

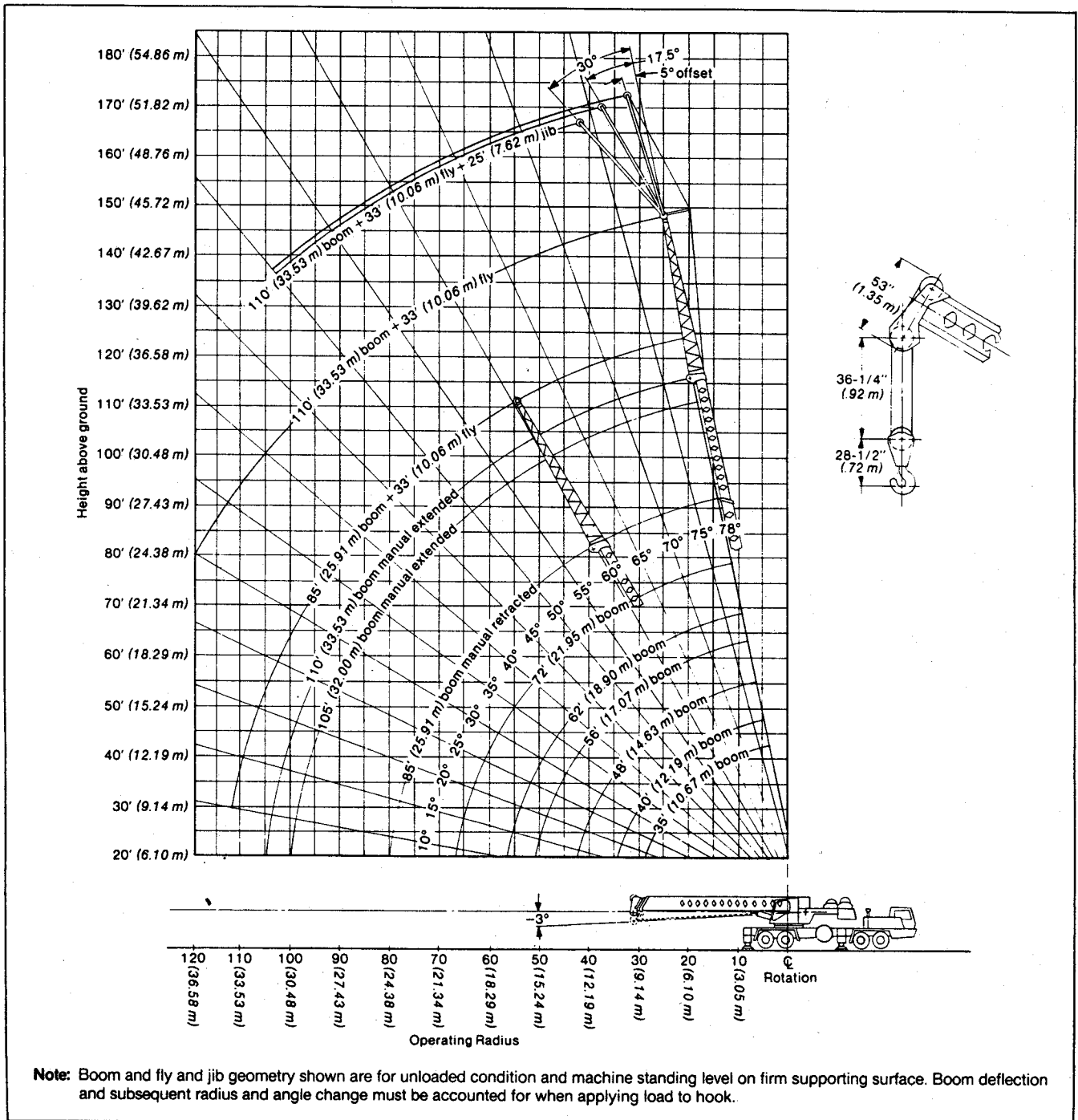
Lifting Capacities

Link-Belt® Hydraulic Crane HTC-840 40-ton (36.29 metric ton)

P.C.S.A. Class 12-154

GENERAL INFORMATION ONLY

4-section boom



GENERAL INFORMATION ONLY

HTC-840 Lifting Capacities

8' (2.44 m) carrier

35'-110' (10.67 m-33.53 m) 4-section boom

Refer to Operating Instructions page 4

Capacities On Outriggers ^① Manual Section Retracted															77' (23.47 m) boom With 33' (10.06 m) Fly			85' (25.91 m) boom With 33' (10.06 m) Fly						
Load radius	35' (10.67 m)		40' (12.19 m)		48' (14.63 m)		56' (17.07 m)		62' (18.90 m)		72' (21.95 m)		85' (25.91 m)		Angle	110' (33.52 m) ^②		Angle	118' (35.96 m) ^②					
	Side	Rear	Side	Rear	Side	Rear	Side	Rear	Side	Rear	Side	Rear	Side	Rear		Side	Rear		Side	Rear				
10' 3.05 m	80,000 36 288	80,000 36 288	69,700 31 616	69,700 31 616	68,500 31 702	68,500 31 702	66,200 30 028	66,200 30 028																
12' 3.66 m	80,000 36 288	80,000 36 288	69,700 31 616	69,700 31 616	68,500 31 072	68,500 31 072	66,200 30 028	66,200 30 028	61,000 27 670	61,000 27 670														
15' 4.57 m	68,500 31 072	68,500 31 072	68,000 30 845	68,000 30 845	63,300 28 713	63,300 28 713	63,300 28 713	63,300 28 713	55,100 24 993	55,100 24 993	43,000 19 505	43,000 19 505												
20' 6.10 m	49,200 22 317	49,200 22 317	49,200 22 317	49,200 22 317	49,200 22 317	49,200 22 317	49,200 22 317	49,200 22 317	44,400 20 140	44,400 20 140	38,800 17 600	38,800 17 600	30,500 13 835	30,500 13 835										
25' 7.62 m	37,600 17 055	39,000 17 690	37,600 17 055	39,000 17 690	37,600 17 055	39,000 17 690	37,600 17 055	39,000 17 690	36,900 16 738	37,600 17 055	34,100 15 468	34,100 15 468	25,300 11 476	25,300 11 476	77.0	22,200 10 070	22,200 10 070	77.0	18,500 8 392	18,500 8 392				
30' 9.14 m			26,200 11 884	30,300 13 744	26,900 12 202	30,300 13 744	26,900 12 202	30,300 13 744	26,900 12 202	30,300 13 744	26,900 12 202	30,300 13 744	26,900 12 202	29,400 13 468	29,400 13 468	75.0	22,200 10 070	22,200 10 070	75.0	17,500 7 938	17,500 7 938			
35' 10.67 m					20,100 9 117	23,600 10 705	20,100 9 117	23,600 10 705	20,100 9 117	23,600 10 705	20,100 9 117	23,600 10 705	20,100 9 117	23,600 10 705	18,300 8 301	19,000 8 618	72.0	20,200 9 163	20,200 9 163	73.0	15,500 7 031	15,500 7 031		
40' 12.19 m					15,400 6 985	18,100 8 210	15,400 6 985	18,100 8 210	15,400 6 985	18,100 8 210	15,400 6 985	18,100 8 210	15,400 6 985	18,100 8 210	15,400 6 985	16,400 7 439	69.0	17,700 8 029	18,900 8 573	71.0	13,900 6 305	13,900 6 305		
45' 13.72 m							12,000 5 443	14,800 6 713	12,000 5 443	14,800 6 713	12,000 5 443	14,800 6 713	12,000 5 443	14,800 6 713	12,000 5 443	14,000 6 350	67.0	14,400 6 532	17,300 7 847	68.0	12,400 5 625	12,400 5 625		
50' 15.24 m							9,500 4 309	11,900 5 398	9,500 4 309	11,900 5 398	9,500 4 309	11,900 5 398	9,500 4 309	11,900 5 398	9,500 4 309	11,900 5 398	64.0	11,800 5 352	15,000 6 804	65.0	10,900 4 944	10,900 4 944		
55' 16.76 m									7,500 3 402	9,600 4 355	7,500 3 402	9,600 4 355	7,500 3 402	9,600 4 355	7,500 3 402	9,600 4 355	61.0	9,900 4 491	12,700 5 761	63.0	9,600 4 355	9,600 4 355		
60' 18.29 m											5,800 2 631	8,000 3 629	5,800 2 631	8,000 3 629	5,800 2 631	8,000 3 629	57.0	8,300 3 765	10,900 4 944	60.0	8,100 3 674	8,500 3 856		
65' 19.81 m											4,500 2 041	6,600 2 994	4,500 2 041	6,600 2 994	4,500 2 041	6,600 2 994	54.0	7,000 3 175	9,400 4 264	57.0	6,800 3 084	7,600 3 447		
70' 21.34 m													3,800 1 724	5,700 2 586	3,800 1 724	5,700 2 586	50.0	5,900 2 676	8,100 3 674	54.0	5,700 2 586	6,800 3 084		
80' 24.38 m														1,900 862	3,600 1 633	43.0	4,100 1 860	6,100 2 767	47.0	3,900 1 769	5,400 2 449			
90' 27.43 m																	34.0	2,800 1 270	4,600 2 087	40.0	2,600 1 179	4,300 1 950		
100' 30.48 m																	22.0	1,700 771	3,500 1 588	31.0	1,500 680	3,300 1 497		

Note: For 360° capacities, use the over side capacities with the bumper outrigger set in proper working position.

① Boom sections must be extended equal distances.

② Intermediate capacities for boom plus fly are permissible; See Operating Instructions Number 16.

Main Boom Capacities ^① On Tires														
Load radius	Bias Tires				Radials Tires				Crane capacities on tires depend on tire capacity, condition of tires, and tire pressures.					
	Creep ^② over rear only		1 mph. (1.61 kph) over rear only		Creep ^② over rear only		1 mph. (1.61 kph) over rear only							
Feet	meters	Pounds	Kg	Pounds	Kg	Pounds	Kg	Pounds	Kg	Tires		Ply rating	Creep ^② Inflation	1.0 m.p.h. (1.61 km/hr) Inflation
10	3.05	34,600	15 695	21,900	9 934	26,800	12 156	21,600	9 798					
12	3.66	32,300	14 651	20,400	9 253	25,000	11 340	20,100	9 117					
15	4.57	29,100	13 200	18,300	8 301	22,500	10 206	18,100	8 201	11.0 x 20.0	14	100 p.s.i. (6.90 Bars)	100 p.s.i. (6.90 Bars)	
20	6.10	18,900	8 573	14,700	6 668	18,300	8 301	14,600	6 623	12.0 x 20.0	18	115 p.s.i. (7.93 Bars)	115 p.s.i. (7.93 Bars)	
25	7.62	13,200	5 988	11,800	5 352	13,200	5 988	11,700	5 307	15.0 x 22.5	16	100 p.s.i. (6.90 Bars)	100 p.s.i. (6.90 Bars)	
30	9.14	9,400	4 264	9,400	4 264	9,400	4 264	9,400	4 264	16.5 x 22.5	16	100 p.s.i. (6.90 Bars)	90 p.s.i. (6.21 Bars)	
35	10.67	6,900	3 130	6,900	3 130	6,900	3 130	6,900	3 130	18.0 x 22.5	16	95 p.s.i. (6.55 Bars)	85 p.s.i. (5.86 Bars)	

① See Operating Instruction; Set-Up Number 4.

② See Operating Instruction; Set-Up Number 3.

Wire rope size and type

Wire rope application	Size and type used	Wire rope description
Main winch	3/4" (19 mm) diameter. Type "N"	Type "N" - 6 x 25 (6 x 19 class) filler wire, extra improved plow steel, preformed, independent wire rope core, right lay, regular lay.
Auxiliary winch	3/4" (19 mm) diameter. Type "N"	

HTC-840 Lifting Capacities

8' (2.44) carrier

35' - 110' (10.67 m - 33.53 m) 4-section boom

Refer to Operating Instructions page 4

Capacities On Outriggers Manual Section Extended									
Load radius	110' (33.53 m) boom With 33' (10.06 m) Fly						143' (43.58 m) Ⓣ		
	105' (32.00 m) Ⓢ			110' (33.53 m) Ⓢ			Angle	Side	Rear
	Angle	Side	Rear	Angle	Side	Rear			
25' 7.62 m	77°	20,200 9 163	20,200 9 163	77°	19,000 8 618	19,000 8 618			
30' 9.14 m	74°	20,200 9 163	20,200 9 163	75°	18,500 8 392	18,500 8 392			
35' 10.67 m	72°	18,000 8 165	18,000 8 165	73°	17,300 7 847	17,300 7 847	77°	9,400 4 264	9,400 4 264
40' 12.19 m	69°	15,200 6 895	15,200 6 895	70°	14,700 6 668	14,700 6 668	75°	9,400 4 264	9,400 4 264
45' 13.72 m	66°	13,800 6 260	13,800 6 260	67°	13,200 5 988	13,200 5 988	73°	9,000 4 082	9,000 4 082
50' 15.24 m	63°	11,400 5 171	12,300 5 579	64°	11,300 5 126	11,600 5 262	71°	8,400 3 810	8,400 3 810
55' 16.76 m	60°	9,400 4 264	10,200 4 627	61°	9,400 4 264	10,200 4 627	69°	8,000 3 629	8,000 3 629
60' 18.29 m	56°	7,900 3 583	8,600 3 901	58°	7,800 3 538	8,600 3 901	67°	7,300 3 311	7,300 3 311
65' 19.81 m	53°	6,500 2 948	7,500 3 402	55°	6,400 2 903	7,500 3 402	65°	6,500 2 948	6,500 2 948
70' 21.34 m	49°	5,400 2 449	6,700 3 039	51°	5,300 2 404	6,700 3 039	62°	5,700 2 586	5,700 2 586
80' 24.38 m	40°	3,600 1 633	5,400 2 449	44°	3,500 1 588	5,200 2 359	57°	4,500 2 041	4,600 2 087
90' 27.43 m	30°	2,400 1 089	3,800 1 724	35°	2,300 1 043	3,700 1 678	52°	3,100 1 406	3,600 1 633
100' 30.48 m							47°	2,000 907	2,800 1 270
110' 33.53 m							40°		2,100 953

Note: For 360° capacities, use the over side capacities with the bumper outrigger set in proper working position.

- Ⓢ Intermediate capacities for boom with manual extended are permissible: See Operating Instructions Number 13.
- Ⓣ Intermediate capacities for boom plus fly are permissible: See Operating Instructions Number 14.
- Ⓤ Capacities are shown for 4-section boom with manual extended and with boom retracted to 105' (32.00 m).

Jib Capacities			
33' (10.06 m) fly plus 25' (7.62 m) jib			
Boom angle	Jib Offset		
	5°	17.5°	30°
78°	5,100 2 313	5,100 2 313	4,200 1 905
75°	5,100 2 313	5,100 2 313	4,000 1 814
70°	5,100 2 313	4,900 2 223	3,600 1 633
65°	4,500 2 041	4,100 1 860	3,400 1 542
60°	2,900 1 315	2,600 1 179	2,400 1 089

Capacity Deductions for Auxiliary Load Handling Equipment	
Aux. Head	200 lb. (91 kg)
Jib Stowed	600 lb. (272 kg)
Fly Stowed	700 lb. (318 kg)
Fly Erected	1700 lb. (771 kg)
Fly & Jib Stowed	1300 lb. (590 kg)
Fly & Jib Erected	4300 lb. (1951 kg)
Picking From 33 Ft. (10.66 m) Fly With	
Jib Erected	2000 lb. (907 kg)
Jib Stowed	600 lb. (272 kg)

Drum wire rope capacities

Wire rope layer	Main and auxiliary drum 17" (0.43 m) root diameter smooth and grooved lagging			
	3/4" (19 mm) wire rope			
	Rope per layer		Total wire rope	
	Feet	meters	Feet	meters
1	97	29.57	97	29.57
2	111	33.83	208	63.40
3	114	34.75	322	98.15
4	122	37.19	444	135.33
5	130	39.62	574	174.96
6	139	42.37	713	217.32
7	140	42.67	853	259.99

Line Speeds and Pulls

Layer	Speed	Main or auxiliary winch -17" (0.43 m) drum			
		Line Speeds		Available Line Pulls	
		F.p.m.	m/min.	Lbs.	kgs.
First	Low	172	52.43	15,870	7 199
	High	364	110.95	7,520	3 411
Second	Low	187	57.00	14,630	6 636
	High	394	120.09	6,930	3 143
Third	Low	201	61.26	13,580	6 160
	High	425	129.54	6,430	2 917
Fourth	Low	216	65.84	12,660	5 743
	High	456	138.99	6,000	2 722
Fifth	Low	230	70.10	11,860	5 380
	High	487	148.44	5,620	2 549
Sixth	Low	245	74.68	11,160	5 062
	High	517	157.58	5,280	2 395
Seventh	Low	260	79.25	10,530	4 776
	High	548	167.03	4,990	2 264

Hydraulic Circuit Pressure Settings		
Circuit	Function	Pressure
Main	Boom hoist	2,900 p.s.i. (200.0 Bars)
	Wire rope hoist	2,750 p.s.i. (189.66 Bars)
Secondary	Swing	1,500 p.s.i. (103.45 Bars) at port relief
	Inner-mid telescope	2,500 p.s.i. (172.41 Bars)
	Outer-mid telescope	2,500 p.s.i. (172.41 Bars)
	Outriggers	2,500 p.s.i. (172.41 Bars)
Charge Pump	Winch brake and clutch	1,500 p.s.i. (103.45 Bars)

Warning and Operating Instructions

HTC-840

General:

- Rated lifting capacities in pounds as shown on lift chart pertain to this machine as originally manufactured and normally equipped by FMC Corporation, Construction Equipment Group. Modifications to the machine or use of optional equipment other than that specified can result in a reduction of capacity.
- Construction equipment can be dangerous if improperly operated or maintained. Operation and maintenance of this machine must be in compliance with the information in the operator's, parts and safety manuals supplied with this machine. If these manuals are missing, order replacements through the distributor.
- The operator and other personnel associated with this machine shall fully acquaint themselves with the latest applicable American National Standards Institute (ANSI) Safety Standards for cranes.
- The maximum allowable lifting capacities are based on machine standing level on firm supporting surface.
- All capacities are in pounds with metric equivalent in *italics*.

Set-Up:

- The machine shall be leveled on a firm supporting surface. Depending on the nature of the supporting surface, it may be necessary to have structural supports under the outrigger floats or tires to spread the load to a larger bearing surface.
- When making lifts on outriggers, outrigger beams must be fully extended with tires free of supporting surface.
- Crane Capacities on tires depend on tire capacity, condition of tires, and tire pressure. On-tire picks require lifting from main boom head only on a smooth and level surface. Boom sections must be extended equally. Two conditions are available for pick and carry operations. The first condition is creep. Creep is motion for less than 200' (60.9 m) in a 30 minute period and not exceeding 1 m.p.h. (1.61 km/hr). The second condition is 1 m.p.h. (1.61 km/hr). This operation is restricted to 1 m.p.h. (1.61 km/hr) maximum speed. For each condition, creep and 1 m.p.h. (1.61 km/hr), the boom must be centered over rear with swinglock engaged and the load must be restrained from swinging. Lifts with manual extended, fly or fly-jib combination erected are prohibited on tires.
- When making lifts on rubber, tires must be inflated to the recommended pressure.
- Over the front working area, as on the working area diagram, is restricted to a 35' (10.67 m) boom length, unless machine is equipped with a front bumper outrigger and the front bumper outrigger is set in proper working position.
- Outriggers must be set before swinging boom to over side position as shown on working area diagram.
- When installing or removing counterweight, use fully retracted boom only. Do not swing counterweight beyond a 25' (7.62 m) radius. Machine must be on outriggers during this operation.

Operation:

- Rated lifting capacities at rated radius shall not be exceeded. Do not tip machine to determine allowable load. For concrete bucket operation, weight of bucket and load shall not exceed 80% of rated lifting capacity. For clamshell bucket operation, weight of bucket and bucket content is restricted to a maximum weight of 7,000 pounds (3175 kg) or 80% of rated lifting capacity which ever is less. For magnet operation weight of magnet and load is restricted to a maximum weight of 7,000 pounds (3175 kg) or 80% of rated lifting capacity which ever is less. For clamshell and magnet operation maximum boom length is restricted to 56 feet (17.07 m) and the boom angle is restricted to a minimum of 35°. Manual extended, fly or fly-jib combinations are prohibited for both clam and magnet operation.
- The crane capacities shown on outriggers do not exceed 85% of the tipping loads and crane capacities shown on tires do not exceed 75% of the tipping loads as determined by SAE crane stability test code J-765a.
- The crane capacities above the bold lines are based on structural strength or hydraulic limitations.
- Rated lifting capacities include the weight of hook block, slings, bucket, magnet and auxiliary lifting devices. Their weights must be subtracted from the listed rated load to obtain the net load to be lifted. See also deductions for auxiliary head, fly and jib.
- Rated lifting capacities are based on freely suspended loads. No attempt shall be made to move a load horizontally on the ground in any direction.
- Rated lifting capacities are for lift crane service only.
- Do not operate at radii or boom lengths where capacities are not listed. At these positions, the machine can overturn without any load on the hook.
- The maximum loads which can be telescoped are not definable because of variation in loadings and crane maintenance, but it is permissible to attempt retraction and extension within the limits of the load rating chart.
- When either boom length or radius or both are between values listed, the smallest load shown at either the next larger radius or boom length shall be used.
- The user shall operate at reduced ratings to allow for adverse job conditions, such as: soft or uneven ground, out of level conditions, wind, side loads, pendulum action, jerking or sudden stopping of loads, hazardous conditions, experience of personnel, two machine lifts, traveling with loads, electrical wires, etc. Side load on boom, fly or jib is extremely dangerous.
- When making lifts with auxiliary head machinery, the effective length of the boom increases by 2' (.61 m). Effective length of boom is length shown on boom length indicator plus 2' (.61 m).
- Power sections must be extended equally.
- The least stable rated working area on outriggers is over the side.
- Rated lifting capacities are based on correct reeving. Deduction must be made for excessive reeving. Any reeving over minimum required (see wire rope strength plate) is considered excessive and must be accounted for. Use working range plate to estimate the extra feet of rope then deduct 1 lb. (.45 kg) for each foot of wire rope before attempting to lift a load.

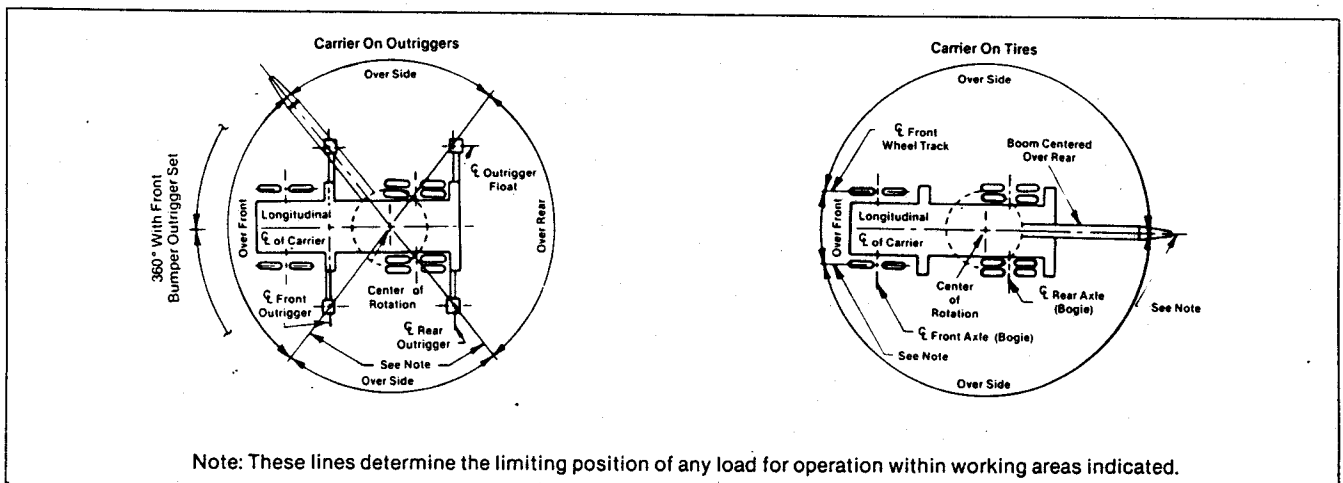
- The rated loads for the manual extended are determined by boom angle only for boom lengths other than 105' (32.00 m) and 110' (33.53 m) as follows: For boom lengths less than 105' (32.00 m), the rated loads are determined by boom angle only in the column headed by 105' (32.00 m). For boom lengths between 105' (32.00 m) and 110' (33.53 m), the rated loads are determined by boom angle only in the column headed by 110' (33.53 m), manual extended. For angles not shown, use the next lower boom angle to determine allowable capacity.
- The rated loads for the manual retracted with 33' (10.06 m) fly are determined by boom angle only for boom lengths other than 110' (33.53 m) and 118' (35.97 m) as follows: For boom lengths less than 110' (33.53 m) the rated loads are determined by boom angle only in the column headed by 110' (33.53 m), manual retracted with fly. For boom lengths between 110' (33.53 m) and 118' (35.97 m), the rated loads are determined by boom angle only in the column headed by 118' (35.97 m). For angles not shown, use the next lower boom angle to determine allowable capacity.
- For boom lengths with fly less than 143' (43.59 m) with manual extended, the rated loads are determined by boom angle only in the column headed by 143' (43.59 m). For angles not shown, use the next lower boom angle to determine allowable capacity.
- With front bumper outrigger set, use over side capacity values for 360° working area.
- Do not lower 105' (32.00 m) boom length below 30°. Do not lower 110' (33.53 m) boom length below 35°. Do not lower 77' (23.47 m) boom with 33' (10.06 m) fly below 22°. Do not lower 85' (25.91 m) boom with 33' (10.06 m) fly below 31°. Do not lower 110' (33.53 m) boom with 33' (10.06 m) fly below 40°.
- The 25' (7.62 m) jib capacities are based on main boom angle regardless of main boom length. For angles not shown use next lower boom angle to determine allowable capacity. Capacity values can be used to operate over rear or over side. Warning: Do not lower 25' (7.62 m) jib in working position below 60° unless boom is fully retracted.
- The 35' (10.67 m) boom length capacities are based on boom fully retracted. If not fully retracted, do not exceed ratings for the 40' (12.19 m) boom length.

Definitions:

- Load Radius:** Horizontal distance from a projection of the axis of rotation to the supporting surface before loading to the center of the vertical hoist line or tackle with load applied.
- Loaded Boom Angle:** The angle between the boom base section and the horizontal after lifting the load at the rated radius. The boom angle, before loading, should be greater to account for deflections.
- Working Area:** Area measured in a circular arc about the center line of rotation as shown on the working area diagram.
- Freely Suspended Load:** Load hanging free with no direct external force applied except by the hoist line.
- Side Load:** Horizontal side force applied to the lifted load either on the ground or in the air.

Working Areas

HTC-840



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We are constantly improving our products and therefore reserve the right to change designs and specifications

Link-Belt Construction Equipment Company Lexington, Kentucky

