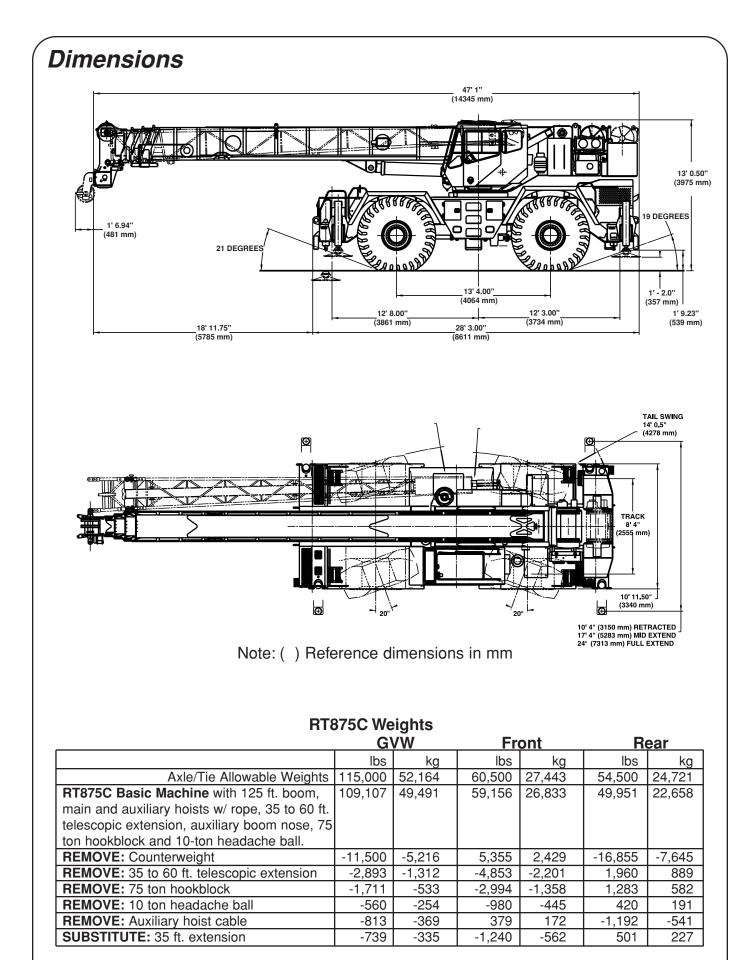
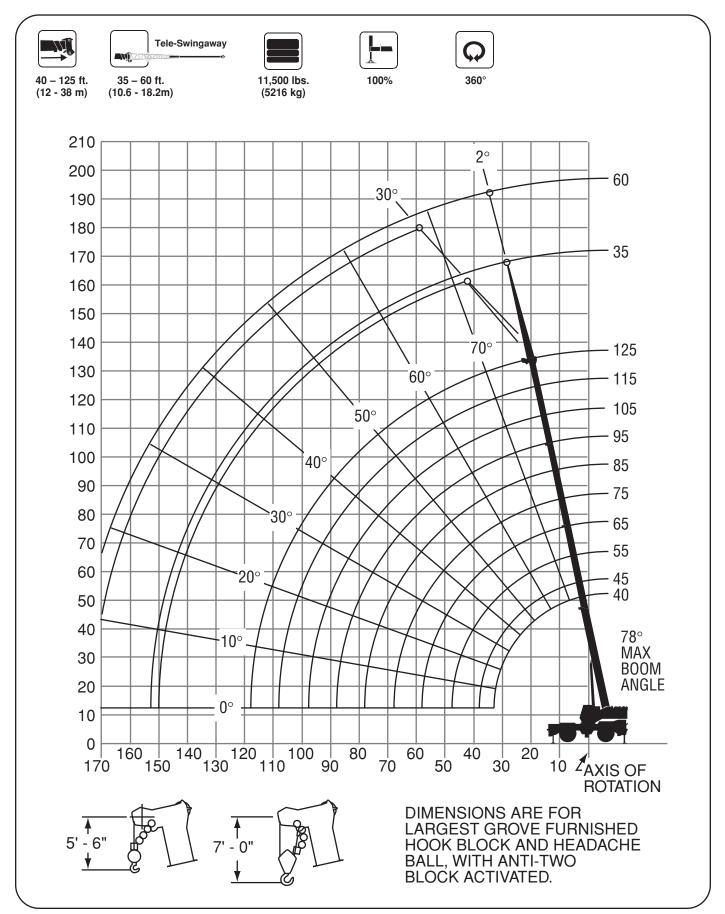




# **ROUGH TERRAIN HYDRAULIC CRANE**



# Working Range



## Superstructure Specifications

#### Boom

40 ft. - 125 ft. (12 m - 38 m) four-section, full power boom. Maximum tip height: 135 ft. (41 m).

## Lattice Extension

35 ft. - 60 ft. (10.6 m - 18.2 m) telescoping lattice swingaway extension offsettable at 2° or 30°. Stows alongside base boom section. Maximum tip height: 193 ft. (59 m).

#### \*Optional Lattice Extension

35 ft. (10.6 m) lattice swingaway extension. Offsettable at 2° or 30°. Stows alongside base boom section. Maximum tip height: 169 ft. (51.5 m).

### **Boom Nose**

Six Nylatron sheaves mounted on heavy duty tapered roller bearings with removable pin-type rope guards. Quick reeving type boom nose. 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 load moment and anti-two block system with audio-visual warning and control lever lockout. These systems provide electronic display of boom angle, boom length, radius, tip height, relative load moment, maximum permissible load, load indication and warning of impending two-block condition.

#### Cab

Full vision, all galvanealed steel fabricated with acoustical lining and tinted safety glass throughout. Deluxe seat with armrest mounted hydraulic single axis controllers. Dash panel incorporates gauges for all engine functions. Other standard features include: skylight screen, hydraulic oil cab heater/defroster, telescoping tilt wheel, sliding side and rear windows, opening skylight, electric windshield wash-wipe, electric skylight wipers, work light, fire extinguisher, seat belt, ashtray and level indicator.

### Swing

Planetary swing with foot applied multi-disc wet brake. Spring applied, hydraulically released swing brake. 360° positive swing lock and 1 position mechanical house lock, operated from cab. Maximum speed: 2.0 RPM.

#### Counterweight

Removable: 11,500 lbs. (5 216 kg). 2,155 lbs. (977 kg) slab I.P.O. auxiliary hoist.

### Hydraulic System

Seven main pumps with a combined capacity of 199.2 GPM (754 LPM).

Maximum operating pressure: 3500 psi (241 bar). Three individual 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. 200 gallon (757 L) reservoir. Remote mounted oil cooler with thermostatically controlled hydraulic motor driven fan/air to oil. System pressure test panel with quick release type fittings for each circuit.

#### Hoist Specifications Main and Auxiliary Hoist

Planetary reduction with automatic spring applied multi-disc brake. Electronic hoist drum rotation indicator, and hoist drum cable followers.

Maximum Single Line Pull: 16,969 lb. (7 697 kg)

Maximum Permissible Line Pull: 12,920 lb. (5 860 kg)

Maximum Single Line Speed: 517 FPM (157 m/min)

Rope Class: 18x19 EIPS WSC, rotation resistant

Rope Diameter: 3/4" (19 mm)

Rope Length: 650 ft. (198 m)

Maximum Rope Stowage: 1,163 ft. (355 m)

## **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, 0%, 50% and fully extended. All steel fabricated, quick release type outrigger floats, 30.5" (775 mm) diameter. Maximum outrigger pad load: 101,524 lbs. (46 050 kg).

## **Outrigger Controls**

Controls and crane level indicator located in cab.

### Engine

Cummins 6CTA 8.3L diesel, six cylinders, turbocharged, 250 bhp (191 kW) (Gross) @ 2,500 RPM. Maximum torque: 650 ft. lbs. (881 Nm) @ 1,800 RPM.

## \*Optional Engine

Caterpillar 3126 DITA diesel, six cylinders, turbocharged, 250 bhp (186 kW) (Gross) @ 2,500 RPM. Maximum torque: 683 ft. lb. (926 Nm) @ 1,650 RPM.

## **Fuel Tank Capacity**

80 gallons (303 L)

#### Transmission

Full powershift with 6 forward and 6 reverse speeds. Rear axle disconnect for  $4 \times 2$  travel.

### **Electrical System**

Two 12 V - maintenance free batteries. 24 V starting and lighting.

#### 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 indicator gauge.Turning radius: 22 ft. 6 in.

### 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 air split circuit operating on all wheels. Springapplied, air released parking brake operating on front and rear axles.

#### Tires

Std. 33.25 x 29 - 32PR earthmover type. \*Optional: 33.25R29 radial.

### Lights

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

#### **Maximum Speed**

25 MPH (40 kph).

## Gradeability (Theoretical)

76% (Based on 104,031 lbs. [47 188 kg] GVW) 33.25 x 29 tires, pumps disengaged, 125 ft. (38 m) boom, plus 35 ft. (10.6 m) swingaway.

### **Miscellaneous Standard Equipment**

Full width steel fenders, dual rear view mirrors, hookblock tiedown, electronic back-up alarm, light package, front stowage well, tachometer/hourmeter, cold start aid (less canister), immersion type block heater, rear wheel position indicator, hydraulic cab heater, hoist mirrors, engine distress A/V warning system, tire inflation kit.

#### **OPTIONAL EQUIPMENT**

\*CHASSIS OPTION PACKAGE (Includes cab controlled cross axle differential locks front and rear.)

- \*AUXILIARY LIGHTING PACKAGE (Includes cab mounted amber flashing light, hoist mounted worklight, and dual base boom mounted flood lights.)
- \*Air conditioning.
- \*Electric override control for rear axle oscillation lockouts.
- \*Remote controlled, cab mounted worklights.
- \*Hookblock and headache ball.
- \*Rear pintle hook.
- \*Auto grease system for turntable.
- \*LMI light bar (in-cab)
- \*Hydraulic counterweight removal system.

\*Denotes optional equipment

## RATED LIFTING CAPACITIES IN POUNDS 40 FT. - 125 FT. BOOM

#### ON OUTRIGGERS FULLY EXTENDED - 360°

Radius					#0	001					
in		Main Boom Length in Feet									
Feet	40	45	55	65	75	85	95	105	115	125	
10	150,000 (70)	105,000 (72.5)									
12	123,500 (67)	105,000 (70)	94,600 (74)								
15	108,000 (61.5)	104,000 (65.5)	88,250 (70.5)	71,050 (74)							
20	78,400 (52.5)	77,850 (58)	76,350 (65)	60,400 (69)	55,250 (72.5)	48,150 (75)					
25	59,450 (41.5)	58,950 (49.5)	58,250 (58.5)	56,100 (64.5)	47,950 (68.5)	41,700 (71.5)	38,000 (73.5)	33,350 (75.5)			
30	46,950 (26)	46,550 (39.5)	45,900 (52)	45,400 (59)	41,950 (64)	36,700 (67.5)	33,300 (70.5)	30,750 (72.5)	24,550 (75)	*23,700 (76.5)	
35		37,700 (26)	37,150 (44.5)	36,700 (53.5)	36,250 (59.5)	32,600 (64)	29,550 (67)	27,300 (69.5)	21,700 (72)	21,900 (74)	
40	See Note 16		30,300 (35.5)	30,100 (47.5)	30,750 (54.5)	29,000 (60)	26,450 (63.5)	24,450 (66.5)	19,350 (69.5)	20,300 (71.5)	
45			24,450 (23)	23,800 (40.5)	24,300 (49.5)	25,350 (55.5)	23,850 (60)	22,000 (63.5)	17,450 (66.5)	18,800 (69)	
50				19,150 (32.5)	19,550 (44)	20,550 (51.5)	21,300 (56.5)	19,850 (60.5)	15,800 (64)	17,050 (66.5)	
60					13,050 (30)	14,000 (41.5)	14,950 (48.5)	15,400 (53.5)	13,250 (58)	14,150 (61.5)	
70						9,730 (28.5)	10,650 (39)	11,100 (46)	11,400 (51.5)	11,850 (55.5)	
80							7,640 (27)	8,060 (37)	8,440 (44.5)	8,800 (49.5)	
90								5,740 (25.5)	6,110 (36)	6,460 (42.5)	
100									4,280 (25)	4,580 (34.5)	
110										3,090 (24)	
		Minimu	m boom ai	ngle (deg.)	for indicate	ed length (r	no load)			0	
		Maximum	n boom len	gth (ft. ) at	0 degree b	oom angle	(no load)			125	

NOTE: ( ) Boom angles are in degrees.

A6-829-101242A

\*Based on maximum obtainable boom angle.

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

# 35 FT. FIXED LENGTH OFFSETTABLE BOOM EXTENSION ON OUTRIGGERS FULLY EXTENDED - $360^{\circ}$

	35 ft. L	ENGTH
Radius in	#0051	#0053
Feet	2° OFFSET	30° OFFSET
40	*12,900 (77)	
45	11,900 (75.5)	
50	11,200 (73.5)	
55	10,600 (71.5)	*7,800 (77)
60	10,050 (69.5)	7,530 (74.5)
65	9,650 (67.5)	7,410 (72.5)
70	9,110 (65.5)	7,280 (70.5)
75	8,700 (63.5)	7,160 (68)
80	8,330 (61.5)	7,050 (66)
85	7,990 (59)	6,950 (64)
90	7,330 (57)	6,850 (61.5)
95	6,330 (54.5)	6,330 (59)
100	5,450 (52.5)	5,450 (56.5)
105	4,660 (50)	4,660 (54)
110	3,950 (47.5)	3,950 (51.5)
115	3,310 (44.5)	3,310 (48.5)
120	2,730 (41.5)	2,730 (45.5)
125	2,200 (38.5)	2,200 (42.5)
130	1,710 (35.5)	1,710 (38.5)
135	1,270 (31.5)	1,270 (34.5)

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

- 1. All capacities above the bold line are based on structural strength of boom extension.
- 2. 35 ft. boom extension length may be used for single line lifting service only.
- 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.
- 6. <u>35 FT. FIXED LENGTH BOOM EXTENSION</u> <u>WARNING</u>: For main boom length greater than 105 ft. with 35 ft. boom extension in working position, the boom angle must not be less than 27.5° since loss of stability will occur causing a tipping condition. The boom angle is not restricted for main boom length equal to or less than 105 ft. This warning also applies for boom extension erection purposes.

## RATED LIFTING CAPACITIES IN POUNDS WITH 35 FT. - 60 FT. TELE-OFFSETTABLE BOOM EXTENSION ON OUTRIGGERS FULLY EXTENDED - 360°

Radius	35 ft. L	ENGTH	60 ft. L	60 ft. LENGTH					
in	#0021	#0023	#0041	#0043					
Feet	2° OFFSET	30° OFFSET	2° OFFSET	30° OFFSET					
40	*12,900 (77)								
45	11,600 (75.5)								
50	10,900 (73.5)		*6,700 (77)						
55	10,300 (71.5)	*7,500 (77)	6,320 (75)						
60	9,750 (69.5)	7,250 (74.5)	6,000 (73.5)						
65	9,250 (67.5)	7,110 (72.5)	5,630 (71.5)						
70	8,810 (65.5)	6,980 (70.5)	5,260 (70)						
75	8,400 (63.5)	6,860 (68)	4,900 (68.5)	*4,000 (77)					
80	8,030 (61.5)	6,750 (66)	4,630 (66.5)	3,700 (74.5)					
85	7,690 (59)	6,650 (64)	4,360 (65)	3,500 (73)					
90	6,840 (57)	6,560 (61.5)	4,100 (63)	3,350 (71)					
95	5,840 (54.5)	5,840 (59)	3,800 (61)	3,270 (69)					
100	4,950 (52.5)	4,950 (56.5)	3,640 (59.5)	3,210 (67)					
105	4,160 (50)	4,160 (54)	3,490 (57.5)	3,150 (65)					
110	3,450 (47.5)	3,450 (51.5)	3,350 (55.5)	3,100 (63)					
115	2,810 (44.5)	2,810 (48.5)	3,220 (53.5)	3,050 (61)					
120	2,230 (41.5)	2,230 (45.5)	3,100 (51)	3,010 (58.5)					
125	1,700 (38.5)	1,700 (42.5)	2,990 (49)	2,970 (56.5)					
130	1,210 (35.5)	1,210 (38.5)	2,770 (47)	2,770 (54)					
135			2,290 (44.5)	2,290 (51.5)					
140			1,850 (42)	1,850 (48.5)					
145			1,450 (39.5)	1,450 (46)					
150			1,070 (36.5)	1,070 (42.5)					
NOTE: ( ) Boo	m angles are in	degrees.	NOTE: ( ) Boom angles are in degrees. A6-829-011806A						

\*This capacity is based upon maximum boom angle.

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

- 1. All capacities above the bold line are based on structural strength of boom extension.
- 2. 35 ft. and 60 ft. boom extension lengths may be used for single line lifting service only.
- 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.
- 6. 35 FT. TELE OFFSETTABLE BOOM EXTEN-SION WARNING: For main boom length greater than 105 ft. with 35 ft. tele. boom extension in working position, the boom angle must not be less than 32.5° since loss of stability will occur causing a tipping condition. The boom angle is not restricted for main boom length equal to or less than 105 ft. This warning also applies for boom extension erection purposes.

60 FT. TELE OFFSETTABLE BOOM EXTEN-SION WARNING: For main boom length greater than 95 ft. with 60 ft. tele. boom extension in working position, the boom angle must not be less than 35° since loss of stability will occur causing a tipping condition. The boom angle is not restricted for main boom length equal to or less than 95 ft. This warning also applies for boom extension erection purposes.

#### RATED LIFTING CAPACITIES ON RUBBER WITH 33.25x29 TIRES

Radius				#9005					
in	Main Boom Length in Feet								
Feet	40	45	55	65	75	85	95		
10	66,250 (70.5)	63,400 (73)							
12	51,800 (67.5)	51,500 (70.5)	50,900 (74.5)						
15	35,850 (62.5)	35,450 (66)	33,500 (71)	30,800 (74.5)					
20	21,500 (53.5)	21,200 (58.5)	20,650 (65)	18,950 (69.5)	21,250 (72.5)	18,200 (75)			
25	14,050 (42.5)	13,800 (50)	13,300 (59)	12,850 (64.5)	13,650 (68.5)	14,800 (71.5)	13,950 (74)		
30	9,430 (28)	8,920 (40)	8,590 (52)	8,260 (59.5)	8,470 (64)	8,920 (68)	9,980 (70.5)		
35		5,750 (26.5)	5,100 (44.5)	4,460 (54)	5,000 (59.5)	6,060 (64)	6,500 (67.5)		
40			3,000 (35.5)	2,160 (47.5)	3,260 (55)	3,870 (60)	4,100 (64)		
45							2,330 (60.5)		

#### STATIONARY CAPACITIES - 360°

NOTE: ( ) Boom angles are in degrees.

A6-829-012279

#### STATIONARY CAPACITIES - DEFINED ARC OVER FRONT (See Note 3 pg 10)

Radius				#9005					
in Feet	Main Boom Length in Feet								
	40	45	55	65	75	85	95		
10	86,100 (70.5)	72,250 (73)							
12	76,400 (67.5)	61,250 (70.5)	51,600 (74.5)						
15	63,250 (62.5)	49,350 (66)	44,300 (71)	42,950 (74.5)					
20	47,850 (53.5)	36,450 (58.5)	34,700 (65)	33,300 (69.5)	34,300 (72.5)	20,150 (75)	13,950 (77)		
25	32,650 (42.5)	28,150 (50)	27,400 (59)	26,150 (64.5)	26,700 (68.5)	20,150 (71.5)	13,950 (74)		
30	23,200 (28)	22,400 (40)	21,600 (52)	20,550 (59.5)	20,950 (64)	20,150 (68)	13,950 (70.5)		
35		16,850 (26.5)	16,500 (44.5)	16,100 (54)	16,500 (59.5)	16,750 (64)	13,950 (67.5)		
40			12,250 (35.5)	11,950 (47.5)	12,550 (55)	13,350 (60)	13,950 (64)		
45			9,140 (23.5)	8,870 (41)	9,450 (50)	9,980 (56)	11,050 (60.5)		
50				6,510 (32.5)	7,070 (44)	7,790 (51.5)	8,620 (56.5)		
60					3,620 (30)	4,400 (41.5)	4,770 (48.5)		
70						1,910 (28.5)	2,740 (39.5)		

NOTE: ( ) Boom angles are in degrees.

A6-829-012278

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

#### RATED LIFTING CAPACITIES ON RUBBER WITH 33.25x29 TIRES (cont'd.)

Radius				#9006					
in Feet	Main Boom Length in Feet								
	40	45	55	65	75	85	95		
10	87,650 (70.5)	84,400 (73)							
12	76,500 (67.5)	74,250 (70.5)	69,200 (74.5)						
15	63,700 (62.5)	63,500 (66)	56,400 (71)	52,100 (74.5)					
20	48,850 (53.5)	48,650 (58.5)	43,700 (65)	38,300 (69.5)	38,300 (72.5)	30,100 (75)	21,400 (77)		
25	32,650 (42.5)	32,400 (50)	31,900 (59)	30,100 (64.5)	30,100 (68.5)	27,150 (71.5)	21,400 (74)		
30	23,200 (28)	22,950 (40)	22,250 (52)	22,100 (59.5)	22,850 (64)	24,000 (68)	21,400 (70.5)		
35		16,850 (26.5)	16,500 (44.5)	16,100 (54)	16,750 (59.5)	17,850 (64)	18,900 (67.5)		
40			12,250 (35.5)	11,950 (47.5)	12,550 (55)	13,550 (60)	14,500 (64)		
45			9,140 (23.5)	8,870 (41)	9,450 (50)	10,350 (56)	11,300 (60.5)		
50				6,510 (32.5)	7,070 (44)	7,950 (51.5)	8,840 (56.5)		
60					3,650 (30)	4,470 (41.5)	5,290 (48.5)		
70						2,180 (28.5)	2,870 (39.5)		
80							1,120 (27)		

#### PICK & CARRY CAPACITIES - UP TO 2.5 MPH BOOM CENTERED OVER FRONT

NOTE: ( ) Boom angles are in degrees.

A6-829-012280

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

- 1. Capacities do not exceed 75% of tipping loads as determined by test in accordance with SAE J765.
- 2. Capacities are applicable to machines equipped with General 33.25x29 (32 ply) tires at 65 psi cold inflation pressure.
- 3. Defined Arc Over front includes 6° on either side of longitudinal centerline of machine.
- 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.

	No Load Stability Data	Main Boom 95 ft.
Front	Min. boom angle (deg.) for indicated length	30
(No Load)	Max. boom length (ft.) at 0 deg. boom angle	75
360 Deg.	Min. boom angle (deg.) for indicated length	56.5
(No Load)	Max. boom length (ft.) at 0 deg. boom angle	45

#### WEIGHT REDUCTIONS FOR LOAD HANDLING DEVICES

35 FT. BOOM EXTENSION			
*Stowed -	767 <b>I</b> bs.		
*Erected -	4,823 lbs.		
35 FT 60 FT. TELE. BOOM EXTENSION			
*Stowed -	1,033 lbs.		
*Erected (Retracted) -	6,499 <b>l</b> bs.		
*Erected (Extended) -	8,740 <b>l</b> bs.		
*Beduction of main boom canacities			

Reduction of main boom capacities

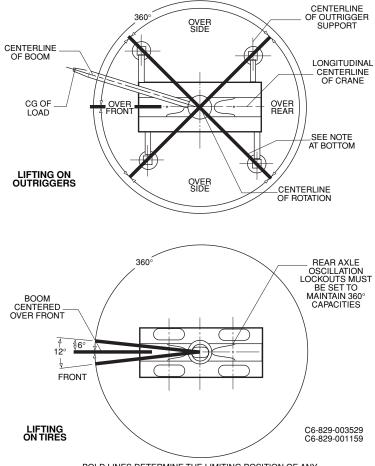
AUXILIARY BOOM HEAD	112 lbs.
HOOKBLOCKS and HEADACHE E	BALLS:
75 ton, 6 sheave	1,711 lbs.+
70 Ton, 6 Sheave	1,674 <b>l</b> bs.+
45 Ton, 3 Sheave	830 lbs.+
15 Ton, 1 Sheave	420 lbs.+
10 Ton Headache Ball	560 lbs.+

+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.

<u>NOTE</u>: 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

HOISTS	CABLE SPECS.	Permissible Line Pulls
Main & Aux. Model 30	3/4" (19 mm) 18x19Class or 35x7 Rotation Resistant Min. Breaking Str. 64,600 lbs.	12,920 <b>l</b> bs.
Main & Aux. Model 30	3/4" (19 mm) 6x37 Class EIPS IWRC Special Flexible Min. Breaking Str. 58,800 lbs.	12,920 <b>l</b> bs.

#### LINE PULLS AND REEVING INFORMATION



#### Grove Worldwide - World

Headquarters Western Hemisphere, Asia/Pacific 1565 Buchanan Trail East P.O. Box 21 Shady Grove, Pennsylvania 17256-0021, USA Tel: [Int + 1] (717) 597-8121 Fax: [Int + 1] (717) 597-4062

#### Grove Europe Limited\*

Europe, Africa, Middle East (Sales & Marketing) 1 Emperor Way Doxford International Business Park Sunderland SR3 3XR, England Tel: [Int + 44] (191) 515-7253 Fax: [Int + 44] (191) 564-0442

#### Grove Europe Limited\*

UK & EIRE (Sales & Service) Telford Road, Bicester Oxfordshire OX6 0TZ, England Tel: [Int + 44] (1869) 878-890 Fax: [Int + 44] (1869) 878-891

#### Deutsche Grove GmbH

*Germany (Sales & Service)* Helmholtzstrasse 12, Postfach 5026 D-40750 Langenfeld, Germany Tel: [Int + 49] (2173) 8909-0 Fax: [Int + 49] (2173) 8909-30

#### Deutsche Grove GmbH

Wilhelmshaven Works Industriegelande West, Postfach 1853 D-26358 Wilhelmshaven, Germany Tel: [Int + 49] (4421) 294-0 Fax: [Int + 49] (4421) 294-301

#### Grove France SAS

France (Sales & Service) 16, Chaussèe Jules-Cèsar, 95520 OSNY B.P. 203, 95523 Cergy Pontoise France Tel: [Int + 33] (1) 303-13150 Fax: [Int + 33] (1) 303-86085

#### Grove Asia/Pacific - Representative Office

Asia/Pacific, Near East 171 Chin Swee Road #10-09 San Centre Singapore 16987 Tel: [Int + 65] 536-6112 Fax: [Int + 65] 536-6119

#### Grove China - Representative Office

Room 713, Towercrest Plaza No. 3 Mai Zi Dian West Road Chao Yang District Beijing, China 100016 Tel: [Int + 86] (10) 64 67 16 90 Fax: [Int + 86] (10) 64 67 16 91

#### Grove Middle East

P.O. Box 290 Dubai, United Arab Emirates Tel: [Int + 971] (4) 3484478 Fax: [Int + 971] (4) 3484478

#### Lifetime Customer Support

Western Hemisphere, Asia/Pacific 1086 Wayne Avenue Chambersburg, Pennsylvania 17201 USA Tel: [Int + 1] (717) 263-5100 Fax: [Int + 1] (717) 267-0404

Europe, Africa, Middle East Grove Europe Limited\* 1 Emperor Way Doxford International Business Park Sunderland SR3 3XR, England Tel: [Int + 44] (191) 565-6281 Parts Fax: [Int + 44] (191) 515-7475 Service Fax: [Int + 44] (191) 515-7340

\*Grove Europe Limited, Registered in England, Number 1845128.

#### http://www.groveworldwide.com

	Distributed By:	
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.		
GROVE® and GROVE LOGO are registered trademarks of GROVE in the U.S. and/or other countries. Copyright® 2000 GROVE. All rights reserved.		