GROVE® RT620

SELF-PROPELLED

HYDRAULIC CRANE

20 TON CAPACITY

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

- 104 ft. (31.7m) Maximum tip height with jib.
- Hydraulic double-box beam and jack outriggers are independently controlled from operator's position.
- Four-wheel drive . . . four-wheel steer with four steering modes . . . four-wheel full air brakes.
- 75° Maximum elevation.
- 360° Continuous rotation.
- Power shift transmission – 6 speeds forward and reverse.
- Automatic hydraulic rear axle oscillation lockouts.

GROVE

HYDRAULIC CRANES

Courtesy of Crane.Market

SPECIFICATIONS

ENGINE SPECIFICATIONS

MAKE & MODEL	Cummins Diesel V-504C	*Detroit Diesel 4-53N	*Caterpillar Diesel 3208
TYPE	8 Cylinder OHV	4 Cylinder OHV	8 Cylinder OHV
BORE & STROKE	4.625 in. x 3.75 in. (117mm x 95mm)	3.875 in. x 4.50 in. (98mm x 114mm)	4.5 in. x 5.0 in. (114mm x 130mm)
DISPLACEMENT	504 cu. in. (8259cm³)	212 cu. in. (3474cm³)	636 cu. in. (10 422cm³)
HORSEPOWER (NET)	142 @ 2600 RPM	109 @ 2800 RPM	122 @ 2500 RPM
GOVERNED RPM	2600 RPM	2800 RPM	2500 RPM
TORQUE (NET)	303 lbs. ft. (42kg.m) @ 1800 RPM	236 lbs. ft. (33kg.m) @ 1800 RPM	344 lbs. ft. (48kg.m) @ 1100 RPM
ELECTRICAL SYSTEM	12-volt, Negative Ground	12-volt, Negative Ground	12-volt, Negative Ground
COMBUSTION SYSTEM	4 Cycle, Naturally Aspirated	2 Cycle, w/blower	4 Cycle, Naturally Aspirated
COOLING SYSTEM	Liquid	Liquid	Liquid
FUEL CAPACITY	50 Gallons (189 liters)	50 Gallons (189 liters)	50 Gallons (189 liters)
ALTERNATOR	55 Amp, 12-volt	65 Amp, 12-volt	55 Amp, 12-volt
BATTERY	(2) 12-volt 1500 CCA @ 0°F	(1) 12-volt 825 CCA @ 0°F	(2) 12-volt 1500 CCA @ 0°F
AIR CLEANER	Dry Type	Dry Type	Dry Type
AIR COMPRESSOR	13.2 CFM (374 lpm)	7.25 CFM (205 lpm)	12 CFM (340 lpm)
HOURMETER	Yes	Yes	Yes

*Denotes optional equipment

SPEED AND GRADEABILITY

Forward Drive	Transmission Range	Gear Shift	Maximum Speed MPH	Maximum Speed KM/H	Max. Gradeability @ Stall %	Max. Tractive Effort At Stall LB.	Max. Tractive Effort At Stall KG.
4 Wheel Drive	Low	1st	2.7	4.3	87.3	32,515	14 749
4 Wheel Drive	Low	2nd	5.1	8.2	35.9	17,176	7791
4 Wheel Drive	Low	3rd	13.8	22.2	11.2	6,292	2854
2 Wheel Drive	High	1st	6.4	10.3	27.5	13,672	6202
2 Wheel Drive	High	2nd	12.1	19.5	13.1	7,210	3270
2 Wheel Drive	High	3rd	28.5	45.9	3.5	2,652	1203

NOTE: All performance data is based on standard machine and may vary plus or minus 10% due to variations in engine performance and vehicle weight.

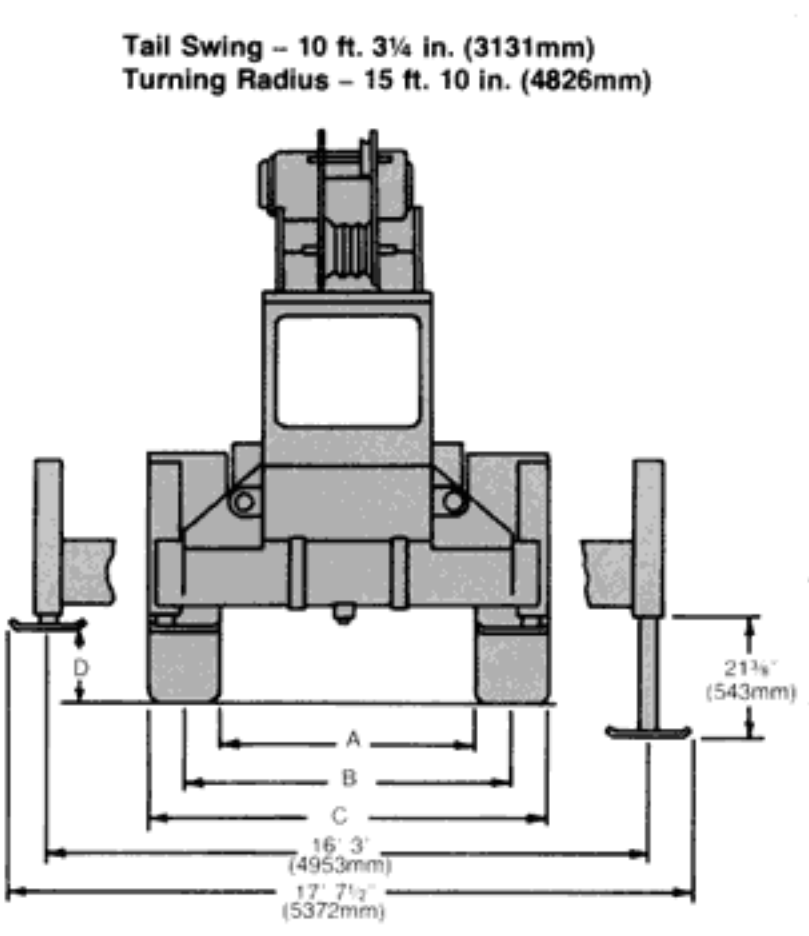
DIMENSIONS

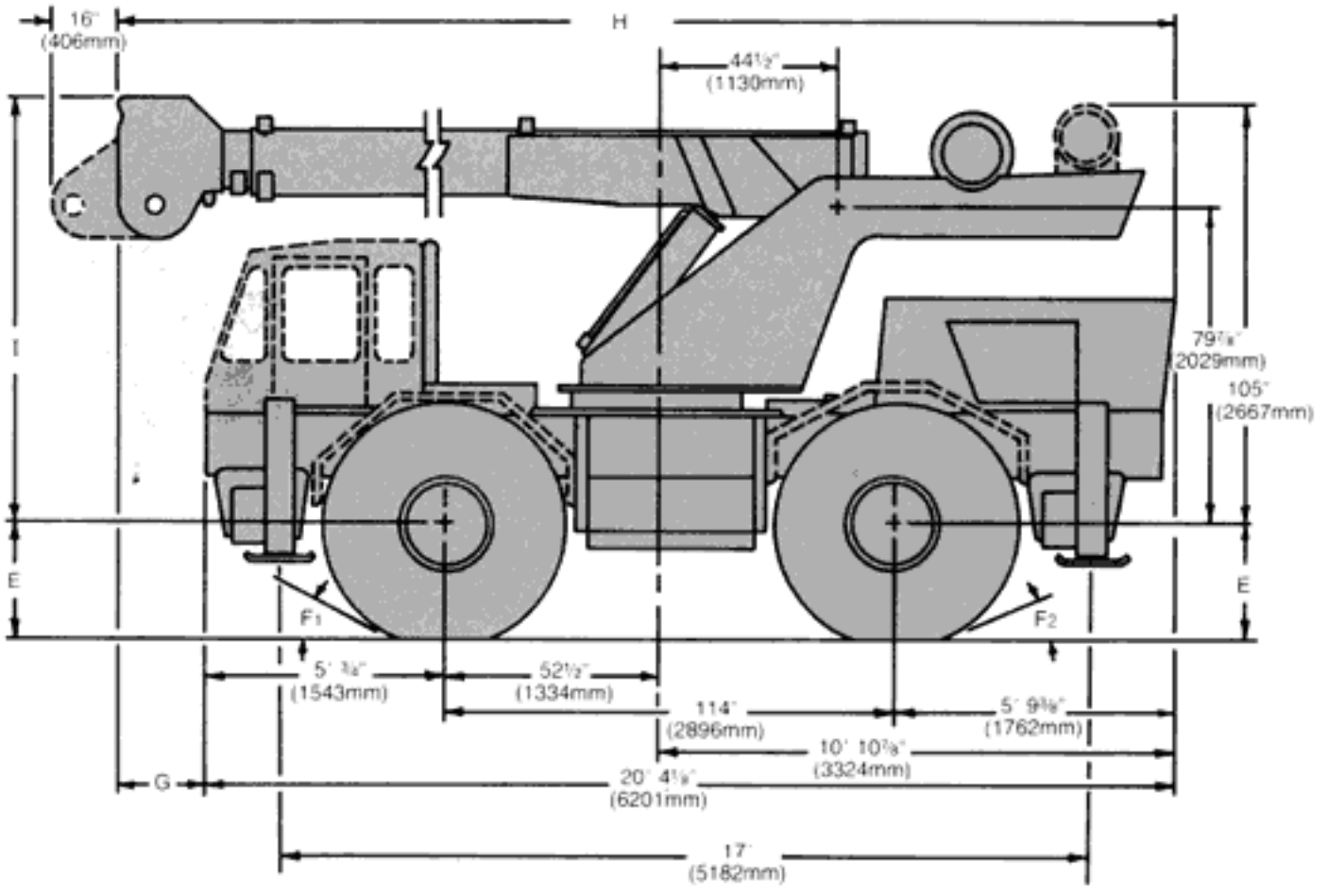
TIRE SIZE	A	B	C	D	E	F1	F2
16:00 x 24	59⅜ in. (1508mm)	77½ in. (1969mm)	95⅝ in. (2429mm)	13½ in. (343mm)	26 in. (660mm)	23°	19°
*20.5 x 25	59⅛ in. (1502mm)	81⅛ in. (2061mm)	103⅛ in. (2619mm)	14¼ in. (362mm)	26 13/16 in. (681mm)	21°	18°

BOOM LENGTH	G	H	I
*24-60 ft. (7.3m – 18.3m)	11 ft. 2½ in. (3416mm)	31 ft. 6⅝ in. (9617mm)	8 ft. 8¼ in. (2648mm)
28-70 ft. (8.5m – 21.3m)	15 ft. 2½ in. (4636mm)	35 ft. 6⅝ in. (10 836mm)	8 ft. 9 5/16 in. (2675mm)
*24-78 ft. (7.3m – 23.7m)	11 ft. ¼ in. (3359mm)	31 ft. 4 5/16 in. (9558mm)	8 ft. 8¼ in. (2648mm)

*Denotes optional equipment

Tail Swing – 10 ft. 3¼ in. (3131mm)
Turning Radius – 15 ft. 10 in. (4826mm)





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.

Courtesy of Crane.Market

RT620

SPECIFICATIONS

BOOMS – 28 ft. – 70 ft. (8.5m – 21.3m), 3 section, full power telescoping. *24 ft. – 60 ft. (7.3m – 18.3m), 3 section, full power telescoping. *24 ft. – 78 ft. (7.3m – 23.8m), 4 section, power telescoping, 2 full power and 1 power pinned section. Boom telescoping sections are individually controlled and supported on graphite impregnated nylatron wear pads. Side adjusting pads. Pendulum boom angle indicators on both sides of boom. Integral holding valves on each telescope cylinder.

BOOM NOSE – Three 11¼" tread dia. (286mm) sheaves mounted on heavy duty needle bearings. Removable pin type rope guards allow easy reeving. Rope dead ends on one side of boom nose. *(Single sheave 11¼" tread dia. (286mm) auxiliary boom nose mounted to main boom nose, with removable pin-type rope guard. For single part line work.)

BOOM ELEVATION – Dual 8¼" (210mm) bore double acting hydraulic cylinders with integral holding valves; elevation from 0° to 75°.

***JIBS** – 20 ft. (6.1m), "Stowaway" for 24 ft. – 60 ft. (7.3m – 18.3m) and 24 ft. – 78 ft. (7.3m – 23.8m) booms. 24 ft. (7.3m) "Stowaway" for 28 ft. – 70 ft. (8.5m – 21.3m) boom.
All jibs have self-equalizing suspension and jib backstops.

SWING – Ball bearing swing circle, 360° continuous rotation. "Grove planetary swing" with automatic disc swing brake. Manual plunger type travel lock. Swing speed 3.0 RPM.

***ENCLOSED CAB** – Frame mounted, all steel, full vision, fully enclosed with tinted, tempered glass throughout and fixed skylight: (Windshield laminated), electric windshield wiper, hot water heater (12,000 BTU/hr.), defroster fan, domelight, left and right hand doors with locks. Right and left side sliding vent windows with locks.

***OPEN CAB** – Frame mounted, all steel, full vision with fixed tinted skylight, laminated safety glass windows, electric windshield wiper, and domelight.

CAB INSTRUMENTATION – Engine oil pressure gauge, engine water temperature gauge, electric fuel gauge, transmission and torque converter, oil temperature gauge, engine hourmeter, voltmeter, air pressure gauge.

OUTRIGGERS – Hydraulic, double-box integral with main frame; telescoping beams, enclosed vertical jacks with integral check valves and mechanical pin locks. Beams extend to 16 ft. 3 in. (5.0m) centerline to centerline of pad. Independent or simultaneous control in-out-up-and-down. Outrigger controls in operator's cab. Sequence control arrangement eliminates accidental outrigger actuation.

MAIN FRAME – All-welded construction with full depth longitudinals braced by crossmembers. Frame is reinforced at critical points to insure a rigid turntable mounting.

TRANSMISSION AND TORQUE CONVERTER – Engine mounted converter, 2.812:1 stall ratio with PTO for hydraulic pumps. Remote mounted full powershift transmission with rear axle disconnect.

SPEEDS – 6 forward and 6 reverse.

AXLES – Front: Planetary drive/steer type mounted rigid to the frame.
Rear: Planetary drive/steer type mounted to allow 0 in. to 9½ in. (0-241mm) oscillation.

OSCILLATION LOCKOUTS – Automatic hydraulic on rear axle. Allows oscillation only with boom over front.

SERVICE BRAKES – Full air on all wheels. Size: 20¼ in. x 4 in. (514mm x 102mm) with 24 sq. in. (155cm²) chambers. Total lining area: 644 sq. in. (4155cm²).

PARKING BRAKES – Front and rear axles equipped with "Fail Safe" spring set emergency and parking brakes.

STEERING – Front: Full power assist hydraulic control.
Rear: Full hydraulic tiller bar control. Independent front and rear steer control allows maximum maneuverability.

TIRES – 16:00 x 24 – 16 ply tubeless, heavy duty grader. *20.5 x 25 – 20 ply tubeless, Hi flotation.

HYDRAULIC SYSTEM:

RESERVOIR – 82.6 gallon (312.6 liters) capacity, all-steel welded construction with integral baffles, clean out access and sight level gauge.

FILTER – Return line type, replaceable cartridge with bypass protection. 10 micron rating.

PUMPS – 3 main gear pumps 112.5 GPM (426 LPM) combined capacity. Separate pump for front steer – 18.7 GPM (71 LPM). Pump disconnect lever operated from carrier deck.

CONTROL VALVES – Precision four-way double-acting with integral load check, main and circuit relief valves. Three individual valve banks permitting simultaneous independent control of three crane functions. Maximum operating pressure 2500 PSI (175.8kg/cm²).

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

POWER DISTRIBUTION – [Main hoist, *auxiliary hoist, 46.5 GPM (176 LPM)]; [Boom elevation, rear steer, mid telescope, main hoist boost, 39.5 GPM (149.5 LPM)]; [Fly telescope, outrigger, swing, 26.5 GPM (100.3 LPM)]; [Front steer, 18.7 GPM (70.8 LPM)].

MISCELLANEOUS STANDARD EQUIPMENT – Cab guard, hydraulic and fuel step tanks, 3¾ lb. (1.7kg) dry type fire extinguisher, protecto seal fuel cap, electric horn, full engine hood.

HOIST SPECIFICATIONS

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

HOIST DATA	MAIN HOIST Grove Model 15H-16B	*AUXILIARY HOIST Grove Model 15S-11B	*MAIN OR AUXILIARY HOIST Gearmatic Model 11 SGECR (Controlled Free Fall)
Drum Dimensions	12 in. dia. (305mm) 16 in. length (406mm) 17.5 in. dia. flange (445mm)	12 in. dia. (305mm) 11 in. length (279mm) 17.5 in. dia. flange (445mm)	9 in. dia. (229mm) 13 in. length (330mm) 17.5 in. dia. flange (445mm)
Performance: Max. Single Line Speed Max. Single Line Pull	 355 FPM (108m/min) 9,165 lb. (4157kg)	 200 FPM (61m/min) 9,165 lb. (4157kg)	 290 FPM (88m/min) 9,145 lb. (4148kg)
Drum Rope Storage Capacity	**720 ft. of ½ in. dia. rope (219.5m of 13mm)	489 ft. of ½ in. dia. rope (149.1m of 13mm)	675 ft. of ½ in. dia. rope (206m of 13mm)
Permissible Single Line Rope Pull	½ in. (13mm) 6x37 class – 7,200 lb. (3266kg) ½ in. (13mm) 19x7 class – 6,150 lb. (2790kg)	½ in. (13mm) 6x37 class – 7,200 lb. (3266kg) ½ in. (13mm) 19x7 class – 6,150 lb. (2790kg)	½ in. (13mm) 6x37 class – 7,200 lb. (3266kg) ½ in. (13mm) 19x7 class – 6,150 lb. (2790kg)

*Denotes optional equipment

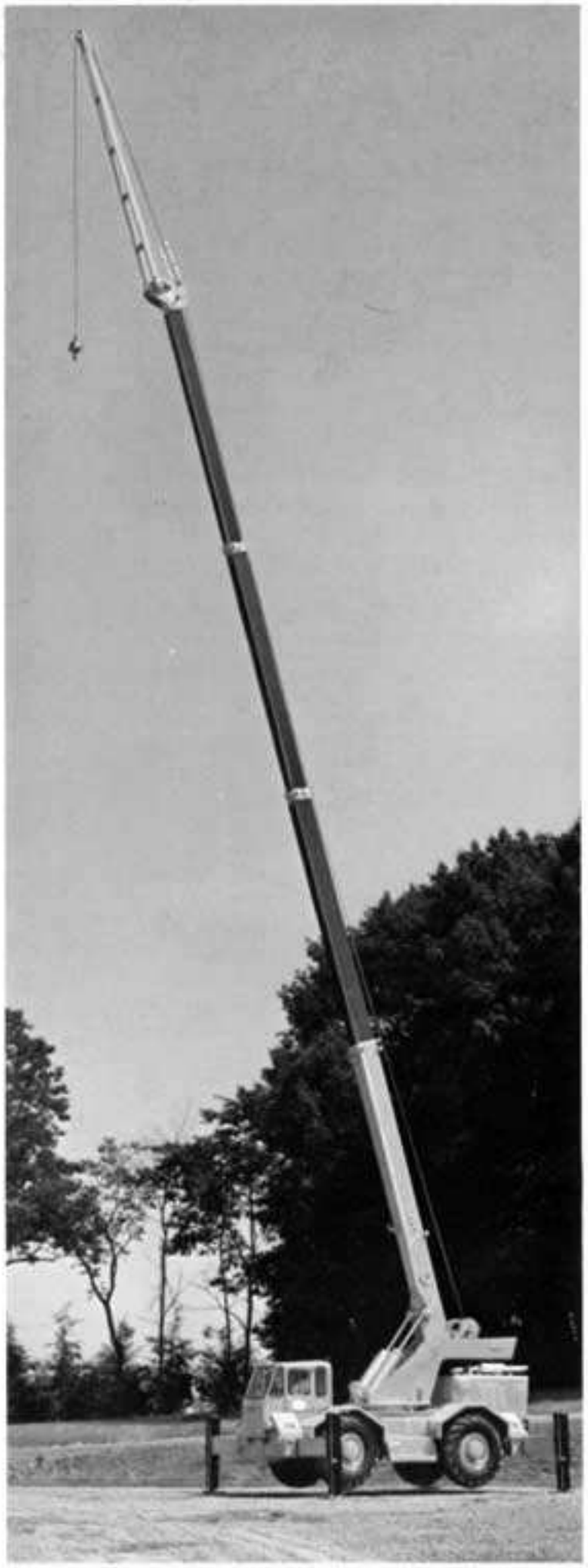
**6th layer of rope not recommended for hoisting operations.

WORKING WEIGHTS

Standard Machine With	Total Weight Lbs.	Total Weight Kg.	Axle Weight Distribution Front Lbs.	Axle Weight Distribution Front Kg.	Axle Weight Distribution Rear Lbs.	Axle Weight Distribution Rear Kg.
28-70 ft. (8.5m – 22.3m) boom	47,980	21 764	28,620	12 982	19,360	8782
*24-60 ft. (7.3m – 18.3m) boom	46,820	21 238	24,160	10 959	22,660	10 279
*24-78 ft. (7.3m – 23.7m) boom	48,425	21 966	27,400	12 429	21,025	9537

NOTE: Weights may vary plus or minus 3% due to manufacturing tolerances. *Denotes optional equipment.

Courtesy of Crane.Market



RIGID BOOMS

. . . are of welded-box design, fabricated of high strength steel purchased to Grove specifications. Boom design is clean with all boom telescoping cylinders and hydraulic hoses totally enclosed. Side adjustable, boom-mounted wear pads prevent metal-to-metal contact of the inner telescoping boom sections thus boom telescoping action is always smooth and precise during extension and retraction. Integral holding valves are standard on all telescoping cylinders. Illustrated is the optional 78' (23.8m) 4-section boom with 20' (6.1m) jib providing a tip height of 104' (31.7m) with a capacity of 6,200 lbs. (2812kg).

OUTSTANDING MANEUVERABILITY!

. . . Tight quarter operation is a common occurrence for RT Cranes and that's why Grove RT Cranes offer the ultimate in maneuverability with full-power hydraulic steering on both axles. This permits 4-wheel coordinated, 4-wheel crabbing, 2-wheel (front or rear) steering for better maneuverability. Grove's system of independent control for each axle permits a greater degree of maneuverability with greater ease for the operator.

OPTIMUM STABILITY FOR 360° LIFTING CAPABILITY!

. . . Individually controlled hydraulic outriggers in a nearly square configuration provide the necessary stability for high capacity lifting in a 360° arc. Outriggers are independently set or retracted by a control arrangement which makes it virtually impossible to accidentally retract the outriggers once set. Double-box sliding beam outriggers and box-type vertical jacks protect the hydraulic cylinders from the elements and job-site damage. Mechanical pin locks and check valves are standard features.

GROVE

HYDRAULIC CRANES

GROVE MANUFACTURING COMPANY
Division of Walter Kidde & Company, Inc.
KIDDE
SHADY GROVE, PA 17256 U.S.A.

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Courtesy of Crane.Market

GROVE®

FULL HYDRAULIC

SELF-PROPELLED CRANE

RT620

20 TON CAP.

RATED LIFTING CAPACITIES

ON OUTRIGGERS FULLY EXTENDED - 360°

24 ft. - 60 ft. BOOM

Radius in Feet	Boom Length in Feet						
	24	30	36	42	48	54	60
10	40,000	34,500	32,700	30,800			
12	32,000	32,000	31,000	30,000	28,000		
15	26,000	26,000	26,000	26,000	24,000	22,000	20,000
20	20,000	20,000	20,000	20,000	20,000	19,000	17,500
25		15,000	15,000	15,000	15,000	15,000	15,000
30			11,800	11,800	11,800	11,800	11,800
35				9,100	9,100	9,100	9,100
40					7,100	7,100	7,100
45						5,300	5,300
50						4,100	4,100
55							3,650

A6-829-002161A

PCSA CLASS (10-71)

ON RUBBER

Radius in Feet	Over Front	Over Side
10	*30,000	19,500
12	24,600	14,800
15	16,500	9,800
20	11,200	6,350
25	7,200	3,860
30	5,250	2,680
35	3,660	1,650
40	2,780	550
45	2,100	
50	1,420	
55	940	

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All On Rubber Capacities are based on 16:00 x 24 tires and 80 PSI inflation pressure. Loads must be reduced for lower inflation pressures.

*For 30,000 lb. lifting capacity, maximum boom length is 42 ft.

28 ft. - 70 ft. BOOM

Feet	Boom Length in Feet							
	28	34	40	46	52	58	64	70
10	40,000	34,000	31,900	29,800				
12	32,000	31,000	30,000	29,800	27,800			
15	27,500	27,500	27,500	27,500	27,000	25,750	23,700	
20	21,250	21,250	21,000	21,000	20,750	20,500	20,400	20,250
25		15,500	15,500	15,500	15,500	15,500	15,000	15,000
30		11,700	11,700	11,700	11,700	11,700	11,700	11,700
35			8,650	8,650	8,650	8,650	8,650	8,650
40				6,650	6,650	6,650	6,650	6,650
45					5,250	5,250	5,250	5,250
50						4,250	4,250	4,250
55							3,460	3,460
60							2,760	2,760
65								2,180
66.5								1,970

A6-829-002162A

PCSA CLASS (10-67)

Radius in Feet	Over Front	Over Side
10	30,000 (a)	19,500 (b)
12	24,500 (b)	14,800 (c)
15	16,600 (c)	9,800 (d)
20	10,300 (e)	5,450 (e)
25	6,650	3,660
30	4,850	2,300
35	3,380	1,330
40	2,680	470
45	1,525	
50	950	
55	635	

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Maximum Permissible Boom Length:
(a) 28 ft.
(b) 34 ft.
(c) 46 ft.
(d) 52 ft.
(e) 64 ft.

24 ft. - 78 ft. BOOM

Radius in Feet	Boom Length in Feet							
	24	30	36	42	48	54	60	**78
10	40,000	34,500	32,700	30,800				
12	32,000	32,000	31,000	29,900	28,000			
15	26,000	26,000	26,000	25,500	24,000	22,000	20,000	
20	20,000	20,000	20,000	20,000	20,000	19,000	17,500	
25		13,000	13,000	13,000	13,000	13,000	13,000	13,000
30			10,800	10,800	10,800	10,800	10,800	10,800
35				8,200	8,200	8,200	8,200	8,200
40					6,100	6,100	6,100	6,400
45						4,300	4,300	4,500
						2,800	2,800	3,200
							1,600	2,500
								2,200
65								1,600
70								1,300
74.8								1,175

A6-829-002163A

Capacities appearing in shaded area are based upon structural strength and machine stability should not be relied upon as the capacity limitation.
**Indicates maximum capacity of Extended Fly Section, regardless of boom length.

PCSA CLASS (10-61)

Radius in Feet	Over Front	Over Side
10	30,000 (a)	18,000 (c)
12	24,500 (b)	13,500 (d)
15	16,500 (d)	8,000
20	9,500	4,500
25	6,400	2,900
30	4,250	1,200
35	2,675	600
40	1,500	350
45	950	
50	560	

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Use of manual fly section not recommended for on rubber lifting.

Maximum Permissible Boom Length:
(a) 24 ft.
(b) 30 ft.
(c) 36 ft.
(d) 48 ft.

NOTE: Capacities do not exceed 85% of tipping loads as determined by test in accordance with SAE recommended practice - Crane Load Stability Test Code - SAE J-765.

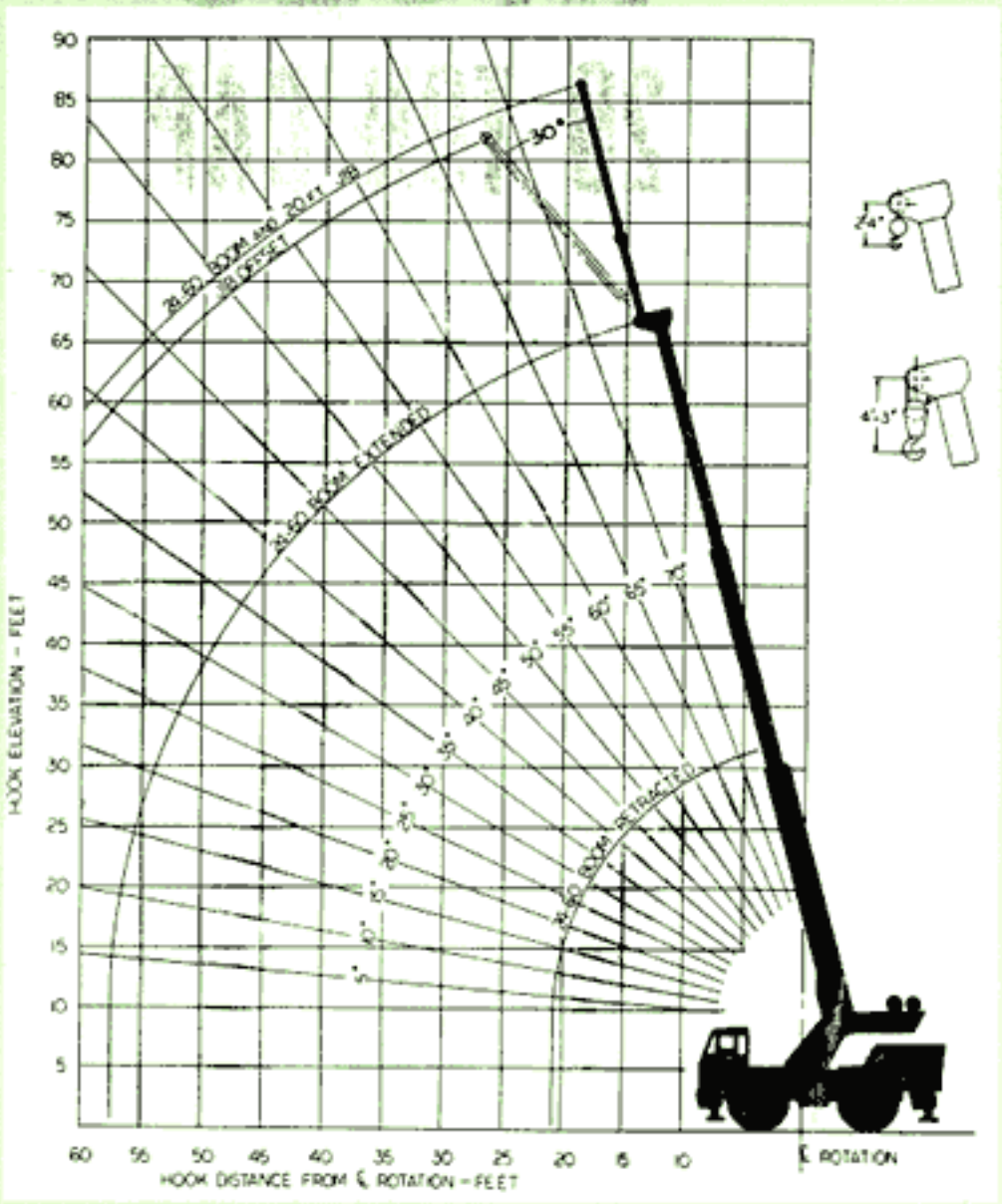
NOTES TO LIFTING CAPACITIES, SEE REVERSE SIDE

Courtesy of Crane.Market

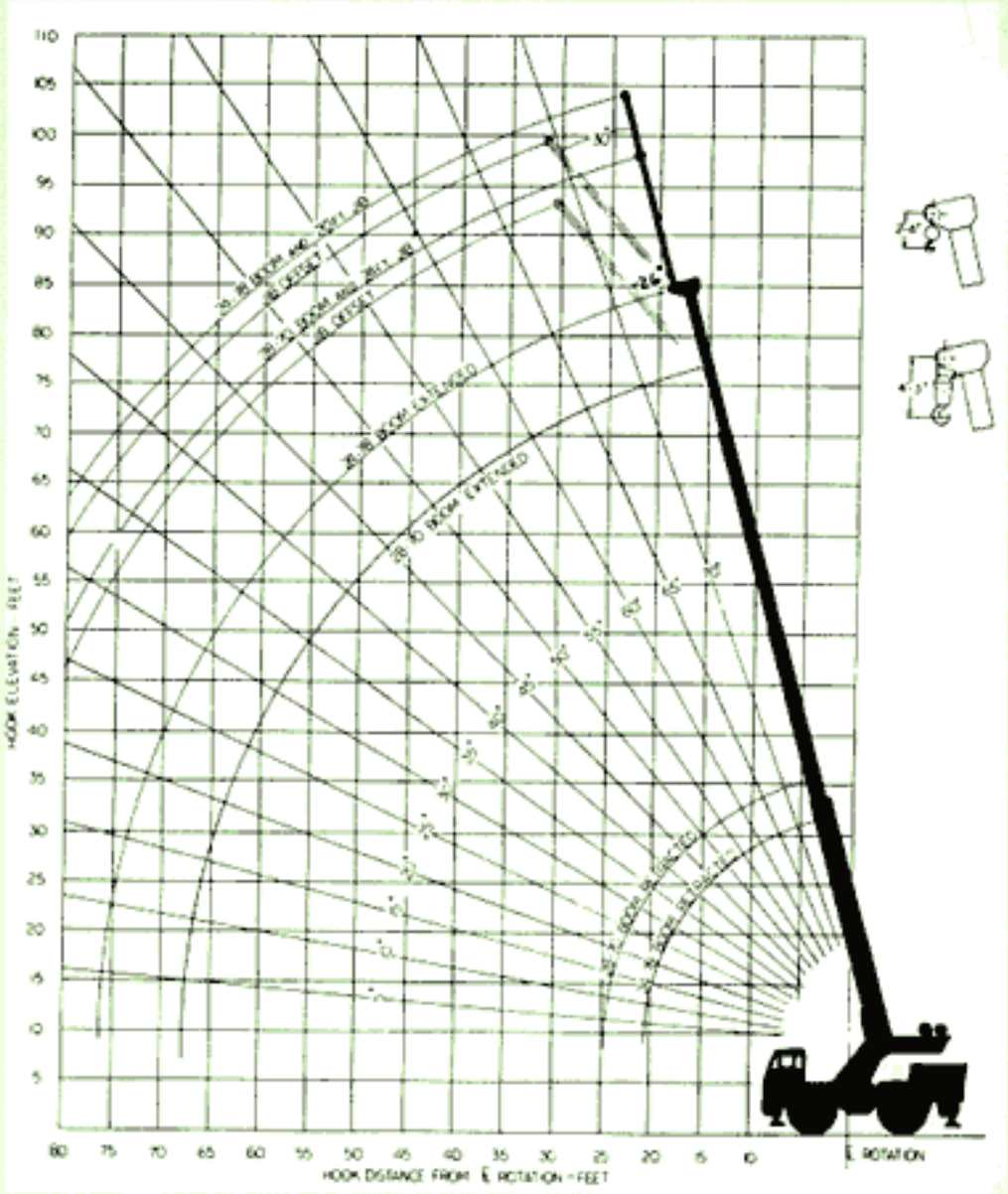
GROVE®

RT620

RANGE DIAGRAM
24 ft. - 60 ft. BOOM



RANGE DIAGRAM
28 ft. - 70 ft. and 24 ft. - 78 ft. BOOMS



JIB CAPACITIES

20 ft. JIB

MIN. BOOM ANGLE	NO OFFSET	MAX. OFFSET (30°)
75	6200	2600
70	5000	2400
65	4300	2300
60	3700	2150
55	3300	2100
50	2600	1650
45	2400	1500
40	2200	1460
30	1900	1200

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24 ft. JIB

MIN. BOOM ANGLE	NO OFFSET	MAX. OFFSET (26°)
75	6400	3100
70	5150	2850
65	4350	2650
60	3700	2450
55	3300	2275
50	2950	2170
45	2650	2125
40	2550	2085
35	2475	2040
30	2400	2000
26	2300	1950

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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 single line lifting crane service only. Jib capacities are based on structural strength of jib or main boom. Jib loads must not exceed main boom lifting capacities for the actual operating radius.
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 MANUFACTURING COMPANY
A DIVISION OF WALTER KIDDE & COMPANY, INC.
SHADY GROVE • PENNSYLVANIA 17256
MEMBER: POWER CRANE & SHOVEL ASSOCIATION
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