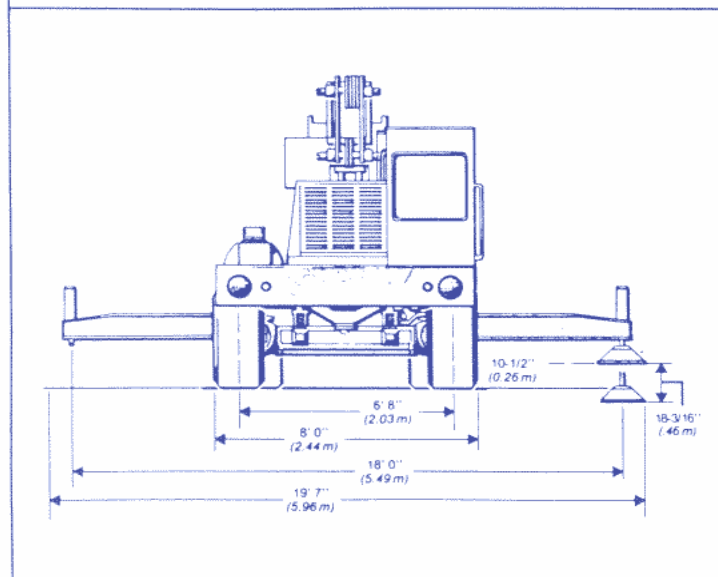
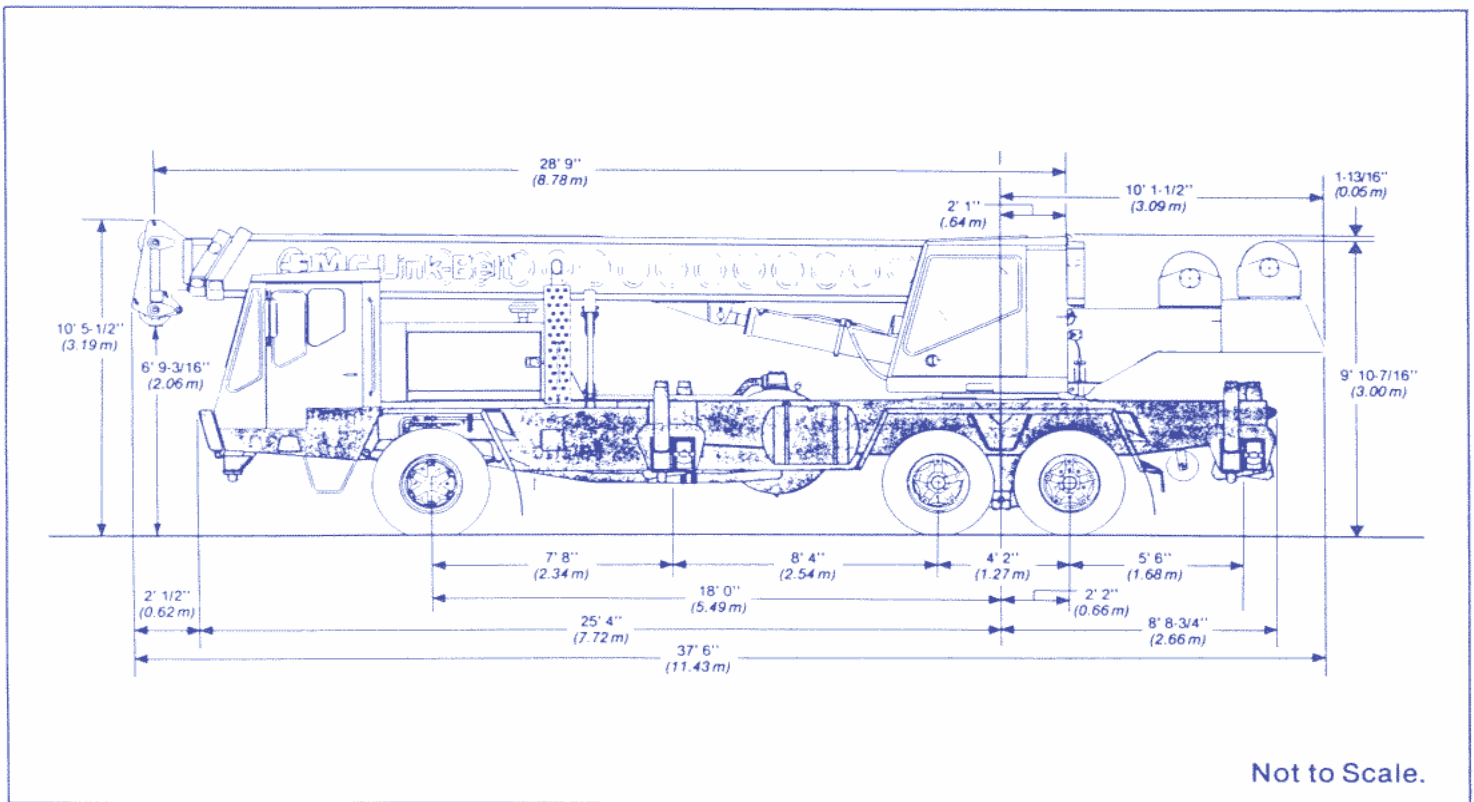


# General Specifications

**94 FEET BOOM AND JIB**

**22 TON**



General dimensions	Feet	meters
Turning radius	43'	13.11
Turning radius — wall to wall (outside front bumper)	53'	16.15
Tailswing — across corners	10' 7"	3.20
Min. ground clearance to axle bowl:		
Standard tires	9.0"	.23
Optional tires	9.6"	.24

### Axle loads<sup>①</sup>

Base machine includes 28'9"-70'3" (8.76-21.41 m) 3-section boom, 385' (117.35m) of 9/16" (14mm) wire rope, single-speed main winch, FMC 6x4 carrier with GM 8.2T diesel engine, full fuel, 15x22.5 front tires, 10x20 highway rear tires, full hydraulic oil, pontoons stored, 4,850 lb. (2 200 kg.) counterweight and Roadranger transmission	G.V.W. <sup>②</sup>		Upper facing front				Upper facing rear			
			Front axle <sup>③</sup>		Rear axle		Front axle		Rear axle	
		Lbs.	Kgs.	Lbs.	Kgs.	Lbs.	Kgs.	Lbs.	Kgs.	Lbs.
	46,432	21 058	13,806	6 261	32,626	14 797	8,338	3 782	38,094	17 276
24' (7.32m) lattice fly, stowed	480	218	382	173	98	44	-382	-173	862	391
Hookblock at bumper	388	176	575	261	-187	-85	575	261	-187	-85
Headache ball at bumper	325	147	481	218	-156	-71	481	218	-156	-71
Auxiliary lifting sheave	75	34	115	52	-40	-18	-115	-52	190	86
Front bumper outrigger	320	145	430	195	-110	-50	430	195	-110	-50
16.5 x 22.5 opt. front tires & rims	48	22	48	22	0	0	48	22	0	0
14/80 R20 opt. front tires & rims	138	63	138	63	0	0	138	63	0	0
11 x 20 opt. rear tires & rims	261	118	0	0	261	118	0	0	261	118
11R20 opt. rear tires & rims	457	207	0	0	457	207	0	0	457	207
10 x 20 S.A.G. opt. rear tires & rims	85	39	0	0	85	39	0	0	85	39
Caterpillar 3208 engine	175	79	156	71	19	9	156	71	19	9
Cummins VT-225 engine	675	306	600	272	75	34	600	272	75	34
6 x 6 drive	786	356	602	273	184	83	602	273	184	83
Automatic transmission	-155	-70	-115	-52	-40	-18	-115	-52	-40	-18
Auxiliary winch w/300' (91.44m) wire rope	168	76	-79	-36	247	112	79	36	89	40
Remove 4,850 lb. (2 200 kg.) cwt. <sup>④</sup>	-4,850	-2 200	2,268	1 028	-7,118	-3 228	-2,268	-1 028	-2,582	-1 171

① All weights ± 3%    ② Adjust gross vehicle weight & axle loading according to component's weight.    ③ Includes auxiliary winch if equipped.    ④ When selecting a tire & drive combination, the front axle load with upper facing front should not exceed the limits in the table below.

### Line Speeds and Pulls

Layer	Speed	Main or auxiliary winch-12" (0.30m) drum						Main or auxiliary winch-13-1/4" (0.34m) drum					
		Line speeds		Line pulls				Line speeds		Line pulls			
				Available*		Permissible				Available*		Permissible	
		F.p.m.	m/min.	Lbs.	Kgs.	Lbs.	Kgs.	F.p.m.	m/min.	Lbs.	Kgs.	Lbs.	Kgs.
1st	Low High <sup>①</sup>	161	49.07	9,900	4 491	9,600	4 355	177	53.95	9,015	4 089	9,015	4 089
		287	87.48	5,510	2 499	5,510	2 499	315	96.01	5,020	2 277	5,020	2 277
2nd	Low High <sup>①</sup>	175	53.34	9,090	4 123	9,090	4 123	191	58.22	8,350	3 787	8,350	3 787
		313	95.40	5,060	2 295	5,060	2 295	341	103.94	4,650	2 109	4,650	2 109
3rd	Low High <sup>①</sup>	190	57.91	8,400	3 810	8,400	3 810	205	62.48	7,770	3 524	7,770	3 524
		339	103.33	4,680	2 123	4,680	2 123	366	111.56	4,330	1 964	4,330	1 964
4th	Low High <sup>①</sup>	204	62.18	7,810	3 543	7,810	3 543	219	66.75	7,270	3 298	7,270	3 298
		365	111.25	4,340	1 969	4,340	1 969	391	119.18	4,050	1 837	4,050	1 837
5th	Low High <sup>①</sup>	218	66.45	7,290	3 307	7,290	3 307	233	71.02	6,830	3 098	6,830	3 098
		390	118.87	4,060	1 842	4,060	1 842	417	127.10	3,800	1 724	3,800	1 724
6th	Low High <sup>①</sup>	233	71.02	6,840	3 103	6,840	3 103	246	74.98	6,440	2 912	6,440	2 912
		416	126.80	3,810	1 728	3,810	1 728	443	135.03	3,590	1 628	3,590	1 628

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

① Two-speed motor optional.

### 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							
	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
6	119	36.27	615	187.45	132	40.23	680	207.26

### Wire rope size and type

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



Crane Service  
Division

# HTC-822S

## Lifting Capacities

Capacities On Outriggers—3-Section Boom <sup>①</sup>																		70'3" (21.41 m) Boom plus 24' (7.32 m) Fly <sup>②</sup>			
Load radius	28'9" (8.76 m)		35' (10.67 m)		40' (12.19 m)		46' (14.02 m)		52' (15.84 m)		58' (17.67 m)		64' (19.50 m)		70'3" (21.41 m)		Boom Angle	Side	Rear		
	Side	Rear	Side	Rear	Side	Rear	Side	Rear	Side	Rear	Side	Rear	Side	Rear	Side	Rear					
10' 3.05m	44,100 20,004	44,100 20,004	44,100 20,004	44,100 20,004	43,500 19,732	43,500 19,732	43,000 19,505	43,000 19,505	42,700 19,369	42,700 19,369	42,500 19,278	42,500 19,278									
12' 3.66m	44,000 19,958	44,000 19,958	44,000 19,958	44,000 19,958	43,500 19,732	43,500 19,732	43,000 19,505	43,000 19,505	41,700 18,915	41,700 18,915	39,400 17,872	39,400 17,872	37,300 16,919	37,300 16,919							
15' 4.57m	34,400 15,604	34,400 15,604	34,400 15,604	34,400 15,604	34,400 15,604	34,400 15,604	34,400 15,604	34,400 15,604	34,400 15,604	34,400 15,604	33,700 15,286	33,700 15,286	32,100 14,560	32,100 14,560	21,100 9,571	21,100 9,571					
20' 6.10m	24,600 11,159	24,600 11,159	24,600 11,159	24,600 11,159	24,600 11,159	24,600 11,159	24,600 11,159	24,600 11,159	24,600 11,159	24,600 11,159	24,600 11,159	24,600 11,159	24,600 11,159	24,600 11,159	21,100 9,571	21,100 9,571	79°	13,900 6,305	13,900 6,305		
25' 7.62m	18,600 8,437	18,700 8,482	18,600 8,437	18,700 8,482	18,600 8,437	18,700 8,482	18,600 8,437	18,700 8,482	18,600 8,437	18,700 8,482	18,600 8,437	18,700 8,482	18,600 8,437	18,700 8,482	18,600 8,437	18,700 8,482	76°	12,800 5,806	12,800 5,806		
30' 9.14m			13,500 6,124	15,000 6,804	13,500 6,124	15,000 6,804	13,500 6,124	15,000 6,804	13,500 6,124	15,000 6,804	13,500 6,124	15,000 6,804	13,500 6,124	15,000 6,804	13,500 6,124	15,000 6,804	73°	11,300 5,126	11,300 5,126		
35' 10.67m					10,000 4,536	12,300 5,579	10,000 4,536	12,300 5,579	10,000 4,536	12,300 5,579	10,000 4,536	12,300 5,579	10,000 4,536	12,300 5,579	10,000 4,536	12,300 5,579	70°	9,900 4,491	9,900 4,491		
40' 12.19m						7,500 3,402	10,300 4,672	7,500 3,402	10,300 4,672	7,500 3,402	10,300 4,672	7,500 3,402	10,300 4,672	7,500 3,402	10,300 4,672	7,500 3,402	68°	8,400 3,810	8,700 3,946		
45' 13.72m									5,800 2,631	8,700 3,946	5,800 2,631	8,700 3,946	5,800 2,631	8,700 3,946	5,800 2,631	8,700 3,946	65°	6,600 2,994	7,900 3,583		
50' 15.24m											4,500 2,041	7,500 3,402	4,500 2,041	7,500 3,402	4,500 2,041	7,500 3,402	62°	5,300 2,404	7,300 3,311		
55' 16.76m												3,500 1,588	6,300 2,858	3,500 1,588	6,300 2,858	3,500 1,588	58°	4,400 1,996	6,100 2,767		
60' 18.29m														2,900 1,315	5,500 2,495	2,900 1,315	54°	3,600 1,633	5,200 2,359		
65' 19.81m																2,200 998	4,700 2,132	49°	3,000 1,361	4,500 2,041	
70' 21.34m																		45°	2,400 1,089	3,900 1,769	
75' 22.86m																		40°	2,000 907	3,300 1,497	
80' 24.38m																		34°	1,600 726	2,900 1,315	

① All capacities are based on outriggers fully extended with boom section extended equal distance.

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

② Calculating capacities for extended or retracted boom plus fly must be based on boom angle only; see Operating Instructions Number 15.

## Warning & Operating Instructions

Read and understand these operating instructions and the chart values before operating crane. Operation which does not follow these instructions may result in an accident.

### 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.

### 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. Pick and carry operations are restricted to 1 m.p.h. (1.61 km/hr) maximum speed. The boom must be centered over rear with the two-position travel swinglock engaged and the load must be restrained from swinging. Lifts with fly erected are prohibited on tires.
- When making lifts on rubber, tires must be inflated to the recommended pressure.
- Over the front working area, as defined on working area plate No. 48P0103, is restricted to a 28.75' (8.76 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 defined on working area plate No. 48P0103.

7. For required parts of line see wire rope strength plate

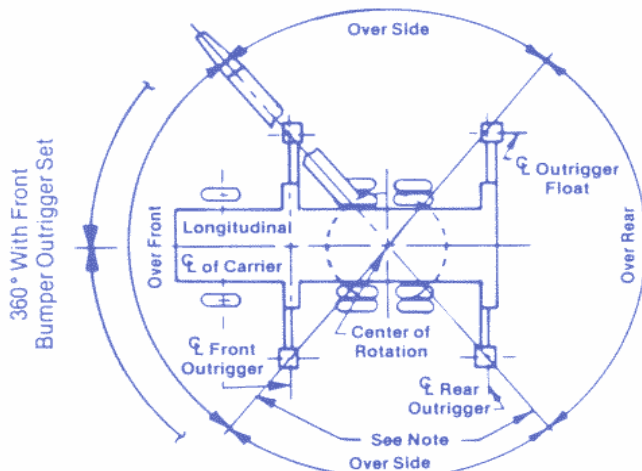
### Operation:

- Rated lifting capacities at rated radius shall not be exceeded. Do not tip the machine to determine allowable loads. 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 lbs (2 270 kg) 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 lbs (2 270 kg) or 80% of rated lifting capacity, whichever is less. For clamshell and magnet operation, maximum boom length is restricted to 46' (14.02 m) and the boom angle is restricted to a minimum of 35°. Use of fly is 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 and their weights must be subtracted from the listed rated load to obtain the net load to be lifted. The following deductions from rated capacities must be made if machine is equipped with the following:
  - auxiliary head—100 lbs. (45 kg)
  - fly stowed—400 lbs. (182 kg)
  - fly erected—800 lbs. (363 kg)
- 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.

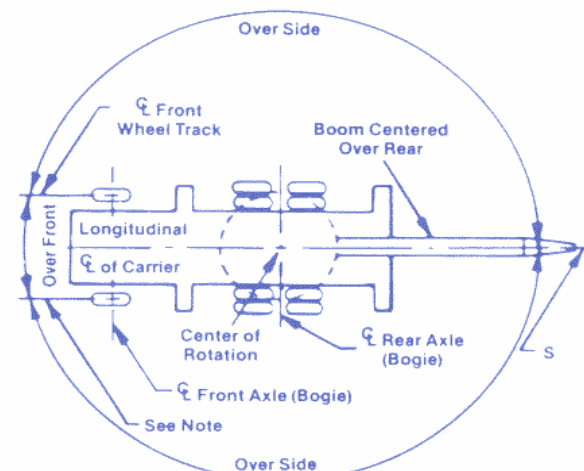
- The user shall operate at reduced ratings to allow for adverse job conditions, such as: soft or uneven ground, out of level conditions, wind, side loads, pendulum action, jerking or sudden stopping of loads, hazardous conditions, experience of personnel, two machine lifts, traveling with loads, electrical wires, etc. Side load on boom or fly 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 length of rope then deduct 6 lb (.27 kg) for each foot of wire rope before attempting to lift a load.
- For boom lengths with fly less than 94'3" (28.73 m) the rated loads are determined by boom angle only in the column headed by 94'3" (28.73 m). For angles not shown, use next lower boom angle to determine allowable capacity.
- With front bumper outrigger set, use over side capacity values for 360° working area.
- The 28'9" (8.76 m) boom length capacities are based on boom fully retracted. If not fully retracted, do not exceed ratings for the 35' (10.67 m) boom length.

## Working Areas

Carrier on Outriggers



Carrier on Tires



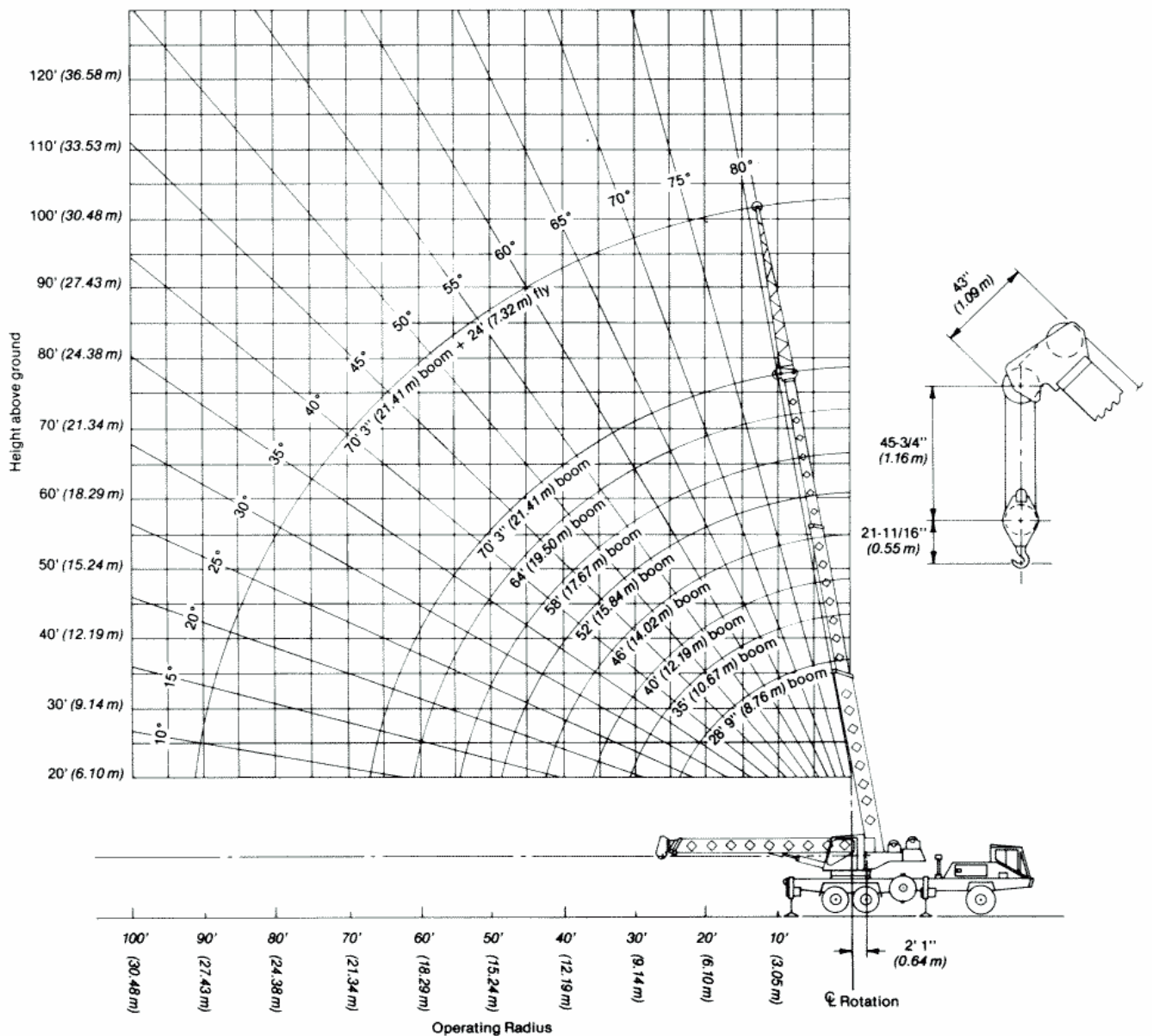
Note: These lines determine the limiting position of any load for operation within working areas indicated.

# Lifting Capacities

## Hydraulic Crane

### HTC-822S 22-ton (20.00 metric ton)

#### 3-Section Boom



**Note:** Boom and fly 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.