



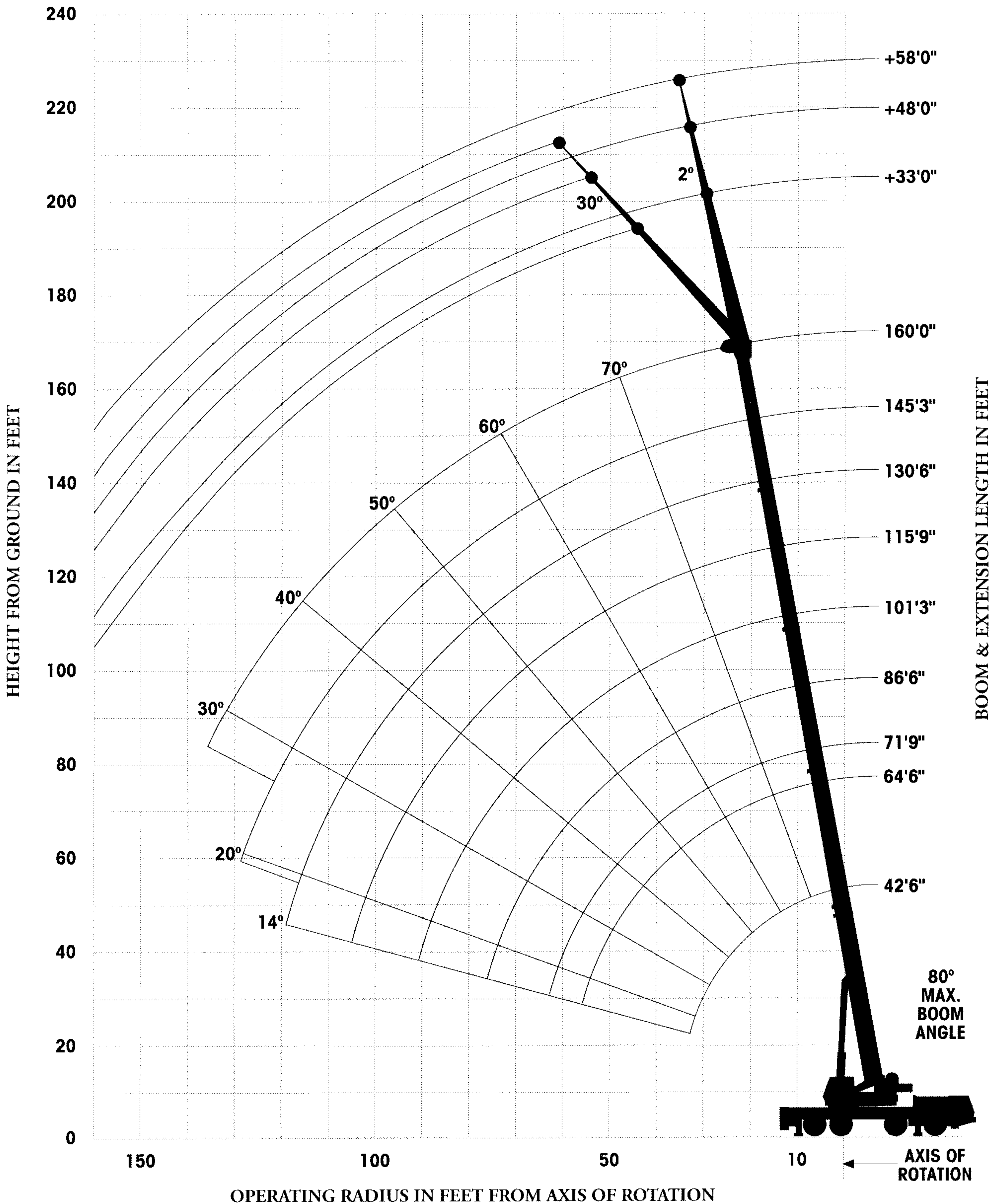
GROVE
CRANE

A GROVE WORLDWIDE COMPANY

AT9120

ALL-TERRAIN HYDRAULIC CRANE
85% DOMESTIC

WORKING RANGE DIAGRAM

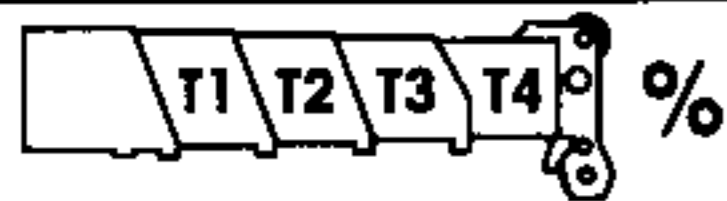


31,085 Lbs (14.10 Tonnes) Counterweight – 4 axle

29,985 Lbs (13.60 Tonnes) Counterweight – 5 axle

Main boom lifting capacities on fully extended outriggers – 360°

Radius in Feet	Main boom length in Feet												
	42'6"	64'6"	71'9"		86'6"	101'3"		115'9"		130'6"		145'3"	160'0"
10'0"	240,000* 220,000 (72.5°)	134,000 (79°)											
12'0"	193,000 (69°)	125,000 (78°)	115,000 (80°)	72,700 (80°)									
15'0"	163,000 (64.5°)	113,000 (74.5°)	104,000 (78°)	72,700 (78°)	92,000 (79.5°)								
20'0"	126,000 (56°)	97,400 (69.5°)	89,900 (75°)	72,700 (75°)	78,000 (76°)	68,800 (78°)	48,200 (78°)						
25'0"	97,200 (47.5°)	84,800 (65.0°)	78,800 (71.5°)	72,600 (71°)	67,000 (72.5°)	61,500 (76°)	44,000 (76°)	53,400 (79°)	37,100 (79°)	43,400 (80°)			
30'0"	78,000 (35°)	74,700 (59°)	69,400 (66°)	67,500 (65.5°)	58,400 (69°)	54,800 (72°)	40,400 (72°)	49,200 (77°)	34,300 (76°)	43,100 (78°)	25,900 (78°)	32,000 (80°)	
35'0"		61,400 (54.5°)	61,200 (62°)	60,900 (62°)	52,300 (65.5°)	49,000 (69.5°)	37,100 (70°)	45,200 (72.5°)	31,800 (72.5°)	40,000 (76°)	25,900 (76.5°)	32,000 (78°)	25,100 (79.5°)
40'0"		50,400 (48°)	50,800 (59°)	53,600 (59°)	46,800 (60.5°)	43,300 (65°)	34,200 (67.5°)	41,300 (69.5°)	29,600 (70°)	36,800 (72.5°)	25,700 (72.5°)	31,900 (75°)	24,400 (77.5°)
50'0"		33,100 (32.5°)	33,600 (50°)	35,700 (50°)	34,200 (52.5°)	33,200 (60°)	28,700 (60°)	32,700 (65°)	25,300 (65°)	31,100 (69°)	22,500 (69°)	29,100 (72°)	22,100 (73.5°)
60'0"			22,900 (37.5°)	24,900 (37.5°)	23,400 (42.5°)	23,100 (52°)	24,200 (52°)	25,000 (58.5°)	21,200 (59°)	25,200 (63°)	19,100 (63.5°)	24,100 (67.5°)	20,000 (70°)
70'0"					164,000 (32.0°)	16,200 (45°)	20,900 (45°)	17,900 (52°)	18,300 (52°)	19,300 (58.5°)	16,500 (58.5°)	19,300 (62.5°)	16,700 (66°)
80'0"						11,200 (35°)	16,600 (34.5°)	12,800 (45°)	15,800 (45°)	14,100 (52.5°)	14,100 (52°)	15,000 (58°)	14,300 (61°)
90'0"						7,490 (20°)	12,700 (20°)	9,230 (37.5°)	13,500 (39°)	10,400 (46°)	12,300 (47°)	11,400 (52.5°)	12,100 (57.5°)
100'0"								6,170 (27.5°)	10,600 (27.5°)	7,490 (39°)	10,600 (39.5°)	8,480 (48°)	9,250 (52.5°)
110'0"										5,200 (31°)	8,950 (30°)	6,170 (41°)	6,940 (48°)
120'0"										2,970 (14°)	6,960 (14°)	4,230 (33°)	5,070 (42°)
130'0"												2,330 (24.5°)	3,320 (35°)
140'0"													1,580 (25°)

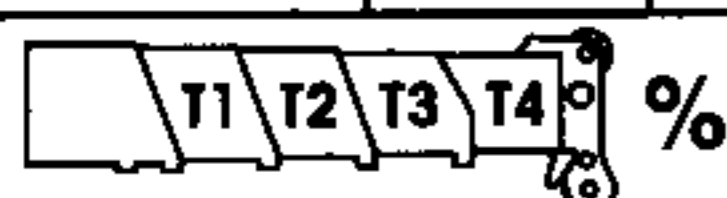


T1	0	75	75	0	75	100	0	100	0	100	0	100	100
T2	0	0	25	100	75	100	100	100	100	100	100	100	100
T3	0	0	0	0	0	0	50	25	75	50	100	75	100
T4	0	0	0	0	0	0	50	25	75	50	100	75	100

*180° over rear only

Main boom lifting capacities on partially extended outriggers – 360°

Radius in Feet	Main boom length in Feet												
	42'6"	64'6"	71'9"		86'6"	101'3"		115'9"		130'6"		145'3"	160'0"
10'0"	170,000 (72.5°)	134,000 (79°)											
12'0"	150,000 (69°)	125,000 (78°)	115,000 (80°)	72,700 (80°)									
15'0"	124,000 (64.5°)	113,000 (74.5°)	104,000 (78°)	72,700 (78°)	92,000 (79.5°)								
20'0"	92,500 (56°)	92,000 (69.5°)	89,900 (75°)	72,700 (75°)	78,000 (76°)	68,800 (78°)	48,200 (78°)						
25'0"	73,600 (47.5°)	70,700 (65.0°)	71,300 (71.5°)	72,600 (71°)	67,000 (72.5°)	61,500 (76°)	44,000 (76°)	53,400 (79°)	37,100 (79°)	43,400 (80°)			
30'0"	52,800 (35°)	50,200 (59°)	50,700 (66°)	53,200 (65.5°)	51,200 (69°)	51,000 (72°)	40,400 (72°)	49,200 (77°)	34,300 (76°)	43,100 (78°)	25,900 (78°)	32,000 (80°)	
35'0"		37,500 (54.5°)	37,900 (62°)	40,300 (62°)	38,400 (65.5°)	38,100 (69.5°)	37,100 (70°)	40,000 (72.5°)	31,800 (72.5°)	40,000 (76°)	25,900 (76.5°)	32,000 (78°)	25,100 (79.5°)
40'0"		28,700 (48°)	29,100 (59°)	31,400 (59°)	29,600 (60.5°)	29,300 (65°)	34,200 (67.5°)	31,200 (69.5°)	29,600 (70°)	32,600 (72.5°)	25,700 (72.5°)	31,900 (75°)	24,400 (77.5°)
50'0"		17,500 (32.5°)	17,900 (50°)	20,000 (50°)	18,400 (52.5°)	18,100 (60°)	24,800 (60°)	19,800 (65°)	24,500 (65°)	21,200 (69°)	22,500 (69°)	22,200 (72°)	22,100 (73.5°)
60'0"			11,000 (37.5°)	13,000 (37.5°)	11,500 (42.5°)	11,300 (52°)	17,400 (52°)	12,900 (58.5°)	17,300 (59°)	14,200 (63°)	18,100 (63.5°)	15,200 (67.5°)	16,000 (70°)
70'0"					6,830 (32.0°)	6,650 (45°)	12,300 (45°)	8,250 (52°)	12,500 (52°)	9,480 (58.5°)	13,300 (58.5°)	10,400 (62.5°)	11,200 (66°)
80'0"						2,860 (35°)	8,660 (34.5°)	4,810 (45°)	9,100 (45°)	6,070 (52.5°)	9,800 (52°)	7,020 (58°)	7,800 (61°)
90'0"							5,790 (20°)		6,480 (39°)	3,250 (46°)	7,200 (47°)	4,400 (52.5°)	5,200 (57.5°)
100'0"									4,430 (27.5°)		5,140 (39.5°)	2,020 (48°)	2,940 (52.5°)
110'0"											3,440 (30°)		
120'0"											1,830 (14°)		



T1	0	75	75	0	75	100	0	100	0	100	0	100	100
T2	0	0	25	100	75	100	100	100	100	100	100	100	100
T3	0	0	0	0	0	0	50	25	75	50	100	75	100
T4	0	0	0	0	0	0	50	25	75	50	100	75	100

31,085 Lbs (14.10 Tonnes) Counterweight – 4 axle 29,985 Lbs (13.60 Tonnes) Counterweight – 5 axle

Main boom lifting capacities on fully extended outriggers – 360°
130'6" to 160'0" main boom length
plus *33'0" fixed length offsetable Swingaway

Radius in Feet	Main boom length in Feet					
	130'6"		145'3"		160'0"	
	33'0" extension		33'0" extension		33'0" extension	
	2° Offset	30° Offset	2° Offset	30° Offset	2° Offset	30° Offset
35'6"	24,900 (MAX)					
40'0"	23,400 (78°)		17,800 (MAX)			
42'0"				12,000 (MAX)	12,500 (MAX)	11,100 (MAX)
50'0"	21,000 (75°)	11,900 (80°)	16,300 (76.5°)	@ 52'6"	11,400 (78°)	@ 56'6"
60'0"	18,500 (71°)	11,300 (75.5°)	14,800 (73.5°)	11,600 (77.5°)	10,200 (75°)	10,600 (79°)
70'0"	16,150 (67.5°)	10,700 (72°)	13,400 (70°)	10,900 (74.5°)	9,200 (72°)	9,400 (76°)
80'0"	13,900 (63°)	10,100 (68°)	12,100 (66.5°)	10,400 (71°)	8,250 (68.5°)	8,450 (72.5°)
90'0"	10,400 (59°)	9,650 (63.5°)	10,800 (62.5°)	10,100 (67°)	7,350 (65.5°)	7,650 (69.5°)
100'0"	7,860 (54.5°)	9,200 (58.5°)	8,270 (58.5°)	9,650 (63°)	6,500 (62°)	6,850 (66°)
110'0"	5,820 (49.5°)	6,880 (53.5°)	6,220 (54.5°)	7,360 (59°)	5,800 (59°)	6,100 (62°)
120'0"	4,100 (44°)	4,990 (48°)	4,560 (50°)	5,490 (54°)	4,900 (54.5°)	5,500 (58°)
130'0"	2,500 (38°)	3,200 (42°)	2,980 (45.5°)	3,840 (48.5°)	3,380 (50.5°)	4,340 (54°)
140'0"			1,620 (38°)	2,280 (43°)	2,020 (46.5°)	2,800 (49.5°)

T1	100	100	100	100
T2	100	100	100	100
T3	50	75	100	100
T4	50	75	100	100

Main boom lifting capacities on partially extended outriggers – 360°
130'6" to 160'0" main boom length
plus *33'0" fixed length offsetable Swingaway

Radius in Feet	Main boom length in Feet					
	130'6"		145'3"		160'0"	
	33'0" extension		33'0" extension		33'0" extension	
	2° Offset	30° Offset	2° Offset	30° Offset	2° Offset	30° Offset
35'6"	24,900 (MAX)					
40'0"	23,400 (78°)		17,800 (MAX)			
42'0"				12,000 (MAX)	12,500 (MAX)	11,100 (MAX)
50'0"	21,000 (75°)	11,900 (80°)	16,300 (76.5°)	@ 52'6"	11,400 (78°)	@ 56'6"
60'0"	15,800 (71°)	11,300 (75.5°)	14,800 (73.5°)	11,600 (77.5°)	10,200 (75°)	10,600 (79.5°)
70'0"	11,000 (67.5°)	10,700 (72°)	11,500 (70°)	10,900 (74.5°)	9,200 (72°)	9,400 (76°)
80'0"	7,550 (63°)	9,760 (68°)	8,200 (66.5°)	10,200 (71°)	8,250 (68.5°)	8,450 (72.5°)
90'0"	4,940 (59°)	6,750 (63.5°)	5,400 (62.5°)	7,250 (67°)	5,790 (65.5°)	7,650 (69.5°)
100'0"	2,610 (54.5°)	4,340 (58.5°)	3,170 (58.5°)	4,890 (63°)	3,640 (61.5°)	5,300 (66°)
110'0"		2,080 (53.5°)		2,730 (59°)	1,700 (61.5°)	3,250 (62°)

T1	100	100	100	100
T2	100	100	100	100
T3	50	75	100	100
T4	50	75	100	100

Main boom lifting capacities on rubber over rear
Tires: 20.5 R25
17,200 Lbs (7.80 tonnes) counterweight stowed on carrier

Radius in Feet	Up to 1 mph		Up to 3 mph	
	42'6"	71'9"	42'6"	71'9"
10'0"	49,600 (72.5°)		23,250 (72.5°)	
12'0"	44,350 (69°)	44,350 (80°)	20,000 (69°)	20,000 (80°)
15'0"	38,000 (64.5°)	38,000 (78°)	16,050 (64.5°)	16,050 (78°)
20'0"	29,800 (56°)	29,800 (75°)	11,000 (56°)	11,000 (75°)
25'0"	23,650 (47.5°)	23,650 (71°)	7,200 (47.5°)	7,200 (71°)
30'0"	18,800 (35°)	18,800 (62.5°)	4,150 (35°)	4,150 (65.5°)
35'0"		11,900 (62°)		1,900 (62°)
40'0"		7,050 (59°)		
50'0"		3,450 (50°)		

T1	0	0	0	0
T2	0	100	0	100
T3	0	0	0	0
T4	0	0	0	0

Capacities are only applicable with the machine on firm and level surface.

Axle lockouts must be functioned before lifting on rubber.
(Check automatic lockout system for proper functioning.)
All rubber lifting depends on proper tire inflation, capacity and condition. Capacities must be reduced for lower tire inflation pressures.

For mobile operations, boom must be centred over rear of machine, mechanical swing lock engaged and load restrained from swinging.

For stationary (creep up to 1 mph) duties – When handling loads in the structural range with capacities close to maximum ratings crane should be stationary, otherwise travel should not exceed 1 mph and 200' movement in any 30 minute period.

IMPORTANT NOTE:

No attempt should be made to rotate the superstructure unless the machine is on outriggers as backward instability may occur.

5,510 Lbs (2.50 Tonnes) Counterweight – 4 axle 4,410 Lbs (2.00 Tonnes) Counterweight – 5 axle

Main boom lifting capacities on fully extended outriggers – 360°
130'6" to 160'0" main boom length
plus *33'0" fixed length offsetable Swingaway

Radius in Feet	Main boom length in Feet					
	130'6"		145'3"		160'0"	
	33'0" extension		33'0" extension		33'0" extension	
	2° Offset	30° Offset	2° Offset	30° Offset	2° Offset	30° Offset
35'0"	23,600 (79.5°)					
40'0"	22,200 (78.5°)					
45'0"			16,400 (78.5°)		11,200 (80°)	
50'0"	19,400 (75°)	11,600 (79.5°)	15,700 (77°)		10,700 (78°)	
60'0"	14,300 (71°)	10,800 (76°)	14,000 (73°)		9,590 (75°)	9,910 (79°)
70'0"	9,600 (67.5°)	10,300 (72.5°)	10,100 (70°)	11,100 (77.5°)	8,590 (71.5°)	8,790 (76°)
80'0"	6,380 (63°)	8,420 (68°)	6,820 (66.5°)	8,880 (74.5°)	7,200 (68°)	7,840 (72.5°)
90'0"	3,890 (59°)	5,640 (63.5°)	4,410 (62.5°)	6,100 (70.5°)	4,770 (65°)	6,480 (69.5°)
100'0"	1,740 (54.5°)	3,310 (58.5°)	2,250 (58.5°)	3,880 (69°)	2,680 (61.5°)	4,350 (66°)
110'0"				1,880 (63°)		2,360 (62°)

T1 T2 T3 T4 %				
T1	100	100	100	
T2	100	100	100	
T3	50	75	100	
T4	50	75	100	

Main boom lifting capacities on rubber over rear
Tires: 20.5 R25

Radius in Feet	Up to 1 mph		Up to 3 mph	
	42'6"	71'9"	42'6"	71'9"
10'0"	49,600 (72.5°)		23,250 (72.5°)	
12'0"	44,350 (69°)	44,350 (80°)	20,000 (69°)	20,000 (80°)
15'0"	38,000 (64.5°)	38,000 (78°)	16,050 (64.5°)	16,050 (78°)
20'0"	29,800 (56°)	29,800 (75°)	11,000 (56°)	11,000 (75°)
25'0"	23,200 (47.5°)	23,650 (71°)	7,200 (47.5°)	7,200 (71°)
30'0"	16,100 (35°)	16,100 (65.5°)	4,150 (35°)	4,150 (65.5°)
35'0"		11,500 (62°)		1,900 (62°)
40'0"		7,050 (59°)		
50'0"		3,300 (50°)		

T1 T2 T3 T4 %				
T1	0	0	0	0
T2	0	100	0	100
T3	0	0	0	0
T4	0	0	0	0

Capacities are only applicable with the machine on firm and level surface.

Axle lockouts must be functioned before lifting on rubber. (Check automatic lockout system for proper functioning.)

All rubber lifting depends on proper tire inflation, capacity and condition. Capacities must be reduced for lower tire inflation pressures.

For mobile operations, boom must be centred over rear of machine, mechanical swing lock engaged and load restrained from swinging.

For stationary (creep up to 1 mph) duties – When handling loads in the structural range with capacities close to maximum ratings crane should be stationary, otherwise travel should not exceed 1 mph and 200' movement in any 30 minute period.

IMPORTANT NOTE:

No attempt should be made to rotate the superstructure unless the machine is on outriggers as backward instability may occur.

'Zero' Removable Counterweight

Main boom lifting capacities on fully extended outriggers – 360°

Radius in Feet	Main boom length in Feet													
	42'6"	64'6"	71'9"		86'6"	101'3"		115'9"		130'6"		145'3"	160'0"	
10'0"	210,000 (72.5°)	134,000 (79°)												
12'0"	188,700 (69°)	125,000 (78°)	115,000 (80°)	72,700 (80°)										
15'0"	149,100 (64.5°)	113,000 (74.5°)	104,000 (78°)	72,700 (78°)	92,000 (79.5°)									
20'0"	107,500 (56°)	97,400 (69.5°)	89,900 (75°)	72,700 (75°)	78,000 (76°)	68,800 (78°)	48,200 (78°)							
25'0"	81,300 (47.5°)	77,600 (65°)	78,000 (71.5°)	72,600 (71°)	67,000 (72.5°)	61,500 (76°)	44,000 (76°)	53,400 (79°)	37,100 (79°)					
30'0"	55,600 (35°)	52,000 (59°)	52,600 (66°)	55,600 (65.5°)	53,200 (69°)	52,900 (72°)	40,400 (72°)	49,200 (77°)	34,300 (76°)	43,400 (78°)	25,900 (78°)	32,000 (80°)		
35'0"		35,300 (54.5°)	35,800 (62°)	38,500 (62°)	36,400 (65.5°)	36,100 (69.5°)	37,100 (70°)	38,200 (72.5°)	31,800 (72.5°)	39,900 (76°)	25,900 (76.5°)	32,000 (78°)	25,100 (79.5°)	
40'0"		25,300 (48°)	25,700 (59°)	28,100 (59°)	26,200 (60.5°)	26,000 (65°)	32,000 (67.5°)	27,900 (69.5°)	29,600 (70°)	29,400 (72.5°)	25,700 (72.5°)	30,600 (75°)	24,400 (77.5°)	
50'0"		13,700 (32.5°)	14,200 (50°)	16,300 (50°)	14,600 (52.5°)	14,400 (60°)	19,700 (60°)	16,100 (65°)	20,700 (65°)	17,400 (69°)	21,500 (69°)	18,500 (72°)	19,400 (73.5°)	
60'0"			7,700 (37.5°)	9,700 (37.5°)	8,190 (42.5°)	7,990 (52°)	12,900 (52°)	9,580 (58.5°)	13,800 (59°)	10,800 (63°)	14,600 (63.5°)	11,700 (67.5°)	12,500 (70°)	
70'0"					3,760 (32°)	3,550 (45°)	8,550 (45°)	5,390 (52°)	9,460 (52°)	6,550 (58.5°)	10,100 (58.5°)	7,470 (62.5°)	8,220 (66°)	
80'0"							5,530 (34.5°)	1,980 (45°)	6,410 (45°)	3,360 (52.5°)	7,080 (52°)	4,460 (58°)	5,210 (61°)	
90'0"							3,120 (20°)		4,170 (39°)		4,820 (47°)	1,880 (52.5°)	2,740 (57.5°)	
100'0"									2,170 (27.5°)		2,970 (39.5°)			
110'0"											1,360 (30°)			

T1 T2 T3 T4 %														
T1	0	75	75	0	75	100	0	100	0	100	0	100	100	
T2	0	0	25	100	75	100	100	100	100	100	100	100	100	
T3	0	0	0	0	0	0	50	25	75	50	100	75	100	
T4	0	0	0	0	0	0	50	25	75	50	100	75	100	

†With heavy lift equipment only

'Zero' Removable Counterweight

Main boom lifting capacities on fully extended outriggers – 360°
130'6" to 160'0" main boom length plus 33'0" to 58'0" telescopic offsetable Swingaway

Radius in Feet	Main boom length in Feet																	
	130'6"						145'3"						160'0"					
	33'0" length		48'0" length		58'0" length		33'0" length		48'0" length		58'0" length		33'0" length		48'0" length		58'0" length	
	2° Offset	30° Offset	2° Offset	30° Offset	2° Offset	30° Offset	2° Offset	30° Offset	2° Offset	30° Offset	2° Offset	30° Offset	2° Offset	30° Offset	2° Offset	30° Offset	2° Offset	30° Offset
34'6"	23,800 (MAX)																	
38'0"							17,300 (MAX)											
40'0"	22,200 (78.5°)		15,800 (MAX)															
42'0"					13,200 (MAX) @ 43'				12,400 (MAX) @ 43'				11,700 (MAX)					
45'0"							16,400 (78.5°)		11,600 (MAX) @ 52'6"				10,400 (MAX) @ 55'				6,250 (MAX) @ 52'6"	
50'0"	18,800 (75°)	11,600 (79.5°)	14,300 (77°)		12,200 (78.5°)	6,150 (MAX) @ 68'	15,700 (77°)		11,700 (78°)	7,600 (MAX) @ 64'	9,600 (79.5°)		10,700 (78°)	8,000 (MAX) @ 67'9"	6,800 (MAX) @ 67'9"			
60'0"	12,000 (71°)	10,800 (76°)	12,700 (74°)	7,700 (MAX)	10,800 (75°)		12,500 (73°)	11,100 (77.5°)	10,500 (75°)		8,720 (76.5°)	6,050 (MAX) @ 72'	9,590 (75°)	9,910 (79°)	7,190 (76.5°)	8,000 (MAX) @ 67'9"	5,760 (78°)	5,070 (MAX)
70'0"	7,600 (67.5°)	10,200 (72.5°)	8,930 (70.5°)	7,170 (77°)	9,650 (72°)	6,070 (79.5°)	8,060 (70°)	10,500 (74.5°)	9,590 (72°)	7,310 (78.5°)	7,790 (73.5°)		8,450 (71.5°)	8,790 (76°)	6,360 (74°)	6,640 (79.5°)	5,020 (75°)	5,070 (MAX) @ 75'6"
80'0"	4,550 (63°)	6,680 (68°)	5,840 (67°)	6,780 (73°)	6,570 (68.5°)	5,680 (76.5°)	5,020 (66.5°)	7,130 (70.5°)	6,150 (69°)	6,970 (75°)	6,820 (70.5°)	5,780 (78°)	5,390 (68°)	7,500 (72.5°)	5,630 (71°)	5,970 (76.5°)	4,440 (72.5°)	4,810 (79°)
90'0"	1,940 (59°)	3,930 (63.5°)	3,430 (63°)	6,040 (69.5°)	4,280 (65.5°)	5,340 (73°)	2,450 (62.5°)	4,490 (67°)	3,800 (66°)	6,360 (71.5°)	4,520 (67.5°)	5,510 (74.5°)	2,890 (65°)	4,880 (69.5°)	4,110 (68°)	5,300 (73.5°)	3,790 (69.5°)	4,240 (76°)
100'0"				3,780 (65.5°)	2,230 (62°)	4,990 (73°)		2,120 (63°)	1,750 (62°)	4,200 (68°)	2,520 (64.5°)	5,240 (71.5°)		2,580 (66°)	2,060 (64.5°)	4,490 (70°)	2,760 (66.5°)	3,740 (73°)
110'0"				1,760 (61°)		3,030 (70°)				2,190 (64°)		3,370 (67.5°)				2,540 (66.5°)		3,290 (70°)
120'0"												1,670 (64°)						1,970 (66.5°)

	T1	T2	T3	T4	%
T1			100		
T2			100		
T3			50		
T4			50		

Main boom lifting capacities on fully extended outriggers – 360°
130'6" to 160'0" main boom length
plus 33'0" fixed length offsetable Swingaway

Radius in Feet	Main boom length in Feet					
	130'6"		145'3"		160'0"	
	33'0" extension		33'0" extension		33'0" extension	
	2° Offset	30° Offset	2° Offset	30° Offset	2° Offset	30° Offset
35'0"	23,600 (79.5°)					
40'0"	22,200 (78.5°)					
45'0"			16,400 (78.5°)		11,200 (80°)	
50'0"	19,300 (75°)	11,600 (79.5°)	15,700 (77°)		10,700 (78°)	
60'0"	12,500 (71°)	10,800 (76°)	13,000 (73°)		9,590 (75°)	9,910 (79°)
70'0"	8,110 (67.5°)	10,300 (72.5°)	8,580 (70°)	11,100 (77.5°)	8,590 (71.5°)	8,790 (76°)
80'0"	5,090 (63°)	7,140 (68°)	5,530 (66.5°)	7,590 (74.5°)	5,900 (68°)	7,840 (72.5°)
90'0"	2,580 (59°)	4,520 (63.5°)	3,100 (62.5°)	4,990 (70.5°)	3,540 (65°)	5,360 (69.5°)
100'0"		2,150 (58.5°)		2,730 (69°)	2,000 (61.5°)	3,200 (66°)

	T1	T2	T3	T4	%
T1		100			100
T2		100			100
T3		50			100
T4		50			100

Main boom lifting capacities on rubber over rear
Tires: 20.5 R25

Radius in Feet	Up to 1 mph		Up to 3 mph	
	42'6"	71'9"	42'6"	71'9"
10'0"	49,600 (72.5°)		23,250 (72.5°)	
12'0"	44,350 (69°)	44,350 (80°)	20,000 (69°)	20,000 (80°)
15'0"	38,000 (64.5°)	38,000 (78°)	16,050 (64.5°)	16,050 (78°)
20'0"	29,800 (56°)	29,800 (75°)	11,000 (56°)	11,000 (75°)
25'0"	20,800 (47.5°)	20,800 (71°)	7,200 (47.5°)	7,200 (71°)
30'0"	14,150 (35°)	14,150 (65.5°)	4,150 (35°)	4,150 (65.5°)
35'0"		9,900 (62°)		1,900 (62°)
40'0"		6,600 (59°)		
50'0"		2,000 (50°)		

	T1	T2	T3	T4	%
T1		0	0	0	0
T2		0	100	0	100
T3		0	0	0	0
T4		0	0	0	0

Capacities are only applicable with the machine on firm and level surface.

Axle lockouts must be functioned before lifting on rubber. (Check automatic lockout system for proper functioning.)

All rubber lifting depends on proper tire inflation, capacity and condition. Capacities must be reduced for lower tire inflation pressures.

For mobile operations, boom must be centred over rear of machine, mechanical swing lock engaged and load restrained from swinging.

For stationary (creep up to 1 mph) duties – When handling loads in the structural range with capacities close to maximum ratings crane should be stationary, otherwise travel should not exceed 1 mph and 200' movement in any 30 minute period.

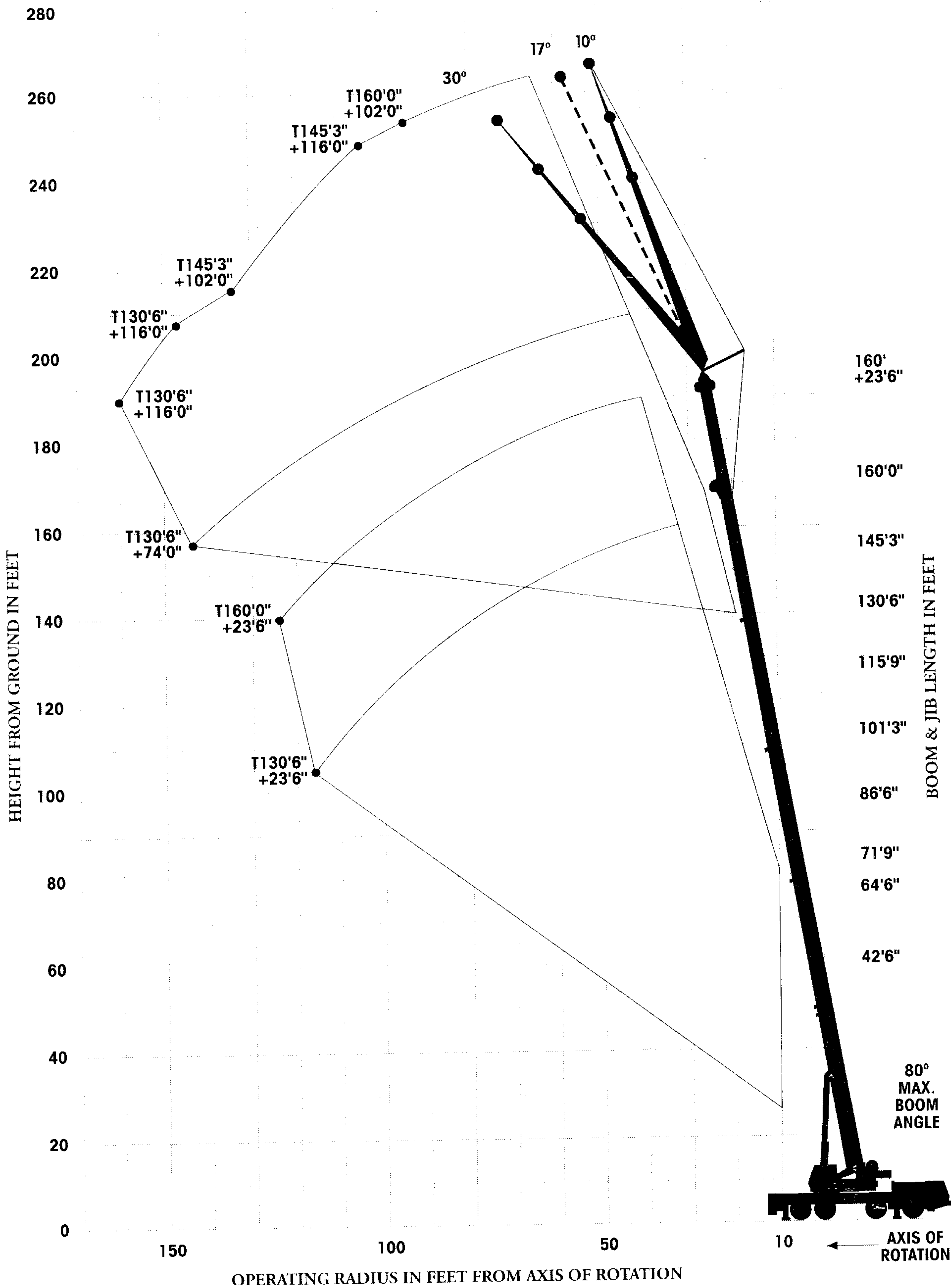
IMPORTANT NOTE:

No attempt should be made to rotate the superstructure unless the machine is on outriggers as backward instability may occur.

31,085 Lbs (14.10 Tonnes) Counterweight – 4 axle
 29,985 Lbs (13.60 Tonnes) Counterweight – 5 axle

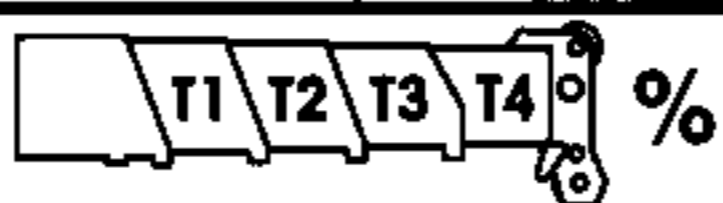
116'0" (35.35m) Jib Capacities

WORKING RANGE DIAGRAM



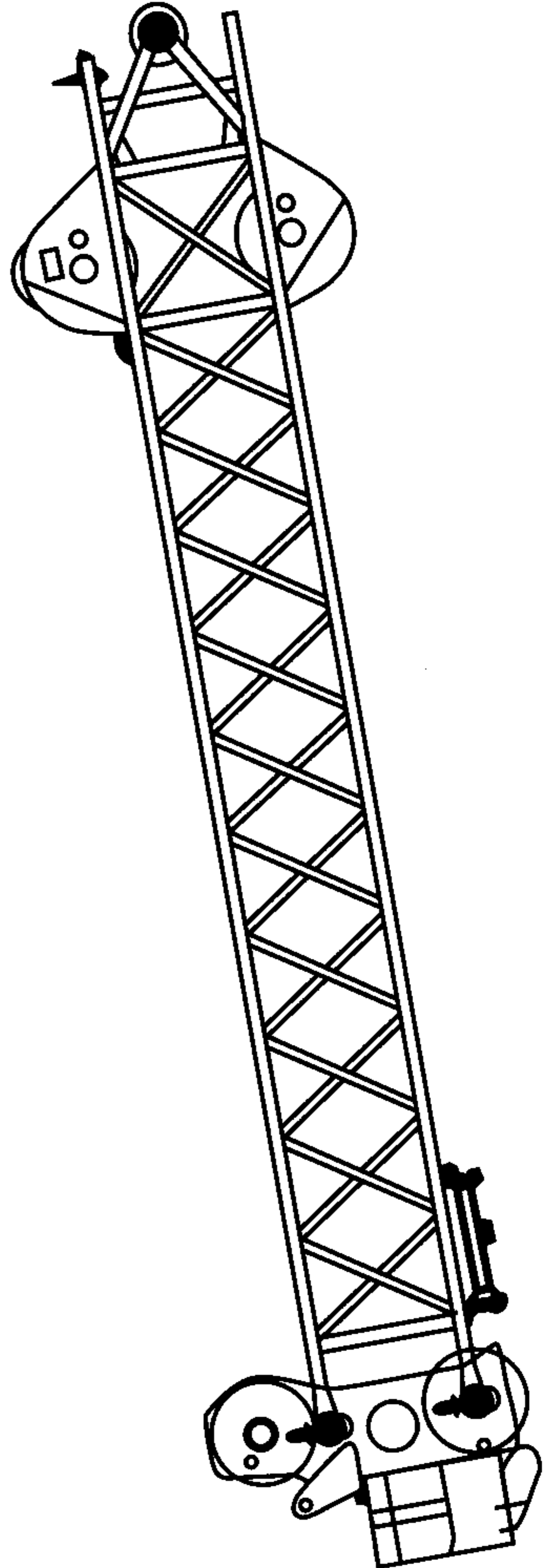
31,085 Lbs (14.10 Tonnes) Counterweight – 4 axle 29,985 Lbs (13.60 Tonnes) Counterweight – 5 axle

**Main boom lifting capacities
on fully extended outriggers – 360°
130'6" to 160'0" main boom length
plus '23'6" jib extension**

Radius in Feet	Main boom length In Feet		
	130'6"	145'3"	160'0"
32'9"	26,200 (MAX)		
40'0"	24,400 (77.6°)	20,400 (79.3°)	
42'0"			14,700 (MAX)
50'0"	21,200 (73.8°)	18,400 (75.8°)	13,600 (77.6°)
60'0"	16,400 (69.9°)	16,800 (72.5°)	12,200 (74.5°)
70'0"	12,900 (65.6°)	15,300 (68.9°)	10,900 (71.1°)
80'0"	10,400 (61.3°)	12,700 (65°)	9,710 (67.7°)
90'0"	8,440 (56.5°)	10,100 (61°)	8,660 (64.1°)
100'0"	6,610 (51.6°)	8,300 (56.7°)	7,710 (60.4°)
110'0"	4,620 (46.2°)	5,190 (52°)	5,610 (56.7°)
120'0"	2,670 (40°)	3,280 (47.6°)	3,790 (52.6°)
130'0"			2,170 (47.9°)
MIN. ANGLE	32.6° (130'0")	42.2° (130'0")	42° (140'0")
			
T1	100	100	100
T2	100	100	100
T3	50	75	100
T4	50	75	100

The 28' (8.53m) base section of the 116' (35.35m) jib can be used separately as a fixed length fixed offset jib with a useable length of 23'6" (7.17m).

NOTE: The 23'6" (7.17m) extension must not be used for lifting whilst other parts of the jib are erected.

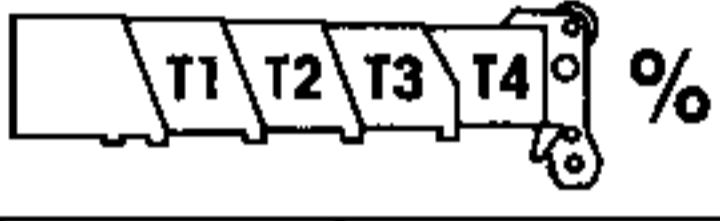


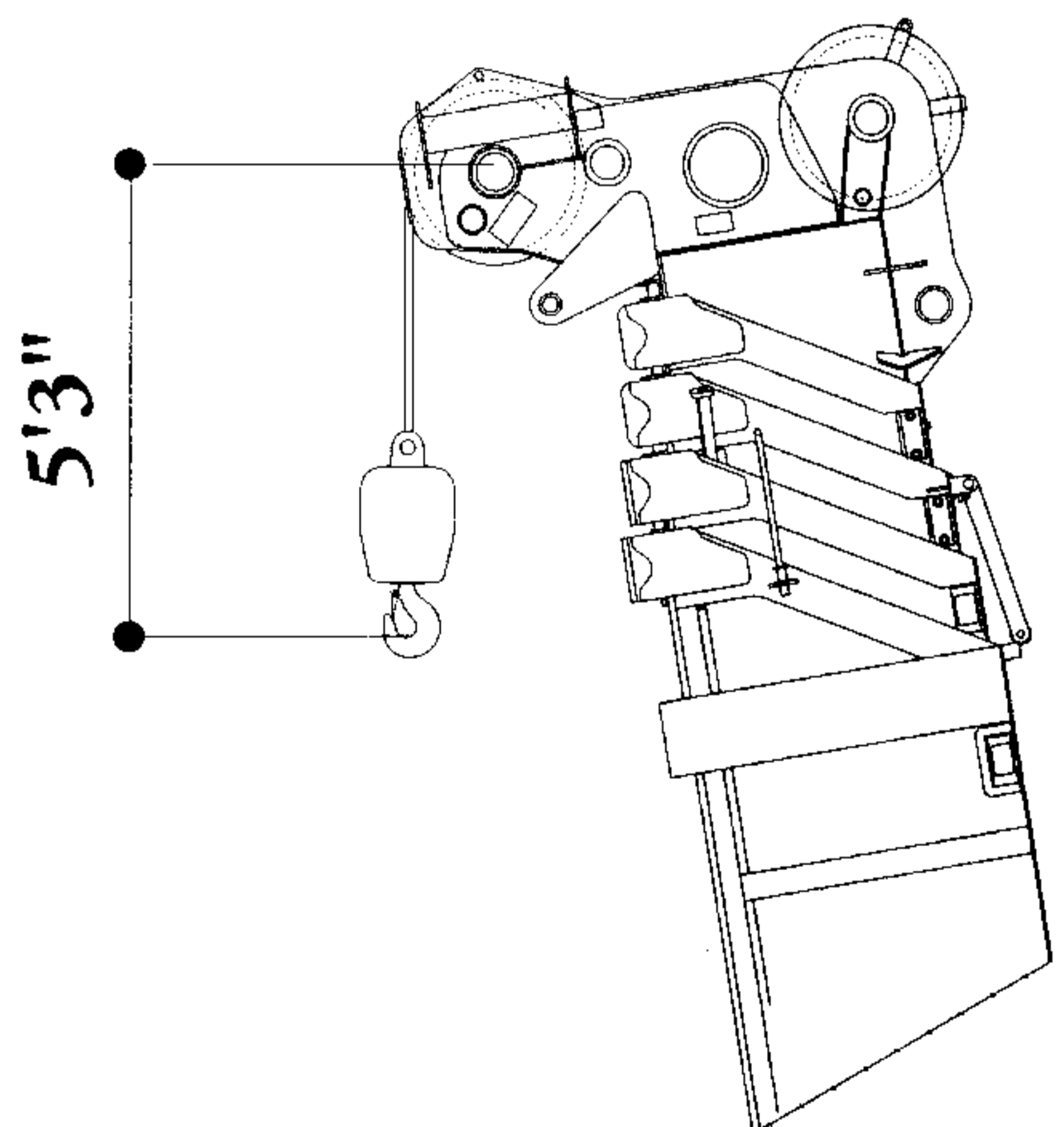
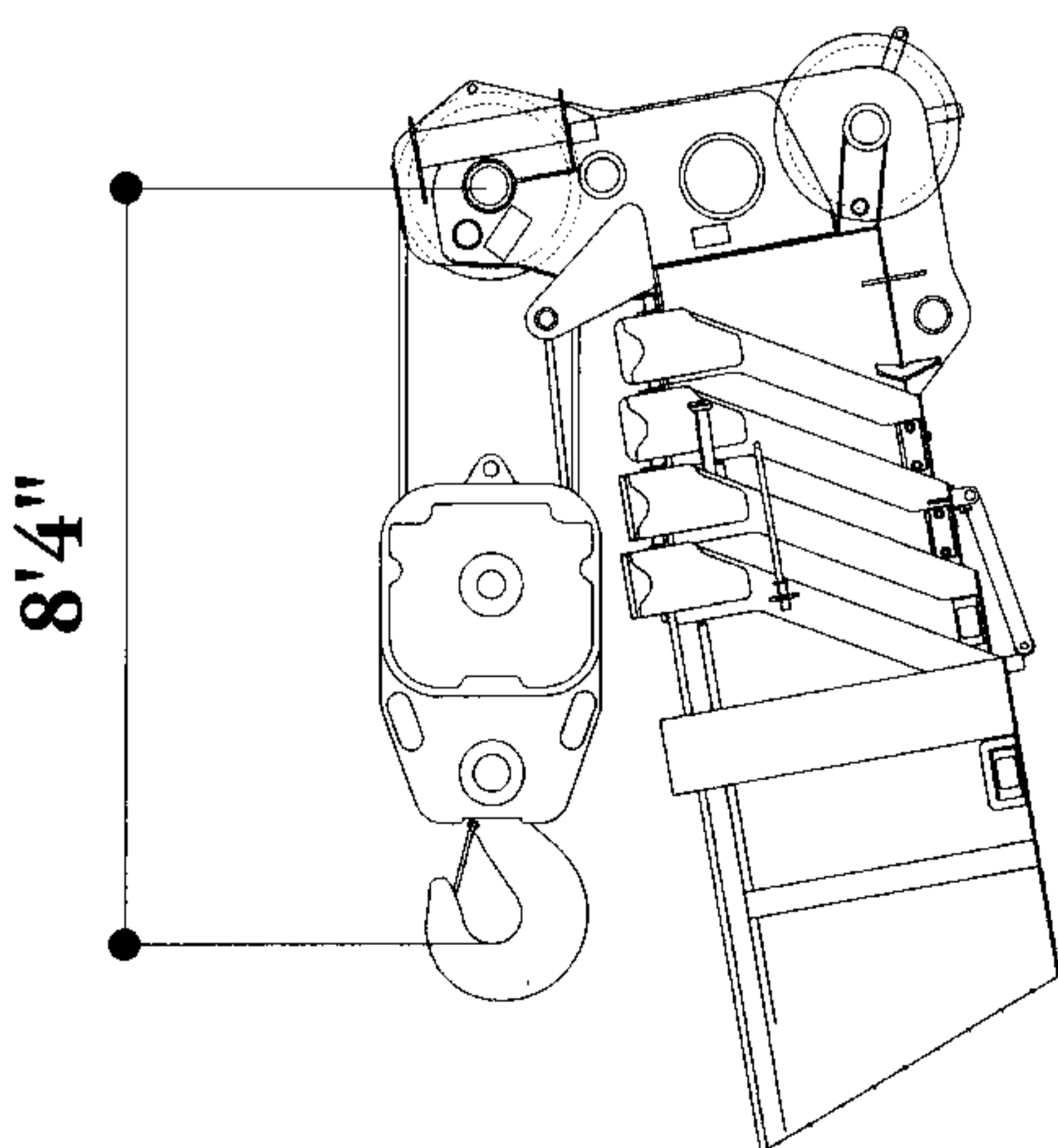
31,085 Lbs (14.10 Tonnes) Counterweight – 4 axle 29,985 Lbs (13.60 Tonnes) Counterweight – 5 axle

Main boom lifting capacities on fully extended outriggers – 360°
130'6" main boom length plus *28' extension with offsetable jib

Laiden Main Boom Angles	28' + 46' jib						28' + 60" jib					
	10° Offset		17° Offset		30° Offset		10° Offset		17° Offset		30° Offset	
	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load
80.0°	52'6"	9,000	57'3"	8,820	65'6"	8,310	58'0"	7,070	64'0"	6,460	75'6"	5,930
77.5°	57'3"	7,910	65'6"	7,820	72'9"	7,430	67'3"	6,060	73'9"	5,660	84'3"	4,870
75.0°	69'6"	7,890	75'6"	7,600	81'0"	7,100	76'0"	6,010	82'6"	5,370	92'6"	4,710
72.5°	77'9"	7,480	83'6"	7,250	89'3"	6,830	85'3"	5,950	91'9"	5,130	100'9"	4,580
70.0°	87'0"	7,710	91'9"	6,980	96'9"	6,630	95'0"	5,660	100'0"	4,960	109'0"	4,450
67.5°	94'0"	7,050	100'0"	6,740	105'0"	6,410	103'3"	5,160	108'3"	4,760	116'6"	4,340
65.0°	101'6"	6,500	106'6"	6,280	112'3"	6,210	111'6"	4,670	116'6"	4,540	123'6"	4,250
62.5°	110'0"	5,950	114'9"	5,840	119'9"	5,840	118'9"	4,270	124'6"	4,180	131'6"	4,160
60.0°	116'6"	5,510	121'3"	5,400	121'3"	5,350	126'3"	3,880	131'9"	3,830	137'9"	3,830
55.0°	130'3"	3,640	134'6"	3,420	139'3"	3,090	141'0"	2,870	146'6"	2,420	149'9"	2,650
50.0°	142'9"	1,870	146'0"	1,760								
MIN.	47.0°		47.0°		50.0°		50.0°		50.0°		50.0°	

Laiden Main Boom Angles	28' + 74' jib						28' + 88" jib					
	10° Offset		17° Offset		30° Offset		10° Offset		17° Offset		30° Offset	
	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load
80.0°	63'9"	5,270	72'0"	4,870	84'3"	3,500	67'9"	3,660	75'6"	3,440	93'6"	3,020
77.5°	72'0"	4,690	82'0"	4,270	94'0"	3,370	78'9"	2,990	88'6"	2,770	103'3"	2,380
75.0°	82'0"	4,540	91'9"	4,250	103'3"	3,240	89'3"	2,770	98'3"	2,580	112'3"	2,240
72.5°	91'9"	4,100	100'9"	3,920	115'6"	3,100	99'0"	2,490	108'3"	2,310	121'3"	2,090
70.0°	101'9"	3,700	109'9"	3,480	120'6"	2,950	108'9"	2,130	117'0"	1,980	129'6"	1,980
67.5°	110'6"	3,300	118'0"	3,130	127'9"	2,820	118'0"	1,830	126'9"	1,690	138'6"	1,690
65.0°	118'9"	2,910	126'3"	2,755	136'3"	2,730	127'9"	1,520	135'0"	1,410	146'6"	1,410
62.5°	126'9"	2,555	134'6"	2,470	143'3"	2,470	136'9"	1,255	144'3"	1,145	154'0"	1,145
60.0°	135'0"	2,270	142'9"	2,205	149'9"	2,205	146'0"	1,015	152'6"	925	159'0"	925
55.0°	150'9"	1,760	156'6"	1,720	163'0"	1,720						
MIN.	52.0°		53.0°		53.0°		55.0°		55.0°		55.0°	

		%
T1		100
T2		100
T3		50
T4		50



Dimensions are for largest Grove furnished hookblock and headache ball with anti-two block activated.
Refer to rating plate for actual block weight.

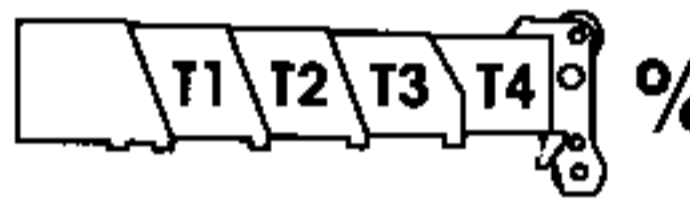
31,085 Lbs (14.10 Tonnes) Counterweight – 4 axle

29,985 Lbs (13.60 Tonnes) Counterweight – 5 axle

Main boom lifting capacities on fully extended outriggers – 360°
145'3" main boom length plus '28' extension with offsetable jib

Laiden Main Boom Angles	28' + 46' jib						28' + 60" jib					
	10° Offset		17° Offset		30° Offset		10° Offset		17° Offset		30° Offset	
	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load
80.0°	57'6"	6,980	60'6"	6,720	70'6"	6,390	62'3"	5,070	68'9"	4,850	79'3"	4,520
77.5°	65'6"	5,930	70'6"	5,880	79'3"	5,840	71'0"	4,450	79'3"	4,230	89'3"	4,080
75.0°	74'6"	5,730	80'3"	5,440	88'6"	5,220	82'0"	3,920	88'6"	3,700	98'3"	3,630
72.5°	83'6"	5,110	88'6"	4,890	95'9"	4,740	90'9"	3,460	97'3"	3,260	107'3"	3,220
70.0°	93'6"	4,560	96'9"	4,340	104'0"	4,300	101'9"	3,040	106'6"	2,860	115'6"	2,820
67.5°	102'3"	4,070	105'0"	3,900	112'0"	3,860	109'9"	2,620	115'6"	2,510	123'6"	2,490
65.0°	110'6"	3,630	113'9"	3,460	119'9"	3,460	118'9"	2,250	124'6"	2,160	131'9"	2,160
62.5°	118'0"	3,190	121'3"	3,080	126'9"	3,080	127'9"	1,920	131'9"	1,850	140'0"	1,850
60.0°	125'3"	2,800	129'6"	2,750	134'6"	2,750	136'0"	1,610	140'0"	1,540	147'6"	1,540
55.0°	139'3"	2,200	143'3"	2,200	147'6"	2,200	150'9"	1,110	154'9"	1,060		
MIN.	50.0°		51.0°		52.0°		53.0°		54.0°		55.0°	

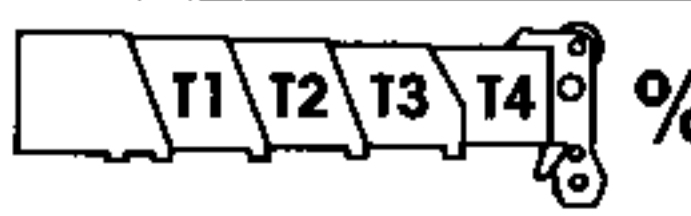
Laiden Main Boom Angles	28' + 74' jib						28' + 88" jib					
	10° Offset		17° Offset		30° Offset		10° Offset		17° Offset		30° Offset	
	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load
80.0°	67'3"	3,210	75'6"	2,970	88'6"	2,860	72'0"	1,800	82'0"	1,610	98'3"	1,470
77.5°	77'9"	2,750	85'9"	2,530	98'6"	2,420	82'6"	1,430	93'6"	1,250	108'3"	1,140
75.0°	88'6"	2,330	96'9"	2,160	108'3"	2,090	88'6"	1,080	104'0"	900	118'0"	835
72.5°	98'3"	1,940	105'6"	1,800	118'0"	1,740	105'0"	725				
70.0°	108'3"	1,590	114'9"	1,450	126'9"	1,430						
67.5°	118'0"	1,230	124'6"	1,120	134'6"	1,120						
65.0°	126'9"	925	132'9"	835	143'3"	835						
62.5°	136'0"	660										
MIN.	60.0°		63.0°		64.0°		70.0°		73.0°		74.0°	

	
T1	100
T2	100
T3	75
T4	75

Main boom lifting capacities on fully extended outriggers – 360°
160'0" main boom length plus '28' extension with offsetable jib

Laiden Main Boom Angles	28' + 46' jib						28' + 60" jib					
	10° Offset		17° Offset		30° Offset		10° Offset		17° Offset		30° Offset	
	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load
80.0°	60'5"	4,410	65'6"	4,080	74'6"	3,860	65'6"	2,820	73'9"	2,640	82'6"	2,470
77.5°	70'6"	3,750	75'3"	3,520	83'6"	3,410	76'0"	2,310	83'6"	2,160	93'6"	2,070
75.0°	80'3"	3,190	85'3"	2,970	91'9"	2,910	86'9"	1,890	93'6"	1,710	104'0"	1,650
72.5°	90'9"	2,690	95'0"	2,530	100'9"	2,470	97'6"	1,470	103'3"	1,320	113'3"	1,300
70.0°	100'0"	2,200	104'0"	2,090	109'9"	2,090	107'3"	1,100	113'3"	970	122'0"	970
67.5°	109'0"	1,800	112'3"	1,700	118'0"	1,700	116'6"	750	122'0"	660	129'6"	660
65.0°	117'0"	1,430	121'3"	1,360	126'3"	1,360						
62.5°	125'3"	1,140	129'6"	1,100	134'6"	1,100						
60.0°	132'9"	880	137'9"	815	142'9"	770						
MIN.	56.0°		57.0°		58.0°		65.0°		66.0°		66.0°	

Laiden Main Boom Angles	28' + 74' jib					
	10° Offset		17° Offset		30° Offset	
	Ref Rad	Load	Ref Rad	Load	Ref Rad	Load
80.0°	71'0"	1,430	79'3"	1,250	93'6"	1,100
77.5°	83'6"	1,030	90'3"	880	103'3"	770
75.0°	93'6"	660				
MIN.	73.0°		75.0°		76.0°	

	
T1	100
T2	100
T3	100
T4	100

IMPORTANT NOTES

WARNING: THIS CHART IS ONLY A GUIDE.

The Notes below are for illustration only and should not be relied upon to operate the crane. The individual crane's load chart, operating instructions and other instruction plates must be read and understood prior to operating the crane.

1. All rated loads have been tested to and meet minimum requirements of SAE J1063 OCT80 – Cantilevered Boom Crane Structures – Method of Test, and do not exceed 85% of the tipping load on outriggers fully extended and 50% extended, and 75% of the tipping load on rubber as determined by SAE J765 OCT80 Crane Stability Test Code.
2. Capacities given do not include the weight of hookblocks, slings, auxiliary lifting equipment and load handling devices. Their weights MUST be added to the load to be lifted. When more than minimum required reeving is used, the additional rope weight shall be considered part of the load.
3. Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.
4. All capacities are for crane on firm, level surface. It may be necessary to have structural supports under the outrigger floats or tires to spread the load to a larger bearing surface.
5. 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.
6. Tires shall be inflated to the recommended pressure before lifting on rubber.
7. For outrigger operation, ALL outriggers shall be fully extended with tires raised free of ground before raising the boom or lifting loads.

Weight reduction for load handling devices

Rooster Sheave	265 Lbs (0.12 tonne)
33'0" (10.05m) extension	
Stowed	772 Lbs (0.35 tonne)
Erected (33'0")	5,910 Lbs (2.68 tonne)
33'0" to 58'0" (10.05m to 17.70m) extension	
Stowed	1,040 Lbs (0.47 tonne)
Erected (33'0")	8,530 Lbs (3.87 tonne)
Erected (48'0")	9,990 Lbs (4.53 tonne)
Erected (58'0")	10,960 Lbs (4.97 tonne)
23'6" (7.169m) Jib Extension	
Erected (23'6")	6,990 Lbs (3.17 tonne)
Fixed Offset Jib	
Erected 74'0" (22.56m)	12,390 Lbs (5.62 tonne)
Erected 88'0" (26.82m)	15,010 Lbs (6.81 tonne)
Erected 102'0" (31.09m)	19,800 Lbs (8.98 tonne)
Erected 116'0" (35.36m)	28,550 Lbs (12.95 tonne)
Hookblocks	
156 ton 7 sheave	2,645 Lbs (1.20 tonne)
100 ton 4 sheave	2,070 Lbs (0.94 tonne)
55 ton 2 sheave	1,390 Lbs (0.63 tonne)
35 ton 1 sheave	1,125 Lbs (0.51 tonne)
11 ton Headache Ball	440 Lbs (0.20 tonne)

NOTE: All load handling devices and boom attachments are considered part of the load and suitable allowances must be made for their combined weights.

♦Optional equipment

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