

TMS250C

35 TON CAPACITY
33 ft. - 80 ft. BOOM

(FULL POWER)
PCSA CLASS 10-81
85% OF TIPPING
(FOR USE WITH 6x4 AND 6x6 CARRIER)

JIB CAPACITIES IN POUNDS
30 FT. FIXED LENGTH EXTENSION
(360° WITH FRONT OUTRIGGER JACK)

Main Boom Angle	0° OFFSET		15° OFFSET		30° OFFSET	
	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.
75°	26.7	10,350	32.8	7,660	38.8	5,310
70	35.7	8,790	41.6	6,530	47.2	4,850
65	44.4	7,080	49.9	5,550	55.2	4,470
60	52.7	5,890	57.8	4,810	62.7	3,980
55	60.7	4,380	65.3	3,570	69.7	2,930
50	68.1	3,180	72.2	2,610	76.1	2,160
45	75.0	2,310	78.6	1,910	81.9	1,570
40	81.2	1,660	84.3	1,370	87.1	1,130

AG-829-007684

JIB CAPACITIES IN POUNDS
30 FT. FIXED LENGTH EXTENSION
(OVER SIDE AND REAR)

Main Boom Angle	0° OFFSET		15° OFFSET		30° OFFSET	
	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.
75°	26.7	10,350	32.8	7,660	38.8	5,310
70	35.7	8,790	41.6	6,530	47.2	4,850
65	44.4	7,080	49.9	5,550	55.2	4,470
60	52.7	5,890	57.8	4,810	62.7	3,600
55	60.7	4,020	65.3	3,170	69.7	2,540
50	68.1	2,790	72.2	2,250	76.1	1,830
45	75.0	1,970	78.6	1,610	81.9	1,330
40	81.2	1,400	84.3	1,160		

AG-829-007706

NOTES FOR LIFTING WITH FIXED LENGTH EXTENSION

- 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-765a.
- 30 ft. (9.3 m) fixed length boom extension length may be used for double or single line lifting service.
- Rated load is based on loaded main boom angle with reference to horizontal, regardless of main boom length. (Ref. radius is for fully extended boom length only).
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.
- Capacities listed are with fully extended outriggers only.
- Warning for 30 ft. (9.3 m) Boom Extension: For main boom length greater than 62 ft. (18.9 m) with 30 ft. (9.3 m) fixed length boom extension in working position, the boom angle must not be less than 37° 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 62 ft. (18.9 m). This warning applies for boom extension erection purposes also.

CAPACITIES FOR 30 FT. - 54 FT. TELE. BOOM EXTENSION
(OVER SIDE AND REAR)

Main Boom Angle	30 ft. LENGTH						42 ft. LENGTH						54 ft. LENGTH					
	0° OFFSET		15° OFFSET		30° OFFSET		0° OFFSET		15° OFFSET		30° OFFSET		0° OFFSET		15° OFFSET		30° OFFSET	
	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.
75°	26.7	10,000	32.8	7,300	38.8	4,950	30.9	7,700	39.3	5,090	48.2	3,750	35.1	6,150	46.0	3,750	57.2	2,690
70	35.7	8,430	41.6	6,170	47.2	4,490	40.8	6,950	48.8	4,610	57.1	3,460	46.0	5,340	56.4	3,300	66.7	2,480
65	44.4	6,720	49.9	5,190	55.2	4,110	50.3	5,280	58.1	3,900	65.6	3,230	56.5	4,380	66.3	2,970	75.6	2,220
60	52.7	5,500	57.8	4,130	62.7	3,130	59.5	4,320	66.7	3,160	73.6	2,310	66.5	3,260	75.7	2,200	83.9	1,490
55	60.7	3,570	65.3	2,680	69.7	2,060	68.3	2,950	74.9	2,160	80.9	1,580	76.1	2,170	84.6	1,440		
50	68.1	2,270	72.2	1,750	76.1	1,340	76.4	2,000	82.5	1,440	87.7	1,000						
45	75.0	1,450	78.6	1,110														

AG-829-007700

CAPACITIES FOR 30 FT. - 54 FT. TELE. BOOM EXTENSION
(360° WITH FRONT OUTRIGGER JACK)

Main Boom Angle	30 ft. LENGTH						42 ft. LENGTH						54 ft. LENGTH					
	0° OFFSET		15° OFFSET		30° OFFSET		0° OFFSET		15° OFFSET		30° OFFSET		0° OFFSET		15° OFFSET		30° OFFSET	
	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.
75°	26.7	10,000	32.8	7,300	38.8	4,950	30.9	7,700	39.3	5,090	48.2	3,750	35.1	6,150	46.0	3,750	57.2	2,690
70	35.7	8,430	41.6	6,170	47.2	4,490	40.8	6,950	48.8	4,610	57.1	3,460	46.0	5,340	56.4	3,300	66.7	2,480
65	44.4	6,720	49.9	5,190	55.2	4,110	50.3	5,280	58.1	3,900	65.6	3,230	56.5	4,380	66.3	2,970	75.6	2,320
60	52.7	5,530	57.8	4,430	62.7	3,510	59.5	4,350	66.7	3,360	73.6	2,470	66.5	3,470	75.7	2,620	83.9	1,910
55	60.7	3,870	65.3	3,080	69.7	2,450	68.3	3,180	74.9	2,310	80.9	1,660	76.1	2,730	84.6	1,850	91.6	1,260
50	68.1	2,670	72.2	2,110	76.1	1,660	76.4	2,130	82.5	1,510	87.7	1,050						
45	75.0	1,780	78.6	1,400	81.9	1,070												

AG-829-007677

NOTES FOR LIFTING WITH TELE. BOOM EXTENSION

- 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-765a.
- 30 ft. (9.3 m), 42 ft. (12.8 m) & 54 ft. (16.4 m) boom extension length may be used for double or single line lifting service.
- Rated load is based on loaded main boom angle with reference to horizontal, regardless of main boom length. (Ref. radius is for fully extended boom length only).
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.
- Capacities listed are with fully extended outriggers only.
- *Warning for 30 ft. (9.3 m) Boom Extension: For main boom length greater than 56 ft. (17.1 m) with 30 ft. (9.3 m) tele. boom extension in working position, the boom angle must not be less than 45° 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 56 ft. (17.1 m).
*Warning for 42 ft. (12.8 m) Boom Extension: For main boom length greater than 50 ft. (15.2 m) with 42 ft. (12.8 m) tele. boom extension in working position, the boom angle must not be less than 49° 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 50 ft. (15.2 m).
*Warning for 54 ft. (16.4 m) Boom Extension: For main boom length greater than 44 ft. (13.4 m) with 54 ft. (16.4 m) tele. boom extension in working position, the boom angle must not be less than 53° 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 44 ft. (13.4 m).
*This warning applies for boom extension erection purposes also.

50C

CAPACITY
 . BOOM
 (VER)
 10-81
 PING
 ID 6x6 CARRIER)

GROVE®

FULL HYDRAULIC

CARRIER-MOUNTED CRANE

CAPACITIES IN POUNDS
 . BOOM

ON OUTRIGGERS FULLY EXTENDED - OVER REAR

Radius in Feet	Main Boom Length in Feet								
	33	38	44	50	56	62	68	74	80
10	70,000 (64.5)	52,000 (68)	51,000 (71)						
12	52,500 (60.5)	52,000 (64.5)	51,000 (68.5)	44,900 (71.5)	40,500 (73.5)				
15	42,000 (54)	42,000 (59.5)	42,000 (64)	40,200 (67.5)	36,000 (70.5)	31,000 (72.5)	26,000 (74.5)		
20	30,000 (42.5)	30,000 (50)	30,000 (56.5)	30,000 (61)	30,000 (64.5)	24,500 (67.5)	23,000 (70)	21,500 (72)	20,000 (73.5)
25	22,700 (26.5)	22,700 (39)	22,700 (48)	22,700 (54.5)	22,700 (59)	20,800 (62.5)	19,750 (65.5)	18,200 (67.5)	17,700 (69.5)
30		17,800 (24.5)	17,800 (38.5)	17,800 (47)	17,800 (52.5)	17,400 (57)	16,650 (60.5)	15,800 (63.5)	14,950 (65.5)
35	See Warning Note 16		14,400 (26)	14,400 (38)	14,400 (46)	14,400 (51)	14,200 (55.5)	13,700 (59)	12,900 (61.5)
40				11,620 (27.5)	11,620 (38)	11,620 (45)	11,620 (50)	11,620 (54)	11,400 (57.5)
45					9,490 (28.5)	9,490 (37.5)	9,490 (44)	9,490 (49)	9,490 (53)
50					7,940 (13)	7,940 (29)	7,940 (37.5)	7,940 (43.5)	7,940 (48)
55						6,720 (16.5)	6,720 (29.5)	6,720 (37.5)	6,720 (43)
60							5,860 (19)	5,860 (30.5)	5,860 (37.5)
65								4,920 (21)	4,920 (30.5)
70									4,270 (22.5)
Minimum boom angle (deg.) for indicated length (no load)									0
Maximum boom length (ft.) at 0 deg. boom angle (no load)									80

NOTE: Boom angles are in degrees.

A6-829-007634 & -007587

CAPACITIES

Jib erected.
 Do not tip the machine to
 weight of load must not exceed
 minimum requirements of SAE J1063
 Method of Test, and do not
 SAE J765 OCT80 Crane
 and auxiliary lifting devices and
 the listed ratings to obtain the net
 No attempt shall be made to move
 load or boom. It is recommended
 h), rated loads and boom lengths be
 capacities are not listed. At these
 load on the hook.
 not definable because of variations in
 to attempt retraction and extension
 between values listed, the smallest
 boom length shall be used.
 allowances for his particular job
 of level conditions, high winds, side
 of loads, hazardous conditions,

- experience of personnel, two machine lifts, traveling with loads, electric wires, etc.
 Side pull on boom or jib is extremely dangerous.
- Power telescoping boom sections must be extended equally at all times.
 - Handling of personnel from the boom is not authorized except with equipment furnished and installed by Grove Manufacturing Company.
 - Keep load handling devices a minimum of 18 inches (45.7 cm) below boom head at all times.
 - The boom angle before loading should be greater than the loaded boom angle to account for deflection.
 - Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.
 - Capacities for the 33 ft. (10.1 m) boom length shall be lifted with the boom fully retracted. If boom is not fully retracted, capacities shall not exceed those shown for the 38 ft. (11.6 m) boom.
 - Radii less than 30 ft. (9 m) not recommended when lifting over front of machine.

DEFINITIONS:

- Operating Radius: Horizontal distance from a projection of the axis of rotation to the supporting surface before loading to the center of the vertical hoist line or tackle with load applied.
- Loaded Boom Angle (Shown in parenthesis on main boom capacity chart): is the angle between the boom base section and the horizontal, after lifting the rated load at the rated radius with the rated boom length.
- Working Area: Areas measured in a circular arc about the center line of rotation as shown on the working area diagram.
- Freely Suspended Load: Load hanging free with no direct external force applied except by the lift cable.
- Side Load: Horizontal force applied to the lifted load either on the ground or in the air.



TMS

35 TON
33 ft. - 8
 (FULL
 PCSA C
 85% O
 (FOR USE WITH 6x

RATED LIFTING CAPACITY 33 ft. - 80

ON OUTRIGGERS FULLY EXTENDED - OVER SIDE (360° WITH FRONT OUTRIGGER JACK)

Radius in Feet	Main Boom Length in Feet								
	33	38	44	50	56	62	68	74	80
10	70,000 (64.5)	52,000 (68)	51,000 (71)						
12	52,500 (60.5)	52,000 (64.5)	51,000 (68.5)	44,900 (71.5)	40,500 (73.5)				
15	42,000 (54)	42,000 (59.5)	42,000 (64)	40,200 (67.5)	36,000 (70.5)	31,000 (72.5)	26,000 (74.5)		
20	30,000 (42.5)	30,000 (50)	30,000 (56.5)	30,000 (61)	30,000 (64.5)	24,500 (67.5)	23,000 (70)	21,500 (72)	20,000 (73.5)
25	20,480 (26.5)	20,480 (39)	20,480 (48)	20,480 (54.5)	20,480 (59)	20,480 (62.5)	19,750 (65.5)	18,200 (67.5)	17,700 (69.5)
30		14,070 (24.5)	14,070 (38.5)	14,070 (47)	14,070 (52.5)	14,070 (57)	14,070 (60.5)	14,070 (63.5)	14,070 (65.5)
35	See Warning Note 16		10,240 (26)	10,240 (38)	10,240 (46)	10,240 (51)	10,240 (55.5)	10,240 (59)	10,240 (61.5)
40				8,100 (27.5)	8,100 (38)	8,100 (45)	8,100 (50)	8,100 (54)	8,100 (57.5)
45					6,420 (28.5)	6,420 (37.5)	6,420 (44)	6,420 (49)	6,420 (53)
50					4,970 (13)	4,970 (29)	4,970 (37.5)	4,970 (43.5)	4,970 (48)
55						3,810 (16.5)	3,810 (29.5)	3,810 (37.5)	3,810 (43)
60							2,980 (19)	2,980 (30.5)	2,980 (37.5)
65								2,250 (21)	2,250 (30.5)
70									1,750 (22.5)
Minimum boom angle (deg.) for indicated length (no load)									0
Maximum boom length (ft.) at 0 deg. boom angle (no load)									80

NOTE: Boom angles are in degrees.

A6-829-007646 & -007587

NOTES FOR LIFTING

GENERAL:

- Rated loads as shown on capacity chart pertain to this crane as originally manufactured and equipped. Modifications to the crane or use of optional equipment other than that specified can result in a reduction of capacity. Use only the jib or boom extension supplied with this crane, do not substitute jibs or boom extensions without the written approval of Grove Mfg. Co.
- Construction equipment can be hazardous if improperly operated or maintained. Operation and maintenance shall be in compliance with the information in the Operator's and Safety Handbooks, Service and Parts Manuals supplied with this crane. If these manuals are missing, order replacements from the manufacturer.
- The operator and other personnel associated with this crane shall fully acquaint themselves with the latest applicable American National Standards Institute (ANSI) Safety Standards for cranes.

SETUP:

- The crane shall be leveled on a firm supporting surface. Depending on the nature of the supporting surface, it may be necessary to have structural supports of sufficient strength under the outrigger floats or tires to spread the load to a larger bearing surface.
- For outrigger operation, outriggers shall be fully extended with tires raised free of crane weight before operating the boom or lifting loads.
- When equipped with front jack cylinder, the front jack cylinder shall be set in accordance with the written procedure.
- When equipped with extendable counterweight, the counterweight shall be fully extended before operation.
- Tires shall be inflated to the recommended pressure before lifting on rubber.
- With certain boom and hoist tackle combinations, maximum capacities may not be obtainable with standard cable lengths.
- Rotation resistant wire rope is best suited for single line lifting operations. Consult the wire rope manufacturer for specific recommendations concerning multiple part

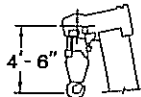
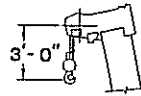
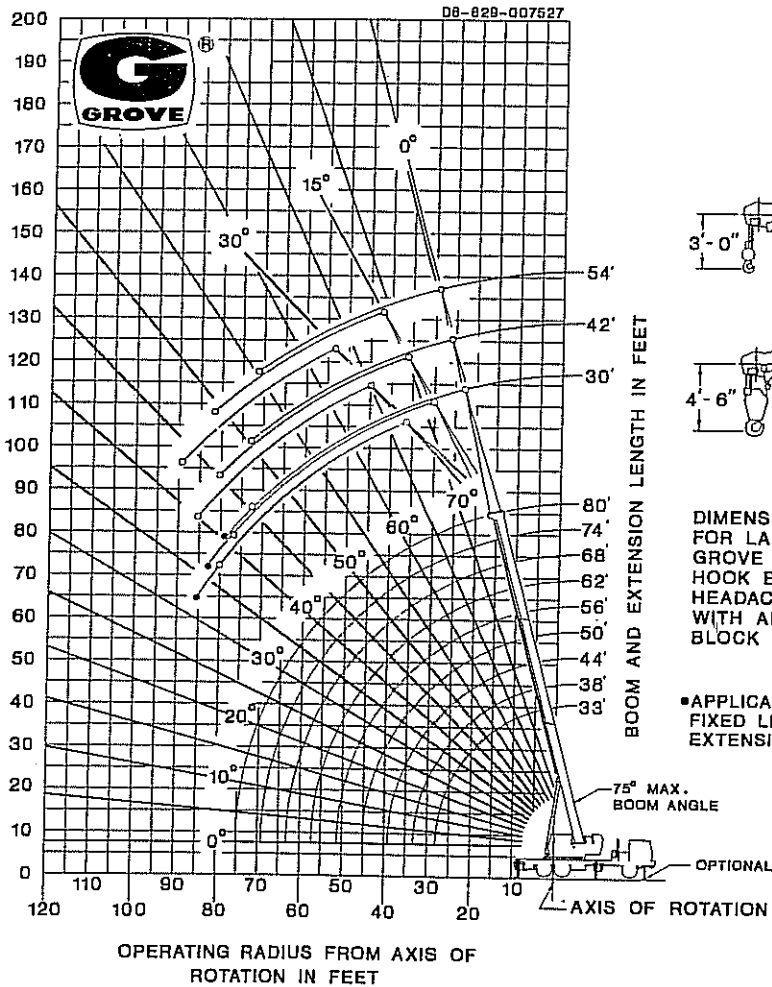
- reeving.
- Do not transport crane with boom extended.

OPERATION:

- Rated loads at rated radius shall not determine allowable loads. For clamshell 80% of rated lifting capacities.
- All rated loads have been tested to an OCT80 - Cantilevered Boom Crane exceed 85% of the tipping load; Stability Test Code.
- Rated loads include the weight of hook and their combined weights shall be subtracted from load which may be lifted.
- Load ratings are based on freely suspended load horizontally on the ground in an upright position.
- Rated loads do not account for wind when wind velocity is above 20 MPH; appropriately reduced.
- Rated loads are for lift crane service only.
- Do not operate at a radius or boom length position, the crane may overturn without load.
- The maximum load which can be lifted shall be within the limits of the capacity chart.
- When either boom length or radius exceeds load shown at either the next larger radius or the next smaller radius.
- For safe operation, the user shall take into consideration, such as: soft or uneven ground, pendulum action, jerking or sudden

GROVE® TMS250C

RANGE DIAGRAM



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

• APPLICABLE TO 30 FOOT FIXED LENGTH BOOM EXTENSION ONLY

WEIGHT REDUCTIONS FOR LOAD HANDLING DEVICES

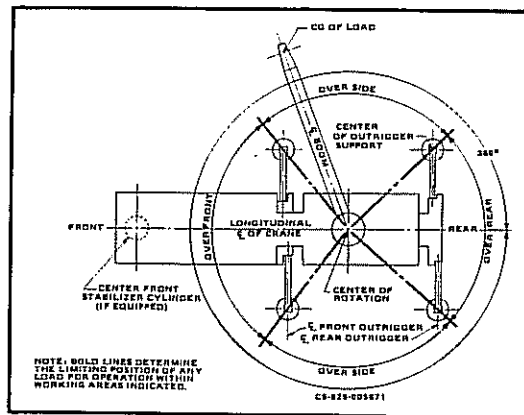
30 FT. FIXED LENGTH EXTENSION WITH 32 FT. - 80 FT. BOOM	
‡Stowed	- 397 lbs.
‡Erected	- 3,220 lbs.
30 FT. - 64 FT. TELE. BOOM EXTENSION WITH 32 FT. - 80 FT. BOOM	
‡Stowed	- 572 lbs.
‡Erected (Retracted)	- 4,950 lbs.
‡Erected (Extended)	- 6,627 lbs.

‡Reduction of Main Boom Capacities.

HOOKBLOCKS:	
35 Ton, 4 Sheave600 lbs.
12 Ton, 1 Sheave360 lbs.
7-1/2 Ton Headache Ball338 lbs.
5 Ton Headache Ball172 lbs.
Auxiliary Boom Head110 lbs.

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.

LIFTING AREA DIAGRAM



GROVE MANUFACTURING COMPANY
Division of Kidde, Inc.

KIDDE

Box 21, Shady Grove, Pennsylvania 17256

Phone: (717) 597-8121 Telex: 842308 Cable: GROVE MFG

Distributed by:



SUPERSTRUCTURE SPECIFICATIONS

BOOM - 32 ft. - 106 ft. (9.8m - 32.3m), 4 section; two full power synchronized trapezoidal sections to 80 ft. (24.4m) plus a 26 ft. (7.9m) "Swingaway" lattice extension (2° offset) to 106 ft. (32.3m). Integral holding valve on telescope cylinder. Boom telescope sections are supported on graphite impregnated nylon wear pads. Side adjustable wear pads prevent metal to metal contact of inner boom sections.

***BOOM EXTENSION** - 26 ft. - 46 ft. (7.9m - 14.0m) telescopic "Swingaway." 20 ft. (6.1m) rectangular roller mounted extension is manually extended and retracted from within 26 ft. (7.9m) lattice "Swingaway." (2° offset).

BOOM NOSE - Two sheaves, 13 3/4" (349mm), tread dia. mounted on heavy duty tapered roller bearings. Removable pin type rope guards permit easy reeving. Rope dead ends on each side of boom nose.

BOOM ELEVATION - Single, double-acting, hydraulic cylinder with integral holding valves; elevation from -4° to 75°. Combination controls provided for hand or foot operation.

***LOAD MOMENT AND ANTI-TWO BLOCK SYSTEM (KRUGER)** - Audio-visual warning in combination with Grove control lever lockout of: hoist up, telescope out and boom down functions.

CAB - Full vision, all steel, fully enclosed with acoustical treatment, laminated safety glass windows throughout, removable windshield with storage provisions, hinged tinted skylight, sliding left side door, side vent window, adjustable full length control levers, combination hand and foot controls for swing and boom elevation. Fully adjustable operator's seat with headrest. Complete engine instrumentation and controls. Neutral safety start. Combination hand and foot throttle. All-crane superstructure and outrigger controls, sight leveling indicator, electronic boom angle indicator, diesel heater, electric windshield wiper, defroster fan, and swing horn; door and window locks, dome light, dash light, 3 3/4 lbs. (1.7kg) dry type fire extinguisher.

CAB INSTRUMENTATION - Engine oil pressure and water temperature gauges, voltmeter, tachometer, fuel level gauge, ignition-on indicator light.

SWING - Ball bearing swing circle, 360° continuous rotation. Grove planetary "glide swing" with foot actuated disc swing brake, hand operated tumbler brake and 360° positive swing lock. Combination controls provided for hand or foot operation. Swing speed 2.7 RPM.

OUTRIGGER CONTROLS - Independently controlled in-out-up-and-down from superstructure cab. Sequence control arrangement virtually eliminates accidental outrigger actuation.

COUNTERWEIGHT - Stationary mounted on turntable. (Not required with auxiliary hoist).

HYDRAULIC SYSTEM:

RESERVOIR - 80 gallons (303 liters) capacity, all-steel welded construction with integral baffles; clean out access, magnetic drain plug and exterior oil sight level.

FILTER - Return line type, full flow with by-pass protection and by-pass indicator, replaceable cartridge. 25 micron rating.

PUMPS - Three section, gear type, PTO drive off transmission with disconnect operated from carrier cab. Combined capacity 112.5 GPM (426 lpm).

CONTROL VALVES - Precision four-way, double-acting with integral load check, main and circuit relief valves. Three individual valve banks permit simultaneous independent control of three crane functions. Maximum operating pressure 2500 PSI (176kg/cm²).

POWER DISTRIBUTION - [Swing, outriggers - 26.5 GPM (100 lpm)] [Main Hoist - 39.5 GPM (150 lpm)] [Boom elevation, telescope, auxiliary hoist, main hoist boost - 46.5 GPM (176 lpm)].

HOIST SPECIFICATIONS

DESCRIPTION: Power up and down, equal speed, planetary reduction with integral automatic brake.			
HOIST DATA	MAIN HOIST Grove Model 15H-16A	*AUXILIARY HOIST Grove Model 15S-16A	*AUXILIARY HOIST Gearmatic Model 11 SGEGR (Controlled Free Fall)
Drum Dimensions	12 in. dia. (305mm) 16 in. length (406mm) 17.5 in. flange dia. (445mm)	12 in. dia. (305mm) 16 in. length (406mm) 17.5 in. flange dia. (445mm)	9 in. dia. (229mm) 13 in. length (330mm) 17.5 in. flange dia. (445mm)
PERFORMANCE:			
Max. Single Line Speed	352 FPM (107.3m/min)	198 FPM (60.4m/min)	290 FPM (88.4m/min)
Max. Single Line Pull	9,165 lbs. (4157kg)	9,165 lbs. (4157kg)	9,145 lbs. (4148kg)
Drum Rope Storage Capacity	**480 ft. of 5/8 in. dia. rope (146.3m of 16mm)	**480 ft. of 5/8 in. dia. rope (146.3m of 16mm)	**675 ft. of 1/2 in. dia. rope (205.7m of 13mm)
Permissible Single Line Rope Pull	5/8 in. (16mm) 19x7 Class - 7,926 lbs. (3595kg) 5/8 in. (16mm) 6x41 Class - 7,926 lbs. (3595kg)	5/8 in. (16mm) 19x7 Class - 7,926 lbs. (3595kg) 5/8 in. (16mm) 6x41 Class - 7,926 lbs. (3595kg)	1/2 in. (13mm) 19x7 Class - 6,150 lbs. (2790kg) 1/2 in. (13mm) 6x37 Class - 7,200 lbs. (3266kg)

**5th layer of rope not recommended for hoisting operations.

*Denotes optional equipment. Auxiliary hoist control valve arrangement is standard equipment.

AXLE WEIGHT DISTRIBUTION CHART

ITEM	POUNDS			KILOGRAMS		
	GROSS	FRONT	REAR	GROSS	FRONT	REAR
Basic standard machine to include: 32 ft. - 80 ft. (9.8m - 24.4m) trapezoidal boom, 26 ft. (7.9m), swingaway extension, Grove 15H-16A main hoist; 450 ft. (121.9m) of 5/8 in. (16mm) rope, counterweight, Grove 6 x 4 carrier, Cummins V8-210 engine.	43,225	14,180	29,045	19,607	6432	13,175
ADD:						
15 ton, 2 sheave hook block (travel position)	+200			+91		
7 1/2 ton headache ball	+300	+320	-20	+136	+145	-9
5 ton headache ball	+150	+160	-10	+68	+73	-5
Auxiliary boom head	+106	+176	-70	+48	+80	-32
●●Grove 15S-16A auxiliary hoist with 350 ft. (106.7m) of 5/8 in. (16mm) dia. rope	-213	+156	-369	-97	+71	-168
●●Gearmatic 11 SGEGR auxiliary hoist with 350 ft. (106.7m) of 1/2 in. (13mm) dia. rope	-208	+154	-362	-94	+70	-164
Kruger load moment and anti-two block system	+376	+96	+280	+171	+44	+127
SUBSTITUTE:						
26 ft. - 46 ft. (7.9m - 14m) telescopic extension	+695	+534	+161	+315	+242	+73
GM6V-53N engine	+100	+90	+10	+45	+41	+4
Caterpillar 3208 engine	-50	-45	-5	-22	-20	-2
REMOVE:						
26 ft. (7.9m) swingaway extension	-4,071	-846	-225	-486	-384	-102
●●Standard counterweight used on units with no auxiliary hoist	-1,200	+604	-1,804	-544	+274	-818

Notes: ● 1,200 lbs. (544kg) counterweight used without auxiliary hoist

●● No counterweight used with auxiliary hoist

MAX FORCE 35213 # ON 4 OUTRIGGERS
 150 P.S.I MAY ON (L) OUTRIGGER
 CRANE 54,000

CARRIER SPECIFICATIONS

Grove Carrier 6x4



OUTRIGGERS - Hydraulic, double box telescoping beam outriggers front and rear. Vertical jack cylinders equipped with integral holding valves and self stowing steel floats. Beams extend to 18 ft. (5.5m) centerline to centerline, retract to 8 ft. (2.4m) overall width. Complete controls and sight leveling indicator located in superstructure cab.

FRAME - High-strength steel, all-welded construction with box type design and integral welded outrigger boxes.

STEERING - Sheppard Model 592 rack and pinion design with power assist.

CLUTCH - Lipe Rollway 14 in. (356mm), single plate dry disc. Lining area: 218 sq. in. (1407cm²).

TRANSMISSION - Fuller Roadranger RTO 613, 13 speeds forward and 3 reverse (RT613 used with V8-210 engine). Single lever shift control with 3 position air shift range selector; neutral safety start.

UNIVERSAL JOINTS - Needle bearing type.

AXLES - Front: Single non-driving I-beam, Rockwell FL-931, 18,000 lbs. (8165kg) capacity. Rear: Rockwell SLHD single reduction tandem, 34,000 lbs. (15 422kg) capacity with inter-axle differential and dash-mounted control.

SUSPENSION - Front: Reyco spring mounted with shock absorbers. Rear: Hendrickson solid mounted tandem.

FUEL TANK - Single 60 gallon (227 liter) capacity mounted on left side of frame.

TIRES - Front: (2) 15 x 22.5 - 16 ply duplex hi-way tread, tubeless. (12:00 x 20 or 16.5 x 22.5 tires - optional). Rear: (8) 9:00 x 20 - 10 ply hi-way tread, tube-type. (15:00 x 22.5 or 16.5 x 22.5 duplex singles - optional).

WHEELS - Front: Steel spoke, 12.25 in. x 22.5 in. rims (311mm x 572mm). Rear: Steel spoke, 7 in. x 20 in. rims (178mm x 508mm).

BRAKES - Full air on all wheels with alcohol evaporator.

Total lining area: 1256 sq. in. (8104cm²).

Front: 15 in. x 6 in. (381mm x 152mm). Rear: 15 in. x 7 in. (381mm x 178mm) "Complies with FMVSS121 (Air Brake Systems)".

PARKING BRAKE - Spring set emergency chambers on both rear axles with dash mounted release kit.

ELECTRICAL SYSTEM - 24 volt starting, 12 volt lighting. U.S. federal safety standard lights and reflectors.

CAB - One man, all-steel with acoustical treatment; laminated safety glass windshield and windows, electric windshield washer, wiper and defroster fan, door and window locks. Bostrom T-bar seat with belt, dual rear view mirrors, dome light, dash light, hot water heater, electric horn, traffic hazard warning switch (four-way flasher) complete engine instrumentation and carrier driving controls, 3 1/2 lbs. (1.7kg) dry type fire extinguisher.

CAB INSTRUMENTATION - Electric tachometer, engine oil pressure and water temperature gauges, voltmeter, speedometer, air pressure gauge, electric fuel gauge, high beam indicator, low air pressure audio-visual warning, ignition-on indicator, pump engaged indicator.

MISCELLANEOUS STANDARD EQUIPMENT - Wheel nut wrench and handle, channel front bumper, two front towing loops, front and rear fenders, ether injection starting aid (less canister), mud flaps, sling box, boom rest, hookblock tie down.

SPEED AND GRADEABILITY

Engine	Speed Ranges	% of Gradeability (@ Max. Torque)
Cummins V8-210	3.43 to 61.74 MPH (5.5 to 99km/h)	44.16 to 1.04%
*GM6V-53N	3.35 to 60.81 MPH (5.5 to 98km/h)	40.69 to .83%
*Caterpillar 320B	3.35 to 60.81 MPH (5.4 to 98km/h)	-41.16 to .85%

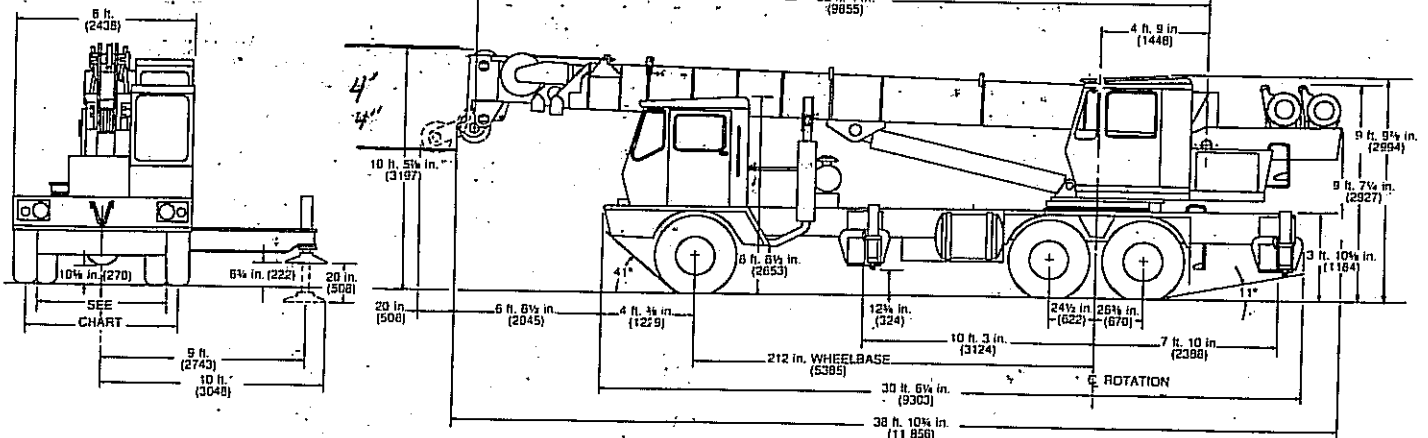
NOTE: Performance based on 48,000 lbs. (21 773kg) GVW and standard SAE engine rating conditions using standard tires, transmissions and axles. Performance data may vary plus or minus 10% due to variations in engine performance and vehicle weights.

ENGINE SPECIFICATIONS

MAKE & MODEL	Cummins V8-210	*GM6V-53N	*Caterpillar 320B
TYPE	8 Cylinder O.H.V.	6 Cylinder O.H.V.	8 Cylinder O.H.V.
BORE & STROKE	4.625 in. x 3.75 in. (117mm x 95mm)	3.875 in. x 4.5 in. (98mm x 114mm)	4.5 in. x 5.0 in. (114mm x 127mm)
DISPLACEMENT	504 cu. in. (8259cm ³)	318 cu. in. (5212cm ³)	636 cu. in. (10 424cm ³)
HORSEPOWER (NET)	172 @ 3300 RPM	176 @ 2600 RPM	160 @ 2600 RPM
GOVERNED RPM	3300 RPM	2600 RPM	2600 RPM
TORQUE (NET)	343 lbs. ft. @ 1900 RPM (47kg.m)	397 lbs. ft. @ 1800 RPM (55kg.m)	413 lbs. ft. @ 1200 RPM (57kg.m)
ELECTRICAL SYSTEM	12 Volt Neg. Ground	12 Volt Neg. Ground	12 Volt Neg. Ground
COMBUSTION SYSTEM	4 cycle, naturally aspirated	2 cycle, with blower	4 cycle, naturally aspirated
COOLING SYSTEM	Liquid	Liquid	Liquid
FUEL CAPACITY	60 Gallons (227 liters)	60 Gallons (227 liters)	60 Gallons (227 liters)
ALTERNATOR	90 Amp 12 Volt	90 Amp 12 Volt	90 Amp 12 Volt
BATTERY	(4) 12v., 1900 cold cranking Amps @ 0°F	(4) 12v., 1900 cold cranking Amps @ 0°F	(4) 12v., 1900 cold cranking Amps @ 0°F
AIR CLEANER	Dry Type	Dry Type	Dry Type
AIR COMPRESSOR	13.2 CFM (374 L/min)	12 CFM (340 L/min)	12 CFM (340 L/min)
HOURLY METER	Std.	Std.	Std.
STARTING SYSTEM	24 volt	24 volt	24 volt

Note: Jacobs Engine Brake (GM and Cummins) is optional.
 *Denotes Optional Equipment

DIMENSIONS



FRONT TIRE SIZE	FRONT TRACK	TURNING RADIUS	REAR TIRE SIZE	REAR TRACK
15:00 x 22.5	81 1/4" (2080)	32' 4" (9855)	9:00 x 20	72" (1829)
*16.5 x 22.5	81 1/4" (2080)	32' 4" (9855)	*15.5 x 22.5	72 3/4" (1848)
*12:00 x 20	78 3/4" (1997)	32' (9754)	*16.5 x 22.5	72 3/4" (1848)

TAIL SWING - 10 ft. 7 in. (3226)

Constant improvement and engineering progress make it necessary that we reserve the right to make specification, equipment, and price changes without notice.

Meets requirements of P.C.S.A. Standard No. 2.

NOTE: Dimensions in parenthesis are millimeters (mm).

AXLE WEIGHT DISTRIBUTION CHART 6x4 CARRIER

	POUNDS			KILOGRAMS		
	GROSS	FRONT	REAR	GROSS	FRONT	REAR
Basic standard machine to include 32 ft.-80 ft. (9.8m-24.4m) trapezoidal boom, 30 ft. (9.3m) offsettable swingaway extension, Grove HO15H-20 main hoist, 450 ft. (137.2m) of 5/8 in. (16mm) rope, *3,200 lb. (1,452 kg) counterweight, Grove 6x4 carrier, Detroit Diesel 8.2L turbocharged engine, Roadranger transmission.	50,744	16,762	33,982	23,017	7,603	15,414
ADD:						
35 ton (30 MT), hookblock (travel position).	+627	+816	-189	+284	+370	-86
7-1/2 ton (6.8 MT) headache ball.	+300	+320	-20	+136	+145	-9
5 ton (4.5 MT) headache ball.	+150	+160	-10	+68	+73	-5
Auxiliary boom head.	+140	+234	-94	+64	+106	-42
Krueger load moment and anti-two block system.	+100	+63	+37	+45	+29	+16
*Grove HO15S-20 auxiliary hoist with 450 ft. (137.2m) of 5/8 in. (16mm) rope.	+1,099	-499	+1,598	+499	-226	+725
SUBSTITUTE:						
30 ft. - 54 ft. (9.3m-16.4m) telescoping offsettable swingaway plus mountings.	+750	+572	+178	+340	+259	+81
Cummins VT225 engine.	+619	+561	+58	+281	+254	+27
*2,500 lb. (1,134 kg) superstructure counterweight.	-700	+361	-1,061	+317	+164	-481
REMOVE:						
30 ft. (9.3m) offsettable swingaway extension.	-1,599	-1,257	-342	-725	-570	-155
Front bumper counterweight.	-1,750	-2,170	+420	-794	-984	+190
*Standard superstructure counterweight (HO15H-20 main hoist only).	-3,200	+1,649	-4,849	-1,452	+748	-2,200

*NOTE: Appropriate superstructure counterweight substitutions must be made depending on hoist configurations selected:
 HO15H-20 main hoist, no auxiliary hoist - 3,200 lb. (1,452 kg) counterweight.
 HO15-20 main hoist and HO15S-20 auxiliary hoist - 2,500 lb. (1,134 kg) counterweight.

AXLE WEIGHT DISTRIBUTION CHART 6x6 CARRIER

	POUNDS			KILOGRAMS		
	GROSS	FRONT	REAR	GROSS	FRONT	REAR
Basic standard machine to include 32 ft.-80 ft. (9.8m-24.4m) trapezoidal boom, 30 ft. (9.3m) offsettable swingaway extension, Grove HO15H-20 main hoist, with 450 ft. (137.2m) of 5/8 in. (16mm) rope, *3,200 lb. (1,452 kg) Grove 6x6 carrier, Detroit Diesel 8.2L turbocharged engine, Roadranger transmission.	50,092	16,093	33,999	22,721	7,300	15,421
ADD:						
35 ton (30 MT), hookblock (travel position)	+627	+816	-189	+284	+370	-86
7-1/2 ton (6.8 MT) headache ball.	+300	+320	-20	+136	+145	-9
5 ton (4.5 MT) headache ball.	+150	+160	-10	+68	+73	-5
Auxiliary boom head.	+140	+234	-94	+64	+106	-42
Front stabilizer jack.	+492	+671	-179	+223	+304	-81
Krueger load moment and anti-two block system.	+100	+63	+37	+45	+29	+16
*Grove HO15S-20 auxiliary hoist with 450 ft. (137.2m) of 5/8 in. (16mm) rope.	+1,099	-499	+1,598	+499	-226	+725
SUBSTITUTE:						
30 ft. - 54 ft. (9.3m-16.4m) offsettable telescoping swingaway plus mountings.	+750	+572	+178	+340	+259	+81
Cummins VT225 engine.	+619	+561	+58	+281	+254	+27
*2,500 lb. (1,134 kg) superstructure counterweight.	-700	+361	-1,061	+317	+164	-481
REMOVE:						
30 ft. (9.3m) offsettable swingaway extension.	-1,599	-1,257	-342	-725	-570	-155
*Standard superstructure counterweight (HO15H-20 main hoist only)	-3,200	+1,649	-4,849	-1,452	+748	-2,200

*NOTE: Appropriate superstructure counterweight substitutions must be made depending on hoist configurations selected.
 HO15H-20 main hoist, no auxiliary hoist - 3,200 lb. (1,452 kg) counterweight.
 HO15H-20 main hoist, and HO15S-20 auxiliary hoist - 2,500 lb. (1,134 kg) counterweight.



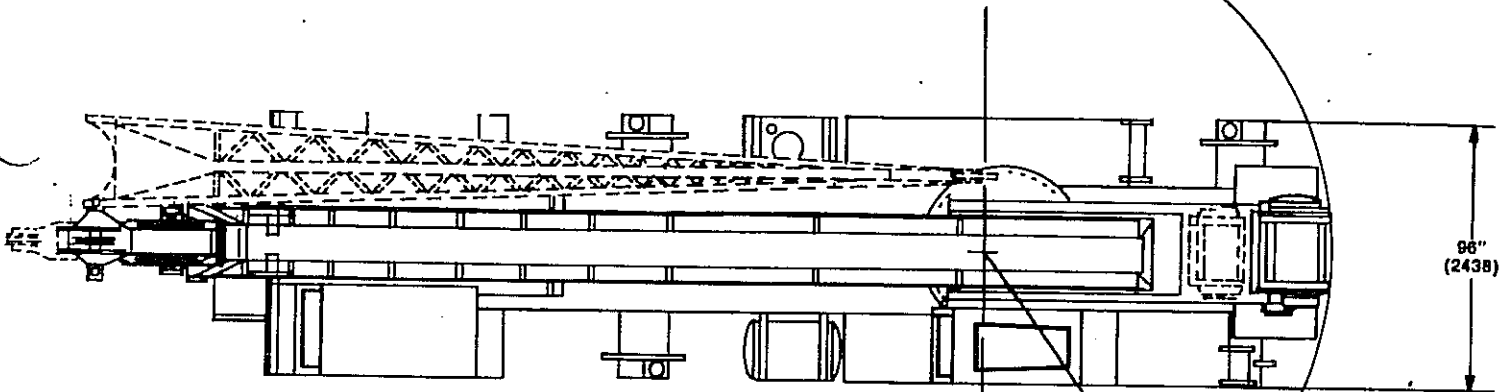
GROVE MANUFACTURING COMPANY

Division of Kidde, Inc.

KIDDE

Shady Grove, Pennsylvania 17256-0021

Constant improvement and engineering progress makes 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.



DIMENSIONS

**TURNING RADIUS -
38' (11582)**

**TAIL SWING -
11'5-7/16" (3491)**

