

**Manitex**



**TC650**

**65-ton (59 mt) TC650 SERIES  
PRODUCT GUIDE**

# CONTENTS

Crane Features ..... 4

Crane Features ..... 5

65131 Chassis Data ..... 6

65159 Chassis Data ..... 8

Outrigger Extension ..... 10

65131 Range Diagram and Load Chart: Main Boom ... 11-13

65159 Range Diagram and Load Chart: Main Boom ... 14-16

Reeving and Area of Operation ..... 17

Technical Description and Options ..... 18-19



**Effective Date: November 2020**

This document is non-contractual. This document is supplied for reference use only. We are constantly making improvements to our products and reserve the right that specification, equipment, and prices are all subject to change without notice or obligation.

The photographs, and /or images in this document are for illustrative purposes only and may include optional equipment and accessories and may not include all standard equipment.

Refer to the appropriate Operator's Manual and Load Charts for instructions on the proper use of this equipment to determine allowable crane lifting capacities, assembly and operating procedures.

Failure to follow the appropriate operator's manual or load chart(s) when using our equipment or to otherwise act irresponsibly may result in serious injury or death.



















The only warranty applicable to our equipment is the standard written warranty applicable to the particular product and sale. Manitex makes no other warranty, expressed or implied.

















Products and services listed may be trademarks, service marks or trade-names of Manitex International and / or its subsidiaries in the USA and other countries.

All rights are reserved. Manitex® is a registered trademark of Manitex International, Inc. in the USA and many other countries.

Copyright 2019 Manitex Inc. Manitex Inc, Georgetown Texas, 78626

# KEY

	Operator aids
	Cab
	Heating / Air conditioning
	Controls
	Hoist speed
	1 - Main hoist 2 - Auxiliary winch 3 - Recovery winch
	Rope length
	Rope - Standard/optional
	Rope diameter
	Permissible line pull
	Maximum line pull
	Slewing / Allowable slewing range
	Slewing gears
	Slewing brake
	Outriggers
	2-Person man basket
	Counterweight
	Radio remote control

	Hook block
	Distance from hook to head sheave pin
	Hook and ball
	Hydraulics
	Boom elevation angle
	Max. boom length with extension
	Boom with extension retracted
	Boom angle
	Telescoping mode
	Working radius
	Boom length
	Hydraulic actuated boom
	Fully proportional, full power extension
	Boom head / Hook block dimension
	Main boom with auxiliary head
	Tip height



## THE TC650 SERIES TELESCOPIC CRANE

Versatile. Rugged. Operator friendly.

The TC650 series telescopic cranes are built to meet the wide-ranging needs of owner operators who may use it for residential construction one day and bridge work the next. No matter what the task, the 65-ton line of telescopic cranes is designed to get you on the job quickly.

- Go from Free-Swing to No-Free Swing with a push of a button.
- Set up quickly with remote outrigger controls
- Operate comfortably and confidently
- Move from job to job in less time.

### Other features include:

- 65-ton capacity @ 6 ft. radius
- 4 or 5 section proportional booms
- Optional telescopic lattice jib (0-15-30° offsets)
- 209 ft. maximum tip height (with optional jib)
- 20° Tilttable cab
- 4-position out-and-down outriggers
- Remote outrigger controls

### NEW COMBINED RADIO REMOTE



#### R.O.C. (RADIO OUTRIGGER CONTROLS)

One control to operate outriggers, winch and boom controls with boom stowed.

#### R.O.C. (RADIO OUTRIGGER CONTROLS)

Operate the outriggers remotely, with a clear view from anywhere around the machine.

### NEW CAB



Equipped with Heat and AC and 200% more air flow. Adjustable cab tilt speed and crane functions. USB ports for quick software updates or phone charging. More leg room and one display unit needed for both crane and chassis operations. Remote mounted HVAC for no vibration and low ambient noise.

### TELEMETRICS

## Parker Mobile IoT Mobile Equipment OEM Stays Connected with Mobile IoT Technology

A modem is incorporated into the crane PLC system to aid troubleshooting machines in the field. Crane software updates can now be uploaded to the machine without having to send a technician to the field! GPS ready for tracking through the Manitex web portal.

# FEATURES



## CAB UPGRADES FOR EASIER OPERATOR CONTROL



Externally routed A2B cable. LMI with crane function cut-offs for overload protection. Color graphic display, event recorder, WADS-Work Definition System.

## SUB FRAME

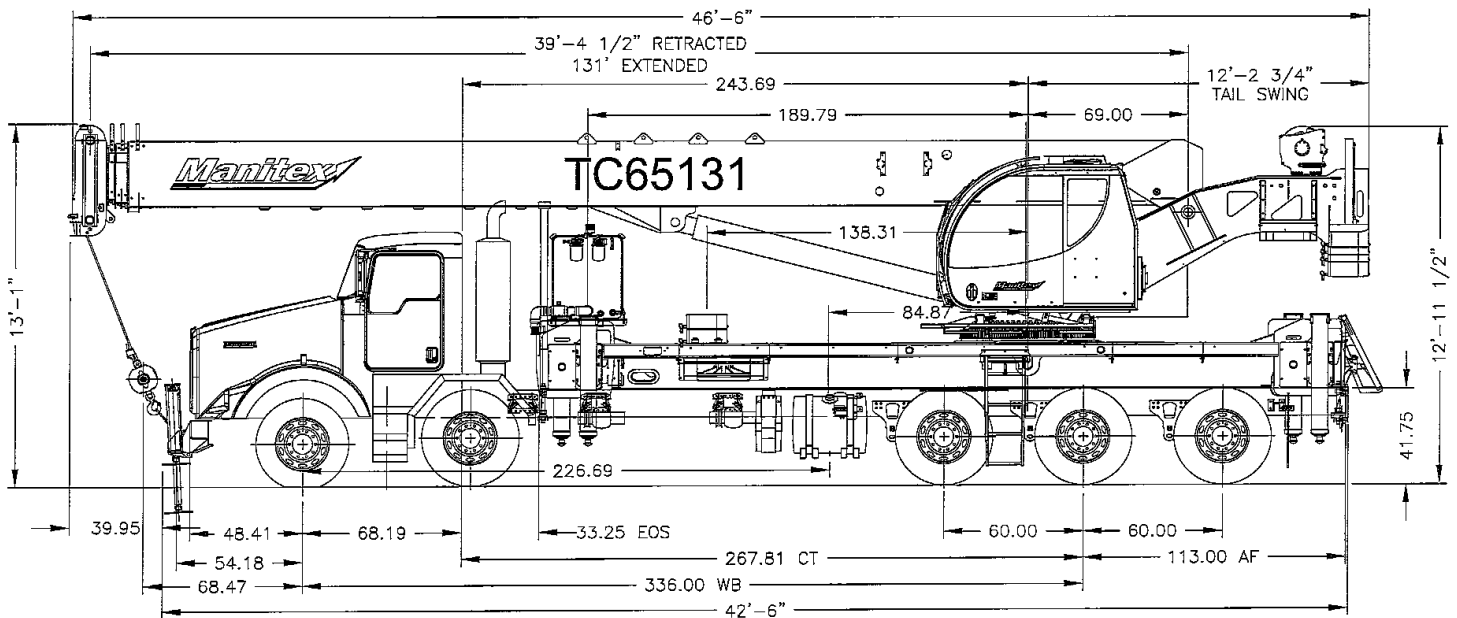
- Trapezoid sub-frame and outriggers are mounted to chassis by threaded rods and clamp plates
- Sub-frame: Torsion resistant, rigid 4-plate design mounted under crane full length of truck frame
- Rear under-ride protection: Standard on factory mounted cranes

## ELECTRICAL SYSTEM

- State-of-the-art, weather-resistant components throughout
- Hermetically sealed enclosure includes power in relays and circuit status LEDs
- 12-24 Volt capability
- J1939 CAN Bus
- IQAN PLC System
- Bluetooth connectivity

# 65131 CHASSIS DATA

## Dimensions



### CHASSIS DATA

Model	65131
Frame section modulus at 180/360° area of operation*	27.0 in <sup>3</sup> 120,000 psi, 758,423 kPa

\* Frame selection modulus at 360° area of operation requires front bumper stabilizer.

### TRUCK AXLE WEIGHT

Model	65131
Min. truck axle W - Front**	10,750 lbs. (4876 kg)
Min. truck axle W - Rear**	12,300 lbs. (5,579 kg)
Nominal Frame W	34 in. (864 mm)

\*\* Minimum chassis weight is required to meet 85% stability requirements. Chassis data is general - not for engineering. Some dimensions depend on truck selection.

### CRANE WEIGHT

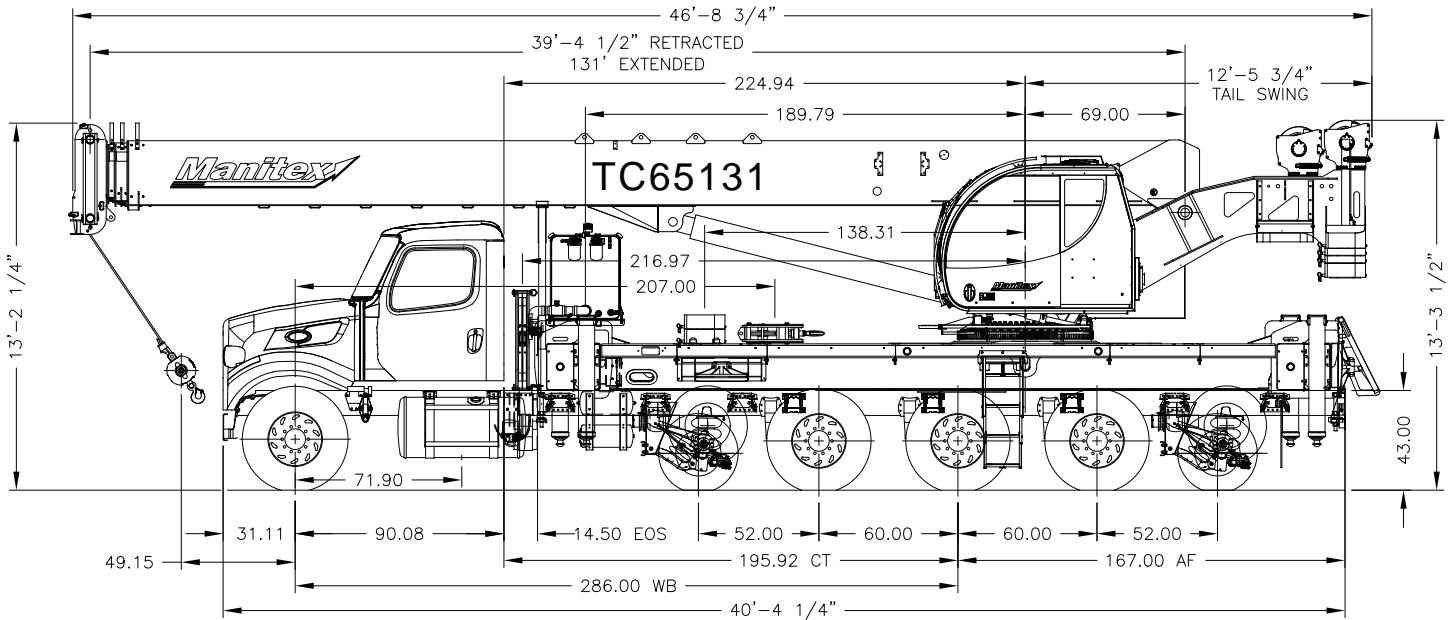
Model	65131
Crane - Dry weight	49,715 lbs. (22,550 kg)
Jib fixed	1,700 lbs. (771 kg)
Jib telescopic	2,300 lbs. (1,043 kg)
Aluminum Platforms	555 lbs. (252 kg)
Counter weight	10,000 lbs. (4,536 kg)

Notes: Additional axles required for federal bridge legal configuration - consult Manitex. Manitex highly recommends the addition of a front stabilizer and it may be required on some installations - consult Manitex.

Data published herein is intended as a guide only. Crane operation is subject to machine specific load charts and information.

# 65131 CHASSIS DATA

## Dimensions



### CHASSIS DATA

Model	65131
Frame section modulus at 180/360° area of operation*	27.0 in <sup>3</sup> 120,000 psi, 758,423 kPa

\* Frame selection modulus at 360° area of operation requires front bumper stabilizer.

### TRUCK AXLE WEIGHT

Model	65131
Min. truck axle W - Front**	10,750 lbs. (4876 kg)
Min. truck axle W - Rear**	12,300 lbs. (5,579 kg)
Nominal Frame W	34 in. (864 mm)

\*\* Minimum chassis weight is required to meet 85% stability requirements. Chassis data is general - not for engineering. Some dimensions depend on truck selection.

### CRANE WEIGHT

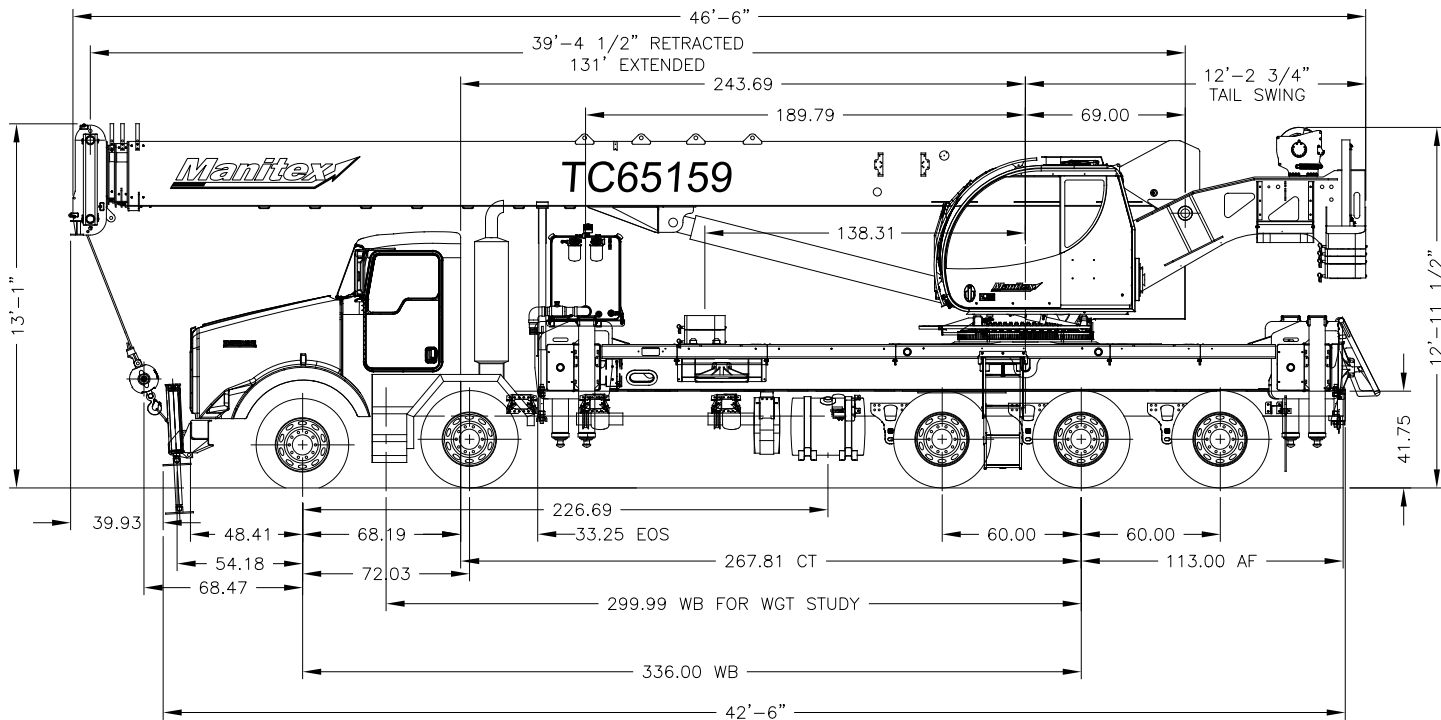
Model	65131
Crane - Dry weight	49,715 lbs. (22,550 kg)
Jib fixed	1,700 lbs. (771 kg)
Jib telescopic	2,300 lbs. (1,043 kg)
Aluminum Platforms	555 lbs. (252 kg)
Counter weight	10,000 lbs. (4,536)

Notes: Additional axles required for federal bridge legal configuration - consult Manitex. Manitex highly recommends the addition of a front stabilizer and it may be required on some installations - consult Manitex.

Data published herein is intended as a guide only. Crane operation is subject to machine specific load charts and information.

# 65159 CHASSIS DATA

## Dimensions



## CHASSIS DATA

Model	65159
Frame section modulus at 180/360° area of operation*	27.0 in <sup>3</sup> 120,000 psi, 758,423 kPa

\* Frame selection modulus at 360° area of operation requires front bumper stabilizer.

## TRUCK AXLE WEIGHT

Model	65159
Min. truck axle W - Front**	10,100 lbs. (4581 kg)
Min. truck axle W - Rear**	14,730 lbs. (6,682 kg)
Nominal Frame W	34 in. (864 mm)

\*\* Minimum chassis weight is required to meet 85% stability requirements. Chassis data is general - not for engineering. Some dimensions depend on truck selection.

## CRANE WEIGHT

Model	65159
Crane - Dry weight	52,830 lbs. (23,963 kg)
Jib fixed - 38 ft.	2,200 lbs. (998 kg)
Jib telescopic	2,300 lbs. (1,043 kg)
Aluminum Platforms	555 lbs. (252 kg)
Counter weight	10,000 lbs. (4,536)

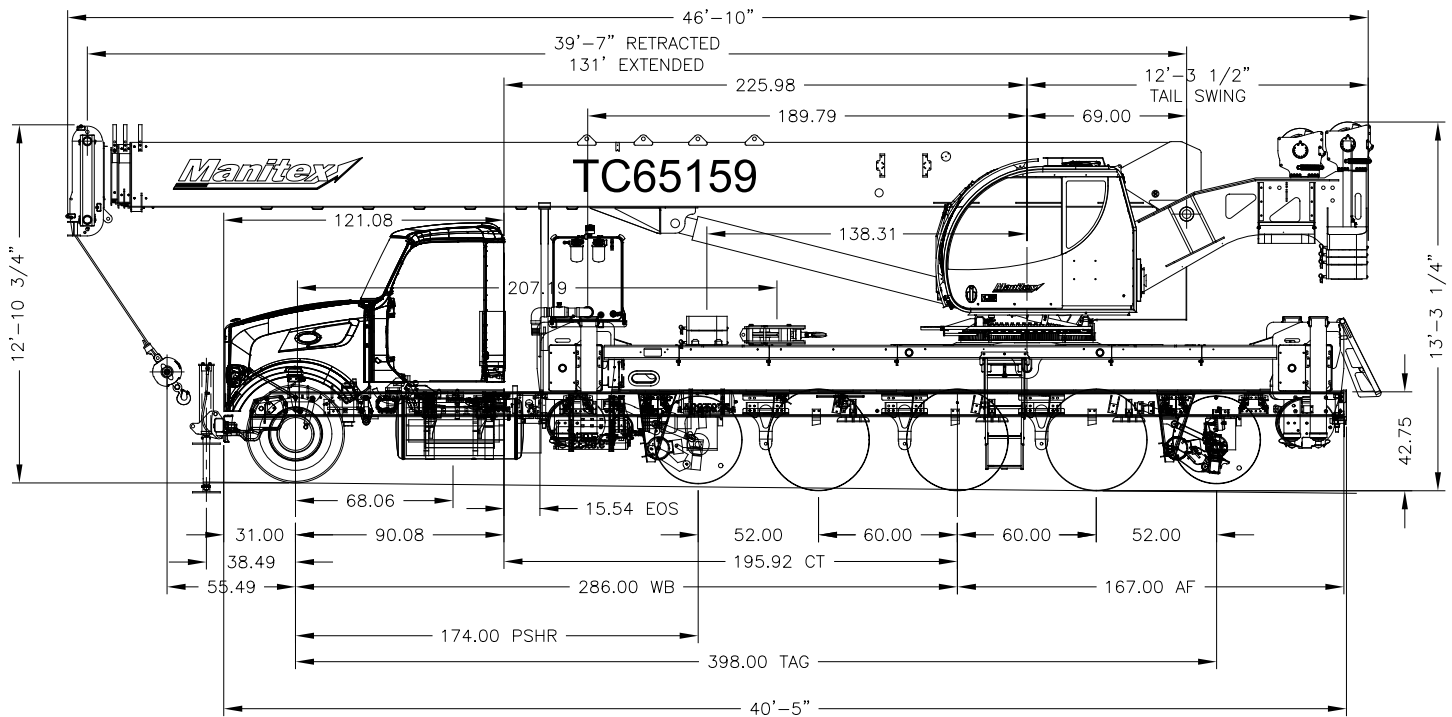
Manitex recommends the addition of a front stabilizer and it may be required on some installations - consult Manitex.

Data published herein is intended as a guide only. Crane operation is subject to machine specific load charts and information.



# 65159 CHASSIS DATA

## Dimensions



## CHASSIS DATA

Model	65159
Frame section modulus at 180/360° area of operation*	27.0 in <sup>3</sup> 120,000 psi, 758,423 kPa

\* Frame selection modulus at 360° area of operation requires front bumper stabilizer.

## TRUCK AXLE WEIGHT

Model	65159
Min. truck axle W - Front**	10,100 lbs. (4581 kg)
Min. truck axle W - Rear**	14,730 lbs. (6,682 kg)
Nominal Frame W	34 in. (864 mm)

\*\* Minimum chassis weight is required to meet 85% stability requirements. Chassis data is general - not for engineering. Some dimensions depend on truck selection.

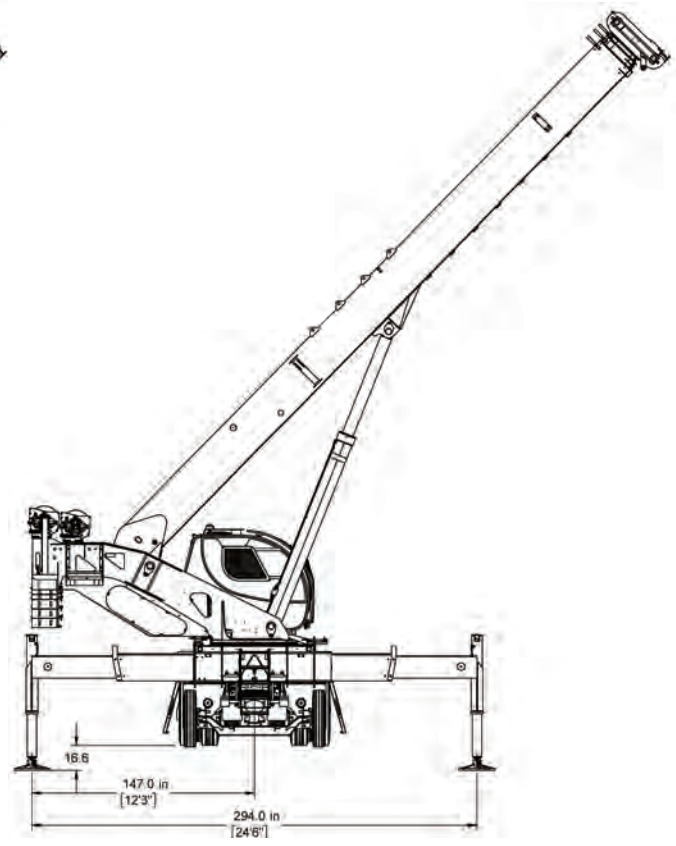
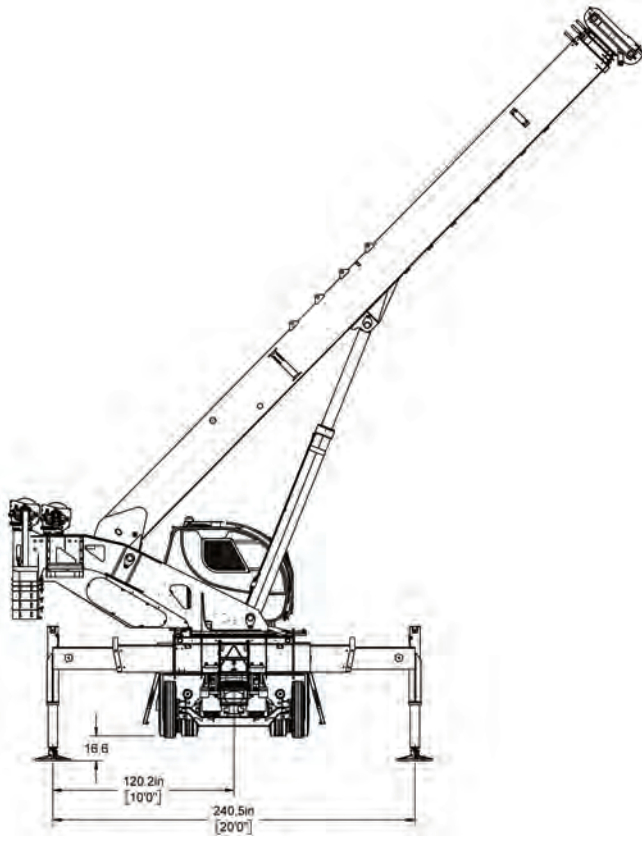
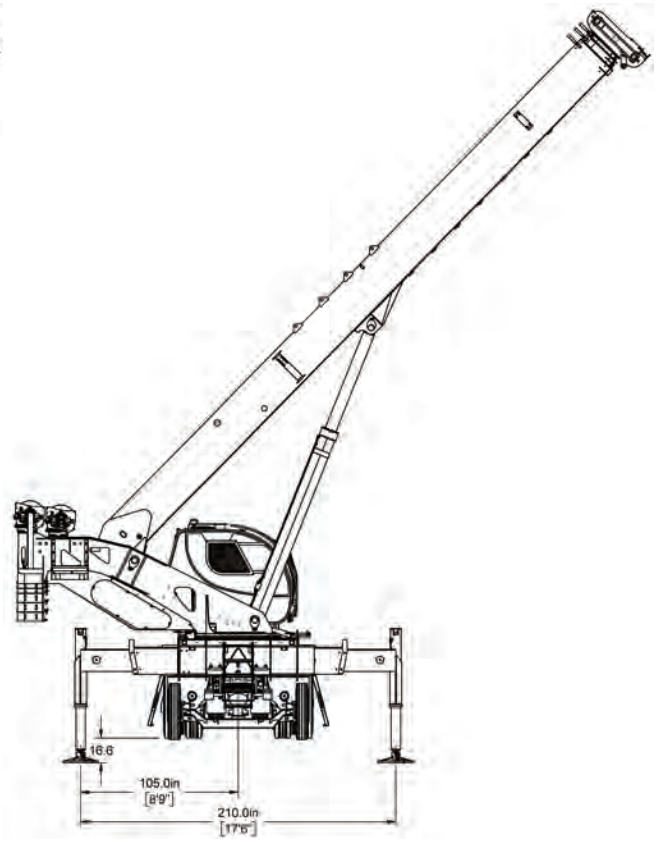
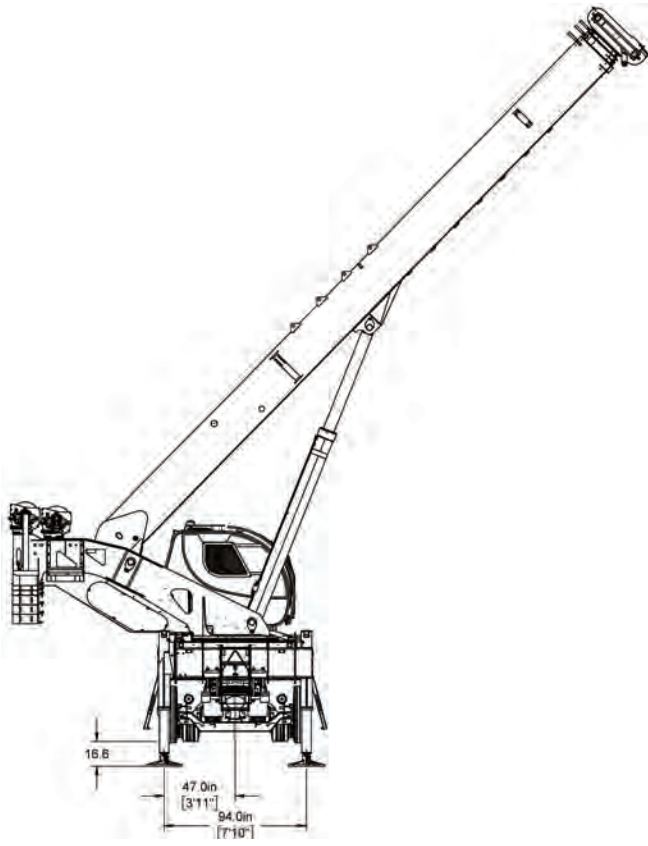
## CRANE WEIGHT

Model	65159
Crane - Dry weight	52,830 lbs. (23,963 kg)
Jib fixed - 38 ft.	2,200 lbs. (998 kg)
Jib telescopic	2,300 lbs. (1,043 kg)
Aluminum Platforms	555 lbs. (252 kg)
Counter weight	10,000 lbs. (4,536)

Manitex recommends the addition of a front stabilizer and it may be required on some installations - consult Manitex

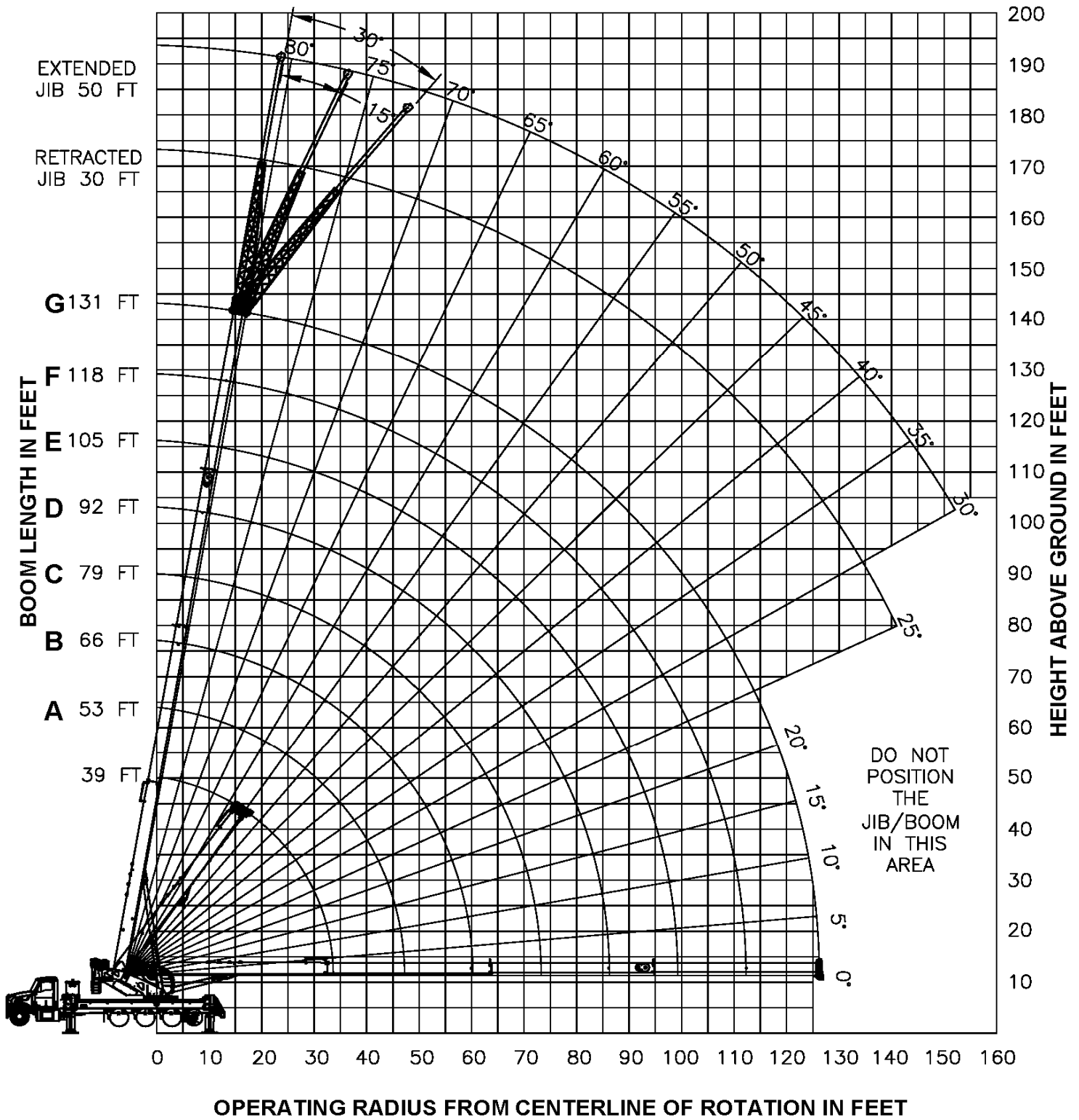
Data published herein is intended as a guide only. Crane operation is subject to machine specific load charts and information.

# OUTRIGGER EXTENSION



# TC65131 RANGE DIAGRAM

- RANGE DIAGRAM -



# 65131 LOAD CHART: Main Boom



MAIN BOOM



LOAD RADIUS (FT)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	LOAD RADIUS (FT)
LENGTH		39.3 FT	53 FT		66 FT		79 FT		92 FT		105 FT		118 FT		131 FT		
6	74°	130000															6
8	70°	120000															8
10	67°	104870	74°	80000	77°	73200											10
12	64°	95630	71°	80000	76°	68990	78°	54510									12
15	59°	84050	68°	74250	73°	62490	76°	49640	79°	38040							15
20	50°	65540	62°	62410	68°	53070	72°	43090	75°	33510	78°	28990					20
25	40°	50810	55°	51800	63°	46050	69°	37560	72°	29440	75°	25810	77°	22810			25
30	26°	40810	49°	41860	58°	40230	65°	33320	69°	26050	72°	23390	75°	20770	77°	18180	30
35			41°	34350	53°	35090	61°	29630	66°	23500	69°	21000	73°	18830	75°	16770	35
40			31°	26710	47°	27420	56°	26450	62°	21000	66°	18910	70°	17110	73°	15360	40
45			18°	21340	41°	22090	52°	22510	58°	18920	63°	17130	67°	15520	70°	14070	45
50					35°	18150	47°	18570	55°	17110	60°	15540	65°	14150	68°	12900	50
55					28°	15110	41°	15550	51°	15570	57°	14150	62°	12930	66°	12100	55
60					18°	12630	35°	13150	46°	13430	54°	12920	59°	12100	63°	11110	60
65							28°	11200	42°	11490	50°	11680	56°	11100	61°	10190	65
70							18°	9560	36°	9870	46°	10070	53°	10190	58°	9370	70
75									30°	8510	42°	8710	50°	8850	55°	8620	75
80									23°	7340	38°	7550	46°	7690	52°	7800	80
85									11°	6300	33°	6550	43°	6690	49°	6800	85
90											27°	5670	39°	5820	46°	5930	90
95											19°	4850	34°	5030	43°	5150	95
100													29°	4310	39°	4440	100
105													23°	3670	36°	3800	105
110													14°	3080	31°	3230	110
115															26°	2710	115
120															19°	2240	120
125															6°	1790	125
130																	130
DEDUCTIONS FOR MAIN BOOM CAPACITIES	0°	30700	0°	18200	0°	12450	0°	8350	0°	6050	0°	4250	0°	2900	0°	600	
		1570		1140		920		770		660		580		520		460	STOWED
		3510		3240		3100		3010		2940		2890		2850		2820	RET
		3910		3530		3340		3200		3110		3040		2980		2940	EXT
	2620		2420		2320		2250		2200		2170		2140		2120	FIXED	

# 65131 LOAD CHART: Main Boom



MAIN BOOM



**10,000**

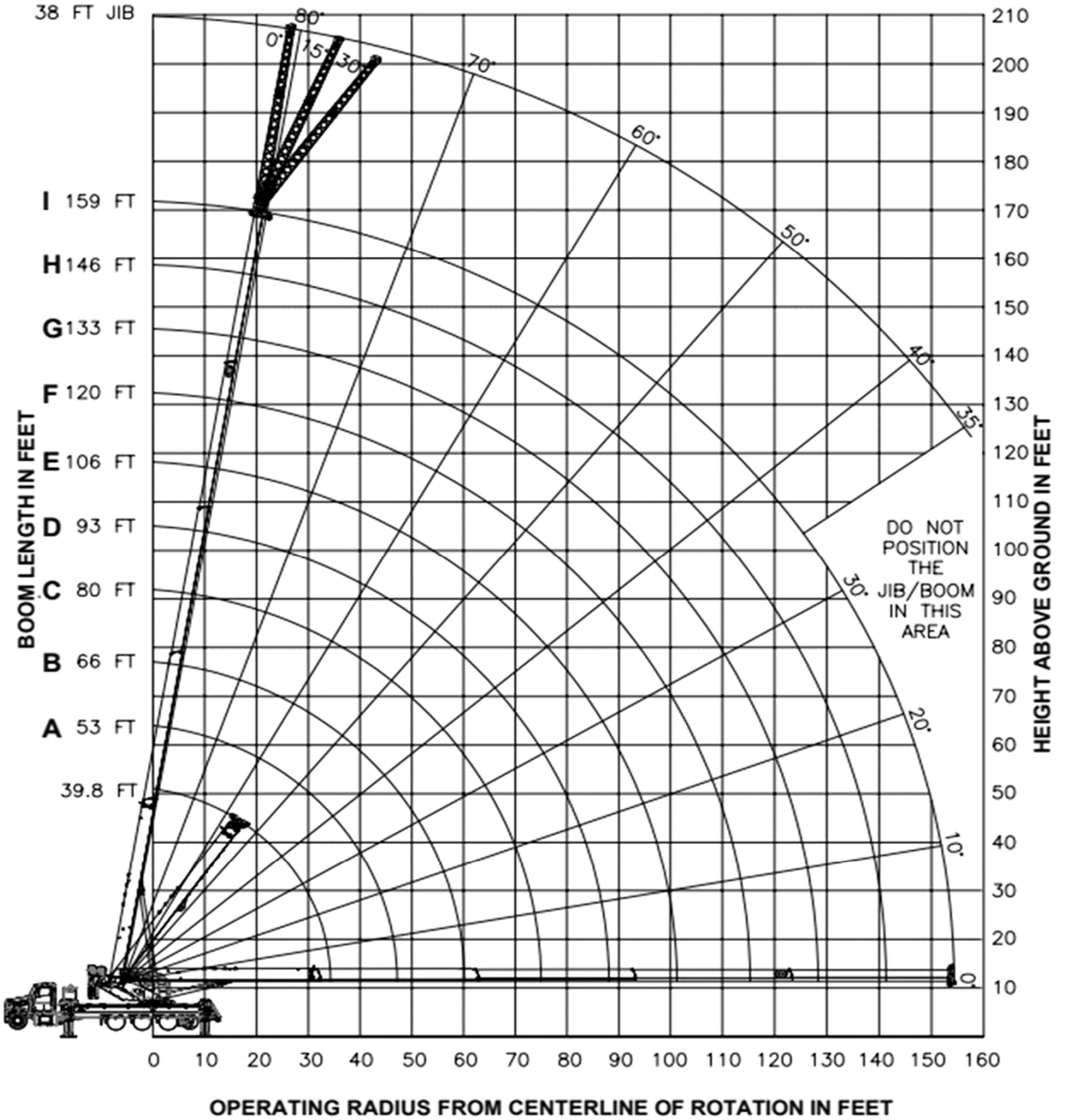
**24'-6"**

**REAR**

LOAD RADIUS (FT)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	LOAD RADIUS (FT)	
<b>LENGTH</b>		<b>39.3 FT</b>	<b>53 FT</b>		<b>66 FT</b>		<b>79 FT</b>		<b>92 FT</b>		<b>105 FT</b>		<b>118 FT</b>		<b>131 FT</b>	
6	74°	130000														6
8	70°	120000														8
10	67°	104870	74°	80000	77°	73200										10
12	64°	95630	71°	80000	76°	68990	78°	54510								12
15	59°	84050	68°	74250	73°	62490	76°	49640	79°	38040						15
20	50°	65540	62°	62410	68°	53070	72°	43090	75°	33510	78°	28990				20
25	40°	50810	55°	51800	63°	46050	69°	37560	72°	29440	75°	25810	77°	22810		25
30	26°	40810	49°	41860	58°	40230	65°	33320	69°	26050	72°	23390	75°	20770	77°	18180
35			41°	34680	53°	35220	61°	29630	66°	23500	69°	21000	73°	18830	75°	16770
40			31°	29250	47°	29810	56°	26450	62°	21000	66°	18910	70°	17110	73°	15360
45			18°	24140	41°	24840	52°	24040	58°	18920	63°	17130	67°	15520	70°	14070
50					35°	20780	47°	21180	55°	17110	60°	15540	65°	14150	68°	12900
55					28°	17600	41°	18010	51°	15570	57°	14150	62°	12930	66°	12100
60					18°	13960	35°	15480	46°	14210	54°	12920	59°	12100	63°	11110
65							28°	13390	42°	13000	50°	12100	56°	11100	61°	10190
70							18°	11630	36°	11930	46°	11110	53°	10190	58°	9370
75									30°	10460	42°	10190	50°	9360	55°	8620
80									23°	9180	38°	9380	46°	8620	52°	7940
85									11°	8050	33°	8290	43°	7950	49°	7310
90											27°	7320	39°	7300	46°	6740
95											19°	6460	34°	6620	43°	6200
100													29°	5870	39°	5720
105													23°	5180	36°	5250
110													14°	4560	31°	4690
115															26°	4140
120															19°	3630
125															6°	3140
130																130
DEDUCTIONS FOR MAIN BOOM CAPACITIES	0°	30700	0°	19750	0°	13750	0°	9100	0°	7350	0°	4500	0°	3750	0°	600
		1570		1140		920		770		660		580		520		460
		3510		3240		3100		3010		2940		2890		2850		2820
		3910		3530		3340		3200		3110		3040		2980		2940
		2620		2420		2320		2250		2200		2170		2140		2120
																STOWED
																RET
																EXT
																FIXED

# TC65159 RANGE DIAGRAM

- RANGE DIAGRAM -



# 65159 LOAD CHART: Main Boom



MAIN BOOM



RADIUS (FT)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	RADIUS (FT)		
LENGTH	39.8 FT		53 FT		66 FT		80 FT		93 FT		106 FT		120 FT		133 FT		146 FT		159 FT		
6	73°	130000	78°	58000																6	
8	70°	118100	76°	58000	79°	58000														8	
10	67°	106200	73°	58000	77°	58000	80°	58000												10	
12	64°	95900	71°	58000	75°	58000	78°	57900	80°	46400										12	
15	59°	82800	68°	58000	73°	58000	76°	52300	79°	42400	80°	33500								15	
20	50°	65100	61°	58000	68°	54000	72°	45000	75°	36800	78°	29320	80°	24490						20	
25	40°	50200	55°	51000	63°	46500	69°	39000	72°	32300	75°	25820	77°	22030	79°	19070	81°	13000		25	
30	26°	40000	48°	41000	58°	40500	65°	34400	69°	28560	72°	23200	75°	19670	77°	17290	79°	13000	81°	9450	30
35			40°	33700	53°	34300	61°	30500	66°	25390	69°	20660	73°	17630	75°	15630	77°	13000	79°	9500	35
40			31°	27360	47°	28110	56°	27250	62°	22930	66°	18500	70°	15830	73°	14190	75°	12500	77°	9500	40
45			17°	21670	40°	22460	52°	23030	58°	20640	63°	16680	67°	14300	71°	12870	73°	11600	75°	9500	45
50					33°	18280	47°	18830	55°	18740	60°	15090	65°	13020	68°	11930	71°	10620	73°	9000	50
55					24°	15050	42°	15600	51°	16010	57°	13690	62°	12020	66°	10840	69°	9720	71°	8450	55
60					5°	12370	36°	13040	47°	13430	54°	12460	59°	10940	63°	9880	67°	8880	70°	7780	60
65							29°	10940	42°	11330	50°	11570	56°	9960	61°	9030	64°	8130	68°	7140	65
70							20°	9180	37°	9590	46°	9900	53°	9100	58°	8250	62°	7430	65°	6560	70
75									31°	8110	42°	8420	50°	8300	55°	7530	60°	6780	63°	6010	75
80									24°	6840	38°	7150	47°	7450	53°	6870	57°	6190	61°	5500	80
85									14°	5700	33°	6050	43°	6340	50°	6280	55°	5670	59°	5020	85
90											27°	5080	39°	5380	47°	5630	52°	5160	57°	4560	90
95											20°	4210	35°	4520	44°	4760	50°	4690	54°	4150	95
100													30°	3750	40°	3990	47°	4230	52°	3760	100
105													25°	3050	36°	3300	44°	3530	50°	3400	105
110													17°	2400	32°	2680	41°	2900	47°	3050	110
115															27°	2100	37°	2320	44°	2530	115
120															22°	1560	34°	1800	41°	2000	120
125															13°	1040	29°	1320	38°	1520	125
130																	25°	860	35°	1070	130
135																					135
140																					140
	0°	25400	0°	18000	0°	12150	0°	6950	0°	5000	0°	2800	0°	1550							
STOWED		910		650		510		420		350		310		270		240		220		200	
ERECTED		2440		2220		2100		2010		1960		1920		1890		1860		1850		1830	

DEDUCTIONS FOR JIB FROM MAIN BOOM CAPACITIES

# 65159 LOAD CHART: Main Boom

CODE 10

MAIN BOOM



RADIUS (FT)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	ANGLE	LIFTING CAP. (LBS)	RADIUS (FT)		
LENGTH	39.8 FT		53 FT		66 FT		80 FT		93 FT		106 FT		120 FT		133 FT		146 FT		159 FT		
6	73°	130000	78°	58000																6	
8	70°	118100	76°	58000	79°	58000														8	
10	67°	106200	73°	58000	77°	58000	80°	58000												10	
12	64°	95900	71°	58000	75°	58000	78°	57900	80°	46400										12	
15	59°	82800	68°	58000	73°	58000	76°	52300	79°	42400	80°	33500								15	
20	50°	65100	61°	58000	68°	54000	72°	45000	75°	36800	78°	29320	80°	24490						20	
25	40°	50200	55°	51000	63°	46500	69°	39000	72°	32300	75°	25820	77°	22030	79°	19070	81°	13000		25	
30	26°	40000	48°	41000	58°	40500	65°	34400	69°	28560	72°	23200	75°	19670	77°	17290	79°	13000	81°	9450	30
35			40°	33700	53°	34200	61°	30500	66°	25390	69°	20660	73°	17630	75°	15630	77°	13000	79°	9500	35
40			31°	28220	47°	28780	56°	27250	62°	22930	66°	18500	70°	15830	73°	14190	75°	12500	77°	9500	40
45			17°	23840	40°	24460	52°	24510	58°	20640	63°	16680	67°	14300	71°	12870	73°	11600	75°	9500	45
50					33°	20980	47°	21420	55°	18740	60°	15090	65°	13020	68°	11930	71°	10620	73°	9000	50
55					24°	17660	42°	18160	51°	17030	57°	13690	62°	12020	66°	10840	69°	9720	71°	8450	55
60					5°	12810	36°	15450	47°	15540	54°	12460	59°	10940	63°	9880	67°	8880	70°	7780	60
65							29°	13220	42°	13570	50°	11570	56°	9960	61°	9030	64°	8130	68°	7140	65
70							20°	11320	37°	11700	46°	10590	53°	9100	58°	8250	62°	7430	65°	6560	70
75									31°	10110	42°	9700	50°	8300	55°	7530	60°	6780	63°	6010	75
80									24°	8720	38°	8890	47°	7580	53°	6870	57°	6190	61°	5500	80
85									14°	7480	33°	7820	43°	6940	50°	6280	55°	5670	59°	5020	85
90											27°	6760	39°	6350	47°	5720	52°	5160	57°	4560	90
95											20°	5800	35°	5790	44°	5200	50°	4690	54°	4150	95
100													30°	5260	40°	4740	47°	4250	52°	3760	100
105													25°	4490	36°	4300	44°	3840	50°	3400	105
110													17°	3780	32°	3900	41°	3460	47°	3050	110
115															27°	3410	37°	3100	44°	2720	115
120															22°	2810	34°	2770	41°	2410	120
125															13°	2240	29°	2460	38°	2110	125
130																	25°	2010	35°	1820	130
135																	18°	1520	31°	1540	135
140																	3°	970	27°	1280	140
145																			22°	900	145
	0°	25350	0°	19200	0°	12600	0°	7200	0°	5900	0°	2600	0°	1650	0°	1250	0°	900			
STOWED		910		650		510		420		350		310		270		240		220		200	
ERECTED		2440		2220		2100		2010		1960		1920		1890		1860		1850		1830	

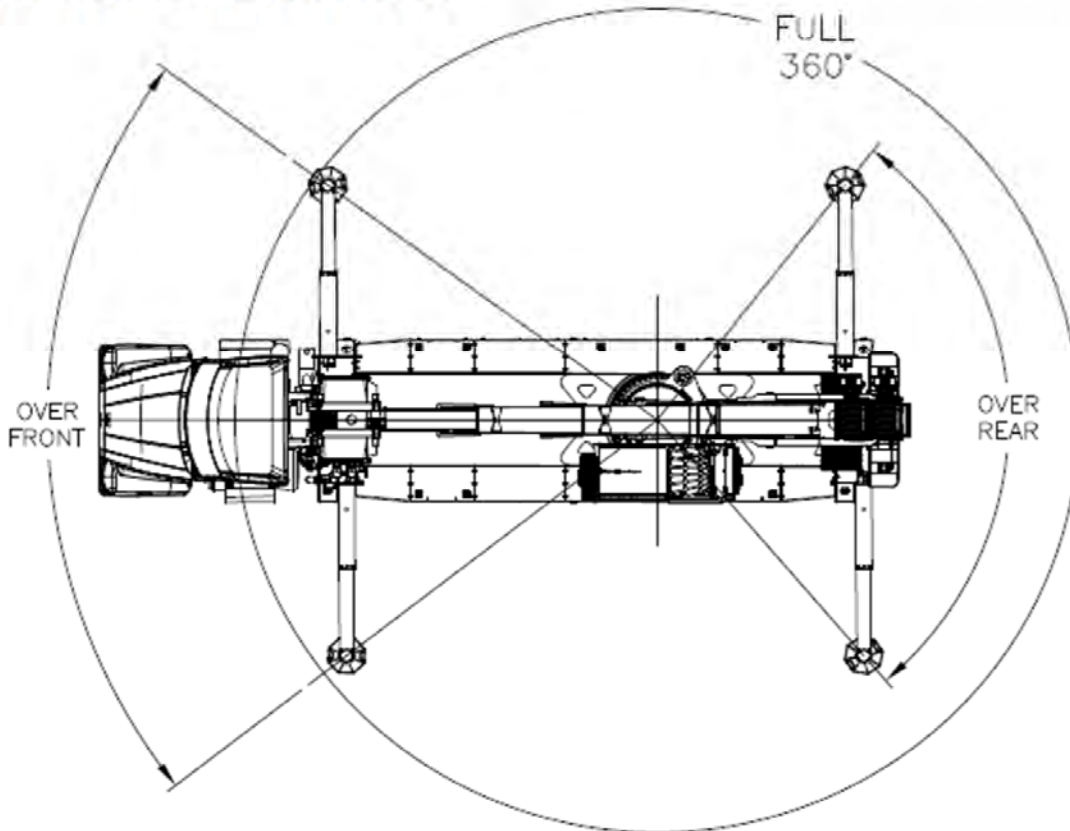
DEDUCTIONS FOR JIB FROM MAIN BOOM CAPACITIES



# REEVING and AREA OF OPERATION

ALLOWABLE LINE PULL											WARNING
1 PART LINE	2 PART LINE	3 PART LINE	4 PART LINE	5 PART LINE	6 PART LINE	7 PART LINE	8 PART LINE	9 PART LINE	10 PART LINE	11 PART LINE	
											<p>ANTI-TWO-BLOCK SYSTEM MUST BE IN GOOD OPERATING CONDITION BEFORE OPERATING CRANE.</p> <p>REFER TO THE OWNER'S MANUAL.</p> <p>KEEP AT LEAST 3 WRAPS OF LOAD LINE ON THE DRUM AT ALL TIMES.</p>
12000 LBS	24000 LBS	36000 LBS	48000 LBS	60000 LBS	72000 LBS	84000 LBS	96000 LBS	108000 LBS	120000 LBS	130000 LBS	5/8" ROT RESISTANT (5:1 SF) 61,200 LBS MIN BREAKING STRENGTH

## AREA OF OPERATIONS



WHEN WORKING OVER THE FRONT, THE OPTIONAL FRONT BUMPER STABILIZER (IF EQUIPPED) MUST BE DEPLOYED. IF NO FRONT BUMPER STABILIZER IS EQUIPPED, THE FRONT TIRES MUST BE CONTACTING THE GROUND.

DEDUCTIONS FROM RATED LOADS FOR LOAD HANDLING DEVICES SUPPLIED BY MANITEX

- AUXILIARY BLOCK----- 50 LBS
- AUXILIARY (ROOSTER) SHEAVE----- 70 LBS
- LIFTING FROM MAIN BOOM WITH JIB STOWED OR ERECTED----- SEE LOAD CHART
- OVERHAUL BALL----- SEE MANUFACTURER NAMEPLATE
- LOAD BLOCK----- SEE MANUFACTURER NAMEPLATE

# TECHNICAL DESCRIPTIONS

## Boom



Boom lengths: Proportional boom

- 4-section 131 ft. (39.92 m)
- 5-section 159 ft. (48.5 m)

5-Sheave load quick reeve boom point with 2 idler reeve boom points.

Self lubricating slider pads



Boom max. tip height 65131: 141 ft. (43 m)

Boom max. tip height 65159: 169 ft. (51.5 m)



Boom angle (min/max): -6° / 80°

## Rotation



Ball-bearing swing circle with external gear Double-reduction planetary gearbox driven by hydraulic motor



Slewing brake: Spring-applied pressure released automatic brake and Free Swing and Non-Free Swing selection from the operator's keypad.



Slewing speed: 1.5 - 2 rpm. (nominal)

Boom rotation: 360° continuous

## Outriggers



Outriggers: Out-and-down style  
Outrigger monitoring system (for verification only)  
Outrigger motion alarm  
Full extension 100%

- Front and rear: 24.5 ft. (7,5 m)

Middle extension 68%

- Front and rear: 20 ft. (6,0 m)

Middle extension 50%

- Front and rear: 17.5 ft. (5,3 m)

Full retraction 0%



ROC Solid - Radio operated handheld controller for outrigger, winches and FBS setup  
Crane is shipped with the boom radio remote ready.

## Operator aids



Externally routed A2B cable. Color graphic display with LMI crane function cut-offs for overload protection, event recorder and WADS-Work Definition System.  
HDRI - Hoist Drum Rotation Indicator

## Hoist, Rope and Hook



Maximum theoretical line speed: 453 fpm (138 mpm)



Maximum theoretical bottom-layer line pull: 15,000 lbs. (5,919 kg) Limited to 12,000 lbs.



Main winch cable diameter: 5/8 in. (15,9 mm) rotation resistant



Line length: 500 ft. (152 m)



Main winch: Bent axis 2-speed hydraulic motor (activated electrically)

Optional Third Wrap Limiter on both Main and Auxiliary Winch



Hook and Ball: 7T (6,4 mt) capacity hook with heavy-duty swivel and weight is provided for single line operation

## Hydraulics



8-bolt direct mounted PTO and SAE C output (factory mounted units only)

1-Section Variable Displacement Piston Pump, SAE C input

Piggy back Fixed Gear Pump (Swing)

Hydraulic Reservoir capacity: 210 Gallon

Pump Sections @ 2000 RPM with 100 PSI

- Variable Displacement Pump: 77 GPM (291 lpm)
- Fixed Displacement Gear Pump: 12 GPM (45 lpm)
- Optional Front Bumper Stabilizer

## Tilttable Cab/Cab Controls



Standard features:

Curved glass, 0° to 20° cab tilt, Sliding door, heated cloth seat, 8 seat adjustments, lumbar support, reclining and adjustable head rest, sliding windows, rear pop out window, top hinged hatch, with guard, front and top windshield wipers, heater, air conditioning, 12 volt DC outlet, USB ports, engine monitoring system, E-coated cab



Controls:

PLC crane controller, CANBUS communication, J1939 truck engine communication, electric hand and foot throttle, twin dual axis joysticks, electric/hydraulic valve actuation, electronic sensor monitoring, Hirschmann/PAT LMI system available, wired ATB and wired wind speed sensors, telematics, GPS monitoring, remote diagnostic capability, Work Area Definition (WADs)

# TECHNICAL DESCRIPTIONS

## Boom

### Boom



Boom max. tip height 65131: 141 ft. (43 m)

### Maximum Boom Length with Fixed Jib



65131  
 • Max boom length with extension:  
 171' (15,2 m)

### Maximum Tip Height with 2-Piece Jib



65131  
 • Max tip height 2-piece jib:  
 194 ft. (59,1 m)

### Maximum Tip Height with 1-Piece Jib



65159  
 • Max tip height 1-piece jib:  
 209 ft. (63.7 m)

## Hoist, Rope and Hook



Rooster sheave  
 Wireline options available  
 2nd overhaul ball available



Load blocks 1-7, 4-8, 2-8, 9-10 part lines

## Removable Counterweights



• Removable Counterweights 10,000 lb.  
 2 - 1,250 lb.  
 3 - 2,500 lb.

# OPTIONS

## Cab



- Video camera (1 or 2)
- Cab weather band bluetooth radio system
- Wired wind speed indicator
- Cab Step Light
- Perimeter Lighting
- Strobe Light
- Cab Go-light
- Utilization light
- Slide out operator platform
- 4 single-axis controllers

## Operator Aids



4-function radio remote crane control system with joy sticks (crane is radio remote ready)

- 900 Mhz
- 433 Mhz

## Tool Boxes & Platforms

Tool Boxes

- 2 - 45"x15"x18" storage bins integrated into platforms

## Auxiliary Winch



Auxiliary Winch Bent axis 2-speed hydraulic motor (activated electrically)  
 Drum rotation indicator third Wrap Limiter on both Main and Auxiliary Winch (3rd wrap indicator optional)



# TC650

## 65-ton (59 mt) TC650 SERIES PRODUCT GUIDE



UPTime is the Manitex commitment to complete support of thousands of units working every day.

### MANITEX

3000 South Austin Avenue  
Georgetown, Texas 78626

1-877-314-3390 | [www.Manitex.com](http://www.Manitex.com)

Technical data can be revised without prior notice

MTX-TC650-ENG-V1-092019