

24273

**NOTE 1**

CRAWLER FRAMES MAY BE REMOVED FOR LOADING, REDUCING ALL HEIGHTS 13 IN. USE CAB DIM. 10'-10" FOR LOAD WIDTH.

**NOTE 3**

HEIGHT DIMENSIONS SHOWN ARE FOR OUTSIDE DRIVE WITH 48" TREADS.

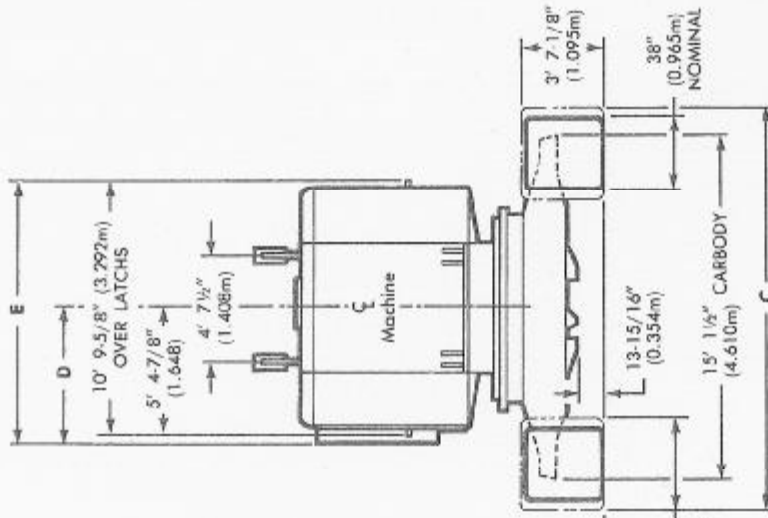
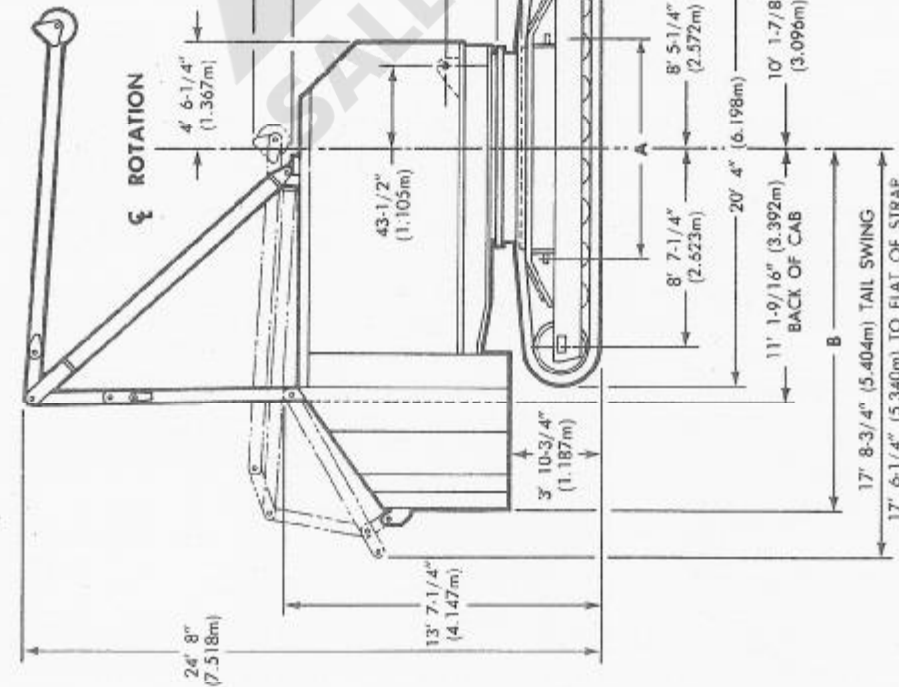
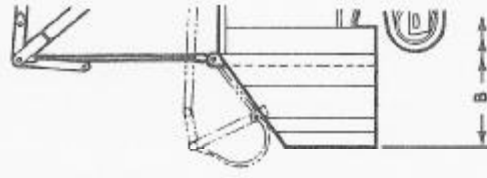
• WITH 38" TREADS DEDUCT 1/2".

• FOR INSIDE DRIVE WITH 48" TREADS DEDUCT 1/4".

• WITH 38" TREADS DEDUCT 3/4".

**NOTE 2**

SPECIAL LOW CLEARANCE GANTRY 42732 OVERALL CLEARANCE HEIGHT.



DIMENSIONS	D	E
W/CAT. & G.M. VICON	5' 8-7/16" (1.738m)	11' 3-3/16" (3.434m)
W/CUMMINS VICON	5' 7-11/16" (1.719m)	11' 0-7/16" (3.364m)

DIMENSIONS	B		C
	CARBODY WIDTH A	FLAT OF CTWT. TAILSWING	
W/INSIDE CRAWLER DRIVE	8' 8-1/2" (2.654)		
W/OUTSIDE CRAWLER DRIVE	9' 11" (3.022m)		
2ND CTWT.		14' 2-7/16" (4.329m)	15' 1-3/8" (4.607m)
3RD CTWT. W/PENDANT OR LINK TYPE BACK-HITCH		15' 6-15/16" (4.748m)	15' 9-1/8" (4.804m)
OVER 38" CRAWLERS			16' 8" (5.080m)
OVER 48" CRAWLERS			17' 6" (5.334m)

**3900**  
(100 Ton Machine)

6-15-81  
3-21-68  
Drwg. Date 5-6-64

SUPERSEDES DWG. 24273 OF 11-30-60 & 0-1368

OUTLINE DIMENSIONS

MAN TOWER 3900R CRAWLER CRANE SERIAL NO. 39854  
 100 TON CAPACITY 3900 DRIVER  
 74,000 LB OF COUNTERWEIGHT  
 CHART NO. 1227-2

CL 32" LEADS FT	RAYMOND HEAVY DUTY BOOM FT	ALLOWABLE WEIGHT IN POUNDS - CORE & SHELL OR FOLLOWER & PILE		DRIVER RADIUS FEET
		OF MODEL 605 DIESEL PILE HAMMER	ICE MODEL 805 DIESEL PILE HAMMER	
10 1/2	88	47,000	46,000	24
		34,600	33,600	28
		25,000	23,700	32
		15,200	14,100	36
		7,500	6,300	40
		2,300	1,900	44
11 1/2	88	41,100	41,800	24
		32,000	30,000	28
		22,500	21,200	32
		11,700	13,000	36
		6,100	6,800	40
		2,000	1,700	44
12 1/2	88	40,800	39,000	27
		28,000	28,800	32
		19,200	17,400	36
		11,000	9,200	40
		4,200	3,000	44
		1,700	1,200	47

NOTES

1. DETERMINE WEIGHT OF CORE AND SHELL, OR FOLLOWER AND PILE, PLUS DRILL AUGER, DRILL GUIDES, JET, PILE LIFTING BRACKETS, LIFTING TACKLE, ETC. ALLOWANCE HAS BEEN MADE ABOVE FOR BOOM, LEADS, HAMMER, SHORLE, AND CAPBLOCK WEIGHT.
  2. CONSULT COLUMN FOR HAMMER IN USE AND NEAREST PILE WEIGHT TO DETERMINE SAFE OPERATING RADII FROM KINGPIN TO CENTER OF PILE COLUMN.
- \* LOADS ARE CALCULATED WITH LEADS IN VERTICAL POSITION.

MANITOWOC 3900 B CRAWLER CRANE SERIAL NO. 39854 CHART NO. 1227-1  
EQUIPPED WITH HEAVY DUTY RAYMOND BOOM, 74,000 LB OF COUNTERWEIGHT

OPER RADIUS: FEET	40' BOOM LENGTH				56' BOOM LENGTH				72' BOOM LENGTH				88' BOOM LENGTH				104' BOOM LENGTH					
	BOOM ANGLE: DEG.	BOOM PT ELEV: FEET	CAPACITY: POUNDS	BOOM ANGLE: DEG.	BOOM PT ELEV: FEET	CAPACITY: POUNDS	BOOM ANGLE: DEG.	BOOM PT ELEV: FEET	CAPACITY: POUNDS	BOOM ANGLE: DEG.	BOOM PT ELEV: FEET	CAPACITY: POUNDS	BOOM ANGLE: DEG.	BOOM PT ELEV: FEET	CAPACITY: POUNDS	BOOM ANGLE: DEG.	BOOM PT ELEV: FEET	CAPACITY: POUNDS	BOOM ANGLE: DEG.	BOOM PT ELEV: FEET	CAPACITY: POUNDS	
12	78.0	45.8	200,000*																			
13	76.0	45.5	200,000*		61.7	200,000*																
14	75.0	45.3	200,000*	79.3	61.5	200,000*	81.0	77.8	200,000*													
15	73.5	45.1	200,000*	78.3																		
16	72.0	44.7	200,000*	77.2	61.3	200,000*	80.1	77.6	200,000*													
17	70.5	44.4	200,000*	76.2	61.0	182,000	79.3	77.4	178,900													
18	68.9	44.0	180,500	75.1	60.8	175,000	78.5	77.2	162,300	80.6	93.5	170,500										
19	67.3	43.6	158,000	74.1	60.5	156,400	77.7	77.0	148,000	79.9	93.3	151,600										
20	65.8	43.2	98,500	73.0	60.3	137,700	76.8	76.9	138,200	79.3	93.2	135,700										
22	62.7	42.3	88,700	70.9	59.6	119,200	75.2	76.3	116,700	78.0	92.8	115,100										
24	59.4	41.2	80,000	68.7	58.9	102,000	73.6	75.8	102,500	76.6	92.3	98,400										
26	55.5	39.7	72,200	66.5	58.0	90,300	71.9	75.1	92,600	75.3	91.8	85,000										
28	52.5	38.4	66,400	64.2	57.1	82,200	70.2	74.4	80,100	73.9	91.2	76,600										
30	48.9	36.8	60,300	62.0	56.1	73,000	68.5	73.7	70,700	72.6	90.7	66,300										
32	44.8	34.9	55,800	59.6	55.0	68,200	66.8	72.9	64,400	71.2	90.0	61,500										
34	40.6	32.7	50,600	57.2	53.7	62,400	65.1	72.0	59,000	69.8	89.3	58,800										
36	35.8	30.2	46,800	54.7	52.4	58,500	63.3	71.0	55,200	68.4	88.5	50,500										
38	30.7	27.1	43,500	52.1	50.9	52,000	61.5	70.0	50,600	67.0	87.7	44,000										
40	24.6	23.4	40,500	49.5	49.3	47,400	59.7	68.9	46,000	65.6	86.8	40,300										
45				42.3	44.4	39,600	55.0	65.7	38,000	62.0	84.4	34,800										
50				34.1	38.1	32,800	50.0	61.9	32,000	58.2	81.5	25,700										
55							44.5	57.2	27,300	54.3	78.2	23,300										
60							38.5	51.5	23,500	50.2	74.3	17,800										
65							31.5	44.3	20,400	45.8	69.8	15,500										
70							22.8	34.6	17,800	41.0	64.4	14,200										
75										35.8	58.2	13,000										
80										29.8	50.4	12,000										
85										22.4	40.2	9,000										
90																						
95																						
100																						

NOTES:

1. CAPACITIES LISTED EXCEPT WHERE NOTED BY "\*", ARE BASED ON 75% OF STATIC LOAD WITH BOOM ACROSS CRAWLERS AND MACHINE ON FIRM, LEVEL GROUND. CAPACITIES LISTED BY "\*" ARE LIMITED BY STRUCTURAL COMPETENCE.
2. GANTRY MUST BE UP FOR ALL LIFTING OPERATIONS.
3. MAXIMUM BOOM LENGTH 104', MINIMUM 40'.
4. WEIGHT OF LOAD BLOCK, WEIGHT BALL, SLINGS, ETC. IS CONSIDERED PART OF THE LOAD.
5. MACHINE IS EQUIPPED WITH 20'-4" CRAWLERS, 48" TREADS.
6. TOTAL COUNTERWEIGHT OF 74,000 LB.

# CAPACITY 100-TON 3900 DRIVER

LENGTH IN FEET		ALLOWABLE WEIGHT, IN POUNDS CORE & SHELL OR FOLLOWER & PILE					DRIVER RADIUS FEET	LENGTH IN FEET		ALLOWABLE WEIGHT, IN POUNDS CORE & SHELL OR FOLLOWER & PILE					DRIVER RADIUS FEET								
		1	65C 65-CH	80C 80-CH	3/0	150C				1	65C 65-CH	80C 80-CH	3/0	150C									
LEADS	BOOM											LEADS	BOOM										
72	40	75700	72000	68200	64500	52700	24	112	72	55300	51600	47700	43900	32100	24								
		55100	51400	47600	43900	32100	28			43300	39600	35700	31900	20100	28								
		41300	37600	33800	30100	18300	32			33900	30200	26300	22500	10700	32								
		31300	27600	23800	20100	8800	36			25900	22200	18400	14700	2900	36								
		23800	20100	16300	12600	800	40			18300	14600	10800	7100	-	40								
		17700	14000	10200	6500	-	44			12200	8500	4700	1000	-	44								
80	56	70600	66800	62900	59100	47300	24	120	72	51800	48100	44200	40400	28600	24								
		53700	50000	46200	42500	30700	28			40600	36900	33000	29200	17400	28								
		39900	36200	32400	28700	16900	32			31900	28200	24300	20400	8600	32								
		29700	26000	22200	18500	6700	36			24700	21000	17100	13300	1500	36								
		22100	18400	14600	10900	-	40			17300	13600	9800	6100	-	40								
		16100	12400	8600	4900	-	44			11200	7500	3700	-	-	44								
88	56	66800	63000	59100	55300	43500	24	128	72	48800	45000	41200	37400	25600	24								
		52600	48800	44900	41100	29300	28			38200	34400	30600	26800	15000	28								
		38900	35200	31400	27700	15900	32			29700	25900	22100	18300	6500	32								
		28800	25100	21300	17600	5800	36			22800	19000	15200	11400	-	36								
		21200	17500	13700	10000	-	40			16400	12700	8900	5200	-	40								
		15100	11400	7600	3900	-	44			10300	6600	2800	-	-	44								
96	56	62800	59100	55200	51400	39600	24	136	88	44800	41000	37200	33400	21600	24								
		49700	46000	42100	38300	26500	28			34800	31000	27200	23400	11600	28								
		37900	34200	30400	26700	14900	32			26600	22800	19000	15200	3400	32								
		27700	24000	20200	16500	4700	36			20100	16300	12500	8700	-	36								
		20200	16500	12700	9000	-	40			14500	10700	6900	3100	-	40								
		14200	10500	6700	3000	-	44			9000	5300	1500	-	-	44								
104	56	59500	55800	51900	48100	36300	24	144	88	42400	38700	34800	31000	19200	24								
		47000	43300	39400	35600	23800	28			32400	28700	24800	21000	9200	28								
		37200	33500	29600	25800	14000	32			24600	20900	17000	13200	1400	32								
		27100	23400	19600	15900	4100	36			18400	14600	10800	7000	-	36								
		19500	15800	12000	8300	-	40			13000	9200	5400	1600	-	40								
		13400	9700	5900	2200	-	44			8000	4300	500	-	-	44								

**NOTES**

1. Determine weight of core and shell (or follower and pile) plus drill, auger, drill guides, jet, pile lifting brackets, etc. Allowance has already been made for boom, leaders, spotter, hammer, extensions and capblocks.

2. Consult column for hammer to be used and select weight nearest to that figured above. Read to right to determine safe operating radius from kingpin to center of leader columns.



# DRAGLINE CAPACITIES \_\_\_\_\_ 3900B, 3900 VICON

**BOOM NO. 8 WITH OPEN THROAT TOP  
HINGED FAIRLEAD  
58,500 LB. COUNTERWEIGHT**

**LIFTING CAPACITIES:** 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. Capacities based on structural competence are denoted by shaded areas.

Capacities are shown in pounds. Weight of bucket is considered part of the load. Deduct 500 lb. from capacities based on tipping (marked with an asterisk) if lower boom point sheaves are not removed. Where no capacity is shown, operation is not intended or approved.

**OPERATING CONDITIONS:** Machine to operate in a level position on a firm surface with gantry in working position and be rigged in accordance with and under conditions referred to in rigging drawing No. 42925, No. 43258, No. 48029, No. 48237 or No. 49990, wire rope specification chart No. 6663-A

Crane operator judgment must be used to allow for adverse operating conditions and physical machine depreciation.

**OPERATING RADIUS:** 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 centerline and the upper boom point shaft centerline.

**MACHINE EQUIPMENT:** Machine equipped with 20'4" crawlers, 38" or 48" treads, 15' retractable gantry, 10 or 12 part boom hoist reeving, two 1½" boom pendants or 1¾" boom pendants, 1st cwt. = 32,000 lbs., 2nd cwt. = 26,500 lbs.

**CAUTION: FAIRLEAD EXTENSION LIMITS ALL LIFT CAPACITIES AT SHORTER RADII TO 20,000 LBS.**

Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Angle: Deg.	Capacity:	Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Angle: Deg.	Capacity:
<b>60</b>	45	53.3	20,000	<b>90</b>	60	55.5	20,000
	50	47.3	20,000		65	51.7	20,000
	55	40.7	20,000		70	47.6	20,000
	60	33.1	20,000		75	43.3	18,400 *
	65	23.4	20,000		80	38.5	16,800 *
<b>70</b>	50	54.2	20,000	85	33.2	15,400 *	
	55	49.2	20,000	90	27.1	14,200 *	
	60	43.8	20,000	<b>100</b>	65	56.0	20,000
	65	37.7	20,000		70	52.5	19,800 *
70	30.7	20,000	75		48.9	17,900 *	
<b>80</b>	55	55.0	20,000		80	45.1	16,400 *
	60	50.6	20,000		85	41.0	15,000 *
	65	45.9	20,000	90	36.5	13,700 *	
	70	40.9	20,000	95	31.5	12,700 *	
	75	35.3	18,600 *	100	25.7	11,700 *	
	80	28.7	17,000 *				





# DRUM AND LAGGING CHART \_\_\_\_\_ 3900A

## 3900B-3900 VICON

### SPLIT DRUM SHAFT-3900A

APPLICATION	DRUM	PART NUMBER	DIA.	WIDTH	TYPE OF DRUM OR LAGGING	WIRE ROPE SIZE
<b>LIFTCRANE</b>						
Hoist	Right	31910	17-1/2"	14-3/8"*	Bare Drum	1"
Whip	Left	31082	21"	14-3/8"	Plain	1"
Auxiliary	Rear	48211	17"	34-15/16"**	Plain	7/8"
Whip (OPTIONAL)	Left	31668	27"	14-3/8"	Plain	1"
<b>CLAMSHELL</b>						
Closing	Right	31085	25"	14-3/8"	Grooved	1-1/8"
Holding	Left	31878	27"	14-3/8"	Grooved	1"
<b>DRAGLINE</b>						
Drag	Right	31083	22"	14-3/8"	Grooved	1-1/8"
Hoist	Left	31086	27"	14-3/8"	Grooved	7/8"

\* Drum Width - 10-1/4" When Equipped With Power Lowering

\*\* Drum Width - 32-9/16" When Equipped With Ratchet Ring

### SPLIT DRUM SHAFT - EQUAL WIDTH DRUMS - 3900B-3900 VICON

APPLICATION	DRUM	PART NUMBER	DIA.	WIDTH	TYPE OF DRUM OR LAGGING	WIRE ROPE SIZE
<b>LIFTCRANE</b>						
Hoist	Right	32283	17-1/2"	17-3/8"	Bare Drum	1"
Whip	Left	31375	27"	17-3/8"	Grooved	1"
Auxiliary	Rear	48211	17"	34-15/16" *	Plain	1"
<b>CLAMSHELL NON-VICON</b>						
Closing	Right	31375	27"	17-3/8"	Grooved	1"
Holding	Left	31375	27"	17-3/8"	Grooved	1"
<b>CLAMSHELL VICON</b>						
Closing	Right	31356	27"	17-3/8"	Grooved	1-1/8"
Holding	Left	31356	27"	17-3/8"	Grooved	1-1/8"
<b>DRAGLINE REVOLVING FAIRLEAD</b>						
Drag	Right	31355	24"	17-3/8"	Grooved	1-1/4"
Hoist	Left	31375	27"	17-3/8"	Grooved	1"
<b>MAGNET</b>						
Drag (OPTIONAL)	Right	31355	24"	17-3/8"	Grooved	1-1/4"
	Right	31374	24"	17-3/8"	Grooved	1-1/8"
Hoist 1 PART LINE	Left	180078	27"	17-3/8"	Grooved	1-1/4"
2 PART LINE	Left	31872	30"	17-3/8"	Grooved	1"
1 or 2 PART LINE	Left	33758	30"	17-3/8"	Grooved	1-1/4"

\* Drum Width - 32-9/16" When Equipped With Ratchet Ring



# DRUM AND LAGGING CHART — 3900B-3900 VICON

## SPLIT DRUM SHAFT – UNEQUAL WIDTH DRUMS

APPLICATION	DRUM	PART NUMBER	DIA.	WIDTH	TYPE OF DRUM OR LAGGING	WIRE ROPE SIZE
<b>LIFTCRANE</b>						
Hoist	Right	32262	19"	20-3/8"	Bare Drum	1"
Whip	Left	31082	21"	14-3/8"	Plain	1"
Auxiliary	Rear Aux.	48211	17"	34-15/16" *	Plain	1"
<b>CLAMSHELL NON-VICON</b>						
Closing	Right	32655	26"	20-3/8"	Grooved	1"
Holding	Left	31878	27"	14-3/8"	Grooved	1"
<b>CLAMSHELL VICON</b>						
Closing	Right	33133	27"	20-3/8"	Grooved	1-1/8"
Holding	Left	33113	27"	14-3/8"	Grooved	1-1/8"
<b>DRAGLINE REVOLVING</b>						
<b>FAIRLEAD</b>						
Drag	Right	32288	24"	20-3/8"	Grooved	1-1/4"
Hoist	Left	31878	27"	14-3/8"	Grooved	1"
<b>DRAGLINE HINGED</b>						
<b>FAIRLEAD</b>						
Drag	Right	32784	24"	20-3/8"	Grooved	1-1/4"
Hoist	Left	31878	27"	14-3/8"	Grooved	1"

\* Drum Width – 32-9/16" When Equipped With Ratchet Ring

## SPLIT DRUM SHAFT EQUIPPED WITH POWER LOWERING

APPLICATION	DRUM	PART NUMBER	DIA.	WIDTH	TYPE OF DRUM OR LAGGING	WIRE ROPE SIZE
<b>LIFTCRANE</b>						
Hoist	Right	32262	19"	16.8"	Bare Drum	1"
Whip	Left	31082	21"	14-3/8"	Plain	1"
Auxiliary	Rear Aux.	48211	17"	34-15/16" *	Plain	1"
<b>CLAMSHELL NON-VICON</b>						
Closing	Right	32637	26"	16.8"	Grooved	1"
Holding	Left	31878	27"	14-3/8"	Grooved	1"
<b>DRAGLINE REVOLVING</b>						
<b>FAIRLEAD</b>						
Drag	Right	32636	24"	16.8"	Grooved	1-1/4"
Hoist	Left	31878	27"	14-3/8"	Grooved	1"

\* Drum Width – 32-9/16" When Equipped With Ratchet Ring