



P&H[®] 5150-R

150-ton Crawler Crane

UPPER MACHINERY



POWER PLANT

ENGINE:	STANDARD
Make	Cummins
Model	V-903
Type	Diesel
No. of Cylinders	8
Bore x Stroke, In.	5.50 x 4.75
	cm 14.0 x 12.1
Displacement, In. ³	903
	liters 14.8
Cycles	4
Air Induction	Nat. Aspirated
Cooling	Liquid
Starter	24 V.
Alternator	24 V. -35A.

TRANSMISSION:

Make	Twin Disc
Model	4 CO-1622-1

Type — Torque converter, single stage, stationary housing type with integral drives for propel, control and converter charging pumps.

RATINGS:

Net Hp @ RPM	270 @ 2450
(Flywheel)	
Net HP @ RPM	202 @ 1650
(Converter Out-	(O.P.S. Gov.
put Shaft)	Full Load)
Altitude Range	0-3000
In Ft. (m)	(0-914)
Temp. Range in F.	-20° to 110°
(C.)	(-28° to 43°)

Input disconnect clutch — multiple plate, wet type, engaged by oil pressure and actuated by electrical switch — never needs adjustment.

Converter charging hydraulic system — Gear type pump charges converter. Oil to water heater exchanger cools fluid. Filtered with full flow pressure filters with replaceable paper elements. Reservoir holds 25 gals. (95 L).

Hydraulic pumps — all driven from heavy duty pump drive. Propel pumps — two Sunstrand series 24 variable displacement piston type pumps, one for each crawler drive. Torque Converter Charging Pump — gear type, Control System Pump — Vickers axial piston type.

Governor control — Twist grip (standard) — Twist grip and foot pedal (optional).

Fuel tank capacity — 120 gallons (454 liters).

Lube oil capacity — Engine - 20 quarts (19 liters). Filter - 19.6 quarts (18.5 liters).

Coolant capacity — Engine - 7 gallons (26.5 liters). Radiator 3.5 gallons (13.2 liters). Vertical tube and fin type, rubber mounted, thermostat controlled.

Air cleaner — Farr - dry type.

Lube oil filter — Remote mounted - replaceable. Full flow and by-pass.

Fuel filter — Dual spin-on - replaceable.

Starting aid — Required below 14°F (-10°C.) ether-measured shot (optional).

Batteries — (2) - 12 volt H.D. rates, series connected. Disconnect switch prevents start-up while servicing. 215 amp. hours @ 20 hour rate.

FRAME: All welded frame and power box constructed of heavy steel plate. Shaft mountings are line bored to insure precise alignment of all parts. Gearing (except swing) is sealed and splash lubricated. Involute splined shafts are used, turn in roller and ball bearings. Gears and roller chains are hardened, sealed in oil bath for long, trouble free operation.

MACHINERY CAB: All steel construction, access panels on both sides and roof. Removable panels for main drum brake access. No lines pass through cab. Low profile, recessed center roof. Deck covered with non-skid floor plate. Deck machinery is in compact arrangement, easy to maintain and repair.

GANTRY: Two position telescopic gantry. Power raise and lowering — 8 sheaves — 17.25" (43.8 cm) P.D.

OPERATORS CAB: Totally enclosed from weather. Full vision cab has safety glass throughout, sliding front window and door. Operators four-way adjustable seat is standard. Cab heater — defroster, signal horn, windshield wiper, drum turn indicator, boom angle indicator and boom hoist kick-out limit switch available.



CONTROLS:

In front of operator are foot pedals for front and rear drum brakes, hand levers for swing control, front and rear drum controls, boom hoist control, swing brake and engine speed control and propel drives. At operators left are console mounted switches for front and rear drum pawls and brake locks, master switch, crawler brake, parking brake, engine clutch, engine start, starting aid and lights. Included are gauges for upper hydraulic oil pressure, fuel level, engine water temperature, oil pressure, ammeter, hourmeter, drum brake pressure, converter oil charging pressure and temperature, engine clutch hand lever, trouble light receptacle, cigarette lighter and drum turn indicators (optional).

ELECTRICAL SYSTEM: All wiring color coded for easy servicing. Master circuit breaker in cab, individual fused branch circuits with fuse failure indicator light. Also included are interlocks for neutral start (engine disengaged before starting) and propel (prevents propelling with brakes locked-on).

HYDRAULIC SYSTEM: Full flow hydraulic system for infinitely variable pressure to front and rear drums, boom hoist brakes and clutches. System at 1500 psi (105 kg/cm²) line pressure. Response is instant, positive and smooth to operators light touch. Pumped fluid is filtered, stored in accumulator under pressure, cooled in 15 gallon (57 liter) reservoir and filtered again before returning to pump.

Propel (crawler drive) — closed loop system. Maximum pressure rating 5500 PSI (387 kg/cm²). Oil to air heat exchanger cools fluid. Filtered with full flow pressure filters with replaceable paper elements. Reservoir holds 57 gal. (216.6 L).



BOOM HOIST

Independent planetary gear type with external ratchets and automatic brakes provides for raising and lowering boom under power and locking boom.

Specifications



TWIN DRUMS: 15.75" (40 cm) P.D. x 8.25" (20.9 cm) long. Total wire rope length per drum for 3/4" (19 mm) rope is 244.5 ft. (74.5 m) storage or 193.5 ft. (58.9 m) working length.

HOISTING:	Line Speed	F/min M/min	73 22.25
	Line Pull	lb. Kg.	43,550 19,754.3
LOWERING:	Line Speed	F/min M/min	47.8 14.6



CLUTCH SIZE: 23" (58.4 cm) dia. x 5" (12.7 cm) wide, band type, internal expanding.



BRAKE SIZE: (2) - 30" (76.2 cm) dia. x 4" (10.2 cm) wide, band type, external contracting "full wrap" design.



LOAD DRUMS:

FRONT AND REAR: 21" (53.3 cm) P.D. x 17" long (43.2 cm). Smooth drum. Total wire rope length of 1" (25 mm) dia. rope is 1059 ft. (321.9 m) storage or 908.9 ft. (276.3 m) working length.

HOISTING: Front crane & clam-shell	Line Speed	F/min M/min	188 57.3
	Line Pull	lb. Kg.	30,980 14053
Rear dragline, crane clamshell	Line Speed	F/min M/min	187.5 57.2
	Line Pull	lb. Kg.	31,802 14425
LOWERING: Front crane, clamshell	Line Speed	F/min M/min	313.3 95.5
	Line Speed	F/min M/min	312.3 95.2



CLUTCH: (Front and rear) — 35" (88.9 cm) dia. x 4" (10.2 cm) wide, band type, internal expanding.



BRAKE: (Front and rear) — 40" (101.6 cm) dia. x 5" (12.7 cm) wide, band type, external contracting. Hydraulic set, with additional spring set hydraulically released brake lock and external ratchet for locking drum.



POWER CONTROLLED LOAD LOWERING: Rapid, safe lowering through reverse planetary gearing in drum, transmission and engine. External spider brake on drum engages planetary gears. (Optional for either drum).



THIRD DRUM:

Mounts on extension of front shaft to left of main drum. Does not interfere with any machine function or front end attachment. (Optional).

DRUM: 16.25" (41.3 cm) P.D. x 6" (15.2 cm) long. Total wire rope length of 34" (19 mm) rope is 184.5 ft. (56.1 m) storage or 142.5 ft. (43.3 m) working length.

Line Speed	F/min M/min	145 44.2
Line Pull	lb. Kg.	8,000 3,628.8



CLUTCH: 23" (58.4 cm) dia. x 5" (12.7 cm) wide, band type, internal expanding.



BRAKE: 25.5" (64.8 cm) dia. x 4" (10.2 cm) wide, band type, external contracting "full wrap" design.



SWING:

SWING GEAR: 139 internal cut teeth, 65.67" (166.8 cm) P.D. fitted with labyrinth seals.

Swing Speed	3.93 rpm
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CLUTCH: (2) — 26" (66 cm) dia. x 6.25" (15.9 cm) wide, electro-magnetic "Magnetorque®". Powered by engine driven alternator.



BRAKE: 18" (45.7 cm) dia. x 2.5" (6.4 cm) wide, band type, external contracting. Hydraulic release, spring set.

FASTENING TO LOWER: P&H Triple row roller bearing 80.7" (205 cm) O.D. roller bearing Swing Circle® with swing gear integral.

COUNTERWEIGHT: Three-piece Bustle mounted, cast construction; quickly installed or removed with boom and gantry. 94,000 lbs. (42,138 Kg).

LOWER MACHINERY

CAR BODY: Car body of Alloy Steel welded construction with axle housing integral. Crawler frames shear mounted and bolted to end of extendible axles.



CRAWLER

Crawler side frames are extendible and retractable by means of hydraulic cylinders to convert from wide track operating condition to a narrower overall width for travel and transportation. Two banks of valves, one on each end of the car body, control the extension cylinders of each side frame. A valve in the upper diverts fluid from the upper control system to the extension cylinders. Jacks are not needed to extend or retract crawlers. Crawlers designed with quick disconnect feature for individual removal as a unit from axles. Crawler belt tension maintained by hydraulic jack force on track adjusting bearing block. 13 lower rollers in each frame, with double rolling surfaces, 15" (38.1 cm) dia.

CRAWLER DRIVE: Independent hydraulic propel drive built into each crawler side frame. Each drive consists of a Sunstrand Series 24 piston type motor propelling a driving tumbler (wheel) through a planetary gear box. The tumbler exerts force against lugs cast into crawler shoes propelling machine. Self-contained system eliminates gear and chain drives in carbody and shaft extensions when axles are extended.

CRAWLER BRAKES: Spring set, hydraulically released parking brakes are built into each propel drive.

STEERING MECHANISM: The hydraulic propel system provides both skid steering (driving one track only) and counter-rotating steering (driving each track in opposite direction).

CRAWLER SHOES: Total number both sides 116. 36" (91.4 cm) flat cast (std.). 48" (121.9 cm) flat cast.....opt. extra

TRAVEL SPEED: 1.3 mph (2.08 km/h) approximate.

Maximum grade recommended for travel is 20%.

ATTACHMENTS



STANDARD BOOM:

Two-piece 60' (18.3 m) long, open throat lattice type tubular boom consisting of a 30' (9.1 m) long tapered base section and a 30' long have a 80" x 75" (203.2 cm x 190.5 cm) cross section and complete with suspension cable assemblies. Sections are fabricated from seamless tubular T-1 steel and reinforced with contour-cut tubular lacing for strongest welded joints. Other tip sections are optional. Other tip sections are optional.



HEAVY DUTY TIP: 30' (9.1 m) long section has 6 offset boom point sheaves 24" (60.9 cm) P.D., with roller bearings. Required for lifts in excess of 53,700 lbs. (24,358 kg). Boom extendible to 250' (76.2 m).

LIGHT DUTY TIP: 30' (9.1 m) long section has 1 offset boom point sheave 24" (60.9 cm) P.D. with roller bearings. Required for long boom work from 260' to 280' (79.3 m to 85.3 m) for lifts up to 53,700 lbs. (24,358 kg). Optional.

BOOM INSERT SECTION: 10' (3.1 m) Boom insert with suspension cable assemblies, pin connections..... optional
20' (6.1 m) insert..... optional
40' (12.2 m) insert..... optional

JIB: 20' (6.1 m) long jib, open throat lattice type, two equal tapered sections, pin connected, having a 29" (73.7 cm) square cross section and with single 24" (60.9 cm) P.D. jib point sheave, compression strut and guy cables assemblies. Extendible to 60' (18.3 m). Extends reach to 310' (94.5 m). For lifts not exceeding 30,000 lb. (13,608 kg). Optional.

JIB INSERT SECTIONS:

10' (3.1 m) jib insert with cable assemblies optional
20' (6.1 m) jib insert..... optional

MAST: Required for all booms. Mast is 32 ft. (9.8 m) long and is attached to boom foot during operation. Fitted with six 17.25" (43.8 cm) P.D. sheaves on mast peak pin for boom hoist reeving. (optional)

Optional equipment available to convert mast to a lifting boom for rigging boom and assembling crawler frames.

MID-POINT SUSPENSION: Required when boom length is 210 ft. (63.8 m) or longer. (Optional).

BOOM HOIST REEVING: 14 parts line, 3/4" (19 mm) wire rope.

BOOM BACKSTOPS: Spring loaded, shock absorber type. (Optional).

WIRE ROPE GUIDE ROLLERS: Use as required to eliminate wire rope interference. (Optional).

SHEAVE AND DRUM TO WIRE ROPE RATIOS: Pitch Diameter.

	Boom Hoist	Front Crane	Front Clamshell	Front Dragline
Sheave to Wire Rope	23 to 1	24 to 1	24 to 1	-----
Drum to Wire Rope	21 to 1	21 to 1	21 to 1	-----
	Third	Rear Crane	Rear Clamshell	Rear Dragline
Sheave to Wire Rope	-----	24 to 1	24 to 1	24 to 1
Drum to Wire Rope	21.66 to 1	21 to 1	21 to 1	21 to 1

HOOK BLOCKS:

Block Capacity	Number Sheaves	Cable Size	Weight	Cable to Sheave Ratio	Part No.
25,000 lb. (11340 kg)	--- Weighted Hook	---	594 lb. (269.1 kg)	-----	8U7-D509 (Jibs-Opt.)
79,900 lb. (36,243 kg)	1	1"	790 lb. (357.9 kg)	18.375 to 1	8U7-D30 (Standard)
181,400 lb. (82,283 kg)	3	1"	2530 lb. (1146.1 kg)	21.5 to 1	8U7-D64 (Optional)
230,000 lb. (104,328 kg)	4	1"	2938 lb. (1330.9 kg)	21.5 to 1	8U7-D65 (Optional)
253,000 lb. (115,124 kg)	5	1"	3250 lb. (1472.3 kg)	21.5 to 1	8U7-D66 (Optional)
300,000 lb. (136,080 kg)	6	1"	3350 lb. (1519.6 kg)	21.5 to 1	8U7-D57 (Optional)

WEIGHTS:

Upper machine — 51,507 lb. (23,363.6 kg)

Mast (with upper spreader) — 1995 lb. (904.9)

Gantry — 4057 lb. (1840.3 kg)

Counterweight — 94,000 lb. (42,138 kg)

Boom:

Base — 3100 lb. (1406.2 kg)

Inserts — 10 ft. — 845 lb. (383.3 kg)

20 ft. — 1390 lb. (630.5 kg)

40 ft. — 2480 lb. (1125 kg)

Tip — 2963 lb. (1344 kg)

Jib:

Base — 375 lb. (170.1 kg)

Inserts — 10 ft. — 220 lb. (99.8 kg)

20 ft. — 370 lb. (167.8 kg)

Tip — 510 lb. (231.4 kg)

Lower machine with std. shoes — 102,085 lb. (46,308 kg)

Carbody with axles — 22,148 lb. (10,046.3 kg)

Crawler side frame (each) —

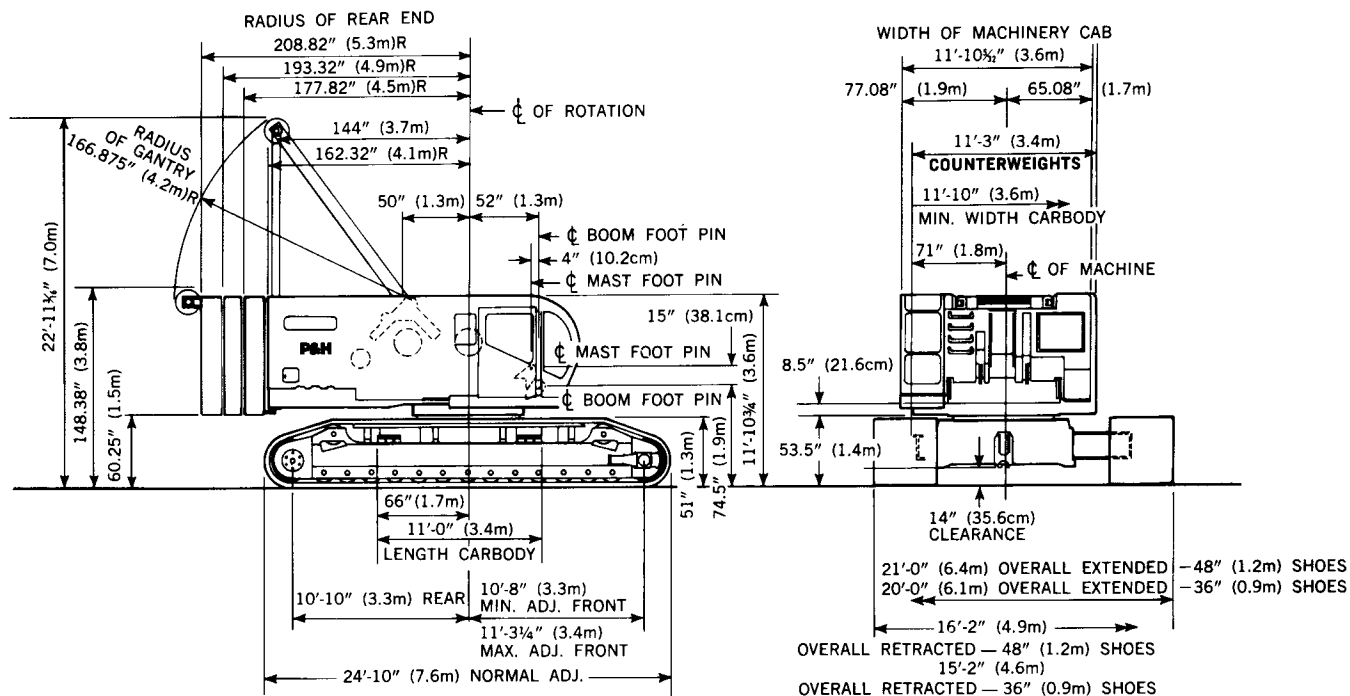
w/36" flat cast shoes — 39,968.5 lb. (18,129.7 kg)

w/48" flat cast shoes — 44,028.5 lb. (19,971.3 kg)

AVERAGE GROUND BEARING PRESSURES:

Machine w/36" flat cast shoes — 16.5 psi (1.16 kg/cm²)

w/48" flat cast shoes — 12.8 psi (0.89 kg/cm²)



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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.

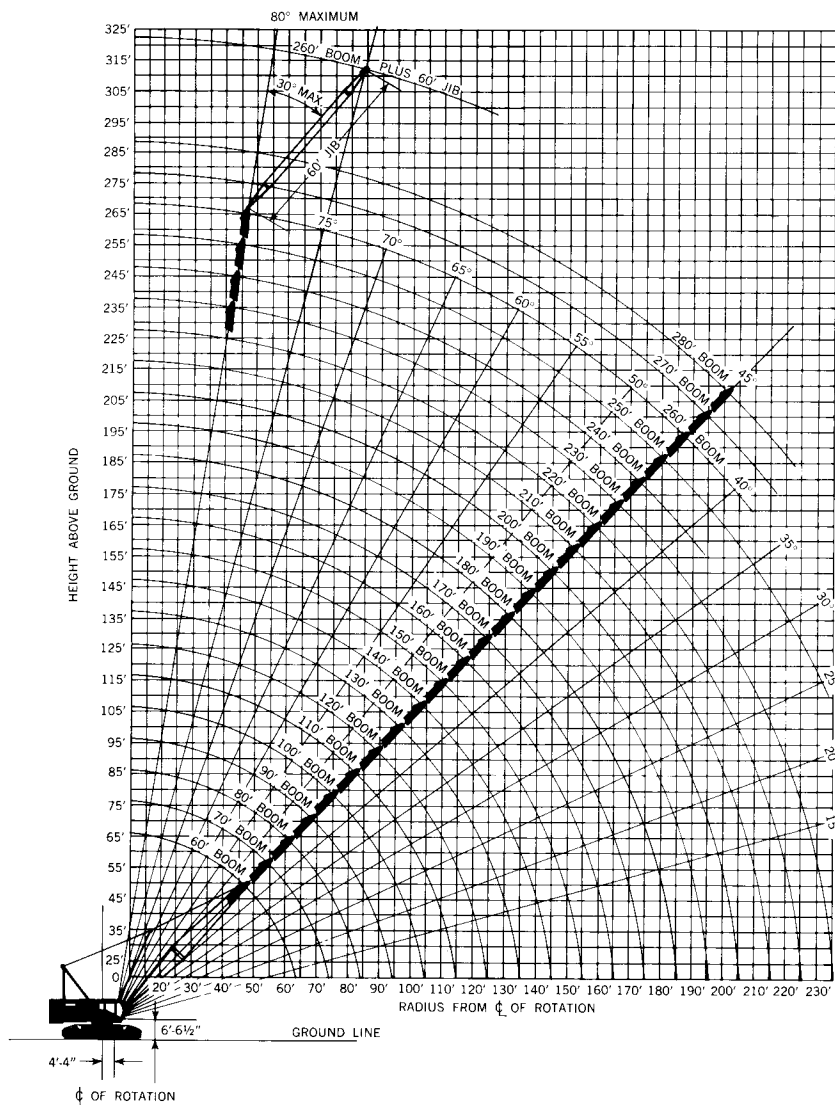
Harnischfeger
P&H
 milwaukee, wisconsin. 53201

Address inquiries to:



P&H[®] 5150-R

150-ton Crawler Crane 260' Boom plus 60' Jib 280' boom



Your versatile P & H 5150-R adapts readily to your special operating needs. This brochure contains these crane rating charts:

Heavy and Light Duty Tapered Tip Boom:

- 1 • 94,000 lbs. counterweight
 - Crawlers extended
 - 60 to 280 foot booms
- 2 • 94,000' lbs. counterweight
 - Crawlers retracted
 - 60 to 250 foot booms

Jib Ratings

Standard
80" wide x 75" deep
Boom

crane **lifting capacities**
working ranges



PCSA CLASS 17—855

1 rated crane loads in pounds — main boom (80" w. x 75 d.) in.

OPER. RAD. FT.	60 FT. BOOM	70 FT. BOOM	80 FT. BOOM	90 FT. BOOM	100 FT. BOOM	110 FT. BOOM	120 FT. BOOM															
								ANGLE	BOOM PT. EL.	RATING LBS.	ANGLE	BOOM PT. EL.	RATING LBS.	ANGLE	BOOM PT. EL.	RATING LBS.	ANGLE	BOOM PT. EL.	RATING LBS.			
17	78	66.5	300000																			
20	75	65.9	248500	78	76.1	239500	79	86.3	223800													
25	70	64.4	169900	73	74.9	169700	75	85.2	169600	77	95.5	169300	78	105.7	169200							
30	65	62.4	128500	69	73.2	128300	72	83.8	128200	74	94.3	127900	76	104.6	127800	77	114.9	127500	79	125.1	127300	
35	60	59.8	102900	65	71.1	102700	68	82.0	102600	70	92.7	102300	73	103.2	102200	74	113.6	101900	76	124.0	101600	
40	54	56.6	85500	60	68.5	85300	64	79.8	85100	67	90.8	84800	69	101.5	84700	71	112.1	84400	73	122.6	84100	
45	48	52.5	73000	55	65.3	72800	60	77.1	72600	64	88.5	72300	66	99.5	72200	69	110.3	71900	71	121.0	71600	
50	41	47.3	63500	50	61.4	63200	56	74.0	63000	60	85.8	62700	63	97.2	62600	66	108.2	62300	68	119.1	62000	
60	23	30.7	50000	38	50.9	49800	46	65.8	49600	52	79.1	49300	57	91.4	49200	60	103.1	48900	63	114.5	48700	
70				21	32.6	40700	35	54.1	40500	44	70.0	40200	49	83.8	40100	54	96.6	39800	57	108.7	39600	
80							19	34.3	34000	33	57.1	33700	41	73.8	33600	47	88.2	33300	51	101.5	33000	
90										18	35.9	28700	31	60.0	28700	39	77.4	28300	45	92.4	28100	
100													19	40.5	25300	31	64.4	25000	38	82.2	24700	
110																18	42.1	21800	30	67.1	21600	
120																			17	43.7	19000	
130																						
140																						
150																						
160																						
170	WARNING:																					
180	WHEN BOOM IS EQUIPPED WITH JIB, MAIN HOOK																					
190	RATING MUST BE REDUCED TO COMPENSATE																					
200	FOR JIB ATTACHMENT WEIGHT.																					
210	JIB LENGTH	20 FT.	30 FT.	40 FT.	50 FT.	60 FT.																
220	DEDUCT—LBS.	1,500	1,500	2,000	2,500	3,000																

32R222

2 rated crane loads in pounds — main boom (80" w. x 75" d.) in.

OPER.	60 FT. BOOM		70 FT. BOOM		80 FT. BOOM		90 FT. BOOM		100 FT. BOOM		110 FT. BOOM		120 FT. BOOM		130 FT. BOOM		140 FT. BOOM	
RAD. FT.	ANGLE	RATING LBS.	ANGLE	RATING LBS.	ANGLE	RATING LBS.	ANGLE	RATING LBS.	ANGLE	RATING LBS.	ANGLE	RATING LBS.	ANGLE	RATING LBS.	ANGLE	RATING LBS.	ANGLE	RATING LBS.
17	78	220000																
20	75	170300	78	170100	79	170000												
25	70	123100	73	122800	75	122700	77	122400	78	122200								
30	65	95800	69	95600	72	95400	74	95100	76	95000	77	94700	78	94400	79	94100		
35	60	78200	65	77900	68	77700	70	77400	73	77300	74	77000	76	76800	77	76400	78	76200
40	54	65700	60	65400	64	65300	67	64900	69	64800	71	64500	73	64200	74	63900	76	63700
45	48	56500	55	56200	60	56000	64	55700	66	55600	69	55200	71	54900	72	54600	73	54400
50	41	49500	50	49200	56	49000	60	48700	63	48600	66	48300	68	48000	70	47700	71	47500
60	23	39200	38	38900	46	38700	52	38400	57	38300	60	38000	63	37700	65	37400	67	37200
70			21	31900	35	31700	44	31300	49	31300	54	30900	57	30700	60	30300	62	30100
80					22	27100	34	26800	42	26700	48	26400	52	26200	55	25800	58	25700
90							20	22800	33	22700	40	22400	45	22100	50	21800	53	21600
100									19	19600	31	19200	38	19000	44	18600	48	18500
110											18	16700	30	16500	37	16100	42	16000
120													17	14400	28	14000	35	13900
130															17	12300	27	12200
140																	16	10700
150																		
160																		
170																		
180																		
190																		

32R222



with 94,000 lbs. counterweight

.360° work areas with crawlers fully extended and with mast

RATED CRANE LOADS IN POUNDS MAIN BOOM (80W. x 75D.) IN 360° WORK AREA WITH CRAWLERS FULLY EXTENDED – WITH MAST																								
OPER. RAD. FT.	ANGLE	130 FT. BOOM		ANGLE	140 FT. BOOM		ANGLE	150 FT. BOOM		ANGLE	160 FT. BOOM		ANGLE	170 FT. BOOM		ANGLE	180 FT. BOOM		ANGLE	190 FT. BOOM		ANGLE	200 FT. BOOM	
		BOOM PT.EL.	RATING LBS.		BOOM PT.EL.	RATING LBS.		BOOM PT.EL.	RATING LBS.		BOOM PT.EL.	RATING LBS.		BOOM PT.EL.	RATING LBS.		BOOM PT.EL.	RATING LBS.		BOOM PT.EL.	RATING LBS.		BOOM PT.EL.	RATING LBS.
17		RATINGS ABOVE HEAVY LINE ARE LIMITED BY FACTORS OTHER THAN STABILITY.																						
20																								
25																								
30	79	135.3	127000																					
35	77	134.3	101400	78	144.5	101100	78	154.7	100900	79	164.9	100600												
40	74	133.0	83800	76	143.3	83600	77	153.6	83300	77	163.9	83000	78	174.1	82700	79	184.3	82400						
45	72	131.5	71300	73	142.0	71100	75	152.4	70800	76	162.7	70500	76	173.0	70200	77	183.3	70000	78	193.5	69400	78	203.7	69200
50	70	129.8	61700	71	140.4	61500	73	150.9	61200	74	161.3	60900	75	171.7	60600	76	182.1	60300	76	192.4	59800	77	202.6	59600
60	65	125.7	48400	67	136.6	48200	68	147.4	47900	70	158.1	47600	71	168.7	47300	72	179.2	47000	73	189.7	46500	74	200.1	46300
70	60	120.5	39200	62	131.9	39000	64	143.0	38700	66	154.1	38400	68	164.9	38100	69	175.7	37800	70	186.4	37300	71	197.0	37100
80	55	114.0	32600	58	126.1	32500	60	137.8	32100	62	149.2	31800	64	160.4	31500	65	171.5	31300	67	182.4	30700	68	193.3	30500
90	49	106.2	27700	53	119.1	27500	56	132.1	27000	58	144.0	27000	60	155.7	27000	62	167.1	26900	64	178.3	26500	65	189.4	26300
100	44	97.5	24400	48	111.5	24200	51	124.7	23900	54	137.3	23600	56	149.5	23300	59	161.4	23100	60	173.0	22500	62	184.4	22300
110	37	85.5	21200	42	101.4	21100	46	115.8	20700	49	129.4	20400	52	142.3	20100	55	154.8	19900	57	166.9	19400	59	178.7	19100
120	28	69.6	18600	35	88.7	18500	40	105.1	18100	44	120.0	17900	48	133.9	17500	51	147.1	17300	53	159.8	16800	55	172.2	16500
130	17	45.1	16500	27	72.1	16300	34	91.8	16000	39	108.7	15700	43	124.0	15300	46	138.2	15100	49	151.8	14600	52	164.7	14400
140				16	46.5	14500	26	74.4	14200	33	94.8	13900	38	112.2	13500	42	127.9	13300	45	142.4	12800	48	156.3	12600
150							16	47.9	12600	26	76.7	12300	32	97.7	12000	37	115.5	11800	41	131.6	11200	44	146.5	11000
160										15	49.2	11000	25	78.9	10600	31	100.5	10400	36	118.8	9850	40	135.2	9650
170													15	50.5	9450	24	81.1	9250	30	103.2	8700	35	121.9	8450
180																14	51.7	8200	23	83.1	7650	29	105.8	7400
190																			14	52.9	6750	23	85.1	6500
200																						13	54.1	5700
210																								
220																								

MAX. RATING OF LIGHT DUTY SINGLE SHEAVE TIP IS 53,700 POUNDS. WHEN USING LIGHT DUTY TIP SHOWN, BUT NOT TO EXCEED 53,700 POUNDS!

.360° work areas with crawlers fully retracted and with mast

OPER. RAD. FT.	150 FT. BOOM		160 FT. BOOM		170 FT. BOOM		180 FT. BOOM		190 FT. BOOM		200 FT. BOOM		210 FT. BOOM		220 FT. BOOM		230 FT. BOOM		240 FT. BOOM	
	ANGLE	RATING LBS.	ANGLE	RATING LBS.	ANGLE	RATING LBS.	ANGLE	RATING LBS.	ANGLE	RATING LBS.	ANGLE	RATING LBS.	ANGLE	RATING LBS.	ANGLE	RATING LBS.	ANGLE	RATING LBS.	ANGLE	RATING LBS.
17									MAX. BOOM TO ERECT OVER SIDE IS 220 FT. OR 190 FT. BOOM + 60 FT. JIB.											
20																				
25																				
30															BOOMS 220 FEET LONG AND LONGER REQUIRE SUSPENSION (CENTER HITCH). ATTACH MID FEET UP BOOM FROM BOOM FOOT PIN.					
35	78	75900	79	75600																
40	77	63300	77	63100	78	62700	79	62500												
45	75	54000	76	53700	76	53700	77	53500	78	52900	78	52700	79	52200						
50	73	47100	74	46900	75	46500	76	46300	76	45800	77	45500	78	45000	78	45100	79	44600	79	44400
60	68	36800	70	36500	71	36200	72	35900	73	35400	74	35200	75	34700	76	34700	76	34200	77	34100
70	64	29800	66	29500	68	29100	69	28900	70	28300	71	28100	72	27600	73	27600	74	26800	75	26600
80	60	25300	62	25000	64	24700	66	24500	67	23900	68	23700	69	23200	70	23300	71	22800	72	22600
90	56	21300	58	21000	60	20700	62	20500	64	19900	65	19700	66	19200	68	19200	69	18700	70	18500
100	51	18100	54	17900	56	17500	59	17300	60	16800	62	16500	63	16000	65	16100	66	15600	67	15400
110	46	15600	49	15300	52	15000	55	14800	57	14200	59	14000	60	13500	62	13500	63	13000	64	12800
120	40	13500	44	13200	48	12900	51	12700	53	12100	55	11900	57	11400	59	11400	60	10900	62	10700
130	34	11800	39	11500	43	11100	46	10900	49	10400	52	10200	54	9650	56	9700	57	9200	59	8900
140	26	10300	33	10000	38	9650	42	9450	45	8900	48	8700	50	8150	52	8200	54	7700	56	7400
150	16	9050	26	8800	32	8400	37	8200	41	7650	44	7400	47	6900	49	6950	51	6450	53	6100
160			15	7700	25	7300	31	7100	36	6550	40	6300	43	5800	46	5850	48	5350	50	5000
170					15	6350	24	6150	30	5600	35	5350	39	4850	42	4900	44	4350	47	4000
180							14	5300	23	4750	29	4500	34	4000	38	4050	41	3500	43	3100
190									14	4000	23	3800	29	3250	33	3300	37	2750		NOT



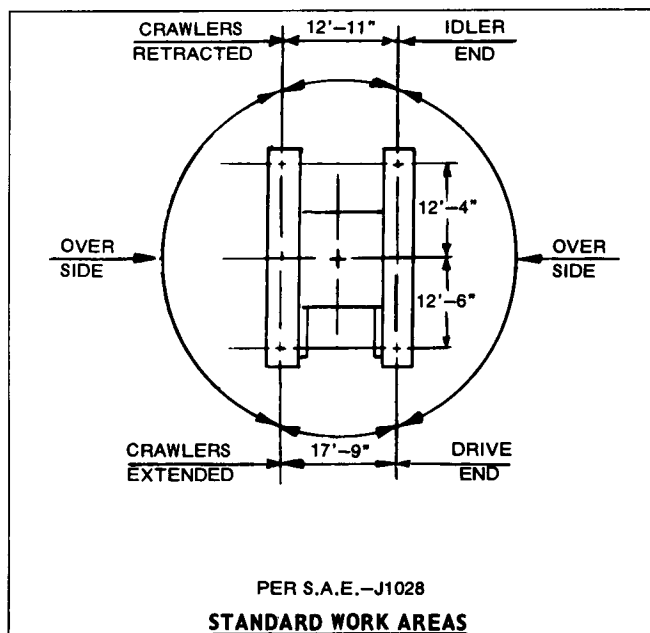
1 MAST			210 FT. BOOM		220 FT. BOOM		230 FT. BOOM		240 FT. BOOM		250 FT. BOOM		260 FT. BOOM		270 FT. BOOM		280 FT. BOOM		OPER.							
RATING	ANGLE		BOOM	RATING	ANGLE	BOOM	RATING	ANGLE	BOOM	RATING	ANGLE	BOOM	RATING	ANGLE	BOOM	RATING	ANGLE	BOOM	RATING	RAD.						
LBS.			PT. EL.	LBS.		PT. EL.	LBS.		PT. EL.	LBS.		PT. EL.	LBS.		PT. EL.	LBS.		PT. EL.	LBS.	FT.						
					MAX. BOOM LENGTH WITH 6 SHEAVE HEAVY DUTY TIP IS 250 FT.																17					
					BOOMS 220 FEET LONG AND LONGER REQUIRE MID-POINT SUSPENSION (CENTER HITCH). ATTACH MID-POINT 109 FEET UP BOOM FROM BOOM FOOT PIN.																	20				
																				25						
																				30						
																				35						
																				40						
																				45						
69200	79	213.9	65600																	50						
59600	78	212.9	59100	78	223.1	59100	79	233.3	58600	79	243.5	53700								60						
46300	75	210.5	45800	76	220.8	45800	76	231.1	45300	77	241.4	45100	77	251.6	44600	78	261.7	43200	78	271.9	38800	79	282.1	35100	80	
37100	72	207.5	36600	73	218.0	36600	74	228.4	36100	74	238.8	35900	75	249.2	35400	75	259.4	34600	76	269.7	34100	77	280.0	33600	70	
30500	69	204.0	30000	70	214.7	30000	71	225.3	29500	72	235.8	29300	73	246.3	28800	73	256.6	30000	74	267.0	29500	74	277.4	29200	80	
26300	66	200.3	25800	68	211.2	25900	69	222.0	25400	70	232.7	25100	70	243.3	24700	71	253.7	25900	72	264.2	25400	72	274.7	25200	90	
22300	63	195.7	21800	65	206.8	21900	66	217.8	21400	67	228.7	21200	68	239.5	20700	69	250.0	21900	70	260.7	21400	70	271.4	21200	100	
19100	60	190.3	18600	62	201.7	18700	63	213.0	18200	64	224.2	18000	65	235.2	17500	66	245.9	18700	67	256.8	18200	68	267.6	18000	110	
16500	57	184.2	16000	59	196.0	16100	60	207.6	15600	62	219.0	15400	63	230.4	14900	64	241.2	16100	65	252.3	15600	66	263.3	15300	120	
14400	54	177.3	13900	56	189.6	13900	57	201.6	13400	59	213.4	13200	60	224.9	12700	61	236.1	13900	63	247.4	13400	64	258.6	13200	130	
12600	50	169.5	12000	52	182.3	12100	54	194.8	11600	56	207.0	11300	58	218.9	10900	59	230.3	12100	60	241.9	11600	61	253.4	11300	140	
11000	47	160.6	10500	49	174.1	10500	51	187.2	10000	53	199.8	9800	55	212.2	9300	56	224.0	10500	58	235.9	10000	59	247.7	9750	150	
9650	43	150.5	9100	46	164.9	9150	48	178.6	8650	50	191.9	8400	52	204.8	7900	54	216.9	9150	55	229.3	8600	57	241.3	8400	160	
8450	39	138.7	7900	42	154.3	8000	44	169.0	7450	47	183.0	7250	49	196.5	6750	51	209.2	7950	52	221.9	7450	54	234.4	7200	170	
7400	34	125.0	6900	38	142.2	6950	41	158.1	6450	43	173.0	6200	46	187.3	5700	48	200.5	6900	50	213.8	6400	51	226.8	6150	180	
6500	29	108.4	5950	33	128.0	6000	37	145.5	5500	40	161.7	5250	43	176.9	4750	45	191.0	5950	47	204.9	5450	49	218.4	5200	190	
5700	22	87.1	5150	28	110.9	5200	32	130.9	4700	36	148.8	4450	39	165.3	3950	42	180.3	5150	44	195.0	4600	46	209.2	4350	200	
	13	55.2	4450	22	89.0	4450	27	113.3	3950	32	133.8	3700	35	152.0	3200	38	168.3	4400	41	184.0	3850	43	199.0	3600	210	
				13	56.4	3800	21	90.9	3300	27	115.7	3000	31	136.0	2550	34	154.6	3750	37	171.7	3200	40	187.7	2950	220	
																									NOT APPROVED	230

LIGHT DUTY SINGLE SHEAVE TIP ONLY

TIP ON BOOM LENGTHS 250 FEET OR LESS ADD 1,200 TO RATINGS

WARNING: Welding or other repair to tubular steel booms may weaken the structure. See your P & H dealer for authorized boom repair service. Unauthorized repair will void all warranties.

250 FT. BOOM		250 FT. BOOM		OPER.
ANGLE	RATING	ANGLE	RATING	RAD.
LBS.		LBS.		FT.
				17
				20
				25
R REQUIRE MID-POINT				30
ATTACH MID-POINT 109				35
PIN.				40
				45
79	44300			50
77	34000	77	33500	60
75	26800	75	26700	70
72	22500	73	22100	80
70	18500	70	18000	90
67	15300	68	14900	100
64	12800	65	12300	110
62	10700	63	10200	120
59	8950	60	8450	130
56	7450	58	6950	140
53	6200	55	5700	150
50	5100	52	4600	160
47	4100	49	3600	170
43	3250			180
NOT APPROVED				190





jib ratings, drum data, reeving and boom make-up

Jib Crane Ratings are based on strength of materials. When main boom load rating at operating radius is less than maximum jib ratings, stability governs and the lower value of main boom load rating must be used. Jibs are intended to increase lifting height — not operating radius — therefore, maximum jib operating radius is limited to maximum rated radius of boom length on which jib is mounted.

Locate jib backstay anchor at base end of first insert below boom tip section.

MAXIMUM JIB (29"W x 29"D) RATINGS FOR LIFTING CRANE SERVICE—LB.					
ONE INCH DIA. P&H TYPE 25 WIRE ROPE					
* USE TWO PARTS OF LINE FOR LOADS ABOVE 27400 LBS.					
OFFSET ANGLE JIB TO BOOM UNDER FULL LOAD	20 FT. JIB	30 FT. JIB	40 FT. JIB	50 FT. JIB	60 FT. JIB
10°	30,000*	20,000	16,000	13,000	10,700
20°	25,000	18,000	14,500	11,600	9,800
30° MAX.	23,000	17,000	13,500	11,000	9,300

BOOM AND JIB ERECTION CRAWLERS EXTENDED			
OVER SIDE		OVER IDLER END	
HEAVY DUTY TIP	LIGHT DUTY TIP	HEAVY DUTY TIP	LIGHT DUTY TIP
250 FT. BOOM	270 FT. BOOM	250 FT. BOOM	280 FT. BOOM
220 + 60 JIB	230 + 60 JIB	250 + 60 JIB	260 + 60 JIB

* BOOM MAKE-UP ARRANGEMENT CHART			
BOOM LENGTH	BOOM MAKE-UP	BOOM LENGTH	BOOM MAKE-UP
70	BASE-A-TIP	180	BASE-C-C-C-TIP
80	BASE-B-TIP	190	BASE-C-C-C-A-TIP
90	BASE-A-B-TIP	200	BASE-C-C-C-B-TIP
100	BASE-C-TIP	210	BASE-C-C-C-A-B-TIP
110	BASE-A-C-TIP	220	BASE-C-C-C-C-TIP
120	BASE-B-C-TIP	230	BASE-C-C-C-A-C-TIP
130	BASE-A-B-C-TIP	240	BASE-C-C-C-B-C-TIP
140	BASE-C-C-TIP	250	BASE-C-C-C-A-B-C-TIP
150	BASE-A-C-C-TIP	260	BASE-C-C-C-C-C-TIP
160	BASE-B-C-C-TIP	270	BASE-C-C-C-A-C-C-TIP
170	BASE-A-B-C-C-TIP	280	BASE-C-C-C-B-C-C-TIP

BASE LENGTH = 30 FT.
TIP LENGTH = 30 FT.
INSERT LENGTHS:
A = 10 FT.
B = 20 FT.
C = 40 FT.

* ONE 40 FOOT
INSERT MAY BE
REPLACED WITH
TWO 20 FOOT
INSERTS WITHOUT
REDUCING LOAD
RATINGS

+ MID-POINT SUSPENSION		
BOOM LENGTH FT.	ADJUST 2100N300 ROPE ASSEMBLY ¢ TO ¢ PIN-FT.-IN.	* DEFLECTION RANGE (MIN.& MAX.) INCHES
220	84' - 8"	11.0 TO 13.0
230	84' - 8"	15.0 TO 17.0
240	84' - 8"	17.0 TO 19.0
250	84' - 8"	19.0 TO 21.0
260	84' - 8"	20.0 TO 22.0
270	84' - 8"	20.0 TO 23.0
280	84' - 8"	21.0 TO 24.0
* WHEN ERECTING BOOM ADJUST MID-POINT TURN BUCKELS TO LIMIT MID-POINT DEFLECTION WITHIN SPECIFIED MID-POINT DEFLECTION RANGE.		
+ MID-POINT SUSPENSION CONNECTION ON BOOM TO BOOM FOOT PIN IS 109 FT.		

RECOMMENDED WIRE ROPE LENGTHS FOR DRUMS - FT.					
LIGHT DUTY TIP			HEAVY DUTY TIP		
BOOM LENGTH FT.	MAIN HOIST DRUM	JIB HOIST DRUM	MAIN HOIST DRUM	JIB HOIST DRUM	BOOM LENGTH FT.
60	206	270	839	270	60
70	236	300	822	300	70
80	266	330	932	330	80
90	296	360	762	360	90
100	326	390	842	390	100
110	356	420	696	420	110
120	386	450	756	450	120
130	416	480	816	480	130
140	446	510	733	510	140
150	476	540	783	540	150
160	506	570	833	570	160
170	536	600	883	600	170
180	566	630	933	630	180
190	596	660	790	660	190
200	626	690	830	690	200
210	656	720	870	720	210
220	686	750	910	750	220
230	716	780	950	780	230
240	746	810	746	810	240
250	776	840	776	840	250
260	806	870			
270	836				
280	866				

32R222

MAIN HOIST OR JIB HOIST DRUM RATED LOADS FOR ONE INCH DIA. P&H TYPE 25 WIRE ROPE												
NUMBER OF PARTS OF MAIN HOIST REEVING	1	2	3	4	5	6	7	8	9	10	11	12
MAXIMUM LOAD - LBS.	27400	53700	79900	105800	131400	156500	181400	205800	230000	253800	277200	3000000



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:



operating instructions printed below and throughout this brochure are for your safety and will contribute to the long life of your P&H 5150-(R)

Operating radius is the horizontal distance from center-line of rotation to a vertical line through the center of gravity of the load.

Ratings shown are only for combination of P & H manufactured upper, boom, jib, counterweights, and crawler. Boom backstops are required for all boom lengths. Boom inserts must be arranged as shown in the Boom Make-Up Chart. Standard boom hoist reeving is 14 part line. Gantry must be in raised position for all operating conditions. When boom is equipped with jib, main hook ratings must be reduced by 1500 lbs. for 20 ft. or 30 ft. jib; 2000 lbs. for 40 ft. jib; 2500 lbs. for 50 ft. jib and 3000 lbs. for 60 ft. jib. Refer to diagrams for applicable working area.

Ratings shown are based on freely suspended loads and make no allowance for such factors as wind effect on lifted loads, ground conditions, out-of-level, operating speeds or any other condition that could be detrimental to the safe operation of this equipment. The operator, therefore, has the responsibility to judge the existing conditions and reduce lifted loads and operating speeds accordingly. Ratings do not exceed 75% of tipping load as determined by SAE J 765. Deduct weight of hook block(s), slings, cement bucket, and all other load handling accessories from main boom or jib rating shown. Ratings shown are based on 94,000 lbs. counterweight.

Mast may be used to assemble boom and crawler frames — see 32Q637 for load ratings.

WARNING: When assembling boom inserts, do not cantilever more than 60 ft. of inserts past point of pendant rope attachment to boom. Relocate point of attachment out on boom as additional inserts are added.

WARNING: The wind effect on the lifted load can cause sufficient side load to overstress boom or jib structure. When suspended load will not remain in line with boom, derate chart 25%. We recommend stopping operation when wind is above 30 m.p.h. and tying off or lowering boom when wind is above 50 m.p.h. When continued operation under windy conditions is necessary, consult factor for special derated load rating chart.

P & H type 25 wire rope: 6 x 25 I.W.R.C., preformed extra improved plow steel wire rope (filler wire).

WARNING: When one inch diameter P & H type 11 wire rope (18 x 7 non-rotating preformed plow steel wire rope fiber core) is used for jib line on rear drum maximum lifted load including hook must not exceed 15,320 lbs. Do not use dead-end swivels with non-rotating wire rope.

Boom hoist wire rope is $\frac{3}{4}$ " dia. type AAAA super tensile 6 x 25 FW I.W.R.C. with a breaking strength of 69,200 lbs. Refer to "Boom Hoist Reeving" plate 32Q616 for more information.

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

This P & H Model 5150-R meets the requirements of ANSI B30.5-1968. Boom Structure has been tested per SAE J987. Machine stability has been tested per SAE J765.

WARNING

Using this equipment in excess of rated loads, in areas of chart not rated, or with disregard of instructions will result in unsafe operating conditions and is a violation of the U.S. Dept. of Labor Safety and Health Regulations for Construction.



P&H[®] 5150-R

150-ton Crawler Crane wire rope chart

FOR 80" x 75" BOOM

FOR	BOOM LENGTH FT.	WIRE ROPE		PARTS OF LINE — CRANE*											
		TYPE NO.	DIA. IN.	1	2	3	4	5	6	7	8	9	10	11	12
				FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.
BOOM HOIST LINE	ALL	25	3/4	840' — 14 PARTS OF LINE											
BOOM GUYLINES	ALL		1-1/2	REFER TO PARTS BOOK											
HOIST LINE (FRONT)	60	25	1	145	210	280	345	425	485	550	620	690	755	825	895
	70	25	1	165	240	320	400	475	555	635	710	790	870		
	80	25	1	185	270	360	445	535	625	710	795	880			
	90	25	1	205	300	400	495	590	690	780					
	100	25	1	225	330	440	545	650	760	865					
	110	25	1	245	360	480	595	715	830						
	120	25	1	260	390	520	645	775							
	130	25	1	285	420	555	695	830							
	140	25	1	305	450	595	745								
	150	25	1	320	475	635	790								
	160	25	1	340	510	675	840								
	170	25	1	360	540	715									
	180	25	1	380	565	750									
	190	25	1	400	595	795									
	200	25	1	420	630	835									
	210	25	1	440	655										
	220	25	1	460	685										
	230	25	1	480	715										
	240	25	1	500	745										
	250	25	1	520	775										
	260	25	1	540	805										
	270	25	1	560	830										
	280	25	1	580											

*EXTRA ROPE LENGTH REQUIRED FOR
OPERATING BELOW GROUND LEVEL

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CONTINUED

P & H type 4 wire rope: 6 x 25 with filler
wire, preformed improved plow
steel wire rope, 7 x 7 I.W.R.C.P & H type 25 wire rope: 6 x 25 F I.W.R.C.,
preformed extra improved plow
steel wire rope, (filler wire).



FOR	BOOM LENGTH FT.	WIRE ROPE							
		TYPE NO.	DIA. IN.	20' JIB		30' JIB	40' JIB	50' JIB	60' JIB
				1	2	1	1	1	1
JIB HOIST LINE (REAR)	60	25	1	180	265	200	215	235	255
	70	25	1	205	300	220	240	260	280
	80	25	1	225	330	240	260	280	300
	90	25	1	240	360	260	280	300	320
	100	25	1	260	390	280	300	320	340
	110	25	1	280	420	300	320	340	360
	120	25	1	300	450	320	340	360	380
	130	25	1	320	480	340	360	380	400
	140	25	1	340	510	360	380	400	420
	150	25	1	360	535	380	400	420	440
	160	25	1	380	565	400	420	440	460
	170	25	1	400	595	420	440	460	480
	180	25	1	420	625	440	460	480	500
	190	25	1	440	655	460	480	500	520
	200	25	1	460	685	480	500	520	540
	210	25	1	480	715	500	515	535	555
	220	25	1	500	745	520	540	555	575
	230	25	1	520	770	535	555	575	595
	240	25	1	540	805	560	575	595	615
	250	25	1	560	835	580	600	615	635
	260	25	1	580	865	600	620	640	660
GUYLINE JIB TO STRUT	ALL	4	7/8	REFER TO PARTS BOOK					
GUYLINE STRUT TO BOOM	ALL	4	7/8	REFER TO PARTS BOOK					

2105N179-B



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