NUMBER 1

GROVE

WORLD LEADER IN **HYDRAULIC CRANES**

MODELS RANGING TO

20 TON

CAPACITY

GROVE TM200C

SUPERSTRUCTURE SPECIFICATIONS

BOOMS - 24 ft.-60 ft. (7.3-18.3m) 3 section, full power telescoping. *28 ft.-70 ft. (8.5-21.2m) 3 section, full power telescoping. Each boom has individually controlled telescope sections supported on graphite impregnated nylatron wear pads. Side adjustable wear pads prevent metal-to-metal contact of inner boom sections and permit ease of boom side alignment. Integral holding valves on each telescoping cylinder. [One 5 in. (127mm) and one 4 in. (102mm) bore x 18 ft. (5486mm) stroke for 60 ft. boom or 21 ft. (6401 mm) stroke for 70 ft. boom].

BOOM NOSE - Weld-on type with integral rope guards; sheave mounted on heavy-duty needle bearings. (3 sheaves standard, *4 sheaves optional). Removable pin type rope guards allow easy reeving. Rope dead ends on both sides of boom nose. 11-1/4 in. (286mm) sheave root diameter.

BOOM ELEVATION - Dual double-acting 9 in. (22.9mm) bore x 36 in. (914mm) stroke, hydraulic cylinders with integral holding valves. 0° to 75° elevation. Combination controls for hand and foot operations.

ANTI-TWO BLOCK (KRUEGER "HAP") - An audio-visual (light/buzzer) warning system to alert operator to an impending two block condition. System uses solid state circuitry and consists of following basic components: boom nose mounted switch and weight assembly, base boom mounted electric cable reel and in-cab mounted console. Hookblock or headache ball coming in contact with weight suspended from boom nose switch activates the audio-visual warning system. A spring-loaded, key-type switch is provided to permit operator to momentarily override the system for emergencies. System further incorporates electronic boom angle display with "presets". Angle indicator has audio-visual warning system to alert operator if preset boom angles are reached.

* **ANTI-TWO BLOCK (KRUEGER "HLAP")** - Same as basic anti-two block audio-visual warning system (Krueger "A2B"), but incorporates selective electronic display of boom angle in degrees and boom length in feet and meters. Angle indicator has "presets" with audio-visual warning system to alert operator should the preset boom angles be reached.

* **LOAD MOMENT AND ANTI-TWO BLOCK SYSTEM (KRUEGER "LMI")** - A load moment indicating system in combination with anti-two block, audio-visual and Grove control lever lockout of: hoist up, telescope out and boom down crane functions. System uses solid state circuitry and consists of following basic components: boom nose mounted switch and weight assembly, base boom mounted electric cable reel and in-cab mounted console. Dash mounted console displays relative load moment and also provides selective electronic display of boom length in feet and meters and angle in degrees. Angle indicator has "presets" with audio-visual warning system to alert operator if preset boom angles are reached.

* **JIB** - 20 ft. (6.1m) A-frame stowable type for 24 ft.-60 ft. (7.3m-18.3m) boom; 24 ft. (7.3m) A-frame stowable type for 28 ft.-70 ft. (8.5m-21.3m) boom. Jibs have single rope self-equalizing suspension and jib backstops. Jib sheave mounted on heavy duty needle bearings; 20 ft. (6.1m) jib may be offset from 0° to 30°. 24 ft. (7.3m) jib may be offset from 0°to 26°.

CAB - Full vision, all-steel, fully enclosed with acoustical treatment, tinted safety-glass windows throughout, hinged tinted skylight, sliding left side door, side vent windows, adjustable full length control levers, combination hand-and-foot controls for swing, boom elevation and throttle. Fully adjustable operator's seat with headrest. Complete engine instrumentation and controls. All crane superstructure and outrigger controls, sight leveling indicator, electronic boom angle indicator, hot water heater, circulating air fan, electric windshield wiper, spring lockout switch dashlight, door and window locks, 2-3/4 lbs. (1.3 kg) dry type fire extinguisher.

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

SWING - Roller bearing swing circle, 360° continuous rotation. Grove planetary "glide swing" with foot actuated disc swing brake, spring-set, hydraulically-released park brake and 360° position positive turntable lock. Combination controls provided for hand or foot operation. Swing speed 3.0 RPM.

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

COUNTERWEIGHT - 900 lbs. (408.2kg) turntable mounted and removable. No counterweight with auxiliary hoist.

HYDRAULIC SYSTEM:

RESERVOIR - 87 U.S. gallons (329.3 liters) all-steel welded construction with integral baffles, clean out access, exterior oil sight level and magnetic drain plug.

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

PUMPS - 3 section, gear type driven from superstructure engine combined capacity 112.5 GPM (425.8 L/min) at 2400 RPM.

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 (175.8kg/sq.cm.).

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

POWER DISTRIBUTION - (Swing, outrigger, fly telescope) (main hoist) (main hoist boost, auxiliary hoist, lift and mid telescope).

SUB-BASE

OUTRIGGERS - Hydraulic, double box, beam and jack type. Outrigger boxes are integral welded to sub-base. Beams extend to 18 ft. (5.5m) centerline to centerline and retract to 8 ft. (2.4m) overall width. Vertical 5 in. (127mm) bore x 20 in. (508mm) stroke, jack cylinders are fitted with integral check valves and 24 in. (610mm) dia. steel floats.

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

* **REAR AXLE SPRING LOCKOUTS** - Machine sub-base equipped with hydraulically operated spring lockouts, controlled from superstructure cab. Required only if on-rubber loads are necessary. Chassis must be with equipped with Hendrickson RT type suspension.

HOIST SPECIFICATIONS

Description: Power up and down, equal speed, planetary reduction with integral automatic brake and electronic hoist drum rotation indicator

HOIST DATA	MAIN HOIST Grove Model 15H-168	*AUXILIARY HOIST Grove Model 15S-118
Drum Dimensions	12 in. dia. (305mm) 16 in. length (406mm) 17.5 in. flange dia. (445mm)	12 in. dia. (305mm) 11 in. length (279mm) 17.5 in. flange dia. (445mm)
Performance: Max. Single Line Speed: Bare Drum Mean Drum Full Drum Max. Single Line Pull: Bare Drum Mean Drum Full Drum	 267 FPM (81.4m/min) 316 FPM (96.3m/min) 355 FPM (108.2m/min) 9,165 lbs. (4157kg) 7,730 lbs. (3506kg) 6,890 lbs. (3125kg)	 154 FPM (46.9m/min) 183 FPM (55.8m/min) 206 FPM (62.8m/min) 9,165 lbs. (4157kg) 7,730 lbs. (3506kg) 6,890 lbs. (3125kg)
Drum Rope Capacity Max. Storage+ Max. Usable++	 720 ft. of 1/2 in. dia. rope (219.5m of 13mm) 585 ft. of 1/2 in. dia. rope (178.3m of 13mm)	 489 ft. of 1/2 in. dia. rope (149.0m of 13mm) 395 ft. of 1/2 in. dia. rope (120.4m of 13mm)
Permissible Single Line Rope Pull With 3.5 to 1 Safety Factor	1/2 in. (13mm) 6x37 class 7600 lbs. (3447kg) 1/2 in. (13mm) 19x7 class 6150 lbs. (2790kg)	1/2 in. (13mm) 19x7 class 6150 lbs. (2790kg) 1/2 in. (13mm) 6x37 class 7600 lbs. (3447kg)

+6th layer of rope not recommended for hoisting operations.
++With wire rope minimum 1/2 in. (13mm) below top of drum flange.

NOTE: 19x7 and other rotation resistant wire ropes are best suited for single line lifting operations. Use of rotation resistant wire rope for multiple part reeving or within swivels requires special consideration - Consult the wire rope manufacturer for specific recommendations.

ENGINE SPECIFICATIONS

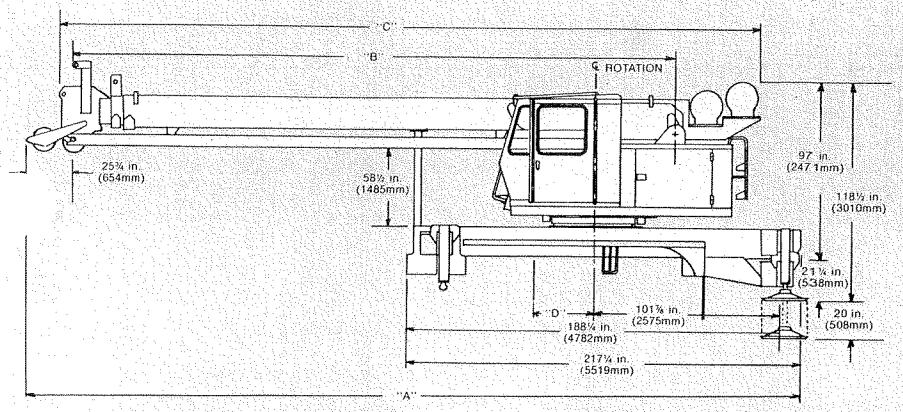
MAKE & MODEL	Detroit Diesel 3-53N	*Ford 300	*Cummins V-378
TYPE	3 cylinder OHV, diesel	6 cylinder OHV, gas	6 cylinder OHV, diesel
BORE	3.875 in. (98.4mm)	4.00 in. (101.6mm)	4.625 in. (117.5mm)
STROKE	4.50 in. (114.3mm)	3.98 in. (101.1mm)	3.75 in. (95.3mm)
DISPLACEMENT	159 cu. in. (2606cm³)	300 cu. in. (4917cm³)	378 cu. in. (6195cm³)
HORSEPOWER (gross)	92 @ 2800 RPM	128 @ 2800 RPM	120 @ 2800 RPM
HORSEPOWER (net flywheel)	80 @ 2800 RPM	119 @ 2800 RPM	106 @ 2800 RPM
GOVERNED RPM	2800	2800	2800
TORQUE (net flywheel)	198 ft. lb. (27.4kg/m) @ 1800 RPM	249 ft. lb. (34.4kg/m) @ 1600 RPM	223 ft. lb. (308kg/m) @ 1850 RPM
ELECTRICAL SYSTEM	12 volt neg. ground	12 volt neg. ground	12 volt neg. ground
STARTING SYSTEM	12 volt	12 volt	12 volt
COMBUSTION SYSTEM	2 cycle, blower	4 cycle, naturally aspirated	4 cycle, naturally aspirated
COOLING SYSTEM CAP.	6.75 gal. (25.5 liter)	4.25 gal. (16.1 liter)	8.88 gal. (33.6 liter)
FUEL TANK CAP.	40 gal. (151.4 liter)	40 gal. (151.4 liter)	40 gal. (151.4 liter)
ALTERNATOR	75 AMP	37 AMP	58 AMP
●BATTERY	(2) 475 CCA @ 0°F	(1) 475 CCA @ 0°F	(4) 475 CCA @ 0°F
AIR CLEANER	Single stage dry	Single stage dry	Single stage dry
HOURMETER	Std.	Std.	Std.

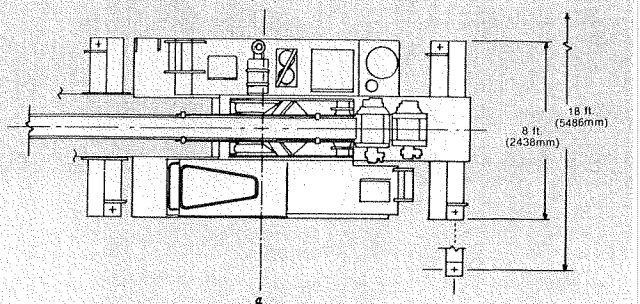
*Denotes optional equipment
●CCA = Cold Cranking Amperage per battery
+Located inside engine compartment

BOOM	"A"	"B"	"C"	"D" Center of Gravity
24-60 ft. (7.3m-18.3m)	381-1/2 in. (9690mm)	283-1/2 in. (7201mm)	338 in. (8585mm)	19-7/16 in. (495mm)
28-70 ft. (8.5m-21.3m)	429-1/2 in. (10 909mm)	331-1/2 in. (8420mm)	386 in. (9804mm)	30-3/8 in. (770mm)

Max. Superstructure & Sub-Frame Weldment Weight.*
w/24-60 Boom 30,716 lbs. (13 932kg)
w/28-70 Boom 32,144 lbs. (14 580kg)
Centerline of Rotation to Centerline of Chassis Rear Tandem**
Maximum 7" (178mm) Ahead of Rear Tandem
Minimum 3" (76mm) Ahead of Rear Tandem

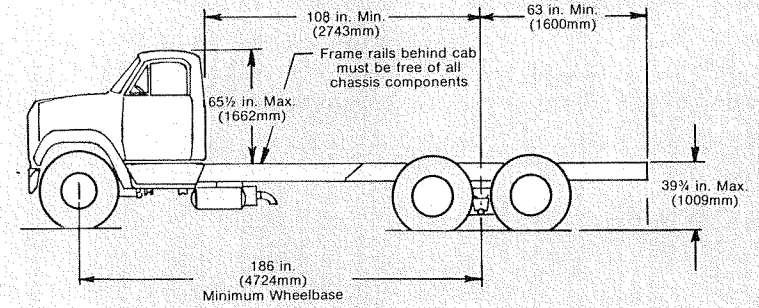
Weights subject to change
**Location depends on chassis, sub-frame and superstructure weight.*

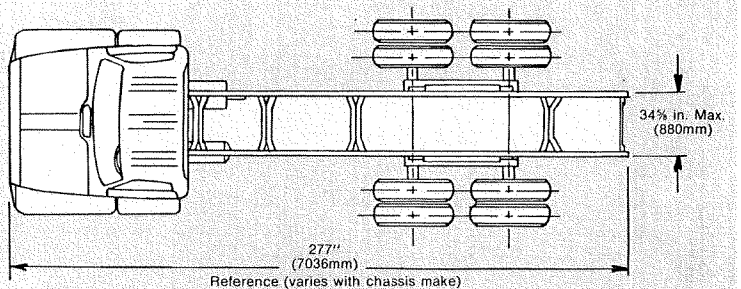




Tailswing - 96" (2438mm)

CHASSIS DATA





A. Minimum Gross Vehicle Weight Rating: 46,000 lbs.
(20 865.1kg).

B. Minimum Gross Axle Weight Rating:
Front Axle 12,000 lbs. (5443 kg)
1st Int. Axle 17,000 lbs. (7711 kg)
Rear Axle 17,000 lbs. (7711 kg)

C. Maximum Chassis Weight†
Front Axle 6,300 lbs. (2858 kg)
Rear Tandem 6,650 lbs. (3016 kg)
Total 12,950 lbs. (5874 kg)

D. Minimum Chassis Weight
Front Axle 4,875 lbs. (2211 kg)
Rear Tandem 6,200 lbs. (2812 kg)
Total 11,075 lbs. (5024 kg)

E. Minimum Static and 2-1/2 MPH GAWR††
Front Axle N/A
1st Int. Axle 27,200 lbs. (12 338 kg)
Rear Axle 27,200 lbs. (12 338 kg)

F. Minimum Tire Size
Front 10.00 x 20—G
Rear 9.00 x 20—F

G. Exterior Paint (Unless otherwise specified by customer)
Cab—Grove Yellow
Frame Rails, Axles, etc.—Black

† *If chassis weights are above those listed, axle capacities must be increased proportionally.*

†† *This rating is the minimum axle and suspension capacities required for static and 2-1/2 MPH on rubber lifts with axle lockouts engaged.*

MOUNT A GROVE SUPERSTRUCTURE ON YOUR CHASSIS

Now, a Grove Superstructure world known for its' outstanding dependability and performance complete with sub-frame and integral outriggers is available for mounting on an approved commercial truck chassis of your choice. Here are some of the proven values you will find in this crane package.

- **3-section, full power telescoping boom has a tip height of 97 ft. (29.5m) depending on carrier.**
- **An 18 ft. outrigger spread that is an integral part of the sub-frame to provide maximum stability.**
- **The Grove "Glide Swing" planetary drive swing system with 360° continuous rotation.**
- **The Grove Hoist, designed and built by Grove and proved in thousands of applications to be the finest hoist in its class.**
- **A spacious, operator oriented crane cab that swings with the boom.**

These features plus the versatility of selecting your own carrier # add up to a dollar making potential for the small crane operator.

#Carrier chassis must meet Grove minimum specifications as outlined above.

DESIGNED FOR OPERATING EFFICIENCY

. . . The interior of the all-steel cab is designed for operator convenience and efficiency. Full-length control levers are adjustable and combination hand and foot controls are provided for swing, boom elevation and throttle. Full engine controls and instruments are provided. Other features include a sliding door, tinted safety glass windows, hinged skylight, acoustical treatment and electronic boom angle indicator.

GROVE HOISTS

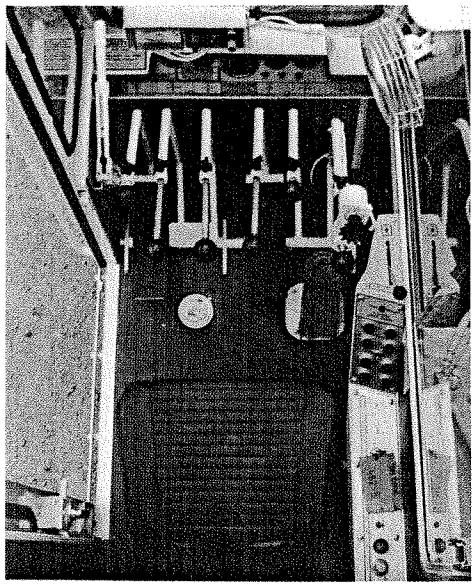
. . . Both main and auxiliary hoists are of Grove design and manufacture. They are planetary gear drive, power up and down, equal speed with integral automatic brake. Hoisting and lowering speeds can be controlled from zero to maximum under all load conditions.

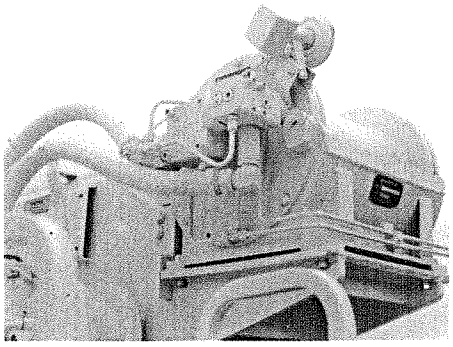
*SUSPENSION LOCKOUT

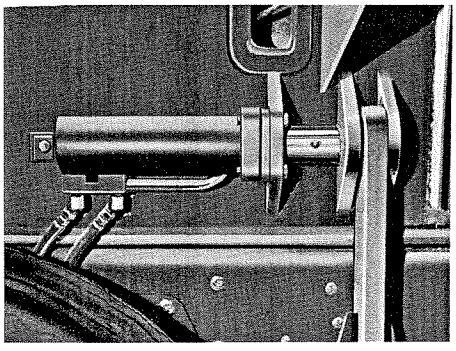
For on-rubber lifts, a suspension lockout system provides greater stability. Located on the sub-frame, the system hydraulically locks out the truck's normal suspension system. The lockouts are controlled from the crane operator's cab.

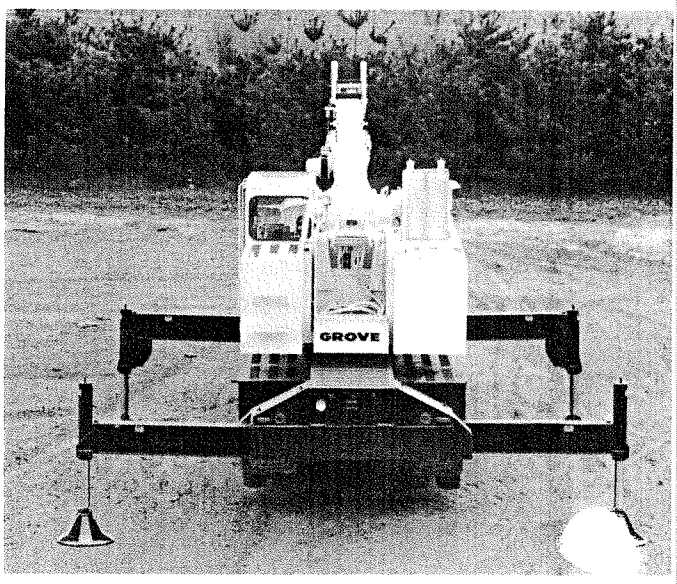
18' OUTRIGGER SPREAD

. . . Double-box beam outriggers, integral with the sub-frame, provide an 18 ft. (5.5m) spread for maximum stability. Beams and jacks are independently controlled from the superstructure cab. Stowable, 24 inch (610mm) diameter steel outrigger pads assure excellent ground contact.

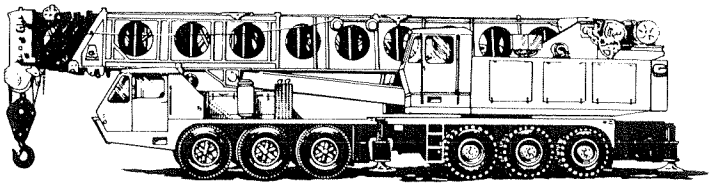




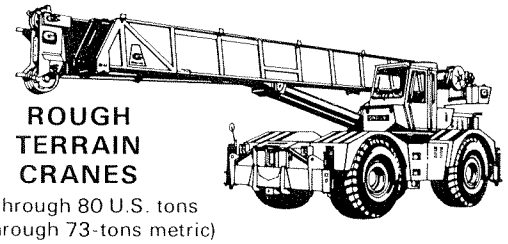




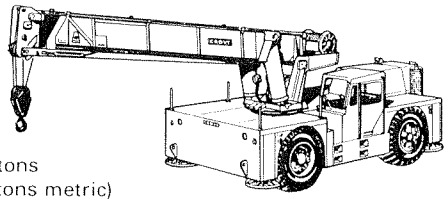
THE MOST COMPLETE LINE OF CRANES FOR THE CONSTRUCTION INDUSTRY



CARRIER MOUNTED CRANES
15 through 250 tons
(18 through 225 tons metric)



ROUGH TERRAIN CRANES
14 through 80 U.S. tons
(15 through 73-tons metric)



INDUSTRIAL CRANES
2 through 35 U.S. tons
(1.8 through 31.8-tons metric)

GROVE®

GROVE MANUFACTURING COMPANY

Division of Kidde, Inc.

KIDDE

Box 21, Shady Grove, Pennsylvania 17256
Phone: (717) 597-8121 Telex: 842308 Cable: GROVE MFG

HYDRAULIC CRANES

FORM NO. SRTM300C. Printed in U.S.A.

DATE: 1081-5M

TM200C

20 TON CAPACITY
24-60 ft. AND 28-70 ft. BOOM
85% OF TIPPING
PCSA CLASS 10-72

RATED LIFTING CAPACITIES IN POUN

24 ft. - 60 ft. BOOM

ON OUTRIGGERS FULLY EXTENDED - OVER SIDE

Radius in Feet	Boom Length in Feet						
	*24	30	36	42	48	54	60
10	40,000 (56)	34,500 (65)	33,200 (70.5)	32,600 (74)			
12	35,750 (50)	33,550 (61)	32,150 (67)	31,550 (71)	29,050 (74)		
15	29,850 (40)	28,050 (54)	26,900 (61.5)	26,350 (66)	25,100 (70)	23,400 (73)	20,000 (74)
20		21,850 (41)	20,900 (52)	20,400 (58)	20,100 (63.5)	19,000 (67)	17,500 (69.5)
25		16,830 (20)	16,830 (40.5)	16,500 (49)	16,200 (56)	15,900 (61)	15,000 (64)
30			12,170 (24.5)	12,170 (38.5)	12,170 (48)	12,170 (54.5)	12,170 (58.5)
35				9,170 (24.5)	9,170 (39)	9,170 (47)	9,170 (53)
40					7,170 (27)	7,170 (38.5)	7,170 (46.5)
45						5,900 (28.5)	5,900 (39)
50						4,800 (8.5)	4,800 (30)
55							3,930 (14.5)

Note: Boom Angles are in degrees. A6-829-002659A & -002661A

ON OUTRIGGERS FULLY EXTENDED - OVER REAR

Radius in Feet	Boom Length in Feet						
	*24	30	36	42	48	54	60
10	40,000 (56)	34,500 (65)	33,200 (70.5)	32,600 (74)			
12	35,750 (50)	33,550 (61)	32,150 (67)	31,550 (71)	29,050 (74)		
15	29,850 (40)	28,050 (54)	26,900 (61.5)	26,350 (66)	25,100 (70)	23,400 (73)	20,000 (74)
20		21,850 (41)	20,900 (52)	20,400 (58)	20,100 (63.5)	19,000 (67)	17,500 (69.5)
25		17,000 (20)	16,900 (40.5)	16,500 (49)	16,200 (56)	15,900 (61)	15,000 (64)
30			13,590 (24.5)	13,590 (38.5)	13,400 (48)	13,250 (54.5)	12,550 (58.5)
35				10,340 (24.5)	10,340 (39)	10,340 (47)	10,340 (53)
40					8,180 (27)	8,180 (38.5)	8,180 (46.5)
45						6,610 (28.5)	6,610 (39)
50						5,510 (8.5)	5,510 (30)
55							4,450 (14.5)

Note: Boom Angles are in degrees. A6-829-002841 & -002661A

28 ft. - 70 ft. BOOM

ON OUTRIGGERS FULLY EXTENDED - OVER SIDE

Radius in Feet	Boom Length in Feet							
	**28	34	40	46	52	58	64	70
10	40,000 (61)	38,400 (67)	37,550 (71)	36,550 (74)				
12	35,950 (56)	34,400 (63)	33,250 (68)	32,300 (71.5)	31,550 (74.5)			
15	29,850 (48.5)	28,650 (57.5)	27,750 (63)	27,300 (67.5)	26,850 (71)	26,250 (74.5)		
20	21,450 (32)	21,450 (46.5)	21,400 (54.5)	21,000 (60.5)	20,750 (65)	20,550 (69)	20,400 (71.5)	20,250 (75)
25		16,200 (33)	16,200 (45)	16,200 (53)	16,200 (58.5)	16,200 (63.5)	16,200 (66.5)	16,150 (70.5)
30		12,420 (8)	12,420 (33.5)	12,420 (44.5)	12,420 (52)	12,420 (57.5)	12,420 (61)	12,420 (65.5)
35			9,250 (15.5)	9,250 (34)	9,250 (44)	9,250 (51)	9,250 (55.5)	9,250 (60.5)
40				7,160 (19.5)	7,160 (35)	7,160 (44)	7,160 (49)	7,160 (55)
45					5,730 (23)	5,730 (35.5)	5,730 (42.5)	5,730 (49)
50						4,670 (25)	4,670 (34.5)	4,670 (42.5)
55							3,710 (24.5)	3,710 (35)
60							2,920 (6.5)	2,920 (26)
65								2,230 (11)

Note: Boom Angles are in degrees. A6-829-002783 & -002672A

ON OUTRIGGERS FULLY EXTENDED - OVER REAR

Radius in Feet	Boom Length in Feet							
	**28	34	40	46	52	58	64	70
10	40,000 (61)	38,400 (67)	37,550 (71)	36,550 (74)				
12	35,950 (56)	34,400 (63)	33,250 (68)	32,300 (71.5)	31,550 (74.5)			
15	29,850 (48.5)	28,650 (57.5)	27,750 (63)	27,300 (67.5)	26,850 (71)	26,250 (74.5)		
20	21,450 (32)	21,450 (46.5)	21,400 (54.5)	21,000 (60.5)	20,750 (65)	20,550 (69)	20,400 (71.5)	20,250 (75)
25		16,200 (33)	16,200 (45)	16,200 (53)	16,200 (58.5)	16,200 (63.5)	16,200 (66.5)	16,150 (70.5)
30		12,620 (8)	12,620 (33.5)	12,620 (44.5)	12,620 (52)	12,620 (57.5)	12,620 (61)	12,620 (65.5)
35			9,870 (15.5)	9,870 (34)	9,870 (44)	9,870 (51)	9,870 (55.5)	9,870 (60.5)
40				7,910 (19.5)	7,910 (35)	7,910 (44)	7,910 (49)	7,910 (55)
45					6,350 (23)	6,350 (35.5)	6,350 (42.5)	6,350 (49)
50						5,250 (25)	5,250 (34.5)	5,250 (42.5)
55							4,240 (24.5)	4,240 (35)
60							3,470 (6.5)	3,470 (26)
65								2,890 (11)

Note: Boom Angles are in degrees. A6-829-002777 & -002672A

Capacities appearing above bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.
Capacities do not exceed 85% of tipping loads as determined by test in accordance with SAE J-765.
No loads to be lifted with main boom and/or jib over front of machine.
Capacities are applicable only to units with centerline of rear outriggers located 101.375 in. from centerline of rotation.
*Capacities for 24 ft. boom length shall be lifted with boom fully retracted. If boom is not fully retracted, capacities shall not exceed those shown for 30 ft. boom length.
**Capacities for 28 ft. boom lengh shall be lifted with the boom fully retracted. If boom is not fully retracted, capacities shall not exceed those shown for 34 ft. boom length.
Carrier chassis must meet Grove minimum specifications as outlined in sales brochure or page 4 of A6-829-002557.

GROVE®

FULL HYDRAULIC

CARRIER-MOUNTED CRANE

JNDS

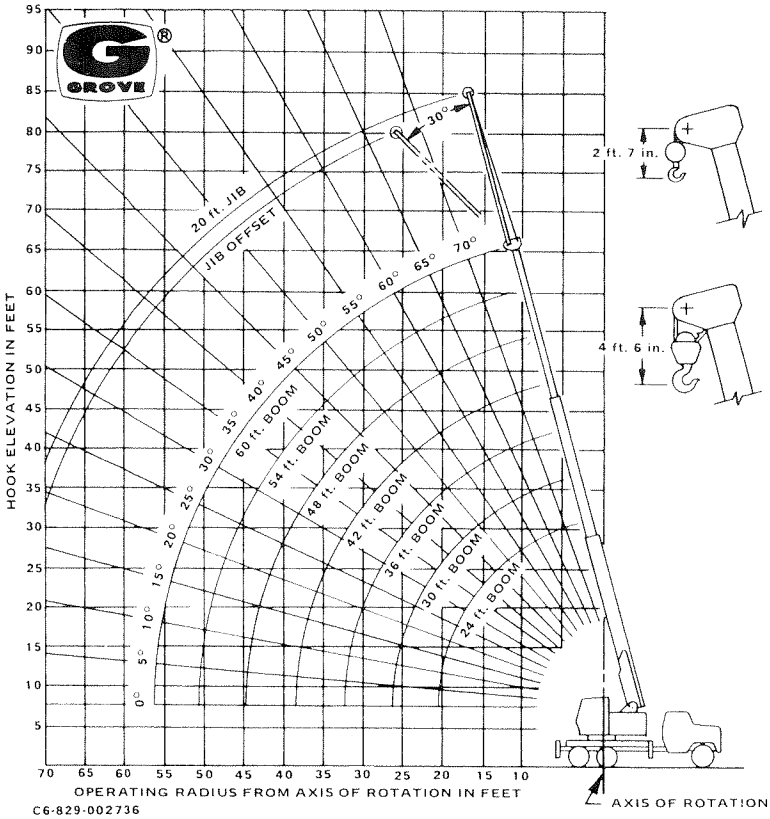
NOTES TO LIFTING CAPACITIES

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.

GROVE®

TM200C

RANGE DIAGRAM



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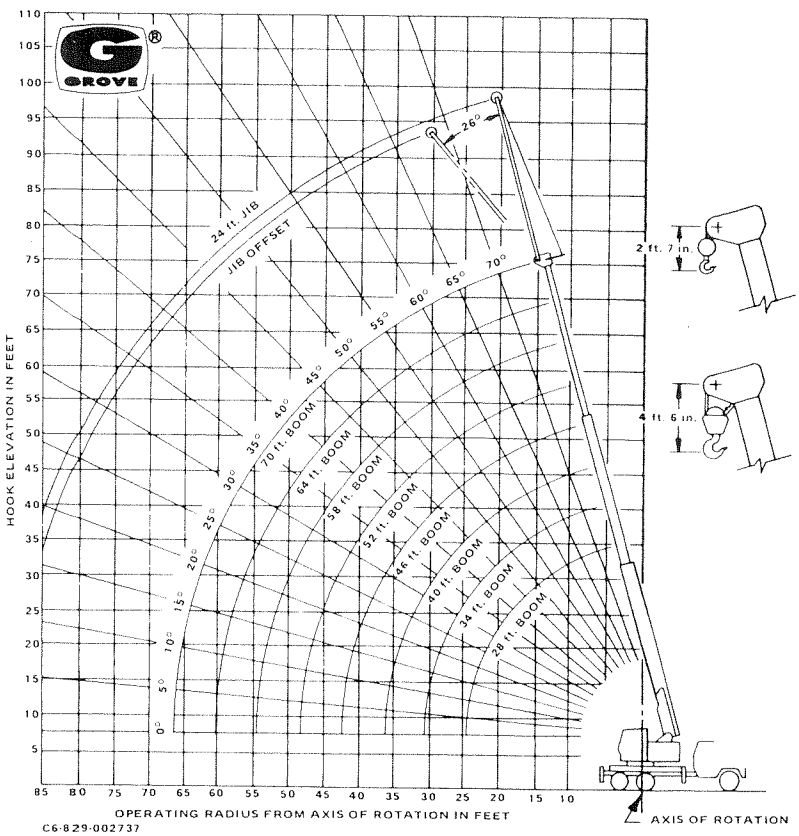
RANGE DIAGRAM



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20 ft. "A" FRAME JIB CAPACITIES

Main Boom Angle	No Offset		30° Offset	
	Ref. Rad. ft.	Cap. lbs.	Ref. Rad. ft.	Cap. lbs.
75°	22.2	6,200	29.5	2,600
70	28.7	5,000	35.5	2,400
65	35.0	4,300	41.2	2,300
60	40.9	3,700	46.6	2,150
55	46.6	3,300	51.6	2,100
50	51.8	2,600	56.1	1,650
45	56.7	2,400	60.2	1,500
40	61.0	2,200	63.9	1,460
30	68.3	1,900	69.6	1,200

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Boom must be fully extended when lifting with 20 ft. or 24 ft. "A" frame jib. Jib capacities appearing above bold line are based on structural strength of jib at given main boom angle and tipping should not be relied upon as a capacity limitation. Jib may be used for single line lifting crane service only.
Capacities do not exceed 85% of tiping loads as determined by test in accordance with SAE J-765.

24 ft. "A" FRAME JIB CAPACITIES

Main Boom Angle	No Offset		26° Offset	
	Ref. Rad. ft.	Cap. lbs.	Ref. Rad. ft.	Cap. lbs.
75°	26.9	6,400	36.0	3,100
70	34.6	5,150	43.2	2,850
65	41.9	4,350	50.0	2,650
60	48.8	3,700	56.4	2,450
55	55.4	3,300	62.3	2,275
50	61.6	2,950	67.7	2,170
45	67.2	2,650	72.5	2,125
40	72.3	2,270	76.7	2,020
35	76.8	1,880	80.3	1,690
30	80.7	1,570	83.2	1,460
26	83.5	1,370	85.2	1,300

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GROVE MANUFACTURING COMPANY
Division of Walter Kidde & Company Inc
KIDDE

Box 21, Shady Grove, Pennsylvania 17256

Distributed by:

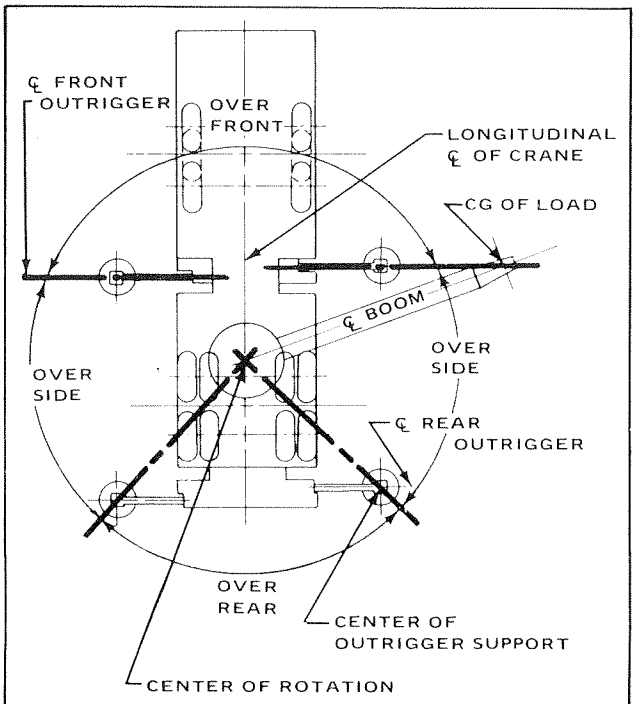
Form No. LCETM200C-60&70F.P.-85%

382-2M
Printed in U.S.A.

TM200C

20 TON CAPACITY
24-60 ft. AND 28-70 ft. BOOM
85% OF TIPPING
PCSA CLASS 10-72

LIFTING AREA DIAGRAM



NOTE: BOLD LINES DETERMINE THE LIMITING POSITION OF ANY LOAD FOR OPERATION WITHIN WORKING AREAS INDICATED.

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WEIGHT REDUCTION FOR LOAD HANDLING DEVICES

20 ft. "A" Frame Jib	
STOWED	100 lbs.
ERECTED	930 lbs.

24 ft. "A" Frame Jib	
STOWED	310 lbs.
ERECTED	1,270 lbs.

HOOKBLOCK	
20 Ton, 3 Sheave	455 lbs.
20 Ton, 4 Sheave	590 lbs.
15 Ton, 3 Sheave	379 lbs.
15 Ton, 4 Sheave	400 lbs.
Auxiliary Boom Head	105 lbs.
5 Ton, Headache Ball	172 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.