



TMS475

Carrier Mounted Hydraulic Crane/Capacity 50 Tons (45 MT)

SUPERSTRUCTURE SPECIFICATIONS

ANTI-TWO BLOCK SYSTEMS -

Basic "HAP" is an audio-visual (light/buzzer) warning system to alert operator to an impending two block condition combined with electronic boom angle display with low and high angle preset. Hook-block or headache ball coming in contact with weight suspended from boom nose switch activates the audio-visual warning system on the display panel located within easy view of operator.

*Optional to the basic "HAP" system is Krueger "HLAP". *HLAP is the same as HAP but further incorporates selective electronic in-cab display of boom length in feet and meters.

*An additional option available to all anti-two block systems is Grove control lever lockout of: hoist up, telescope out and boom down crane functions.

*LOAD MOMENT AND ANTI-TWO BLOCK SYSTEM (KRUEGER LMI)

- A load moment indicating and anti-two block system with audio-visual warning and control lever lockout of: hoist up, telescope out and boom down crane functions. Dash mounted console displays relative load moment and also provides operator with selective electronic display of boom length in feet and meters, and boom angle in degrees. Angle indicator has high and low "presets" with audio-visual warning system.

CAB - One man, full vision, all steel with acoustical treatment and tinted safety glass throughout; hinged tinted skylight, sliding left side door and sliding right side window for ventilation. Fully adjustable deluxe fabric seat with headrest and seat-belt, diesel or propane heater and hot air defroster, electric windshield wiper and washer, circulating air

fan, swing horn, domelight, dash-light, door and window locks and 2-3/4 lb. (1.3 kg) dry-type fire extinguisher. Complete engine instrumentation and crane operating controls, full length control levers, combination hand and foot controls for swing, boom elevation and engine throttle, outrigger control panel and sight leveling bubble.

MAIN BOOM - 34 ft. - 116 ft. (10.4m - 35.4m) total length; 3 section trapezoidal† main boom consisting of base section and 2 full power sections to 84 ft. (25.6m) and a 32 ft. (9.7m) "swingaway" lattice extension to 116 ft. (35.4m).

*35 ft. - 142 ft. (10.7m - 43.3m) total length; 4 section trapezoidal† main boom consisting of base section, 2 full power sections and 1 power pinned section to 110 ft. (33.5m) and a 32 ft. (9.7m) "swingaway" lattice extension to 142 ft. (43.3m).

Boom extension is accomplished by 5-1/2 in. (139.7mm) diameter bore double-acting telescope cylinders with integral holding valves.

BOOM NOSE - Four 15 in. (381mm) tread diameter sheaves mounted on tapered roller bearings. Two floating idler sheaves 15 in. (381mm) tread diameter mounted on bronze bushings. Removable pin type rope guards.

*18 in. (457mm) sheaves available for export requirements.

***AUXILIARY BOOM NOSE** - Single 15 in. (381mm) tread diameter mounted to the main boom nose (removable) for single line work. Removable pin type rope guards. *18 in. (457mm) sheave available for export requirement.

BOOM ELEVATION - Dual double-acting 11 in. (279.4mm) bore cylinders with integral holding

valves provide elevation from -6° to 76°.

LATTICE BOOM EXTENSION -

Standard 32 ft. (9.8m) lattice "swingaway" boom extension stows alongside base boom section. Boom extension swings into position; attaches and is held to main boom nose with four corner pins.

***JIB** - A 24 ft. (7.32m) A-frame section which attaches to the sheave shaft of the 32 ft. (9.7m) "swingaway" lattice boom extension. The jib can be offset 5°, 17° and 30° and includes mast, pendant lines, single rope self-equalizing suspension; stows on right side of carrier deck for travel.

SWING - Planetary drive, 360° continuous rotation. Equipped with Grove "glide swing" with foot activated multiple disc swing brake for precision stopping. Electric/hydraulic swing parking brake and two position hand operated plunger travel lock. *Hand operated 360° positive swing lock controlled from operator cab is available. Swing circle bearing is bolted to superstructure and carrier.

COUNTERWEIGHT - Removable, pin mounted to turntable, power installed and removed, hydraulically extended to working position and retracted to stowed or travel position. (Weight varies according to machine specifications).

MISCELLANEOUS SUPER-STRUCTURE STANDARD

EQUIPMENT - Hydraulic test panel.

MISCELLANEOUS SUPER-STRUCTURE OPTIONAL EQUIP-

MENT - Trailing boom kit (less dolly), dual base boom mounted floodlights, air conditioning, 360° cab spotlight, electric skylight wiper.

†Patented Grove feature or patent pending.
*Denotes optional equipment.

HOIST SPECIFICATIONS

DESCRIPTION: Series parallel circuitry and two motors provide both high line pull and speed ranges. Power up and down, equal speed, planetary reduction with integral automatic brake plus electronic hoist drum rotation indicator.

HOIST DATA	MAIN HOIST GROVE MODEL HO30B-16		*AUXILIARY HOIST GROVE MODEL HO30B-16	
DRUM DIMENSIONS	16 in. dia. (406mm) 16 in. length (406mm) 24 in. flange dia. (610mm)		16 in. dia. (406mm) 16 in. length (406mm) 24 in. flange dia. (610mm)	
PERFORMANCE:				
MAX. SINGLE LINE SPEED	Hi-Speed Range Lo-Speed Range		Hi-Speed Range Lo-Speed Range	
BARE DRUM	385 FPM (117.3 m/min) 195 FPM (59.4 m/min)		385 FPM (117.3 m/min) 195 FPM (59.4 m/min)	
MEAN DRUM	460 FPM (140.2 m/min) 230 FPM (70.1 m/min)		460 FPM (140.2 m/min) 230 FPM (70.1 m/min)	
FULL DRUM	525 FPM (160 m/min) 265 FPM (80.8 m/min)		525 FPM (160 m/min) 265 FPM (80.8 m/min)	
MAX. SINGLE LINE PULL				
BARE DRUM	8,400 lbs. (3810 kg) 16,800 lbs. (7620 kg)		8,400 lbs. (3810 kg) 16,800 lbs. (7620 kg)	
MEAN DRUM	6,945 lbs. (3150 kg) 13,890 lbs. (6301 kg)		6,945 lbs. (3150 kg) 13,890 lbs. (6301 kg)	
FULL DRUM	6,125 lbs. (2778 kg) 12,245 lbs. (5554 kg)		6,125 lbs. (2778 kg) 12,245 lbs. (5554 kg)	
DRUM ROPE CAPACITY				
+MAX. STORAGE	650 ft. of 3/4 in. dia. rope (198m of 19mm)		650 ft. of 3/4 in. dia. rope (198m of 19mm)	
++MAX. USABLE	525 ft. of 3/4 in. dia. rope (160m of 19mm)		525 ft. of 3/4 in. dia. rope (160m of 19mm)	
PERMISSIBLE SINGLE LINE ROPE PULL W/ 3.5:1 SAFETY FACTOR	3/4 in. (19mm) 6x41 class 14,605 lbs. (6625 kg) 3/4 in. (19mm) 19x7 class 13,700 lbs. (6214 kg)		3/4 in. (19mm) 6x41 class 14,605 lbs. (6625 kg) 3/4 in. (19mm) 19x7 class 13,700 lbs. (6214 kg)	

- NOTES:**
- *Denotes Optional Equipment.
 - +6th layer of rope not recommended for hoisting operations
 - ++With wire rope minimum 1/2 in. (13mm) below top of drum flange.
 - 19x7 is a non-spin rope intended for single line operation and is not recommended for multiple part reeving.

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CARRIER SPECIFICATIONS

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

OUTRIGGERS - Front and rear hydraulic double-box two stage telescoping beams with vertical jacks. *Optional are the exclusive Grove *spinlocks which permit the outrigger vertical jacks to be positively locked in any position throughout their stroke.

***FRONT END STABILIZER** - A fifth hydraulic vertical jack cylinder with integral holding valve is mounted to the front frame section of the chassis to permit 360° lifting capability.

CAB - One-man, left hand drive, all steel construction, acoustically treated, tinted safety glass throughout, electric wiper and washer, door and window locks, Bostrom "T" bar, deluxe fabric seat and seat belt, hot water heater, forced hot air defroster, circulating air fan, dual rear view mirrors, domelight, instrument lights, electric horn, traffic hazard warning switch (4-way flashers), complete instrumentation and driving controls, 2-3/4 lb. (1.3 kg) dry type fire extinguisher.

CAB INSTRUMENTATION (International Type) - Engine oil pressure gauge, speedometer, dual air pressure gauge, fuel level gauge, engine water temperature gauge, voltmeter, tachometer, low air pressure audio-visual warning system, high beam indicator, hourmeter (10,000 hr.) and ignition on indicator light.

CLUTCH - Two plate dry disc.

TRANSMISSION - Fuller Roadranger (RTO6613) 13 speeds forward and 3 reverse.

UNIVERSAL JOINTS - Needle bearing type.

AXLES - Front: Rockwell beam type steer axles.

Rear: Rockwell SSHD drive tandem with interaxle differential and dash mounted control.

SUSPENSION - Front: Multi-leaf spring type.

Rear: Hendrickson tandem-axle equalizing beam with solid steel saddles.

BRAKES - Full air on all wheels. Separate independent front and rear circuits.

Front: 15 in. x 6 in. (381mm x 152mm).

Rear: 15 in. x 7 in. (381mm x 178mm).

Total Lining Area: 1,632 sq. in. (10,530 cm²); air dryer provided to minimize moisture accumulation.

PARKING BRAKES - Spring-set, air released chambers on both rear axles, with manual emergency release feature.

STEERING GEAR - Ross cam and lever type with Garrison hydraulic power assist.

TIRES - Front: 15.00 x 22.5 - 16PR Highway tread, tubeless.

*Optional are 16.5 x 22.5 - 16PR Highway tread or 12.00 x 20 - 18PR Michelin radial tube type.

Rear: 11.00 x 20 - 14PR Highway tread, tube type.

*Optional are 11.00 x 20 - 14PR ND-M&S, SRL-1, HCT or Michelin radial tube type or 12.00 x 20 - 18PR Michelin radial tube type.

WHEELS - Steel spoke; 6 spoke front and 5 spoke rear.

RIMS - Front: Demountable 12.25 in. x 22.5 in. (311mm x 572mm).

Rear: Demountable 8 in. x 20 in. (203mm x 508mm).

MISCELLANEOUS STANDARD EQUIPMENT - Wheel nut wrench and handle, channel-type front bumper, two front and rear towing

loops, front and rear fenders, ether cold start aid (less canister), hook-block tie-down, maintenance free batteries, backup light, air cleaner service indicator, combination lifting/tie-down lugs, fuel/water separator, full width decking and mud flaps.

MISCELLANEOUS OPTIONAL EQUIPMENT - Audio electronic backup alarm, tire inflation kit, sling box on left side, engine block heater, engine low oil pressure/high water temperature, audio-visual warning system.

HYDRAULIC SYSTEM

PUMPS - Four section gear-type driven from front of carrier engine; manual pump disconnect operated from carrier cab; combined capacity 146 GPM (553 LPM).

RESERVOIR - 127 gallon (481 liter) all-steel welded construction with integral baffles, cleanout access, exterior oil sight level, and magnet; strap mounted to frame.

FILTER - Return line replaceable cartridge 25 micron with bypass protection and filter bypass indicator.

CONTROL VALVES - Four-way double-acting with integral relief valves. Four individual valve banks permit simultaneous independent control of four crane functions. Maximum operating pressure 2500 PSI (175 kg/cm²).

OIL COOLER - Full flow, fin and tube, oil to air.

POWER DISTRIBUTION - Main hoist, auxiliary hoist boost; outer mid telescope, outriggers, lift boost; auxiliary hoist, boom elevation, inner mid telescope, main hoist boost; swing.

†Patented Grove feature or patent pending.
*Denotes optional equipment.

ENGINE SPECIFICATIONS

MAKE & MODEL	Detroit Diesel 6-71N	*Cummins NTCC240
TYPE	6 cyl. OHV, diesel	6 cyl. OHV, diesel
COMBUSTION	2 cycle, naturally aspirated	4 cycle, turbocharged
BORE & STROKE	4.125" x 5" (106 x 127mm)	5.5" x 6" (140 x 152mm)
DISPLACEMENT	426 cu. in. (6982 cm ³)	855 cu. in. (14,013 cm ³)
HORSEPOWER (GROSS/NET)	230/205 @ 2100 RPM (172/153 KW)	240/215 @ 1800 RPM (178/160 KW)
TORQUE (GROSS/NET)	611/561 @ 1600 RPM (84.5 kg/m/77.6 kg/m)	900/832 @ 1300 RPM (124.5 kg/m/115 kg/m)
COOLING SYSTEM	Liquid	Liquid
ALTERNATOR	90 AMP, 12 volt	90 AMP, 12 volt
BATTERY	(4) 475 CCA @ 0°F	(4) 475 CCA @ 0°F
AIR COMPRESSOR	12 CFM (340 liter/min)	13.2 CFM (374 liter/min)
AIR CLEANER	2 stage, dry type	2 stage dry type
ELECTRICAL/STARTING SYSTEM	12/24 volt, negative ground	12/24 volt, negative ground
FUEL TANK	(1) 90 gal. (341 liter)	(1) 90 gal. (341 liter)

CCA = Cold cranking amperage per battery

*Denotes optional equipment

SPEED AND GRADEABILITY

Engine	Speed Ranges @ Max. Governed RPM	% of Gradeability @ Max. Torque
GM6-71N	2.86 to 51.47 MPH (4.6 to 82.83 KPH)	33.45 to 0.44
*Cummins NTCC-240	2.86 to 51.47 MPH (4.6 to 82.83 KPH)	40.76 to 0.85

NOTE: Performance based on 75,000 lb. (34,473 kg) 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.

*Denotes optional equipment.

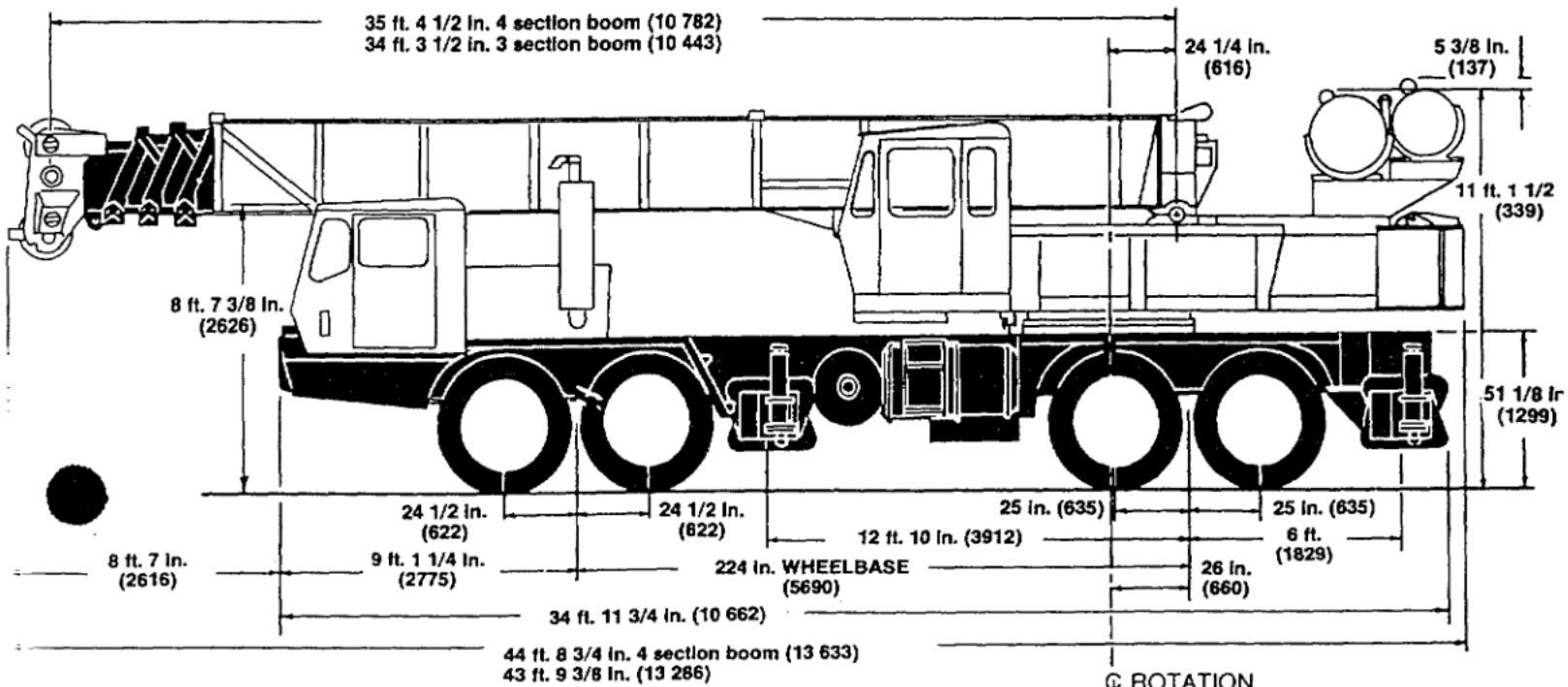
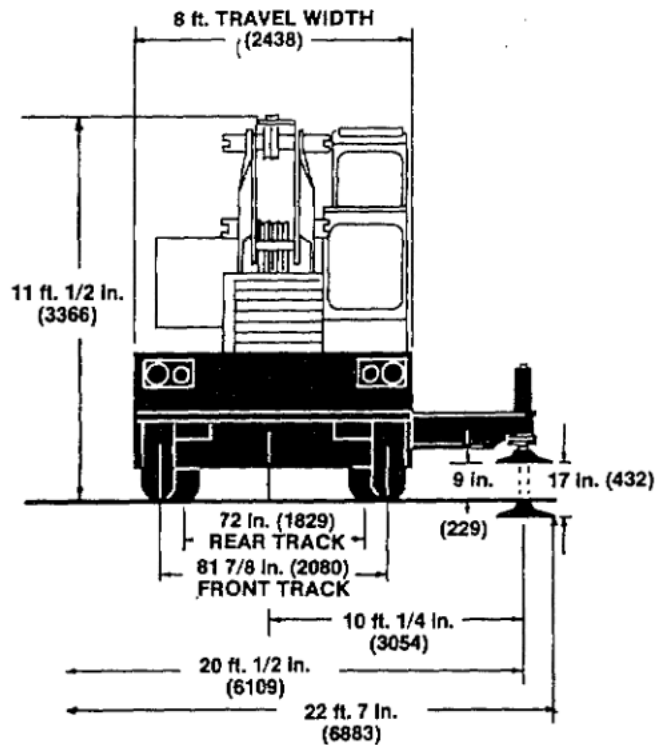
DIMENSIONS

TAILSWING - 120 in. (3048) retracted counterweight
144 in. (3657) extended counterweight

TURNING RADIUS - 42' (12.8m)

GROUND CLEARANCE - 10 1/2 in. (266)

NOTE: Dimensions in parentheses ()
are in millimeters (mm).



AXLE WEIGHT DISTRIBUTION CHART

	POUNDS			KILOGRAMS		
	GROSS	FRONT	REAR	GROSS	FRONT	REAR
Basic standard machine to include: 35-110 ft. (10.7-33.5m) Trapezoidal boom plus 32 ft. (9.7m) swingaway extensions, Grove Model HO30B-16 main hoist with 500 ft. of 3/4 in. (19mm) rope, Grove 8x4 224 in. (5.7m) wheelbase carrier with GM6-71N diesel engine, Roadranger transmission, and 7,500 lb. (3,402 kg) counterweight.	76,982	32,829	44,153	34,919	14,891	20,028
REMOVE:						
32 ft. (9.7m) swingaway lattice boom extension (4 section)	-1,522	-1,505	-17	-690	-682	-8
*7,500 lb. (3,402 kg) counterweight	-7,500	+2,662	-10,162	-3,402	+1,207	-4,609
**6,100 lb. (2,767 kg) counterweight	-6,100	+2,165	-8,265	-2,767	+982	-3,749
(2) Front outrigger beams and jacks	-3,000	-2,063	-937	-1,361	-936	-425
(2) Rear outrigger beams and jacks	-3,000	+964	-3,964	-1,361	+437	-1,798
ADD:						
5th front jack cylinder	+520	+723	-203	+236	+328	-92
Auxiliary boom nose	+200	+393	-193	+91	+178	-87
Grove HO30B-16 auxiliary hoist with 400 ft. of 3/4 in. cable	+2,317	-890	+3,207	+1,051	-404	+1,455
50 Ton (45 metric ton) hookblock (stowed)	+700	+1,134	-434	+317	+514	-197
24 ft. A-frame jib (stowed on carrier)	+895	+761	+134	+406	+345	+61
SUBSTITUTE:						
Cummins NTCC-240 diesel engine	+440	+440	0	+200	+200	0
34 ft. - 84 ft. (10.4m - 25.6m) 3 section boom	-2,458	-2,789	+331	-1,115	-1,265	+150
32 ft. (9.7m) swingaway lattice boom extension (3 section)	0	-88	+88	0	-40	+40

*Use 7,500 lb. (3,402 kg) counterweight without auxiliary hoist.

**Use 6,100 lb. (2,767 kg) counterweight with HO30B-16 auxiliary hoist.



GROVE MANUFACTURING COMPANY

Division of Kidde, Inc.

KIDDE

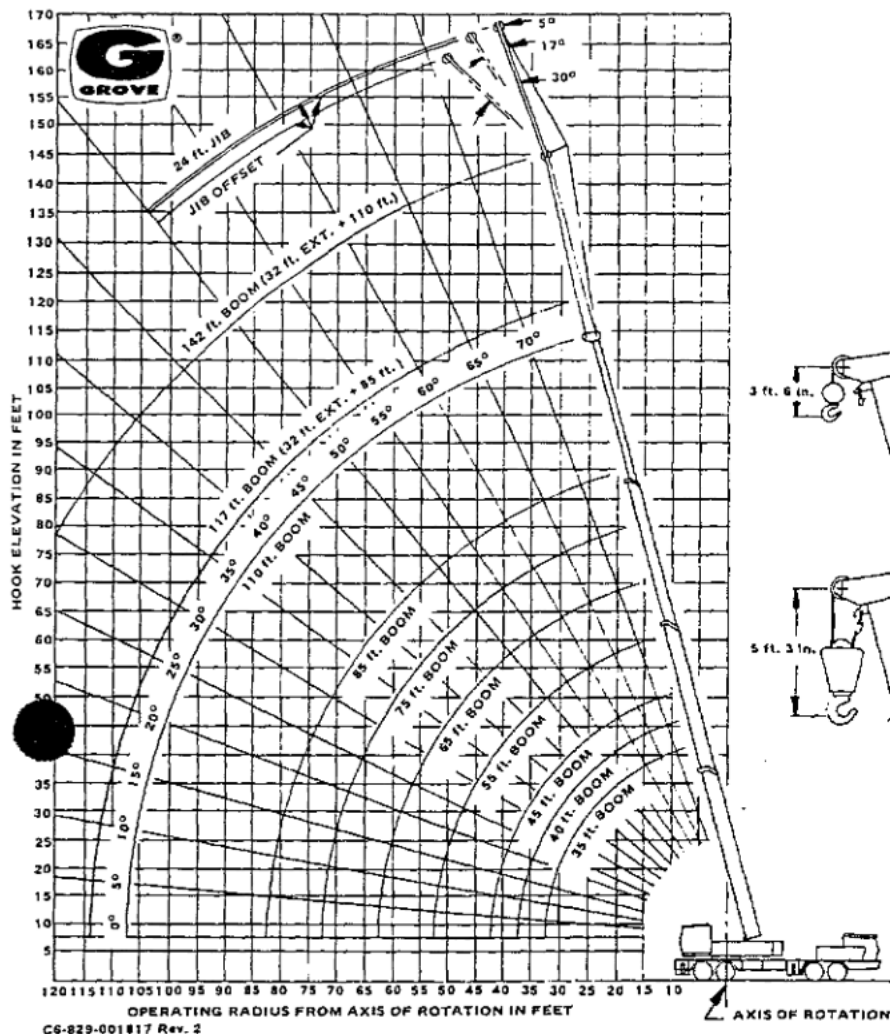
Shady Grove, Pennsylvania 17256-0021

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.

Form No. SBTMS475-485-10M Printed in U.S.A.

GROVE TMS475

RANGE DIAGRAM



Notes For Lifting Capacities

1. Do not exceed any rated lifting capacity. Rated lifting capacities are based on freely suspended loads with the machine leveled and standing on a firm supporting surface. Ratings with outriggers are based on outriggers being extended to their maximum position and tires raised free of crane weight before extending the boom or lifting loads.
2. Practical working loads for each particular job shall be established by the user depending on operating condition to include: the supporting surface, wind and other factors affecting stability, hazardous surroundings, experience of personnel, handling of load, etc. No attempt must be made to move a load horizontally on the ground in any direction.
3. Operating radius is the horizontal distance from the axis of rotation before loading to the centerline of the vertical hoist line or tackle with loads applied.
4. "On Rubber" lifting (if permitted) depends on proper tire inflation, capacity and condition. "On Rubber" loads may be transported at a maximum vehicle speed of 2.5 mi/hr (4 Km/hr) on a firm and level surface under conditions specified.
5. Jibs may be used for lifting crane service only. Jib capacities are based on structural strength of jib or main boom and on main boom angle.
6. Operation is not intended or approved for any conditions outside of those shown hereon. Handling of personnel from the boom is not authorized except with equipment furnished and installed by Grove Manufacturing Company.
7. For clamshell or concrete bucket operation, weight of bucket and load must not exceed 80% of rated lifting capacities.
8. Power-telescoping boom sections must be extended equally at all times. Long cantilever booms can create a tipping condition when in extended and lowered position.
9. The maximum load which may be telescoped is limited by hydraulic pressure, boom angle, boom lubrication, etc. It is safe to attempt to telescope any load within the limits of rated lifting capacity chart.
10. With certain boom and hoist tackle combinations, maximum capacities may not be obtainable with standard cable lengths.
11. With certain boom and load combinations, raising of load with boom lift cylinders may not be possible. Operational safety is not affected by this condition.
12. Keep load handling devices a minimum of 12 inches (30 cm) below boom head when lowering or extending boom.
13. If actual boom length and/or radius is between values listed, use lifting capacity for the next longer rated length and/or radius.
14. All load handling devices and boom attachments are considered part of the load and suitable allowances must be made for their combined weights.
15. Operation of this equipment in excess of rating charts or disregard of the instructions is hazardous and voids the warranty and manufacturer's liability.

WEIGHT REDUCTION FOR LOAD HANDLING DEVICES

HOOK BLOCKS

45 Ton 4-Sheave	700 lbs.
15 Ton 1-Sheave	310 lbs.
Auxiliary Boom Head	
18 in. Root Sheaves	220 lbs.
15 in. Root Sheaves	190 lbs.
5 Ton Headache Ball	150 lbs.
7 1/2 Ton Headache Ball	300 lbs.
10 Ton Headache Ball	500 lbs.

32 ft. BOOM EXTENSION

†STOWED	329 lbs.
†ERECTED	2,316 lbs.
24 ft. JIB & 32 ft. EXT. COMB.	
†ERECTED	5,900 lbs.
††ERECTED	1,200 lbs.

†Reduction of main boom capacities.
††Reduction of 32 ft. Ext. capacities.

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.



GROVE MANUFACTURING COMPANY
Division of Kidde, Inc.
KIDDE

Box 21, Shady Grove, Pennsylvania 17256

Distributed by:



TMS475

35 ft. - 142 ft. BOOM

(POWER PINNED FLY)

PCSA CLASS 10-148

RATED LIFTING CAPACITIES IN F

ON OUTRIGGERS FULLY EXTENDED - OVER SIDE

ON OU

Radius in Feet	Main Boom Length - Feet (Power Pinned Fly Retracted)							Power Pin. Fly & 85 ft.	32 ft. Ext. & 85 ft.	32 ft. Ext. & 110 ft.
	*35	40	45	55	65	75	85	110	117	142
10	100,000 (71)	74,000 (73.5)	72,000 (75.5)					See Warning Note 5	See Warning Note 6	See Warning Note 7
12	90,000 (67.5)	70,000 (70.5)	67,500 (73)	64,000 (76.5)						
15	72,000 (62.5)	63,700 (66)	61,000 (69)	55,000 (73)	44,700 (76)					
20	53,000 (52.5)	52,200 (57.5)	49,800 (62)	44,000 (67.5)	37,900 (71.5)	35,000 (74)	31,000 (76.5)			
25	38,630 (41.5)	38,630 (48.5)	38,630 (54)	36,300 (61.5)	31,900 (66.5)	29,200 (70)	27,500 (73)	20,000 (77)	17,500 (76.5)	
30	27,010 (26)	27,010 (38)	27,010 (46)	27,000 (55.5)	27,000 (61.5)	25,000 (66)	23,900 (69)	17,700 (75)	16,400 (74.5)	
35		19,610 (23.5)	19,610 (36)	19,610 (49)	19,610 (56.5)	19,610 (61.5)	19,610 (65.5)	15,200 (72.5)	14,100 (72)	9,600 (77)
40			14,790 (22)	14,790 (41.5)	14,790 (51)	14,790 (57)	14,790 (61.5)	13,200 (69.5)	12,400 (69.5)	8,340 (74.5)
45				11,770 (32.5)	11,770 (45)	11,770 (52)	11,770 (57.5)	11,600 (66.5)	11,100 (67)	7,540 (72.5)
50				9,220 (20)	9,220 (38)	9,220 (47.5)	9,220 (53.5)	10,300 (63.5)	10,000 (64)	6,830 (70.5)
55					7,540 (30)	7,540 (42)	7,540 (49)	9,200 (60.5)	9,130 (61.5)	6,240 (68)
60					6,010 (18.5)	6,010 (35.5)	6,010 (44.5)	7,910 (57.5)	8,030 (58.5)	5,710 (66)
65						4,720 (28)	4,720 (39.5)	6,430 (54.5)	6,490 (55.5)	5,240 (63.5)
70						3,680 (17.5)	3,680 (33.5)	5,150 (51)	5,210 (53)	4,800 (61.5)
75							2,750 (26.5)	4,070 (47.5)	4,130 (49.5)	4,420 (59)
80							1,920 (16.5)	3,250 (43.5)	3,430 (46)	4,070 (56.5)
85								2,590 (39.5)	2,760 (42.5)	3,640 (54)
90								1,960 (35)	2,270 (38.5)	2,960 (51.5)
95								1,360 (30)	1,810 (34.5)	2,350 (49)
100									1,310 (30)	1,760 (46)
105										1,090 (43)

Note: Boom angles are in degrees.

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Radius in Feet	*35	40
10	100,000 (71)	74,000 (73)
12	90,000 (67.5)	70,000 (70)
15	72,000 (62.5)	63,700 (66)
20	53,000 (52.5)	52,200 (57)
25	39,150 (41.5)	39,150 (48)
30	27,300 (26)	27,300 (38)
35		20,500 (23)
40		
45		
50		
55		
60		
65		
70		
75		
80		
85		
90		
95		
100		
105		
110		
115		
120		

Note: Boom angles are in

NOTES FOR ON OUTRIGGERS

- Capacities appearing above the bold line are based on structural strength and tipping should not be exceeded 85% of tipping loads with counterweight fully extended as determined by test in accordance with SAE.
- Do not exceed any rated load when lifting regardless of whether it is based on structural strength or stability.
- Capacities for the 35 ft. boom length shall be lifted with boom fully retracted. If boom is not fully retracted the 40 ft. boom length.
- Boom angle is the included angle between horizontal and the longitudinal axis of the boom base section after.
- For boom lengths less than 110 ft. with power pinned fly extended, the rated loads are determined by the column headed by 117 ft. boom. For boom angles not shown, use rating of next lower boom angle.
- For boom lengths less than 117 ft. with power pinned fly retracted and 32 ft. boom ext. erected, the rated loads are determined by the column headed by 117 ft. boom. For boom angles not shown, use rating of next lower boom angle.
- For boom lengths less than 142 ft. with power pinned fly extended and 32 ft. boom ext. erected, the rated loads are determined by the column headed by 142 ft. boom. For boom angles not shown, use rating of next lower boom angle.

MS475

32 ft. - 142 ft. BOOM
(POWER PINNED FLY)
PCSA CLASS 10-148

GROVE®

FULL HYDRAULIC CARRIER-MOUNTED CRANE

LIFTING CAPACITIES IN POUNDS

OVER SIDE

ON OUTRIGGERS FULLY EXTENDED - OVER REAR

Power Pin. Fly & 85 ft.	32 ft. Ext. & 85 ft.	32 ft. Ext. & 110 ft.
110	117	142
See Warning Note 5	See Warning Note 6	See Warning Note 7
20,000 (77)	17,500 (76.5)	
17,700 (75)	16,400 (74.5)	
15,200 (72.5)	14,100 (72)	9,600 (77)
13,200 (69.5)	12,400 (69.5)	8,340 (74.5)
11,100 (67)	11,100 (67)	7,540 (72.5)
10,300 (65.5)	10,000 (64)	6,830 (70.5)
9,200 (62.5)	8,130 (61.5)	6,240 (68)
7,910 (57.5)	8,030 (58.5)	5,710 (66)
6,430 (54.5)	6,490 (55.5)	5,240 (63.5)
5,150 (51)	5,210 (53)	4,800 (61.5)
4,070 (47.5)	4,130 (49.5)	4,420 (59)
3,250 (43.5)	3,430 (46)	4,070 (56.5)
2,590 (39.5)	2,760 (42.5)	3,640 (54)
1,960 (35)	2,270 (38.5)	2,960 (51.5)
1,360 (30)	1,810 (34.5)	2,350 (49)
	1,310 (30)	1,760 (46)
		1,090 (43)

6-829-001738D & -002141B

Radius in Feet	Main Boom Length - Feet (Power Pinned Fly Retracted)								Power Pin. Fly & 85 ft.	32 ft. Ext. & 85 ft.	32 ft. Ext. & 110 ft.
	*35	40	45	55	65	75	85		110	117	142
10	100,000 (71)	74,000 (73.5)	72,000 (75.5)						See Warning Note 5	See Warning Note 6	See Warning Note 7
12	90,000 (67.5)	70,000 (70.5)	67,500 (73)	64,000 (76.5)							
15	72,000 (62.5)	63,700 (66)	61,000 (69)	55,000 (73)	44,700 (76)						
20	53,000 (52.5)	52,200 (57.5)	49,800 (62)	44,000 (67.5)	37,900 (71.5)	35,000 (74)	31,000 (76.5)				
25	39,150 (41.5)	39,150 (48.5)	39,150 (54)	36,300 (61.5)	31,900 (66.5)	29,200 (70)	27,500 (73)	20,000 (77)	17,500 (76.5)		
30	27,300 (26)	27,300 (38)	27,300 (46)	27,300 (55.5)	27,000 (61.5)	25,000 (66)	23,900 (69)	17,700 (75)	16,400 (74.5)		
35		20,900 (23.5)	20,900 (36)	20,900 (49)	20,900 (56.5)	20,900 (61.5)	20,500 (65.5)	15,200 (72.5)	14,100 (72)	9,600 (77)	
40			16,850 (22)	16,850 (41.5)	16,850 (51)	16,850 (57)	16,850 (61.5)	13,200 (69.5)	12,400 (69.5)	8,340 (74.5)	
45				13,430 (32.5)	13,430 (45)	13,430 (52)	13,430 (57.5)	11,600 (66.5)	11,100 (67)	7,540 (72.5)	
50				10,920 (20)	10,920 (38)	10,920 (47.5)	10,920 (53.5)	10,300 (63.5)	10,000 (64)	6,830 (70.5)	
55					8,930 (30)	8,930 (42)	8,930 (49)	9,200 (60.5)	9,130 (61.5)	6,240 (68)	
60					7,330 (18.5)	7,330 (35.5)	7,330 (44.5)	8,250 (57.5)	8,380 (58.5)	5,710 (66)	
65						5,870 (28)	5,870 (39.5)	7,420 (54.5)	7,680 (55.5)	5,240 (63.5)	
70						4,530 (17.5)	4,530 (33.5)	6,360 (51)	6,400 (53)	4,800 (61.5)	
75							3,360 (26.5)	5,290 (47.5)	5,320 (49.5)	4,420 (59)	
80							2,260 (16.5)	4,350 (43.5)	4,460 (46)	4,070 (56.5)	
85								3,650 (39.5)	3,710 (42.5)	3,740 (54)	
90								3,020 (35)	3,040 (38.5)	3,440 (51.5)	
95								2,460 (30)	2,500 (34.5)	3,160 (49)	
100								1,900 (24)	2,070 (30)	2,620 (46)	
105								1,430 (15)	1,720 (24.5)	2,120 (43)	
110									1,500 (17)	1,730 (39.5)	
115										1,380 (36.5)	
120										1,040 (32.5)	

Note: Boom angles are in degrees.

A6-829-001732C & -002141B

NOTES FOR ON OUTRIGGERS

are based on structural strength and tipping should not be relied upon as a capacity limitation. Capacities do not
weight fully extended as determined by test in accordance with SAE-J-765.
regardless of whether it is based on structural strength or stability.

It be lifted with boom fully retracted. If boom is not fully retracted, capacities shall not exceed those shown for
horizontal and the longitudinal axis of the boom base section after lifting rated load.

Power pinned fly extended, the rated loads are determined by boom angle in the column headed by 110 ft. boom
angles not shown, use rating of next lower boom angle.

Power pinned fly retracted and 32 ft. boom ext. erected, the rated loads are determined by boom angle only in the
angles not shown, use rating of next lower boom angle.

Power pinned fly extended and 32 ft. boom ext. erected, the rated loads are determined by boom angle only in
boom angles not shown, use rating of next lower boom angle.

TMS475

35 ft. - 142 ft. BOOM

(POWER PINNED FLY)

PCSA CLASS 10-148

JIB CAPACITIES IN POUNDS

24 ft. JIB and 32 ft. EXT. Combination

Main Boom Angle	Min. 5° Offset	17° Offset	Max. 30° Offset
76°	6,000	5,200	4,600
70	4,300	3,940	3,650
65	3,430	3,200	3,010
60	2,760	2,600	2,470
55	2,220	2,110	2,020

A6-829-001823G

NOTES FOR JIB CAPACITIES

- 24 ft. jib and 32 ft. boom extension combination may be used for single line lifting crane service only. Capacities are based on structural strength of 24 ft. jib and 32 ft. boom extension combination at given main boom angle regardless of main boom length. When lifting with 24 ft. jib and 32 ft. boom extension, capacities must not exceed structural capacity of jib combination at given main boom angle or stability capacity of applicable boom length listed in boom capacity chart for actual working radius, whichever is less. NOTE: Capacities comply with structural requirements of SAE J-987 or SAE J-1063.
- Maximum total length of boom including 32 ft. boom extension for purpose of erecting 24 ft. jib below 10° elevation is 92 ft.
- WARNING: Operation of machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with jib occurs rapidly and without advance warning.
- 24 FT. JIB WARNING: For total boom length including 32 ft. boom extension greater than 92 ft. with 24 ft. jib in working position the boom angle must not be less than 50° since loss of stability will occur causing a tipping condition.
- Lifting over front of machine with 24 ft. jib is strictly prohibited. (NOTE: Not applicable to units equipped with front outrigger jack)

LIFTING AREA DIAGRAM

