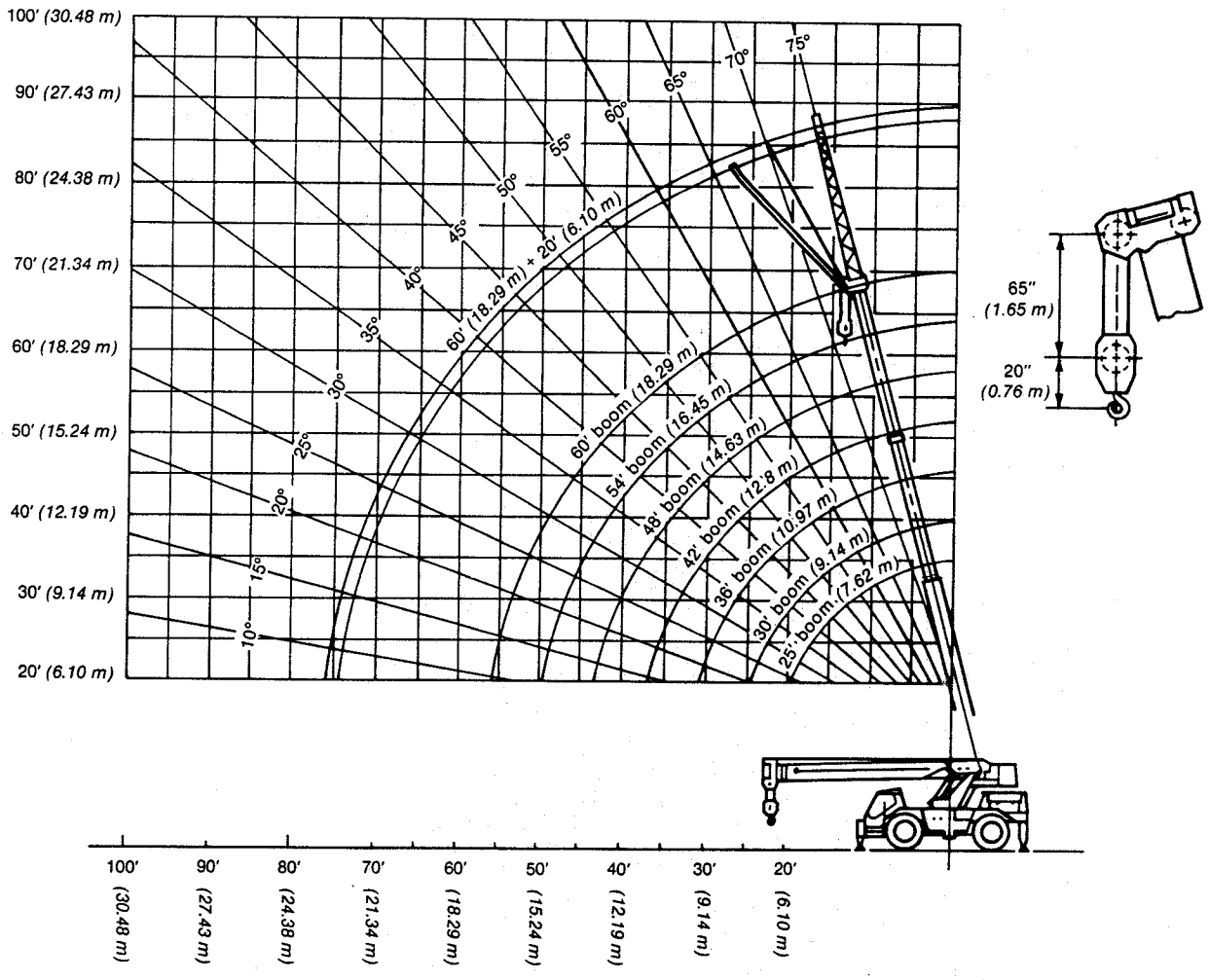
Lifting Capacities

PCSA Class 12-64

GENERAL INFORMATION ONLY

Link-Belt®
Hydraulic Cab Down Crane
HCD-80B 15-ton *(13.64 metric ton)*



Operation radius from axis of rotation in feet.

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

L261

CAUTION: This material is supplied for reference only. Operator MUST refer to in-cab capacity plate to determine allowable machine lifting capacities and operating procedures.

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HCD-80B Lifting Capacities

GENERAL INFORMATION ONLY

Refer to **Operating Instructions**

25' - 60' *(7.62 m - 18.29m)* 3-section boom

Capacities① On Outriggers - 3-Section Boom

Load radius	25.25' *(7.69m)*		30' *(9.14m)*		36' *(10.97m)*		42' *(12.8m)*		48' *(14.63m)*		54' *(16.45m)*		60' *(18.29m)*		60' *(18.29m)* boom plus 20' *(6.10m)* fly ②	
	Front	360°	Front	360°	Front	360°	Front	360°	Front	360°	Front	360°	Front	360°	Boom angle	360°
10' *3.05 m*	— —	30,000 *13 608*	— —	30,000 *13 608*	— —	30,000 *13 608*	— —	30,000 *13 608*								
12' *3.66 m*	30,000 *13 608*	30,000 *13 608*	30,000 *13 608*	30,000 *13 608*	30,000 *13 608*	30,000 *13 608*	30,000 *13 608*	30,000 *13 608*	30,000 *13 608*	30,000 *13 608*						
15' *4.57 m*	30,000 *13 608*	28,000 *12 700*	30,000 *13 608*	28,000 *12 700*	30,000 *13 608*	28,000 *12 700*	30,000 *13 608*	28,000 *12 700*	30,000 *13 608*	28,000 *12 700*	27,600 *12 520*	27,600 *12 520*				
20' *6.10 m*	22,900 *10 387*	20,300 *9 208*	22,900 *10 387*	20,300 *9 208*	22,900 *10 387*	20,300 *9 208*	22,600 *10 251*	20,300 *9 208*	22,500 *10 206*	20,300 *9 208*	21,900 *9 933*	20,300 *9 208*	21,500 *9 752*	20,300 *9 208*	75°	11,500 *5 216*
25' *7.62 m*			17,800 *8 074*	13,900 *6 305*	17,800 *8 074*	13,900 *6 305*	17,800 *8 074*	13,900 *6 305*	17,800 *8 074*	13,900 *6 305*	17,800 *8 074*	13,900 *6 305*	17,800 *8 074*	13,900 *6 305*	71°	11,500 *5 216*
30' *9.14 m*					14,700 *6 667*	10,300 *4 672*	14,700 *6 667*	10,300 *4 672*	14,700 *6 667*	10,300 *4 672*	14,700 *6 667*	10,300 *4 672*	14,700 *6 667*	10,300 *4 672*	67°	9,000 *4 082*
35' *10.67 m*							12,300 *5 579*	8,000 *3 628*	12,300 *5 579*	8,000 *3 628*	12,300 *5 579*	8,000 *3 628*	12,300 *5 579*	8,000 *3 628*	63°	7,100 *3 220*
40' *12.19 m*									10,500 *4 762*	6,400 *2 903*	10,500 *4 762*	6,400 *2 903*	10,500 *4 762*	6,400 *2 903*	59°	5,700 *2 585*
45' *13.72 m*											9,100 *4 127*	5,300 *2 404*	9,100 *4 127*	5,300 *2 404*	55°	4,600 *2 086*
50' *15.24 m*													7,800 *3 538*	4,300 *1 950*	50°	3,900 *1 769*
55' *16.76 m*													6,700 *3 039*	3,600 *1 632*	45°	3,200 *1 451*
60' *18.29 m*															39°	2,700 *1 225*
65' *19.81 m*															33°	2,300 *1 043*

①Boom sections must be extended equal distance.

②Capacities are determined by boom angle only.

Capacities① On Tires② - 3-Section Boom

Load Radius	14.00 x 24 (20 PR.)			17.50 x 25 (20 PR.)		
	Pick & Carry③	Stationary		Pick & Carry③	Stationary	
	Over Front	360°	Over Front	Over Front	360°	Over Front
10' *3.05 m*	—	20,400 *9 253*	—	—	20,500 *9 298*	—
12' *3.66 m*	21,000 *9 526*	16,700 *7 575*	24,600 *11 158*	20,900 *9 480*	17,200 *7 801*	24,400 *11 067*
15' *4.57 m*	17,300 *7 847*	11,600 *5 261*	20,100 *9 117*	17,000 *7 711*	12,300 *5 579*	20,000 *9 072*
20' *6.10 m*	12,900 *5 851*	6,600 *2 993*	12,900 *5 851*	12,900 *5 851*	7,000 *3 175*	13,200 *5 987*
25' *7.62 m*	9,000 *4 082*	4,500 *2 041*	9,000 *4 082*	9,200 *4 173*	4,800 *2 177*	9,200 *4 173*
30' *9.14 m*	6,700 *3 039*	3,200 *1 451*	6,700 *3 039*	6,900 *3 129*	3,500 *1 587*	6,900 *3 129*
35' *10.67 m*	5,200 *2 358*	2,300 *1 043*	5,200 *2 358*	5,300 *2 404*	2,500 *1 134*	5,300 *2 404*
40' *12.19 m*	4,100 *1 859*	1,700 *771*	4,100 *1 859*	4,200 *1 905*	1,800 *816*	4,200 *1 905*
45' *13.72 m*	3,300 *1 496*	1,100 *498*	3,300 *1 496*	3,400 *1 542*	1,300 *589*	3,400 *1 542*
50' *15.24 m*	2,600 *1 179*	—	2,600 *1 179*	2,700 *1 224*	—	2,700 *1 224*
55' *16.76 m*	2,000 *907*	—	2,000 *907*	2,000 *9 072*	—	2,000 *907*

① Off main boom head only; boom sections must be equally extended.
② Refer to tire inflation chart.
③ Limited to 1.0 m.p.h. *(1.609 km/hr)* travel speed, and swing lock must be engaged.

Jib Capacities*

60' *(18.29 m)* boom + 20' *(6.10 m)* jib

Boom angle	Jib Offset		
	0°	15°	30°
75°	10,000 *4 536*	6,500 *2 948*	4,500 *2 041*
70°	9,000 *4 082*	6,000 *2 722*	4,100 *1 860*
65°	7,400 *3 357*	5,400 *2 449*	3,900 *1 769*
60°	5,800 *2 631*	4,900 *2 223*	3,700 *1 678*
55°	4,800 *2 177*	4,100 *1 860*	3,500 *1 588*
50°	4,000 *1 814*	3,600 *1 633*	3,300 *1 497*
45°	3,300 *1 497*	3,100 *1 406*	3,000 *1 361*
40°	2,900 *1 315*	2,700 *1 225*	2,600 *1 179*
35°	2,500 *1 134*	2,400 *1 089*	2,400 *1 089*
30°	2,200 *998*	2,200 *998*	2,200 *998*

* Jib capacities are based on structural strength.

Tire Inflation

Tires	PR	Stationary	'Pick & Carry'
14.00 x 24	20	115 p.s.i. *(7.93 Bars)*	115 p.s.i. *(7.93 Bars)*
17.50 x 25	20	95 p.s.i. *(6.55 Bars)*	95 p.s.i. *(6.55 Bars)*

HCD-80B Wire Rope/Drum Data

GENERAL INFORMATION ONLY

Wire rope size and type

Wire rope application	Size and type used	Wire rope description
Main winch	9/16" *(14 mm)* diameter, Type "C"	Type "C" - 6 x 29 (6 x 37 class) filler wire, extra improved plow steel, preformed, independent wire rope core, right lay, regular lay.

Drum wire rope capacities

Wire rope layer	Main drum 13-9/16" *(345 mm)* root diameter grooved lagging			
	9/16" *(14 mm)* wire rope			
	Rope per layer		Total wire rope	
	Feet	*meters*	Feet	*meters*
1	85	*25.90*	85	*25.90*
2	91	*27.74*	176	*53.64*
3	97	*29.56*	273	*83.21*
4	103	*31.40*	376	*114.61*
*5	109	*33.22*	485	*147.83*

*For storage purposes only - not a working layer

HCD-80B Hydraulic Circuit Pressure Settings	
Function	**Pressure**
Wire Rope Hoist Outriggers	3000 PSI *(206.89 Bars)*
Boom Telescope Boom Hoist	3280 PSI *(226.20 Bars)*
Swing Steering	2000 PSI *(137.93 Bars)*

Line speeds and pulls

Layer	Speed	Main Winch - 13-9/16" *(345 mm)* drum					
		Line speeds		Line pulls @ stall			
				Available*		Permissible	
		F.p.m.	*m/min.*	Lbs.	*kgs.*	Lbs.	*kgs.*
1st	Low High	148 331	*45* *101*	8774	*3980*	7978	*3618*
2nd	Low High	159 354	*48* *108*	8139	*3692*	7399	*3356*
3rd	Low High	169 377	*52* *115*	7590	*3443*	6900	*3130*
4th	Low High	178 397	*54* *121*	7110	*3225*	6464	*2932*
5th	Low High	188 420	*57* *128*	6693	*3036*	6085	*2760*

*Developed by machinery with first layer of wire rope, but not based on wire rope strength.

HCD-80B Warning & Operating Instructions

GENERAL INFORMATION ONLY

General:

1. These capacities apply only to the machine as originally manufactured and normally equipped by FMC Corporation, Construction Equipment Group.
2. 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 manual supplied with the machine. If these manuals are missing, order replacements through the distributor.
3. 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.
4. All capacities are in pounds with metric equivalent in italic.

Set-Up:

1. Capacities included in this chart are the maximum allowable crane capacities, and are based on machine standing level on firm supporting surface under ideal job conditions
2. When making lifts on outriggers, machine must be level and supported on fully extended outriggers with tires free of supporting surface.
3. The front and rear outriggers must be in proper working position before swinging over side.
4. [illegible] capacities on tires depend on tire [illegible]city, condition of tires, and tire pressure. On tire picks require lifting from main boom head only on a smooth and level surface at 1.0 m.p.h. *(1.60 km/h)*. Boom sections must be extended equally with swing lock engaged.

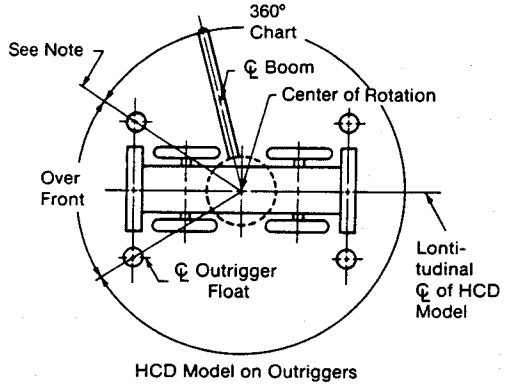
Operation:

1. For the clamshell and concrete bucket operation weight of bucket and material must not exceed 80% of rated lifting capacity. Fly or jib is not to be used for clamshell operation.
2. Crane capacities do not exceed 85% of minimum tipping loads.
3. Those capacities above the heavy line indicate capacities based on factors other than those which would cause a tipping condition.
4. Do not operate machine with boom or boom plus fly lengths at or beyond radii where no capacities are shown. Machine may overturn without any load on the hook.
5. 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.
6. When making lifts at a load radius not shown on charts, use next longer radius to determine allowable capacity.
7. 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. Deduction from rated capacities must be made for weight of hook block, weighted ball/hook, sling, spreader bar, fly, or other suspended gear.
8. The following deductions from rated main boom capacities must be made if machine is equipped with the following:
   a. 20' *(6.10 m)* one-piece fly stowed on boom - 500 lbs. *(226.8 kg)*.
   b. 20' *(6.10 m)* one-piece fly in working position - 1300 lbs *(589.7 kg)*.
   c. 20' *(6.10 m)* one-piece jib stowed on boom - 500 lbs *(226.8 kg)*.
   d. 20' *(6.10 m)* one-piece jib in working position - 1300 lbs. *(589.7 kg)*.
10. Extension or retraction of the boom with loads within the limits of the applicable rating chart may be attempted. The ability to telescope load is limited by hydraulic pressure, boom angle, boom length, boom lubrication, etc.
11. Do not move load to radii or boom lengths greater than those specified on applicable chart.
12. Deduction must be made for excessive reeving. Any reeving over minimum required is considered excessive.
13. For boom lengths with fly less than 80' *(24.38 m)*, the rated loads are determined by boom angle only.
14. The 20' *(6.10 m)* jib capacities are based on main boom angle regardless of main boom length. Capacity values are for 360° operation.
15. The 25'4" *(7.69 m)* boom length capacities are based on boom fully retracted. If not fully retracted, do not exceed ratings for the 30' *(9.14 m)* boom length.

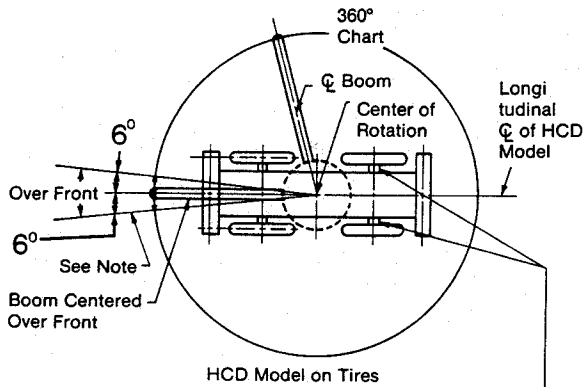
Definitions:

1. Operating 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.
2. Loaded Boom Angle: The angle between the boom base section and the horizontal, after lifting the rated load at the rated radius.
3. Working Area: Areas measured in a circular arc about the center line of rotation as shown on the working area diagram.
4. Freely Suspended Load: Load hanging free with no direct external force applied except by the lift cable.
5. Side Load: Horizontal force applied to the lifted load either on the ground or in the air.

HCD-80B Working Areas



HCD Model on Outriggers



HCD Model on Tires

Rear axle oscillation lockouts must be engaged for 360° operation

Note: These lines determine the limiting position of any load for operation within working areas indicated.

FMC Corporation Construction Equipment Group Lexington Kentucky 40512

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