

LOAD CHART

MANTIS Model 6010

30 Ton Crawler Crane

as originally manufactured and equipped by Tadano Mantis Corporation.

Limitations and General Conditions.

This MANTIS CRANE as manufactured by Tadano Mantis Corporation meets the requirements of ASME B30.5. Structure and stability have been tested in accordance with SAE J1063 and SAE J765, respectively. Lifting capacities as determined by boom length, angle or radius, apply only to machines as originally equipped by manufacturer and in a properly maintained condition. Capacities given are maximum covered by the manufacturers warranty and are based on a freely suspended load with **NO** allowance for factors such as out-of-level operation, supporting surface conditions, hazardous surroundings, experience of personnel, etc. The operator shall establish practical working loads based on prevailing operating conditions, such as, but not limited to the above.

When making lifts where capacities may be within a zone limited by structural strength, the operator shall determine that the weight of the load is known within plus or minus (+/-) ten percent (10%) before making lift . **DO NOT** lift load or extend boom without considering counterweights, amount of track extension, and the appropriate **LOAD CHART**. Deductions from rated capacities must be made for the weight of the hook block, hook/ball, slings, spreader bar, or other suspended equipment.

Side pull on boom is extremely dangerous and must be avoided.

DO NOT exceed manufacturers maximum specified reeving.

DO NOT use this chart if wind speed exceeds 20 mph. Consult the manufacturer for specialized load ratings.

Load radius is defined as the horizontal distance from the axis of rotation (with no load) to the center of the lifting device after load is applied.

Boom angle is the included angle between the Longitudinal axis of the boom base section and the Horizontal axis, after lifting load. The boom angle before lifting should be slightly greater than desired to account for boom deflection.

Boom angle/boom length relationships given are an approximation of the resulting load radius, which should be an accurate measurement.

Boom height dimensions are measured from ground to center of lower boom head sheave.

It is permissible to attempt to telescope boom with a load within the limits of rated capacities. However, boom angle system hydraulic pressure, and/or boom lubrication may affect operation.

It is permissible to travel with loads within the rated capacity of the crane. Travel speeds should be greatly reduced to reflect terrain limitations and minimize dynamic loads applied to the crane structure.

Specifications subject to change without notice.

LOAD CHART SELECTION & LOAD MOMENT INDICATOR SETTING INFORMATION

Each Load Chart in this document corresponds to a particular crane configuration. The Load Moment Indicator system must be set to match the configuration in use. If it is set improperly, the crane may function poorly or not at all

The chart below shows the Operating Modes and corresponding crane configurations available.

NOTE:

If you are certain that a load is within load chart limits but the crane will not lift it, check the selected reeving and crane configuration.

Operating Code on Load Moment Indicator	Crane Configuration	Track Position	Counter-weight (lb)	Allowable Reeving (Parts of Line)	Load Chart Number
1	Main Boom	Fully Extended	11,500	1 to 7	1
3	Main Boom	Fully Extended	NO CWT	1 to 7	2
2	Main Boom	Retracted	11,500	1 to 7	3
5	Auxiliary Boom Nose Sheave	Fully Extended	11,500	1	4
7	Auxiliary Boom Nose Sheave	Fully Extended	NO CWT	1	5
9	20ft Extension	Fully Extended	11,500	1 or 2	6
13	20ft Jib - 0° Offset	Fully Extended	11,500	1	7
14	20ft Jib - 15° Offset	Fully Extended	11,500	1	7
15	20ft Jib - 30° Offset	Fully Extended	11,500	1	7
25	Work Platform on Main Boom	Fully Extended	11,500	NA	See Operating Range Chart
26	Work Platform on 20ft Extension	Fully Extended	11,500	NA	See Operating Range Chart

**LIFTING CAPACITY DEDUCTIONS FOR
LOAD HANDLING DEVICES**

MANTIS Model 6010

30 Ton Crawler Crane

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Weight Reductions for Load Handling Devices	
Hookblocks	
30 Ton - 3 Sheave	780 lb.
7 Ton Overhaul Ball w/Swivel	180 lb.
Optional Load Handling Devices	
20 ft. Extension - Stowed*	320 lb.
20 ft. Extension - Erected*	1600 lb.
20 ft. Ext. and 20 ft. Jib - Stowed*	450 lb.
20 ft. Ext. and 20 ft. Jib - Erected*	3100 lb.
Auxiliary Nose Sheave*	180 lb.
Pole Claw on Boom Head*	850 lb.
Auger Ready Package*	250 lb.
Auger Package Complete - Stowed*	800 lb.
Auger Package Complete - Erected*	1500 lb.
*Reduction of main boom capacities	

NOTE:

All values shown apply to original equipment as supplied by Tadano Mantis Corporation. The above deductions should be taken into account when calculating the load to be lifted.

A properly calibrated and maintained Load Moment Indicating (LMI) system will indicate boom mounted and other suspended equipment.

CHART #1**MANTIS Model 6010
30 Ton Crawler Crane**

as originally manufactured and equipped by Tadano Mantis Corporation.

**360 DEGREE RATING - LOADS= lb. x 1000
Maximum Reeving = 7 Parts**

MAIN BOOM with TRACKS FULLY EXTENDED								
11,500 lb. COUNTERWEIGHT								
RADIUS (ft)	MAIN BOOM LENGTH (ft)							RADIUS (ft)
	33	41	48	56	64	72	80	
8	60.0	48.0	47.6					8
10	60.0	48.0	47.6	44.9				10
12	56.0	48.0	47.6	40.5	34.2			12
15	38.5	38.7	38.9	35.4	29.8	26.0	22.8	15
20	24.0	24.2	24.3	24.4	24.0	21.3	18.7	20
25	16.9	17.2	17.3	17.3	17.4	17.0	15.8	25
30		13.0	13.1	13.2	13.2	13.3	13.0	30
35		10.2	10.3	10.4	10.5	10.5	10.5	35
40			8.4	8.5	8.5	8.5	8.6	40
45				7.0	7.1	7.1	7.1	45
50				5.9	5.9	6.0	6.0	50
55					5.0	5.1	5.1	55
60						4.3	4.4	60
65						3.7	3.7	65
70							3.2	70
75							2.8	75
80								80

NOTE:

Capacities appearing above the bold line are based on structural strength; tipping should not be relied upon as a capacity limitation.

Capacities appearing below the bold line are based on stability and do not exceed 75% of tipping.

CHART #2**MANTIS Model 6010
30 Ton Crawler Crane**

as originally manufactured and equipped by Tadano Mantis Corporation.

**360 DEGREE RATING - LOAD = lb. x 1000
Maximum Reeving = 7 Parts**

MAIN BOOM with TRACKS FULLY EXTENDED								
NO COUNTERWEIGHT								
RADIUS (ft)	MAIN BOOM LENGTH (ft)						RADIUS (ft)	
	33	41	48	56	64	72		80
8	60.0	48.0	47.6					8
10	53.0	48.0	47.6	44.9				10
12	35.4	35.7	35.9	36.0	34.2			12
15	23.0	23.5	23.5	23.6	23.6	23.7	22.8	15
20	13.9	14.1	14.2	14.3	14.4	14.4	14.5	20
25	9.4	9.6	9.8	9.9	9.9	10.0	10.0	25
30		7.0	7.1	7.2	7.3	7.3	7.3	30
35		5.2	5.4	5.5	5.5	5.6	5.6	35
40			4.1	4.2	4.3	4.3	4.4	40
45				3.3	3.4	3.4	3.4	45
50				2.6	2.7	2.7	2.7	50
55					2.1	2.1	2.1	55
60						1.6	1.7	60
65						1.3	1.3	65
70							1.0	70
75							0.7	75
80								80

NOTE:

Capacities appearing above the bold line are based on structural strength; tipping should not be relied upon as a capacity limitation.

Capacities appearing below the bold line are based on stability and do not exceed 75% of tipping.

CHART #3**MANTIS Model 6010****30 Ton Crawler Crane**

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360 DEGREE RATING - LOAD = x 1000; Maximum Reeving = 7 Parts

MAIN BOOM with TRACKS RETRACTED								
11,500lb. COUNTERWEIGHT								
RADIUS (ft)	MAIN BOOM LENGTH (ft)							RADIUS (ft)
	33	41	48	56	64	72	80	
8	60.0	47.6	47.6					8
10	44.6	44.9	44.9	44.9				10
12	36.3	34.2	34.2	34.2	34.2			12
14	25.9	25.9	25.9	25.9	25.9	25.9		14
16	21.6	21.6	21.6	21.6	21.6	21.6	21.6	16
18	17.9	17.9	17.9	17.9	17.9	17.9	17.9	18
20	15.0	15.0	15.0	15.0	15.0	15.0	15.0	20
22	12.7	12.7	12.7	12.7	12.7	12.7	12.7	22
24	11.0	11.0	11.0	11.0	11.0	11.0	11.0	24
26	9.6	9.6	9.6	9.6	9.6	9.6	9.6	26
28		8.5	8.5	8.5	8.5	8.5	8.5	28
30		7.7	7.7	7.7	7.7	7.7	7.7	30
32		7.0	7.0	7.0	7.0	7.0	7.0	32
34		6.3	6.3	6.3	6.3	6.3	6.3	34
36			5.8	5.8	5.8	5.8	5.8	36
38			5.4	5.4	5.4	5.4	5.4	38
40			5.0	5.0	5.0	5.0	5.0	40
42			4.6	4.6	4.6	4.6	4.6	42
44				4.3	4.3	4.3	4.3	44
46				4.0	4.0	4.0	4.0	46
48				3.6	3.6	3.6	3.6	48
50				3.4	3.4	3.4	3.4	50
52					3.1	3.1	3.1	52
54					2.9	2.9	2.9	54
56					2.7	2.7	2.7	56
58					2.5	2.5	2.5	58
60						2.3	2.3	60
62						2.1	2.1	62
64						1.9	1.9	64
66						1.7	1.7	66
68							1.6	68
70							1.4	70

NOTE:

Capacities appearing above the bold line are based on structural strength; tipping should not be relied upon as a capacity limitation.

Capacities appearing below the bold line are based on stability and do not exceed 75% of tipping.

CHART #4**MANTIS Model 6010****30 Ton Crawler Crane**

as originally manufactured and equipped by Tadano Mantis Corporation.

360 DEGREE RATING - LOADS= lb. x 1000**Maximum Reeving = 1 Part**

AUXILIARY BOOM NOSE SHEAVE with TRACKS FULLY EXTENDED								
11,500 lb. COUNTERWEIGHT								
RADIUS (ft)	MAIN BOOM LENGTH (ft)							RADIUS (ft)
	33	41	48	56	64	72	80	
8	6.0	6.0	6.0					8
10	6.0	6.0	6.0	6.0				10
12	6.0	6.0	6.0	6.0	6.0			12
15	6.0	6.0	6.0	6.0	6.0	6.0	6.0	15
20	6.0	6.0	6.0	6.0	6.0	6.0	6.0	20
25	6.0	6.0	6.0	6.0	6.0	6.0	6.0	25
30		6.0	6.0	6.0	6.0	6.0	6.0	30
35		6.0	6.0	6.0	6.0	6.0	6.0	35
40			6.0	6.0	6.0	6.0	6.0	40
45				6.0	6.0	6.0	6.0	45
50				5.4	5.5	6.0	6.0	50
55					4.6	4.7	4.7	55
60						4.0	4.0	60
65						3.4	3.4	65
70							2.9	70
75							2.5	75
80								80

NOTE:

Capacities appearing above the bold line are based on structural strength; tipping should not be relied upon as a capacity limitation.

Capacities appearing below the bold line are based on stability and do not exceed 75% of tipping.

CHART #5:**MANTIS Model 6010****30 Ton Crawler Crane**

as originally manufactured and equipped by Tadano Mantis Corporation.

360 DEGREE RATING - LOADS= lb. x 1000**Maximum Reeving = 1 Part**

AUXILIARY BOOM NOSE SHEAVE with TRACKS FULLY EXTENDED								
<u>NO COUNTERWEIGHT</u>								
RADIUS (ft)	MAIN BOOM LENGTH (ft)							RADIUS (ft)
	33	41	48	56	64	72	80	
8	6.0	6.0	6.0					8
10	6.0	6.0	6.0	6.0				10
12	6.0	6.0	6.0	6.0	6.0			12
15	6.0	6.0	6.0	6.0	6.0	6.0	6.0	15
20	6.0	6.0	6.0	6.0	6.0	6.0	6.0	20
25	6.0	6.0	6.0	6.0	6.0	6.0	6.0	25
30		6.0	6.0	6.0	6.0	6.0	6.0	30
35		5.2	5.4	5.5	5.5	5.6	5.6	35
40			4.1	4.2	4.3	4.3	4.4	40
45				3.3	3.4	3.4	3.4	45
50				2.6	2.7	2.7	2.7	50
55					2.1	2.1	2.1	55
60						1.6	1.7	60
65						1.3	1.3	65
70							1.0	70
75							0.7	75
80								80

NOTE:

Capacities appearing above the bold line are based on structural strength; tipping should not be relied upon as a capacity limitation.

Capacities appearing below the bold line are based on stability and do not exceed 75% of tipping.

CHART #6

MANTIS Model 6010

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360 DEGREE RATING - LOADS= lb. x 1000

Maximum Reeving = 2 Parts

20' EXTENSION			
with TRACKS FULLY EXTENDED			
11,500 lb. COUNTERWEIGHT			
BOOM ANGLE	Total Boom Length		Total Boom Length
	< 92'-0		> 92'-0
78	12.4		12.4
75	10.5		10.5
72	9.3		9.3
70	8.6		8.6
68	8.0		8.0
65	7.2		6.8
62	6.6		5.7
60	6.2		4.9
58	5.9		4.3
55	5.5		3.7
52	5.2		3.2
50	5.0		2.9
48	4.4		2.6
45	4.2		2.3

NOTE:
NEVER use extension without counterweight in place.

NOTE:
 Capacities appearing above the bold line are based on structural strength; tipping should not be relied upon as a capacity limitation.
 Capacities appearing below the bold line are based on stability and do not exceed 75% of tipping.

CHART #7**MANTIS Model 6010****30 Ton Crawler Crane**

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360 DEGREE RATING - LOAD= lb. x 1000
Maximum Reeving = 1 Part

20' EXTENSION + 20' JIB with TRACKS FULLY EXTENDED 11,500 lb. COUNTERWEIGHT				
Boom Angle	Jib Offset Angles			Boom Angle
	0°	15°	30°	
78°	6.6	4.0	2.2	78°
75°	6.3	4.0	2.1	75°
72°	5.6	3.5	2.0	72°
70°	5.1	3.2	1.9	70°
68°	4.6	3.0	1.8	68°
65°	4.2	2.8	1.8	65°
62°	3.9	2.6	1.7	62°
60°	3.5	2.4	1.7	60°
58°	3.2	1.9	1.4	58°
55°	2.6	1.3	1.0	55°
52°	2.0	0.6	0.4	52°
50°	1.5	0.3	0.2	50°

NOTE:

NEVER use extension without counterweight in place.

NOTE:

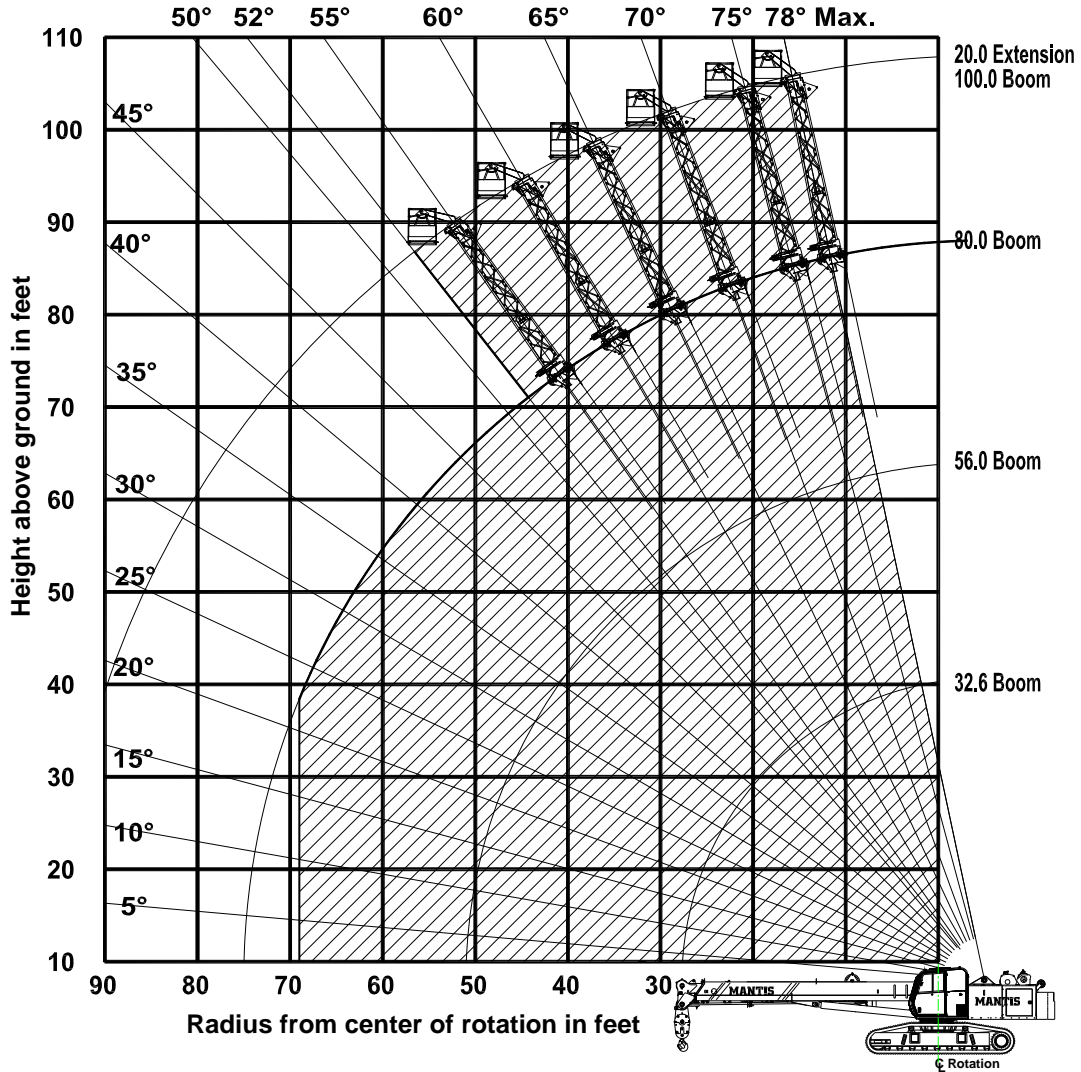
Capacities are based on structural strength; tipping should not be relied upon as a capacity limitation.

RANGE CHART

750 WORK PLATFORM

Installed on MANTIS MODEL 6010

as originally manufactured and equipped by Tadano Mantis Corporation.



Shaded Area is Allowable Operating Range

Limits of operation:

Maximum load capacity = 750 lb

Maximum radius when mounted on main boom = 69 ft

Minimum boom angle when mounted on 30 ft extension = 52°

RANGE CHART

MANTIS MODEL 6010

as originally manufactured and equipped by Tadano Mantis Corporation

