

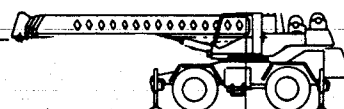
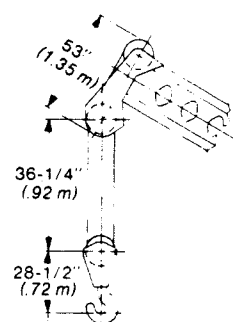
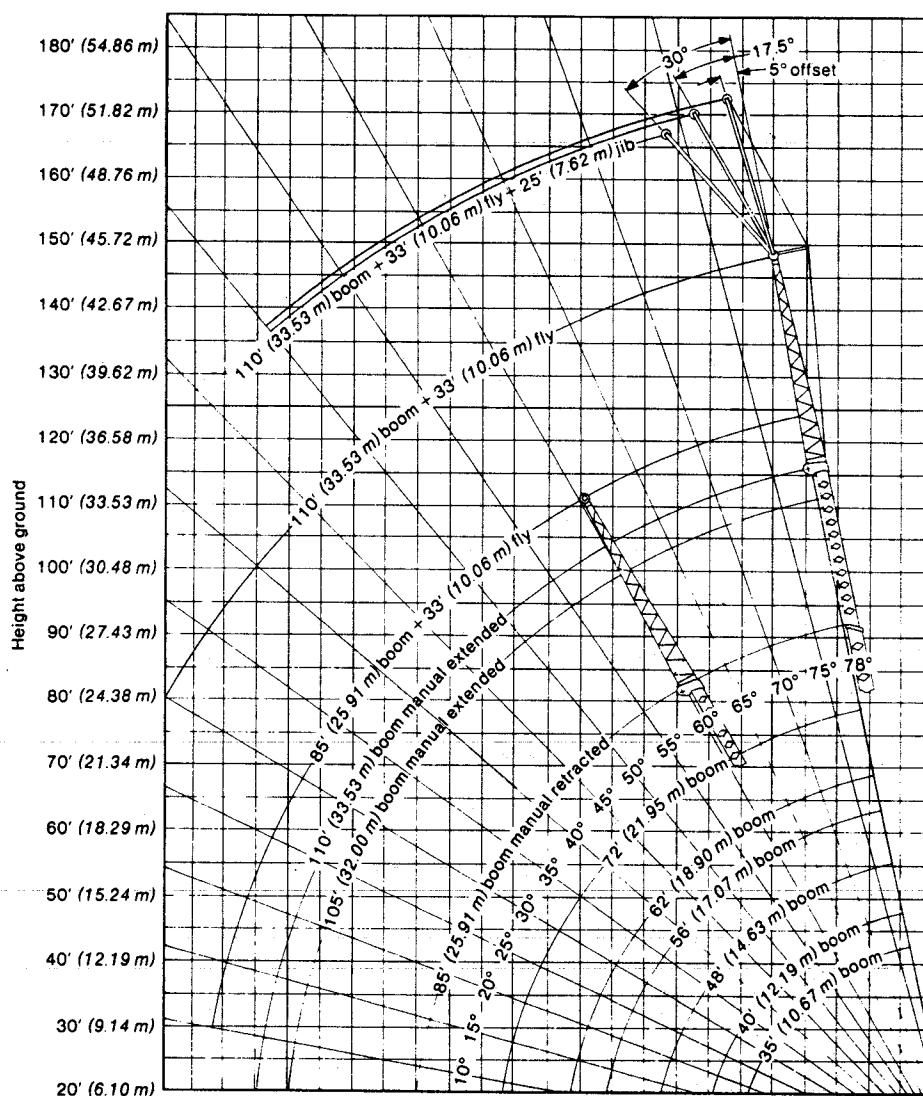
Lifting Capacities

Link-Belt®

Eighty Series Hydraulic Rough Terrain Crane
HSP-8050 50-ton (45.36 metric ton)

4-Section Boom

GENERAL INFORMATION ONLY



Q Rotation

120	110	100	90	80	70	60	50	40	30	20
(36.58 m)	(33.53 m)	(30.48 m)	(27.43 m)	(24.38 m)	(21.34 m)	(18.29 m)	(15.24 m)	(12.19 m)	(9.14 m)	(6.10 m)

Operating Radius

Note: Boom and fly and jib geometry shown are for unloaded condition and machine standing level on firm supporting surface. Boom deflection and subsequent radius and angle change must be accounted for when applying load to hook.

**HSP-8050 Lifting Capacities**

Refer to Operating Instructions page 4

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

Capacities On Outriggers① Manual Section Retracted														77' (23.47 m) boom plus 33' (10.06 m) fly			85' (25.91 m) boom plus 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)		Boom angle	33' (10.06 m) fly		Boom angle	33' (10.06 m) fly	
	Front	360°	Front	360°	Front	360°	Front	360°	Front	360°	Front	360°	Front	360°		Front	360°		Front	360°
10' 3.05 m	100,000 45 360	100,000 45 360	72,100 32 705	72,100 32 705	70,800 32 115	70,800 32 115	68,100 30 890	68,100 30 890							See Note ②			See Note ②		
12' 3.66 m	98,300 44 589	98,300 44 589	72,100 32 705	72,100 32 705	70,800 32 115	70,800 32 115	68,100 30 890	68,100 30 890	67,600 30 663	67,600 30 663										
15' 4.57 m	84,000 38 102	84,000 38 102	71,500 32 432	71,500 32 432	70,800 32 114	70,800 32 114	68,100 30 890	68,100 30 890	59,400 26 944	59,400 26 944	51,800 23 496	51,800 23 496								
20' 6.10 m	64,300 29 166	64,300 29 166	64,300 29 166	64,300 29 166	64,300 29 166	64,300 29 166	57,200 25 946	57,200 25 946	48,900 22 180	48,900 22 180	43,200 19 596	43,200 19 596	36,800 16 602	36,800 16 602						
25' 7.62 m	49,800 22 589	49,800 22 589	49,800 22 589	49,800 22 589	49,800 22 589	49,800 22 589	48,100 21 818	48,100 21 818	41,300 18 734	41,300 18 734	36,800 16 692	36,800 16 692	30,500 13 835	30,500 13 835		76°	22,200 10 070		22,200 10 070	77°
30' 9.14 m			40,300 18 279	36,800 16 692	40,300 18 279	36,800 16 692	40,300 18 279	36,800 16 692	35,500 16 103	35,500 16 103	31,800 14 424	31,800 14 424	25,800 11 703	25,800 11 703	74°	22,200 10 070	22,200 10 070	75°	17,500 7 938	17,500 7 938
35' 10.67 m					32,400 14 696	27,500 12 474	32,400 14 696	27,500 12 474	32,400 14 696	27,500 12 474	27,800 12 602	27,500 12 474	22,200 10 069	22,200 10 069	71°	20,200 10 070	20,000 10 070	72°	15,500 7 031	15,500 7 031
40' 12.19 m					25,200 11 430	21,300 9 661	25,300 11 476	21,300 9 661	25,400 11 521	21,300 9 661	24,500 11 113	21,300 9 661	19,400 8 800	19,400 8 800	68°	18,900 8 573	18,900 8 573	70°	13,900 6 305	13,900 6 305
45' 13.72 m							20,400 9 253	17,100 7 757	20,400 9 253	17,100 7 757	20,400 9 253	17,100 7 757	17,100 7 757	17,100 7 757	66°	17,300 7 847	17,300 7 847	67°	12,400 5 625	12,400 5 625
50' 15.24 m							16,800 7 529	13,900 6 305	16,800 7 529	13,900 6 305	16,800 7 529	13,900 6 305	15,400 6 985	13,900 6 305	63°	15,400 6 985	15,400 6 985	64°	10,900 4 944	10,900 4 944
55' 16.76 m									13,900 6 305	11,500 5 216	13,900 6 305	11,500 5 216	13,800 6 260	11,500 5 216	60°	14,300 6 486	13,600 6 214	62°	9,600 4 355	9,600 4 355
60' 18.29 m											11,700 5 307	9,600 4 354	11,700 5 307	9,600 4 354	56°	13,200 5 988	11,600 5 261	59°	8,600 3 901	8,600 3 901
65' 19.81 m											9,900 4 490	7,900 3 583	9,900 4 490	7,900 3 583	53°	11,900 5 397	9,900 4 490	56°	7,700 3 493	7,700 3 493
70' 21.34 m													8,400 3 810	6,700 3 039	50°	10,400 4 717	8,600 3 901	53°	6,900 3 130	6,900 3 130
80' 24.38 m													6,000 2 721	4,500 2 041	42°	8,000 3 628	6,500 2 948	46°	5,600 2 540	5,600 2 540
90' 27.43 m															33°	6,200 2 812	4,900 2 044	39°	4,600 2 087	4,400 1 996
100' 30.48 m															21°	4,600 2 086	3,400 1 542	30°	3,900 1 769	3,400 1 542
110' 33.53 m																		17°	3,400 1 542	2,500 1 133

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"	

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

Footnotes

- ① All capacities on outriggers are based on outriggers fully extended with boom sections extended equal distance.
- ② Calculating capacities for extended or retracted boom plus fly must be based on boom angle only for boom lengths other than those listed. See Operating Instructions Number 14.
- ③ See Operating Instructions, set-up Number 4.

Capacities On Tires

Load Radius	Max. boom length	Pick & Carry ^③	Stationary	
		Over Front	360°	Over Front
10' 3.05 m	35' 10.67 m	58,000 26 309	42,100 19 097	57,300 25 991
12' 3.66 m	35' 10.67 m	50,600 22 952	33,700 15 286	50,500 22 907
15' 4.57 m	35' 10.67 m	42,100 19 097	23,100 10 478	42,700 19 369
20' 6.10 m	35' 10.67 m	32,200 14 606	14,000 6 350	32,700 14 833
25' 7.62 m	35' 10.67 m	22,400 10 160	9,100 4 127	22,600 10 251
30' 9.14 m	40' 12.19 m	15,900 7 212	6,000 2 721	15,900 7 212
35' 10.67 m	40' 12.19 m	11,900 5 398	3,800 1 723	11,900 5 398
40' 12.19 m	48' 14.63 m	9,100 4 127	—	9,100 4 127
45' 13.72 m	56' 17.07 m	7,000 3 175	—	7,000 3 175
50' 15.24 m	56' 17.07 m	5,400 2 449	—	5,400 2 449
55' 16.76 m	62' 18.90 m	4,200 1 904	—	4,200 1 904
60' 18.29 m	72' 21.95 m	3,200 1 451	—	3,200 1 451

GENERAL INFORMATION ONLY

**HSP-8050 Lifting Capacities**

Refer to Operating Instructions page 4

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

Capacities ^① On Outriggers Manual Section Extended									
Load radius	105' (32.00 m)			110' (33.53 m)			110' (33.53 m) boom plus 33' (10.06 m) fly		
	Boom angle	Front	360°	Boom angle	Front	360°	Boom angle	Front	360°
	See Note ②			See Note ②			See Note ③		
25' 7.62 m	76°	20,200 9163	20,200 9163	77°	19,000 8618	19,000 9027			
30' 9.14 m	73°	20,200 9163	20,200 9163	74°	18,500 8392	18,500 8392			
35' 10.67 m	71°	20,200 9163	20,200 9163	72°	17,600 8121	17,600 8121			
40' 12.19 m	68°	18,200 8256	18,200 8256	69°	15,500 7030	15,500 7030	76°	9,400 4264	9,400 4264
45' 13.72 m	65°	16,400 7439	16,400 7439	66°	13,700 6214	13,700 6214	74°	9,400 4264	9,400 4264
50' 15.24 m	62°	15,000 6804	15,000 6804	63°	12,100 5488	12,100 5488	72°	9,000 4082	9,000 4082
55' 16.76 m	59°	13,800 6260	13,100 5942	60°	10,700 4853	10,700 4853	70°	8,400 3810	8,400 3810
60' 18.29 m	55°	12,700 5760	11,100 5034	57°	9,700 4400	9,700 4400	68°	8,000 3629	8,000 3629
65' 19.81 m	52°	11,500 5216	9,500 4308	54°	8,700 3946	8,700 3946	66°	7,300 3311	7,300 3311
70' 21.34 m	48°	9,900 4490	8,200 3719	50°	7,800 3357	7,800 3357	64°	6,500 2948	6,500 2948
80' 24.38 m	39°	7,500 3401	6,100 2767	43°	6,400 2903	6,000 2721	61°	5,700 2586	5,700 2586
90' 27.43 m	29°	5,800 2631	4,500 2040	34°	5,500 2495	4,400 1995	56°	4,600 2087	4,600 2087
100' 30.48 m	12°	4,400 1996	3,200 1451	22°	4,300 1950	3,200 1451	51°	3,600 1633	3,600 1633
110' 33.53 m							46°	2,800 1270	2,800 1270
120' 36.58 m							39°	2,100 953	2,100 953
							32°	1,500 680	1,500 680

- ① All capacities on outriggers are based on outriggers fully extended with boom sections extended equal distance.
 ② Calculating capacities for extended or retracted boom with manual section extended must be based on boom angle only. See Operating Instructions Number 13.
 ③ Calculating capacities for extended or retracted boom with manual section extended plus fly must be based on boom angle only. See Operating Instructions Number 15.

Jib Capacities			
33' (8.84 m) fly plus 25' (7.62 m) jib			
Boom angle	Jib Offset		
	5°	17.5°	30°
78°	5,100 2313	5,100 2313	4,200 1905
75°	5,100 2313	5,100 2313	4,000 1814
70°	5,100 2313	4,900 2223	3,600 1633
65°	4,500 2041	4,100 1860	3,400 1542
60°	3,700 1678	3,300 1497	2,800 1270
55°	3,000 1361	2,700 1225	2,400 1089
50°	2,500 1134	2,300 1043	2,000 907

HSP-8050 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
	Innarmid telescope Steering	2,500 p.s.i. (172.41 Bars)
	Outermid telescope	2,700 p.s.i. (186.21 Bars)
	Outriggers	2,700 p.s.i. (186.21 Bars)
Charge Pump	Winch brake and clutch	1,500 p.s.i. (103.45 Bars)

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	7199
	High	364	110.95	7,520	3411
Second	Low	187	57.00	14,630	6636
	High	394	120.09	6,930	3143
Third	Low	201	61.26	13,580	6160
	High	425	129.54	6,430	2917
Fourth	Low	216	65.84	12,660	5743
	High	456	138.99	6,000	2722
Fifth	Low	230	70.10	11,860	5380
	High	487	148.44	5,620	2549
Sixth	Low	245	74.68	11,160	5062
	High	517	157.58	5,280	2395
Seventh	Low	260	79.25	10,530	4776
	High	548	167.03	4,990	2264

Tire Inflation

Tires	Ply	Pressure
26.5 x 25	24	75 p.s.i. (5.17 Bars)
29.5 x 25	22	60 p.s.i. (2.14 Bars)

GENERAL INFORMATION ONLY



Warning and Operating Instructions

HSP-8050

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.
- All capacities are in pounds with metric equivalent in *italic*.

Set-Up:

- Capacities included in this chart are the maximum allowable crane capacities and are based on the machine standing level on firm supporting surface under ideal job conditions. 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.
- Eight parts of $\frac{3}{4}$ " (19 mm) diameter Type "N" wire rope required to lift maximum 100,000 lbs. (45 360 kg) rated load.
- 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. Pick and carry operations (creep), are restricted to 1.0 m.p.h. (1.61 km/h) with the boom centered over front, the travel swing lock engaged and the load restrained from swinging. Lifts with the manual extended, fly or fly/jib combination erected are prohibited.
- When making lifts on rubber, tires must be inflated to the recommended pressure and power sections must be equally extended.

Operation:

- Rated lifting capacities at rated radius shall not be exceeded. Do not tip the machine to determine allowable loads. For clamshell and concrete bucket operation, weight of bucket and load shall not exceed 80% of rated lifting capacities. Clamshell bucket weight including bucket content is restricted to a maximum of 7,000 pounds (3175 kg) with a maximum boom length of 56 feet (17.07 m) and a minimum boom angle of 35°. Manual extended, fly or fly/jib combinations are prohibited for clam work.
- 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. Those capacities above the heavy bold line indicate capacities based on factors other than those which would cause a tipping condition.

- Do not operate at boom lengths or beyond radii where no capacities are shown. Machine may overturn without any load on the hook.
- To determine capacities in-between those shown on charts, refer to the rated lifting capacity of the next longer and next shorter booms for the same radius. The lesser of the two capacities will apply.
- When making lifts at a load radius not shown on charts, use the next longer radius to determine allowable capacity.
- Crane capacities are based on freely suspended loads and make no allowance for such factors as the effect of wind, sudden stopping of loads, supporting surface conditions, inflation of tires, and operating speeds. Operator must reduce load ratings to take such conditions into account. Deductions from rated capacities must be made for weight of hook block, weighted ball/hook, sling, spreader bar, fly or other suspended gear.
- Rated lifting capacities are based on correct reeving. Deduction must be made for excessive reeving. Any reeving over minimum required is considered excessive and must be taken into account. Use working range plate to estimate the extra feet of rope and then deduct 1 lb. (.4536 kg) for each foot of wire rope before attempting to lift a load.
- The following deductions from rated main boom capacities must be made if the machine is equipped with the following:
 - auxiliary lifting sheave - 200 lbs. (91 kg.)
 - 33' (10.06 m) one-piece fly stowed on boom - 700 lbs. (318 kg.)
 - 33' (10.06 m) one-piece fly in working position - 1,800 lbs. (816 kg.)
 - 33' (10.06 m) fly plus 25' (7.62 m) jib stowed on boom - 1,100 lbs. (499 kg.)
 - 33' (10.06 m) fly plus 25' (7.62 m) jib in working position - 4,400 lbs. (1 996 kg.)
 - 25' (7.62 m) jib in working position and picking from fly tip - 1,900 lbs. (862 kg.)
- Powered boom length is from 35' (10.67 m) to 85' (25.91 m).
- Extension or retraction of the boom with loads within the limits of the applicable rating chart may be attempted. The ability to telescope loads is limited by hydraulic pressure, boom angle, boom length, boom lubrication, etc.
- Do not move load to radii or boom lengths greater than those specified on applicable chart.
- Effective length of boom with auxiliary lifting sheave is length shown on boom length indicator plus 2' (0.61 m).
- 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 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 110' (33.53 m) manual extended. For angles not shown, use 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 with fly and manual retracted less than 110' (33.53 m), the rated loads are determined by boom angle only in the column headed 110' (33.53 m) manual retracted with fly. For boom lengths with fly and manual retracted between 110' (33.53 m) and 118' (35.97 m), the rated loads are determined by boom angle only in the column headed 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' (44 m) with manual extended, the rated loads are determined by boom angle only in the column headed 143' (44 m). For angles not shown, use the next lower boom angle to determine allowable capacity.
- 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 are for 360 degree operation. Warning: Do not lower 25' (7.62 m) jib in working position below 50 degrees 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.

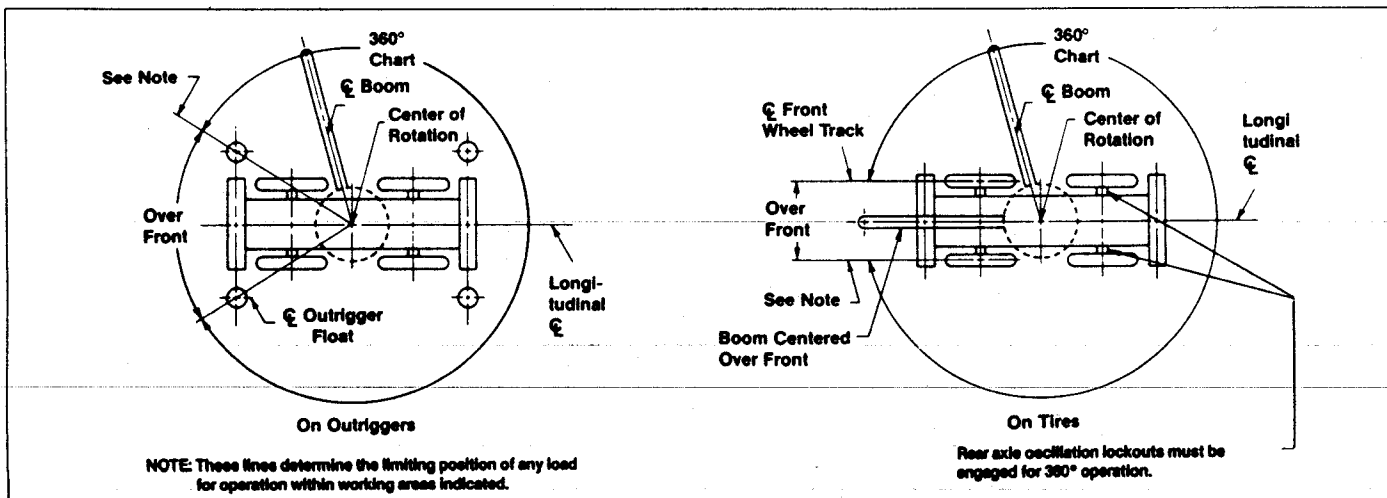
Definitions:

- 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.

GENERAL INFORMATION ONLY

Working Areas

HSP-8050



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

FMC Corporation Construction Equipment Group Lexington Kentucky 40512

