

GUAY

GROVE[®] **TMM 1075**

HYDRAULIC CRANE with
TRAPEZOIDAL[†] BOOM

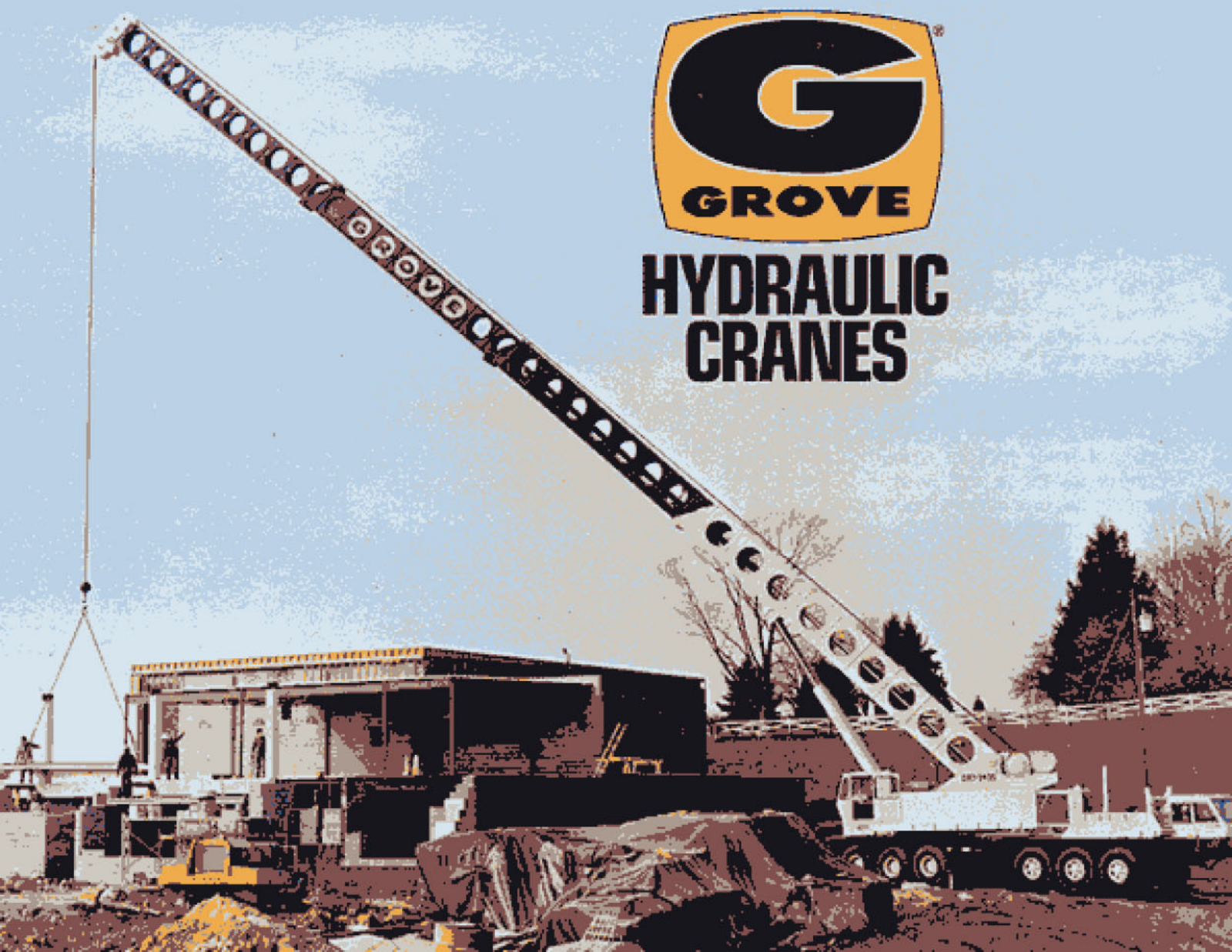
100-TON CAPACITY

90 - TONS METRIC

†Patented Grove Feature



HYDRAULIC
CRANES



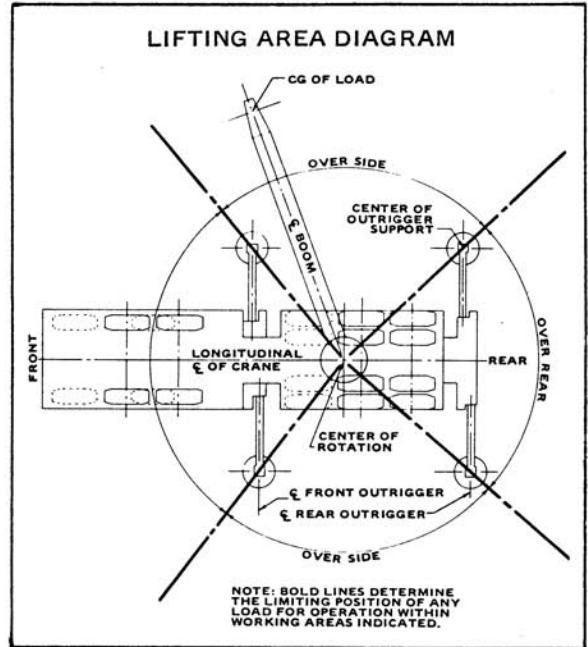
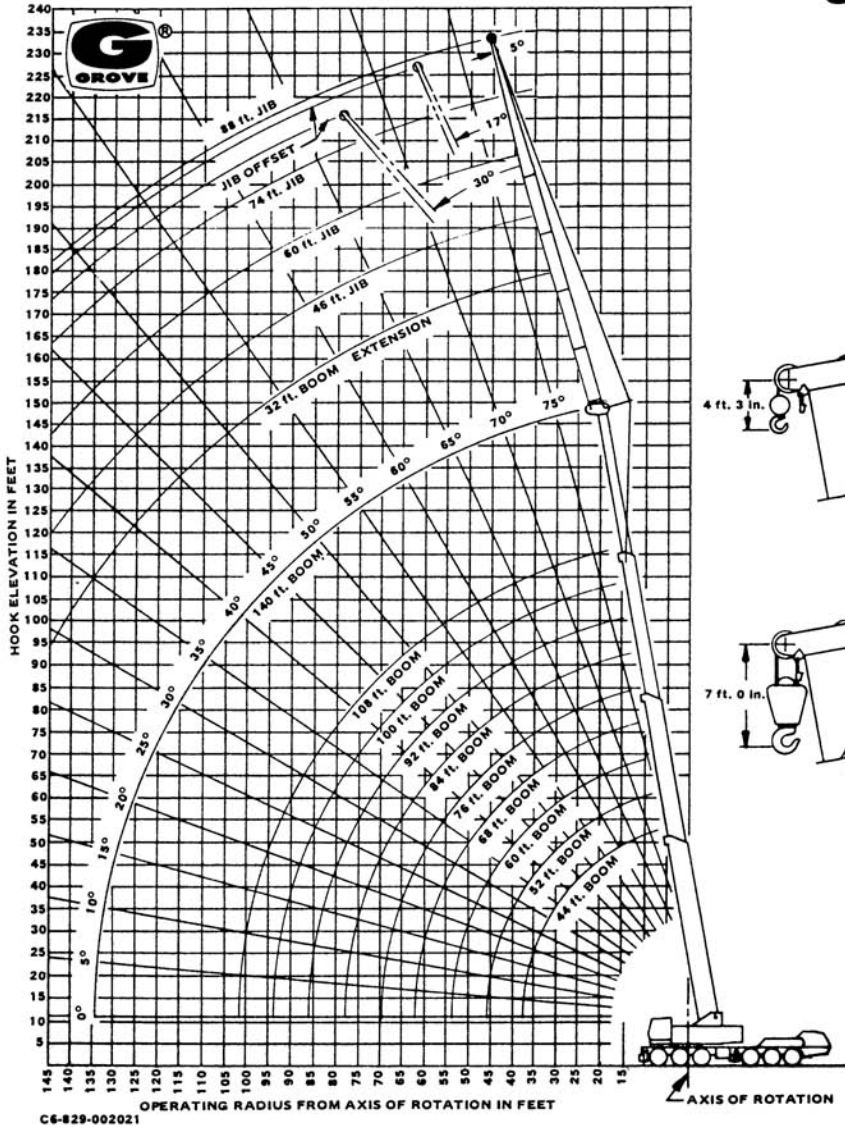


GROVE[®]

TM1075

FULL HYDRAULIC CARRIER-MOUNTED CRANE

RANGE DIAGRAM

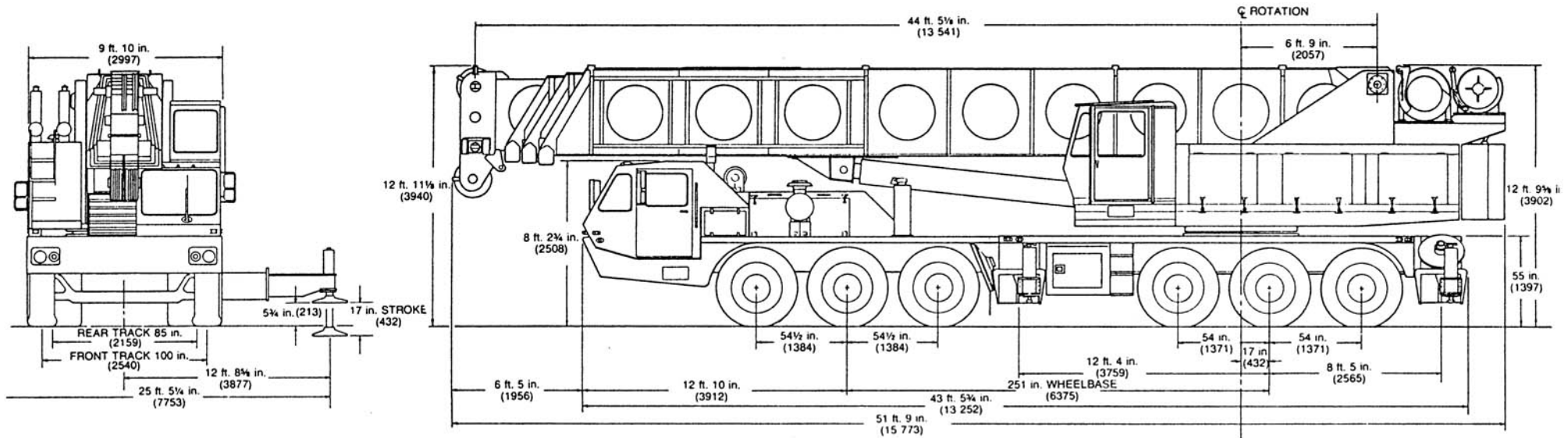


NOTES TO LIFTING CAPACITIES

- Rated lifting capacities are based on freely suspended loads. They are the maximum covered by the manufacturer's warranty with the machine leveled and standing on a firm supporting surface. Ratings with outriggers are based on outriggers being extended to their maximum positions.
- Practical working loads for each particular job shall be established by the user depending on operating conditions; including the supporting surface, wind and other factors affecting stability, hazardous surroundings, experience of personnel, handling of load, etc.
- Operating radius is the horizontal distance from the axis of rotation to the centerline of the hoist line or tackle with loads applied.
- "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 smooth and level surface only.
- 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 regardless of boom length.
- 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.
- For clamshell or concrete bucket operation, weight of bucket and load must not exceed 90% of rated lifting capacities.
- 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.
- 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.
- With certain boom and hoist tackle combinations, maximum capacities may not be obtainable with standard rope lengths.
- 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.
- Keep load handling devices a minimum of 12 inches (30 CM) below boom head when lowering or extending boom.
- For multiple part reeving, use one part of line for each 16,670 lbs. of load.
- All load handling devices and/or boom attachments are considered part of the load and suitable allowances must be made.

DIMENSIONS

TM1075



TURNING RADIUS 51 ft. 15.54m
 GROUND CLEARANCE 10 1/4 in. (outrigger float removed) 365mm
 TAIL SWING 13 ft. 1 3/8 in. (cwt. in travel position) 4.00m
 TAIL SWING 16 ft. 1 3/8 in. (cwt. in working position) 4.91m

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

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



CARRIER SPECIFICATIONS

OUTRIGGERS – Hydraulic Double Box 2-Stage Telescoping beam outriggers, integral welded boxes, removable beams, vertical jack cylinders with integral holding valves and 30½" (775mm) diameter steel floats. Beams extend to 25' 5¼" (7.8m) centerline to centerline retract to 9' 10" (3.0m) overall width. Mechanical spin locks on each vertical jack to secure outriggers at any level. Controls and sight leveling bubble located in superstructure cab and each side of carrier frame. Powered by superstructure engine.

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

STEERING GEAR – Ross TE-72740 Cam and lever type with Garrison hydraulic power assist.

CLUTCH – Lipe Rollway 15½" (394mm), two plate dry disc.

TRANSMISSION – Fuller Roadranger (RT009513) 13 speeds forward and 2 reverse.

UNIVERSAL JOINTS – Needle bearing type.

AXLES – Front: (3) Shuler tubular steering DCB34-L-7, 100" (2.5m) track, 66,750 lb. (30 277kg) capacity.

Rear: (3) Clark BD50-60 Planetary drive, 85 in. (2.2m) track 108,000 lb. (48 989kg) capacity.

SUSPENSION – Front: Reyco 21B spring mounted tridem, 66,000 lb. (29 937kg) capacity. Rear: Hendrickson Tri-axle equalizing beam with solid steel saddles, 108,000 lb. (48 989kg) capacity.

FUEL TANK – Single 100 gallon (379 liter) capacity mounted on right side of frame.

TIRES – 14:00x20 – 20 ply Tube-type, Hi-way tread front, ND-M & S tread rear.

WHEELS – Steel spoke 10 in. x 20 in. (254mm x 508mm).

BRAKES – Full air on all wheels, Front: 17¼ in. x 4 in. (438mm x 102mm). Rear: 16½ in. x 7 in. (419mm x 178mm). Total lining area: 2130 sq. in. (13 743cm²).

PARKING BRAKE – Maxi-type, spring set emergency chambers on all rear axles with emergency release kit.

ELECTRICAL SYSTEM – 12 volt lighting, 24 volt starting. Federal safety standard lights and reflectors.

CAB – Two-man, low profile design, all steel with acoustical treatment, laminated safety glass windshield and windows throughout; windshield washer and electric wiper, door and window locks. Bostrom "T" bar drivers seat and Bostrom companion seat, seat belts, heater, defroster fan, dual West Coast mirrors, dome light, dash light, electric horn, traffic hazard warning switch (4-way flasher), complete instrumentation and driving controls, sliding right side and roll-down left side glass for ventilation, 3¼ lb. (1.7kg) dry type fire extinguisher. (Air conditioning available)

CAB INSTRUMENTATION – Engine oil pressure gauge, speedometer, air pressure gauge, fuel level gauge, engine water temperature gauge, voltmeter, tachometer, low air pressure audio-visual warning device, high beam indicator, ignition-on indicator.

MISCELLANEOUS STANDARD EQUIPMENT – Wheel nut wrench and handle, channel type front bumper, two front and rear towing loops, front and rear fenders, ether injection starting aid (less canister) mud flaps, tool storage compartment. Front deck hookblock storage trough.

SPEED AND GRADEABILITY

Engine	Speed Ranges @ Max. Governed RPM	% of Gradeability @ Max. Torque
Cummins NTC350	2.35 to 45.84 MPH (4 to 74 Km/h)	36.10 to .43%
*GM8V-71T	2.35 to 45.84 MPH (4 to 74 Km/h)	35.26 to .38%
*Caterpillar 3406TA	2.35 to 45.84 MPH (4 to 74 Km/h)	36.59 to .45%

NOTE: Performance based on 145,000 lb. (65 772kg) 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.

CARRIER ENGINE SPECIFICATIONS

MAKE & MODEL TYPE	Cummins NTC350	*GM8V-71T	*Caterpillar 3406TA
BORE & STROKE	6 cylinder O.H.V. 5.5 in. x 6 in. (140mm x 152mm)	8 cylinder O.H.V. 4.25 in. x 5 in. (108mm x 127mm)	6 cylinder O.H.V. 5.4 in. x 6.5 in. (137mm x 165mm)
DISPLACEMENT	855 cu. in. (14 013cm³)	568 cu. in. (9310cm³)	893 cu. in. (14 636cm³)
HORSEPOWER (NET) GOVERNED RPM	315 @ 2100 RPM	315 @ 2100 RPM	325 @ 2100 RPM
TORQUE (NET)	2100	2100	2100
ELECTRICAL SYSTEM	903 lbs. ft. @ 1500 RPM	870 lbs. ft. @ 1600 RPM	900 lbs. ft. @ 1400 RPM
COMBUSTION SYSTEM	12 volt neg. ground	12 volt neg. ground	12 volt neg. ground
COOLING SYSTEM	4 cycle turbocharged	2 cycle turbocharged	4 cycle turbocharged
FUEL CAPACITY	Liquid	Liquid	Liquid
ALTERNATOR	100 Gallons (379 liters)	100 Gallons (379 liters)	100 Gallons (379 liters)
BATTERY	53 Amp 12 volt	75 Amp 12 volt	65 Amp 12 volt
AIR CLEANER	(2) 204 A.H. 12 volt	(2) 204 A.H. 12 volt	(2) 204 A.H. 12 volt
AIR COMPRESSOR	Dry Type	Dry Type	Dry Type
HOURLY METER	15 CFM	12 CFM	12 CFM
STARTING SYSTEM	Yes	Yes	Yes
	24 volt	24 volt	24 volt

Note: (1) GM and Cummins engines equipped with Jacobs engine brake. Units with Caterpillar engine are equipped with a drive line retarder.

(2) With air conditioning, engine horsepower and performance will be slightly reduced.

*Denotes Optional Equipment

AXLE WEIGHT DISTRIBUTION CHART

ITEM	POUNDS			KILOGRAMS		
	GROSS	FRONT	REAR	GROSS	FRONT	REAR
Basic standard machine to include: 44 to 140 ft. (13.4m – 42.7m) trapezoidal boom plus a 32 ft. (9.7m) swingaway extension, Gearmatic model 44 main hoist with 800 ft. of ¾" (243.8m of 22mm) rope, Grove model 32S-1716A auxiliary hoist w/650 ft. of ¾" (198.1m of 19mm) rope, 13,350 lbs. counterweight, Grove model 12x6-100 carrier, Cummins NTC350 (Carrier Engine), Cummins V555-C230 (superstructure engine).	147,367	43,008	101,359	66 845	19 508	45 976
*Remove std. 13,350 lbs. (6056kg) counterweight	-13,350	+6,693	-20,043	-6055	+3035	-9091
100 ton (90tm), 6 sheave hook block (stowed)	+2,450	+4,215	-1,765	+1111	+1911	-800
Auxiliary boom head	+245	+476	-231	+111	+215	-104
Substitute model 44 free fall main hoist with 800 ft. of ¾" (243.8m of 22mm) rope	+270	-99	+369	+122	-44	+167
**Substitute 15,000 lbs. (6840kg) counterweight & remove std. Model 32S-1716A auxiliary hoist w/rope	-901	+432	-1,333	-408	+195	-604
Substitute GM8V-71T engine (carrier)	-400	-447	+47	-181	-203	+21
Substitute CAT3406TA engine (carrier)	+70	+78	-8	+32	+35	-4
Substitute GM6V-53N engine (superstructure)	-170	-52	-118	-77	-23	-53
Substitute CAT3208 engine (superstructure)	-298	-91	-207	-135	-41	-94
Remove std. 32 ft. (9.7m) swingaway extension	-1,703	-1,829	+126	-772	-830	+57
Remove std. main hoist with rope	-3,736	+1,369	-5,105	-1695	+621	-2316
Remove (2) front outrigger beams & jacks	-5,600	-3,302	-2,298	-2540	-1498	-1042
Remove (2) rear outrigger beams & jacks	-5,600	+2,253	-7,853	-2540	+1022	-3562

*Use 13,350 lbs. (6056kg) c/wgt. with standard model 32S-1716A auxiliary hoist.

**Use 15,000 lbs. (6840kg) c/wgt. without auxiliary hoist.

GROVE®

FULL HYDRAULIC

CARRIER-MOUNTED CRANE

TM1075

100 TON CAP.

PCSA CLASS 12-431

RATED LIFTING CAPACITIES IN POUNDS

44 ft. - 172 ft. BOOM

OVER SIDE AND REAR WITH OUTRIGGERS FULLY EXTENDED

Radius in Feet	Main Boom Length in Feet (Power Pinned Fly Retracted)									Power Pin. Fly & 108 ft. **140	32ft. Ext. (2° Offset) & 140 ft. **172
	*44	52	60	68	76	84	92	100	108		
12	200,000 (71)	121,500 (74)	118,000 (76.5)	114,000 (78)	108,000 (79.5)						
15	158,500 (67)	121,500 (70.5)	113,700 (73)	106,000 (75.5)	98,400 (77.5)	91,000 (79)					
20	117,000 (59)	100,150 (64.5)	93,450 (68)	87,400 (71)	82,000 (73.5)	77,000 (75.5)	72,600 (77)	66,800 (78.5)	64,600 (80)		
25	91,500 (50.5)	83,800 (57.5)	78,350 (62.5)	73,600 (66.5)	69,600 (69)	65,500 (71.5)	59,100 (73.5)	54,100 (75.5)	52,150 (77)		
30	71,800 (40.5)	70,850 (50.5)	66,700 (57)	63,000 (61.5)	59,950 (65)	56,550 (68)	49,300 (70.5)	44,950 (72.5)	43,200 (74.5)	42,000 (78.5)	
35	53,700 (27)	53,700 (42)	53,700 (50.5)	53,700 (56.5)	52,150 (60.5)	49,400 (64)	41,950 (67)	38,050 (69.5)	36,450 (71.5)	35,200 (76.5)	24,000 (80)
40		43,130 (31.5)	43,130 (43.5)	43,130 (51)	43,130 (56)	43,130 (60)	36,150 (63.5)	32,650 (66)	31,150 (68.5)	30,250 (74.5)	21,750 (78.5)
45		34,960 (12.5)	34,960 (35)	34,960 (44.5)	34,960 (51)	34,960 (56)	31,500 (59.5)	28,300 (63)	26,900 (65.5)	26,250 (72)	19,450 (77)
50			28,290 (24)	28,290 (37.5)	28,290 (45.5)	28,290 (51.5)	27,700 (56)	24,750 (59.5)	23,400 (62.5)	23,000 (70)	17,600 (75)
60				19,620 (16)	19,620 (32.5)	19,620 (41.5)	19,620 (47.5)	19,200 (52)	18,050 (56)	17,950 (65.5)	14,750 (71.5)
70						13,950 (28)	13,950 (37.5)	13,950 (44)	13,950 (49)	14,250 (60.5)	12,700 (68)
80							9,530 (23.5)	9,530 (34)	9,530 (41)	11,400 (55.5)	10,400 (64)
90								6,360 (19)	6,360 (31)	9,160 (50.5)	8,470 (60)
100										6,930 (44.5)	6,890 (56)
110										4,640 (37.5)	5,580 (51.5)
120										2,850 (29)	4,480 (47)
130										1,480 (16.5)	3,100 (41.5)
140											1,720 (36)
145											1,100 (32.5)

NOTE: Boom Angle (degrees) required for given lift appears below the load.

A6-829-001956 & 1962

TRAPEZOIDAL BOOM and 32 ft. EXT. NOTES

Capacities appearing in shaded area are based on structural strength and tipping should not be relied upon as a capacity limitation.
 *Capacities for 44 ft. boom length shall be lifted with boom fully retracted. If boom is not fully retracted, capacities shall not exceed those shown for the 52 ft. boom length.
 Capacities do not exceed 85% of tipping loads with counterweight fully extended as determined by test in accordance with SAE recommended practice - crane load stability test code SAE J-765.
 Do not exceed any rated load when lifting regardless of whether it is based on structural strength or stability.
 **Boom must be fully extended when lifting with extended power pinned fly or with 32 ft. boom ext. (2° offset).

GROVE[®]

FULL HYDRAULIC CARRIER-MOUNTED CRANE

TM1075

JIB CAPACITIES WITH 44 ft. - 140 ft. BOOM OUTRIGGERS FULLY EXTENDED

Main Boom Angle	46 ft. JIB CAPACITIES			60 ft. JIB CAPACITIES			74 ft. JIB CAPACITIES			88 ft. JIB CAPACITIES		
	5° Offset	17° Offset	30° Offset	5° Offset	17° Offset	30° Offset	5° Offset	17° Offset	30° Offset	5° Offset	17° Offset	30° Offset
	Ref. Radius	Ref. Radius	Ref. Radius	Ref. Radius	Ref. Radius	Ref. Radius	Ref. Radius	Ref. Radius	Ref. Radius	Ref. Radius	Ref. Radius	Ref. Radius
80°	40 16,500	49 12,800	57 8,460	45 12,500	57 9,220	67 5,570	51 9,600	64 6,640	77 3,840	54 7,630	72 4,680	87 2,680
77.5	48 15,650	57 12,300	64 8,030	54 11,700	65 8,790	75 5,270	60 8,880	73 6,230	85 3,610	64 6,920	81 4,290	95 2,480
75	56 14,900	64 11,900	72 7,650	62 11,050	73 8,390	82 5,010	68 8,250	82 5,860	93 3,400	73 6,290	90 3,930	103 2,310
72.5	63 14,250	71 11,500	79 7,320	70 10,450	81 7,930	90 4,780	77 7,690	90 5,530	101 3,230	83 5,740	98 3,610	112 2,160
70	71 12,610	79 11,000	85 7,030	78 9,890	88 7,440	97 4,570	86 7,180	98 5,230	109 3,070	92 5,240	107 3,320	120 2,030
67.5	78 10,280	86 9,120	92 6,780	86 8,740	96 7,010	104 4,390	94 6,720	106 4,920	116 2,930	100 4,790	115 3,060	127 1,910
65	85 8,470	93 7,620	99 6,550	94 7,180	103 6,350	111 4,240	102 6,140	113 4,630	123 2,810	109 4,390	123 2,820	135 1,810
62.5	92 7,020	99 6,390	105 5,980	101 5,930	110 5,300	117 4,100	110 5,020	121 4,390	130 2,700	118 4,030	131 2,610	142 1,400
60	99 5,850	106 5,370	111 5,070	108 4,900	117 4,430	124 3,980	118 4,110	128 3,300	136 2,100	126 3,530	139 1,800	
55	112 4,060	118 3,780	122 3,620	122 3,320	130 3,040	136 2,250	132 2,700	142 1,400		141 1,500		
50	124 2,780	129 2,620	133 2,530	135 2,180	142 1,400							
45	135 1,830	140 1,700	142 1,350									

JIB CAPACITY NOTES

- All capacities are based on structural strength of jib at given main boom angle and do not exceed 85% of tipping loads with counterweight fully extended in accordance with SAE J-765. (Ref. Radius in feet).
- Jibs may be used for single line lifting crane service only.
- Rated load is based on loaded main boom angle.
- WARNING:** Operation of this machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with every jib occurs rapidly and without advance warning.
- Lifting with other than fully extended boom (power pinned fly extended - 140 ft. boom length) is strictly prohibited.
- Maximum length of main boom including extended power pinned fly for purpose of erecting jib, over side or over rear, below 30° main boom angle is:

46 ft. Jib - 114 ft.

60 ft. Jib - 106 ft.

74 ft. Jib - 97 ft.

88 ft. Jib - 88 ft.

WARNING: Do not attempt to erect jibs over front of machine.

46 ft. JIB WARNING: With 46 ft. jib in working position, the boom angle must not be less than 45° (over side & rear) or 60° (over front) since loss of stability will occur causing a tipping condition.

60 ft. JIB WARNING: With 60 ft. jib in working position, the boom angle must not be less than 50° (over side & rear) or 62½° (over front) since loss of stability will occur causing a tipping condition.

74 ft. JIB WARNING: With 74 ft. jib in working position, the boom angle must not be less than 55° (over side & rear) or 65° (over front) since loss of stability will occur causing a tipping condition.

88 ft. JIB WARNING: With 88 ft. jib in working position, the boom angle must not be less than 55° (over side & rear) or 67½° (over front) since loss of stability will occur causing a tipping condition.

WEIGHT REDUCTION FOR LOAD HANDLING DEVICES

32 ft. BOOM EXTENSION with 44 - 140 ft. BOOM
Stowed - 504 lbs.
Erected - 2,366 lbs.

44 - 140 ft. BOOM with
46 ft. Jib Erected - 8,216 lbs.
60 ft. Jib Erected - 11,947 lbs.
74 ft. Jib Erected - 16,364 lbs.
88 ft. Jib Erected - 21,468 lbs.

HOOK BLOCKS
100 Ton, 6 Sheave . . . 2,380 lbs.
30 Ton, 1 Sheave . . . 706 lbs.
Auxiliary Boom Head . . . 245 lbs.
10 Ton Headache Ball . . . 500 lbs.
15 Ton Headache Ball . . . 750 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.



GROVE MANUFACTURING COMPANY

A DIVISION OF WALTER KIDDE & COMPANY, INC.

SHADY GROVE • PENNSYLVANIA 17256

MEMBER: POWER CRANE & SHOVEL ASSOCIATION

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