

# GROVE

# TM500E-2

**product  
guide**

## features

- 45 ton (40 mt) Capacity
- 29 ft.-95 ft. (8.8-29 m) 4 section, full power boom
- 32 ft.-102 ft. (9.8-31 m) 4 section, full power boom
- 26 ft.-45 ft. (7.6-13.7 m) offsettable telescopic swingaway extension
- Dual-Axis electronic joystick controllers
- Rear air suspension with shock absorbers
- Cummins QSB 3.3L 110 hp (82 kW) diesel off-road superstructure engine
- Cummins ISC 300 hp (224 kW) diesel on - highway carrier engine



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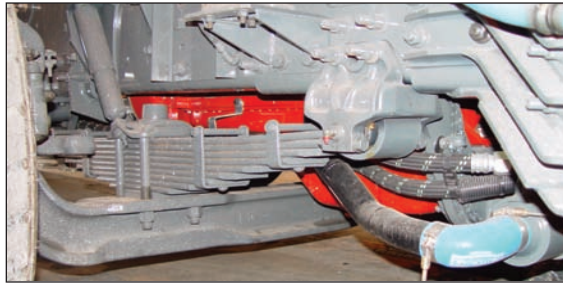


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\*Product may be shown with optional equipment.

## features

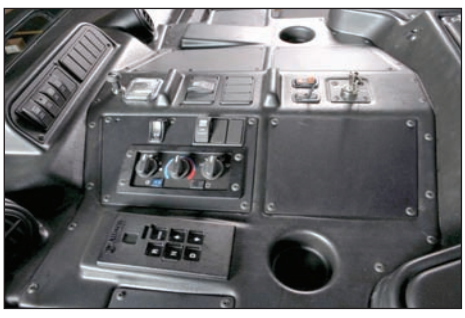
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Spring front suspension w/air ride rear suspension provides a comfortable ride at 65 m.p.h. (105 Km/h)

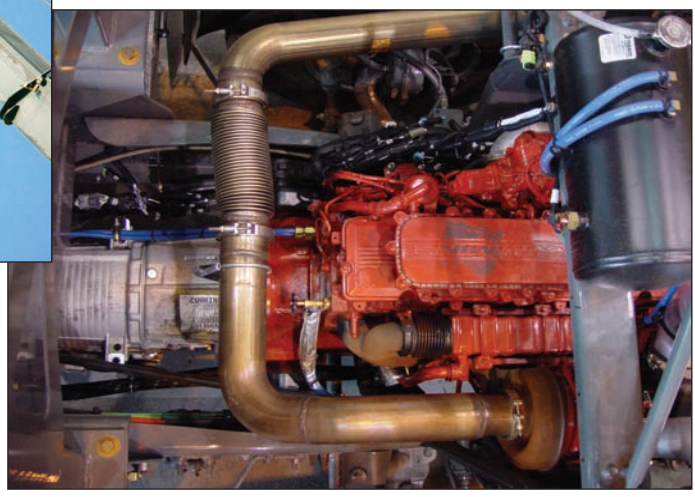


Carrier cab layout provides automotive look. Tilt/telescoping steering wheel enhances operator preference & comfort



Max. tip height of 154 ft. (47.0 m) w/ 45 ft. (13.7 m) tele. extension

Cummins ISC diesel (07) engine meets current On-Highway emissions



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# specifications

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## Superstructure



### Boom

29 ft. - 95 ft. (8.8 m - 29 m) four-section, synchronized full power boom.

Maximum Tip Height: 102.5 ft. (31.2 m).



### \*Optional Boom

32 ft. - 102 ft. (9.8 m - 31.0 m) four-section, synchronized full power boom.

Maximum Tip Height: 110 ft. (33.6 m).



### Telescopic Swingaway Extension

26 ft. - 45 ft. (7.9 m - 13.7 m) offsettable telescopic lattice swingaway extension. Offsets at 0°, 15°, and 30°. Stows alongside base boom section.

Maximum Tip Height: 146 ft. (44.5 m) w/ 95 ft. (29 m) boom.

Maximum Tip Height: 154 ft. (47.0 m) w/102 ft. (31 m) boom.



### \*Optional Fixed Swingaway Extension

26 ft. - 45 ft. (7.9 m) offsettable fixed swingaway extension. Offsets at 0°, 15°, and 30°. Stows alongside base boom section.

Maximum Tip Height: 127.6 ft. (38.9 m) w/ 95 ft. (29 m) boom.

Maximum Tip Height: 135 ft. (41.1 m) w/102 ft. (31 m) boom.



### Boom Nose

Three nylatron sheaves (w/ 95' / 29m boom)

Four nylatron sheaves (w/ 102' / 31m boom)

mounted on heavy duty tapered roller bearings with removable pin-type rope guards. Quick reeve type boom nose.



### 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 electric dual-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, 12V power outlet, fire extinguisher and seat belt.



### Electrical System

Two 12V-maintenance free batteries.

24V electrical system with 24V starting and 24V lights.

Can-Bus diagnostic system.

Master battery disconnect for superstructure electrical system.



### Swing

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



### Engine (Tier III)

Cummins QSB 3.3L 4 cylinder water-cooled diesel off-road engine. 110 bhp (82 kW) @ 2,400 rpm (82 kW).

Maximum torque: 304 ft. lb. (412 Nm)



### Fuel Tank

30 gal. (114L)



### Counterweight (Pinned to superstructure)

95' (29 m) boom: 3,000 lb. (1 360 kg)

102' (31 m) boom: 5,500 lb. (2 495 kg)



### Hydraulic System (S/S)

Two main pumps ([1] piston and [1] gear) with a combined capacity of 82.4 GPM (312 LPM).

Maximum operating pressure: 4,000 psi (275.7 bar).

Three section pressure compensated valve bank. Return line type filter with full flow by-pass protection and service indicator.

Replaceable cartridge with micron filtration rating of 5/12/16.

96gal. (364 L) hyd. reservoir. System pressure test ports.



### Hoist Specifications (HP15C-17G)

#### Main and Auxiliary Hoists

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

Maximum Single Line Pull:

1st layer: 11,640 lb (5,280 kg.)

3rd layer: 9,530 lb (4,323 kg.)

5th layer: 8,060 lb (3,656 kg.)

Maximum Permissible Line Pull:

11,640 lb. (5,280 kg.) with 6x37 class rope.

11,640 lb. (5,280 kg.) with 35x7 class rope.

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

Rope Construction:

6X36 EIPS IWRC, Special Flexible

35x7 Flex-X, Rotation Resistant

Rope Diameter: 5/8" (16 mm)

Rope Length:

Main Hoist: 450 ft. (137.0 m)

Auxiliary Hoist: 450 ft. (137.0 m)

Maximum Rope Stowage: 596 ft. (181 m)

\*Denotes optional equipment

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# specifications

## Carrier

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### Chassis

Commercial application specific design. "C" section frame fabricated from high-strength, low alloy steel with sub-frame "Huck-Bolted". 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, 24.0" (610 mm) round. Optional aluminum outrigger pads available in place of steel.

Maximum outrigger pad load: 60,000 lb. ( 27 216kg).



### Outrigger Controls

Located in the superstructure cab, requires two hand operation. Crane level indicator (360° sight bubble) on left side of console. Carrier mounted controls with emergency shutdown located on each side of carrier for set-up also. (note: no front stabilizer required)



### Engine (07 E.P.A.)

Cummins ISC07 diesel, six cylinders, turbo-charged. 300 bhp (224 kW) (Gross) @ 2,000 RPM. Maximum torque: 860 ft. lb. (1 166 Nm) @ 1,300 RPM. Remote mounted oil check dipstick & oil fill tube.



### Fuel Tank

75 gallons (284 L) aluminum.



### Transmission

Allison automatic push button with 6 speeds forward and 1 reverse.

Integral torque convertor. Remote mounted transmission dipstick. Synthetic fluid.



### Electrical System

Three 12 V - maintenance free batteries.

12 V starting and 12 V lighting. Master battery disconnect for carrier electrical system.



### Drive

6 x 4 x 2.



### Steering

Front axle, mechanical with hydraulic power assist controlled by the steering wheel.

Turning radius: 41.6 ft. (12.7m)



### Axles

Front: Single, Meritor Non-drive / steer with 20,000 lb (9 072 kg) rating.

Rear: Dual, drive / non-steer single reduction drive, inter-axle differential lock, with 46,000 lb (20 866 kg) rating. Synthetic fluids.



### Brakes

ABS, S-cam, dual line air system operating on all wheels. Spring - applied, air released parking brake acting on rear axles. Air dryer is standard.



### Tires

Std. Front: 425/65R22.5 radial highway tread tubeless singles.

Std. Rear: 11R22.5 highway tread tubeless duals.



### Suspension

Front: Spring mounted single axle with shock absorbers.

Rear: Air bags with shock absorbers.



### Lights

Full lighting including turn indicators, head, tail, brake and hazard warning lights. Day-time running lights.



### Cab

Cab over / low profile 2 person design w/ manual hydraulic tilt. Double galvanized steel fabricated with acoustical lining and tinted glass throughout. Deluxe fabric covered, fully air adjustable drivers seat w/ armrests & 3 point retractable seatbelt. Complete driving controls and engine instrumentation including tilt steering wheel, tachometer, hourmeter, engine oil pressure, engine coolant temperature, fuel level, air system pressure, & speedometer gauges, transmission temperature warning, low air warning, & park brake indicator. 50,000 BTU heater / defroster, & 28,500 BTU air conditioning combination. Wired for radio.



### Maximum Speed

65 MPH (104.6 kph)



### Gradeability (Theoretical)

32% based on 57,127 lb (25 913kg) G.V.W.

## Miscellaneous Standard Equipment

Full length aluminum decking, dual West Coast style rear view mirrors, electronic back-up alarm, hook block and headache ball stowage areas', hoist mirrors, aluminum front / rear wheels (outer rear only), stainless steel exhaust system w/ aluminum heat shield.

## Optional Equipment

\*AUXILIARY HOIST PACKAGE (includes Model HP15C-17G auxiliary hoist with electronic hoist drum rotation indicator, hoist drum cable follower, 450 ft. (137.0 m) of 5/8 in. (16 mm) 35 x 7 class wire rope and auxiliary single sheave boom nose.

\*AUXILIARY LIGHTING PACKAGE (includes cab mounted amber flashing light and dual base boom mounted floodlights.)

\*LMI light bar (in cab)

\*Pusher axle

\*S/S Air conditioning (28,500 BTU)

\*Full width rear mounted aluminum stowage box with access steps

\*Aluminum right side mounted sling box

\*Cross axle differential lock.

\*Remote drive / steer

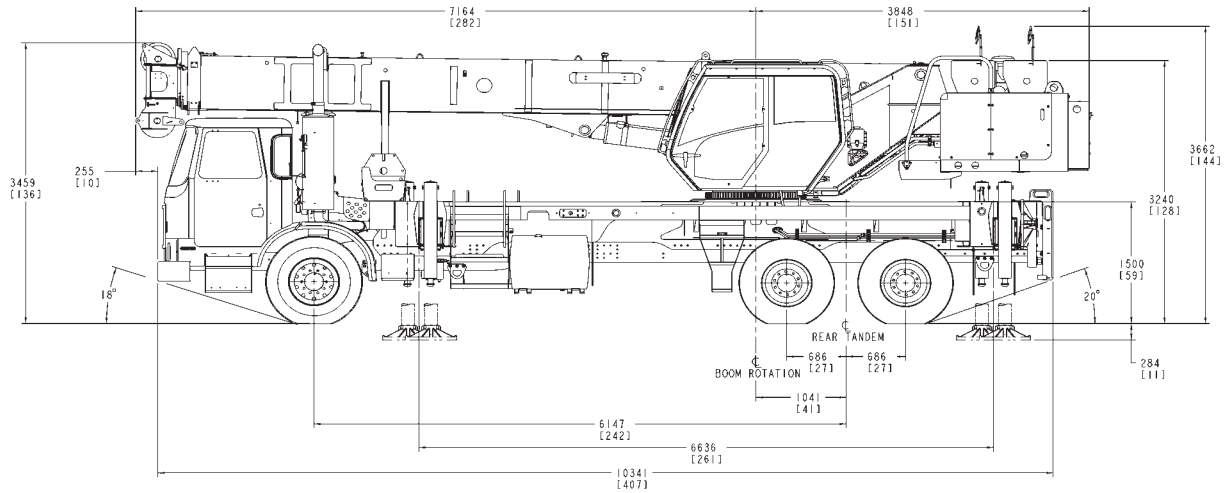
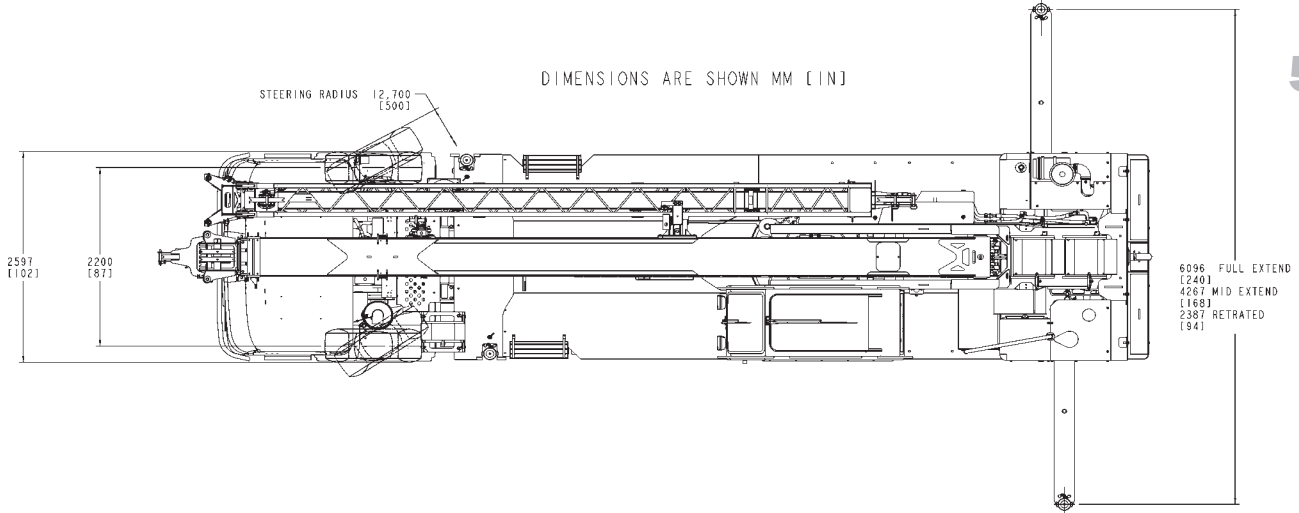
\*Tandem steer (4 axle) - "special order"

\*Denotes optional equipment

# dimensions

## 95'/29 m boom

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Weights	Gross (lbs./kg.)	Front (lbs./kg.)	Rear (lbs./kg.)
<b>Axle Allowable</b>			
Basic machine including 95 ft. (29.0 m) main boom, main hoist with 450 ft. (137.0 m) of rope, full counterweight + IPO, 7.5 T (6.8 mt) headache ball, 25T (22.6 mt) hookblock, & boom extension hangers.	<b>57,127</b> (25 913 kg)	<b>16,906</b> (7 669 kg)	<b>40,221</b> (18 244 kg)
<b>Additions:</b>			
26 ft. 45 ft. (7.9 - 13.7 m) telescopic boom extension	<b>1,626</b> (738 kg)	<b>1,139</b> (517 kg)	<b>487</b> (221 kg)
Auxilliary Hoist + 450 ft. (137.0 m) of 35 x 7 hoist cable ILO the IPO counterweight	<b>388</b> (176 kg)	<b>-128</b> (-58 kg)	<b>516</b> (234 kg)
Air conditioning to S/S cab	<b>77</b> (35 kg)	<b>-12</b> (5 kg)	<b>89</b> (40kg)

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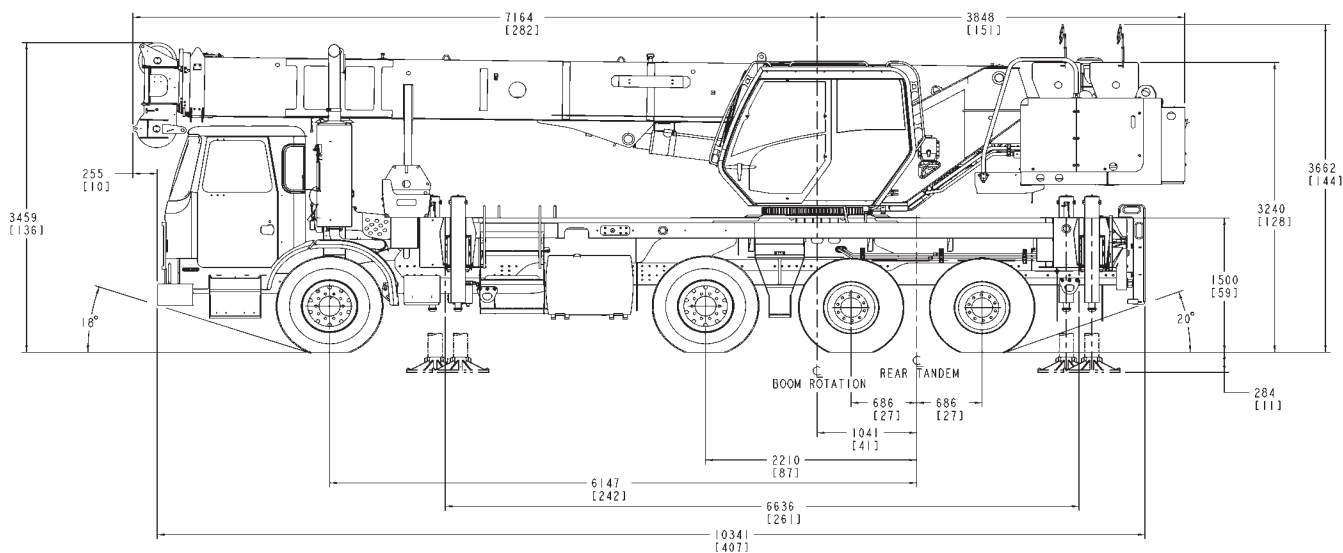
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# dimensions

## 95'/29 m boom w/pusher axle

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DIMENSIONS ARE SHOWN MM [IN]



Weights	Gross (lbs./kg.)	Front (lbs./kg.)	Pusher (lbs.kg.)	Rear (lbs./kg.)
<b>Axle Allowable</b>				
Basic machine w/pusher axle including 95 ft. (29.0 m) main boom, main hoist with 450 ft. (137.0 m) of rope, full counterweight + IPO, 25T (22.6 mt) hookblock, 7.5 T (6.8 mt) headache ball & boom extension hangers	<b>59,039</b> (26 780 kg)	<b>10,467</b> (4 748 kg)	<b>20,000</b> (9 072 kg)	<b>28,572</b> (12 960 kg)
<b>Additions:</b>				
26 ft. 45 ft. (7.9 - 13.7 m) telescopic boom extension	<b>1,626</b> (738 kg)	<b>1,139</b> (517 kg)	<b>NO</b> <b>CHANGE</b>	<b>487</b> (221 kg)
Auxilliary Hoist + 450 ft. (137.0 m) of 35 x 7 hoist cable ILO the IPO counterweight	<b>388</b> (176 kg)	<b>-128</b> (-58 kg)	<b>NO</b> <b>CHANGE</b>	<b>516</b> (234 kg)
Air conditioning to S/S cab	<b>77</b> (35 kg)	<b>-12</b> (5 kg)	<b>NO</b> <b>CHANGE</b>	<b>89</b> (40kg)

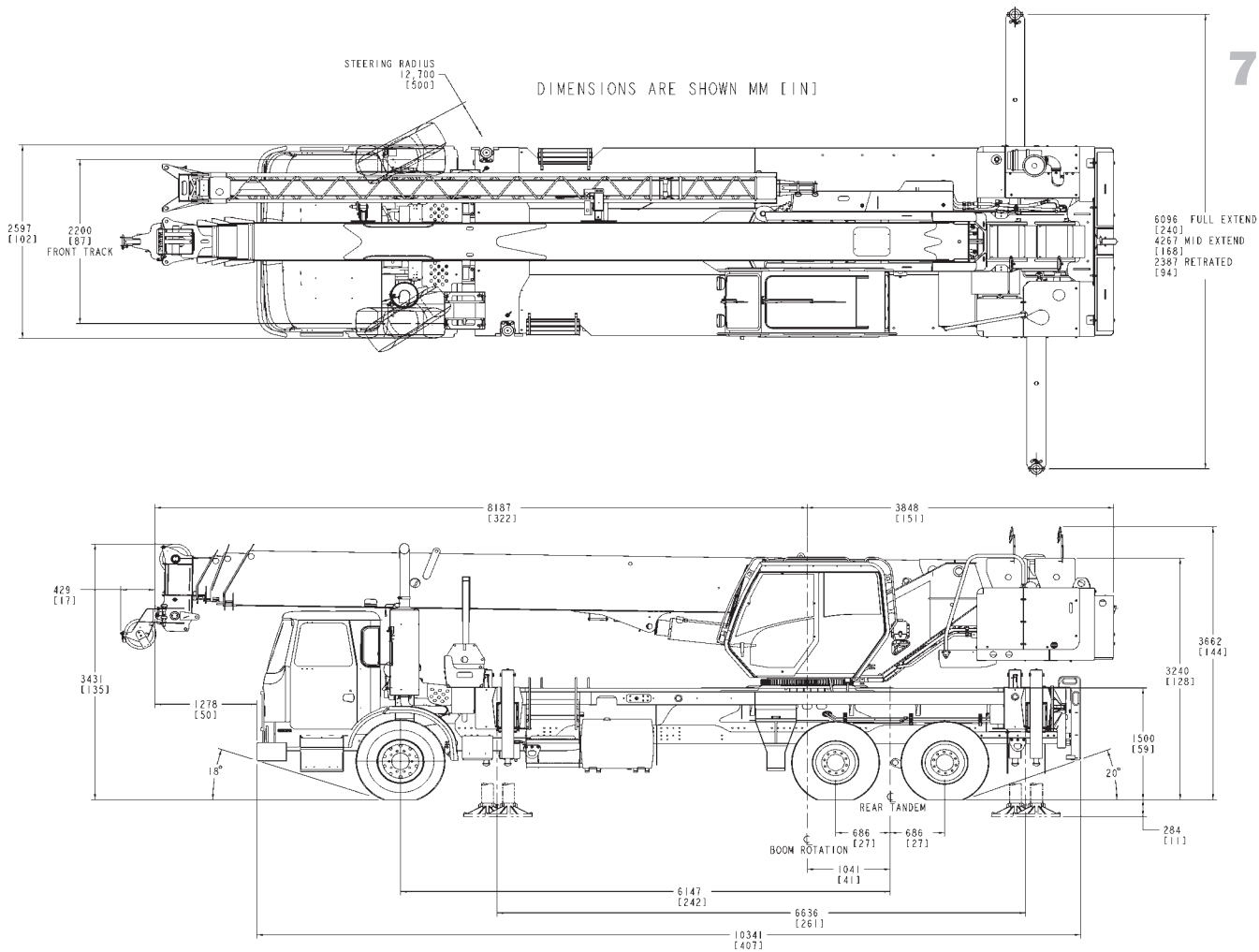
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**GROVE**

## dimensions

### 102'/31 m boom

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Weights	Gross (lbs./kg.)	Front (lbs./kg.)	Rear (lbs./kg.)
<b>Axle Allowable</b>			
Basic machine including 102 ft. (31.0 m) main boom, main hoist with 450 ft. (137.0 m) of rope, full counterweight + IPO, 7.5 T (6.8 mt) headache ball, 25T (22.6 mt) hookblock, & boom extension hangers	<b>61,770</b> (28 019 kg)	<b>17,903</b> (8 112 kg)	<b>43,867</b> (19 898 kg)
<b>Additions:</b>			
26 ft. 45 ft. (7.9 - 13.7 m) telescopic boom extension	<b>1,626</b> (738 kg)	<b>1,139</b> (517 kg)	<b>487</b> (221 kg)
Auxilliary Hoist + 450 ft. (137.0 m) of 35 x 7 hoist cable ILO the IPO counterweight	<b>388</b> (176 kg)	<b>-128</b> (-58 kg)	<b>516</b> (234 kg)
Air conditioning to S/S cab	<b>77</b> (35 kg)	<b>-12</b> (5 kg)	<b>89</b> (40kg)

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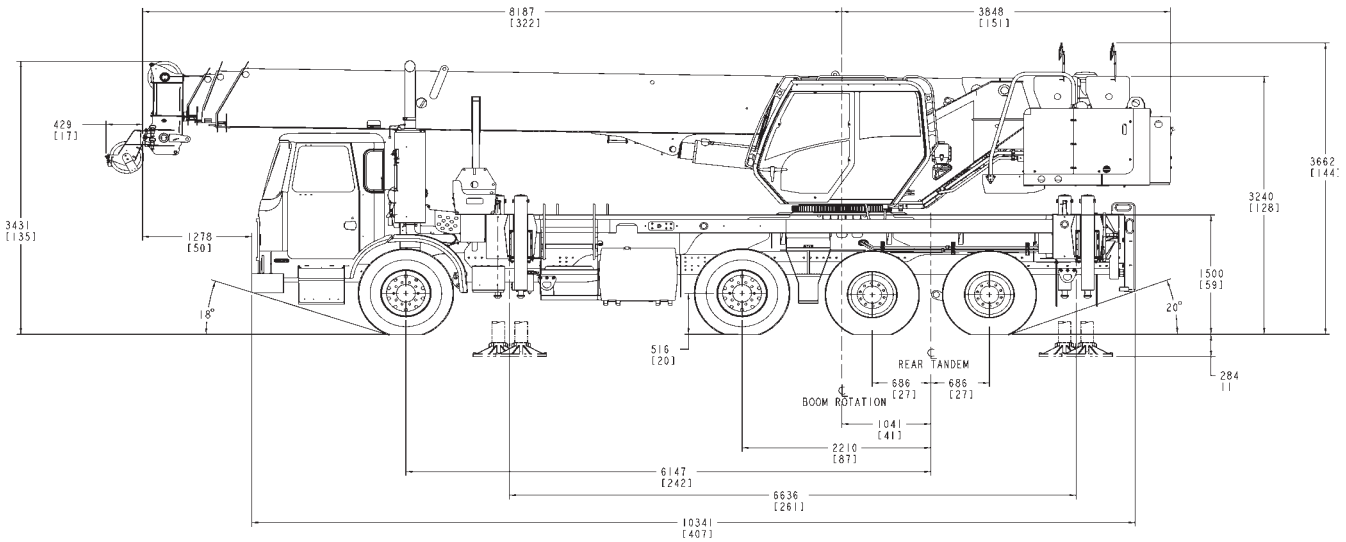
GROVE

# dimensions

## 102'31 m boom w/pusher axle

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DIMENSIONS ARE SHOWN MM [IN]



Weights	Gross (lbs./kg.)	Front (lbs./kg.)	Pusher (lbs./kg.)	Rear (lbs./kg.)
<b>Axle Allowable</b>				
Basic machine w/pusher axle including 102 ft. (31.0 m) main boom, main hoist with 450 ft. (137.0 m) of rope, full counterweight + IPO, 25T (22.6 mt) hookblock, 7.5 T (6.8 mt) headache ball & boom extension hangers	<b>63,682</b> (28 886 kg)	<b>11,463</b> (5 200 kg)	<b>20,000</b> (9 072 kg)	<b>32,219</b> (14 615 kg)
<b>Additions:</b>				
26 ft. 45 ft. (7.9 - 13.7 m) telescopic boom extension	<b>1,626</b> (738 kg)	<b>1,139</b> (517 kg)	<b>NO CHANGE</b>	<b>487</b> (221 kg)
Auxilliary Hoist + 450 ft. (137.0 m) of 35 x 7 hoist cable ILO the IPO counterweight	<b>388</b> (176 kg)	<b>-128</b> (-58 kg)	<b>NO CHANGE</b>	<b>516</b> (234 kg)
Air conditioning to S/S cab	<b>77</b> (35 kg)	<b>-12</b> (5 kg)	<b>NO CHANGE</b>	<b>89</b> (40kg)

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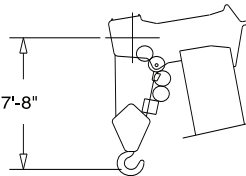
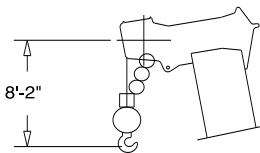
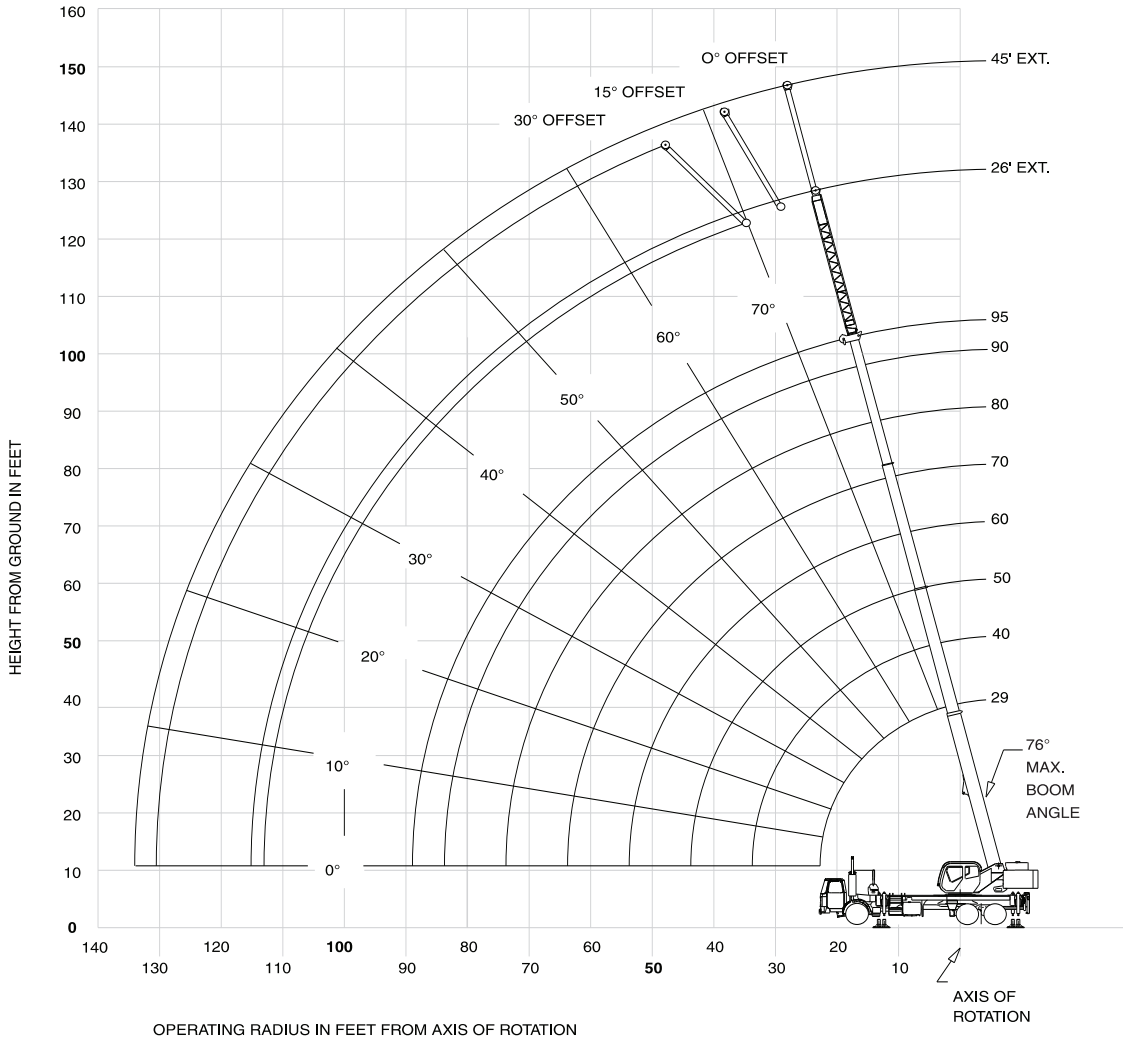
**GROVE**



## working range

### 29-95' main boom + 26-45' lattice extension

(BOOM DEFLECTION NOT SHOWN)



DIMENSIONS ARE FOR LARGEST GROVE FURNISHED HOOK BLOCK AND HEADACHE BALL, WITH ANTI-TWO BLOCK ACTIVATED.

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.

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# load charts

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29-95 ft. 26-45 ft. 3,000 lb. 100% 360°

20 ft. 0 in. spread

Pounds

Feet	**26 ft. LENGTH			45 ft. LENGTH		
	0° OFFSET	15° OFFSET	30° OFFSET	0° OFFSET	15° OFFSET	30° OFFSET
30	*8,750 (75.5)					
35	8,750 (75)	*7,770 (75.5)		*5,250 (75.5)		
40	8,500 (72.5)	7,600 (75)	*6,300 (75)	5,250 (75)		
45	8,130 (69.5)	7,130 (72.5)	5,920 (74.5)	5,160 (74)	*3,660 (75.5)	
50	7,420 (67)	6,420 (70)	5,650 (72)	4,850 (72)	3,600 (75)	
55	6,520 (64.5)	5,630 (67)	5,400 (69.5)	4,440 (69.5)	3,480 (73)	*3,000 (75.5)
60	5,820 (61.5)	4,950 (64.5)	4,990 (66.5)	4,110 (67.5)	3,370 (71)	2,950 (75)
65	5,100 (59)	4,380 (61.5)	4,450 (63.5)	3,870 (65)	3,260 (68.5)	2,850 (72.5)
70	4,500 (56)	3,860 (58.5)	3,940 (60.5)	3,690 (62.5)	3,160 (66)	2,750 (70)
75	3,910 (52.5)	3,410 (55.5)	3,480 (57.5)	3,550 (60)	3,040 (63.5)	2,660 (67.5)
80	3,480 (49.5)	3,010 (52)	3,070 (54)	3,390 (57.5)	2,920 (61)	2,570 (65)
85	3,040 (46)	2,650 (48.5)	2,700 (50.5)	3,080 (55)	2,800 (58.5)	2,500 (62)
90	2,580 (42.5)	2,330 (45)	2,360 (46.5)	2,760 (52.5)	2,700 (55.5)	2,430 (59.5)
95	2,170 (38.5)	2,040 (41)	2,070 (42)	2,470 (49.5)	2,590 (53)	2,380 (56.5)
100	1,800 (33.5)	1,780 (36.5)	1,700 (37.5)	2,200 (46.5)	2,360 (50)	2,320 (53)
105	1,470 (28.5)	1,510 (31)		1,960 (43)	2,140 (46.5)	2,210 (49.5)
110	1,180 (21.5)			1,740 (39.5)	1,910 (43)	1,970 (46)
115				1,490 (36)	1,620 (39)	1,650 (42)
120				1,230 (31.5)	1,350 (34.5)	1,360 (37)
125				1,000 (26.5)	1,110 (29.5)	
Min. boom angle for indicated length 10° (no load)		24°	30°	25°	25°	30°
Max. boom length at 0° boom angle (no load)		90 ft.			80 ft.	

NOTE: ( ) Boom angles are in degrees.  
 #LMI operating code. Refer to LMI manual for instructions.  
 \*This capacity based on maximum boom angle.  
 \*\*26 ft. capacities are also applicable to fixed offsettable ext. However, the LMI codes will change to #0051, #0052 and #0053 for 0°, 15° and 30° offset, respectively.

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**NOTES:**

1. All capacities above the bold line are based on structural strength of boom extension.
2. 26 ft. and 45 ft. 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 properly extended and vertical jacks set only.
6. When lifting over the main boom nose with 26 ft. or 45 ft. extension erected, the outriggers must be fully extended or 50% extended (14' spread).

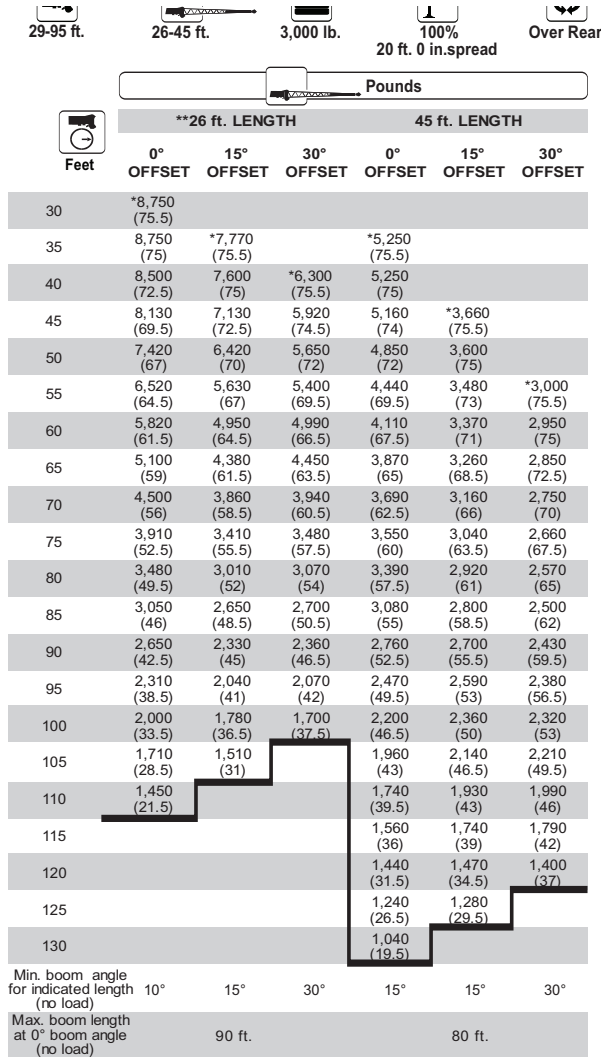
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**GROVE**

# load charts

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NOTE: ( ) Boom angles are in degrees.  
 #LMI operating code. Refer to LMI manual for instructions.  
 \*This capacity based on maximum boom angle.  
 \*\*26 ft. capacities are also applicable to fixed offsettable ext. However, the LMI codes wto #0051, #0052 and #0053 for 0°, 15° and 30° offset, respectively.  
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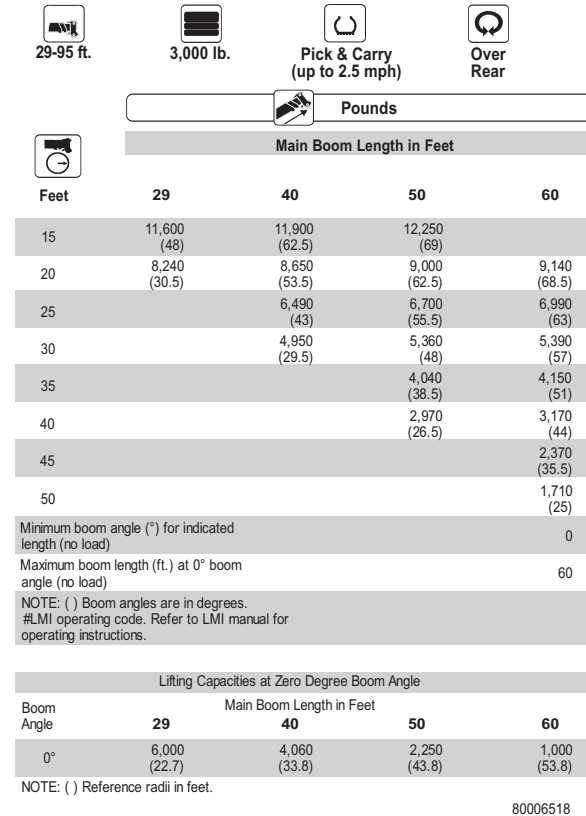
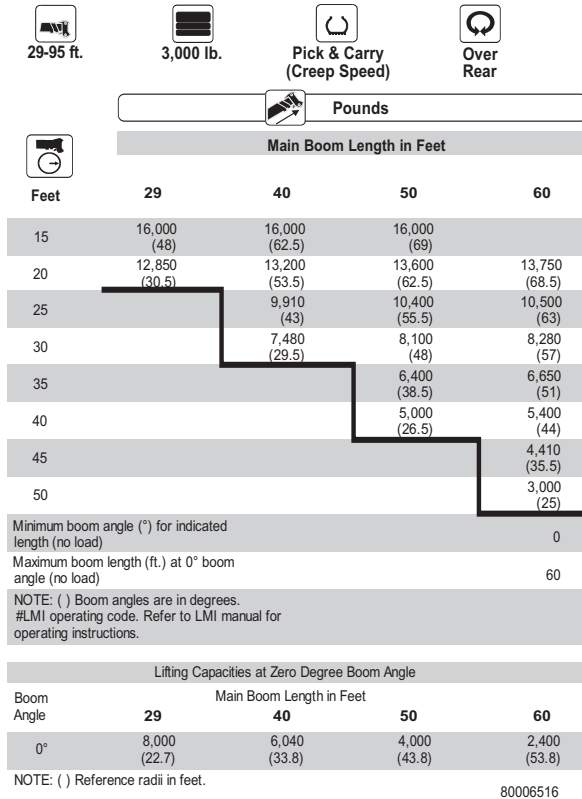
**NOTES:**

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- 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.
- Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
- Capacities listed are with outriggers properly extended and vertical jacks set only.
- When lifting over the main boom nose with 26 ft. or 45 ft. extension erected, the outriggers must be fully extended or 50% extended (14' spread).

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# load charts

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**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 based on rear tire size of 11R22.5 at 105 psi cold inflation pressure.
3. Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.
4. All rubber lifting depends on proper tire inflation, capacity and condition. Capacities must be reduced for lower tire inflation pressure. Damaged tires are hazardous to safe operation of crane.
5. Capacities are applicable only with machine on firm level surface and with mechanical swing lock engaged.
6. On rubber lifting with boom extension is not permitted.
7. For 2.5 mph pick and carry operation boom must be centered over rear of machine, mechanical swing lock engaged and load restrained from swinging. When handling loads in the structural range, travel should be reduced to creep speed.
8. Lifting over side on rubber is not permitted.
9. **WARNING:** Prior to any 'on rubber' operation, extend outrigger beams (fully or 50%), extend jack cylinders and level crane. Swing boom directly over rear and engage swing lock. Outrigger jack cylinders may then be retracted for on rubber operation. Do not rotate superstructure over the side while on rubber.
10. Creep - not over 200 ft. of movement in any 30 minute period and not exceeding 2.5 mph.
11. Air bags must be deflated when lifting on rubber.

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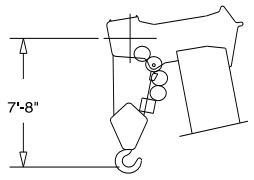
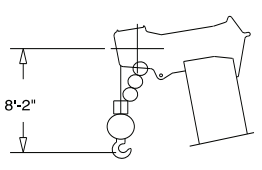
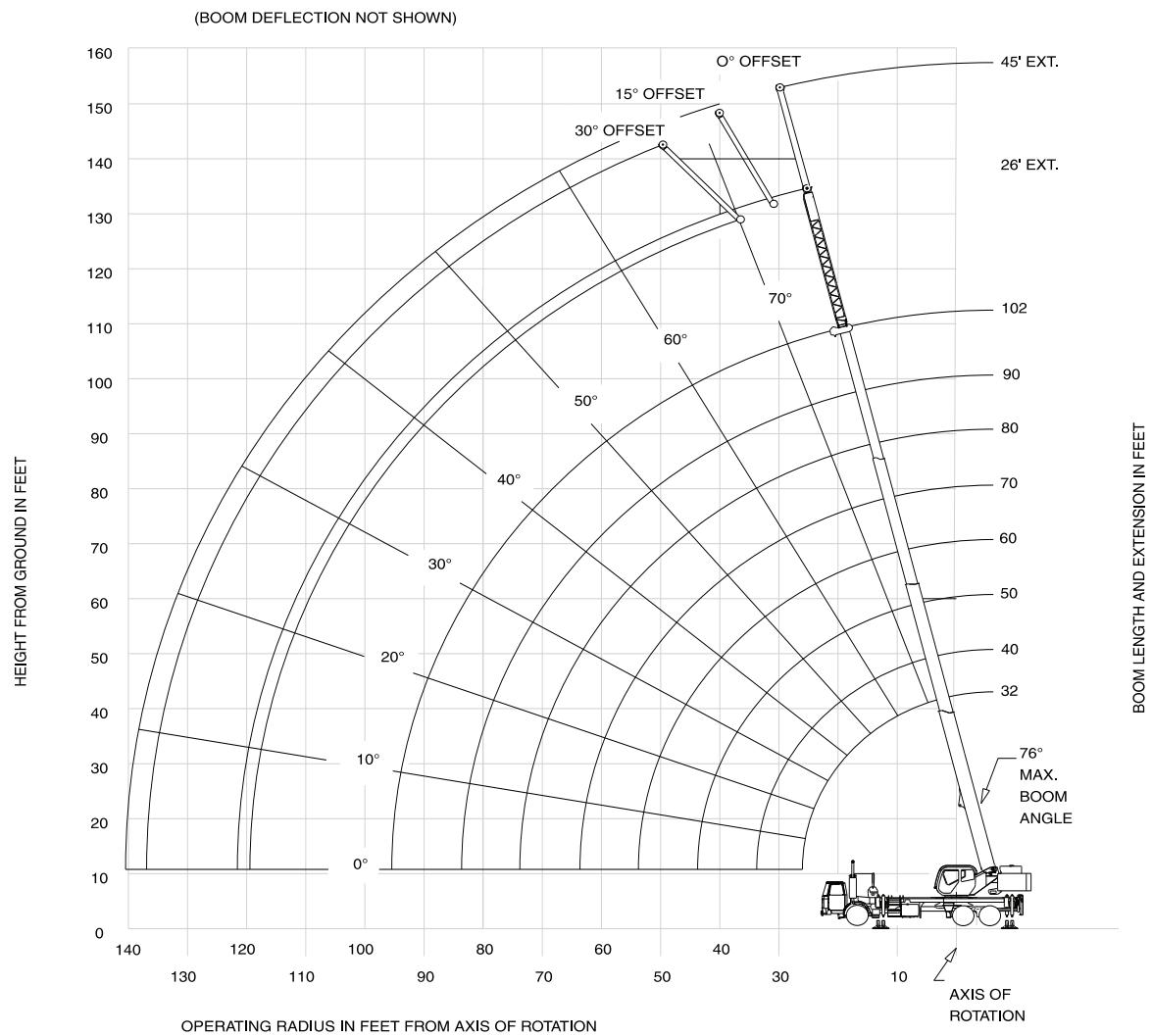
**GROVE**

TM500E-2

# working range

## 32-102' main boom + 26-45' lattice extension

14



DIMENSIONS ARE FOR LARGEST GROVE FURNISHED HOOK BLOCK AND HEADACHE BALL, WITH ANTI-TWO BLOCK ACTIVATED.

**TM500E-2**

**GROVE**

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 charts

15



Feet	Main Boom Length in Feet							
	32	40	50	60	70	80	90	102
8	80,000 (69)							
10	72,750 (65)	50,700 (70.5)	48,500 (75.5)					
12	62,600 (60.5)	50,700 (67.5)	48,500 (73)	*46,400 (76)				
15	49,200 (54)	49,700 (62.5)	48,500 (69)	44,300 (73.5)	*38,700 (76)			
20	35,500 (41)	35,950 (53.5)	36,350 (62.5)	35,300 (68)	31,000 (72)	29,700 (75)	*22,000 (76)	
25	27,100 (20)	27,550 (43.5)	27,950 (55.5)	28,150 (62.5)	25,800 (67.5)	24,600 (71)	22,000 (74)	*18,500 (76)
30		21,900 (30)	22,300 (48)	22,500 (57)	21,800 (63)	20,800 (67)	18,350 (71)	17,500 (73.5)
35			18,200 (38.5)	18,400 (50.5)	18,550 (58)	17,800 (63)	15,600 (67)	15,200 (70.5)
40				15,100 (43.5)	15,300 (52.5)	15,300 (58.5)	13,500 (63.5)	13,200 (67.5)
45	See Note 16			12,300 (35.5)	12,350 (47)	12,350 (54)	11,750 (60)	11,600 (64)
50				10,050 (24.5)	10,150 (40.5)	10,150 (49.5)	10,150 (56)	10,150 (61)
55					8,440 (33)	8,490 (44)	8,470 (51.5)	8,440 (57.5)
60						7,040 (23)	7,120 (38)	7,100 (47)
65							5,970 (31)	5,980 (42)
70								5,950 (50)
75								5,010 (21.5)
80								5,030 (36.5)
85								4,220 (30)
90								4,220 (41.5)
95								3,520 (21)
								3,530 (36.5)
								2,920 (30.5)
								2,390 (23.5)
								1,920 (10)

Minimum boom angle (°) for indicated length (no load) 0  
Maximum boom length (ft.) at 0° boom angle (no load) 102

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

Boom Angle	Main Boom Length in Feet							
	32	40	50	60	70	80	90	102
0°	25,700 (26)	18,700 (33.8)	12,800 (43.8)	8,730 (53.8)	6,150 (63.8)	4,390 (73.8)	3,060 (83.8)	1,880 (95.5)

NOTE: ( ) Reference radii in feet. 80001204B



Feet	Main Boom Length in Feet							
	32	40	50	60	70	80	90	102
8	+90,000 (69)							
10	72,750 (65)	50,700 (70.5)	48,500 (75.5)					
12	62,600 (60.5)	50,700 (67.5)	48,500 (73)	*46,400 (76)				
15	49,200 (54)	49,700 (62.5)	48,500 (69)	44,300 (73.5)	*38,700 (76)			
20	35,500 (41)	35,950 (53.5)	36,350 (62.5)	35,300 (68)	31,000 (72)	29,700 (75)	*22,000 (76)	
25	27,100 (20)	27,550 (43.5)	27,950 (55.5)	28,150 (62.5)	25,800 (67.5)	24,600 (71)	22,000 (74)	*18,500 (76)
30		21,900 (30)	22,300 (48)	22,500 (57)	21,800 (63)	20,800 (67)	18,350 (71)	17,500 (73.5)
35			18,200 (38.5)	18,400 (50.5)	18,550 (58)	17,800 (63)	15,600 (67)	15,200 (70.5)
40				15,100 (43.5)	15,300 (52.5)	15,500 (58.5)	13,500 (63.5)	13,200 (67.5)
45	See Note 16			12,900 (35.5)	13,050 (47)	13,150 (54)	11,750 (60)	11,600 (64)
50				11,000 (24.5)	11,150 (40.5)	11,200 (49.5)	10,350 (56)	10,200 (61)
55					9,560 (33)	9,660 (44)	9,170 (51.5)	9,040 (57.5)
60						8,240 (23)	8,330 (38)	8,170 (47)
65							7,200 (31)	7,300 (42)
70								7,190 (50)
75								6,240 (21.5)
80								6,300 (36.5)
85								6,340 (46)
90								5,420 (30)
95								5,460 (41.5)
								4,660 (21)
								4,710 (36.5)
								4,060 (30.5)
								3,480 (23.5)
								2,980 (10)

Minimum boom angle (°) for indicated length (no load) 0  
Maximum boom length (ft.) at 0° boom angle (no load) 102

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

Lifting Capacities at Zero Degree Boom Angle

Boom Angle	Main Boom Length in Feet							
	32	40	50	60	70	80	90	102
0°	25,700 (26)	18,700 (33.8)	13,250 (43.8)	9,770 (53.8)	7,370 (63.8)	5,570 (73.8)	4,160 (83.8)	2,930 (95.5)

NOTE: ( ) Reference radii in feet. 80001675A

TM500E-2

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

## load charts

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Feet	Pounds					
	26 ft. LENGTH			45 ft. LENGTH		
	0° OFFSET	15° OFFSET	30° OFFSET	0° OFFSET	15° OFFSET	30° OFFSET
35	*10,200 (76)					
40	9,460 (73.5)	*7,770 (76)		*5,250 (76)		
45	8,760 (71)	7,370 (73)	*6,030 (76)	5,250 (74.5)		
50	8,150 (68.5)	6,870 (70.5)	5,780 (73.5)	5,050 (72.5)	3,660 (76)	
55	7,510 (66)	6,050 (68)	5,520 (71)	4,650 (70.5)	3,540 (73.5)	
60	6,700 (63.5)	5,350 (65.5)	5,290 (68)	4,290 (68)	3,430 (71.5)	*3,000 (76)
65	5,990 (60.5)	4,740 (63)	4,810 (65.5)	4,000 (66)	3,320 (69)	2,890 (73.5)
70	5,310 (58)	4,210 (60)	4,270 (62.5)	3,800 (63.5)	3,220 (67)	2,790 (71.5)
75	4,490 (55)	3,750 (57)	3,800 (59.5)	3,650 (61.5)	3,130 (64.5)	2,700 (69)
80	3,790 (52)	3,330 (54)	3,380 (56.5)	3,520 (59)	3,000 (62.5)	2,620 (66.5)
85	3,180 (49)	2,960 (51)	3,010 (53.5)	3,360 (56.5)	2,880 (60)	2,550 (64)
90	2,650 (45.5)	2,630 (48)	2,670 (50)	3,030 (54)	2,770 (57)	2,480 (61.5)
95	2,180 (42)	2,330 (44)	2,360 (46.5)	2,730 (51.5)	2,680 (54.5)	2,410 (58.5)
100	1,760 (38.5)	1,900 (40.5)	1,990 (42.5)	2,450 (48.5)	2,570 (52)	2,380 (55.5)
105	1,390 (34)	1,510 (36)	1,560 (38)	2,070 (46)	2,340 (49)	2,310 (52.5)
110	1,050 (29.5)	1,150 (31)		1,700 (42.5)	1,960 (46)	2,170 (49.5)
115				1,360 (39.5)	1,610 (42.5)	1,780 (46)
120				1,050 (36)	1,300 (38.5)	1,430 (42)
125					1,010 (34.5)	1,110 (37.5)
Min. boom angle for indicated length (no load)	25.5°	25.5°	33°	33°	31.5°	32.5°
Max. boom length at 0° boom angle (no load)		80 ft.			80 ft.	

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

### NOTES:

- All capacities above the bold line are based on structural strength of boom extension.
- 26 ft. and 45 ft. tele. extension lengths may be used for single line lifting service.
- 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.
- Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
- Capacities listed are with outriggers properly extended and vertical jacks set only.
- When lifting over the main boom nose with 26 ft. or 45 ft. tele. extension erected, the outriggers must be fully extended or 50% extended (14' spread).

TM500E-2

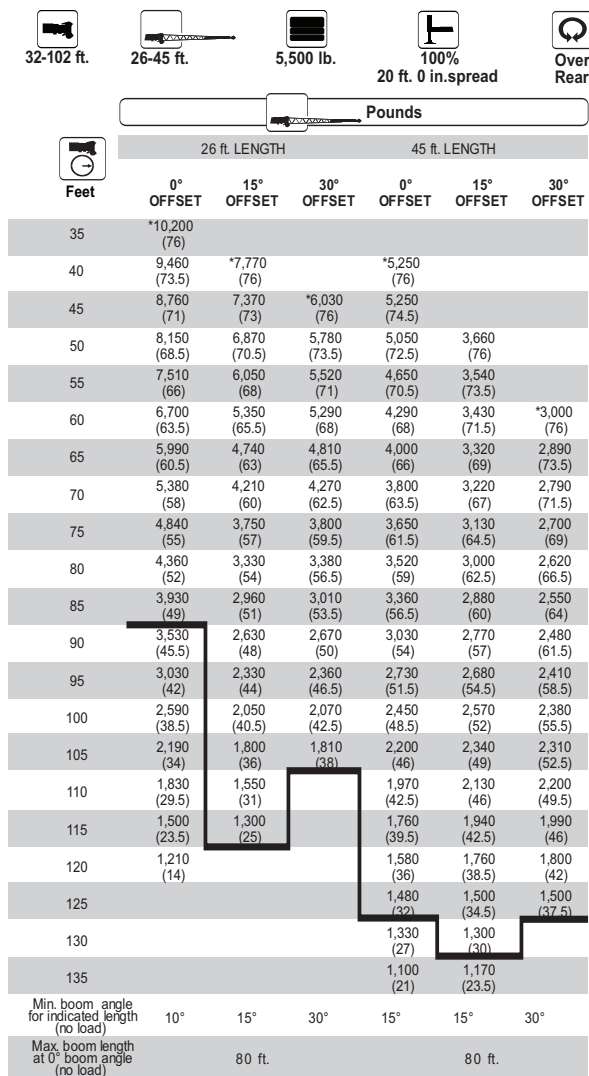
GROVE

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 charts

17



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

**NOTES:**

1. All capacities above the bold line are based on structural strength of boom extension.
2. 26 ft. and 45 ft. tele. 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 properly extended and vertical jacks set only.
6. When lifting over the main boom nose with 26 ft. or 45 ft. tele. extension erected, the outriggers must be fully extended or 50% extended (14' spread).

TM500E-2

GROVE

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# load charts

18

32-102 ft. 5,500 lb. Pick & Carry (Creep Speed) Over Rear

Pounds

Main Boom Length in Feet

Feet	32	40	50	60
15	16,000 (54)	16,000 (62.5)	15,000 (69)	
20	12,850 (41)	12,850 (53.5)	13,000 (62.5)	13,000 (68)
25	9,260 (20)	9,730 (43.5)	10,150 (55.5)	10,500 (62.5)
30		7,520 (30)	7,890 (48)	8,160 (57)
35			6,100 (38.5)	6,390 (50.5)
40			4,660 (26.5)	4,980 (43.5)
45				3,850 (35.5)
50				2,920 (24.5)
Minimum boom angle (°) for indicated length (no load)				0
Maximum boom length (ft.) at 0° boom angle (no load)				60
NOTE: ( ) Boom angles are in degrees. #LMI operating code. Refer to LMI manual for operating instructions.				
Lifting Capacities at Zero Degree Boom Angle				
Boom Angle	Main Boom Length in Feet			
	32	40	50	60
0°	8,540 (26)	6,000 (33.8)	3,740 (43.8)	2,320 (53.8)

NOTE: ( ) Reference radii in feet. 80004287-1

32-102 ft. 5,500 lb. Pick & Carry (up to 2.5 mph) Over Rear

Pounds

Main Boom Length in Feet

Feet	32	40	50	60
15	11,500 (54)	11,500 (62.5)	12,000 (69)	
20	8,000 (41)	8,180 (53.5)	8,620 (62.5)	8,870 (68)
25	5,500 (20)	6,040 (43.5)	6,250 (55.5)	6,580 (62.5)
30		4,500 (30)	4,570 (48)	4,860 (57)
35			3,320 (38.5)	3,510 (50.5)
40			2,350 (26.5)	2,430 (43.5)
45				1,540 (35.5)
Minimum boom angle (°) for indicated length (no load)				0
Maximum boom length (ft.) at 0° boom angle (no load)				60
NOTE: ( ) Boom angles are in degrees. #LMI operating code. Refer to LMI manual for operating instructions.				
Lifting Capacities at Zero Degree Boom Angle				
Boom Angle	Main Boom Length in Feet			
	32	40	50	60
0°	4,500 (26)	3,500 (33.8)	1,750 (43.8)	

NOTE: ( ) Reference radii in feet. 80004287-2

**NOTES:**

- Capacities are in pounds and do not exceed 75% of tipping loads as determined by test in accordance with SAE J765.
- Capacities are based on rear tire size of 11R22.5 (G load range - 14 ply) at 105 psi cold inflation pressure.
- Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.
- All rubber lifting depends on proper tire inflation, capacity and condition. Capacities must be reduced for lower tire inflation pressure. Damaged tires are hazardous to safe operation of crane.
- Capacities are applicable only with machine on firm level surface and with mechanical swing lock engaged.
- On rubber lifting with boom extension is not permitted.
- For 2.5 mph pick and carry operation boom must be centered over rear of machine, mechanical swing lock engaged and load restrained from swinging. When handling loads in the structural range, travel should be reduced to creep speed.
- Lifting over side on rubber is not permitted.
- WARNING:** Prior to any 'on rubber' operation, extend outrigger beams (fully or 50%), extend jack cylinders and level crane. Swing boom directly over rear and engage swing lock. Outrigger jack cylinders may then be retracted for on rubber operation. Do not rotate superstructure over the side while on rubber.
- Creep - not over 200 ft. of movement in any 30 minute period and not exceeding 2.5 mph.
- Air bags must be deflated when lifting on rubber.

TM500E-2

# load handling

19

## Weight Reductions for Load Handling Devices

<b>26 ft. Offsettable Boom Extension</b>	
*Erected	2,300 lb.
<b>26 ft. - 45 ft. Tele. Boom Extension</b>	
*Erected (Retracted)	3,260 lb.
*Erected (Extended)	4,380 lb.

\*Reduction of main boom capacities

When lifting over boom extension, deduct total weight of all load handling devices reeved over main boom nose directly from boom extension capacity.

<b>Auxiliary Boom Nose</b>	105 lb.
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## Hookblocks and Headache Balls:

40 Ton, 4 Sheave (CE)	774 lb. +
40 Ton, 3 Sheave (14" sheave) (CE)	623 lb. +
40 Ton, 3 Sheave (12" sheave)	600 lb. +
25 Ton 3 Sheave	550 lb. +
7.5 Ton Overhaul Ball	369 lb. +

+ Refer to rating plate for actual weight.

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

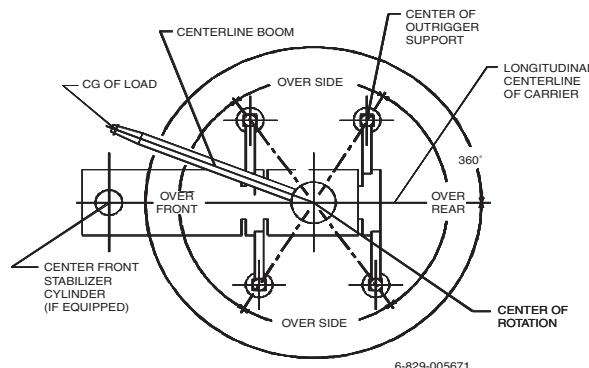
Hoists	Cable Specs.	Permissible Line Pulls	Nominal Cable Length
Main	5/8" (16 mm) 6x37 Class,	11,640 lb.	450 ft.
	EIPS, IWRC Special Flexible Min. Breaking Strength 41,200 lb.		
Main & Aux.	5/8" (16 mm) Flex-X 35	11,640 lb.	450 ft.
	Rotation Resistant (Non-rotating) Min. Breaking Strength 61,200 lb.		

The approximate weight of 5/8" wire rope is 1.0 lb./ft.

Wire Rope Layer	Hoist Line Pulls Available lb.*	Drum Rope Capacity (ft.)	
		Layer	Total
1	11,640	77	77
2	10,480	85	162
3	9,530	94	256
4	8,730	102	358
5	8,060	111	469
6	7,490	119	588

\*Max. lifting capacity: 6x37 or 35x7 class = 11,640 lb.

## Working Area Diagram



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

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**GROVE**

**TM500E-2**

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Portugal

Baltar

Fânzeres

Slovakia

Saris

U.S.A.

Manitowoc

Port Washington

Shady Grove



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.