

# CLARK

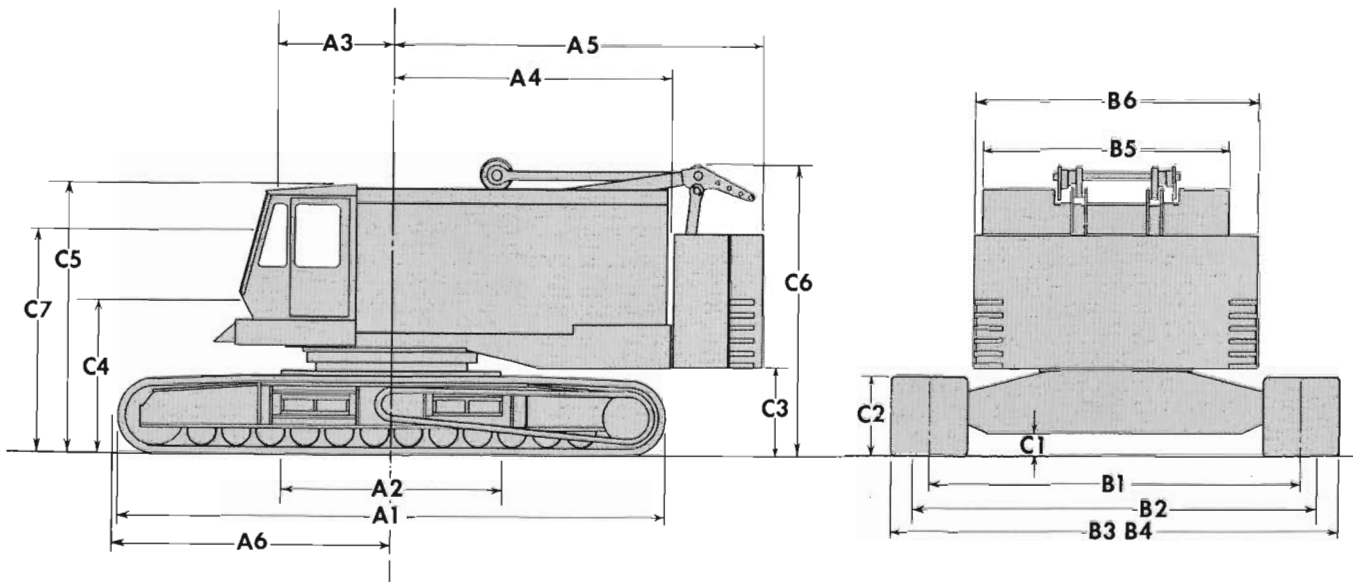
# 1500-C

Specifications

## Crawler Crane



# CLEARANCE AND DIMENSIONS



## FRONT TO BACK

A1.	Crawler Length	24'-9½"
A2.	Truck Base Length	10'-2¼"
A3.	C Boom Foot to C Rotation	5'-3½"
A4.	Rear End Swing — Rotating Unit	14'-8½"
A5.	Rear End Swing — 57,500# C'w't	16'-8¾"
	Rear End Swing — 100,000# C'w't	17'-6½"
	Rear End Swing — Gantry Lowered	18'-0¼"
A6.	Over Corners — 32" Treads	15'-10"
	Over Corners — 42" Treads	16'-1"

## SIDE TO SIDE

B1.	C to C Tread Rollers	17'-0"
B2.	Overall Length of Axles	18'-5½"
B3.	Overall Width Crawlers with 32" Treads	19'-8"
B4.	Overall Width Crawlers with 42" Treads	20'-6"
B5.	Overall Width Cab	11'-2½"
B6.	Overall Width, Rotating Unit and Counterweight	13'-0"

## VERTICAL

C1.	Ground Clearance	10½"
C2.	Ground to Top Crawler (Maximum)	3'-6⅞"
C3.	Ground to Bottom of Counterweight	3'-11"
C4.	Ground to C of Boom Foot Pin	6'-10⅞"

C5.	Ground to Top of Cab	12'-1⅝"
C6.	Overall Height Backhitch Gantry	13'-5⅞"
C7.	Eye Level Standard Cab	10'-11⅜"

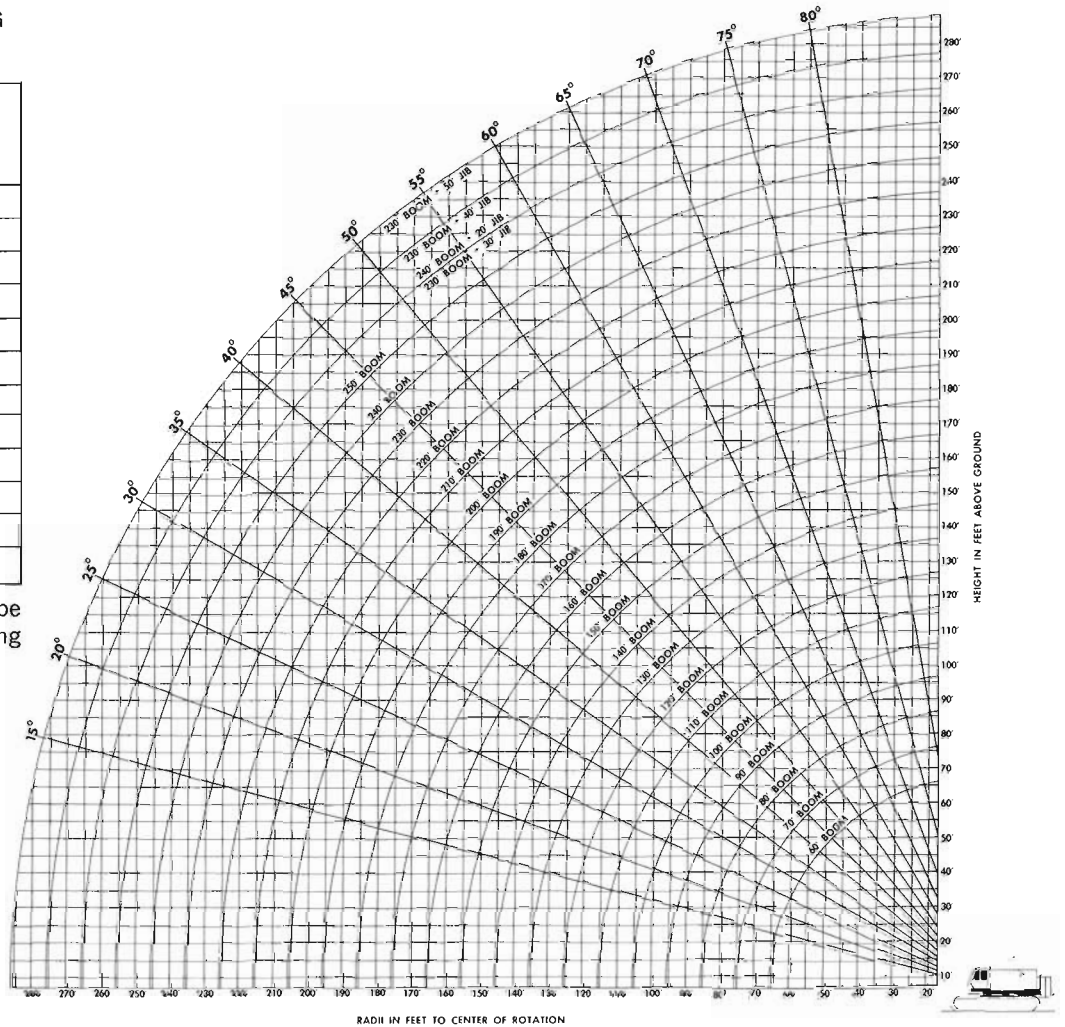
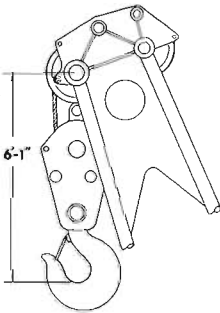


# CRANE WORKING RANGES

## RECOMMENDED REEVING FOR HOOK BLOCK

Load in Pounds	Parts of Line
To 25,000	1
Over 25,000	2
Over 50,000	3
Over 75,000	4
Over 100,000	5
Over 125,000	6
Over 150,000	7
Over 175,000	8
Over 200,000	9
Over 225,000	10
Over 250,000	11
Over 275,000	12

Requires 1" Dia. Wire Rope having a Minimum Breaking Strength of 89,800 lbs.



## JIB DATA

LENGTH	RATING	WEIGHT	OFFSET	EFFECTIVE WEIGHT
20'	18 Tons	1,885#	6'-11"	1,905#
30'	12 Tons	2,305#	12'-9"	2,800#
40'	9 Tons	2,725#	18'-9"	3,895#
50'	7 Tons	2,995#	24'-8"	4,670#

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.

**MAXIMUM LENGTH BOOM OR BOOM PLUS JIB THAT CAN BE HANDLED HORIZONTALLY**



	OVER SIDE	OVER END WITH WEDGES
BOOM	230'	250'
Boom Plus Jib	220' + 20'	240' + 20'
	210' + 30'	230' + 30'
	210' + 40'	230' + 40'
	210' + 50'	230' + 50'

# CRANE LIFTING CAPACITIES

150 Ton Class 17-898				Lifting Capacities 75% Tip Loads								Maximum Counterweight — 100,000 Lbs.										
Boom			Capacity Side/End	Boom			Capacity Side/End	Boom			Capacity Side/End	Boom			Capacity Side/End	Boom			Capacity Side/End			
Lgth.	Rad.	Angle		Lgth.	Rad.	Angle		Lgth.	Rad.	Angle		Lgth.	Rad.	Angle		Lgth.	Rad.	Angle		Lgth.	Rad.	Angle
60'	17'	79.7	*300,000	120'	30'	78.6	135,000	170'	40'	78.6	88,375	210'	45'	79.4	73,550	250'	50'	79.9	62,250			
	20'	76.8	*255,000		35'	76.2	107,775		45'	76.8	74,825		50'	78.0	63,200		60'	77.6	47,500			
	25'	71.8	178,525		40'	73.7	89,150		50'	75.1	64,550		60'	75.2	48,550		70'	75.2	37,575			
	30'	66.7	135,150		45'	71.2	75,675		60'	71.6	50,000		70'	72.3	38,650		80'	72.9	30,425			
	35'	61.3	108,175		50'	68.6	65,425		70'	68.0	40,175		80'	69.4	31,550		90'	70.4	25,025			
	40'	55.7	89,825		60'	63.4	50,950		80'	64.3	33,125		90'	66.5	26,175		100'	68.0	20,825			
	45'	49.6	76,500		70'	57.9	41,175		90'	60.5	27,775		100'	63.5	21,975		110'	65.5	17,450			
50'	42.8	66,375	80'	52.0	34,150	100'	56.5	23,625	110'	60.4	18,625	120'	62.9	14,675								
60'	25.3	52,075	90'	45.6	28,825	110'	52.3	20,275	120'	57.2	15,850	130'	60.3	12,350								
70'	20'	78.7	*254,900	130'	100'	38.4	24,700	180'	120'	47.9	17,525	220'	130'	53.9	13,550	260'	140'	57.6	10,375			
	25'	74.5	178,500		110'	29.7	21,350		130'	43.2	15,250		140'	50.4	11,600		150'	54.9	8,700			
	30'	70.2	135,125		120'	17.6	18,625		140'	37.9	13,300		150'	46.7	9,925		160'	52.0	7,225			
	35'	65.7	108,150		30'	79.5	134,975		150'	32.0	11,625		160'	42.8	8,450		170'	49.0	5,950			
	40'	61.1	89,800		35'	77.3	107,750		160'	24.8	10,175		170'	38.6	7,175		180'	45.9	4,825			
	45'	56.3	76,425		40'	75.0	89,125		170'	14.7	8,925		180'	34.0	6,050		190'	42.6	3,800			
	50'	51.2	66,300		45'	72.7	75,650		40'	79.2	88,175		190'	28.7	5,050		200'	39.1	2,850			
60'	39.5	51,950	50'	70.3	65,400	45'	77.6	74,600	200'	22.3	4,150	Capacities Below Include Jib— See Jib Data										
70'	23.3	42,250	60'	65.6	50,925	50'	76.0	64,300	210'	13.2	3,350	Boom Plus Jib										
80'	25'	76.5	178,475	70'	60.6	41,150	60'	72.6	49,700	230'	45'	79.9	73,525	270'	+ 20'	Lgth.	Load Rad.	Boom Angle	Capacity Side/End			
	30'	72.8	135,100	80'	55.4	34,125	70'	69.3	39,850		50'	78.6	63,175							60'	79.4	48,500
	35'	69.0	108,150	90'	49.8	28,800	80'	65.8	32,775		60'	75.9	48,500							70'	73.2	38,575
	40'	65.0	89,700	100'	43.7	24,675	90'	62.3	27,425		70'	70.4	31,450							80'	70.4	31,450
	45'	61.0	76,300	110'	36.8	21,325	100'	58.6	23,250		80'	67.6	26,075							90'	67.6	26,075
	50'	56.8	66,125	120'	28.5	18,600	110'	54.8	19,900		100'	64.8	21,875							100'	64.8	21,875
	60'	47.6	51,750	130'	16.9	16,400	120'	50.7	17,150		110'	61.9	18,500							110'	61.9	18,500
70'	36.8	42,025	35'	78.2	107,625	130'	46.5	14,850	120'	58.9	15,725	120'	58.9	15,725								
80'	21.7	35,050	40'	76.1	88,975	140'	41.9	12,900	130'	55.7	13,425	130'	55.7	13,425								
90'	25'	78.0	178,450	45'	74.0	75,475	150'	36.8	11,250	140'	52.5	11,450	140'	52.5	11,450							
	30'	74.7	135,075	50'	71.8	65,200	160'	31.1	9,800	150'	49.1	9,775	150'	49.1	9,775							
	35'	71.4	108,125	60'	67.4	50,675	170'	24.1	8,525	160'	45.6	8,325	160'	45.6	8,325							
	40'	68.0	89,675	70'	62.9	40,900	180'	14.3	7,400	170'	41.8	7,025	170'	41.8	7,025							
	45'	64.5	76,275	80'	58.2	33,850	40'	79.8	87,950	180'	37.7	5,900	180'	37.7	5,900							
	50'	60.9	66,100	90'	53.2	28,525	45'	78.3	74,350	190'	33.2	4,900	190'	33.2	4,900							
	60'	53.2	51,700	100'	47.9	24,375	50'	76.7	64,050	200'	28.0	4,000	200'	28.0	4,000							
70'	44.7	41,975	110'	42.0	21,025	60'	73.6	49,425	210'	21.8	3,200	210'	21.8	3,200								
80'	34.6	34,975	120'	35.4	18,300	70'	70.4	39,575	220'	12.9	2,450	220'	12.9	2,450								
90'	20.4	29,700	130'	27.5	16,000	80'	67.2	32,500	50'	79.1	62,450	50'	79.1	62,450								
100'	25'	79.2	178,425	140'	16.2	14,075	90'	63.8	27,150	60'	76.5	47,775	60'	76.5	47,775							
	30'	76.3	135,050	35'	79.0	107,400	100'	60.4	22,975	70'	73.9	37,900	70'	73.9	37,900							
	35'	73.3	108,100	40'	77.0	88,750	110'	56.9	19,600	80'	71.3	30,775	80'	71.3	30,775							
	40'	70.3	89,650	45'	75.1	75,225	120'	53.2	16,850	90'	68.7	25,400	90'	68.7	25,400							
	45'	67.2	76,250	50'	73.1	64,950	130'	49.3	14,550	100'	65.9	21,225	100'	65.9	21,225							
	50'	64.0	66,050	60'	69.0	50,425	140'	45.2	12,600	110'	63.2	17,850	110'	63.2	17,850							
	60'	57.4	51,650	70'	64.8	40,625	150'	40.7	10,925	120'	60.3	15,100	120'	60.3	15,100							
70'	50.3	41,950	80'	60.5	33,575	160'	35.8	9,475	130'	57.4	12,775	130'	57.4	12,775								
80'	42.3	34,950	90'	56.0	28,250	170'	30.2	8,250	140'	54.4	10,825	140'	54.4	10,825								
90'	32.7	29,650	100'	51.3	24,075	180'	23.5	7,100	150'	51.3	9,150	150'	51.3	9,150								
100'	19.3	25,650	110'	46.1	20,750	190'	13.9	6,100	160'	48.0	7,700	160'	48.0	7,700								
110'	30'	77.6	135,025	120'	40.5	18,000	45'	78.9	73,975	170'	44.5	6,425	170'	44.5	6,425							
	35'	74.9	107,925	130'	34.2	15,725	50'	77.4	63,600	180'	40.8	5,275	180'	40.8	5,275							
	40'	72.2	89,375	140'	26.5	13,775	60'	74.4	48,925	190'	36.8	4,275	190'	36.8	4,275							
	45'	69.4	75,925	150'	15.7	12,125	70'	71.4	39,025	200'	32.4	3,375	200'	32.4	3,375							
	50'	66.6	65,700	35'	79.7	107,225	80'	68.4	31,900	210'	27.4	2,475	210'	27.4	2,475							
	60'	60.7	51,250	40'	77.8	88,525	90'	65.2	26,525	50'	79.5	62,425	50'	79.5	62,425							
	70'	54.5	41,500	45'	76.0	74,950	100'	62.0	22,325	60'	77.1	47,750	60'	77.1	47,750							
80'	47.8	34,475	50'	74.2	64,675	110'	58.7	18,950	70'	74.6	37,875	70'	74.6	37,875								
90'	40.2	29,175	60'	70.4	50,100	120'	55.3	16,200	80'	72.1	30,750	80'	72.1	30,750								
100'	31.1	25,050	70'	66.5	40,275	130'	51.7	13,875	90'	69.6	25,375	90'	69.6	25,375								
110'	18.4	21,725	80'	62.5	33,200	140'	48.0	11,925	100'	67.0	21,175	100'	67.0	21,175								
			90'	58.4	27,875	150'	44.0	10,250	110'	64.4	17,775	110'	64.4	17,775								
			100'	54.1	23,700	160'	39.6	8,775	120'	61.7	15,000	120'	61.7	15,000								
			110'	49.5	20,375	170'	34.9	7,500	130'	58.9	12,675	130'	58.9	12,675								
			120'	44.6	17,625	180'	29.4	6,375	140'	56.1	10,700	140'	56.1	10,700								
			130'	39.2	15,325	190'	22.9	5,375	150'	53.2	9,025	150'	53.2	9,025								
			140'	33.0	13,375	200'	13.5	4,475	160'	50.1	7,550	160'	50.1	7,550								
			150'	25.6	11,725				170'	46.9	6,275	170'	46.9	6,275								
			160'	15.2	10,275				180'	43.5	5,125	180'	43.5	5,125								
									190'	39.9	4,125	190'	39.9	4,125								
									200'	36.0	3,225	200'	36.0	3,225								
									210'	31.7	2,250	210'	31.7	2,250								
															80'	79.4	14,000					
															90'	77.2	14,000					
															100'	75.0	14,000					
															110'	72.8	14,000					
															120'	70.5	14,000					
															130'	68.2	12,275					
															140'	65.9	10,300					
															150'	63.5	8,575					

# CRANE ATTACHMENT

A-2	Includes: 60' pin connected tubular boom (75" x 85") with hammerhead point with six (6) lower main sheaves and two (2) top guide sheaves plus two (2) guide sheaves at base of point section; mast assembly with fourteen (14) part boom hoist reeving and pendants for basic boom; telescopic boomstop with air shutoff; boom angle indicator; 24" L.H. and R.H. smooth laggings (1"); foot accelerator; swing snubber and swing brakes; ropes; 100,000# two piece counterweight.	120,275#
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When machine is equipped as a Crane, the following parts included above are installed in the Rotator and can be deducted from the above weight to obtain correct reduction for removing the front.

1. 24" L.H. Smooth Lagging (1")	760#
2. 24" R.H. Smooth Lagging (1")	830#
3. Boom Stop with Air Cutoff	1,380#
4. Accelerator, Swing Snubber Controls and Wire Ropes	2,615#
5. Total Rotator Crane Parts—Less Cwt.	5,585#
6. Counterweight	100,000#

## BOOM AND SUSPENSION

1. Base Section	4,870#
2. Point Section with Sheaves	5,610#
3. Mast	3,780#
4. Pendants for Basic Boom	430#
Total of Above four (4) items	14,690#

## OPTIONAL CRANE ACCESSORIES—ADD

1. Extensions (with pendants)—60' pin connected boom (75" x 85") x Section	
A. 10'	1,460#
B. 20'	2,315#
C. 40'	4,010#

2. Jib — Tubular — pin connected	
A. Jib Base	400#
B. Jib Point and Point Shaft	580#
C. 10' Extension with Pendants	420#
D. 20' Extension with Pendants	690#
E. Strut	600#
F. Basic Wire Ropes and Pendants	305#





**TRUCK BASE:** The truck base is of all welded construction with axles designed to bolt to the side frames. The swing gear, and the anti-friction swing circle are integral with the truck base.

**SIDE FRAME ASSEMBLY:** The side frames are of welded construction using high alloy steel for great strength and durability. The side frames may be easily removed, with treads and drive chain in place, to facilitate machine transport.

**VERTICAL PROPEL SHAFT:** Transmits propel power from rotating assembly to horizontal propel shaft in truck base. It is mounted in pressure lubricated bronze bushings.

**HORIZONTAL PROPEL SHAFT:** Three piece shaft transmits power from vertical propel shaft to drive sprockets in side frames. Bevel gears run in sealed oil bath.

**STEERING AND TRUCK LOCK:** Two large diameter, wide face brakes serve as crawler locks and safety propel brakes. Brakes are spring-set and air-released and each is at all times connected to its respective crawler. Air operated gear type

jaw clutches engage for propelling. Air engages jaw clutches and releases brakes simultaneously. Either clutch can be disengaged, setting brake for steering. Any accidental loss of air automatically sets brakes to lock crawlers.

**INDEPENDENT PROPEL:** Additional air operated clutches and shafting provided for simultaneous, independent hoist, swing, and propel functions.

**ANTI-FRICTION BEARING SWING CIRCLE:** Large anti-friction, single row, sealed bearing. It is welded to the truck base and bolts to the rotating base.

**TREAD ROLLERS:** Hardened rims, with sealed, bronze bushing type bearings.

**CRAWLER TREADS:** 32" and 42" wide treads available. They are made of heat-treated alloy steel to provide superior wearing quality. Hardened steel pins are used to connect treads. Tread belts are driven by heavy duty roller chains (one per side): The chains are integral with side frame assemblies.

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**ROTATING BASE:** Welded fabrication with integral machinery frames, depressed center section for horizontal gear train, and a built-in fuel tank having a 256 gallon capacity.

**POWER PLANT:** See Power Plant Data Table.

**SHAFTING:** All shafting is of high strength, heat treated, alloy steel. Involute splines are used extensively.

**BEARINGS:** All horizontal operating machinery on the rotating assembly is mounted on anti-friction bearings. The single exception is the boom hoist drum shaft which is mounted on bronze journal bearings.

**HOIST DRUM SHAFT:** Shaft is supported by self-aligning roller bearings. Cable drums, clutch and brake housings are mounted on antifriction bearings. Cable laggings, of various sizes, are demountable.

**BOOM HOIST CLUTCH SHAFT:** Driven by heavy duty roller chain from reversing clutch shaft, and equipped with spring set air released holding brake. A ratchet and pawl are provided to give positive holding and added safety. Power boom lowering is accomplished through the planetary reduction unit on this shaft which provides a smooth, positive, precision, controlled operation.

**BOOM HOIST DRUM SHAFT:** Two boom hoist drums are mounted on this shaft which is gear driven from the boom hoist clutch shaft.

**REVERSING CLUTCH SHAFT UNIT:** Sub-assemblies of horizontal and vertical shafts in an oil tight case. Driven by power take-off chain.

**VERTICAL SWING SHAFT:** Mounted between the vertical propel and vertical reversing shaft, mounted on pressure lubricated bronze bushings. Integral spur pinion at lower end of shaft engages internal teeth of the ring gear.

**CONTROLS:** All controls are compressed air and mounted in the operator's cab.

**HOIST BRAKES:** External contracting, friction band type; air-set by treadle valves. Spring-set safety feature locks brakes when air pressure is shut off by valves in operator's cab.

**POSITIVE SWING LOCK:** This mechanism is air-released and spring-set; it engages gear teeth in the ring gear.

**SWING SNUBBER:** Air operated band on left hand clutch of horizontal reversing clutch shaft provides a smooth, sensitive snubbing action.

**LIGHTING EQUIPMENT:** 2 KW generator and corresponding wiring available in either A.C. or D.C.

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## ROTATING ASSEMBLY GROUP

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**BACK HITCH GANTRY:** Pinned to rear of rotating unit and has a low profile for traveling. Gantry must always be in lowest position, with upper 3" diameter gantry pins in place, when handling a boom or boom and load. Refer to operator's manual for counterweight handling attachment operating instructions.

**CAB:** All steel construction and equipped with environmental operator's cab lined with sound barrier and deadening material which 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.

**BOOM SUSPENSION:** A 14-part boom hoist wire rope suspension is used with all lengths of boom. See mid-point suspension data. Booms 140' long and less may be handled horizontally, without live load, with the mast pinned to the boom base, to provide a low travel height. With longer booms, normal pendant suspension must be used.

**BOOM STOP:** Telescopic type with automatic air shut-off of boom hoist.

**POWER LOAD LOWERING:** Chain driven and geared to the main hoist drum it provides a smooth, precision lowering operation.

**THIRD DRUM:** One piece lagging mounted independently on front of machine. Chain driven and operated by air controlled clutch and brake.

**COUNTERWEIGHT:** Two (2) piece cast iron counterweight totaling 100,000 lbs. suspended on brackets and positively held at rear of rotating unit.

**COUNTERWEIGHT HANDLING DEVICE:** Capable of installing or removing the counterweights and actuated by two (2) hydraulic cylinders mounted in the rear gantry legs.

**LUBRICATION:** Horizontal gear train, boom hoist chain, bevel swing gears, truck gears and power take-off chain operate in oil filled cases. In the case of gear train and bevel swing gears, the oil is circulated and applied to the gears by a rotary type oil pump; the bottom of the truck gear case and rotating base is provided with both a test and drain plug. Propel chains, and control mechanism are hand lubricated; all other points including crawler adjusting screws are pressure lubricated by hand guns.

## CLUTCH AND BRAKE DATA

Function	CLUTCHES				BRAKES			
	Type	Width	Diameter	Area	Type	Width	Diameter	Area
Hoist	Band	5 1/2"	40"	587 In <sup>2</sup>	Band	6"	46"	713 In <sup>2</sup>
Swing	2 Shoe	5 1/2"	32"	424 In <sup>2</sup>	Band	3 1/2"	33 1/2"	299 In <sup>2</sup>
Power Load Lowering	Band	4 1/2"	24"	294 In <sup>2</sup>				
Boom Hoist	Band	5 1/2"	30"	445 In <sup>2</sup>	Band	4"	32"	302 in <sup>2</sup>
Steering Brakes					Band	5"	27"	424 In <sup>2</sup>
Independent Propel	Band	5 1/2"	32"	488 In <sup>2</sup>				
Intermediate Propel	Band	5 1/2"	32"	488 In <sup>2</sup>				
Third Drum	Band	6"	23"	383 In <sup>2</sup>	Band	3 1/2"	24 3/4"	253 In <sup>2</sup>

## BOOM DATA

Boom Description	Tubular
Type Service	Crane
Type Boom Point	Hammerhead
Quantity Point Sheaves	6
Diameter Point Sheaves	19" P.D.
Basic Boom Length	60'

Type Connections	Pin
Maximum Length	250'
Extensions	10', 20' & 40'
Cross Section	75" x 85"
Type Chords	Tubular
Chord Material P.S.I. Yield	100,000 PSI

Time required to raise or lower a 60' basic boom from 20° above horizontal to 70° above horizontal — with planetary boom hoist and 14 part boom hoist reeving.	To Raise	To Lower
	59 Sec.	118 Sec.

NOTE: Times above vary slightly with different boom lengths.

MIDPOINT SUSPENSION
Required On Booms 200' through 250' Long

## POWER PLANT DATA

Make	Model	Fuel	Cyl.	Bore and Stroke	Gross Rated H.P.	Mech. Drive H.P. @ Governed R.P.M.	Torque Conv. H.P. @ Governed R.P.M.
Cumm. w/T. C.	NT-855-P-335	Diesel	6	5 1/2" x 6"	335 @ 2300	—	300 @ 2100

Fuel Tank Capacity — 256 Gallons

## WORKING WEIGHTS

(APPROXIMATE IN POUNDS)

Weight based upon a machine equipped with a Cummins power plant and torque converter, 25' truck with 42" treads, 100,000 lbs. of counterweight, and a 60' basic boom.	
Crane	278,635 Lbs.

## PERFORMANCE DATA

Swing Speed .....	3.2 R.P.M.
Gradability .....	30%
Travel Speed:	
Standard Propel .....	1.02 M.P.H.
Independent Propel .....	1.31 M.P.H.

In accordance with our established policy of constantly improving our products, we reserve the right to change or modify our products or our product specifications at any time without notice.

# CLARK Lima Division

LIMA, OHIO 45802

Manufactured and Sold in Conformance with U.S. Department of Commerce Commercial Standard CS90-58.

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