FMC

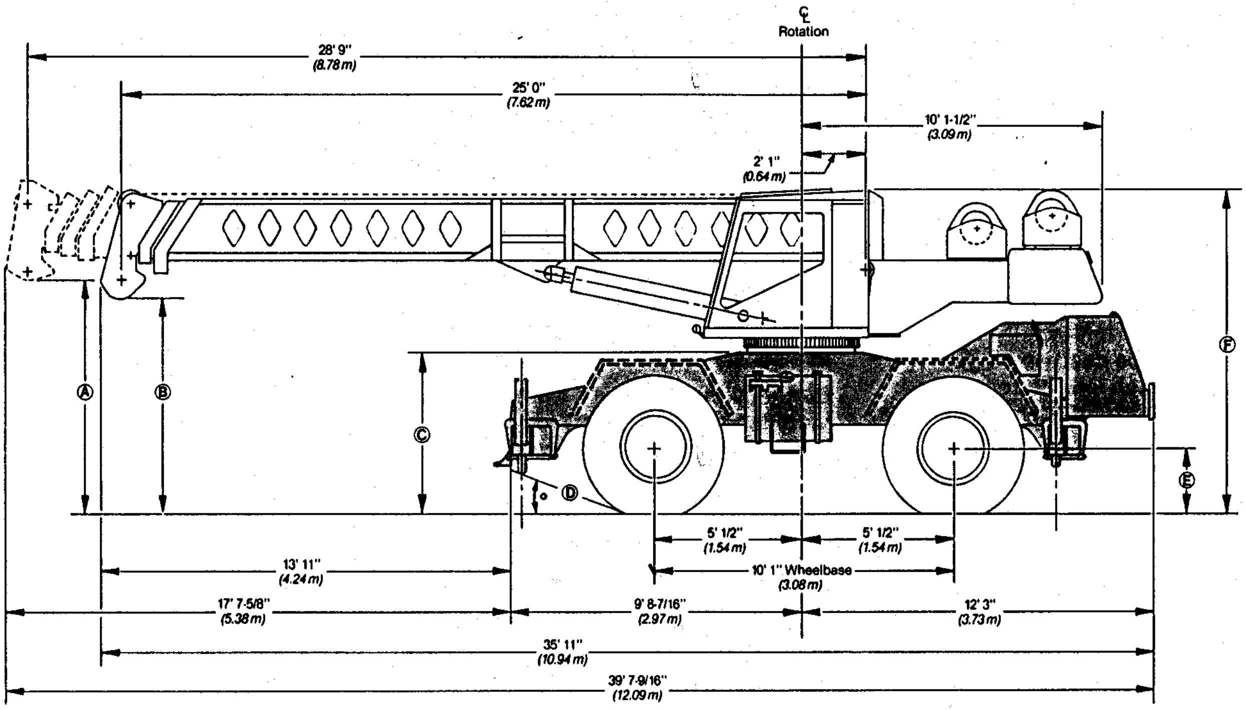
General Specifications

Link-Belt®

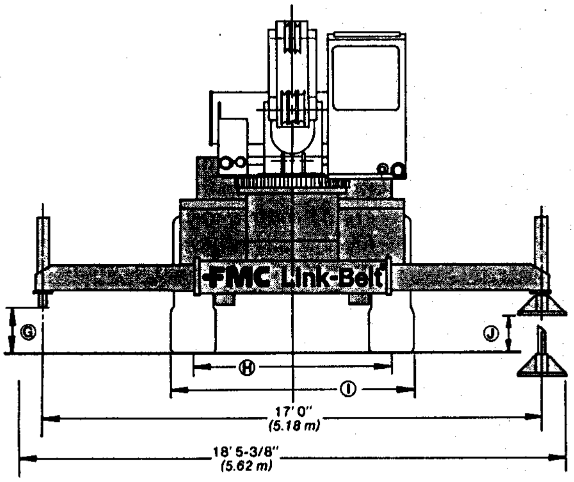
GENERAL INFORMATION ONLY

Eighty Series Hydraulic Rough Terrain Crane

HSP-8020 20-ton *(18.14 metric ton)*



Not to scale



General dimensions	Feet	*meters*
Turning radius (4-wheel steer)	15' 10"	*4.83*
Tailswing of counterweight	10' 6"	*3.20*

Dimensions affected by tires

Tires	16.0 x 24 (16-PR)		17.5 x 25 (16-PR)		20.5 x 25 (20-PR)	
	Feet	*meters*	Feet	*meters*	Feet	*meters*
A	—	—	—	—	8' 3/4"	*2.46*
B	7' 5"	*2.26*	7' 2-1/2"	*2.20*	7' 5-3/4"	*2.28*
C	5' 7-5/16"	*1.71*	5' 4-1/2"	*1.64*	5' 8-1/4"	*1.73*
D	19.4°	—	16.8°	—	20°	—
E	2' 1-13/16"	*0.66*	1' 11"	*0.58*	2' 4-9/16"	*0.73*
F	11' 7/16"	*3.36*	10' 9-5/8"	*3.29*	11' 2-3/4"	*3.42*
G	20-1/8"	*0.51*	17-1/4"	*0.44*	21"	*0.53*
H	6' 6-7/16"	*1.99*	6' 5-13/16"	*1.91*	6' 11-7/16"	*2.12*
I	8' 0"	*2.44*	8' 0"	*2.44*	8' 8-13/16"	*2.66*
J	12-1/8"	*0.31*	9-1/4"	*0.24*	13"	*0.33*

Litho in USA 7/84

#5024

Upperstructure

Boom

FMC patented design. 25' 0"-60' 0" *(7.62-18.29 m)*three-section power boom. Boom side plates have diamond shaped impressions for superior strength to weight ratio and 100,000 p.s.i. *(689.5 MPa)* steel angle chords for lateral stiffness. Boom telescope sections are supported by wear shoes both vertically and horizontally to prevent metal-to-metal contact.

Optional boom — 28' 9" - 91' 0" *(8.76 m - 27.74 m)* 4-section boom with two power sections and one manual section.

Optional boom — 28' 9" - 49' 6" *(8.76 m - 15.09 m)* 2-section boom with one power section.

Boom head — Two, three or four, 10-5/8" *(0.27 m)* root diameter head sheaves handle up to 8 parts of wire rope. Two easily removable wire rope guards, and rope dead end lugs provided on each side of boom head. Optional 12-1/8" *(0.31 m)* root diameter head sheaves; meets 23:1 ratio European safety code with *14 mm* wire rope.

Auxiliary lifting sheave — Optional. Single 10-5/8" *(0.27 m)* root diameter sheave with removable wire rope guard, mounted to boom. For use with one or two parts of line off the optional auxiliary winch. Does not affect erection of fly, or use of main head sheaves for multiple reeving.

Boom elevation — One FMC designed hydraulic cylinder with holding valve. Self-aligning steel bushings. Hand and optional foot controls for controlling 3-section boom elevation from -5° to 80° and 4-section boom elevation from -3° to 80°. Boom angle indicator standard.

Fly
Optional; 20' 0" *(6.10 m)* stowable one-piece lattice type. (3-section boom only)

Optional; 24' 0" *(7.32 m)* stowable one-piece lattice type. (2 & 4 section boom only)

Jib
Optional; 14' 6" *(4.42 m)* stowable A-frame. Attaches to boom head only. Can be offset 10°, 20°, and 30°. (2 & 4 section boom only)

Cab and Controls

Environmental cab; isolated from vibration by rubber mounts. All tinted, tempered safety glass windows. Sliding rear window and swing up roof window for maximum visibility and ventilation. Slide-by door opens to 3' 0" *(0.91 m)* width. 3-way adjustable operator's seat. 4-way adjustable tilt/telescoping steering wheel. Ignition and steering wheel key lock. Control levers for swing, boom telescope, winch and boom hoist. Outrigger controls, sight level bubble. Optional foot controls for boom hoist, and swing brake.

Cab Instrumentation — Dash mounted gauges for hydraulic oil temperature, converter temperature, fuel, water temperature, voltmeter and oil pressure.

Swing

Bi-directional hydraulic swing motor mounted to a planetary reducer for 360° continuous smooth swing at 3.0 r.p.m.

Swing parking brake — Manually applied-released, disc brake mounted on the speed reducer.

Swing lock — Standard two position pin-type (over front and rear) operated from operator's cab.

Counterweight — Bolted to upperstructure frame.

Hydraulic system

Main pump — Double gear-type pump. Powered by carrier engine through a straight mechanical drive or through an optional mechanical clutch pump disconnect. Pump operates at 2,800 p.s.i. *(193.05 Bars)* maximum system pressure.

Swing/steering pump — Single gear-type pump. Powered by carrier engine through a straight mechanical drive. Pump operates at 2,500 p.s.i. *(172.37 Bars).*

Reservoir — FMC, 100 gallon *(378.50 L)* capacity. Double diffusers for deareation.

Filtration — Two 10 micron filters located outside of hydraulic reservoir for easy replacement.

Control valves — 5 separate control valves allow simultaneous operation of all crane functions.

Load hoist system

Standard: Main winch with single speed motor and automatic brake; power up/power down mode of operation. Bi-directional gear-type hydraulic motor, driven through a double planetary reduction unit for positive operator control under all load conditions.

Optional; 2 speed main winch; 1 speed auxiliary winch.

Line pulls and speeds — Maximum permissible line pull 9,000 lbs. *(4 082 kg)* and maximum permissible line speed 416 f.p.m. *(126.80 m/min.)* on standard 12" *(0.30 m)* root diameter smooth drum. Maximum permissible line pull 8,195 lbs. *(3 717 kg)* and maximum permissible line speed 443 f.p.m. *(135.03 m/min.)* on optional 13-1/4" *(0.34 m)* diameter grooved drum.

Optional upperstructure equipment
360° house lock, electronic boom length indicator, boom hoist foot control, propane heater, diesel heater, rear view mirrors, seat belt, warning horn, foot actuated swing brake, two-speed main winch, grooved drum, drum rotation indicators, 15-ton *(13.61 metric ton)* hook block, 8-1/2 ton *(7.71 metric ton)* hook, ball and swivel, anti-two block, load moment device, back-up alarm, rear steer indicator, two single sealed beam head lights, front and rear directional signals, stop and tail lights, boom mounted working light, engine monitoring system, tachometer, air conditioner, top hatch window wiper.

Chassis

Type

FMC 8' 0" *(2.44 m)* wide, 121" *(3.07 m)* wheelbase.

4x2x4 - (4-wheel steer, 2 wheel drive) Standard; for flat terrain with limited turning area.

4x4x4 - (4-wheel steer, 4 wheel drive) Optional; for rough terrain with limited turning area.

4x4x4 - (4-wheel steer, 4 wheel drive) Optional; rear axle with no-spin differential; for rough terrain with limited turning area.

Frame — FMC designed, 100,000 p.s.i. *(689.5 MPa)* steel, double walled construction with integral 100,000 p.s.i. *(689.5 MPa)* steel outrigger boxes.

Outriggers

Four hydraulic, telescoping beam and jack outriggers. Vertical jack cylinders equipped with integral holding valve. Beams extended 17' 0" *(5.18 m)* centerline-to-centerline and retract to within 8' 0" *(2.44 m)* overall width. Equipped with stowable, lightweight 17-3/8" *(0.44 m)* square steel floats. Controls and sight level bubble located in upperstructure cab.

Axles

Front-Standard; heavy duty planetary drive/steer type.

Rear-Standard; heavy duty non-driving/steer type.

Rear-Optional; heavy duty planetary drive/steer type.

Rear-Optional; heavy duty no-spin differential, planetary drive/steer type.

Suspension

Front axle — Rigid mounted to frame.

Rear axle — Pin-mounted on welded steel box cradle. Automatic hydraulic rear axle oscillation lockout engages when upperstructure rotates past 2 1/2° of centerline.

Tires

Front and rear — Standard 16.0 x 24 (16-PR).

Optional — 17.5 x 25 (16-PR)
20.5 x 25 (20-PR)

Brakes

Service — Air over hydraulic brakes on all 4 wheels. 17" x 4" *(0.43 m x 0.10 m)* drum brakes on each wheel. Effective lining area 142 sq. in./wheel *(916 cm²)*.

Parking — Spring applied, air released; cab controlled; mounted on front axle.

Steering — Hydraulic two wheel, four wheel and "crab" steering; controlled from tilt/telescoping steering wheel.

Transmission — Allison 4-speed fully automatic transmission. 8-speeds forward and 2 reverse with 2-speed Rockwell heavy duty transfer case. Electric over air controls. Completely automatic shifting in both low and high range for operator convenience.

Miscellaneous standard equipment — Cab steps, 2 front carrier steps, skid resistant finish on carrier deck, storage compartment. Automatic rear axle disconnect.

Optional chassis equipment—24 volt start, no-spin differential on rear axle, front and rear towing shackles, lifting lug package, front and rear fenders, engine block heater, ether injection package, alcohol evaporator, spare tires and rims, pintle hook, manual pump disconnect, auxiliary steering system, air dryer.

Travel Speeds and Gradeability

Engine	Tires	Maximum speed		Gradeability at stall (See Note)	Maximum tractive effort at stall		Gradeability at 1.0 m.p.h. *(1.61 km/h)*	Maximum tractive effort at 1.0 m.p.h. *(1.61 km/h)*	
		m.p.h.	*km/h*		Pounds	*kilograms*		Pounds	*kilograms*
GM 4-53N	16.0 x 24	20	*32.19*	173%	41,550	*18 840*	71%	27,780	*12 600*
	17.5 x 25	18	*28.97*	212%	43,280	*19 630*	65%	26,020	*11 800*
	20.5 x 25	21	*33.80*	126%	38,760	*17 580*	58%	24,870	*11 280*
Cummins V378C*	16.0 x 24	22	*35.40*	189%	42,510	*19 280*	67%	26,740	*12 130*
	17.5 x 25	20	*32.19*	240%	44,280	*20 080*	69%	27,270	*12 370*
	20.5 x 25	23	*37.01*	134%	39,650	*17 980*	61%	25,840	*11 720*

*Optional equipment **Note:** Gradeability values above 58% (30°) are theoretical due to engine oil pan limits.

Engine	GM 4-53N	Cummins V-378C*
Cylinders - cycle	4 - 2	6 - 4
Bore	3-7/8" *(98.43 mm)*	4-5/8" *(117.48 mm)*
Stroke	4-1/2" *(114.30 mm)*	3-3/4" *(95.25 mm)*
Displacement	212 cu. in. *(3 475 cm³)*	378 cu. in. *(6 195 cm³)*
Maximum brake h.p.	136 at 2,800 r.p.m.	145 at 3,000 r.p.m.
Peak torque	282 ft. lbs. *(382.39 J)*	280 ft. lbs. *(379.68 J)*
Electric system	12 volt negative ground	12 volt negative ground
Fuel capacity	75 gallons *(283.90 L)*	75 gallons *(283.90 L)*
Alternator	42 amp	80 amp
Crankcase capacity	14 quarts *(13.25 L)*	18 quarts *(17.03 L)*
Air compressor	12 c.f.m. *(0.34 m³/min.)*	13.2 c.f.m. *(0.37 m³/min.)*

*Optional Engine

Axle loads 3-section boom

Base machine with optional 25' - 60' *(7.62-18.29 m)* 3-section boom, 385' *(117.35 m)* 9/16" *(14 mm)* wire rope, FMC 4 x 4 x 4 carrier with GM 4-53N engine, 16.0 x 24 tires, counterweight.	G.V.W.①		Upper facing front				Upper facing rear			
			Front axle		Rear axle		Front axle		Rear axle	
	Lbs.	kgs	Lbs.	kgs	Lbs.	kgs	Lbs.	kgs	Lbs.	kgs
	43,690	19 818	18,495	8 389	25,195	11 428	18,784	8 520	24,906	11 297
17.5 x 25 tires	— 124	— 56	— 62	— 28	— 62	— 28	— 62	— 28	— 62	— 28
20.5 x 25 tires	+1,430	+ 649	+ 715	+324	+715	+324	+ 715	+324	+715	+324
Hook block at bumper	+ 388	+ 176	+ 605	+274	—217	— 98	—	—	—	—
Headache ball at bumper	+ 213	+ 97	+ 332	+151	—119	— 54	—	—	—	—
Auxiliary lifting sheave	+ 90	+ 41	+ 258	+117	—168	— 76	— 168	— 76	+258	+117
20' *(6.10 m)* lattice fly	+ 509	+ 231	+ 878	+398	—369	—167	— 369	—167	+878	+398
2-section boom	—2,450	—1 111	—2,153	—976	—297	—135	—1,879	—853	—571	—259

① Adjust gross vehicle weight and axle loading according to component weight.

Note: All weights are ± 3%.

Axle loads 4-section boom

Base machine with standard 28' 9"-91' *(8.76-27.74 m)* 4-section boom, 400' *(121.92 m)* 9/16" *(14 mm)* wire rope, FMC 4 x 4 x 4 carrier with GM 4-53N engine, 16.0 x 24 tires, counterweight.	G.V.W.①		Upper facing front				Upper facing rear			
			Front axle		Rear axle		Front axle		Rear axle	
	Lbs.	kgs	Lbs.	kgs	Lbs.	kgs	Lbs.	kgs	Lbs.	kgs
	45,771	20 762	23,081	10 470	22,690	10 292	14,628	6 635	24,906	11 297
Hook block at bumper	+ 388	+176	+ 605	+274	—217	— 98	—	—	—	—
Headache ball at bumper	+ 213	+ 97	+ 332	+151	—119	— 54	—	—	—	—
Auxiliary lifting sheave	+ 75	+ 34	+ 243	+110	—168	— 76	—168	— 76	+ 243	+110
14' 6" *(4.42 m)* A-frame jib stowed	+ 575	+261	+1,337	+606	—762	—346	—762	—346	+1,337	+606
24' *(7.32 m)* lattice fly	+ 480	+218	+ 922	+418	—442	—200	—442	—200	+ 922	+418
20.5 x 25 tires	+1,430	+649	+ 715	+324	+715	+324	+715	+324	+ 715	+324

① Adjust gross vehicle weight and axle loading according to component weight.

Note: All weights are ± 3%.

GENERAL INFORMATION ONLY

Link-Belt
CONSTRUCTION EQUIPMENT

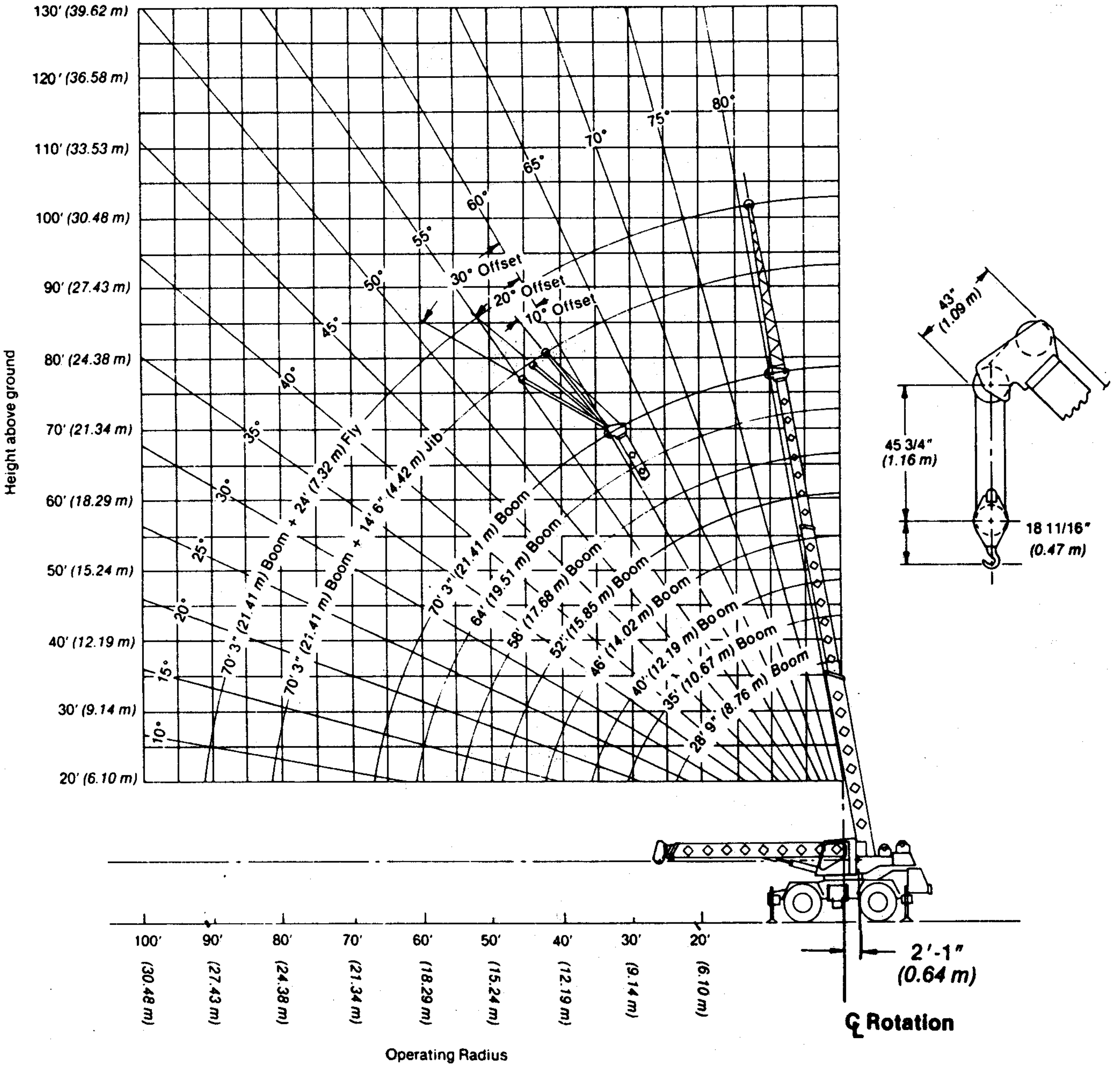
Lifting Capacities

Hydraulic Rough Terrain Crane

PCSA Class 12-80

HSP-8020 20-ton *(18.14 metric ton)*

3-Section Boom



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

Litho in U.S.A. 4/86

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.

HSP-8020 Lifting Capacities

Refer to **Operating Instructions** page 4

25′ *(7.62 m)*-70.25′ *(21.41 m)* 3-section boom

Load Radius	Capacities On Outriggers① – 3-Section Boom																70.25′ *(21.41 m)* Boom plus 24′ *(7.32 m)* fly		
	28.75′ *(8.76 m)*		35.0′ *(10.67 m)*		40.0′ *(12.19 m)*		46.0′ *(14.02 m)*		52.0′ *(15.85 m)*		58.0′ *(17.68 m)*		64.0′ *(19.51 m)*		70.25′ *(21.41 m)*		94.25′(28.73 m)②		
	360°	Front	360°	Front	360°	Front	360°	Front	360°	Front	360°	Front	360°	Front	360°	Front	Angle	360°	Front
10′ *3.05 m*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*							
12′ *3.66 m*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	39,400 *17872*	39,400 *17872*	37,300 *16919*	37,300 *16919*					
15′ *4.57 m*	35,900 *16284*	35,900 *16284*	35,900 *16284*	35,900 *16284*	35,900 *16284*	35,900 *16284*	35,900 *16284*	35,900 *16284*	35,600 *16 148*	35,600 *16 148*	33,700 *15286*	33,700 *15286*	32,100 *14561*	32,100 *14561*	21,100 *9571*	21,100 *9571*			
20′ *6.10 m*	25,800 *11 703*	25,800 *11 703*	25,800 *11 703*	25,800 *11 703*	25,800 *11 703*	25,800 *11 703*	25,800 *11 703*	25,800 *11 703*	25,800 *11 703*	25,800 *11 703*	25,800 *11 703*	25,800 *11 703*	25,800 *11 703*	25,800 *11 703*	21,100 *9571*	21,100 *9571*	78.5	13,900 *6305*	13,900 *6305*
25′ *7.62 m*	18,300 *8301*	19,600 *8891*	18,300 *8301*	19,600 *8891*	18,300 *8301*	19,600 *8891*	18,300 *8301*	19,600 *8891*	18,300 *8301*	19,600 *8891*	18,300 *8301*	19,600 *8891*	18,300 *8301*	19,600 *8891*	18,300 *8301*	19,600 *8891*	75.5	12,800 *5806*	12,800 *5806*
30′ *9.14 m*			13,400 *6078*	15,700 *7122*	13,400 *6078*	15,700 *7122*	13,400 *6078*	15,700 *7122*	13,400 *6078*	15,700 *7122*	13,400 *6078*	15,700 *7122*	13,400 *6078*	15,700 *7122*	13,400 *6078*	15,700 *7122*	72.5	11,300 *5 126*	11,300 *5 126*
35′ *10.67 m*					10,200 *4627*	12,200 *5534*	10,200 *4627*	12,200 *5534*	10,200 *4627*	12,200 *5534*	10,200 *4627*	12,200 *5534*	10,200 *4627*	12,200 *5534*	10,200 *4627*	12,200 *5534*	69.5	9,900 *4491*	9,900 *4491*
40′ *12.19 m*							8,000 *3629*	9,600 *4355*	8,000 *3629*	9,600 *4355*	8,000 *3629*	9,600 *4355*	8,000 *3629*	9,600 *4355*	8,000 *3629*	9,600 *4355*	66.0	8,700 *3946*	8,700 *3946*
45′ *13.72 m*									6,500 *2948*	7,800 *3538*	6,500 *2948*	7,800 *3538*	6,500 *2948*	7,800 *3538*	6,500 *2948*	7,800 *3538*	62.5	7,400 *3357*	7,900 *3583*
50′ *15.24 m*											5,300 *2404*	6,500 *2948*	5,300 *2404*	6,500 *2948*	5,300 *2404*	6,500 *2948*	59.0	6,100 *2767*	7,300 *3311*
55′ *16.76 m*											4,300 *1950*	5,400 *2449*	4,300 *1950*	5,400 *2449*	4,300 *1950*	5,400 *2449*	55.5	5,100 *2313*	6,100 *2767*
60′ *18.29 m*													3,500 *1588*	4,500 *2041*	3,500 *1588*	4,500 *2.041*	51.5	4,300 *1950*	5,300 *2404*
65′ *19.81 m*															2,900 *1315*	3,800 *1724*	47.5	3,600 *1633*	4,500 *2041*
70′ *21.34 m*																	42.5	3,100 *1406*	3,900 *1769*
75′ *22.86 m*																	37.5	2,600 *1179*	3,300 *1497*
80′ *24.38 m*																	32.0	2,200 *998*	2,900 *1315*
90′ *27.43 m*																	14.5	1,500 *680*	2,100 *953*

① Boom sections must be extended equal distances.

② Capacities are determined by boom angle only.

Wire rope size and type

Wire rope application	Size and type used	Wire rope description
Main winch Auxiliary winch	9/16″ *(14 mm)* diameter, Type "N" 9/16″ *(14 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.

Tire Inflation

Tires	PR	Stationary	'Pick & Carry'
16.00 x 24	16	80 p.s.i. *(5.52 Bars)*	80 p.s.i. *(5.52 Bars)*
20.50 x 25	20	80 p.s.i. *(5.52 Bars)*	80 p.s.i. *(5.52 Bars)*

Refer to **Operating Instructions page 4**

Capacities① On Tires② – 3-Section Boom

Load Radius	Max. Boom Length	16.00 x 24 *(16-PR)* Pick & Carry③ Front	16.00 x 24 *(16-PR)* Stationary 360°	16.00 x 24 *(16-PR)* Stationary Front	20.50 x 25 *(20-PR)* Pick & Carry③ Front	20.50 x 25 *(20-PR)* Stationary 360°	20.50 x 25 *(20-PR)* Stationary Front
10' *3.05m*	28.75' *8.76m*	29,300 *13290*	19,700 *8936*	29,700 *13472*	29,200 *13245*	21,700 *9843*	29,900 *13563*
12' *3.66m*	28.75' *8.76m*	25,400 *11521*	14,600 *6623*	26,300 *11930*	25,400 *11521*	16,000 *7258*	26,400 *11975*
15' *4.57m*	28.75' *8.76m*	20,900 *9480*	10,000 *4536*	21,300 *9662*	20,900 *9480*	11,000 *4990*	21,500 *9752*
20' *6.10m*	28.75' *8.76m*	12,900 *5851*	6,000 *2722*	12,900 *5851*	13,300 *6033*	6,700 *3039*	13,300 *6033*
25' *7.62m*	28.75' *8.76m*	8,700 *3946*	3,700 *1678*	8,700 *3946*	9,000 *4082*	4,200 *1905*	9,000 *4082*
30' *9.14m*	35.0' *10.67m*	6,400 *2903*	2,500 *1134*	6,400 *2903*	6,600 *2994*	2,900 *1315*	6,600 *2994*
35' *10.67m*	40.0' *12.19m*	4,800 *2177*	1,600 *726*	4,800 *2177*	5,000 *2268*	2,000 *907*	5,000 *2268*
40' *12.19m*	46.0' *14.02m*	3,700 *1678*	1,000 *454*	3,700 *1678*	3,800 *1724*	1,300 *590*	3,800 *1724*
45' *13.72m*	52.0' *15.85m*	2,900 *1315*		2,900 *1315*	3,000 *1361*		3,000 *1361*
50' *15.24m*	58.0' *17.68m*	2,200 *998*		2,200 *998*	2,300 *1043*		2,300 *1043*
55' *16.76m*	58.0' *17.68m*	1,600 *726*		1,600 *726*	1,700 *771*		1,700 *771*
60' *18.29m*	64.0' *19.51m*	1,300 *590*		1,300 *590*	1,400 *635*		1,400 *635*
65' *19.81m*	70.25' *21.41m*				1,000 *454*		1,000 *454*

① Off main boom head only. Boom sections must be extended equal distances.

② Refer to tire inflation chart.

③ See Operating Instructions; Set-up Note Number 3.

Jib Capacities

14.5' *(4.42 m)* **A-Frame Jib**

Boom angle	Jib Offset 10°	Jib Offset 20°	Jib Offset 30°
80°	11,500* *5216*	8,700 *3946*	5,900 *2676*
75°	9,900* *4491*	7,800 *3538*	5,100 *2313*
70°	8,500 *3856*	6,700 *3039*	4,600 *2087*
65°	7,600 *3447*	6,100 *2767*	4,400 *1996*
60°	7,000 *3175*	5,500 *2495*	4,000 *1814*
55°	5,400 *2449*	4,900 *2223*	3,800 *1724*
50°	4,500 *2041*	4,000 *1814*	3,600 *1633*
45°	3,600 *1633*	3,300 *1497*	3,200 *1452*
40°	3,100 *1406*	2,900 *1315*	2,800 *1270*
35°	2,700 *1225*	2,700 *1225*	2,700 *1225*
30°	2,200 *998*	2,200 *998*	2,200 *998*

*11,500 & 9,900 lb. capacitiy require two parts line. All other capacities must be picked using one part of line.

Capacity Deductions for Auxiliary Load Handling Equipment	
Aux. Head	100 lb. (45.36 kg)
Fly Stowed	300 lb. (136.08 kg)
Fly Erected	800 lb. (362.88 kg)
Jib Stowed	500 lb. (226.8 kg)
Jib Erected	800 lb. (362.88 kg)

Drum Wire Rope Capacities

Wire Rope Layer	Main or auxiliary winch 12" *(0.30 m)* root diameter smooth lagging — Wire Rope Diameter = 0.5625 in. *(14.3 mm)* — Capacity — Rope Per Layer Feet	Rope Per Layer Meters	Total Wire Rope Feet	Total Wire Rope Meters	Main or auxiliary winch 13.25" *(0.34 m)* root diameter grooved lagging* — Wire Rope Diameter = 0.5625 in. *(14.3 mm)* — Capacity — Rope Per Layer Feet	Rope Per Layer Meters	Total Wire Rope Feet	Total Wire Rope Meters
1	82	25.0	82	25.0	94	28.7	94	28.7
2	93	28.3	175	53.3	106	32.3	200	61.0
3	101	30.8	276	84.1	109	33.2	309	94.2
4	108	32.9	384	117.0	117	35.7	426	129.8
5	112	34.1	496	151.2	125	38.1	551	167.9
6	119	36.3	615	187.5	132	40.2	683	208.2

*Optional equipment – recommended for export use only, 25:1 ratio.

Line Speeds and Pulls

Wire Rope Layer	Speed	Main or auxiliary winch 12" *(0.30 m)* drum — Line Speeds (fpm)	Line Speeds *(m/min)*	Available Line Pulls (Lbs.)	Available Line Pulls *(Kgs.)*	Main or auxiliary winch 13.25" *(0.34 m)* drum — Line Speeds (fpm)	Line Speeds *(m/min)*	Available Line Pulls (Lbs.)	Available Line Pulls *(Kgs.)*
1	Low	161	*49.07*	9,600	*4355*	177	*53.95*	9,015	*4089*
	High①	287	*87.48*	5,510	*2499*	315	*96.01*	5,020	*2277*
2	Low	175	*53.34*	9,090	*4123*	191	*58.22*	8,350	*3787*
	High①	313	*95.40*	5,060	*2295*	341	*103.94*	4,650	*2109*
3	Low	190	*57.91*	8,400	*3810*	205	*62.48*	7,770	*3524*
	High①	339	*103.33*	4,680	*2123*	366	*111.56*	4,330	*1964*
4	Low	204	*62.18*	7,810	*3543*	219	*66.75*	7,270	*3298*
	High①	365	*111.25*	4,340	*1969*	391	*119.18*	4,050	*1837*
5	Low	218	*66.45*	7,290	*3307*	233	*71.02*	6,830	*3098*
	High①	390	*118.87*	4,060	*1842*	417	*127.10*	3,800	*1724*
6	Low	233	*71.02*	6,840	*3103*	246	*74.98*	6,440	*2921*
	High①	416	*126.80*	3,810	*1728*	443	*135.03*	3,590	*1628*

① Two-speed motor optional

HSP-8020
Warning and Operating Instructions

General:

1. 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
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 manuals supplied with this 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. The maximum allowable lifting capacities are based on machine standing level on firm supporting surface
5. All capacities are in pounds with metric equivalent in italic

Set-Up:

1. 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.
2. When making lifts on outriggers, outrigger beams must be fully extended with tires free of supporting surface
3. Crane capacities on tires depend on tire capacity, condition of tires, and tire air pressure. On tire picks require lifting from main boom head only on a smooth and level surface. Boom sections must be extended equally Pick and carry operations (creep) are restricted to a maximum speed of 1 m.p.h. and not exceeding 200 ft in a 30 minute period. The boom must be centered over front with swinglock engaged and the load must be restrained from swinging. Lifts with fly or jib erected on tires are prohibited

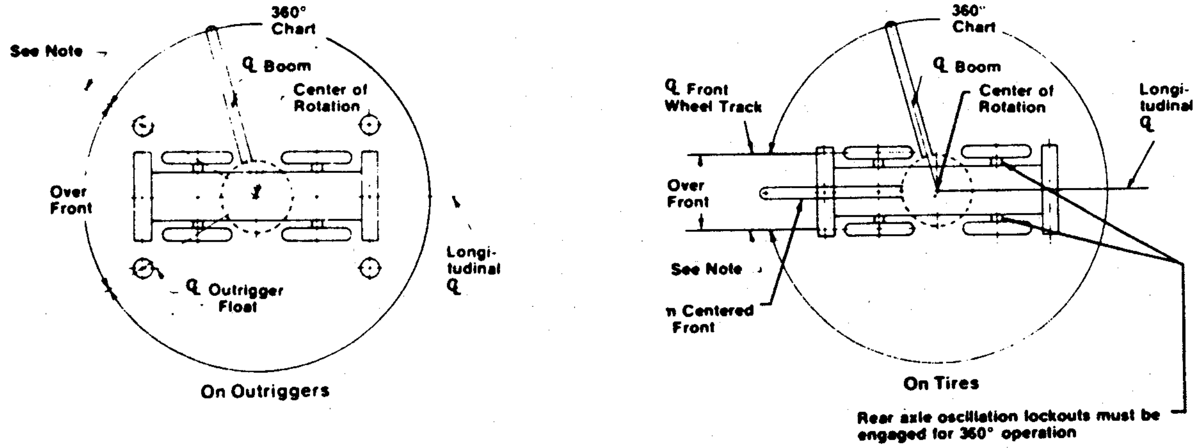
Operation:

1. 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 5,000 pounds or 80% of rated lifting capacity, whichever is less. For magnet operation, weight of magnet and load is restricted to a maximum weight of 5,000 pounds or 80% of rated lifting capacity, whichever is less. For clamshell and magnet operation, maximum boom length is restricted to 46 feet and the boom angle is restricted to a minimum of 35° The fly is prohibited and the jib is prohibited for both clam and magnet operation.
2. Crane capacities on outriggers do not exceed 85% of the tipping loads and capacities on tires do not exceed 75% of the tipping loads as determined by SAE Crane Stability Test Code J-765a.
3. The crane capacities above the bold lines are based on structural strength or hydraulic limitations
4. 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.
5. 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
6. Rated lifting capacities are for lift crane service only.
7. 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
8. 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.
9. When either boom length or radius or both are between values listed, the smallest load shown at either the next larger radius or the next longer or shorter boom length shall be used.
10. 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.
11. When making lifts with auxiliary head machinery, the effective length of the boom increases by 2 feet. Effective length of boom is length shown on boom length indicator plus 2 feet.
12. Power sections must be extended equally.
13. For boom lengths with fly less than 94.25 ft., the rated loads are determined by boom angle only in the column headed by 94.25 ft. For angles not shown, use next lower boom angle to determine allowable capacity
14. The 28.75 ft. boom length capacities are based on boom fully retracted. If not fully retracted, do not exceed ratings for the 35 ft. boom length.
15. The 14.5 ft. 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° operation.

Definitions:

1. 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.
2. 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.
3. Working Area: Area measured in a circular arc about the centerline 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 hoist line.
5. Side Load: Horizontal side force applied to the lifted load either on the ground or in the air.

HSP-8020 Working Areas



On Outriggers

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.

Link-Belt Construction Equipment Company Lexington, Kentucky

Lifting Capacities

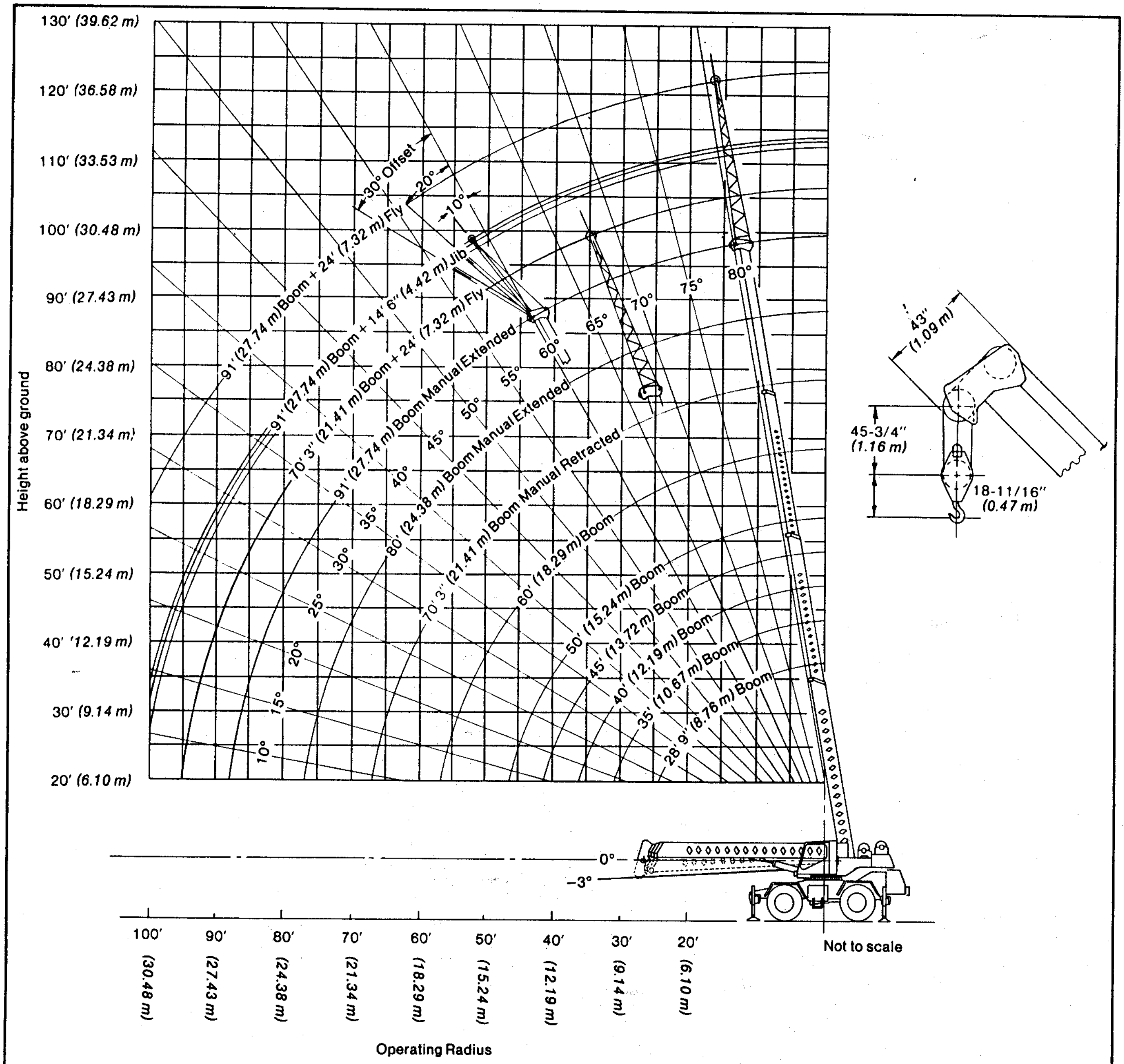
PCSA Class 10-72

Link-Belt®

Eighty Series Hydraulic Rough Terrain Cranes

HSP-8020 20-ton *(18.14 metric ton)*

4-Section Boom



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 boom angle change must be accounted for when applying load to hook.

Printed in U.S.A.

GENERAL INFORMATION ONLY

HSP-8020 Lifting Capacities

Refer to **Operating Instructions** page 4

28′ 9″ *(8.76 m)* - 91′ 0″ *(27.74 m)* 4-section boom

Capacities ① On Outriggers-**Manual Section Retracted**

Load radius	28′ 9″ *(8.76 m)*		35′ *(10.67 m)*		40′ *(12.19 m)*		45′ *(13.72 m)*		50′ *(15.24 m)*		60′ *(18.29 m)*		70′ 3″ *(21.41 m)*		70′3″ *(21.41 m)* boom plus 24′ *(7.32 m)* fly ②	
	Front	**360°**	**Front**	**360°**	**Front**	**360°**	**Front**	**360°**	**Front**	**360°**	**Front**	**360°**	**Front**	**360°**	**Boom angle**	**360°**
10′ *3.05 m*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*						
12′ *3.66 m*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	40,000 *18 144*	39,900 *18 099*	39,900 *18 099*	31,600 *14 334*	31,600 *14 334*				
15′ *4.57 m*	35,000 *15 876*	35,000 *15 876*	35,000 *15 876*	35,000 *15 876*	34,900 *15 831*	34,900 *15 831*	34,500 *15 649*	34,500 *15 649*	33,500 *15 196*	33,500 *15 196*	27,800 *12 610*	27,800 *12 610*	20,800 *9 435*	20,800 *9 435*		
20′ *6.10 m*	25,300 *11 476*	25,300 *11 476*	25,300 *11 476*	25,300 *11 476*	25,300 *11 476*	25,300 *11 476*	25,300 *11 476*	25,300 *11 476*	25,300 *11 476*	25,300 *11 476*	22,400 *10 161*	22,400 *10 161*	20,000 *9 072*	20,000 *9 072*	78.5°	14,400 *6 532*
25′ *7.62 m*	19,000 *8 618*	18,100 *8 210*	19,000 *8 618*	18,100 *8 210*	19,000 *8 618*	18,100 *8 210*	19,000 *8 618*	18,100 *8 210*	19,000 *8 618*	18,100 *8 210*	18,200 *8 256*	18,100 *8 210*	17,100 *7 757*	17,100 *7 757*	75.5°	12,800 *5 086*
30′ *9.14 m*			15,100 *6 849*	12,700 *5 761*	15,100 *6 849*	12,700 *5 761*	15,100 *6 849*	12,700 *5 761*	15,100 *6 849*	12,700 *5 761*	15,100 *6 849*	12,700 *5 761*	14,000 *6 350*	12,700 *5 761*	72.5°	11,300 *5 126*
35′ *10.67 m*					11,900 *5 398*	9,400 *4 264*	11,900 *5 398*	9,400 *4 264*	11,900 *5 398*	9,400 *4 264*	11,900 *5 398*	9,400 *4 264*	11,900 *5 398*	9,400 *4 264*	69.0°	9,900 *4 491*
40′ *12.19 m*							9,300 *4 218*	7,200 *3 266*	9,300 *4 218*	7,200 *3 266*	9,300 *4 218*	7,200 *3 266*	9,300 *4 218*	7,200 *3 266*	65.5°	8,400 *3 810*
45′ *13.72 m*									7,400 *3 357*	5,500 *2 495*	7,400 *3 357*	5,500 *2 495*	7,400 *3 357*	5,500 *2 495*	62.0°	6,700 *3 039*
50′ *15.24 m*											6,000 *2 722*	4,300 *1 950*	6,000 *2 722*	4,300 *1 950*	58.5°	5,400 *2 449*
55′ *16.76 m*											4,800 *2 177*	3,300 *1 497*	4,800 *2 177*	3,300 *1 497*	55.0°	4,400 *1 996*
60′ *18.29 m*													3,900 *1 769*	2,600 *1 179*	51.0°	3,600 *1 633*
65′ *19.81 m*													3,100 *1 406*	1,900 *862*	46.5°	2,900 *1 315*
70′ *21.34 m*															42.0°	2,400 *1 089*
75′ *22.86 m*															37.0°	1,900 *862*
80′ *24.38 m*															31.0°	1,500 *680*

① Boom sections must be extended equal distance.

② Intermediate capacities for boom plus fly are permissible; See Operating Instructions Number 13.

Capacities ③ On Tires ④
4-Section Boom

Load Radius	20.5 x 25 (20-PR)		
	Pick & Carry ⑤	Stationary	
	Over Front	**360°**	**Over Front**
10′ *3.05 m*	29,800 *13 517*	22,400 *10 161*	29,800 *13 517*
12′ *3.66 m*	25,700 *11 658*	18,000 *8 165*	26,200 *11 884*
15′ *4.57 m*	21,100 *9 571*	13,500 *6 124*	21,400 *9 707*
20′ *6.10 m*	15,100 *6 849*	7,200 *3 266*	15,100 *6 849*
25′ *7.62 m*	10,000 *4 536*	4,300 *1 950*	10,000 *4 536*
30′ *9.14 m*	7,100 *3 221*	2,700 *1 225*	7,100 *3 221*
35′ *10.67 m*	5,100 *2 313*	1,600 *726*	5,100 *2 313*
40′ *12.19 m*	3,700 *1 678*	– –	3,700 *1 678*
45′ *13.72 m*	2,700 *1 225*	– –	2,700 *1 225*
50′ *15.24 m*	1,900 *862*	– –	1,900 *862*
55′ *16.76 m*	1,300 *590*	– –	1,300 *590*

③ Capacities are off main boom head only; boom sections must be equally extended.

④ For 'Pick & Carry' and stationary operations, tires must be inflated to 80 p.s.i. *(5.52 Bars)*.

⑤ Limited to 1.0 m.p.h. *(1.609 km/hr)* travel speed, and swing lock must be engaged.

Wire rope size and type

Wire rope application	Size and type used	Wire rope description
Main winch Auxiliary winch	9/16″ *(14 mm)* diameter, Type "N" 9/16″ *(14 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.

Drum wire rope capacities

Wire rope layer	Main and auxiliary drum 12″ *(0.30 m)* root diameter smooth lagging				Main and auxiliary drum 13-1/4″ *(0.34 m)* root diameter grooved lagging*			
	9/16″ *(14 mm)* wire rope				9/16″ *(14 mm)* wire rope			
	Rope per layer		Total wire rope		Rope per layer		Total wire rope	
	Feet	*meters*	Feet	*meters*	Feet	*meters*	Feet	*meters*
1	82	*24.99*	82	*24.99*	94	*28.65*	94	*28.65*
2	93	*28.35*	175	*53.34*	105	*32.00*	199	*60.66*
3	101	*30.78*	276	*84.12*	109	*33.22*	308	*93.88*
4	108	*32.92*	384	*117.04*	116	*35.36*	424	*129.24*
5	112	*34.14*	496	*151.18*	124	*37.80*	548	*167.03*
6⑥	33	*10.06*	529	*161.24*	132	*40.23*	680	*207.26*

⑥ For storage purposes only - not a working layer.

*Optional equipment-recommended for export use, 25:1 ratio.

HSP-8020 Lifting Capacities

28′ 9″ *(8.76 m)* - 91′ 0″ *(27.74 m)* 4-section boom

Refer to **Operating Instructions** page 4

Capacities ① On Outriggers-**Manual Section Extended**

Load radius	80′ *(24.38 m)* ②			91′ *(27.74 m)* ②			91′ *(27.74 m)* boom plus 24′ *(7.32 m)* fly ③		
	Boom angle	Front	360°	Boom angle	Front	360°	Boom angle	Front	360°
15′ *4.57 m*	80.0°	22,600 *10 251*	22,600 *10 251*						
20′ *6.10 m*	76.5°	18,700 *8 482*	18,700 *8 482*	79.0°	16,600 *7 530*	16,600 *7 530*			
25′ *7.62 m*	73.0°	15,800 *7 167*	15,800 *7 167*	76.0°	14,400 *6 532*	14,400 *6 532*	79.0°	9,000 *4 082*	9,000 *4 082*
30′ *9.14 m*	69.0°	13,700 *6 214*	13,700 *6 214*	72.0°	12,300 *5 579*	12,300 *5 579*	77.0°	8,900 *4 037*	8,900 *4 037*
35′ *10.67 m*	65.0°	12,000 *5 443*	10,700 *4 854*	69.0°	10,600 *4 808*	10,500 *4 763*	74.0°	7,900 *3 583*	7,900 *3 583*
40′ *12.19 m*	61.0°	10,500 *4 763*	8,400 *3 810*	65.5°	9,200 *4 173*	8,200 *3 720*	72.0°	7,000 *3 175*	7,000 *3 175*
45′ *13.72 m*	56.5°	8,500 *3 856*	6,700 *3 039*	62.0°	8,300 *3 765*	6,600 *2 994*	69.5°	6,200 *2 812*	6,200 *2 812*
50′ *15.24 m*	52.0°	7,000 *3 175*	5,400 *2 449*	58.0°	6,900 *3 130*	5,300 *2 404*	66.0°	5,500 *2 495*	5,500 *2 495*
55′ *16.76 m*	47.0°	5,800 *2 631*	4,400 *1 996*	54.0°	5,700 *2 586*	4,300 *1 950*	63.5°	4,900 *2 223*	4,800 *2 177*
60′ *18.29 m*	41.5°	4,900 *2 223*	3,600 *1 633*	50.0°	4,800 *2 177*	3,500 *1 588*	61.0°	4,400 *1 996*	4,000 *1 814*
65′ *19.81 m*	35.0°	4,100 *1 860*	2,900 *1 315*	45.5°	4,000 *1 814*	2,800 *1 270*	58.0°	3,900 *1 769*	3,300 *1 497*
70′ *21.34 m*	27.5°	3,400 *1 542*	2,400 *1 089*	40.5°	3,300 *1 497*	2,300 *1 043*	54.5°	3,400 *1 542*	2,800 *1 270*
75′ *22.86 m*	17.5°	2,900 *1 315*	1,900 *862*	34.5°	2,800 *1 270*	1,800 *816*	51.5°	3,200 *1 452*	2,300 *1 043*
80′ *24.38 m*				28.0°	2,300 *1 043*	1,400 *635*	48.0°	2,800 *1 270*	1,900 *862*
90′ *27.43 m*							40.0°	2,000 *907*	1,200 *544*
100′ *30.48 m*							30.0°	1,400 *635*	— —

① Boom sections must be extended equal distance.

② Intermediate capacities for boom with manual extended are permissible; See Operating Instructions Number 12.

③ Intermediate capacities for boom plus fly are permissible; See Operating Instructions Number 13.

Jib Capacities

14′ 6″ *(4.42 m)* A-Frame Jib

Boom angle	Jib Offset		
	10°	20°	30°
80°	10,000 *4 536*	8,500 *3 856*	5,900 *2 676*
75°	9,000 *4 082*	7,600 *3 447*	5,100 *2 313*
70°	7,000 *3 175*	6,500 *2 948*	4,600 *2 087*
65°	5,500 *2 595*	5,400 *2 449*	4,400 *1 996*
60°	4,400 *1 996*	4,200 *1 905*	3,900 *1 769*
55°	3,200 *1 452*	3,200 *1 452*	3,000 *1 361*
50°	2,100 *953*	2,100 *953*	2,100 *953*
45°	1,700 *771*	1,700 *771*	1,700 *771*
40°	1,300 *590*	1,300 *590*	1,300 *590*

Permissible line speed and line pull - Based on 9/16″ *(14 mm)* Type "N" wire rope strength.

Layer	Speed	Main or auxiliary winch 12″ *(0.30 m)* root diameter-smooth lagging				Main or auxiliary winch 13-1/4″ *(0.34 m)* root diameter-grooved lagging			
		Line speed		Line pull		Line speed		Line pull	
		F.p.m.	*m/min.*	Pounds	*kilograms*	F.p.m.	*m/min.*	Pounds	*kilograms*
First	Standard High ④	161 287	*49.07* *87.48*	9,000 5,010	*4 082* *2 273*	177 315	*53.95* *96.01*	8,195 4,560	*3 717* *2 068*
Sixth	Standard High ④	233 416	*71.02* *126.80*	6,220 3,460	*2 821* *1 569*	246 443	*74.98* *135.03*	5,850 3,260	*2 654* *1 479*

Available line speed and line pull - Developed by machinery with first layer of wire rope, but not based on wire rope strength.

Layer	Speed	Main or auxiliary winch 12″ *(0.30 m)* root diameter-smooth lagging				Main or auxiliary winch 13-1/4″ *(0.34 m)* root diameter-grooved lagging			
		Line speed		Line pull		Line speed		Line pull	
		F.p.m.	*m/min.*	Pounds	*kilograms*	F.p.m.	*m/min.*	Pounds	*kilograms*
First	Standard High ④	161 287	*49.07* *87.48*	9,900 5,510	*4 491* *2 499*	177 315	*53.95* *96.01*	9,015 5,020	*4 089* *2 277*
Sixth	Standard High ④	233 416	*71.02* *126.80*	6,840 3,810	*3 103* *1 728*	246 443	*74.98* *135.03*	6,440 3,590	*2 921* *1 628*

④ Two-speed motor optional on main winch only.

HSP-8020 Operating Instructions

General:

1. These capacities apply only to the machine as originally manufactured and normally equipped by FMC Corporation, Hydraulic Crane Division.
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 manuals 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. Five parts 9/16" *(14 mm)* diameter Type "N" wire rope required to lift maximum 40,000 lbs. *(18 144 kg)* rated load.
4. 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. 1.0 m.p.h. *(1.60 km/h)* maximum travel speed. Boom sections must be extended equally with swing lock engaged. 'Pick and Carry' operation with manual extended, fly or jib erected are prohibited.
5. For on tire operation at a load radius of 15' *(4.57 m)* or less do not use boom lengths greater than 60' *(18.29 m)*

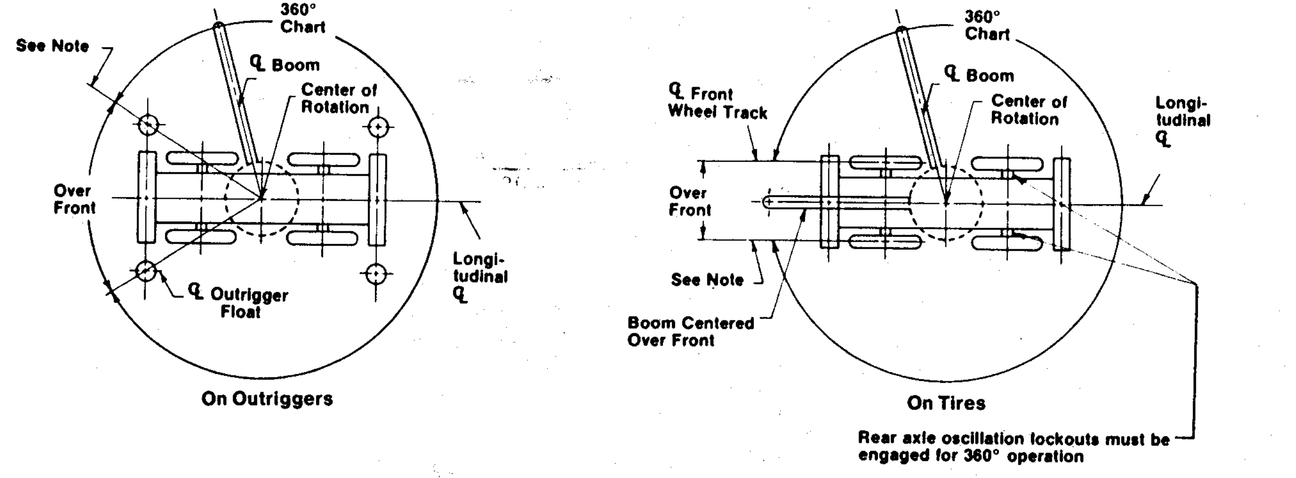
Operation:

1. For the clamshell and concrete bucket operation weight of bucket and material must not exceed 80% of rated lifting capacity. Manual extended, fly or jib are not to be used for clamshell work.
2. Those capacities above the heavy line indicate capacities based on factors other than those which would cause a tipping condition.
3. 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.
4. To determine capacities in-between those shown on charts, refer to the rated lifting capacity of the next longest booms for the same radius.
5. When making lifts at a load radius not shown on charts, use next longer radius to determine allowable capacity.
6. 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.
7. The following deductions from rated main boom capacities must be made if machine is equipped with the following:
    a. Auxiliary lifting sheave - 100 lbs. *(45 kg)*.
    b. 24' *(7.32 m)* one-piece fly stowed on boom - 300 lbs. *(136 kg)*.
    c. 24' *(7.32 m)* one-piece fly in working position -800 lbs. *(363 kg)*.
    d. 14' 6" *(4.42 m)* one-piece A-frame - 500 lbs. *(227 kg)* stowed under boom.
    e. 14' 6" *(4.42 m)* one-piece A-frame in working position - 800 lbs. *(363 kg)*.
8. Powered boom length is from 28' 9" *(8.76 m)* to 70' 3" *(21.41 m)*.
9. 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.
10. Do not move load to radii or boom lengths greater than those specified on applicable chart.
11. Effective length of boom with auxiliary lifting sheave, is length shown on boom length indicator plus 2' *(0.61 m)*.
12. For boom length less than 80' *(24.38 m)* or between 80' *(24.38 m)* and 91' *(27.74 m)* with manual extended, the rated capacities are determined by boom angle only in their respective column. For angles not shown, use next lower boom angle to determine allowable capacity.
13. For boom lengths with fly less than 94' 3" *(28.73 m)* with manual retracted or less than 115' *(35.05 m)* with manual extended, the rated loads are determined by boom angle only in their respective column. For angle not shown, use next lower boom angle to determine allowable capacity.
14. **Warning** — Do not lower 91' *(27.74 m)* boom length below 14°. Do not lower 70' 3" *(21.41 m)* boom with 14' 6" *(4.42 m)* jib or 24' *(7.32 m)* fly erected below 14°. Do not lower 91' *(27.74 m)* boom with 14' 6" *(4.42 m)* jib or 24' *(7.32 m)* fly erected below 30°.

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.

HSP-8020 Working Areas



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

FMC Corporation Hydraulic Crane Division Lexington Kentucky 40512
Link-Belt* cranes/excavators manufactured in: Cedar Rapids Iowa • Lexington & Bowling Green Kentucky • Ontario Canada • Milan Italy • Queretaro Mexico & Nagoya Japan (under license)