

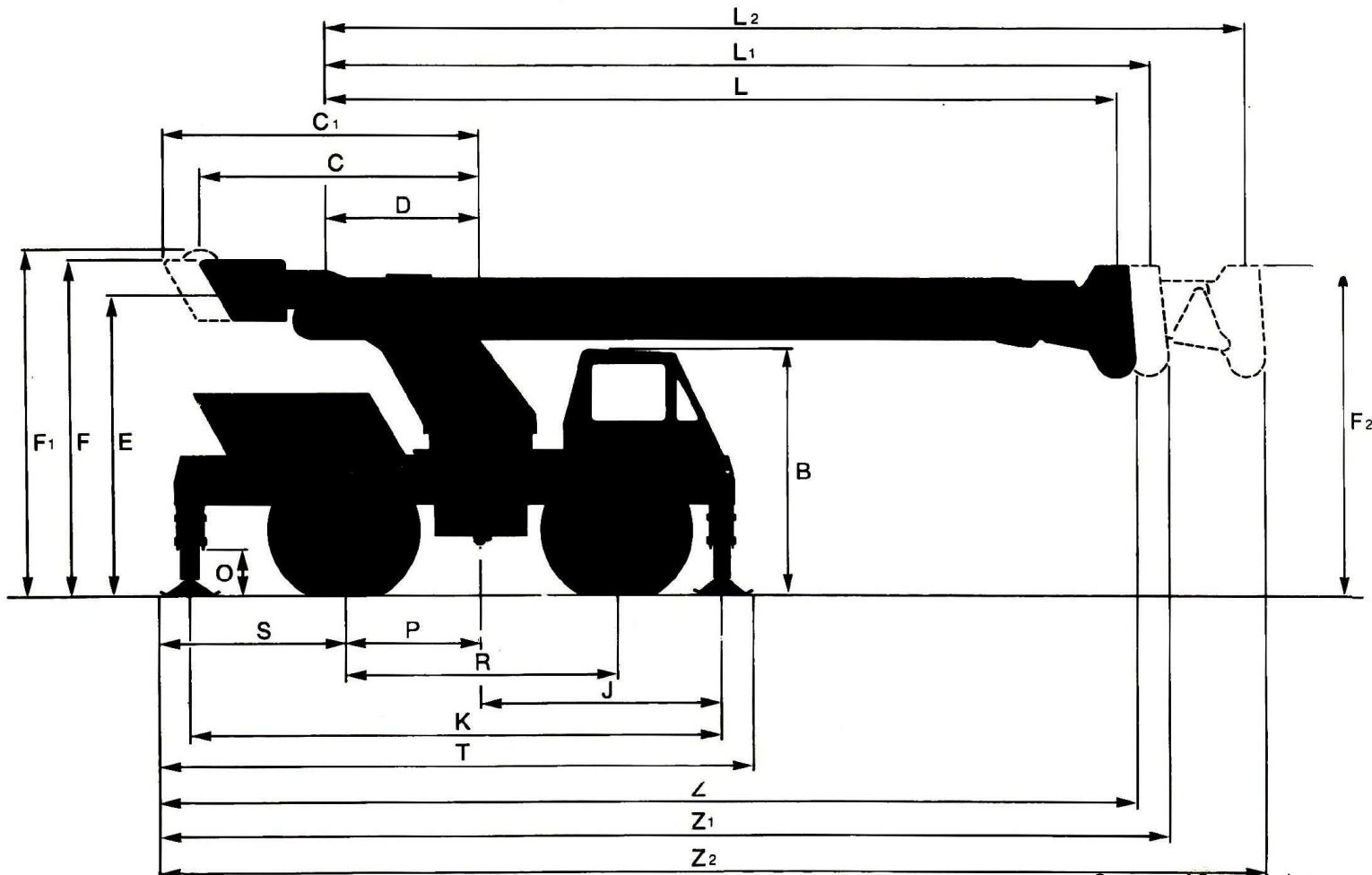
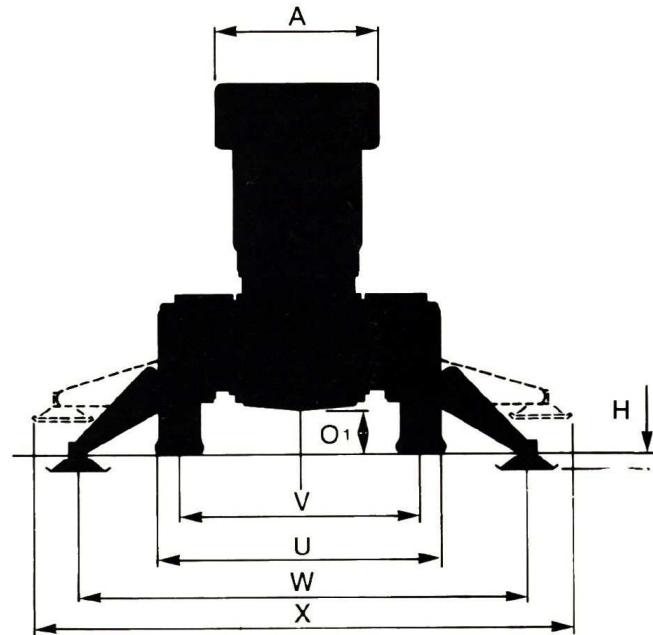
# P&H / R-200

**20-ton Rough Terrain Crane  
100' 10" maximum boom and jib**



# general dimensions

	Ft. & In.	Meters
A — Overall width of revolving frame	5'-0"	1.52
B — Max. height to top of cab	7'-7¼"	2.33
C — Radius of rear end (tailswing)	9'-4¼"	2.85
C <sub>1</sub> — Radius of rear end (tailswing w/ aux. winch)	10'-8¼"	3.26
D — Centerline of rotation to boom foot pin	4'-9"	1.45
E — Height from ground to boom foot pin	9'-3¾"	2.84
F — Max. height of attachment when in travel position	10'-4¾"	3.17
F <sub>1</sub> — Max. height of attachment w/ aux. winch in travel position	10'-11¼"	3.33
F <sub>2</sub> — Overall height (over boom point when in travel position)	10'-2½"	3.11
H — Wheel ground clearance outrigger cyl. extended	0'-4½"	.12
J — Centerline axis of rotation to centerline of front outrigger boxes	7'-8¼"	2.34
K — Centerline of front outrigger box to centerline of rear outrigger boxes	16'-8½"	5.09
L — Boom length (24'-9" - 36'-9")	24'-8½"	7.53
L <sub>1</sub> — Boom length (25'-9" - 49'-9")	25'-9"	7.85
L <sub>2</sub> — Boom length (28'-10" - 64'-10")	28'-10"	8.79
O — Ground clearance (outrigger frame)	1'-2¼"	.36
O <sub>1</sub> — Ground clearance (front & rear axle)	1'-3¼"	.38
P — Distance from centerline of rear axle to centerline of rotation	5'-2½"	1.59
R — Wheelbase	9'-5½"	2.88
S — Distance from centerline of rear axle to rear end	4'-8¼"	1.43
T — Overall length of carrier w/ outriggers	18'-5½"	5.62
U — Max. overall width of carrier	8'-0¼"	2.45
V — Track or tread width	6'-6¾"	2.00
V <sub>1</sub> — Turning circle (centerline of tires 4 wheel steer)	39'-0"	11.89
V <sub>2</sub> — Vehicle clearance circle (4 wheel steer)	43'-6"	13.26
V <sub>3</sub> — Turning circle (centerline of tires front steer)	74'-2"	22.60
V <sub>4</sub> — Vehicle clearance circle (front steer)	78'-4"	23.88
W — Effective length of extended outriggers	14'-4"	4.37
X — Overall width over floats w/ outriggers extended	16'-6"	5.03
Z — Overall length (boom fully retracted over front) (24'-9" - 36'-9")	30'-6½"	9.30
Z <sub>1</sub> — Overall length (boom fully retracted over front) (25'-9" - 49'-9")	31'-6¾"	9.62
Z <sub>2</sub> — Overall length (boom fully retracted over front) (28'-10" - 64'-10")	34'-7¾"	10.56





# lifting capacities

## 24'-9" TO 36'-9" BOOM • BOOM LOAD RATINGS IN POUNDS

Oper. Rad. Ft.	With Outriggers		Without Outriggers	
	Over Front	360° Rotation	Over Front	360° Rotation
	Powered Boom	Powered Boom	Powered Boom	Powered Boom
	24'9"-36'9"	24'9"-36'9"	24'9"-36'9"	24'9"-36'9"
10	40000*	40000*	30000	21000
12	34000	34000	24000	15600
14	29800	29600	19200	12000
16	26600	26400	15500	9600
18	24100	24000	12500	8000
20	22000	19600	10500	6700
25	15600	13400		4400
30	11400	9800		3000
32	10200	8600		2500

\*40,000# with retracted (24'-9") boom length only.

## 25'-9" TO 49'-9" BOOM • CLASS 10-60 • BOOM LOAD RATINGS IN POUNDS

Oper. Rad. Ft.	With Outriggers				Without Outriggers	
	Over Front		360° Rotation		Over Front	360° Rotation
	Powered Boom	Manual Insert Extended	Powered Boom	Manual Insert Extended	Powered Boom	Powered Boom
	25'9"-49'9"	41'9"-65'9"	25'9"-49'9"	41'9"-65'9"	25'9"-49'9"	25'9"-49'9"
10	40000*		40000*		30000	21000
12	34000		34000		24000	15600
14	29600	12500	29600		19100	12200
16	27000	12500	27000		15500	9800
18	24300	12500	24300		12800	8000
20	22000	12500	19600		10500	6700
25	15600	12500	13400		7200	4400
30	11400	11400	9800	9800	5000	3000
32	10200	10200	8600	8600	4500	2500
35	8800	8800	7400	7400	3800	2000
40	7200	7200	6000	6000	3000	1400
45	6000	6000	5000	5000	2500	900
50		5100		4200	No sequence pattern for extension. Each boom telescopic section is power extendable a distance of 12 feet.	
55		4300		3500		
60		3600		2900		

\*40,000# with retracted (25'-9") boom length only.

## 28'-10" TO 64'-10" BOOM • CLASS 10-55 • BOOM LOAD RATINGS IN POUNDS

Oper. Rad. Ft.	With Outriggers				Without Outriggers	
	Over Front		360° Rotation		Over Front	360° Rotation
	Powered Boom	Manual Insert Extended	Powered Boom	Manual Insert Extended	Powered Boom	Powered Boom
	28'10"-64'10"	44'10"-80'10"	28'10"-64'10"	44'10"-80'10"	28'10"-64'10"	28'10"-64'10"
10	40000*		40000*		30000	21000
12	34000		34000		24000	15600
14	29600	12500	29600	12500	19000	12300
16	27000	12500	26600	12500	15300	10000
18	24500	12500	23200	12500	12400	8000
20	22000	12500	19600	12500	10400	6700
25	15500	12500	13300	12500	7000	4400
30	11300	11300	9400	9400	4700	3000
35	8500	8500	7200	7200	3200	2000
40	6500	6500	5500	5500	2200	1200
45	5200	5200	4400	4400	1600	700
50	4300	4300	3600	3600	1100	
55	3600	3600	2900	2900	800	
60	3000	3000	2400	2400	600	
65		2700		2100	No sequence pattern for extension. Each boom telescopic section is power extendable a distance of 18 feet.	
70		2300		1700		
76		1600		1100		

\*40,000# with retracted (28'-10") boom length only.

Operating radius is the horizontal distance from the axis of rotation before loading, to the center of the vertical hoist line or tackle with load applied. Crane load ratings are for machines with 4300 pounds of counterweight, and do not exceed 85% of tipping loads. Ratings above the heavy line are based on the machine's hydraulic or structural competence, and not on the machine stability. Weights of hooks, hook blocks, slings, and all other load handling devices, except hoist rope, shall be considered a part of the load. Crane load ratings with outriggers are based on outriggers fully extended and set to a distance of 7 ft. 2 in. from the longitudinal axis of the carrier to the outrigger float pivot connection with wheels within the boundary of the outriggers unloaded.

Crane loads without outriggers depend on capacity and condition of tires inflated per table, and apply only when rear axle lockouts are engaged. Crane load ratings are based on freely suspended loads with the machine levelled and standing on a firm, uniform supporting surface. Practical working loads depend on supporting surface, wind, and other factors affecting stability, hazardous surroundings, experience of personnel and proper handling, all of which must be taken into account by the operator.

Positioning or operation at radii and boom or jib lengths beyond the maximums and minimums shown, is not intended or approved.

## MAX. JIB LOAD RATINGS IN POUNDS ON POWERED BOOM OR ON MANUAL INSERT

Min. Boom Angle	15 or 20 Foot Jib		
	Jib Angle		
	0°	10°	20°
70°	6000	5000	4500
65°	5000	4500	4000
60°	4000	3500	3000
50°	2500	2250	2000
40°	2000	1750	1500
30°	1500	1400	1300

20' jib is not for use on 24'-9" boom. Maximum jib load ratings are based on structural competence. Jib load ratings at any radius shall not exceed the powered boom load ratings at the same radius, and shall not exceed max. jib load ratings shown.

For bucket ratings on jib, deduct 20% from max. jib load ratings. Max. jib operating radius shall not exceed the operating radius of the powered boom for any given length setting.

Use of outriggers is recommended when boom is equipped with jib.

## 16 FOOT PINNED MANUAL INSERT ON POWERED BOOM

(Not for use on 24'-9" to 36'-9" boom)

Use of outriggers is recommended when powered boom is equipped with an extended manual insert.

Retracted manual insert increases powered boom length 4'1" (25'-9" to 49'-9" boom) or 1'6" (28'-10" to 64'-10" boom).

With outriggers fully set, and manual insert retracted, ratings for powered boom with outriggers apply, less deductions in table.

With outriggers not set, and manual insert retracted, ratings for the powered boom without outriggers apply, less deductions in table.

## TIRE INFLATION

Tire Size	Tire Pressure
16:00 x 24	65 P.S.I.
17:50 x 25	70 P.S.I.

## HOIST REEVING — ½ DIA. WIRE ROPE MIN. BREAKING STRENGTH 22000 LB.

Parts of Line	1	2	3	4	5	6	7
Max. Load Lbs.	6250	12500	18750	25000	31250	37500	40000

## DEDUCTIONS TO BE MADE FROM POWERED BOOM LOAD RATINGS

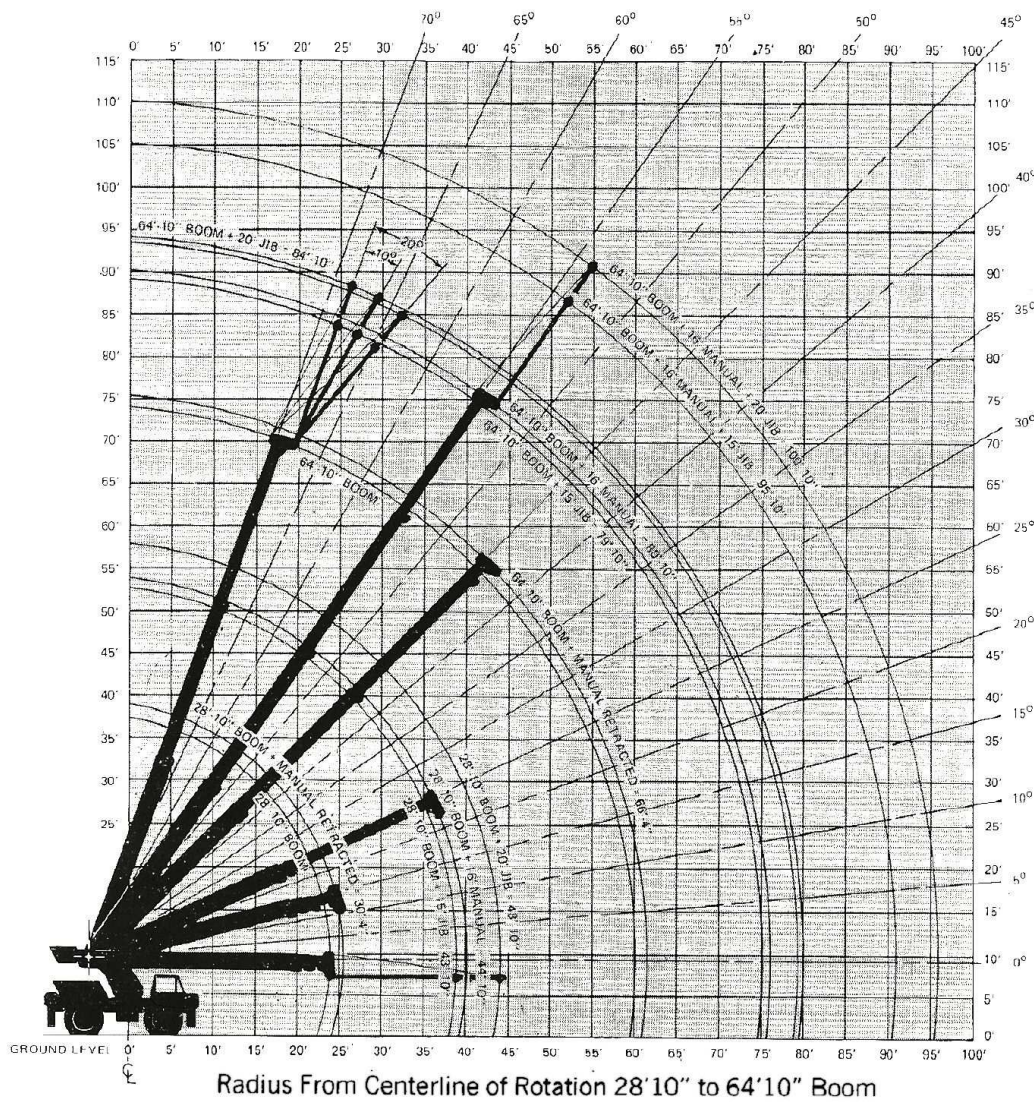
Equipped With	Jib		Retracted Manual Insert		
	Stowed	Erected	No Jib	Stowed Jib	Erected Jib
Pounds	400	800	800	1200	1600

**WARNING: READ FOR SAFETY** When operating without a load, the powered boom point or manual insert point, or jib point, if so equipped, may not extend beyond a radius of 40 ft. for 360° operation (50 ft. for 28'-10" to 64'-10" boom), or 50 ft. over the front (60 ft. for 28'-10" to 64'-10" boom), unless outriggers are fully set.

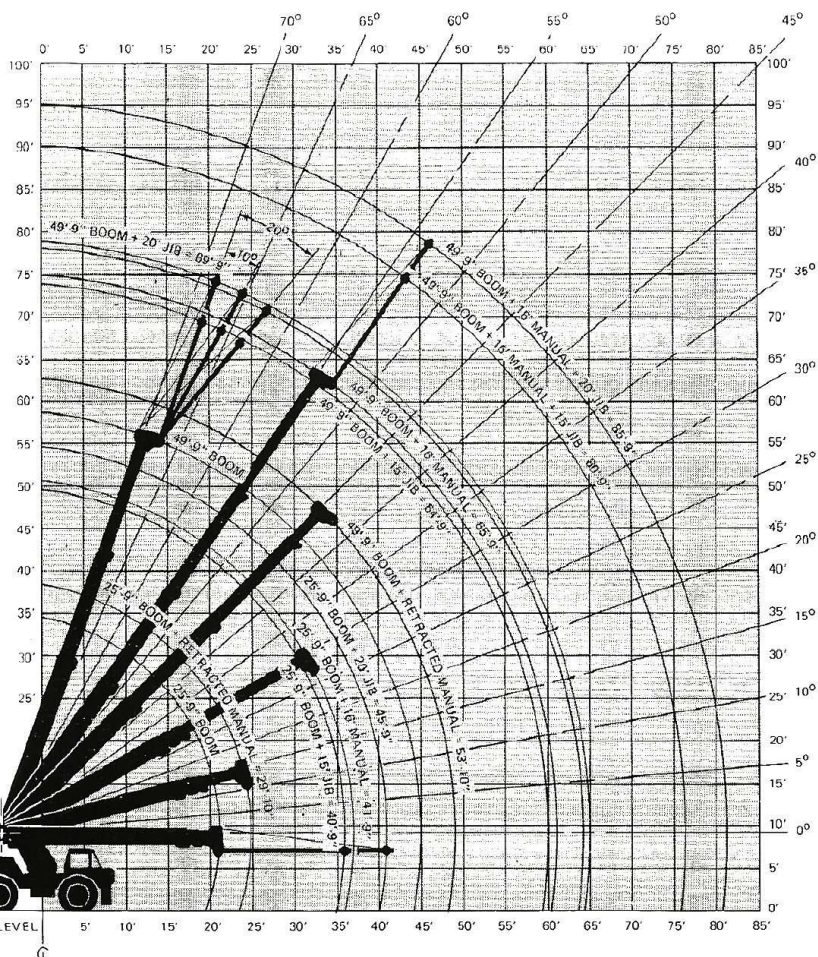
NOTE: OPERATION OF THIS EQUIPMENT IN EXCESS OF LOAD RATINGS AND DISREGARD OF INSTRUCTIONS VOIDS THE WARRANTY of Crane Market



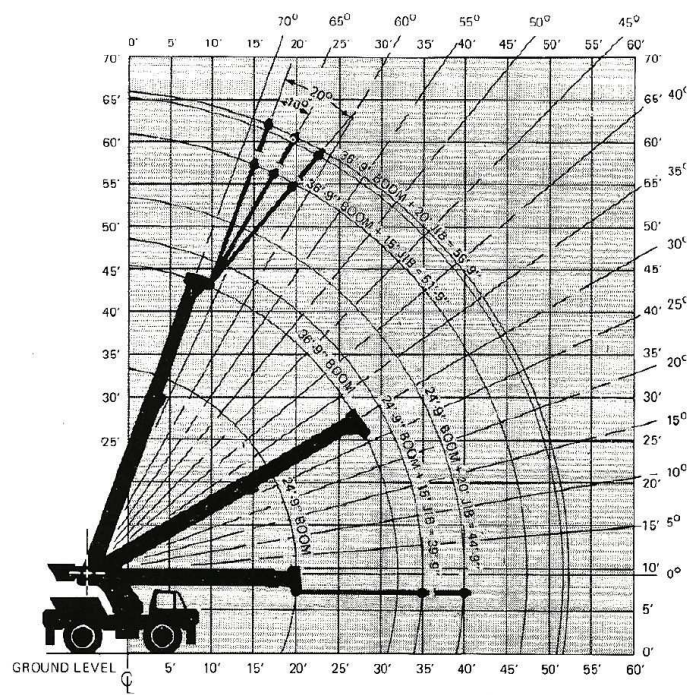
# working ranges



Radius From Centerline of Rotation 28'10" to 64'10" Boom



Radius From Centerline of Rotation 25'9" to 49'9" Boom



Radius From Centerline of Rotation 24'9" to 26'10" Boom



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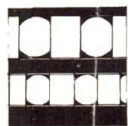
- Fully automatic transmission.
- Volu-Matik® Hydraulic System for optimum hydraulic performance.
- Low overhead clearance.

- Low center of gravity, excellent balance.
- Three speed winch with infinitely variable control.
- Variety of powered booms with manual insert and jibs.

## specifications

### UPPER MACHINERY

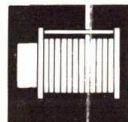
**SWING UNIT:** Hydraulic motor driving through double reduction gear case. 360 degree continuous rotation to 2.5 RPM.



**FASTENING TO LOWER:** Double row roller bearing Swing Circle®. Swing gear integral.

**SWING GEAR:** External spur gear 40" P.D. (1016 mm).

**SWING BRAKE:** Rockwell 7¼" x 1½" (184 x 38 mm) internal expanding shoe type. Mechanical, hand operated.



**MAIN WINCH:** Braden Model PD 10-77 three speed mounted on revolving frame. Planetary gearing with equal speed power raising and lowering. Infinitely variable controlled speed.

**DRUM:** Smooth, 9½" dia. (241 mm), 12¾" wide (321 mm).

**CABLE:** ½" dia. (12.7 mm) 8 x 19 spin resistant with 7 x 7 I.W.R.C.

**DRUM CAPACITY:** 490 ft. (149 m) 6 layers.

**LINE PULL (MAX.):** 8200# (3719 kg) 1st layer.

**LINE PULL (PERMISSIBLE):** 6250# (2835 kg) per part of line.

**LINE SPEED (MAX.):** 329 F.P.M. (100 m/m) 6th layer.

**AUXILIARY WINCH OPTIONAL:** Braden Model PD 10-77 single speed mounted on revolving frame. Planetary gearing with equal speed power raising and lowering. Infinitely variable controlled speed.

**DRUM:** Smooth, 9½" dia. (241 mm), 12¾" wide (321 mm).

**CABLE:** ½" dia. (12.7 mm) 8 x 19 spin resistant with 7 x 7 I.W.R.C.

**DRUM CAPACITY:** 490 ft. (149 m) 6 layers.

**LINE PULL (MAX.):** 6400# (2903 kg) 1st layer.

**LINE PULL (PERMISSIBLE):** 6250# (2835 kg)

**LINE SPEED (MAX.):** 185 F.P.M. (56 m/m) 6th layer.



**BOOM HOIST:** Two 9" dia. (229 mm) cylinders — double acting. Hydraulic powered raising and lowering with holding valve.

**BOOM TELESCOPE:** Two 5" dia. (127 mm) cylinders — double acting. Hydraulic powered extending and retracting with holding valve.

**COUNTERWEIGHT:** 4300 lbs. (1950 kg) fixed.

### HYDRAULIC SYSTEM

**PUMPS:** One double pump vane type, engine driven through a P.T.O.; 16 G.P.M. (61 L/min.). Two double pumps, gear type, transmission driven through a P.T.O.; 151 G.P.M. (572 L/min). Total delivery 167 G.P.M. (633 L/min).

**OIL RESERVOIR:** 97 gallon (367 liter) capacity, mounted on frame on right side between front and rear wheels.

**CONTROL VALVES:** Hydraulic 4-way valves for transmission mounted double pumps. Solenoid valve and 3-way toggle switch for rear steer. Orbitrol steering valve for front steer.

**FILTERS:** Return line filters — full flow 10 micron.

### CARRIER

**TYPE:** 2 x 4 x 4 Standard. 4 x 4 x 4 Optional.

**FRAME:** Box section formed of 18" at 58# high strength steel channel.

**OUTRIGGERS (OPTIONAL):** Hydraulically operated by levers in cab. Swinging arm type with swivel mounted floats. Hydraulic locked. Two-way level in cab. **HOUSING:** Fabricated box of high strength low alloy steel, welded to front and rear of main frame. **ARM:** Fabricated box of high strength low alloy steel, pivoted about the end of the outrigger housing by means of hydraulic cylinders. Fastening the float and arm is a ball and socket type of connection for maximum flexibility.



**POWER PLANT:** Diesel — Detroit Diesel (G.M.) Model 4-53N 116 HP at 2800 R.P.M., 245 lb. ft. max. torque at 1800 R.P.M., 4 cyl. 3¾" bore, 4½" stroke, 212.3 cu. in. displacement.

**ELECTRICAL SYSTEM:** 12 volt negative ground, 200 amp. hr. battery, 55 amp. alternator.

**AIR CLEANER:** Farr Pamic Dry Type with service gauge.

**FUEL TANK:** 55 gallon (208 liter) capacity. Mounted on frame on left side between front and rear wheels.

**RADIATOR:** Vertical tube and fin type core. Thermostatic temperature controlled. 25 quart (23.6 liter) total system capacity.

**POWER TRAIN:** Funk Model 1024E13 Power Shift Transmission with 12¾" (324 mm) torque converter. 4 speeds, equal forward and reverse. Low gear — speeds to 3.86 mph (6.2 km/hr). High gear — speeds to 25.0 mph (40.2 km/hr). Maximum grade — 57%. Speeds are under ideal conditions.

**PROPEL BRAKE:** Rockwell 17¼" x 4" (438 x 102 mm). Internal expanding shoe type. Air/hydraulic with pushbutton brake lock.

**PARKING BRAKE:** Hand operated mechanical disc type mounted on propeller shaft.

**FRONT AXLE:** Rockwell Standard ratio 16.65:1 driving through planetary with orbitrol power steering. Optional: non-spin axle.

**REAR AXLE:** Rockwell Standard non-driving axle with hydraulic power steering. Manual lock-out of axle pivot for stabilization. Optional: Rockwell Standard ratio 16.65:1 driving through planetary with hydraulic power steering. Manual lock-out of axle pivot for stabilization. Rear axle disconnect provided for highway travel.

**SUSPENSION:** Front axle: rigid. Rear axle: pivot mounted.

**STEERING:** Front: Orbitrol power steering. Controlled with a steering wheel. Rear: 3 way switch and solenoid to actuate hydraulic steering cylinders.

*Courtesy of Crane Market*



**TIRES:** Standard, 16.00 x 24 — 16 PR. Tubeless Sure Grip Grader. Optional, 17.5 x 25 — 16 PR. Tubeless Sure Grip Loader.

**CONSOLE EQUIPMENT (STANDARD)** Contains all roading controls instrumentation and crane function controls. Includes: gauges for hydraulic oil temperature, torque converter oil pressure and temperature gauge, hour meter with tachometer, gauge cluster for engine fuel level, oil pressure, water temperature, voltmeter, air pressure with low air warning, 2 way level, rear steer indicator.

**CAB (OPTIONAL):** One man type in center of machine. Full vision cab with safety glass windows, locking doors, electric windshield wiper.

**CAB EQUIPMENT (OPTIONAL):** Hot water heater, electric fan defroster, rear view mirror, west coast rear view mirror, signal horn, deluxe seat, Dial-A-Swing®, fire extinguisher.

**LIGHTS (OPTIONAL):** Headlights, taillights, stop and directional signal lights with emergency flasher, floodlights.

**EQUIPMENT (STANDARD):** Tool box, hook block retainer.

**EQUIPMENT (OPTIONAL):** Front or rear pintle hook, front or rear 15,000# bumper winch, front 30,000# bumper winch, load transporting platform 10,000# capacity, engine hood hinged side panels, engine starting aid, high water low oil warning device, bulldard back up alarm, boom angle indicators, drum turn indicator, anti-block assembly, positive swing lock, fenders, spare tire rack, reduced height boom point.

## ATTACHMENTS



**BOOM (STANDARD):** 36'-9" (11.2 m) two piece consisting of a boom base and one hydraulically extended and retracted section with removable boom point. Four boom point sheaves. 24'-9" (7.5 m) retracted length, 36'-9" (11.2 m) extended length.

**BOOM (OPTIONAL):** 49'-9" (15.2 m) three piece consisting of a boom and two hydraulically extended and retracted sections with removable boom point. Four boom point sheaves. 25'-9" (7.8 m) retracted length, 49'-9" (15.2 m) extended length.

**BOOM (OPTIONAL):** 64'-10" (19.8 m) three piece consisting of a boom base and two hydraulically extended and retracted sections with removable boom point. Four boom point sheaves. 28'-10" (8.8 m) retracted length, 64'-10" (19.8 m) extended length.

**INSERT (OPTIONAL):** 16' (4.9 m) with removable boom point. On 49'-9" (15.2 m) boom, it is manually extended and retracted. 29'-10" (9.1 m) retracted length, 65'-9" (20 m) extended length. On 64'-10" (19.8 m) boom, it is hydraulically extended and retracted. 80'-10" (24.6 m) extended length, 30'-4" (9.2 m) retracted length.

**JIB 15'-0" (4.6 m) (OPTIONAL):** With single point sheave. Storage on boom base section.

**JIB 20'-0" (6.1 m) (OPTIONAL):** With single point sheave. Storage on boom base section. Use with 49'-9" (15.2 m) and 64'-10" (19.8 m) booms.

**HOOK BLOCK (STANDARD):** Three sheave with swivel hook and safety latch.

**HOOK BLOCK (OPTIONAL):** 10 ton single sheave with swivel hook and safety latch.

**HOOK BLOCK (OPTIONAL):** 5 ton weighted hook with swivel.

**VEHICLE WEIGHTS:** Includes 49'-9" boom (forward in travel position), three sheave block (with cable), cab, outriggers, 16:00 x 24 tires, and 4300# CTWT.

	FRONT AXLE	REAR AXLE	G.V.W.
BASIC MACHINE	21500	20400	41900
1 Add for 64'-10" boom	+ 4480	- 1300	+ 3180
2 Add for 16' insert to 49'-9" boom	+ 2412	- 1422	+ 990
3 Add for 16' insert to 64'-10" boom	+ 2446	- 1456	+ 990
4 15' Jib on 49'-9" boom	+ 1975	- 1375	+ 600
5 15' Jib on 64'-10" boom	+ 2130	- 1530	+ 600
6 20' Jib on 49'-9" boom	+ 2555	- 1845	+ 710
7 20' Jib on 64'-10" boom	+ 2800	- 2090	+ 710
8 Auxiliary winch	- 438	+ 1388	+ 950
9 Subtract for 17.5 x 25 tires	- 92	- 92	- 184



**NOTE:** All designs, specifications and components of the equipment described above are subject to change at the manufacturer's sole discretion at any time without advance notice. Data published herein is informational in nature and shall not be construed to warrant suitability of the machine for any particular purpose as performance may vary with the conditions encountered. The only warranty applicable is our standard written warranty for this machine. Manufactured and sold in conformance with U. S. Department of Commerce Commercial Standard CS-90-58.

Address inquiries to:

**Harnischfeger**  
**P&H**  
 milwaukee, wisconsin 53246