



features

- 50 Ton (45,4 mton) Capacity
- 4-Section 110' (33,5 m) Proportional Boom
- 4-Section 96' (29,3 m) Proportional Boom
- 2-Section 32' (9,8 m) To 49' (14,9 m) Telescopic Offset Jib (15°, 30°) Option; equipped with Jib Jack
- 164' (50,1 m) Maximum Tip Height with Telescopic Jib
- 117' (35,6 m) Maximum Main Boom Tip Height
- Self-Lubricating Boom Slider Pads
- Two Speed Planetary Grooved Drum Hoist With Negative Draft Flange and Rope Tensioner
- Auxiliary Hoist Option
- Hoist Drum Rotation Indicator
- Cab Enclosed Ride Around Operator Control Station with Diesel Heater Standard, Air Conditioner Option Available
- Pilot Operated Crane Controls
- Hydraulic System Pressure Gauge
- Free Swing with Accu-Swing Control
- Continuous Rotation
- 360° Work Area
- ROCSolid Outriggers feature Radio Remote Outrigger Controls, Audible Outrigger Motion Alarm
- Retracted, Intermediate And Fully Extended Outrigger Load Charts
- Load Chart On Tires Over The Rear
- Load Moment Indicator with Digital Display, CANbus system interface, Overload Shutdown and Internal Boom Length Cable
- Radio Anti-Two-Block System
- Rugged, Weatherproof, Automotive Style Electrical System
- Hydraulic Oil Cooler
- Clamp-On Mounting
- Design Meets ANSI B30.5 Recommendations
- Manitex UPTIME Comprehensive Support

series 5002

BOOM TRUCKS



product guide



series 5002

GENERAL SPECIFICATIONS

BOOM

Inverted T-cross section designed for optimum strength to weight ratio; 4-section telescoping type, extended and retracted proportionally by a double-acting hydraulic cylinder and a cable-crowd system. Fitted with easily replaceable self-lubricating wear pads for smooth operation.

50110S – 4-Section 34' (10,4 m) to 110' (33,5 m)

5096S – 4-Section 30' 6" (9,3 m) to 96' (29,3 m)

Quick Reeve Boom Point – Fitted with two upper and four lower high-density nylon load sheaves mounted on heavy-duty roller bearings. Removable pin-type rope guards.

Boom Elevation – Double-acting hydraulic cylinder. Working range from 5° below horizontal to 75° above.

Load Hook – 5-ton (4,5 mton) capacity hook with heavy-duty swivel and weight is provided for single-line operation.

Jib (Option) - Inverted T-cross section designed for optimum strength to weight ratio. 2-Section 32' (9,8 m) To 49' (14,9 m), Offsetting (0°, 15°, 30°); manually extended. Features **Jib Jack** and stow bracket design for one-man operations. Compatible with models 5096S and 50110S.

HOIST

Planetary reducer with wet multi-disc spring applied, hydraulically released internal brake and grooved drum; negative draft angle on drum flange and load line tension roller virtually eliminates load line stacking while spooling. High efficiency two speed hydraulic motor equipped with patented brake valve for precise lowering.

Main Hoist – Maximum theoretical line speed 453 fpm (138 mpm); maximum theoretical bottom-layer line pull 13396 lb (6 076 kg).

Auxiliary Hoist (Option) - Same as Main

Wire Rope – 400' (122 m), 5/8" (16 mm) diameter. Low Torque type; a designed balance between rope lay and strand lay offers characteristics similar to those attributed to rotation resistant ropes at a 3.5:1 safety design factor.

SWING SYSTEM

Continuous rotation, free swing system assists in tandem lifting and centering of boom over loads. Externally mounted, double-reduction planetary gearbox driven by hydraulic motor. Equipped with a dual brake system; spring-applied hydraulically-released Parking Brake and a foot actuated Dynamic Service brake. Ball-bearing swing circle with external gear.

OUTRIGGERS

Out-and-down style outriggers, operated independently for precise leveling. Fully extended, intermediate extension and fully retracted outrigger beam positions. Bubble levels located in operator cab and near outrigger manual controls.

Maximum outrigger spread 23' 3" (7,1 m), Intermediate outrigger spread 15' 5" (4,7 m), 22" (559 mm) diameter floats.

Front Bumper Stabilizer - Single stabilizer assembly mounted at the front of the truck (required); maximum float load is controlled by preset counterbalance valve to prevent overloading the stabilizer. This feature requires truck front frame extensions, consult factory.

MOUNTING

Lower frame is mounted to chassis by threaded rods and clamp plates. No welding, drilling, or bolting to truck frame is required.

Lower Frame – Torsionally resistant, rigid 4-plate design with integrated outriggers and pedestal.

Rear Underride Protection – Standard on factory-mounted cranes. Fabricated structure mounted under rear of crane. Complies with Bureau Motor Carrier Safety Standard 393.86.

Boom Rest – Heavy-duty fabrication. Easily removed to simplify loading and unloading truck deck.

CONTROL SYSTEM

Single cab enclosed operator platform and seat mounted to turret. Four "pilot operated" single-axis crane controls provide precise metering and multifunction capability; winch control fitted with hoist drum rotation indicator (**HDRI**). Controls are arranged in accordance with ANSI B30.5 standards.

The operator station also includes engine start/stop, air foot throttle, signal horn, load moment indicator display, view of boom angle indicator, load chart, range diagram and the Manitex ACCUSwing control that allows the operator to adjust swing speed up to a maximum of 2.0 rpm.

CAB

Standard features include a diesel heater, top hatch with electric wiper and locking latches, front electric two-speed wiper, spray washer, fuse block, operator cooling fan, dome light, slider side and rear windows, two position side door with keyed outside latch. Cab may be upgraded to include a hydraulic air conditioning unit.

HYDRAULICS

Hydraulic System – A 3-section pump direct-mounted to power take-off on truck transmission provides 41.7 gpm (158 lpm) to the hoist, 28 gpm (106 lpm) to the boom hoist and telescope circuit, and 12 gpm (45 lpm) to the swing and outrigger circuit. 115-gallon (435-liter) baffled reservoir includes suction ball valve with strainer and two 25-micron filters in the return line. Use of SAE O-ring and face seal O-ring hydraulic fittings throughout system.

Hydraulic Cylinders – All load-holding cylinders are equipped with integral holding valves.

WARNING SYSTEMS

Load Moment Indicator – CANbus interface system maximize expansion capabilities. Senses boom hoist cylinder pressure, boom length and boom angle. Audio-visual warning indicates overload conditions and overload shutoff feature prevents continuing overload. Operator can access all relative crane configuration and load conditions via display at the operator station. For added reliability, the LMI system features an internal boom length sensing cable.

Radio Anti-Two-Block System – Audible warning and shutoff functions prevent hook from contacting boom point. Switch is potted to ensure reliability.

Back-Up Alarm – Supplied on factory-mounted cranes, electronic audible motion alarm activated when truck transmission is in reverse gear.

GENERAL

Electrical – State-of-the-art, weather-resistant components throughout; automotive style electrical system for easy installation. System is designed to withstand high pressure washing and varying climates.

Design/Welding – Design conforms to ANSI B30.5. Welding conforms to AWS D1.1. Tested to SAE 1063 and SAE 765.

Manuals – Operator/maintenance and parts manuals depict correct crane operation, maintenance procedures and parts listing.

Warranty – 12-month warranty covers parts and labor resulting from defects in material and workmanship.

* In order to ensure continuous improvement, specifications may change without notice.

MAXIMUM TIP HEIGHT	5096S	50110S
Configuration	Boom 96' 29,3 m	Boom 110' 33,5 m
Extended Boom	103' 10" 31,6 m	117' 35,6 m
Fixed or Retracted Jib	134' 9" 41,1 m	148' 45,0 m
Extended Jib	151' 2" 46,1 m	164' 50,1 m

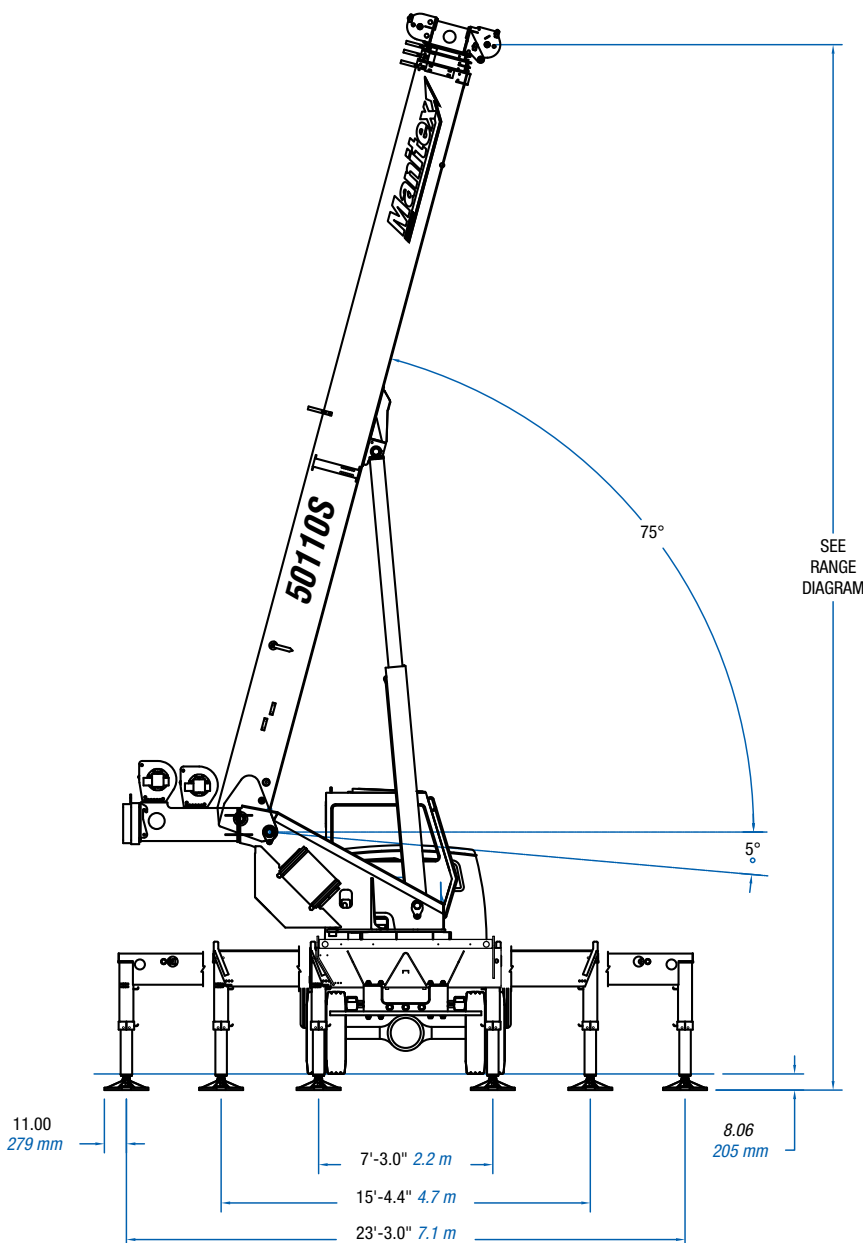
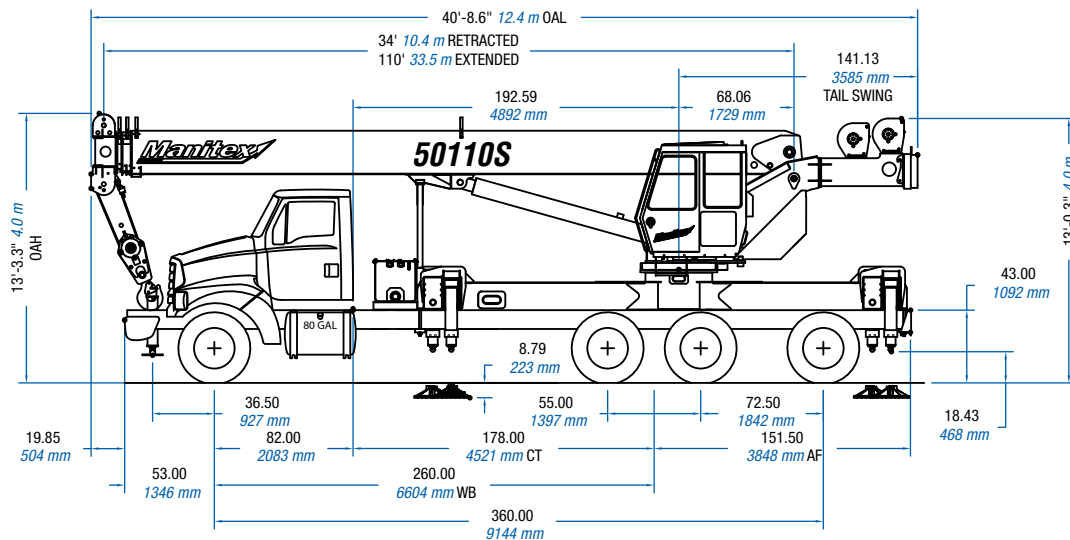
CHASSIS DATA	5096S	50110S
Wheelbase (WB)	246" 6 248 mm	260" 6 604 mm
Cab to Tandem (CT)	182" 4 622 mm	178" 4 521 mm
Cab to End of Frame (EOF)	323" 8 204 mm	330" 8 382 mm
Frame Section Modulus	27.0 in ³ 120,000 psi 827 371 kPa	27.0 in ³ 120,000 psi 827 371 kPa
Front Axle Gross Weight Rating	20,000 lb 9 071 kg	20,000 lb 9 071 kg
Rear Axle Gross Weight Rating	40,000 lb 18 143 kg	40,000 lb 18 143 kg
Minimum Truck Axle Weight - Front*	9,100 lb 4 127 kg	9,000 lb 4 082 kg
Minimum Truck Axle Weight - Back*	11,150 lb 5 057 kg	10,600 lb 4 808 kg
Nominal Frame Width	34" 864 mm	34" 864 mm

Chassis data is minimum general requirements-not for engineering.
Actual dimensions and truck data will depend on truck selection and axle configuration.
*Minimum chassis weight is required to meet 85% stability requirements.

WEIGHTS	5096S	50110S
Crane (Includes Cab and Platforms)	37,535 lb 17 026 kg	38,838 lb 17 617 kg
Cab	575 lb 261 kg	575 lb 261 kg
Aluminum Platforms	542 lb 246 kg	542 lb 246 kg
32' (9,72 m) to 49' (14,94 m) Telescopic Jib	1,870 lb 848 kg	1,870 lb 848 kg



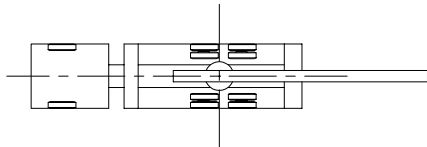
OAH	Overall Height
CT	Cab to Tandem
CA	Cab to Axle
WB	Wheel Base
OAL	Overall Length
BBC	Bumper to Back of Cab
AF	Afterframe
EOF	End Of Frame



AREA OF OPERATIONS

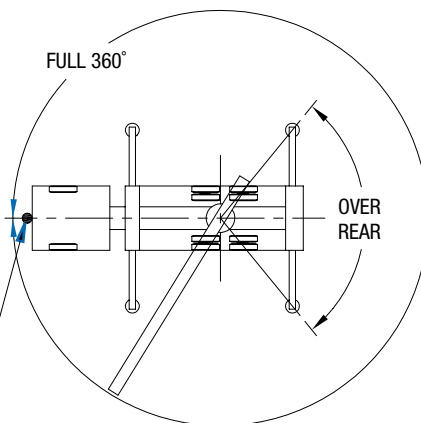
ON TIRES

WHEN LIFTING ON TIRES, THE BOOM MUST BE CENTERED OVER THE REAR OF THE CRANE WITH THE SWING BRAKE AND THE HOUSELOCK ENGAGED.



ON OUTRIGGERS

FULL 360°



OVER REAR

THE FRONT BUMPER STABILIZER MUST BE SET IN ACCORDANCE TO THE OPERATORS MANUAL BEFORE WORKING IN THE "FULL 360°" AREA.

DEDUCTIONS

Auxiliary Block	50 lb <i>22,72 kg</i>
Rooster Sheave	70 lb <i>31,75 kg</i>
Lifting from Main Boom with Jib Stowed or Erected	See load rating chart
Overhaul Ball	See manufacturer nameplate
Load Block	See manufacturer nameplate

ALLOWABLE LINE PULL

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	WARNING
										<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>
10,000 lb <i>4 536 kg</i>	20,000 lb <i>9 072 kg</i>	30,000 lb <i>13 608 kg</i>	40,000 lb <i>18 144 kg</i>	50,000 lb <i>22 680 kg</i>	60,000 lb <i>27 216 kg</i>	70,000 lb <i>31 751 kg</i>	80,000 lb <i>36 287 kg</i>	90,000 lb <i>40 823 kg</i>	100,000 lb <i>45 359 kg</i>	

BOOM AND JIB COMBINATIONS

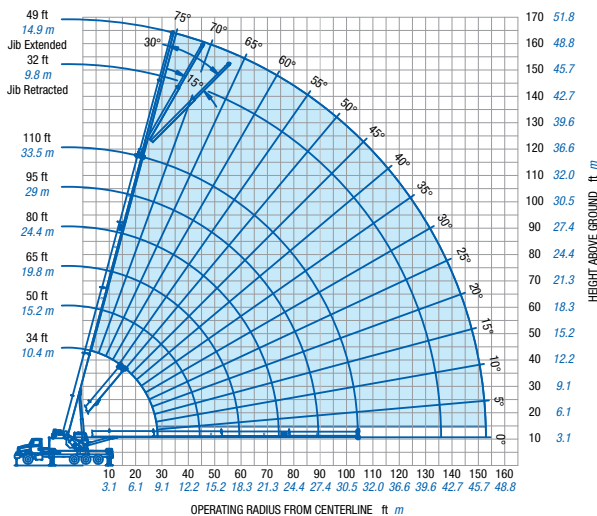
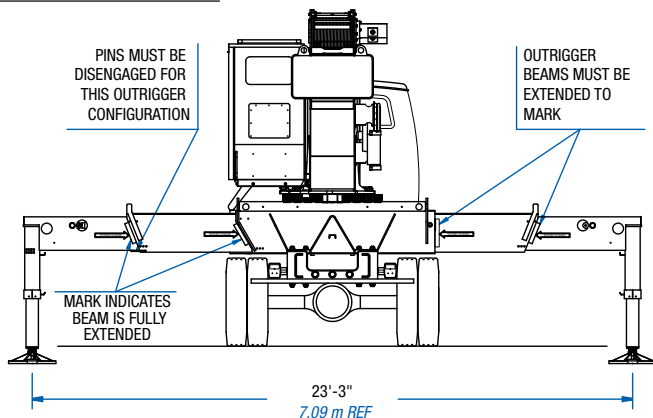
5096S 96' 4 Section Boom 32' - 42' 2 - Section Jib



50110S 110' 4 Section Boom 32' - 42' 2 - Section Jib



USE THIS CHART ONLY WHEN ALL OUTRIGGER BEAMS ARE FULLY EXTENDED



FULLY EXTENDED OUTRIGGER SPREAD: MODEL 50110S

MAIN BOOM LOAD RATINGS

Load Radius	Boom Length 34 ft				Boom Length 50 ft (A)				Boom Length 65 ft (B)							
	Loaded Boom Angle	Code 1		Code 3		Loaded Boom Angle	Code 1		Code 3		Loaded Boom Angle	Code 1		Code 3		
		Over Rear	Full 360°	Over Rear	Full 360°		Over Rear	Full 360°	Over Rear	Full 360°		Over Rear	Full 360°			
Feet	Meters	∠	lb	kg	lb	kg	∠	lb	kg	lb	kg	∠	lb	kg	lb	kg
6	1,83	71	100000	45 360	100000	45 360										
8	2,44	67.5	88100	39 962	88100	39 962										
10	3,05	63.5	77900	35 335	77900	35 335	73	51000	23 134	51000	23 134					
12	3,66	60	69900	31 707	69900	31 707	70.5	51000	23 134	51000	23 134					
15	4,57	53.5	60400	27 397	60400	27 397	67	51000	23 134	51000	23 134	73	40000	18 144	40000	18 144
20	6,10	42	46100	20 911	46100	20 911	60.5	46400	21 047	46400	21 047	68.5	38810	17 604	38810	17 604
25	7,62	26.5	35800	16 239	35670	16 180	53.5	36600	16 602	36600	16 602	63.5	33150	15 037	33150	15 037
30	9,14						45.5	29670	13 458	25590	11 608	58.5	29000	13 154	26150	11 862
35	10,67						36.5	23130	10 492	18980	8 609	53	23610	10 709	19500	8 845
40	12,19						25	18360	8 328	14680	6 659	47	18850	8 550	15190	6 890
45	13,71											40.5	15440	7 004	12160	5 516
50	15,24											32.5	12870	5 838	9920	4 500
55	16,76											22.5	10860	4 926	8170	3 706
			1150 lbs	521 kg			780 lbs		353 kg			600 lbs		272 kg		
			2940 lbs	1 333 kg			2650 lbs		1202 kg			2510 lbs		1138 kg		
			3320 lbs	1 505 kg			2910 lbs		1319 kg			2710 lbs		1229 kg		

Deductions for Jib From Main Boom Capacities

Stowed Jib

Erected Jib (Retracted)

Erected Jib (Extended)

Load Radius	Boom Length 80 ft (C)				Boom Length 96 ft (D)				Boom Length 110 ft (E)							
	Loaded Boom Angle	Code 1		Code 3		Loaded Boom Angle	Code 1		Code 3		Loaded Boom Angle	Code 1		Code 3		
		Over Rear	Full 360°	Over Rear	Full 360°		Over Rear	Full 360°	Over Rear	Full 360°		Over Rear	Full 360°			
Feet	Meters	∠	lb	kg	lb	kg	∠	lb	kg	lb	kg	∠	lb	kg	lb	kg
20	6,10	73.5	28230	12 805	28230	12 805										
25	7,62	69.5	24350	11 045	24350	11 045	73.5	20000	9 071	20000	9 071					
30	9,14	65.5	21280	9 653	21280	9 653	70.5	18680	8 473	18680	8 473	74	15500	7 030	15500	7 030
35	10,67	61.5	19000	8 618	19000	8 618	67.5	16580	7 520	16580	7 520	71.5	14660	6 649	14660	6 649
40	12,19	57.5	16870	7 652	15470	7 017	64	14820	6 722	14820	6 722	69	13270	6 019	13270	6 019
45	13,71	53	15120	6 858	12440	5 643	60.5	13330	6 046	12610	5 719	66	11960	5 424	11960	5 424
50	15,24	48	13130	5 956	10190	4 622	57	12050	5 465	10360	4 699	63	10850	4 921	10480	4 753
55	16,76	43	11140	5 053	8460	3 837	53	10920	4 953	8620	3 909	60	9950	4 513	8740	3 964
60	18,29	37	9540	4 327	7080	3 211	49	9700	4 399	7250	3 288	56.5	9210	4 177	7360	3 338
65	19,81	30	8220	3 729	5950	2 699	44.5	8390	3 805	6120	2 775	53.5	8410	3 814	6240	2 830
70	21,34	21	7110	3 225	5010	2 273	40	7290	3 306	5190	2 354	50	7400	3 356	5300	2 404
75	22,86						34.5	6360	2 884	4410	2 000	46	6470	2 934	4520	2 050
80	24,38						28	5560	2 521	3730	1 691	42	5670	2 571	3850	1 746
85	25,91						20	4860	2 204	3140	1 424	37.5	4980	2 258	3260	1 478
90	27,43											33	4380	1 986	2750	1 247
95	28,98											27	3840	1 741	2300	1 043
100	30,48											19	3350	1 519	1900	861
			490 lbs	222 kg			420 lbs		191 kg			360 lbs		163 kg		
			2420 lbs	1 097 kg			2360 lbs		1 071 kg			2320 lbs		1 053 kg		
			2580 lbs	1 171 kg			2500 lbs		1 133 kg			2430 lbs		1 103 kg		

Deductions for Jib From Main Boom Capacities

Stowed Jib

Erected Jib (Retracted)

Erected Jib (Extended)



FULLY EXTENDED OUTRIGGER SPREAD: MODEL 50110S

32 FT RETRACTED JIB LIFTING CAPACITIES

		0° offset				15° offset				30° offset						
Load Radius	Loaded Boom Angle	Code 7		Code 8		Loaded Boom Angle	Code 9		Code 10		Loaded Boom Angle	Code 11		Code 12		
		Over Rear		Full 360°			Over Rear		Full 360°			Over Rear		Full 360°		
Feet	Meters	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	
40	12,19	74.5	7300	3 311	7300	3 311										
45	13,72	72.5	7300	3 311	7300	3 311										
50	15,24	70.5	7300	3 311	7300	3 311	73.5	6500	2 948	6500	2 948					
55	16,76	68.5	6980	3 166	6980	3 166	71.5	6500	2 948	6500	2 948	74	5800	2 630	5800	2 630
60	18,29	66.5	6600	2 993	6600	2 993	69.5	6120	2 775	6120	2 775	72	5750	2 608	5750	2 608
65	19,81	64	6230	2 825	6230	2 825	67	5780	2 621	5780	2 621	69.5	5450	2 472	5450	2 472
70	21,34	62	5870	2 662	5280	2 394	65	5450	2 472	5450	2 472	67	5160	2 340	5160	2 340
75	22,86	59.5	5530	2 508	4480	2 032	62.5	5160	2 340	4890	2 218	64.5	4900	2 222	4900	2 222
80	24,38	57	5110	2 317	3800	1 723	60	4880	2 213	4170	1 891	62	4670	2 118	4470	2 027
85	25,91	54.5	4690	2 127	3200	1 451	57.5	4630	2 100	3530	1 601	59.5	4450	2 018	3800	1 723
90	27,43	52	4280	1 941	2690	1 220	54.5	4400	1 995	2980	1 351	56.5	4250	1 927	3210	1 456
95	28,96	49	3740	1 696	2230	1 011	51.5	4000	1 814	2500	1 133	53.5	4070	1 846	2700	1 224
100	30,48	46	3260	1 478	1830	830	48.5	3490	1 583	2060	934	50.5	3660	1 660	2230	1 011
105	32,00	43	2830	1 283	1470	666	45.5	3030	1 374	1670	757	47	3170	1 437	1810	821
110	33,53	39.5	2440	1 106	1140	517	42	2620	1 188	1320	598	43.5	2730	1 238	1440	653
115	35,05	35.5	2090	948	850	385	38	2240	1 016	1000	453	39	2330	1 056	1090	494
120	36,58	31.5	1770	802			34	1890	857			34.5	1950	884	760	344
125	38,10	26.5	1480	671			29	1570	712			29	1600	725		
130	39,62	20.5	1210	548			22	1270	576			20	1250	566		
135	41,15	10	950	430												

FULLY EXTENDED OUTRIGGER SPREAD: MODEL 50110S

49 FT EXTENDED JIB LIFTING CAPACITIES

		0° offset				15° offset				30° offset						
Load Radius	Loaded Boom Angle	Code 13		Code 14		Loaded Boom Angle	Code 15		Code 16		Loaded Boom Angle	Code 17		Code 18		
		Over Rear		Full 360°			Over Rear		Full 360°			Over Rear		Full 360°		
Feet	Meters	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	
45	13,72	75	5400	2 449	5400	2 449										
50	15,24	73.5	5400	2 449	5400	2 449										
55	16,76	69.5	5400	2 449	5400	2 449	75	4700	2 131	4700	2 131					
60	18,29	71.5	5400	2 449	5400	2 449	73.5	4480	2 032	4480	2 032					
65	19,81	66	5230	2 372	5230	2 372	71.5	4280	1 941	4280	1 941	75	3520	1 596	3520	1 596
70	21,34	64	4930	2 236	4930	2 236	69.5	4100	1 859	4100	1 859	73.5	3410	1 546	3410	1 546
75	22,86	62	4660	2 113	4660	2 113	67.5	3940	1 787	3940	1 787	71	3310	1 501	3310	1 501
80	24,38	68	4410	2 000	4410	2 000	65.5	3790	1 719	3790	1 719	69	3210	1 456	3210	1 456
85	25,91	60	4170	1 891	3810	1 728	63.5	3650	1 655	3650	1 655	67	3130	1 419	3130	1 419
90	27,43	45.5	3950	1 791	3290	1 492	61.5	3520	1 596	3520	1 596	64.5	3050	1 383	3050	1 383
95	28,96	36	3750	1 700	2820	1 279	59	3400	1 542	3250	1 474	62	2980	1 351	2980	1 351
100	30,48	39.5	3560	1 614	2420	1 097	57	3290	1 492	2800	1 270	59.5	2910	1 319	2910	1 319
105	32,00	42.5	3380	1 533	2050	929	54.5	3190	1 446	2400	1 088	57	2860	1 297	2680	1 215
110	33,53	55.5	3010	1 365	1720	780	52	3050	1 383	2030	920	54.5	2810	1 274	2280	1 034
115	35,05	53	2660	1 206	1420	644	49	2920	1 324	1700	771	51.5	2760	1 251	1920	870
120	36,58	50.5	2330	1 056	1150	521	46	2580	1 170	1400	636	48.5	2730	1 238	1580	716
125	38,10	48	2040	925	910	412	43	2260	1 025	1130	512	45	2400	1 088	1280	580
130	39,62	57.5	1770	802			39.5	1960	889	870	394	41	2070	938	990	449
135	41,15	32	1520	689			35.5	1680	762			36.5	1760	798		
140	42,68	28	1290	585			31	1410	639			31	1460	662		
145	44,20	22.5	1070	485			25	1160	526							
150	45,72	15	870	394			15.5	910	412							



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

UPTime

- Includes 24-7-365 parts assistance.
- Utilizes the efficiency of the Manitex Online Parts Search and Order System.
- Relies on Manitex's UPTrak support tracking system for performance analysis and resource allocation.
- Features REMan, Manitex's cost effective rebuild/exchange program.
- Provides expert service technicians for troubleshooting and site visits.
- Mandates training; at our facility and yours. It includes coordinated support from all component suppliers.
- Involves every Manitex team member in the support of every Manitex customer.

What does UPTime mean to Manitex customers?

UPTime means reliability.
UPTime means utilization.
UPTime means profitability.



Manitex
3000 South Austin Avenue
Georgetown, TX, USA 78626
Telephone 512-942-3000
Facsimile 512-863-3776
www.manitex.com

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