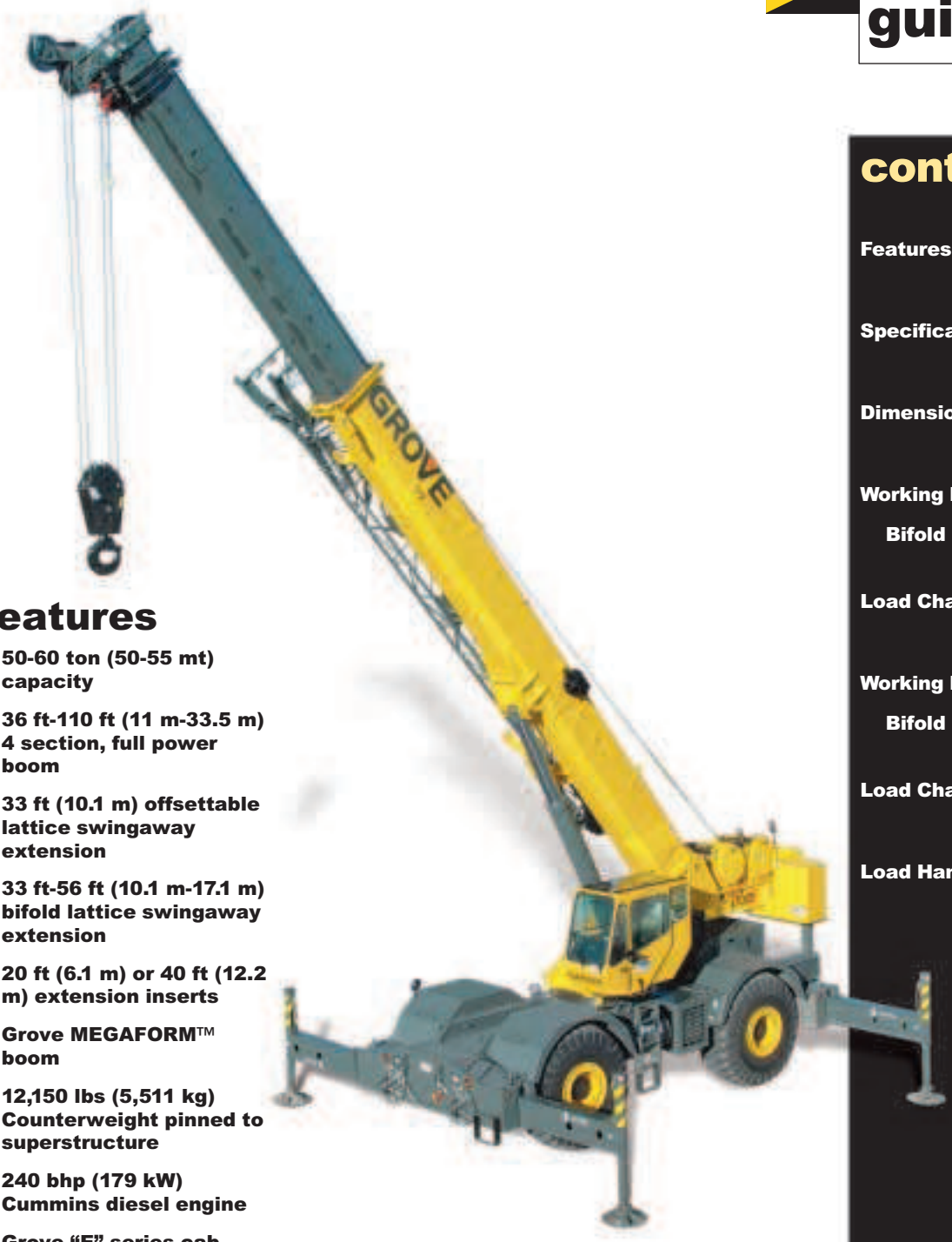
GROVE®

RT700E

product guide



features

- 50-60 ton (50-55 mt) capacity
- 36 ft-110 ft (11 m-33.5 m) 4 section, full power boom
- 33 ft (10.1 m) offsettable lattice swingaway extension
- 33 ft-56 ft (10.1 m-17.1 m) bifold lattice swingaway extension
- 20 ft (6.1 m) or 40 ft (12.2 m) extension inserts
- Grove MEGAFORM™ boom
- 12,150 lbs (5,511 kg) Counterweight pinned to superstructure
- 240 bhp (179 kW) Cummins diesel engine
- Grove “E” series cab

contents

Rough Terrain Hydraulic Crane

manitowoc Crane Group

features

The superstructure features a full-power four-section MEGAFORM boom that can reach to a maximum tip height of 119 ft. The sequence synchronized extension feature: telescopes boom sections with a touch of the hand via a single lever joystick controller.

An optional bi-fold swingaway lattice extension easily stows on the side of the base boom for easy transport while providing on-board extension from 33-56 ft. for a maximum tip height of 174.5 ft. By adding inserts of 20 or 40 ft. the max tip height on the RT700E can be extended even further to 194 ft. or 214 ft.

An optional 33 ft. fixed swingaway is also available with a max tip height of 150 ft.

The RT700E has a quick-reeve boom nose and swingaway alignment device to help operators set up smoothly.

The features common to the Grove “E” Series cab include:

- hot water heater/defroster
- single axis joystick controllers
- sliding skylight and adjustable sunscreen
- engine instrumentation
- full acoustical lining

The PAT iFlex 5 graphic display LMI includes a work area definition system which allows the operator to define a preferred working area.

Large open stowage compartment for tools and rigging accessories.

Superstructure

Boom
36 ft. - 110 ft. (11 m - 33.5 m) four-section, full-power sequenced synchronized boom.
Maximum tip height: 119 ft. (36.4 m).

*Optional Fixed Swingaway Extension
33 ft. (10.1 m) offsettable lattice swingaway extension. Offsettable at 0°, 25° and 45°. Stows alongside base boom section. Maximum tip height: 150 ft. (45.8 m).

*Optional Bi-Fold Swingaway Extension
33 ft. - 56 ft. (10.1 m - 17.1 m) bi-fold lattice swingaway extension. Offsettable at 0°, 25° and 45°. Stows alongside base boom section. Maximum tip height: 174.5 ft. (53.2 m).

*Optional 20 ft. (6.1 m) or 40 ft. (12.2 m) Inserts
Installs between boom nose and bi-fold extension, non-stowable. Maximum tip height: 194 ft. (59.1 m)-20 ft. insert, 214 ft. (65.2 m)-40 ft. insert.

Boom Nose
Three nylatron sheaves (four with 60-ton rating) mounted on heavy-duty tapered roller bearings with removable pin-type rope guards. Quick-reeve type boom nose.
*Optional removable auxiliary boom nose with removable pin type rope guard.

Boom Elevation
One double-acting hydraulic cylinder with integral holding valve provides elevation from -3° to 78°.

Load Moment & Anti-Two Block System
Standard “Graphic Display” load moment and anti-two block system with audio-visual warning and control lever lockout. These systems provide electronic display of boom angle, length, radius, tip height, relative load moment, maximum permissible load, load indication and warning of impending two-block condition. The standard Work Area Definition System allows the operator to pre-select and define safe working areas. If the crane approaches the pre-set limits, audio-visual warnings aid the operator in avoiding job-site obstructions.

Cab
Full-vision, all-steel fabricated with acoustical lining and tinted safety glass throughout. Deluxe seat incorporates armrest-mounted hydraulic single-axis controllers. Dash panel incorporates gauges for all engine functions. Other standard features include: hot water heater, cab circulating air fan, sliding side and rear windows, sliding skylight with electric wiper and sunscreen, electric windshield wash/wipe, fire extinguisher and seat belt.

Swing
Planetary swing with foot-applied multi-disc brake. Spring applied, hydraulically-released swing brake and plunger-type, one position, mechanical house lock operated from cab.
*Optional 360° mechanical swing lock. Maximum speed: 2.5 RPM.

Counterweight
12,150 lbs. (5511 kg) pinned to superstructure.

Hydraulic System
Three main gear pumps with a combined capacity of 103 GPM (391 LPM), 135 GPM (511 LPM) with optional air conditioning. Maximum operating pressure: 4000 psi (27.6 MPa). Two individual post pressure compensated valve banks.

Return line type filter with full flow by-pass protection and service indicator. Replaceable cartridge with micron filtration rating of 5/12/16. 132 gallon (500 L) reservoir. Integral oil cooler. System pressure test ports.

Hoist Specifications
Main and Auxiliary Hoist:
Grove Model HO30G-16G
Planetary reduction with automatic spring applied multi-disc brake. Grooved drum. Electronic hoist drum rotation indicator and hoist drum cable followers.

Maximum Single Line Pull:	18,180 lbs (8 246 kg)
Maximum Single Line Speed:	588 FPM (179 m/min)

Maximum Permissible Line Pull:
16,800 lbs. (7 620 kg) w/standard 6 x 37 class rope
16,800 lbs. (7 620 kg) w/optional 35 x 7 class rope

Rope Diameter:	3/4 in. (19 mm)
Rope Length:	500 ft. (152 m)

*Optional 550 ft. (168 m) 35 x 7 class rope

Rope Type:
6 x 37 class EIPS IWRC
*Optional 35 x 7 class rotation resistant

Maximum Rope Stowage:	694 ft. (211 m)

Optional H030G-26G Main Hoist

Rope:	650 ft. (198 m) 6 x 37 class rope
Stowage:	1193 ft. (355 m)

specifications

Carrier

Chassis
Box section frame fabricated from high-strength, low alloy steel. Integral outrigger housings and front/rear towing and tie down lugs.

Outrigger System
Four hydraulic telescoping single-stage double box beam outriggers with inverted jacks and integral holding valves. Three position settings, 100%, 50% and fully retracted. All steel fabricated, quick-release type round outrigger floats, 24 in. (610 mm) diameter. Maximum outrigger pad load: 80,700 lbs (36,606 kg).

Outrigger Controls
Controls and crane level indicator located in cab.

Engine
Cummins QSB 5.9L diesel, six cylinders, turbocharged, 240 bhp (179 kW) (Gross) @ 2,500 rpm. Maximum torque: 730 ft. lbs. (990 N-m) @ 1,500 RPM.

Fuel Tank Capacity
72 gallons (273 L)

Transmission
Spicer powershift with 6 forward and 6 reverse speeds (3 speeds high and 3 speeds low). Front axle disconnect for 4 x 2 travel.

Electrical System
Two 12-volt maintenance free batteries. 12-volt starting and lighting, circuit breakers, battery disconnect switch.

Drive
4 x 4

Steering
Fully independent power steering:
Front: Full hydraulic, steering wheel controlled.
Rear: Full hydraulic, switch controlled.
Provides infinite variations of 4 main steering modes: front only, rear only, crab and coordinated.
Rear steer centered indicating light.
4 wheel turning radius - 22 ft. 2 in. (6.7 m).

Axles
Front: Drive/steer with differential and planetary reduction hubs rigid-mounted to frame.
Rear: Drive/steer with differential and planetary reduction hubs pivot-mounted to frame.
Automatic full hydraulic lockouts on rear axle permit 8 in. (203 mm) oscillation only with boom centered over the front.

Brakes
Full hydraulic split circuit brakes operating on all wheels. Spring-applied, hydraulically released axle-mounted parking brake.

Tires
29.5 x 25 - 28PR bias earthmover type.
*29.5R25 radial earthmover type.

Lights
Full lighting package including turn indicators, head, tail, brake and hazard warning lights.

Maximum Speed
23 MPH (37 km/h).

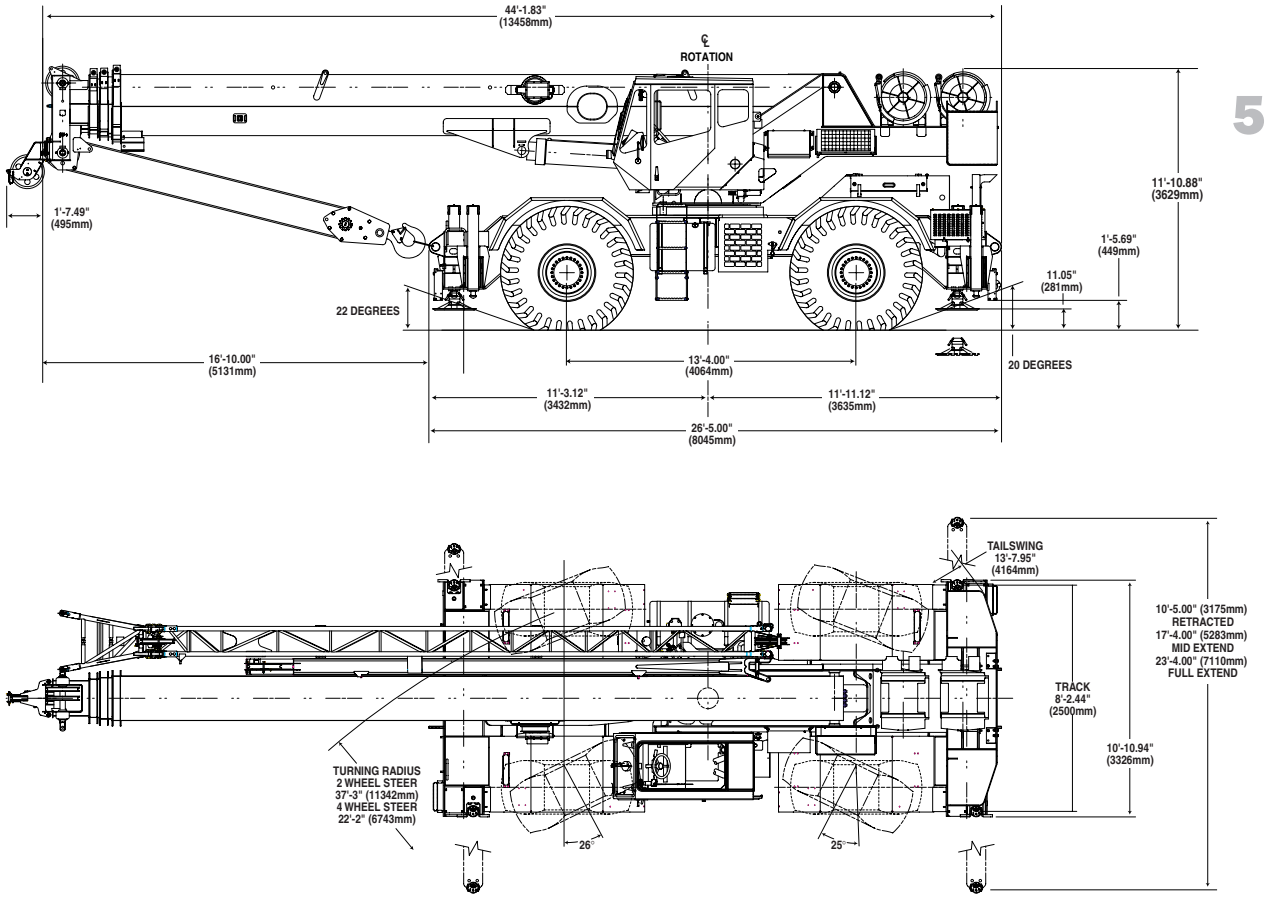
Gradeability (Theoretical)
75% (Based on 89,000 lbs. [40 370 kg] GVW) 29.5 x 25 tires, pumps engaged, 110 ft. (33.6 m) boom, and bi-fold extension.

Miscellaneous Standard Equipment
Full width steel fenders, dual rear view mirrors, hookblock tiedown, electronic back-up alarm, light package, front stowage well, tachometer, rear wheel position indicator, 36,000 BTU hot water heater, hoist mirrors, engine distress A/V warning system. Auxiliary hoist control valve arrangement (less hoist). Cold start aid and immersion type engine block heater, 120V 1500 watt.

*Optional Equipment
*Auxiliary Hoist Package (includes Model HO30G-16G auxiliary hoist with electronic hoist drum rotation indicator, hoist drum cable follower, 500 ft. (152 m) of 3/4 in.(19 mm) 35 X 7 class wire rope, auxiliary single sheave boom nose.)
*AIR CONDITIONING PACKAGE (includes hydraulic driven 28,500 BTU air conditioning)
*Auxiliary Lighting Package (includes cab mounted amber flashing light, 360° rotation spotlight and dual base boom mounted floodlights)
*CONVENIENCE PACKAGE (includes in cab LMI light bar)
*"CE" Mark Conformance (includes European boom, battery disconnect switch, 3rd wrap indicator, electric emergency auxiliary steering, dual axis joystick controllers)
*Cross axle differential locks (front and rear)
*Full-length aluminum decking
*Manual pump disconnect
*Pintle hook - rear
*360 degree NYC style positive swinglock
*Rubber mat for stowage trough
*PAT datalogger
*Aluminum fender protectors

**Denotes optional equipment*

dimensions



Note: ( ) Reference dimensions in mm

Weights

	GVW		Front		Rear	
	lb.	kg	lb.	kg	lb.	kg
RT700E Basic Machine	84,801	38,466	40,719	18,470	44,082	19,996
ADD: 33 - 56 ft. bi-fold swingaway	2,480	1,125	3,968	1,800	-1,488	-675
ADD: 33 ft. swingaway	1,730	785	3,082	1,398	-1,352	-613
ADD: Auxiliary hoist cable	625	284	-230	-104	855	388
ADD: Auxiliary boom nose	130	59	374	170	-244	-111
ADD: 60 ton (55 mt) 5-sheave hookblock (stowed in trough)	1,250	567	1,250	567	0	0
ADD: 50 ton (45 mt) 3-sheave hookblock (stowed in trough)	1,000	454	1,000	454	0	0
ADD: 8.3 ton (7.5 mt) headache ball (hanging from aux. nose)	370	168	602	273	-232	-105
Remove: Counterweight	-12,150	-5,511	4,784	2,170	-16,934	-7,681

working range

Working range – 110 ft. Main Boom & 33-56 ft. bi-fold swingaway

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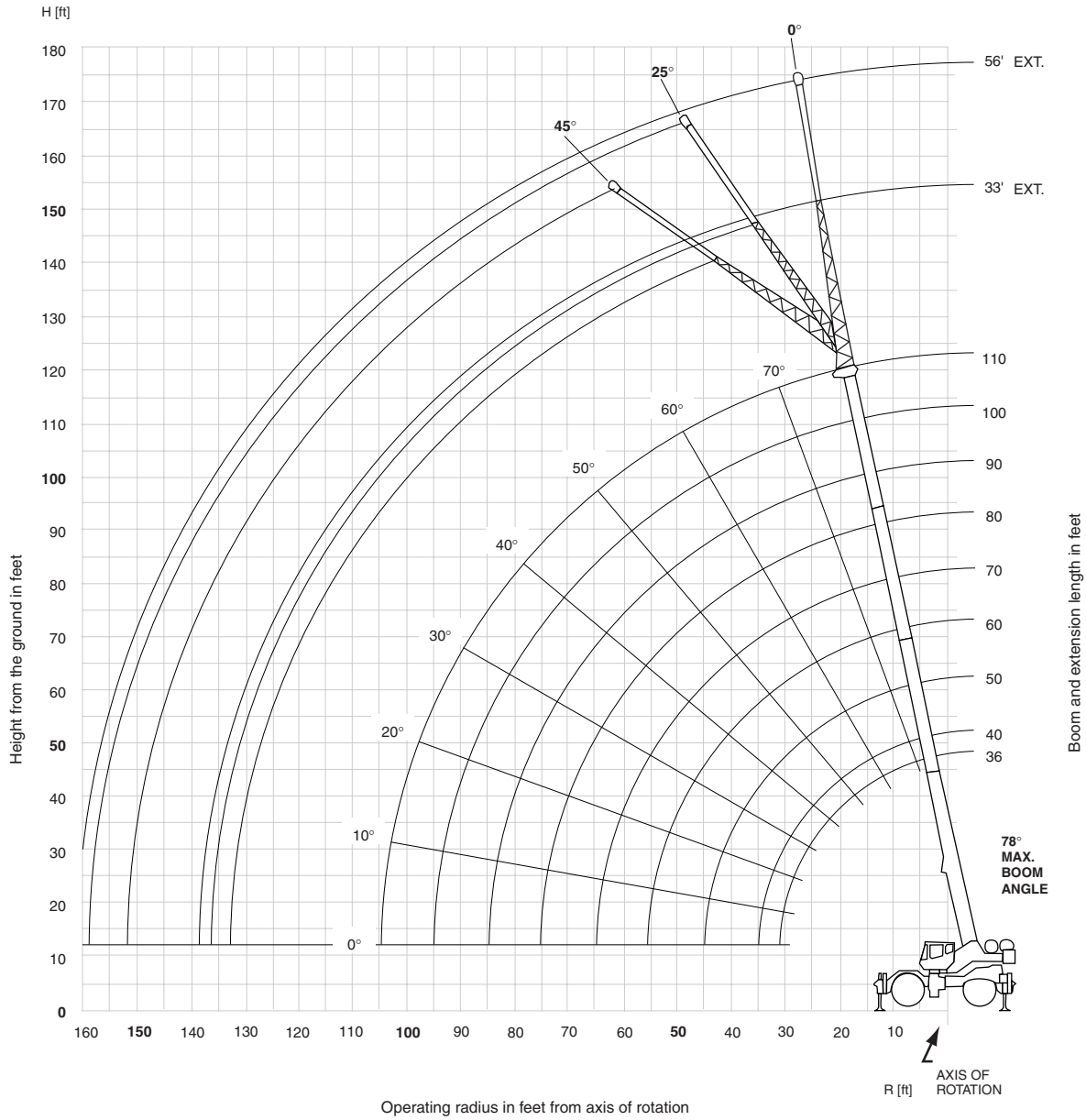

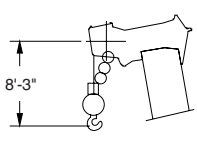

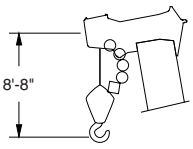

Dimensions are for largest Grove furnished hook block and headache ball, with anti-two block activated.

RT700E

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GROVE

RT750E load chart

36 - 110 ft. | 12,150 lbs | 100% 23 ft. 4 in. spread | 360°

Pounds

Feet	36	40	50	**60	70	80	90	100	110
10	100,000 (69)	84,400 (72)	80,200 (76)	*62,500 (78)					
12	100,000 (65.5)	84,400 (68.5)	80,200 (73.5)	62,500 (77)	*36,800 (78)				
15	85,400 (59.5)	82,700 (63.5)	80,200 (70)	61,000 (74)	36,800 (76.5)	*36,800 (78)	*31,000 (78)		
20	65,700 (49)	65,000 (55)	64,300 (63.5)	50,650 (69)	36,800 (72)	36,800 (75)	31,000 (77)	*29,100 (78)	*24,000 (78)
25	52,800 (36)	52,450 (45)	51,850 (56.5)	41,800 (63.5)	36,800 (68)	34,000 (71)	30,000 (73.5)	27,000 (76)	24,000 (77.5)
30		42,150 (31.5)	39,600 (48.5)	38,000 (57.5)	33,400 (63)	29,000 (67)	25,300 (70.5)	24,200 (72.5)	22,000 (75)
35			31,750 (40)	29,750 (51.5)	28,700 (58)	25,000 (63)	22,200 (67)	21,750 (69.5)	20,000 (72)
40			24,450 (28)	24,750 (45)	23,600 (53)	22,000 (59)	20,200 (63)	19,000 (66.5)	18,500 (69)
45				19,750 (37)	19,700 (47.5)	18,800 (54.5)	17,800 (59.5)	17,300 (63)	17,300 (66.5)
50				16,000 (26.5)	16,750 (41)	16,500 (49.5)	16,000 (55.5)	16,000 (60)	16,000 (63.5)
55					13,650 (33.5)	14,300 (44.5)	14,100 (51)	14,100 (56.5)	14,100 (60)
60					11,150 (24)	12,000 (38.5)	12,200 (47)	12,200 (52.5)	12,200 (57)
65						10,100 (31.5)	10,800 (42)	10,600 (48.5)	10,600 (53.5)
70						8,480 (22.5)	9,410 (36.5)	9,000 (44.5)	9,000 (50)
75							8,100 (30)	7,800 (40)	7,800 (46.5)
80							6,920 (21.5)	6,600 (34.5)	6,600 (42.5)
85								5,800 (28.5)	5,800 (38)
90								5,000 (20.5)	5,000 (33)
95									4,440 (27.5)
100									3,880 (19.5)
Minimum boom angle (°) for indicated length (no load)									0
Maximum boom length (ft.) at 0° boom angle (no load)									110

NOTE: ( ) Boom angles are in degrees.
#LMI operating code. Refer to LMI manual for operating instructions.
*This capacity is based on maximum boom angle.

Lifting Capacities at Zero Degree Boom Angle On Outriggers Fully Extended - 360°

Boom Angle	Main Boom Length in Feet 36	40	50	**60	70	80	90	100	110
0°	29,050 (29.8)	24,450 (34.2)	17,050 (44.2)	11,950 (54.6)	9,400 (64.2)	7,310 (74.2)	6,050 (84.2)	4,660 (94.2)	3,350 (104.2)

NOTE: ( ) Reference radii in feet.
** Boom length is with inner-mid fully extended and outer-mid & fly fully retracted.

A6-829-101070

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RT760E load chart

36 - 110 ft. | 12,150 lbs | 100% | 360°

23 ft. 4 in. spread

Pounds

Feet	36	40	50	**60	70	80	90	100	110
10	120,000 (69)	84,400 (72)	80,200 (76)	*62,500 (78)					
12	100,000 (65.5)	84,400 (68.5)	80,200 (73.5)	62,500 (77)	*36,800 (78)				
15	85,400 (59.5)	82,700 (63.5)	80,200 (70)	61,000 (74)	36,800 (76.5)	*36,800 (78)	*31,000 (78)		
20	65,700 (49)	65,000 (55)	64,300 (63.5)	50,650 (69)	36,800 (72)	36,800 (75)	31,000 (77)	*29,100 (78)	*24,000 (78)
25	52,800 (36)	52,450 (45)	51,850 (56.5)	41,800 (63.5)	36,800 (68)	34,000 (71)	30,000 (73.5)	27,000 (76)	24,000 (77.5)
30		42,150 (31.5)	39,600 (48.5)	38,000 (57.5)	33,400 (63)	29,000 (67)	25,300 (70.5)	24,200 (72.5)	22,000 (75)
35			31,750 (40)	29,750 (51.5)	28,700 (58)	25,000 (63)	22,200 (67)	21,750 (69.5)	20,000 (72)
40			24,450 (28)	24,750 (45)	23,600 (53)	22,000 (59)	20,200 (63)	19,000 (66.5)	18,500 (69)
45				19,750 (37)	19,700 (47.5)	18,800 (54.5)	17,800 (59.5)	17,300 (63)	17,300 (66.5)
50				16,000 (26.5)	16,750 (41)	16,500 (49.5)	16,000 (55.5)	16,000 (60)	16,000 (63.5)
55					13,650 (33.5)	14,300 (44.5)	14,100 (51)	14,100 (56.5)	14,100 (60)
60					11,150 (24)	12,000 (38.5)	12,200 (47)	12,200 (52.5)	12,200 (57)
65						10,100 (31.5)	10,800 (42)	10,600 (48.5)	10,600 (53.5)
70						8,480 (22.5)	9,410 (36.5)	9,000 (44.5)	9,000 (50)
75							8,100 (30)	7,800 (40)	7,800 (46.5)
80							6,920 (21.5)	6,600 (34.5)	6,600 (42.5)
85								5,800 (28.5)	5,800 (38)
90								5,000 (20.5)	5,000 (33)
95									4,440 (27.5)
100									3,880 (19.5)
Minimum boom angle (°) for indicated length (no load)									0
Maximum boom length (ft.) at 0° boom angle (no load)									110

NOTE: ( ) Boom angles are in degrees.
#LMI operating code. Refer to LMI manual for operating instructions.
*This capacity is based on maximum boom angle.

Lifting Capacities at Zero Degree Boom Angle On Outriggers Fully Extended - 360°

Boom Angle	Main Boom Length in Feet 36	40	50	**60	70	80	90	100	110
0°	29,050 (29.8)	24,450 (34.2)	17,050 (44.2)	11,950 (54.6)	9,400 (64.2)	7,310 (74.2)	6,050 (84.2)	4,660 (94.2)	3,350 (104.2)

NOTE: ( ) Reference radii in feet.
** Boom length is with inner-mid fully extended and outer-mid & fly fully retracted.

A6-829-101070

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RT700E load chart

Feet	33 ft. LENGTH 0° OFFSET #0021	33 ft. LENGTH 25° OFFSET #0022	33 ft. LENGTH 45° OFFSET #0023	56 ft. LENGTH 0° OFFSET #0041	56 ft. LENGTH 25° OFFSET #0042	56 ft. LENGTH 45° OFFSET #0043
	Pounds					
30	12,900 (78)					
35	12,900 (76)			*8,330 (78)		
40	12,900 (74)	*10,850 (78)		8,330 (77.5)		
45	12,900 (72)	10,450 (77)	*7,410 (78)	8,330 (76)		
50	12,100 (70)	10,000 (74.5)	7,200 (77.5)	8,330 (74.5)		
55	11,100 (68)	9,220 (72.5)	6,990 (75)	8,250 (73)	*5,300 (78)	
60	10,100 (66)	8,550 (70.5)	6,800 (72.5)	7,540 (71)	5,140 (77)	
65	9,130 (63.5)	7,930 (68)	6,650 (70.5)	7,160 (69)	5,100 (75)	*3,860 (78)
70	8,460 (61.5)	7,380 (65.5)	6,490 (68)	6,820 (67.5)	5,100 (73)	3,790 (77.5)
75	7,840 (59)	6,900 (63)	6,370 (65.5)	6,300 (65.5)	4,800 (71)	3,660 (75)
80	7,230 (56.5)	6,470 (60.5)	6,110 (62.5)	5,810 (63.5)	4,580 (69)	3,550 (73)
85	6,690 (54)	6,070 (58)	5,780 (60)	5,370 (61.5)	4,470 (67.5)	3,450 (71)
90	6,140 (51)	5,720 (55.5)	5,480 (57)	4,980 (59.5)	4,330 (65.5)	3,410 (68.5)
95	5,670 (48.5)	5,400 (52.5)	5,200 (54)	4,630 (57)	4,070 (63)	3,300 (66.5)
100	5,020 (45.5)	5,100 (49.5)	4,950 (51)	4,320 (55)	3,830 (61)	3,260 (64)
105	4,350 (42.5)	4,760 (46.5)	4,650 (47.5)	4,040 (52.5)	3,620 (58.5)	3,220 (62)
110	3,750 (39.5)	4,160 (43)		3,770 (50.5)	3,410 (56)	3,180 (59.5)
115	3,210 (36)	3,600 (39.5)		3,540 (48)	3,230 (53.5)	3,060 (56.5)
120	2,720 (32)	3,100 (35)		3,300 (45.5)	3,050 (51)	2,940 (53.5)
125	2,270 (27.5)	2,640 (30.5)		2,870 (42.5)	2,890 (48.5)	2,800 (50.5)
130	1,860 (22)			2,470 (39.5)	2,730 (45.5)	
135				2,110 (36.5)	2,590 (42.5)	
140				1,770 (33)	2,250 (38.5)	
145				1,460 (29.5)	1,880 (34.5)	
150				1,170 (25)		
Minimum boom angle (°) for indicated length (no load)	21	25	45	25	28	45
Maximum boom length (ft.) at 0° boom angle (no load)		100			90	

NOTE: ( ) Boom angles are in degrees.

A6-829-101289

#LMI operating code. Refer to LMI manual for operating instructions.
*This capacity is based upon maximum boom angle.

NOTES:

1. All capacities above the bold line are based on structural strength of boom extension and do not exceed 85% of tipping loads, in accordance with SAE J-765.
2. 33 ft. and 56 ft. boom extension lengths may be used for single line lifting service.
3. Radii listed are for a fully extended boom with the boom extension erected. For main boom lengths less than fully extended, the rated loads are determined by boom angle. Use only the column which corresponds to the boom extension length and offset for which the machine is configured. For boom angles not shown, use the rating of the next lower boom angle.
   WARNING: Operation of this machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with boom extension occurs rapidly and without advance warning.
4. Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
5. Capacities listed are with outriggers fully extended and vertical jacks set only.

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working range

Working range – 110 ft. Main Boom, Bi-Fold Swingaway & 20 ft. & 40 ft. Inserts

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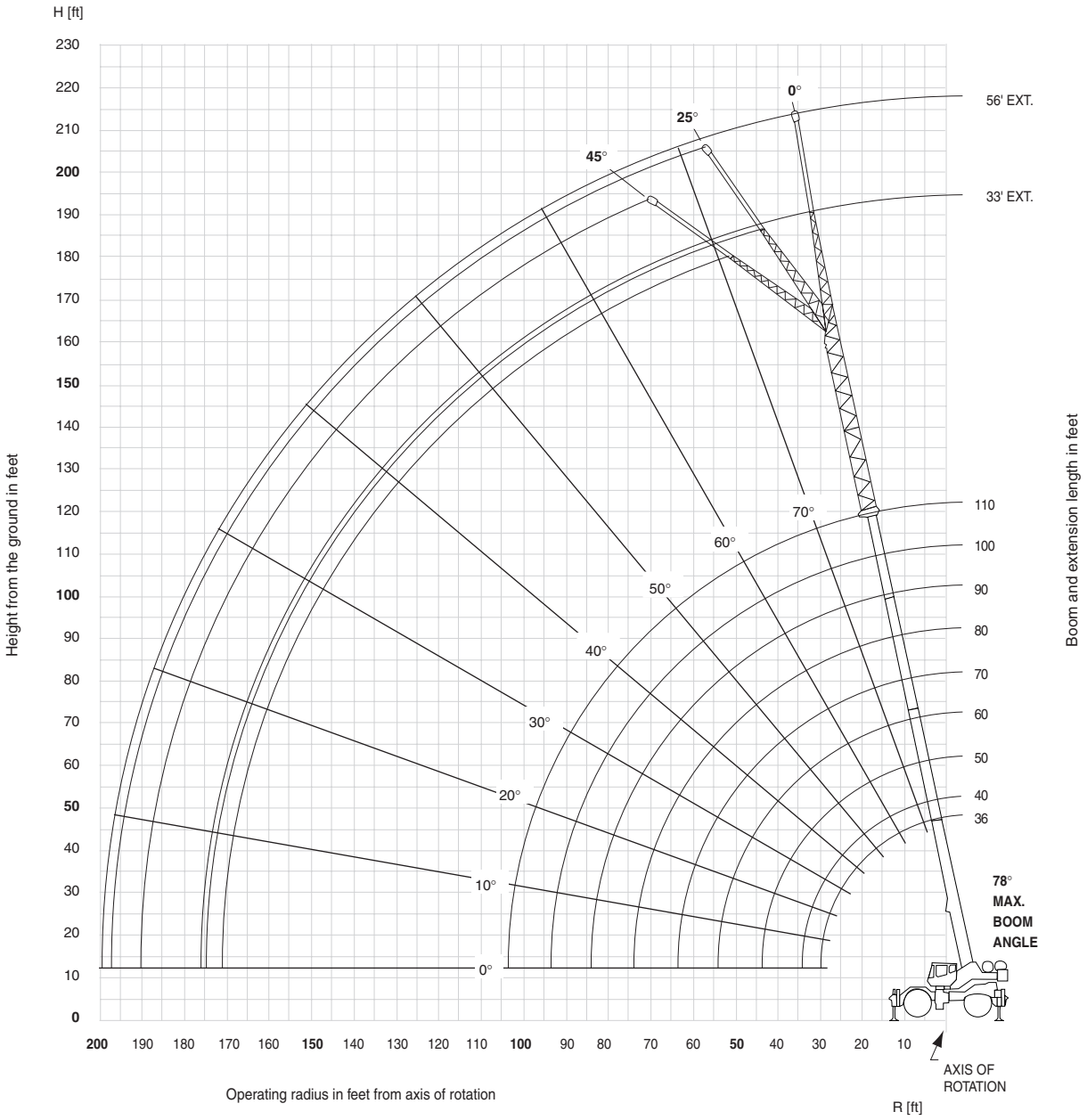

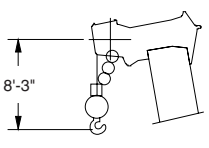

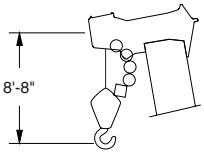

Dimensions are for largest Grove furnished hook block and headache ball, with anti-two block activated.

RT700E

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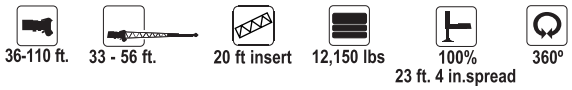
GROVE

RT700E load chart



Pounds

Feet	33 ft. LENGTH 0° OFFSET #0064	33 ft. LENGTH 25° OFFSET #0065	33 ft. LENGTH 45° OFFSET #0066	56 ft. LENGTH 0° OFFSET #0084	56 ft. LENGTH 25° OFFSET #0085	56 ft. LENGTH 45° OFFSET #0086
35	*9,360 (78)					
40	9,360 (77)			*6,300 (78)		
45	8,480 (75.5)	*7,480 (78)		6,300 (77.5)		
50	7,680 (73.5)	7,070 (77.5)	*5,880 (78)	6,000 (76.5)		
55	6,990 (71.5)	6,470 (76)	5,880 (77.5)	5,990 (75)		
60	6,390 (70)	5,970 (74)	5,480 (76.5)	5,980 (73.5)	*4,840 (78)	
65	5,890 (68)	5,570 (72)	5,080 (74.5)	5,510 (72)	4,840 (77.5)	
70	5,390 (66)	5,070 (70)	4,780 (72.5)	5,010 (70)	4,440 (76.5)	
75	4,990 (64)	4,770 (68)	4,480 (70.5)	4,560 (68.5)	4,050 (74.5)	*3,760 (78)
80	4,650 (62)	4,400 (66)	4,190 (68.5)	4,170 (67)	3,870 (73)	3,460 (76.5)
85	4,300 (60)	4,150 (64)	3,890 (66)	3,820 (65)	3,570 (71)	3,260 (74.5)
90	4,000 (58)	3,850 (62)	3,690 (64)	3,520 (63.5)	3,320 (69.5)	2,960 (73)
95	3,760 (55.5)	3,650 (59.5)	3,500 (61.5)	3,220 (61.5)	3,070 (67.5)	2,770 (71)
100	3,510 (53.5)	3,410 (57.5)	3,300 (59.5)	2,980 (60)	2,880 (66)	2,570 (69)
105	3,260 (51)	3,210 (55)	3,100 (57)	2,780 (58)	2,680 (64)	2,460 (67)
110	3,070 (48.5)	3,020 (52.5)	2,930 (54.5)	2,530 (56)	2,480 (62)	2,340 (65)
115	2,870 (46)	2,870 (50)	2,780 (51.5)	2,340 (54)	2,280 (60)	2,200 (63)
120	2,730 (43.5)	2,730 (47)		2,190 (52)	2,140 (58)	2,050 (60.5)
125	2,530 (40.5)	2,580 (44)		2,000 (50)	1,990 (55.5)	1,910 (58.5)
130	2,210 (37.5)	2,440 (41)		1,850 (48)	1,850 (53.5)	1,810 (56)
135	1,850 (34.5)	2,150 (37.5)		1,720 (45.5)	1,750 (51)	1,670 (53.5)
140	1,510 (30.5)	1,750 (34)		1,610 (43)	1,610 (48.5)	
145	1,200 (26.5)				1,520 (46)	
150					1,370 (43)	
Minimum boom angle (°) for indicated length (no load)	20	25	45	40	41	45
Maximum boom length (ft.) at 0° boom angle (no load)		90			70	

NOTE: ( ) Boom angles are in degrees.

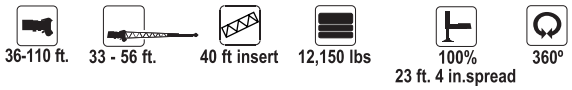
A6-829-101371A

#LMI operating code. Refer to LMI manual for operating instructions.
*This capacity is based upon maximum boom angle.

NOTES:

1. All capacities above the bold line are based on structural strength of boom extension and do not exceed 85% of tipping loads, in accordance with SAE J-765.
2. 33 ft. and 56 ft. boom extension lengths may be used for single line lifting service only.
3. For main boom lengths less than 110 ft. with the boom extension erected, the rated loads are determined by boom angle. Use only the column which corresponds to the boom extension length and offset for which the machine is set up. For boom angles not shown, use rating of the next lower boom angle.
4. **WARNING:** Operation of this machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with boom extension occurs rapidly and without advance warning.
5. Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
6. Capacities listed are with outriggers fully extended and vertical jacks set only.

load chart



12

Feet	Pounds					
	33 ft. LENGTH			56 ft. LENGTH		
	0° OFFSET #0064	25° OFFSET #0065	45° OFFSET #0066	0° OFFSET #0084	25° OFFSET #0085	45° OFFSET #0086
45	6,560 (78)					
50	5,960 (76)			4,510 (78)		
55	5,360 (74.5)	5,860 (78)		4,210 (77.5)		
60	4,860 (73)	5,260 (76.5)	*5,170 (78)	3,910 (76)		
65	4,370 (71)	4,870 (75)	4,670 (77.5)	3,710 (74.5)		
70	3,970 (69.5)	4,370 (73)	4,270 (75.5)	3,410 (73)	*3,710 (78)	
75	3,670 (67.5)	4,070 (71.5)	3,980 (73.5)	3,220 (71.5)	3,420 (77.5)	
80	3,270 (66)	3,670 (69.5)	3,680 (72)	2,820 (70)	3,120 (76)	
85	2,980 (64)	3,370 (68)	3,380 (70)	2,520 (68.5)	2,820 (74.5)	2,730 (77.5)
90	2,780 (62.5)	3,080 (66)	3,080 (68)	2,320 (66.5)	2,620 (72.5)	2,530 (76)
95	2,480 (60.5)	2,880 (64)	2,890 (66)	2,030 (65)	2,330 (71)	2,340 (74.5)
100	2,290 (58.5)	2,580 (62)	2,690 (64)	1,830 (63.5)	2,130 (69.5)	2,140 (72.5)
105	2,090 (56.5)	2,390 (60)	2,390 (62)	1,630 (62)	1,930 (68)	1,940 (71)
110	1,900 (54.5)	2,190 (58)	2,200 (60)	1,440 (60)	1,730 (66)	1,740 (69)
115	1,700 (52.5)	2,000 (56)	2,100 (58)	1,240 (58.5)	1,540 (64.5)	1,550 (67)
120	1,600 (50.5)	1,800 (54)	1,910 (55.5)	1,140 (57)	1,340 (62.5)	1,450 (65)
125	1,410 (48)	1,700 (51.5)	1,710 (53)		1,240 (61)	1,260 (63.5)
130	1,310 (46)	1,510 (49.5)	1,520 (50.5)		1,050 (59)	1,160 (61.5)
135	1,120 (43.5)	1,420 (47)	1,420 (48)			
140	1,030 (41)	1,220 (44.5)				
145		1,130 (41.5)				
150		1,040 (38.5)				
No Load Stability Data						
Min. boom angle at 110' boom length	37°	37°	45°	54°	56°	58°
Max. boom length at 0° boom angle	70 ft.			40 ft.		

NOTE: ( ) Boom angles are in degrees. A6-829-101581

*This capacity is based upon maximum boom angle.

#LMI operating code. Refer to LMI manual for instructions.

NOTES:

1. All capacities above the bold line are based on structural strength of boom extension and do not exceed 85% of tipping loads, in accordance with SAE J-765.
2. 33 ft. and 56 ft. boom extension lengths may be used for single line lifting service only.
3. For main boom lengths less than 110 ft. with the boom extension erected, the rated loads are determined by boom angle. Use only the column which corresponds to the boom extension length and offset for which the machine is set up. For boom angles not shown, use rating of the next lower boom angle.
4. **WARNING:** Operation of this machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with boom extension occurs rapidly and without advance warning.
5. Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
6. Capacities listed are with outriggers fully extended and vertical jacks set only.

RT700E

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.

GROVE

RT700E load charts

36-70 ft. | 12,150 lbs | Stationary | 360°

Pounds

#9005

Feet	Main Boom Length in Feet 36	40	50	*60	70
10	45,300 (69)	39,700 (72)			
12	41,750 (65.5)	39,700 (68.5)	29,600 (73.5)		
15	29,350 (59.5)	26,450 (63.5)	26,450 (70)	20,900 (74)	
20	17,800 (49)	17,650 (55)	17,050 (63.5)	16,250 (69)	16,250 (72)
25	11,750 (36)	11,700 (45)	11,350 (56.5)	10,850 (63.5)	10,850 (68)
30		8,040 (31.5)	7,820 (48.5)	7,470 (57.5)	7,470 (63)
35			5,400 (40)	5,120 (51.5)	5,120 (58)
40			3,660 (28)	3,200 (45)	3,430 (53)
45				1,000 (37)	2,150 (47.5)
50					1,150 (41.0)

Lifting Capacities at Zero Degree Boom Angle
On Rubber - Stationary 360

Boom Angle	Main Boom Length in Feet 36	40	50
0°	8,180 (29.7)	5,890 (34.2)	2,170 (44.2)

Note: ( ) Reference radii in feet. A6-829-101048A

#LMI operating code. Refer to LMI manual for instructions.
*60 ft. boom length is with inner-mid extended and outer-mid & fly retracted.

36-70 ft. | 12,150 lbs | Stationary | Defined Arc Over Front

Pounds

#9005

Feet	Main Boom Length in Feet 36	40	50	*60	70
10	45,300 (69)	42,850 (72)	29,600 (76)		
12	43,650 (65.5)	41,350 (68.5)	29,600 (73.5)		
15	38,300 (59.5)	36,300 (63.5)	29,600 (70)	20,900 (74)	17,300 (76.5)
20	31,150 (49)	29,550 (55)	25,900 (63.5)	20,900 (69)	17,300 (72)
25	24,100 (36)	24,150 (45)	21,800 (56.5)	18,800 (63.5)	17,300 (68)
30		17,400 (31.5)	17,200 (48.5)	15,300 (57.5)	15,300 (63)
35			12,800 (40)	12,500 (51.5)	11,000 (58)
40			9,720 (28)	9,390 (45)	9,390 (53)
45				7,090 (37)	7,090 (47.5)
50				5,310 (26.5)	5,310 (41)
55					3,870 (33.5)
60					3,170 (24)

Lifting Capacities at Zero Degree Boom Angle
On Rubber - Defined Arc Over Front

Boom Angle	Main Boom Length in Feet 36	40	50	*60	70
0°	17,600 (29.7)	13,600 (34.2)	7,750 (44.2)	4,010 (54.6)	2,670 (64.2)

Note: ( ) Reference radii in feet. A6-829-101047

#LMI operating code. Refer to LMI manual for instructions.
*60 ft. boom length is with inner-mid extended and outer-mid & fly retracted.

load charts

36-70 ft. | 12,150 lbs | Pick & Carry Up to 2.5 mph | Boom Center Over Front

Pounds

#9006

Main Boom Length in Feet

Feet	36	40	50	*60	70
10	42,500 (69)	37,600 (72)	30,700 (76)		
12	42,500 (65.5)	37,600 (68.5)	30,700 (73.5)	23,450 (77)	
15	37,600 (59.5)	37,600 (63.5)	30,700 (70)	19,700 (74)	16,250 (76.5)
20	32,950 (49)	32,900 (55)	30,700 (63.5)	19,700 (69)	16,250 (72)
25	24,100 (36)	24,150 (45)	23,850 (56.5)	19,700 (63.5)	16,250 (68)
30		17,400 (31.5)	17,200 (48.5)	16,800 (57.5)	16,250 (63)
35			12,800 (40)	12,500 (51.5)	12,500 (58)
40			9,720 (28)	9,390 (45)	9,390 (53)
45				7,090 (37)	7,090 (47.5)
50				5,310 (26.5)	5,310 (41)
55					3,870 (33.5)
60					3,090 (24)

Lifting Capacities at Zero Degree Boom Angle
On Rubber - Pick & Carry

Boom Angle	Main Boom Length in Feet 36	40	50	*60	70
0°	17,600 (29.7)	13,600 (34.2)	7,750 (44.2)	4,010 (54.6)	2,670 (64.2)

Note: ( ) Reference radii in feet. A6-829-101049

#LMI operating code. Refer to LMI manual for instructions.
*60 ft. boom length is with inner-mid extended and outer-mid & fly retracted.

NOTES:

1. Capacities are in pounds and do not exceed 75% of tipping loads as determined by test in accordance with SAE J765.
2. Capacities are applicable to machines equipped with 29.6x25 (28 ply) tires at 65 psi cold inflation pressure.
3. Defined Arc – Over front includes 6˚ on either side of longitudinal centerline of machine (ref. drawing C6-829-003529).
4. Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.
5. Capacities are applicable only with machine on firm level surface.
6. On rubber lifting with boom extensions not permitted.
7. For pick and carry operation, boom must be centered over front of machine, mechanical swing lock engaged and load restrained from swinging. When handling loads in the structural range with capacities close to maximum ratings, travel should be reduced to creep speeds.
8. Axle lockouts must be functioning when lifting on rubber.
9. All lifting depends on proper tire inflation, capacity and condition. Capacities must be reduced for lower tire inflation pressures. See lifting capacity chart for tire used. Damaged tires are hazardous to safe operation of crane.
10. Creep – Not over 200 ft. of movement in any 30 minute period and not exceeding 1 mph.

RIGGING CHART
INSTALLATION AND REMOVAL OF
12,000 LB. COUNTERWEIGHT

ON OUTRIGGERS FULLY EXTENDED – 3600

#0801

Feet	Main Boom Length in Feet *36	40
10	18,000 (69)	18,000 (72)
12	18,000 (65.5)	18,000 (68.5)
15	18,000 (59.5)	18,000 (63.5)
20	18,000 (49)	18,000 (55)
25	18,000 (36)	18,000 (45)
30		18,000 (31.5)

NOTE: ( ) Boom angles are in degrees.
#LMI operating code. Refer to LMI manual for operating instructions.

Boom Angle	Main Boom Length in Feet *36	40
0°	18,000 (29.8)	18,000 (34.2)

A6-829-102134

NOTE: ( ) Reference radii in feet.
*Boom must be fully retracted.

Weight Reductions for Load Handling Devices

33 FT. - 56 FT. FOLDING BOOM EXTENSION

*33 ft. Extension (Erected) -	5,080 lb.
*56 ft. Extension (Erected) -	11,330 lb.

FOLDING EXT. WITH 20 FT. INSERT

*33 ft. Extension (Erected) -	11,248 lb.
*56 ft. Extension (Erected) -	19,372 lb.

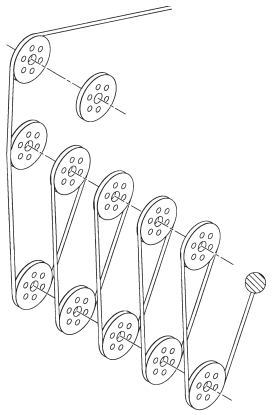
FOLDING EXT. WITH 40 FT. INSERT

*33 ft. Extension (Erected) -	19,671 lb.
*56 ft. Extension (Erected) -	29,671 lb.

*Reduction of main boom capacities
(no deduct required for stowed boom extension)

When lifting over swingaway and/or jib combinations, deduct total weight of all load handling devices reeved over main boom nose directly from swingaway or jib capacity.

NOTE: All load handling devices and boom attachments are considered part of the load and suitable allowances MUST BE MADE for their combined weights. Weights are for Grove furnished equipment.



Line Pulls and Reeving Information

AUXILIARY BOOM NOSE	137 lb.
HOOKBLOCKS and HEADACHE BALLS:	
60 Ton, 5 Sheave	1250 lb.+
50 Ton, 4 Sheave	1000 lb.+
50 Ton, 3 Sheave	1000 lb.+
8.3 Ton Headache Ball (non-swivel)	350 lb.+
8.3 Ton Headache Ball (swivel)	370 lb.+

+Refer to rating plate for actual weight.

Line Pulls and Reeving Information

Hoists	Cable Specs	Permissible Line Pulls	Nominal Cable Length
Main	3/4" (19 mm) 6x37 Class, EIPS, IWRC Special Flexible Min. Breaking Str. 58,800 lb.	16,800 lb.	500 ft.
Main & Aux.	3/4" (19 mm) Flex-X 35 Rotation Resistant (non-rotating) Min. Breaking Strength 85,800 lb.	16,800 lb.	500 ft.

The approximate weight of 3/4" wire rope is 1.5 lb./ft.

Hoist Performance

Wire Rope Layer	Hoist Line Pulls Two Speed Hoist Low Available lb.*	High Available lb.*	Drum Rope Capacity (ft.) 16 in. Drum Layer	16 in. Drum Total	26 in. Drum Layer	26 in. Drum Total
1	18,134	9,067	78	78	132	132
2	16,668	8,334	85	164	144	276
3	15,420	7,710	92	256	156	432
4	14,347	7,174	99	356	167	599
5	13,413	6,707	106	462	179	778
6	12,594	6,297	113	575	190	968

*Max. lifting capacity: 6x37 or 35x7 class = 16,800 lb.

Working Area Diagram

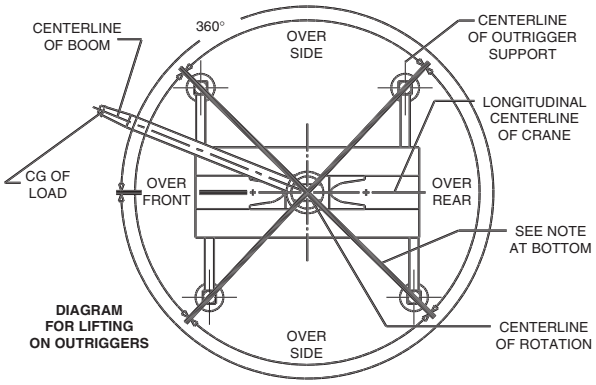


DIAGRAM FOR LIFTING ON OUTRIGGERS

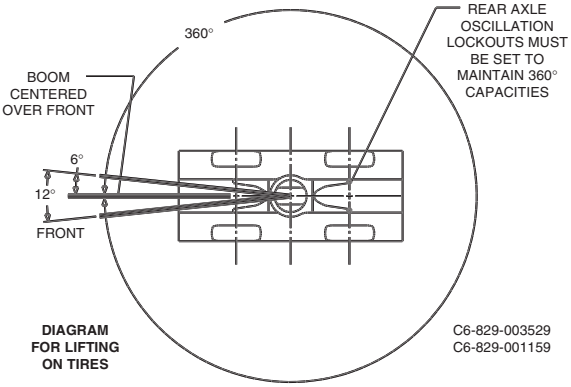


DIAGRAM FOR LIFTING ON TIRES

C6-829-003529
C6-829-001159

Bold lines determine the limiting position of any load for operation within working areas indicated.

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.

GROVE®

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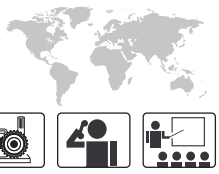

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