

# GROVE®

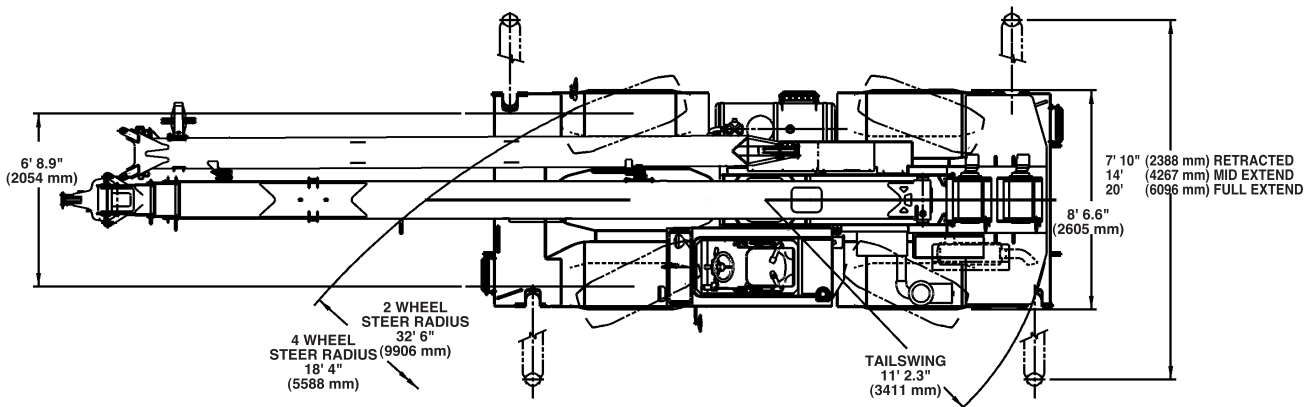
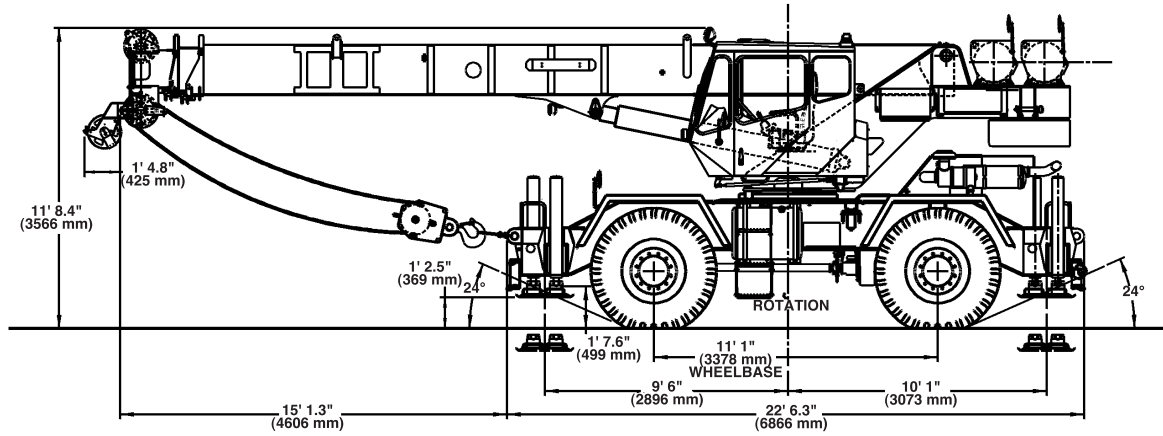
## **RT525E**



**ROUGH TERRAIN  
HYDRAULIC CRANE**



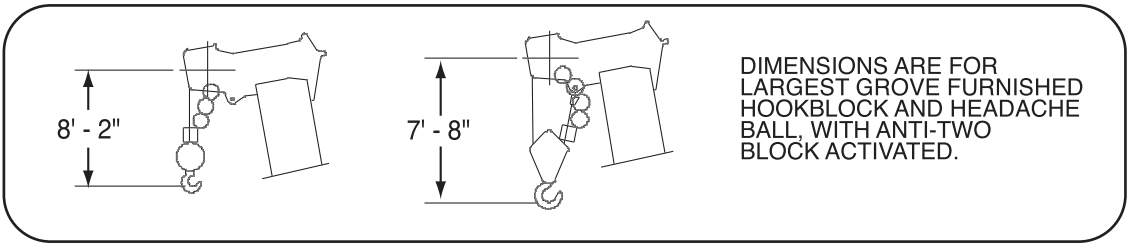
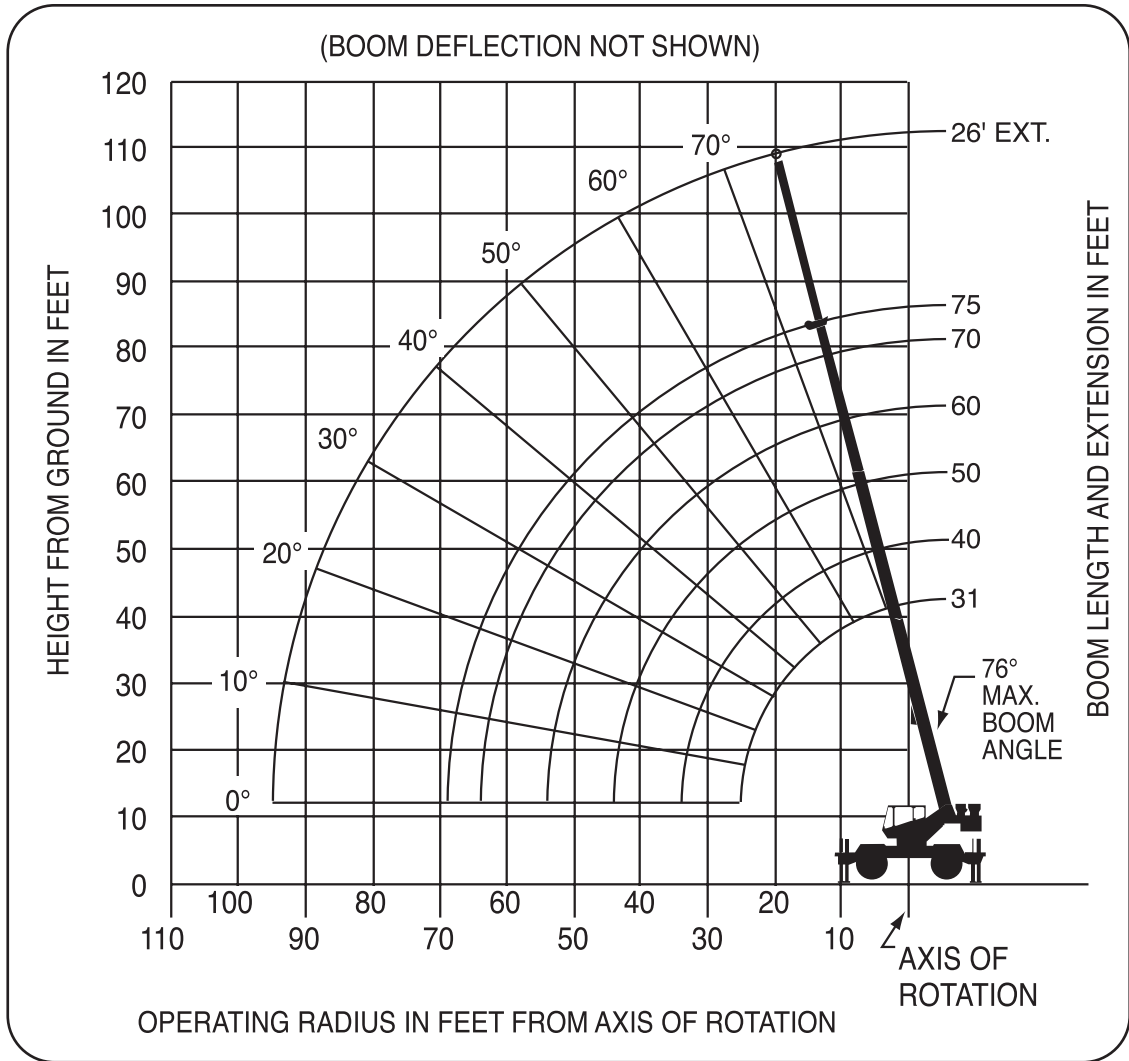
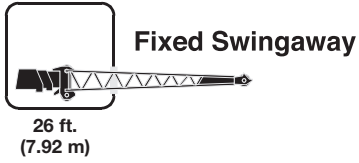
# Dimensions



## RT525E Weights

	GVW		Front		Rear	
	lb.	kg	lb.	kg	lb.	kg
<b>RT525E Basic Machine</b>	52,106	23 635	23,332	10 583	28,774	13 052
<b>Add:</b> 26 ft. Extension	1,000	454	1,684	764	-684	-310
<b>Add:</b> 25 ton (22 mt) 3 sheave hookblock (stowed)	550	249	579	263	-29	-13
<b>Add:</b> 7.5 ton (7 mt) headache ball (stowed)	369	167	388	176	-19	-9
<b>Add:</b> Auxiliary hoist with rope	339	154	-127	-58	466	211
<b>Add:</b> Auxiliary boom nose	142	64	417	189	-275	-125
<b>Remove:</b> Counterweight	-8,400	-3 810	2,668	1 210	-11,068	-5 020

# Working Range



# Superstructure Specifications

## Boom

31 ft. - 75 ft. (9.4 m - 22.9 m) three-section, full power boom. Maximum tip height: 84 ft. (25.6 m)

## \*Optional Fixed Swingaway Extension

26 ft. (7.92 m) Non-offsettable swingaway extension. Stows alongside base boom section. Maximum tip height: 109 ft. (33.2 m)

## Boom Nose

Three metallic sheaves 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 +76°.

## 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, steering wheel, sliding side and rear windows, sliding skylight with electric wiper and sun-screen, 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: 3.0 RPM

## Counterweight

8,400 lbs. (3 810 kg) pinned to superstructure.

## Hydraulic System

Three main gear pumps with a combined capacity of 100 GPM (381 L/min). Maximum operating pressure: 3500 PSI (26.2 MPa). Two individual 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. 90 gallon (341 L) reservoir. Integral oil cooler. System pressure test ports.

## HOIST SPECIFICATIONS Main and Auxiliary Hoist Model HP15B-17G

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: 11,640 lb. (5 280 kg)

Maximum Single Line Speed: 445 FPM (136 m/min)

Maximum Permissible Line Pull:

Standard: 6 x 37 class rope: 11,640 lb. (5 280 kg)

Optional: 35 x 7 class rope: 11,640 lb. (5 280 kg)

Rope Diameter: 5/8 in. (16 mm)

Rope Length: 450 ft. (137 m)

Rope Type: 6 x 37 class EIPS IWRC

\*Optional 35 x 7 class rotation resistant

Maximum Rope Stowage: 750 ft. (228 m)

*\*Denotes optional equipment*

# Carrier Specifications

## 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 setting. All steel fabricated quick release type outrigger floats, 16.5 in. (419 mm) square. Maximum outrigger pad load: 38,900 lb. (17 645 kg)

## Outrigger Controls

Controls and crane level indicator located in cab.

## Engine

Cummins QSB5.9E diesel, six cylinders, turbo-charged, 155 bhp (116 kW) (Gross) @ 2,500 RPM  
Maximum torque: 440 ft. lb. (597 Nm) @ 1,500 RPM

## Fuel Tank Capacity

58 gallons (220 L)

## Transmission

Full powershift with six forward and six reverse speeds. Front axle disconnect for 4 x 2 travel.

## Electrical System

Two 12 V - maintenance free batteries. 12 V starting and lighting. Battery disconnect provided.

## Drive

4 x 4

## Steering

Fully independent power steering:

Front: Full hydraulic steering wheel controlled.

Rear: Full hydraulic switch controlled.

Provides infinite variations, four main steering modes: front only, rear only, crab and coordinated. Rear steer indicating light.

## 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.

## Oscillation Lockouts

Automatic full hydraulic lockouts on rear axle permit oscillation only with boom centered over the front.

## Brakes

Full hydraulic split circuit disc-type brakes operating on all wheels. Spring-applied, hydraulically released transmission-mounted parking brake.

## Tires

20.5 x 25-24PR bias earthmover type.

## Lights

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

## Maximum Speed

24 MPH (39 km/h)

## Gradeability (Theoretical)

70% (Based on 54,000 [24 494 kg] GVW) 20.5 x 25 tires, pumps engaged, 75 ft. (22.9 m) boom, and swingaway.

## 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, hot water heater, hoist mirrors, engine distress A/V warning system, ether injection cold start aid (less canister) and immersion type engine block heater. Auxiliary hoist control valve arrangement (less hoist).

## \* Optional Equipment

- \* AUXILIARY HOIST PACKAGE (includes Model HP15B-17G auxiliary hoist with electronic hoist drum rotation indicator, hoist drum cable follower, 450 ft. (137 m) of 5/8 in. (16 mm) 35 x 7 class wire rope, auxiliary single sheave boom nose)
- \* AIR CONDITIONING PACKAGE (includes hydraulic driven air conditioning)
- \* AUXILIARY LIGHTING PACKAGE (includes cab mounted, 360° rotation spotlight, cab mounted amber flashing light, and dual base boom mounted floodlights)
- \* CONVENIENCE PACKAGE (includes in cab LMI light bar)
- \* Pintle hook - rear
- \* Full length aluminum decking
- \* Cab-controlled cross axle differential locks- front and rear
- \* 360 Degree NYC style positive swinglock
- \* PAT Datalogger

*\*Denotes optional equipment*

## RATED LIFTING CAPACITIES IN POUNDS 31 FT. - 75 FT. BOOM

ON OUTRIGGERS FULLY EXTENDED - 360°

Radius in Feet	#0001						#0003
	Main Boom Length in Feet						26' Ext. & 75'
	31	40	50	60	70	75	101
10	50,000 (63.5)	42,850 (69.5)	39,150 (74.5)				
12	39,300 (59)	38,400 (66.5)	36,100 (72)	*31,450 (75.5)			
15	31,300 (52)	31,300 (61.5)	31,700 (68.5)	27,850 (72.5)	*25,300 (75.5)	*16,200 (75.5)	
20	22,450 (38)	23,050 (52.5)	23,450 (62)	23,250 (67)	21,000 (71)	16,200 (72.5)	*12,650 (75.5)
25	17,150 (12.5)	17,300 (42)	17,450 (55)	17,900 (62)	17,500 (66.5)	13,300 (68.5)	11,550 (75)
30		13,450 (29)	13,700 (47)	14,000 (56)	13,800 (62)	11,200 (64)	10,650 (72)
35			10,500 (38)	10,750 (50)	10,900 (57)	9,600 (59.5)	9,720 (69)
40			8,590 (26)	8,840 (43)	9,000 (52)	8,330 (55)	8,640 (65.5)
45				7,140 (34.5)	7,290 (46)	7,310 (50)	7,620 (62.5)
50				5,740 (24)	5,910 (39.5)	6,050 (44.5)	7,440 (59)
55					4,840 (32)	4,990 (38.5)	7,260 (55.5)
60					3,970 (22)	4,140 (31)	6,660 (52)
65						3,440 (21.5)	5,880 (48)
70							5,340 (44)
75							4,860 (39.5)
80							4,350 (34.5)
85							3,830 (28.5)
90							3,390 (20.5)
Minimum boom angle (°) for indicated length (no load)							0
Maximum boom length (ft.) at 0° boom angle (no load)							75

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						
	31	40	50	60	70	75	101
0 deg.	10,950 (25.3)	7,360 (33.8)	5,190 (43.8)	3,740 (53.8)	3,000 (63.8)	3,000 (68.8)	3,000 (94.8)

NOTE: ( ) Reference radii in feet.

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## ON RUBBER CAPACITIES

### STATIONARY CAPACITIES 360°

Radius in Feet	#9005		
	Main Boom Length in Feet		
	31	40	50
10	23,150 (63.5)	21,750 (69.5)	*20,300 (74.5)
12	21,050 (59)	21,050 (66.5)	20,300 (72)
15	14,500 (52)	14,500 (61.5)	14,500 (68.5)
20	9,080 (38)	9,080 (52.5)	9,080 (62)
25	6,250 (12.5)	6,250 (42)	6,250 (55)
30		4,500 (29)	4,500 (47)
35			3,350 (38)
40			2,560 (26)
Min. boom angle for indicated length (no load)			0
Max. boom length at 0° boom angle (no load)			50

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

Lifting Capacity at Zero Degree			
Boom Angle	Main Boom Length in Feet		
	31	40	50
0°	6,130 (25.3)	3,580 (33.8)	2,100 (43.8)

NOTE: ( ) Reference radii in feet.

\*This capacity is based upon max. boom angle.

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### STATIONARY CAPACITIES DEFINED ARC OVER FRONT (See Note 3 pg 8)

Radius in Feet	#9005		
	Main Boom Length in Feet		
	31	40	50
10	23,150 (63.5)	21,750 (69.5)	20,300 (74.5)
12	23,150 (59)	21,750 (66.5)	20,300 (72)
15	20,650 (52)	20,650 (61.5)	20,300 (68.5)
20	16,800 (38)	16,800 (52.5)	16,800 (62)
25	12,050 (12.5)	12,050 (42)	12,050 (55)
30		8,970 (29)	8,970 (47)
35			6,990 (38)
40			5,600 (26)
Min. boom angle for indicated length (no load)			0
Max. boom length at 0° boom angle (no load)			50

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

Lifting Capacity at Zero Degree			
Boom Angle	Main Boom Length in Feet		
	31	40	50
0°	10,950 (25.3)	7,360 (33.8)	4,780 (43.8)

NOTE: ( ) Reference radii in feet.

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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.

## ON RUBBER CAPACITIES (con't)

### PICK & CARRY CAPACITIES (UP TO 2.5 MPH) - BOOM CENTERED OVER FRONT (See note 7)

Radius in Feet	<b>#9006</b>		
	Main Boom Length in Feet		
	31	40	50
10	24,800 (63.5)	24,800 (69.5)	20,450 (74.5)
12	24,800 (59)	24,800 (66.5)	20,450 (72)
15	20,450 (52)	20,450 (61.5)	20,450 (68.5)
20	15,050 (38)	15,050 (52.5)	15,050 (62)
25	12,050 (12.5)	12,050 (42)	12,050 (55)
30		8,970 (29)	8,970 (47)
35			6,990 (38)
40			5,270 (26)
Min. boom angle for indicated length (no load)			0
Max. boom length at 0° boom angle (no load)			50

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

<b>Lifting Capacity at Zero Degree</b>			
Boom Angle	Main Boom Length in Feet		
	31	40	50
0°	10,950 (25.3)	7,360 (33.8)	4,600 (43.8)

NOTE: ( ) Reference radii in feet.

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### NOTES TO ALL RUBBER CAPACITY CHARTS:

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 20.5x25 (24 ply) tires at 75 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.



# WEIGHT REDUCTIONS FOR LOAD HANDLING DEVICES

26 FT. BOOM EXTENSION	
*Erected -	1,710 lbs.

\*Reduction of main boom capacities

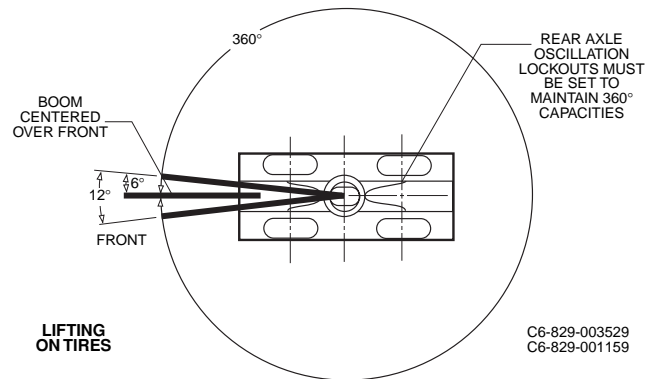
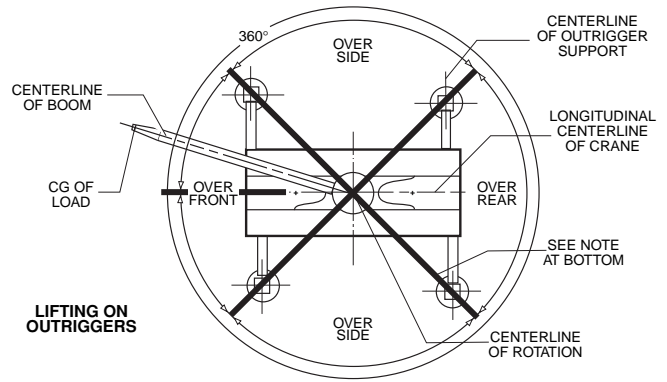
AUXILIARY BOOM NOSE	142 lbs.
HOOKBLOCKS and HEADACHE BALLS:	
25 Ton, 3 Sheave	550 lbs.+
7.5 Ton Overhaul Ball	354 lbs.+

+Refer to rating plate for actual weight.

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.

## Diagram Of Working Area



BOLD LINES DETERMINE THE LIMITING POSITION OF ANY LOAD FOR OPERATION WITHIN WORKING AREAS INDICATED

## LINE PULLS AND REEVING INFORMATION

HOISTS	CABLE SPECS.	PERMISSIBLE LINE PULLS	NOMINAL CABLE LENGTH
Main & Aux.	5/8" (16 mm) 35x7 class Rotation Resistant Min. Breaking Str. 61,200 lb.	11,640 lb.	450 ft.
Main	5/8" (16 mm) 6x37 Class, EIPS, WRC Special Flexible Min. Breaking Str. 41,200 lb.	11,640 lb.	450 ft.

TIRE INFLATION - PSI (BAR)				
SIZE (FRONT & REAR)	LOAD RANGE	TRA CODE	LIFTING SERVICE AND GENERAL TRAVEL	EXTENDED TRAVEL
			STATIC, CREEP & 2.5 MPH (4.0 km/h)	
20.5x25	24 PR	E-3	75 (5.2)	70 (4.8)

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- ▶ 31 - 75 ft. (9.4 - 22.9 m) three section full power boom; maximum tip height: 84 ft. (25.6 m)

- ▶ Acoustically lined cab with tinted safety glass; armrest-mounted single axis controllers for comfortable operation, hot water heater/defroster, and sliding skylight with sunscreen for improved worksite visibility.



- ▶ Optional full-length aluminum decking for surface area



- ▶ 26 ft. (7.9 m) non-offsettable swingaway boom extension; maximum tip height: 109 ft. (33.2 m)

Constant improvement and engineering progress make it necessary that we reserve the right to make specification, equipment, and price changes without notice. Illustrations shown may include optional equipment and accessories and may not include all standard equipment.

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