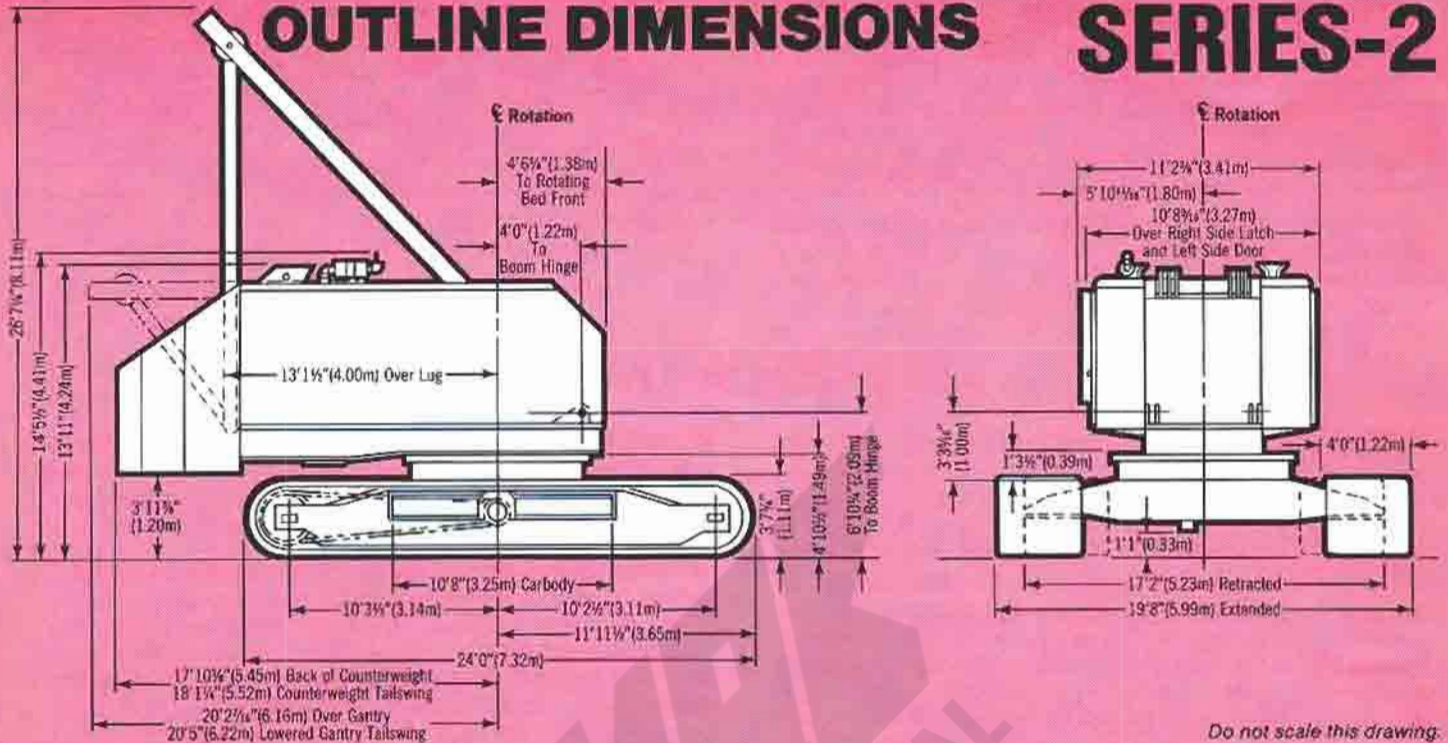




# 3900W

## OUTLINE DIMENSIONS

## SERIES-2



Do not scale this drawing.

## WEIGHTS

	Pounds*		Pounds*
<b>LIFTCRANE (complete):</b> lowerworks, upperworks, and 60' basic boom	258,840	<b>Top, 30'</b> (equipped with 5-sheave lower point, single-sheave upper point, and basic pendants)	5,185
<b>CARBODY AND UPPERWORKS (combined):</b> complete with basic machinery, drums, gantry, backhitch, equalizer, and boom hoist wire rope	100,540	<b>Inserts:</b>	
<b>LOWERWORKS:</b>		10' (with pendants & wire rope roller guide)	1,500
<b>Carbody</b> , with travel mechanism, king pin, and roller path	34,700	20' (with pendants & wire rope roller guide)	2,480
<b>Crawler Assemblies (2)</b> , with 48" wide treads and outside drive chains (each assembly 31,150)	62,300	40' (with pendants & wire rope roller guides)	3,580
<b>UPPERWORKS:</b>		40' (with pendants, wire rope roller guides, and jib backstay lugs)	3,600
<b>Rotating Bed</b> , complete with basic machinery, including drums, but not gantry and backhitch, front end attachments, or counterweight	61,520	<b>Pendant Spreader Bar</b>	385
<b>Gantry and Backhitch</b>	4,320	<b>Wire Rope Guide</b>	295
<b>Equalizer</b>	1,330	<b>JIB NO. 123:</b>	
<b>Telescopic Boom Stop</b>	660	<b>Butt, 15'</b>	690
<b>Removable Counterweight (3-piece):</b>		<b>Insert, 10'</b>	340
Inner	43,000	<b>Top, 15'</b> (with point assembly)	695
Middle	30,000	<b>Basic Pendant</b> , (2 required, each 115)	230
Outer	11,600	<b>Pendant</b> , (2 per insert, each 65)	130
Total	84,600	<b>Backstay Pendant</b> , (2 required, each 155)	310
<b>Dragline Fairlead</b>		<b>Strut, 12' 6"</b>	365
Revolving Type	1,910	<b>JIB NO. 124:</b>	
Hinged Type	5,120	<b>Butt, 15'</b>	410
<b>BOOM NO. 9A:</b>		<b>Insert, 10'</b>	175
<b>Butt, 30'</b> (less wire rope and pendants)	4,375	<b>Top, 15'</b> (with point assembly)	480
		<b>Basic Pendant</b> ,	100
		<b>Pendant</b> , (2 per insert, each 20)	40
		<b>Backstay Pendant</b> , (2 required, each 140)	280
		<b>Strut, 18'</b>	380

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

# POWER PLANTS

	Model	Cylinder	Bore	Stroke	Cubic Inch Displacement	Net HP @ RPM (at flywheel)
<b>BASIC</b>	Cummins NT-855-C310	6	5.500"	6.0"	855	287 @ 2000
<b>OPTIONAL</b>	Caterpillar 3406 DIT	6	5.400"	6.5"	893	300 @ 2000
	*Caterpillar 3406 PCTA	6	5.400"	6.5"	893	364 @ 2000
	*Cummins NTA-855-C360	6	5.500"	6.0"	855	334 @ 2000
	*Detroit Diesel 12V-71N	12	4.250"	5.0"	852	363 @ 1800
Air Compressor: 37.5 CFM.		*Recommended For Duty Cycle Service.			Fuel Tank Capacity: 219 Gallons.	

# LOWERWORKS

**CARBODY:** Single-piece, ribbed steel fabrication with integral side wings permits crawlers to be extended or retracted without reducing bearing area between crawler side frames and carbody wings. Side wings transmit loads directly to crawler side frames, eliminating axles and providing lower center of gravity.

**ROLLER PATH AND RING GEAR:** Machined from heat-treated alloy steel casting. Roller path has 105% outside diameter, 6" width, and 3" thick hook roller flange. Integral internal ring gear has machine-cut teeth. Roller path secured to carbody with single row of high-strength bolts.

**KING PIN:** Machined steel fabrication. Secured to carbody with high-strength bolts. Provides support for vertical travel shaft and pivot for rotating bed. Mates with bronze bearing in rotating bed. Takes horizontal loads only, no uplift.

**TRAVEL AND STEERING MECHANISM:** Power transmitted from upperworks through vertical travel shaft to three-piece horizontal travel shaft. Vertical travel shaft mounted in king pin, horizontal travel shaft in carbody; both supported by bronze bearings. Bevel gears transmit power from vertical shaft to horizontal shaft.

Steering provided by air-controlled steering clutch-and-lock mechanisms located to each side of bevel gears. Both clutches engaged for straight travel; one clutch placed in neutral for gradual turns or locked position for sharp turns. Interlock prevents both clutches from being in neutral at same time. Ratchet wheel for travel locks located to left of bevel gears. Travel locks are gravity-applied, air-released pawls that engage ratchet wheel. Engaging one pawl permits travel in one direction while preventing movement in opposite direction. Engaging both pawls prevents all travel.

**CRAWLER SIDE FRAMES:** Two reinforced steel fabrications with integral pockets for mounting frames onto carbody wings. Each crawler frame provides mounting for front idler roller, 12 intermediate rollers, crawler sprocket and chain, drive tumbler, and crawler tread. Abrasion-resistant slide rails along top provide smooth, continuous support for tread, eliminating need for upper idler rollers.

**FRONT IDLER ROLLER:** Double-flanged, fabricated steel roller mounted on 6 1/4" diameter stationary shaft supported at both ends by crawler frame. Roller revolves on two large bronze bearings lubricated by a center grease pocket.

**INTERMEDIATE ROLLERS:** Double-flanged, 14" diameter rollers, bronze bearing mounted on 4 3/8" diameter stationary shafts. Bearings lubricated by center grease pocket. Rollers located in pockets along underside of crawler frame. Shaft ends supported by welded frames and held in place by keeper bars.

**CRAWLER DRIVE:** Drive chains located outside crawler frames. Drive sprockets self-contained within crawler side frames telescope on hexagonal shaped horizontal travel shaft ends. Allows crawler extension, retraction, and removal without separating drive chain or tread.

**CRAWLER SPROCKET AND TUMBLER:** Transmit drive torque. Integral cast steel unit with flame-hardened sprocket teeth and tumbler rim. Mounted on stationary shaft supported at both ends by crawler frame. Sprocket-and-tumbler unit revolves on two large bronze bearings lubricated by center grease pocket. Self-cleaning tumbler has alternate sides open. Drive chain adjusted by positioning sprocket-and-tumbler support shaft with hydraulic jack, then inserting U-shaped shims to hold shaft in place.

**CRAWLER PADS:** Constructed of cast alloy steel in closed box-section design with center driving lug. Heavy internal ribbing provides great pad strength, especially next to driving lug, where intermediate rollers bear. Bottom edges taper upward to minimize digging-in during turns.

**CRAWLER TREADS:** 48" wide, 52 pads per crawler frame. Adjacent pads connected by two high-carbon steel pins. Pads' closed design prevents them from carrying dirt up onto crawler frames.

**TREAD ADJUSTMENT:** Crawler tread easily adjusted by positioning front idler roller support shaft with hydraulic jack, then inserting U-shaped shims to hold shaft in place.

# UPPERWORKS

**ROTATING BED:** Single-piece, welded-steel fabrication with integral machinery side frames forms rigid deck for mounting all upperworks components. Fabricated construction provides high strength-to-weight ratio. Precision boring assures proper alignment of machinery components. Bed rotates on four house rollers: two front and two rear, all antifriction bearing mounted.

**FRONT HOOK ROLLERS:** Two antifriction bearing mounted rollers supported individually by fabricated frames integral with rotating bed. Frames spaced wide to provide stability. Rollers mounted on eccentric shafts for easy adjustment.

**REAR HOOK ROLLERS:** Four antifriction bearing mounted rollers supported in pairs by heavy steel hangers that pivot to equalize roller loads. Hangers spaced wide apart to provide stability. Rollers mounted on eccentric shafts for easy adjustment.

**A-FRAME:** Fabricated steel rear column, roof support, and vertical center legs. Bar-type front legs. All joints pin-connected. Structure supports gantry, counterweights, and optional rear auxiliary drum shaft.

**POWER TRANSMISSION, VICON®:** The patented VICON (Variable Independent CONTROL) system provides stepless variable power transmission for major machine functions. Engine power is divided at transmission case to two controlled torque converters and a hydraulic pump. Front converter powers hoisting drums. Rear converter powers main drive shaft for swing and travel. Hydraulic pump powers independent boom hoist. With VICON, clutches engage when little or no torque is transmitted from power source, virtually eliminating clutch slippage and wear. After clutch sets, controlled torque converter output is increased to provide infinitely-variable speed and torque.

**MAIN DRIVE SHAFT:** Antifriction bearing mounted, alloy-steel shaft chain-driven by rear VICON converter. Powers two single-disc clutches that control travel and standard swing. Clutch hubs splined to shaft; integral clutch spiders and bevel pinions antifriction bearing mounted. Clutches applied by air-actuated cam levers and released by springs. Cam faces separated by roller bearings that minimize friction. Fully-enclosed, oil-spray-lubricated bevel pinions drive slide pinion shaft that permits selection of travel or standard swing functions. Operator selects each function by manually positioning slide pinion to engage travel or swing gear train.

**INDEPENDENT SWING SHAFT:** Standard. Heat-treated, alloy-steel shaft, antifriction bearing mounted on rotating bed behind main drive shaft. Chain-driven by sprocket on main drive shaft. Powers two double-disc reversing clutches that control direction of independent swing. Clutch hubs splined to shaft. Clutch spiders with integral bevel pinions, antifriction bearing mounted. Clutch pressure plates applied by manually-actuated, axial-pressure cam levers, and released by springs. Cam lever faces separated by antifriction roller bearings that take axial thrust to minimize friction. Disc assemblies remove easily for lining replacement. Bevel

pinions drive through gear train to ring gear on carbody. Swing brake provided on vertical independent swing shaft. With independent swing, travel is also independent.

**SWING LOCK:** Spring-loaded, gear segment type lock engages swing gear for positive locking. With independent swing, lock is air-controlled. With standard swing, lock is operated by slide pinion control: lock engages when pinion is in neutral or travel position, and disengages when pinion is in swing position.

**SPLIT DRUM SHAFT ASSEMBLY:** Heat-treated alloy-steel shaft, antifriction bearing mounted. Drums antifriction bearing mounted on shaft. Each drum is cast steel with a bolt-on cast iron combination clutch-and-brake flange on outboard side. Drum clutch spiders splined to shaft. Clutches, air-controlled, internal-expanding, band-type. Brakes, external-contracting, band-type; manually controlled on liftcrane, air assisted on duty cycle machines.

Optional auxiliary drums are available to provide three operating lines for specialized applications. Rear auxiliary drum provides 20,000-pound line pull; front auxiliary drum provides 5,000-pound line pull. Full-width rear drum mounted on A-frame above and behind main drums has single, air-applied, internal-expanding, band-type clutch, and double, external-contracting, band-type brakes that are spring-set, air-released, and air-operated. Front drum mounted ahead of main drums on rotating bed has an air-applied, single-disc clutch and an external-contracting, band-type brake that is spring-applied and automatically released upon clutch application.

**VICON® POWER LOWERING:** Controlled power load lowering with any hoist drum for line pull in excess of 6,000 pounds is an integral part of the VICON control system. It enables raising, holding, or lowering the load using stepless variable torque output from hoist converter. Drum clutch remains engaged, eliminating transfer of load from clutch to brake during normal operation.

**FULL-RANGE VICON POWER LOWERING:** Optional. An engine-driven hydraulic pump powers a hydraulic motor which rotates output shaft of VICON hoist converter in reverse direction. Provides power lowering for drum line pull less than 6,000 pounds. The hydraulic equipment permits a full range of lowering speeds from empty hook through maximum capacity.

**INDEPENDENT BOOM HOIST:** Dual drums mounted on heat-treated alloy-steel shaft. Driven through planetary gear reduction by bronze worm and gear. All rotating shafts antifriction bearing mounted. Gears fully enclosed and run in oil. Boom hoist powered by variable-displacement hydraulic motor, providing full-range speed control. Boom hoist main brake is external-contracting band-type, spring-applied, air-released. Auxiliary brake is external-contracting band-type, manually-applied from operator's station. Ratchet and pawl enclosed inside gear housing. Ratchet mounted to worm gear; pawl gravity-engaged, air-released. Drum rotation indicator standard. Boom hoist mounted in rear of rotating bed.

# FRONT END EQUIPMENT

**NO. 9A BOOM:** 30' butt, 10', 20', and 40' inserts, 30' open throat top. Rectangular box-section design. All-welded construction with inverted-angle chords and tubular lacings. Chords are 100,000 PSI-yield steel; lacings are 90,000 PSI-yield steel. All boom sections 74" wide x 72" deep at pin-connected joints. Each insert matched with two pair of 1½" diameter, single-length pendants. Lower boom point equipped with five 24" diameter sheaves. Upper boom point has single 27" diameter sheave with rope guard for liftcrane or cheek plate for dragline. For clamshell, upper point has two 27" diameter sheaves with cheek plates. All sheaves antifriction bearing mounted. Basic boom length 60'; maximum length 250'.

**GANTRY AND BACKHITCH:** Gantry is fabricated plate with parallel box-section legs. Supported on large pins by A-frame center leg. Backhitch is three-piece, telescoping, link-type construction, pin-connected to rear of rotating bed and gantry. Vertical sheaves antifriction bearing mounted; horizontal sheave bronze bearing mounted. Floating, vertical boom hoist wire rope sheaves bronze bearing mounted.

**GANTRY LIFTING DEVICE:** Electrically-powered hydraulic unit begins raising of gantry and controls lowering of gantry into cab roof.

**BOOM RIGGING:** Ten-part line reeved between gantry and equalizer (twelve-part line optional). Controls boom angle by single line reeved continuously from boom hoist drums, which power boom up and down. Equalizer connected to boom point by two pair of 1½" diameter pendants. For longer booms, pendants are matched to insert lengths.

**EQUALIZER:** Fabricated steel frame supporting four vertical sheaves and two horizontal sheaves, all antifriction bearing mounted.

**AUTOMATIC BOOM STOP:** Boom contacts push rod, automatically stopping boom hoist when boom angle reaches 82° from horizontal.

**TELESCOPIC BOOM STOP:** Air-cushioned telescoping tubes pinned to boom and A-frame. Starts cushioning at 77° boom angle. Provides positive physical stop at 85° from horizontal. Standard on liftcrane.

**WIRE ROPE GUIDE:** Mounted on top side of boom top. Two fleeting sheaves, bronze bearing mounted.

**WIRE ROPE ROLLER GUIDES:** Mounted on top side of boom inserts. Roller is induction hardened tubing, antifriction bearing mounted.

**4½° OFFSET BOOM TOP:** Optional. Permits greater clearance between load and boom. Standard boom top converted by adapter links at upper joints. May be used on all boom lengths up to 250'.

**HAMMERHEAD BOOM TOP:** Optional. Replaces standard boom top to permit lifting maximum capacity loads in areas with restricted overhead clearance. Standard boom converted by adding 3' hammerhead top. May be used on all boom lengths from 33' to 223'.

**NO. 123 JIB:** Optional. 20-ton maximum capacity. 30' basic length extendible to 40', 50', or 60' with 10' inserts and matching pendants. Jib offset angle adjustable to 0, 10, or 20 degrees. All-welded construction with tubular chords and lacings. Chords 100,000 PSI-yield steel. Rectangular box section 30" wide x 30" deep at pin-connected joints. Jib point has 24" OD, antifriction bearing mounted sheave, cheek plates, and anchor for two-part line.

**NO. 124 JIB:** Optional. 10-ton maximum capacity. 30' basic length extendible to 40', 50', or 60' with 10' inserts and matching pendants. Jib offset angle adjustable to 0, 10, 20, or 30 degrees. All-welded construction with tubular chords and lacings. Chords 100,000 PSI-yield steel. Rectangular box section 29½" wide x 22" deep at pin-connected joints. Jib point has 19½" OD, antifriction bearing mounted sheave with wire rope guide. Anchor joint for two-part line, optional.

CONSULT JIB LIFTING CAPACITY CHARTS FOR SPECIFIC CAPACITY WHEN USED ON VARIOUS BOOM LENGTHS.

**REVOLVING FAIRLEAD:** Furnished only on dragline-equipped machines. Full revolving, antifriction bearing mounted in support at front of rotating bed. All joints taper-pin-connected for maximum rigidity. Two sheaves mounted on tapered shaft and sleeve for maximum stability. Trunnion shaft bronze bearing mounted. Two large side guide rollers, case hardened and bronze bearing mounted. Two end guide rollers. For boom lengths through 80'.

**HINGED FAIRLEAD:** Optional. Recommended for booms longer than 80'. Stationary frame mounted to boom hinge lugs and front of rotating bed with taper pins for maximum rigidity. Extends guide sheaves for greater fleet angle on drag rope. Drag rope fully guided through swivel frame by sheaves and rollers. Swivel frame antifriction bearing mounted. Sheaves mounted on tapered shaft for maximum stability; shafts antifriction bearing mounted.

**TAGLINE:** Furnished only on clamshell-equipped machines. Boom mounted, three-barrel tagline with 30" wheel.

## GENERAL

**MACHINERY CAB:** Fully encloses upperworks machinery. Sliding service doors on left side and in roof; hinged service door at left front. Power plant radiator shutter and ladder to roof provided. Catwalks and railings on both sides of cab, optional.

**OPERATOR'S STATION:** Fully enclosed. Located in right front corner of cab. Insulated door behind seat isolates operator from machinery noise. Large, rubber-mounted safety glass windows provide wide-angle view. Sliding door on right side; sliding window on left side; overhead window for high-boom vision. Controls conveniently located and arranged for efficient operation. Air signal horn standard; heater, windshield wiper, and circulating fan, optional. Elevated operator's module with duplicate controls, optional. Module is mounted forward of main cab and provides eye level 26' 6" above ground.

**CONTROLS:** Modulating air controls engage boom hoist, main drive shaft clutches, and drum clutches. Drum and main drive shaft control levers are combination clutch and converter control: first movement engages clutch; further movement increases converter output torque, permitting variable speed. Drum brakes are pedal-operated and manually-controlled on liftcrane, air-assisted on clam-drag machines. Travel locks and steering, air-controlled. Slide pinion and swing lock, manually-controlled.

**SWING SPEED:** Variable, 4.90 RPM maximum.

**TRAVEL SPEED:** Variable, 1.45 MPH maximum.

**GRADEABILITY:** 30%.

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. 8256

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# MANITOWOC ENGINEERING CO.

Division of The Manitowoc Company, Inc. Manitowoc, Wisconsin 54220



## LIFTCRANE CAPACITIES BOOM NO. 9A WITH OPEN THROAT TOP 84,600 LB. COUNTERWEIGHT 360 DEGREE RATING

MEETS  
ANSI B30.5  
REQUIREMENTS

## 3900W SERIES 2

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 (\*). CAPACITIES INDICATED BY (b) REPRESENT BOOM POSITIONS WHICH, WITHOUT LOAD, PROVIDE LESS THAN REQUIRED ANSI B30.5 BACKWARD STABILITY.

UPPER BOOM POINT CAPACITY FOR LIFTCRANE SERVICE WITH SINGLE PART WHIP LINE OR COMBINATION OF TWO SINGLE PART LINES IS 22,500 LBS. (20,000 LBS. ON FIRST THREE LAYERS, 14,000 LBS. THEREAFTER WHEN REAR AUXILIARY DRUM IS USED). IN ALL CASES, UPPER BOOM POINT CAPACITIES CANNOT EXCEED THOSE LISTED FOR THE MAIN BOOM CAPACITY.

WEIGHT OF JIB, ALL LOAD BLOCKS, HOOKS, WEIGHT BALL, SLINGS, HOIST LINES, ETC., BENEATH BOOM AND JIB POINT SHEAVES, IS 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.

MACHINE TO OPERATE IN A LEVEL POSITION ON A FIRM UNIFORMLY SUPPORTING SURFACE WITH GANTRY UP. REFER TO BOOM RIGGING NO. 49501 AND WIRE ROPE SPECIFICATION CHART NO. 6437-A. CRANE OPERATOR JUDGMENT MUST BE USED TO ALLOW FOR DYNAMIC LOAD EFFECTS OF SWINGING, HOISTING OR LOWERING, TRAVEL, WIND CONDITIONS, 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. BOOM ANGLE IS THE ANGLE BETWEEN HORIZONTAL AND CENTERLINE OF BOOM BUTT AND INSERTS AND IS AN INDICATION OF OPERATING RADIUS. IN ALL CASES, OPERATING RADIUS SHALL GOVERN CAPACITY. BOOM POINT ELEVATION IS VERTICAL DISTANCE FROM GROUND LEVEL TO CENTERLINE OF BOOM POINT SHAFT.

MACHINE EQUIPPED WITH 24' EXTENDIBLE CRAWLERS, 48" TREADS, 16' RETRACTABLE GANTRY, 10 OR 12 PART BOOM HOIST REEVING, FOUR 1-1/4" BOOM PENDANTS, 1ST COUNTERWEIGHT = 43,000 LBS., 2ND COUNTERWEIGHT = 30,000 LBS., AND 3RD COUNTERWEIGHT = 11,600 LBS.

MAXIMUM BOOM AND JIB LENGTHS LIFTED UNASSISTED								
OVER END OF BLOCKED CRAWLERS			OVER SIDE OF EXTENDED CRAWLERS			OVER SIDE OF RETRACTED CRAWLERS		
BOOM LGTH.	JIB NO. 123	JIB NO. 124	BOOM LGTH.	JIB NO. 123	JIB NO. 124	BOOM LGTH.	JIB NO. 123	JIB NO. 124
250'	---	---	240'	---	---	220'	---	---
240'	30'	50'	230'	---	---	210'	---	---
230'	50'	60'	220'	30'	40'	200'	40'	50'
220'	60'	60'	210'	40'	60'	190'	50'	60'
			200'	60'	60'	180'	60'	60'

LOAD BLOCK, HOOK AND WEIGHT BALL ON GROUND AT START.

DEDUCT FROM CAPACITIES WHEN JIB IS ATTACHED		
JIB LGTH.	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.

CONSULT JIB CHART FOR JIB CAPACITIES.

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY	CAPACITY
				CRAWLERS RETRACTED POUNDS	CRAWLERS EXTENDED POUNDS
60	15	79.4	65.8	280,000*	280,000*
	16	78.5	65.6	258,100b	268,700*
	17	77.5	65.4	232,300b	255,500*
	18	76.5	65.2	211,000b	243,400*
	19	75.5	64.9	193,300b	232,500*
	20	74.5	64.7	178,300b	217,000*
	22	72.5	64.1	154,100b	185,100
	24	70.5	63.4	135,600b	161,300
	26	68.5	62.7	121,000b	142,700
	28	66.4	61.8	109,100b	127,900
	30	64.3	60.9	99,200b	115,800
	32	62.2	59.9	91,000b	105,700
	34	60.0	58.8	83,900b	97,200
	36	57.8	57.6	77,800b	89,900
	38	55.5	56.3	72,500b	83,600
	40	53.1	54.9	67,900b	78,000
	45	46.9	50.7	58,400b	66,800
	50	39.9	45.4	51,000b	58,300
55	31.8	38.5	45,200	51,500	
60	21.0	28.4	40,500	46,100	

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY	CAPACITY
				CRAWLERS RETRACTED POUNDS	CRAWLERS EXTENDED POUNDS
70	15	81.0	76.0	273,700*	273,700*
	16	80.1	75.8	257,900b	267,800*
	17	79.3	75.6	232,000b	254,600*
	18	78.5	75.4	210,700b	242,500*
	19	77.6	75.2	193,000b	231,600*
	20	76.8	75.0	177,900b	216,800*
	22	75.1	74.5	153,800b	184,900
	24	73.4	73.9	135,200b	161,000
	26	71.7	73.3	120,600b	142,400
	28	69.9	72.6	108,700b	127,600
	30	68.2	71.8	98,900b	115,500
	32	66.4	71.0	90,600b	105,400
	34	64.6	70.1	83,500b	96,800
	36	62.8	69.1	77,400b	89,500
	38	60.9	68.0	72,100b	83,200
	40	59.1	66.9	67,500b	77,600
	45	54.1	63.6	57,900b	66,400
	50	48.9	59.6	50,600	57,900
55	43.2	54.8	44,800	51,100	
60	36.9	48.9	40,100	45,700	
65	29.4	41.2	36,200	41,200	
70	19.5	30.2	32,900	37,500	

# MANITOWOC ENGINEERING CO.

Division of The Manitowoc Company, Inc. Manitowoc, Wisconsin 54220



## LIFT CRANE CAPACITIES

BOOM NO. 9A WITH OPEN THROAT TOP  
84,600 LB. COUNTERWEIGHT  
360 DEGREE RATING

MEETS  
ANSI B30.5  
REQUIREMENTS

## 3900W SERIES 2

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY CRAWLERS RETRACTED POUNDS	CAPACITY CRAWLERS EXTENDED POUNDS
80	16	81.4	85.9	249,800b*	249,800*
	17	80.6	85.8	231,800b	245,000*
	18	79.9	85.6	210,500b	240,500*
	19	79.2	85.4	192,700b	230,900*
	20	78.5	85.2	177,700b	216,600
	22	77.0	84.8	153,500b	184,700
	24	75.5	84.3	135,000b	160,700
	26	74.0	83.8	120,300b	142,200
	28	72.5	83.2	108,400b	127,300
	30	71.0	82.5	98,600b	115,200
	32	69.5	81.8	90,300b	105,100
	34	68.0	81.0	83,200b	96,600
	36	66.4	80.2	77,200b	89,300
	38	64.8	79.3	71,800b	82,900
	40	63.3	78.3	67,200b	77,400
	45	59.2	75.5	57,600	66,100
50	54.9	72.3	50,300	57,600	
55	50.4	68.5	44,500	50,800	
60	45.6	64.0	39,800	45,400	
65	40.3	58.6	35,900	40,900	
70	34.4	52.1	32,600	37,200	
75	27.4	43.7	29,800	34,000	
80	18.2	31.8	27,400	31,200	
90	18	81.1	95.8	210,200b	228,300*
	19	80.4	95.6	192,400b	224,300*
	20	79.8	95.4	177,300b	216,300
	22	78.5	95.0	153,200b	184,300
	24	77.2	94.6	134,600b	160,400
	26	75.9	94.1	119,900b	141,800
	28	74.5	93.6	108,000b	127,000
	30	73.2	93.0	98,200b	114,800
	32	71.9	92.4	89,900b	104,700
	34	70.5	91.7	82,000b	96,200
	36	69.2	91.0	76,700b	88,900
	38	67.8	90.2	71,400b	82,500
	40	66.4	89.3	66,800	77,000
	45	62.9	87.0	57,200	65,700
	50	59.3	84.2	49,900	57,200
	55	55.6	81.0	44,100	50,400
60	51.5	77.3	39,400	45,000	
65	47.3	73.0	35,500	40,500	
70	42.8	68.0	32,200	36,700	
75	37.9	62.2	29,400	33,500	
80	32.4	55.1	27,000	30,800	
85	25.8	46.1	24,800	28,400	
90	17.1	33.4	23,000	26,300	
100	19	81.4	105.7	192,500b	196,400*
	20	80.8	105.6	177,400b	193,300*
	22	79.6	105.2	153,200b	184,400
	24	78.5	104.8	134,700b	160,500
	26	77.3	104.4	120,000b	141,900
	28	76.1	103.9	108,100b	127,000
	30	74.9	103.4	98,200b	114,900
	32	73.7	102.9	89,900b	104,800
	34	72.5	102.2	82,900b	96,200
	36	71.3	101.6	76,800	88,900
	38	70.1	100.9	71,500	82,600
	40	68.9	100.1	66,800	77,000
	45	65.8	98.1	57,300	65,800
	50	62.6	95.6	49,900	57,200
	55	59.3	92.9	44,100	50,500
	60	55.9	89.7	39,400	45,000
65	52.4	86.1	35,500	40,600	
70	48.7	82.0	32,200	36,800	
75	44.8	77.3	29,400	33,600	
80	40.5	71.8	27,000	30,800	
85	35.9	65.5	24,900	28,500	
90	30.7	57.9	23,000	26,400	
95	24.5	48.3	21,400	24,500	
100	16.3	34.9	19,900	22,800	

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY CRAWLERS RETRACTED POUNDS	CAPACITY CRAWLERS EXTENDED POUNDS
110	22	80.6	115.4	152,900b	179,100*
	24	79.5	115.0	134,300b	160,200
	26	78.5	114.6	119,600b	141,600
	28	77.4	114.2	107,700b	126,700
	30	76.3	113.7	97,900b	114,600
	32	75.3	113.2	89,600b	104,500
	34	74.2	112.7	82,500	95,900
	36	73.1	112.1	76,400	88,600
	38	72.0	111.5	71,100	82,200
	40	70.9	110.8	66,400	76,700
	45	68.1	108.9	56,900	65,400
	50	65.3	106.8	49,500	56,800
	55	62.4	104.3	43,700	50,100
	60	59.4	101.5	39,000	44,700
	65	56.3	98.4	35,100	40,200
	70	53.1	94.9	31,800	36,400
75	49.8	90.9	29,000	33,200	
80	46.3	86.4	26,600	30,400	
85	42.6	81.3	24,500	28,100	
90	38.6	75.4	22,600	25,900	
95	34.2	68.7	21,000	24,100	
100	29.2	60.6	19,500	22,400	
105	23.3	50.4	18,200	20,900	
110	15.5	36.2	17,000	19,600	
120	22	81.4	125.5	152,600b	172,000*
	24	80.4	125.2	134,000b	159,900
	26	79.4	124.8	119,300b	141,300
	28	78.5	124.4	107,400b	126,400
	30	77.5	124.0	97,600b	114,300
	32	76.5	123.5	89,300	104,200
	34	75.5	123.0	82,200	95,600
	36	74.5	122.5	76,100	88,300
	38	73.5	121.9	70,800	81,900
	40	72.5	121.3	66,100	76,400
	45	70.0	119.6	56,500	65,100
	50	67.5	117.7	49,200	56,500
	55	64.8	115.5	43,400	49,800
	60	62.2	113.0	38,700	44,300
	65	59.4	110.2	34,800	39,800
	70	56.6	107.1	31,500	36,100
75	53.7	103.6	28,700	32,900	
80	50.7	99.7	26,300	30,100	
85	47.5	95.4	24,100	27,700	
90	44.2	90.5	22,300	25,600	
95	40.7	85.1	20,600	23,700	
100	36.9	78.9	19,200	22,100	
105	32.7	71.7	17,800	20,600	
110	28.0	63.1	16,600	19,300	
115	22.3	52.5	15,600	18,000	

# MANITOWOC ENGINEERING CO.

Division of The Manitowoc Company, Inc. Manitowoc, Wisconsin 54220



## LIFT CRANE CAPACITIES

BOOM NO. 9A WITH OPEN THROAT TOP  
84,600 LB. COUNTERWEIGHT  
360 DEGREE RATING

MEETS  
ANSI B30.5  
REQUIREMENTS

## 3900W SERIES 2

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY CRAWLERS		BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY CRAWLERS		
				RETRACTED POUNDS	EXTENDED POUNDS					RETRACTED POUNDS	EXTENDED POUNDS	
<b>130</b>	24	81.2	35.3	133,500b	154,800*	<b>150</b>	110	45.0	113.0	15,500	18,100	
	26	80.3	35.0	118,800b	140,800		115	42.3	107.7	14,400	16,900	
	28	79.4	34.6	106,900b	126,000		120	39.3	102.0	13,400	15,800	
	30	78.5	34.2	97,000	113,800		125	36.2	95.5	12,500	14,800	
	32	77.6	33.8	88,700	103,700		130	32.9	88.2	11,700	13,800	
	34	76.7	33.3	81,600	95,100		135	29.2	79.9	10,900	13,000	
	36	75.7	32.9	75,500	87,700		140	25.0	70.1	10,200	12,200	
	38	74.8	32.3	70,200	81,400		145	19.9	58.0	9,500	11,400	
	40	73.9	31.8	65,500	75,800		<b>160</b>	28	81.4	165.0	106,100	118,500*
	45	71.6	30.2	56,000	64,500			30	80.6	164.7	96,200	113,000
	50	69.3	28.4	48,600	56,000			32	79.9	164.4	87,900	102,900
	55	66.9	26.4	42,800	49,200			34	79.2	164.0	80,800	94,300
	60	64.5	24.2	38,100	43,800			36	78.5	163.6	74,700	87,000
	65	62.0	21.7	34,200	39,300			38	77.7	163.2	69,400	80,600
	70	59.5	18.9	30,900	35,500			40	77.0	162.8	64,700	75,000
75	56.9	15.8	28,100	32,300	45	75.2		161.5	55,100	63,700		
80	54.2	12.3	25,600	29,500	50	73.3		160.1	47,800	55,100		
85	51.5	8.5	23,500	27,100	55	71.4		158.5	42,000	48,400		
90	48.6	4.3	21,700	25,000	60	69.5		156.7	37,200	42,900		
95	45.6	99.7	20,000	23,100	65	67.6		154.8	33,300	38,400		
100	42.4	94.5	18,600	21,500	70	65.6		152.6	30,000	34,700		
105	39.0	88.7	17,200	20,000	75	63.7		150.2	27,200	31,400		
110	35.4	82.1	16,000	18,600	80	61.6		147.7	24,800	28,700		
115	31.4	74.5	15,000	17,400	85	59.6	144.8	22,700	26,300			
120	26.8	65.5	14,000	16,300	90	57.5	141.8	20,800	24,200			
125	21.4	54.4	13,100	15,300	95	55.3	138.5	19,200	22,300			
<b>140</b>	26	81.0	145.1	118,700b	136,000*	100	53.1	134.9	17,700	20,600		
	28	80.1	144.8	106,700	125,800	105	50.9	130.9	16,400	19,100		
	30	79.3	144.4	96,900	113,600	110	48.5	126.7	15,200	17,800		
	32	78.5	144.0	88,600	103,500	115	46.1	122.1	14,100	16,600		
	34	77.6	143.6	81,500	94,900	120	43.5	117.1	13,100	15,500		
	36	76.8	143.1	75,400	87,600	125	40.9	111.5	12,200	14,400		
	38	75.9	142.7	70,100	81,200	130	38.0	105.5	11,400	13,500		
	40	75.1	142.1	65,400	75,700	135	35.0	98.7	10,600	12,700		
	45	73.0	140.7	58,800	64,400	140	31.8	91.1	9,900	11,900		
	50	70.8	139.1	48,500	55,800	145	28.2	82.5	9,200	11,100		
	55	68.6	137.2	42,700	49,100	150	24.1	72.3	8,600	10,400		
	60	66.4	135.2	37,900	43,600	155	19.3	59.8	8,000	9,800		
	65	64.2	132.9	34,000	39,100	<b>170</b>	30	81.2	174.9	95,800	109,600*	
	70	61.9	130.3	30,700	35,300		32	80.5	174.5	87,500	102,500	
	75	59.5	127.5	27,900	32,100		34	79.8	174.2	80,400	93,900	
80	57.1	124.4	25,500	29,400	36		79.2	173.8	74,300	86,600		
85	54.6	121.0	23,400	27,000	38		78.5	173.4	69,000	80,200		
90	52.1	117.3	21,500	24,900	40		77.8	173.0	64,300	74,600		
95	49.5	113.2	19,900	23,000	45		76.0	171.8	54,700	63,300		
100	46.7	108.8	18,400	21,300	50		74.3	170.5	47,400	54,700		
105	43.8	103.8	17,100	19,900	55		72.5	169.0	41,500	48,000		
110	40.8	98.3	15,900	18,500	60		70.8	167.4	36,800	42,500		
115	37.5	92.2	14,800	17,300	65		69.0	165.5	32,900	38,000		
120	34.0	85.2	13,800	16,200	70		67.2	163.5	29,600	34,200		
125	30.2	77.3	12,900	15,200	75		65.3	161.3	26,800	31,000		
130	25.8	67.9	12,100	14,200	80		63.4	158.9	24,300	28,200		
135	20.7	56.2	11,300	13,400	85		61.5	156.3	22,200	25,800		
<b>150</b>	28	80.8	154.9	106,400	124,900*	90	59.6	153.5	20,400	23,700		
	30	80.0	154.6	96,500	113,300	95	57.6	150.4	18,700	21,800		
	32	79.2	154.2	88,200	103,200	100	55.6	147.2	17,200	20,200		
	34	78.5	153.8	81,100	94,600	105	53.6	143.6	15,900	18,700		
	36	77.7	153.4	75,000	87,200	110	51.4	139.8	14,700	17,300		
	38	76.9	153.0	69,700	80,900	115	49.2	135.6	13,600	16,100		
	40	76.1	152.5	65,000	75,300	120	47.0	131.1	12,600	15,000		
	45	74.1	151.1	58,400	64,000	125	44.6	126.3	11,700	14,000		
	50	72.1	149.6	48,100	55,400	130	42.2	121.0	10,900	13,100		
	55	70.1	147.9	42,300	48,700	135	39.6	115.2	10,100	12,200		
	60	68.1	146.0	37,500	43,200	140	36.9	108.9	9,400	11,400		
	65	66.0	143.9	33,600	38,700	145	34.0	101.8	8,800	10,700		
	70	63.9	141.6	30,300	35,000	150	30.8	93.9	8,100	10,000		
	75	61.7	139.0	27,500	31,700	155	27.3	85.0	7,600	9,300		
	80	59.6	136.2	25,100	29,000	160	23.4	74.4	7,000	8,700		
85	57.3	133.1	23,000	26,600	165	18.7	61.4	6,500	8,200			
90	55.0	129.8	21,100	24,500								
95	52.7	126.1	19,500	22,600								
100	50.2	122.1	18,000	20,900								
105	47.7	117.8	16,700	19,500								

# MANITOWOC ENGINEERING CO.

Division of The Manitowoc Company, Inc. Manitowoc, Wisconsin 54220



## LIFT CRANE CAPACITIES

BOOM NO. 9A WITH OPEN THROAT TOP  
84,600 LB. COUNTERWEIGHT  
360 DEGREE RATING

MEETS  
ANSI B30.5  
REQUIREMENTS

## 3900W SERIES 2

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY CRAWLERS		
				RETRACTED POUNDS	EXTENDED POUNDS	
100	32	81.1	184.7	87,300	96,100*	
	34	80.4	184.3	80,200	93,700	
	36	79.8	184.0	74,100	86,300	
	38	79.1	183.6	68,700	80,000	
	40	78.5	183.2	64,100	74,400	
	45	76.8	182.1	54,500	63,100	
	50	75.2	180.9	47,100	54,500	
	55	73.5	179.5	41,300	47,700	
	60	71.9	177.9	36,600	42,300	
	65	70.2	176.2	32,700	37,800	
	70	68.5	174.3	29,400	34,000	
	75	66.8	172.3	26,500	30,800	
	80	65.0	170.0	24,100	28,000	
	85	63.3	167.6	22,000	25,600	
	90	61.5	165.0	20,100	23,500	
	95	59.6	162.2	18,500	21,600	
	100	57.8	159.1	17,000	20,000	
	109	105	55.9	155.8	15,700	18,500
110		53.9	152.3	14,500	17,100	
115		51.9	148.6	13,400	15,900	
120		49.9	144.5	12,400	14,800	
125		47.8	140.1	11,500	13,800	
130		45.6	135.4	10,700	12,800	
135		43.3	130.3	9,900	12,000	
140		40.9	124.8	9,200	11,200	
145		38.4	118.7	8,500	10,400	
150		35.8	112.1	7,900	9,800	
155		33.0	104.8	7,400	9,100	
160		29.9	96.7	6,800	8,500	
165		26.6	87.3	6,300	8,000	
170		22.7	76.5	5,800	7,400	
175		18.2	63.1	5,400	6,900	
109		34	80.9	194.5	79,900	88,600*
		36	80.3	194.1	73,700	86,000
		38	79.7	193.8	68,400	79,700
	40	79.1	193.4	63,700	74,100	
	45	77.5	192.4	54,100	62,800	
	50	76.0	191.2	46,800	54,200	
	55	74.4	189.9	40,900	47,400	
	60	72.9	188.4	36,200	41,900	
	65	71.3	186.8	32,300	37,400	
	70	69.7	185.0	29,000	33,600	
	75	68.1	183.1	26,200	30,400	
	80	66.4	181.0	23,700	27,700	
	85	64.8	178.7	21,600	25,200	
	90	63.1	176.3	19,800	23,100	
	95	61.4	173.6	18,100	21,300	
	100	59.7	170.8	16,600	19,600	
	105	57.9	167.8	15,300	18,100	
	110	56.1	164.5	14,100	16,700	
115	54.3	161.1	13,000	15,500		
120	52.4	157.3	12,000	14,400		
125	50.4	153.3	11,100	13,400		
130	48.5	149.1	10,300	12,500		
135	46.4	144.5	9,500	11,600		
140	44.3	139.5	8,800	10,800		
145	42.1	134.2	8,200	10,100		
150	39.8	128.4	7,500	9,400		
155	37.4	122.2	7,000	8,700		
160	34.8	115.3	6,400	8,100		
165	32.1	107.7	5,900	7,600		
170	29.1	99.3	5,500	7,100		
175	25.8	89.7	5,000	6,600		
180	22.1	78.4	4,600	6,100		
185	17.7	64.6	4,200	5,700		

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY CRAWLERS	
				RETRACTED POUNDS	EXTENDED POUNDS
200	34	81.4	204.6	79,700	82,500*
	36	80.8	204.3	73,600	81,700*
	38	80.2	203.9	68,200	79,500
	40	79.6	203.6	63,500	73,900
	45	78.2	202.6	54,000	62,600
	50	76.7	201.5	46,600	54,000
	55	75.2	200.2	40,800	47,200
	60	73.7	198.9	36,000	41,800
	65	72.2	197.3	32,100	37,200
	70	70.7	195.7	28,800	33,500
	75	69.2	193.8	26,000	30,200
	80	67.7	191.9	23,600	27,500
	85	66.1	189.7	21,400	25,100
	90	64.5	187.4	19,600	22,900
	95	62.9	185.0	17,900	21,100
	100	61.3	182.3	16,400	19,400
	105	59.7	179.5	15,100	17,900
	110	58.0	176.5	13,900	16,600
115	56.3	173.2	12,800	15,300	
120	54.5	169.8	11,800	14,200	
125	52.8	166.1	10,900	13,200	
130	50.9	162.2	10,100	12,300	
135	49.1	158.0	9,300	11,400	
140	47.2	153.5	8,600	10,600	
145	45.2	148.7	8,000	9,900	
150	43.1	143.5	7,400	9,200	
155	41.0	138.0	6,800	8,600	
160	38.7	132.0	6,200	8,000	
165	36.4	125.5	5,700	7,400	
170	33.9	118.4	5,300	6,900	
175	31.2	110.6	4,800	6,400	
180	28.4	101.8	4,400	5,900	
185	25.2	91.9	4,000	5,500	
190	21.6	80.4	3,700	5,100	
195	17.3	66.2	3,300	4,700	
210	36	81.2	214.4	73,100*	73,100*
	38	80.7	214.1	67,900	72,700*
	40	80.1	213.7	63,200	72,200*
	45	78.7	212.8	53,600	62,300
	50	77.3	211.8	46,200	53,600
	55	75.9	210.6	40,400	46,900
	60	74.5	209.2	35,600	41,400
	65	73.1	207.8	31,700	36,900
	70	71.7	206.2	28,400	33,100
	75	70.2	204.5	25,600	29,900
	80	68.8	202.6	23,200	27,100
	85	67.3	200.6	21,000	24,700
	90	65.8	198.4	19,200	22,600
	95	64.3	196.1	17,500	20,700
	100	62.8	193.6	16,000	19,000
	105	61.3	191.0	14,700	17,500
	110	59.7	188.1	13,500	16,200
	115	58.1	185.1	12,400	14,900
120	56.5	181.9	11,400	13,800	
125	54.8	178.5	10,500	12,800	
130	53.1	174.9	9,700	11,900	
135	51.4	171.0	8,900	11,000	
140	49.6	166.9	8,200	10,200	
145	47.8	162.5	7,600	9,500	
150	46.0	157.8	6,900	8,800	
155	44.0	152.8	6,400	8,100	
160	42.0	147.4	5,800	7,500	
165	39.9	141.7	5,300	7,000	
170	37.8	135.5	4,900	6,500	
175	35.5	128.8	4,400	6,000	
180	33.1	121.4	4,000	5,500	
185	30.5	113.3	3,600	5,100	
190	27.7	104.3	3,200	4,700	
195	24.6	94.1		4,300	
200	21.0	82.2		3,900	
205	16.8	67.7		3,500	



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## LIFT CRANE CAPACITIES

BOOM NO. 9A WITH OPEN THROAT TOP  
84,600 LB. COUNTERWEIGHT  
360 DEGREE RATING

MEETS  
ANSI B30.5  
REQUIREMENTS

## 3900W SERIES 2

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY CRAWLERS		BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY CRAWLERS	
				RETRACTED POUNDS	EXTENDED POUNDS					RETRACTED POUNDS	EXTENDED POUNDS
<b>220</b>	38	81.1	224.2	62,000*	62,000*	<b>240</b>	45	80.2	243.3	49,000*	49,000*
	40	80.6	223.9	61,700*	61,700*		50	78.9	242.4	45,300	48,200*
	45	79.3	223.0	53,400	60,800*		55	77.7	241.4	39,500	46,000
	50	77.9	222.0	46,000	53,400		60	76.5	240.2	34,700	40,500
	55	76.6	220.9	40,200	46,600		65	75.3	239.0	30,800	36,000
	60	75.3	219.6	35,400	41,200		70	74.0	237.6	27,500	32,200
	65	73.9	218.2	31,500	36,700		75	72.8	236.1	24,700	28,900
	70	72.5	216.7	28,200	32,900		80	71.5	234.5	22,200	26,200
	75	71.2	215.1	25,400	29,700		85	70.3	232.8	20,100	23,800
	80	69.8	213.3	23,000	26,900		90	69.0	230.9	18,200	21,600
	85	68.4	211.4	20,800	24,500		95	67.7	228.9	16,600	19,800
	90	67.0	209.3	19,000	22,400		100	66.4	226.8	15,100	18,100
	95	65.6	207.2	17,300	20,500		105	65.1	224.6	13,800	16,600
	100	64.1	204.8	15,800	18,800		110	63.8	222.2	12,600	15,200
	105	62.7	202.3	14,500	17,300		115	62.5	219.6	11,500	14,000
	110	61.2	199.6	13,300	16,000		120	61.1	217.0	10,500	12,900
	115	59.7	196.8	12,200	14,700		125	59.7	214.1	9,600	11,900
	120	58.2	193.8	11,200	13,600		130	58.3	211.1	8,800	10,900
	125	56.6	190.6	10,300	12,600		135	56.9	207.9	8,000	10,100
	130	55.1	187.2	9,500	11,700		140	55.5	204.6	7,300	9,300
	135	53.5	183.6	8,700	10,800		145	54.0	201.1	6,600	8,500
	140	51.8	179.8	8,000	10,000		150	52.5	197.3	6,000	7,900
145	50.1	175.7	7,400	9,300	155	51.0	193.4	5,400	7,200		
150	48.4	171.4	6,800	8,600	160	49.5	189.2	4,900	6,600		
155	46.7	166.9	6,200	8,000	165	47.9	184.8	4,400	6,100		
160	44.8	162.0	5,600	7,400	170	46.2	180.2	3,900	5,500		
165	43.0	156.8	5,100	6,800	175	44.6	175.3	3,500	5,000		
170	41.0	151.2	4,700	6,300	180	42.8	170.0	3,100	4,600		
175	39.0	145.3	4,200	5,800	185	41.0	164.5	2,800	4,100		
180	36.9	138.9	3,800	5,300	190	39.2	158.5	2,500	3,700		
185	34.6	131.9	3,400	4,900	195	37.3	152.2	2,200	3,300		
190	32.3	124.3	3,000	4,500	200	35.2	145.4	1,900	3,000		
195	29.8	116.0	2,700	4,100							
200	27.0	106.8	2,400	3,700							
205	24.0	96.3	2,100	3,300							
210	20.6	84.1	1,800	3,000							
<b>230</b>	40	81.0	234.0	56,300*	56,300*	<b>250</b>	45	80.6	253.5	44,800*	44,800*
	45	79.7	233.2	53,000	55,400*		50	79.4	252.6	44,000*	44,000*
	50	78.5	232.2	45,700	53,100		55	78.2	251.6	39,100	43,200*
	55	77.2	231.1	39,800	46,300		60	77.1	250.5	34,300	40,100
	60	75.9	229.9	35,100	40,800		65	75.9	249.3	30,400	35,600
	65	74.6	228.6	31,100	36,300		70	74.7	248.0	27,100	31,800
	70	73.3	227.2	27,800	32,500		75	73.5	246.6	24,300	28,600
	75	72.0	225.6	25,000	29,300		80	72.3	245.0	21,800	25,800
	80	70.7	223.9	22,600	26,500		85	71.1	243.4	19,700	23,400
	85	69.4	222.1	20,500	24,100		90	69.9	241.6	17,900	21,300
	90	68.0	220.2	18,600	22,000		95	68.7	239.7	16,200	19,400
	95	66.7	218.1	16,900	20,100		100	67.4	237.7	14,700	17,700
	100	65.3	215.9	15,500	18,400		105	66.2	235.5	13,400	16,200
	105	64.0	213.5	14,100	16,900		110	64.9	233.3	12,200	14,900
	110	62.6	211.0	12,900	15,600		115	63.6	230.9	11,100	13,600
	115	61.1	208.3	11,800	14,400		120	62.4	228.3	10,100	12,500
	120	59.7	205.5	10,900	13,300		125	61.1	225.6	9,200	11,500
	125	58.3	202.5	9,900	12,200		130	59.7	222.8	8,400	10,600
	130	56.8	199.3	9,100	11,300		135	58.4	219.8	7,600	9,700
	135	55.3	195.9	8,300	10,400		140	57.0	216.6	6,900	8,900
	140	53.8	192.3	7,600	9,600		145	55.7	213.3	6,200	8,100
	145	52.2	188.6	7,000	8,900		150	54.3	209.8	5,600	7,500
150	50.6	184.6	6,400	8,200	155	52.8	206.1	5,000	6,800		
155	49.0	180.3	5,800	7,600	160	51.4	202.2	4,500	6,200		
160	47.3	175.9	5,300	7,000	165	49.9	198.1	4,000	5,700		
165	45.6	171.1	4,800	6,400	170	48.4	193.8	3,500	5,100		
170	43.8	166.1	4,300	5,900	175	46.8	189.2	3,100	4,600		
175	42.0	160.7	3,800	5,400	180	45.3	184.4	2,800	4,200		
180	40.1	154.9	3,400	4,900	185	43.6	179.3	2,500	3,700		
185	38.1	148.8	3,000	4,500	190	41.9	173.9	2,200	3,300		
190	36.0	142.1	2,700	4,100							
195	33.9	135.0	2,400	3,700							
200	31.6	127.2	2,100	3,300							
205	29.1	118.7	1,800	3,000							



# LIFTCRANE CAPACITIES

# 3900W SERIES-2 CRAWLER

**BOOM NO. 9 WITH OPEN THROAT TOP  
 USING 10', 20', AND 40' INSERTS  
 24'0" CRAWLERS — 84,600 LB. COUNTERWEIGHT**

**LIFTING CAPACITIES:** Capacities for various boom lengths and operating radii may be based on per cent of tipping, strength of structural components, operating speeds and other factors.

Capacities are for freely suspended loads and do not exceed 75% of a static load required to tip machine with boom across crawlers. Capacities indicated by "B" represent boom positions which, without load and with crawlers retracted, provide less than standard backward stability. Do not swing machine without boom when crawlers are retracted. Capacities based on structural competence are shown by shaded areas.

Capacities are shown in pounds. Weight of jib, (see chart A), all load blocks, hooks, weight ball, slings, hoist lines beneath boom and jib point sheaves, etc., is 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.

**OPERATING CONDITIONS:** Machine to operate in level position on a firm surface with gantry in working position and under conditions referred to in rigging drawing No. 48782 and load line specification chart No. 5344.

Crane operator judgment must be used to allow for dynamic load effects of swinging, hoisting or lowering, travel as well as adverse operating conditions or physical machine depreciation.

**OPERATING RADIUS:** Operating radius is the horizontal distance from the axis of rotation to the center of vertical hoist line or load block with the load freely suspended. Add 11" to boom point radius for radius of sheave when using single part hoist line.

Boom angle is the angle between horizontal and centerline of boom butt and inserts and is an indication of operating radius. In all cases, operating radius shall govern capacity.

**BOOM POINT ELEVATION:** Boom point elevation, in feet, is the vertical distance from ground level to centerline of boom point shaft.

**MACHINE EQUIPMENT:** Machine equipped with 24'0" extendible crawlers, 48" treads, 16' retractable gantry, 10 or 12 part boom hoist reeving, two 1½" pendants, 1st cwt. 43,000 lbs., 2nd cwt. 30,000 lbs., 3rd cwt. 11,600 lbs. Total counterweight 84,600 pounds.

HOIST REEVING FOR MAIN LOAD BLOCK						
No. Parts of Line	1	2	3	4	5	6
Max. Load — Lbs.	25,800	51,600	77,400	103,200	129,000	154,800
No. Parts of Line	7	8	9	10	11	
Max. Load — Lbs.	180,600	206,400	232,200	258,000	280,000	

LOAD AND WHIP LINE SPECIFICATIONS	
LOAD LINE:	1" — 6x25 Filler Wire, Extra Improved Plow Steel, Regular Lay, IWRC. Minimum Breaking Strength 51.7 Ton.
WHIP LINE:	1" — 6x25 Filler Wire, Improved Plow Steel, Regular Lay, IWRC. Minimum Breaking Strength 44.9 Ton. Maximum Load — 22,500 lbs. per Line.

MAXIMUM BOOM AND JIB LENGTHS LIFTED UNASSISTED					
OVER FRONT OF BLOCKED CRAWLERS			OVER SIDE OF EXTENDED CRAWLERS		
Bm. Lgth.	Jib No. 123	Jib No. 124	Bm. Lgth.	Jib No. 123	Jib No. 124
250'	—	—	230'	—	—
240'	30'	50'	220'	—	30'
230'	50'	60'	210'	40'	60'
220'	60'	60'	200'	60'	60'
OVER SIDE OF RETRACTED CRAWLERS			(A) DEDUCT FROM CAPACITIES WHEN JIB IS ATTACHED		
Bm. Lgth.	Jib No. 123	Jib No. 124	Jib Lgth.	Jib No. 123	Jib No. 124
220'	—	—	30'	2,500 lb.	1,800 lb.
210'	—	40'	40'	3,100 lb.	2,050 lb.
200'	40'	60'	50'	3,700 lb.	2,300 lb.
190'	60'	60'	60'	4,400 lb.	2,500 lb.

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

For jib capacities, consult jib chart.

Boom Lgth.: Feet	Oper. Rad.: Feet	Bm. Ang.: Deg.	Boom Point: Elev.	Capacity: Crawlers Retracted	Capacity: Crawlers Extended	Boom Lgth.: Feet	Oper. Rad.: Feet	Bm. Ang.: Deg.	Boom Point: Elev.	Capacity: Crawlers Retracted	Capacity: Crawlers Extended	Boom Lgth.: Feet	Oper. Rad.: Feet	Bm. Ang.: Deg.	Boom Point: Elev.	Capacity: Crawlers Retracted	Capacity: Crawlers Extended
60	15	79.4	65.8	280,000B	280,000	70	40	59.1	66.9	67,800B	78,000	90	18	81.1	95.8	210,500B	214,100
	16	78.5	65.6	258,400B	269,300		45	54.1	63.6	58,300B	66,700		19	80.4	95.6	192,700B	210,600
	17	77.5	65.4	232,500B	256,000		50	48.9	59.6	51,000	58,200		20	79.8	95.4	177,700B	207,200
	18	76.5	65.2	211,300B	244,000		55	43.2	54.8	45,200	51,500		22	78.5	95.0	153,500B	184,700
	19	75.5	64.9	193,600B	233,000		60	36.9	48.9	40,500	46,100		24	77.2	94.6	135,000B	160,700
	20	74.5	64.7	178,500B	217,200		65	29.4	41.2	36,600	41,600		26	75.9	94.1	120,300B	142,200
	22	72.5	64.1	154,400B	185,400		70	19.5	30.2	33,300	37,800		28	74.5	93.6	108,400B	127,300
	24	70.5	63.4	135,900B	161,500	16	81.4	85.9	238,100B	238,100	30	73.2	93.0	98,600B	115,200		
	26	68.5	62.7	121,200B	143,000	17	80.6	85.8	232,000B	233,800	32	71.9	92.4	90,300B	105,100		
	28	66.4	61.8	109,400B	128,200	18	79.9	85.6	210,800B	229,700	34	70.5	91.7	83,200B	96,600		
	30	64.3	60.9	99,500B	116,100	19	79.2	85.4	193,000B	225,800	36	69.2	91.0	77,100B	89,200		
	32	62.2	59.9	91,300B	106,000	20	78.5	85.2	178,000B	216,800	38	67.8	90.2	71,800B	82,900		
	34	60.0	58.8	84,200B	97,500	22	77.0	84.8	153,800B	184,900	40	66.4	89.3	67,200	77,400		
	36	57.8	57.6	78,100B	90,200	24	75.5	84.3	135,300B	161,000	45	62.9	87.0	57,600	66,100		
	38	55.5	56.3	72,800B	83,800	26	74.0	83.8	120,700B	142,500	50	59.3	84.2	50,300	57,600		
	40	53.1	54.9	68,200B	78,300	28	72.5	83.2	108,800B	127,700	55	55.5	81.0	44,500	50,800		
	45	46.9	50.7	58,700B	67,100	30	71.0	82.5	98,900B	115,500	60	51.5	77.3	39,800	45,400		
	50	39.9	45.4	51,300B	58,600	32	69.5	81.8	90,700B	105,400	65	47.3	73.0	35,900	40,900		
	55	31.8	38.5	45,600	51,800	34	68.0	81.0	83,600B	96,900	70	42.8	68.0	32,600	37,200		
60	21.0	28.4	40,800	46,400	36	66.4	80.2	77,500B	89,600	75	37.9	62.2	29,800	34,000			
15	81.0	76.0	261,200B	261,200	38	64.8	79.3	72,200B	83,300	80	32.4	55.1	27,400	31,200			
16	80.1	75.8	256,200B	256,200	40	63.3	78.3	67,500B	77,700	85	25.8	46.1	25,300	28,800			
17	79.3	75.6	232,200B	251,500	45	59.2	75.5	58,000	66,500	90	17.1	33.4	23,400	26,700			
18	78.5	75.4	211,000B	243,200	50	54.9	72.3	50,700	57,900								
19	77.6	75.2	193,300B	232,200	55	50.4	68.5	44,900	51,200								
20	76.8	75.0	178,200B	217,000	60	45.6	64.0	40,200	45,800								
22	75.1	74.5	154,100B	185,100	65	40.3	58.6	36,300	41,300								
24	73.4	73.9	135,600B	161,200	70	34.4	52.1	33,000	37,600								
26	71.7	73.3	120,900B	142,700	75	27.4	43.7	30,200	34,400								
28	69.9	72.6	109,000B	127,900	80	18.2	31.8	27,800	31,600								
30	68.2	71.8	99,200B	115,800													
32	66.4	71.0	90,900B	105,700													
34	64.6	70.1	83,900B	97,100													
36	62.8	69.1	77,800B	89,800													
38	60.9	68.0	72,500B	83,500													

Capacities continued on reverse side.





**LIFTCRANE CAPACITIES — 3900W SERIES-2  
 BOOM NO. 9 WITH OPEN THROAT TOP  
 USING 10', 20' AND 40' INSERTS, CONT'D.**

**SEE CONDITIONS ON FRONT PAGE**

Boom Lgth.: Feet	Oper. Rad.: Feet	Bm. Ang.: Deg.	Boom Point: Elev.	Capacity: Crawlers Retracted	Capacity: Crawlers Extended	Boom Lgth.: Feet	Oper. Rad.: Feet	Bm. Ang.: Deg.	Boom Point: Elev.	Capacity: Crawlers Retracted	Capacity: Crawlers Extended	Boom Lgth.: Feet	Oper. Rad.: Feet	Bm. Ang.: Deg.	Boom Point: Elev.	Capacity: Crawlers Retracted	Capacity: Crawlers Extended	
																		Capacity: Crawlers Retracted
200	34	81.4	204.6	80,100	81,500	220	38	81.1	224.2	63,500	63,500	240	45	80.2	243.3	49,000	49,000	
	36	80.8	204.3	73,900	81,000		40	80.6	223.9	63,100	63,100		50	78.9	242.4	45,700	47,700	
	38	80.2	203.9	68,600	79,900		45	79.3	223.0	53,700	62,300		55	77.7	241.4	39,900	46,400	
	40	79.6	203.6	63,900	74,300		50	77.9	222.0	46,300	53,700		60	76.5	240.2	35,200	40,900	
	45	78.2	202.6	54,400	63,000		55	76.6	220.9	40,500	46,900		65	75.0	239.0	31,200	36,400	
	55	76.7	201.5	47,000	54,400		60	75.3	219.6	35,700	41,500		70	74.0	237.6	27,900	32,600	
	60	75.2	200.2	41,200	47,600		65	73.9	218.2	31,800	37,000		75	72.8	236.1	25,100	29,400	
	65	73.7	198.9	36,400	42,100		70	72.5	216.7	28,500	33,200		80	71.5	234.5	22,700	26,500	
	65	72.2	197.3	32,500	37,600		75	71.2	215.1	25,700	30,600		85	70.3	232.8	20,600	24,200	
	70	70.7	195.7	29,200	33,900		80	69.8	213.3	23,300	27,200		90	69.0	230.9	18,700	22,100	
	75	69.2	193.8	26,400	30,600		85	68.4	211.4	21,100	24,800		95	67.7	228.9	17,000	20,200	
	80	67.7	191.9	24,000	27,900		90	67.0	209.3	19,300	22,700		100	66.4	226.8	15,600	18,500	
	85	66.1	189.7	21,900	25,500		95	65.6	207.2	17,600	20,800		105	65.1	224.6	14,200	17,000	
	90	64.5	187.4	20,000	23,400		100	64.1	204.8	16,200	19,100		110	63.8	222.2	13,000	15,700	
	95	62.9	185.0	18,300	21,500		105	62.7	202.3	14,800	17,600		115	62.5	219.6	12,000	14,500	
	100	61.3	182.3	16,900	19,800		110	61.2	199.6	13,600	16,300		120	61.1	217.0	11,000	13,400	
	105	59.7	179.5	15,500	18,300		115	59.7	196.8	12,500	15,100		125	59.7	214.1	10,100	12,300	
	110	58.0	176.5	14,300	17,000		120	58.2	193.8	11,600	13,900		130	58.3	211.1	9,200	11,400	
115	56.3	173.2	13,300	15,800	125	56.6	190.6	10,600	12,900	135	56.9	207.9	8,500	10,500				
120	54.5	169.8	12,300	14,600	130	55.1	187.2	9,800	12,000	140	55.5	204.6	7,700	9,700				
125	52.8	166.1	11,400	13,600	135	53.5	183.6	9,000	11,100	145	54.0	201.1	7,100	9,000				
130	50.9	162.2	10,500	12,700	140	51.8	179.8	8,300	10,300	150	52.5	197.3	6,500	8,300				
135	49.1	158.0	9,800	11,800	145	50.1	175.7	7,700	9,600	155	51.0	193.4	5,900	7,700				
140	47.2	153.5	9,100	11,000	150	48.4	171.4	7,100	8,900	160	49.5	189.2	5,400	7,100				
145	45.2	148.7	8,400	10,300	155	46.7	166.9	6,500	8,300	165	47.9	184.8	4,900	6,500				
150	43.1	143.5	7,800	9,600	160	44.8	162.0	6,000	7,700	170	46.2	180.2	4,400	6,000				
155	41.0	138.0	7,200	9,000	165	43.0	156.8	5,500	7,100	175	44.6	175.3	3,900	5,500				
160	38.7	132.0	6,700	8,400	170	41.0	151.2	5,000	6,600	180	42.8	170.0	3,500	5,000				
165	36.4	125.5	6,200	7,800	175	39.0	145.3	4,500	6,100	185	41.0	164.5	3,100	4,600				
170	33.9	118.4	5,700	7,300	180	36.9	138.9	4,100	5,600	190	39.2	158.5	2,700	4,200				
175	31.2	110.6	5,300	6,800	185	34.6	131.9	3,700	5,200	195	37.3	152.2	2,300	3,800				
180	28.4	101.8	4,800	6,300	190	32.3	124.3	3,400	4,800	200	35.2	145.4	1,900	3,400				
185	25.2	91.9	4,500	5,900	195	29.8	116.0	3,000	4,400									
190	21.6	80.4	4,100	5,500	200	27.0	106.8	2,700	4,000									
195	17.3	66.2	3,700	5,100														
210	36	81.2	214.4	70,800	70,800	40	81.0	234.0	55,400	55,400	45	80.6	233.2	53,300	54,800			
	38	80.7	214.1	68,300	70,400	50	78.5	232.2	46,000	53,400	60	77.1	230.5	38,500	38,500			
	40	80.1	213.7	63,600	70,300	55	77.2	231.1	40,100	46,600	65	75.9	229.3	34,800	37,800			
	45	78.7	212.8	54,000	62,600	60	75.9	229.9	35,400	41,100								
	50	77.3	211.8	46,600	54,000	65	74.6	228.6	31,500	36,600	70	74.7	248.0	27,600	32,300			
	55	75.9	210.6	40,800	47,300	70	73.3	227.2	28,200	32,800	75	73.5	246.6	24,800	29,000			
	60	74.5	209.2	36,100	41,800	75	72.0	225.6	25,300	29,600	80	72.3	245.0	22,300	26,300			
	65	73.1	207.8	32,200	37,300	80	70.7	223.9	22,900	26,800	85	71.1	243.4	20,200	23,800			
	70	71.7	206.2	28,900	33,500	85	69.4	222.1	20,800	24,400	90	69.9	241.6	18,300	21,700			
	75	70.2	204.5	26,000	30,300	90	68.0	220.2	18,900	22,300	95	68.7	239.7	16,700	19,900			
	80	68.8	202.6	23,600	27,500	95	66.7	218.1	17,300	20,400	100	67.4	237.7	15,200	18,200			
	85	67.3	200.6	21,500	25,100	100	65.3	215.9	15,800	18,800	105	66.2	235.5	13,900	16,700			
	90	65.8	198.4	19,600	23,000	105	64.0	213.5	14,400	17,300	110	64.9	233.3	12,700	15,300			
	95	64.3	196.1	18,000	21,100	110	62.6	211.0	13,300	15,900	115	63.6	230.9	11,600	14,100			
	100	62.8	193.6	16,500	19,500													
	105	61.3	191.0	15,200	18,000	115	61.1	208.3	12,200	14,700	120	62.4	228.3	10,600	13,000			
	110	59.7	188.1	14,000	16,600	120	59.7	205.5	11,200	13,600	125	61.1	225.6	9,700	12,000			
	115	58.1	185.1	12,900	15,400	125	58.3	202.5	10,300	12,500	130	59.7	222.8	8,900	11,000			
120	56.5	181.9	11,900	14,300	130	56.8	199.3	9,400	11,600	135	58.4	219.8	8,100	10,200				
125	54.8	178.5	11,000	13,300	135	55.3	195.9	8,700	10,700	140	57.0	216.6	7,400	9,400				
130	53.1	174.9	10,200	12,300	140	53.8	192.3	8,000	9,900	145	55.7	213.3	6,700	8,600				
135	51.4	171.0	9,400	11,500	145	52.2	188.6	7,300	9,200	150	54.3	209.8	6,100	8,000				
140	49.6	166.9	8,700	10,700	150	50.6	184.6	6,700	8,500	155	52.8	206.1	5,500	7,300				
145	47.8	162.5	8,000	9,900	155	49.0	180.3	6,100	7,900	160	51.4	202.2	5,000	6,700				
150	46.0	157.8	7,400	9,200	160	47.3	175.9	5,600	7,300	165	49.9	198.1	4,500	6,200				
155	44.0	152.8	6,800	8,600	165	45.6	171.1	5,100	6,700	170	48.4	193.8	4,000	5,600				
160	42.0	147.4	6,300	8,000	170	43.8	166.1	4,600	6,200	175	46.8	189.2	3,600	5,100				
165	39.9	141.7	5,800	7,400	175	42.0	160.7	4,200	5,700	180	45.3	184.4	3,200	4,700				
170	37.8	135.5	5,300	6,900	180	40.1	154.9	3,700	5,200	185	43.6	179.3	2,800	4,200				
175	35.5	128.8	4,900	6,400	185	38.1	148.8	3,300	4,800	190	41.9	173.9	2,400	3,800				
180	33.1	121.4	4,500	6,000	190	36.0	142.1	3,000	4,400									
185	30.5	113.3	4,100	5,500	195	33.9	135.0	2,700	4,000									
190	27.7	104.3	3,700	5,100	200	31.6	127.2	2,400	3,600									
195	24.6	94.1	3,400	4,700														
200	21.0	82.2	3,000	4,400														

Combined From Charts:  
 No. 6223-A 6-22-77  
 No. 6223-B 6-22-77  
 No. 5344 6-24-77  
 No. 5355 6-20-77