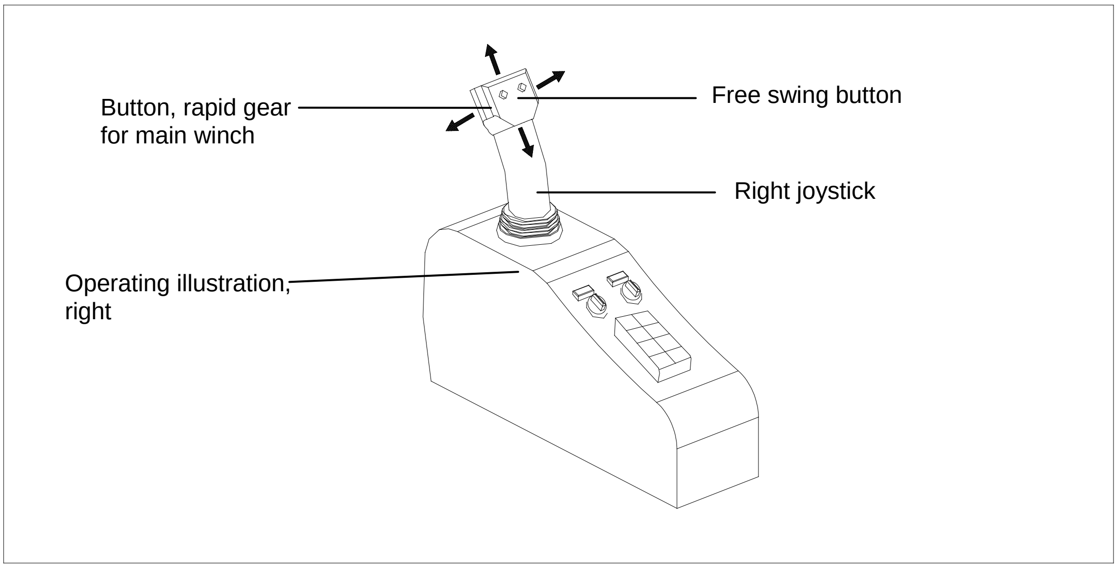


Figure 4-8 Right control box

For the right joystick and its operating illustration, refer to Figure 4-9.

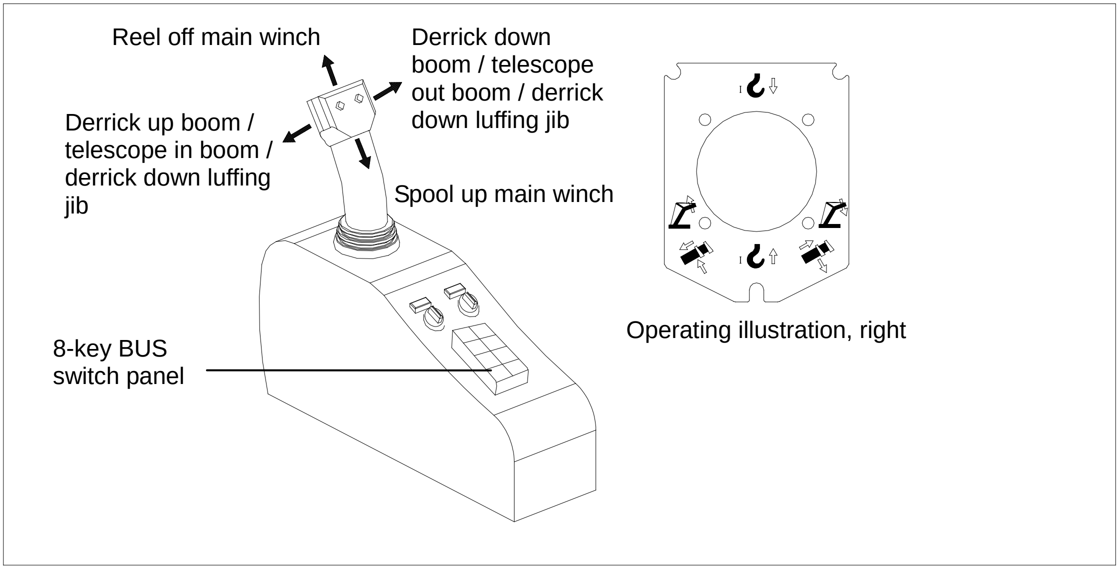


Figure 4-9 Right joystick and its operating illustration

For the right joystick and its operating illustration, refer to Figure 4-10.

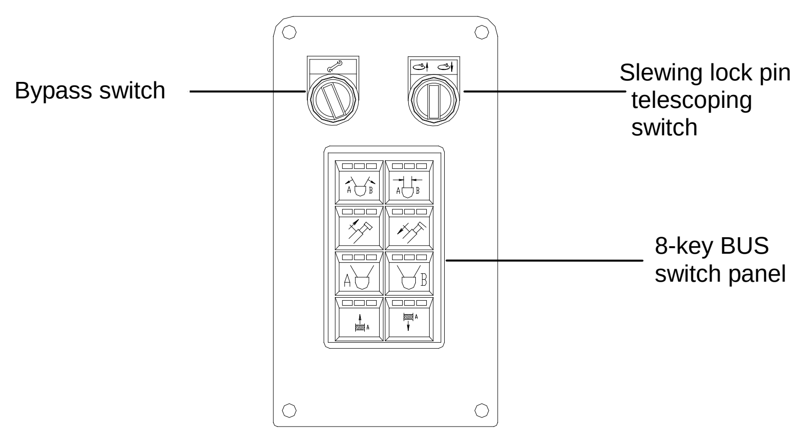


Figure 4-10 Left joystick and its operating illustration

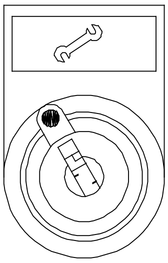
a) Bypass switch

When then main winch or auxiliary winch is overwinded, the buzzer in the electrical control box rings continuously, and operations including spooling up the hook, telescoping the boom out and derricking the boom down are cut off.

When the main winch is overlowered, the buzzer in the electrical control box rings continuously, and operation of reeling off the hook is cut off.

When the max. rated lifting capacity is exceeded, the buzzer in the electrical control box rings continuously, and operations including spooling up the hook and derricking down the boom are cut off.

Under the above circumstances, if you need to derrick up the boom or reel off the hook by a little bit, you can operate the bypass switch in the right electrical control box to

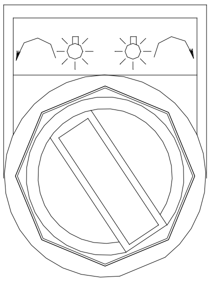


remove the limitation on movements toward a dangerous direction.

If slewing operation of the crane is cut off because of a failed full retraction of the slewing lock pin, and the control light does not illuminate, this bypass switch can be pressed to remove the limitation on slewing if it is confirmed that the pin is actually removed.。

b) Switch

Working light rotation



Turned to left:

The boom head working light rotates anticlockwise.

Turned to right:

The boom head working light rotates clockwise.

(As the rotating working light is optional, therefore a standard crane model does not have this switch and it is reserved.)

c) 8-key BUS switch panel

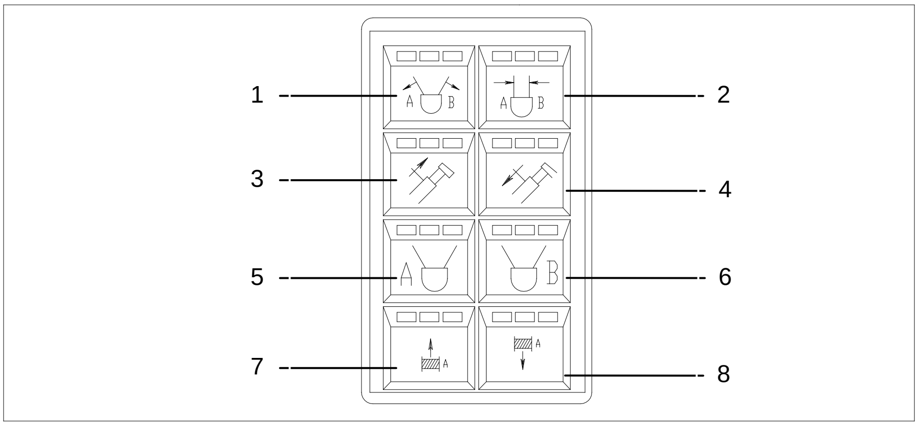
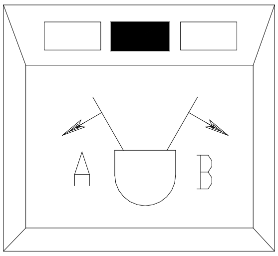


Figure 4-11 8-key BUS switch panel

Table 4-5 Description of 8-key BUS switch panel

Pos.	Description	Pos.	Description
1	Superlift mast opens	5	Pre-selection of the superlift mast A
2	Superlift mast closes	6	Pre-selection of the superlift mast B
3	Superlift mast derricks up	7	Winch reels off
4	Superlift mast derricks down	8	Winch spools up

1) Superlift mast opens



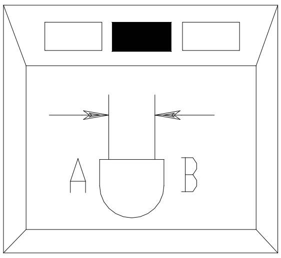
Press and hold:

The middle control light illuminates. The superlift mast swings outward to open.

When being released:

The button returns to its original position.

2) Superlift mast closes



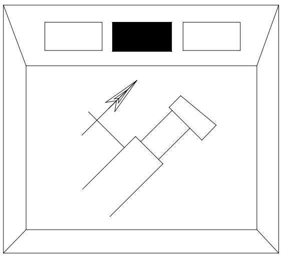
Press and hold:

The middle control light illuminates. The superlift mast swings inward to close.

When being released:

The button returns to its original position.

3) Superlift mast derricks up



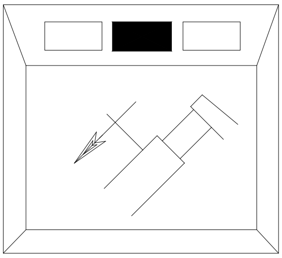
Press and hold:

The middle control light illuminates. The superlift mast derricks up.

When being released:

The button returns to its original position.

4) **Superlift mast derricks down**



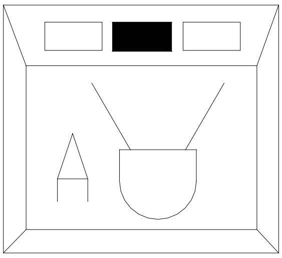
Press and hold:

The middle control light illuminates. The superlift mast derricks down.

When being released:

The button returns to its original position.

5) Pre-selection of superlift mast A



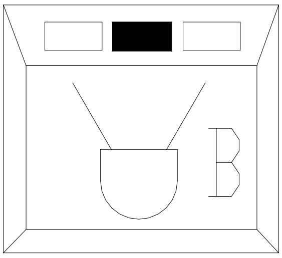
Press:

The middle control light illuminates, indicating that the left superlift mast is selected for independent operation of derricking or swinging.

When not pressed:

The two superlift masts will move together.

6) Pre-selection of superlift mast B



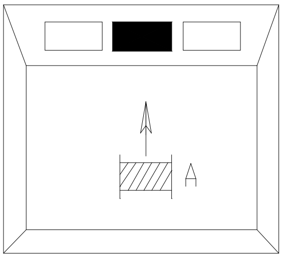
Press:

The middle control light illuminates, indicating that the right superlift mast is selected for independent operation of derricking or swinging.

When not pressed:

The two superlift masts will move together.

7) Superlift winch reels off



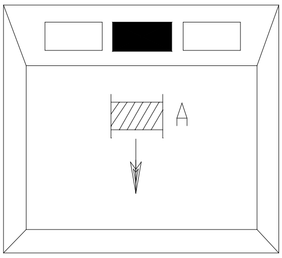
Press and hold:

The middle control light illuminates. The superlift winch reels off wire rope.

When being released:

The button returns to its original position.

8) Superlift winch spools up



Press and hold:

The middle control light illuminates. The superlift winch spools up wire rope.

When being released:

This button returns to its original position.

The left joystick has two buttons, i.e. the electric horn button (left) and the auxiliary winch high speed button (right).

Press the left button to ring the electric horn on the slewing table.

When the left joystick is used to operate derricking of the luffing jib or the auxiliary winch under the TBM operating mode, and the winch is not overwinded or overlowered, press the right button to spool up/reel off the rope at a high speed, as shown in Figure 4-12.

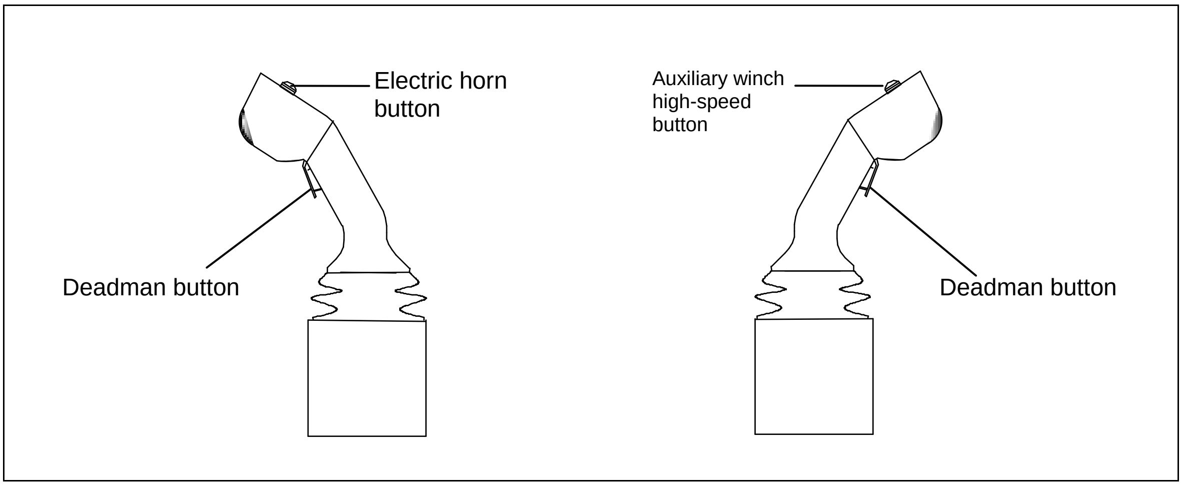


Figure 4-12 Joysticks

The right joystick also has two buttons, i.e. the main winch high speed button (left) and the free swing button (right).

When the left joystick is used to operate the main winch and it is not overwinded or overlowered, press the left button on the right joystick to spool up/reel off the rope at a high speed.

Press the right free swing button to swing the slewing table.

The left / right deadman button is located on the backside of left / right joystick. Push and hold-in the deadman button to operate the functions of the left / right joysticks. If you do not push and hold-in this button or activate the deadman rocker switch on the keyboard, the commands from the left or right joystick are invalid. Refer to Figure 4-12 and 4-13.

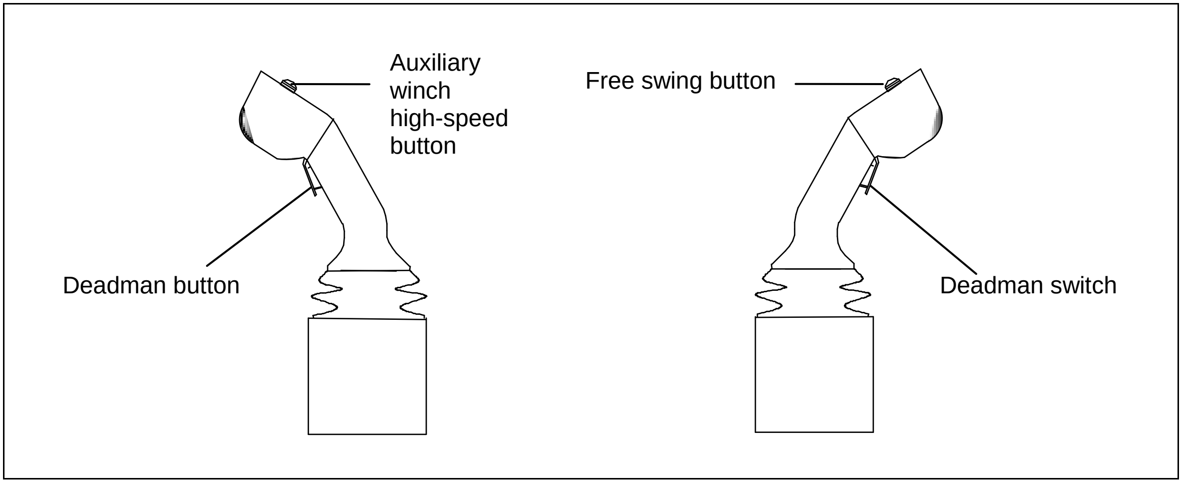


Figure 4-13 Right joystick

⚠ WARNING

Do not activate the free swing button when the crane is operated with a suspended load. Do not push and hold-in the deadman button on the joysticks or activate the deadman button on the keyboard for a long time with tools! Otherwise, risk of inestimable loss.

4.1.6 Engine control pedal

You can depress the engine control pedal to increase the engine RPM, thus to accelerate the slewing, derricking, telescoping and hoisting movements.

4.1.7 Operator's seat

For the operator's seat, refer to Figure 4-14.

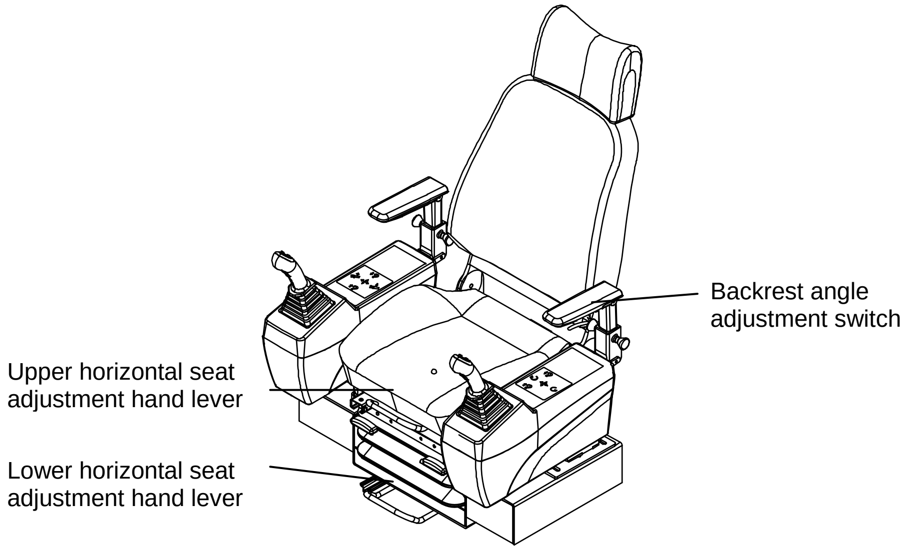


Figure 4-14 Operator's seat

4.2 Computer system

4.2.1 General

The load moment limiter is a computer system for controlling and monitoring mobile cranes. In addition to controlling the boom telescoping via computer programs, it is also of self-diagnosis function.

The load moment limiter calculates data from the pressure sensors, length sensor, angle sensor and other monitoring devices to judge whether the crane is in safe working conditions, and displays the basic parameters, such as boom length, boom angle, working radius, rated lifting capacity etc., on the monitor.

The “Advance warning” icon appears and the buzzer sends out slow acoustic warning if the current load exceeds the (90%) limit programmed in for advance warning. At this time, the operator should pay much attention to the operation.

The “Stop” icon appears, the buzzer sends out fast acoustic warning and all dangerous crane movements are switched off if the current load exceeds the 100% mark.

The crane can only work towards safe directions till the dangerous operation is deactivated.

The load moment limiter can prevent crane from tippling or being destructed, thus ensures safe operation of the crane. However, do not rely entirely on the load moment limiter. If the rated lifting load displayed on the load moment limiter is different from the one shown in lifting capacity table, refer to the lifting capacity table.

For the main screen of the load moment limiter, refer to Figure 4-15. For the elements of main screen, refer to Table 4-6.

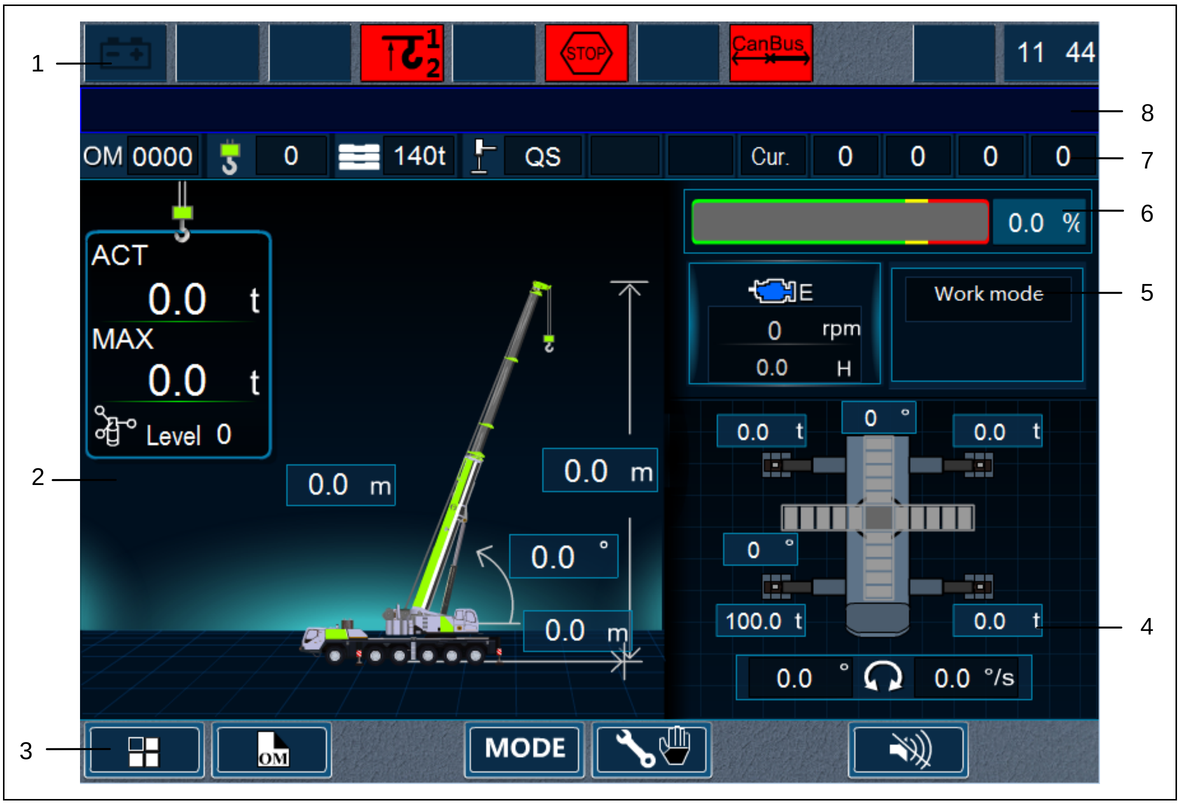


Figure 4-15 Crane working status monitoring interface

Table 4-6 Elements of the monitoring interface

Pos.	Description	Pos.	Description
1	Warning icons	5	Speed and working mode
2	Superstructure working status	6	Load ratio information
3	Function icons	7	OM code and telescoping status
4	Chassis frame slewing status	8	Warning prompt message

⚠ CAUTION

The monitor illustrations in this chapter are only examples. The numerical values in the individual icons and tables do not necessarily match exactly to the crane.

4.2.2 OM Interface instructions

4.2.2.1 Switching on the computer system and performing self-test

After the computer system is switched on, the load moment limiter performs a self-test to examine whether the three PLC controllers and their respective mentor nodes are on line. If no error is found during the system test, the monitor displays the following screen (Refer to Figure 4-16). Shortly after that, the screen as shown in Figure 4-17 appears on the monitor.

For the "Self-test passed" screen, refer to Figure 4-16.

```
Qscale connecting...
CR0032 Controller 1 connecting...
CR0032 Controller 2 connecting...
CR0232 Controller 1 connecting...
```

Figure 4-16　Self-test passed

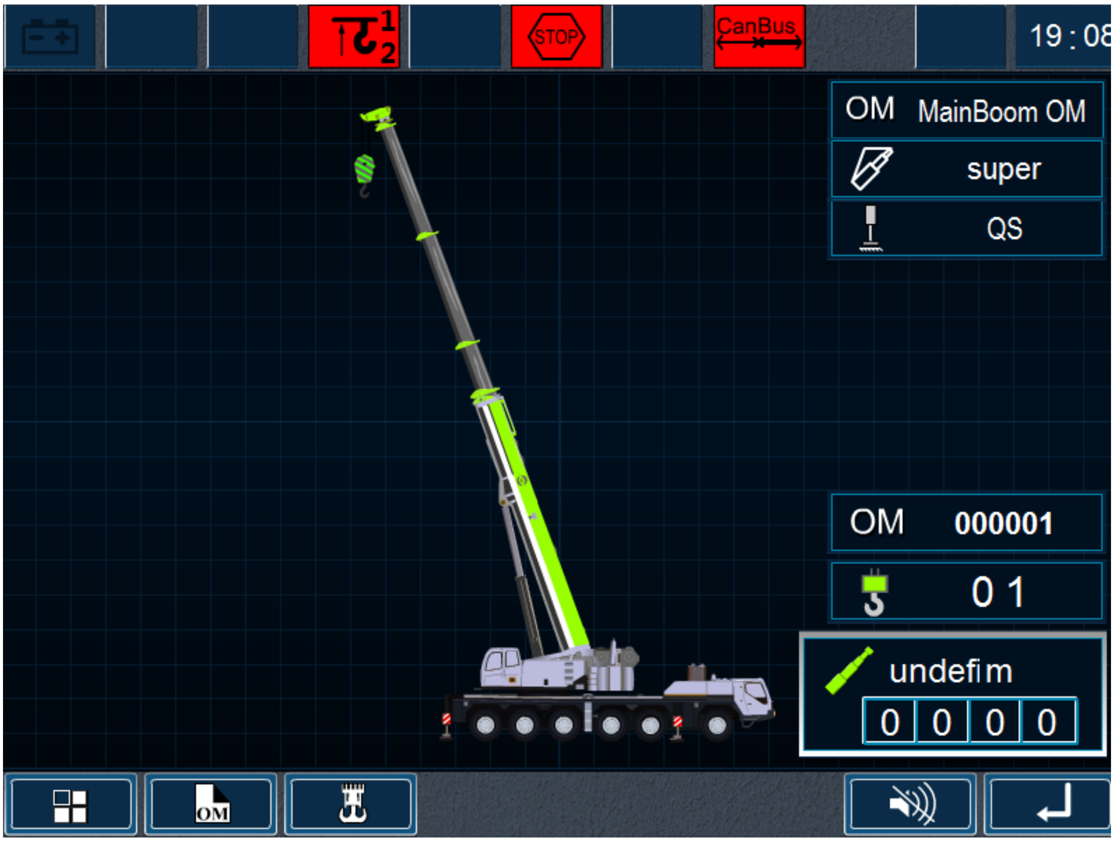


Figure 4-17　OM selection

If a connection error is found during the test, the corresponding controller cannot pass the test and the monitor shows the following screen (Refer to Figure 4-18).

Troubleshooting:

If an error message appears on the monitor:

a)　Turn off the engine and rectify the errors.

b)　Start to perform self-test again.

CAUTION

If an error is found during communication, the buzzer will not stop sending alarm after you turn on the computer. It is a normal phenomenon. Please rectify the communication fault.

For the “Self-test failed” screen, refer to Figure 4-18.

```
Qscale connecting failed!
CR0032 Controller 1 connecting failed!
CR0032 Controller 2 connecting failed!
CR0232 Controller 1 connecting failed!
```

Figure 4-18 Self-test failed

4.2.2.2 Main screen – configuration program

After the OM is selected, it switches automatically to the Main screen – configuration program (Refer to Figure 4-19). Crane parameters can be monitored from this screen in real time.

Figure 4-19 Main screen – configuration program

The function key line at the bottom of the main screen consists of the function keys F1 to F8 and the function key icons line above them. (Refer to Figure 4-20.)

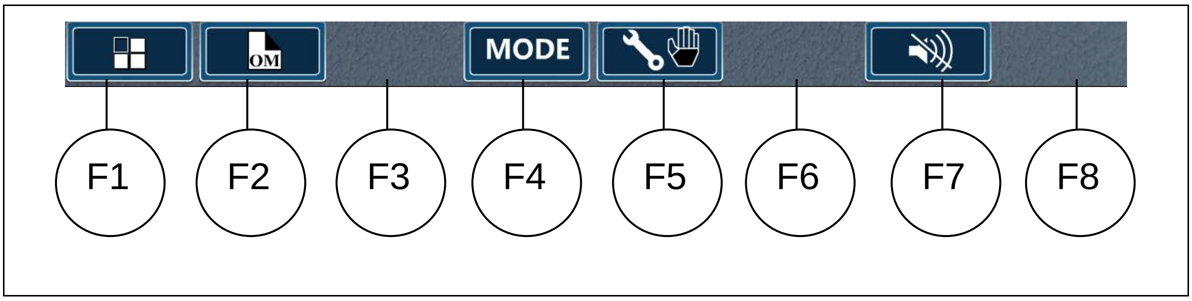


Figure 4-20 Function key line

Press key F1 in the main interface to enter into a navigation interface. Refer to Figure 4-21.

Click the corresponding icons in the main interface to enter into related sub-interfaces. The menu of sub-interface is as follows:

a) Communication monitoring: monitor the state of CAN network of complete vehicle.

b) Fault query: Including faults of load moment limiter, engine, controllers, valves of switches and sensors.

c) Movement monitoring: including crane movements “slew”, “derrick”, “hoist” and “telescope”, movements of counterweights, variable pump and operator’s cab, I/O of boom pin and cylinder pin movements and state monitoring query.

d) System setting: including date and time, display brightness, Chinese and English display as well as metric and English systems setting function.

e) OM setting: set OMs. (For the details, refer to Section 4.2.2.3.)

f) Query function: including IO port, AD value and calculated values of load moment limiter, outrigger pressure, outrigger counter-force, intermediate / full extended state of outriggers and full extended state of vertical cylinders.

g) Maintenance: check the date and interval of maintenance.

h) LML adjustment: adjust the angle, working range and weight values, etc. of LML.

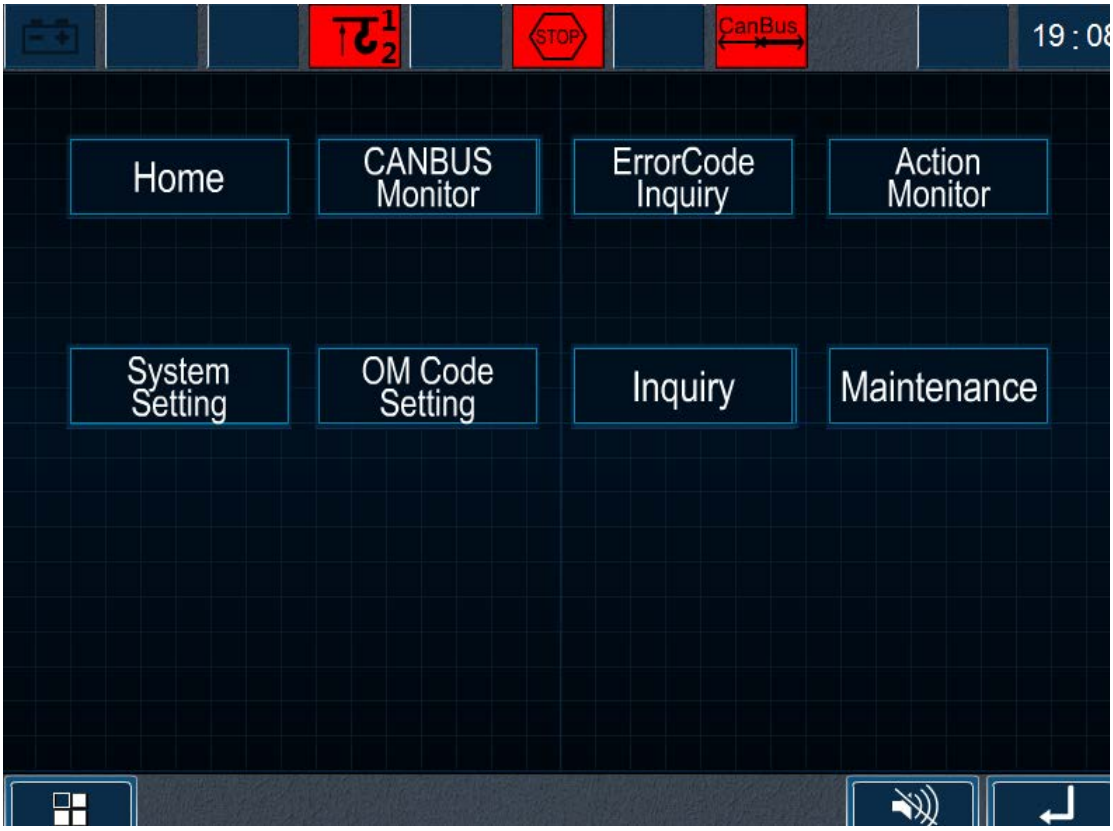


Figure 4-21 Navigation interface

CAUTION

If the hoisting limit switch, lowering limit switch, overload protection, hydraulic level low warning or pipe overpressure protection is activated, press function key F7 to switch off the alarm. But the current error cannot be eliminated. The error can only be rectified manually according to actual working conditions or the hints given by the system.

How to find the error hint:

(1) Press F5 to switch to relevant figure.

(2) Press F5 in switched figure.

(3) In the switched figure, press F4 again.

a) Boom status

Displays main boom length, angle, radius, height etc. If the jib is selected, it will also show the configuration of jib. Refer to Figure 4-22.

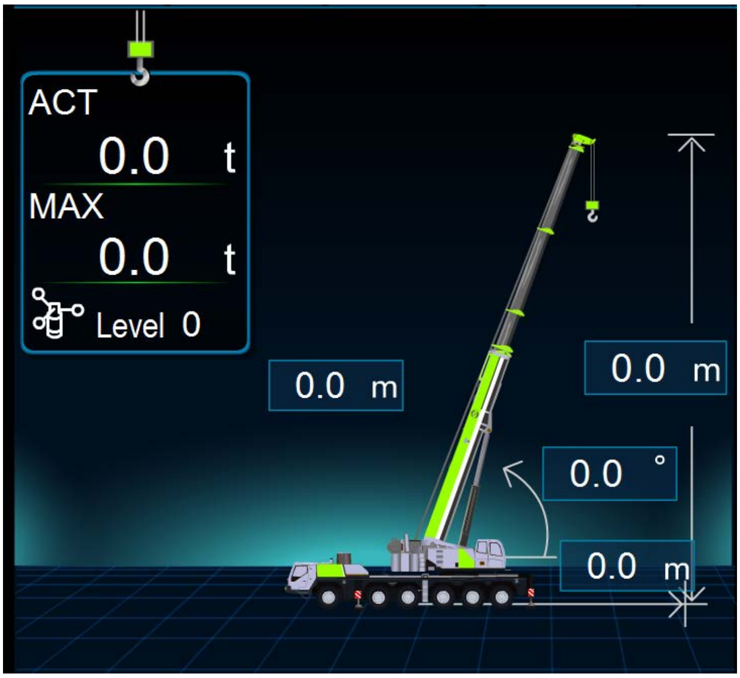


Figure 4-22 Boom status

b) Display of OM code, reeving, counterweight, the 5th outrigger, telescoping combinations etc. in real time and outrigger status, etc. Refer to Figure 4-23.

Figure 4-23 OM display

c) Displays

For the Instruments and pressure display, refer to Figures 4-24. For the description of displays, refer to Table 4-7.

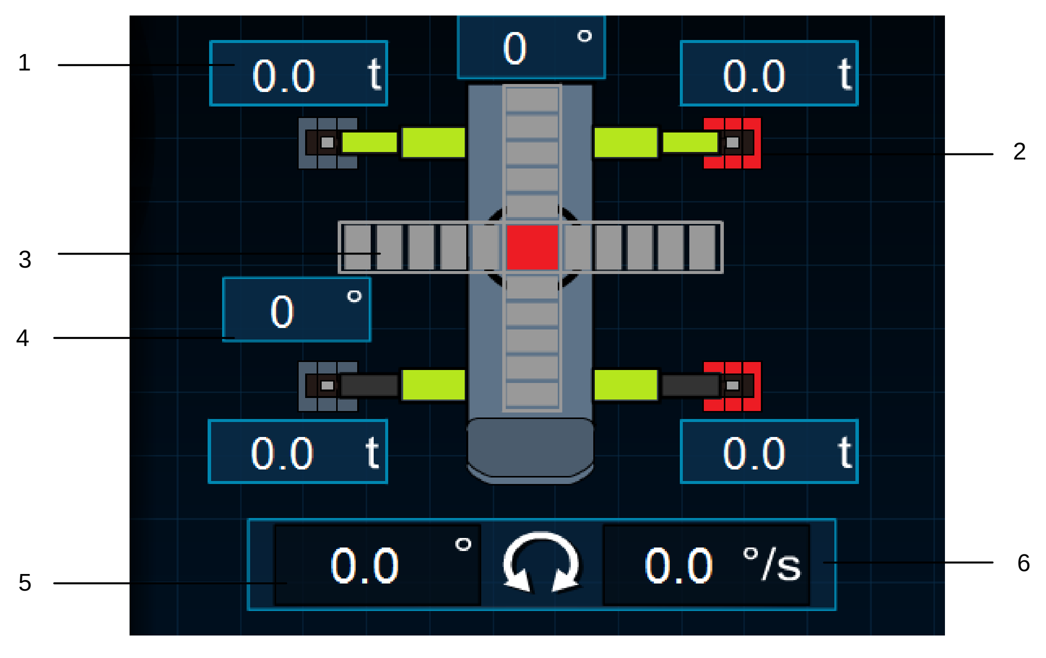


Figure 4-24 Outriggers and slewing status

Table 4-7 Outriggers and slewing status

Pos.	Description	Pos.	Description
1	Outrigger back pressure	4	Chassis frame levelness indication
2	Indication of fully extended vertical outriggers	5	Slewing angle
3	Chassis frame levelness cross cursor	6	Slewing speed

d) Load information (Refer to Figure 4-25)

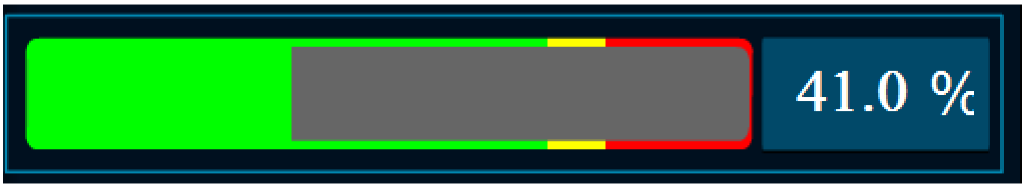


Figure 4-25 Load information

Display of load capacity bar (in percent, digital and graph) and wind speed grade.

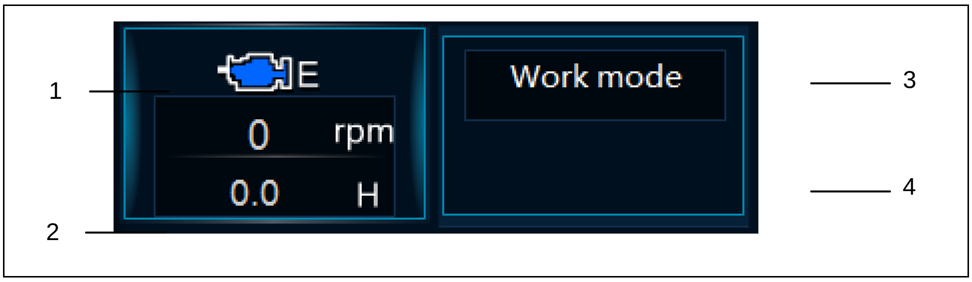


Figure 4-26 Speed and function buttons

Table 4-8 Speed and function buttons

Pos.	Description	Pos.	Description
1	Engine RPM	2	Engine working hours
3	Crane operating mode	4	Speed range

Position 4 in Figure 4-26 is a speed switch. When the button "Pre-selection of high / medium / low speed" is set into one of these three speeds, this switch will display the icon of a rabbit, tortoise or snail.

When the inching mode button on the switch panel is pressed, the current speed value is as shown in Figure 4-27. Activate the speed switch on left control box to regulate stepless speed adjustment of crane movements "derrick", "hoist" and "slew" between a speed range of 20%-100%.

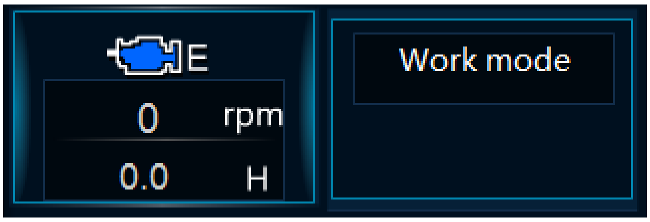


Figure 4-27 Speed display

As for the boom telescoping combination, refer to Figure 4-28. The combination indicates the current telescoping boom sections.

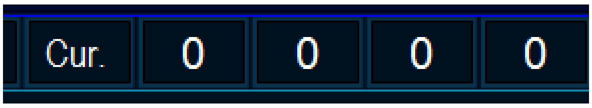


Figure 4-28 Boom telescoping combination display

As for the top indicators, refer to Figure 4-29. For the details, refer to Table 4-9.

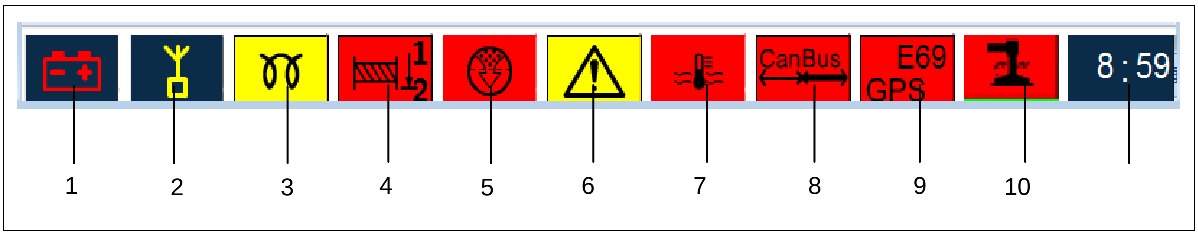


Figure 4-29 Top indicators

Table 4-9 Top indicators

Pos.	Description	Pos.	Description
1	Control light Charging monitoring	7	Warning light Engine coolant temperature high
2	Control light Counterweight remote control box / remote controller	8	Warning light CAN bus fault
3	Control light Preheating	9	Control light Error code of GPS
4	Warning light Hoisting limit switch / Lowering limit switch/ Warning of wind overspeed	10	Warning light Outrigger overpressure
5	Warning light Oil filter soiled	11	Current time display
6	Control light Error code of load moment limiter		

4.2.2.3 Setting up operating mode

Set an operating mode and boom section telescoping combination before telescoping.

Press function key F2 in Figure 4-20 (Main screen – configuration program) to switch to Figure 4-27, or reboot the load moment limiter to automatically enter into Figure 4-30.

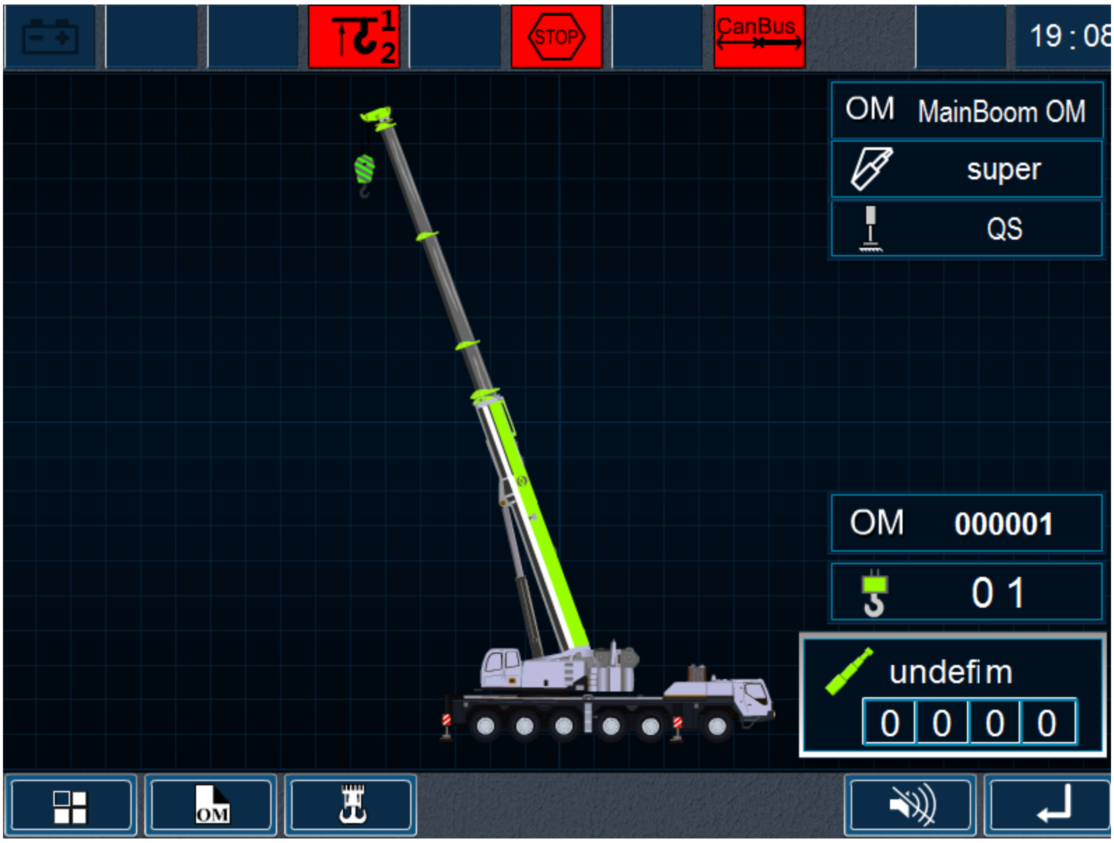


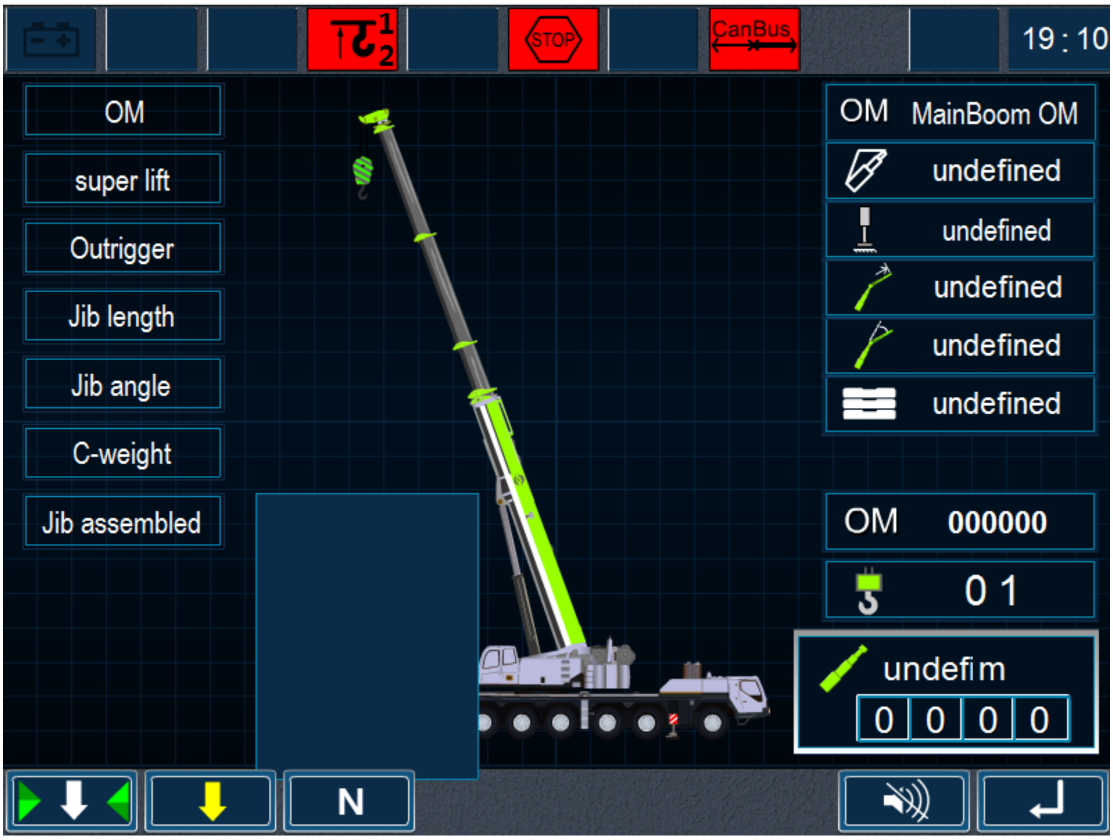
Figure 4-30 Set operating mode

Press key F2 in the OM selection interface to enter into the main OM selection interface. Refer to Figure 4-31.

Press key F2 to select the corresponding icons. When the icon turns yellow, press key F1 to confirm the current item. And then enter into the next OM selection.

Press key F3 to cancel the operation, and then automatically return to the previous interface.

After OM setting, press key F6 to confirm. The selected OM will display on the right interface.



OM MainBoom OM
undefined
undefined
undefined
undefined
undefined
OM 000000
0 1
undefim
0 0 0 0

Figure 4-31 Main operating mode setting inferface

Press key F3 to select the hook reeving in the OM selection interface. Refer to Figure 4-32. Press key F1 or F2 to move leftwards or rightwards to select the digits. The background of selected digit will turn blue. Press key F3 or F4 to increase or decrease the value (the range of value is from 0 to 9.). After selection, press key F6 to confirm. And pressing key F5 can cancel the operation. Pressing key F8 can return to the previous interface and exit.

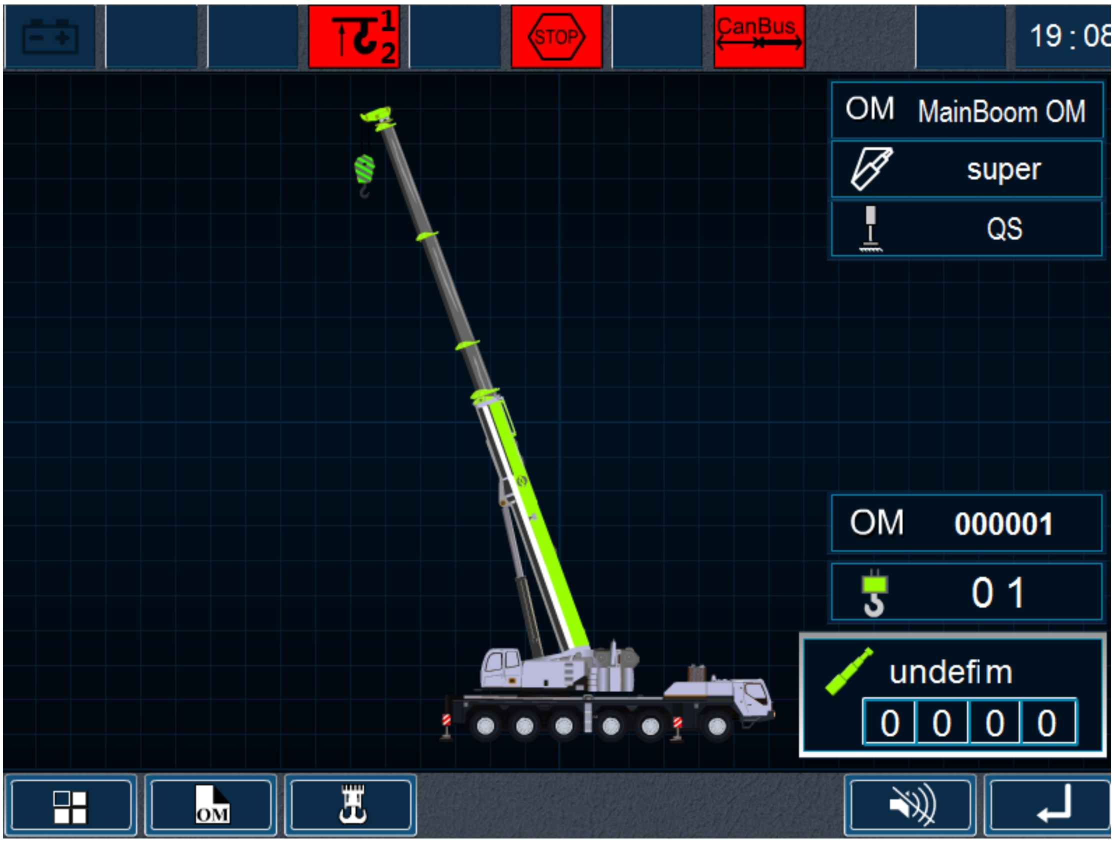


Figure 4-32 **Hook reeving selection interface**

4.2.3 Control interface instructions

4.2.3.1 Switching on the computer system and performing self-test

After the computer system is switched on, the load moment limiter performs a self-test to examine whether it can communicate with PLC controller and then synchronize the boom combination and GPS status with the control system. If no error is found during the system test, the monitor displays the interface as shown in Figure 4-34. Shortly after that, the screen as shown in Figure 4-35 appears on the monitor, showing information of engine, winch, system pressure and oil temperature, etc.

For the "Self-test passed" screen, refer to Figure 4-33.

Figure 4-33　Status synchronization interface

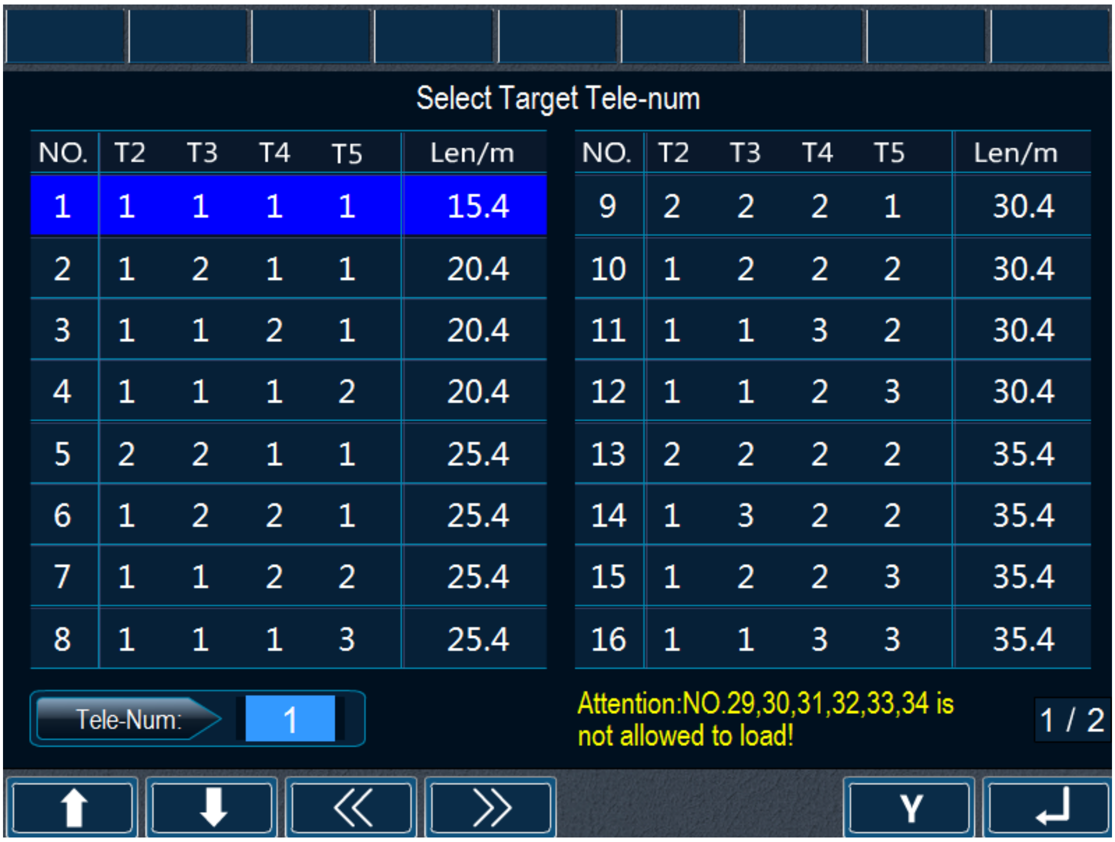
Tele-Num synch failed!
GPS synch failed!

Figure 4-34　Synchronization failure interface

Figure 4-35 Main control screen

Press key F4 in the main interface to enter into the telescoping combination selection interface. Refer to Figure 4-36.

Press key F1 or F2 to move upwards or downwards. Press key F3 or F4 to select the telescoping combinations. When the number of telescoping combination displays the current selected combination number, the background of the selected telescoping combination turns baby blue. Press key F7 to confirm the current selection. After the telescoping combination number displays, a green square frame with white check number icon appears. And also can click the telescoping combination number on the screen to bring up the keyboard to input the telescoping combination number. Click “OK” to confirm the current selection. The previous telescoping combinations will automatically skip into the corresponding combination display, and the backgound of it turns blue. Press key F8 to return and exit.



Select Target Tele-num

NO.	T2	T3	T4	T5	Len/m
1	1	1	1	1	15.4
2	1	2	1	1	20.4
3	1	1	2	1	20.4
4	1	1	1	2	20.4
5	2	2	1	1	25.4
6	1	2	2	1	25.4
7	1	1	2	2	25.4
8	1	1	1	3	25.4
9	2	2	2	1	30.4
10	1	2	2	2	30.4
11	1	1	3	2	30.4
12	1	1	2	3	30.4
13	2	2	2	2	35.4
14	1	3	2	2	35.4
15	1	2	2	3	35.4
16	1	1	3	3	35.4

Tele-Num: 1

Attention:NO.29,30,31,32,33,34 is not allowed to load!

Figure 4-36　Telescoping combination selection interface

⚠ CAUTION

(1) Only when the set OM is valid, can the telescoping operation be carried out.

(2) The operating mode highlighted in yellow is only for greasing the boom. Do not do lift operation at this time!

4.2.3.2 Main screen of the control interface

Crane needs maintenance, enter the maintenance interface to inquire the relevant content!

Table 4-10 Device control status monitoring interface

Pos.	Description	Pos.	Description
1	Warning and control light	5	Winch wire rope working status
2	Engine working status	6	Intelligent control
3	Functional icons	7	Text indication and warning
4	Instruments and pressure indication		

4.2.2.3 Telescoping operation

Two telescoping operation modes: manual / automatic

Automatic telescoping is strongly recommended.

The manual telescoping can only be activated when the automatic telescoping is invalid.

For boom combination illustration, refer to Figure 4-37:

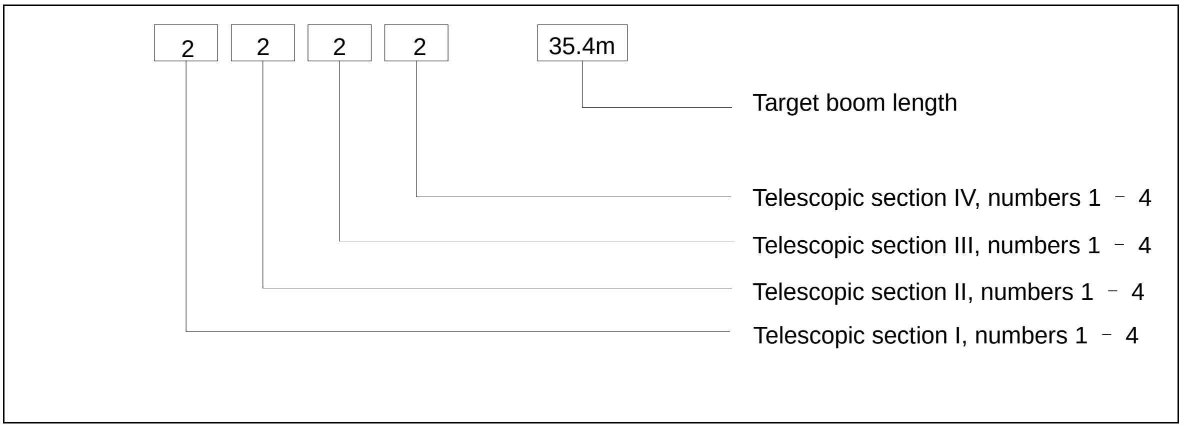


Figure 4-37 Boom combination

Numbers "I – IV": the corresponding telescopic section (highest number = furthest telescopic section)

Numbers "1 – 4": Telescopic section extension status (in percent %)

1: 0%	2: 46%	3: 92%	4: 100%

Automatic telescoping

The automatic telescoping has 3 steps in total.

Prerequisites:

Make sure that the following prerequisites are met:

- The valid operating mode has been set.
- The hoisting limit switch and lowering limit switch are not activated.
- Switch "pre-selection of derrick / telescope" as shown in Figure 4-38 has been set to "Telescope".
- Activate switches "cylinder pin operation" and "boom pin operation" as shown in Figure 4-38 to open the cylinder pin and the boom pin..
- Deactivate switches "automatic telescoping operation" and "manual telescoping operation" as shown in Figure 4-38.
- Activate the switch "pre-selection of normal speed / low speed / extremely low speed" as shown in Figure 4-38 in normal speed.
- Icon 🔧 does not appear. (For the details, refer to Figure 4-40).

⚠ CAUTION

(1) If a telescoping error is detected (the above red icon illuminates), telescope the boom manually until the error is removed.

(2) All prerequisites mentioned above must be met. Otherwise, the automatic telescoping operation cannot be activated.

(3) During automatic telescoping, ensure that the boom angle is not less than 80° 。

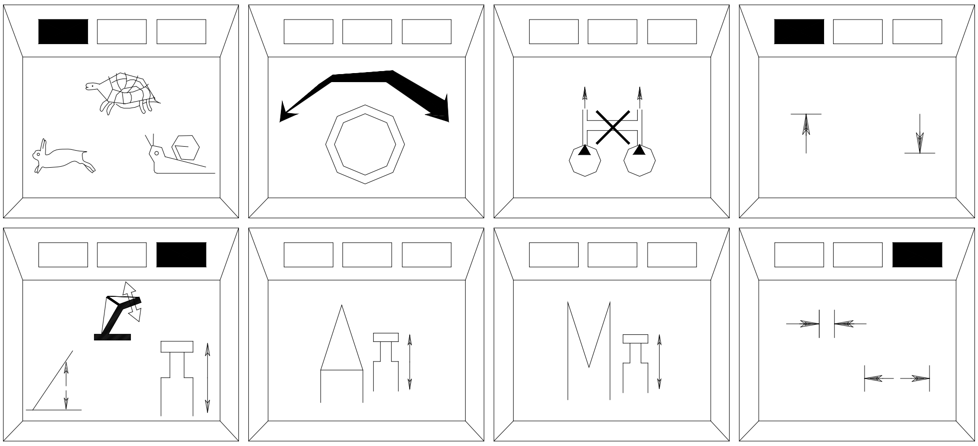
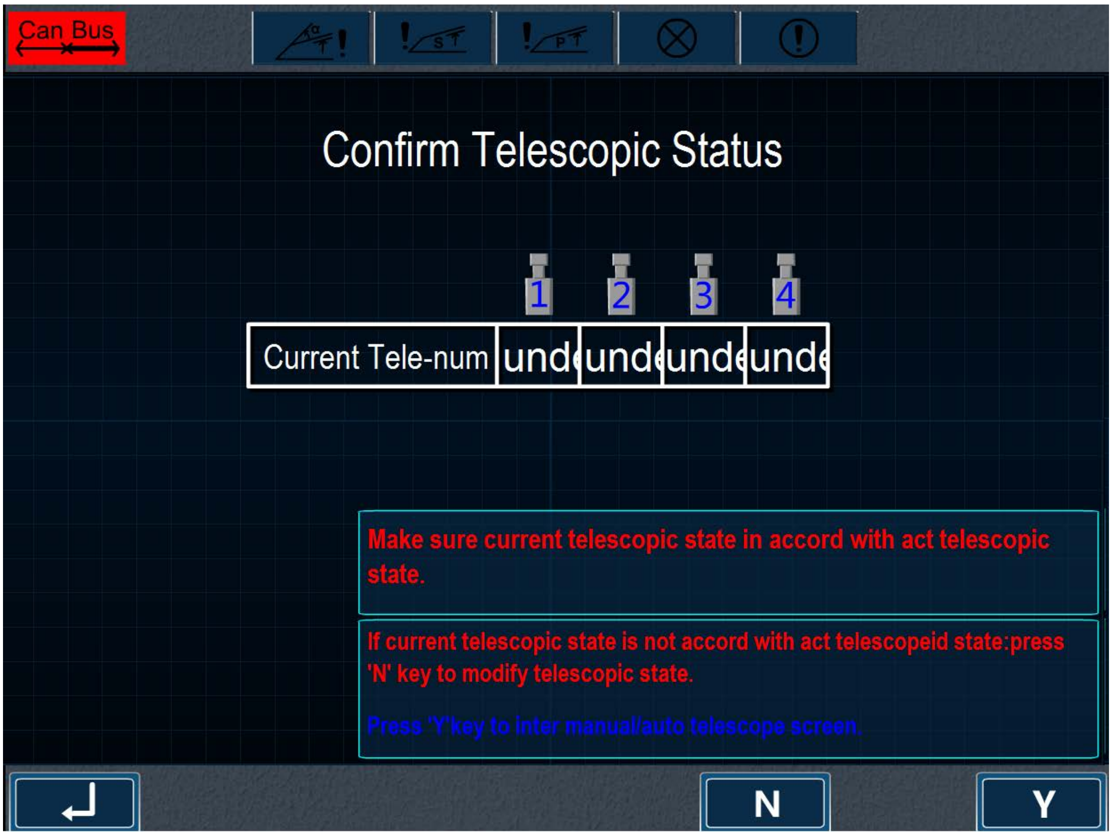


Figure 4-38 Automatic telescoping

Boom status

a) Make sure the current boom status is correct.

Press function key F3 in Figure 4-19 to switch to Figure 4-39. Confirm current boom status.



Confirm Telescopic Status

Current Tele-num | unde | unde | unde | unde

Make sure current telescopic state in accord with act telescopic state.

If current telescopic state is not accord with act telescopeid state:press 'N' key to modify telescopic state.

Press 'Y'key to inter manual/auto telescope screen.

Figure 4-39 Confirm current boom status

If the current boom status matches with the actual one, press function key F8 for confirmation.

If the current boom status does not match with the actual one, press function key F6 for modification. As for how to modify the boom status, please refer to following instructions. Refer to Figure 4-43.

⚠ DANGER

It is very important to confirm the current boom status!

Improper setting will result in incorrect telescoping movement and cause fatal accidents!

After current boom status is confirmed, the system will switch to Figure 4-40.

Top display area displays the following parameters:

(1) Boom length

(2) Boom angle

(3) Working radius

(4) Wind speed.

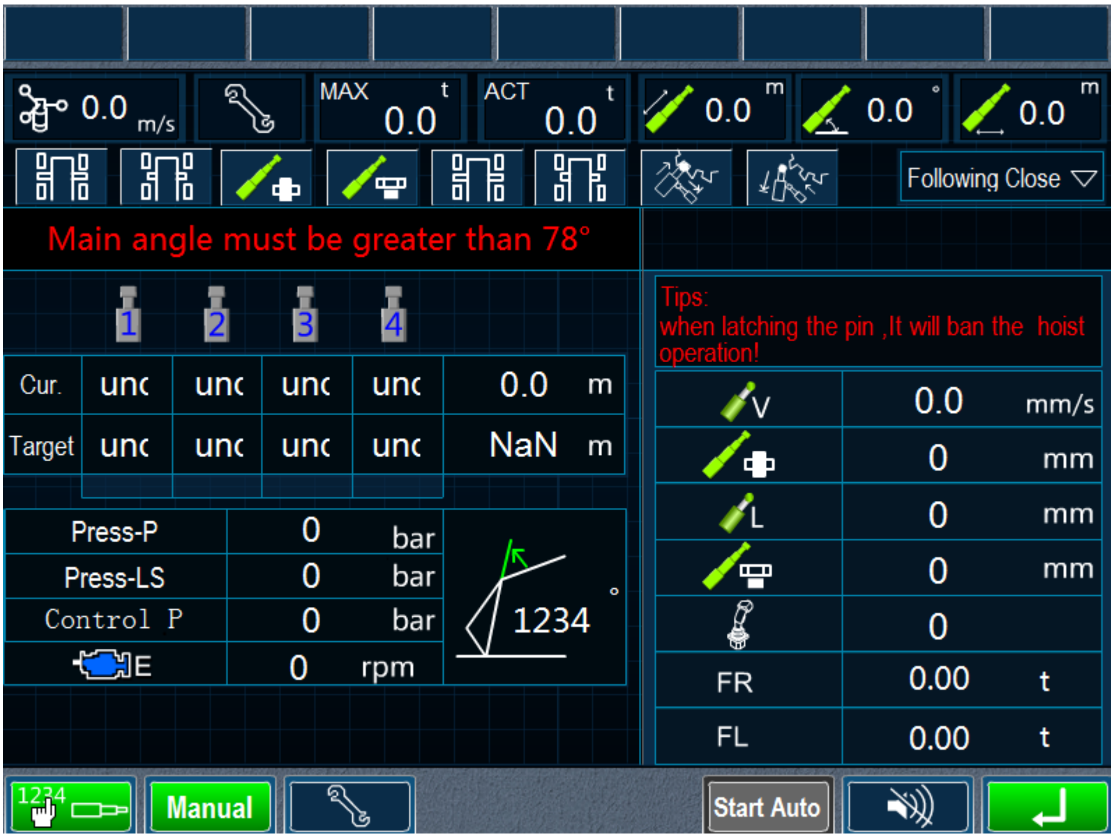
Main display area displays:

(1) Control light icons

(2) Current boom status

(3) Target boom status

b) Information about boom pin, cylinder pin and other related information.



Main angle must be greater than 78°

Tips:
when latching the pin ,It will ban the hoist operation!

	1	2	3	4		
Cur.	unc	unc	unc	unc	0.0	m
Target	unc	unc	unc	unc	NaN	m

Press-P	0	bar
Press-LS	0	bar
Control P	0	bar
E	0	rpm

1234 °

V	0.0	mm/s
	0	mm
L	0	mm
	0	mm
	0	
FR	0.00	t
FL	0.00	t

Figure 4-40 Telescoping

Control light icons: (the icons on the upper side are corresponding to the control lights on the instrument panel)

Refer to Figure 4-41.

For the description of control light icons, refer to Table 4-11.

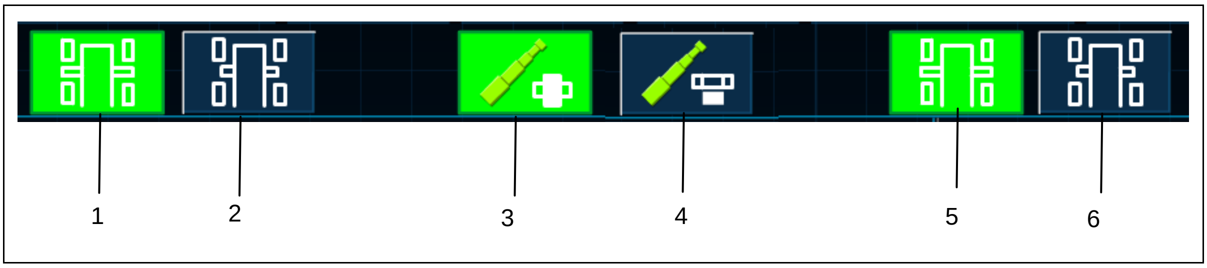


Figure 4-41 Control light icons

Table 4-11 Description of control light icons

Pos.	Description	Pos.	Description
1	Left cylinder pin opened	4	Boom unpinned
2	Left cylinder pin closed	5	Right cylinder pin opened
3	Boom pinned	6	Right cylinder pin closed

c) Telescope the boom sections automatically

1) Make sure that the following prerequisites are met:

- – Keys Manual and ↲ are highlighted in green.
- – Key Start is highlighted in green.

2) Press function key F6.

Keys Manual, ↲ and Start will be highlighted in grey.

3) Activate the switch "automatic telescoping operation" (refer to Figure 4-32). Namely, the middle light on the switch panel turns red. The telescopic boom begins to initiate automatic telescoping movement.

Note:

The keys Manual and ↲ will be highlighted in green if the telescopic sections achieve their target status.

Error calling up:

If an error is detected during telescoping, the telescoping movements will stop automatically and this icon " 🔧 " will be highlighted in red.

Press F3 to switch to Figure 4-42.

The content highlighted in red are the detailed error information.

Rectify the errors manually according to the instructions.

Boom Telescope Errors

invalid target tele state	○	invalid tel switch state	○
invalid current tele state	○	cylinder pin not restracted or boom pin not extend	○
invalid boom pin	○	cylinder pin not extend or boom pin not restracted	○
invalid left cylinder pin	○	leaning backward unexecuted	○
invalid right cylinder pin	○	VI boom out of range	○
cylinder length out of range	○	boom pin forward overtime	○
invalid boom code	○	leaning backward overtime	○
boom pin not retracted	○	cylinder pin pull backward overtime	○
cylinder pin not retracted	○	cylinder pin push forward overtime	○
cylinder up out of range	○	cylinder pin switching valve overtime	○
cylinder down out of range	○	release cylinder pin overspeed	○
boom up out of range	○	release boom pin overspeed	○
boom down out of range	○		

Figure 4-42 Boom telescope errors

Modify the current boom status:

Before switching to Figure 4-40, confirm the current boom status (Refer to Figure 4-39) first.

If the displayed boom status differs from the actual one, press function key F6 “N” to switch to Figure 4-43 for modification.

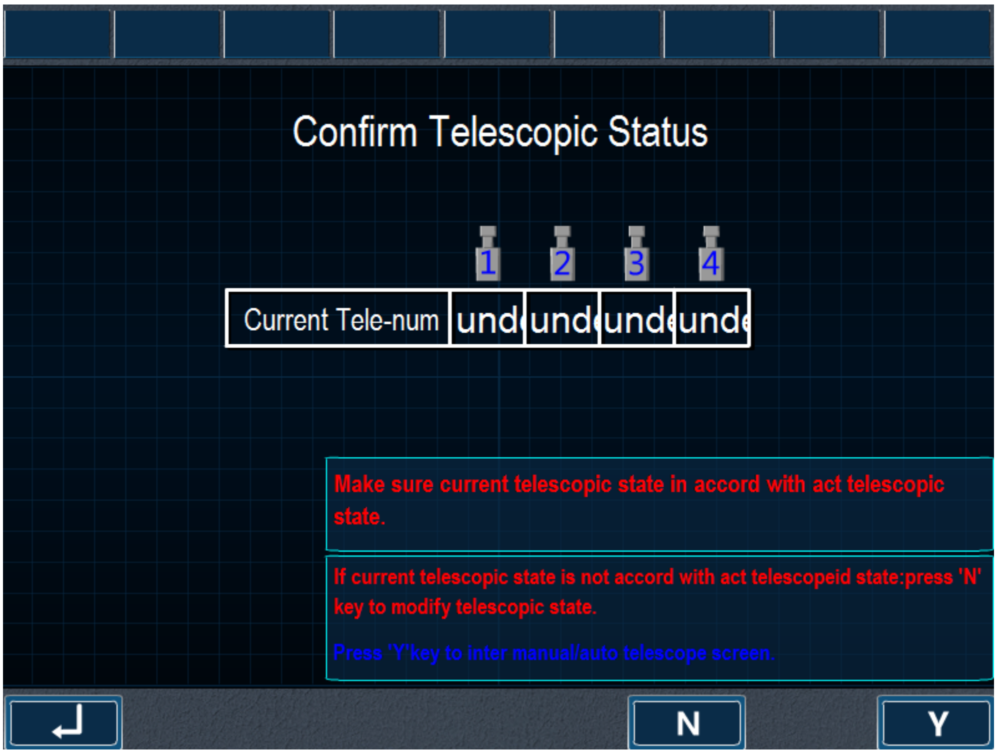
How to modify the current boom status (Refer to Figure 4-44):

a) Press function keys F1, F2 and F3 to select the corresponding telescopic section which needs to be modified.

b) Press function keys F5 / F6 to increase / decrease the numerical values.

c) Press function key F7 “Y” for confirmation.

After entering correct password, the current boom status modification interface appears. Refer to Figure 4-44.



Confirm Telescopic Status

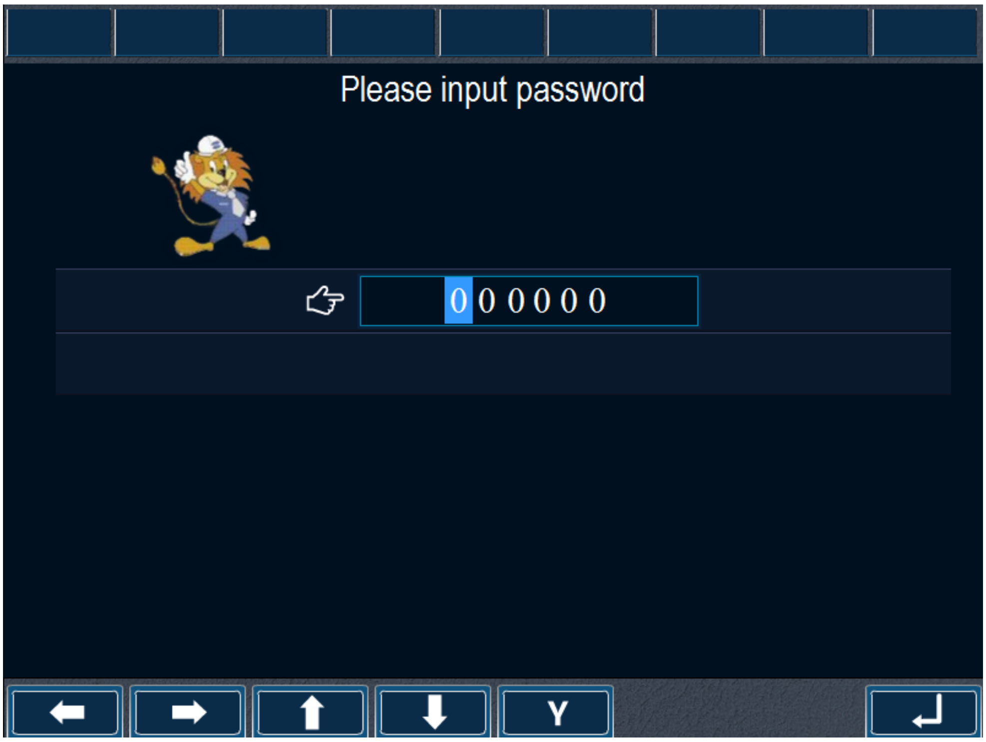
Current Tele-num: und und und unde

Make sure current telescopic state in accord with act telescopic state.

If current telescopic state is not accord with act telescopeid state:press 'N' key to modify telescopic state.

Press 'Y'key to inter manual/auto telescope screen.

Figure 4-43 Current boom status modification



Please input password

0 0 0 0 0 0

Figure 4-44 Enter password

DANGER

It is very important to confirm the current boom status. If the current boom status is set incorrectly, risk of fatal danger! If you need the password, please contact our technician.

CAUTION

Because the manual telescoping is complex, it is recommended to initiate manual telescoping only when the automatic telescoping is invalid.

Manual telescoping

The manual telescoping has 6 steps in total.

a) The valid operating mode has been set. For details, please refer to the instructions in “Automatic telescoping”.

b) Switch “pre-selection of derrick / telescope” has been set to “Telescope”.

c) Activate switches “cylinder pin operation” and “boom pin operation” to open the cylinder pin and the boom pin.

d) Deactivate switches “automatic telescoping operation” and “manual telescoping operation” (Refer to Figure 4-32).

CAUTION

During manual telescoping, individual close or open the pins, the boom angle is permitted to be lower than 80°, but higher than 60°. However, the operator should select a safe angle according to actual boom length to ensure the safety of telescoping.

e) Press function key F2 in Figure 4-40 to switch to Figure 4-45.

f) Telescope boom sections manually.

In Figure 4-45, if the above prerequisites are met, “Manual start” will be highlighted in green.

In that case:

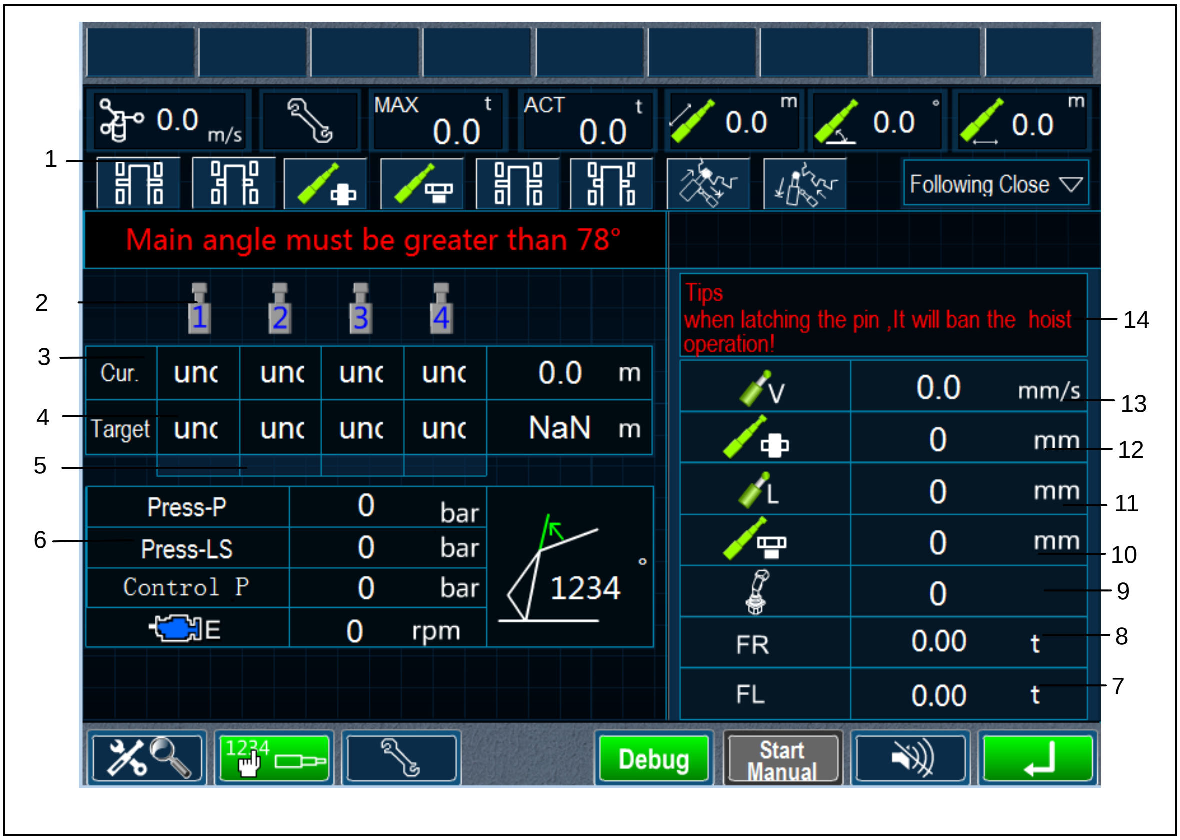
1) Press function key F6.

“Manual start” and ↵ will be highlighted in grey.

2) Activate the switch “manual telescoping operation” in the switch panel.

3) Move the right joystick.

4) Set the corresponding switch to the required position to telescope boom sections manually.



Main angle must be greater than 78°

Tips
when latching the pin ,It will ban the hoist operation!

Figure 4-45 Boom status during manual telescoping

Table 4-12 Manual telescoping interface

Pos.	Description	Pos.	Description
1	Control light icons	8	Right superlift tension force
2	Boom code	9	Telescoping control value
3	Current status	10	Telescoping cylinder unlocking position
4	Target status	11	Real-time cylinder length
5	Target telescopic section	12	Telescoping cylinder locking position
6	Pressure and speed display	13	Telescope speed
7	Left superlift tension force	14	Telescoping caution reminding

CAUTION

Observe the following instructions when carrying out manual telescoping operation.

a) Unlock the telescoping cylinder

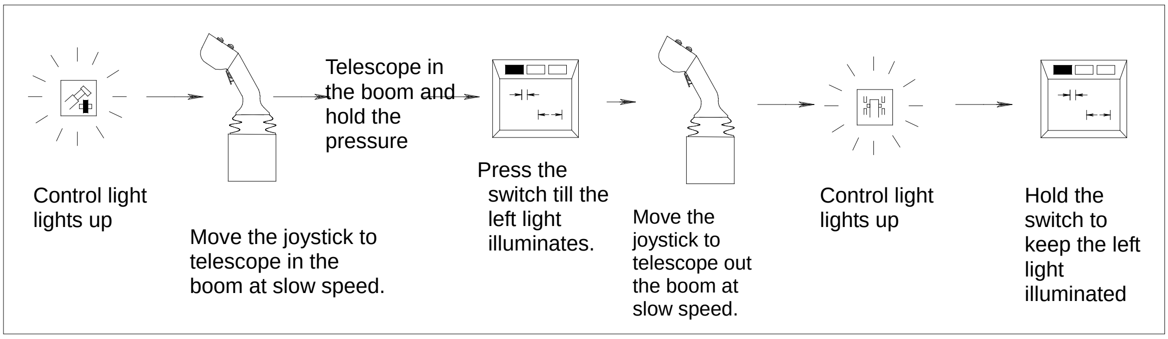


Figure 4-46 Unlock the telescoping cylinder

DANGER

Do not unlock the cylinder until the icon "Boom pinned" lights up. Otherwise, risk of serious damage!

b) Lock the telescoping cylinder

When you unlock the telescoping cylinder manually, you can extend the cylinder pin in advance. That is to say, when the telescoping cylinder enters into the target telescopic section and the corresponding control light "Target telescopic section" illuminates, you can extend the cylinder pin. Then you extend or retract the telescoping cylinder continuously until the telescoping cylinder is locked with the telescopic section.

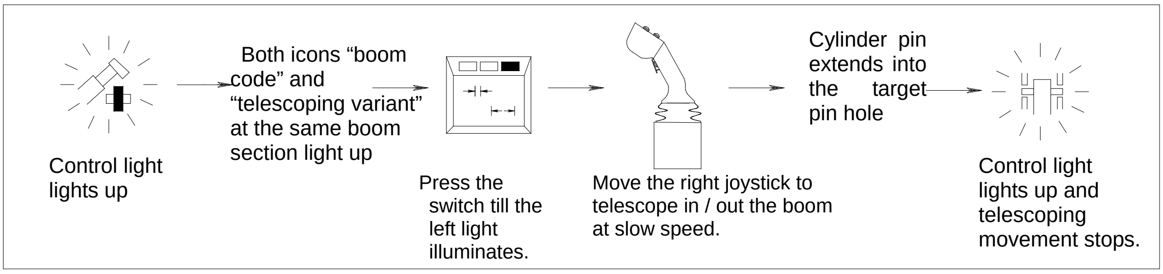
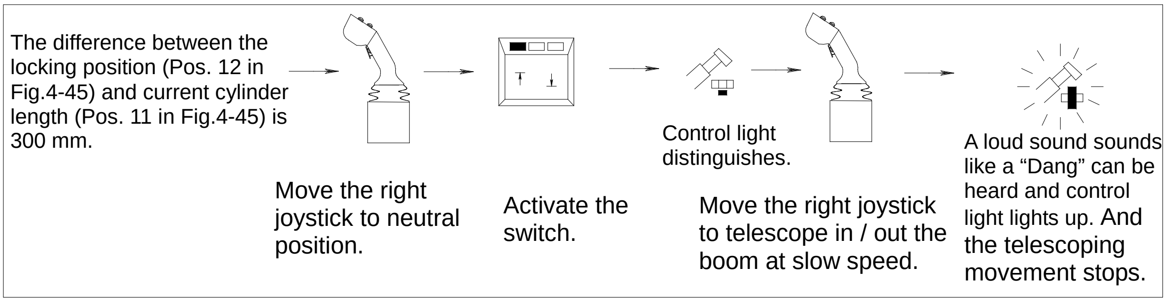


Figure 4-47 Lock the telescoping cylinder

c) Pin the telescopic section



The difference between the locking position (Pos. 12 in Fig.4-45) and current cylinder length (Pos. 11 in Fig.4-45) is 300 mm.

Move the right joystick to neutral position.

Activate the switch.

Control light distinguishes.

Move the right joystick to telescope in / out the boom at slow speed.

A loud sound sounds like a "Dang" can be heard and control light lights up. And the telescoping movement stops.

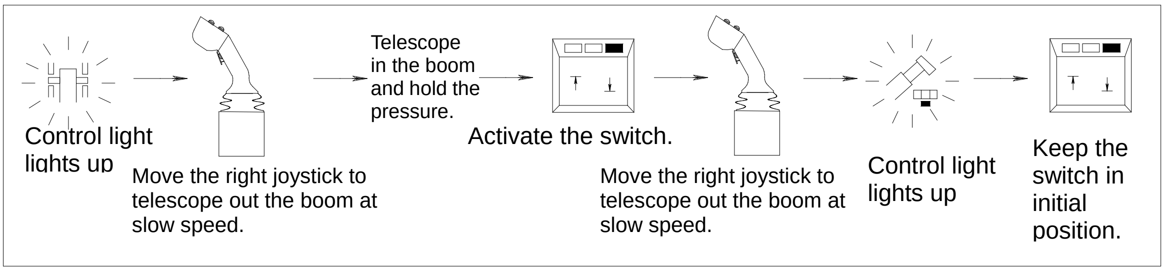
Figure 4-48 Pin the telescopic section

⚠ CAUTION

In the program, initiate the movement "Telescope boom out / in" slowly if boom pin is released. Turn the switch "Pre-selection of normal speed / low speed / extremely low speed" to the right position to apply the slow gear to the telescoping movement.

It is recommended to activate the right joystick and slowly telescope the boom in / out to prevent the boom pin from exceeding its target pin hole.

d) Unpin the telescopic section



Control light lights up

Move the right joystick to telescope out the boom at slow speed.

Telescope in the boom and hold the pressure.

Activate the switch.

Move the right joystick to telescope out the boom at slow speed.

Control light lights up

Keep the switch in initial position.

Figure 4-49 Unpin the telescopic section

⚠ CAUTION

Make sure the telescoping cylinder is locked and the boom pin is operational (the two icons on the right light up) before unpinning the telescopic sections.

If the icon "Boom pinned" goes out after the switch "Pre-selection of cylinder pin / boom pin operation" is set to the right position, but icon "Boom unpinned" does not light up and the value shown on pressure gauge keeps about 130 bar.

1) Stop closing the boom pin.
2) Release boom pin till icon "Boom pinned" lights up.
3) Close the boom pin again.

CAUTION

(1) During manual telescoping, slowly telescope the boom with a large boom angle (slow gear is recommended) if the boom section is unpinned. Accelerate telescoping operation after the telescoping cylinder retracts for a certain length.

(2) In automatic telescoping operation, if the boom is retracted at very low speed, observe whether the boom tends to descend. If it does, grease the boom sections.

e) Limitations for manual telescoping operation

The movement “Extend the telescoping cylinder” will be switched off automatically to prevent the telescoping cylinder from being damaged if following prerequisites are met:

1) All telescopic sections are telescoped in completely.
2) Telescoping cylinder is unlocked.
3) Telescoping cylinder is in the tail of telescopic section IV.
4) Continually extend until the control light ‘Boom code” of telescopic section IV extinguishes.

f) Methods for identifying which boom section is carrying out movement

Observe the manual and automatic telescoping monitor interface. Refer to Figure 4-50.

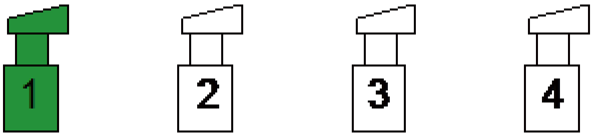


Figure 4-50 Current telescopic section display

The icon of telescopic section I is highlighted in green which indicates the telescopic section I is to carry out relevant movements.

g) If the boom section is unpinned, position 10 (Telescoping cylinder unlocking position) in Figure 4-45 displays the current pin hole position, and position 12 (Telescoping cylinder locking position) displays the target pin hole position. The length of the cylinder changes in real-time with movement of the joystick.

Note:

Cylinder length 1 indicates the position to close the boom pin. Cylinder length 2 indicates the position to open the boom pin. Refer to Figure 4-45.

The length of telescoping cylinder shown in icon 7 will vary with the moving of joystick.

h) Position 5 (Target telescopic section) in Figure 4-45 indicates that the corresponding boom section highlighted in green will carry out relevant movements in manual telescoping mode. For example, in screen "Boom status during manual telescoping" (Figure 4-45), the highlighted section is telescopic section 1. So, the telescopic section 1 is to carry out telescoping movements.

⚠ CAUTION

(1) In the automatic telescoping operation, the telescoping cylinder will drive the boom to retract automatically if the telescopic section is unpinned (the control light "Boom unpinned" lights up).

If the boom does not retract for a long time:

- **Change into manual telescoping.**
- **Extend the boom for 5 – 14 mm with slow gear (the second stage).**
- **Retract it again with slow gear (the second stage).**

Note:

Crane movements "Telescope" have 2 stages:

- **1 (extremely slow): intermediately deflect the right joystick to the right / left**
- **2 (slow): fully deflect the right joystick to the right / left**

In this case, the operator must observe the above procedures. Otherwise, risk of great impact on the boom during retracting.

(2) If the boom pin cannot be closed during the process of telescoping in the boom automatically:

- **Change into manual telescoping.**
- **Open the boom pin manually until the icon "Boom pinned" lights up.**
- **Change to automatic telescoping again.**

If the boom pin still cannot be closed, repeat above steps.

(3) If the icon "Boom telescoping fault" lights up during automatic telescoping operation under the condition that the crane has worked for a long time:

- **Change automatic telescoping to manual telescoping.**
- **Extend the telescoping cylinder with slow gear (the second stage) until the length of the telescoping cylinder varies.**

  If the control light "Boom pin operational" lights up during extending the cylinder, retract the telescoping cylinder till both the control light "Cylinder pin exceeding its target hole" and control light "Cylinder pin not reaching its target hole" all light up.
- **Change to automatic telescoping again.**

4.2.3.4 Superlift operation

CAUTION

Pre-select the superlift OM in the "Operating mode pre-selection" screen as shown in Figure 4-51 before relevant operations! Otherwise, the superlift mast has no motion.

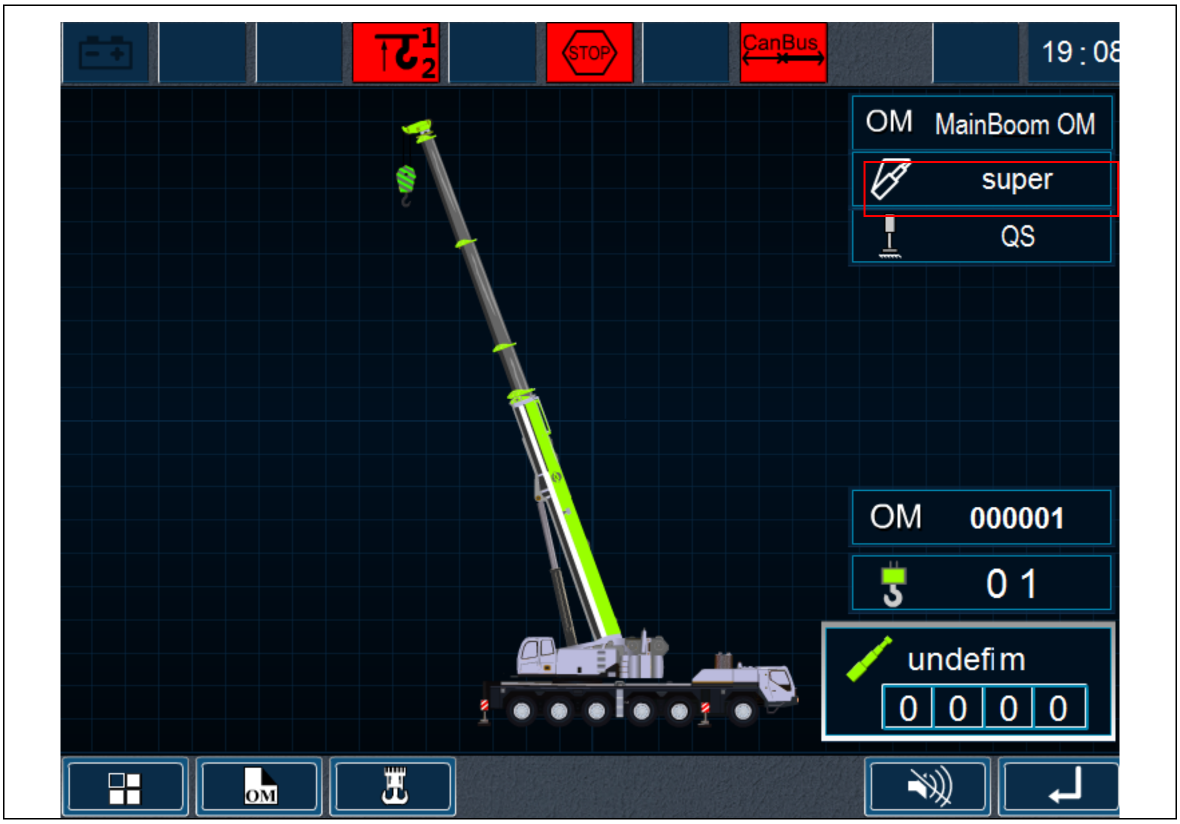


Figure 4-51 Superlift OM pre-selected

4.2.3.4.1 Derricking, opening and closing of superlift mast

There are two operating methods for derricking, opening and closing of the superlift mast:

- Use the pre-selection switches on the control panel of the right control box. Refer to the operating instructions in Section 4.1.5.2: *Right control box*.
- Operate in the screen "Derricking, opening and closing of superlift mast" shown in Figure 4-52.

How to operate:

- Press the function key  in screen to switch to Figure 4-52.
- Press the relevant function keys or icons to operate the superlift masts.
- The relevant icons will be highlighted in green.

⚠ CAUTION

If the control lights of two superlift mast A and B control switches on the right control box do not illuminate simultaneously, the icon "Pre-selection of Superlift mast A and B" on the screen is invalid.

Left and right superlift mast selection in the 8-key switch panel

Figure 4-52 Derricking, opening and closing of superlift mast

a) The numbers under the letter "A" and "B" in the above figure indicate the actual opening angle of the superlift mast A and B respectively.

b) The numbers above the letter "A" and "B" refer to the target opening angles of the superlift mast A and B respectively. The superlift mast should be guyed to the corresponding angle under the required operating mode.

Note:

The superlift mast A (left) and B (right) are viewed in the direction from the operator's cab to the boom head.

⚠ CAUTION

Before derricking the superlift mast, push the top of the mast to its limit position, namely enable the superlift derricking cylinder to hold its pressure.

4.2.3.4.2 Locking and unlocking of the ratchet wheels

4.2.3.4.2.1 Locking devices for the ratchet wheels

The locking device installed on both upper ends of the two superlift masts can lock and unlock the ratchet wheels.

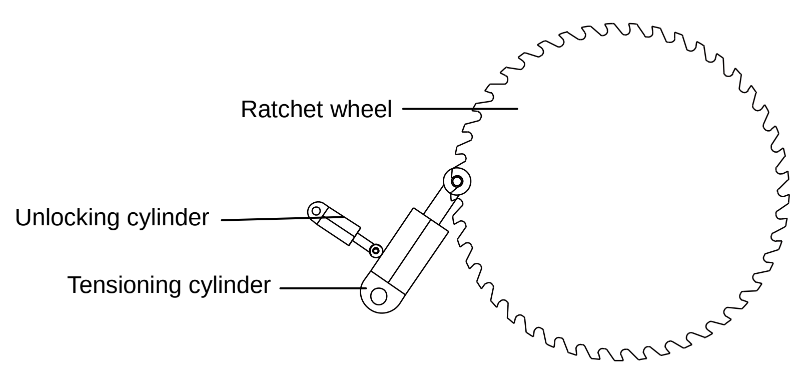


Figure 53 Locking device for the ratchet wheel

a） Ratchet wheel

You can press relevant function keys or icons on the screen of load moment limiter monitor to spool up or reel off the ratchet wheels.

⚠ CAUTION

Unlock the ratchet wheel before you perform the operations below:

- **Spool up / reel off the guy winches.**
- **Telescope in / out the boom.**
- **Derrick up / down the superlift mast.**

b） Tensioning cylinder

You can press the function keys or icons on the screen of load moment limiter monitor to extend or retract the tensioning cylinder. The corresponding icons will appear on the monitor to indicate the extension and retraction status (fully extended or retracted) of tensioning cylinder.

You should extend the tensioning cylinder to lock the ratchet wheel and fully retract the tensioning cylinder before unlocking the ratchet wheel.

c） Unlocking cylinder

You can press the function keys or icons on the screen of load moment limiter monitor to retract the unlocking cylinder. The corresponding icons will appear on the monitor to indicate the retraction status (fully retracted) of unlocking cylinder.

You should fully retract the unlocking cylinder before unlocking the ratchet wheel.

The unlocking cylinder has an automatic resetting device. The resetting device can make the cylinder extend automatically when the retraction operation is not used.

4.2.3.4.2.2 Locking status of the ratchet wheel

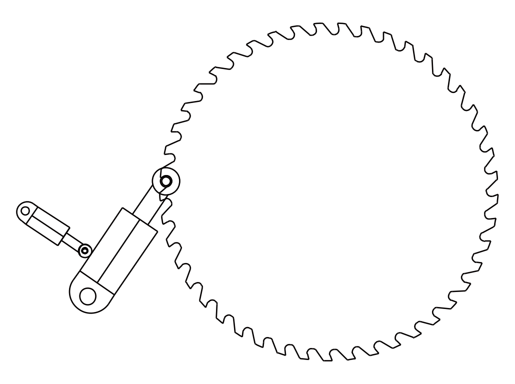


Figure 4-54 Locking status of the ratchet wheel

a) Ratchet wheel locked

As shown in the Figure 4-54, the ratchet wheel is locked.

At this time, the following conditions occur:

- The locking pin at the head of tensioning cylinder enters into the gullet of the ratchet wheel and the icon "Tensioning cylinder fully extended and locked with the ratchet wheel" appears.
- The pressure of the tensioning cylinder or the tension of wire rope on the ratchet wheel reaches the set value.

⚠ CAUTION

Lock both the ratchet wheels before you begin a lift operation. Otherwise, risk of danger!

b) Ratchet wheel unlocked

As shown in the Figure 4-55, the ratchet wheel is unlocked.

At this time, the following conditions occur:

- The tensioning cylinder fully retracts and the control light icon "Tensioning cylinder fully retracted" appears.
- The unlocking cylinder fully retracts and the control light icon "Unlocking cylinder fully retracted" appears.

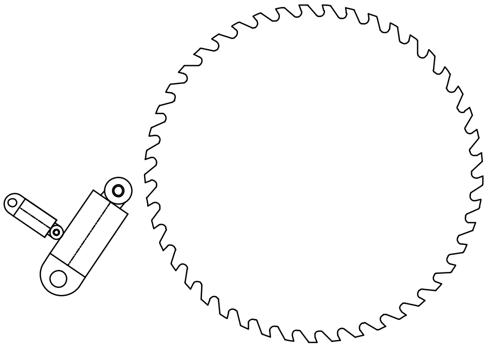


Figure 4-55　Ratchet wheel unlocked

⚠ CAUTION

Unlock both the ratchet wheels before you spool up / reel off the ratchet wheels or telescope in / out the boom. Otherwise, risk of danger!

4.2.3.4.3 Automatic locking and unlocking of the ratchet wheels

In the screen "Derricking, opening and closing of the superlift mast" as shown in Figure 4-52, press function key « to switch to Figure 4-56. You can lock and unlock the ratchet wheels in this screen.

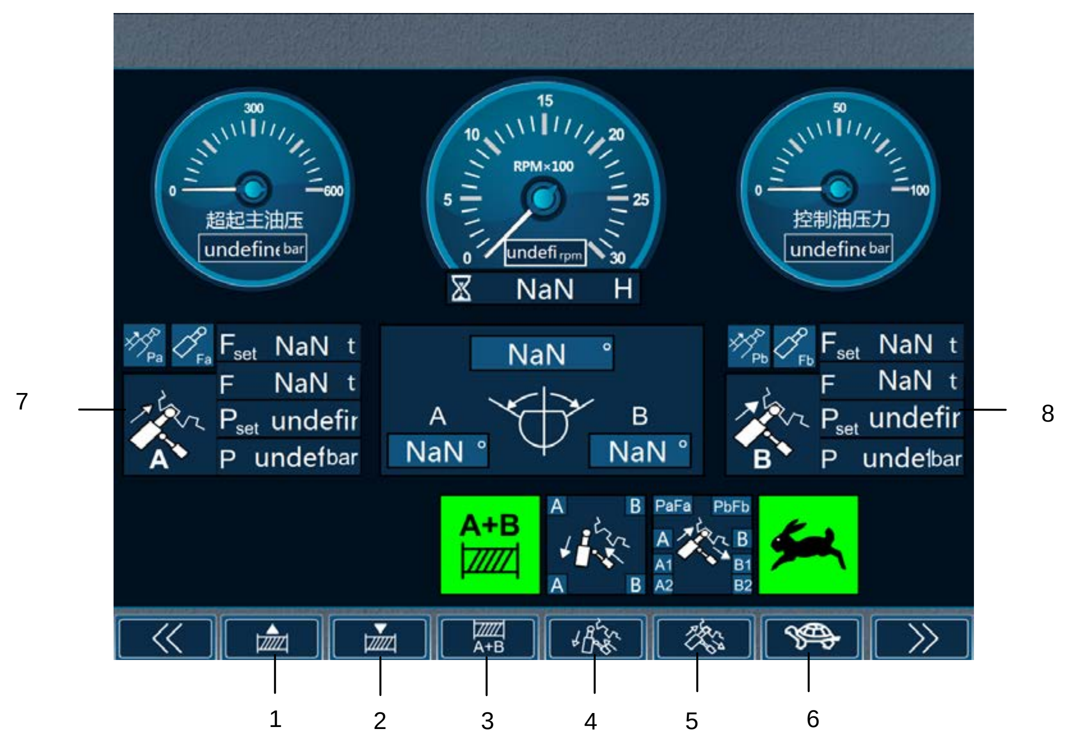


Figure 4-56　Automatic locking and unlocking of the ratchet wheels

Pos.	Description	Pos.	Description
1	Reel off ratchet wheel A or B	5	Automatically lock the ratchet wheel
2	Spool up ratchet wheel A or B	6	Select rapid gear / slow gear
3	Spool up ratchet wheel A or B	7	Locking status of superlift mast A
4	Automatically unlock the ratchet wheel	8	Locking status of superlift mast B

4.2.3.4.3.1 Automatic unlocking of the ratchet wheels

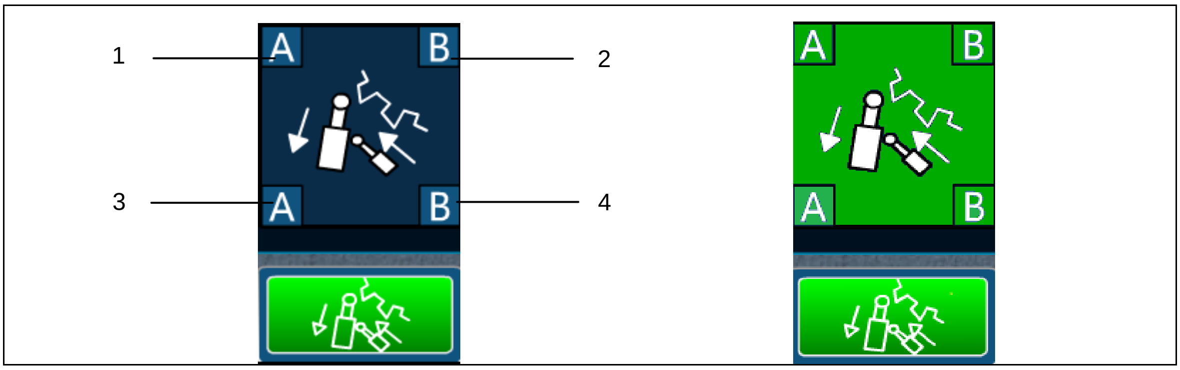


Figure 4-57 Function key and icon status, automatically unlocking of the ratchet wheels

1 Icon A indicates the retraction state of unlocking cylinder A. When the unlocking cylinder A is fully retracted, the icon is highlighted in green. Refer to the left figure in Figure 4-42.

2 Icon B indicates the retraction state of unlocking cylinder B. When the unlocking cylinder B is fully retracted, the icon is highlighted in green. Refer to the left figure in Figure 4-42.

3 Icon A indicates the retraction state of tensioning cylinder A. When the tensioning cylinder A is fully retracted, the icon is highlighted in green.

4 Icon B indicates the retraction state of tensioning cylinder B. When the tensioning cylinder B is fully retracted, the icon is highlighted in green.

Press the function key in the left figure in Figure 4-57, the relevant icons are highlighted in green and the system will unlock the ratchet wheel automatically. When the four icons are all highlighted in green, the background lighting is highlighted in green, and the ratchet wheel has been unlocked.

If you need to keep the unlocking status, do not reset the function key. Otherwise, the unlocking cylinder will extend automatically. Refer to the right figure in Figure 4-57.

⚠ CAUTION

(1) Do not use the function key to automatically unlock the ratchet wheels until the four detection signals are functional!

(2) Reset the function key after relevant operations!

(3) **Before boom telescoping, press the function key to unlock the ratchet wheel. After completion, reset the function key and then switch to the "Boom telescoping" screen.**

4.2.3.4.3.2 Automatic locking of the ratchet wheels

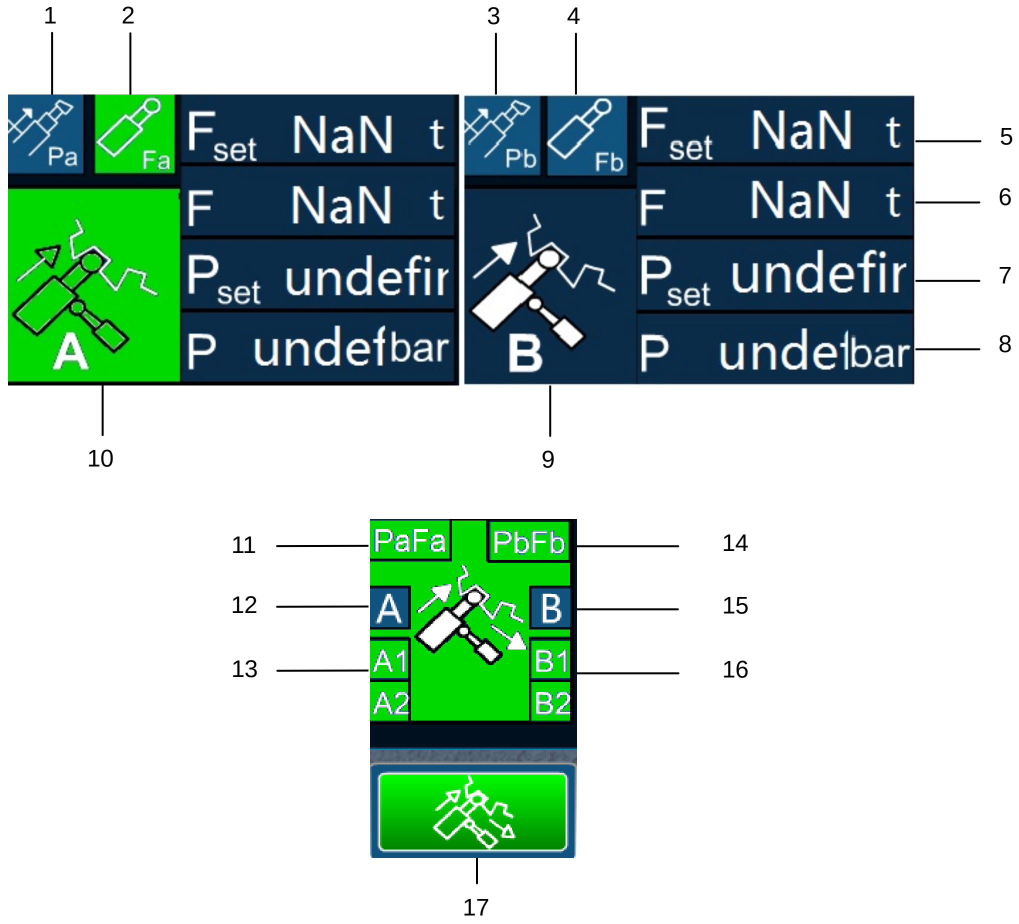


Figure 4-58 Function key and icon status, automatically locking of the ratchet wheels

Table 4-13 Function key and icon status, automatically locking of the ratchet wheels

Pos.	Description
1	The pressure of tensioning cylinder A reached the set value
2	The tension of rope on superlift mast A reached the set value
3	The pressure of tensioning cylinder B reached the set value
4	The tension of rope on superlift mast B reached the set value
5	The set rope tension when the tensioning cylinder is fully extended
6	The actual rope tension

Pos.	Description
7	The set pressure of tensioning cylinder when the tensioning cylinder is fully extended
8	The actual pressure of tensioning cylinder
9	Ratchet wheel B locked
10	Ratchet wheel A locked
11	The pressure of tensioning cylinder A or tension of rope on Superlift mast A reached the set value
12	Tensioning cylinder A fully extended
13	Locking pins for ratchet wheel A have entered into the gullet
14	The pressure of tensioning cylinder B or tension of rope on Superlift mast B reached the set value
15	Tensioning cylinder B fully extended
16	Locking pins for ratchet wheel B have entered into the gullet
17	Function key, automatically lock the ratchet wheels

1 When the pressure of tensioning cylinder A has reached the set value, the icon is highlighted in green. At this time, the tensioning cylinder A stops working.

2 When the tension of rope on the superlift mast A has reached the set value if the tensioning cylinder is fully extended, the icon is highlighted in green. At this time, the tensioning cylinder A stops working.

3 When the pressure of tensioning cylinder B has reached the set value, the icon is highlighted in green. At this time, the tensioning cylinder B stops working.

4 When the tension of rope on the superlift mast B has reached the set value if the tensioning cylinder is fully extended, the icon is highlighted in green. At this time, the tensioning cylinder B stops working.

5 The set rope tension when the tensioning cylinder is fully extended

6 The actual tension of rope on the superlift mast

7 The set pressure of tensioning cylinder when the tensioning cylinder is fully extended

8 The actual pressure of tensioning cylinder

9 When the ratchet wheel B is locked, the icon is highlighted in green.

10 When the ratchet wheel A is locked, the icon is highlighted in green.

11 When the pressure of tensioning cylinder A or tension of rope on the superlift mast A has reached the set value, the icon is highlighted in green. At this time, the tensioning cylinder A will stop working.

Note:

Under normal conditions, the rope tension will reach the set value at first.

12 When the tensioning cylinder A is fully extended, the icon is highlighted in green. Retract the cylinder and extend again.

13 When locking pins on both sides of ratchet wheels A have entered into the gullet, icons A1 and A2 are highlighted in green.

14 When the pressure of tensioning cylinder B or tension of rope on the superlift mast B has reached the set value, the icon is highlighted in green. At this time, the tensioning cylinder B will stop working.

Note:

Under normal conditions, the rope tension will reach the set value at first.

15 When the tensioning cylinder B is fully extended, the icon is highlighted in green. Retract the cylinder and extend again.

16 When locking pins on both sides of ratchet wheels B have entered into the gullet, icons B1 and B2 are highlighted in green.

Press the function key 17 in Figure 4-59, the corresponding icons are highlighted in green. The system will lock the ratchet wheels automatically.

When the icons 11, 13, 14 and 16 are all highlighted in green:

- The background lighting is highlighted in green.
- The corresponding icons are highlighted in green.
- The data has reached the set value.
- The ratchet wheels have been locked.

Refer to Figure 4-59.

Note:

If one of the icons is not highlighted in green, the ratchet wheels are not successfully unlocked.

Figure 4-59 Automatic locking of the ratchet wheel

CAUTION

Do not use the function key to automatically lock the ratchet wheels until all the relevant detection signals for locking devices are functional!

Reset the function key after the ratchet wheel is successfully locked. It is normal that the background lighting may be highlighted in grey due to the pressure variation of the tensioning cylinder.

4.2.3.4.4 Manually locking and unlocking of the ratchet wheels

Press the function key << in the screen "Automatic locking and unlocking of the ratchet wheels" as shown in Figure 4-56 to switch over to the screen as shown in Figure 4-60. In this screen, you can manually lock and unlock the ratchet wheels. You can operate the ratchet wheels A and B simultaneously or separately.

Figure 4-60 Manual locking of the ratchet wheel

4.2.3.4.4.1 Manually unlocking of the ratchet wheels

Use the steps below to manually unlock the ratchet wheels:

a) Retract the tensioning cylinder

Icon A and icon B respectively indicate retraction state of tensioning cylinders A and B. When the tensioning cylinder A is fully retracted, the icon is highlighted in green. Refer to the left figure in Figure 4-61.

Press the function key shown in the left figure in Figure 4-61 to select ratchet wheel(s) A or (and) B. The ratchet wheel A is selected as shown in the middle figure in Figure 4-61.

Press the function key shown in the middle figure in Figure 4-61 to retract the tensioning cylinder. When the tensioning cylinders A and B are all fully retracted, the background lighting is highlighted in green. Refer to the right figure in Figure 4-61.

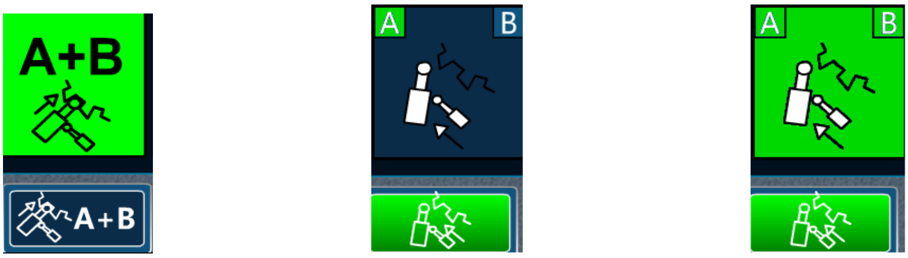


Figure 4-61 Function keys and icon status, retracting the tensioning cylinder

b) Retract the unlocking cylinder

Icon A and icon B respectively indicate the retraction state of unlocking cylinder A and B. When the tensioning cylinders A and B are all fully retracted, the background lighting is highlighted in green. Press the left function key in Figure 4-62 to retract the unlocking cylinder. When the unlocking cylinders A and B are all fully retracted, the background lighting is highlighted in green. Refer to Figure 4-62.

If you need to keep the unlocking status, do not reset the function key. Otherwise, the unlocking cylinder will extend automatically.

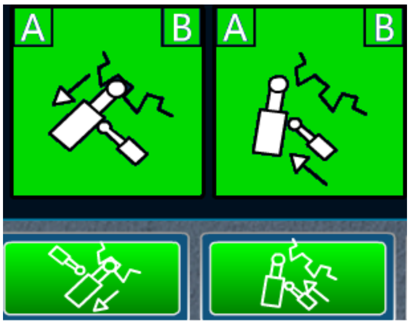


Figure 4-62 Function keys and icon status, extending the unlocking cylinder

⚠ CAUTION

(1) Reset the function key after relevant operations!

(2) Before boom telescoping, press the function key to unlock the ratchet wheel. After completion, reset the function key and then switch to the "Boom telescoping" screen.

4.2.3.4.4.2 Manually locking of the ratchet wheels

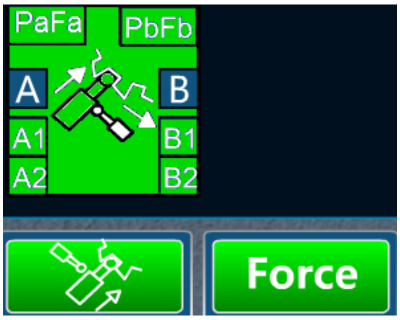


Figure 4-63 Function keys and icon status, extending the tensioning cylinder

Spool up the ratchet wheel before you lock the ratchet wheels. After the ratchet wheels are spooled up, press the function key "Extend tensioning cylinder" to extend the tensioning cylinders. After the tensioning cylinders are fully extended, the icon and data are locked.

When you extend the tensioning cylinders to lock the ratchet wheels and when the pressure of tensioning cylinder or rope tension has reached the set value, the system will switch off the extension operation of tensioning cylinder A or B. If you need to extend tensioning cylinder A or B, press the function key "Force" to extend the cylinder.

4.2.4 Remote control operations

Switch on the remote controller of crane operations in following steps:

- Before operating the remote controller, first press the counterweight remote control button in 20-key switch panel to its ON position, as shown in Figure 4-64.
- Rotate to open the middle emergency stop switch on the right side of the remote transmitter.
- Press down the remote horn button in the upper right side of the transmitter to enable the power supply indicator light to illuminate in red.
- Press and hold the remote horn button to enable the indicator light to turn green and the horn to ring.
- Carry out remote operations after releasing the button.

Refer to Figure 4-56 for specific switches and joystick operations.

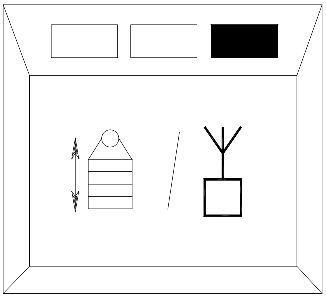


Figure 4-64 The remote control button in the 20-key switch panel

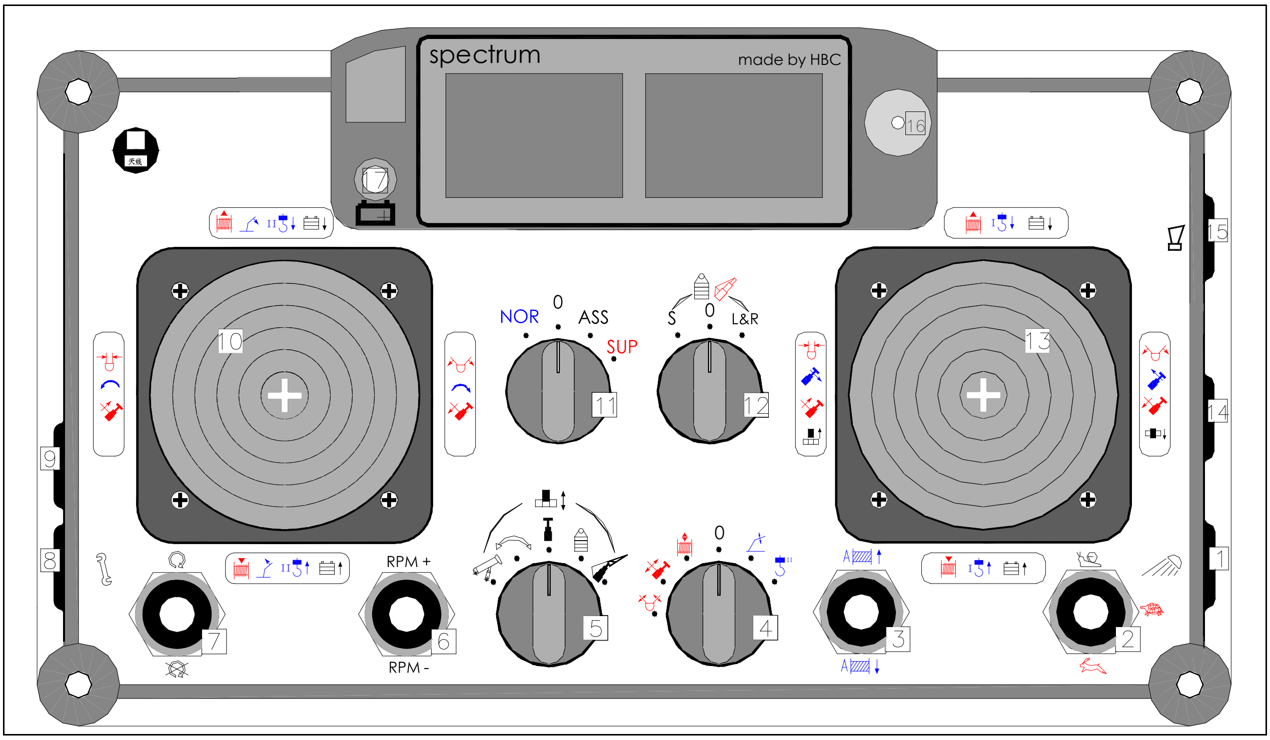


Figure 4-65 Remote controller panel

Table 4-14 Description of the remote controller panel

Pos.	Description	Pos.	Description
1	Illumination light (Not configured for this crane model)	10	Left joystick
2	Speed selection switch	11	Working mode selection switch
3	Hoist winch spool up/reel off switch	12	Counterweight / superlift mast A/B and A&B pre-selection switch
4	Pre-selection switch of superlift winch / luffing jib winch and auxiliary winch	13	Right joystick
5	Counterweight / jib derricking / derricking pin / slewing pin / boom pin pre-selection switch	14	Emergency stop switch
6	Accelerator pedal switch	15	Horn switch
7	Engine start switch	16	Reserved
8	Remote bypass switch	17	Power supply indicator light
9	Reserved		

a) **Slewing operation**:

Carry out remote slewing operation in following steps:

- Activate the remote controller.

- On the screen as shown in Figure 4-56, rotate Switch (11) to NOR position and Switch (4) to 0 position.

- Toggle the left joystick (10) leftward or rightward to execute leftward/rightward slewing of the cab (leftward for slewing leftward, rightward for slewing rightward).

- If the indicator light fails to illuminate when the slewing pin fully retracts, release the slewing locking by using the remote bypass switch (8).

b) **Boom derricking**:

Carry out remote derricking operation in following steps:

- Activate the remote controller.

- On the screen as shown in Figure 4-56, rotate Switch (11) to NOR position, and Switch (4) to 0 position.

- Toggle the left joystick (13) leftward or rightward to execute derricking up/down of the main boom (leftward for derricking down, rightward for derricking up).

c) Main winch:

- Activate the remote controller.

- On the screen as shown in Figure 4-56, rotate Switch (11) to NOR position, and Switch (4) to 0 position.

- Toggle the left joystick (13) upward or downward to execute spooling up/reeling off of the main winch (upward for reeling off, downward for spooling up).

d) Auxiliary winch:

- Activate the remote controller.

- On the screen as shown in Figure 4-56, rotate Switch (11) to NOR position, and Switch (4) to  position.

- Toggle the left joystick (10) upward or downward to execute spooling up/reeling off of the auxiliary winch (upward for reeling off, downward for spooling up).

e) Luffing jib derricking:

- Activate the remote controller under the luffing jib operating mode.

- On the screen as shown in Figure 4-56, rotate Switch (11) to NOR position, and Switch (4) to  position.

- Toggle the left joystick (10) upward or downward to execute derricking up/down of the luffing jib (upward for derricking down, downward for derricking up).

f) Jib derricking:

- Activate the remote controller under the jib operating mode.

- On the screen as shown in Figure 4-56, rotate Switch (11) to ASS position, Switch (4) to 0 position, and switch (5) to position.

- Toggle the left joystick (13) leftward or rightward to execute derricking up/down of the jib (leftward for derricking up, rightward for derricking down).

g) Closing/opening of the superlift masts:

- Activate the remote controller under the superlift operating mode.

- On the screen as shown in Figure 4-56, rotate Switch (11) to SUP position, Switch (4) to 0 position, Switch (5) to position and Switch (12) to S position (single side movement, the left joystick for controlling the left superlift mast, and the right joystick for controlling the right superlift mast) or A&B position (simultaneous movement, the left and right superlift masts move together upon movement of either joystick).

- Toggle the joystick leftward or rightward to execute opening/closing of the two superlift masts (leftward for closing, rightward for opening).

h) Derricking of the superlift masts:

- Activate the remote controller under the superlift operating mode.

- On the screen as shown in Figure 4-56, rotate Switch (11) to SUP position, Switch (4) to 0 position, Switch (5) to position and Switch (12) to S position (single side movement, the left joystick for controlling the left superlift mast, and the right joystick for controlling the right superlift mast) or A&B position (simultaneous movement, the left and right superlift masts move together upon movement of either joystick).

- Toggle the joystick leftward or rightward to execute derricking up/down of the superlift masts (leftward for derricking up, rightward for derricking down).

i) Spooling up/reeling off of the superlift ratchet wheel winch:

- Activate the remote controller under the superlift operating mode.

- On the screen as shown in Figure 4-56, rotate Switch (11) to SUP position, Switch (4) to 0 position, Switch (5) to position and Switch (12) to S position (single side movement, the left joystick for controlling the left superlift mast, and the right joystick for controlling the right superlift mast) or A&B position (simultaneous movement, the left and right superlift masts move together upon movement of either joystick).

- Toggle the joystick upward or downward to execute derricking up or down of the superlift masts (upward for reeling off the ratchet wheel, downward for spooling up of the ratchet wheel).

j) Telescoping of the counterweight cylinders:

- Activate the remote controller.

- On the screen as shown in Figure 4-56, rotate Switch (11) to ASS position, Switch (4) to 0 position, Switch (5) to ▤ position, and Switch (12) to S position (single side movement, the left joystick controls the left counterweight cylinder and the right joystick controls the right counterweight cylinder) or A＆B position (simultaneous movement of the left and right counterweight cylinder by movement of either joystick)

- Toggle the joystick upward or downward to execute telescoping of the counterweight cylinders (upward for telescoping out, downward for telescoping in).

4.3 Starting up the crane

4.3.1 Checks before starting up

Make sure that the following prerequisites are met before starting up:

a) Examining the engine oil level
   1) The crane has been leveled.
   2) Pull out the dipstick and clean it.
   3) Re-insert it into oil and pull out again.
   4) Examine whether the oil level is between MIN. and MAX. marks.

⚠ WARNING

If the oil level is lower than the MIN. mark, fill oil. Otherwise, the engine will be damaged seriously!

4.3.1.1 Examining the oil level in the hydraulic oil tank

The oil level in the hydraulic oil tank must be between MIN. and MAX. marks.

Turn the shutoff gate valve as the figure shown to connect the hydraulic oil tank with the oil line. Refer to Figure 4-56.

There are 3 travel switches installed for the shutoff valve of the hydraulic oil tank on the slewing table. The superstructure engine can only be started after all of the three switches are closed.

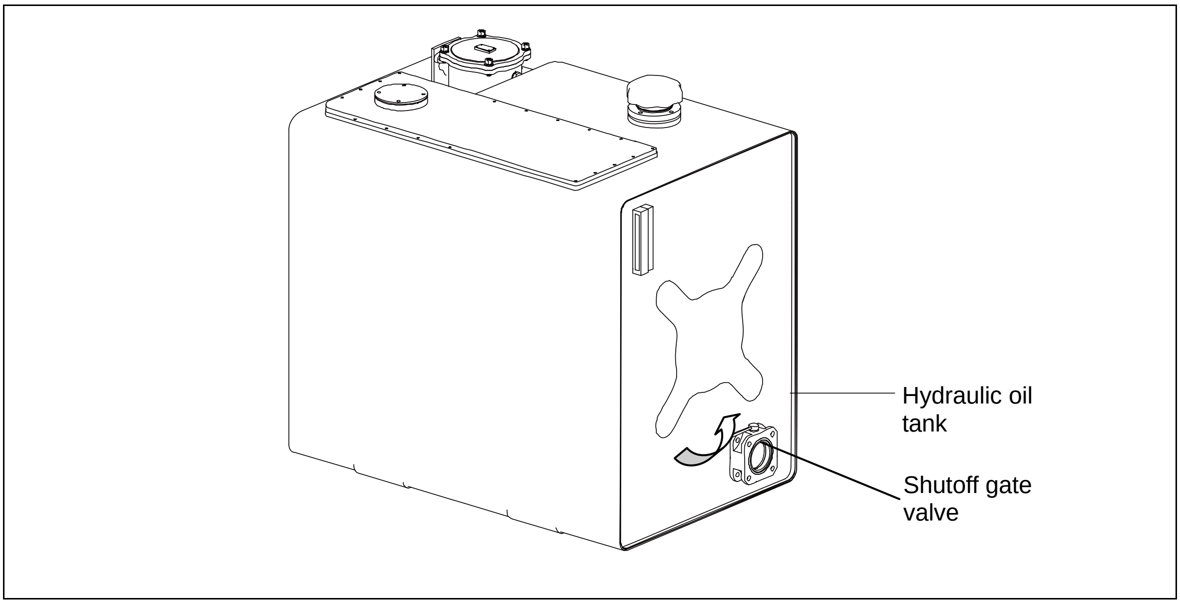


Figure 4-66 Shutoff gate valve

4.3.1.2 Examining the fuel reserve

The fuel reserve is displayed on the fuel gauge in the driver's cab. Examine the fuel reserve and add fuel if necessary.

⚠ CAUTION

(1) Deaerate the fuel system before adding fuel.

If the fuel tank has been run dry, always deaerate the whole fuel system.

Do not run the fuel tank dry!

(2) The reasonable change interval of fuel hose is 24 months or 2000 working hours.

4.3.1.3 Examining the coolant level

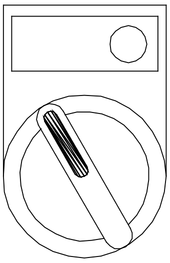
Make sure that the engine coolant is at the correct level. Add more if below the cold engine level.

4.3.1.4 Examining general conditions of crane

1) Examine lubrication status of each moving parts and make sure that all moving parts are lubricated. Add grease if necessary.
2) Make sure that the crane is properly supported on a level load-bearing surface, and has been set up horizontally.
3) Make sure that the gear of the slewing bearing connection is clean.
4) Make sure that the front and rear parts of oil cooler and A/C radiator have been cleaned and are free of blockage.
5) Make sure that there are no people or objects in the crane danger zone.
6) Make sure that the wire rope, cable / rope drums and sensors are free of snow and ice.
7) Make sure that there are no loose parts on the superstructure or the telescopic boom.
8) Set the joysticks in the neutral positions before you start the superstructure engine.
9) Make sure that the parking brake is applied.

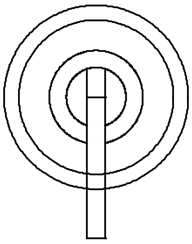
4.3.2 Starting the engine

4.3.2.1 Switching on the battery master switch



1) The battery master switch near the battery on slewing table is switched on.
2) The switch background lights up.
3) The superstructure is energized.

4.3.2.2 Switching on the engine



The positions of the switch (in clockwise direction) are as follows:

Position 0:

All circuits are OFF.

Position 1:

The battery begins to supply electricity to superstructure electrical system.

Position 2:

Engine starts (From position 1 to position 2).

⚠ CAUTION

(1) Release the key to position 1 when the engine starts. Return the key to the "0" position first if you want to restart the engine.

(2) Do not run the motor for 15 seconds continuously. The motor can be operated twice per attempt with a pause in between of several minutes to avoid battery discharging electricity and starting motor being damaged. If the engine cannot be started after 3 attempts, rectify the malfunctions before you start the engine again.

4.4 Safety devices

4.4.1 Support control unit

To ensure the working safety of the crane, the crane must be properly supported on a level load-bearing surface, and be set up horizontally.

A support control unit with buttons is attached to each side of the vehicle for operating the outriggers, together with an electronic inclinometer from which the operator can observe horizontal alignment of the crane. Refer to Figure 4-46.

⚠ CAUTION

The maximum permitted deviation from the horizontal position of the crane is ± 0.4°. Otherwise, fatal accidents may be increased.

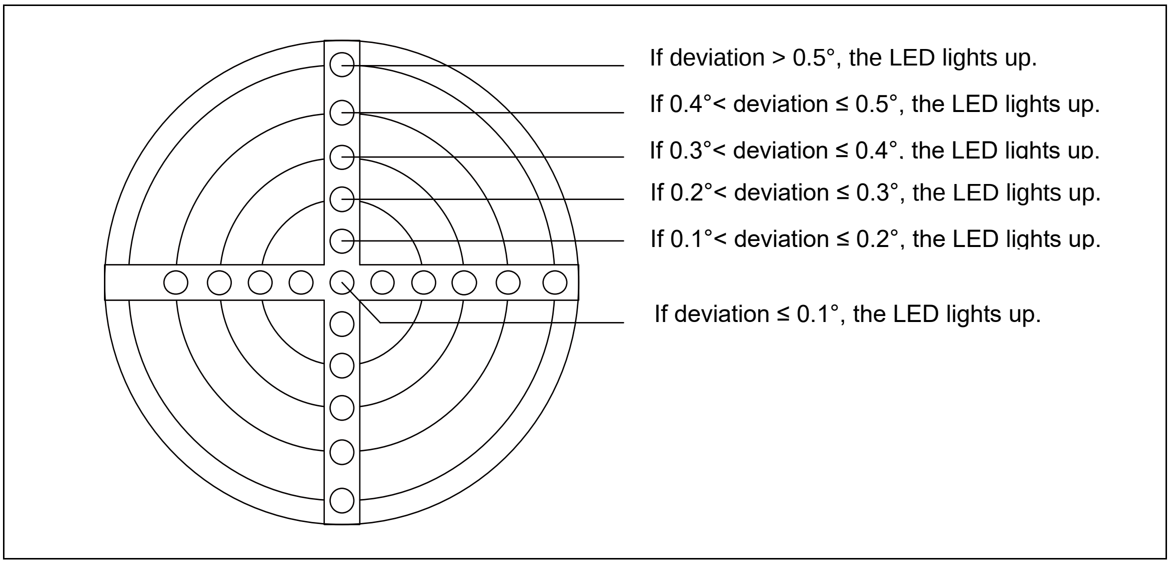


Figure 4-67 Electronic inclinometer

4.4.2 Load moment limiter

The load moment limiter is a vital safety device for controlling and monitoring the movements of the crane.

The "Advance warning" icon appears and the buzzer sends out slow acoustic warning if the current load exceeds the (90%) limit programmed in for advance warning.

The "Stop" icon appears, the buzzer sends out fast acoustic warning and all dangerous crane movements are switched off if the current load exceeds the 100% mark.

The crane can only work towards safe directions till the dangerous operation is deactivated.

4.4.3 Hoisting limit switch

The hoisting limit switches installed on the main boom, jib or rooster sheave are intended to prevent the hook block from colliding with the rope pulley. When the distance detected between the hook block and the pulley is less than the safety one, the hoisting limit switch is triggered and the buzzer sounds the alarm. The crane movements “Spool up winches”, “Derrick down” and “Telescope out” are switched off. At this time, only the crane movements “Reel off winches”, “Derrick up” and “Telescope in” can be switched on. Refer to Figure 4-68.

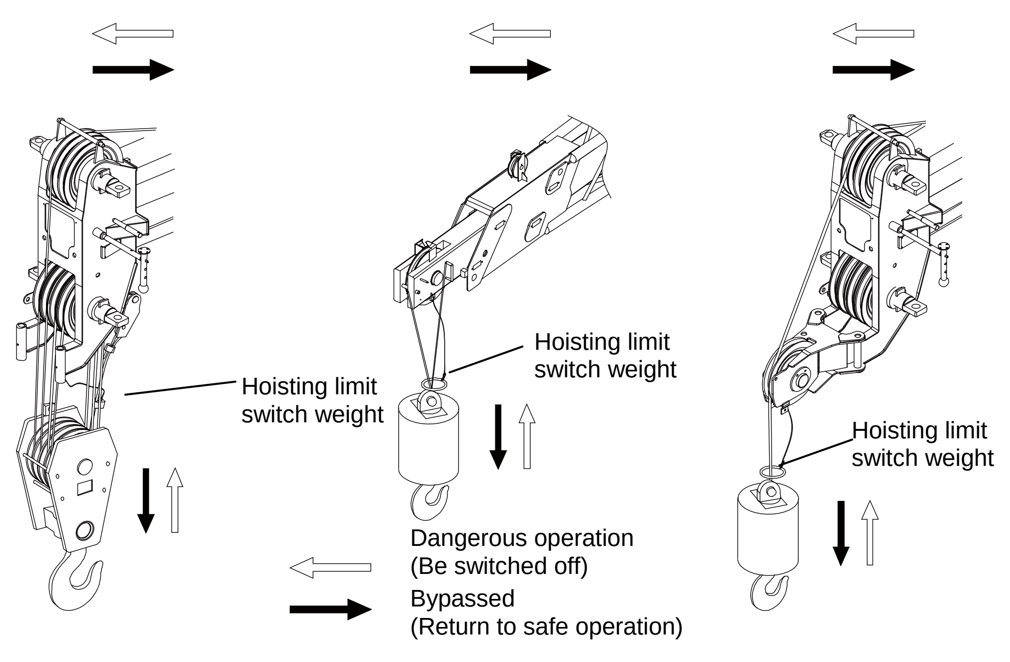


Figure 4-68 Hoisting limit switch

Turn the bypass key switch on the instrument panel to the right position to bypass the switch-off during commissioning and maintenance.

⚠ WARNING

Do not use the bypass key switch when you do usual crane operations.

How to connect and install the hoisting limit switches for the auxiliary winch and rooster sheave:

a) When the jib is used:

1) Remove the aviation socket on the position “🪝⤒ II ” of the junction box.

2) Install aviation socket which is connected to the hoisting limit switch for the auxiliary winch into the junction box.

3) Connect the plug on the jib to the socket on the main boom head.

Refer to Figure 4-69.

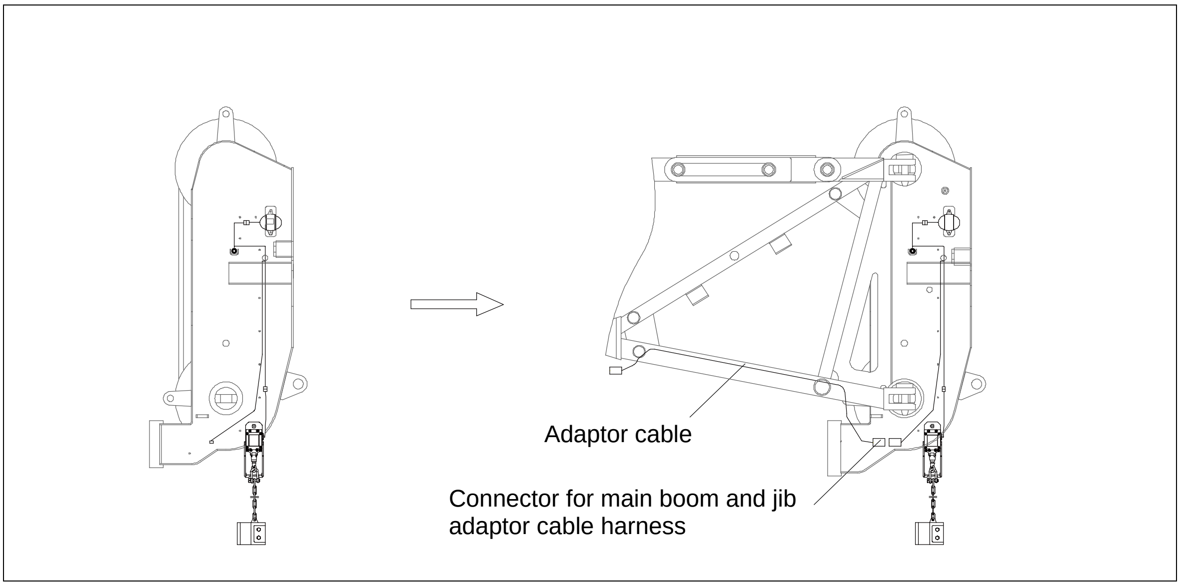


Figure 4-69 Connection and installation of hoisting limit switch for the auxiliary winch

b) When the rooster sheave is used:
   1) Remove the hoisting limit switch for the auxiliary winch.
   2) Install the hoisting limit switch onto the position shown in Figure 4-68.
   3) Connect the plug on the hoisting limit switch to the socket on the rooster sheave.
   4) Remove the aviation socket on the position “⚓⤒ II ” of junction box.
   5) Connect the aviation socket on the hoisting limit switch for the auxiliary winch into the junction box.
   6) Connect the plug on the rooster sheave to the socket on the main boom head.

   Refer to Figure 4-70.

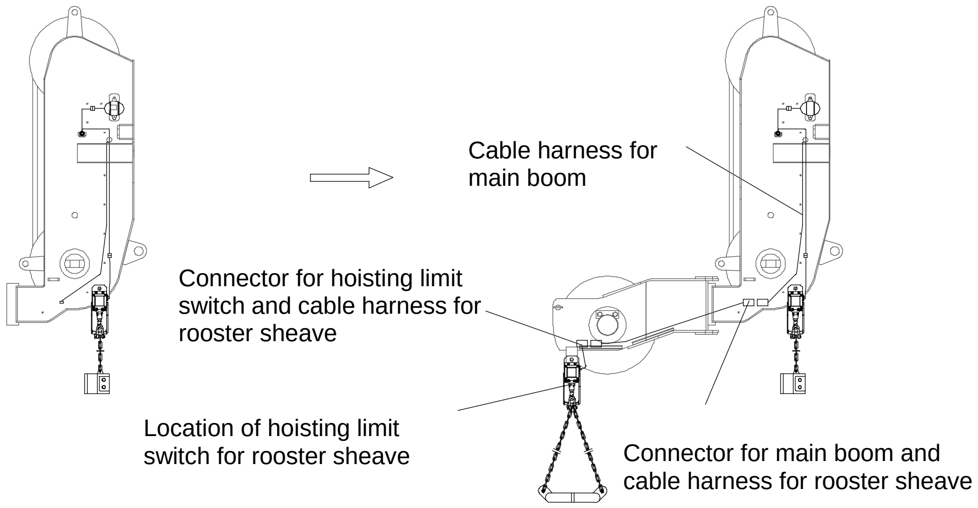


Figure 4-70 Connection and installation of hoisting limit switch for the rooster sheave

4.4.4 Lowering limit switch

In order to prevent the wire rope from being spooled up automatically after being reeled off completely, the lowering limit switch installed beside the winch will automatically switch off the movements ”Reel winches off” if there are only 3 wraps of wire rope remaining on the winch.

In this case, the buzzer sounds the alarm, the warning light illuminates and only the upward movement of the hook is permitted. During commissioning and maintenance, activate the bypass key switch to bypass the switch-off. Refer to Figure 4-71.

⚠ WARNING

Do not use the bypass key switch when you do usual crane operations.

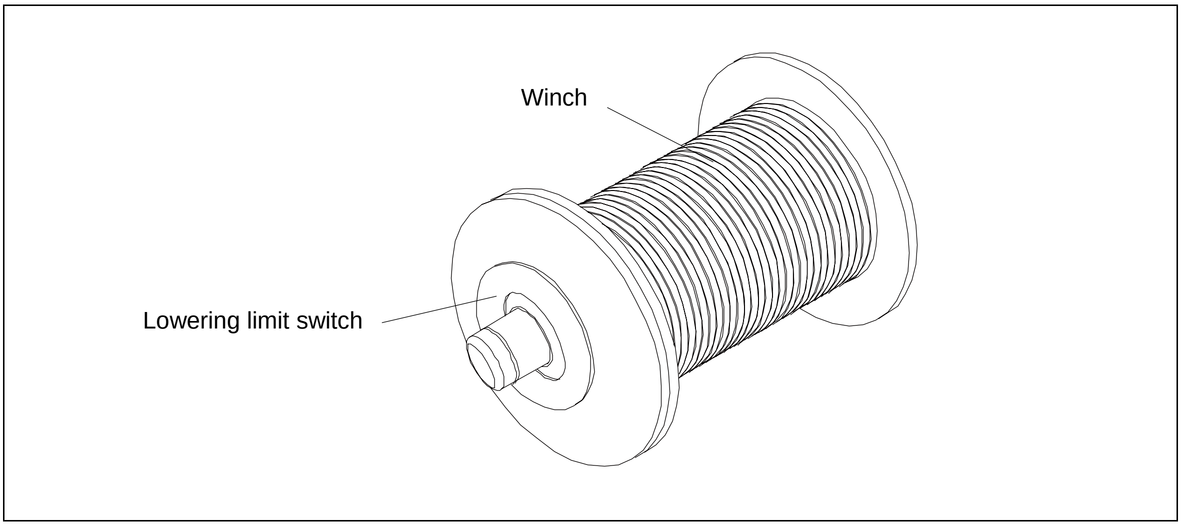


Figure 4-71 Lowering limit switch

4.4.5 Hydraulic safety devices

a) Relief valves in the hydraulic system

The relief valves in hydraulic system can prevent the pressure in the circuit from rising too high, thus avoid hydraulic pump and hydraulic motor from being damaged and hydraulic system from being overloaded.

b) Outrigger lockout device

If the high-pressure oil pipe which is connected to vertical cylinder is damaged, the two-way hydraulic lock in the outrigger hydraulic circuit can block the pressure oil in both sides of outrigger cylinder to prevent the outrigger from retracting or extending, and thus ensure the safe operation of the crane.

c) Lockout device for crane movement “Derrick up”

If the high-pressure oil pipe in the hydraulic circuit of derricking cylinder is damaged, the balance valve in the hydraulic circuit can lock the hydraulic oil in the piston side of derricking cylinder immediately to prevent the boom from derricking down, and thus ensure the safe operation of the crane.

d) Lockout device for crane movement “Telescope out”

If the high-pressure oil pipe in the hydraulic circuit of telescoping cylinder is damaged, the balance valve in the hydraulic circuit can lock the hydraulic oil in the piston side of telescoping cylinder immediately to prevent the telescopic sections from retracting naturally, and thus ensure the safe operation of the crane.

e) Safety device for counterweight

If the high-pressure oil pipe which is connected to counterweight lifting cylinder is damaged, the two-way hydraulic lock in the counterweight hydraulic circuit can block the pressure oil in both sides of counterweight lifting cylinder to prevent the cylinder from retracting or extending, and thus ensure the safe operation of the crane.

f) System pressure monitoring

There are 3 pressure gauges installed on both sides of the hood of the slewing table.

For pressure gauges on the right side of the slewing table, please refer to Figure 4-72.

For pressure gauges on the left side of the slewing table, please refer to Figure 4-73 and 4-74.

The pressure gauges show and monitor the pressure of the hydraulic system of the superstructure under different OMs.

Note:

The load moment limiter in the operator's cab also shows the pressure in real time. Refer to Figure 4-35.

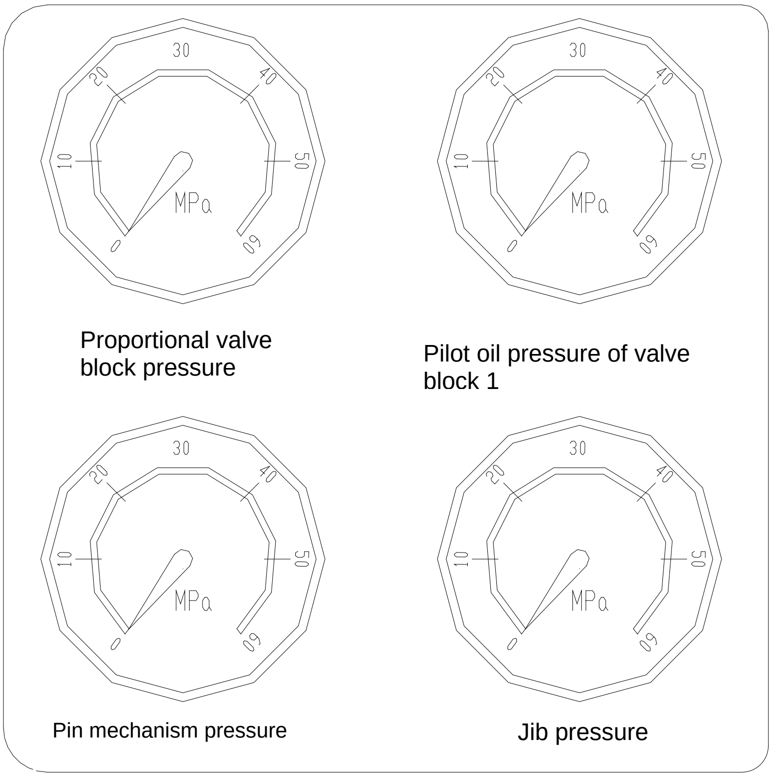


Figure 4-72 Pressure gauges on the right side of slewing table (on the hood frame)

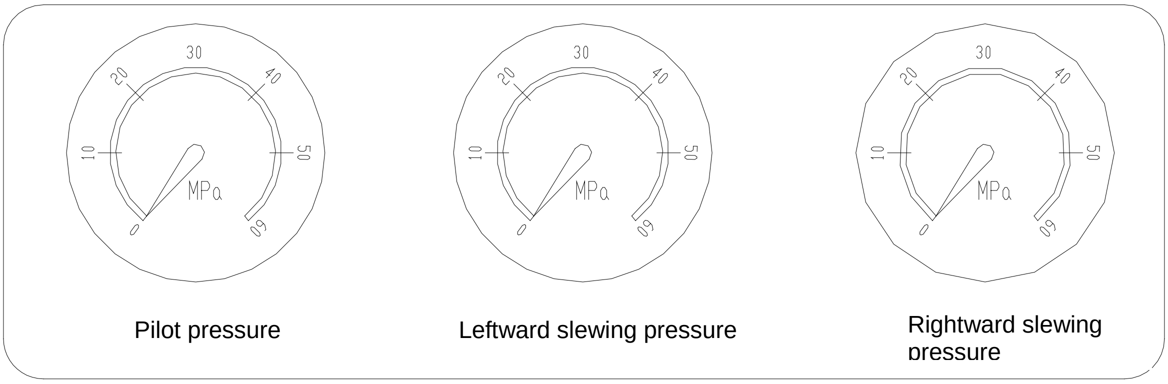


Figure 4-73　Pressure gauges on the left side of slewing table (on the hood frame)

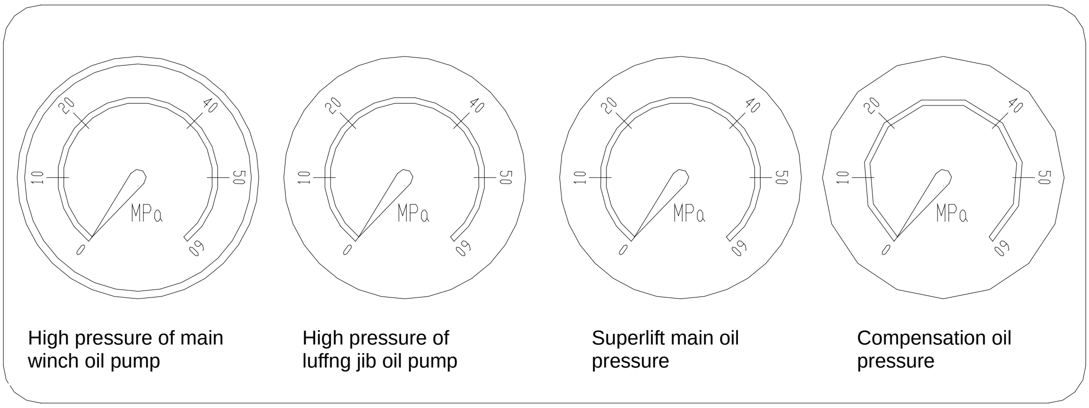


Figure 4-74　Pressure gauges on the left side of slewing table (on the radiator bracket)

Pressure ranges are as follows:

High pressure of the main winch: ≤38MPa;

Low pressure of the main winch: ≤100MPa;

High pressure of the luffing jib winch: ≤33.5MPa;

Low pressure of the luffing jib winch: ≤100MPa;

Pressure of derricking up oil circuit: ≤ 32 Mpa;

Pressure of derricking down oil circuit: 8 MPa;

Pressure of telescoping out oil circuit: ≤ 15 Mpa;

Pessure of telescoping in oil circuit: ≤ 25 MPa;

Pressure of slewing oil circuit: ≤ 35 MPa;

Pressure of control oil circuit: (3.5 ± 0.5) MPa;

Pin mechanism pressure: ≤11MPa;

Jib pressure: ≤30MPa；

Counterweight lifting pressure: ≤19MPa

Counterweight lowering pressure: ≤8MPa

4.4.6 Bypass operation

When the hoisting limit switch or lowering limit switch is triggered, or when the crane sensor senses that the load weight is more than the load weight in the system, the system will switch off the dangerous movements and the buzzer sounds.

If necessary, bypass this switch-off via the bypass key switch on the instrument panel. For details, please refer to Section 4.1.2. For movements allowed or blocked under overloading, overwinding and overlowering conditions, refer to Table 4-15.

Table 4-15 Movements allowed or blocked under TBM operating mode

Operation	Main winch		Auxiliary winch		Derrick		Slew		Telescope	
	up	down	up	down	up	down	left	right	out	in
Overloading	×	√	×	√	√	×	√	√	√	√
Overwinding	×	√	×	√	√	×	√	√	×	√
Overlowering	√	×	√	×	√	×	√	√	√	√
The slewing table pin fails to fully retract	√	√	√	√	√	√	×	×	√	√
Excessive angle between the luffing jib and main boom	×	√	√	×	√	×	√	√	√	×
Insufficient angle between the luffing jib and main boom	√	√	×	√	×	√	√	√	×	√
Anti-tipping backward cylinder of the luffing jib overpressure	√	√	×	√	×	√	√	√	×	√
Anti-tipping backward cylinder of the luffing jib underpressure	×	√	√	×	√	×	√	√	√	×
Anti-tipping backward switch of the luffing jib	√	√	×	√	×	√	√	√	×	√

Note: "×" means that the system will switch off the movement. "√" means that the system will not switch off the movement.

DANGER

If there is a need to lift or lower the hook a little under special conditions, the operator can activate the "Bypass key switch" on the instrument panel to bypass the switch-off movements. Such operation should be performed with utmost caution to avoid accident. Do not telescope the telescopic boom with a suspended load. The boom angle must exceed 80°. Otherwise, you must bear full responsibility for all the consequences arising therefrom.

4.4.7 Wind speed warning system

The anemometer is fitted on the main boom head to detect the wind speed in real time. Refer to Figure 4-75. The wind speed is displayed on the monitor of load moment limiter. If the actual wind speed exceeds the maximum value, while the crane is in operation, do the tasks that follow:

a) Stop the work (safely lower the load).

b) Retract the boom.

c) Correctly stow the boom.

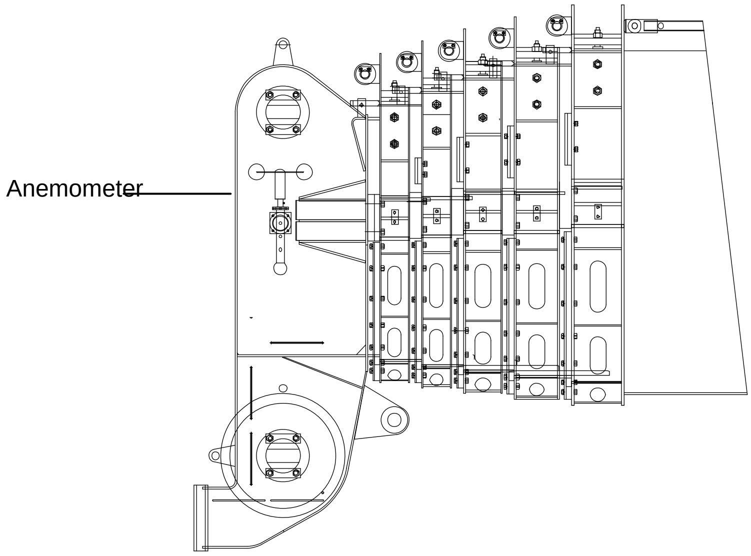


Figure 4-75 Anemometer

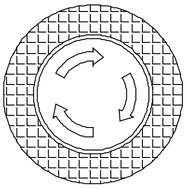
DANGER

The crane can topple over!

If the crane is operated at wind speeds which are larger than the maximum permissible value, then it can topple over!

4.4.8 Emergency stop button

You can find the emergency stop button on the instrument panel in the operator’s cab. When you push the button, all crane operations immediately STOP (including the engine). Turn the button clockwise to release it and continue usual crane operations.



⚠ WARNING

Only use the button in a clear emergency!

4.5 Crane operation

4.5.1 Preparations for crane operation

Make sure that following checks are operated before operation:

a) Assess the load condition prior to lifting it.

b) Examine the crane position, ground condition and surface bearing condition.

c) Examine wire ropes (including wire rope end, winding drum and pulleys).

d) Examine the liquid level and power source of the crane.

Note:

(1) Examine the fuel gauge to make sure the fuel reserve is more than 1/4 of the tank capacity.

(2) The oil level in hydraulic oil tank should be between MIN. and MAX. marks in driving condition.

e) The loading and working area should be visible and without obstacles within it. Examine the communication system of operator and supervisor to make sure that nothing will hinder the operation.

f) Examine safety devices for function.

g) Remain the communication between the operator and the rigger.

⚠ WARNING

Risk of accident!

Danger of damaging the crane!

Always operate the joysticks slowly and sensitively.

⚠ DANGER

Make sure that there are no obstacles in the crane working area and no persons in danger zone. Give a short warning signal (horn) before starting a crane movement.

4.5.2 Boom derricking

To move the boom up or down (derricking), hydraulic oil is “pumped in” or “vented out” of one "derricking cylinder".

The boom angle (derricking) can be adjusted from -1.5° to 82°, by the “derricking cylinder”.

Turn the switch “Pre-selection of derrick / telescope” to the derrick position. Refer to Figure 4-76.

Operate the right joystick to derrick the boom up / down.

The boom length and derricking speed have an inverse relationship. Therefore, the longer the boom length is, the slower the derricking speed is. And the shorter the boom length is, the higher the derricking speed is.

Speed of crane movement “Derricking” has 3 stages, normal speed, low speed and extremely low speed.

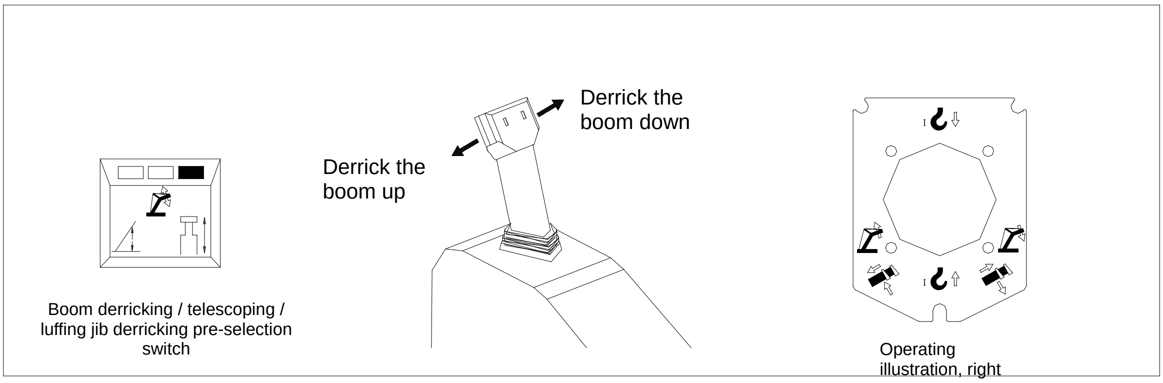


Figure 4-76 Derricking

The “derricking cylinder” has a “balance valve”. The “balance valve”, in the hydraulic system, helps the derricking components move smoothly. When the boom is set at the correct position, the valve stops the hydraulic oil flow out of the “derricking cylinder”. This helps to lock the boom in position.

⚠ CAUTION

(1) Do all derricking movements smoothly. You can cause damage to the crane if you move the load up or down with quick stops.

(2) You can cause a dangerous condition if you try to lift a load with the boom at a low angle. Make sure that you obey the lifting capacity tables.

(3) Lower the hook fully before you derrick up the boom.

(4) For the sake of safety, do not derrick down the boom at high speed.

4.5.3 Boom telescoping

The boom consists of 7 oval boom sections made from low-alloy and high-tensile steel.

The telescopic boom is telescoped in / out automatically via a telescoping cylinder. For manual operation, you can operate the right joystick to telescope the boom in / out. Every telescopic section can be varied in 4 lengths: 0% of its total, 46% of its total, 92% of its total and 100% of its total. The telescoping cylinder cannot bear any load.

Before telescoping, turn the switch "Pre-selection of derrick / telescope" to the telescope position.

Refer to Figure 4-77.

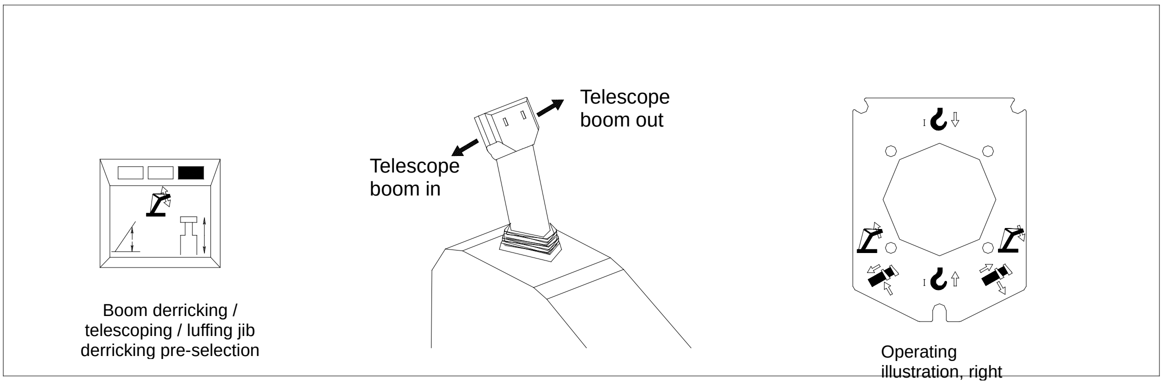


Figure 4-77 Boom telescoping

For the details of telescoping operation, refer to Section 4.2.2.

The "balance valve", in the hydraulic system, helps the telescoping components move smoothly. When the boom is set the correct length, the valve causes a blockage of the hydraulic oil flow out of the cylinder. This helps to lock the boom in position.

CAUTION

(1) When auto telescoping mode is performed, the boom angle should exceed 80°.

(2) The hook will be lifted or lowered with the crane movements "Telescope telescopic boom in or out". Therefore, operate the joystick to adjust the height of hook during telescoping.

(3) Carry out telescoping movements with maximum care and minimum speed. Do not telescope the telescopic boom with a suspended load.

(4) Do not telescope the boom out immediately after the boom is telescoped in. Initiate telescoping movement after 2 seconds.

(5) Do not pull a load at an angle to avoid lateral force on the boom.

Before you carry out telescoping movement, examine whether the block at the head of telescopic sections is in contact with its adjacent telescopic sections tail completely. If not, adjust the shim to make them contact completely and make sure that the boom pin and cylinder pin bear no load under the condition of "Boom telescoped in completely".

4.5.4 Lifting / lowering

The hoist gear consists of hydraulic motor, balance valve, reducer, brake, lowering limit switch, hoisting limit switch, wire rope, main hook, auxiliary hook and so on.

The hoist gear consists of two parts: main winch and auxiliary winch. You should remove the auxiliary winch from the slewing table before driving. The main / auxiliary winch is controlled by the right or left joystick in the operator's cab. Refer to Figures 4-78 and 4-79

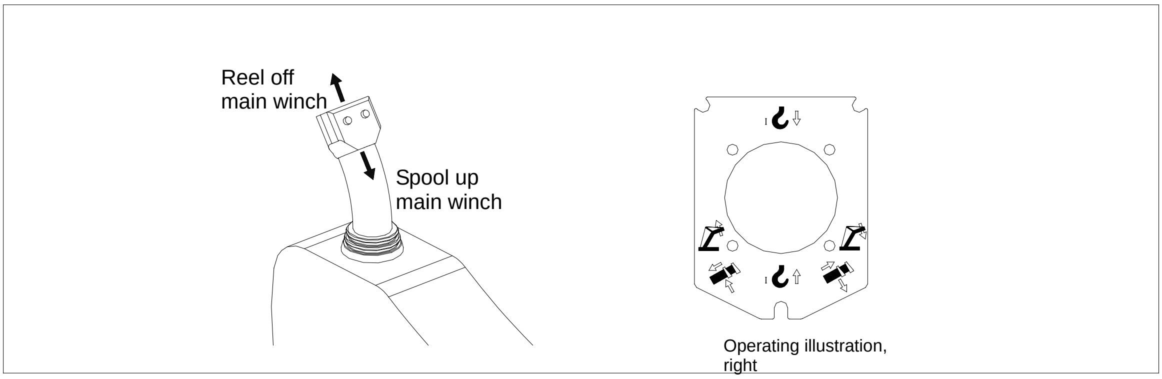


Figure 4-78 Spooling up / reeling off main winch

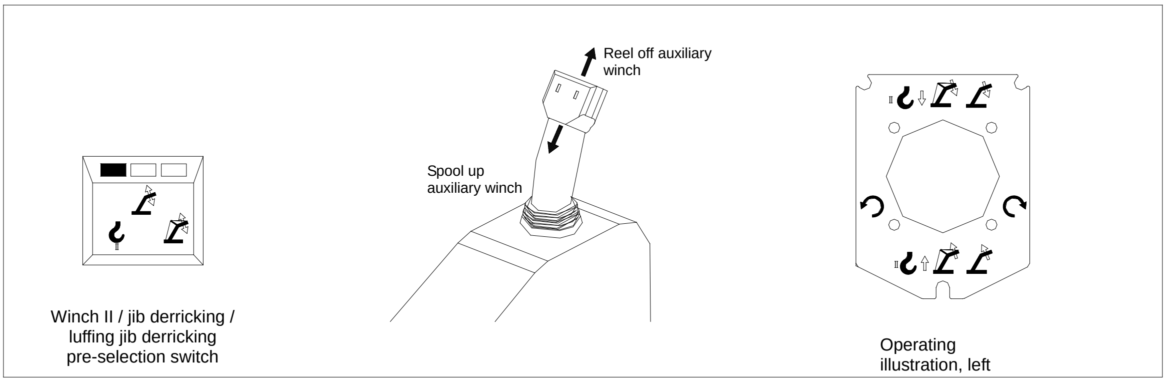


Figure 4-79 Spooling up / reeling off auxiliary winch

The crane movement "Spool up main winch" or "Reef off main winch" has 4 stages: high speed, normal speed, low speed and extremely low speed.

The crane movement "Spool up auxiliary winch" or "Reef off auxiliary winch" has 3 stages: normal speed, low speed and extremely low speed.

For detailed operation, please refer to Section 4.1.3.

Main winch:

High speed

- Set the switch “Pre-selection of normal speed / low speed / extremely low speed” to the left position.
- Press the button “Rapid gear for main winch” on the right joystick.
- Deflect the right joystick forward or backward.

Result:

Rapid gear is applied to crane movements "Spool up main winch" and “Reef off main winch".

The balance valve in the hoist gear makes sure that the movement of the hoist is stable. It also makes the load stop at the necessary location.

When you increase the boom length and height, you must increase the length of the hoist rope. You can change the reevings to get a longer rope. You must install the hoisting limit switch weight before you change the parts. For standard reeving numbers for various boom lengths, please refer to the lifting capacity tables.

⚠ CAUTION

(1) Choose the correct reevings for the boom length and load weights.

(2) Keep a minimum of 3 wraps of rope on the winch while you operate the crane.

(3) Monitor the area as you lift a load. Do not move a load unless the conditions are safe.

(4) Do not derrick the boom up and extend the boom at the same time if:

- **The crane has a part of the load weight.**
- **The crane is connected to a load on the ground.**

(5) Do not change quickly between "reel off" and "spool up". Let the winch stop before you continue to move the hook. Otherwise, the machine will be damaged.

(6) The slings must be of enough strength.

(7) The lifting capacity includes the mass of the hook and slings.

4.5.5 Slewing

The slewing system consists of a slewing bearing and slewing gear which includes hydraulic motor, planetary gear reducer, slewing brake valve, brake, drive gear and so on.

a) Slewing speed

The speed of the crane movements “Slewing”, varying within 0 r/min. – 1.5 r/min., is controlled by the deflection of the left joystick. The slewing speed has 3 stage, normal speed, low speed and extreme low speed, which can be activated by the switch “Pre-selection of normal speed / low speed / extremely low speed”. The low speed offers good micro-positioning performance.

b) Slewing operation

Slewing movements can be activated by the deflection of the left joystick fitted in the operator's cab. Refer to Figure 4-80.

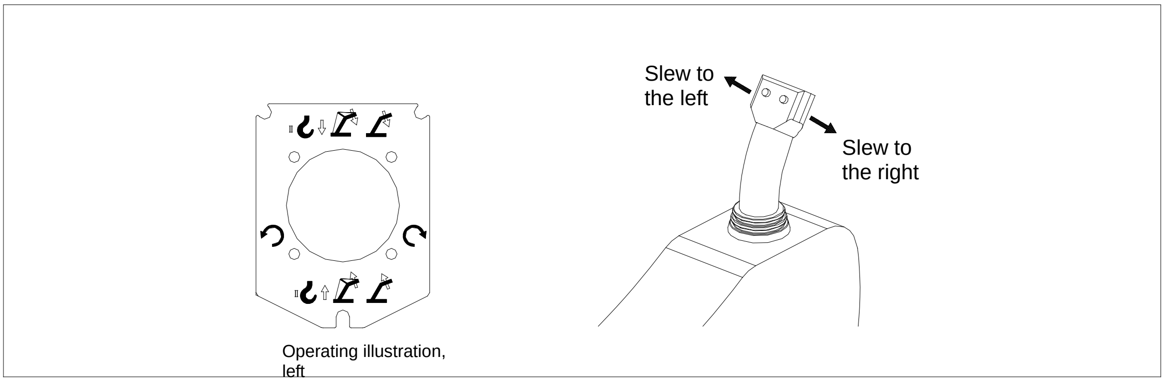


Figure 4-80 Slewing

CAUTION

(1) **Make sure that the slewing table is unpinned and the slewing unpinned indicator light illuminates before initiating the slewing movement. Install the pin after finishing this operation.**

(2) **Make sure that there are no obstacles in the crane slewing area and no persons in the danger zone. Give a short warning signal (horn) before starting a crane movement.**

(3) **Make sure that you do not make fast movements or suddenly stop the slewing movement.**

(4) **Longer boom – lower slewing speed.**

(5) **Heavier load – lower slewing speed.**

(6) **When you operate a new crane, examine the slewing bearing bolts after the initial 100 working hours. After that, examine the bolts at these intervals: 100, 300 and 500 hours of operation.**

   - **The torque on the bolts must be 2350 N·m.**

(7) **Turn the switch "Pre-selection of counterweight remote control box / remote controller" to the neutral position. Otherwise, buttons and switches on the instrument panel are inactivated and the left joystick cannot initiate slewing movements. The slewing movement is still controlled by the remote controller.**

4.5.6 Luffing jib derricking (luffng jib winch) operation

The luffing jib's derricking mechanism realizes changes of crane working range through spooling up/reeling off the luffing jib winch.

Note:

The luffing jib operation mode should be pre-selected before the derricking is operated.

There are two ways to operate the derricking, i.e. operating from the operator's cab and operating using the remote controller. For remote control operations, refer to Section 4.2.4: *Remote control operations.*

Instructions on operation from the operator's cab are as follows:

Derricking of the luffing jib can be operated by using the left or right joystick

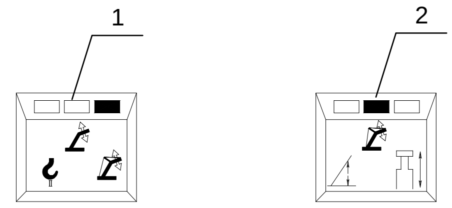


Figure 4-81 Left/right joystick pre-selection switch

a) Left joystick in the operator’s cab

The left joystick is normally used during installation mode, or used for operation of telescoping movements or simultaneous movements of boom derricking and luffing jib derricking.

How to activate the left joystick:

- Press Switch (1) in Figure 4-81 to illuminate the right indicator light and press Switch (2) to enable the middle light to go off.
- Move the joystick forward to control derricking down of the luffing jib, and move it backward to control derricking up.

b) Right joystick in the operator’s cab

The right joystick is normally used for routine operations.

How to activate the left joystick:

- Press Switch (1) in Figure 4-81 to enable the right indicator light to go off and press Switch (2) to enable the middle light to illuminate.
- Move the joystick rightward to control derricking down of the luffing jib, and move it leftward to control derricking up.

CAUTION

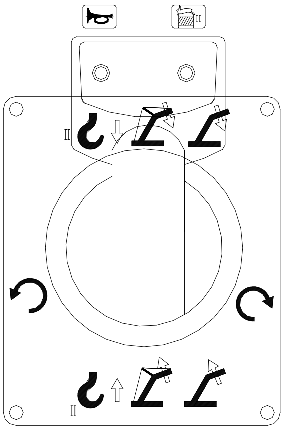
The left and right joystick in the operator's cab is interlocked for controlling derricking of the luffing jib. Only one of the two joysticks is operational at any moment. If both Switch (1) and (2) are pressed to the "luffing jib derricking" position, neither of them can be operated for control output.

c) Derricking speed of the luffing jib

There are three speeds of derricking up/down the luffing jib, i.e. high, medium and low speed. Derricking speed of the luffing jib (i.e. auxiliary winch's speed) will be displayed in the middle of the screen in real-time.

1) High speed mode:

Operate the left joystick (for derricking the luffing jib) while pressing down the high speed derricking button (left) on the joystick. Adjust the output ratio of the winch motor under low pressure at light load, so as to realize high speed derricking of the luffing jib.



Left joystick

2) Medium speed mode:

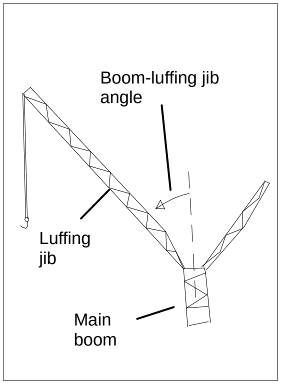
When both the high speed derricking button and the low speed one is not pressed, the luffing jib derricks at medium speed.

3) Low speed mode:

Press the slow derricking button, and the luffing jib derricks at low speed, which provides better fine movement and higher operability.

d) Boom - luffing jib angle:

The angle between the main boom and luffing jib is displayed in real-time in left part of LML's main screen or the middle part of the telescoping screen. Make sure this angle is between 13 ° -45 ° during operation of derricking the luffing jib.



⚠ CAUTION

For safety limitation on the luffing jib derricking operation and its removal , refer to the instructions in Section 4.4.6: *Bypass operation*.

4.5.7 Jib derricking operation

Derricking of the jib is realized by the jib derricking mechanism through operation of the jib derricking cylinder. The OM "Jib and jib angle" should be pre-selected before derricking the jib. There are two ways to operate the jib derricking, i.e. operation by using the remote controller and operation from the operator's cab. Refer to Section 4.2.4 "*Remote operations*" for instructions on such operation.

The way of operating from the operator's cab is introduced below.

Derricking of the jib is operated by using the left joystick in the operator's cab.

Instructions：

- Before operation, first press the button "Pre-selection switch of auxiliary winch / luffing jib derricking / jib derricking" to the "jib derricking" position, as shown in Figure 4-82.
- Derrick the main boom to an angle larger than 75° .
- Push and pull the left joystick forward and backward to derrick the jib downward or upward.

  Note: When the angle between the main boom and jib is larger than the limit valve set for the current operating mode, the derricking down operation will be cut off.
- Press the bypass switch in the operator's cab to remove the limitation when necessary.

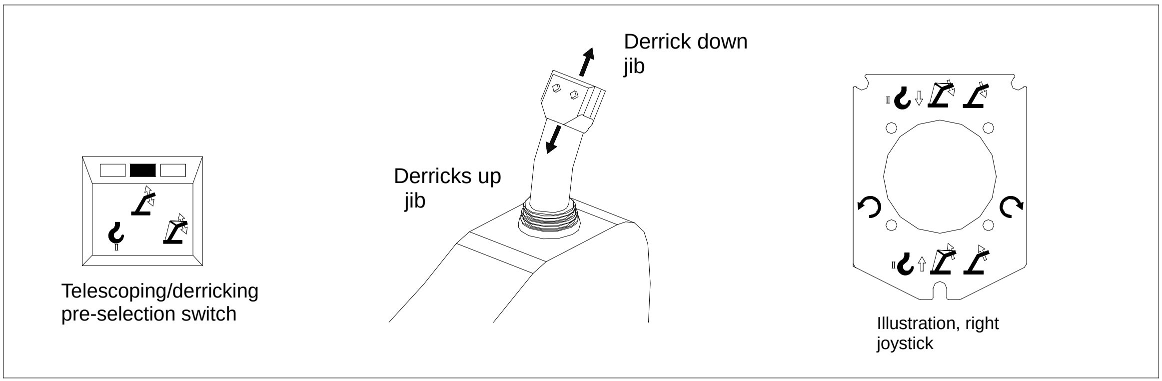


Figure 4-82 Jib derricking operation

4.5.8 Simultaneous crane movements

When carrying the simultaneous crane movements "hoist" and "derrick", you should press the button "shunt" to obtain better operation performance.

The crane can do two operations at the same time. This increases the quantity of work that the crane can do and greatly improves the work efficiency. However, because the simultaneous crane movements are toward two different directions, the operator should take maximum care to avoid accident.

Before you start, make sure that you examine or do the items that follow:

- The hydraulic system works correctly and gives a sufficient flow for simultaneous crane movements.
- Make sure that you increase the engine RPMs (Engage the PTO).
- Do not move the joysticks to their limit positions. Easy, smooth movements are necessary when you do an operation for simultaneous crane movements.

There are 9 simultaneous crane movements available:

a) Auxiliary winch + Main winch

To move the auxiliary winch and the main winch at the same time, move (push and/or pull) the left and right joysticks. The auxiliary hook and main hook move up and/or down. Refer to Figure 4-59.

1) The more the joysticks are deflected upward or downward, the faster the relevant movements will be.

2) Press and hold button "Rapid gear for main winch" with the "Pre-selection of normal speed / low speed / extremely low speed" to the left position to achieve rapid movements of main winch.

3) Set the switch "Pre-selection of normal speed / low speed / extremely low speed" to the neutral or right position to make relevant movements get slower.

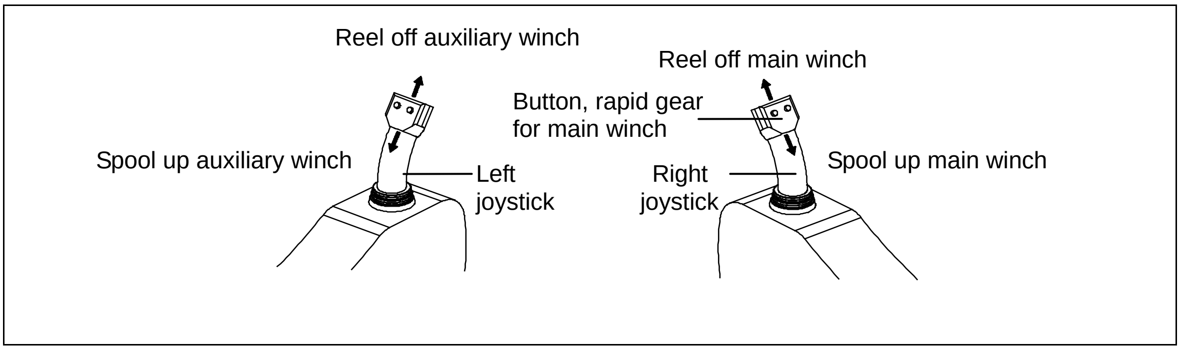


Figure 4-83 Auxiliary winch + Main winch

b) Auxiliary winch + Derrick

You can move the auxiliary hook up or down and derrick the boom up or down at the same time. To do this, push or pull the left joystick and move the right joystick left or right. Refer to Figure 4-84.

1) Set the switch "Pre-selection of derrick / telescope" (on the left control box) to the derrick position.

2) The more the left joystick is deflected upward or downward and right joystick is deflected leftward or rightward, the faster the relevant movements will be.

3) Set the switch "Pre-selection of normal speed / low speed / extremely low speed" to the neutral or right position to make relevant movements get slower.

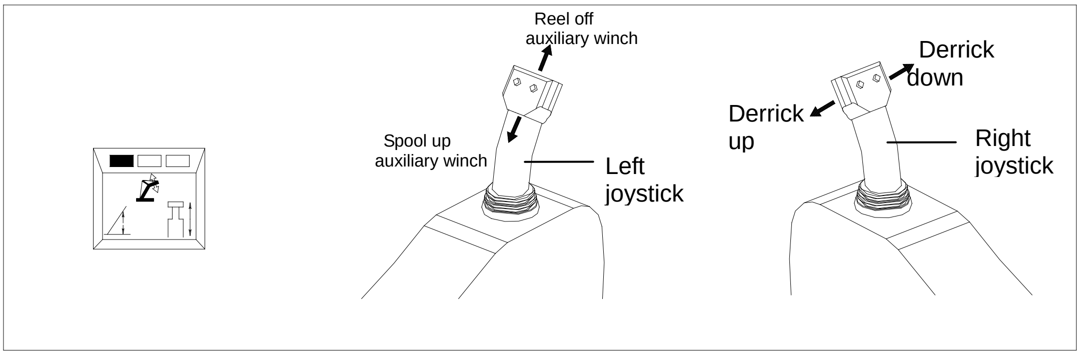


Figure 4-84 Auxiliary winch + Derrick

c) Auxiliary winch + Telescope

You can move the auxiliary hook up or down and telescope the boom out / in at the same time. To do this, push or pull the left joystick and move the right joystick left or right. Refer to Figure 4-85.

1) Set the switch "Pre-selection of derrick / telescope" (on the left control box) to the telescope position.

2) The more the left joystick is deflected upward or downward and right joystick is deflected leftward or rightward, the faster the relevant movements will be.

3) Set the switch "Pre-selection of normal speed / low speed / extremely low speed" to the neutral or right position to make relevant movements get slower.

Note:

When you select the automatic telescoping mode, the right joystick and the switch "Pre-selection of normal speed / low speed / extremely low speed" are invalid.

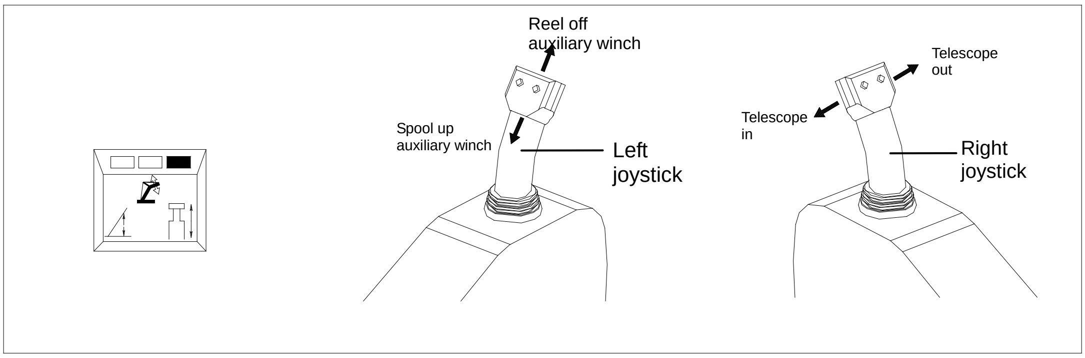


Figure 4-85 Auxiliary winch + Telescope

CAUTION

It is recommended to select the automatic telescoping mode for telescoping operation.

d) Slew + Main winch

You can slew to the left or right and move the main hook up or down at the same time. To do this, move the left joystick left or right and push or pull the right joystick. Refer to Figure 4-86.

1) The more the left joystick is deflected leftward or rightward and right joystick is deflected upward or downward, the faster the relevant movements will be.

2) Press and hold button "Rapid gear for main winch" with the "Pre-selection of normal speed / low speed / extremely low speed" to the left position to achieve rapid movements of main winch.

3) Set the switch "Pre-selection of normal speed / low speed / extremely low speed" to the neutral or right position to make relevant movements get slower.

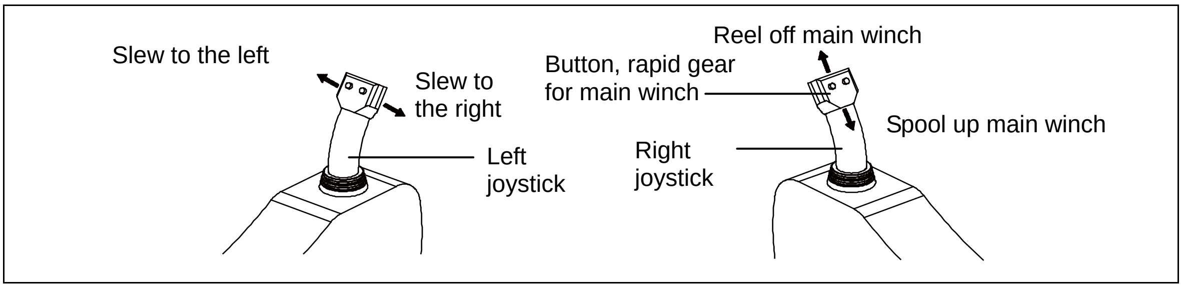


Figure 4-86 Slew + Main winch

e) Slew + Telescope

You can slew to the left or right and telescope the boom out / in at the same time. To do this, move the left and right joysticks to the left or right. Refer to Figure 4-87.

1) Set the switch “Pre-selection of derrick / telescope” (on the left control box) to the telescope position.
2) The more the left / right joystick is deflected leftward or rightward, the faster the relevant movements will be.
3) Set the switch “Pre-selection of normal speed / low speed / extremely low speed” to the neutral or right position to make relevant movements get slower.

Note:

When you select the automatic telescoping mode, the right joystick and the switch “Pre-selection of normal speed / low speed / extremely low speed” are invalid.

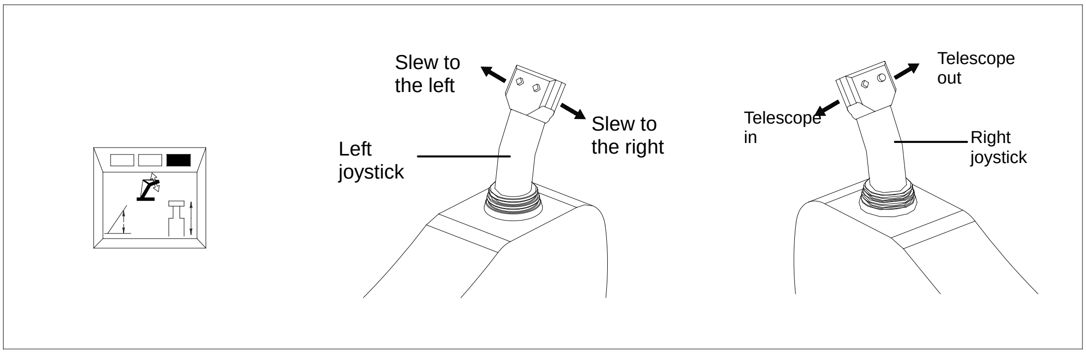


Figure 4-87 Slew + Telescope

CAUTION

It is recommended to select the automatic telescoping mode for telescoping operation.

f) Slew + Derrick

You can slew to the left or right and derrick the boom up / down at the same time. To do this, move the left and right joystick to the left or right. Refer to Figure 4-88.

1) Set the switch “Pre-selection of derrick / telescope” (on the left control box) to the left position.
2) The more the left / right joystick is deflected leftward or rightward, the faster the relevant movements will be.
3) Set the switch “Pre-selection of normal speed / low speed / extremely low speed” to the neutral or right position to make relevant movements get slower.

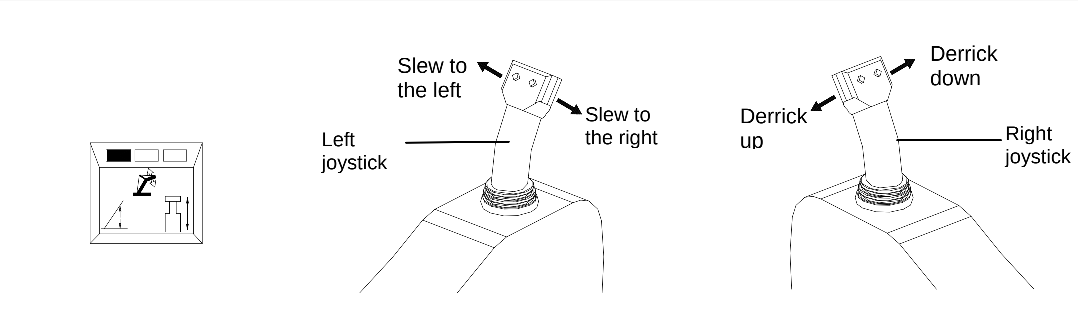


Figure 4-88 Slew + Derrick

g) Slew + Auxiliary winch

You can slew to the left or right and move the auxiliary hook up or down at the same time. For this type of move, it is necessary for the operator to move the left joystick two adjacent directions. For example, to move slewing table right and move the auxiliary hook down, push the left joystick up and to the right (1:30 clock position). Refer to Figure 4-89.

The other movements on the left joystick are as follows: (Refer to Figure 4-89.)

1) Push up and to the left (10:30 clock position) - the slewing table moves left and the auxiliary hook moves down.
2) Pull aft and to the right (4:30 clock position) – the slewing table moves right and the auxiliary hook moves up.
3) Pull aft and to the left (7:30 clock position) – the slewing table moves left and the auxiliary hook moves up.
4) The more the joystick is deflected leftward or rightward, the faster the slewing movements become and the slower the winch movements.
5) The more the joystick is deflected upward or downward, the faster the winch movements become and the slower the slewing movements.
6) Set the switch "Pre-selection of normal speed / low speed / extremely low speed" to the neutral or right position make relevant movements get slower.

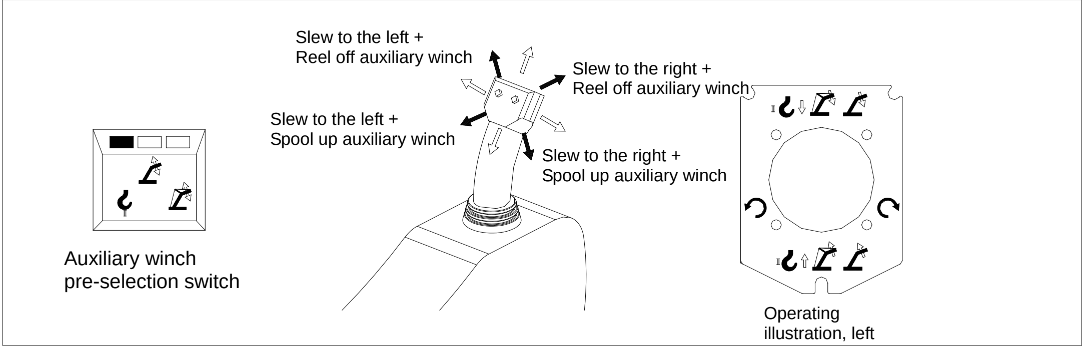


Figure 4-89 Slew + Auxiliary winch

h) Main winch + Derrick

You can derrick the boom up / down and move the main hook up or down at the same time. For this type of move, it is necessary for the operator to move the right joystick two adjacent directions. For example, to move the boom down and main hook down, push the right joystick up and to the right (1:30 clock position). Refer to Figure 4-90. The other movements on the right joystick are as follows:

Push up and to the left (10:30 clock position) – the boom moves up and the main hook moves down.

Pull aft and to the right (4:30 clock position) – the boom moves down and the main hook moves up.

Pull aft and to the left (7:30 clock position) – the boom moves up and the main hook moves up.

1) Set the switch "Pre-selection of derrick / telescope" to the left position.
2) Press and hold button "Rapid gear for main winch" with the "Pre-selection of normal speed / low speed / extremely low speed" to the left position to achieve rapid movements of main winch.
3) The more the joystick is deflected leftward or rightward, the faster the derricking movements become and the slower the winch movements.
4) The more the joystick is deflected upward or downward, the faster the winch movements become and the slower the derricking movements.
5) Set the switch "Pre-selection of normal speed / low speed / extremely low speed" to the neutral or right position to make relevant movements get slower.

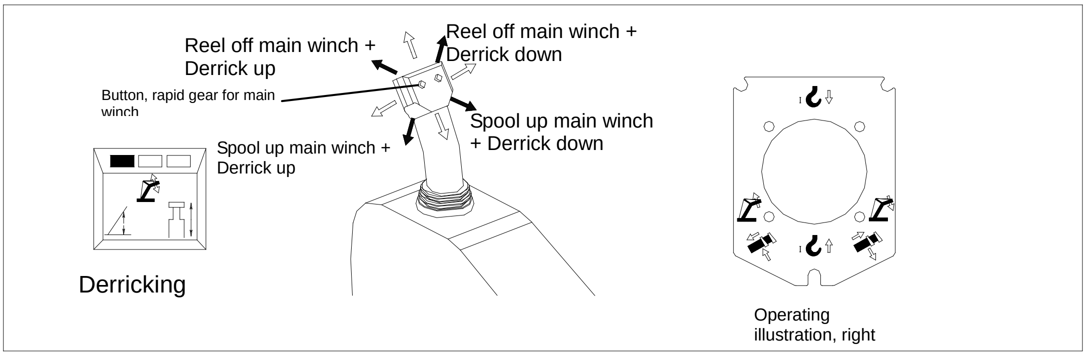


Figure 4-90 Main winch + Derrick

i) Main winch + Telescope

You can telescope the main boom in / out and move the main hook up or down at the same time. For this type of move, it is necessary for the operator to move the right joystick two adjacent directions. For example, to move main hook down and telescope out, push the right joystick up and to the right (1:30 clock position). Refer to Figure 4-91. The other movements on the right joystick are as follows:

Push up and to the left (10:30 clock position) – the boom telescopes in and the main hook moves down.

Pull aft and to the right (4:30 clock position) – the boom telescopes out and the main hook moves up.

Pull aft and to the left (7:30 clock position) – the telescopes in and the main hook moves up.

1) Set the switch “Pre-selection of derrick / telescope” to the right position.
2) Press and hold button “Rapid gear for main winch” with the “Pre-selection of normal speed / low speed / extremely low speed” to the left position to achieve rapid movements of main winch.
3) The more the joystick is deflected leftward or rightward, the faster the telescoping movements become and the slower the winch movements.
4) The more the joystick is deflected upward or downward, the faster the winch movements become and the slower the telescoping movements.
5) Set the switch “Pre-selection of normal speed / low speed / extremely low speed” to the neutral or right position to make relevant movements get slower.

Note:

When you select the automatic telescoping mode, the right joystick and the switch “Pre-selection of normal speed / low speed / extremely low speed” are invalid.

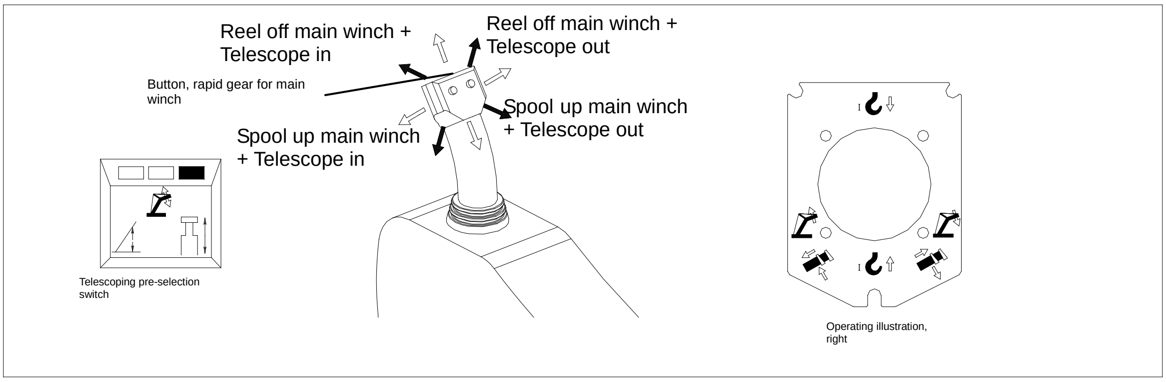


Figure 4-91 Main winch + Telescope

WARNING

Carry out simultaneous crane movements without taking a load or with a suspended load. Do not telescope the boom with a suspended load.

4.5.9 Rope reeving

Before you start to change the wire rope reevings:

– Support the crane on outriggers.

– Fully retract the boom and move it to the side or rear of the crane.

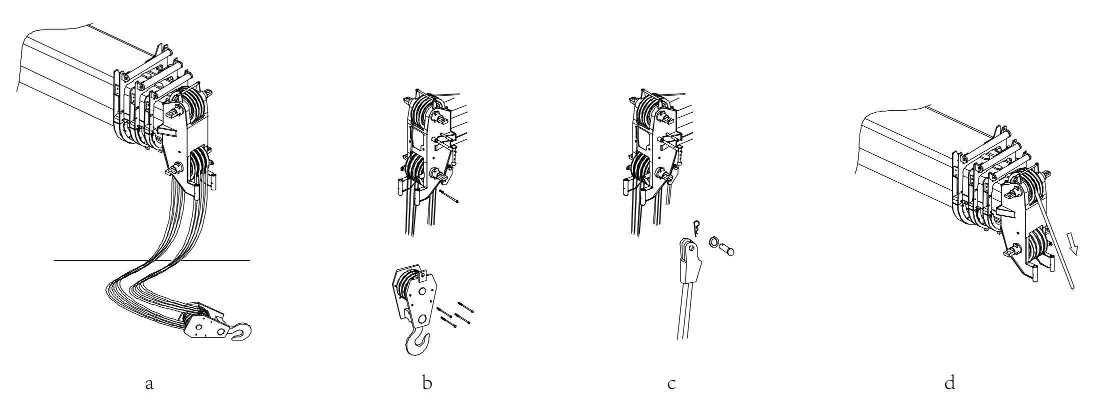


Figure 4-92 Rope reeving

Change the wire rope reevings as follows (Refer to Figure 4-92):

a) Derrick boom down and put the hook (a) on the ground.

b) Remove the pins (b) on the hook block and boom head to let the wire rope unreeve.

c) Remove the hoisting limit switch weight (c).

d) Remove the wedge and socket assembly (beckett).

e) Dead end the rope on the hook block for an odd reeving number, and on the boom head for an even reeving number.

f) Change rope reevings (d).

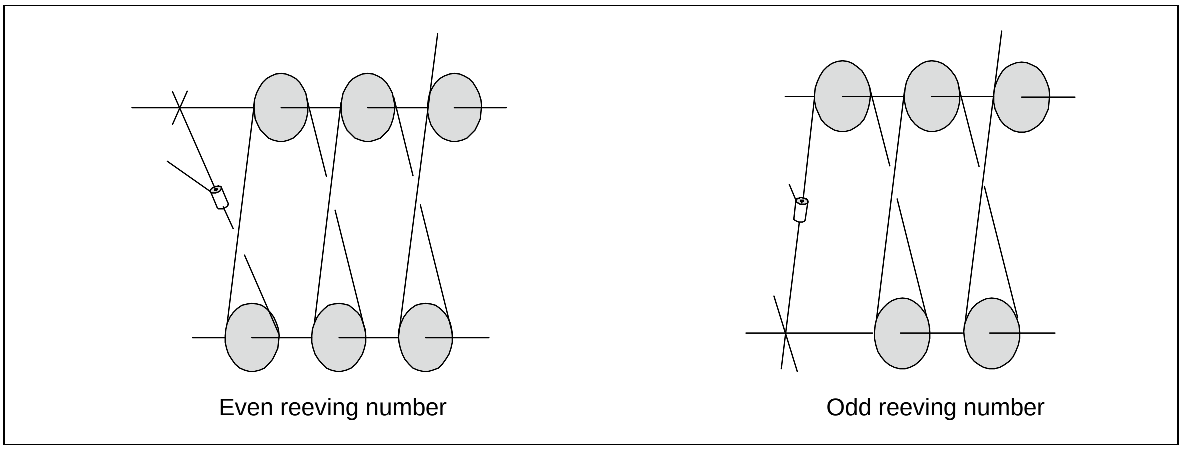


Figure 4-93 Location of hoisting limit switch weight

Note:

(1) You must change the location of the hoisting limit switch weight if you have a different number of wire rope reevings. Refer to Figure 4-93.

(2) Put the wire rope on the winch spool smoothly and in sequence.

Make sure that you do all of the work on level ground that is hard. The ground must hold more than the load bearing capacity.

⚠ CAUTION

When the long boom is reeved with wire rope, it is suggest that select an even reeving number. Do not select an odd reeving number. Otherwise, the boom will bend.

4.5.10 Central lubricating system

The crane superstructure is equipped with central lubricating system. After you switch on the power switch of central lubricating system or ignition starter switch, the greasing pump begins to lubricate the lubricating points at specified intervals.

A lubrication cycle consists of pump running interval and their running time. Once the pump running interval reaches the set value, the pump will start running and time its running. And when its running time reaches the set value, the pump will stop lubricating and time the interval. The lubricating cycle will repeat as long as the system works.

For the structure of the central lubricating system, refer to Figure 4-94.

For the outside view of the controller, refer to Figure 4-95.

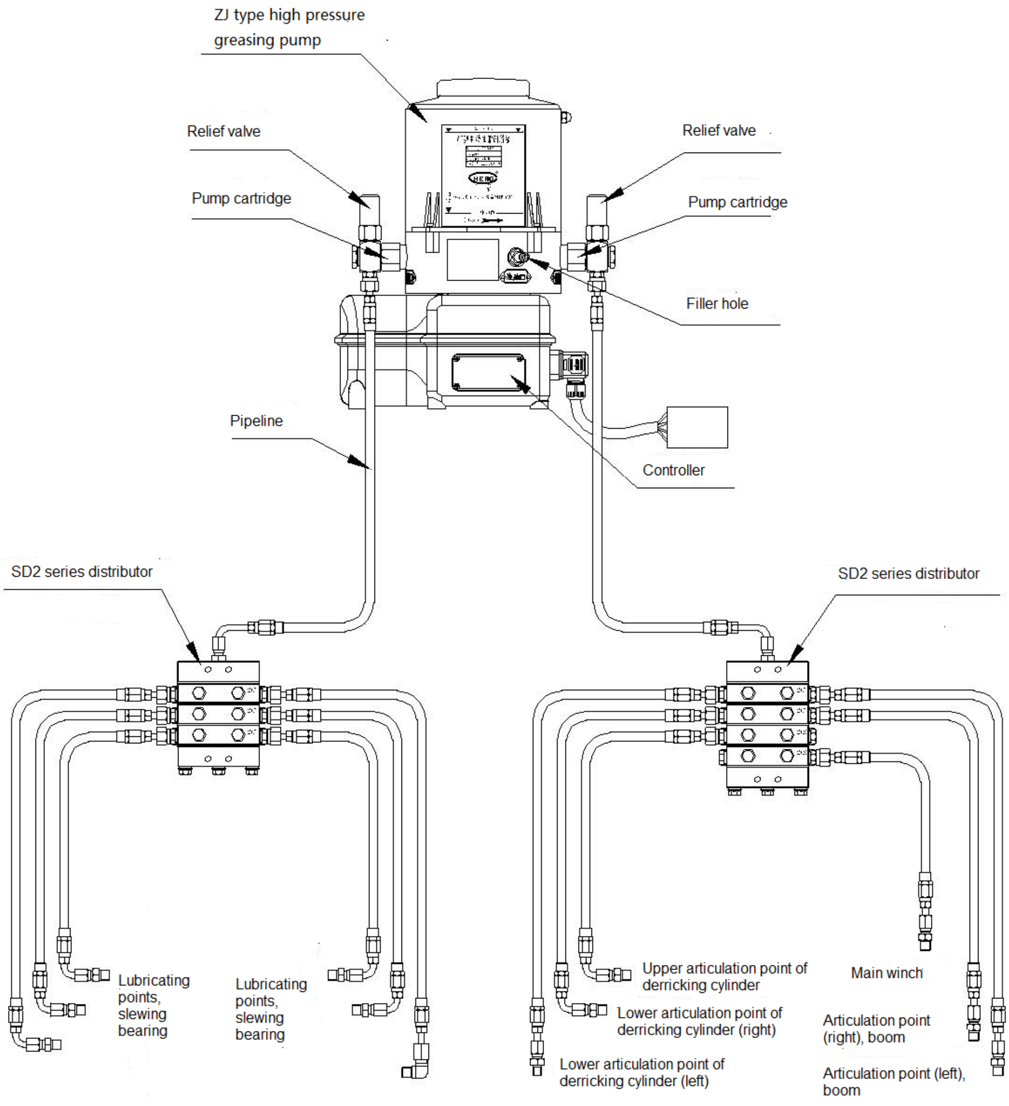


Figure 4-94 Central lubricating system

The running time and running interval of the greasing pump are controlled by the power-on and power-off time of PLC of by the program controller attached with the greasing pump (when the greasing pump attached with the program controller is selected) according to the lubricating requirements of the equipment. The program controller is on the lower part of the greasing pump. For the outside view of the program controller, refer to Figure 4-95.

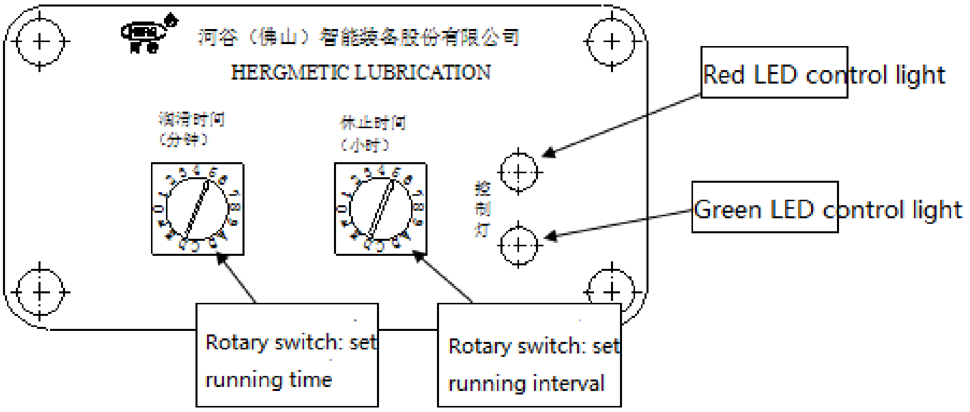


Figure 4-95 Program controller

(1) The left rotary switch is used to set the running time of the greasing pump. The number and letter pointed by the arrow stands for the time code. There are 16 time codes in total. Min. running time is 1 min. and Max. running time is 16 min. when the program controller is connected to a short circuit plug. See the table below.

Time code	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	0
Running time (min.)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

(2) The right rotary switch is used to set the running interval of the greasing pump. The number and letter pointed by the arrow stands for the time code. There are 16 time codes in total. Min. running interval is half hour and Max. running interval is 8 hours. when the program controller is connected to a short circuit plug. See the table below.

Time code	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	0
Running interval (hr.)	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8

⚠ CAUTION

The lubricating cycle of this product has been set when delivery, namely the running time is 5 min. and the running interval is 4 hr. Once the pump running interval reaches 4 hr., the pump will start running and time its running. And when its running time reaches 5 min., the pump will stop lubricating and time the interval. The lubricating cycle will repeat as long as the system works.

The instructions for control lights on the panel are as follows:

1. Running time: the green LED control light illuminates for 1 sec. and then extinguishes for 1 sec.
2. Running interval: the green LED control light stays illuminated.
3. You can activate the manual switch in operator's cab to reset the system under any conditions. After reset, the greasing pump runs right now according to the current state value of the rotary switch.
4. Low level warning: the red LED control light flashes and sounds (the interval time is 0.1 sec.)
5. Electric current warning: the red LED control light stays illuminated and sounds continually.

Note:

The running time of the greasing pump should be adjusted by specialized persons lest the motor is damaged when the water enters due to incorrect installation. It the fault occurs because the user improperly adjusts the system, the user should undertake the responsibility by himself. If the running time is insufficient, activate the bypass key switch (see Chapter 4) in operator's cab to enable the central lubricating system to lubricate.

ZOOMLION

All Terrain Crane Operator’S Manual

Chapter 5 Equipment

Chapter 5 Equipment

5.1 Safety guidelines for assembly

a) Reeve the hoist rope through the rope pulley on the boom head and hook pulley by a corresponding reeving value specified in a lifting capacity table (maximum rated load on single wire rope: 12 tons).

b) Select and install suitable counterweight plates according to lifting capacity tables.

c) If lattice jib sections should not be in contact with the ground during assembly and dismantling, put a suitable and stable object below to support them.

⚠ DANGER

(1) Prepare and use specialized safe scaffolding or lifting platforms, etc. to lift crane equipment! If this is not observed, personnel could fall and suffer life-threatening injuries.

(2) Do not stand beneath the jib, especially when it is being pinned or unpinned.

d) If the lattice boom sections are pushed inside each other for transportation purpose, each of them must be secured with two chains.

e) Perform the following checks before supporting the crane:

1) Check whether the axle suspension is locked.
2) Check whether the ground provides adequate load-bearing capacity.
3) Check whether the support pads are secured in their operating positions.
4) Check whether the crane is leveled horizontally.
5) Check whether there is a sufficient safety clearance from the crane to a slope or excavation.
6) Check that the tires are not in contact with the ground.
7) Check whether there is any live cable within the operating range of the crane.
8) Make sure that the working site is sufficiently large to cover the working radius of the crane and the lift operation to be done can be restricted to a working radius as small as possible.
9) Confirm that there is no obstacle which might hinder required crane movement.
10) An expert must examine the ropes at regular intervals and before assembly so as to detect possible damage or wear and tear at an early age.

⚠ DANGER

Replace the wire rope if any of the following damages is detected.

- **Breakage of a strand**
- **Wire breaks**
- **Broken wire nests**
- **Reduction in the rope diameter by more than 10% of the nominal size**

- **Rope deformation.**

Only use qualified wire rope of same structure, strength grade and diameter as that of the original one for replacement.

⚠ DANGER

Risk of accident due to toppling load!

If the following instructions are not observed, the hoist rope end attachment may be torn out, causing load falling down.

(1) Examine and readjust the lowering limit switch if a new hoist rope is used!

(2) The lowering limit switch must be functional and can be switched off when there are only 3 winds of wire rope remain on the winch!

11) Depressurize hydraulic system before connecting and disconnecting the hydraulic lines with quick-release couplings (Turn off the engine and wait for about 5 minutes). Tighten or unscrew the hydraulic couplings by hand rather than by tools. Otherwise, couplings will be damaged.

⚠ DANGER

Make sure that the quick-release couplings are connected correctly. Incorrectly coupled quick-release couplings can result in accident from pressure loss or abrupt leakage.

12) Before derricking the boom system (with the jib and 5m extension section assembled) up or down, make sure that the following prerequisites are met:

- The crane is supported and leveled.
- The telescopic boom is fully telescoped in.
- The jib and jib extension have been fitted and the counterweight has been attached to the slewing table in accordance with the lifting capacity tables.
- All pinned connections have been secured.
- All limit switches have been correctly fitted and are fully operational.
- The hoist rope has been correctly reeved through the rope pulleys and restricted by the rope securing tubes to prevent it from jumping out.
- There are no loose parts on the boom and jib.

⚠ DANGER

(1) In winter, the boom, jib and associated components (limit switches, cable drums, corner marker light, anemometer etc.) must be kept free of snow and ice, otherwise there might be their functional failure.

(2) Incorrectly fitted or faulty limit switches and falling parts (pins, spring-loaded safety pins, ice etc.) can cause serious injury!

5.2 Jib installation

No.	Description	Dimensions (L X W X H) (m)	Weight (kg)	Quantity
A	Adapter	2X1.8X1.55	927	1
B	5 m heavy duty jib	5X1.8X1.55	909	1
C	8 m heavy duty jib	8X1.8X1.55	1297	1
D	5m extension section (A-shaped)	5X1.8X1.55	1943	1
E	Luffing section	5X1.8X1.55	2112	1
F	Extension I	7X1.8X1.55	935	2
G	Transitional section	2X1.8X1.55	293	1
H	Extension II	2X1.55X1.3	763	2
I	Head section	5X1.55X1.3	963	1

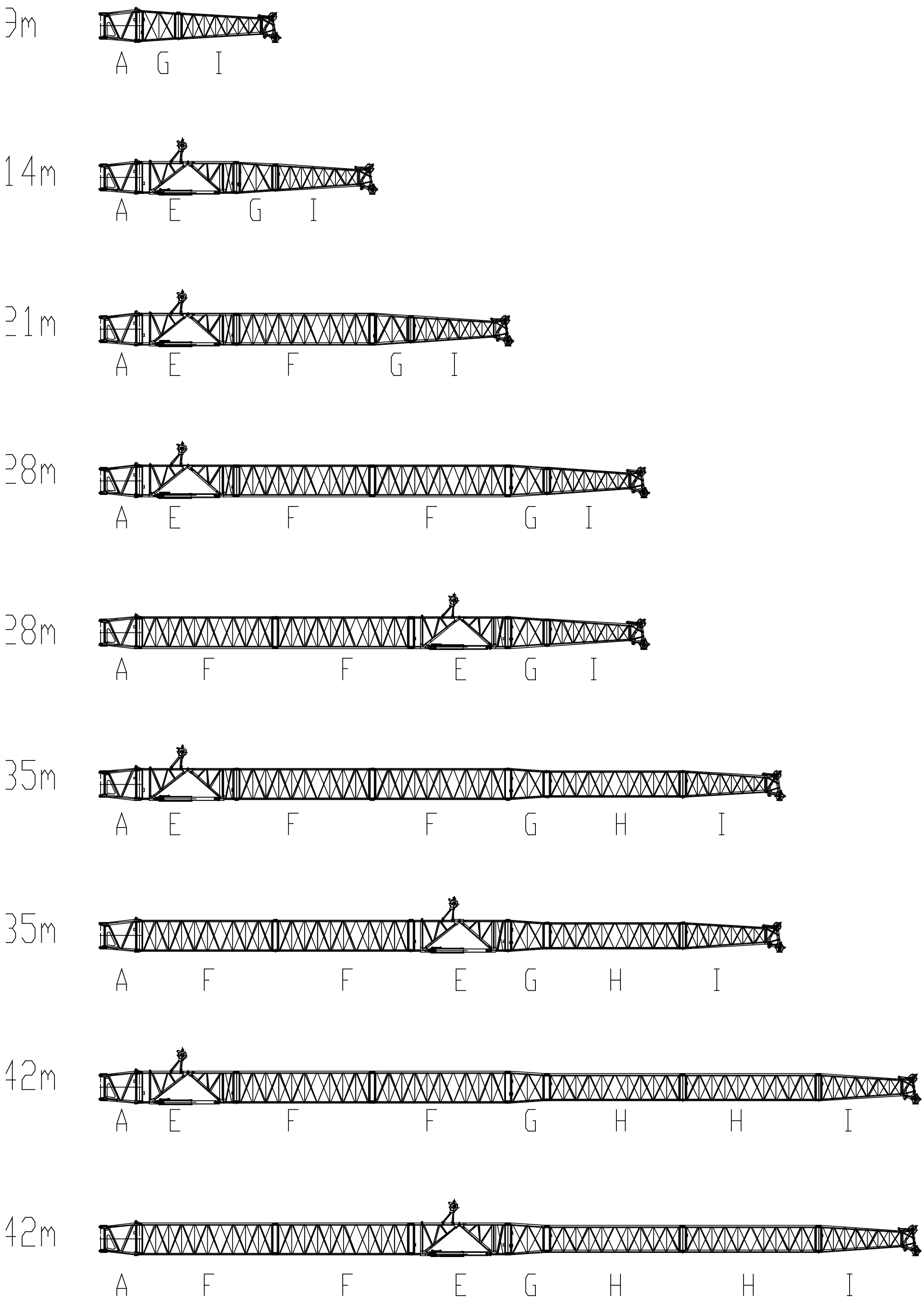


Figure 5-1 Light duty jib combinations and its lattice jib sections

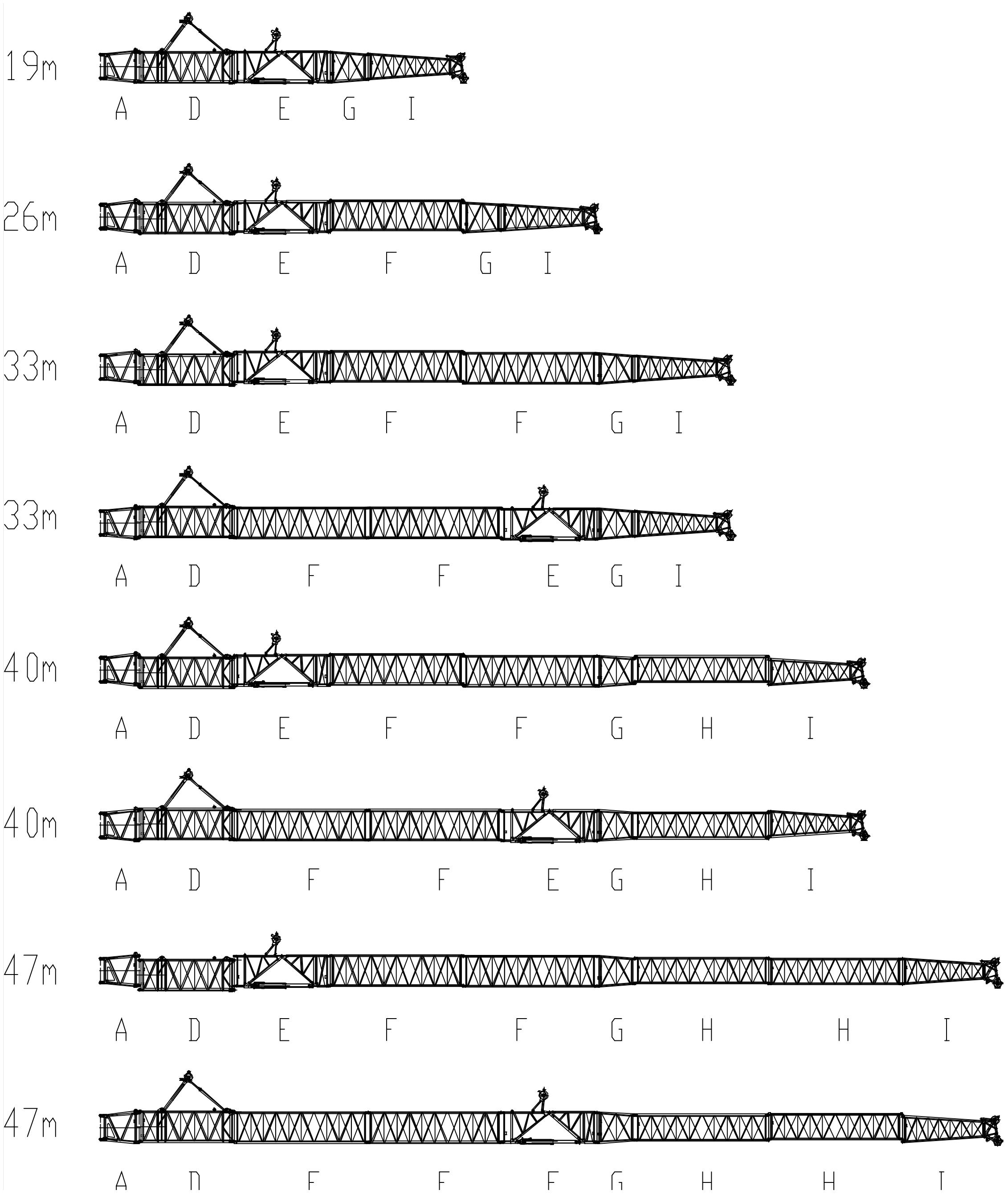


Figure 5-2 Light duty jib combinations and its lattice jib sections (superlift OM)

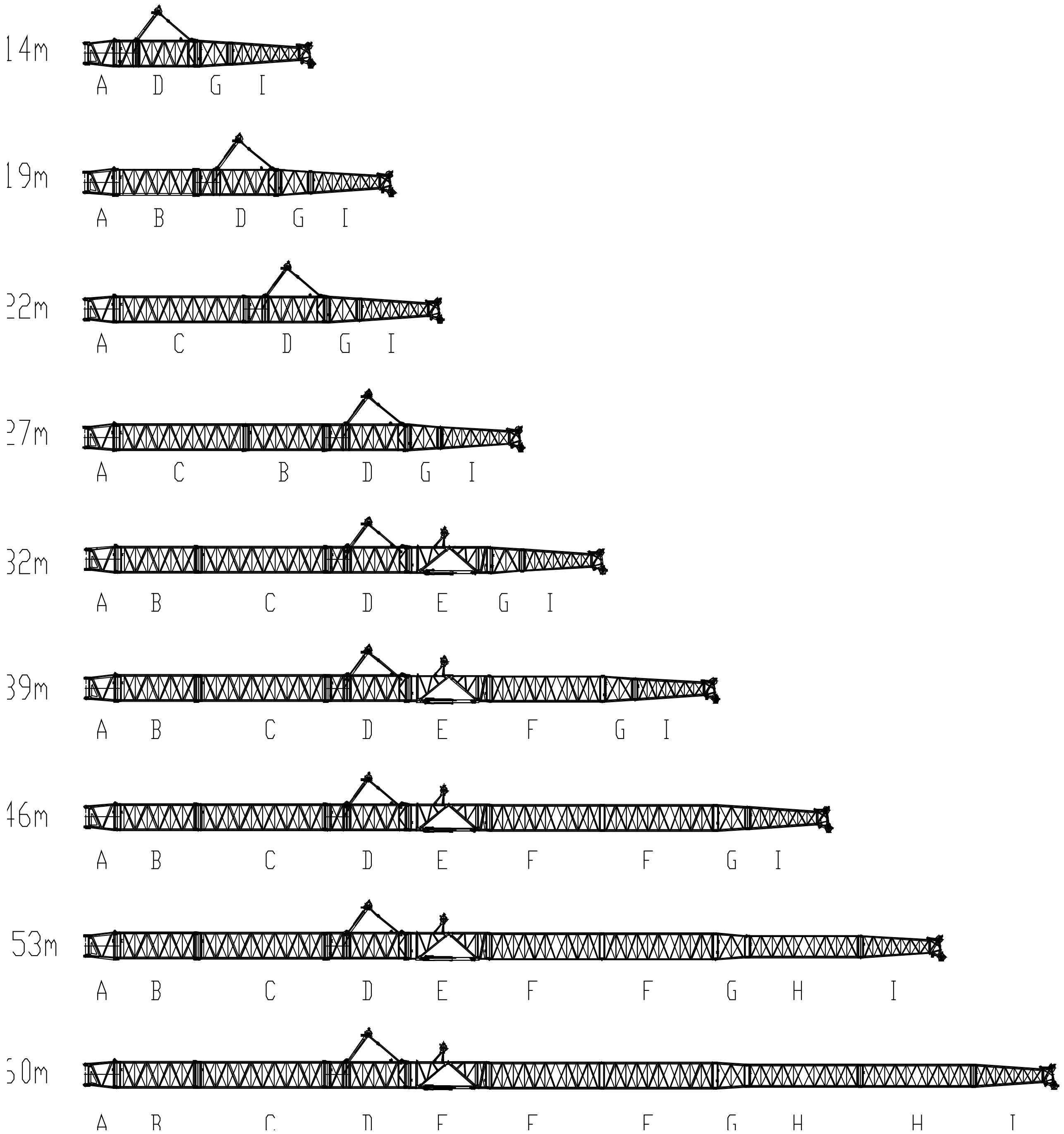


Figure 5-3 Heavy duty jib combinations and its lattice jib sections (superlift OM)

CAUTION

These boom sections such as 5 m extension, 5 m heavy duty jib and 8 m heavy duty jib can only be used for superlift operating mode.

5.2.1 Overview

The jib, which can be used to increase crane lifting height, is an important auxiliary mechanical structure of an all-terrain crane. With the jib assembled, the load can be lifted to a higher height, and the working radius can be enlarged through changes of jib offset.

This crane is equipped with 11 lattice jib sections which can be combined for 18 different jib lengths, as shown in Figures 5-1 to 5-3. Jib sections are connected and secured with pins.

5.2.2 Jib installation

The jib can be derricked up/down steplessly relative to the main boom at an offset of 0° - 40°, depending on operational requirements.

Remove the hook from its holder first, and then install the jib in following procedures with other auxiliary equipments.

5.2.2.1 Connection of each component

Note:

The figures below are only for reference and may be different from actual components. However, their installation procedures are similar.

a) Assembling the luffing section

Note: In general, the luffing section is properly assembled before delivery.

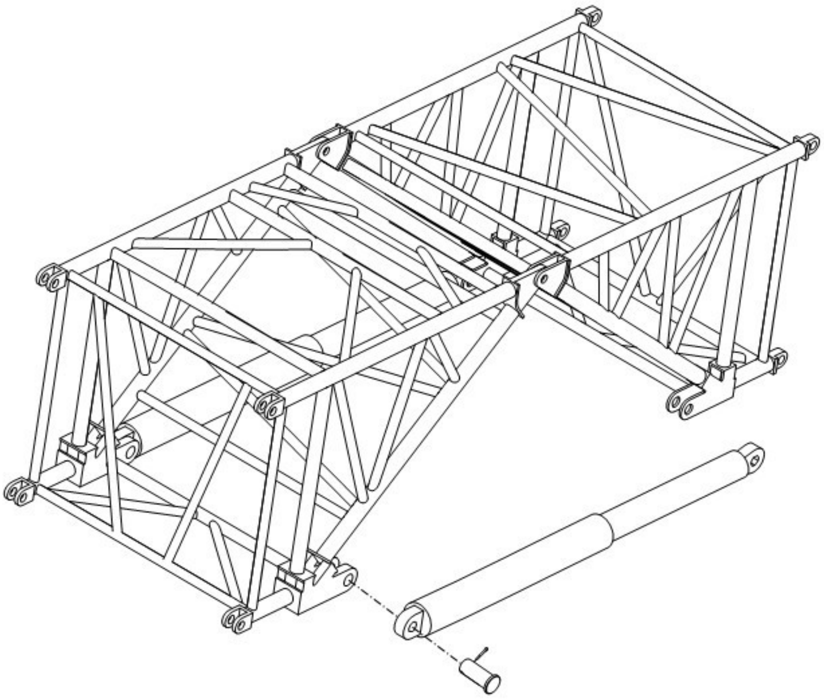


Figure 5-4 Connecting the luffing section with the luffing cylinder

b) Installing the head section

Note: In general, the head section is properly assembled before delivery.

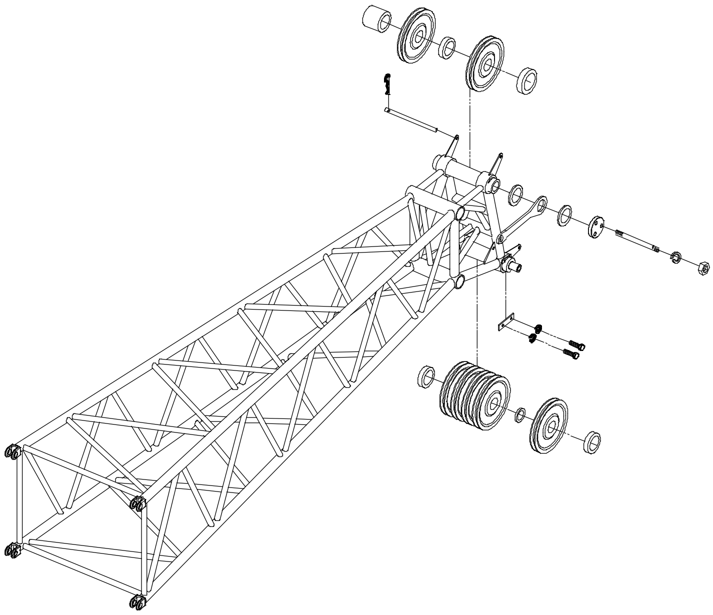


Figure 5-5 Assembling the head section

5.2.2.2 Installing 14 m jib (with luffing section)

a) Extend outriggers and adjust levelness of the chassis frame using the level gauge.

b) Retract the main boom fully and slew the superstructure to the crane's rear or side working area. Ensure that there is a slewing space whose radius is approx. 30 m. Derrick down the main boom to an angle of -0.5°.

c) Connect the adapter with the luffing section using pins, as shown in Figure 5-5.

d) Connect the luffing section with the transition section using pins.

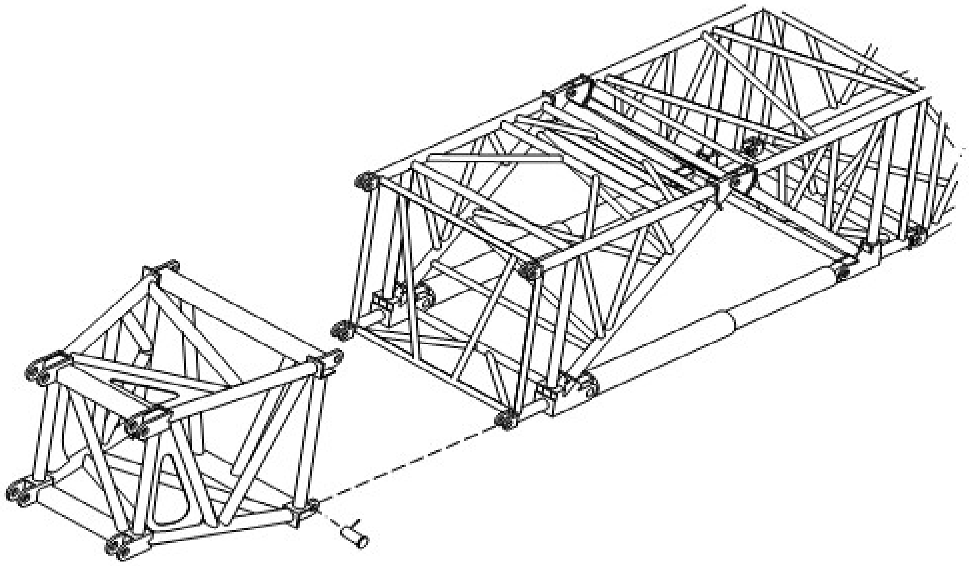


Figure 5-6 Connecting the adapter with the luffing section

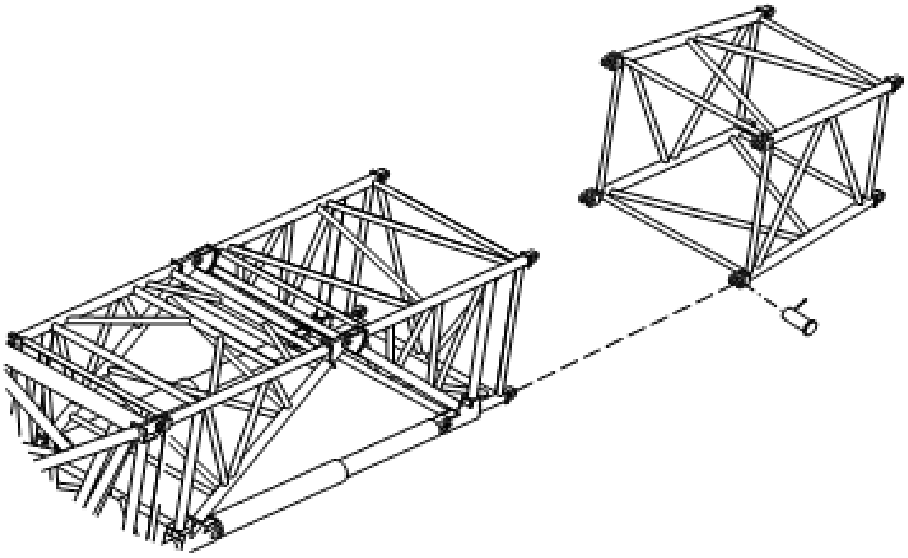


Figure 5-7 Connecting the luffing section with the transition section

e) Connect the transition section with the head section using pins.

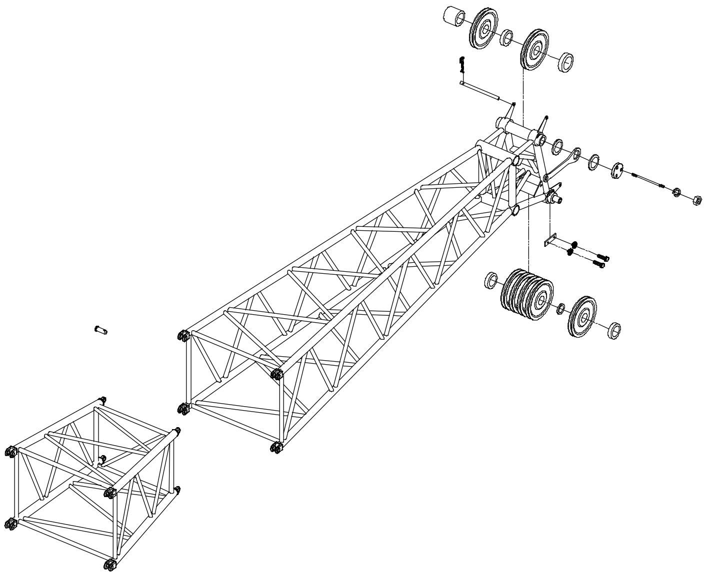


Figure 5-8 Connecting the transition section with the head section

f) Install the 14 m long jib onto the main boom head in following steps:

- Lift the assembled 4-section jib assembly (head section + transition section + luffing section + adapter) with an auxiliary hoist;
- Align the pin holes between the main boom head and the adapter (a position guiding device is provided);
- Connect pipelines of the driving oil cylinder;
- Operate the solenoid valve handle on the adapter to enable the driving cylinder to lock the fours pins down.

After the 4 pins are locked tight, the 14 m jib is successfully installed onto the main boom.

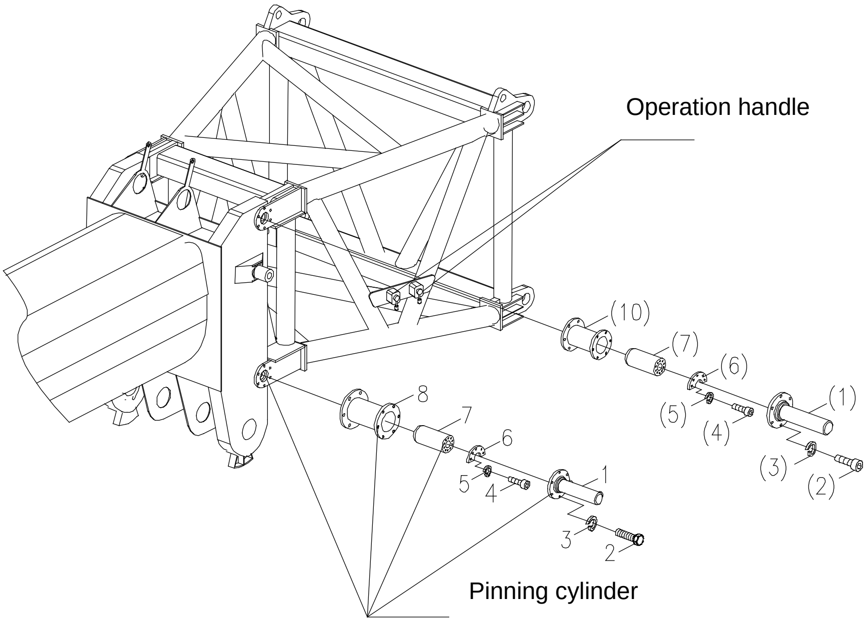


Figure 5-9 Connecting the adapter

g) Install the hoisting height limit switch and wind gauge. Check for correct installation of each component. The jib installation is hereby completed.

h) In case a longer jib is needed, install the jib according to the jib chart in Section 5.2 following instructions in Section 5.2.2.1.

⚠ CAUTION

When a medium or long jib (32m or longer, with the luffing section) is needed, to avoid derricking failure of the main boom with the jib because of their heavy weight, the main boom angle before such derricking should be within 3-5°.

First derrick down the main boom to an angle of 3° and install lattice jib sections (i.e. from the adaptor to the luffing section) onto it. Then derricks the main boom up to an angle above 3° and install the rest of the lattice jib sections onto the luffing section by derricking the luffing section steplessly, which can greatly improve installation efficiency.

⚠ WARNING

It is prohibited to drive the crane with the jib assembled. The jib should be transported by a specialized vehicle.

DANGER

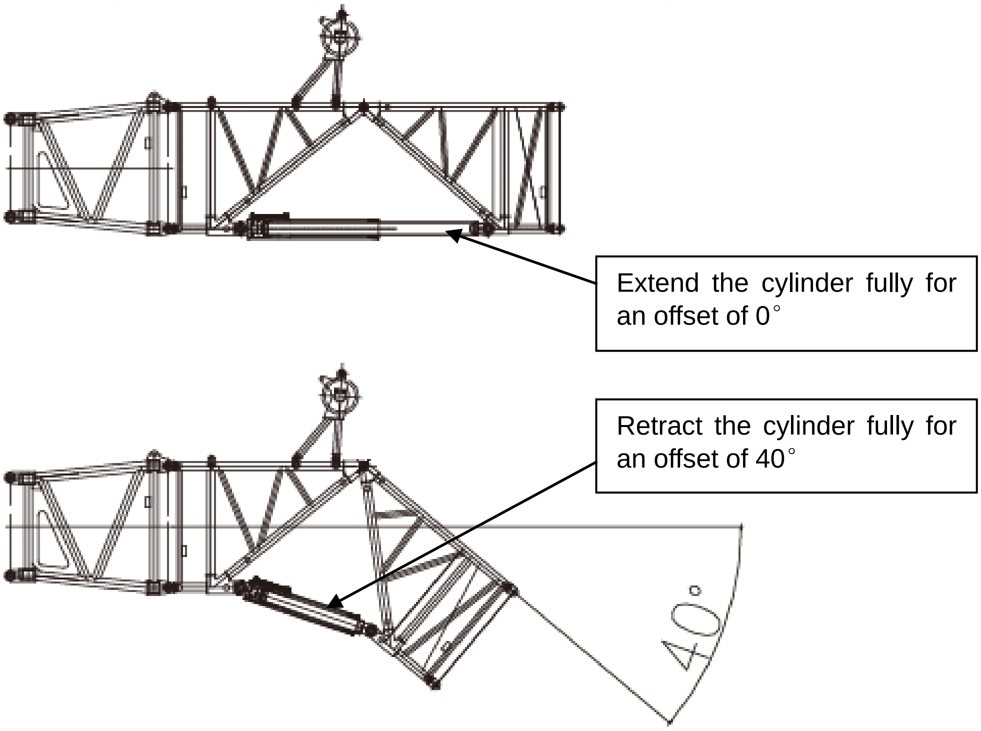
It is prohibited to stand under the boom during jib rotation process. There is a life risk as the installation components may fall down due to wrong installation!

5.2.3 Changing jib offset

The jib can be installed onto the main boom at an offset of 0° - 40°, which can be changed steplessly.

To change the offset:

- Connect pipelines of the jib luffing cylinder after completing the installation of the jib.
- Telescope the luffing cylinder to change the jib offset, as shown in Figure 5-10.



Extend the cylinder fully for an offset of 0°

Retract the cylinder fully for an offset of 40°

Figure 5-10 Changing jib offset

5.2.4 Reeving of hoist winch

Reeve the hoist winch's wire rope in following steps:

- Drag the wire rope out directly from the main winch and reeve it along the longitudinal direction of the main boom to reach the guide pulley bracket;
- Remove the small pulley from the guide pulley bracket, reeve the wire rope through the guide pulley and re-install the small pulley;
- Reeve the wire rope to reach the pulley at the jib head and remove the rope guard;
- Reeve the wire rope around the two pulleys at the first jib section. Re-install the rope guard and connect the rope end with the auxiliary hook.

⚠ CAUTION

The above operations should be done when the main boom is derricked down to its minimum angle.

5.2.5 Jib removal

To remove the jib:

- Use an auxiliary hoist to lift and hold the jib after a lifting operation is completed.
- Operate the handle of the solenoid valve on the adapter to unpin the locking pins.
- Disconnect the pipelines connecting the driving cylinder.
- Disassemble each jib section and place them on a suitable storage location or onto a specialized vehicle for transportation.

⚠ CAUTION

(1) Confirm for absence of obstacles within the installation area of the jib assembly.

(2) Installation and removal of extensions and jib sections should be done in crane's rear or side working area after all outriggers are extended to support the crane.

(3) Before installing extensions and jib sections, slew the superstructure to the crane's rear or side working area and derrick the main boom down to an angle of -0.5°. When it is necessary to dismantle the jib sections at height, use a stair or step to ensure operation safety.

(4) Do not tighten the auxiliary winch's wire rope too much when removing the jib.

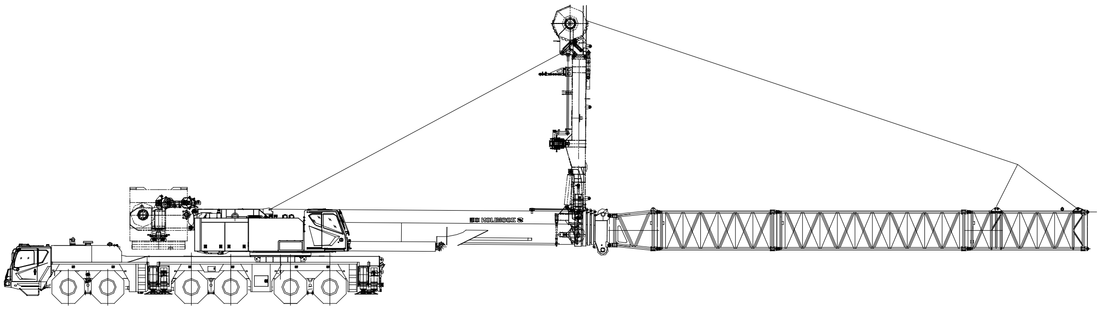
(5) Remove and store the auxiliary hook under guidance of hand signals from an instructor.

(6) Retract the main boom fully before installing or removing extensions and jib sections.

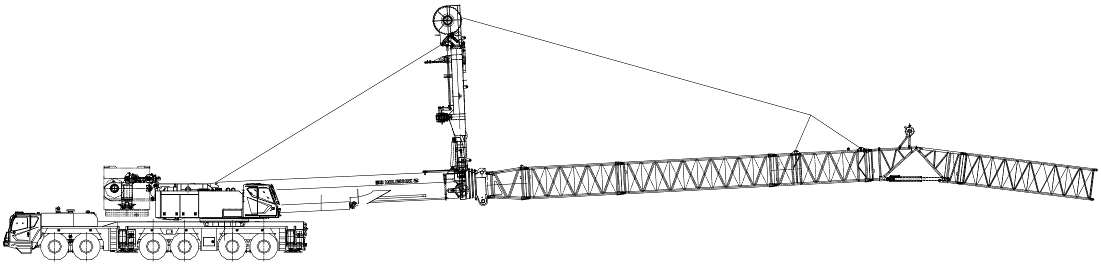
5.2.6 Assembly and dismantling of long heavy-duty jib

As for the assembly and dismantling of long heavy-duty jib such as 46 m, 53 m and 60 m long, do the items that follow.

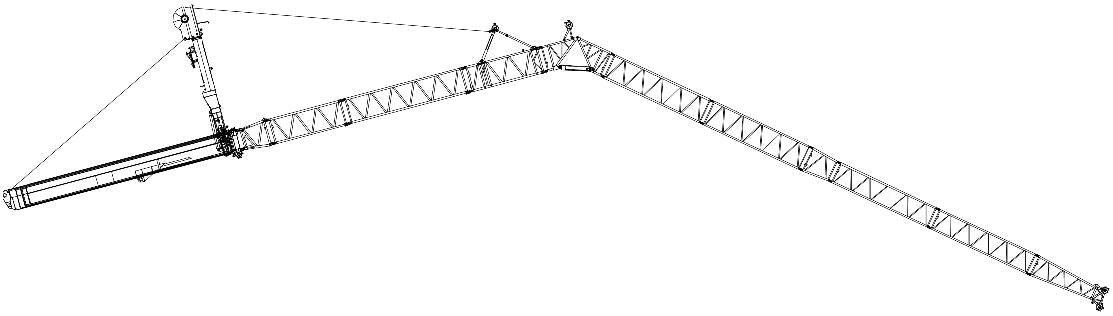
a) Retract main boom completely and low it to minimum position. And the main boom should be level. The counterweights should be installed on the crane before assembly. Connect the superlift pulley to the gantry frame of extension when connecting the jib with 5 m extension. Make sure that the pretightening force of superlift wire rope exceeds 1.5 t and the superlift winch is locked.



b) Connect the luffing section with the large extension to about 30 m. Adjust the main boom angle between 3° and 5°. Meanwhile, adjust the luffing section to a proper position by operating the luffing cylinder of jib. And then, properly connect the subsequent jib sections in turn.



c) Adjust the luffing section to the proper position in order that the jib head section is laid on the ground after assembly. And then, slowly extend the derricking cylinder of main boom to raise the boom. Gradually, the boom leaves away from the ground. During the whole process, the superlift system is locked.



d) When dismantling the long heavy-duty jib, derrick main boom down to 3°-5°. Adjust the luffing cylinder of jib in order that the jib head section comes into contact with the ground. After that, dismantle the jib sections to 30 m. And then, derrick main boom until it is level. Lastly, dismantle the rest jib sections and the superlift system.

5.3 Installation and removal of the superlift system

5.3.1 Installing the superlift system

5.3.1.1 Description of main components

Main constituent components of the superlift system are as shown in Figure 5-11.

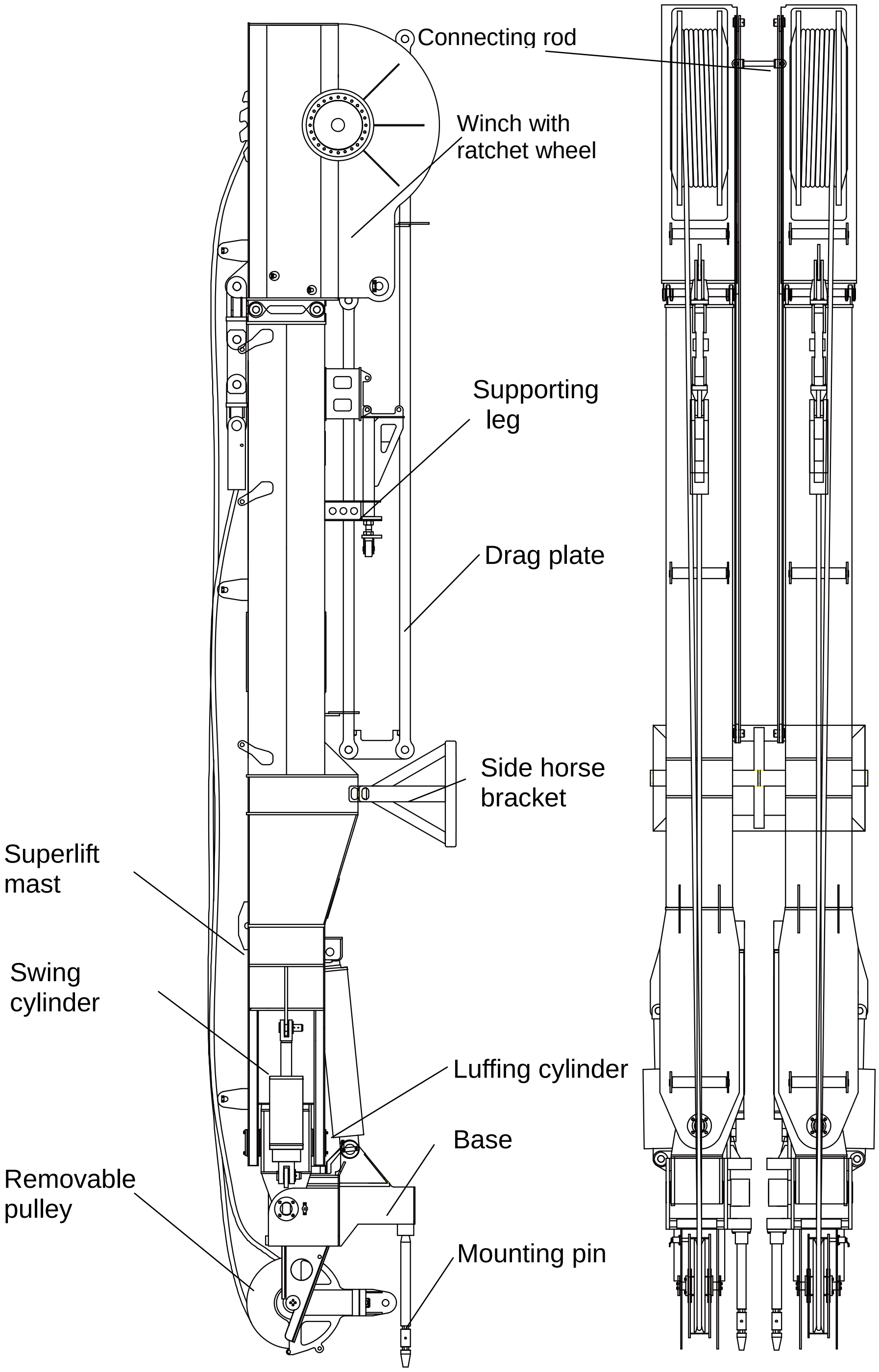


Figure 5-11 Superlift system

5.3.1.2 Prerequisites for installation

The superlift assembly is secured onto the side horse bracket through a locking device during transportation, where its drag plate has been installed correctly and the connecting rod has been connected with the left and right ratchet wheels.

Before installing the superlift system:

a) Extend the outriggers to support the crane and adjust its levelness;

b) Select and install a suitable counterweight according to the lifting capacity table for a specific OM;

c) Retract the main boom fully and derrick it down to the horizontal position.

d) Prepare a scaffolding or working platform for such installation;

e) Prepare other necessary spare parts and tools.

⚠ DANGER

It is prohibited to use unsafe scaffolding or working platform casually prepared for such installation, otherwise there is a risk of injury resulted from falling down!

5.3.1.3 Installing the superlift assembly

a) Remove the locking device securing the superlist assembly on the side horse bracket. Rotate the connecting rod at the two ratchet wheel winch to the other side, exposing the left and right superlift mechanisms completely.

b) Lift the superlift structure at one side by the crane itself or using an auxiliary hoist. Pull the four mounting pins out to its mounting position and secure them with spring pins, so as to avoid personal injury resulted from their slipping out. Lay down the supporting leg to its mounting position.

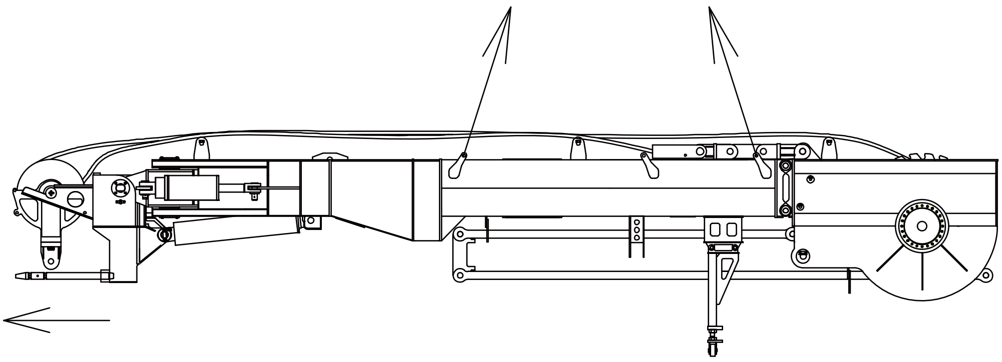


Figure 5-12 Installation process of the superlift system (1)

WARNING

(1) The crane chassis must be leveled horizontally before above installation.

(2) The slings should have sufficient bearing capacity.

c) Suspend the two superlift structures onto the chassis frame, with its front part connected with the guiding cone on the main boom bracket, and its back part supported by the supporting legs.

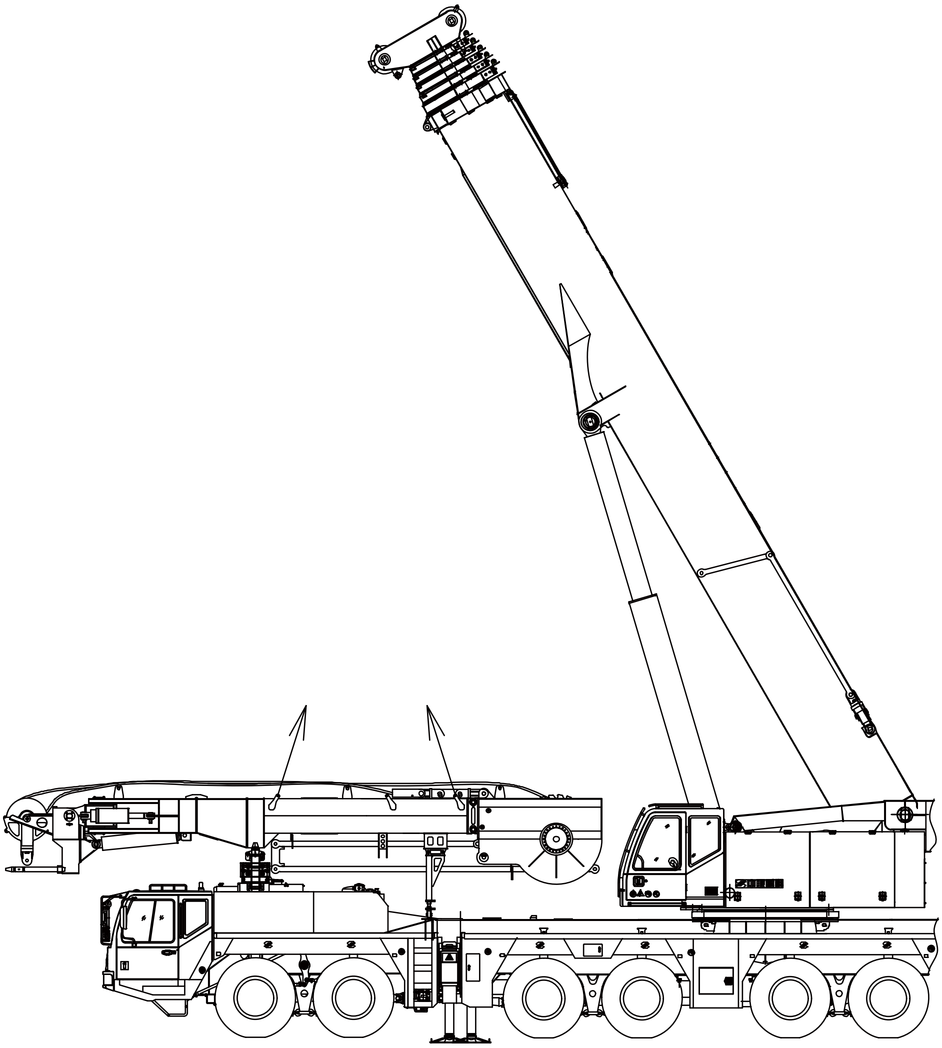


Figure 5-13 Installation process of the superlift system (2)

d) Telescope the second main boom section out by approx. 0.5 m. Slew the superstructure to the crane's center front position. Derrick down the main boom slowly, until the main boom's pin holes aligns approximately with the mounting holes of the superlift system. The main boom is lowered down and laid onto the main boom bracket.

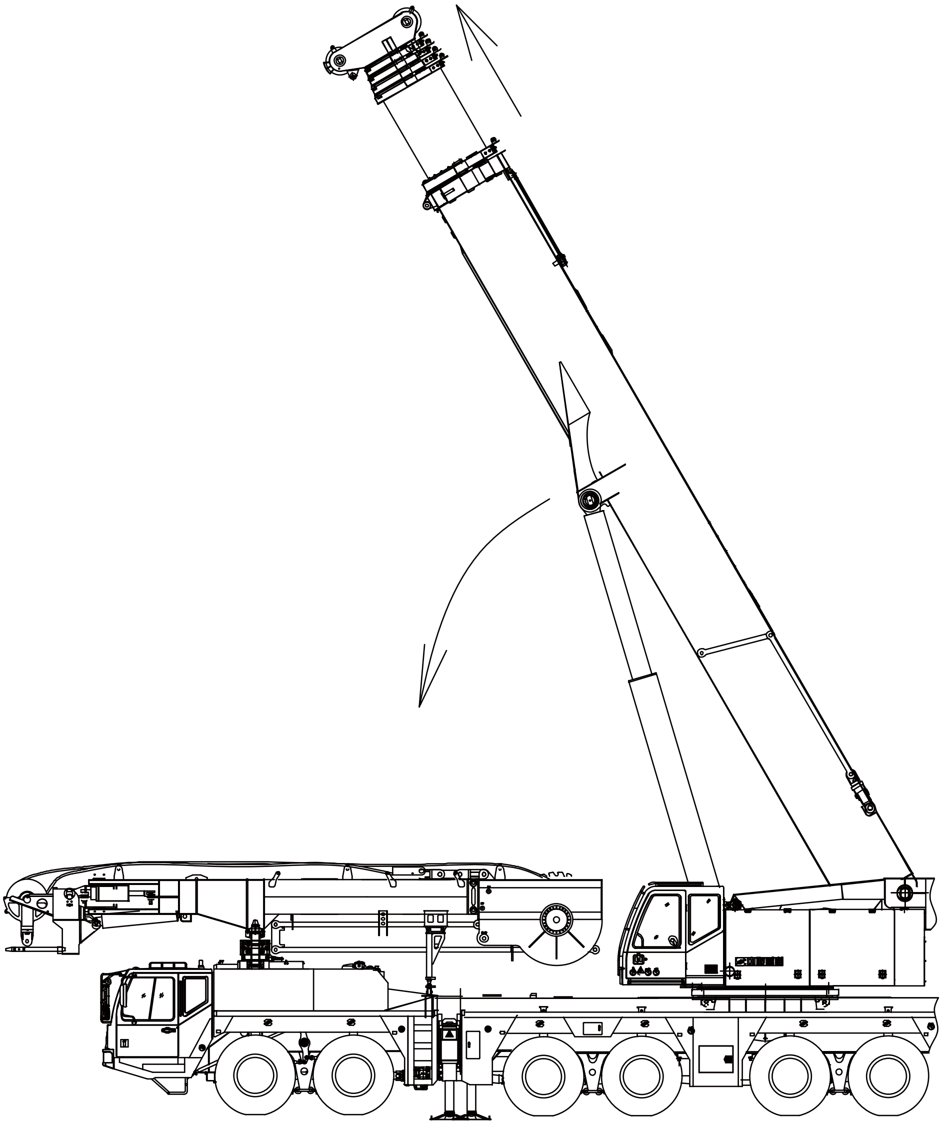


Figure 5-14　Installation process of the superlift system (3)

⚠ WARNING

The above aligning process should be carried out slowly and carefully. A person should be assigned to observe status of the main boom and superlift system for timely warning and adjustment.

e) Remove the spring pin securing the mounting pin and install a chuck plate into the second groove of the mounting pin. Lock the chuck plate with the spring pin. Retract the second main boom section slowly, until the mounting pin sits into the mounting hole. This process should be monitored and interfered if necessary by specialized personnel. Retract further the second telescopic boom section, which will drive the chuck plate to press the mounting pin into the mounting hole for connecting the main boom and superlift system. Connect the drag plates with the main boom at the two sides after the mounting pin is in position.

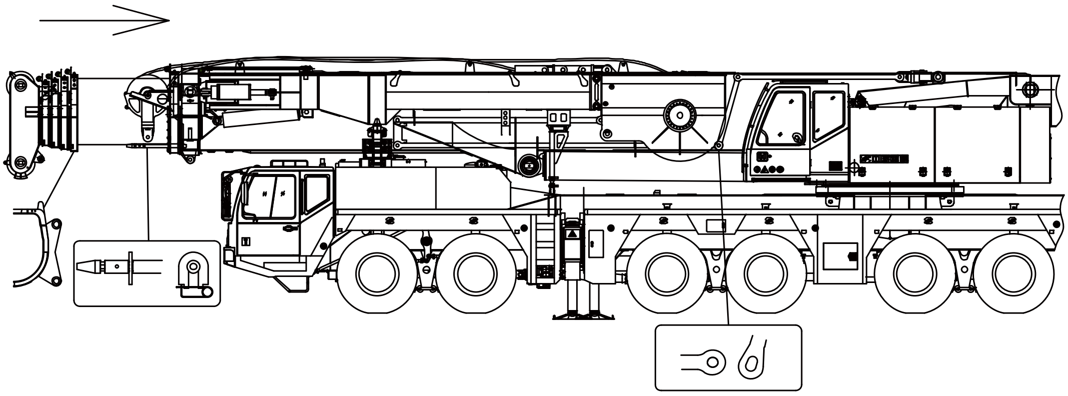


Figure 5-15 Installation process of the superlift system (4)

CAUTION

Normally, it is recommended to install one of the two superlift mechanisms first and then another. However, if the pin holes are aligned well at both sides, they can be installed simultaneously.

f) Connect the pipelines of the two superlift mechanism securely according to identifications. Rotate the drag plate's bracket at two sides downward and secure them, enabling the two drag plates to be able to move freely.

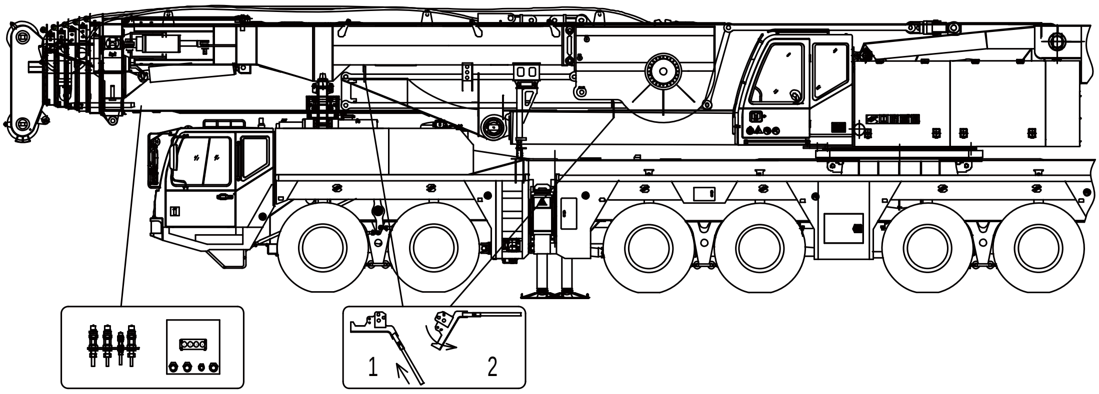


Figure 5-16 Installation process of the superlift system (5)

g) Telescope the telescopic section 2 out by 0.3 m. Install the drag eye first and then drag plate onto the boom head, and connect the removable pulley of the superlift system at last.

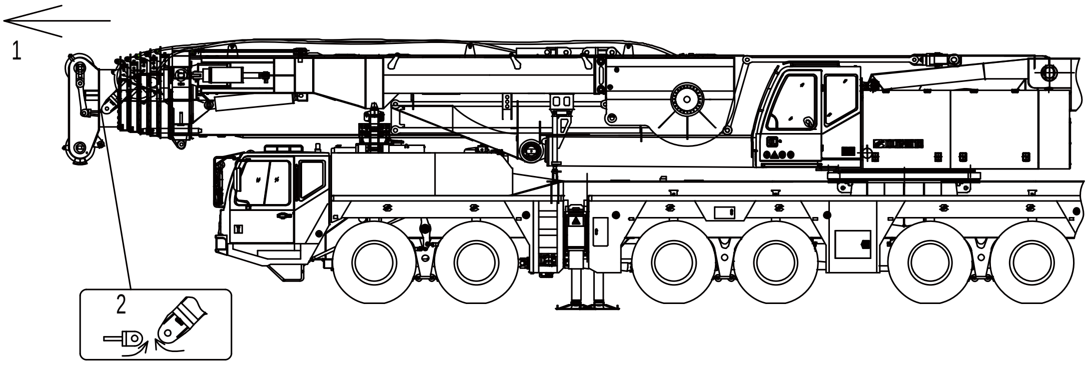


Figure 5-17 Installation process of the superlift system (6)

h) Derricks up the superlift system by a small angle and rotate the supporting legs back to their original position.

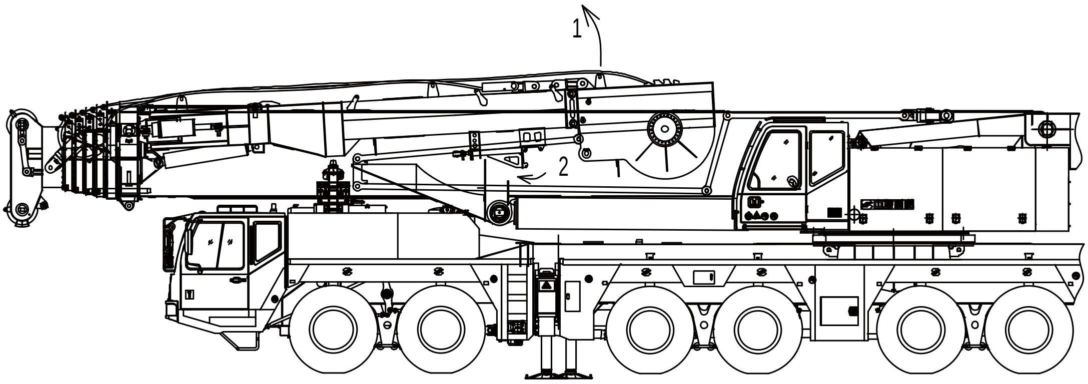


Figure 5-18 Installation process of the superlift system (7)

i) Continue to derrick up the superlift system to an angle of 90° . It is a normal phenomenon that the drag plate cannot be completely straight as it has certain amount of sinking down under gravity.

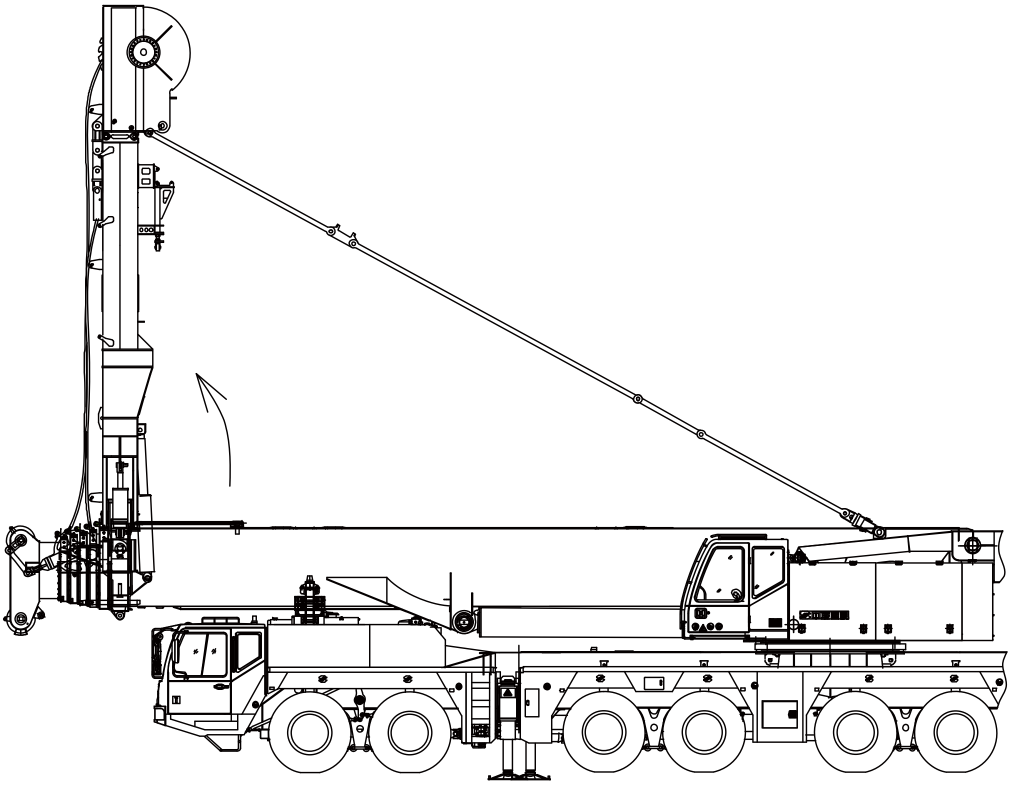


Figure 5-19 Installation process of the superlift system (8)

j) Continue to telescope the fourth boom section out by a certain distance. Spool up the wire rope by a certain distance with the superlift ratchet wheel winch, so as to detach the removable pulley from its fixing bracket.

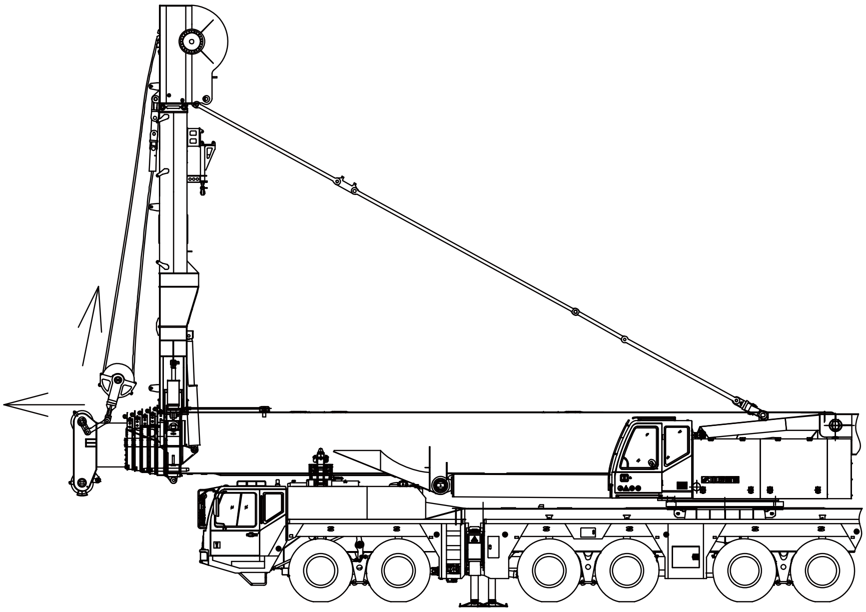


Figure 5-20 Installation process of the superlift system (9)

k) Swing the two superlift masts outward to an angle of approx. 39° .

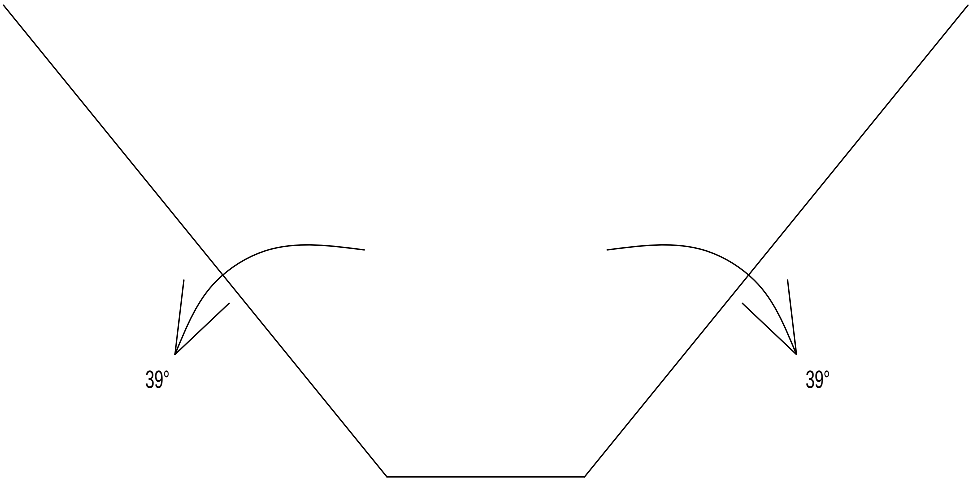


Figure 5-21 Installation process of the superlift system (10)

l) Derrick up the main boom to an angle of approx. 80° . Hereby, the main boom can be telescoped according to a preset operating mode.

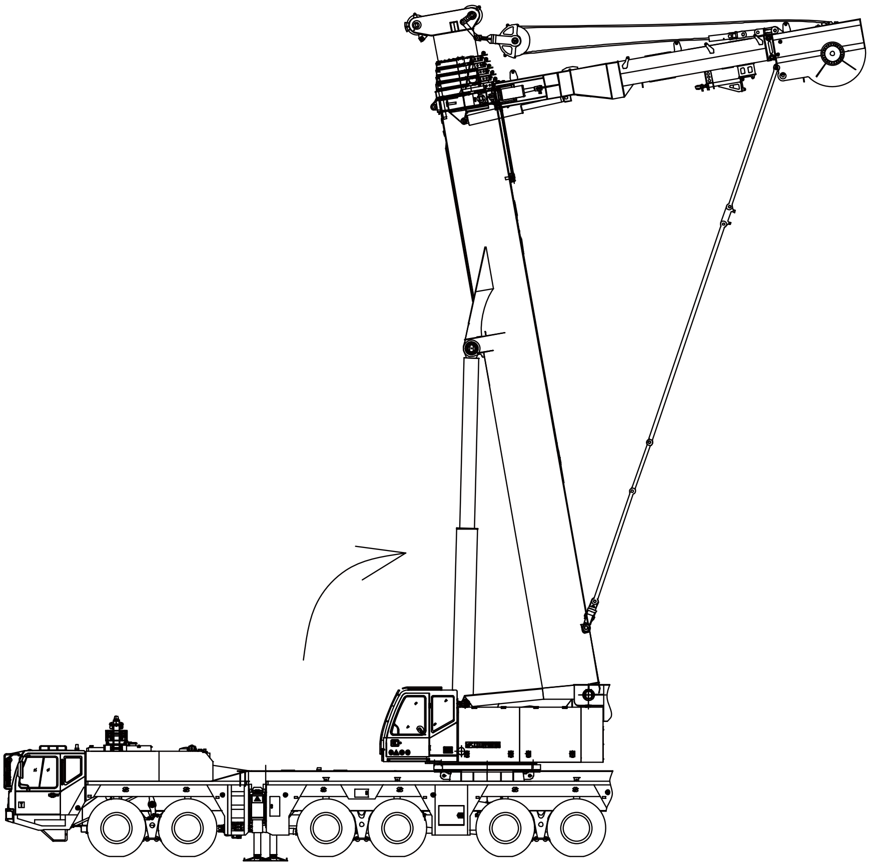


Figure 5-22 Installation process of the superlift system (11)

5.3.2 Superlift system removal

First unlock the ratchet wheel and then retract the main boom.

Remove of the superlift system in an order reverse to that of its installation, as shown in Figure 5-23, which will not go into details here.

⚠ CAUTION

When the superlift system is derricked down onto the main boom bracket and its supporting legs are pressing against the crane's chassis frame, it is necessary to operate the derricking mechanism intermittently to further derrick down, until the derricking cylinder is completely retracted. In this way pin removal and installation will be more convenient for next operation.

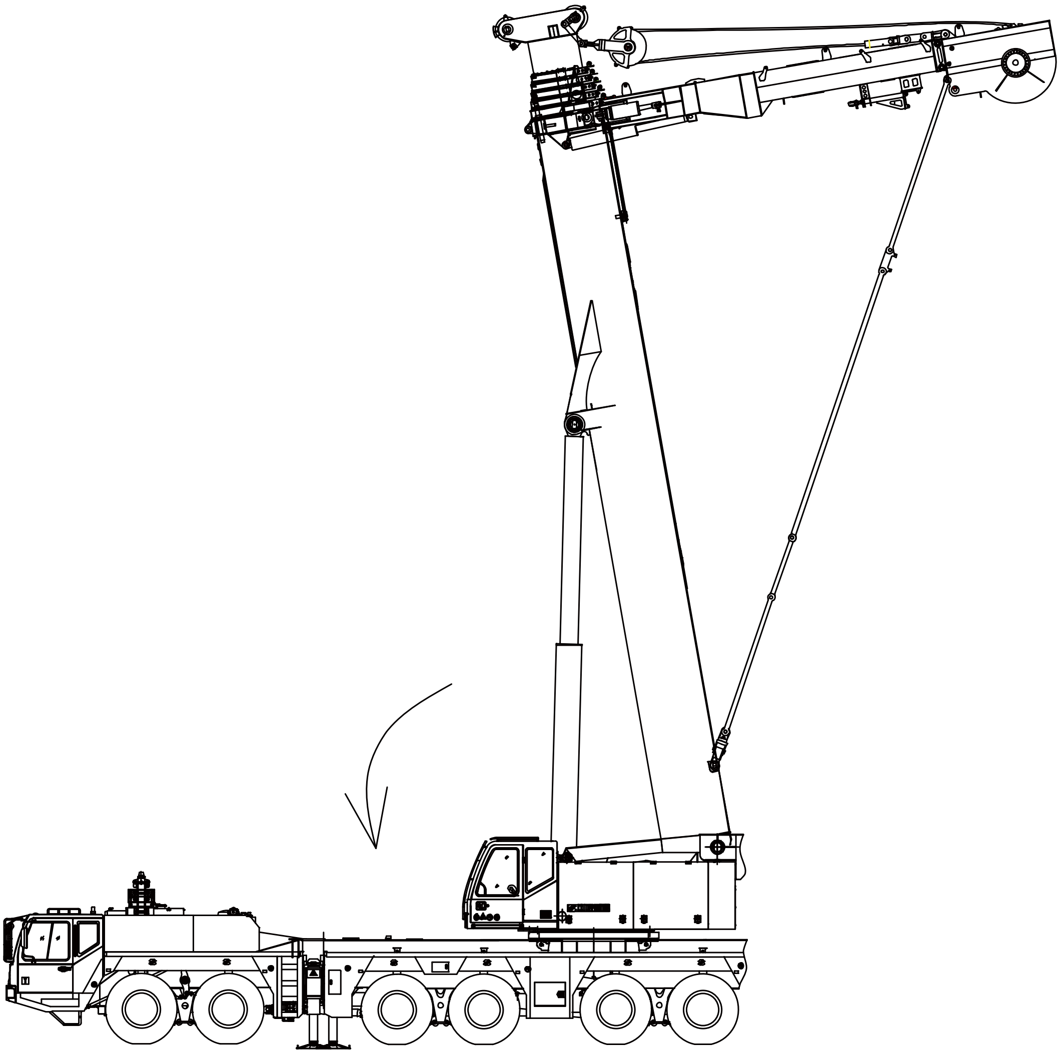


Figure 5-23 Superlift system removal

5.4 Installation and removal of counterweight handler

5.4.1 Composition

The counterweight assembly is consisted of one 20 t lower counterweight plate, two 6 t lower counterweight plates and ten 10 t side counterweight plates, which are 132 t in total weight, as shown in Figure 5-24. With the 8 t counterweight handler, the total weight of the counterweight system is 140 t.

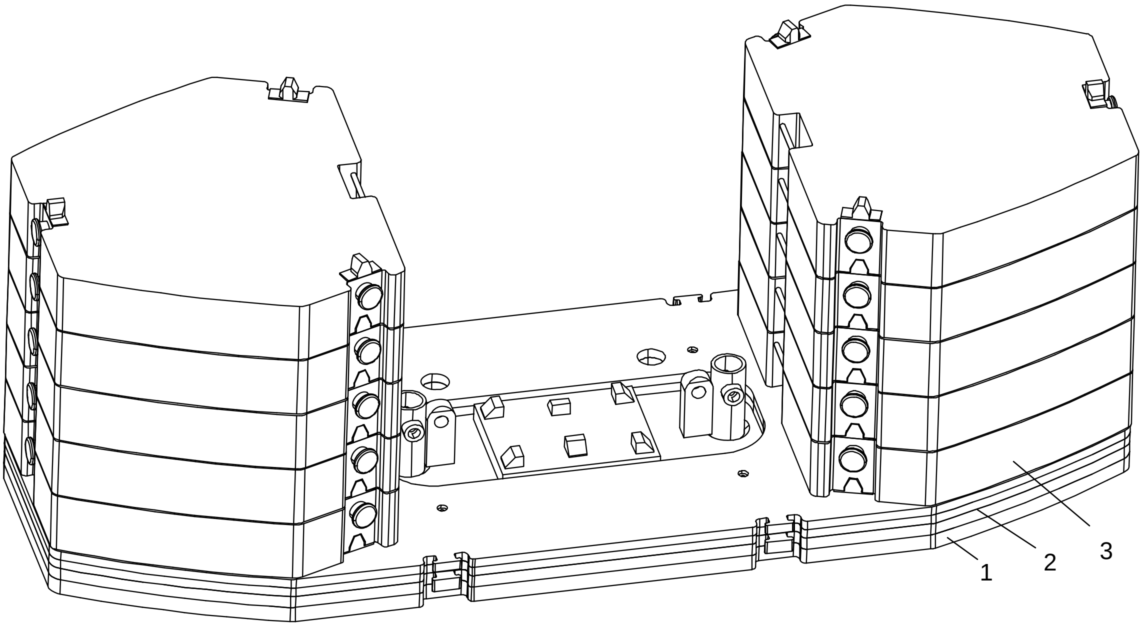


Figure 5-24 Counterweight assembly

Table 5-1 Description of counterweight components

No.	Description	No.	Description	No.	Description
1	Lower counterweight plate (20t)	2	Lower counterweight plate (6t)	3	Side counterweight plate (10t)

The counterweight handler is consisted of a counterweight bracket, two lifting cylinders and an auxiliary winch, etc., whose weight is 8 t in total (as shown in Figure 5-25). For a counterweight system without the auxiliary winch configured, place the auxiliary counterweight (2.48 t) at the installation location to balance with the counterweight handler.

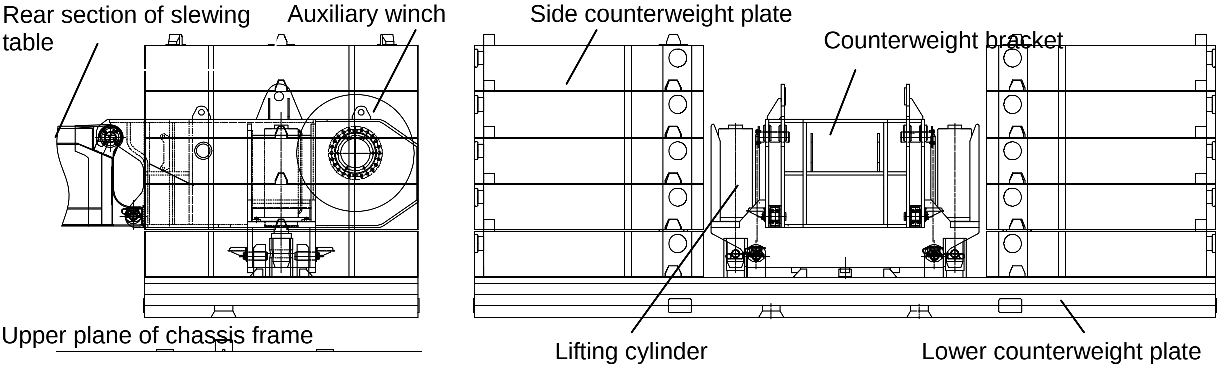


Figure 5-25 Counterweight handler

There are 7 different weight combinations with the above counterweight plates and the counterweight handler, i.e. 40 t, 60 t, 80 t, 100 t, 120 t and 140 t. They can be selected according to requirements from different operating modes, as shown in Table 5-2.

Table 5-2 Weight combinations of the counterweight system

Combinations	Plate No. 1	Plate No. 2	Plate No. 3	Counterweight handler
	20t	12t	10t	8t
0t	--	--	--	--
28t	√	--	--	√
40t	√	√	--	√
60t	√	√	√	√
80t	√	√	√	√
100t	√	√	√	√
120t	√	√	√	√
140t	√	√	√	√

5.4.2 Counterweight installation

a) Extend the outriggers to support the crane and adjust levelness of the chassis frame;

b) Clear away personnel and devices which might be damaged within the slewing radius;

c) Prepare slings of sufficient strength;

d) Place the lower counterweight plate I and II onto the positioning base on the chassis frame. Lift the counterweight handler and install it onto the lower counterweight plate I with pins;

e) Install a side counterweight plate onto the lower counterweight plate at one side, and then install another plate onto the other side, and so on so forth, so as to avoid a major accident such as counterweight tip-over due to its deviated gravity center;

f) Slew the slewing table to position its end near the counterweight handler. Connect the hydraulic pipelines between the slewing table end and upper part of the counterweight bracket. Fully extend the lifting cylinder;

g) Continue to slew the slewing table until it is located under the center lower position of the counterweight bracket, and avoid their interference with each other during slewing. Retract the lifting cylinder, until the counterweight bracket is in full contact with the upper pins of the slewing table end part. Insert the pins into the pin holes under the counterweight bracket and secure them to fasten the connection between the counterweight bracket and slewing table.

h) Continue to retract the lifting cylinder to lift the counterweight plates. Insert the locking pin between the counterweight bracket and counterweight plates to complete their mechanical locking;

i) Disassemble the counterweight system in an order reverse to that of its installation.

⚠ CAUTION

Before a lifting operation, select and install suitable combination of counterweight plates according to corresponding lifting capacity table, otherwise there is a risk of crane tip-over.

Make sure that each pin is secured during counterweight installation process and observe balancing condition of the two sides and adjust them timely.

⚠ CAUTION

During removal of the counterweight system, be sure to extend the lifting cylinder first before removing the locking pins, otherwise the counterweight may fall down and collide with other components due to abrupt unlocking of the locking pins.

⚠ CAUTION

During lifting or lowering of the counterweight component, operate at a slow speed to avoid large impact. Stop operation immediately if there is an excessive impact. Resume operation after the counterweight system is stabilized and balanced.

⚠ CAUTION

The counterweight system should only be transported by a trailer and should not be travelled together with the crane, otherwise the driving axles will be heavily loaded and a major damage will occur.

5.5 Luffing jib

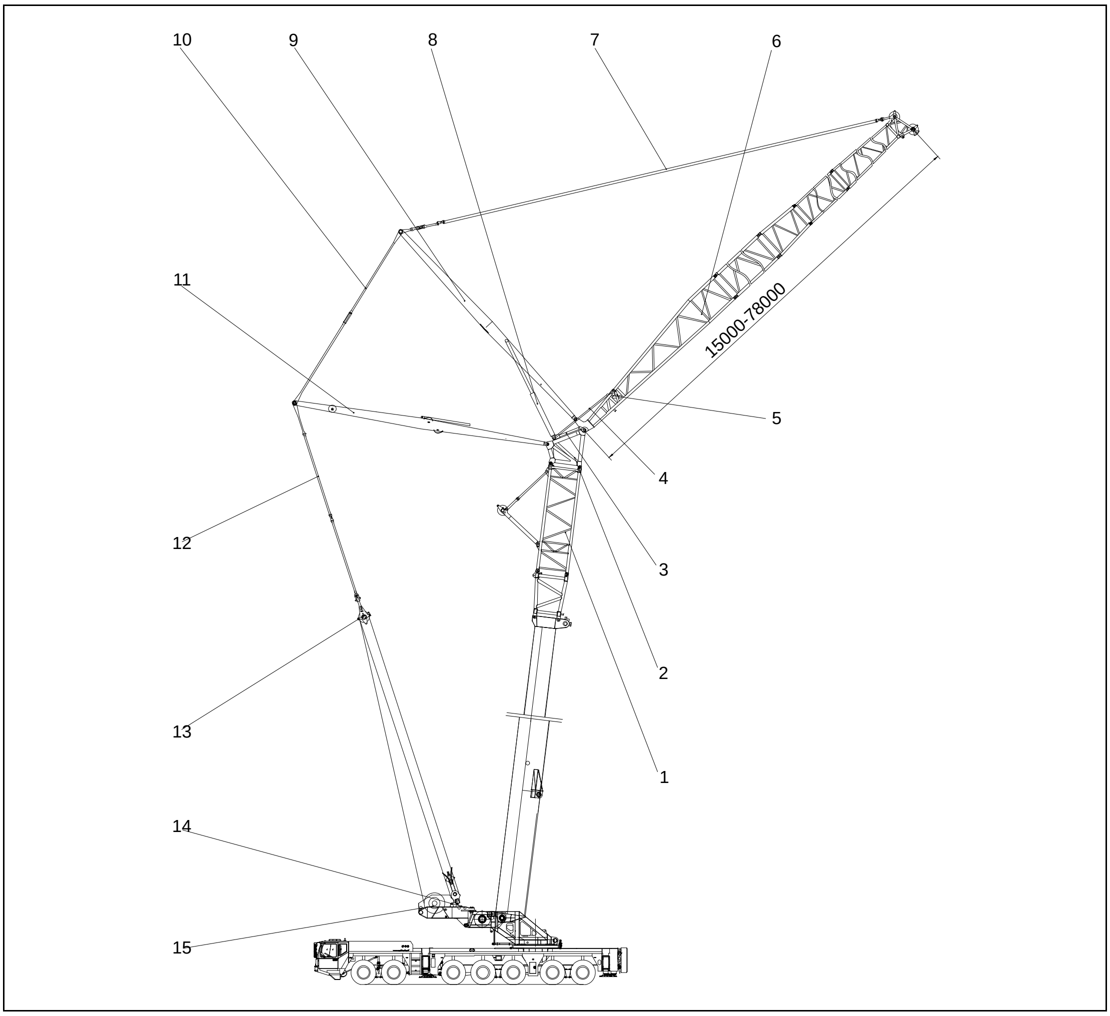


Figure 5-26 Luffing jib assembly

Pos.	Description	Pos.	Description
1	Extension	9	Luffing jib strut 1
2	Adapter	10	Anchoring rods between luffing jib struts 1 and 2
3	Bracket, accumulator cylinder	11	Luffing jib strut 2
4	Tilting-back stay	12	Luffing jib rear anchoring rod
5	Swing seat	13	Pulley carrier
6	Pivot section of luffing jib	14	Reeving winch
7	Luffing jib front anchoring rod	15	Luffing winch
8	Accumulator cylinder		

CAUTION

5 m extension can only be used for superlift operating mode.

5.5.1 General

The luffing jib is fitted on main boom head to increase lifting height and working radius greatly. The luffing jib can be luffed up and down in stepless way via luffing winch.

The luffing jib consists of pivot section (1 piece), extension 1 (5 pieces), transition section (1 piece), extension 2 (3 pieces), extension 3 (1 piece) and head section (1 piece).

The luffing jib length varies from 15 m to 78 m. And it also has 10 jib combinations.

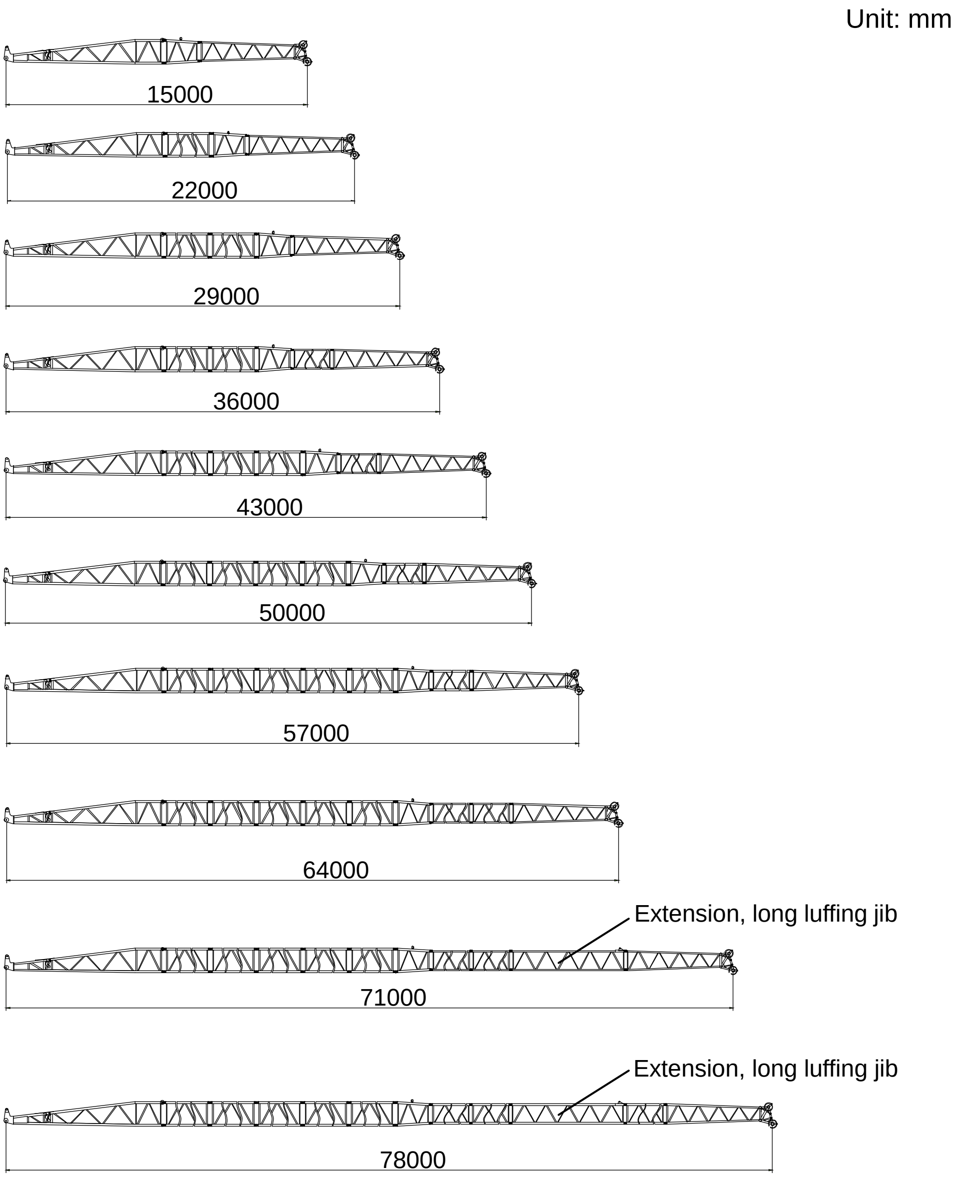


Figure 5-27 Luffing jib sections

CAUTION

Connect the luffing jib anchoring rod to the extension 3 (the extension of long luffing jib) when using the extension 3.

5.5.2 Assembly

Assembly of the pivot section and the struts 1 and 2 as well as the accumulator cylinder

Note: In general, they are properly assembled before delivery.

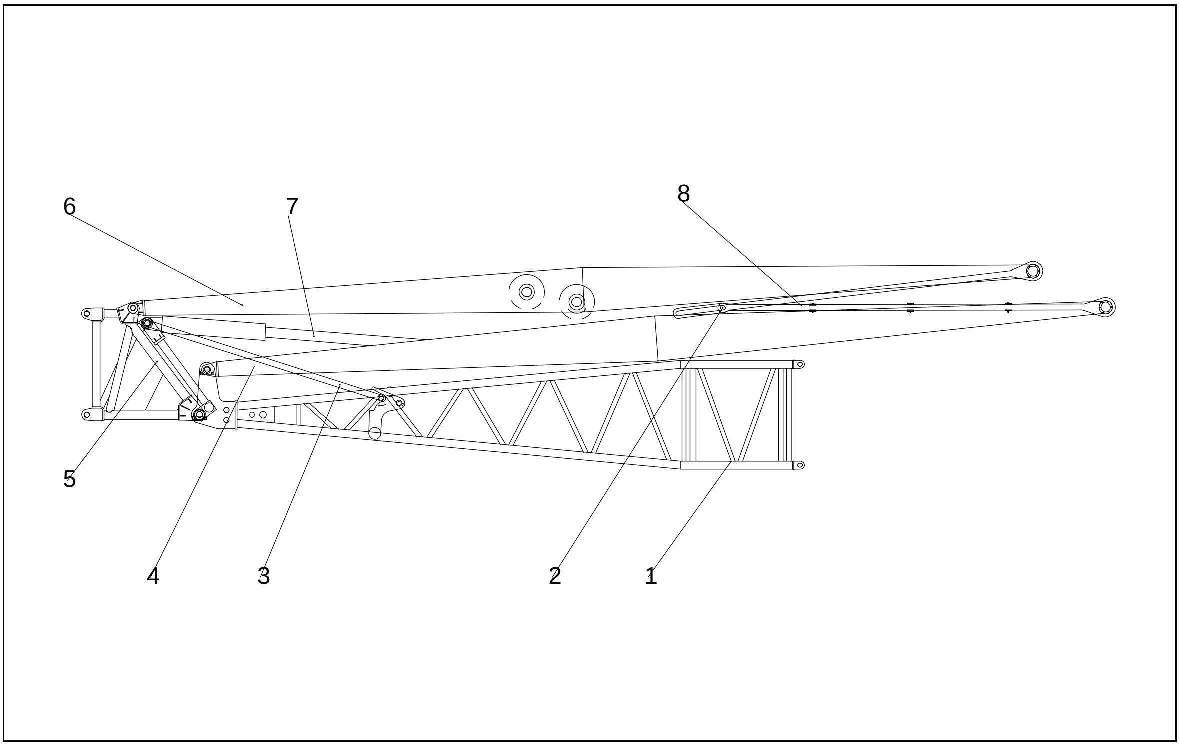


Figure 5-28 Luffing jib pivot section assy.

Pos.	Description	Pos.	Description
1	Pivot section	5	Adapter
2	Bracing cable	6	Luffing jib strut 2
3	Tilting-back stay	7	Accumulator cylinder
4	Luffing jib strut 1	8	Anchoring rod assy.

Assemble the component parts of luffing jib pivot section assy. in accordance with the above figure before use, and then fix the bracing cable. In this way, it is convenient to carry out next assembly and conversion for luffing jib pivot section assy.

Before crane operation with main boom and luffing jib, assemble the luffing jib as follows:

a) Fit adapter onto main boom according to jib assembly procedure. Install luffing jib pivot section assy. onto adapter with the help of auxiliary crane.

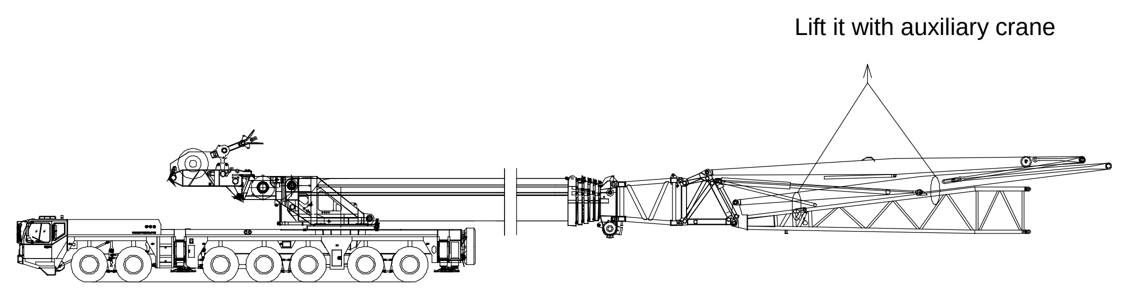


Figure 5-29 Luffing jib assembly procedure 1

b) Lift luffing jib strut 2 with auxiliary crane, and put its small stay onto the support of luffing jib strut 1 to facilitate next installation.

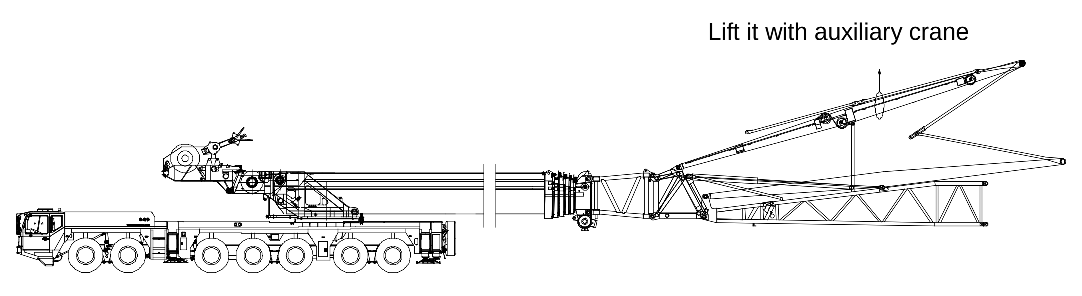


Figure 5-30 Luffing jib assembly procedure 2

c) Reel off reeving winch, pull out reeving rope and guide it over the top rope pulley and middle rope pulley on luffing jib strut 2, then pull the reeving rope in reverse direction and connect it with the hoisting rope.

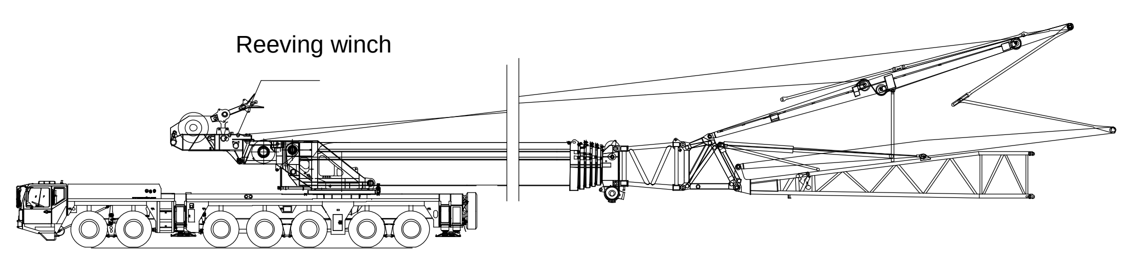


Figure 5-31 Luffing jib assembly procedure 3

d) Wind the reeving rope and unwind the hoisting rope at the same time to allow the hoisting rope pass through the middle rope pulley and top rope pulley on luffing jib strut 2. Reeve the hoisting rope between movable pulley blocks.

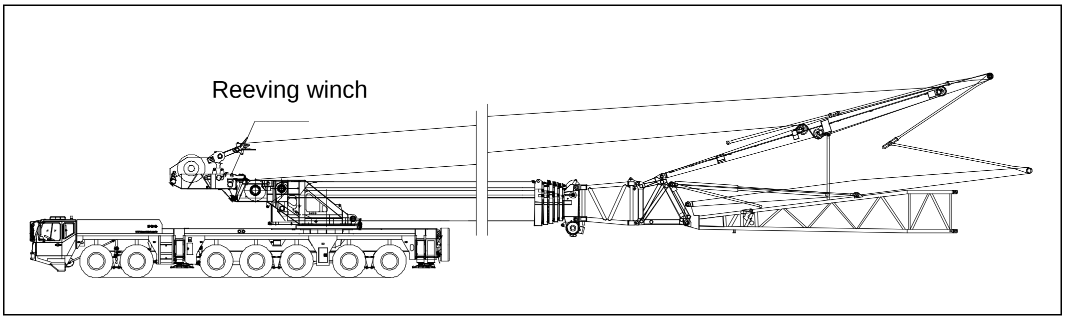


Figure 5-32 Luffing jib assembly procedure 4

e) Pull out movable pulley block by winding the hoisting rope and reeve the hoisting rope between luffing struts 1 and 2.

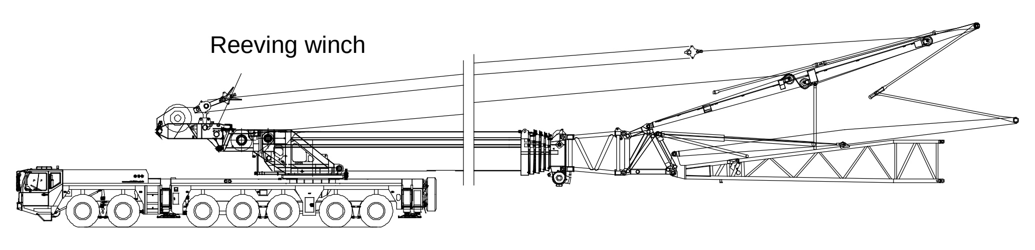


Figure 5-33 Luffing jib assembly procedure 5

f) Lift the luffing jib pivot section with auxiliary crane, and remove the bracing cable between adapter 3 and pivot section.

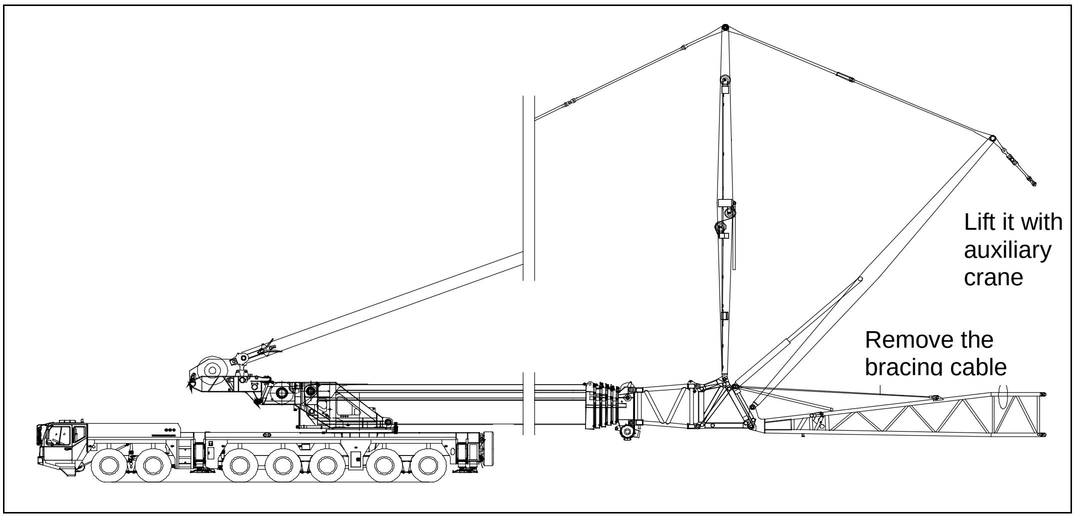


Figure 5-34 Luffing jib assembly procedure 6

g) Make luffing jib pivot section come into contact with the ground.

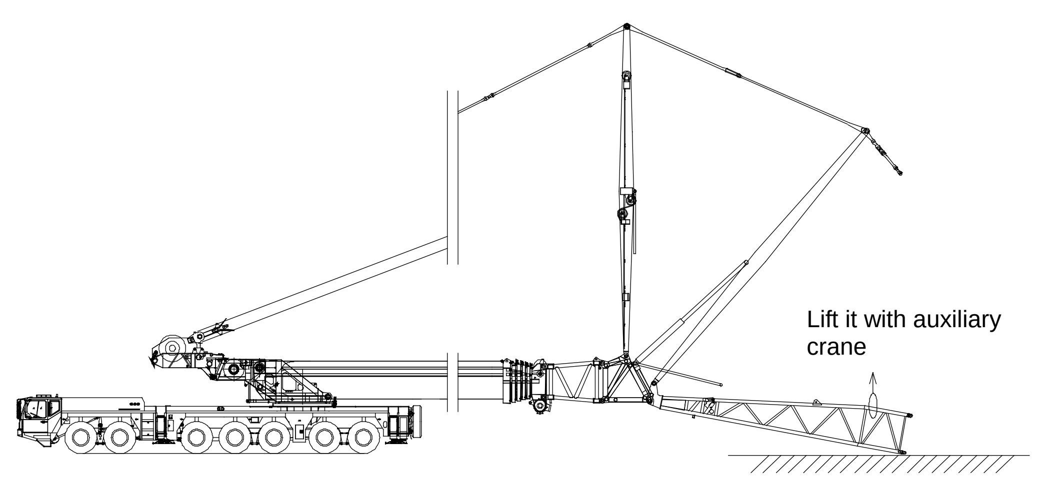


Figure 5-35 Luffing jib assembly procedure 7

h) Lift the preassembled luffing jib section with the auxiliary crane, and then align the connecting holes on the jib section with those on luffing jib pivot section. First insert the upper pins and then the lower pins.

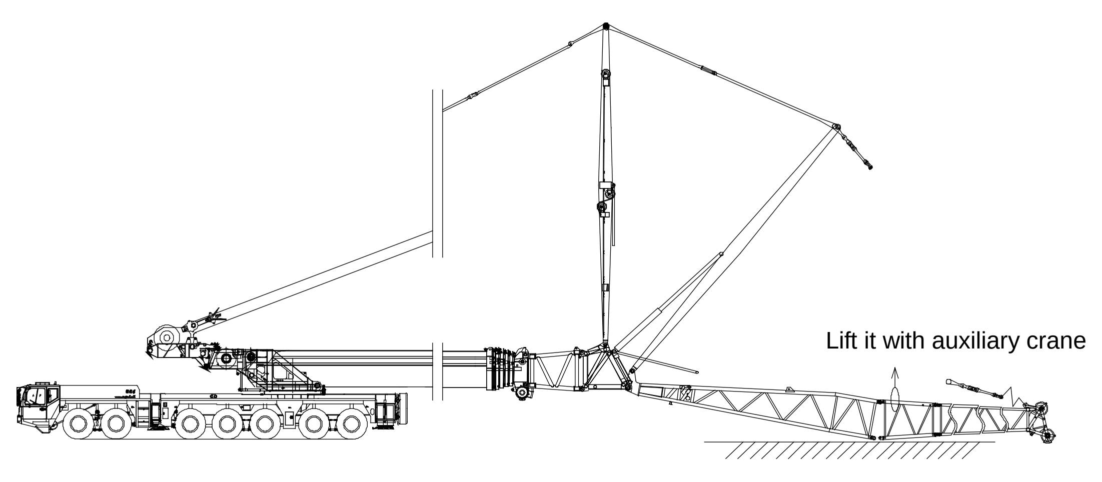


Figure 5-36 Luffing jib assembly procedure 8

i) Connect luffing jib front anchoring rods, namely the anchoring rods between the luffing jib strut 1 and the luffing jib pivot section.

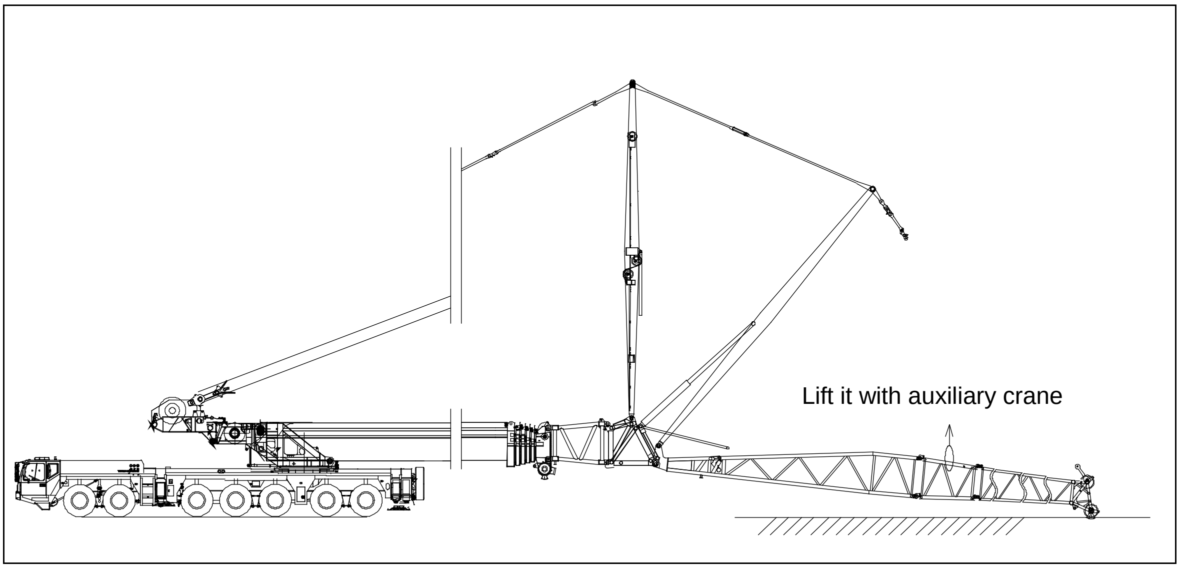


Figure 5-37 Luffing jib assembly procedure 9

j) Guide the hoisting rope over the rope pulley on luffing jib head section and reeve the hook according to relevant rope reeving.

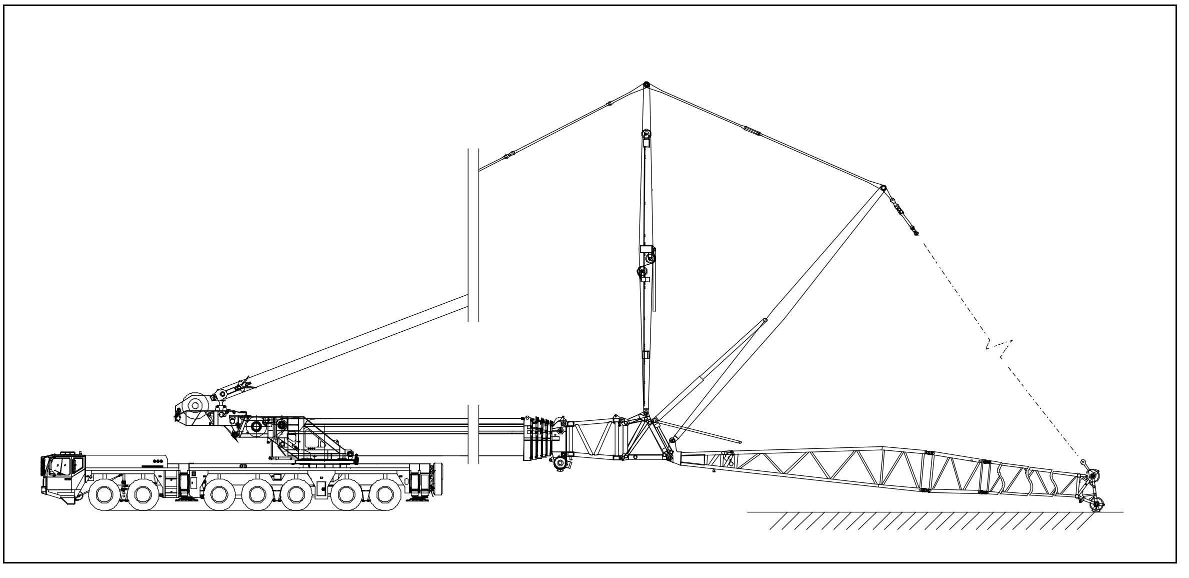


Figure 5-38 Luffing jib assembly procedure 10

k) Raise main boom until luffing jib anchoring rods is taut. After that, carefully raise main boom to a proper position. During this operation, carry out crane movements "Derrick up main boom" and "spool up luffing winch" in alternate way. After the luffing jib struts 1 and 2 is erected one by one, telescope main boom out to a proper position until the system can be changed into corresponding operating mode.

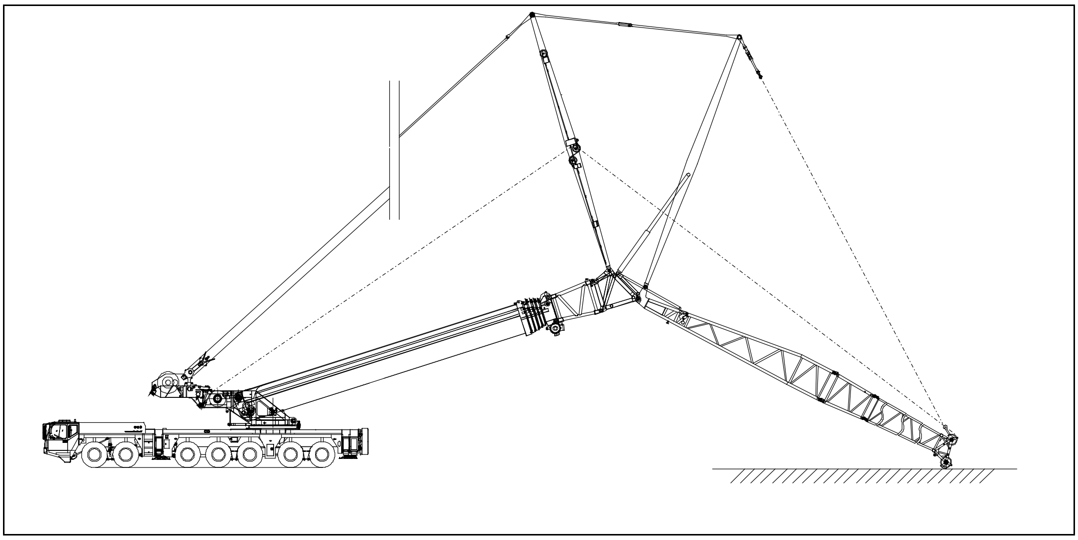


Figure 5-39 Luffing jib assembly procedure 11

⚠ CAUTION

(1) The disassembly of luffing jib should be performed in reverse order of the assembly.

(2) Check if the connection is secured with pins and retaining pins before raising the boom, otherwise major accident will occur!

5.5.3 Assembly of luffing jib anchoring rods

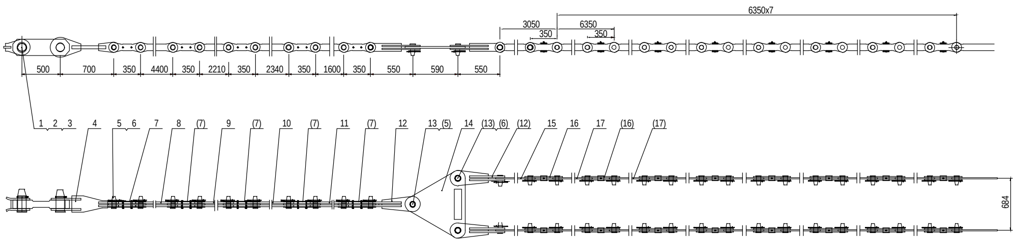


Figure 5-40 Assembly of luffing jib anchoring rods

Table 5-3 Component parts of luffing jib anchoring rods

Pos.	Description	Pos.	Description
1	Pin	10	Double anchoring rod
2	Bolt	11	Double anchoring rod
3	Nut	12	Reducing piece
4	Anchoring rod	13	Pin
5	Retaining pin	14	Reducing piece
6	Pin	15	Single anchoring rod
7	Triple anchoring rod	16	Double anchoring rod
8	Double anchoring rod	17	Single anchoring rod
9	Double anchoring rod		

Table 5-4 Combination of luffing jib anchoring rods

No.	Length of luffing jib (m) Length of anchoring rod (mm)	15	22	29	36	43	50	57	64	71	78
1		2	2	2	2	2	2	2	2	2	2
2		2	2	2	2	2	2	2	2	2	2
3		4	4	4	4	4	4	4	4	4	4
4	700	1	1	1	1	1	1	1	1	1	1
5		17	21	25	29	33	37	41	45	45	45
6		10	10	10	10	10	10	10	10	10	10
7	350	5	5	5	5	5	5	5	5	5	5
8	4400	1	1	1	1	1	1	1	1	1	1
9	2210	1	1	1	1	1	1	1	1	1	1
10	2340	1	1	1	1	1	1	1	1	1	1
11	1600	1	1	1	1	1	1	1	1	1	1
12	550	3	3	3	3	3	3	3	3	3	3
13		9	13	17	21	25	29	33	37	37	37
14	590	1	1	1	1	1	1	1	1	1	1
15	2700	2	2	2	2	2	2	2	2	2	2
16	350	2	4	6	8	10	12	14	16	16	16
17	6600	0	2	4	6	8	10	12	14	14	14

Note

There is no defect on the surface of anchoring rod, such as cracks and slag inclusion.

CAUTION

Assign an operating person to stare at the luffing jib anchoring rod all the time to make sure that all of the anchoring rods come into the card slots on the jib setions when raising or lowering the boom under the luffing jib OM.

5.5.4 Reeving luffing rope between luffing pulley blocks

Reeve luffing rope before assembling the luffing jib.

When main boom is equal to or less than 50 m long, 12 reeving should be adopted. Please refer to Figure 5-41.

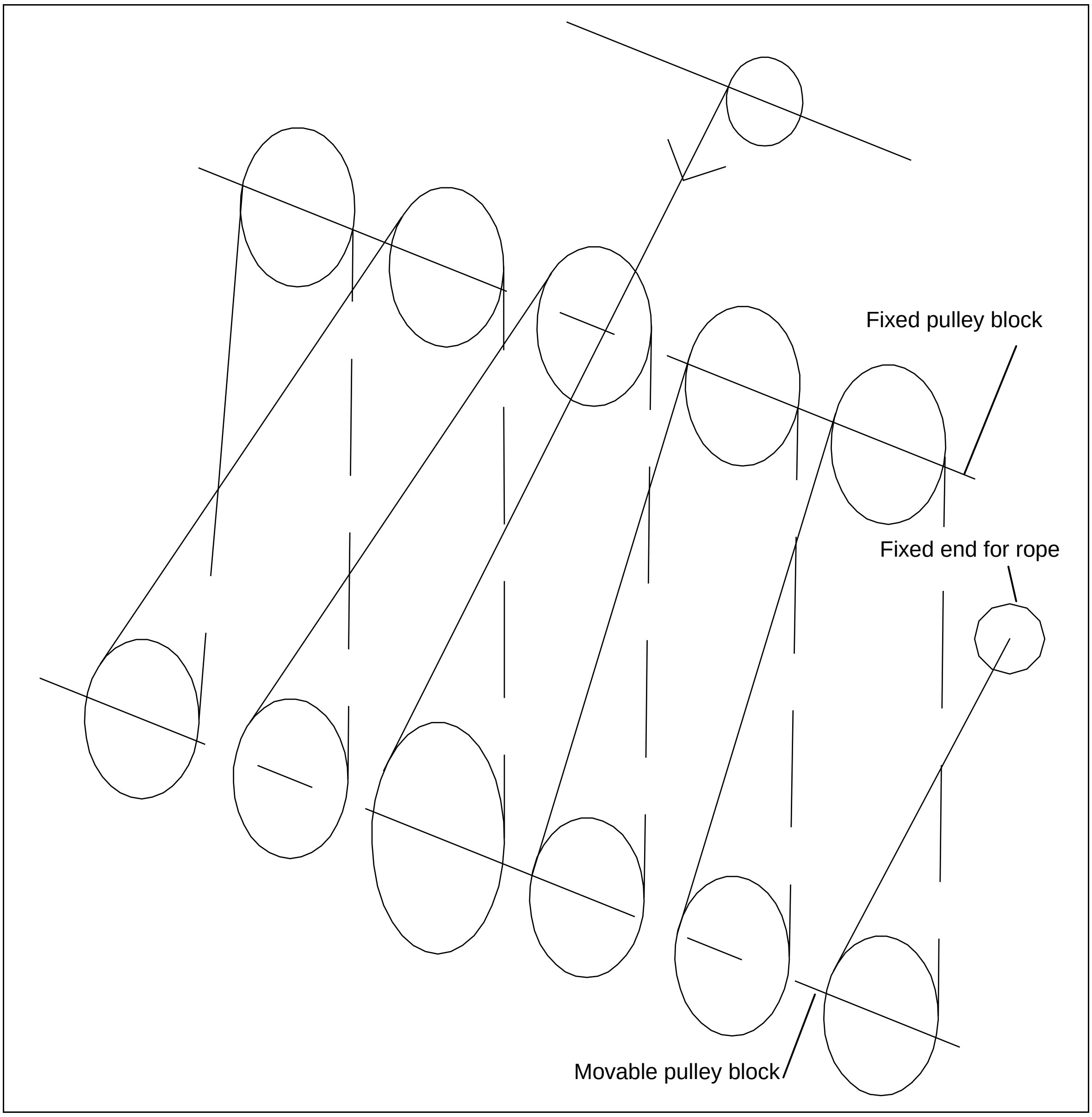


Figure 5-41　12 reeving for luffing pulley block

When main boom length is between 50.6 m and 55.6 m, 10 reeving should be adopted. Please refer to Figure 5-42.

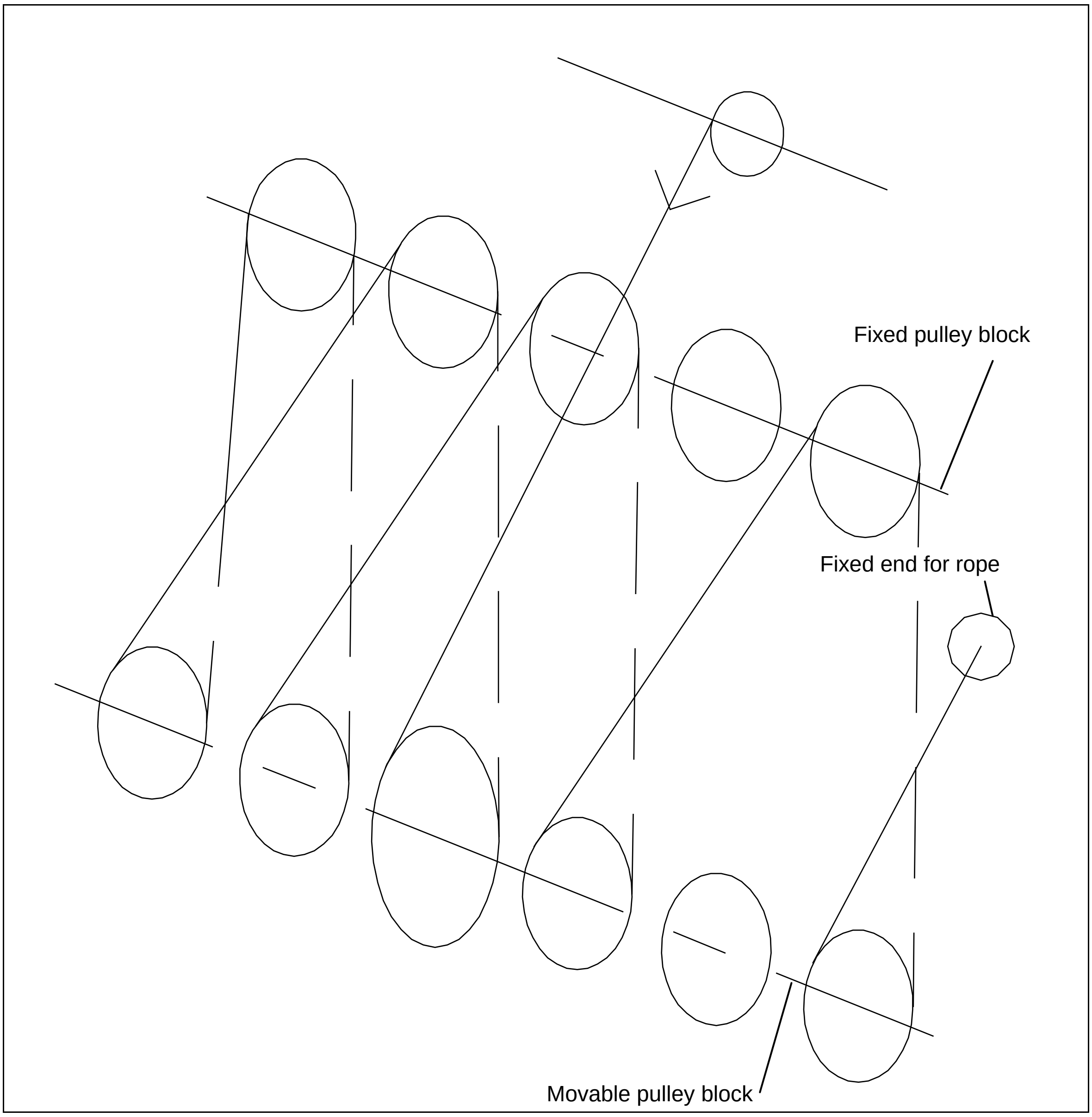


Figure 5-42 10 reeving for luffing pulley block

When main boom length is between 60.6 m and 65.6 m, 8 reeving should be adopted. Please refer to Figure 5-43.

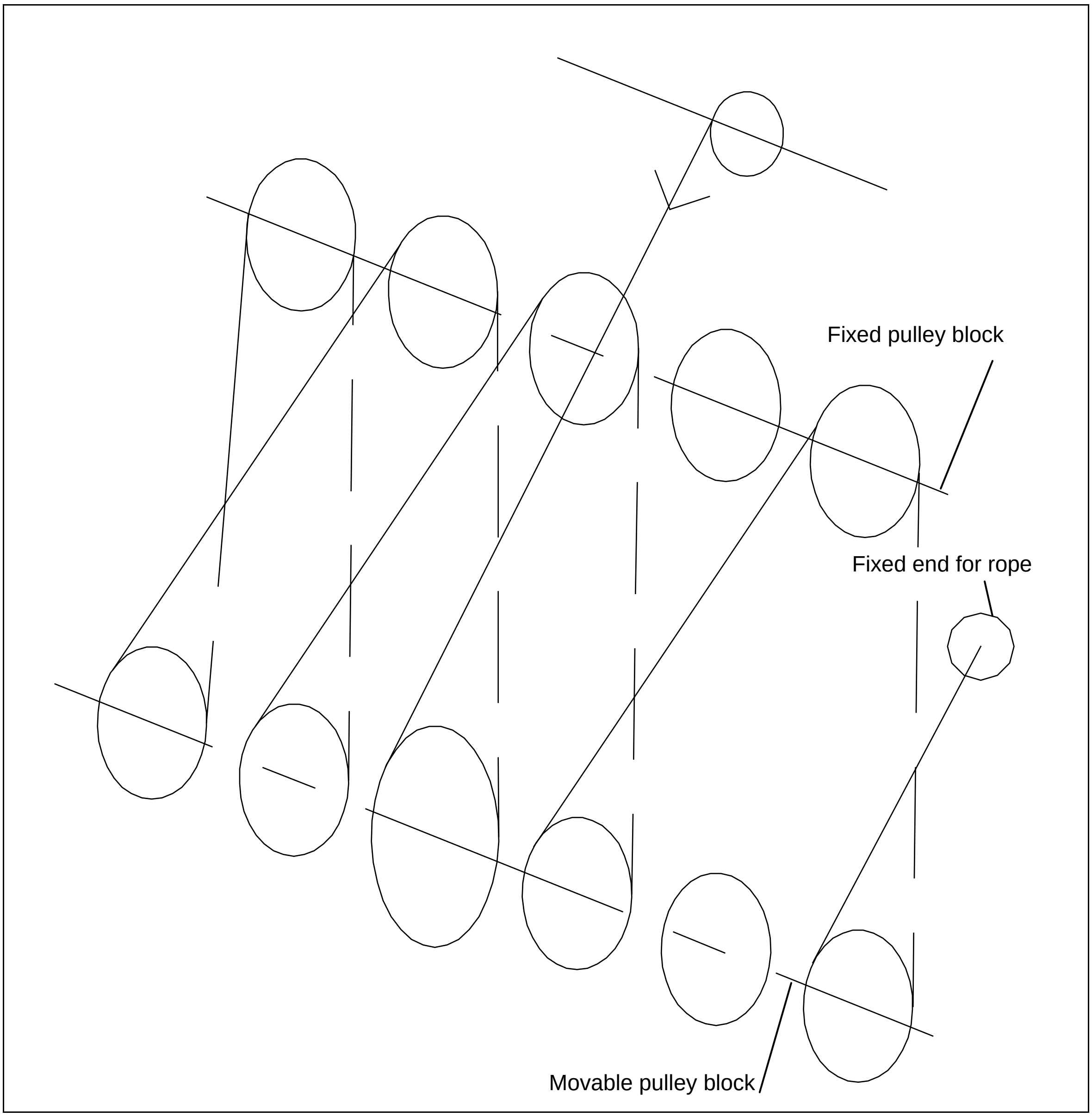


Figure 5-43　8 reeving for luffing pulley block

5.6 TBM operating mode

5.6.1 General

TBM operating mode is specially used for lifting and turn-over of the cylinder body of the tunnel boring machine.

5.6.1.1 TBM jib combination

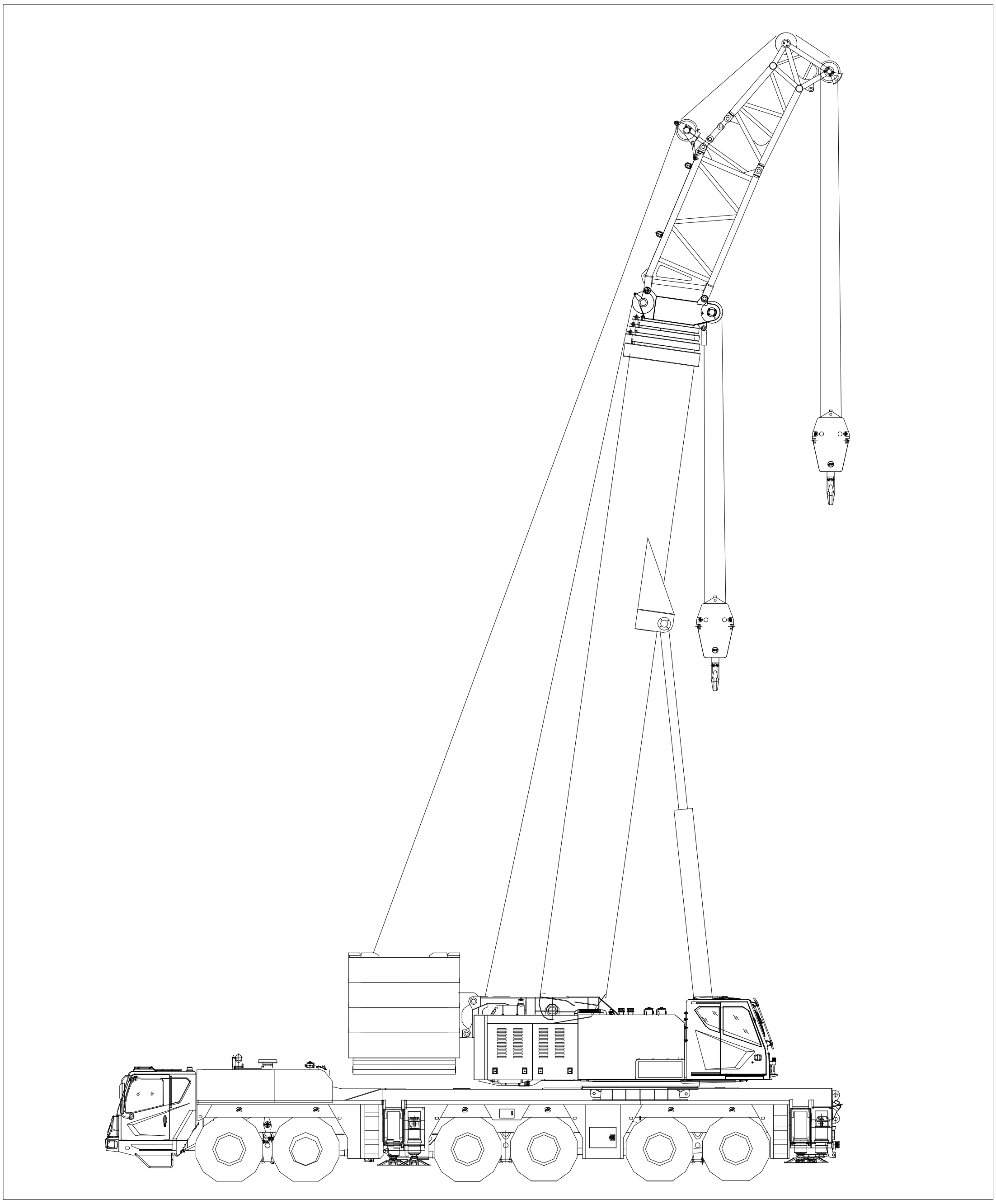


Figure 5-43 TBM jib (6 m) OM

5.6.1.2 Main components

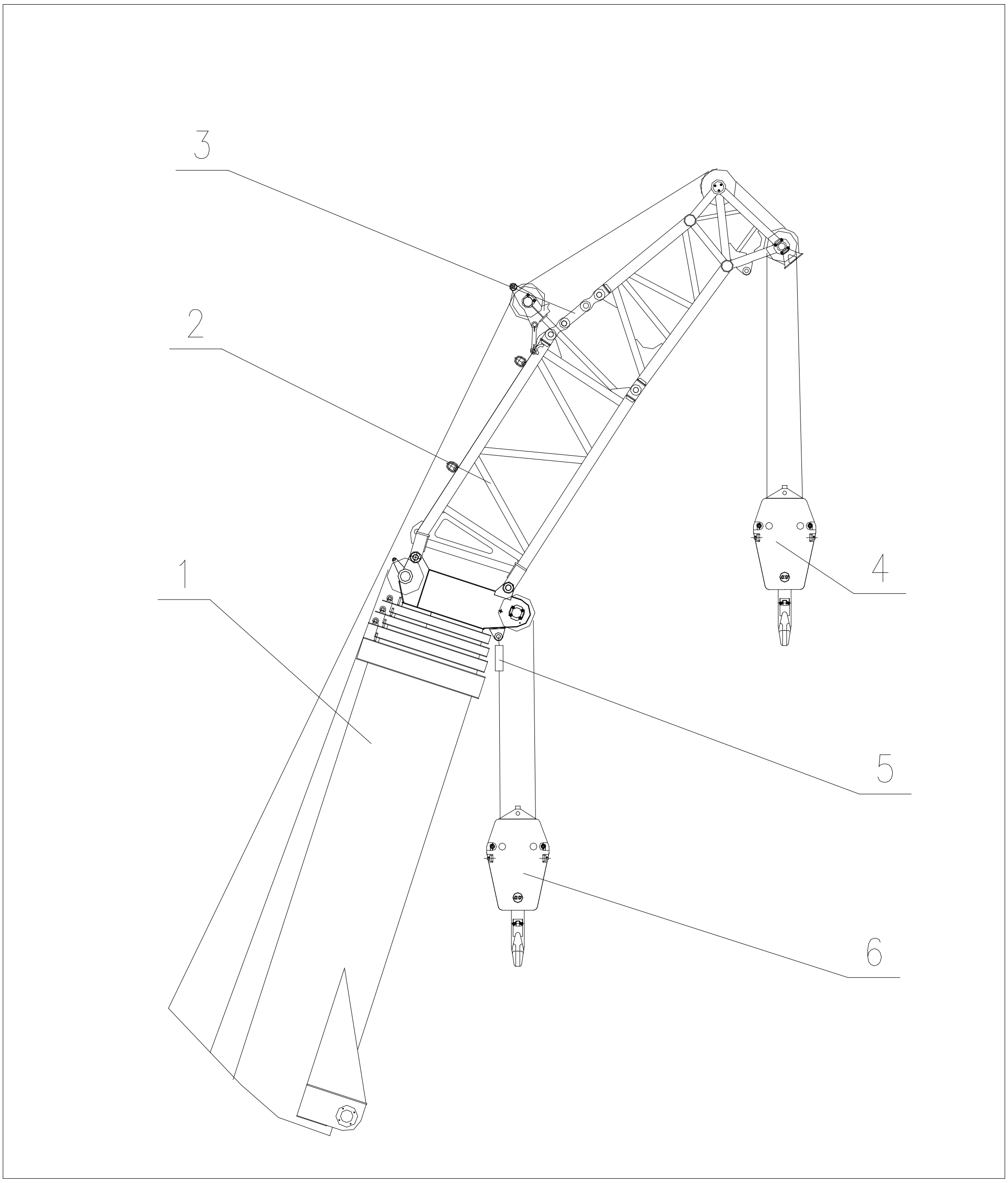


Figure 5-44 Main components of TBM OM

Table 5-3 Main components of TBM OM

Pos.	Description	Pos.	Description
1	Main boom	4	Auxiliary hook
2	6 m TBM jib assy.	5	Tension sensor, main hook
3	Tension sensor, TBM jib (attached with the assy.)	6	Main hook

5.6.2 Assembly

a) Extend the outriggers and make the crane level with the support control unit.

b) Fully retract the boom.

c) Move the boom to the side or rear of the crane

d) Make sure there is 25 m slewing radius.

e) The main boom is level.

f) Lift the TBM jib assy. with the auxiliary crane, and align the connecting pin holes on the TBM jib with those on main boom head. There is a positioning device.

g) Connect the pipeline of power cylinder. The power cylinder will be pinned automatically after the handle of solenoid valve on the adapter is operated.

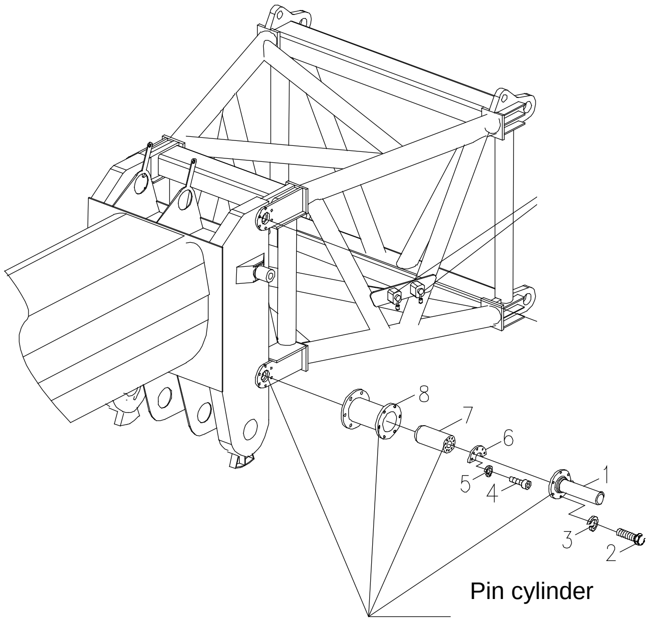


Figure 5-45 Connecting TBM jib with main boom

h) Properly install 130 t hook on the main boom head and install 80 t hook on the TBM jib head.

i) Install a tension sensor on the end of main hoist rope.

j) Install the hoisting limit switch and the wind gauge. Make sure that all connections are tight.

k) Properly connect the electrical system of TBM jib.

5.6.3 Turn-over of cylinder body of tunnel boring machine

The turn-over operation of cylinder body of tunnel boring machine are as follows, just as shown in Figures 5-46 to 5-50.

Do the items that follow.

a) Set the crane in working mode. Properly hang the slings on the lifting points A, B and C on the cylinder body of tunnel boring machine. Reeve the rigging (Pos. 8), namely wire rope, through the single pulley (Pos. 7), and fix it on the lifting points A and B. And then, the single pulley (Pos. 7) is hung on the main hook (Pos. 6) via the rigging. The lifting point C is hung on the auxiliary hook (Pos. 4) via the rigging. Refer to Figure 5-46.

b) Refer to Figure 5-46. Meanwhile, operate left and right joysticks to control main winch and auxiliary winch to lift main hook (Pos. 6) and auxiliary hook (Pos. 4) slowly. The raising speed of these two hooks should be the same in order that the cylinder body of tunnel boring machine is lifted horizontally. Stop the movements of main and auxiliary winches until there is some distance between the bottom of cylinder body of tunnel boring machine and the ground. During this process, keep the stability of complete vehicle via the tension sensor (Pos. 5) at the end of wire rope of main boom and the tension sensor (Pos. 3) on the TBM jib.

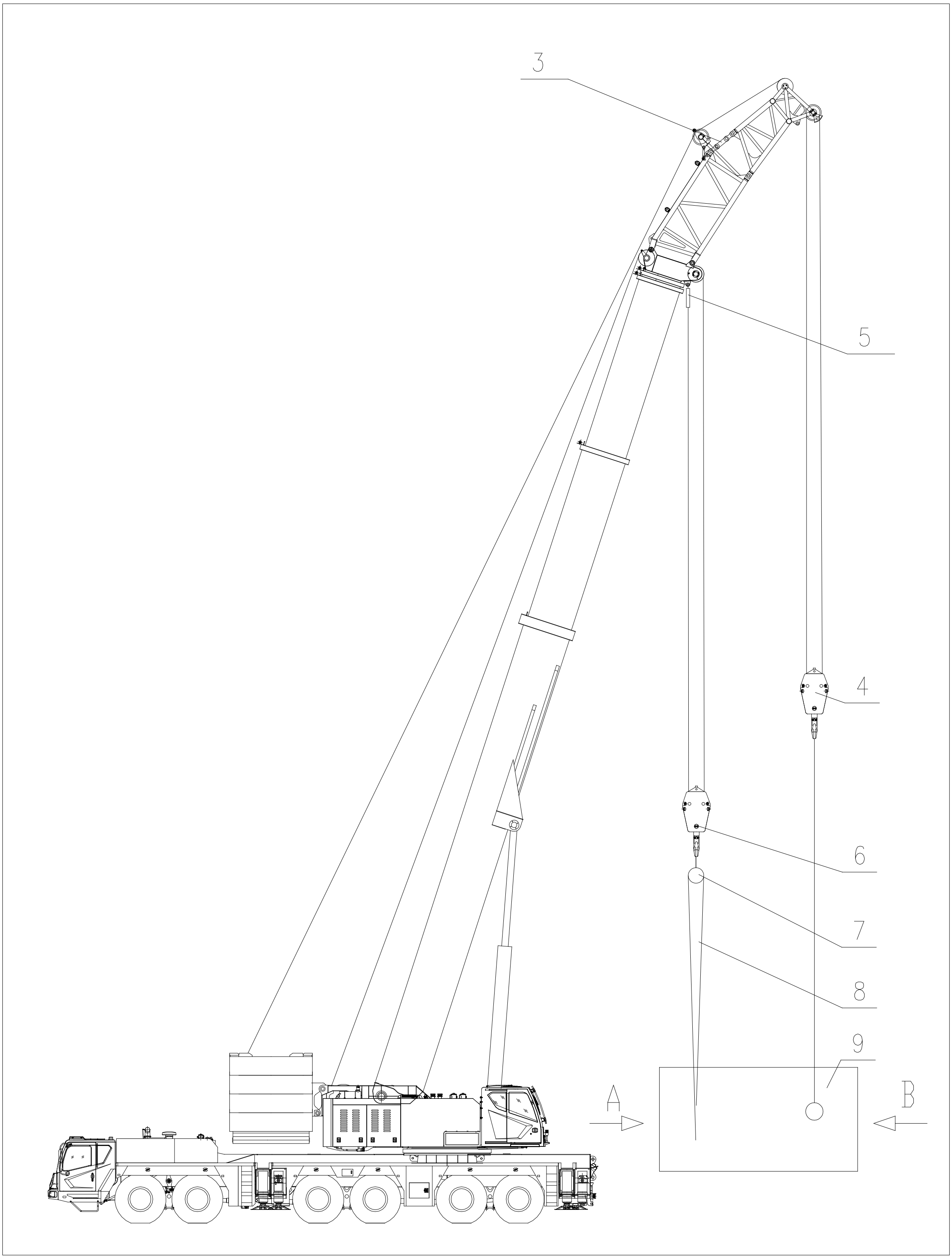


Figure 5-46 Turn-over of tunnel boring machine

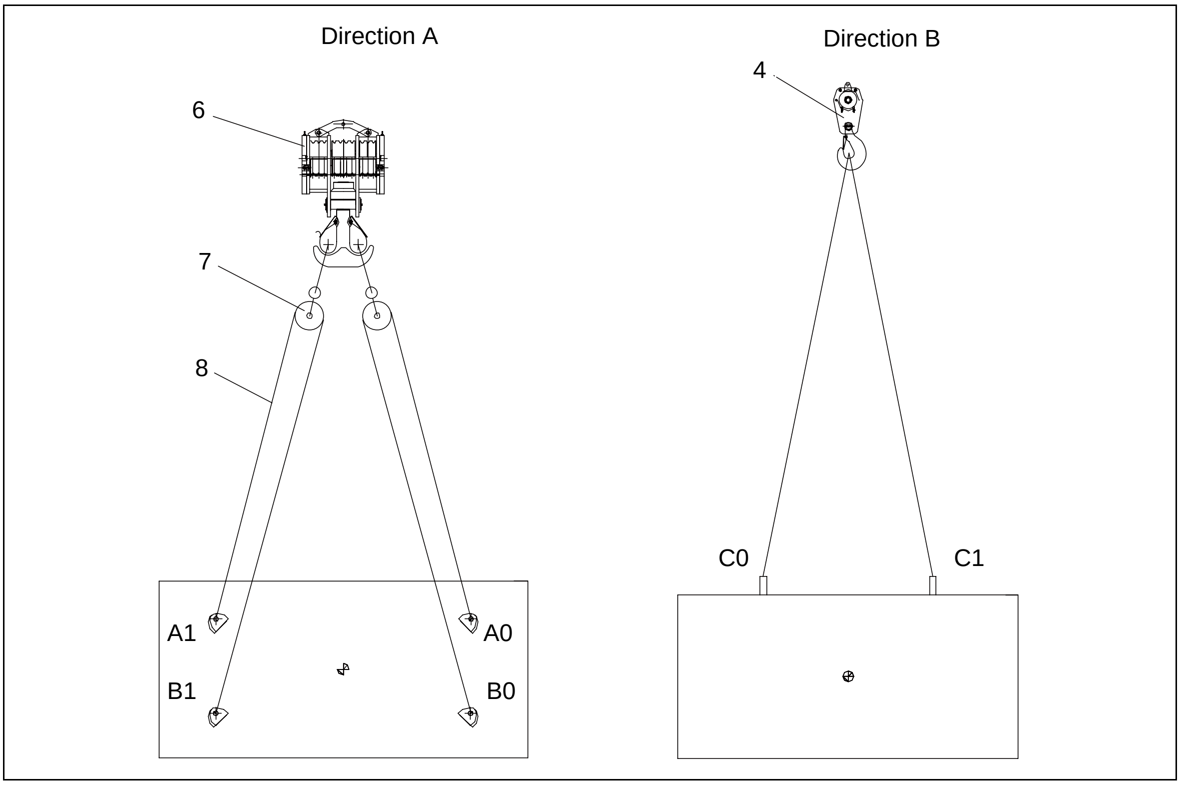


Figure 5-47 Views in directions A and B

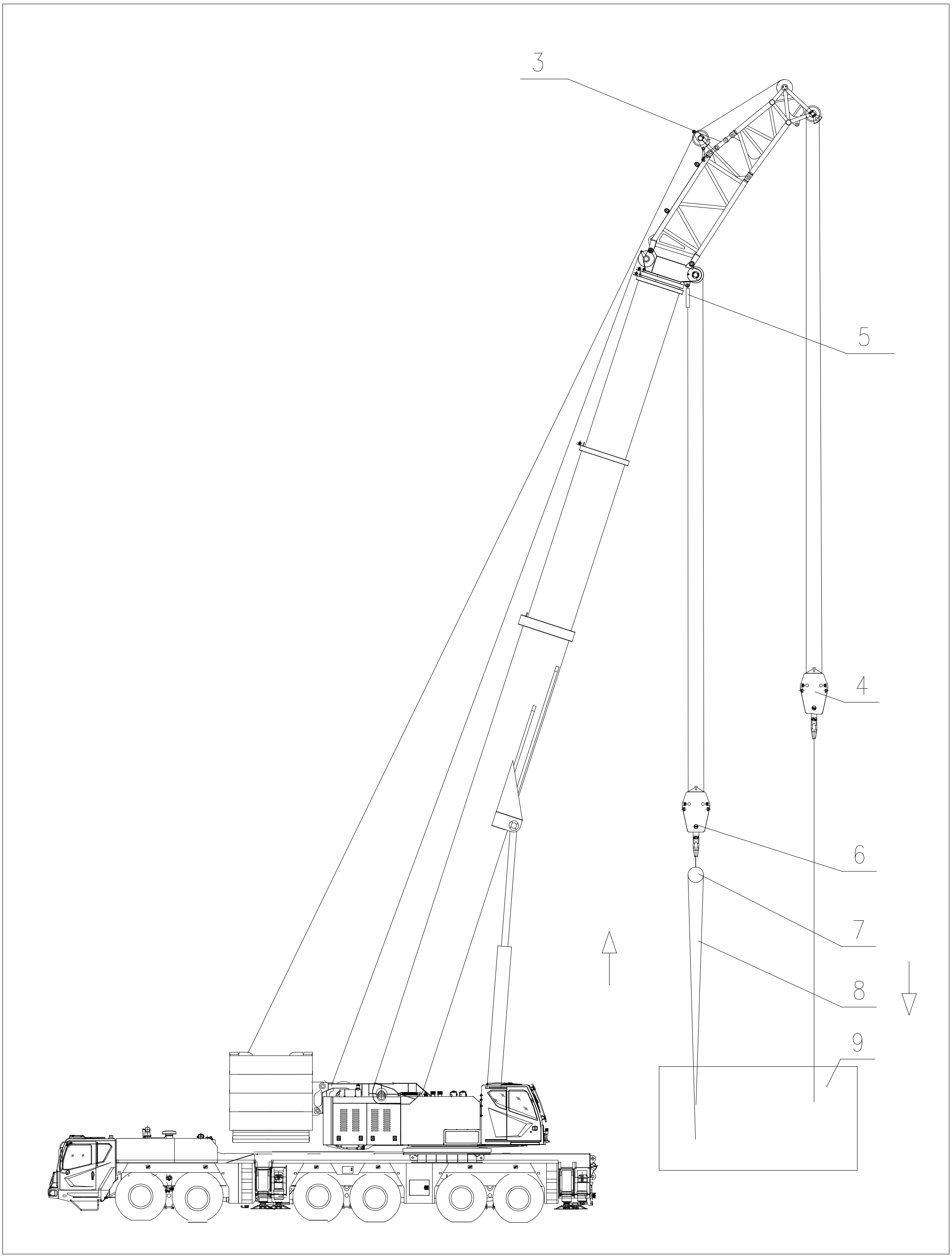


Figure 5-48 Turn-over operation of tunnel boring machine

c) Refer to Figure 5-48. Meanwhile, operate left joysticks to control auxiliary winch to lower auxiliary hook (Pos. 4) slowly, and operate right joystick to control main winch to lift main hook (Pos. 6) slowly. These two crane movements should be stable. The rigging (Pos. 8) slides on the single pulley (Pos. 7). During the process, the lower edge point of tunnel boring machine should be away from the ground. Also, keep the stability of complete vehicle via the tension sensor (Pos. 5) at the end of wire rope of main boom and the tension sensor (Pos. 3) on the TBM jib.

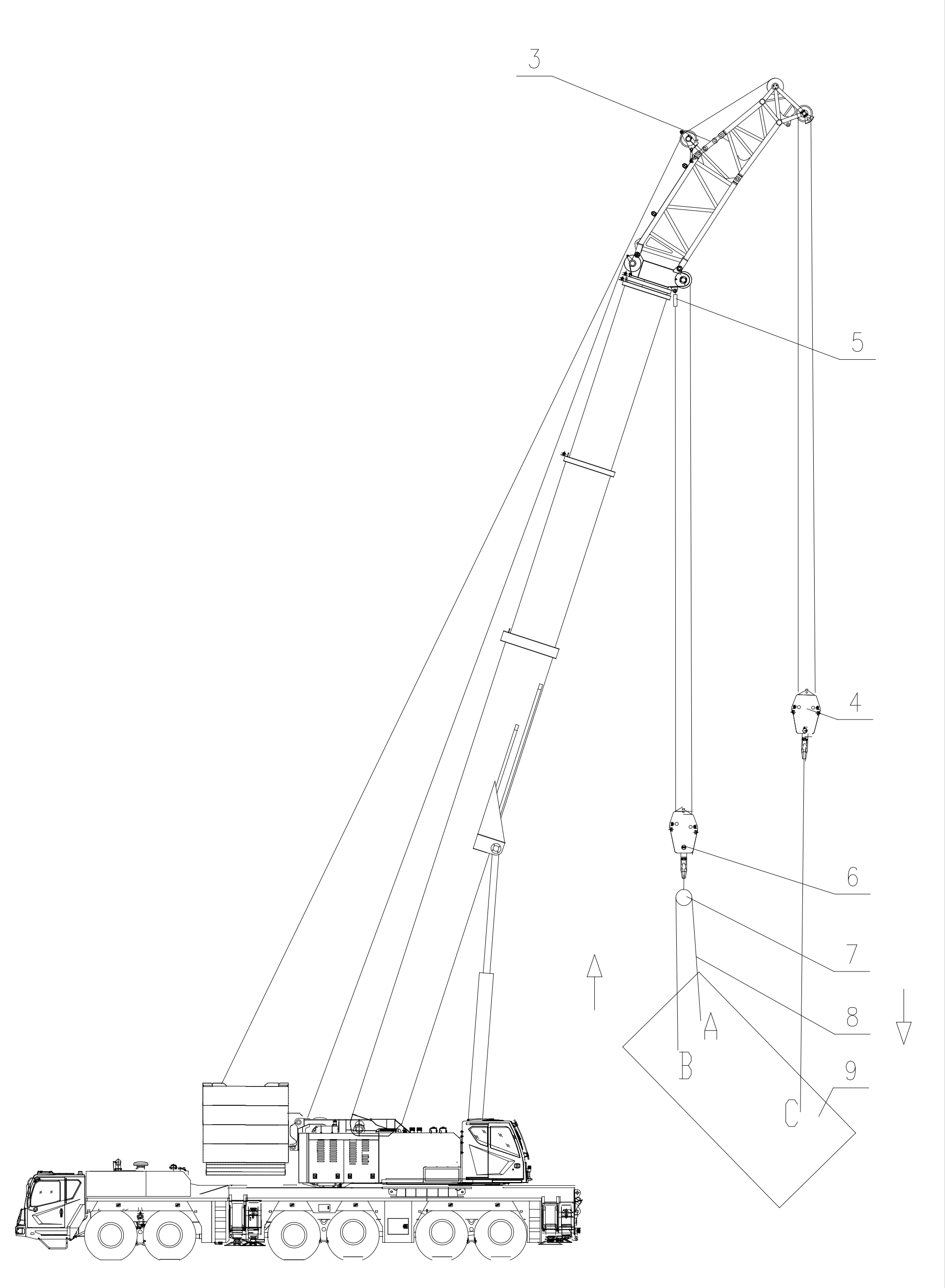


Figure 5-49 Turn-over view

d) Refer to Figure 5-49. Keep main hook (Pos. 6) motionless. Continue to lower auxiliary hook (Pos. 4) slowly. The rigging (Pos. 8) slides on the single pulley (Pos. 7). Stop lowering auxiliary hook (Pos. 4) until the edge BA of cylinder body of tunnel boring machine is level. The whole crane movement should be stable. Lastly, the turn-over operation of cylinder body of tunnel boring machine is finished.

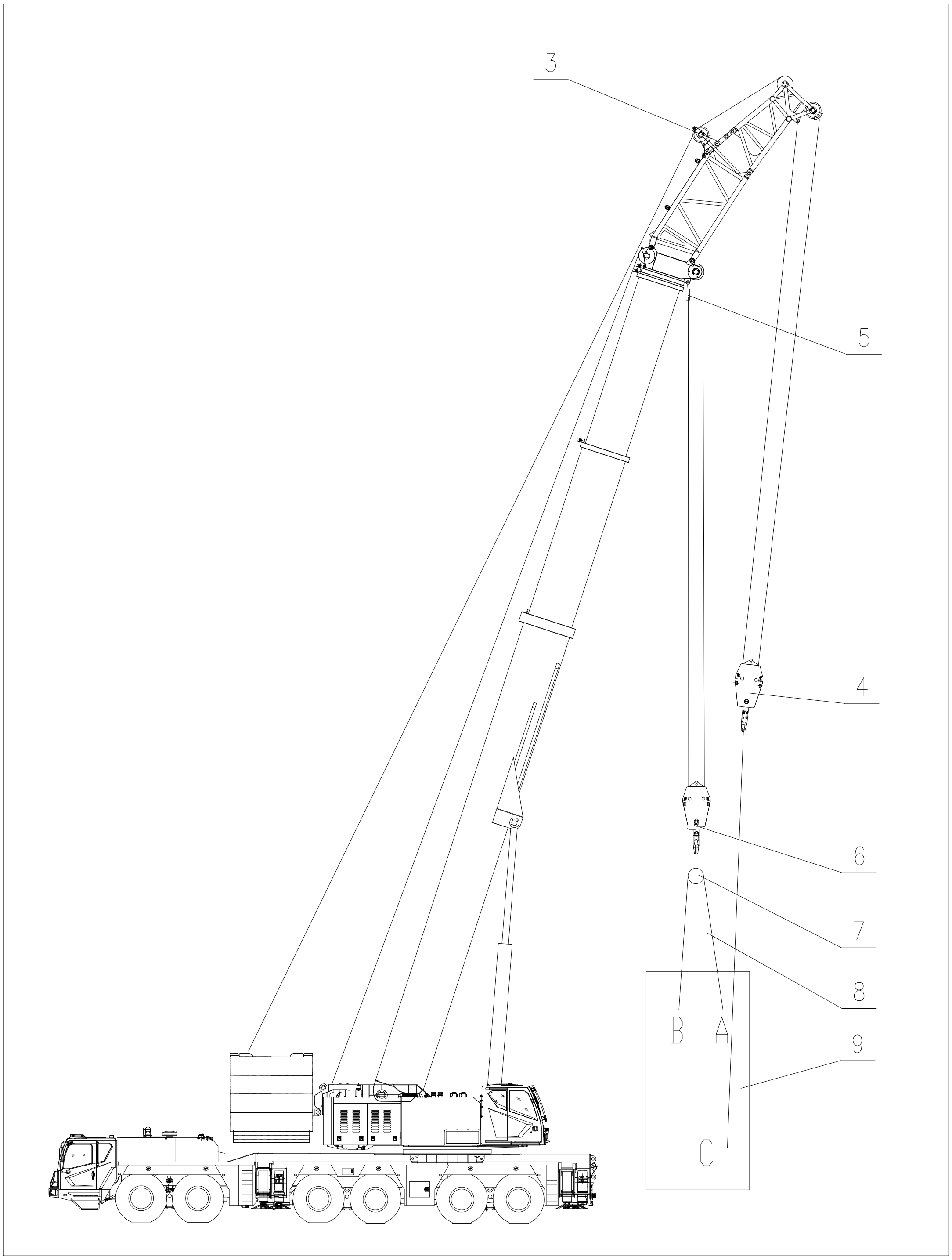


Figure 5-50 Turn-over operation finished

ZOOMLION

All Terrain Crane Operator’S Manual

Chapter 6 Additional Equipment

Chapter 6 Additional Equipment

6.1 Air conditioning in driver's cab

In order to supply a comfortable environment for user, this crane is equipped with an air conditioning.

6.1.1 Operating methods

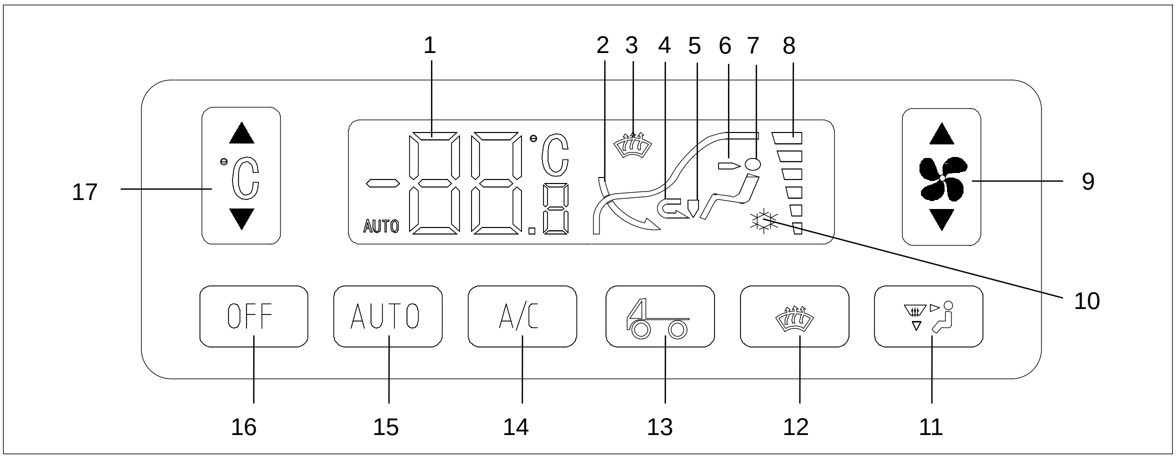


Figure 6-1 A/C control panel

a) Temperature
  1) Interior temperature range: -30.0°C to 80.0°C
  2) If the interior temperature sensor is defective, 25.0°C will be displayed and never changed.
b) Outer air circulation
c) Front window air supply
d) Interior air circulation
e) Footwell air supply
f) Fresh air
g) Vehicle body
h) Fan speed bar chart

1 bar – stage 1 2 bars – stage 2 3 bars – stage 3

4 bars – stage 4 5 bars – stage 5 6 bars – stage 6

i) Fan speed button

Arrow up – fan speed (blower), faster

Arrow down – fan speed (blower), slower

If the fan speed button is not activated, arrows up / down are invalid.

If the fan speed button is activated, press arrows up / down to increase / decrease the fan speed.

If the fan speed is increased / decreased to the highest / lowest stage, arrows up / down will be invalid.

j) Refrigeration

k) Mode button

Changeover front window supply / footwell supply / footwell and defrosting air supply

l) Front window air supply button

m) Circulation button

Pressed:

Changeover interior / outer air circulation.

n) A/C button

Pressed:

The A/C begins to refrigerate.

The control light illuminates: The compressor activated

The control light extinguishes: The compressor deactivated

o) AUTO button

Pressed:

Activate the auto operating mode.

Press Auto button twice or press front window air supply button once: exit

p) OFF button

Pressed:

Turn off the air conditioning system. Press any buttons (excluding OFF button) to activate the system.

q) Temperature adjustment button

Temperature range: 17°C to 29°C.

Pressed: The temperature is increased or decreased by 1°C between 17°C and 29°C

Press and hold this button, the temperature will be continuously increased or decreased.

The set temperature will flash and the interior temperature will be displayed after 5 seconds.

LO: set temperature below 17°C

HI: set temperature above 29°C

The air conditioning system is of diagnosis function.

a) Press and hold OFF.

b) The error codes will appear on the display after 10 seconds.

C0: Normal

C3: The interior temperature sensor uninstalled or defects

C5: The evaporator temperature sensor uninstalled or defects

C6: Water valve steering gear uninstalled or defects

C7: Air door for mode adjustment uninstalled or defects

How to correct the malfunctions:

- For C3 and C5, install or repair the sensor.
- For C6, install or repair the steering gear and then restart the air conditioning system.
- For C7, install or repair the air door and then restart the air conditioning system.

⚠ WARNING

Do not use the cab heater during driving if engine coolant temperature is below 70ºC.

⚠ CAUTION

(1) Make sure that the A/C is in the OFF mode when the engine is OFF or at idle speed for a long time. The battery drains in these conditions.

(2) When you move the crane for a long distance at low speed, with the A/C in the ON mode, put the transmission in a low gear. This increases the engine RPM and decreases the load on the transmission.

(3) Set the A/C to the OFF position when you do one of the items that follow:

- **Move the crane quickly.**
- **Move up a long hill slope.**

(4) In winter or other periods without using air conditioning, run the air conditioning for several minutes once a month to benefit the lubricating circulation and make sure the system in good state.

(5) Make sure that the refrigerant in the A/C system is at the correct level at regular intervals.

(6) If there are unusual vibrations, noises or smells during operation, stop and examine the crane immediately. Do not operate the crane that has a malfunction.

(7) Keep the surface of the condenser clean. When you clean the condenser, do not use steam. Clean it with compressed air or cold water.

(8) Do not disassemble the belt or pipeline of compressor when you do not use it for a long time.

(9) In summer, close the shutoff gate valve on the hot-water pipe of heater at the bottom of driver's cab. Otherwise, refrigeration effect may be affected. In winter, open the shutoff gate valve to make hot water enter into the heater. For hot water type heater, engine coolant temperature will affect the interior temperature. If the engine coolant temperature cannot be heated, the driver's cab will not be warmed.

6.2 Air conditioning in operator's cab

In order to provide a comfortable operating environment for the operator, the operator’s cab of our crane is equipped with the combined air conditioning and cab heater, which refrigerates in summer and supplies heat in winter. The working medium of refrigerant is HFC134a, and the working medium of heat supply is circulating cooling water of engine.

6.2.1 System technical data

For system technical data, refer to Table 6-1.

Table 6-1 System technical data

Ser. No.	Description	Data
1	Refrigerating output	4000 W
2	Heating output	4500 W
3	Voltage	24V.DC
4	Gross power	≤ 400 W
5	Refrigerant oil	Depending on compressor
6	Refrigerant	R134a

6.2.2 Operating instructions

6.2.2.1 Functions

a) A/C FAN SPEED / MASTER SWITCH

Used to control the evaporator fan speed: OFF, HI, MID, LOW

It is also the master power to the REFRIGERATION mode function and must be ON (HI, MID, LOW) for the functions to operate.

b) CAB COOLER POWER SWITCH

Refrigeration on / off

c) Control lights

FAN POWER CONTROL LIGHT and COOL MODE CONTROL LIGHT

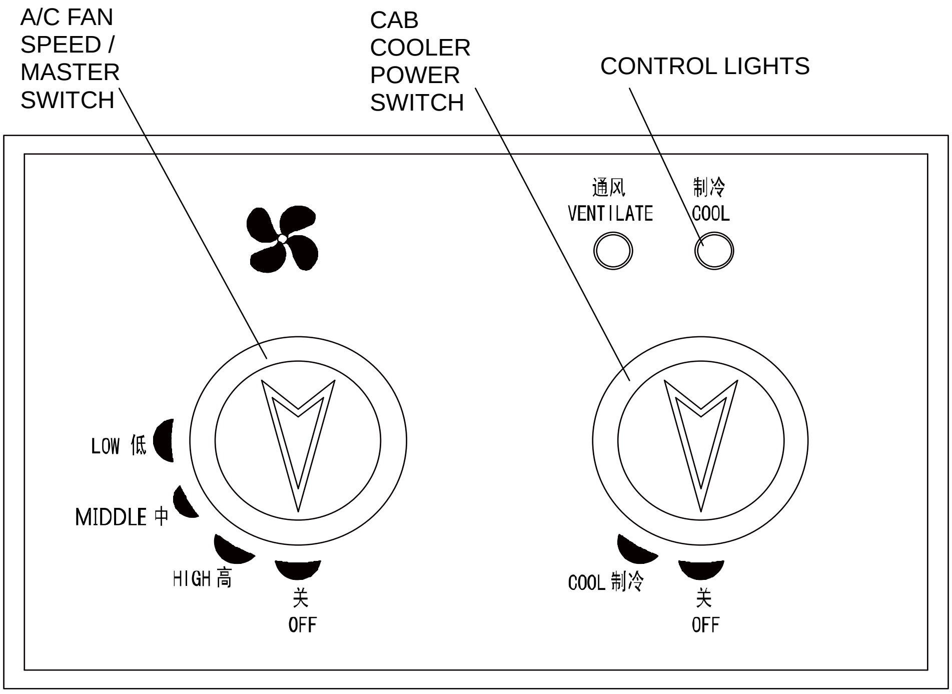


Figure 6-2 A/C control panel

6.2.2.2 Operating instructions

a) Refrigeration

- Set the CAB COOLER POWER SWITCH to position "COOL".

  Result:

  Cool mode indicator illuminates.

- Turn the A/C FAN SPEED / MASTER SWITCH counter-clockwise to fan speed (HI, MID or LOW) to get the necessary temperature.

b) Heat mode

- Set the CAB COOLER POWER SWITCH to position OFF.

  Result:

  Cool mode indicator goes off.

- Turn the A/C FAN SPEED / MASTER SWITCH counter-clockwise to fan speed (HI, MID or LOW).

- Open the hot-water valve.

  Result:

  Hot air blows out.

c) Ventilation

- Set the CAB COOLER POWER SWITCH to position OFF.
- Turn the A/C FAN SPEED / MASTER SWITCH counter-clockwise to fan speed (HI, MID or LOW).

Note:

You can adjust the angle of the air outlet to change the direction of the cold wind. And you can use the A/C FAN SPEED / MASTER SWITCH to control the evaporator fan speed: OFF, HI, MID, LOW.

⚠ CAUTION

(1) Set the A/C FAN SPEED / MASTER SWITCH to position LOW and increase the engine RPM when the engine is at idle speed. The battery drains in these conditions.

(2) The cab heating system is connected with water tank via a valve. When the ambient temperature is below 0°C, add antifreeze fluid into the system to prevent brass pipe of radiator from freezing within -30°C.

6.2.3 Points for attention

a) Do not disassemble an A/C system without consent from the A/C manufacturer to prevent refrigerant leakage.

b) Examine the condition and tension of the compressor belt at a regular interval. If necessary, adjust the tension on the belt.

c) Antifreeze fluid has been added into water pipe lines with proper proportion before the crane is handed over, and the system circulation has been carried out for no less than 15 minutes to prevent the heating pipelines from freezing under low temperature.

d) In summer, make sure the hot-water valve is closed before you turn on the air conditioning. The hot-water valve in the heating pipelines can only be opened in winter.

e) You must clean the condenser at regular intervals.

f) Examine and tighten the connections of pipelines in air conditioning system at regular intervals to prevent them from loosening and leaking after you use them for a long period.

g) Add refrigerant fluid after you replace the parts. For quantity of refrigerant fluid, refer to Table 6-2.

Table 6-2 Quantity of refrigerant fluid

Name of parts	Quantity of refrigerant fluid (CC)
Condenser	40 – 50
Evaporator	40 – 50
Circulating hose for refrigeration	10 – 20
Fluid reservoir	15 – 25

6.2.4 Troubleshooting for common failures

a) Refrigeration fault

Refrigeration fault	Evaporator fan motor is working.	Condenser fan motor is not working.	Compressor is working.	Examine fittings of fan motor for tight connection and normal grounding, and examine fan motor for damage.
			Compressor is not working.	Examine temperature control switch for damage, examine relay for switching on, and examine terminal connector of relay for well connection.
		Condenser fan motor is working.	Compressor is not working.	Examine clutch for damage, examine terminal connector for tight connection and examine belt for tightness and sliding.
	Evaporator fan motor is not working.	Condenser fan motor and compressor are working.	Examine A/C FAN SPEED / MASTER SWITCH for malfunction, and examine fan motor wire for well connection and grounding wire of fan motor for normal connection.	
		Condenser fan motor and compressor are not working.	Examine whether the fuse is broken, examine relay for normal working and examine connecting wire of relay for tight seating.	
Refrigeration fault	Compressor is working.	Evaporator fan motor and condenser fan motor are working.	HFC134a is filled too much into the system. Examine whether it meets the required value with a high / low pressure gauge.	
			It is not used for a period of time, so HFC134a in the system has a leakage. Examine whether HFC134a exists in the system with a high/low pressure gauge.	
Insufficient refrigerating output	Compressor is working.	Evaporator fan motor, condenser fan motor and evaporator as well as condenser are all working.	Inlet / outlet of fluid reservoir are connected in reverse. Examine whether expansion valve is blocked with ice or dirt. If it is, replace fluid reservoir. Replace HFC134a.	
		Fan motors and other devices are working.	Examine whether the surface of condenser is blocked with dirt.	

b) Heating fault

Heating fault	Evaporator fan motor is working.	Examine whether solenoid valve is switched on. Examine whether other valves of heating pipelines are closed.
	Evaporator fan motor is not working.	Examine A/C FAN SPEED / MASTER SWITCH for malfunction, and examine fan motor wire and grounding wire for normal connection. Examine whether the fuse is broken and examine the connecting wire for tight seating.

c) Other failures

Ser. No.	Phenomenon	Possible causes	Remedies
1	Refrigerating effect of the system is good at the beginning, but refrigerating output is not enough after using for a period. Bubbles appear in the inspection hole of fluid reservoir, and “Values” shown on the high / low pressure gauge are low.	Owing to off-road conditions during crane driving such as uneven road surface, the fittings are loose, thus causing air leakage.	Find out the leaking point with a leak-detecting instrument and tighten the loosened parts carefully.
2	Refrigeration does not work, outlet nozzle blows hot air, no temperature difference between the inlet and outlet of expansion valve and the value shown on the low-pressure gauge is extremely low.	Improper use. Temperature-sensitive capsule wears and leaks which results in valve hole closed.	Replace expansion valve, and refill HFC134a.
3	The air from outlet nozzle is not cold enough, and the temperature of compressor increases. The value in the low-pressure gauge descends rapidly (approaches to “0”), and the value in the high-pressure gauge is high.	The system is mixed with impurities, the filtering screen of expansion valve is blocked and thin frost appears at expansion valve.	Open air conditioning system intermittently to eliminate instantaneous blocking if blocking is not serious. Or dismantle expansion valve to wash it with alcohol, and refill HFC134a after you deaerate the system.
4	Refrigerating output is not enough, and evaporator is frosted. Values in the high / low pressure gauge are all low.	Throttle bore inside the expansion valve is not in function.	Deaerate the system, replace expansion valve and refill HFC134a.

Ser. No.	Phenomenon	Possible causes	Remedies
5	Refrigerating output of the system descends gradually after the system is running for a period, the values in the high-pressure gauge is high but the value in the low- pressure gauge is lower than 0.4 Mpa.	Drying agent in fluid reservoir is saturated, and throttle point in expansion valve is blocked with ice.	Deaerate the system, replace fluid reservoir, and refill HFC134a.
6	After you switch on the air conditioning system, only air (not cooling air) blows and the values in high / low pressure gauge do not vary.	Temperature control switch is poorly connected. Or electromagnetic clutch coil for compressor is damaged.	Use the universal meter to examine the temperature control switch for damage. Replace electromagnetic clutch for compressor.
7	Electromagnetic clutch for compressor is frequently operative but short-time engaged. The cab cannot be cooled down but the values in high / low pressure gauge are normal.	The compressor stops running automatically caused by excessively small opening degree of temperature control switch, so refrigerating output is insufficient.	Examine the temperature control switch and set it to the Max. degree (Cold).

6.3 Emergency control device

6.3.1 Superstructure emergency control

6.3.1.1 General principles for emergency operation

a) Emergency operation of crane superstructure can be performed only in the following cases:
  1) A dangerous situation is found;
  2) After consulting the crane manufacturer service staff;
  3) Only the operation for load reduction can be performed.

b) The dangerous area must be isolated.

c) No objects or people are allowed in the dangerous area.

d) If there is a weight on the hook, the weight must be removed to reduce the load of the boom.

e) When the moment limiter has a failure, the work process cannot be displayed. In this case, always perform each step carefully and visually check each step.

f) All crane operations must be performed carefully.
  1) The boom extending/retracting process must be observed by a fulltime staff;
  2) The driver can visually contact the commander on the ground.

⚠ DANGER

The failure to follow the above principles may cause an accident!

⚠ WARNING

In a word, the superstructure emergency operation must be performed when the engine runs normally and the hydraulic system and the superstructure function work normally. Otherwise the equipment on the crane must be removed with an auxiliary crane. Reeling the winch off is allowed only when the crane stability is guaranteed.

6.3.1.2 Boom emergency operation

When automatic telescoping boom program has a failure, emergency boom telescoping can be performed manually. As for the manual telescoping operation mode, please refer to Section 4.2.3.3.

6.3.1.3 Emergency operation of slewing mechanism, derricking mechanism, main winch and luffing winch

When electric control part of the solenoid valve of control system is damaged, manual operation can be performed by pressing the corresponding electromagnetic core.

⚠ CAUTION

Press the electromagnetic core of the directional control valve with a sharp object like nail or pen core, and the crane movement will stop immediately after the pressure stops.

⚠ DANGER

Risk of accident!

When pressing the electromagnetic core manually, it is hard to control the openness of the electro-hydraulic proportional valve. Therefore, it is difficult to control the speed of crane movement. Particular attention must be taken when crane operation.

Precondition: both the superstructure engine and hydraulic system work normally.

Table 6-3 Solenoid valve of superstructure emergency operation

Function	Brake valve			Directional control valve
	Y29(slewing)	Y27(main winch)	Y28(luffing winch)	
Slew to the left	1	0	0	Y31a
Slew to the right	1	0	0	Y31b
Derrick up	0	0	0	Y3b、Y4b
Derrick down	0	0	0	Y3a+Y13
Spool main winch up	0	1	0	Y24a
Reel main winch off	0	1	0	Y24b
Spool luffing winch up	0	0	1	Y30a
Reel luffing winch off	0	0	1	Y30b

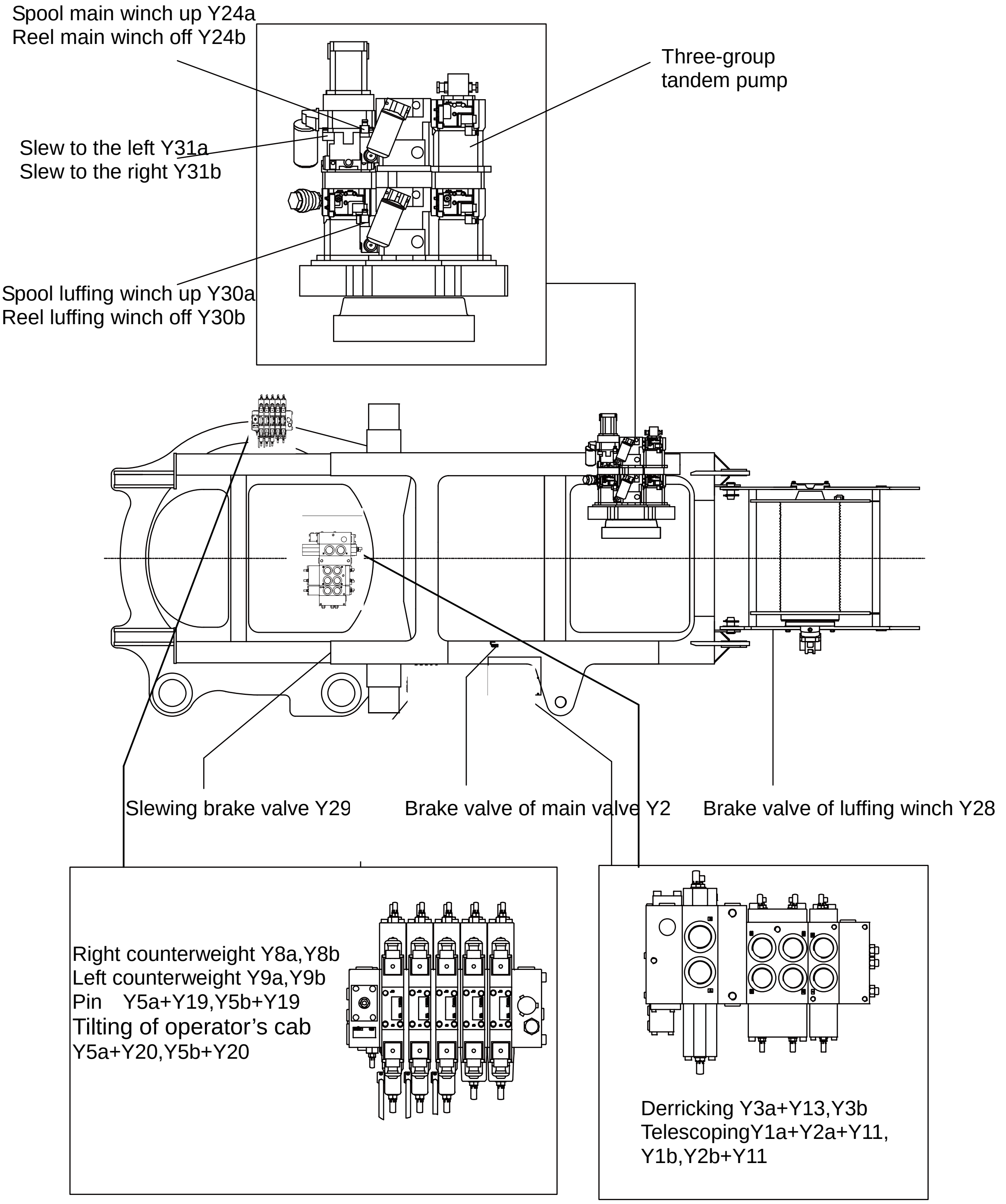


Figure 6-3 Solenoid valve position layout for superstructure emergency operation

Note:

As for emergency operation, please refer to Table 6-3 and Fig. 6-3. As described in Table 6-3, open the corresponding brake valves before emergency operation of slewing mechanism and hoisting winch with the exception of derricking mechanism. The emergency operations like tilting the operator's cab, lifting the counterweight, etc. can be performed through manual lever which is provided on the control valve block.

6.3.2 Chassis emergency control

6.3.2.1 Outrigger emergency operation

When electric control part of solenoid valve of the outrigger operating system is damaged, manual emergency operation can be performed by pressing electromagnetic core of solenoid valve.

Table 6-4 Solenoid valve of outrigger emergency operation

Category	Function	Selection valve Y1 of outrigger oil source	Directional control valve
Vertical outrigger	Right front retract Left front retract Right rear retract Left rear retract	1	Y36 Y40 Y44 Y49
Horizontal outrigger	Right front retract Left front retract Right rear retract Left rear retract	1	Y34 Y38 Y42 Y46
Vertical outrigger	Right front extend Left front extend Right rear extend Left rear extend	1	Y35 Y39 Y43 Y47
Horizontal outrigger	Right front extend Left front extend Right rear extend Left rear extend	1	Y33 Y37 Y41 Y45

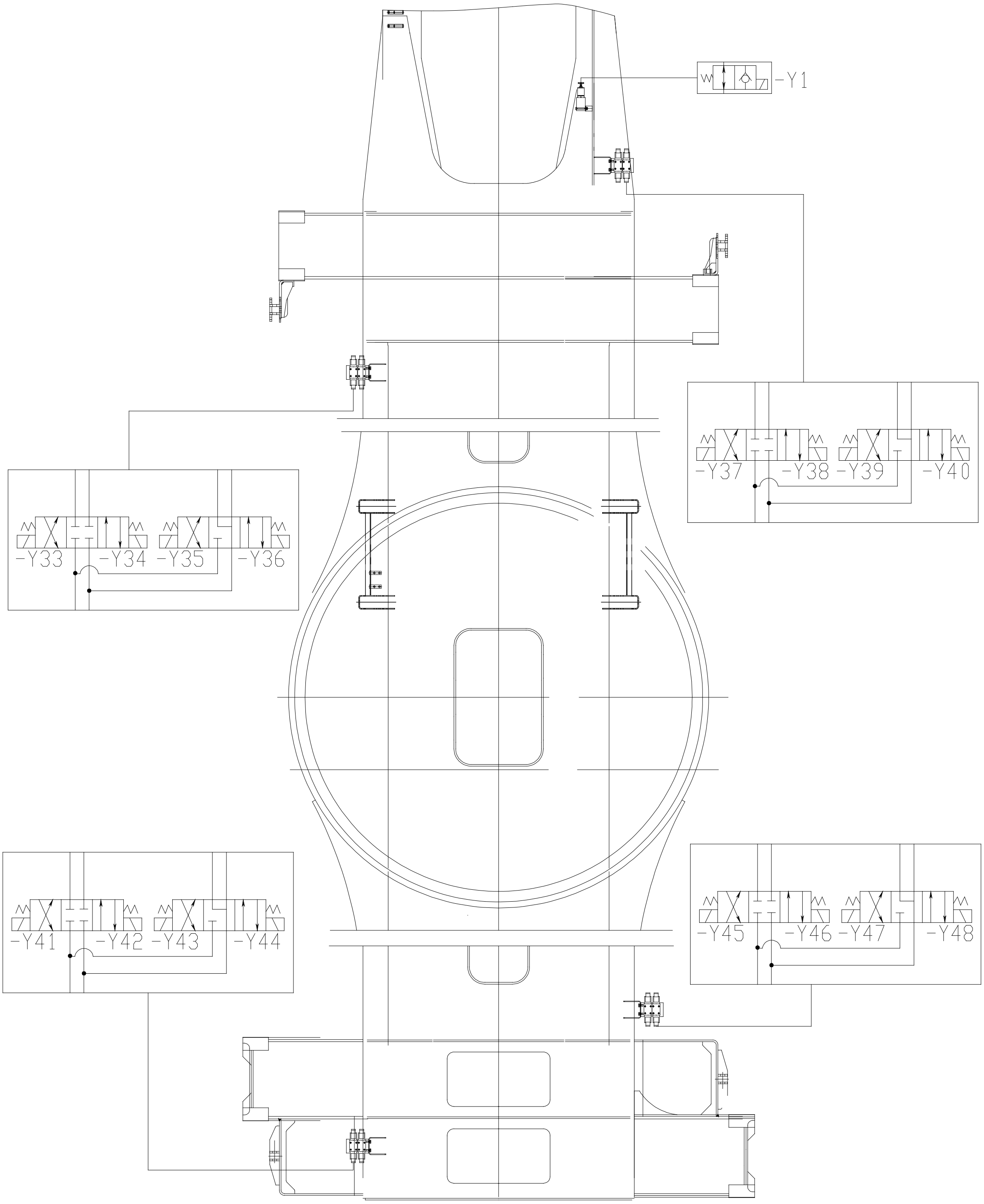


Figure 6-4 Solenoid valve position layout of outrigger emergency operation

CAUTION

When operating the outrigger, the outrigger and suspension oil circuit switching valve Y1 must be activated.

6.3.2.2 Emergency steering

For purpose of safety, an emergency steering pump is provided in the steering system, and is powered by the transfer box. When the steering pump works normally, the pressure oil will return to the oil tank directly, and when the steering pump has a failure, the emergency steering valve will automatically lead the pressure oil from the steering pump into the steering system, thus ensuring the emergency working of the steering system. At this time, the steering system still can continue to work, and it is difficult to steer the crane. You should park the crane in a safe place immediately and continue to work after repair.

6.3.2.3 Emergency braking

When there is no source of compressed air or the air brake system has a failure, the springs in the spring brake chamber of axles 2 to 6 will be enabled to keep the crane in manual braking status. At this time, manual braking must be disenabled before moving the crane forcedly.

Do the steps that follow:

- Loosen the nuts at the end of the brake chamber with a wrench.
- Screw off the dowel screw for 2.52 in (64 mm) approximately, and then the crane is relieved from manual braking.

Position of the spring braking chamber is shown in Fig. 6-5.

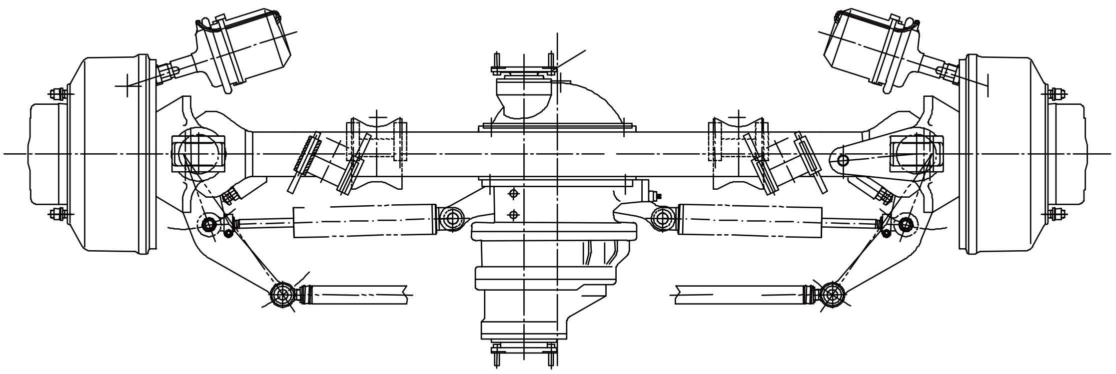


Figure 6-5 Position of the spring braking chamber

WARNING

When there is air source or failure is eliminated, screw on the dowel screw in time. Otherwise, manual braking will not work.

⚠ CAUTION

The elastic force of the working spring is 1764 lb (800 kgf) approximately. Therefore, particular attention must be taken when removing the spring, and the removal work must be done by a professional person.

6.4 FM Transceiver

In order to meet the operation guide requirement of large tonnage crane, a pair of FM transceiver is a standard configuration.

6.4.1 Instructions

a) Do not use this FM transceiver illegally.

b) Only maintenance personnel can repair this transceiver.

c) No modification of the transceiver is allowed.

d) Neither let this transceiver in the sunshine for a long time, nor place the transceiver near the heating equipment.

e) Neither place the transceiver in a extremely dusty, humid and splashed environment, nor on a uneven surface.

f) Once smell, smoke or mist is found, switch off the power immediately. And dismantle the battery pack from the transceiver. Contact with the dealer.

⚠ WARNING

In explosive environment (air, dust, smoke and mist etc.), switch off the power of FM transceiver.

6.4.2 Product description

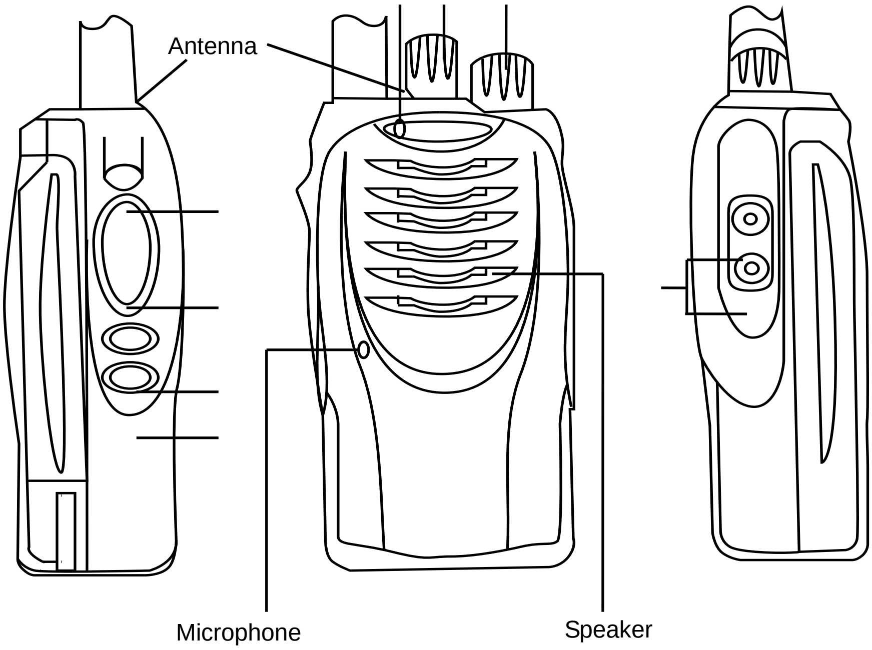


Figure 6-7 FM transceiver

a) LED indicator

Glows Red: Transmitting

Green: Monitor on

Blinking Orange: Receiving a Selective Call, DTMF or Fleet Sync Signal

Blinking Red: Battery Voltage is Low

b) CH (Channel) Selector

Turn this switch to select channels from channel 1 to 16.

c) VOL/PWR Knob

Turn this knob clockwise to turn on the radio.

Turn this knob anticlockwise to turn off the radio.

Rotate this knob to set the volume level.

d) AUX key

Press the PF key to activate the auxiliary function (on the lower). The default set of this function is none.

e) PTT (Push To Talk) Switch

Press and hold in the PTT switch. Speak into the microphone area to call the other person involved.

f) Side 1 Switch

This is a PF key. Press this key to activate the auxiliary function (on the lower). The default set of this function is none.

g) Side 2 Switch

This is a PF key. Press this key to activate the auxiliary function (on the lower).

The default set of this function is to disable the noise and tone squelch.

Press and hold the PF key to resume normal (quiet) noise and tone squelch action.

Release this key to return to normal mode.

h) MIC/SP Jack

This is for external microphone/earphone.

6.4.3 Auxiliary programmable function

This FM transceiver provides side 1 and side 2 keys. These programmable (PF) keys functions can be customized (set to the following auxiliary functions).

a) DW (Dual Watch)

b) Emergency*

c) Mon (Monitor)

d) None

e) RF low power

f) Scan

g) Scan Off

h) Encryption equipment

i) SQL Off

j) SQL on

* This function can only be programmable on the AUX key.

For further details, please refer to the Vertex *Standard Vx-230 Series Operating Manual*.

6.4.4 Operation quick start

a) ON/OFF

Turn the VOL/PWR knob clockwise to turn on the radio.

Turn the VOL/PWR knob anticlockwise to turn off the radio.

b) Volume adjustment

Rotate the VOL/PWR knob to set the volume level.

Rotate the VOL/PWR knob anticlockwise to turn down the volume.

Note: You may need to adjust the volume further when talking on FM transceiver.

c) Select the channel

Rotate the CH (channel) selector to choose the desired channel.

Rotate the selector clockwise from channel 1 to 16, and vice versa.

If the channels haven't been programmed, you cannot select the channel.

When you select the unprogrammed channel, LED indicators Red and Orange will flash, and the warning sound will be heard.

d) Call

1) Confirm that nobody talks in your selected channel.
2) Press PTT switch and speak into the microphone area in a normal voice level. In order to enable the other person involved to receive optimal audio frequency, hold the radio in a vertical position with its microphone about 1.5 inches (3 to 4 cm) away from your mouth when transmitting.
3) To return to the Receive mode, release the PTT switch.

e) Receive mode

The dealer may have programmed QT, DQT, DW or Fleet Sync signal on this FM transceiver. If the channel you chose has been programmed, only there is a call matched with signal in your channel, you can hear the voice. You cannot hear any other calls.

If the channel you chose hasn't set signal types, you can hear the call from any party (not limited to the group you are in).

6.5 Central lubricating system

The crane superstructure is equipped with central lubricating system. It is with 24 V power. Automatically inject the lubricating grease into each lubricating points via a progressive distributing valve. After you switch on the power switch of central lubricating system or ignition starter switch, the pumps begin to lubricate the lubricating points at specified intervals.

A lubrication cycle consists of pump running interval and their running time. Once the pump running interval reaches the set value, the pump will start running and time its running. And when its running time reaches the set value, the pump will stop lubricating and time the interval. The lubricating cycle will repeat as long as the system works.

Should the ignition be switched off during lubrication or operational pauses occur, then the time is stopped and recorded. Once the ignition is switched on again the remaining lubrication or pause time is read from the memory and the sequence will be resumed where it was interrupted. At any time when the ignition is on, an interim lubrication occurs when the button (its function is the same as the central lubricating switch in operator's cab) on the side of the pump motor housing is activated. The integrated electronic controlling device on the pump is used to set the lubrication cycle, lubrication time and working state of indicating system.

Refer to Figure 6-8.

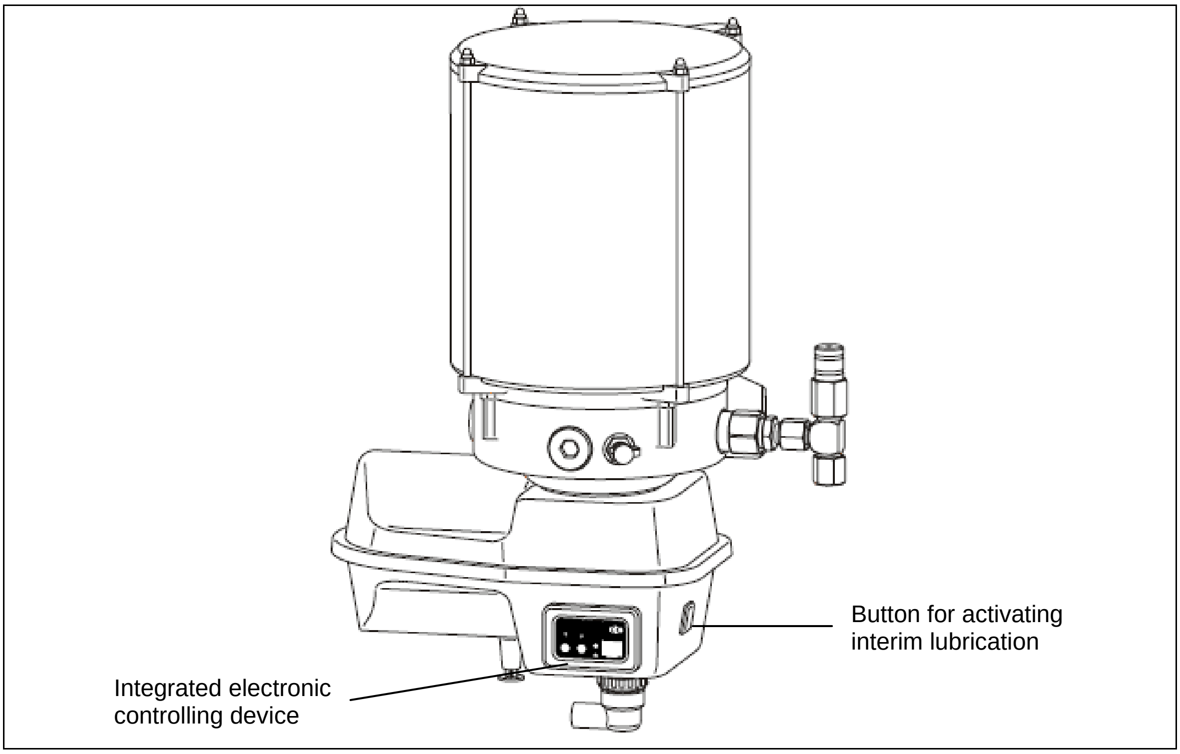


Figure 6-8 Pump of central lubricating system

The break time or lubrication time can be set by means of graduating switches in the controller sign glass.

There are two LED on the integrated electronic controlling device. When the green LED lights up, shows that the system is operational. When the red LED lights up, shows that the system fails.

Refer to Figure 6-9.

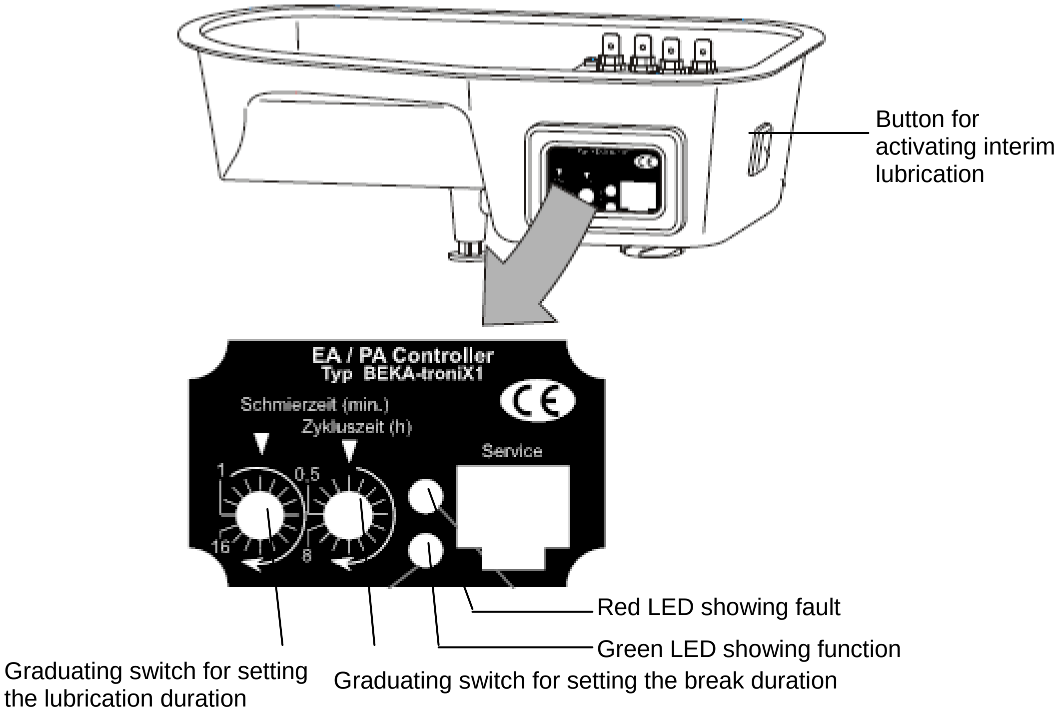


Figure 6-9 integrated electronic controlling device

The break time can be set by means of graduating switches in the controller sign glass. Refer to Figure 6-10.

Break time:
0.5 to 8 h (16 grades every 0.5 h)

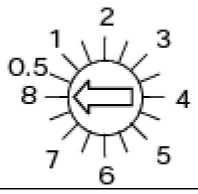


Figure 6-10 Graduating switch for setting the break duration

Different break times can be set according to different OMs. But break time is set by each lubrication time. Refer to Figure 6-10. 16 break times can be set by means of graduating switches in the controller sign glass. Refer to Table 6-5.

Table 6-5 Break time

Position of knob	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
Hour	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8

The lubrication time can be set by means of graduating switches in the controller sign glass. Refer to Figure 6-11.

Lubrication time:
2 to 32 min. (16 grades every 2 min.)

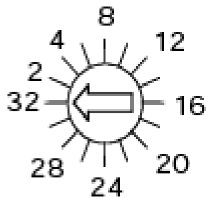


Figure 6-11 Graduating switch for setting the lubrication duration

Different lubrication times can be set according to different OMs. But lubrication time is set by each break time. Refer to Figure 6-11. 16 lubrication times can be set by means of graduating switches in the controller sign glass. Refer to Table 6-6.

Table 6-6 Lubrication time

Position of knob	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
Minute	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32

CAUTION

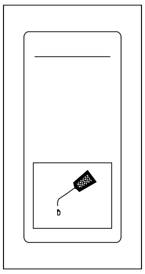
The correct cycle setting for the central lubricating system:

- Pump running time: 10 minutes
- Pump running interval: 2 hours.

That is to say, after being energized for 2 hours, the electric greasing pump runs for 10 minutes automatically.

If the lubrication is inadequate, you need to activate the override function.

Besides, a central lubricating switch is on the electric control panel in operator's cab. Central lubricating system begins to lubricate each lubricating point after this switch is activated



As for lubricating points, please refer to Table 6-12.

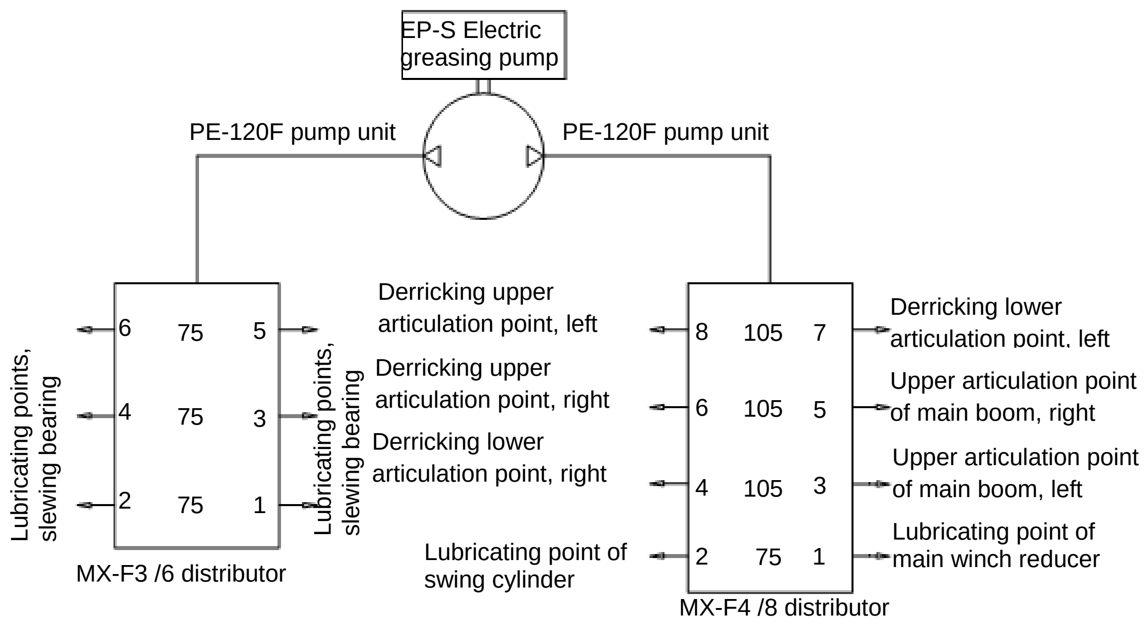


Figure 6-12 Lubricating points

ZOOMLION

All Terrain Crane Operator’S Manual

Chapter 7 Transportation and Storage

Chapter 7 Transportation and Storage

7.1 Transportation

You can move the crane by its power for road-driving or by other carriers for a long distance. During transportation, chock the wheels and make the crane safe with wire ropes. Fully close the windows and doors to keep rain and moisture out of the cab. Lock the door and windows.

The positions to lift the crane are shown in the Figure 7-1.

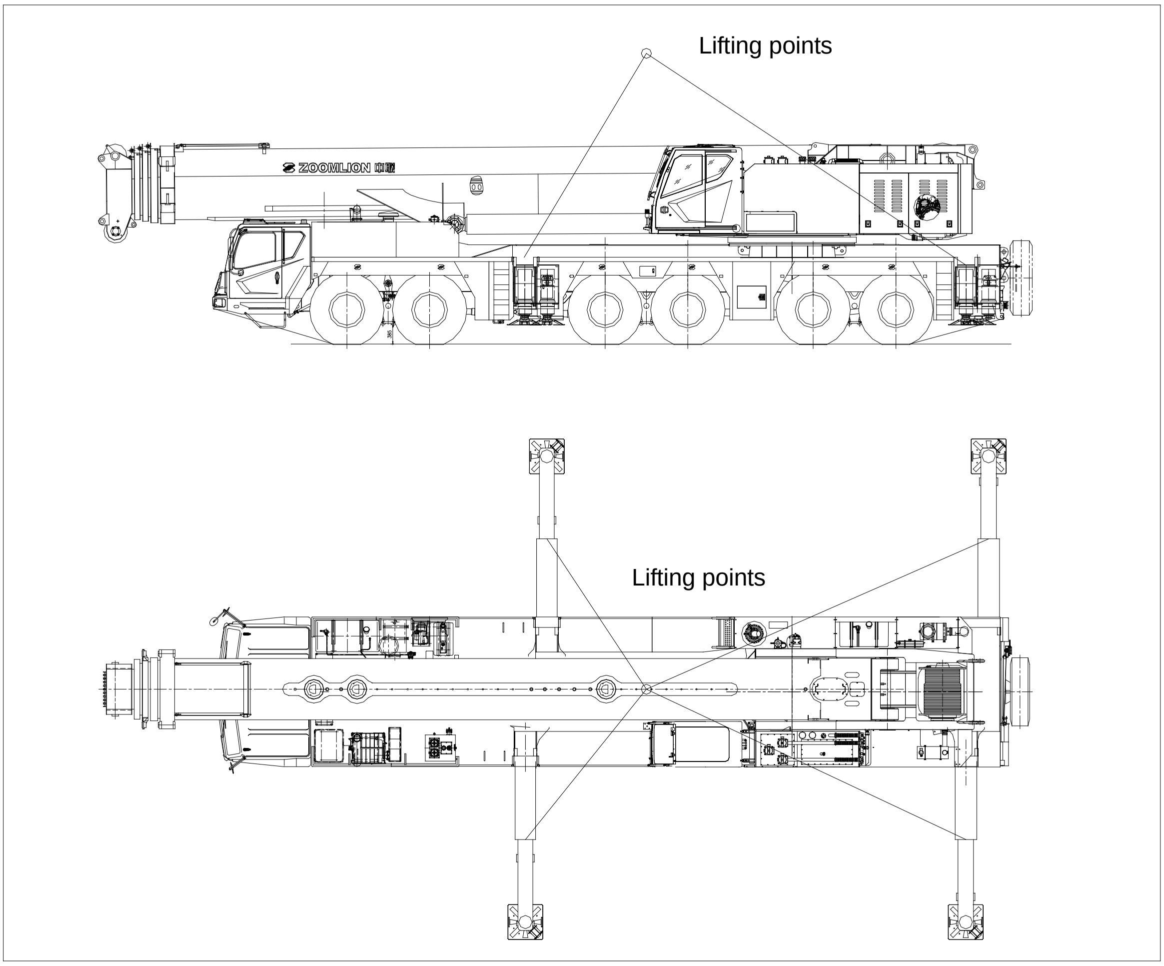


Figure 7-1 Crane lifting points

WARNING

Before you lift, make sure that the sling has sufficient strength to hold the crane.

7.2 Storage

Do the steps that follow if you do not use the crane for a long time (more than three months):

a) Lock the doors and the windows and switch off control instruments.

b) Clean contamination off the crane.

c) Fully retract all the cylinder pistons (except vertical cylinders).

d) Fully extend the vertical cylinders to lift the tires away from the ground.

e) Inflate the tires to specified pressure and put moisture-proof wooden wedges below the tires.

f) Turn off the engine and cut off the power supply.

g) If the battery is not used over a month, disconnect its connecting wire to the electrical system. If the crane is not used for a long period of time, charge it every three months.

h) You must lubricate the surfaces of all the exposed metal components to prevent corrosion.

i) Remove all contamination (dust and sand) from the wire ropes and lubricate them with ZG-3 calcium based graphite grease.

j) Keep the crane in a garage. If not, take measures against rain, thunder and freeze.

k) Operate the engine for more than 1 hour every three months. Examine the mechanisms at idle speed to make sure that they operate correctly.

l) If you do not operate the crane for more than 18 months:

   1) Keep the crane clean and do the usual maintenance.

   2) Replace ageing seal components.

   3) Do a general inspection of the engine to see if you must replace the coolant, diesel oil, and filters.

m) Make sure that one person keeps the crane prepared for operation.