



Grove Maniowoc National Crane Potain



Shuttlelift CD7725

Product Guide



Features

- 22 t (25 USt) capacity
- 21,6 m (71 ft) four-section full power boom
- 13,6 t (15 USt) deck carrying capacity
- Tilt steering wheel
- Load sensing piston hydraulic pump
- Proportional hydraulic controls





Features



Split door design

The “new” split door design, offered with the optional enclosed cab, allows for the top half to be left open while keeping the bottom half closed for safety.



Operator cab

Hydraulic proportional joystick controls, automotive dash layout, tilt steering wheel, and suspension seat enhances operator comfort and ease of use.



The reach and capacity to get the job done

A 5,1 m (17 ft) swingaway extension added to the 21,6 m (71 ft) main boom provides an impressive 28,9 m (95 ft) tip height with a capacity of 2268 kg (5000 lb). A galvanized down-haul ball is included with the extension.



Hook block

A galvanized coated hook block is provided as standard to help eliminate rusting of this important crane component.



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Specifications

Superstructure



Boom

7,21 m – 21,6 m (23 ft 8 in - 71 ft) full power main boom. Four-section boom with three (3) powered sections.

Maximum tip height: 24,0 m (79 ft).



*Offsettable swingaway extension

5,1 m (17 ft) offsettable swingaway extension. Offsets 0°, 15°, and 30° via pivoting boom nose. Stows alongside base boom section.

Maximum tip height: 28,9 m (95 ft).



Boom nose

Two nickel plated steel sheaves mounted on heavy duty tapered roller bearings with removable pin-type rope guards. Quick reeve type boom nose with four-position (0°, +30°, +60°, and +80°) pivoting to minimize head height requirements. Lowers head height by 0,6 m (2 ft).



Boom elevation

Two double acting hydraulic cylinders with integral holding valves provides elevation from -0° to +80°.



Anti-two block device

Standard anti-two block device, which, when activated, provides an audible warning to the operator and “locks-out” all functions whose movement can cause two-blocking.



Load indicator (LSI)

A simple effective and easy to use load 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 hook load and cuts-out the telescope and boom lift down function when a load limit is exceeded. The warning is by a flashing light on the display panel. In conjunction with the load display panel (receiver) there is a wireless transmitter and load sensing pin attached to the boom head that transmits the hook load to the display panel.

(wireless system)



*Rated Capacity Limiter (RCL)

Similar to the Load Indicator System, the Rated Capacity Limiter uses a similar display panel (receiver) with the addition of displaying boom angle and boom length read-outs on the panel.

(wireless system)



*Load Moment Indicator (LMI)

“Graphics Display” of boom angle, boom length, boom radius, capacity, and allows for 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.

(hardwired system)



Swing

Ball bearing swing circle with 360° continuous rotation. Hydraulic motor driven pinion with brake. Maximum speed: 2.5 rpm



Hydraulic system

One pressure compensated variable displacement axial piston pump with load sensing combined with two (2) gear pumps.

Maximum output of: 238 LPM (79 GPM).

Maximum operating pressure: 248 bars (3600 psi).

Six section valve bank, chassis mounted, operated via dash mounted, pilot pressure hydraulic joysticks. 227 L (60 gal) hydraulic reservoir with sight level gauge and steel side plating to guard against side impacts.

10 micron return line filter with full flow by-pass protection and service indicator.



Specifications

Superstructure continued



Hoist specifications

Piston motor driven with automatic spring applied / hydraulically released wet brake.

Maximum hoist pull (first layer): 6804 kg (15,000 lb)

Maximum permissible single line pull:
5670 kg (12,500 lb) (3.5:1 design factor)

Maximum single line speed: 61 m/min (200 fpm)

Rope construction: 6X19 XIPS/IWRC

Rope diameter: 16 mm (5/8 in)

Rope length:
Main hoist: 119 m (390 ft)

Maximum rope stowage:
Main hoist: 151 m (495 ft)

Carrier



Chassis

High strength alloy frame constructed with integral outrigger housings; front and rear lifting, tie-down, and towing lugs. 60 ft² carrydeck size with 13 608 kg (30,000 lb) deck only carrying capacity. Deck coated with anti-skid treatment.



Outriggers

Two-stage hydraulic telescoping beam with vertical jack at the four corners provides extended and down and retracted and down lifting capacities. Integral holding valves on both beam and jack cylinders.

Outrigger pad size:
29,2 cm x 29,2 cm (11.5 in x 11.5 in)

Maximum outrigger pad load:
20 321 kg (44,800 lb) / 339 p.s.i.



Outrigger controls

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



Standard engine (Tier III)

Cummins QSB 4.5L, four cylinders / turbo-charged diesel rated at 974 kW (130 bhp) (Gross) at 2500 rpm. Standard 110V engine block heater and cold weather "ether" assist system. Engine hour meter located inside operators compartment.

Maximum torque: 370 N-m (273 ft lb) at 2500 rpm.



Fuel tank capacity

189 L (50 gal)



Transmission

Powershift with four speeds forward and reverse. Stalk mounted direction shifter with rotary gear selection.



Operators control station

Frame mounted, open air style control station with cab shell includes all crane functions, driving controls, and overhead safety glass. Other standard equipment includes a suspension seat with seat belt, hourmeter, sight level bubble, and 2.5lb (1.1kg) fire extinguisher. The dash panel includes a multi-cluster gauge showing fuel, water temperature, oil pressure, and battery voltage. An engine monitoring indicator strip shows engine warning, stop engine, transmission low pressure, transmission high temperature, and low brake system pressure. The load indicator receiver is mounted to the top of the dash panel.



*Operators control station enclosed

Includes the standard cab shell with the addition of front, rear, and right side glass, a split (2 piece) hinged door with sliding glass, front windshield wiper and washer, hot water heater and defroster with fan and cab dome light are included.



Specifications

Carrier continued



Electrical system

Two 12V maintenance-free batteries, 820CCA at 0°. 63 amp alternator.



Drive

2 wheel (rear drive) or 4 wheel selection, front and rear axle drive with planetary hubs and limited slip differential.



Steer

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

Outside turning radius:

Two-wheel steer: 7,32 m (24 ft)

Four-wheel steer: 4,04 m (13 ft 3 in)



Suspension/axles

Front: Drive/steer with differential and planetary reduction hubs, axle is rigid mounted to frame.

Rear: Drive/steer with differential and planetary reduction hubs, axle is pivot mounted to frame allows up to 3.5° of oscillation.



Oscillation lockouts

Manual switch to engage and disengage the rear axle lockouts. Engage when lifting on rubber and in crab steer mode, Disengage to allow oscillation when traveling over rough terrain.



Brakes

Hydraulic actuated internal wet-disc service brake acting on all four wheels. Dash mounted toggle switch with light for activating or release of the dry disc parking brake mounted on the transmission output yoke .



Tires

Standard: 17.5 x 25 Bias

Optional: 17.5R25 radials



Lights

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



Maximum speed

31,3 km/h (19.5 MPH)



Gradeability (theoretical)

63%..... (at engine stall) NO LOAD

38%.....(at engine stall) with 13 608 kg (30,000 lb) DECK LOAD

Gross vehicle weight (G.V.W.)

Open cab: 19 786 kg (43,620 lb)

Closed cab: 20 285 kg (44,720 lb)

Miscellaneous standard equipment

22 t (25 USt) Two sheave "galvanize coated" hookblock, with "Quick Reeve".

Back-up motion alarm

Outrigger motion alarm

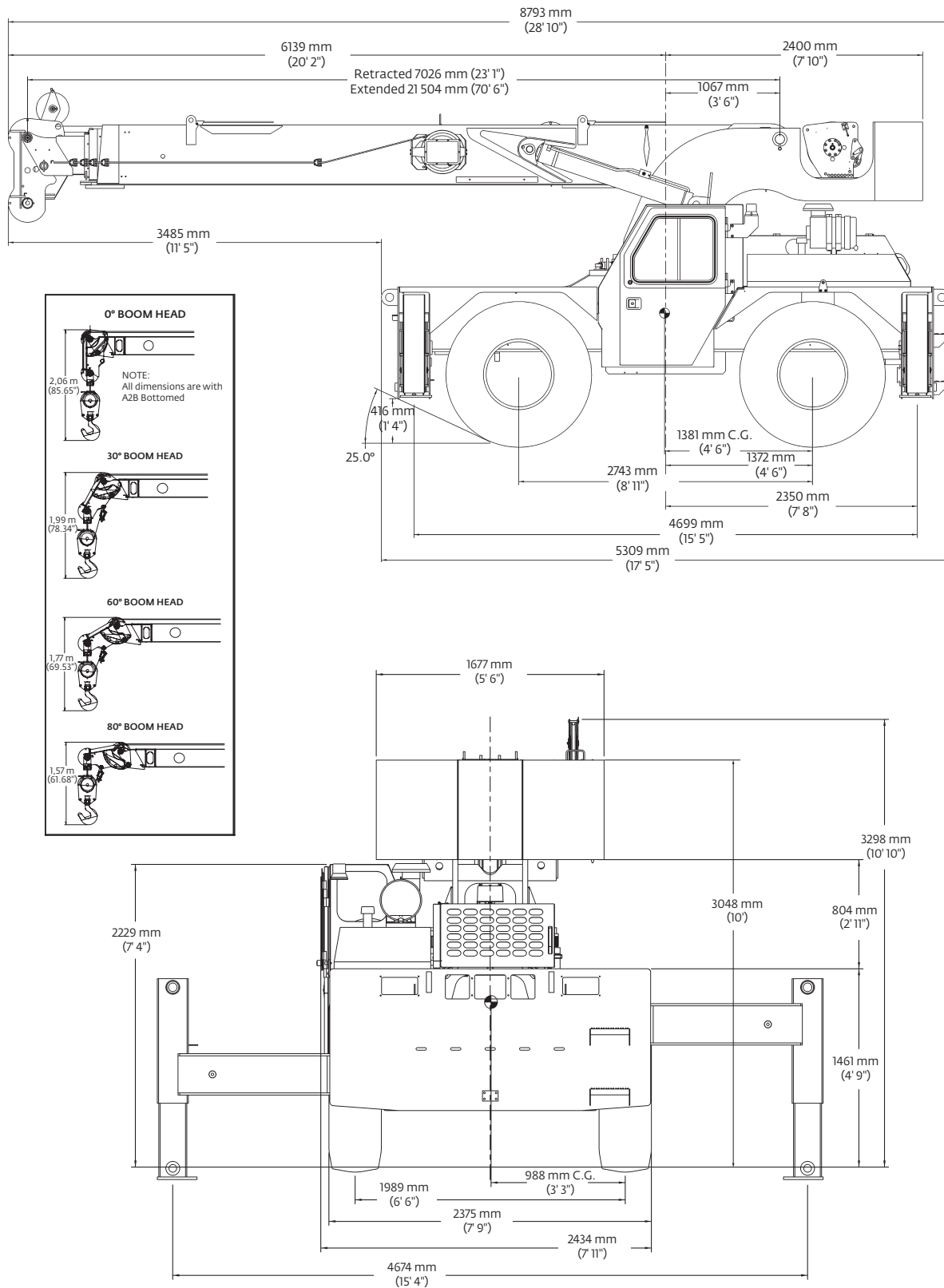
Dual rear-view mirrors

*Optional equipment

- ▶ **AUXILIARY LIGHTING:** includes cab mounted amber flashing light, dual base boom mounted floodlights
- ▶ **CONVENIENCE PACKAGE:** includes front and rear pintle hitch and headlight/taillight grille covers
- ▶ **ENCLOSED CAB PACKAGE:** includes heater and defroster, cab dome light, all window glass, and two piece split door
- ▶ 5,2m (17 ft) fixed extension
- ▶ Air conditioner
- ▶ Catalytic convertor
- ▶ Hoist drum rotation indicator
- ▶ Wire rope 3rd wrap indicator with hoist function cut-out
- ▶ 3629 kg (8000 lb) below deck mounted tow winch
- ▶ Foam – filled tires

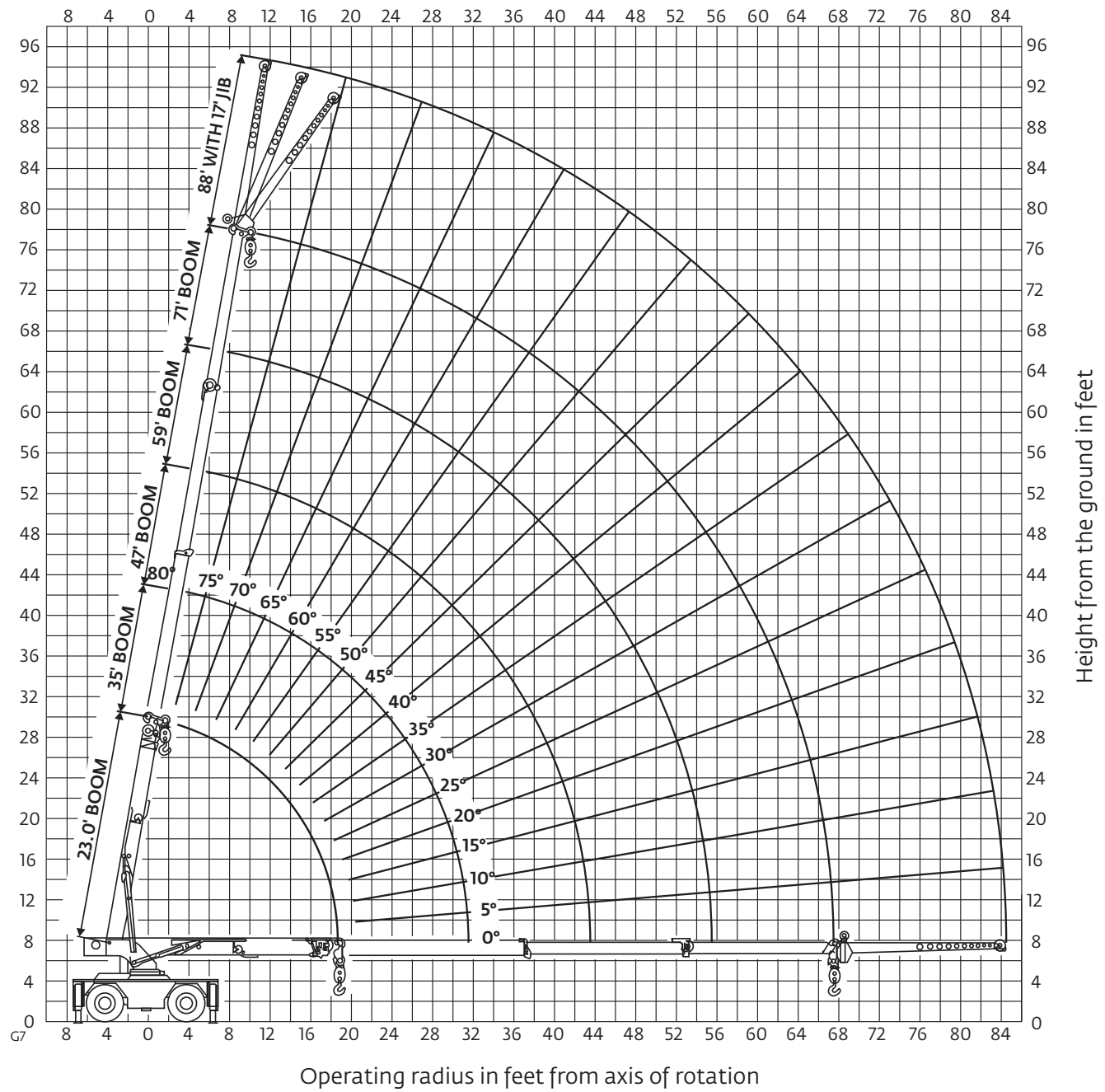


Dimensions





Range diagram



THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.
The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane.



Load chart

MAIN BOOM LOAD RATINGS ON OUTRIGGERS Extended and Down 360° or Retracted and Down Front/Rear										MAIN BOOM LOAD RATINGS ON OUTRIGGERS Retracted and Down 360°									
		23.0 ft Boom	35.0 ft Boom	47.0 ft Boom	59.0 ft Boom	71.0 ft Boom						23.0 ft Boom	35.0 ft Boom	47.0 ft Boom	59.0 ft Boom	71.0 ft Boom			
Radius (ft)	Boom Angle (deg)	Rated Load (lb)	Boom Angle (deg)	Rated Load (lb)	Boom Angle (deg)	Rated Load (lb)	Radius (ft)	Boom Angle (deg)	Rated Load (lb)	Radius (ft)	Boom Angle (deg)	Rated Load (lb)	Boom Angle (deg)	Rated Load (lb)	Boom Angle (deg)	Rated Load (lb)	Radius (ft)	Boom Angle (deg)	Rated Load (lb)
8.5	64.2	50,000	73.2	34,300	78.1	33,600	8.5	63.5	26,350	73	24,000	78	21,900	79.5	16,650		8.5	63.5	26,350
10	59.8	38,793	70.6	34,500	76.2	33,017	10	59	20,800	70.5	19,300	76	17,900	76	13,350		10	59	20,800
12	53.6	34,893	66.9	31,426	73.6	29,285	12	52.5	16,000	67	15,100	73.5	14,200	77.5	11,000	79	12	52.5	16,000
14	46.8	31,256	63.2	28,464	71	26,357	14	45.5	12,300	63	12,250	71	11,600	75.5	9,280	77	14	46.8	31,256
16	38.8	26,699	59.2	26,076	68.3	24,016	16	37	9,850	59.5	10,150	68.5	9,710	73.5	7,910	74	16	38.8	26,699
18	28.7	23,186	55.1	23,496	65.6	22,096	18	26	8,070	55.5	8,370	65.5	8,230	71.5	6,810	72	18	28.7	23,186
19.5	0	21,044	51.9	21,379	63.5	20,902	19.5	0	7,090	52	7,300	63.5	7,330	70	5,900	70	19.5	0	21,044
22	—	—	46	18,471	59.9	18,629	22	—	—	46.5	5,900	60	6,050	67.5	5,150	68.5	22	—	—
24	—	—	40.8	16,592	56.9	16,747	24	—	—	41.5	5,040	57	5,170	65	4,400	66.5	24	—	—
26	—	—	36	14,600	54	14,850	26	—	—	36	4,330	54	4,450	63	3,930	65	26	—	—
28	—	—	29	12,750	51	13,050	28	—	—	29	3,740	51	3,850	60.5	3,410	61	28	—	—
30	—	—	20	11,250	47.5	11,700	30	—	—	20	3,250	47.5	3,340	58.5	3,080	63.5	30	—	—
31.5	—	—	0	10,300	45	10,650	31.5	—	—	0	2,910	45	3,010	56.5	2,590	61	31.5	—	—
34	—	—	—	—	40	9,350	34	—	—	—	—	40	2,530	53.5	2,260	59	34	—	—
36	—	—	—	—	36	8,460	36	—	—	—	—	36	2,200	51	2,010	57	36	—	—
38	—	—	—	—	31	7,680	38	—	—	—	—	31	1,910	48.5	1,750	55	38	—	—
40	—	—	—	—	25	7,000	40	—	—	—	—	25	1,660	45.5	1,510	53	40	—	—
42	—	—	—	—	17.5	6,400	42	—	—	—	—	17.5	1,410	42.5	1,270	51	42	—	—
43.5	—	—	—	—	0	6,000	43.5	—	—	—	—	0	1,230	40.5	1,110	49	43.5	—	—
46	—	—	—	—	—	—	46	—	—	—	—	—	—	36	1,070	48.5	46	—	—
48	—	—	—	—	—	—	48	—	—	—	—	—	—	32.5	890	46.5	48	—	—
50	—	—	—	—	—	—	50	—	—	—	—	—	—	28	720	44	50	—	—
52	—	—	—	—	—	—	52	—	—	—	—	—	—	23	570	41.5	52	—	—
54	—	—	—	—	—	—	54	—	—	—	—	—	—	16	430	38.5	54	—	—
55.5	—	—	—	—	—	—	55.5	—	—	—	—	—	—	0	330	36.5	55.5	—	—
58	—	—	—	—	—	—	58	—	—	—	—	—	—	—	—	32.5	58	—	—
60	—	—	—	—	—	—	60	—	—	—	—	—	—	—	—	—	60	—	—
62	—	—	—	—	—	—	62	—	—	—	—	—	—	—	—	—	62	—	—
64	—	—	—	—	—	—	64	—	—	—	—	—	—	—	—	—	64	—	—
66	—	—	—	—	—	—	66	—	—	—	—	—	—	—	—	—	66	—	—
67	—	—	—	—	—	—	67	—	—	—	—	—	—	—	—	—	67	—	—

MAIN BOOM ON RUBBER		
Any Boom Length		
Radius (ft)	Front Rating (lb)	360° Rating (lb)
6	30,000	21,000
8	24,950	17,900
10	21,000	15,000
12	18,000	13,000
14	15,650	10,000
16	13,300	7,920
18	10,900	6,410
20	9,460	5,780
22	8,060	4,880
24	6,960	4,140
26	6,050	3,520
28	5,300	2,990
30	4,670	2,540
32	4,130	2,160
34	3,670	1,820
36	3,260	1,530
38	2,900	1,270
40	2,590	1,040
42	2,300	830
44	2,280	720
46	2,050	610
48	1,840	500
50	1,650	390
52	1,480	280
54	1,320	—
56	1,220	—
58	1,080	—
60	950	—
62	840	—
64	730	—
66	620	—
67	570	—

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.

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

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) Rated load columns for discrete boom lengths apply when actual boom length is within +/- 1.0 ft of discrete length. When boom length or radius or both are between points listed on capacity chart, the smallest load shown at either the next larger radius or boom length shall be used.

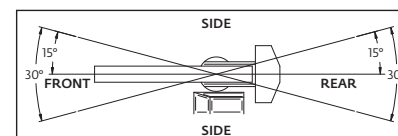
3) For operating radius not shown, use load rating of next larger radius.

4) 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.

RATING REDUCTIONS FOR LOAD HANDLING DEVICES INSTALLED (lb)		
	FROM MAIN BOOM	FROM JIB
MAIN BLOCK	475	N/A
HOOK & BALL	100	100
JIB STOWED	0	N/A
JIB DEPLOYED	500	0

MAXIMUM PERMISSIBLE SINGLE LINE PULL
= 12,500 lb

HOIST ROPE: 5/8 in diameter
6 x 19 XIPS IWRC BRIGHT
Min. req'd breaking strength = 45,400 lb



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

6) 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.

7) Ratings on rubber depend on tire capacity, condition of tires and proper inflation pressure (110 psi). When replacing tires, contact Manitowoc for proper specifications. Loads on rubber may be transported at a maximum speed 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.

8) The maximum combined total boom and deck load is 20,000 lb. The maximum deck load only is 30,000 lb.

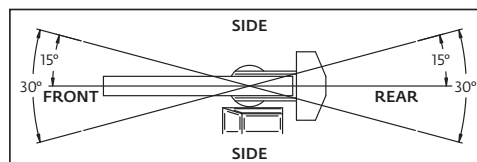
9) Do not induce any external side loads to boom or jib.

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Load chart

17 ft JIB CAPACITY ON EXTENDED OUTRIGGERS (lb)					
Main Boom Angle (deg)	Jib Offset Angle				
	0°		15°		30° Any Boom Length
	To 55 ft Main Boom	To 71 ft Main Boom	To 55 ft Main Boom	To 71 ft Main Boom	
80	—	—	5000	5000	3500
75	7500	—	4400	4400	3100
70	6100		3900	3900	2800
65	5000	4600	3500	3500	2550
60	4300	3800	3150	3150	2350
55	3800	3300	2850	2850	2200
50	3400	2900	2600	2600	2100
45	3050	2600	2400	2400	2000
40	2800	2400	2250	2250	1950
35	2600	2150	2150	2050	1900
30	2400	1930	2080	1850	1830
25	2300	1750	2050	1720	—
20	2200	1600	2000	1590	—
15	2100	1500	1950	1520	—
10	2050	1460	—	—	—
5	2020	1450	—	—	—
0	2000	1440	—	—	—



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) Rated load columns for discrete boom lengths apply when actual boom length is within +/- 1.0 ft of discrete length. When boom length or radius or both are between points listed on capacity chart, the smallest load shown at either the next larger radius or boom length shall be used.

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

4) 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.

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

6) 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.

7) Ratings on rubber depend on tire capacity, condition of tires and proper inflation pressure (110 psi). When replacing tires, contact Manitowoc for proper specifications. Loads on rubber may be transported at a maximum speed 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.

8) The maximum combined total boom and deck load is 20,000 lb. The maximum deck load only is 30,000 lb.

9) Do not induce any external side loads to boom or jib.

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Symbols glossary



Axles



Counterweight



Grade



Outriggers



Boom



Drive



Heavy duty jib



Radius



Boom elevation



Electrical system



Hoist



Rotation



Boom extension



Engine



Hookblock



Speed



Boom length



Extension



Hydraulic system



Steering



Boom nose



Frame



Lights



Suspension



Brakes



Fuel tank capacity



Oil



Swing



Cab



Gear



Outrigger controls



Tires



Transmission



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