Grove Manitowoc National Crane Potain

Manitowoc

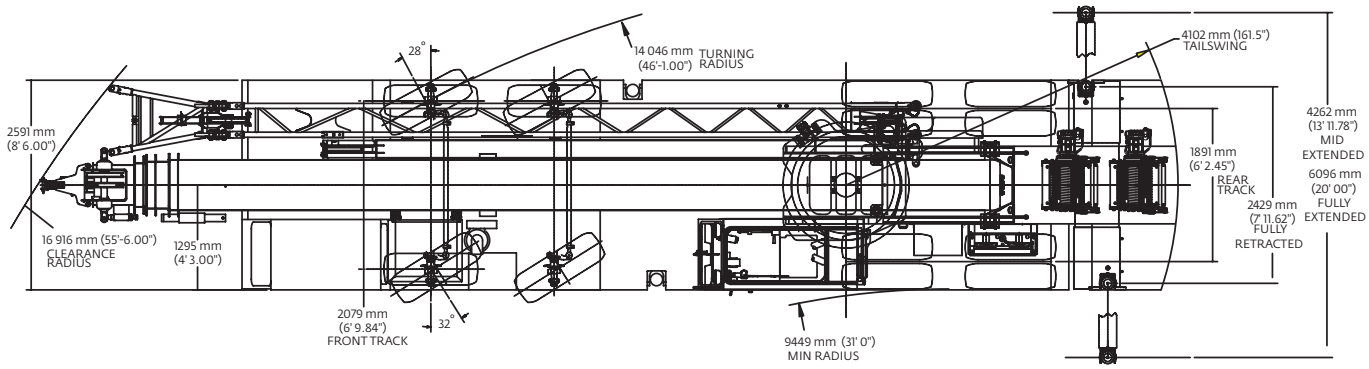
REGIONAL CRANE RENTALS LTD.

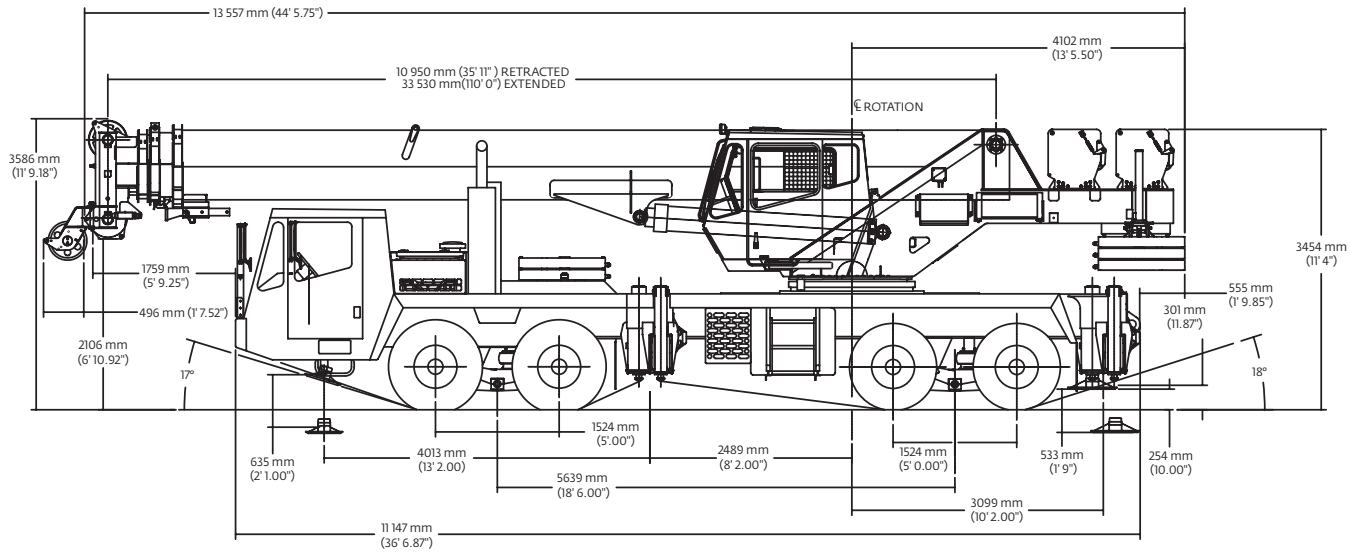
Grove TMS700E
Product Guide

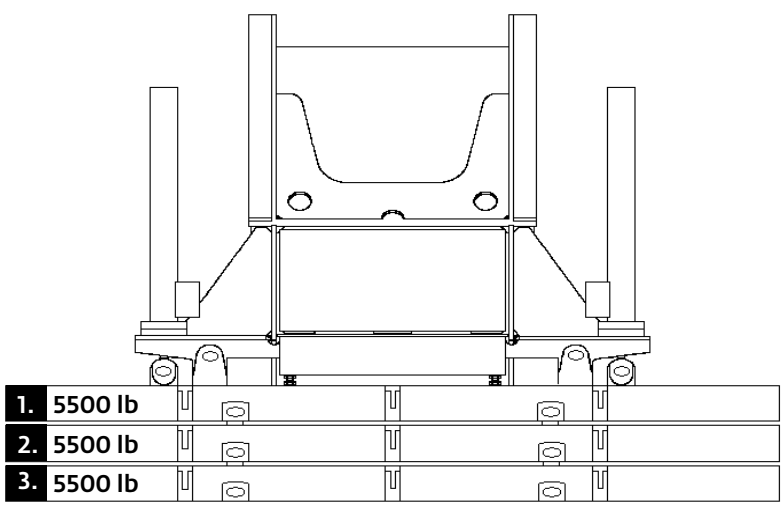
Features

- 50 t or 55 t (50 USt or 60 USt) capacity
- 11 m – 33,5 m (36 ft – 110 ft) four-section, full power sequenced synchronized boom
- 10,1 m – 17 m (33 ft – 56 ft) offsettable bi-fold lattice swingaway extension
- Optional 6,1 m (20 ft) or 12,2 m (40 ft) swingaway extension inserts
- Grove MEGAFORM™ boom
- Up to 7484 kg (16,500 lb) hydraulically installed and removed counterweight

Dimensions





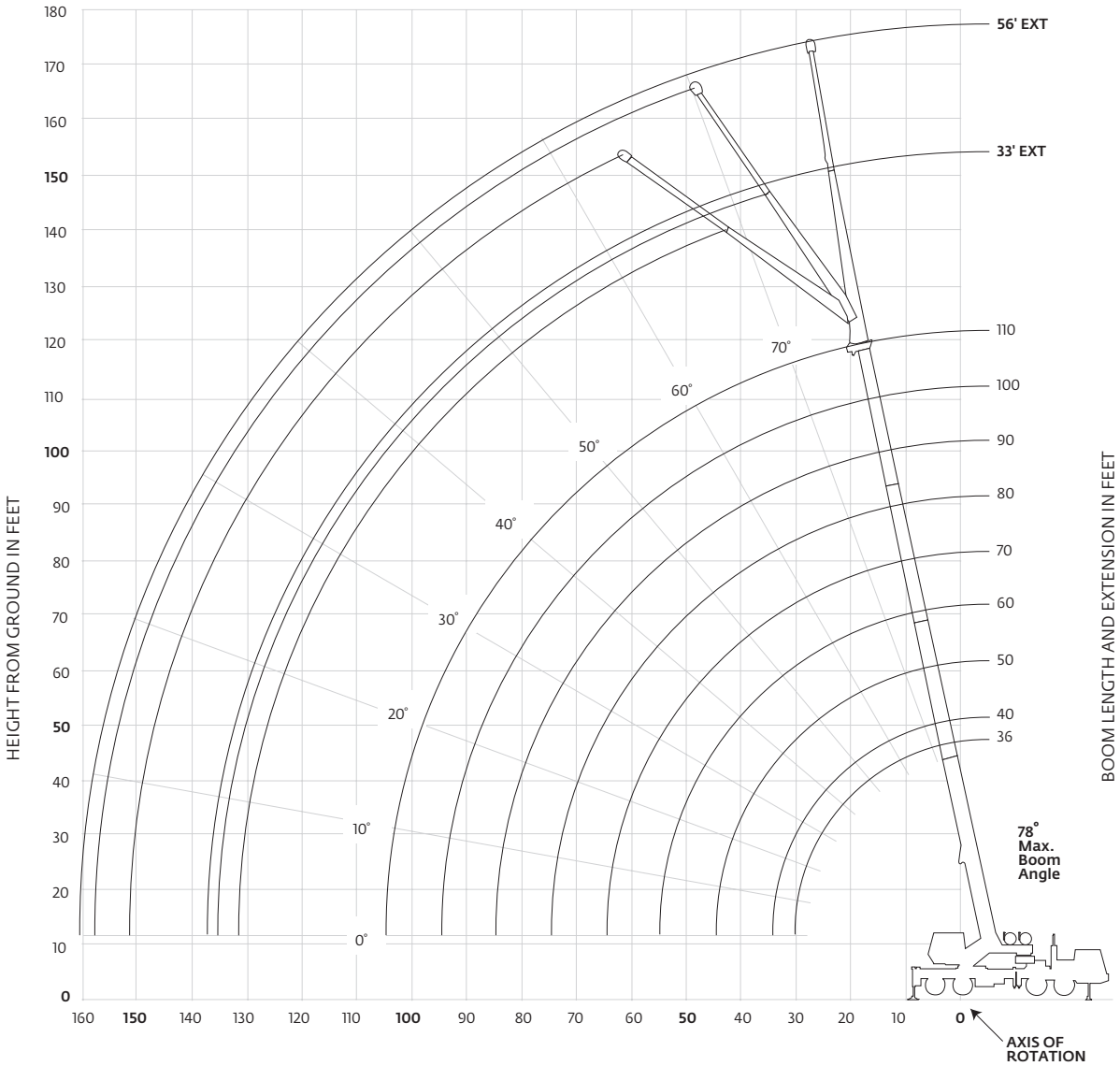


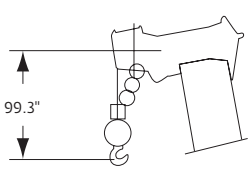
	1	2	3
Counterweight configuration			
Zero			
2495 kg (5500 lb)	●		
4990 kg (11,000 lb)	●	●	
7485 kg (16,500 lb)	●	●	●

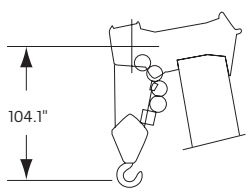
Working range

36 ft – 110 ft main boom + 33 ft – 56 ft lattice extension

(BOOM DEFLECTION NOT SHOWN)







Dimensions are for largest Grove furnished hook block and headache ball, with anti-two block activated.

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Load charts

36 ft – 110 ft | 16,500 lb | 100% 20 ft | 360˚

#0001

Feet	Main boom length in feet 35	40	50	**60	70	80	90	100	110
10	120,000 (69)	84,400 (72)	80,200 (76)	*62,500 (78)	– –	– –	– –	– –	– –
12	100,000 (65.5)	84,400 (68.5)	80,200 (73.5)	62,500 (77)	*36,800 (78)	– –	– –	– –	– –
15	87,300 (59.5)	82,700 (63.5)	80,200 (70)	61,000 (74)	36,800 (76.5)	*36,800 (78)	*31,000 (78)	– –	– –
20	68,250 (49)	65,000 (55)	64,300 (63.5)	50,650 (69)	36,800 (72)	36,800 (75)	31,000 (77)	*29,100 (78)	*24,000 (78)
25	54,900 (36)	53,100 (45)	52,000 (56.5)	41,800 (63.5)	36,800 (68)	34,000 (71)	30,000 (73.5)	27,000 (76)	24,000 (77.5)
30	– –	39,350 (31.5)	38,700 (48.5)	37,850 (57.5)	33,400 (63)	29,000 (67)	25,300 (70.5)	24,200 (72.5)	22,000 (75)
35	– –	– –	29,400 (40)	28,400 (51.5)	28,700 (58)	25,000 (63)	22,200 (67)	21,750 (69.5)	20,000 (72)
40	– –	– –	23,050 (28)	22,100 (45)	22,750 (53)	22,000 (59)	20,200 (63)	19,000 (66.5)	18,500 (69)
45	– –	– –	– –	17,550 (37)	18,250 (47.5)	18,800 (54.5)	17,800 (59.5)	17,300 (63)	17,300 (66.5)
50	– –	– –	– –	14,050 (26.5)	14,850 (41)	15,600 (49.5)	16,000 (55.5)	16,000 (60)	16,000 (63.5)
55	– –	– –	– –	– –	12,200 (33.5)	12,950 (44.5)	13,650 (51)	14,100 (56.5)	14,100 (60)
60	– –	– –	– –	– –	10,050 (24)	10,850 (38.5)	11,600 (47)	12,000 (52.5)	12,200 (57)
65	– –	– –	– –	– –	– –	9110 (31.5)	9900 (42)	10,250 (48.5)	10,600 (53.5)
70	– –	– –	– –	– –	– –	7650 (22.5)	8450 (36.5)	8820 (44.5)	9000 (50)
75	– –	– –	– –	– –	– –	– –	7210 (30)	7580 (40)	7800 (46.5)
80	– –	– –	– –	– –	– –	– –	6150 (21.5)	6490 (34.5)	6600 (42.5)
85	– –	– –	– –	– –	– –	– –	– –	5550 (28.5)	5800 (38)
90	– –	– –	– –	– –	– –	– –	– –	4730 (20.5)	5000 (33)
95	– –	– –	– –	– –	– –	– –	– –	– –	4270 (27.5)
100	– –	– –	– –	– –	– –	– –	– –	– –	3600 (19.5)
Minimum boom angle (deg) for indicated length (no load)									0
Maximum boom length (ft.) at 0 degree boom angle (no load)									110

*NOTE: ( ) Boom angles are in degrees. #LMI operating code. Refer to LMI manual for instructions. *This capacity is based on maximum boom angle.*

Lifting capacities at zero degree boom angle

Boom angle	Main boom length in feet 35	40	50	**60	70	80	90	100	110
0°	29,050 (29.8)	24,450 (34.2)	17,050 (44.2)	11,600 (54.6)	8570 (64.2)	6610 (74.2)	5380 (84.2)	4120 (94.2)	3110 (104.2)

NOTE: ( ) Reference radii in feet.
***60 ft boom length is with inner-mid extended and outer-mid & fly retracted.*

A6-829-101318

36 ft – 110 ft | 16,500 lb | 100% 20 ft | Over rear

#0001

Feet	Main boom length in feet 35	40	50	**60	70	80	90	100	110
10	120,00 (69)	84,400 (72)	80,200 (76)	*62,500 (78)	– –	– –	– –	– –	– –
12	100,000 (65.5)	84,400 (68.5)	80,200 (73.5)	62,500 (77)	*36,800 (78)	– –	– –	– –	– –
15	87,300 (59.5)	82,700 (63.5)	80,200 (70)	61,000 (74)	36,800 (76.5)	*36,800 (78)	*31,000 (78)	– –	– –
20	68,250 (49)	65,000 (55)	64,300 (63.5)	50,650 (69)	36,800 (72)	36,800 (75)	31,000 (77)	*29,100 (78)	*24,000 (78)
25	55,650 (36)	53,100 (45)	52,000 (56.5)	41,800 (63.5)	36,800 (68)	34,000 (71)	30,000 (73.5)	27,000 (76)	24,000 (77.5)
30	– –	44,100 (31.5)	39,600 (48.5)	38,000 (57.5)	33,400 (63)	29,000 (67)	25,300 (70.5)	24,200 (72.5)	22,000 (75)
35	– –	– –	32,400 (40)	29,750 (51.5)	28,700 (58)	25,000 (63)	22,200 (67)	21,750 (69.5)	20,000 (72)
40	– –	– –	26,050 (28)	25,500 (45)	23,600 (53)	22,000 (59)	20,200 (63)	19,000 (66.5)	18,500 (69)
45	– –	– –	– –	20,000 (37)	19,700 (47.5)	18,800 (54.5)	17,800 (59.5)	17,300 (63)	17,300 (66.5)
50	– –	– –	– –	17,850 (26.5)	16,800 (41)	16,500 (49.5)	16,000 (55.5)	16,000 (60)	16,000 (63.5)
55	– –	– –	– –	– –	14,900 (33.5)	14,650 (44.5)	14,100 (51)	14,100 (56.5)	14,100 (60)
60	– –	– –	– –	– –	13,050 (24)	12,800 (38.5)	12,200 (47)	12,200 (52.5)	12,200 (57)
65	– –	– –	– –	– –	– –	11,450 (31.5)	10,800 (42)	10,600 (48.5)	10,600 (53.5)
70	– –	– –	– –	– –	– –	10,100 (22.5)	9450 (36.5)	9000 (44.5)	9000 (50)
75	– –	– –	– –	– –	– –	– –	8290 (30)	7800 (40)	7800 (46.5)
80	– –	– –	– –	– –	– –	– –	7140 (21.5)	6800 (34.5)	6600 (42.5)
85	– –	– –	– –	– –	– –	– –	– –	5800 (28.5)	5800 (38)
90	– –	– –	– –	– –	– –	– –	– –	5000 (20.5)	5000 (33)
95	– –	– –	– –	– –	– –	– –	– –	– –	4440 (27.5)
100	– –	– –	– –	– –	– –	– –	– –	– –	3880 (19.5)
Minimum boom angle (deg) for indicated length (no load)									0
Maximum boom length (ft.) at 0 degree boom angle (no load)									110

*NOTE: ( ) Boom angles are in degrees. #LMI operating code. Refer to LMI manual for instructions. *This capacity is based on maximum boom angle.*

Lifting capacities at zero degree boom angle

Boom angle	Main boom length in feet 35	40	50	**60	70	80	90	100	110
0°	29,050 (29.8)	24,450 (34.2)	17,050 (44.2)	11,950 (54.6)	9640 (64.2)	7810 (74.2)	6390 (84.2)	4770 (94.2)	3350 (104.2)

NOTE: ( ) Reference radii in feet.
***60 ft boom length is with inner-mid extended and outer-mid & fly retracted.*

A6-829-101319

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Load charts

36 ft – 110 ft	33 ft – 56 ft	16,500 lb	100% 20 ft	360°

Pounds

Feet	33 ft length			56 ft length		
	#0021	#0022	#0023	#0041	#0042	#0043
	0° Offset	25° Offset	45° Offset	0° Offset	25° Offset	45° Offset
30	12,900 (78)					
35	12,900 (76)			*8330 (78)		
40	12,900 (74)	*10,850 (78)		8330 (77.5)		
45	12,900 (72)	10,450 (77)	*7410 (78)	8330 (76)		
50	12,100 (70)	10,000 (74.5)	7200 (77.5)	8330 (74.5)		
55	11,100 (68)	9220 (72.5)	6990 (75)	8250 (73)	*5300 (78)	
60	10,100 (66)	8550 (70.5)	6800 (72.5)	7540 (71)	5140 (77)	
65	9130 (63.5)	7930 (68)	6650 (70.5)	7160 (69)	5100 (75)	*3860 (78)
70	8460 (61.5)	7380 (65.5)	6490 (68)	6820 (67.5)	5100 (73)	3790 (77.5)
75	7840 (59)	6900 (63)	6370 (65.5)	6300 (65.5)	4800 (71)	3660 (75)
80	7230 (56.5)	6470 (60.5)	6110 (62.5)	5810 (63.5)	4580 (69)	3550 (73)
85	6470 (54)	6070 (58)	5780 (60)	5370 (61.5)	4470 (67.5)	3450 (71)
90	5670 (51)	5720 (55.5)	5480 (57)	4980 (59.5)	4330 (65.5)	3410 (68.5)
95	4970 (48.5)	5400 (52.5)	5200 (54)	4630 (57)	4070 (63)	3300 (66.5)
100	4350 (45.5)	4840 (49.5)	4950 (51)	4320 (55)	3830 (61)	3260 (64)
105	3790 (42.5)	4210 (46.5)	4470 (47.5)	4040 (52.5)	3620 (58.5)	3220 (62)
110	3290 (39.5)	3640 (43)		3760 (50.5)	3410 (56)	3180 (59.5)
115	2830 (36)	3130 (39.5)		3290 (48)	3230 (53.5)	3060 (56.5)
120	2420 (32)	2660 (35)		2860 (45.5)	3050 (51)	2940 (53.5)
125	2040 (27.5)	2240 (30.5)		2470 (42.5)	2890 (48.5)	2800 (50.5)
130	1700 (22)			2120 (39.5)	2590 (45.5)	
135				1790 (36.5)	2200 (42.5)	
140				1480 (33)	1840 (38.5)	
145				1200 (29.5)	1500 (34.5)	
No load stability data						
Min. boom angle for indicated length	21°	25°	45°	28°	28°	45°
Max. boom length at 0° boom angle	100 ft			90 ft		

NOTE: ( ) Boom angles are in degrees.

A6-829-101337

**This capacity is based upon maximum boom angle.*

#LMI operating code. Refer to LMI manual for instructions.

NOTES:

1. All capacities above the bold line are based on structural strength of boom extension.
2. 33 ft and 56 ft boom extension lengths may be used for single line lifting service.
3. Radii listed are for a fully extended boom with the boom extension erected. For main boom lengths less than fully extended, the rated loads are determined by boom angle. Use only the column which corresponds to the boom extension length and offset for which the machine is configured. For boom angles not shown, use the rating of the next lower boom angle.
4. WARNING: Operation of this machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with boom extension occurs rapidly and without advance warning.
5. Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
6. Capacities listed are with outriggers properly extended and vertical jacks set only.

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Load handling

Weight reductions for load handling devices

33 ft-56 ft folding boom extension	
*33 ft extension (erected)	4350 lb
*56 ft extension (erected)	9450 lb
Folding ext. with 20 ft insert	
*33 ft extension (erected)	9410 lb
*56 ft extension (erected)	16,010 lb
Folding ext. with 40 ft insert	
*33 ft extension (erected)	16,280 lb
*56 ft extension (erected)	24,390 lb

*Reduction of main boom capacities
(no deduct required for stowed boom extension)

When lifting over swingaway and/or jib combinations, deduct total weight of all load handling devices reeved over main boom nose directly from swingaway or jib capacity.

Auxiliary boom nose	137 lb

Hookblocks and headache balls:	
60 Ust, 5 sheave	1125 lb +
50 Ust, 3 sheave	1075 lb +
40 Ust, 3 sheave	785 lb +
8.3 Ust Headache ball (non-swivel)	350 lb +
8.3 Ust Headache ball (swivel)	370 lb +

+ Refer to rating plate for actual weight.

NOTE: All load handling devices and boom attachments are considered part of the load and suitable allowances MUST BE MADE for their combined weights. Weights are for Grove furnished equipment.

Line pulls and reeving information

Hoists	Cable/Specs.	Permissible Line pulls	Nominal Cable length
Main	3/4 in (19 mm) 6x37 Class, EIPS, IWRC Special Flexible Min. Breaking Strength 58,800 lb.	16,800 lb	500 ft
Main & Aux	19 mm (.75 in) Flex-X 35 Rotation resistant (non-rotating) Min breaking strength 85,800 lb	16,800 lb	500 ft

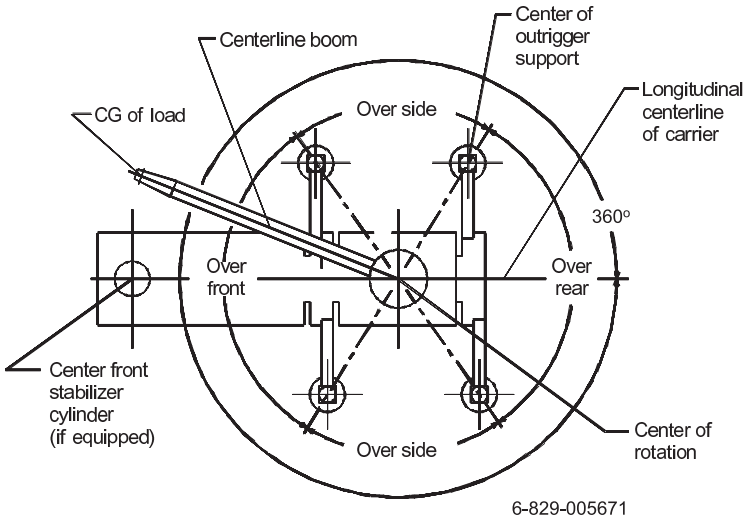
The approximate weight of 3/4 in wire rope is 1.5 lb/ft

Hoist performance

Wire Rope Layer	Hoist line pulls Two speed hoist Low Available lb*	High Available lb*	Drum rope Capacity (ft) Layer	Total
1	18,134	9067	101	101
2	16,668	8334	110	211
3	15,420	7710	120	331
4	14,347	7174	129	460
5	13,413	6707	139	599
6	12,594	6297	149	748

*Max. lifting capacity: 6x37 or 35x7 class = 16,800 lb

Working area diagram



Bold lines determine the limiting position of any load for operation within working areas indicated.

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