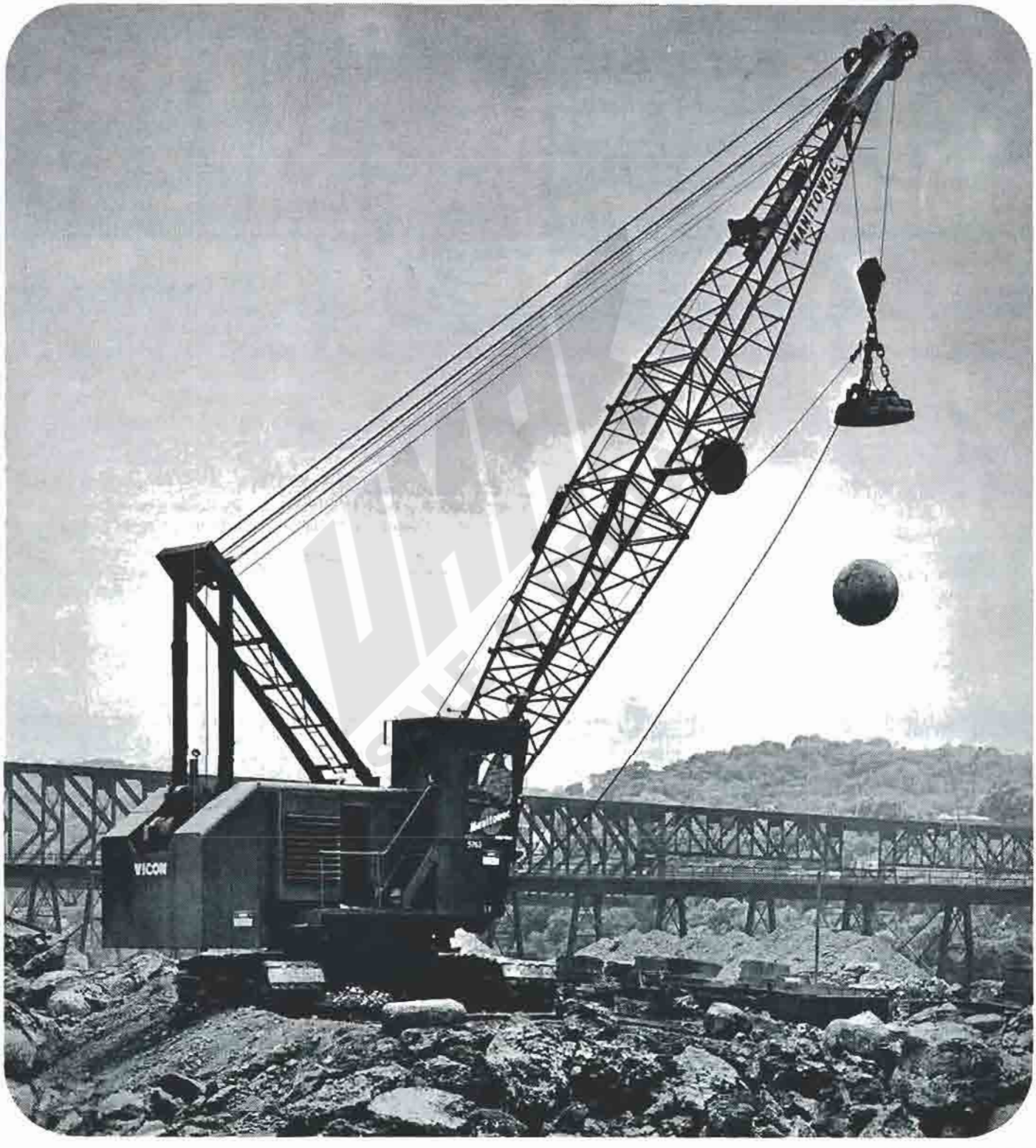
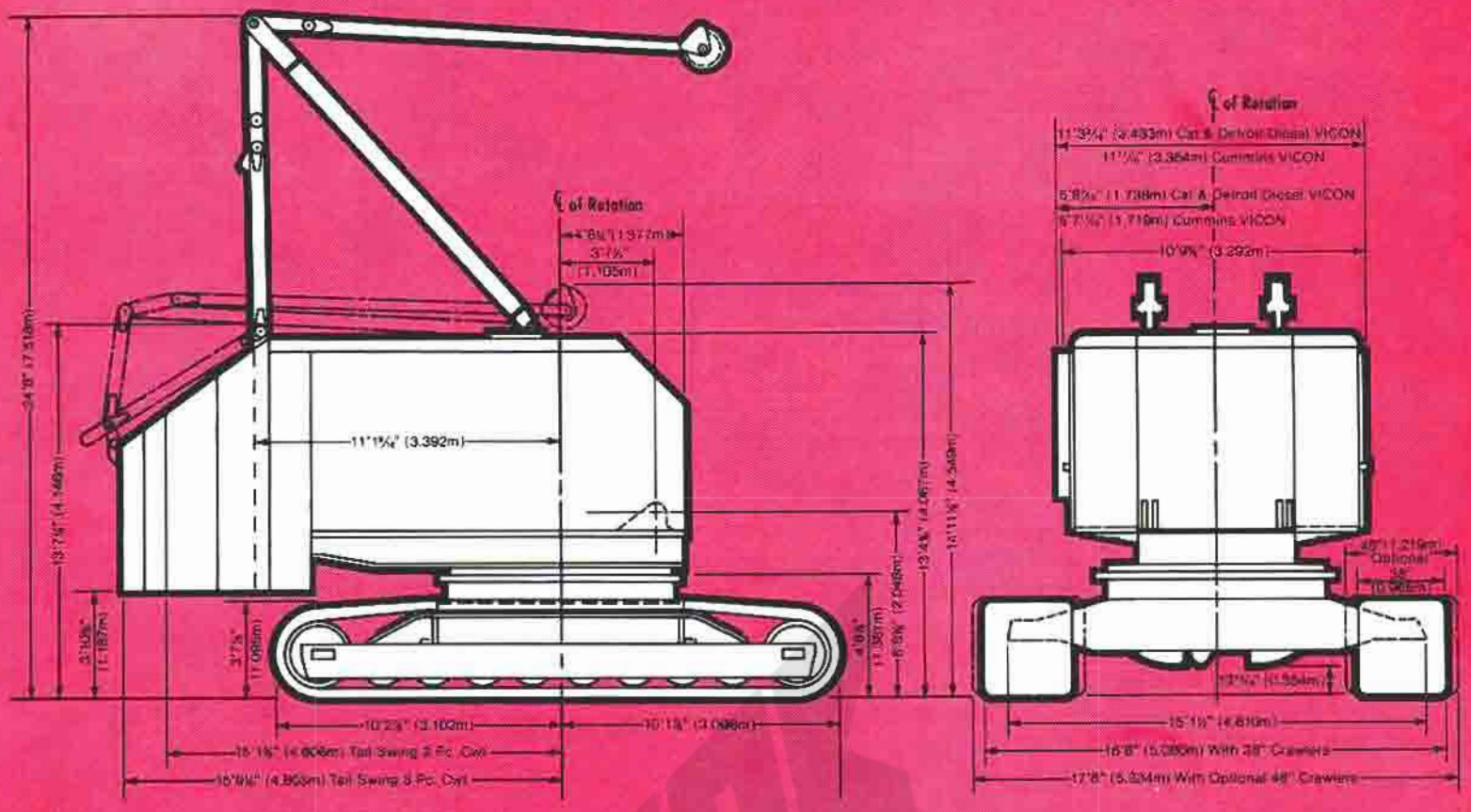
MANITOWOC SPECIFICATIONS

3915 MAGNET CRANE



OUTLINE DIMENSIONS



WEIGHTS

	POUNDS*
MAGNET CRANE, Model 3915 complete with 60' No. 8B Boom, gantry with link-type backhitch, *boom hoist rigging and pendants, double sheave* upper boom point, wire rope guide, 10-ton hook and weight ball, 115-ton load block, split front drums, 27" diameter lagging for left drum, independent swing, independent boom hoist, basic engine, counterweights, 20'4" long crawlers (38" wide treads) and inside crawler drive	212,505
CRAWLERS, with crawler side frames, 38" crawler treads, and inside crawler chains (each 20,830)	41,660
(Add 4,170 pounds to each crawler for optional 48" wide treads.)	
CARBODY, with center pin, roller path and travel mechanism, without crawlers	29,000
UPPERWORKS, Model 3915 complete with basic machinery including drums, but not including gantry and backhitch, front end attachments or counterweights	51,000

	POUNDS*
GANTRY AND BACKHITCH	4,200
SELF-REMOVING COUNTERWEIGHT (3-PC)	
Inner	32,000
Middle	26,500
Outer	15,500
BOOM NO. 8B	
BOOM BUTT: (less wire rope and pendants)	3,250
BOOM TOP: (equipped with lower boom point assembly and basic pendants)	4,445
Add for upper boom point and sheaves	480
Total	4,925
BOOM INSERTS:	
Insert—10' (with pendants)	1,160
Insert—20' (with pendants)	1,930
Insert—30' (with pendants)	2,610
DRAGLINE FAIRLEAD—REVOLVING TYPE	1,910
DRAGLINE FAIRLEAD—HINGED TYPE	5,250

**Weights are approximate and may vary between machines as a result of design changes and component variations.*

LOWER MACHINERY

CARBODY: One-piece, ribbed steel fabrication with integral side wings.

RING GEAR AND ROLLER PATH: Cast alloy steel. Roller path 105¾" OD, with 4⅞" wide face and 3" thick hook roller flange.

CRAWLERS: Inside crawler drive is standard. Optional outside crawler drive permits removal of each crawler as a single unit, without separating crawler drive chains.

CRAWLER WIDTH	16' 8"
CRAWLER LENGTH—Over ends	20' 4"
TREAD WIDTH	38"
NUMBER OF PADS PER CRAWLER	44
INTERMEDIATE ROLLERS	
Number per crawler	8
Roller diameter	18"
Roller shaft diameter	4⅜"
FRONT IDLER DIAMETER	29½"
Roller shaft diameter	6¼"
DRIVE SPROCKET DIAMETER	31"

ADJUSTMENT: Crawler belt tension is adjusted by a jack and shim system. A shock absorber is mounted in the tension adjustment system.

UPPER MACHINERY

ROTATING BED: Special magnet crane rotating bed features a single-piece steel weldment with integral machinery side frames, jig-bored to assure precision alignment.

HOUSE ROLLERS: 4; 2 Front, bushing mounted, 2 Rear, bushing mounted.

HOOK ROLLERS: 6 mounted on eccentric shafts for adjustment; 2 Front, bushing mounted, 4 Rear, bushing mounted.

POWER TRANSMISSION, VICON: The VICON® (**V**ariable **I**ndependent **CON**trol—Patented) system provides a stepless variable control power transmission for various machine functions. Engine power is divided at transmission case to two controlled torque converters. One converter drives both load hoist and boom hoist machinery, the second powers swing and travel machinery.

SWING SHAFT: Single-disc clutch with two-piece replaceable friction discs. Cams, pinions, and clutch components are antifriction bearing mounted. Pinions are lubricated by circulating oil system.

INDEPENDENT SWING: Optional. Independent set of swing clutches with separate power train permits simultaneous operation of swing, travel, and boom hoist machinery.

VICON POWER LOWERING: Controlled power load lowering on both hoist drums for drum line pull in excess of 6,000 lbs. is an integral part of the VICON control system. It enables raising, holding or lowering the load by means of stepless variable torque output of hoist converter. Hoist clutches remain in constant engagement, making transfer of load from clutch to brake unnecessary during normal job cycle.

FULL RANGE VICON POWER LOWERING: Optional. An engine driven hydraulic pump powers a hydraulic motor which drives output shaft of hoist controlled converter in a reverse direction of rotation. Provides power lowering (or reversing) for drum line pull less than 6,000 lbs. The hydraulic equipment permits a full range of lowering speeds from empty hook through maximum capacities.

INDEPENDENT BOOM HOIST: Standard on liftcrane attachment. Dual drums with air controlled, single-disc clutches; ratchet and pawl; spring applied, air released external contracting band type brake; and auxiliary manual brake.

AUTOMATIC BOOM STOP: Standard on liftcrane attachment. Push rod contacts boom, actuating valve in air line, automatically stopping air supply to independent boom hoist clutch cylinder.

TELESCOPIC BOOM STOP: Standard. Telescoping tube, air cushioned. Pinned to boom and A-frame. Starts cushioning at 77° with positive physical stop determined by boom used.

FRONT END EQUIPMENT

NO. 8B BOOM: 60' Boom (30' butt and 30' open throat top); optional 10', 20' and 30' inserts. All welded construction. Inverted angle chords and tubular lacings 100,000 PSI steel. Butt, top and inserts 74" wide x 72" deep at bolt-connected joints. Each insert matched with a pair of 1½" diameter single-length pendants. Lower boom point has four 24" OD sheaves; upper boom point has two 27" OD sheaves, both sets antifriction bearing mounted. Maximum boom length 210'.

BOOM RIGGING: 10-part line, reeved between gantry and equalizer.

GENERAL

CAB: Fully enclosed with operator's station located in right front corner. Rubber mounted safety glass windows provide wide angle view. Sliding door to outside, sliding service door on left side, hinged service door at left front of cab. Power plant radiator shutter. Ladder to roof. Optional elevated cab available with controls in both cabs. Mounted forward of main cab with eye level 26' 6" above ground.

CONTROLS: Air controlled travel locks and steering. Manually controlled main drum brakes, latched foot pedal operated on liftcrane only; air assist on excavator combination. Manually controlled slide pinion and swing lock. Combination clutch and throttle controls for reversing and main drum clutches: first 10° movement of hand lever engages clutch: further movement increases controlled converter output torque permitting variable speed control of operation.

SWING SPEED:
Standard Swing—Variable, 4.95 RPM maximum.
Independent Swing—Variable, 4.50 RPM maximum.

TRAVEL SPEED:
3915 VICON—Variable, 1.45 MPH maximum.

GRADEABILITY: 30%.

MAGNET CAPACITIES

3915 VICON

BOOM NO. 8B WITH OPEN THROAT TOP—58,500 LB. COUNTERWEIGHT

CRAWLER

Capacities for various boom lengths and operating radii are for freely suspended loads and do not exceed 75% of a static tipping load. Capacities are based on tipping, structural competence (*), operating speeds and other factors.

Weight of magnet is considered part of the load. Universal anchor joint is required for two part line operation. Where no capacity is shown, operation is not intended or approved.

Refer to Rigging Drawing No. 48029 and Wire Rope Specification Chart No. 6614-A. Crane operator judgment must be used to allow for adverse operating conditions and physical machine depreciation.

Operating radius is the horizontal distance from the axis of rotation to the center of gravity of the freely suspended load. Boom angle is the angle above true horizontal of a line drawn through the boom hinge pin and the upper boom point shaft centerline.

Machine equipped with 20' 4" crawlers, 38" treads, 15' retractable gantry, 10 part boom hoist reeving, two 1½" boom pendants, revolving fairlead, equal width drums. 1st cwt. 32,000 lbs., 2nd cwt. 26,500 lbs.

Opr. Rad. Ft.	CAPACITIES IN POUNDS — Boom Length — Ft.									
	60		70		80		90		100	
	Boom Angle	Capacity	Boom Angle	Capacity	Boom Angle	Capacity	Boom Angle	Capacity	Boom Angle	Capacity
24	71.0	50,000*								
26	69.0	50,000*	72.0	50,000*						
28	67.0	50,000*	70.4	50,000*						
30	65.0	50,000*	68.7	50,000*	71.4	50,000*				
32	63.0	50,000*	67.0	50,000*	69.9	50,000*	72.1	50,000*		
34	60.9	50,000*	65.2	50,000*	68.4	50,000*	70.8	50,000*		
36	58.8	50,000*	63.5	50,000*	66.9	50,000*	69.5	50,000*	71.6	49,800
38	56.6	47,500	61.7	47,100	65.4	46,800	68.2	46,600	70.4	46,300
40	54.4	44,300	59.9	44,000	63.8	43,700	66.8	43,500	69.2	43,100
45	48.5	38,000	55.2	37,600	59.9	37,400	63.4	37,100	66.2	36,800
50	42.1	33,100	50.2	32,700	55.8	32,500	59.9	32,200	63.1	31,900
55	34.7	29,300	44.9	28,900	51.5	26,600	56.3	28,400	59.9	28,000
60			39.0	25,700	46.9	25,500	52.4	25,200	56.6	24,900
65			32.2	23,100	41.9	22,900	48.4	22,600	53.2	22,300
70					36.4	20,700	44.1	20,500	49.6	20,100
75					30.1	18,800	39.5	18,600	45.9	18,200
80							34.3	17,000	41.8	16,600
85							28.4	15,600	37.4	15,200
90									32.6	14,000

DRWG. NO. 6615-A, 6-25-79

MAXIMUM LOADS

Lagging Dia.	Parts of Line	Wire Rope Dia.	Maximum Working Load
27"	1	1¼"	32,000 lbs.
30"	1	1¼"	28,500 lbs.
30"	2	1"	50,000 lbs.

LIFTCRANE CAPACITIES

3915 VICON

BOOM NO. 8B WITH OPEN THROAT TOP—74,000 LB. COUNTERWEIGHT

CRAWLER

Capacities for various boom lengths and operating radii are for freely suspended loads and do not exceed 75% of a static tipping load. Capacities based on structural competence are denoted by an asterisk (*).

Weight of jib, all load blocks, hooks, weight ball, slings, hoist lines beneath boom and jib point sheaves, etc., are considered part of the main boom load. Boom is not to be lowered beyond radii where combined weights are greater than rated capacity. Where no capacity is shown, operation is not intended or approved. See boom raising capability chart.

Machine to operate in a level position on a firm surface with gantry up. Refer to Rigging Drawing No. 48029, Load Line Specification Chart No. 6609-A and Range Chart No. 6973-A. Crane operator judgment must be used to allow for dynamic load effects of swinging, hoisting or lowering, travel, as well as adverse operating conditions and physical machine depreciation.

Operating radius is the horizontal distance from the axis of rotation to the center of vertical hoist line or load block.

Machine equipped with 20' 4" crawlers, 38" treads, 15' gantry, 10 or 12 part boom hoist reeving, two 1½" boom pendants, 1st cwt. 32,000 lbs., 2nd cwt. 26,500 lbs., 3rd cwt. 15,500 lbs.

Opr. Rad. Ft.	CAPACITIES IN POUNDS — Boom Length — Ft.									
	60		70		80		90		100	
	Boom Angle	Capacity	Boom Angle	Capacity	Boom Angle	Capacity	Boom Angle	Capacity	Boom Angle	Capacity
15	79.1	230,000*	80.6	230,000*						
16	78.1	200,000*	79.6	200,000*	81.1	200,000*				
17	77.1	180,200	79.0	179,900	80.4	179,700				
18	76.1	163,400	78.1	163,100	79.6	162,900	80.8	162,600		
19	75.2	149,400	77.3	149,100	78.9	148,800	80.2	148,500	81.2	148,400
20	74.2	137,500	76.5	137,200	78.2	137,000	79.5	136,600	80.6	136,500
22	72.2	118,600	74.8	118,200	76.7	118,000	78.2	117,600	79.4	117,500
24	70.1	104,100	73.1	103,700	75.2	103,500	76.9	103,100	78.2	103,000
26	68.1	92,700	71.4	92,300	73.8	92,000	75.6	91,700	77.1	91,500
28	66.0	83,400	69.6	83,000	72.3	82,800	74.3	82,400	75.9	82,300
30	63.9	75,800	67.9	75,400	70.8	75,100	73.0	74,700	74.7	74,600
32	61.8	69,400	66.1	69,000	69.2	68,700	71.6	68,300	73.5	68,200
34	59.6	63,900	64.3	63,500	67.7	63,200	70.3	62,800	72.3	62,700
36	57.3	59,200	62.5	58,800	66.1	58,500	68.9	58,100	71.1	58,000
38	55.0	55,100	60.6	54,700	64.6	54,400	67.5	54,000	69.9	53,900
40	52.7	51,500	58.7	51,100	63.0	50,800	66.2	50,400	68.7	50,200
45	46.4	44,200	53.8	43,800	58.9	43,500	62.6	43,000	65.6	42,900
50	39.4	38,500	48.5	38,100	54.6	37,800	59.0	37,400	62.4	37,200
55	31.1	34,100	42.8	33,700	50.0	33,300	55.2	32,900	59.1	32,800
60	20.0	30,500	36.4	30,000	45.2	29,700	51.2	29,300	55.7	29,100
65			28.7	27,100	39.9	26,700	47.0	26,300	52.1	26,100
70			18.5	24,500	33.9	24,200	42.5	23,800	48.4	23,600
75					26.9	22,100	37.5	21,600	44.5	21,500
80					17.3	20,200	31.9	19,800	40.2	19,600
85							25.3	18,200	35.5	18,000
90							16.3	16,700	30.3	16,600
95									24.0	15,300
100									15.5	14,200

DRWG. NO. 6972-A, 6-25-79

MAX. BOOM AND JIB LENGTHS LIFTED UNASSISTED OVER FRONT OF BLOCKED CRAWLERS

Bm. Length	Jib No. 123	Jib No. 124
210'	—	—
200'	—	—
190'	30'	60'
180'	50'	60'
170'	60'	60'

Load block, hook and weight ball on ground at start.

MAX. BOOM AND JIB LENGTHS LIFTED UNASSISTED OVER SIDE OF CRAWLERS

Bm. Length	Jib No. 123	Jib No. 124
190'	—	—
180'	—	30'
170'	30'	60'
160'	60'	60'

Load block, hook and weight ball on ground at start.

DEDUCT FROM CAPACITIES WHEN JIB IS ATTACHED

Jib Length	Jib No. 123	Jib No. 124
30'	2,500 lbs.	1,800 lbs.
40'	3,100 lbs.	2,050 lbs.
50'	3,700 lbs.	2,300 lbs.
60'	4,400 lbs.	2,500 lbs.

Because of a program of continuing improvements, Manitowoc Engineering Co. reserves the right to change specifications at any time, without notice.

MANITOWOC ENGINEERING CO.
Division of The Manitowoc Company, Inc.
MANITOWOC, WISCONSIN 54220

Form No. 7941

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