

LOAD CHART SELECTION & LOAD MOMENT INDICATOR SETTING INFORMATION

Each Load Chart in this Appendix 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 LMI has two switches that correspond to critical setup factors, as follows:

Counterweight Toggle Switch*

This side mounted switch selects whether or not the crane is using a counterweight.

*Control #2, Section 3

Operating Code Switch**

This rotary switch selects the crane operating mode, or boom configuration.

The chart below shows the permissible combinations of settings for the Operating Code Switch, Counterweight Toggle Switch, and Reeving Switch,*** as well as the proper load charts to use for each mode. No other combinations are allowed.

** Control #17 Section 3

*** Control #4, Section 3

NOTE:

If you are certain that a load is within load chart limits but the crane will not lift it, check the settings of these two switches, as well as the reeving switch.

Operating Code Switch Position	Operating Mode	Operating Mode Indicator	Crane Operating Mode	Counter-weight.	Counter-weight Toggle Switch	Load Chart Number
01	1	0501	Mainboom	30,000	Up	1
01	1	1501	Mainboom	15,000	Mid	2
01	1	2501	Mainboom	None	Down	3
02	2	0521	30' Extension	30,000	Up	4
02	3	1521	30' Extension	15,000	Mid	5
03	4	0171	20' Jib - 0° Offset	Rear or Both		6
04	5	0172	20' Jib - 15° Offset	Rear or Both		6
05	6	0173	20' Jib - 30° Offset	Rear or Both		6
06	7	0598	Auxiliary Boom Nose Sheave	30,000	Up	7
06	7	1598	Auxiliary Boom Nose Sheave	15,000	Mid	8
06	7	2598	Auxiliary Boom Nose Sheave	None	Down	9

CHART #1: MAIN BOOM LOAD CHART MANTIS Model 12010

as originally manufactured and equipped by SpanDeck, Inc.

OPERATING CODE SWITCH POSITION - 1

30,000 lb. COUNTERWEIGHT
TRACKS FULLY EXTENDED - 360 DEGREE RATING - LOADS IN KIPS

RADIUS (ft)	MAIN BOOM LENGTH (ft)								30'-0 EXT.	50'-0 JIB	RADIUS (ft)
	37.5	42.0	49.0	61.0	73.0	86.0	99.0	111.5	141.5	161.5	
10	120.0	90.0	86.0	79.0							10
12	100.0	88.0	84.0	72.6							12
15	90.0	83.0	78.0	71.5	48.0	44.0					15
20	72.0	71.7	71.4	70.9	43.0	40.0	38.1				20
25	55.7	55.4	55.0	54.2	41.0	39.0	37.1	36.0			25
30	41.4	41.2	40.8	40.4	40.1	38.0	34.0	30.8			30
35		32.2	31.9	31.5	32.4	32.9	29.6	26.7			35
40			25.8	25.4	26.2	26.7	26.1	23.6			40
45				20.9	21.7	22.4	22.7	21.0			45
50				17.5	18.3	18.9	19.4	18.8			50
55				14.8	15.6	16.2	16.7	16.8			55
60					13.4	14.0	14.5	14.8			60
65					11.6	12.2	12.7	13.0			65
70						10.7	11.2	11.5			70
75						9.4	9.9	10.2			75
80							8.8	9.0			80
85							7.8	8.1			85
90							6.9	7.2			90
95								6.5			95
100								5.8			100
105											105

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: MAIN BOOM LOAD CHART MANTIS Model 12010

as originally manufactured and equipped by SpanDeck, Inc.

OPERATING CODE SWITCH POSITION - 1

15,000 lb. COUNTERWEIGHT
TRACKS FULLY EXTENDED - 360 DEGREE RATING - LOADS IN KIPS

RADIUS (ft)	MAIN BOOM LENGTH (ft)								30'-0 EXT.	50'-0 JIB	RADIUS (ft)
	37.5	42.0	49.0	61.0	73.0	86.0	99.0	111.5	141.5	161.5	
10	120.0	90.0	86.0	79.0							10
12	100.0	88.0	84.0	72.0							12
15	84.0	83.0	78.0	64.0	48.0	40.0					15
20	65.0	64.0	62.0	53.0	43.0	38.0	36.0				20
25	32.4	32.0	31.5	30.9	32.0	32.8	33.4	33.1			25
30	23.4	23.0	22.5	22.0	23.0	23.8	24.3	24.7			30
35		17.3	16.9	16.4	17.4	18.0	18.6	19.0			35
40			13.0	12.6	13.4	14.1	14.6	15.0			40
45				9.7	10.6	11.3	11.7	12.1			45
50				7.6	8.4	9.1	9.5	9.9			50
55				5.9	6.7	7.4	7.8	8.2			55
60					5.4	6.0	6.4	6.7			60
65					4.2	4.8	5.2	5.6			65
70						3.9	4.3	4.5			70
75						3.0	3.5	3.8			75
80							2.8	3.1			80
85							2.2	2.5			85
90							1.6	1.9			90
95								1.5			95
100								1.0			100
105											105

NOTE:
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CHART #3: MAIN BOOM LOAD CHART MANTIS Model 12010

as originally manufactured and equipped by SpanDeck, Inc.

OPERATING CODE SWITCH POSITION - 1

NO COUNTERWEIGHT
TRACKS FULLY EXTENDED - 360 DEGREE RATING - LOADS IN KIPS

RADIUS	MAIN BOOM LENGTH (ft)								30'-0 EXT.	50'-0 JIB	RADIUS
(ft)	37.5	42.0	49.0	61.0	73.0	86.0	99.0	111.5	141.5	161.5	(ft)
10	120.0	90.0	86.0	79.0							10
12	100.0	88.0	84.0	72.0							12
15	56.1	55.5	54.6	53.8	48.0	40.0					15
20	29.7	29.2	28.6	27.9	29.2	30.1	30.8				20
25	18.8	18.4	17.9	17.3	18.4	19.2	19.8	20.3			25
30	12.8	12.5	12.0	11.5	12.5	13.2	13.8	14.2			30
35		8.7	8.8	7.8	8.7	9.4	10.0	10.4			35
40			5.3	5.3	6.2	6.9	7.4	7.7			40
45				3.5	4.3	5.0	5.4	5.8			45
50				2.1	2.9	3.5	4.0	4.4			50
55				0.9	1.8	2.4	2.9	3.2			55
60					0.9	1.5	1.9	2.3			60
65					0.1	0.7	1.2	1.5			65
70						0.1	0.5	0.9			70
75								0.3			75
80											80
85											85
90											90
95											95
100											100
105											105

NOTE:

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CHART #4: 30' EXTENSION LOAD CHART
MANTIS Model 12010

as originally manufactured and equipped by SpanDeck, Inc.

OPERATING CODE SWITCH POSITION - 2

30,000 COUNTERWEIGHT
TOTAL BOOM LENGTH LESS THAN 127'-0
TRACKS FULLY EXTENDED - 360 DEGREE RATING - LOADS IN KIPS

BOOM ANGLE	LOAD
78	18.0
75	13.7
72	11.8
70	10.3
68	8.9
65	8.2
62	7.6
60	7.0
58	6.4
55	6.0
52	5.6
50	5.2
48	5.0
45	4.7

NOTE:

**NEVER use extension without rearmost
counterweight in place.**

CHART #5: 30' EXTENSION LOAD CHART
MANTIS Model 12010

as originally manufactured and equipped by SpanDeck, Inc.

OPERATING CODE SWITCH POSITION - 3

REARMOIST COUNTERWEIGHT IN PLACE
TOTAL BOOM LENGTH LESS THAN 100'-0
TRACKS FULLY EXTENDED - 360 DEGREE RATING - LOADS IN KIPS

BOOM ANGLE	LOAD
78	18.0
75	13.6
72	11.5
70	10.1
68	8.9
65	8.0
62	7.2
60	6.7
58	6.1
55	5.8
52	5.3
50	5.1
48	4.9
45	4.6

NOTE:

**NEVER use extension without rearmost
counterweight in place.**

CHART #6: 20' JIB LOAD CHART MANTIS Model 12010

as originally manufactured and equipped by SpanDeck, Inc.

REARMOST OR BOTH COUNTERWEIGHTS IN PLACE
TRACKS FULLY EXTENDED - 360 DEGREE RATING - LOADS IN KIPS

OPERATING CODE SWITCH POSITION -4

JIB @ 0°

BOOM ANGLE	LOAD
78	6.6
75	6.3
72	5.6
70	5.1
68	4.6
65	4.2
62	3.9
60	3.5
58	3.2
55	2.6
52	2.0
50	1.5

OPERATING CODE SWITCH POSITION -5

JIB @ 15°

BOOM ANGLE	LOAD
78	4.0
75	4.0
72	3.5
70	3.2
68	3.0
65	2.8
62	2.6
60	2.4
58	1.9
55	1.3
52	0.6
50	0.3

OPERATING CODE SWITCH POSITION -6

JIB @ 30°

BOOM ANGLE	LOAD
78	2.2
75	2.1
72	2.0
70	1.9
68	1.8
65	1.8
62	1.7
60	1.7
58	1.4
55	1.0
52	0.4
50	0.2

NOTE:

NEVER use extension without rearmost counterweight in place.

CHART #7: AUXILIARY BOOM NOSE SHEAVE LOAD CHART MANTIS Model 12010

as originally manufactured and equipped by SpanDeck, Inc.

OPERATING CODE SWITCH POSITION - 7

30,000 COUNTERWEIGHT
TRACKS FULLY EXTENDED - 360 DEGREE RATING - LOADS IN KIPS

RADIUS	MAIN BOOM LENGTH (ft)								RADIUS
(ft)	37.5	42.0	49.0	61.0	73.0	86.0	99.0	111.5	(ft)
10	11.0	11.0	11.0	11.0					10
12	11.0	11.0	11.0	11.0					12
15	11.0	11.0	11.0	11.0	11.0	11.0			15
20	11.0	11.0	11.0	11.0	11.0	11.0	11.0		20
25	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	25
30	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	30
35		11.0	11.0	11.0	11.0	11.0	11.0	11.0	35
40			11.0	11.0	11.0	11.0	11.0	11.0	40
45				11.0	11.0	11.0	11.0	11.0	45
50				11.0	11.0	11.0	11.0	11.0	50
55				10.5	11.0	11.0	11.0	11.0	55
60					9.5	10.1	10.5	10.9	60
65					8.0	8.6	9.1	9.4	65
70						7.4	7.8	8.1	70
75						6.3	6.7	7.0	75
80							5.8	6.1	80
85							5.0	5.3	85
90							4.3	4.6	90
95								4.0	95
100								3.4	100
105									105

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CHART #8: AUXILIARY BOOM NOSE SHEAVE LOAD CHART MANTIS Model 12010

as originally manufactured and equipped by SpanDeck, Inc.

OPERATING CODE SWITCH POSITION - 7

15,000 COUNTERWEIGHT
TRACKS FULLY EXTENDED - 360 DEGREE RATING - LOADS IN KIPS

RADIUS	MAIN BOOM LENGTH (ft)								RADIUS
(ft)	37.5	42.0	49.0	61.0	73.0	86.0	99.0	111.5	(ft)
10	11.0	11.0	11.0	11.0					10
12	11.0	11.0	11.0	11.0					12
15	11.0	11.0	11.0	11.0	11.0	11.0			15
20	11.0	11.0	11.0	11.0	11.0	11.0	11.0		20
25	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	25
30	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	30
35		11.0	11.0	11.0	11.0	11.0	11.0	11.0	35
40			11.0	11.0	11.0	11.0	11.0	11.0	40
45				9.7	10.6	11.0	11.0	11.0	45
50				7.6	8.4	9.1	9.5	9.9	50
55				5.9	6.7	7.4	7.8	8.2	55
60					5.4	6.0	6.4	6.7	60
65					4.2	4.8	5.2	5.6	65
70						3.9	4.3	4.5	70
75						3.0	3.5	3.8	75
80							2.8	3.1	80
85							2.1	2.5	85
90							1.6	1.9	90
95								1.5	95
100								1.0	100
105									105

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CHART #9: AUXILIARY BOOM NOSE SHEAVE LOAD CHART MANTIS Model 12010

as originally manufactured and equipped by SpanDeck, Inc.

OPERATING CODE SWITCH POSITION - 7

NO COUNTERWEIGHT
TRACKS FULLY EXTENDED - 360 DEGREE RATING - LOADS IN KIPS

RADIUS	MAIN BOOM LENGTH (ft)								RADIUS
(ft)	37.5	42.0	49.0	61.0	73.0	86.0	99.0	111.5	(ft)
10	11.0	11.0	11.0	11.0					10
12	11.0	11.0	11.0	11.0					12
15	11.0	11.0	11.0	11.0	11.0	11.0			15
20	11.0	11.0	11.0	11.0	11.0	11.0	11.0		20
25	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	25
30	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	30
35		8.7	8.3	7.8	8.7	9.4	10.0	10.4	35
40			5.8	5.3	6.2	6.9	7.4	7.7	40
45				3.5	4.3	5.0	5.4	5.8	45
50				2.1	2.9	3.5	4.0	4.4	50
55				0.9	1.8	2.4	2.9	3.2	55
60					0.9	1.5	1.9	2.3	60
65					0.1	0.7	1.2	1.5	65
70						0.1	0.5	0.9	70
75								0.3	75
80									80
85									85
90									90
95									95
100									100
105									105

NOTE:
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