

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 53204



P&H® 790-TC

90-ton Truck Crane 200' Boom 180' Boom 60' Jib

Heavy Duty
Standard Boom
62" wide x 62" deep

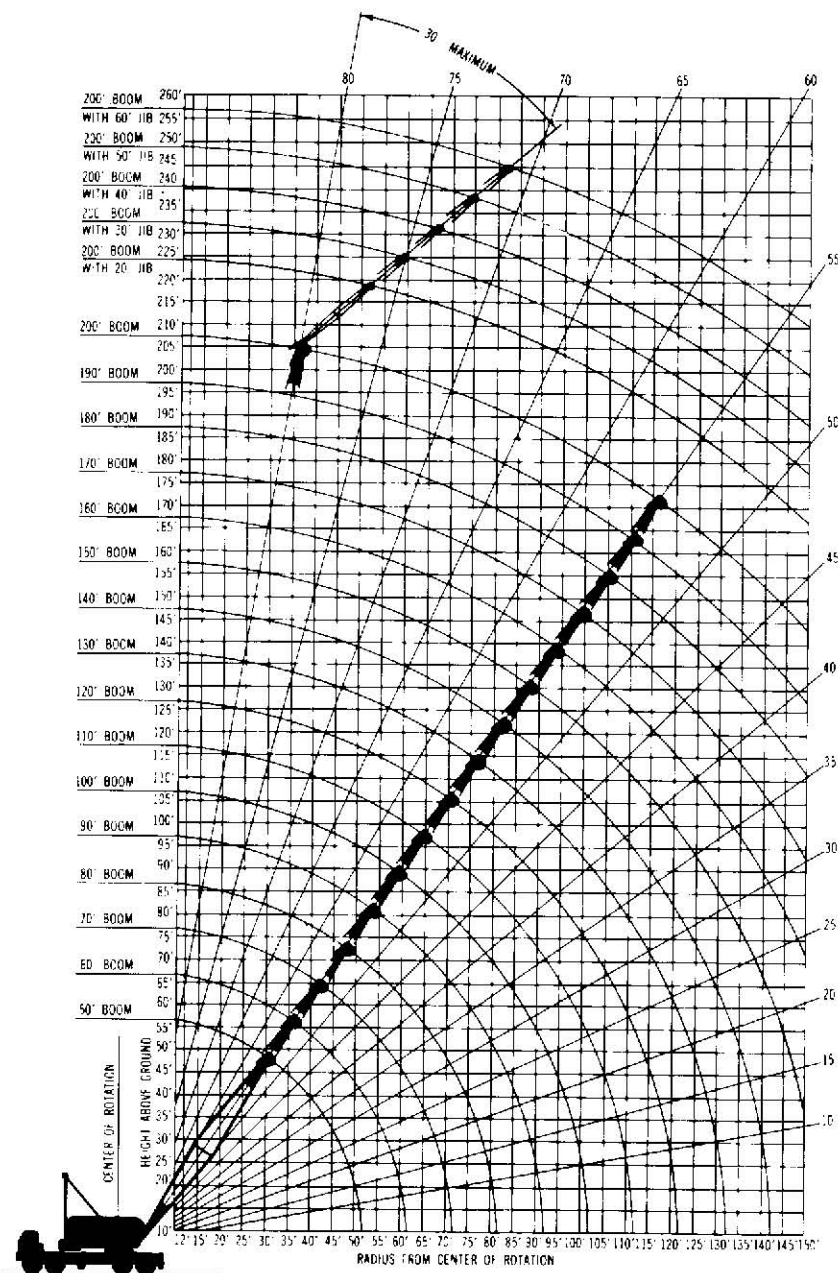
This Brochure
contains charts for:

Standard Ratings

- On Outriggers
- On Rubber

Over the Rear Ratings

- On Outriggers for Heavy Rigging
- On Rubber "Walking" Ratings for Tilt-up Work

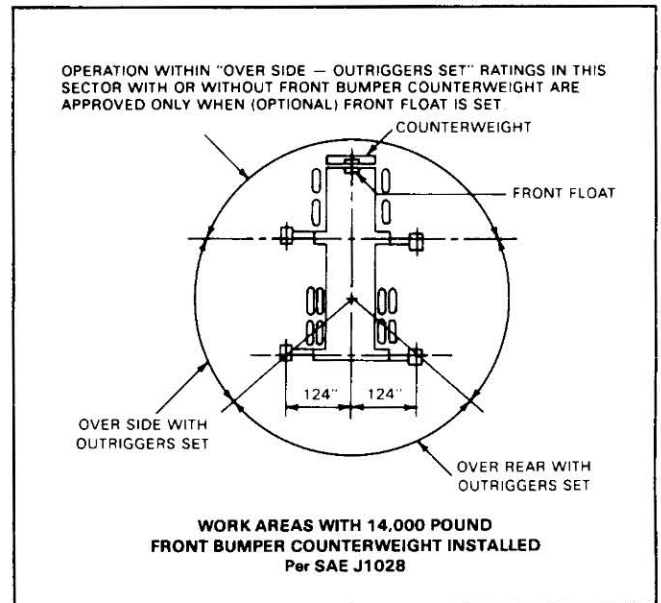
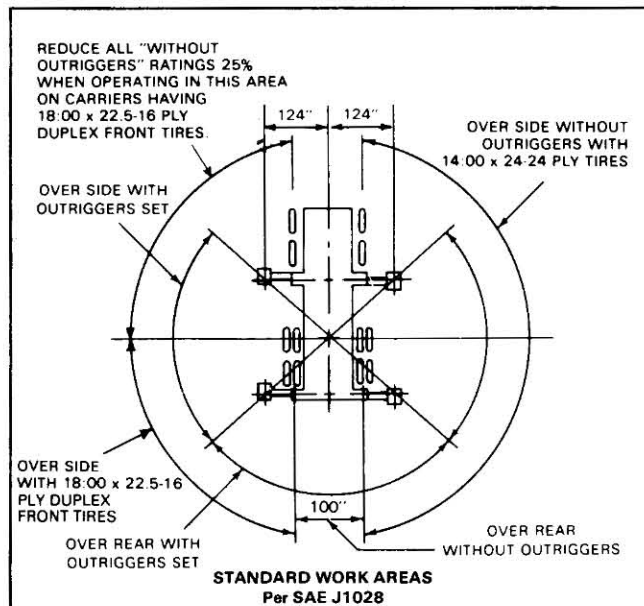


crane lifting capacities
working ranges



P&H 790-TC

**THIS P&H MODEL
790-TC MEETS
THE REQUIREMENTS OF
ANSI B30.5-1968.
BOOM STRUCTURE
HAS BEEN TESTED PER
SAE J987.
MACHINE STABILITY
HAS BEEN TESTED
PER SAE J765.**



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Harnischfeger
P&H
MILWAUKEE, WISCONSIN 53201

Address inquiries to:

P&H MODEL 790 T.C. — 90 TON TRUCK CRANE (CLASS 12-462)* WITH 26,000 LBS. COUNTERWEIGHT

RATED CRANE LOADS IN POUNDS — MAIN BOOM (62" W. x 62" D.) IN OVER SIDE AND OVER REAR WORK AREAS WITH OUTRIGGERS FULLY EXTENDED AND SET.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Oper. Rad. Ft.	Angle	50 Ft. Boom		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		150 Ft. Boom		160 Ft. Boom		170 Ft. Boom		180 Ft. Boom		190 Ft. Boom		200 Ft. Boom		Oper. Rad. Ft.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
		Boom Pt. El.	Rating Lbs.	Boom Pt. El.	Rating Lbs.	Angle	Boom Pt. El.	Rating Lbs.	Angle	Boom Pt. El.	Rating Lbs.	Angle	Boom Pt. El.	Rating Lbs.	Angle	Boom Pt. El.	Rating Lbs.	Angle	Boom Pt. El.	Rating Lbs.	Angle	Boom Pt. El.	Rating Lbs.	Angle	Boom Pt. El.	Rating Lbs.	Angle	Boom Pt. El.	Rating Lbs.	Angle	Boom Pt. El.	Rating Lbs.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
12	82	57.8	180,000																															12																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
15	78	57.3	152,500																																15																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
20	72	56.1	125,000	75	66.4	124,600	78	76.7	121,000																										20																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
25	66	54.2	97,800	70	64.9	97,780	73	75.4	97,760	75	85.8	97,740	77	96.1	97,720	78	106.3	90,000																		25																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
30	60	51.6	71,800	65	62.9	71,780	69	73.7	71,760	72	84.4	71,740	74	94.8	71,720	75	105.2	71,700	77	115.5	71,600	78	125.7	71,550	79	135.9	54,000										30																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
35	53	48.3	56,400	60	60.3	56,360	64	71.6	56,330	68	82.5	56,300	70	93.2	56,200	72	103.8	56,000	74	114.2	55,900	75	124.5	55,850	77	134.8	54,000	78	145.1	54,000	79	155.3	54,000							35																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
40	45	43.8	46,200	54	57.0	46,150	60	69.0	46,100	64	80.3	46,000	67	91.3	45,900	69	102.0	45,700	71	112.7	45,500	73	123.1	45,450	74	133.6	45,400	75	143.9	45,200	76	154.2	45,000	77	164.5	44,800	78	174.7	36,000	79	184.9	35,900	79	195.1	35,700							40																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
45	36	37.8	38,900	48	52.9	38,850	55	65.7	38,800	60	77.6	38,600	64	89.0	38,500	66	100.0	38,300	69	110.8	38,100	70	121.5	38,050	72	132.1	38,000	73	142.5	37,800	74	152.9	37,600	75	163.3	37,400	76	173.6	36,000	77	183.8	35,500	78	194.1	35,000	78	204.3	34,000							45																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
50	24	28.9	33,500	41	47.7	33,450	50	61.8	33,400	56	74.4	33,200	60	86.3	33,000	63	97.7	32,800	66	108.8	32,600	68	119.6	32,550	70	130.3	32,500	71	140.9	32,300	72	151.5	32,000	74	161.9	31,800	75	172.3	31,750	75	182.6	31,500	76	192.9	31,300	77	203.2	31,000							50																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
60				22	30.9	25,900	38	51.2	25,700	46	66.2	25,500	52	79.5	25,300	56	91.8	25,100	60	103.6	24,900	63	115.0	24,850	65	126.2	24,800	67	137.1	24,500	68	147.9	24,300	70	158.6	24,100	71	169.2	24,000	72	179.8	23,800	73	190.2	23,500	74	200.6	23,200							60																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
70							20	32.7	20,700	35	54.4	20,400	43	70.3	20,200	49	84.2	20,000	54	97.0	19,800	57	109.2	19,750	60	120.9	19,600	62	132.4	19,400	64	143.6	19,200	66	154.6	18,900	67	165.5	18,800	69	176.2	18,600	70	186.9	18,300	71	197.5	18,000							70																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
80										19	34.3	16,900	33	55.4	16,600	41	74.2	16,300	47	88.6	16,100	51	101.9	16,050	55	114.5	16,000	58	126.5	15,700	60	138.3	15,200	62	149.7	15,100	64	160.9	15,100	65	172.0	14,900	67	182.9	14,600	68	193.8	14,300							80																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
90	WARNING:													18	35.9	14,000	31	60.3	13,700	39	77.8	13,400	45	92.8	13,350	49	106.6	13,300	52	119.5	13,000	55	131.9	12,700	58	143.9	12,500	60	155.6	12,400	62	167.0	12,100	63	178.3	11,800	65	189.4	11,600							90																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
100	When boom is equipped with jib, main hook rating must be reduced to compensate for jib attachment weight.																17	37.4	11,600	30	63.0	11,300	37	81.2	11,250	43	96.8	11,100	47	111.0	10,900	51	124.3	10,600	53	137.0	10,400	56	149.3	10,300	58	161.2	10,000	60	172.9	9,700	62	184.4	9,400							100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
110																									16	38.8	9,700	28	65.5	9,650	36	84.5	9,450	41	100.6	9,200	45	115.3	8,900	49	128.9	8,650	52	142.0	8,550	54	159.5	8,300	56	166.7	7,950	58	178.6	7,700							110																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
120	Jib Length	20 Ft.	30 Ft.	40 Ft.	50 Ft.	60 Ft.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								

RATED CRANE LOADS IN POUNDS — MAIN BOOM — WITHOUT OUTRIGGERS — TIRES AT 100 P.S.I.																														
Oper. Rad. Ft.	50 Ft. Boom			60 Ft. Boom			70 Ft. Boom			80 Ft. Boom			90 Ft. Boom			100 Ft. Boom			110 Ft. Boom			120 Ft. Boom			130 Ft. Boom			Oper. Rad. Ft.		
	Angle	Over Side	Over Rear	Angle	Over Side	Over Rear	Angle	Over Side	Over Rear	Angle	Over Side	Over Rear	Angle	Over Side	Over Rear	Angle	Over Side	Over Rear	Angle	Over Side	Over Rear	Angle	Over Side	Over Rear						
12	82		85,000																	RATINGS SHOWN DO NOT EXCEED MANUFACTURER'S APPROVED TIRE CAPACITY.					12					
15	78		70,500																											15
20	72		53,600	75	42,200	52,600	78	42,100	52,400																					20
25	66	34,900	39,700	70	34,700	39,500	73	34,600	39,300	75	33,800	39,100	77	33,000	38,800	78	32,700	38,500								25				
30	60	26,700	31,600	65	26,500	31,400	69	26,300	31,200	72	26,100	31,000	74	25,900	30,700	75	25,700	30,400	77	25,400	30,100	78	25,200	29,900		30				
35	53	21,400	25,800	60	21,200	25,600	64	21,000	25,400	68	20,800	25,200	70	20,600	25,000	72	20,400	24,800	74	20,200	24,500	75	19,900	24,300	77	19,700	24,000	35		
40	45	18,100	21,800	54	17,900	21,600	60	17,700	21,400	64	17,500	21,200	67	17,300	21,000	69	17,100	20,800	71	16,900	20,500	73	16,600	20,300	74	16,400	20,000	40		
45	36	15,600	18,700	48	15,400	18,500	55	15,200	18,300	60	15,000	18,100	64	14,800	17,900	66	14,600	17,700	69	14,400	17,500	70	14,100	17,200	72	13,900	17,000	45		
50	24	13,700	16,100	41	13,500	15,900	50	13,300	15,700	56	13,100	15,500	60	12,900	15,300	63	12,700	15,100	66	12,500	14,900	68	12,200	14,600	70	12,000	14,400	50		
60				22	10,200	12,400	38	10,000	12,200	46	9,700	11,900	52	9,500	11,700	56	9,200	11,400	60	9,000	11,200	63	8,700	10,900	63	8,500	10,700	60		
70							20	7,800	9,700	35	7,500	9,500	43	7,300	9,200	49	7,000	9,000	54	6,800	8,700	57	6,500	8,500	60	6,300	8,200	70		
80										19	5,900	7,600	33	5,700	7,400	41	5,400	7,100	47	5,200	6,900	51	4,900	6,600	55	4,700	6,400	80		
90													18	4,500	5,900	31	4,200	5,700	39	4,000	5,400	45	3,700	5,200	49	3,500	4,900	90		
100																17	3,300	4,600	30	3,000	4,300	37	2,800	4,100	43	2,500	3,800	100		

This P&H Model meets the requirements of ANSI B30.5-1968. Boom structure has been tested per SAE J987. Machine stability has been tested per SAE J765. *Power Crane and Shovel Association Classification.

Operating radius is the horizontal distance from centerline 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, and counterweights mounted on a P&H crawler, carrier and outriggers. Boom backstops are required for all boom lengths. Load ratings are based upon boom assembled as specified on insert arrangement chart.

Ratings shown are based on freely suspended loads and make no allowance for such factors as wind effect on lifted load, 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. Deduct weight of hook, block(s), slings, cement bucket and all other load handling accessories from main boom or jib rating shown.

Clamshell ratings shown also apply to magnets, grapple, and all other material handling buckets except dragline which is rated separately. For clamshell, dragline, and magnet operations, the weight of bucket or magnet is considered a part of the load and the total weight of bucket plus contents or magnet plus load must not exceed the corresponding rating shown.

Standard boom hoist reeving is 10 part line. Gantry must be in raised position for all "with outriggers" ratings. Gantry may be in lowered position only for "without outriggers" ratings. Optional auxiliary rear floats may be used in place of 14,000 lbs. front bumper counterweight for erecting maximum boom length. Ratings do not exceed 85% of tipping load as determined by SAE J765. Ratings are based on counterweight of 26,000 lbs. Refer to diagrams for applicable working area.

Low gear operation may be required when hoist or digging drum is operated on 6th or 7th layer of cable.

P&H type 4 wire rope: 6x25 with filler wire, preformed improved wire rope, 7x7 I.W.R.C.

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

Locate jib backstay as follows: 50 ft. to 90 ft. booms at base of boom tip section; 100 ft. to 200 ft. booms at top end of second insert below boom tip section.

Maximum approved travel speed with 14,000 pound front bumper counterweight installed is 5 M.P.H. All tires must be evenly inflated to 100 P.S.I. Boom must be positioned over the rear carrier. Maximum approved boom length for travel is 120 ft. or 100 ft. boom plus 30 ft. jib. Gantry must be in raised position to travel with boom attached.

WARNING: READ FOR SAFETY

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 factory for special derated load rating chart.

When operating truck crane "without outriggers" loads lifted over rear and swung over side, will increase in radius due to tire deflection. This increase in radius must be compensated for by raising boom, or machine may tip over.

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

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

Optional auxiliary rear floats may be used in place of 14,000 lbs. front bumper counterweight for erecting maximum boom length as specified in chart.

MAXIMUM BOOM LENGTH TO LIFT OFF GROUND						
Boom Over	Without Front Bumper Counterweight				With 14,000 Lbs. Front Bumper Counterweight and Outriggers Set	
	With Outriggers Set		Without Outriggers Set			
	Boom Only	Boom & Jib	Boom Only	Boom & Jib	Boom Only	Boom & Jib
Side	190	180 + 20	130	110 + 30	190	180 + 20
Rear	200	180 + 40	130	120 + 30	200	200 + 60

32R100-C

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.

Maximum Jib (24" W. x 22" D.) Ratings for Lifting Cranes
Service — Lbs.

Three-Quarter Inch Dia. P&H Type 4 Wire Rope

* Use Two Parts of Line for Loads Above 14,500 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°	22,000*	20,000*	16,000*	12,000	8,000
20°	16,000*	14,500	12,000	9,500	7,000
30° Max.	13,000	11,000	8,500	7,000	6,000

Maximum Jib Ratings for Bucket Service — Lbs.

* Use Three-Quarter Inch Dia. P&H Type 25 Wire Rope
for Loads Above 14,500 Lbs.

10°	16,500*	16,000*	12,800	9,600	6,400
20°	12,800	11,600	9,600	7,600	5,600
30° Max.	10,400	8,800	6,800	5,600	4,800

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.

MAIN HOIST DRUM RATED LOADS FOR SEVEN-EIGHTS INCH DIA. P&H TYPE 4 WIRE ROPE										
Number of Parts of Main Hoist Reeving	1	2	3	4	5	6	7	8	9	10
Maximum Load — Lbs.	18,000	36,000	54,000	72,000	90,000	108,000	126,000	144,000	162,000	180,000
Low gear-operation may be required when front or rear drum is operated on 6th or 7th layer of cable.										

P&H MODEL 790 T.C. — 90 TON TRUCK CRANE (CLASS 12-539)* WITH 26,000 LBS. COUNTERWEIGHT AND 8,000 LBS. FRONT BUMPER COUNTERWEIGHT

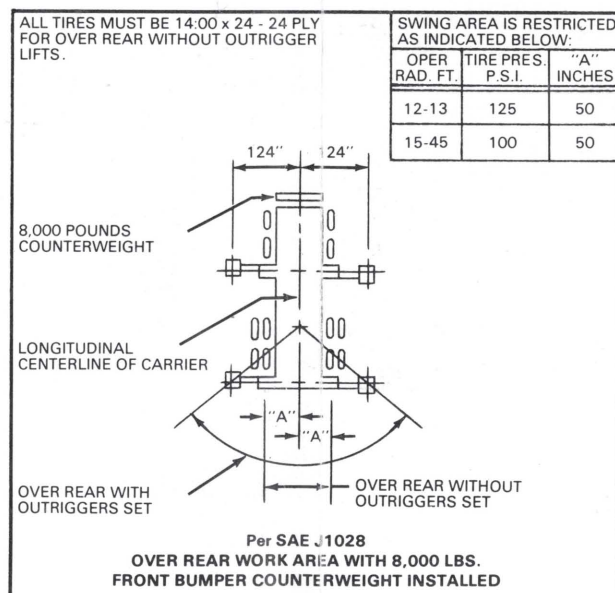
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RATED CRANE LOADS — OVER REAR WITHOUT OUTRIGGERS													
Oper. Rad. Ft.	50 Ft. Boom		60 Ft. Boom		70 Ft. Boom		80 Ft. Boom		90 Ft. Boom		100 Ft. Boom		Oper. Rad. Ft.
	∠°	Ratings Lbs.	∠°	Ratings Lbs.	∠°	Ratings Lbs.	∠°	Ratings Lbs.	∠°	Ratings Lbs.	∠°	Ratings Lbs.	
12	82	96,700											12
13	81	88,000											13
15	78	74,400											15
17	76	64,300	78	63,900									17
20	72	53,300	75	52,900	78	52,500	79	52,100					20
25	66	41,200	70	40,800	73	40,400	75	40,000	77	39,700	78	39,300	25
30	60	33,300	65	33,000	69	32,600	72	32,200	74	31,900	75	31,500	30
35	53	27,800	60	27,500	64	27,100	68	26,800	70	26,400	72	26,000	35
40	45	23,800	54	23,400	60	23,100	64	22,700	67	22,300	69	22,000	40
45	36	20,600	48	20,300	55	19,900	60	19,600	63	19,200	66	18,900	45

MAXIMUM JIB (24"W. x 22"D.) RATINGS FOR LIFTING CRANE SERVICE — LBS.					
Three-quarter inch dia. P&H Type 4 Wire Rope					
*Use two parts of line for loads above 14,500 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°	22,000*	20,000*	16,000*	12,000	8,000
20°	16,000*	14,500	12,000	9,500	7,000
30° Max.	13,000	11,000	8,500	7,000	6,000
MAXIMUM JIB RATINGS FOR BUCKET SERVICE — LBS.					
*Use three-quarter inch dia. P&H Type 25 Wire Rope for loads above 14,500 Lbs.					
10°	16,500*	16,000*	12,800	9,600	6,400
20°	12,800	11,600	9,600	7,600	5,600
30° Max.	10,400	8,800	6,800	5,600	4,800

NOTE: For loads of 88,000 lbs. or less, maximum swing area is 50 inches from longitudinal centerline of carrier at all operating radii with 125 P.S.I. tire pressure. For loads of 74,400 lbs. or less, maximum swing area is 50 inches from longitudinal centerline of carrier at all operating radii with 100 P.S.I. tire pressure.

MAIN HOIST DRUM RATED LOADS FOR SEVEN-EIGHTHS INCH DIA. P&H TYPE 4 WIRE ROPE										
Number of Parts of Main Hoist Reeving	1	2	3	4	5	6	7	8	9	10
Maximum Load - Lbs.	18,000	36,000	54,000	72,000	90,000	108,000	126,000	144,000	162,000	180,000



WARNING: READ FOR SAFETY

When three-quarter inch diameter P&H Type II Wire Rope (18 x 7 Non-Rotating Preformed Improved Plow Steel Wire Rope Fiber Core) is used for jib line, maximum lifted load including hook must not exceed 8,700 lbs. Do not use dead-end swivels on Non-Rotating Wire Rope.

Ratings shown are based on tire loadings and machine stability and do not exceed 85% of tipping load as determined by SAE J765. Ratings shown are based on machine counterweight of 26,000 lbs. and front bumper counterweight of 8,000 lbs. Standard boom hoist reeving is 10 part line. Gantry must be in raised position for all operating conditions. Refer to diagram for applicable restricted work area.

Low gear operation may be required when hoist or digging drum is operated on 6th or 7th layer of cable.

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)

Machine must be on a firm level, supporting surface. All tires must be 14:00 x 24 — 24 ply inflated to: see chart. Load must be restrained from swinging during travel. Maximum approved travel speed: with lifted load is 1.5 M.P.H. Remove front bumper counterweight for travel speeds above 5 M.P.H. unless equipped with boom folding kit. Maximum approved tire pressure for highway travel is 100 P.S.I.

With boom folding kit, a maximum length of 110 ft. can be folded — 45 ft. Under 65 ft. a 100 ft. boom can be folded — 45 ft. Under 55 ft. "Travel" approved with gantry in the first raised position only and 8,000 lbs. front bumper counterweight.

Locate jib backstay anchor as follows: 50 ft. to 90 ft. boom — at base of boom tip section; 100 ft. to 180 ft. boom — at top of second insert below boom tip section.

Maximum boom length on which a jib can be mounted is 180 ft. Maximum boom and jib length to lift off ground, over side, is 160 ft. plus 60 ft. Any combination greater than 160 ft. plus 60 ft. must be lifted over rear.

RECOMMENDED WIRE ROPE LENGTH FOR DRUMS — FT.

Boom Length Ft.	Main Hoist Drum	Jib Hoist Drum	Boom Length Ft.	Main Hoist Drum	Jib Hoist Drum
50	620	305	130	555	545
60	535	335	140	595	575
70	615	365	150	635	605
80	610	395	160	675	635
90	680	425	170	540	665
100	645	455	180	570	695
110	590	485	190	600	—
120	640	515	200	630	—

Boom Length Ft.	INSERT ARRANGEMENT* For 62" Wide x 62" Deep Boom Only
90	BASE — A — C — TIP
100	BASE — C — B — TIP
110	BASE — A — C — B — TIP
120	BASE — D — B — TIP
130	BASE — C — D — TIP
140	BASE — A — C — D — TIP
150	BASE — B — C — D — TIP
160	BASE — A — B — C — D — TIP
170	BASE — B — D — D — TIP
180	BASE — C — D — D — TIP
190	BASE — D — A — C — D — TIP
200	BASE — B — C — D — D — TIP

BASE SECTION IS 25 FT.; TIP SECTION IS 25 FT.
 INSERTS: A = 10 FT.; B = 20 FT.; C = 30 FT.; D = 50 FT.

*ONE SPECIFIED INSERT MAY BE REPLACED BY TWO SHORTER INSERTS WITHOUT REDUCING RATINGS

32R65-C