

MANITOWOC 4100W SERIES 2
 LIFT CRANE CAPACITIES - 63'7" X-TENDER ATTACHMENT
 WITH PIVOTING POWERED CRAWLERS - BLOCKED - NO SWIVEL
 BOOM NO. 67
 146,400 LB. CRANE CWT., 60,000 LB. CARBODY CWT.

THIS CAPACITY CHART IS FOR REFERENCE
 USE ONLY AND MUST NOT BE USED FOR A
 SPECIFIC SERIAL NUMBER CRANE.
 SERIAL NUMBERED CAPACITIES REQUIREMENTS
 CHARTS FOR A SPECIFIC CRANE CAN BE
 PURCHASED FROM AN AUTHORIZED
 MANITOWOC DISTRIBUTOR.

CAPACITIES FOR VARIOUS BOOM LENGTHS AND OPERATING RADII ARE FOR FREELY SUSPENDED LOADS AND DO NOT EXCEED 85% OF A STATIC TIPPING LOAD. CAPACITIES BASED ON STRUCTURAL COMPETENCE ARE DENOTED BY AN ASTERISK (*).

WEIGHT OF ALL LOAD BLOCKS, HOOKS, WEIGHT BALL, SLINGS, HOIST LINES, ETC., BENEATH BOOM 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 SURFACE WITH X-TENDER BEAM BLOCKED AND JACKS SET. DRIVE CHAINS MUST BE TO THE REAR OF THE MACHINE. REFER TO RIGGING NO. 164005 AND LOAD LINE SPECIFICATION CHART NO. 7396-A. CRANE OPERATOR JUDGMENT MUST BE USED TO ALLOW FOR DYNAMIC LOAD EFFECTS OF HOISTING OR LOWERING, 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 63'7" X-TENDER ATTACHMENT, 26'6" EXTENDIBLE CRAWLERS, 48" TREADS, 17' RETRACTABLE GANTRY, 160' MAST, 10 PART BOOM HOIST REEVING, FOUR 1-3/8" BOOM PENDANTS, 1ST CWT. = 41,900 LBS., 2ND CWT. = 41,500 LBS., 3RD CWT. = 39,000 LBS., TWO 12,000 LB. SIDE CWTs. AND TWO 30,000 LB. CARBODY CWTs.

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS	BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS	BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS	
150	90	80.4	153.5	845,000*	200	95	81.4	203.4	757,700	250	220	46.2	167.6	109,800*	
	95	78.5	152.5	730,200*		100	79.9	202.5	648,600		225	44.5	162.6	103,500*	
	100	76.5	151.4	621,500*		105	78.5	201.5	565,800		230	42.7	157.3	97,500*	
	105	74.5	150.0	538,800*		110	77.0	200.4	500,800		235	40.7	151.6	91,800*	
	110	72.5	148.5	473,700*		115	75.5	199.1	448,500		240	38.7	145.5	86,200*	
	115	70.5	146.8	421,000*		120	74.0	197.7	405,500		245	36.6	139.0	80,800*	
	120	68.4	144.8	377,600*		125	72.5	196.2	369,500		250	34.4	131.9	75,500*	
	125	66.4	142.7	341,000*		130	71.0	194.5	338,900		255	32.1	124.1	70,400*	
	130	64.3	140.4	309,700*		135	69.5	192.7	312,500		260	29.6	115.6	65,300*	
	135	62.1	137.8	282,700*		140	67.9	190.7	289,700		265	26.8	106.1	60,100*	
	140	59.9	134.9	259,000*		145	66.4	188.5	269,600		270	23.8	95.4	54,900*	
	145	57.7	131.8	238,100*		150	64.8	186.5	251,900		275	20.4	82.9	49,500*	
	150	55.4	128.5	219,400*		155	63.2	183.7	236,000		280	16.2	67.4	43,600*	
	155	53.0	124.8	202,600*		160	61.6	181.1	220,500*		250	100	81.9	253.2	633,300*
	160	50.5	120.8	187,300*		165	59.9	178.2	206,000*			105	80.8	252.4	558,900*
	165	48.0	116.4	173,300*		170	58.3	175.2	192,800*			110	79.6	251.5	494,500*
	170	45.4	111.6	160,400*		175	56.6	172.0	180,600*			115	78.5	250.5	442,100
	175	42.6	106.3	148,400*		180	55.0	168.8	169,300*			120	77.3	249.4	399,100
	180	39.6	100.5	137,200*		185	53.3	164.8	158,900*			125	76.1	248.2	363,000
	185	36.5	93.9	126,500*		190	51.2	160.8	149,200*			130	74.9	246.9	332,400
190	33.1	86.6	116,300*	195	49.3	156.6	140,100*	135	73.7	245.4		306,100			
195	29.4	78.2	106,300*	200	47.4	152.1	131,600*	140	72.5	243.9		283,200			
200	25.1	68.3	96,300*	205	45.4	147.3	123,600*	145	71.3	242.2		263,100			
205	20.0	55.9	85,300*	210	43.3	142.1	115,900*	150	70.1	240.4	245,400				
175	90	81.8	178.9	845,000*	215	41.2	136.5	108,600*	155	68.9	238.5	229,600			
	95	80.1	178.0	761,000	220	39.0	130.5	101,700*	160	67.6	236.5	215,400			
	100	78.5	177.0	651,900	225	36.6	124.0	95,000*	165	66.4	234.4	202,600			
	105	76.8	175.9	569,100	230	34.1	116.8	88,500*	170	65.1	232.1	191,100			
	110	75.1	174.6	504,200	235	31.4	108.9	82,100*	175	63.9	229.7	180,500			
	115	73.4	173.1	451,900	240	28.5	100.1	75,800*	180	62.6	227.1	170,900			
	120	71.7	171.5	408,900	245	25.3	90.1	69,400*	185	61.3	224.4	162,100			
	125	69.9	169.7	371,000*	250	21.6	78.3	62,900*	190	59.9	221.5	153,900			
	130	68.2	167.8	337,800*	255	17.3	63.8	55,900*	195	58.6	218.5	146,400			
	135	66.4	165.6	309,100*	250	100	81.0	227.9	645,400	200	57.3	215.4	139,400		
	140	64.6	163.3	284,000*		105	79.8	227.0	562,600	205	55.9	212.0	132,600*		
	145	62.7	160.8	261,800*		110	78.5	226.0	497,700	210	54.5	208.5	125,600*		
	150	60.9	158.0	242,200*		115	77.2	224.9	445,400	215	53.0	204.8	119,100*		
	155	59.0	155.1	224,500*		120	75.8	223.7	402,300	220	51.6	200.9	112,900*		
	160	57.0	151.9	208,600*		125	74.5	222.3	366,300	225	50.1	196.8	107,000*		
165	55.0	148.5	194,100*	130		73.2	220.8	335,700	230	48.6	192.4	101,300*			
170	53.0	144.8	180,800*	135		71.9	219.2	309,400	235	47.0	187.8	95,900*			
175	50.9	140.8	168,600*	140		70.5	217.5	286,500	240	45.4	183.0	90,800*			
180	48.8	136.5	157,300*	145		69.1	215.6	266,400	245	43.8	177.9	85,800*			
185	46.5	131.9	146,800*	150		67.8	213.6	248,700	250	42.1	172.4	81,000*			
190	44.2	126.9	136,900*	155		66.4	211.5	232,900	255	40.4	166.7	76,400*			
195	41.8	121.4	127,600*	160		65.0	209.2	218,700	260	38.8	160.5	71,900*			
200	39.2	115.5	118,800*	165		63.6	206.7	205,900	265	36.7	154.0	67,500*			
205	36.3	108.9	110,400*	170		62.1	204.1	194,300	270	34.7	146.9	63,200*			
210	33.7	101.7	102,200*	175	60.7	201.3	183,800	275	32.6	139.3	59,000*				
215	30.6	93.6	94,300*	180	59.2	198.4	174,200	280	30.4	131.0	54,800*				
220	27.1	84.3	86,400*	185	57.7	195.3	164,700*	285	28.0	121.9	50,600*				
225	23.2	73.5	78,400*	190	56.2	192.0	155,300*	290	25.4	111.9	46,400*				
230	18.5	60.0	69,900*	195	54.6	188.5	146,600*	295	22.6	100.4	42,100*				
				200	53.0	184.8	138,300*	300	19.3	87.2	37,500*				
				205	51.4	180.9	130,600*	305	15.4	70.8	32,500*				
				210	49.8	176.7	123,300*								
				215	48.1	172.3	116,400*								

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS
105	81.6	277.7	324.000*	
110	80.6	276.9	470.400*	
115	79.5	276.0	423.900*	
120	78.5	275.0	385.300*	
125	77.4	273.9	352.800*	
130	76.3	272.7	324.800*	
135	75.3	271.4	300.600*	
140	74.2	270.0	279.300*	
145	73.1	268.8	259.900*	
150	72.0	266.9	242.100*	
155	70.9	265.2	226.300*	
160	69.8	263.4	212.200*	
165	68.7	261.5	199.400*	
170	67.5	259.9	187.800*	
175	66.4	257.3	177.300*	
180	65.3	255.0	167.600*	
185	64.1	252.9	158.800*	
190	62.9	250.9	150.700*	
195	61.7	247.4	143.100*	
200	60.6	244.6	136.200*	
205	59.3	241.7	129.700*	
210	58.1	238.8	123.700*	
215	56.9	235.9	118.000*	
220	55.6	232.9	112.400*	
225	54.4	229.8	106.800*	
230	53.1	226.4	101.600*	
235	51.7	222.9	96.500*	
240	50.4	219.2	91.700*	
245	49.0	215.2	87.000*	
250	47.6	210.8	82.500*	
255	46.2	206.3	78.300*	
260	44.7	201.5	74.200*	
265	43.2	196.3	70.200*	
270	41.7	190.7	66.300*	
275	40.1	184.7	62.500*	
280	38.4	178.5	58.800*	
285	36.7	171.9	55.200*	
290	34.9	164.9	51.700*	
295	33.0	157.4	48.200*	
300	31.0	149.3	44.700*	
305	28.9	137.6	41.300*	
310	26.7	127.9	37.800*	
315	24.5	117.7	34.200*	
320	22.1	105.2	30.600*	
325	18.4	91.2	26.700*	

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BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS
110	81.4	302.2	445.000*	
115	80.4	301.4	401.300*	
120	79.4	300.5	365.100*	
125	78.5	299.5	334.500*	
130	77.5	298.4	308.300*	
135	76.5	297.2	285.500*	
140	75.5	296.0	265.600*	
145	74.4	294.6	247.900*	
150	73.3	293.1	232.100*	
155	72.2	291.6	217.900*	
160	71.1	289.9	205.100*	
165	70.0	288.2	193.300*	
170	68.9	286.4	182.600*	
175	67.8	284.4	172.800*	
180	66.7	282.2	163.600*	
185	65.5	280.0	155.200*	
190	64.4	277.7	147.300*	
195	63.3	275.3	139.800*	
200	62.2	272.7	132.800*	
205	61.1	270.4	126.400*	
210	60.0	267.8	120.300*	
215	58.8	264.7	114.600*	
220	57.7	261.9	109.200*	
225	56.5	258.7	104.000*	
230	55.4	255.5	99.000*	
235	54.2	252.2	94.300*	
240	53.1	248.8	89.800*	
245	51.9	244.9	85.500*	
250	50.6	240.8	81.300*	
255	49.4	236.9	77.300*	
260	48.1	232.2	73.500*	
265	46.8	227.8	69.800*	
270	45.5	223.6	66.200*	
275	44.1	218.7	62.700*	
280	42.7	213.6	59.400*	
285	41.3	208.3	56.100*	
290	39.8	202.7	52.900*	
295	38.3	196.8	49.800*	
300	36.7	190.5	46.700*	
305	35.2	184.0	43.700*	
310	33.6	177.0	40.800*	
315	32.0	169.5	37.900*	
320	30.3	161.6	35.000*	
325	28.7	153.0	32.100*	
330	27.0	143.8	29.200*	
335	25.5	135.2	26.400*	
340	23.8	126.5	23.700*	
345	22.0	117.8	21.000*	
350	17.6	95.1	16.700*	
115	81.1	326.8	379.900*	
120	80.3	325.8	345.600*	
125	79.4	325.0	316.600*	
130	78.5	324.0	291.800*	
135	77.6	322.9	270.300*	
140	76.7	321.7	251.400*	
145	75.7	320.5	234.700*	
150	74.8	319.2	219.800*	
155	73.9	317.7	206.500*	
160	73.0	316.2	194.300*	
165	72.1	314.6	183.200*	
170	71.1	312.9	173.000*	
175	70.0	311.1	163.900*	
180	69.0	309.3	155.400*	
185	68.0	307.3	147.400*	
190	67.4	305.3	140.000*	
195	66.4	303.1	133.100*	
200	65.4	300.8	126.600*	
205	64.5	298.5	120.500*	
210	63.5	296.0	114.800*	
215	62.5	293.4	109.400*	
220	61.5	290.7	104.200*	
225	60.5	287.9	99.300*	
230	59.4	285.0	94.700*	
235	58.4	282.0	90.300*	
240	57.4	278.8	86.100*	
245	56.3	275.5	82.000*	
250	55.3	272.1	78.000*	
255	54.2	268.5	74.100*	
260	53.1	264.8	70.300*	
265	52.0	260.9	67.400*	
270	50.8	256.9	64.400*	
275	49.7	252.7	61.500*	
280	48.5	248.3	58.700*	
285	47.3	243.8	55.800*	
290	46.1	239.0	51.800*	

300

325

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS
295	44.8	323.4	49.000*	
300	43.6	322.9	46.200*	
305	42.4	323.4	43.500*	
310	40.0	321.7	40.800*	
315	39.2	321.1	38.200*	
320	38.0	320.5	35.600*	
325	36.7	319.0	33.100*	
330	35.5	317.8	30.600*	
335	34.3	316.6	28.200*	
340	32.9	315.4	25.700*	
345	30.3	314.2	23.300*	
350	28.0	312.9	20.800*	
355	26.0	311.7	18.300*	
360	24.0	310.5	15.800*	
115	81.8	352.1	359.500*	
120	81.0	351.3	326.700*	
125	80.0	350.4	299.100*	
130	79.0	349.5	275.400*	
135	78.0	348.6	255.000*	
140	77.6	347.4	237.100*	
145	76.8	346.3	221.200*	
150	75.9	345.0	207.100*	
155	75.1	343.7	194.400*	
160	74.2	342.3	183.000*	
165	73.4	340.8	172.500*	
170	72.5	339.3	163.000*	
175	71.7	337.6	154.200*	
180	70.7	335.9	146.100*	
185	69.9	334.1	138.600*	
190	69.1	332.2	131.700*	
195	68.2	330.2	125.200*	
200	67.4	328.0	119.100*	
205	66.6	325.6	113.300*	
210	65.8	323.3	107.900*	
215	64.6	321.4	102.800*	
220	63.7	319.0	98.000*	
225	62.8	316.4	93.400*	
230	62.0	313.6	89.100*	
235	60.9	311.0	84.900*	
240	60.0	308.8	81.000*	
245	59.0	305.5	77.200*	
250	58.0	302.0	73.600*	
255	57.0	298.8	70.100*	
260	56.0	295.5	66.700*	
265	55.1	292.1	63.500*	
270	54.1	288.8	60.400*	
275	53.1	284.8	57.400*	
280	52.0	280.0	54.500*	
285	51.0	275.9	51.700*	
290	49.9	272.8	49.000*	
295	48.8	268.8	46.400*	
300	47.7	263.3	43.800*	
305	46.6	259.9	41.300*	
310	45.5	254.4	38.900*	
315	44.3	249.4	36.500*	
320	43.1	244.4	34.200*	
325	41.9	238.8	31.900*	
330	40.7	233.3	29.600*	
335	39.4	227.8	27.400*	
340	38.1	222.0	25.300*	
345	36.7	214.0	23.100*	
350	35.3	207.0	21.000*	
355	33.9	199.7	18.900*	
360	32.4	192.0	16.800*	

320

350

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BOOM NO. 67
146,400 LB. CRANE CWT., 60,000 LB. CARBODY CWT.

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 ALL LOAD BLOCKS, HOOKS, WEIGHT BALL, SLINGS, HOIST LINES, ETC., BENEATH BOOM 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.

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BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS	BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS	BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS	
150	90	80.4	153.5	511,100*	200	95	81.4	203.4	472,200*	250	225	44.5	162.6	102,900	
	95	78.5	152.5	486,500*		100	79.9	202.5	450,000*		230	42.7	157.3	97,500*	
	100	76.5	151.4	463,900*		105	78.5	201.5	429,600*		235	40.7	151.6	91,800*	
	105	74.5	150.0	443,300*		110	77.0	200.4	410,800*		240	38.7	145.5	86,200*	
	110	72.5	148.5	424,300*		115	75.5	199.1	393,400*		245	36.6	139.0	80,800*	
	115	70.5	146.8	406,700*		120	74.0	197.7	366,500		250	34.4	131.9	75,500*	
	120	68.4	144.8	372,400		125	72.5	196.2	333,700		255	32.1	124.1	70,400*	
	125	66.4	142.7	339,600		130	71.0	194.5	305,800		260	29.6	115.6	65,300*	
	130	64.3	140.4	309,700*		135	69.5	192.7	281,900		265	26.8	106.1	60,100*	
	135	62.1	137.8	282,700*		140	67.9	190.7	261,100		270	23.8	95.4	54,900*	
	140	59.9	134.9	259,000*		145	66.4	188.5	242,900		275	20.4	82.9	49,500*	
	145	57.7	131.8	238,100*		150	64.8	186.2	226,800		280	16.2	67.4	43,600*	
	150	55.4	128.5	219,400*		155	63.2	183.7	212,500		250	100	81.9	253.2	437,200*
	155	53.0	124.8	202,600*		160	61.6	181.1	199,700			105	80.8	252.4	416,900*
	160	50.5	120.8	187,300*		165	59.9	178.2	188,200			110	79.6	251.5	398,300*
	165	48.0	116.4	173,300*		170	58.3	175.2	177,700			115	78.5	250.5	381,100*
	170	45.4	111.6	160,400*		175	56.6	172.0	168,200			120	77.3	249.4	360,900
	175	42.6	106.3	148,400*		180	54.8	168.5	159,600			125	76.1	248.2	328,100
	180	39.6	100.5	137,200*		185	53.0	164.8	151,600			130	74.9	246.9	300,200
	185	36.5	93.9	126,500*		190	51.2	160.8	144,300			135	73.7	245.4	276,300
190	33.1	86.6	116,300*	195	49.3	156.6	137,500	140	72.5	243.9		259,500			
195	29.4	78.2	106,300*	200	47.4	152.1	131,200	145	71.3	242.2		237,300			
200	25.1	68.2	96,300*	205	45.4	147.3	123,600*	150	70.1	240.4		221,200			
205	20.0	55.9	85,800*	210	43.3	142.1	115,900*	155	68.9	238.5		206,900			
175	90	81.8	178.9	504,000*	215	41.2	136.5	108,600*	160	67.6		236.5	194,100		
	95	80.1	178.0	479,500*	220	39.0	130.5	101,700*	165	66.4		234.4	182,500		
	100	78.5	177.0	457,100*	225	36.6	124.0	95,000*	170	65.1		232.1	172,100		
	105	76.8	175.9	436,600*	230	34.1	116.8	88,500*	175	63.9		229.7	162,600		
	110	75.1	174.6	417,600*	235	31.4	108.9	82,100*	180	62.6		227.1	153,900		
	115	73.4	173.1	400,200*	240	28.5	100.1	75,800*	185	61.3		224.4	145,900		
	120	71.7	171.5	369,500	245	25.3	90.3	69,400*	190	59.9		221.5	138,600		
	125	69.9	169.7	336,600	250	21.6	78.3	62,900*	195	58.6		218.5	131,800		
	130	68.2	167.8	308,800	255	17.3	63.8	55,900*	200	57.3	215.4	125,500			
	135	66.4	165.6	284,800	100	81.0	227.9	444,000*	205	55.9	212.0	119,700			
	140	64.6	163.3	264,100	105	79.8	227.0	423,700*	210	54.5	208.5	114,300			
	145	62.7	160.8	245,900	110	78.5	226.0	404,900*	215	53.0	204.8	109,200			
	150	60.9	158.0	229,800	115	77.2	224.9	387,600*	220	51.6	200.9	104,400			
	155	59.0	155.1	215,500	120	75.8	223.7	363,800*	225	50.1	196.8	100,000			
	160	57.0	151.9	202,700	125	74.5	222.3	330,900	230	48.6	192.4	95,800			
	165	55.0	148.5	191,200	130	73.2	220.8	303,000	235	47.0	187.8	91,900			
	170	53.0	144.8	180,700	135	71.9	219.2	279,100	240	45.4	183.0	88,200			
	175	50.9	140.8	168,600*	140	70.5	217.5	258,300	245	43.8	177.9	84,600			
	180	48.8	136.5	157,300*	145	69.1	215.6	240,100	250	42.1	172.4	81,000*			
	185	46.5	131.9	146,800*	150	67.8	213.6	224,100	255	40.4	166.7	76,400*			
190	44.2	126.9	136,900*	155	66.4	211.5	209,700	260	38.5	160.5	71,900*				
195	41.8	121.4	127,600*	160	65.0	209.2	196,900	265	36.7	154.0	67,500*				
200	39.2	115.5	118,800*	165	63.6	206.7	185,400	270	34.7	146.9	63,200*				
205	36.6	108.9	110,400*	170	62.1	204.1	174,900	275	32.6	139.3	59,000*				
210	33.7	101.7	102,200*	175	60.7	201.3	165,400	280	30.4	131.0	54,800*				
215	30.6	93.6	94,300*	180	59.2	198.4	156,800	285	28.0	121.9	50,600*				
220	27.1	84.3	86,400*	185	57.7	195.3	148,800	290	25.4	111.9	46,400*				
225	23.2	73.5	78,400*	190	56.2	192.0	141,400	295	22.6	100.4	42,100*				
230	18.5	60.0	69,900*	195	54.6	188.5	134,700	300	19.3	87.2	37,500*				
				200	53.0	184.8	128,400	305	15.4	70.8	32,500*				
				205	51.4	180.9	122,600								
				210	49.8	176.7	117,100								
				215	48.1	172.3	112,100								
				220	46.3	167.6	107,300								

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS
105	81.6	277.7	410.700*	
110	80.6	276.9	392.100*	
115	79.5	276.0	375.000*	
120	78.5	275.0	358.100	
125	77.4	273.9	325.300	
130	76.3	272.7	297.400	
135	75.2	271.4	273.400	
140	74.2	270.0	252.600	
145	73.1	268.5	234.400	
150	72.0	266.9	218.300	
155	70.9	265.2	204.000	
160	69.8	263.4	191.200	
165	68.7	261.5	179.700	
170	67.5	259.4	169.200	
175	66.4	257.3	159.700	
180	65.3	255.0	151.000	
185	64.1	252.6	143.000	
190	62.9	250.1	135.700	
195	61.7	247.4	128.900	
200	60.6	244.6	122.700	
205	59.3	241.7	116.800	
210	58.1	238.6	111.100	
215	56.9	235.4	106.300	
220	55.6	232.0	101.600	
225	54.4	228.5	97.100	
230	53.1	224.8	92.900	
235	51.7	220.9	89.000	
240	50.4	216.8	85.300	
245	49.0	212.5	81.800	
250	47.6	208.0	78.500	
255	46.2	203.3	75.300	
260	44.7	198.3	72.200	
265	43.2	193.1	69.300	
270	41.7	187.6	66.300*	
275	40.1	181.7	62.500*	
280	38.4	175.5	58.800*	
285	36.7	169.0	55.200*	
290	34.9	161.9	51.700*	
295	33.0	154.4	48.200*	
300	31.0	146.3	44.700*	
305	28.9	137.6	41.300*	
310	26.7	127.9	37.800*	
315	24.2	117.3	34.200*	
320	21.5	105.2	30.600*	
325	18.4	91.2	26.700*	

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BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS
110	81.4	302.2	385.700*	
115	80.4	301.4	368.600*	
120	79.4	300.5	352.900*	
125	78.5	299.5	322.400	
130	77.5	298.4	294.500	
135	76.5	297.2	270.500	
140	75.5	296.0	249.700	
145	74.5	294.6	231.500	
150	73.5	293.1	215.400	
155	72.5	291.6	201.100	
160	71.5	289.9	188.300	
165	70.5	288.2	176.800	
170	69.5	286.3	166.300	
175	68.5	284.4	156.800	
180	67.4	282.3	148.100	
185	66.4	280.2	140.100	
190	65.3	277.9	132.800	
195	64.3	275.5	126.000	
200	63.2	273.0	119.700	
205	62.1	270.4	113.900	
210	61.0	267.7	108.500	
215	60.0	264.8	103.400	
220	58.8	261.9	98.600	
225	57.7	258.7	94.200	
230	56.6	255.5	90.000	
235	55.4	252.1	86.100	
240	54.3	248.5	82.300	
245	53.1	244.8	78.800	
250	51.9	240.9	75.500	
255	50.6	236.9	72.400	
260	49.4	232.6	69.400	
265	48.1	228.2	66.500	
270	46.8	223.6	63.800	
275	45.5	218.7	61.300	
280	44.1	213.6	58.800	
285	42.7	208.3	56.100*	
290	41.3	202.7	52.900*	
295	39.8	196.8	49.800*	
300	38.3	190.5	46.700*	
305	36.7	184.0	43.700*	
310	35.0	177.0	40.800*	
315	33.3	169.5	37.900*	
320	31.5	161.6	35.000*	
325	29.7	153.0	32.100*	
330	27.6	143.8	29.200*	
335	25.5	134.7	26.200*	
340	23.1	125.5	23.200*	
345	20.5	109.8	20.100*	
350	17.6	95.1	16.700*	
115	81.1	326.8	362.800*	
120	80.3	325.9	345.600*	
125	79.4	325.0	316.600*	
130	78.5	324.0	291.600	
135	77.6	322.9	267.700	
140	76.7	321.7	246.900	
145	75.7	320.5	228.700	
150	74.8	319.2	212.600	
155	73.8	317.7	198.200	
160	73.0	316.2	185.400	
165	72.1	314.4	173.900	
170	71.1	312.2	163.400	
175	70.2	311.1	153.900	
180	69.3	309.9	145.200	
185	68.3	307.4	137.200	
190	67.4	305.6	129.900	
195	66.4	303.3	123.100	
200	65.4	300.8	116.800	
205	64.5	298.0	111.000	
210	63.5	295.0	105.500	
215	62.5	293.4	100.500	
220	61.5	290.7	95.700	
225	60.5	287.9	91.300	
230	59.4	285.5	87.100	
235	58.4	282.0	83.100	
240	57.4	278.8	79.400	
245	56.3	275.5	75.900	
250	55.3	272.0	72.600	
255	54.2	268.3	69.500	
260	53.1	264.3	66.500	
265	52.0	260.0	63.600	
270	50.8	255.6	60.900	
275	49.7	251.0	58.400	
280	48.5	246.3	55.900	
285	47.3	243.8	53.600	
290	46.1	239.0	51.300	

300

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BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS
295	44.8	234.0	49.000*	
300	43.6	228.9	46.200*	
305	42.4	223.4	43.500*	
310	40.9	217.8	40.800*	
315	39.6	211.8	38.200*	
320	38.2	205.5	35.600*	
325	36.7	199.0	33.100*	
330	35.5	192.0	30.600*	
335	34.3	184.6	28.200*	
340	33.0	176.8	25.700*	
345	30.4	168.4	23.300*	
350	28.8	159.5	20.800*	
355	26.6	149.7	18.300*	
360	24.1	139.1	15.800*	
115	81.8	352.1	356.500*	
120	81.0	351.3	326.700*	
125	80.1	350.4	299.100*	
130	79.1	349.4	275.400*	
135	78.0	348.3	255.000*	
140	77.6	347.4	237.100*	
145	76.8	346.3	221.200*	
150	75.9	345.0	207.100*	
155	75.1	343.7	194.400*	
160	74.2	342.3	182.500	
165	73.4	340.8	170.900	
170	72.5	339.3	160.400	
175	71.7	337.6	150.900	
180	70.8	335.9	142.200	
185	69.9	334.1	134.300	
190	69.1	332.2	126.900	
195	68.2	330.3	120.100	
200	67.3	328.2	113.900	
205	66.4	326.0	108.000	
210	65.5	323.8	102.600	
215	64.6	321.4	97.500	
220	63.7	319.0	92.800	
225	62.8	316.4	88.300	
230	61.8	313.8	84.100	
235	60.9	311.1	80.200	
240	60.0	308.1	76.500	
245	59.0	305.2	73.000	
250	58.0	302.0	69.600	
255	57.1	298.9	66.500	
260	56.1	295.5	63.500	
265	55.1	292.1	60.700	
270	54.1	288.5	58.000	
275	53.1	284.8	55.400	
280	52.0	280.9	52.900	
285	51.0	276.9	50.600	
290	49.9	272.8	48.300	
295	48.8	268.4	46.200	
300	47.7	263.9	43.800*	
305	46.6	259.3	41.300*	
310	45.5	254.4	38.900*	
315	44.3	249.4	36.500*	
320	43.1	244.1	34.200*	
325	41.9	238.6	31.900*	
330	40.7	232.8	29.600*	
335	39.4	226.8	27.400*	
340	38.1	220.6	25.300*	
345	36.7	214.0	23.100*	
350	35.3	207.0	21.000*	
355	33.9	199.7	18.900*	
360	32.4	192.0	16.800*	

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MANITOWOC 4100W SERIES 2 - 63'7" X-TENDER ATTACHMENT

BOOM NO. 67

LOAD LINE SPECIFICATIONS

FULL WIDTH TANDEM DRUMS - 37-1/4" (.9M) WIDE X 19" (.5M) DIAMETER

PROCEDURE FOR DETERMINING PARTS OF LINE, MAXIMUM HOIST DISTANCE AND WIRE ROPE LENGTH USING FRONT AND REAR DRUMS

TABLE 1: HOIST REEVING FOR MAIN LOAD BLOCK

PARTS OF LINE	2	4	6	8	10	12	14
MAXIMUM LOAD-LBS.	65,000	130,000	195,000	260,000	325,000	390,000	455,000
MAXIMUM LOAD-KG	29,480	58,960	88,450	117,930	147,410	176,900	206,380
PARTS OF LINE	16	18	20	22	24	26	
MAXIMUM LOAD-LBS.	520,000	585,000	650,000	715,000	780,000	845,000	
MAXIMUM LOAD-KG	235,860	265,350	294,830	324,310	353,800	383,280	
LOAD LINE: 1-1/8" (28.6MM) - 6 X 31 WARRINGTON-SEALE, EXTRA IMPROVED PLOW STEEL, REGULAR LAY, IWRC. MINIMUM BREAKING STRENGTH 130,000 LBS. (58,960KG). APPROX. WEIGHT = 2.34 LBS. PER FT. (3.50KG PER M).							

TABLE 2: MAXIMUM SPOOLING CAPACITIES

FRONT DRUM (LOAD LINE) - 1-1/8" (28.6MM) WIRE ROPE - 7 LAYERS - 1,494' (455.4M)
REAR DRUM (LOAD LINE) - 1-1/8" (28.6MM) WIRE ROPE - 7 LAYERS - 1,494' (455.4M)
CAUTION: SIMULTANEOUS SPOOLING OF LOAD LINE ON FULL WIDTH FRONT AND REAR DRUMS IS PERMITTED ONLY IF TOTAL LINE PULL OF THE TWO LINES DOES NOT EXCEED 32,500 LBS. (14,740KG).
11' (3.4M) IS DEDUCTED FROM MAXIMUM SPOOLING CAPACITIES FOR 2 DEAD WRAPS PER DRUM.

TABLE 3: WIRE ROPE CONSTANT

AMOUNT OF WIRE ROPE REQUIRED TO REEVE SHEAVES IN SHEAVE CARRIER & LOAD BLOCK							
PARTS OF LINE	2	4	6	8	10	12	14
WIRE ROPE CONSTANT-FT.	160	170	180	185	195	200	210
WIRE ROPE CONSTANT-M	49	52	55	56	59	61	64
PARTS OF LINE	16	18	20	22	24	26	
WIRE ROPE CONSTANT-FT.	220	225	235	240	250	260	
WIRE ROPE CONSTANT-M	67	69	72	73	76	79	
NOTE: ABOVE LENGTHS INCLUDE INITIAL WRAPS ON FRONT AND REAR DRUMS AND WIRE ROPE REQUIRED FROM FRONT AND REAR DRUMS TO SHEAVES ON X-TENDER BEAM.							

- A. PARTS OF LINE REQUIRED TO HOIST A GIVEN LOAD ARE SHOWN IN TABLE 1. WEIGHT OF ALL LOAD BLOCKS, HOOKS, WEIGHT BALL, SLINGS, HOIST LINES, ETC., BENEATH BOOM POINT SHEAVES IS CONSIDERED PART OF THE LOAD.
- B. (1) FROM JOB LAYOUT, DETERMINE MAXIMUM DISTANCE LOAD IS TO BE LIFTED.
(2) MULTIPLY HOIST DISTANCE (FROM STEP B-1) X PARTS OF LINE. CHECK THIS TOTAL AMOUNT OF ROPE WITH DRUM SPOOLING CAPACITY (TABLE 2) TO DETERMINE IF SPOOLING CAPACITY IS ADEQUATE.
- C. (1) TO DETERMINE TOTAL LENGTH OF WIRE ROPE REQUIRED FOR MAIN HOIST, MULTIPLY PARTS OF LINE X TOTAL DISTANCE FROM CENTERLINE OF SHEAVES IN BOOM TOP TO CENTERLINE OF SHEAVES IN BLOCK WITH BLOCK AT LOWEST ELEVATION. ADD TWICE THE BOOM LENGTH PLUS WIRE ROPE CONSTANT FROM TABLE 3 CORRESPONDING TO PARTS OF LINE USED.
(2) OTHER CONSIDERATIONS SUCH AS LENGTH OF ROPE AVAILABLE AND WIRE ROPE REQUIRED TO DROP HOOK TO GRADE MAY INFLUENCE TOTAL LENGTH OF WIRE ROPE SELECTED.

REFER TO LOAD LINE HOISTING RANGE CHART NO. 7396-B FOR MAXIMUM HOISTING RANGES.

REFER TO DRUM AND LAGGING CHART NO. 6105.

DJK
1/21/85
CHART NO. 7396-A

MANITOWOC ENGINEERING CO.

MANITOWOC, WISCONSIN

MANITOWOC 4100W SERIES 2 - 63'7" X-TENDER ATTACHMENT
 BOOM NO. 67
 LOAD LINE HOISTING RANGE

TABLE 1: CONDITIONS

1. CAPACITIES BASED ON CAPACITY CHART NO. 7395-A.	TOTAL USABLE DRUM SPOOLING CAPACITIES:
2. NUMBER OF 'PARTS OF LINE' BASED ON LOAD LINE SPECIFICATION CHART NO. 7396-A.	2 FULL WIDTH DRUMS..... 2,988' (910.7M)
3. MINIMUM BLOCK TO BOOM POINT DISTANCE OF 11.6' (3.5M) (500 TON (454TM) LOAD BLOCK).	
4. 5.9' (1.8M) DISTANCE FROM CENTER OF BOOM HINGE PIN TO WORKING LEVEL AND 82 DEGREE BOOM ANGLE.	
5. 2 DEAD WRAPS (11' (3.4M)) ON EACH DRUM.	

TABLE 2: ILLUSTRATION

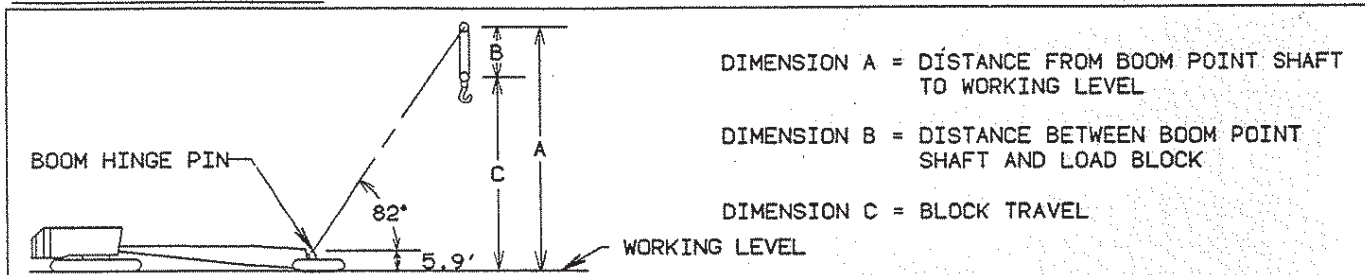


TABLE 3: HOISTING RANGE

2 FULL WIDTH DRUMS 37-1/4" (.9M) WIDE X 19" (.5M) DIA.									
BOOM LENGTH-FT.	150	175	200	225	250	275	300	325	350
BOOM LENGTH-M	45.7	53.3	61.0	68.6	76.2	83.8	91.4	99.1	106.7
A - FT.	154.4	179.2	204.0	228.7	253.5	278.2	303.0	327.7	352.5
A - M	47.1	54.6	62.2	69.7	77.3	84.8	92.4	99.9	107.4
B - FT.	39.5	64.3	79.5	79.3	104.1	91.4	89.6	78.7	103.5
B - M	12.0	19.6	24.2	24.2	31.7	27.9	27.3	24.0	31.5
C - FT.	114.9	114.9	124.5	149.4	149.4	186.8	213.4	249.0	249.0
C - M	35.0	35.0	37.9	45.5	45.5	56.9	65.0	75.9	75.9
(1) PARTS OF LINE	26	26	24	20	20	16	14	12	12
(2) PARTS OF LINE	20	16	14	12	12	10	10	8	8

- (1) PARTS OF LINE REQUIRED FOR MAXIMUM CAPACITY.
 (2) MAXIMUM PARTS OF LINE WHICH WILL ALLOW FULL HOISTING RANGE.

TABLE 4: NOTES

1. DIMENSION 'C' (BLOCK TRAVEL) IS DETERMINED BY DIVIDING DRUM SPOOLING CAPACITY BY NUMBER OF PARTS OF LOAD LINE.
2. IF DIMENSION 'C' PLUS 11.6' (3.5M) IS GREATER THAN DIMENSION 'A' LOAD BLOCK CAN BE LOWERED BELOW WORKING LEVEL.
3. DISTANCE LOAD BLOCK CAN BE LOWERED BELOW WORKING LEVEL DEPENDS ON BOOM LENGTH, PARTS OF LOAD LINE AND DRUM SPOOLING CAPACITY.
4. TOTAL USABLE DRUM SPOOLING CAPACITY IS DRUM CAPACITY MINUS 2 DEAD WRAPS PER DRUM.