

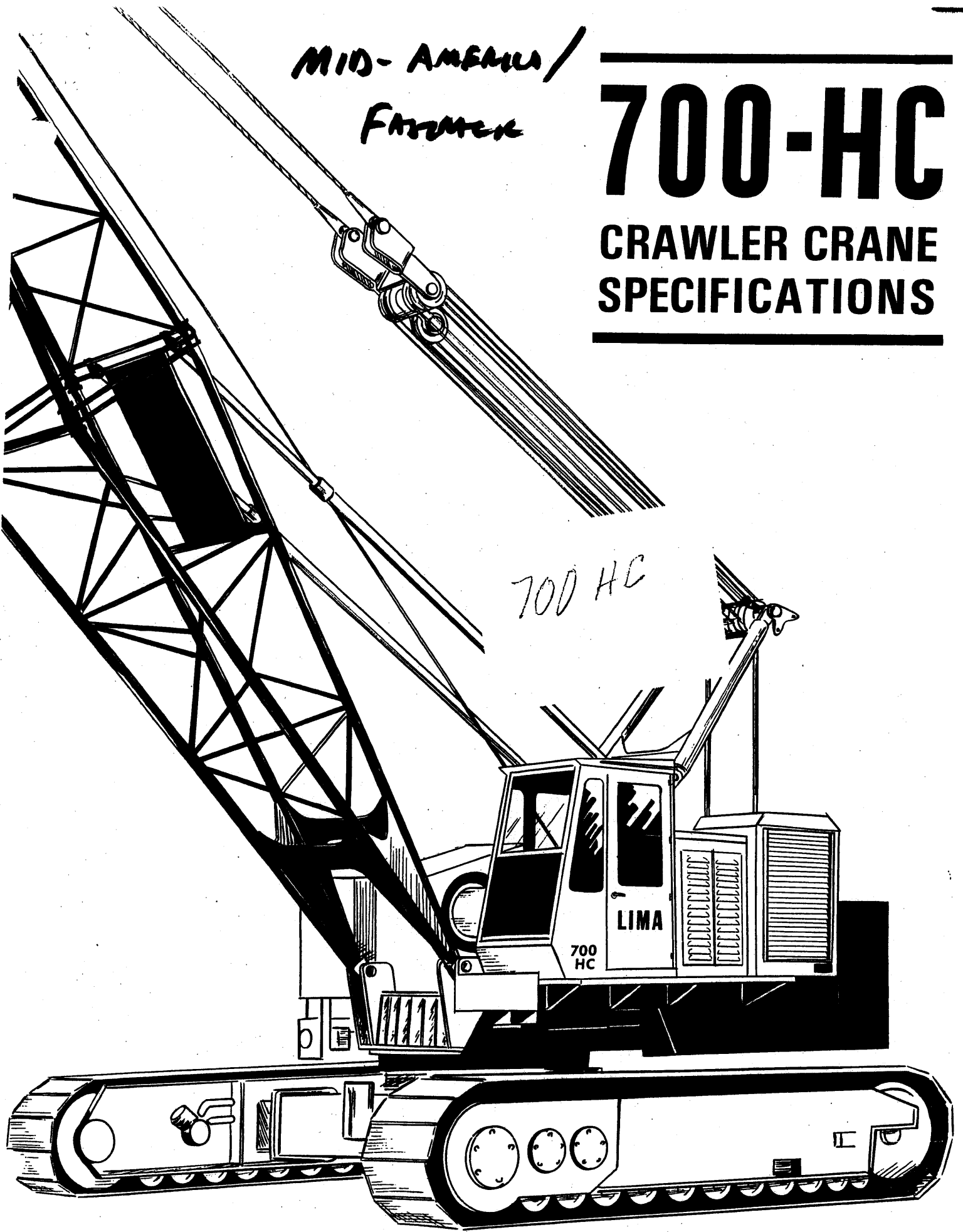
MID-RANGE/  
FARMER

---

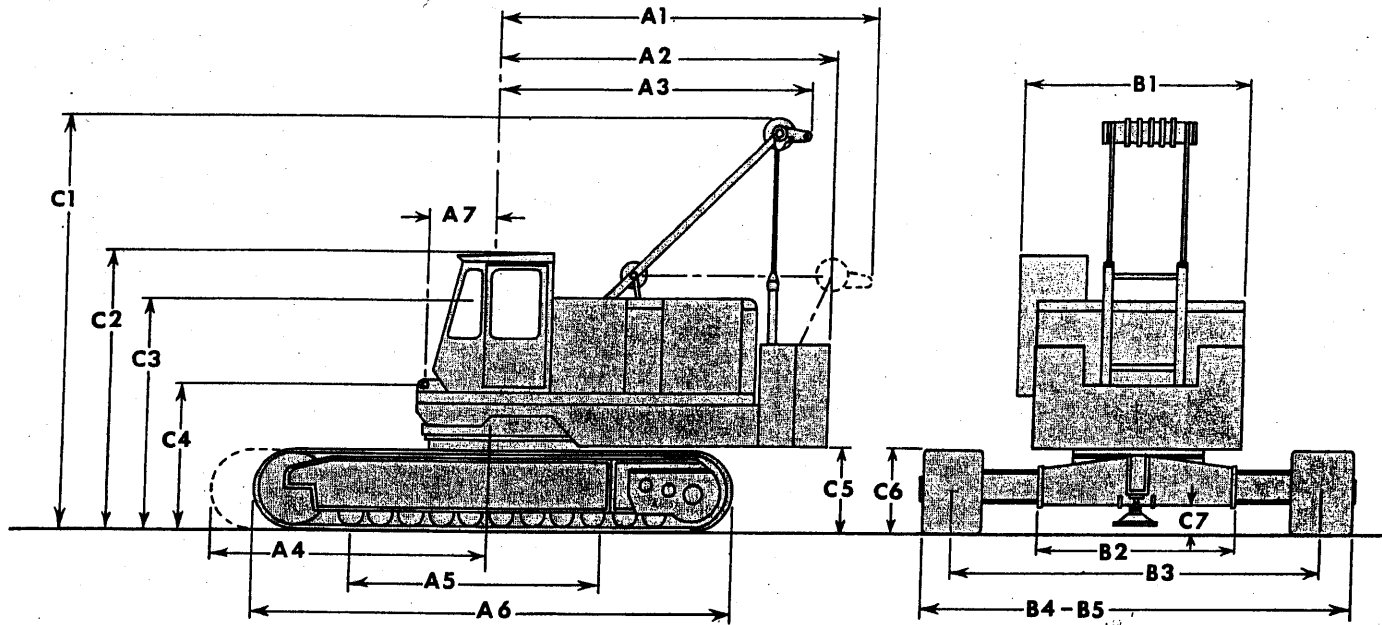
# 700-HC

CRAWLER CRANE  
SPECIFICATIONS

---



# CLEARANCE AND DIMENSIONS



## FRONT TO REAR

A1	Rotation to Rear of Telescopic Backhitch Gantry—Lowered	14' 7-5/8" (4.46m)
A2	Rear End Swing—24,350# C'w't	13' 3 1/2" (4.05m)
	Rear End Swing—45,800# C'w't	13' 11-7/8" (4.26m)
A3	Rotation to Rear of Telescopic Backhitch Gantry—Raised	12' 4 1/2" (3.77m)
A4	Over Corner of Crawlers Retracted—30" Treads	11' 9 1/4" (3.59m)
	Over Corner of Crawlers Retracted—35" Treads	11' 9-1/4" (3.59m)
	Over Corner of Crawlers Retracted—42" Treads	12' 1-5/8" (3.70m)
	Over Corner of Crawlers Extended—35" Treads	13' 7-3/8" (4.15m)
A5	Truck Base Length	10' 6" (3.20m)
A6	Crawler Length	20' 1" (6.12m)
A7	Rotation to Boom Foot	36-1/2" (93cm)

## SIDE TO SIDE

B1	Width of Rotating Unit	10' 1-1/16" (3.08m)	
B3	C To C of Tread Rollers—Crawlers Retracted 30" or 35" Treads	8' 11-1/4" (2.72m)	
	C To C of Tread Rollers—Crawlers Retracted 42" Treads	9' 7-1/4" (2.93m)	
	C To C of Tread Rollers—Crawlers Extended	13' 10-3/8" (4.23m)	
B2	Width of Truck Base (Less Axles)	8' 1-1/4" (2.47m)	
B4	Overall Width—Crawlers Retracted	30" Treads	11' 11-1/4" (3.64m)
		35" Treads	11' 11-1/4" (3.64m)
		42" Treads	13' 1-1/4" (3.99m)
B5	Overall Width—Crawlers Extended	30" Treads	18' 3" (5.56m)
		35" Treads	18' 3" (5.56m)
		42" Treads	18' 9" (5.72m)

## VERTICAL

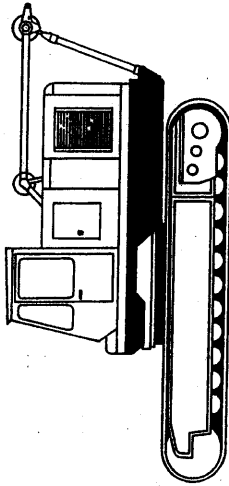
C1	Overall Height—Telescopic Backhitch Gantry Raised	18' 10-1/8" (5.74m)
C2	Overall Height—Telescopic Backhitch Gantry Lowered	11' 10-7/8" (3.63m)
C3	Eye Level	10' 3-1/4" (3.13m)

C4	Height of Boom Foot Pins	6' 3-5/8" (1.92m)
C5	Height to Bottom of Rotating Base	3' 8-1/4" (1.12m)
C6	Height of Crawlers	3' 5-7/8" (1.06m)
C7	Ground Clearance	1' 2-3/4" (37.5cm)

# LIMA 700-HC

## WEIGHTS OF COMPONENT PARTS

### BASIC MACHINE:



Equipment includes: fabricated truck and rotating base; environmental cab; standard crawlers 20'-1" (6.12m) overall length; 30" (76cm) treads; anti-friction bearing swing circle and integral swing gear; diesel engine; precision boom hoist with power controlled boom lowering; mechanical hoist brakes; air controls; gantry (No lagging or counterweight).

Approx. Shipping Weight ..... 74,330 lbs. (33,716kg.)

### TRUCK:



With 30" (76cm) Treads ..... 45,145 lbs. (20,478kg.)  
 With 35" (89cm) Treads ..... 47,125 lbs. (21,376kg.)  
 With 42" (107cm) Treads ..... 48,895 lbs. (22,179kg.)

### DRAGLINE ATTACHMENT:

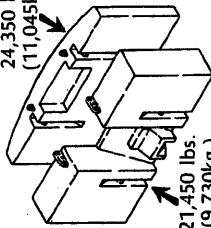
(Incl. Cables) ..... 6,195 lbs. (2,810kg.)  
 Add'l Rotating Parts ..... 660 lbs. ( 299kg.)  
 Fairlead and Trough (Incl. In Add'l Rot. Parts) ... 745 lbs. ( 338kg.)  
 Total Attachment Wt. ... 7,600 lbs. (3,477kg.)

**CRANE ATTACHMENT:**  
 (Incl. Cables) ..... 7,345 lbs. (3,332kg.)  
 Add'l Rotating Parts ... 635 lbs. ( 288kg.)  
 Total Attachment Wt. ... 7,980 lbs. (3,620kg.)

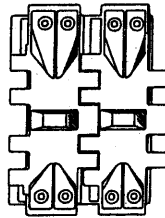
### COUNTERWEIGHTS:

Crane ..... 45,800 lbs. (20,775kg.)  
 Dragline ..... 24,350 lbs. (11,045kg.)  
 Clamshell ..... 24,350 lbs. (11,045kg.)

24,350 lbs. (11,045kg.)



### CRAWLER BELTS:



Tread Size ..... 30" (76cm)  
 35" (89cm)  
 42" (107cm)

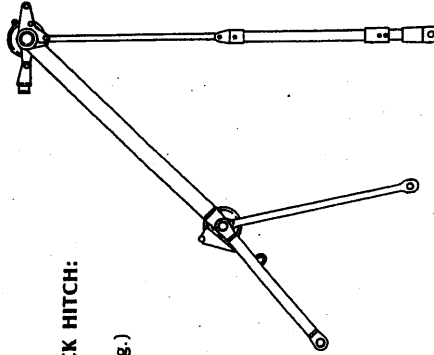
Weight Per Belt ..... 5,460 lbs. (2,477kg.)  
 6,450 lbs. (8,927kg.)  
 7,335 lbs. (3,327kg.)

52 TREADS PER BELT

### TELESCOPIC BACK HITCH:

GANTRY:

2,060 lbs. (934kg.)



### CABLES:

Attachment	Basic Cable Weights	For Each Add'l 10 Feet of Boom	Boom Hoist Cables
Crane (Main Hoist)	620 lbs. (281kg.)	—	10 Part Line ... 410 lbs. (186kg.)
Crane (Aux. Hoist)	120 lbs. ( 54kg.)	20 lbs. ( 9.1kg.)	12 Part Line ... 485 lbs. (220kg.)
Clamshell	190 lbs. ( 86kg.)	20 lbs. ( 9.1kg.)	
Dragline	210 lbs. ( 95kg.)	25 lbs. (11.3kg.)	

### BOOM EQUIPMENT:



Point Shaft  
 20' (6.1m) Base Section ... 1,995 lbs. (905kg.)

30' [9.1m] Point Section Incl. Point Shaft  
 Dragline ..... 2,045 lbs. ( 928kg.)  
 Crane ..... 2,665 lbs. (1,209kg.)  
 Clamshell ..... 2,185 lbs. ( 991kg.)

### Boom Extensions:

10 Ft. ( 3.05m) ..... 825 lbs. ( 374kg.)
20 Ft. ( 6.10m) ..... 1,285 lbs. ( 583kg.)
30 Ft. ( 9.15m) ..... 1,655 lbs. ( 751kg.)
40 Ft. (12.19m) ..... 2,205 lbs. (1,000kg.)

Crossover and Basic Slings 10 Part ..... 920 lbs. (417kg.)  
 Crossover and Basic Slings 12 Part ..... 950 lbs. (431kg.)  
 Mid-Point Suspension  
 160' (49m) Thru 180' (55m) ..... 460 lbs. (209kg.)  
 190' (58m) & 200' (61m) Boom ..... 525 lbs. (238kg.)

### CRANE ATTACHMENT:

Hook Block ..... 1,325 lbs. (601kg.)  
 Ball & Hook ..... 615 lbs. (279kg.)  
 Boom Stop (Incl. In Attachment Weights) ... 615 lbs. (279kg.)



### HEAVY DUTY JIB:

20' (6.1m) Basic Jib Assembly Complete ..... 1,820 lbs. (826kg.)  
 10' (3.05m) Jib Extension ..... 390 lbs. (177kg.)  
 20' (6.1m) Jib Extension ..... 690 lbs. (313kg.)  
 Maximum Jib Length ..... 60 ft. (18.3m)

NOTE: For Each Additional 10' (3.05m) of Boom Above the Basic Boom Add 35 lbs. (15.9kg.) to Jib Assembly.

### CLAMSHELL ATTACHMENT:

(Incl. Cables) ..... 6,315 lbs. (2,864kg.)  
 Add'l Rotating Parts ..... 660 lbs. ( 299kg.)  
 Tagline Winder (Incl. In Rotating Parts) ..... 355 lbs. ( 162kg.)  
 Total Attachment Weight ..... 7,330 lbs. (3,325kg.)

MAXIMUM BOOM OR BOOM PLUS JIB THAT CAN BE HANDLED HORIZONTALLY		
With 24,350 Lbs. (11,045 kg.) Counterweight		
Over Side		Over End
Crawlers Retracted	Crawlers Extended	Crawlers Retracted Or Extended
140' (42.7m) 120' (36.6m) + 20' (6.1m) 110' (33.5m) + 30' (9.1m) 100' (30.5m) + 40' (12.2m) 100' (30.5m) + 50' (15.2m) 100' (30.5m) + 60' (18.3m)	170' (51.8m) 150' (45.7m) + 20' (6.1m) 140' (42.7m) + 30' (9.1m) 140' (42.7m) + 40' (12.2m) 130' (39.6m) + 50' (15.2m) 130' (39.6m) + 60' (18.3m)	180' (54.9m) 180' (54.9m) + 20' (6.1m) 150' (45.7m) + 30' (9.1m) 140' (42.7m) + 40' (12.2m) 140' (42.7m) + 50' (15.2m) 130' (39.6m) + 60' (18.3m)
*With 45,800 Lbs. (20,775kg.) Counterweight		
Over Side		Over End
Crawlers Retracted	Crawlers Extended	Crawlers Retracted Or Extended
None None None None None None	200' (61.0m) 180' (54.9m) + 20' (6.1m) 170' (51.8m) + 30' (9.1m) 170' (51.8m) + 40' (12.2m) 170' (51.8m) + 50' (15.2m) 160' (48.8m) + 60' (18.3m)	200' (61.0m) 180' (54.9m) + 20' (6.1m) 180' (54.9m) + 30' (9.1m) 170' (51.8m) + 40' (12.2m) 170' (51.8m) + 50' (15.2m) 160' (48.8m) + 60' (18.3m)

\*With 45,800 Lbs. (20,775kg.) Counterweight, Crawlers Must Always Be In The Extended Position.

## BOOM AND JIB DATA

Boom, Tubular Pin Connected	
Type Service	Crane - Drag - Clamshell
Suspension	Cross Over and Pendants
Gantry	High Back Hitch (Telescoping Type)
Quan. Sheaves at Point Shaft	5
Convertibility	Crane - Dragline - Clamshell
Dia. Point Sheaves	1 5/8" (40.0cm) P.D. - 1/2" (19.1mm) Cable
Basic Boom Length	50' (15.2m)
Type Chords	3 1/4" (83mm) O.D. 100,000 P.S.I. (7,030kg/cm2) Steel
Extensions	10' (3.05m), 20' (6.1m), 30' (9.1m) and 40' (12.2m) straight 60 1/4" (153cm) x 65 1/4" (166cm) sec.
Max. Boom Length	Crane 200' (61.0m) Drag. & Clam 60' (18.3m)

Heavy Duty Jib, Tubular Pin Connected	
Basic Length	20' [25 1/2" (64.8cm) x 34 1/2" (87.6cm sec)]
Max. Length	60' (18.3m)
Chord Size	2 1/2" (64mm) O.D.
Chord Material	100,000 P.S.I. (7,030kg/cm2) Yield
Quan. Sheaves at Point	One (1)
P.D. Point Sheave	15 1/4" (40cm) P.D. ( 1/4" (19.1mm) Cable)
Capacity — 20'-0" (6.1m)	13 Ton (11.8 Ton)
30'-0" (9.1m)	10 Ton ( 9.1 Ton)
40'-0" (12.2m)	7 Ton ( 6.4 Ton)
50'-0" (50.2m)	5 Ton ( 4.5 Ton)
60'-0" (18.3m)	4 Ton ( 3.6 Ton)

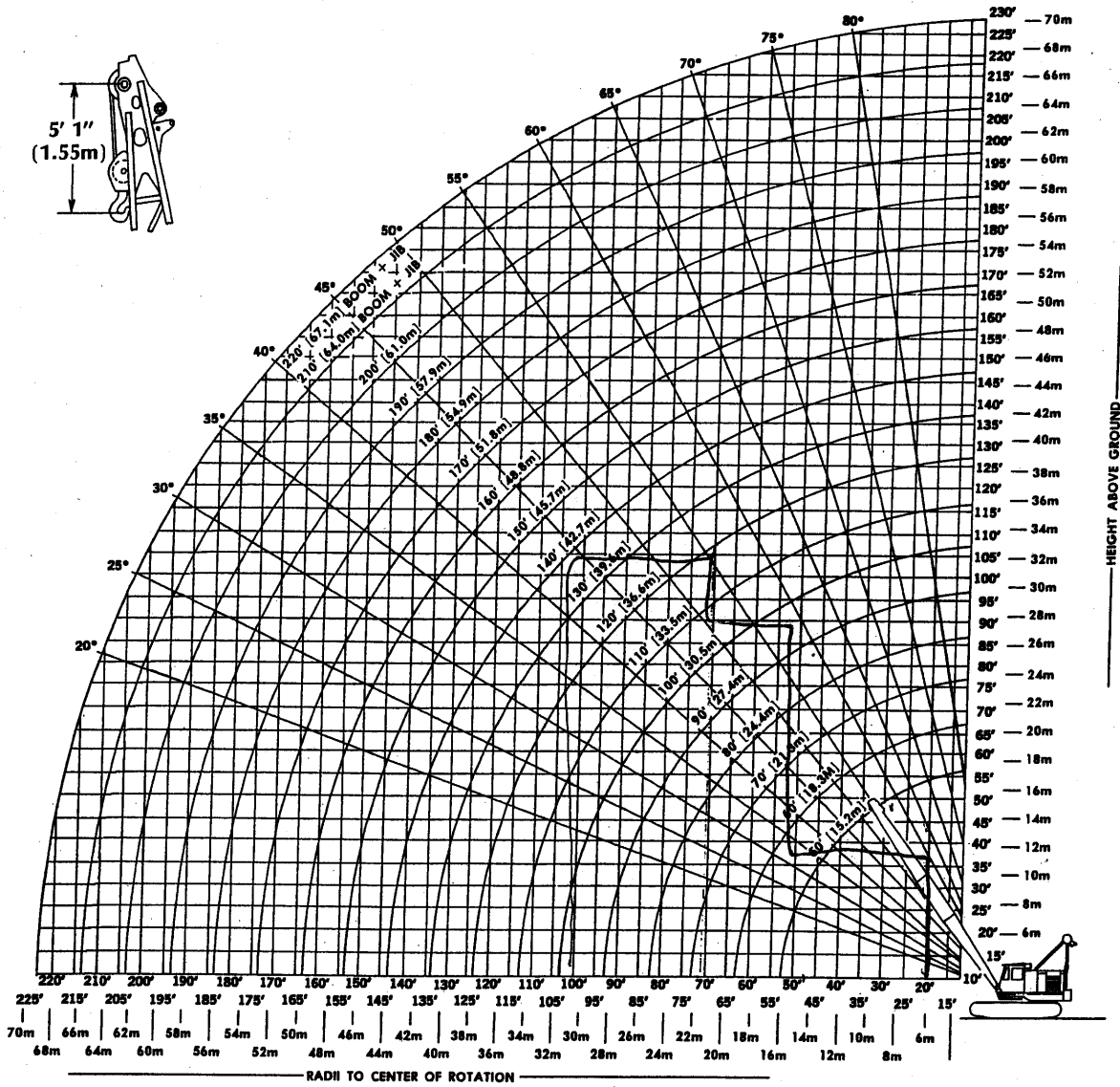
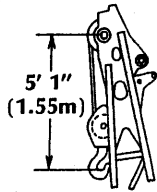
## BOOM HOIST SUSPENSION DATA

*Boom Length	Reeving Required	Mid-Point Suspension Location
Up thru 150' (45.7m)	10 or 12 Part Crossover	None
160' (48.8m) thru 180' (54.9m)	10 or 12 Part w/Mid-Point Suspension	90' (27.4m) From Boom Foot Pin
190' (57.9m) & 200' (61.0m)	12 Part w/Mid-Point Suspension	100' (30.5m) From Boom Foot Pin

\*Boom length determines suspension required. Jib Does not affect requirement.

Time Required to Raise Or Lower A 50' (15.2m) Boom From 20° Above Horizontal To 70° Above Horizontal With 10 Part Boom Hoist Reeving	to Raise	To Lower
	46 Sec.	73 Sec.

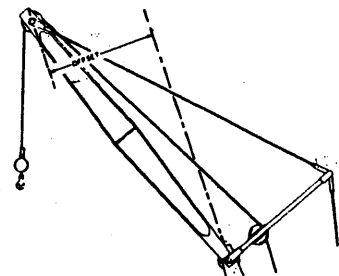
# CRANE WORKING RANGES



For Boom or Jib specifications, descriptions, maximum lengths and applications, refer to boom and Jib Data Chart.

Recommended Wire Rope Reeving For Hook Blocks	
Load in Pounds	No. Part Line
Over 16,800lbs. (7,620kg)	2
Over 33,600lbs. (15,240kg)	3
Over 50,400lbs. (22,860kg)	4
Over 67,200lbs. (30,480kg)	5
Over 84,000lbs. (38,100kg)	6
Over 100,800lbs. (45,720kg)	7
Over 117,600lbs. (53,340kg)	8
Over 134,400lbs. (60,960kg)	9
Over 151,200lbs. (68,580kg)	10

Requires 3/4" (19.1mm) dia. wire rope having a minimum breaking strength of 58,900 lbs. (26,717kg.).



Heavy Duty Jib 25 1/2" (64.8cm) x 34 1/2" (87.6cm) Sec.			
Jib Length	Rating	Offset	Effective Weight
20' (6.1m)	13 Ton (11.8 Ton)	6'-10" (2.08m)	2,055lbs. (932kg.)
30' (9.1m)	10 Ton (9.1 Ton)	12'-1" (3.68m)	2,650lbs. (1,202kg.)
40' (12.2m)	7 Ton (6.4 Ton)	17'-4" (5.28m)	3,360lbs. (1,524kg.)
50' (15.2m)	5 Ton (4.5 Ton)	22'-7" (6.88m)	4,010lbs. (1,819kg.)
60' (18.3m)	4 Ton (3.6 Ton)	27'-10" (8.48m)	4,865lbs. (2,207kg.)

Jib capacities are approximately the same as Boom capacities at any given radius, but not to exceed the rating listed above. Effective Jib weight to be subtracted from Boom capacity chart if load is raised on Boom point when jib is assembled on Boom.

80 Tons  
Class 15-364

CRANE LIFTING CAPACITIES

Boom				Crawlers Extended			Crawlers Retracted	Boom				Crawlers Extended	
Lgth.	Rad.	Ht.	Angle	45,000 Lb. C'w't	24,350 Lb. C'w't	24,350 Lb. C'w't	Lgth.	Rad.	Ht.	Angle	45,800 Lb. C'w't	24,350 Lb. C'w't	
50'	15'	54.9'	76.2	*160,000	126,200	63,300	120'	25'	124.3'	79.5	69,950	50,200	
	20'	53.3'	70.2	100,875	72,975	41,725		30'	123.2'	77.0	53,200	37,950	
	25'	51.1'	64.0	70,625	50,900	30,800		35'	122.0'	74.6	42,650	30,200	
	30'	48.4'	57.4	54,075	38,825	24,225		40'	120.5'	72.1	35,375	24,875	
	35'	44.8'	50.3	43,650	31,200	19,800		45'	118.7'	69.5	30,075	20,975	
	40'	40.0'	42.3	36,450	25,950	16,650		50'	116.7'	67.0	26,025	18,025	
	45'	33.5'	33.0	31,200	22,100	14,275		60'	111.9'	61.7	20,275	13,800	
50'	23.5'	20.1	27,200	19,200	12,400	70'		105.9'	56.1	16,350	10,925		
60'	15'	65.1'	78.5	*150,000	126,175	63,275		80'	98.4'	50.1	13,525	8,850	
	20'	63.9'	73.6	100,850	72,950	41,625		90'	89.0'	43.6	11,400	7,300	
	25'	62.1'	68.5	70,575	50,850	30,675		100'	79.0'	36.1	9,725	6,075	
	30'	59.9'	63.3	53,975	38,725	24,050		110'	60.7'	27.0	8,375	5,075	
	35'	57.1'	57.8	43,500	31,075	19,625		120'	33.2'	12.9	7,325	4,325	
	40'	53.6'	52.0	36,300	25,800	16,450		130'	30'	133.5'	78.0	53,075	37,825
	45'	49.2'	45.6	31,050	21,950	14,075	35'		132.3'	75.8	42,500	30,075	
50'	43.7'	38.5	27,025	19,000	12,200	40'	130.9'		73.5	35,225	24,725		
60'	25.2'	18.3	21,300	14,825	9,500	45'	129.3'		71.2	29,925	20,825		
70'	16'	75.1'	79.3	*135,000	110,600	57,300	50'		127.5'	68.8	25,875	17,850	
	20'	74.2'	76.0	100,825	72,925	41,475	60'		123.2'	64.0	20,100	13,625	
	25'	72.8'	71.7	70,475	50,750	30,475	70'		117.7'	59.0	16,750	10,750	
	30'	70.9'	67.4	53,850	38,575	23,850	80'	111.1'	53.7	13,350	8,675		
	35'	68.6'	62.8	43,350	30,900	19,400	90'	102.9'	48.0	11,225	7,100		
	40'	65.8'	58.1	36,100	25,600	16,200	100'	92.9'	41.8	9,550	5,875		
	45'	62.3'	53.2	30,825	21,750	13,825	110'	80.2'	34.6	8,200	4,900		
50'	58.2'	47.9	26,800	18,800	11,950	120'	63.1'	25.9	7,100	4,075			
60'	47.0'	35.5	21,075	14,600	9,250	130'	34.3'	12.4	6,175	3,400			
70'	26.7'	17.0	17,200	11,750	7,350	140'	30'	143.7'	78.9	52,875	37,600		
80'	17'	85.1'	80.0	*120,000	98,075		52,275	35'	142.6'	76.8	42,300	29,850	
	20'	84.5'	77.8	100,800	72,900		41,375	40'	141.3'	74.7	35,025	24,525	
	25'	83.2'	74.1	70,425	50,675		30,375	45'	139.9'	72.6	29,725	20,625	
	30'	81.6'	70.3	53,750	38,500		23,725	50'	138.2'	70.4	25,675	17,675	
	35'	79.6'	66.5	43,250	30,800		19,275	60'	134.2'	66.0	19,900	13,425	
	40'	77.3'	62.5	36,025	25,500		16,100	70'	129.3'	61.4	16,000	10,575	
	45'	74.4'	58.4	30,725	21,625	13,700	80'	123.3'	56.7	13,175	8,500		
50'	71.1'	54.1	26,700	18,700	11,825	90'	116.0'	51.6	11,025	6,925			
60'	62.5'	44.6	20,975	14,500	9,125	100'	107.3'	46.2	9,375	5,700			
70'	50.1'	33.2	17,075	11,650	7,225	110'	96.6'	40.2	8,025	4,725			
80'	28.2'	15.9	14,275	9,575	5,850	120'	83.3'	33.3	6,925	3,900			
90'	19'	94.9'	79.8	*110,250	79,825	44,350	130'	65.3'	24.9	6,000	3,225		
	20'	94.7'	79.1	100,775	72,825	41,225	140'	35.3'	12.0	5,200	2,650		
	25'	93.6'	75.9	70,325	50,600	30,200	150'	30'	153.9'	79.7	52,750	37,475	
	30'	92.2'	72.6	53,625	38,350	23,525		35'	152.9'	77.7	42,150	29,700	
	35'	90.4'	69.2	43,100	30,650	19,075		40'	151.7'	75.7	34,850	24,350	
	40'	88.4'	65.8	35,850	25,325	15,875		45'	150.3'	73.8	29,525	20,450	
	45'	85.9'	62.2	30,550	21,450	13,475		50'	148.8'	71.8	25,475	17,475	
50'	83.1'	58.6	26,500	18,500	11,600	60'		145.1'	67.7	19,700	13,225		
60'	76.0'	50.7	20,750	14,275	8,875	70'		140.5'	63.5	15,775	10,350		
70'	66.4'	41.9	16,850	11,425	7,000	80'	135.1'	59.1	12,950	8,275			
80'	53.0'	31.2	14,050	9,350	5,600	90'	128.5'	54.6	10,800	6,700			
90'	29.5'	14.9	11,900	7,800	4,550	100'	120.8'	49.7	9,125	5,475			
100'	20'	104.9'	80.2	100,750	72,850	41,075	110'	111.5'	44.5	7,775	4,475		
	25'	103.9'	77.3	70,200	50,475	30,025	120'	100.2'	38.8	6,675	3,675		
	30'	102.6'	74.4	53,475	38,225	23,350	130'	86.2'	32.2	5,750	2,975		
	35'	101.1'	71.4	42,925	30,500	18,900	140'	67.5'	24.1	4,950	2,400		
	40'	99.2'	68.3	35,675	25,175	15,700	150'	36.4'	11.6	4,275	1,925		
	45'	97.1'	65.2	30,375	21,275	13,300	160'	35'	163.1'	78.5	42,025	29,575	
	50'	94.6'	62.0	26,325	18,325	11,425		40'	162.0'	76.6	34,725	24,225	
60'	88.5'	55.3	20,575	14,100	8,700	45'		160.0'	74.6	29,400	20,300		
70'	80.6'	48.0	16,675	11,250	6,800	50'		159.3'	72.9	25,325	17,300		
80'	70.2'	39.7	13,850	9,175	5,400	60'		155.8'	69.2	19,525	13,050		
90'	55.7'	29.6	11,725	7,600	4,350	70'		151.6'	65.3	15,600	10,175		
100'	30.8'	14.2	10,050	6,375	3,500	80'		146.6'	61.3	12,775	8,100		
110'	25'	114.1'	78.5	69,975	50,250	29,750	90'	140.6'	57.1	10,625	6,525		
	30'	113.0'	75.8	53,225	37,975	23,075	100'	133.6'	52.7	8,950	5,275		
	35'	111.6'	73.1	42,675	30,225	18,600	110'	125.3'	48.1	7,600	4,300		
	40'	109.9'	70.4	35,400	24,900	15,400	120'	115.5'	43.0	6,475	4,375		
	45'	108.0'	67.6	30,100	21,000	13,000	130'	103.7'	37.5	5,550	2,800		
	50'	105.8'	64.7	26,050	18,050	11,125	140'	89.0'	31.1	4,725	2,225		
	60'	100.4'	58.8	20,300	13,825	8,375	150'	69.6'	23.3	4,100	1,725		
70'	93.6'	52.5	16,375	10,950	6,500	160'	37.4'	11.2	3,500				
80'	84.9'	45.6	13,550	8,875	5,100								
90'	73.7'	37.8	11,425	7,325	4,025								
100'	58.3'	28.2	9,750	6,100	3,200								
110'	32.0'	13.5	8,400	5,100	2,525								

THIS CHART IS BASED UPON:

1. Loads marked by \* are the maximum loads permitted by the structural strength of the parts and are not based upon the stability of the machine.
2. All other loads are based upon the stability of the machine, and do not exceed 75% of the tipping loads in the least stable direction.
3. Machine to be level on firm solid support; shock and side loads are to be prevented.
4. All hook blocks, lifting tackle, and jib attachments are considered a part of the load to be lifted.
5. Exceeding the capacities shown on this chart or altering the counterweight n.s. etc. all.

21 = 05.2  
b = 04.1  
05

Maximum Counterweight: Crawlers Extended ..... 24,350 Lbs.  
 Crawlers Retracted ..... 45,800 Lbs.

Crawlers Retracted 24,350 Lb. C'w't	Boom				Crawlers Extended		Crawlers Retracted 24,350 Lb. C'w't	Capacities Below Include Jib — See Jib Data		
	Lgth.	Rad.	Ht.	Angle	45,800 Lb. C'w't	24,350 Lb. C'w't		Boom Plus Jib		Crawlers Extended 45,800 Lb. C'w't
29,700 23,050 18,575 15,375 12,975 11,100 8,350 6,475 5,075 4,000 3,175 2,500 1,975	170'	35'	173.3'	79.2	41,825	29,375		210' (180' + 30')	60'	
		40'	172.2'	77.4	34,500	24,000			70'	14,750
		45'	171.0'	75.7	29,150	20,075			90'	9,250
		50'	169.7'	74.0	25,075	17,075			100'	8,050
		60'	166.5'	70.4	19,275	12,800			110'	6,700
		70'	162.6'	66.8	15,350	9,900			120'	5,600
		80'	157.9'	63.1	12,500	7,825			130'	4,650
		90'	152.4'	59.2	10,350	6,250			140'	3,775
		100'	145.9'	55.2	8,675	5,000			150'	3,050
		110'	138.4'	51.0	7,300	4,000			160'	2,425
		120'	129.7'	46.5	6,200	3,200			170'	1,850
		130'	119.4'	41.7	5,275	2,500				
		140'	107.0'	36.3	4,475	1,925				
		150'	91.8'	30.2	3,800					
		160'	71.6'	22.6	3,200					
		170'	38.3'	10.9	* 2,575					
		22,850 18,375 15,175 12,775 10,900 8,175 6,275 4,875 3,825 2,975 2,300 1,725	180'	35'	183.4'	79.8			41,700	29,250
40'	182.5'			78.2	34,375	23,875	80'	10,000		
45'	181.3'			76.5	29,025	19,925	90'	9,725		
50'	180.1'			74.9	24,950	16,925	100'	8,025		
60'	177.1'			71.6	19,150	12,675	110'	6,675		
70'	173.4'			68.2	15,200	9,775	120'	5,575		
80'	169.0'			64.7	12,350	7,675	130'	4,625		
90'	163.9'			61.1	10,250	6,100	140'	3,750		
100'	158.0'			57.4	8,525	4,850	150'	3,025		
110'	151.1'			53.5	7,175	3,850	160'	2,400		
120'	143.1'			49.5	6,050	3,050	170'	1,825		
130'	133.9'			45.1	5,125	2,350				
140'	123.1'			40.5	4,325	1,775				
150'	110.2'			35.3	3,650					
160'	94.4'			29.3	3,050					
170'	73.6'			21.9	2,550					
180'	39.3'			10.6	* 2,000					
22,625 18,150 14,975 12,550 10,700 7,975 6,075 4,700 3,625 2,775 2,100 1,550	190'	40'	192.7'	78.8	34,250	23,750				
		45'	191.6'	77.2	28,900	19,800				
		50'	190.4'	75.7	24,800	16,775				
		60'	187.6'	72.6	18,950	12,475				
		70'	184.1'	69.4	15,000	9,575				
		80'	180.0'	66.1	12,150	7,475				
		90'	175.2'	62.8	9,975	5,875				
		100'	169.7'	59.3	8,300	4,625				
		110'	163.3'	55.7	6,925	3,625				
		120'	156.0'	52.0	5,825	2,800				
		130'	147.7'	48.1	4,875	2,125				
22,425 17,950 14,750 12,350 10,475 7,725 5,825 4,450 3,375 2,550 1,850	200'	40'	202.9'	79.4	34,000	23,475				
		45'	201.9'	77.9	28,625	19,550				
		50'	200.7'	76.4	24,550	16,525				
		60'	198.0'	73.5	18,725	12,250				
		70'	194.8'	70.4	14,775	9,350				
		80'	190.9'	67.4	11,925	7,250				
		90'	186.4'	64.2	9,775	5,675				
		100'	181.2'	61.0	8,075	4,425				
		110'	175.3'	57.7	6,725	3,425				
		120'	168.5'	54.2	5,625	2,600				
		130'	160.8'	50.6	4,675	1,925				
140'	152.1'	46.8	3,900							
150'	142.0'	42.7	3,200							
160'	130.3'	38.3	2,625							
170'	116.4'	33.4	2,100							
180'	99.5'	27.8	1,650							

warranties.

- Over the side is the least stable direction.
- Capacities above the dotted lines require a wire rope length greater than furnished as standard with the machine.
- WHEN THE MACHINE IS EQUIPPED WITH 45,800 LBS. OF COUNTERWEIGHT, AND THE CRAWLERS RETRACTED, THE COUNTERWEIGHT MUST NOT BE SWUNG OVER THE SIDE OF THE MACHINE.

# POWER PLANT DATA (ROTATOR)

ROTATING ASSEMBLY	
MAKE	CUMMINS
MODEL	N855-C220
FUEL	Diesel
CYL.	6
BORE & STROKE	5 1/2" (140mm) x 6" (152mm)
GROSS RATED HP	220 @ 2100
TORQUE CONV. HP @ GOVERNED R.P.M.	104 @ 900

LINE PULL	LINE SPEED*	
	1st Layer on Drum 16" (40.6cm) Pitch Dia.	6th Layer On Drum 23 1/2" (59.7cm) Pitch Dia.
16,800lbs. (7,620kg)	205fpm ( 62mpm)	195fpm ( 59mpm)
13,500lbs. (6,124kg)	250fpm ( 76mpm)	250fpm ( 76mpm)
10,000lbs. (4,536kg)	296fpm ( 90mpm)	350fpm (107mpm)
6,000lbs. (2,722kg)	343fpm ( 92mpm)	458fpm (140mpm)
2,000lbs. (907kg)	383fpm (117mpm)	547fpm (167mpm)

\* - Third Drum Speeds Are Approximately 88% of the speeds indicated in the Chart.

Line pulls and speeds will vary, dependent on power plant applied.

# CLUTCH AND BRAKE DATA

FUNCTION	CLUTCHES				BRAKES			
	Type	Width	Diameter	Area	Type	Width	Diameter	Area
Main Hoist	Band	5" (12.7cm)	24" (61.0cm)	337 Sq. In. (2,174 Sq. cm)	Band	4 1/2" (11.4cm)	30" (76.2cm)	338 Sq. In. (2,181 Sq. cm)
Auxiliary Hoist	Band	5" (12.7cm)	24" (61.0cm)	337 Sq. In. (2,174 Sq. cm)	Band	4 1/2" (11.4cm)	30" (76.2cm)	338 Sq. In. (2,181 Sq. cm)
3rd Drum Hoist	Band	5" (12.7cm)	24" (61.0cm)	337 Sq. In. (2,174 Sq. cm)	Band	4 1/2" (11.4cm)	30" (76.2cm)	338 Sq. In. (2,181 Sq. cm)
Boom Hoist	Band	5" (12.7cm)	24" (61.0cm)	337 Sq. In. (2,174 Sq. cm)	Band	4 1/2" (11.4cm)	30" (76.2cm)	338 Sq. In. (2,181 Sq. cm)
Swing	2 Shoe	4 1/2" (11.4cm)	24" (61.0cm)	290 Sq. In. (1,871 Sq. cm)	Band	4 1/2" (11.4cm)	30" (76.2cm)	338 Sq. In. (2,181 Sq. cm)
Boom Lowering	Band	4 1/2" (11.4cm)	20" (50.8cm)	248 Sq. In. (1,600 Sq. cm)				
Load Lowering	Band	4 1/2" (11.4cm)	20" (50.8cm)	248 Sq. In. (1,600 Sq. cm)	Band	4" (10.2cm)	26" (66.0cm)	240 Sq. In. (1,548 Sq. cm)
*Front Drum	Band	5" (12.7cm)	24" (61.0cm)	337 Sq. In. (2,174 Sq. cm)	Band	4 1/2" (11.4cm)	30" (76.2cm)	338 Sq. In. (2,181 Sq. cm)

\* Full width front drum with planetary load lowering.

# LAGGING DATA

Lagging Location	Usage	Lagging P.D.	Lagging Width	Type of Lagging	Eff. Capy. 1st Layer	Maximum Capy. & Layers	Wire Rope Size
L.H. Front	Third Drum	14" (35.6cm)	11" (27.9cm)	Smooth	45' (13.7m)	464' (141.4m) In 7	3/4" (19.1mm)
R.H. Front	Crane Auxiliary Hoist	16" (40.6cm)	14-1/2" (36.8cm)	Smooth	71' (21.6m)	569' (173.4m) In 6	3/4" (19.1mm)
R.H. Front	Dragline Drag	16-1/8" (41.0cm)	14-1/2" (36.8cm)	Grooved	49' (14.9m)	-	7/8" (22.2mm)
L.H. Rear	Dragline Hoist	16" (40.6cm)	14-1/2" (36.8cm)	Grooved	48' (14.6m)	-	3/4" (19.1mm)
L.H. Rear ✓	Main Hoist	16" (40.6cm)	14-1/2" (36.8cm)	Smooth	71' (21.6m)	569' (173.4m) In 6	3/4" (19.1mm)
L.H. Rear	Clamshell Closing	16" (40.6cm)	14-1/2" (36.8cm)	Grooved	48' (14.6m)	-	3/4" (19.1mm)
R.H. Front	Clamshell Holding	16" (40.6cm)	14-1/2" (36.8cm)	Grooved	48' (14.6m)	-	3/4" (19.1mm)
4-57 R.H. Rear ✓	Boom Hoist	12" (30.5cm)	8-1/2" (21.6cm)	Smooth	28' (8.5m)	372' (113.4m) In 8	3/4" (19.1mm)
57 Full Width Front Drum ✓	Main or Aux. Hoist	16" (40.6cm)	24-1/8" (61.3cm)	Smooth	123' (37.5m)	959' (292.3m) In 6	3/4" (19.1mm)



## CRAWLER TRUCK

**TRUCK BASE:** Fabricated of high strength — low alloy steel with integral axle housings. One piece swing circle and gear are welded to truck base.

**SIDE FRAMES:** One piece fabrication of high strength low alloy steel with integral propel gear box on each side frame. All gears and shafts in gear box are of heat treated alloy steel. Each side frame is independently propelled at variable speed by a low speed, high torque hydraulic motor bolted to the side frame gear box.

A traction lock is mounted between the web plates of each side frame on the hydraulic motor shaft. This lock is spring set, air released and actuated by a poppet valve in the control stand.

The side frames are connected to the truck base by axles fabricated of T-1 steel and, by use of hydraulic rams mounted inside the axles, may be

retracted tight against the truck base for minimum travel width, or extended to provide a suitable wide base for handling maximum loads. The machine may be propelled with the side frames in either position. A bank of hydraulic valves is provided on the rear of the truck base to provide a flow path to the jack cylinders (used to raise side frames off the ground), and to the extension cylinders (used to extend or retract the side frames).

**TREAD ROLLERS:** Cast steel rollers run on bronze bushings. The roller wear surface or outer rim is hardened.

**CRAWLER BELTS:** Treads have wide connecting lugs, hinged together with hardened pins, treads are available in 30"—35"—42" widths. Each belt is independently driven by a roller chain.

## UPPER MACHINERY

**ROTATING BASE:** Fabricated with integral machinery frames. Fuel tank built in rear.

**SHAFTING:** All shafting heat treated alloy steel ground to size. Involute splines used extensively.

**VERTICAL SWING SHAFT:** The vertical swing shaft and pinion is one piece, mounted on anti-friction bearings.

**HORIZONTAL SWING SHAFT:** This shaft is mounted on anti-friction bearings, geared to the front and rear drum shafts. It supplies power to the vertical swing shaft through a bevel pinion.

**SWING BRAKE:** A swing brake operates on the outside of the front swing clutch housing for use as a lock brake. The machine is also equipped with a positive swing lock. The swing brake used with hydraulic swing is a spring set, air released caliper type brake mounted on the horizontal swing shaft. It can be used as a holding brake or swing snub.

**JACK SHAFT:** This shaft is mounted on ball bearings, and supplies power through a pinion gear to be power lowering shaft. Lube oil pump is belt driven from right hand end of jack shaft.

**FRONT DRUM SHAFT:** Supported by self-aligning anti-friction bearings and ball bearings. Mounted on the right hand end of this shaft is a swing clutch geared to the horizontal swing shaft. The right hand drum is a split lagging design, either smooth or grooved. All drums are mounted on ball bearings. Refer to "lagging data" table for specifications.

**REAR DRUM SHAFT:** Supported by self-aligning anti-friction and ball bearings. Mounted on the right hand end of this shaft is a swing clutch geared to the horizontal swing shaft. The right hand or boom hoist drum is solid-type design. The left hand drum is a split lagging design, either smooth or grooved. All drums are mounted on ball bearings. Refer to "lagging data" table for specifications.

**HOIST BRAKES:** Are external contracting friction band type, mechanically operated by pedals mounted on anti-friction bearings for maximum ease of operation. Hoist brakes have a foot-controlled lock.

**CLUTCHES:** All clutches are air actuated. All clutches are of the internal expanding friction band type with the exception of the swing clutches which are of the internal two show design.

**BOOM HOIST:** The boom hoist located on the rear drum shaft is of the spur gear and chain design with power up and power down control. Hoisting control is through an air actuated clutch with a spring set, air released holding brake. The brake automatically releases when hoisting or lowering. The lowering is controlled through an air actuated clutch mounted on the power lowering shaft and chain connected to the boom hoist drum. Lowering speed is reduced considerably resulting in a very smooth, precision, lowering operation. A ratchet and pawl device is supplied for added safety.

**BOOMS AND JIBS:** Extensible type with tubular chords — refer to boom and jib data.

**BOOM STOP:** Telescopic with or without automatic air cut-off of boom hoist clutch.

**FAIRLEAD:** Deck mounted, full revolving.

**BOOM SUSPENSION:** Crossover with 10 or 12 parts of line or 10 and 12 parts with mid-point suspension depending on boom length.

**THIRD DRUM:** One piece high capacity lagging running on ball bearings, located at left hand side of front drum shaft. Actuated by air operated clutch and brake. Refer to "lagging data" table for specifications.

**FULL WIDTH FRONT DRUM:** High capacity drum located on the front shaft, mounted on ball bearings and equipped with planetary controlled load lowering. Refer to "Lagging Data" table for specifications. (Third drum not available with this equipment.)

**POWER LOWER SHAFT:** This shaft is located behind the rear hoist drum shaft and accommodates the power boom lowering and power load lowering.

**POWER LOAD LOWERING:** The power load lowering, air actuated clutch is chain connected to the left hand rear main hoist drum. The load lowering speed is reduced considerably, resulting in a very smooth precision, lowering operation.

**COUNTERWEIGHT:** Two piece cast iron counterweight mounted at rear of rotating frame. Readily removable for weight reduction of machine for transporting.

**COUNTERWEIGHT REMOVAL EQUIPMENT:** Includes sheaves in base section of boom, lifting slings, and boom stop. Hoist cable over sheaves in boom base is used to load or unload counterweight from auxiliary truck. Gantry power up and down feature is used to position counterweight with slings provided.

**GANTRY:** The gantry consists of a basic low gantry to which is attached a high gantry having telescopic back legs with three set positions. Gantry can be (1) pinned in low position at cab height for traveling with low clearance, (2) pinned in mid-position for traveling with boom suspended over rear of carrier, and (3), raised to full height for machine operation.

**CONTROLS:** All controls are air except hoist brakes which are mechanical.

**OPERATOR'S CAB:** Machine equipped with environmental operator's cab lined with sound barrier and deadening material, cuts noise level by an estimated 50 percent. Cab can be heated or air conditioned. Controls are grouped for maximum operator convenience, comfort and efficiency. Side and front windows slide up and down for ventilation. Numerous hatches and doors are provided for access to machinery and power plant. Hoist drums are not covered.

**GEARING AND CHAIN DRIVES:** All gearing, except rotating pinion and gear, is fully enclosed, running in oil with pump circulation for positive lubrication. The four chain sprockets from boom hoist and load lowering device require hand lubrication. Power take-off chain drive is fully enclosed, running in an oil bath.

**MISCELLANEOUS ACCESSORIES:** Ball and hook, hook block, electric signal horn, running board (short hook on type).

**POWER TAKE-OFF:** Disconnect clutch, precision roller chain.