

# MODEL 68

10-12 TON  
CAPACITY  
9.0-10.9 metric tons

## INDUSTRIAL YARD CRANE



- **LOW PROFILE** . . . under 10' high the Grove Model 68 is ideal for close quarter operation, in-plant or outside storage yard.
- **SHORT TURNING RADIUS** . . . only 14'5". Much less than other similarly rated machines.
- **POWER TELESCOPING BOOMS** . . . 4 boom lengths available — 21', 30', 42' and 51' providing up to 49' of horizontal reach and a maximum tip height of 57'9".
- **PICK & CARRY CAPACITY** . . . 20,000 lbs. over the front.
- **OPERATION SAFETY** . . . operator's cab on left side away from swinging loads . . . high enough so operator can see over right side and rear.



**HYDRAULIC  
CRANES**



MODEL 68

# SUPERSTRUCTURE SPECIFICATIONS

## STANDARD EQUIPMENT

- BOOM** - 13 ft. - 21 ft. (4.0m - 6.4m) 2 section, full power telescoping.
- BOOM HEAD** - Two sheave, root diameter 9 $\frac{1}{2}$  in. (251mm), flange diameter 12 in. (305mm).
- BOOM ELEVATION** - Twin double-action cylinders (power up, power down) 7 in. (178mm) diameter; holding valve; boom angle range 0° to 70°; pendulum type angle indicator.
- BOOM SPEEDS** - Out 22 seconds; in 16 seconds; up 35 seconds; down 32 seconds.
- WINCH** - Braden Model PD10-77, power up and down, equal speed in both directions, planetary drive with integral automatic brake. Drum 9 $\frac{1}{2}$  in. (241mm) diameter, 12 $\frac{3}{4}$  in. (324mm) wide, 16 in. (406mm) flange diameter.
- | SINGLE LINE SPEEDS - | FULL LOAD         | NO LOAD           |
|----------------------|-------------------|-------------------|
| Bare Drum            | 100 FPM (30.5MPM) | 135 FPM (41.2MPM) |
| Mean Drum            | 120 FPM (36.6MPM) | 165 FPM (50.3MPM) |
| Full Drum            | 160 FPM (48.8MPM) | 220 FPM (67.1MPM) |
- SINGLE LINE PULL** -
- Bare Drum - 9,000 lbs. (4082kg)
  - Mean Drum - 7,499 lbs. (3402kg)
  - Full Drum - 5,625 lbs. (2552kg)
- DRUM CAPACITY** - 490 ft. of  $\frac{1}{2}$  in. wire rope (14.9m of 13mm).
- WIRE ROPE** - 125 ft. (38.1m) of 6 x 37G EIPS, IWRC Construction.
- SWING** - 140° rotation; ball bearing swing circle, hydraulic motor powered; speed 3 $\frac{3}{4}$  RPM max. Non-free swing, automatic swing brake.

- HYDRAULIC SYSTEM** - Pump - 2 section, gear type; main section for craning functions, second section for steering.
- Pump performance - Main pump 44.5 GPM (168LPM)  
 Second section - 16.0 GPM (61LPM)  
 Total capacity - 60.5 GPM (229LPM)  
 Calculated at 2400 RPM and 500 PSI (35 kg/cm<sup>2</sup>)  
 Full-flow return line hydraulic filter
- CONTROL VALVES** - Four way, double-acting, spool-type valves with full metering characteristics. Integral main by-pass valve for system relief. Individual by-pass valves for circuit relief.
- OPERATING PRESSURE** - 2250 PSI (158 kg/cm<sup>2</sup>), crane function, 1800 PSI (126 kg/cm<sup>2</sup>), steering.
- HYDRAULIC OIL RESERVOIR** - 46 gallons (174 liters).
- SUPERSTRUCTURE** - Optional Equipment
- BOOMS** - 14 ft. - 30 ft. (4.3m - 9.1m), 3 section, full power boom
  - 18 ft. - 42 ft. (5.5m - 12.8m), 3 section, full power boom
  - 21 ft. - 51 ft. (6.4m - 15.5m), 3 section, full power boom
- JIB** - 17 ft. (5.2m) non-stowable.
- HOOK BLOCK** - 2 sheave with ball bearing swivel hook; 5 ton (4.5tm), overhaul ball with swivel hook.
- ROTATION** - 270° swing - similar to 140° swing with left stop positioned for 135° left of front center, right stop positioned for 180° to right so boom can be stowed over rear. Load chart permits loads only to 135° point in right rotation. 360° continuous swing includes swivel to permit continuous rotation in either direction. Both 270° and 360° rotation require front and rear outriggers.

# CHASSIS SPECIFICATIONS

## STANDARD EQUIPMENT

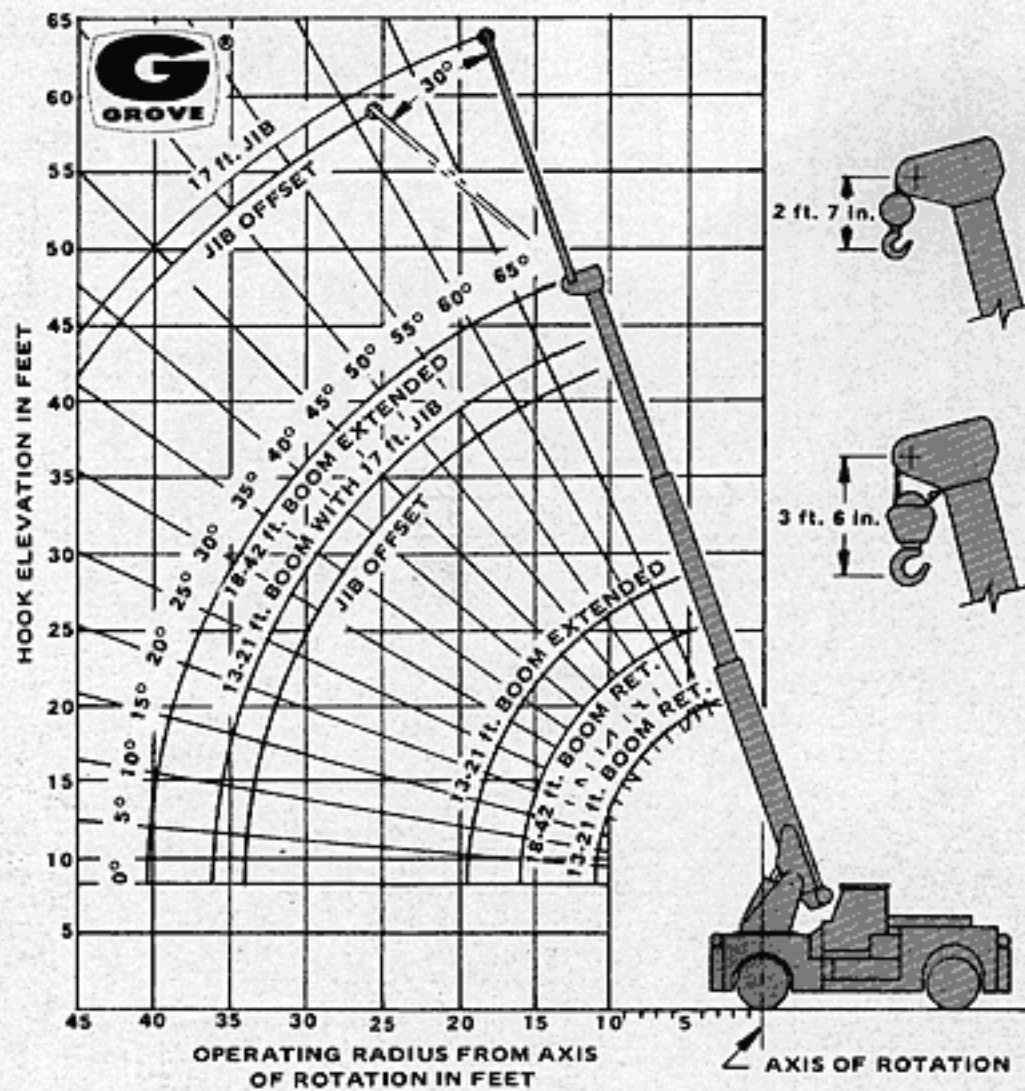
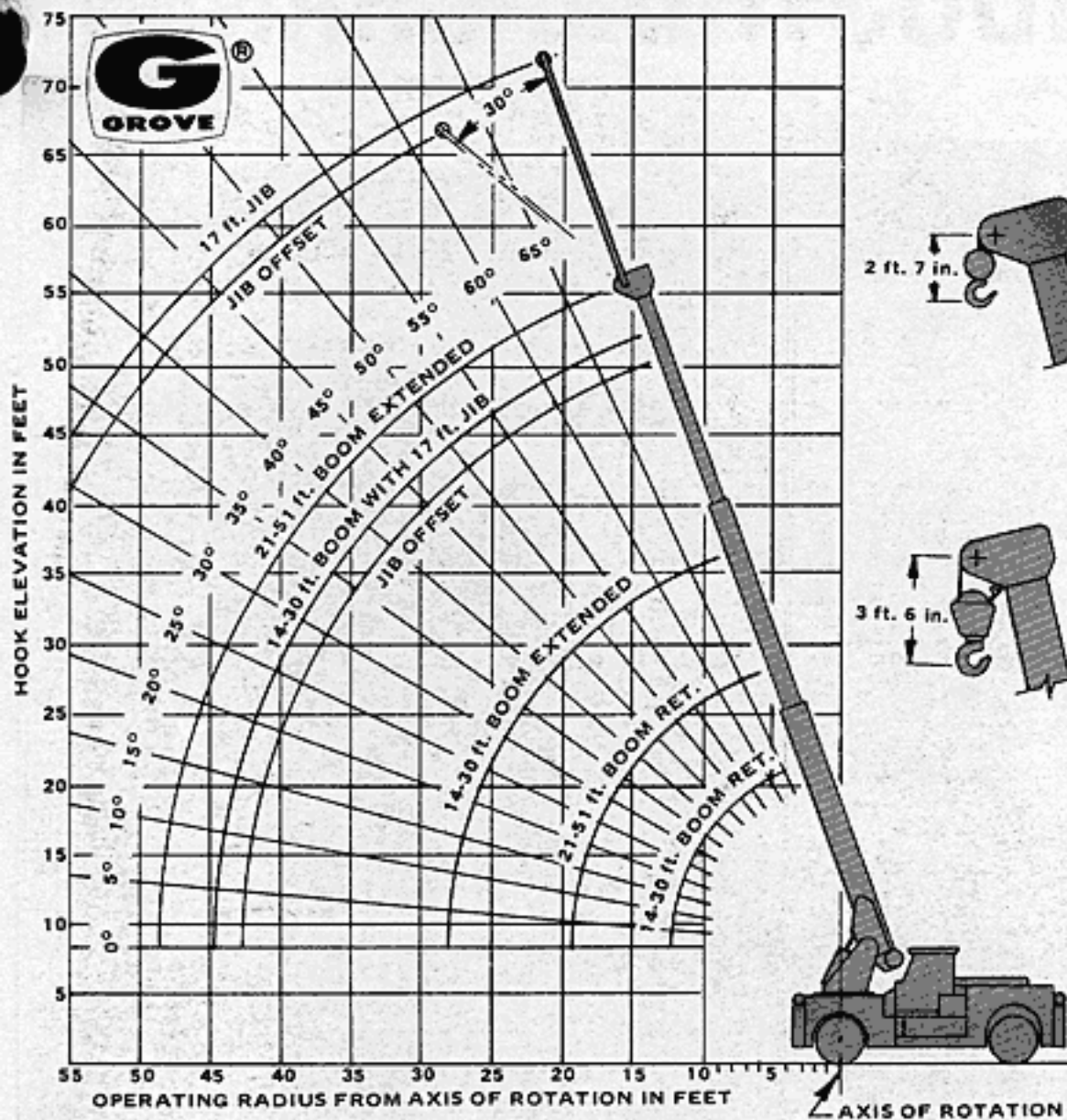
- FRAME** - High-strength steel, all-welded reinforced construction.
- | ENGINE DATA             | STANDARD                                  |
|-------------------------|---|
| MAKE .....              | Ford 300                                  |
| TYPE .....              | 4 cycle, gasoline                         |
| CYLINDERS .....         | 6   |
| BORE & STROKE .....     | 4.00 x 3.98 in. (102mm x 101mm)           |
| DISPLACEMENT .....      | 300 cu.in. (4916cm <sup>3</sup> )         |
| NET H.P. ....           | 115 (at 2800 RPM)                         |
| NET TORQUE .....        | 216 lbs. ft. (at 2800 RPM)                |
| GOVERNED RPM .....      | 2800                                      |
| COOLING SYSTEM .....    | Liquid, 26 qt. (24 liters) cap.           |
| FUEL CAPACITY .....     | 43 gal. (163 liters) w/protecto seal cap. |
| ELECTRICAL SYSTEM ..... | 12 volt                                   |
| Alternator .....        | 38 amp                                    |
| Battery .....           | 66 plate, 62 amp hr.                      |
- TRANSMISSION** - Power shift, forward and reverse with torque converter, manual speed selection, 4 speeds forward and 4 speeds reverse, synchronized in second, third and fourth.
- AXLES** - Front Drive Axle - Hypoid, double reduction; Rear Steer Axle - Wide track, axle oscillation 0 to 10 in. (0 to 254mm).
- OSCILLATION LOCKOUTS** - On rear axle, controlled from operator's station.
- STEERING** - Hydraulic, full power on rear wheels. Failsafe feature when power source is lost.
- BRAKES** - Service - air on front axle; drum and shoe type; 202 sq. in. (1303cm<sup>2</sup>) lining area. Drum diameter 16 $\frac{1}{2}$  in. x 7 in. (491mm x 178mm). Air brake is "maxi-type", failsafe, requires air to release.

- TIRES** - Front: (4) 11:00 x 20 - 14 ply  
 Rear: (2) 10:00 x 15 - 14 ply
- CHASSIS CONTROLS** - All basic controls with engine instruments, including hourmeter and electric fuel gauge.
- WEIGHT** - Basic machine: 35,500 lbs. (15 876kg)  
 (21,800 lbs. front) (9888kg)  
 (13,700 lbs. rear) (6214kg)  
 14 ft. - 30 ft. boom (4.3m - 9.1m) add 1,200 lbs. (544kg)  
 18 ft. - 42 ft. boom (5.5m - 12.8m) add 2,400 lbs. (1089kg)  
 21 ft. - 51 ft. boom (6.4m - 15.5m) add 3,600 lbs. (1633kg)  
 Enclosed cab add 400 lbs. (181kg)  
 360° rotation add 100 lbs. (45kg)  
 Front outriggers add 2,000 lbs. (907kg)  
 Front and rear outriggers add 4,100 lbs. (1860kg)  
 (Booms and front outriggers affect front axle loading)
- PERFORMANCE** - (Standard engine and transmission)  
 Axle Ratio - 14.5:1; Converter stall ratio 2.5:1.
- | Gear Range | Ratio | Speed (MPH) | Drawbar Pull (lbs.) | Gradeability % |
|------------|-------|-------------|---------------------|----------------|
| 1          | 5.565 | 3.5         | 12,800*             | 27.5*          |
| 2          | 2.721 | 7           | 7,000               | 19.9           |
| 3          | 1.484 | 12          | 3,700               | 10.1           |
| 4          | .88   | 25          | 2,400               | 5.4            |

Speed, drawbar pull and gradeability measured on concrete.  
 \*Maximum drawbar and gradeability limited by torque required to slip wheels.



MODEL 68



**CHASSIS - Optional Equipment**

**ENGINE DATA**

MAKE .....	Detroit Diesel 4-53N	OPTIONAL
TYPE .....	2 cycle diesel	
CYLINDERS .....	4	
BORE & STROKE .....	3.875 x 4.50 in. (98mm x 114mm)	
DISPLACEMENT .....	212 cu. in. (3475cm <sup>3</sup> )	
NET HP .....	120 @ 2800 RPM	
NET TORQUE .....	225 lbs. ft. @ 2800 RPM	
GOVERNED RPM .....	2800	
COOLING SYSTEM .....	Liquid, 29 qt. (27 liters) cap.	
ELECTRICAL SYSTEM .....	12 volt	
Alternator .....	55 amp	
Battery .....	150 plate, 204 amp hr.	

**TRANSMISSION** - Power shift with Twin Turbine Torque Converter; 4 speeds forward and 4 speeds reverse.

**LIMITED SLIP DIFFERENTIAL** - Same as standard, except for limited slip feature.

**LP (Liquid Propane) FUEL SYSTEM** - Liquid withdrawal.

**CAB** - Steel construction, fully enclosed; weatherstripped, safety glass windows, windshield, skylight, right and left doors, electric windshield wiper and cab heater.

**DEFROSTER** - Electric fan.

**LIGHTS** - Head, tail, back-up, stop, four-way flashers, turn signals.

**ELECTRONIC AUDIO BACK-UP ALARM**

**ALTERNATOR** - 55 amp; for Ford engine.

**PINTLE HOOK** - Front or rear. Flush mounted.

**TOWING WINCH** - Front mounted; 9,000 lbs. (4082kg) single line capacity.

**OUTRIGGERS** - Hydraulic, cantilever type, with integral safety holding valve. Individually controlled from operator's position. Activation requires two functions to prevent accidental retraction.

Front outriggers only - 140° swing

Front and rear outriggers required with 270° or 360° rotation.

MODEL 68  
RATED LIFTING CAPACITIES

**13 Ft. – 21 Ft. BOOM**

Radius in Feet	On Rubber (2, 3, 4)		Front Outriggers 140° Swing (1)
	Front	Side	
6	20,000	17,000	24,000
8	16,600	14,600	20,700
10	14,250	12,250	18,000
12	11,000	8,850	15,000
14	8,350	6,450	12,200
16	7,250	5,250	10,750
19	6,000	3,800	9,100

**14 Ft. – 30 Ft. BOOM**

Radius in Feet	On Rubber (2, 3, 4)		Front Outriggers 140° Swing (1)
	Front	Side	
6	20,000	17,000	24,000
8	16,600	14,600	20,700
10	14,250	12,250	18,000
12	11,000	8,850	15,000
14	8,350	6,450	12,200
16	7,250	5,250	10,750
20	5,700	3,600	8,700
25	4,100	2,300	6,700
28	3,200	1,700	5,600

**18 Ft. – 42 Ft. BOOM**

Radius in Feet	On Rubber (2, 3, 4)		Front Outriggers 140° Swing (1)
	Front	Side	
6	20,000	17,000	24,000
8	16,600	14,600	20,700
10	14,250	12,250	18,000
12	11,000	8,850	15,000
14	8,350	6,450	12,200
16	7,250	5,250	10,750
20	5,700	3,600	8,700
25	4,100	2,300	6,700
30	3,000	1,600	5,300
35	2,300	1,050	4,000
40	1,800	600	2,800

**21 Ft. – 51 Ft. BOOM**

Radius in Feet	On Rubber (2, 3, 4)		Front Outriggers 140° Swing (1)
	Front	Side	
6	20,000	17,000	24,000
8	16,600	14,600	20,700
10	14,250	12,250	18,000
12	11,000	8,850	15,000
14	8,350	6,450	12,200
16	7,250	5,250	10,750
20	5,700	3,600	8,700
25	4,100	2,300	6,700
30	3,000	1,600	5,300
35	2,300	1,050	4,000
40	1,800	600	2,800
45	1,350	300	2,000
50	900	100	1,500

**NOTES TO LIFTING CAPACITIES  
(Applicable to all above charts)**

Capacities appearing above BOLD line are based on machinery strength, and tipping should not be relied upon as a capacity limitation. Capacities are in pounds and do not exceed 85% of tipping.

1. To maintain capacities from 141° thru 270° swing, rear outriggers are required.
2. Rear axle lockouts must be set to maintain published capacities.
3. Rated capacities are based on a static lift on level ground.
4. For pick-and-carry loads, suitable reductions to front static capacities must be made to allow for terrain. Loads must be carried directly over the front of machine with shortest practical boom length. **SPEED MUST NOT EXCEED 2.5 MPH.**
5. The weights of all load-handling devices are considered part of the load lifted and suitable allowances for them should be made.

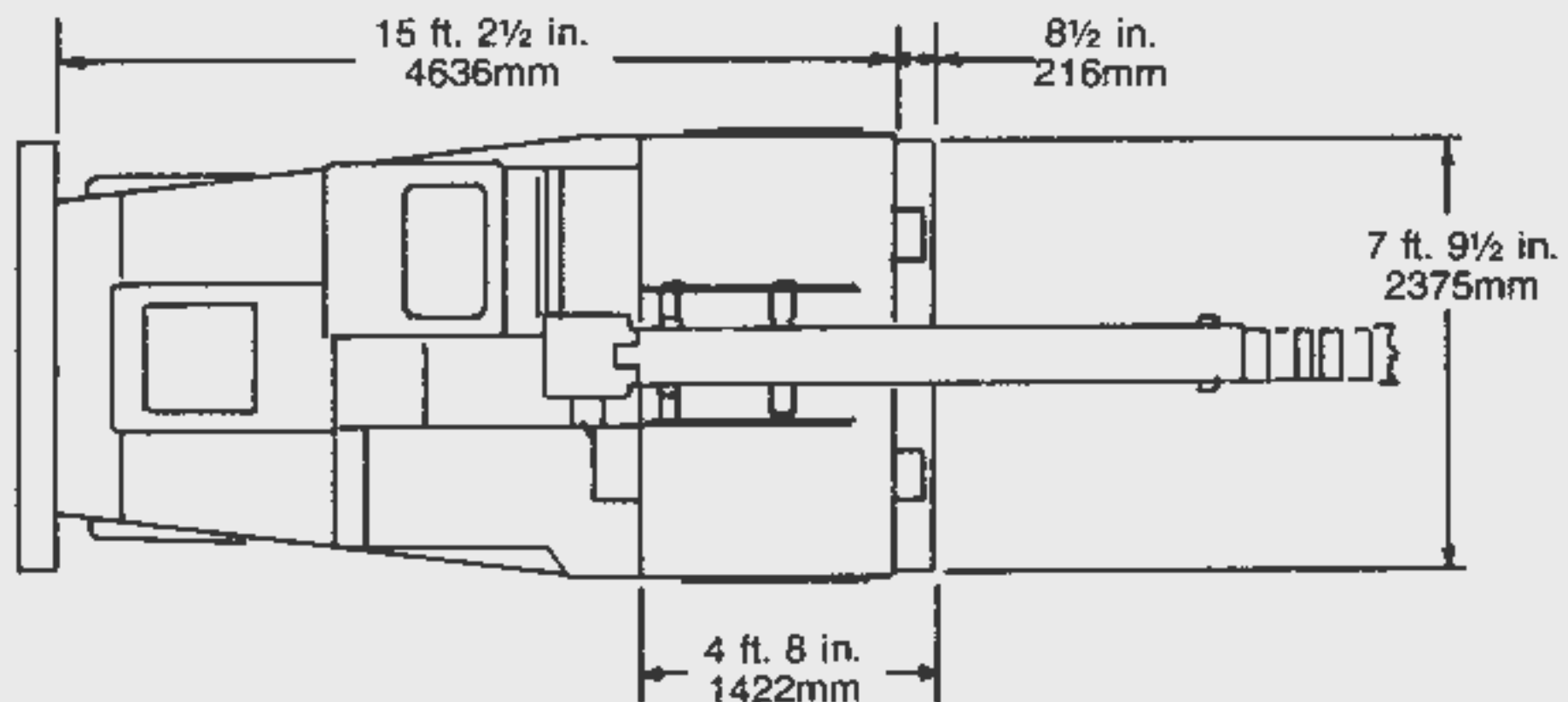
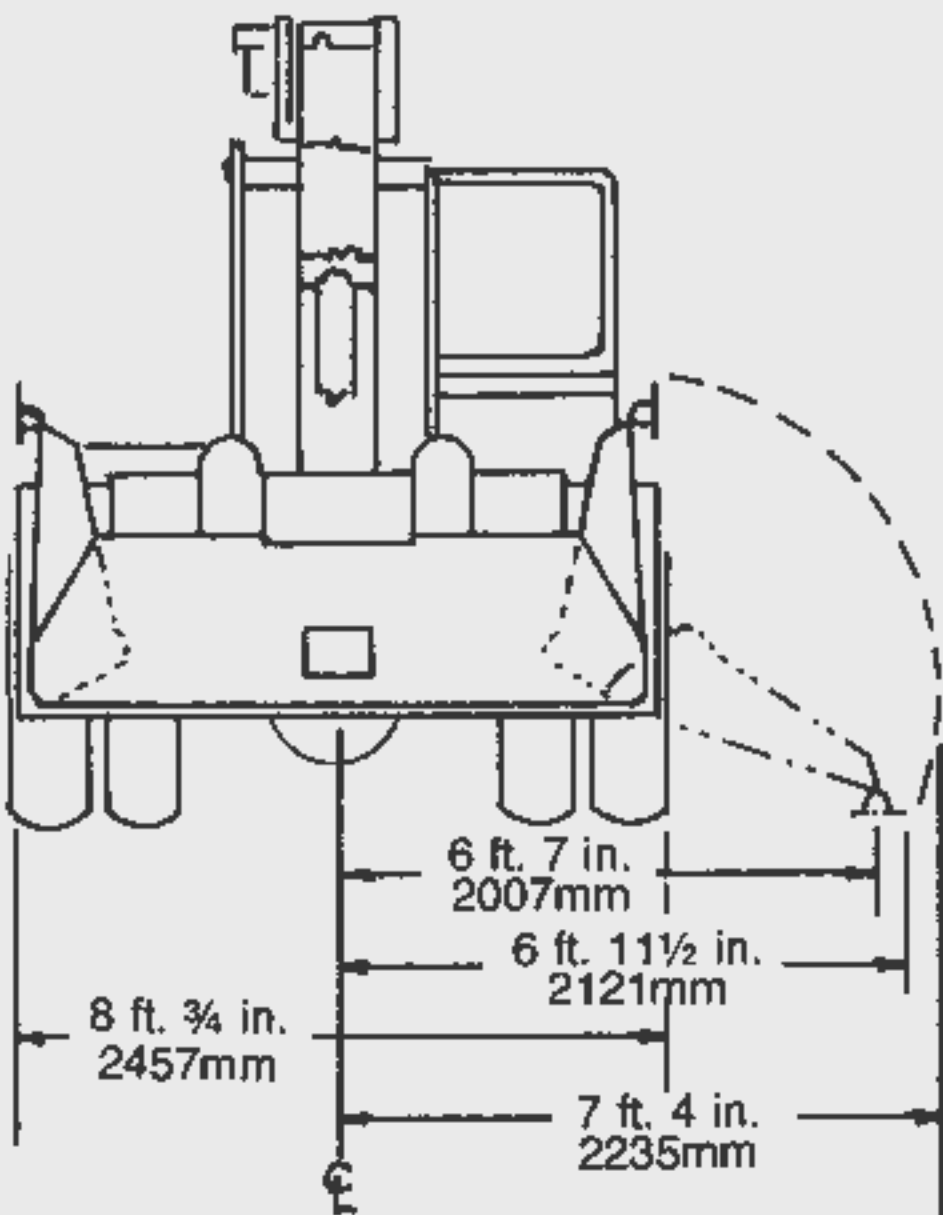
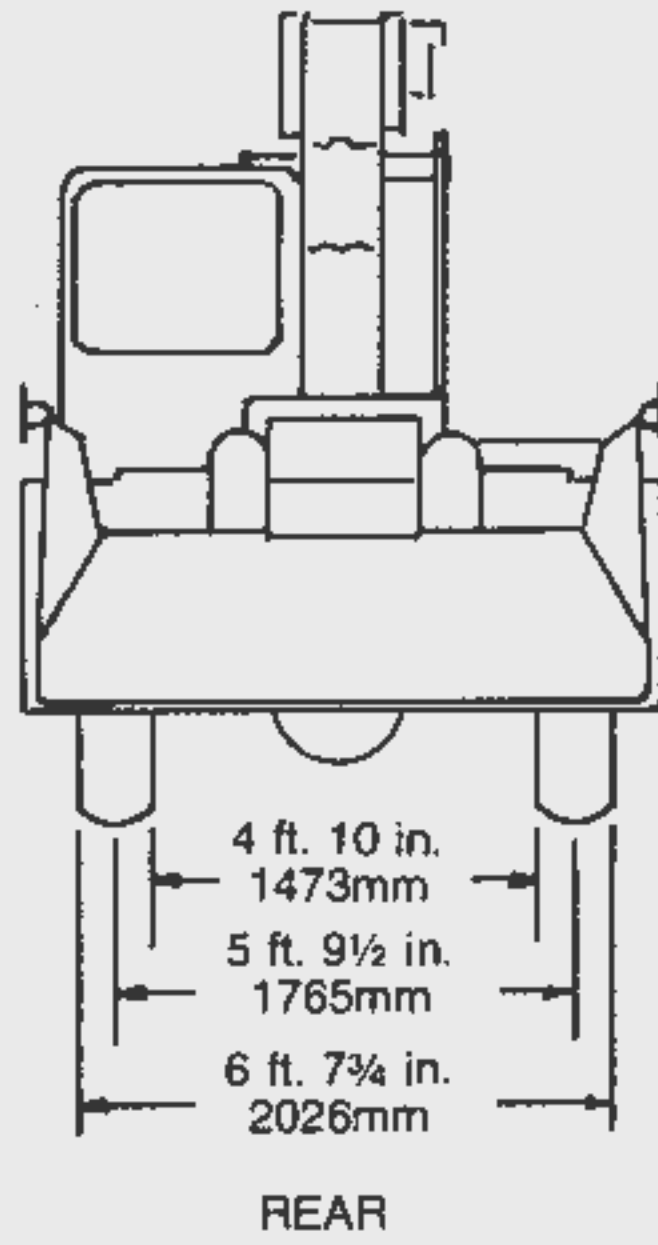
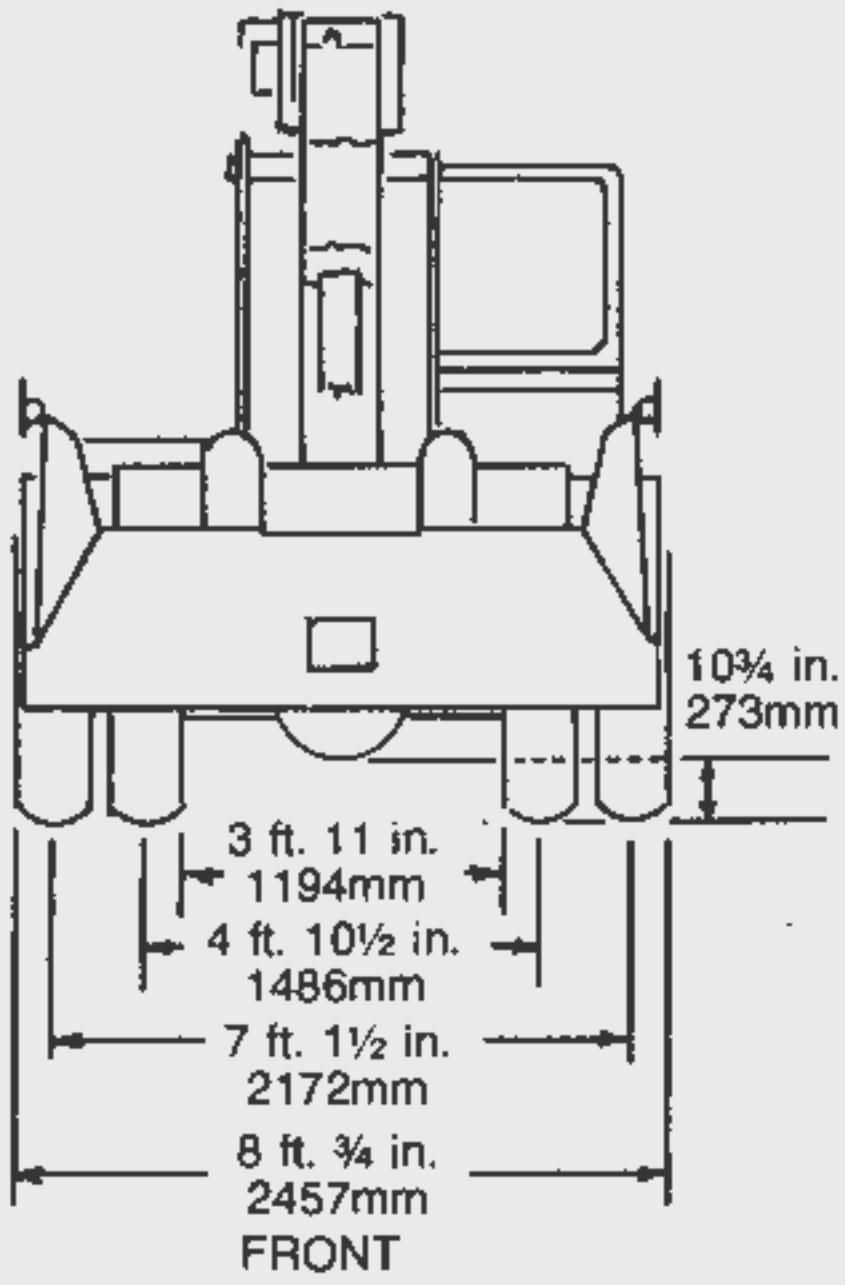
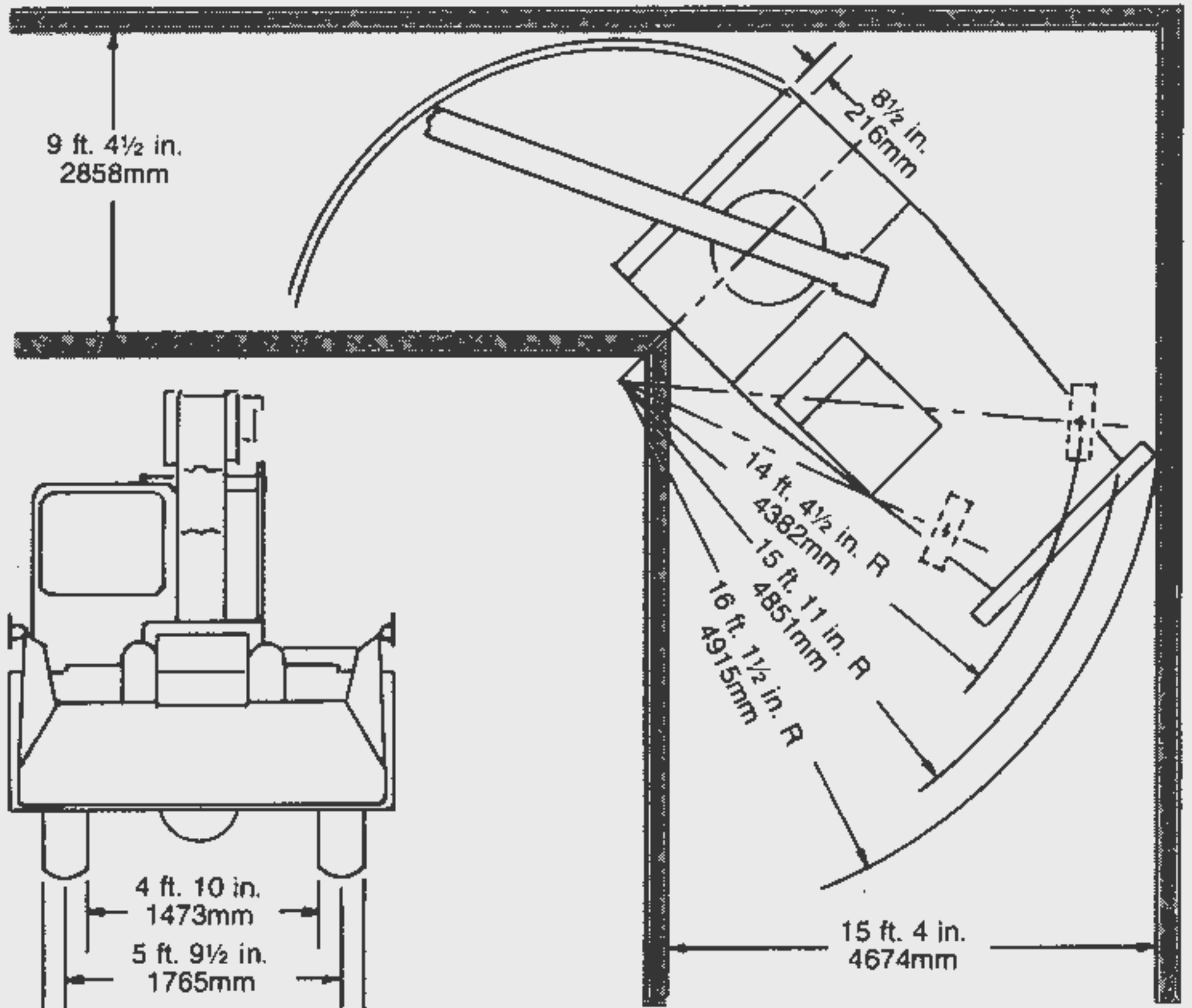
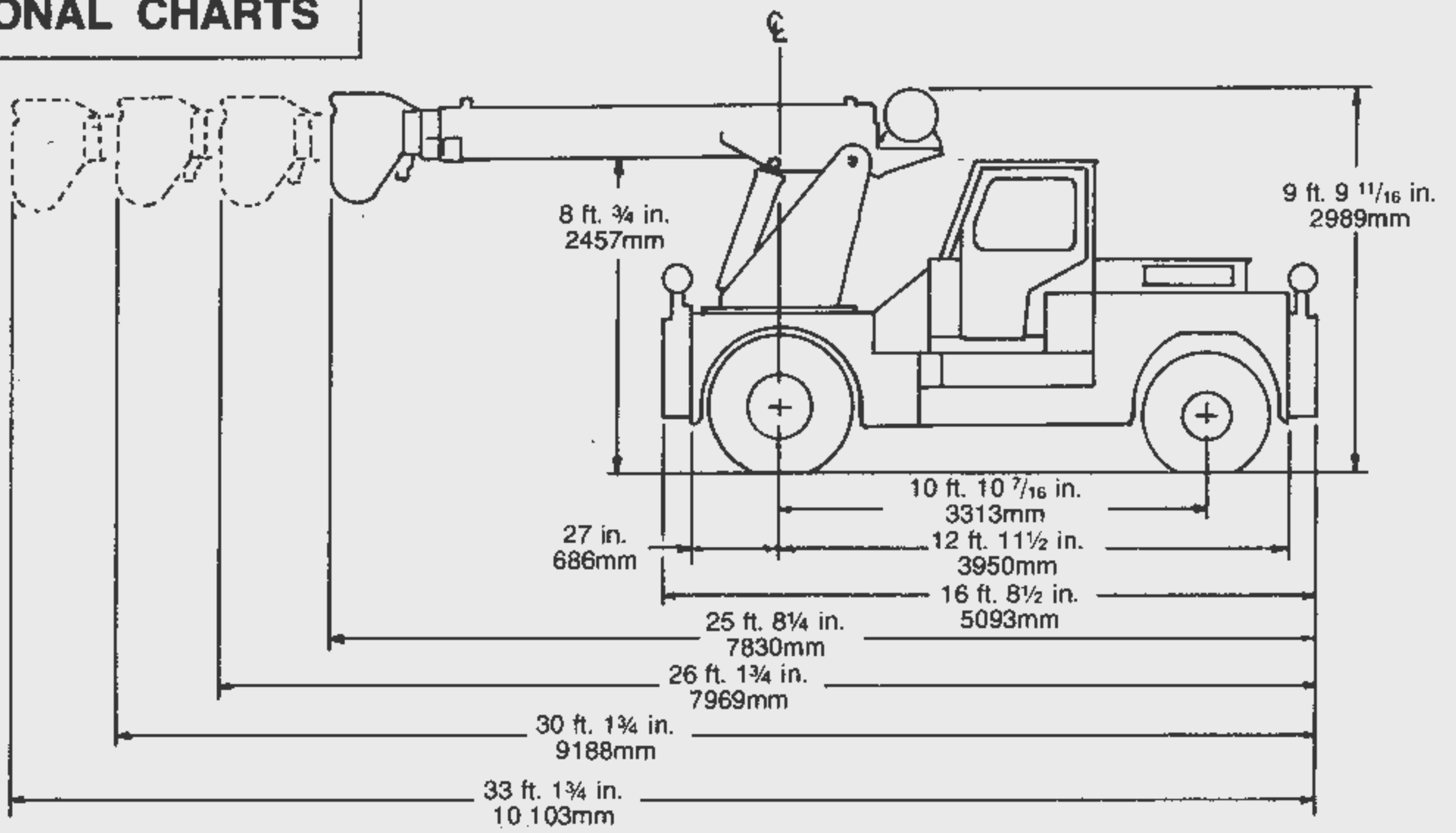
**JIB CAPACITIES IN POUNDS**

Minimum Boom Angle	No Offset	Maximum Offset (30°)
75°	6,200	3,600
70°	5,000	3,000
65°	4,300	2,500
60°	3,700	2,100
55°	3,300	1,850
50°	2,600	1,700
45°	2,400	1,575
40°	2,200	1,500
30°	1,900	

Jib is to be used with single line operation only.

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

# DIMENSIONAL CHARTS



# THE WORLD'S MOST COMPLETE LINE OF HYDRAULIC INDUSTRIAL CRANES

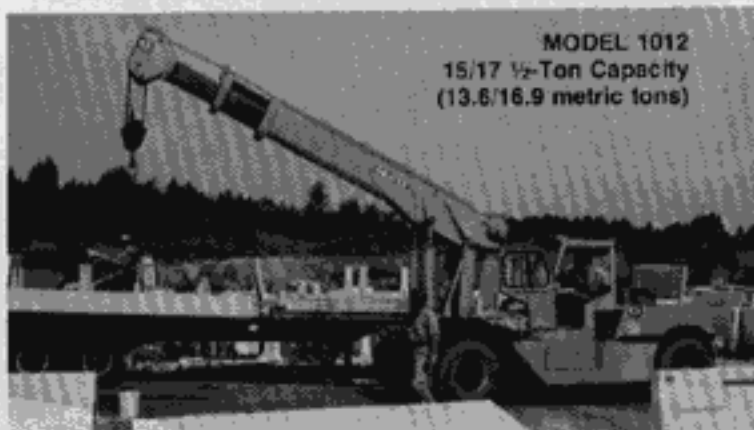
Capacities  
from  
2 through  
35 tons  
(1.8-31.8 metric tons)



MODEL 24  
4/6-Ton Capacity  
3.6/5.4 metric tons



MODEL 2535  
25/35-Ton Capacity  
22.7/31.7 metric tons



MODEL 1012  
15/17 1/2-Ton Capacity  
(13.6/16.9 metric tons)



STEVEDORE  
2-Ton Capacity  
1.8 metric tons



MODEL 36  
6/7 1/2-Ton Capacity  
5.5/6.8 metric tons



## INDUSTRIAL CRANES

**GROVE MANUFACTURING COMPANY**

Division of Walter Kidde & Company, Inc.

**KIDDE**

Box 21, Shady Grove, Pennsylvania 17256

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