

Manitex



TC300

30-Ton (27,2 mt) TELESCOPIC CRANE
TC300 SERIES PRODUCT GUIDE

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Effective Date: September 1, 2013

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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.



















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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 / Lifting on 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
	Full power mechanical synchronized
	Boom head / Hook block dimension
	Main boom with auxiliary head
	Tip height



THE TC300 SERIES TELESCOPIC CRANES

Versatile. Affordable. User friendly.

The TC300 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 30-ton line of telescopic crane is designed to get you to the job and on the job quickly.

With it, you can:

- Travel to and between job sites at highway speed on a commercial chassis
- Set up quickly with radio outrigger controls
- Operate comfortably and confidently in its tilttable cab

Other features include:

- 30-ton capacity @ 5 ft. radius
- 3, 4-section proportional boom
- Optional telescopic jib
- 122' (37,2m) maximum boom tip height
- Optional Basic Cab
- Out-and-down outriggers

OUT & DOWN OUTRIGGER

Four Out & Down Outriggers with Audible Outrigger Motion Alarm sounds as outriggers are being deployed and indicator lights verify when they are fully extended.

TWO-SPEED PLANETARY HOIST

Increase productivity and minimize downtime. The two-speed planetary hoist lets you change line speed on the fly and minimize rope stacking.

LOAD MOMENT INDICATOR

The Load-moment indicator sounds a warning or shuts down the machine when lift limitations are about to be exceeded.



Operator cab tilts from 0° to 20° for a comfortable, clear view of the load.

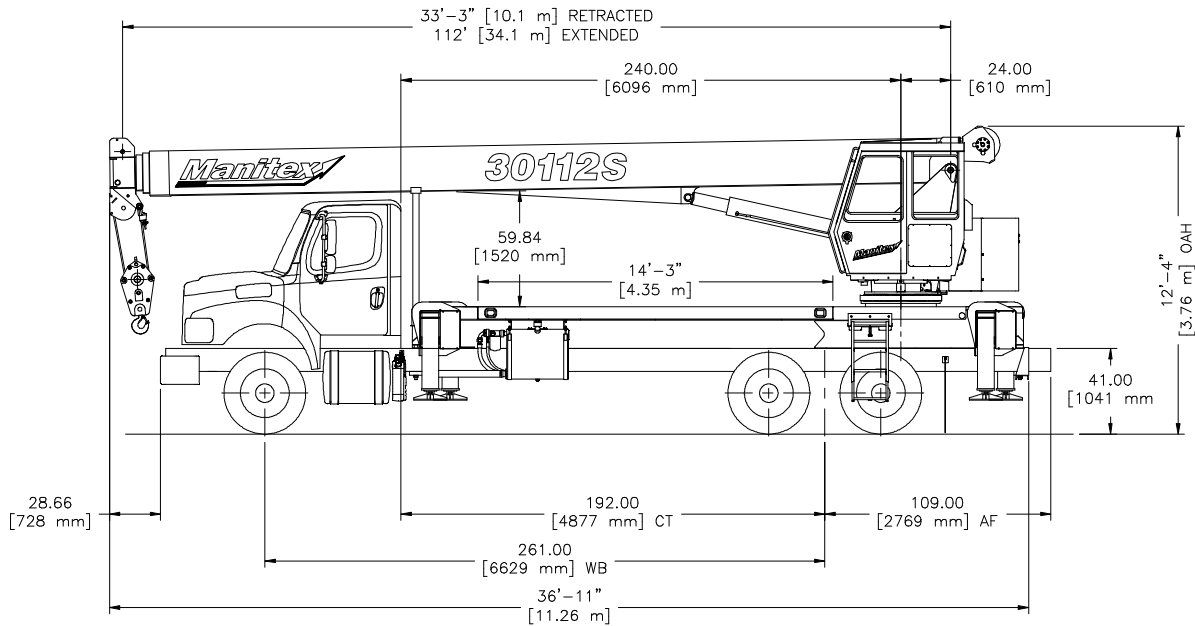
INCREASE PROFITABILITY

The versatile TC300 series is designed to help both owners and operators make the most of their investment.

- Travel to and between jobs at highway speed.
- Minimize maintenance costs with replaceable, self-lubricating boom slider pads and sealed, multi-disc wet brakes on the hoist and swing system.
- Minimize repair costs with its front stabilizer and first-up auto retract feature that prevents drive-away damage.



TC300 SERIES CHASSIS DATA



CHASSIS DATA

S Models	30112S Single Axle
Wheel Base (WB)	261 in. (6,629 mm)
Cab to Tandem (CT)	192 in. (4,877 mm)
Frame section modulus at 180° area of operation*	22.0 in ³ , 110,000 psi, 758,422 kPa
Cab to End of Frame (EOF)	301 in. (7,646 mm)
Nominal Frame Width	34 in. (864 mm)

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

TRUCK AXLE WEIGHTS

S Models	30112S Single Axle
Front axle (GW)	20,000 lb. (9,790 kg)
Rear axle	40,000 lb. (19,580 kg)
Min. truck axle W - Front**	8,300 lb. (3,765 kg)
Min. truck axle W - Rear**	8,500 lb. (3,856 kg)

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

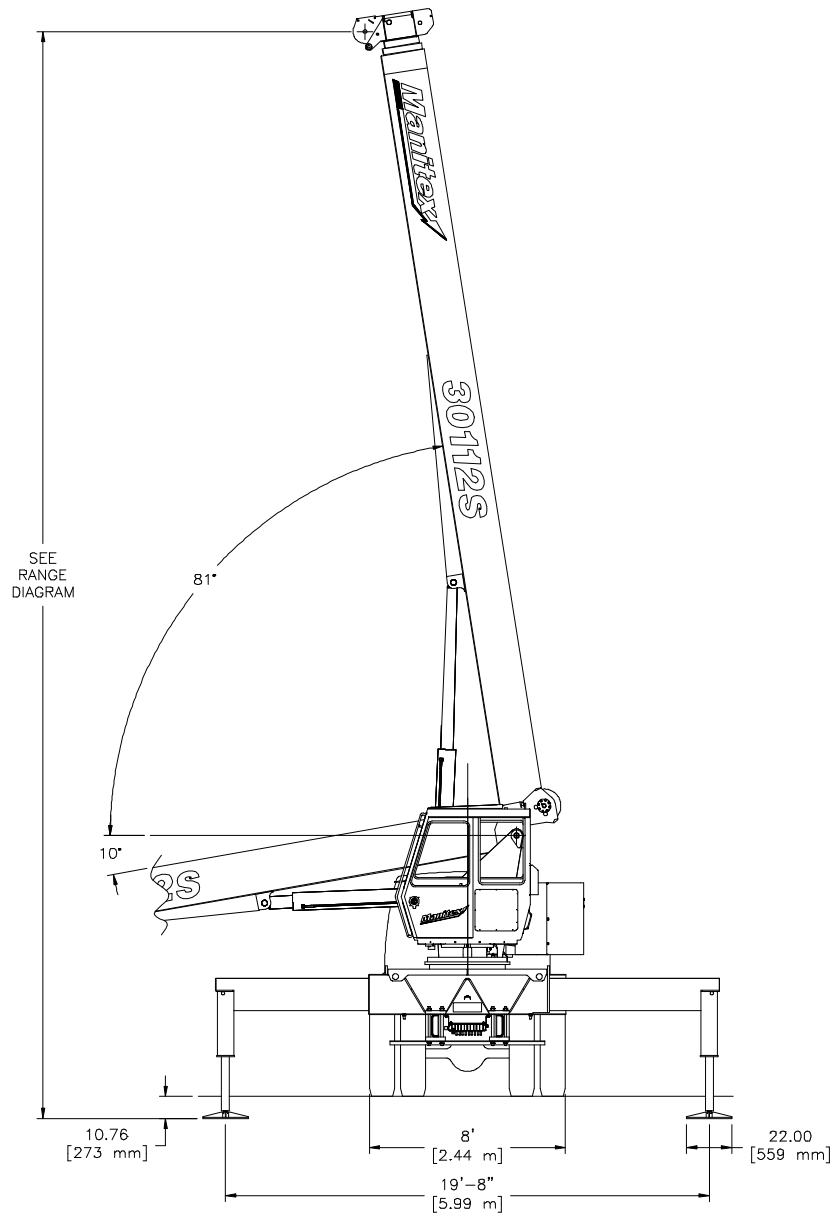
CRANE WEIGHTS

Model	30112S
Crane without cab	27,096 lb. (12,290 kg)
Cab	575 lb. (261 kg)
Flatbed 13 ft.	1,200 lb. (544 kg)
Tele Fixed	1220 lb. (553 kg)

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

OUTRIGGER EXTENSION

Full Extension



SUB FRAME

- Pedestal sub-frame and stabilizers 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

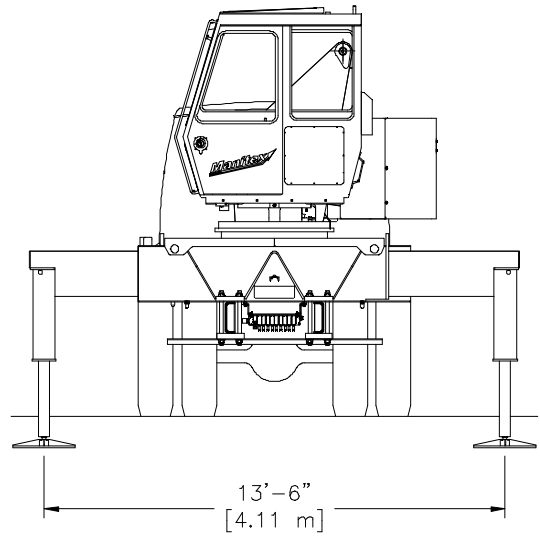
ELECTRICAL SYSTEM

- State-of-the-art, weather-resistant components throughout
- Hermetically sealed enclosure includes power in relays and circuit status LEDs

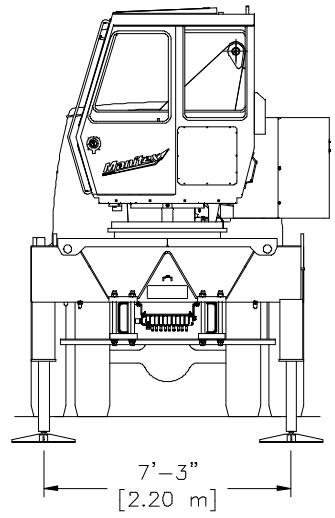
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Intermediate Spread



Fully Retracted Spread



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30112S LOAD CHART: Main Boom & Jib

Lifting Capacities 4 section Boom 112 ft.

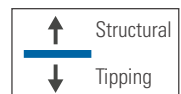


LMI Tandem Axle Load Chart
Full Outrigger Extension

MAIN BOOM RATED LOADS											JIB LOAD CAPACITIES						
LMI CODE 1											LMI CODE 2		LMI CODE 3		LMI CODE 4		
Load radius ∠°	33.25 ft.		55 ft. (A)		74 ft. (B)		93 ft. (C)		112 ft. (D)		Load radius ∠°	26 ft. Fixed Jib		26 ft. Tele. Jib		46 ft. Tele. Jib	
	(deg)	Lifting Capacity (lbs.)	(deg)	Lifting Capacity (lbs.)	(deg)	Lifting Capacity (lbs.)	(deg)	Lifting Capacity (lbs.)	(deg)	Lifting Capacity (lbs.)		(deg)	Lifting Capacity (lbs.)	(deg)	Lifting Capacity (lbs.)	(deg)	Lifting Capacity (lbs.)
5	80	60,000									5						
8	75	43,830									8						
10	71.5	37,330	79.5	25,000							10						
12	68	32,640	77.5	25,000							12						
15	62	27,600	74.5	24,610	79.5	22,120					15						
20	51.5	21,850	69	19,320	75.5	18,080	79.5	13,300			20						
25	38.5	16,630	63	15,930	71.5	14,750	76.5	11,900	79.5	8,000	25						
30	18.5	12,710	57	13,250	67.5	12,440	73.5	10,550	77	8,000	30	80	4,500	80	4,300		
35			50	10,540	63	10,720	70	9,330	74.5	7,290	35	78	4,500	78	4,300	79.5	2,700
40			42.5	8,350	58.5	8,570	67	8,500	72	6,600	40	76.5	4,500	76.5	4,300	78	2,700
45			33.5	6,630	53.5	6,850	63	6,960	69.5	5,970	45	74.5	4,300	74.5	4,030	76.5	2,700
50			21.5	5,330	48	5,560	59.5	5,670	66.5	5,390	50	72.5	4,000	72.5	3,720	75	2,700
55					42.5	4,550	55.5	4,660	63.5	4,730	55	70.5	3,700	70.5	3,420	73.5	2,700
60					36	3,740	51.5	3,860	60.5	3,920	60	68	3,420	68	3,140	72	2,700
65					27.5	3,070	47	3,190	57	3,260	65	66	3,130	66	2,800	70	2,580
70					16	2,510	42.5	2,640	54	2,710	70	63.5	2,790	63.5	2,440	68	2,390
75							37	2,170	50.5	2,240	75	61	2,350	61	2,050	66.5	2,220
80							31	1,770	46.5	1,840	80	58	1,940	58	1,650	64.5	2,020
85							23.5	1,410	42.5	1,490	85	55.5	1,590	55.5	1,300	62	1,770
90							11	1,100	38.5	1,180	90	52.5	1,290	52.5	990	59.5	1,460
95									33.5	910	95	49.5	1,020	49.5	720	57	1,190
100									28	670	100	46.5	780	46.5	480	54.5	940
105											105					52	730
110											110					49.5	530
	510 lbs.		310 lbs.		230 lbs.		190 lbs.		160 lbs.		DEDUCTIONS FOR STOWED FIXED JIB						
	770 lbs.		470 lbs.		350 lbs.		280 lbs.		230 lbs.		DEDUCTIONS FOR STOWED TELESCOPIC JIB						

NOTES:

- Loads based on crane on outriggers
- All "on outriggers" loads are based on 85% tipping
- Loads above heavy line are based on structural rating
- Loads below heavy line are based on tipping rating

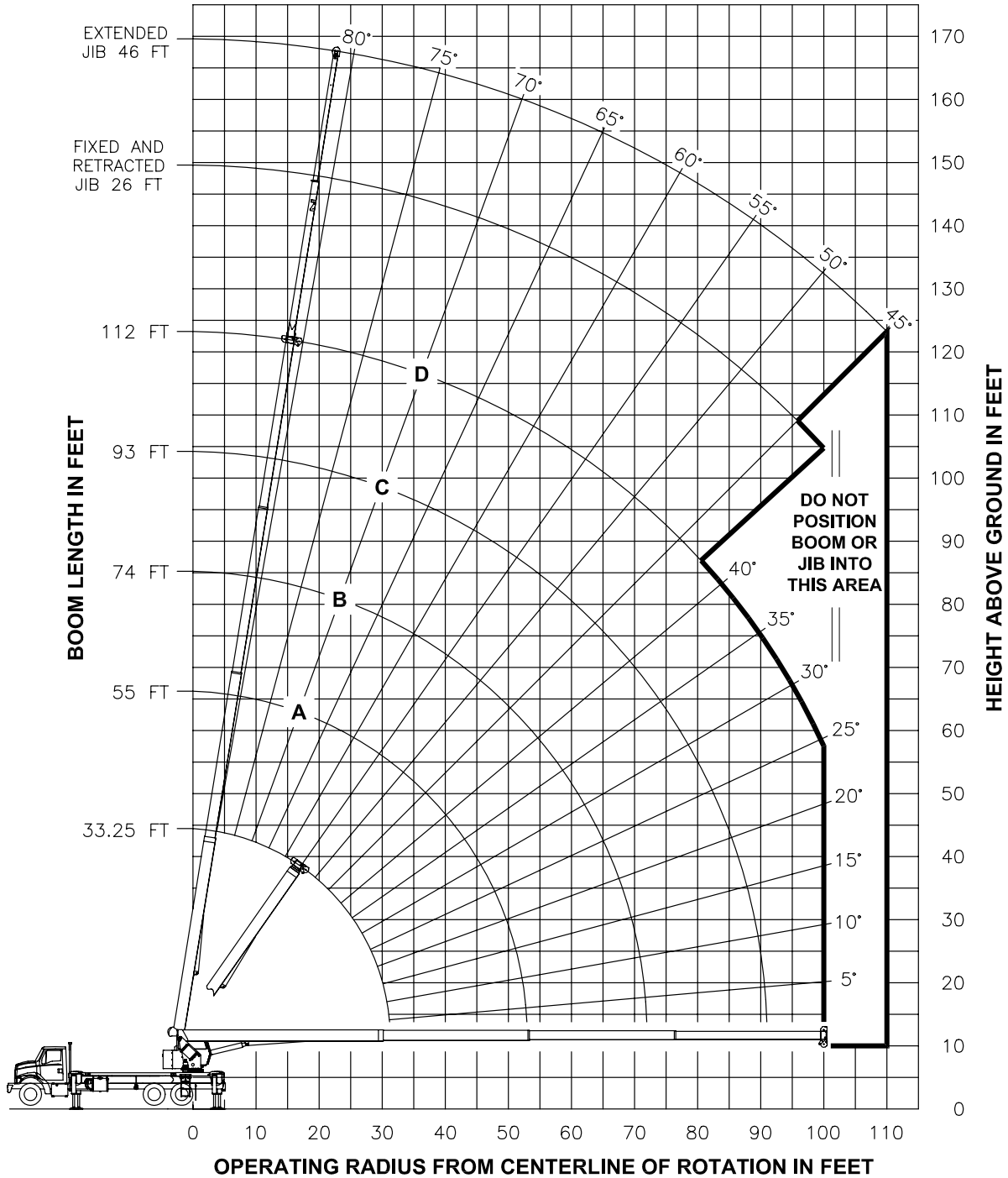


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30112S BOOM DIAGRAM

RANGE DIAGRAM - FULLY EXTENDED OUTRIGGER CONFIGURATION -

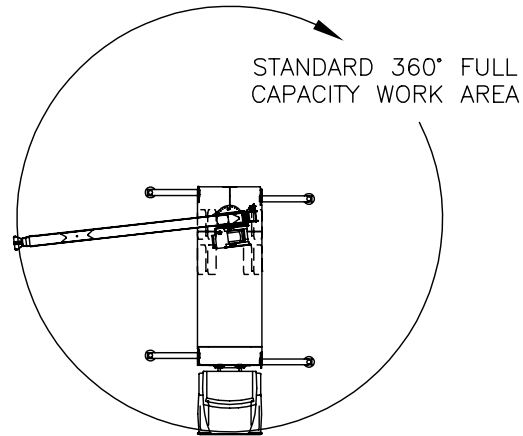


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AREA OF OPERATION

In order to take advantage of full 360° rotation, the front bumper stabilizer must be set in accordance to the manual before working in this area and machine must be level.

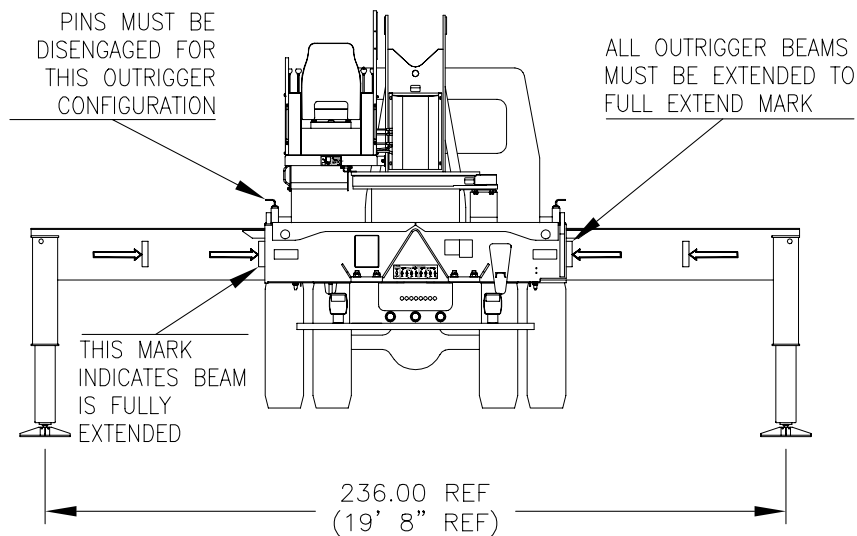
If a front bumper stabilizer was not supplied, then the front tires must be in contact with the ground before working in this area.



Deductions from rated loads for load handling devices supplied by Manitex

Auxiliary block	50 lbs. (22.7 kg)
Overhaul ball	See overhaul ball mfr. nameplate
Load blocks	See load block mfr. nameplate
Hose reel	140 lbs.
Swing around jib (stowed)	See load chart

WARNING: Lifting off the main boom point while the jib is erected is not intended nor approved.

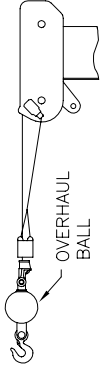
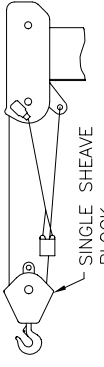

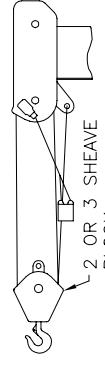

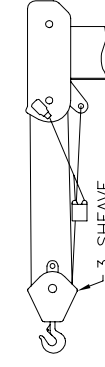
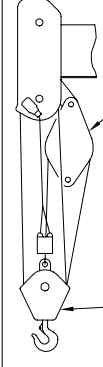


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REEVING DIAGRAM

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	<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>
 <p>OVERHAUL BALL</p>	 <p>SINGLE SHEAVE BLOCK</p>	 <p>SINGLE SHEAVE BLOCK</p>	 <p>2 OR 3 SHEAVE BLOCK</p>	 <p>2 OR 3 SHEAVE BLOCK</p>	 <p>3 SHEAVE BLOCK</p>	 <p>AUXILIARY BLOCK</p> <p>3 SHEAVE BLOCK</p>	
8500 LBS	17000 LBS	25500 LBS	34000 LBS	42500 LBS	51000 LBS	60000 LBS	
7700 LBS	15400 LBS	23100 LBS	30800 LBS	38500 LBS	46200 LBS	53900 LBS	

LMI OPERATING CODES

Code	Crane Configuration	Outrigger Configuration
#1	Main Boom	Fully Extended
#2	Fixed Jib	Fully Extended
#3	Telescopic Jib-Retracted	Fully Extended
#4	Telescopic Jib-Retracted	Fully Extended
#5	Personnel Lifting Platform on Main Boom	Fully Extended
#6	Personnel Lifting Platform on Fixed Jib	Fully Extended
#7	Personnel Lifting Platform on Telescopic Jib-Retracted	Fully Extended
#8	Personnel Lifting Platform on Telescopic Jib-Extended	Fully Extended
#9	Main Boom	Intermediate
#10	Fixed Jib	Intermediate
#11	Telescopic Jib-Retracted	Intermediate
#12	Telescopic Jib-Retracted	Intermediate
#13	Main Boom	Fully Retracted

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


Warning

1. The operator must read and understand the owner's manual before operating the crane.
2. Positioning or operation of crane beyond areas shown on these charts is not intended or approved except where specified in owner's manual.
3. Loaded boom angles at specified boom lengths give only an approximation of the operating radius. The boom angle before loading should be greater to account for deflections. Do not exceed the operating radius for rated loads.
4. The operating radius shown in the jib rating chart is for fully extended boom only. When boom is not fully extended, use only loaded boom angle to determine load rating of jib.
5. For boom angles not shown on jib load rating chart, use rating of next lower boom angle.
6. For boom lengths not shown, use rating of next shorter or longer boom length, whichever is less. For radii not shown, use rating of next longer radius.
7. Crane load ratings on outriggers are based on freely suspended loads with the machine leveled and standing on a firm uniform supporting surface. No attempt shall be made to move a load horizontally on the ground in any direction.
8. Practical working loads depend on supporting surface, wind, and other factors affecting stability such as hazardous surroundings, experience of personnel, and proper handling, all of which must be taken into account by the operator.
9. The maximum load which may be telescoped is limited by hydraulic pressure, boom angle, and boom lubrication. It is safe to attempt to telescope any load within the limits of the load rating chart. Boom must be fully retracted against boom stops at all times when lifting minimum boom length capacity loads.
10. Lifting off the main boom point while the swing around jib is erected is not intended or approved.

Information

1. Deductions must be made from rated loads for stowed jib, optional attachments, hooks, and load blocks (See deduction chart on page 8). Weights of slings and all other load handling devices shall be considered a part of the load.
2. Load ratings above the blue line are structurally limited capacities. Load ratings below the blue line are stability limited capacities and do not exceed 85% of tipping.

Definitions

1. Operating radius is the horizontal distance from the axis of rotation to the center of the vertical hoist line or tackle with load applied.
2. Loaded boom angle as shown in the column head by  is the included angle between the horizontal and longitudinal axes of the boom base after lifting rated load at rated radius.

TECHNICAL DESCRIPTIONS

Boom



Boom lengths: Proportional boom

- 4-section 112 ft. (34,1 m)
- 5-Sheave quick reeve boom point

Self lubricating slider pads



Max. tip height 30112S: 122 ft. (37.2 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



Slewing speed: 1.5 - 2 rpm. (nominal)
Boom rotation: 360° continuous

Outriggers



Outriggers: Out-and-down style
FBS - Front Bumper Stabilizer (optional)
Outrigger monitoring system (for verification only)
Outrigger motion alarm

Full extension

- Center to center: 19' 5" (5.91 m)

Full retraction

- Center to center: 7' 3" (2.20 m)

Operator aids



30112s is Radio anti-two block system. LMI with crane function cut-offs for overload protection.

Hoist, Rope and Hook



Maximum theoretical line speed:
300 fpm (91 mpm)



Maximum theoretical bottom-layer line pull:
11,500 lb (5,216 kg)



Main winch cable diameter: 9/16" (14,3 mm).
6 x 25 EIPS IWRC Wire Rope



Line length: 335 ft. (102,2m)



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



Overhaul 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 BB output (factory mounted units only)

3 -section gear pump, Counter Clockwise Standard, SAE BB input (standard).

Hydraulic reservoir capacity:
70 gal. (265 L)

Pump sections @ 2000 rpm with 100 psi

- 32.4 GPM (123 LPM)
- 20.6 GPM (78 LPM)
- 10 GPM (38 LPM)

Ride Around Operator Station Controls



Standard features:
Ride-around Operator Station with Seat.



Controls:
Dual Function Controller-Single Axis Joy Sticks.

OPTIONS

Boom

Max. Tip Height



30112S

- Max. tip height: 122' (37.2 m)

Jibs

30112S

- 2 -section telescoping jib
(26' (7,9 m) - 46' (14 m))

Max. Tip Height with Extension



30112S

- Max tip height with extension:
168' (51.2 m)
- Max tip height with extension retracted:
146' 6" (44.7 m)

Bulkhead

24 in. (607 mm) bulkhead

Floats

Steel Floats Optional

Hoist and Hook



Auxiliary lower sheave block for 2-8 part lines
Load blocks 1-3, 1-6, 2-6 part lines

Hydraulics



Hose reel – boom mounted.
Front Bumper Stabilizer (FBS)
Hydraulic oil cooler

Cab



Optional Cab available

- Air Conditioner
- Heater

Radio Remote Control



- Radio Remote Control with Joysticks
(900 MHz or 433 MHz)
- Radio Remote Control with Paddles
(900 MHz or 300 MHz)

2-person Basket



Consult Manitex for specific application and rating

- 2-person Steel Gravity Levelled Basket
with Friction Brake
- 2-person Steel Rotating Basket

Tool Boxes & Flatbed

Tool Boxes

- 24 in. L x 18 in. W x 18 in. H
(610 mm L x 457 mm W x 457 mm H)
- 48 in. L x 24 in. W x 24 in. H
(1,219 mm L x 610 mm W x 610 mm H)

Flatbeds

- 14' (4,3 m) Steel Flatbed
- 14' (4,3 m) Wood Flatbed



TC300

30-Ton (27,2 mt) TELESCOPIC CRANE
TC300 SERIES PRODUCT GUIDE



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

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