

Grove YB5520

Product Guide



Features



The reach and capacity to get the job done

The 5,64 m - 16,61 m (18.5 ft - 54.5 ft) four-section boom can be enhanced with optional boom extensions. The 4,6 m (15 ft) fixed swingaway extension offers a maximum tip height of 23,1 m (76 ft) while the 4,6 m - 7,6 m (15 ft - 25 ft) telescopic extension provides a maximum tip height of 26,2 m (86 ft). Both extensions can be offset 0, -15°, and -30° via the pivoting boom nose.

Steering

The YB5520 comes standard with three steering modes: front (two-wheel), four-wheel coordinated, and four-wheel crab steer with electronic self alignment.



Operators can choose between modes using a three-position rocker switch located on dash panel.





Outriggers

The YB5520 outriggers are two position (0° and 100°) beam/jack style with inverted jack cylinders and pivoting pad.



Pivoting boom nose

Three-position mechanically offset (0°, 40°, and 80°), lowers boom nose head height by 40,5 cm (1.33 ft) when pivoted fully forward. Negative pivoting of 0°, 15°, and 30° allows boom extension offset capability.



Operator cab

New operator control layout with tilt/ telescoping steering wheel. Automotive style dash panel gauges and indicator lights.

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Specifications

Superstructure



Boom

5,64 m - 16,61 m (18.5 ft – 54.5 ft) four-section full power boom.

Maximum tip height: 19,2 m (63 ft)



*Optional boom extensions

4,6 m (15 ft) fixed swingaway extension. Maximum tip height: 23,1 m (76 ft)

4,6 m - 7,6 m (15 ft - 25 ft) telescopic swingaway extension.

Maximum tip height: 26,2 m (86 ft) Both extensions can be offset 0°, -15°, and -30° via pivoting boom nose.



Boom nose

Two sheave, quick reeve type with three-pinned pivoting (0°, +40°, and +80°) design to minimize head space requirements. Lowers head height 40,5 cm (1.33 ft) when nose is pivoted fully forward.



Boom elevation

Two double acting hydraulic cylinders with integral holding valve. Elevation: 0° to 80°.



Anti-two block device

Standard anti-two block device (hard wired), which, when activated, provides an audible and visual warning to the operator and "locks out" all functions whose movement can cause two-blocking.



Load Moment Indicator

A simple, effective, and easy to use load moment indicating system used in conjunction with the anti-two block system to assist the operator in efficient operation of the unit within the limits of the load chart. The display panel displays the max. load allowed, the actual hook load, length and angle of the boom, and load radius in Dot Matrix numerical values and provides a load utilization colored bar graph. Inputs by operator are maximum allowed load and parts of line. If non-permitted conditions are approached the L.M.I. will warn the operator with an audible alarm and a warning light and will lock out those functions that may aggravate the condition.



*Load Moment Indicator

"Graphics Display" of boom angle, boom length, load radius, and capacity. Operator input to set the limit parameters based on the load chart. Displays color coded light bar and audible alarm with function cut-out if load exceeds the load chart parameters.



Swing

Ball bearing swing circle with 360° continuous rotation. Worm gear and pinion driven by hydraulic motor. Spring applied, hydraulic released brake. Maximum speed: 2.5 rpm



Hydraulic system

One pressure compensated variable displacement axial piston pump, with load sensing.

Maximum output of: 155 LPM (41.0 GPM)

Maximum operating pressure: 276 bars (4000 p.s.i.)

Six-section valve bank, chassis mounted, operated via dash mounted pilot pressure hydraulic joystick controllers.

151,4 L (40 gal) steel hydraulic reservoir with sight level gauge and steel side plating to guard against side impact.

Return line replaceable filter with by-pass protection and service indicator. Cartridge filter rating of three micron.

Hoist specifications

Two speed gear motor driven hoist with automatic spring applied / hydraulically released wet brake. Smooth drum with cable follower.

Maximum hoist pull (first layer): 63,6 kN (14,300 lb)

Maximum permissible single line pull: 44,5 kN (10,000 lb.) (3.5:1 design factor)

Maximum single line speed: 64 m/min (210 fpm)

Rope construction: 6 x 19 XXIPS / IWRC

Rope diameter: 14 mm (9/16 in)

Rope length: 97,5 m (320 ft)

Specifications

Carrier



Chassis

High strength alloy frame constructed with integral outrigger housings; front and rear lifting, tie-down, and towing lugs. 6.2 m² (66.3 ft²) carrydeck size with 9072 kg (20,000 lb) deck only carrying capacity. Deck coated with anti-skid treatment.



Outriggers

Single stage hydraulic telescoping beam with oblique style jack cylinder on all four corners. Provides extended and down and retracted and down lifting capabilities. Integral holding valve on both beam and jack. Outrigger positioning indicator located in dash display. Outrigger pad size: 222 mm x 254 mm (8.75 in x 10 in)

Maximum outrigger pad load: 15 876 kg (35,000 lb).



Outrigger controls

Independent outrigger control rocker switches for beam or jack selection with a separate extend /retract rocker selector switch. 360° level bubble located inside cab.



Engine (Tier IV)

Cummins QSB 3,3 L four cylinder / turbo-charged diesel rated at 75 kW (100 hp) at 2600 rpm. Includes standard 110V engine block heater and air intake "Grid" heater. Engine hourmeter located in dash display. Alternator: 120 amp. Maximum Torque: 414 Nm (305 ft/lb). Fuel requirements: Maximum of 15 ppm sulphur content Requires "Ultra Low" diesel fuel.

NOTE: Tier IV required for sale in North America and European Union countries.



Engine (Tier III)

Cummins QSB 3.3L four cylinder / turbo-charged diesel rated at 74 kW (99 hp) at 2600 r.p.m. Includes std. 110V engine block heater and air intake "Grid" heater. Engine hourmeter located in dash display. Alternator: 90 amp. Maximum Torque: 415 Nm (306 ft/lb).

NOTE: Required for sale outside of North America and European Union countries.



Fuel tank capacity

Steel with side impact plate. Capacity: 151,4L (40 gal).



Transmission

Powershift with four speeds forward and four reverse. Steering column mounted shifter.



Operators control station

Frame mounted, open air style control station with cab shell includes all crane functions and driving controls and equipped with overhead safety glass. Other standard equipment includes a suspension seat with seat belt, sight level bubble and 1,1 kg (2.5 lb) fire extinguisher, and tilt steering wheel. The dash panel will display the fuel level gauge, water temperature gauge, engine r.p.m., battery voltage, and hour meter. Indicator lights will display parking brake, low transmission pressure, low brake pressure, oscillating axle lock, outrigger position, headlights, work lights (if ordered), and hoist 3rd wrap (if ordered). Crane function indicator and turn signal indicators are also included. The load indicator display will be mounted on the top of the dash panel for direct line of sight for the operator.



*Operators control station enclosed

Includes the standard cab shell and all controls and indicators noted above, with the addition of front, rear, and right side glass, a split (two-piece) hinged door with sliding glass, front windshield wiper and washer, hot water heater and defroster with fan and cab dome light.



Electrical system

One heavy duty maintenance free 12V battery, 820CCA at $0^{\circ}F$.

I-●-I Drive

Two-wheel (front-wheel) as standard with four-wheel drive as an option. Drive axles supplied with planetary hubs and limited slip differential.

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Specifications

Carrier continued



Steer

Standard three steering modes. Front (two-wheel), four-wheel coordinated, and four-wheel crab steer with electronic self alignment. Three position rocker switch located on dash panel.

Outside Turning Radius:

Two wheel steer: 6,2 m (20 ft 4.8 in) Four wheel steer: 3,9 m (13 ft 1 in)



Suspension/axles

Front: Drive / steer in both two-wheel drive and four-wheel drive

Rear: non-drive with steer in two-wheel drive, drive/ steer in four-wheel drive.

Front axle is rigid mounted to frame. Rear axle offers 1.5° of oscillation.



Oscillation lockouts

Manual switch to engage and disengage the rear axle lockout located on dash panel. Engage if lifting over side, when on rubber, and in crab steer mode. Disengage to allow axle oscillation when traveling over rough terrain with boom directly over front.



Brakes

Hydraulic actuated internal wet-disc service brake acting on each drive wheel. Dash mounted rocker switch with indicator light for activating or release of the dry disc parking brake mounted on the transmission output yoke.



Tires

Tubeless type, semi-aggressive tread. 12.00 R20



Lights

Full LED lighting includes turn indicators, head, tail, brake, and hazard warning lights recessed mounted.



Maximum speed

33,8 km/h (21.0 mph)

Gradeability (theoretical)

68%.....(to drive train stall) NO LOAD 40%....(to drive train stall) with 9072 kg (20,000 lb) DECK LOAD

Gross vehicle weight (G.V.W.)

16 220 kg (35,758 lb) basic unit with Tier IV engine.

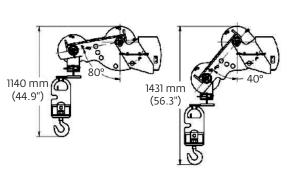
Miscellaneous standard equipment

18 t (20 USt) two-sheave low profile "galvanize coated" hook block with "quick reeve design", back-up motion alarm, outrigger motion alarm, no-skid decking, front and rear lifting, towing, and tie-down lugs.

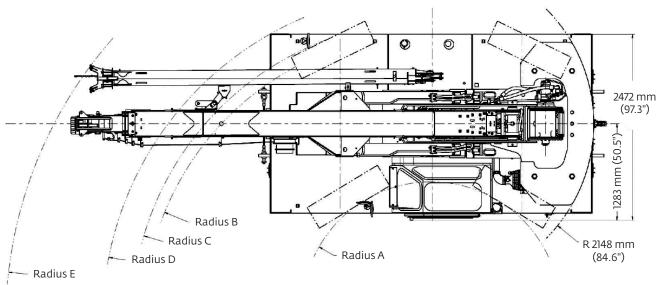
*Optional equipment

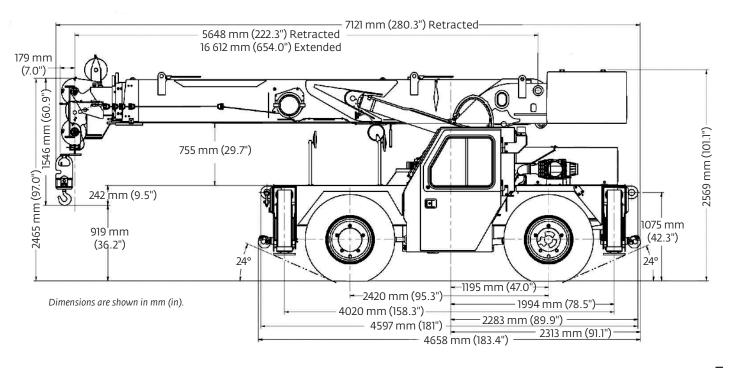
- Auxiliary Lighting: Includes cab mounted amber flashing light and dual base boom mounted LED work lights.
- Convenience Package: Includes front and rear pintle hitch, dual rear view mirrors, head and tail light metal mesh grille covers.
- Enclosed Cab Package: Includes heater and defroster, cab dome light, all window glass, and two-piece split door.
- Four-wheel drive
- Below deck hydraulic tow winch with 4536 kg (10,000 lb) capacity.
- 4,5 m (15 ft) fixed boom extension
- 4.5 m 7.6 m (15 ft 25 ft) telescopic boom
- Air conditioning (closed cab option required) Hoist third wrap indicator with hoist function
- Hoist drum rotation indicator
- 360° swing lock
- C.E. compliant package

Dimensions



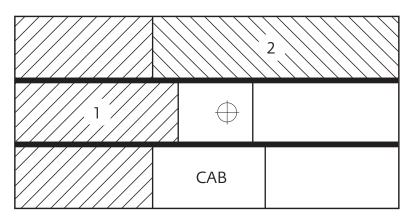
Dimensions	Dimensions											
	Α	В	С	D	E							
Two-wheel steer	eel 3375 mm	6058 mm	6218 mm	6675 mm	7407 mm							
	(11 ft 1 in)	(19 ft 10.5 in)	(20 ft 4.8 in)	(21 ft 10.8 in)	(24 ft 3.6 in)							
Four-wheel steer	1722 mm	3841 mm	3993 mm	4481 mm	5380 mm							
	(5 ft 8 in)	(12 ft 7 in)	(13 ft 1 in)	(14 ft 8 in)	(171 ft 8 in)							





Weights

LOAD DISTRIBUTION CHART



Maximum Allowable Uniformly Distributed Load

AREA1

4,01 m² (43.2 sq.ft.) 5985 kg (13,195 lb)

AREA 2

 $2,15 \text{ m}^2(23.1 \text{ sq.ft.})$ 3087 kg (6805 lb)

TOTAL

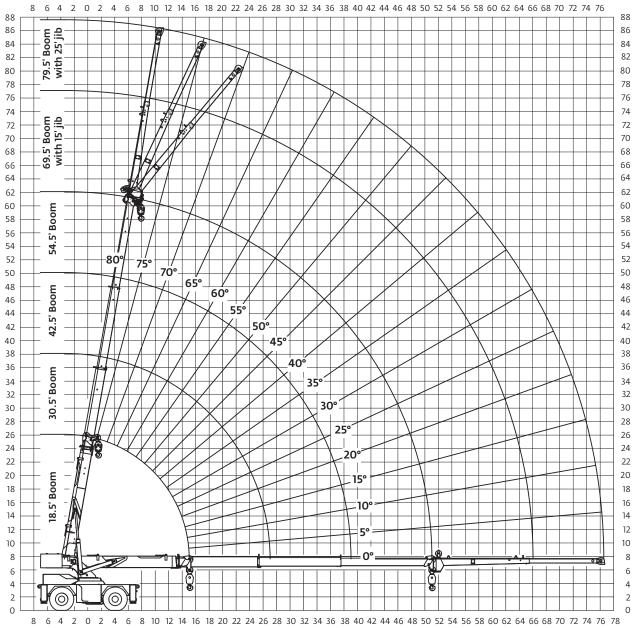
6,16 m² (66.3 sq.ft.) 9072 kg (20,000 lb)

- 1. Maximum travel speed with any or all loads 4,0 km/h (2.5 MPH)
- 2. Loads to be transported on smooth level firm surfaces only.
- 3. Boom must be retracted and in center forward position.
- 4. Any combination or total of areas 1 and 2 may be used.
- 5. Lifting is not permitted when carry deck is loaded except for loading and unloading carry deck.
- 6. Rated pick and carry loads may be transported on deck area 1 provided the load is cribbed directly on the frame rails.

Weights						
	G\	/W	Fre	ont	Re	ar
	kg	lb	kg	lb	kg	lb
Basic machine: Including 16,6 m (54.5 ft) main boom, main hoist with 97,5 m (320 ft) of wire rope, 18 t (20 USt) hook block, full counterweight, Tier IV engine	16 220	35,758	6203	13,675	10 017	22,083
Add: 4,6 m (15 ft) fixed swingaway extension and extension carrier brackets and downhaul weight	199	438	323	713	-125	-275
Crane weight	16 419	36,196	6526	14,387	9893	21,809
Basic machine: Including 16,6 m (54.5 ft) main boom, main hoist with 97,5 m (320 ft) of wire rope, 18 t (20 USt) hook block, full counterweight, Tier IV engine	16 220	35,758	6203	13,675	10 017	22,083
Add: Enclosed cab, heater and glass	84,8	187	37,1	82	47,6	105
Crane weight	16 305	35,945	6240	13,757	10 064	22,188
Basic machine: Including 16,6 m (54.5 ft) main boom, main hoist with 97,5 m (320 ft) of wire rope, 18 t (20 USt) hook block, full counterweight, Tier IV engine	16 220	35,758	6203	13,675	10 017	22,083
Add: 4,6 m - 7,6 m (15 ft - 25 ft) telescopic swingaway extension and extension carrier brackets and downhaul weight	344	758	522	1151	-178	-393
Crane weight	16 564	36,516	6725	14,826	9839	21,690

Height from the ground in feet

Range diagram



Operating radius in feet from axis of rotation

Load chart

	M Exte	AIN BO	OM LO	AD RAT	INGS Cetracted	N OUT	RIGGEF wn Front/	Rear	
	18.5 ft	ВООМ	30.5 ft	воом	42.5 ft	воом	54.5 ft BOOM		
Radius (ft)	Boom Angle (deg)	Rated Load (lb)	Boom Angle (deg)	Rated Load (lb)	Boom Angle (deg)	Rated Load (lb)	Boom Angle (deg)	Rated Load (lb)	
6	65	40000	75.5	24000	-	_	_	_	
8	57.5	33850	71.5	24000	77.5	23650	_	_	
10	49.5	30100	67.5	24000	75	21 550	79	16800	
12	39.5	26950	63	24000	72	19850	77	15350	
14	25.5	23550	58.5	24000	69_	18050	74.5	141 00	
15	0	18 900	56.5	22500	67.5	17250	73.5	13500	
16	_	_	54	21 000	66	16550	72.5	13000	
18	_	_	49	18450	63	15250	70	121 00	
20	_	_	43.5	163 00	60	14250	68	11 250	
22	_	_	37	141 50	56.5	13300	65.5	10550	
24	_	_	29.5	12250	53	12200	63	9940	
26	_	_	19	107 00	49.5	10750	60.5	9380	
27	_	_	0	10050	47.5	101 50	59.5	91 20	
28	_	_	_	_	45.5	9600	58	8880	
30	_	_	_	_	41 .5	8620	55.5	8430	
32	_	_	_	_	37	7790	53	8020	
34	_	_	_	_	31.5	7090	50	7300	
36	_	_	_	_	25	6470	47	6680	
38	_	_	_	_	16	5920	44	61 3 0	
39	_	_	_	_	0	5680	42.5	5890	
40	_	_	_	_	_	_	40.5	5650	
42	_	_	_	_	_	_	37 33	5230	
44	_	_	_	_	_	_	28.5	4850 4500	
46	_	_	_	_	_	_	28.5	4500	
48 51	_	_	_	_	_	_	0	3760	

		Retracted and Down 360									
	18.5 ft	ВООМ	30.5 ft	воом	42.5 ft	ВООМ	54.5 ft	ВООМ			
Radius (ft)	Boom Angle (deg)	Rated Load (lb)	Boom Angle (deg)	Rated Load (lb)	Boom Angle (deg)	Rated Load (lb)	Boom Angle (deg)	Rated Load (lb)			
6 8 10	65 57.5 49.5	40000 33850 24800	75.5 71.5 67.5	24000 24000 22950	- 77.5 75	23650 21100	– – 79	_ _ _ 16800			
12 14	39.5 25.5	17 900 137 50	63 58.5	17 950 14500	72 69	16750 13750	77 74.5	15350 13000			
15 16 18	0 - -	12200 - -	56.5 54 49	13 000 11 7 5 0 97 8 0	67.5 66 63	12600 11 500 9590	73.5 72.5 70	11 950 11 050 9560			
20 22	_ _	_ _	43.5 37	8250 7040	60 56.5	81 50 7 03 0	68 65.5	8360 7360			
24 26 27	_ _	_ _ _	29.5 19 0	6070 5270 4930	53 49.5 47.5	61 20 5380 5050	63 60.5 59.5	6430 5680 5350			
28 30 32	_ _	- -	_ _	- -	45.5 41.5 37	4750 4230 3780	58 55.5 53	5050 4520 4050			
34 36	_ _	_ _	_	_ _ _	31 .5 25	3380 3040	50 47	3650 3300			
38 39 40	_ 	- - -	_ _	- - -	16 0 –	2740 2600 –	44 42.5 40.5	2980 2840 271 0			
42 44	_ _	_ _	- -	- -	_ _	- -	37 33	2460 2240			
46	-	_	_	_	_	_	28.5	2030			

MAIN BOOM LOAD RATINGS ON OUTRIGGERS

SIDE 15° 15° 30° RFAR FRONT SIDE

- 1) The rated loads are the maximum lift capacities as determined by operating radius, boom length and boom angle. The operating radius is the horizontal distance from a projection of the axis of rotation to the supporting surface, before loading, to the center of vertical hoist line or tackle with load applied.
- 2) The rated loads shown on outriggers do not exceed 85% of actual tipping. The rated loads shown on rubber do not exceed 75% of actual tipping. These ratings are based on freely suspended loads with the crane leveled, standing on a firm, uniform supporting surface. Practical working loads depend on supporting surface, operating radius and other factors affecting stability. Hazardous surroundings, climatic conditions, experience of personnel and proper training must all be taken into account by the operator.
- 3) The weights of all load handling devices such as hooks, hook blocks, slings, etc., except the hoist rope, shall be considered part of the load. See above.
- 4) Ratings on outriggers are for either outriggers fully extended and down or fully retracted and down. Ratings for outriggers fully retracted and down will apply for any intermediate outrigger
- 5) Ratings on rubber depend on 12.00R20 tire capacity, condition of tires and proper inflation pressure (130 psi). Loads on rubber may be transported at a maximum seed of 2.5 mph on a smooth, hard, level surface with boom retracted to the shortest length possible and centered over front. For 360° ratings on rubber, rear axle oscillation locks must be in place. Do not use jib with crane on rubber.
- 6) For operating radius not shown, use load rating of next larger radius.
- 7) The maximum deck load only is 20,000 lb. Combined boom and deck loads are not permitted on rubber.
- 8) Do not induce any external side loads to boom or jib.

NOTES:

SHADED AREAS ARE GOVERNED BY STRUCTURAL STRENGTH, DO NOT RELY ON

OPERATION OF THIS EQUIPMENT IN EXCESS OF RATING CHARTS AND DISREGARD OF INSTRUCTIONS IS DANGEROUS AND VOIDS WARRANTY.

23

1840

1580

48

Load chart

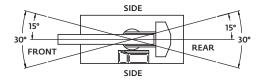
	15 FT JIB C	APACITIES O	N EXTENDED	OUTRIGGER	S					
Main		Jib Offset Angle								
Boom	0 d	leg	15	30 deg						
Angle (deg)	To 42.5 ft Main Boom	To 54.5 ft Main Boom	To 42.5 ft Main Boom	To 54.5 ft Main Boom	Any Boom Length					
80	-	ı	-	1	-					
75 70 65 60 55 50 45 40 35 30	9300 8550 7950 7400 6950 6500 5350 4550 4050 3450	6500 61 00 61 00 5650 4350 3800 3500 2800 2350 2150	7400 6950 6500 5350 4550 4050 3450 3000 3150 3000	5650 4350 3800 3500 2800 2350 2150 1900 1750 1670	3500 2800 2350 2150 1900 1750 1670 1550					
25	3300	1900	2800	1550	-					
20	3150	1750	_	_	_					
15 10	3000 2800	167 0 155 0	_	_	_					
5	-	-	-	-	_					
0	-	-	-	-	_					

	15 FT - 25 FT JIB CAPACITIES ON EXTENDED OUTRIGGERS												
		15	FT Leng	th		25 FT Length							
Main		J ib	Offset Ar	ngle			J il	Offset A	\ngle				
Boom	0 d	leg	15 (leg	30 deg	0 d	leg	15 (deg	30 deg			
Angle (deg)	To 42.5 ft Main Boom	To 54.5 ft Main Boom	To 42.5 ft Main Boom	To 54.5 ft Main Boom	Any Boom Length	To 42.5 ft Main Boom	To 54.5 ft Main Boom	To 42.5 ft Main Boom	To 54.5 ft Main Boom	Any Boom Length			
80	8500	8550	51 00	4770	3060	5830	5800	3710	3460	2200			
75	6990	6650	4400	41 00	2640	5120	4860	3190	2970	1890			
70	5940	5580	3790	3540	2290	4330	4070	2740	2560	1630			
65	51 00	4770	3270	3060	1990	3710	3460	2350	2200	141 0			
60	4400	41 00	281 0	2640	1750	3190	2970	2020	1890	1230			
55	3790	3540	2420	2290	1560	2740	2560	1730	1630	1090			
50	3270	3060	2090	1990	1430	2350	2200	1480	141 0	990			
45	2810	2640	1830	1750	1370	2020	1890	1290	1230	950			
40	2420	2290	1630	1560	1370	1730	1630	11 40	1090	950			
35	2090	1990	1490	1430	1280	1480	141 0	1040	990	900			
30	1830	1750	1440	1370	1250	1290	1230	1000	950	800			
25	1630	1560	1440	1370	_	11 40	1090	1000	950	-			
20	1490	1430	1440	1280	-	1040	990	900	900	-			
15	1440	1370	1250	1250	_	1000	950	800	800	-			
10	1440	1370	-	_	_	1000	950	-	-	-			
5	1440	1280	-	-	_	900	900	-	-	-			
0	1250	1280	-	-	-	800	800	-	-	-			

М	MAIN BOOM ON RUBBER									
	Any Boom Lengt	h								
Radius (ft)	Front Rating (lb)	360° Rating (lb)								
6 8 10 12 14 15 16 18 20 22 24 26 27 28 30 32 34 36 38 39 40 42 44 46 48 51	16000 14100 11250 9860 8700 8190 7720 6890 6180 5570 4990 4460 4220 4100 3680 3300 2950 2640 2350 2220 2160 2110 1910 1750 1350	15500 13550 10800 8880 7420 6800 6350 5890 5070 4370 3760 3250 3010 2810 2690 2580 2130 1890 1650 1540 1420 1300 1170 1030 900 730								

NOTES:
JIB CAPACITY IS LIMITED BY BOTH STRUCTURAL CAPACITY
CHART AND MAIN CAPACITY CHART.

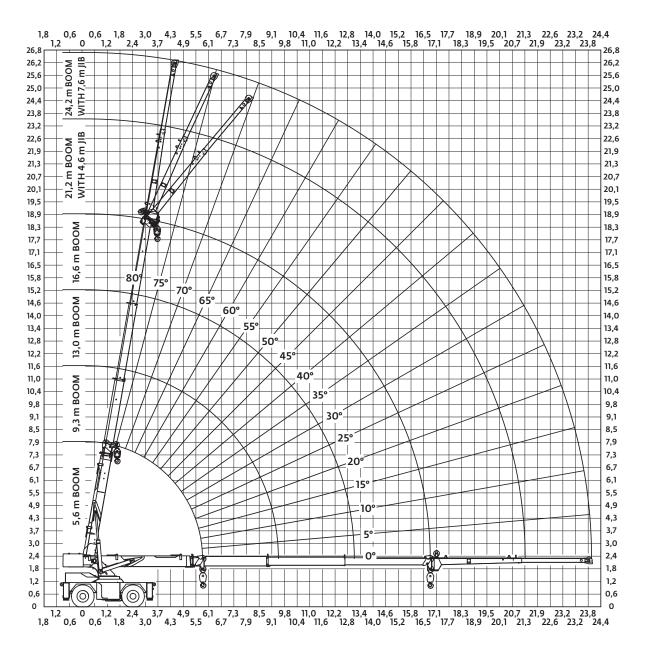
SHADED AREAS ARE GOVERNED BY STRUCTURAL STRENGTH, DO NOT RELY ON TIPPING.



- 1) The rated loads are the maximum lift capacities as determined by operating radius, boom length and boom angle. The operating radius is the horizontal distance from a projection of the axis of rotation to the supporting surface, before loading, to the center of vertical hoist line or tackle with load applied.
- 2) The rated loads shown on outriggers do not exceed 85% of actual tipping. The rated loads shown on rubber do not exceed 75% of actual tipping. These ratings are based on freely suspended loads with the crane leveled, standing on a firm, uniform supporting surface. Practical working loads depend on supporting surface, operating radius and other factors affecting stability. Hazardous surroundings, climatic conditions, experience of personnel and proper training must all be taken into account by the operator.
- 3) The weights of all load handling devices such as hooks, hook blocks, slings, etc., except the hoist rope, shall be considered part of the load. See above.

- 4) Ratings on outriggers are for either outriggers fully extended and down or fully retracted and down. Ratings for outriggers fully retracted and down will apply for any intermediate outrigger setting.
- 5) Ratings on rubber depend on 12.00R20 tire capacity, condition of tires and proper inflation pressure (130 psi). Loads on rubber may be transported at a maximum seed of 2.5 mph on a smooth, hard, level surface with boom retracted to the shortest length possible and centered over front. For 360° ratings on rubber, rear axle oscillation locks must be in place. Do not use jib with crane on rubber.
- 6) For operating radius not shown, use load rating of next larger radius.
- 7) The maximum deck load only is 20,000 lb. Combined boom and deck loads are not permitted on rubber.
- 8) Do not induce any external side loads to boom or jib.

Metric 85% range diagram

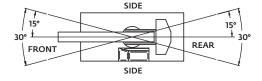


Operating radius in meters from axis of rotation

Metric 85% load chart

							TRIGGE own Fror	
	5,6 m	воом	9,3 m	воом	13,0 m	воом	16,6 m BOOM	
Radius (m)	Boom Angle (deg)	Rated Load (kg)	Boom Angle (deg)	Rated Load (kg)	Boom Angle (deg)	Rated Load (kg)	Boom Angle (deg)	Rated Load (kg)
2,0 2,4 3,0 3,7 4,3 4,6 4,9 5,5 6,1 6,7 7,3 8,2 8,5 9,8 10,4 11,6 11,9	63 58 50 38,5 24,5 0 - - - - - - - - - -	18 000 15 350 13 650 12 200 10 375 8570 — — — — — — — — —	74,5 71,5 67,5 62,5 58,5 56 53,5 49 43,5 37 29,5 19,5 0	10 875 10 875 10 875 10 875 10 875 10 200 9525 8365 7390 6360 5560 4905 4610	- 78 75 71,5 69 67,5 66 63 60 56,5 53 49,5 47,5 46 41,5 36,5 31 25	- 10 725 9775 9000 8185 7820 7505 6915 6460 6030 5555 4630 4380 3940 3510 3200 2930 2690 2590	- - 79 76,5 74,5 73,5 72,5 70 68 65,5 63 61 59,5 58,5 56 52,5 50 47 44 42,5	7620 6960 6395 6120 5895 5485 5100 4785 4505 4255 4025 3820 3625 3300 3020 2780 2670 2565
12,2 12,8		_	_	_	_		40,5 37	2370
13,4	_	_	-	_	_	-	33	2200
14,0	_	-	-	-	-	-	28,5	2045
14,6 15,5	_	_	_	_	_	_	23 0	1905 1715
13,5	_		_		_	_	U	1/15

	М	AIN BO		OAD RAT			TRIGGE	RS	
	5,6 m	воом	9,3 m	ВООМ	13,0 m	воом	16,6 m	16,6 m BOOM	
Radius (m)	Boom Angle (deg)	Rated Load (kg)	Boom Angle (deg)	Rated Load (kg)	Boom Angle (deg)	Rated Load (kg)	Boom Angle (deg)	Rated Load (kg)	
2,0 2,4 3,0 3,7 4,3 4,6 4,9 5,5 6,1 6,7 7,9 8,2 8,5 9,1 9,8 10,4 11,0 11,6 11,9 12,2 12,2 13,4 14,0 14,0 15,5	63 58 50 38,5 24,5 0 - - - - - - - - - - -	18 000 15 350 11 550 7955 6150 5550 	74,5 71,5 67,5 62,5 58,5 56 53,5 49 43,5 37 29,5 19,5 0	10 875 10 875 10 875 10 550 7955 6455 5805 5255 4380 3715 3195 2780 2425 2270	- 78 75 71,5 69 67,5 66 63 60 56,5 53 49,5 41,5 31 25 15,5 0 - - -	- 10 725 9695 7430 6145 5635 5170 4330 3695 3200 2795 2460 2315 2185 1950 1715 1540 1390 1255 1200 	- 79 76,5 74,5 73,5 72,5 70 68 65,5 63 61 59,5 58,5 56 52,5 50 47 44 42,5 40,5 37 33 28,5 23 0	- 7620 6960 5810 5350 4950 4285 3755 3310 2900 2565 2420 2285 2045 1805 1625 1470 1335 1270 1100 11005 915 830 725	



- 1) The rated loads are the maximum lift capacities as determined by operating radius, boom length and boom angle. The operating radius is the horizontal distance from a projection of the axis of rotation to the supporting surface, before loading, to the center of vertical hoist line or tackle with load applied.
- 2) The rated loads shown on outriggers do not exceed 85% of actual tipping. The rated loads shown on rubber do not exceed 75% of actual tipping. These ratings are based on freely suspended loads with the crane leveled, standing on a firm, uniform supporting surface. Practical working loads depend on supporting surface, operating radius and other factors affecting stability. Hazardous surroundings, climatic conditions, experience of personnel and proper training must all be taken into account by the operator.
- 3) The weights of all load handling devices such as hooks, hook blocks, slings, etc., except the hoist rope, shall be considered part of the load. See reduction chart.
- 4) Ratings on outriggers are for either outriggers fully extended and down or fully retracted and down. Ratings for outriggers fully retracted and down will apply for any intermediate outrigger setting.
- 5) Ratings on rubber depend on 12.00R20 tire capacity, condition of tires and proper inflation pressure (8,96 bar). Loads on rubber may be transported at a maximum seed of 4,0 km/h on a smooth, hard, level surface with boom retracted to the shortest length possible and centered over front. For 360° ratings on rubber, rear axle oscillation locks must be in place. Do not use jib with crane on rubber.
- 6) For operating radius not shown, use load rating of next larger radius.
- 7) The maximum deck load only is 9072 kg. Combined boom and deck loads are not permitted on rubber.
- 8) Do not induce any external side loads to boom or jib.

NOTES: SHADED AREAS ARE GOVERNED BY STRUCTURAL STRENGTH, DO NOT RELY ON TIPPING.

Metric 85% load chart

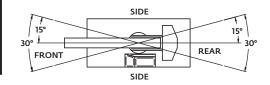
	4,6 m FIXED J IB CAPACITIES ON EXTENDED OUTRIGGGERS (kg)											
Main		,	lib Offset Angle	<u>:</u>								
Boom	0 d	leg	15 d	30 deg								
Angle (deg)	To 13,0 m Main Boom	To 16,6 m Main Boom	To 13,0 m Main Boom	To 16,6 m Main Boom	Any Boom Length							
80	-	-	-	-	-							
75	4215	2945	3355	2560	1585							
70	3875	2765	3150	1970	1270							
65	3605	2765	2945	1720	1065							
60	3355	2560	2425	1585	975							
55	3150	1970	2060	1270	860							
50	2945	1720	1835	1065	790							
45	2425	1585	1565	975	760							
40	2060	1270	1495	860	700							
35	1835	1065	1425	790	_							
30	1565	975	1360	760	_							
25	1495	860	1270	700	_							
20	1425	790	_	_	_							
15	1360	760	_	_	_							
10	1270	700	-	_	_							
5	_	_	-	_	_							
0	_	_	_	_	-							

Angle (deg) To 13,0 m Main Boom To 16,6 m Main Boom Any Main Boom Main Main Boom												
Main Boom Jib Offset Angle Boom Angle (deg) 15 deg 30 deg 0 deg 15 deg 30 deg Main Boom Boom Boom Boom Boom Boom Boom Boo		4,6 m -	7,6 m T	ELE JIB	CAPAC	ITIES O	N EXTE	NDED C	UTRIG	GGERS	(kg)	
Boom			4,6	m Len	gth		7,6 m Length					
Angle (deg) To 13,0 m Main Boom To 16,6 m Boom Any Main Boom To 13,0 m Boom To 16,6 m Boom Any Main Boom To 13,0 m Boom To 16,6 m Boom Any Main Boom To 16,6 m Boom To 16,6 m Boom Any Main Boom Main Boom To 16,6 m Boom Any Main Boom Main Boom To 16,6 m Boom Any Main Boom Any Main Boom	Main	Jib Offset Angle						Jit	Offset A	ngle		
(deg) Main Boom Ma	Boom	0 0	leg	15 c	leg	30 deg	0 0	leg	15 c	deg	30 deg	
75 3170 3015 1995 1860 1195 2320 2200 1445 1345 855 70 2690 2530 1715 1605 1035 1960 1845 1240 1160 735 65 2310 2160 1480 1385 900 1680 1565 1995 640 60 1995 1860 1275 1195 790 1445 1345 915 855 555 55 1715 1605 1095 1035 705 1240 1160 785 735 490 50 1480 1385 945 900 645 1065 995 670 640 445 45 1275 1195 830 790 620 915 855 585 555 430 40 1095 1035 735 705 620 785 735 515 490 430 33		Main	Main	Main	Main	Main	Main	Main	Main	Main	Main	
70 2690 2530 1715 1605 1035 1960 1845 1240 1160 735 65 2310 2160 1480 1385 900 1680 1565 1065 995 640 60 1995 1860 1275 1195 790 1445 1345 915 855 555 55 1715 1605 1095 1035 705 1240 1160 785 735 490 50 1480 1385 945 900 645 1065 995 670 640 445 45 1275 1195 830 790 620 915 855 585 555 430 40 1095 1035 735 705 620 785 735 515 490 430 35 945 900 675 645 580 670 640 470 445 405												
60 1995 1860 1275 1195 790 1445 1345 915 855 555 55 1715 1605 1095 1035 705 1240 1160 785 735 490 50 1480 1385 945 900 645 1065 995 670 640 445 45 1275 1195 830 790 620 915 855 585 555 430 40 1095 1035 735 705 620 785 735 515 490 430 35 945 900 675 645 580 670 640 470 445 405 30 830 790 650 620 565 585 555 450 430 360 25 735 705 650 620 565 585 555 450 430 - 20	70	2690	2530	1715	1605	1035	1960	1845	1240	1160	735	
55 1715 1605 1095 1035 705 1240 1160 785 735 490 50 1480 1385 945 900 645 1065 995 670 640 445 45 1275 1195 830 790 620 915 855 585 555 430 40 1095 1035 735 705 620 785 735 515 490 430 35 945 900 675 645 580 670 640 470 445 405 30 830 790 650 620 565 585 555 450 430 360 25 735 705 650 620 565 585 555 450 430 360 25 735 705 650 620 - 515 490 450 430 - 20 67												
45 1275 1195 830 790 620 915 855 585 555 430 40 1095 1035 735 705 620 785 735 515 490 430 35 945 900 675 645 580 670 640 470 445 405 30 830 790 650 620 565 585 555 450 430 360 25 735 705 650 620 - 515 490 450 430 - 20 675 645 650 580 - 470 445 405 405 - 15 650 620 565 565 - 450 430 360 360 - 10 650 620 - - - 450 430 - - - - - - -							-					
40 1095 1035 735 705 620 785 735 515 490 430 35 945 900 675 645 580 670 640 470 445 405 30 830 790 650 620 565 585 555 450 430 360 25 735 705 650 620 - 515 490 450 430 - 20 675 645 650 580 - 470 445 405 - 115 650 620 565 565 - 450 430 360 360 - 10 650 620 - - - 450 430 - - - 5 650 580 - - 450 430 - - - - 5 650 580 - -												
35 945 900 675 645 580 670 640 470 445 405 30 830 790 650 620 565 585 555 450 430 360 25 735 705 650 620 — 515 490 450 430 — 20 675 645 650 580 — 470 445 405 — 15 650 620 565 565 — 450 430 360 360 — 10 650 620 — — — 450 430 — — — 5 650 580 — — — 405 405 — — —												
30 830 790 650 620 565 585 555 450 430 360 25 735 705 650 620 - 515 490 450 430 - 20 675 645 650 580 - 470 445 405 405 - 15 650 620 565 565 - 450 430 360 360 - 10 650 620 - - - 450 430 - - - 5 650 580 - - - 405 405 - - -												
20 675 645 650 580 - 470 445 405 405 - 15 650 620 565 565 - 450 430 360 360 - 10 650 620 - - - 450 430 - - - 5 650 580 - - - 405 405 - - -										-		
15 650 620 565 565 - 450 430 360 360 - 10 650 620 - - - 450 430 - - - 5 650 580 - - - 405 405 - - -						-					_	
10 650 620 — — — 450 430 — — — 5 650 580 — — — 405 405 — — —						_		-			-	
5 650 580 405 405					- 202				- 300	- 300		
0 565 565 -				-	-	_			_	-	_	
	0	565	565	-	-	-	360	360	_	-	-	

MAIN BOOM ON RUBBER								
	Any Boom Length							
Radius (m)	Front Rating (kg)	360° Rating (kg)						
2,0 2,4 3,0 3,7 4,3 4,9 5,5 6,1 6,7 7,9 8,2 8,5 10,4 11,0 11,6 11,9 12,2 12,8 13,4 14,0 14,6 15,5	6965 6395 5100 4470 3945 3715 3500 3125 2800 2525 2260 2020 1910 1860 1665 1495 1335 1195 1065 1005 980 955 865 780 700 590	6735 6145 4895 4895 4025 3365 3080 2880 2670 2300 1980 1705 1470 1365 1275 1220 1170 965 855 745 695 640 590 530 465 405 330						

NOTES:
JIB CAPACITY IS LIMITED BY BOTH STRUCTURAL
CAPACITY CHART AND MAIN CAPACITY CHART.

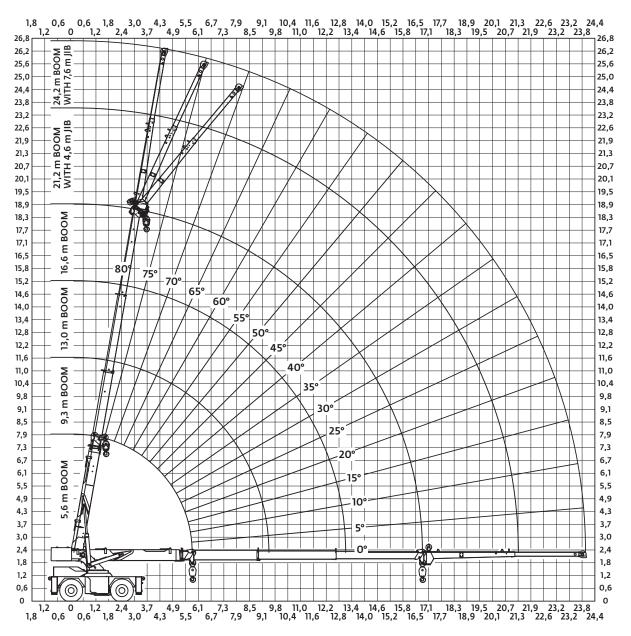
SHADED AREAS ARE GOVERNED BY STRUCTURAL STRENGTH, DO NOT RELY ON TIPPING.



- 1) The rated loads are the maximum lift capacities as determined by operating radius, boom length and boom angle. The operating radius is the horizontal distance from a projection of the axis of rotation to the supporting surface, before loading, to the center of vertical hoist line or tackle with load applied.
- 2) The rated loads shown on outriggers do not exceed 85% of actual tipping. The rated loads shown on rubber do not exceed 75% of actual tipping. These ratings are based on freely suspended loads with the crane leveled, standing on a firm, uniform supporting surface. Practical working loads depend on supporting surface, operating radius and other factors affecting stability. Hazardous surroundings, climatic conditions, experience of personnel and proper training must all be taken into account by the operator.
- 3) The weights of all load handling devices such as hooks, hook blocks, slings, etc., except the hoist rope, shall be considered part of the load. See reduction chart.

- 4) Ratings on outriggers are for either outriggers fully extended and down or fully retracted and down. Ratings for outriggers fully retracted and down will apply for any intermediate outrigger setting.
- 5) Ratings on rubber depend on 12.00R20 tire capacity, condition of tires and proper inflation pressure (8,96 bar). Loads on rubber may be transported at a maximum seed of 4,0 km/h on a smooth, hard, level surface with boom retracted to the shortest length possible and centered over front. For 360° ratings on rubber, rear axle oscillation locks must be in place. Do not use jib with crane on rubber.
- 6) For operating radius not shown, use load rating of next larger radius.
- 7) The maximum deck load only is 9072 kg. Combined boom and deck loads are not permitted on rubber.
- 8) Do not induce any external side loads to boom or jib.

DIN/ISO range diagram



Operating radius in meters from axis of rotation

DIN/ISO load chart

	MAIN BOOM LOAD RATINGS ON OUTRIGGERS Extended and Down 360° or Retracted and Down Front/Rear							
	5,6 m	5,6 m BOOM 9,3 m BOOM 13,0 m BC		9,3 m BOOM		воом	16,6 m	воом
Radius (m)	Boom Angle (deg)	Rated Load (kg)	Boom Angle (deg)	Rated Load (kg)	Boom Angle (deg)	Rated Load (kg)	Boom Angle (deg)	Rated Load (kg)
2,0 2,4 3,0 3,7 4,3 4,6 4,9 5,5 6,7 7,3 7,9 8,5 9,1 9,8 10,4 11,0 11,0 11,0 11,9 12,8 13,4 14,6 14,6 15,5	63 58 50 38,5 24,5 0 - - - - - - - - - - -	18 000 15 350 13 650 12 200 10 375 8570 - - - - - - - - - - - - - - - - - - -	74,5 71,5 67,5 62,5 58,5 56 53,5 49 43,5 37 29,5 19,5 0	10 875 10 875 10 875 10 875 10 875 10 425 9770 8975 7890 6880 5910 5145 4525 4250 	- 78 75 71,5 69 67,5 66 63 60 56,5 53 49,5 47,5 46 41,5 36,5 31 25 15,5 0	- 10 725 9775 9000 8185 7820 7505 6915 6460 5920 5155 4545 4285 4045 3635 3230 2930 2675 2450 2355 - -	- - 79 76,5 74,5 73,5 72,5 70 68 65,5 63 61 59,5 56 52,5 50 47 44 42,5 40,5 33 28,5 23 0	7620 6960 6395 6120 5895 5485 5100 4785 4505 4255 4135 4025 3710 3305 3005 2750 2525 2430 2150 1990 1845 1710

	MAIN BOOM LOAD RATINGS ON OUTRIGGERS Retracted and Down 360°							
	5,6 m BOOM		9,3 m BOOM 13,0		13,0 m	воом	16,6 m BOOM	
Radius (m)	Boom Angle (deg)	Rated Load (kg)	Boom Angle (deg)	Rated Load (kg)	Boom Angle (deg)	Rated Load (kg)	Boom Angle (deg)	Rated Load (kg)
2,0 2,4 3,0 4,6 4,9 5,5 6,1 6,7 7,9 8,5 9,1 8,5 10,4 11,0 11,6 11,9 12,2 12,8 13,4	63 58 50 38,5 24,5 0 - - - - - - - - - - -	18 000 14 825 10 725 7955 6150 5550 - - - - - - - - - - - - - - - -	74,5 71,5 67,5 62,5 58,5 56 53,5 49 43,5 37 29,5 19,5 0	10 875 10 875 9535 7320 6050 5595 5110 4380 3715 3195 2780 2425 2270 - - - - - - -	- 78 75 71,5 69 67,5 66 63 60 56,5 53 49,5 46 41,5 36,5 31 25 15,5 0	- 10 725 8570 6705 5610 5215 4790 4155 3645 3200 2795 2460 2315 2185 1950 1715 1540 1390 1255 1200	- - - 79 76,5 74,5 73,5 70 68 65,5 63 61 59,5 58,6 52,5 50 47 44 42,5 40,5 37 33 28,5	7620 6185 5225 4870 4490 3915 3455 3070 2750 2480 2355 2240 2035 1805 1625 1470 1335 1270 1100 1100 1005 915
14,6 15,5	_	_	_	_	_	_	23 0	830 725

1) The rated loads are the maximum lift capacities as determined by operating radius, boom length and boom angle. The operating radius is the horizontal distance from a projection of the axis of rotation to the supporting surface, before loading, to the center of vertical hoist line or tackle with load applied.

2) The rated loads shown on outriggers do not exceed 80% of actual tipping. The rated loads shown on rubber do not exceed 75% of actual tipping. These ratings are based on freely suspended loads with the crane leveled, standing on a firm, uniform supporting surface. Practical working loads depend on supporting surface, operating radius and other factors affecting stability. Hazardous surroundings, climatic conditions, experience of personnel and proper training must all be taken into account by the operator.

3) The weights of all load handling devices such as hooks, hook blocks, slings, etc., except the hoist rope, shall be considered part of the load. See reduction chart.

4) Ratings on outriggers are for either outriggers fully extended and down or fully retracted and down. Ratings for outriggers fully retracted and down will apply for any intermediate outrigger setting.

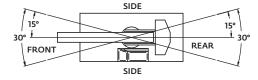
5) Ratings on rubber depend on 12.00R20 tire capacity, condition of tires and proper inflation pressure (8,96 bar). Loads on rubber may be transported at a maximum seed of 4,0 km/h on a smooth, hard, level surface with boom retracted to the shortest length possible and centered over front. For 360° ratings on rubber, rear axle oscillation locks must be in place. Do not use jib with crane on rubber.

6) For operating radius not shown, use load rating of next larger radius.

7) The maximum deck load only is 9072 kg. Combined boom and deck loads are not permitted on rubber

8) Do not induce any external side loads to boom or iib

NOTES: SHADED AREAS ARE GOVERNED BY STRUCTURAL STRENGTH, DO NOT RELY ON TIPPING.



DIN/ISO load chart

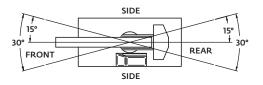
	4,6mFIXED JIB CAPACITIES ON EXTENDED OUTRIGGGERS (kg)								
Main	Jib Offset Angle								
Boom	0 d	leg	15 d	15 deg					
Angle (deg)	To 13,0 m Main Boom	To 16,6 m Main Boom	To 13,0 m Main Boom	To 16,6 m Main Boom	Any Boom Length				
80	_	_	_	_	_				
75	4215	2945	3355	2560	1585				
70	3875	2765	3150	1970	1270				
65	3605	2765	2945	1720	1065				
60	3355	2560	2425	1585	975				
55	3150	1970	2060	1270	860				
50	2900	1720	1835	1065	790				
45	2425	1585	1565	975	760				
40	2060	1270	1495	860	700				
35	1835	1065	1425	790	_				
30	1565	975	1360	760	_				
25	1465	860	1270	700	_				
20	1425	790	_	-	l –				
15	1360	760	_	_	_				
10	1270	700	_	_	_				
5	-	_	-	_	-				
0	_	_	_	_	_				

	4,6 m - 7,6 m TELE JIB CAPACITIES ON EXTENDED OUTRIGGGERS (kg)									
	4,6 m Length						7,	6 m Ler	igth	
Main	Jib Offset Angle					Jib Offset Angle				
Boom	0 0	leg	15 c	leg	30 deg	0 0	leg	15 c	leg	30 deg
Angle (deg)	To 13,0 m Main Boom	To 16,6 m Main Boom	To 13,0 m Main Boom	To 16,6 m Main Boom	Any Main Boom	To 13,0 m Main Boom	To 16,6 m Main Boom	To 13,0 m Main Boom	To 16,6 m Main Boom	Any Main Boom
80 75 70 65 60 55 50 45 40 35	3855 3170 2690 2310 1995 1715 1480 1275 1095 945 830	3875 3015 2530 2160 1860 1605 1385 1195 1035 900 790 705	2310 1995 1715 1480 1275 1095 945 830 735 675 650	2160 1860 1605 1385 1195 1035 900 790 705 645 620	1385 1195 1035 900 790 705 645 620 620 580 565	2640 2320 1960 1680 1445 1240 1065 915 785 670 585	2630 2200 1845 1565 1345 1160 995 855 735 640 555 490	1680 1445 1240 1065 915 785 670 585 515 470 450	1565 1345 1160 995 855 735 640 555 490 445	995 855 735 640 555 490 445 430 430 405 360
25 20 15 10 5 0	735 675 650 650 650 565	645 620 620 580 565	650 650 565 – –	620 580 565 – –	- - - - -	515 470 450 450 405 360	490 445 430 430 405 360	450 405 360 — — —	430 405 360 – –	- - - - -

MAIN BOOM ON RUBBER								
	Any Boom Length							
Radius (m)	Front Rating (kg)	360° Rating (kg)						
2,0 2,4 3,0 3,7 4,3 4,6 4,9 5,5 6,1 6,7 7,3 8,2 8,5 9,1 9,8 10,4 11,0 11,9 12,2 12,8 13,4 14,6 14,6	6965 6395 5100 4470 3945 3715 3500 3125 2800 2525 2195 1910 1785 1725 1605 1405 1260 1130 1015 965 930 865 780 705 640	6735 6145 4895 4025 3365 3080 2880 2670 2300 1980 1705 1470 1365 1275 1220 1170 965 855 745 695 640 590 530 465 405						

JIB CAPACITY IS LIMITED BY BOTH STRUCTURAL CAPACITY CHART AND MAIN CAPACITY CHART.

SHADED AREAS ARE GOVERNED BY STRUCTURAL STRENGTH, DO NOT RELY ON TIPPING.

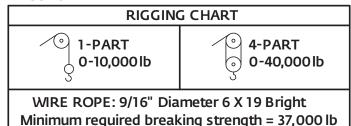


- 1) The rated loads are the maximum lift capacities as determined by operating radius, boom length and boom angle. The operating radius is the horizontal distance from a projection of the axis of rotation to the supporting surface, before loading, to the center of vertical hoist line or tackle with load applied.
- 2) The rated loads shown on outriggers do not exceed 80% of actual tipping. The rated loads shown on rubber do not exceed 75% of actual tipping. These ratings are based on freely suspended loads with the crane leveled, standing on a firm, uniform supporting surface. Practical working loads depend on supporting surface, operating radius and other factors affecting stability. Hazardous surroundings, climatic conditions, experience of personnel and proper training must all be taken into account by the operator.
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- 4) Ratings on outriggers are for either outriggers fully extended and down or fully retracted and down. Ratings for outriggers fully retracted and down will apply for any intermediate outrigger setting.
- 5) Ratings on rubber depend on 12.00R20 tire capacity, condition of tires and proper inflation pressure (8,96 bar). Loads on rubber may be transported at a maximum seed of 4,0 km/h on a smooth, hard, level surface with boom retracted to the shortest length possible and centered over front. For 360° ratings on rubber, rear axle oscillation locks must be in place. Do not use jib with crane on rubber.
- 6) For operating radius not shown, use load rating of next larger radius.
- 7) The maximum deck load only is 9072 kg. Combined boom and deck loads are not permitted on rubber.
- 8) Do not induce any external side loads to boom or jib.

Rigging chart

YB5520



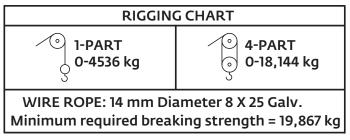
MAXIMUM PERMISSIBLE SINGLE LINE PULL = 10,000 lb

YB5520 (Metric 85%)



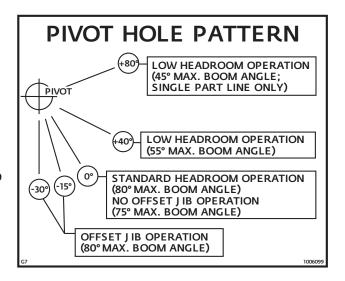
MAXIMUM PERMISSIBLE SINGLE LINE PULL = 4536 kg

YB5520 (DIN/ISO)

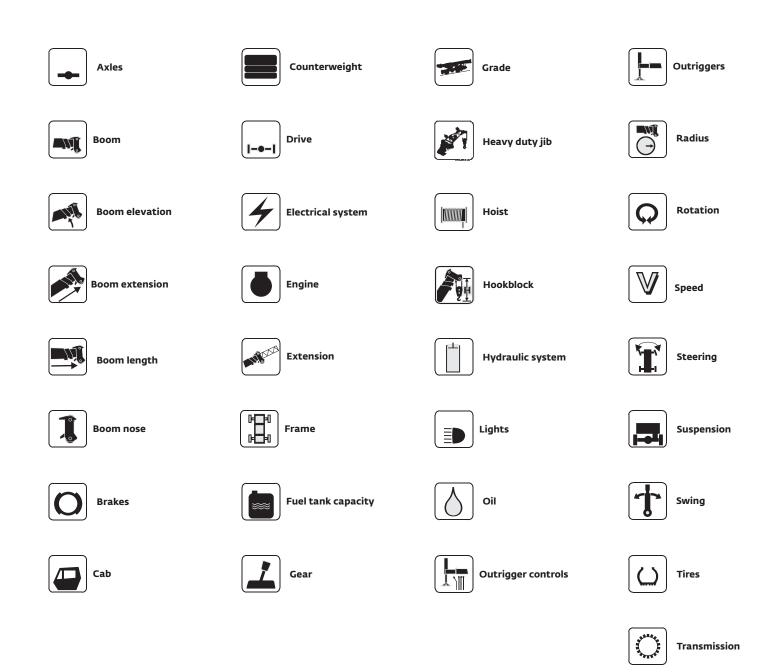


MAXIMUM PERMISSIBLE SINGLE LINE PULL = 4536 kg

Rating reductions for load handling devices installed kg (lb)						
	From main boom	From jib				
Main block	161 kg (356 lb)*	Not applicable				
Hook and ball	48 kg (105 lb) *	48 kg (105 lb)				
Jib stowed	No reduction	Not applicable				
4,6 m (15 ft) jib deployed	317 kg (700 lb)	No reduction				
4,6 m - 7,6 m (15 ft - 25 ft) jib deployed	544 kg (1200 lb)	No reduction				
*Refer to rating plate for actual weight						



Symbols glossary



Grove YB5520 19



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