TADANO

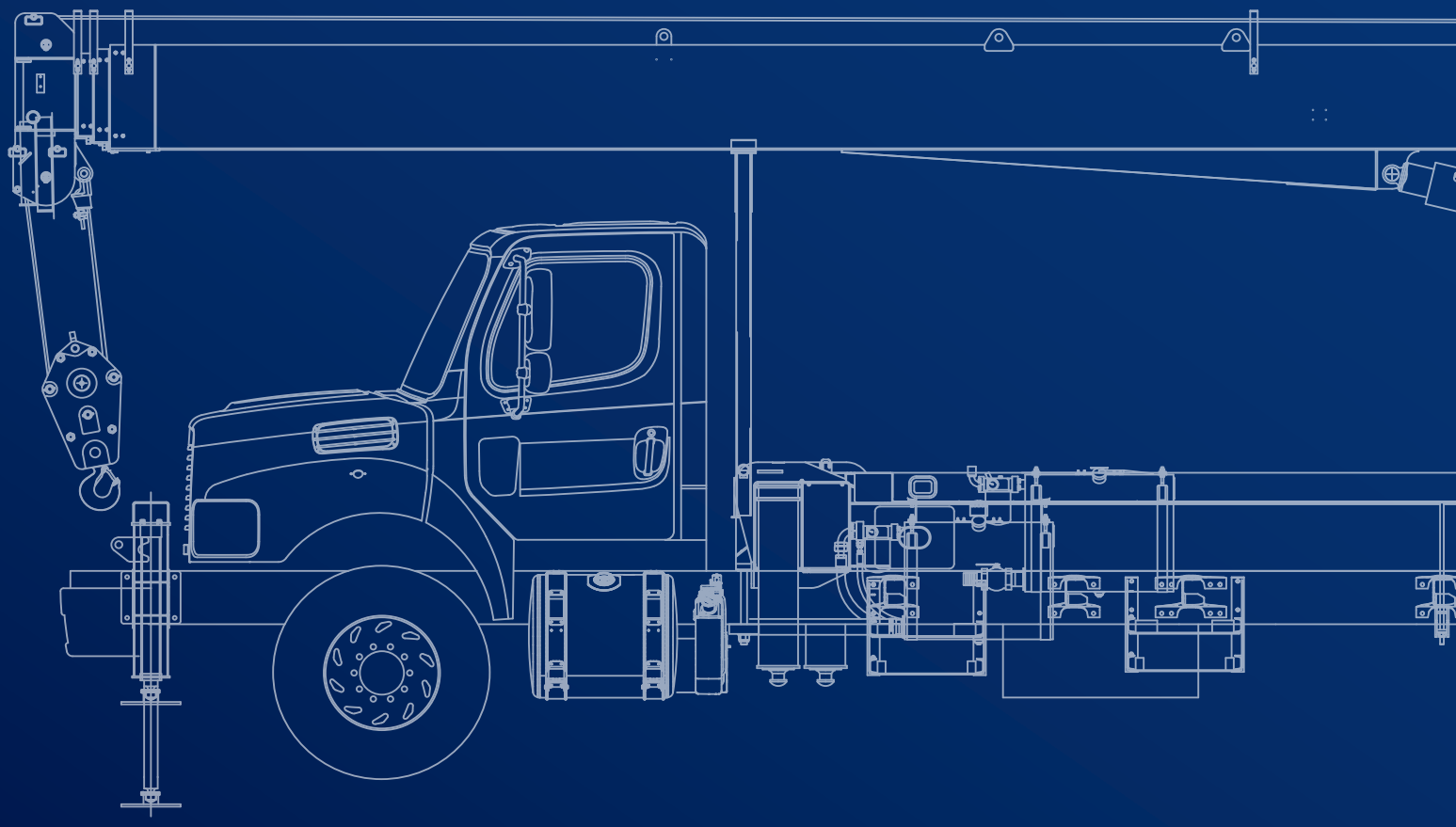
TECHNICAL DATA | IMPERIAL

TC 300.1

SERIES PRODUCT GUIDE

30 TON (27.2 MT) TELESCOPIC CRANE

Manitex



TADANO

Contents

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

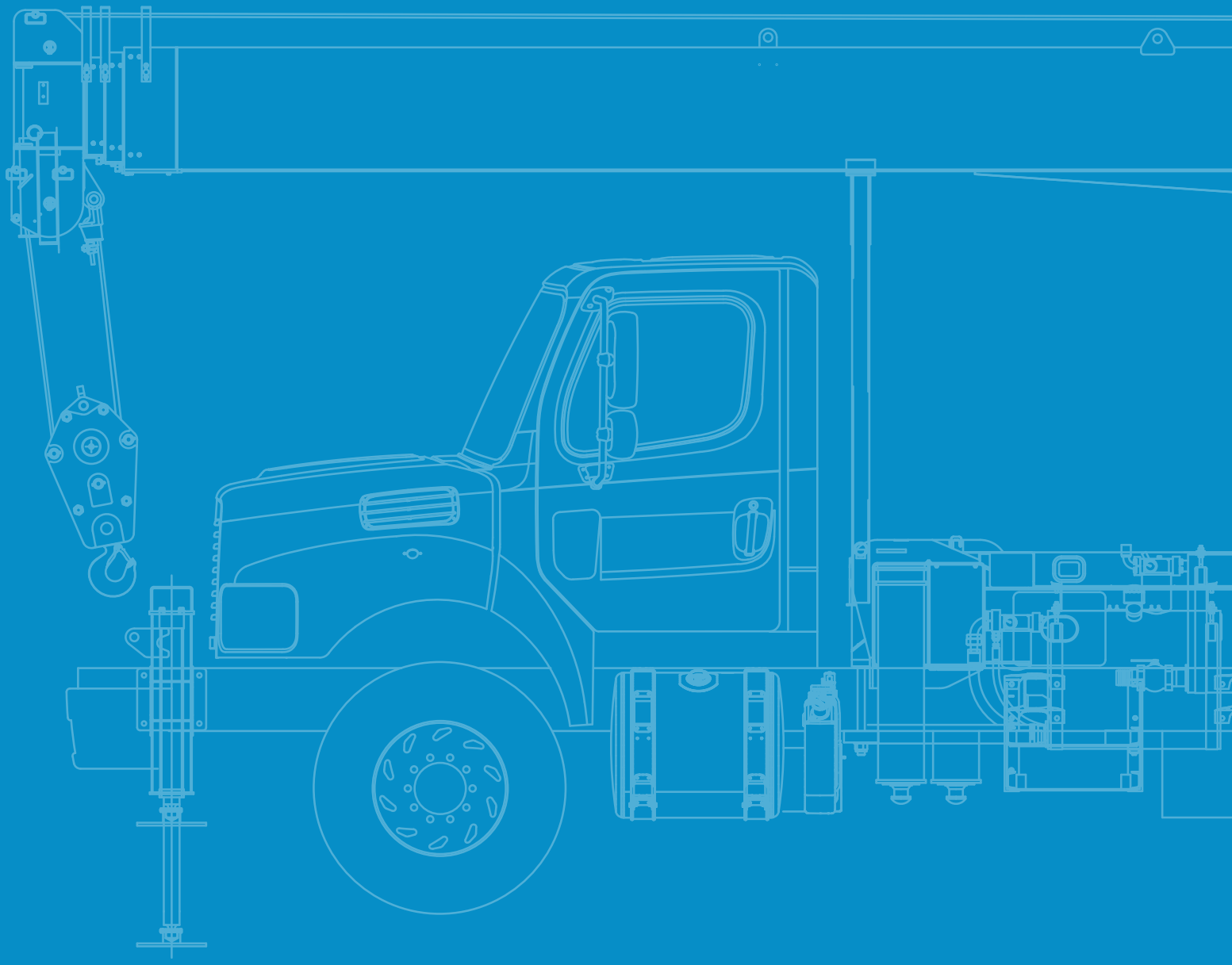

Full power mechanical synchronized


Boom head / Hook block dimension


Main boom with auxiliary head

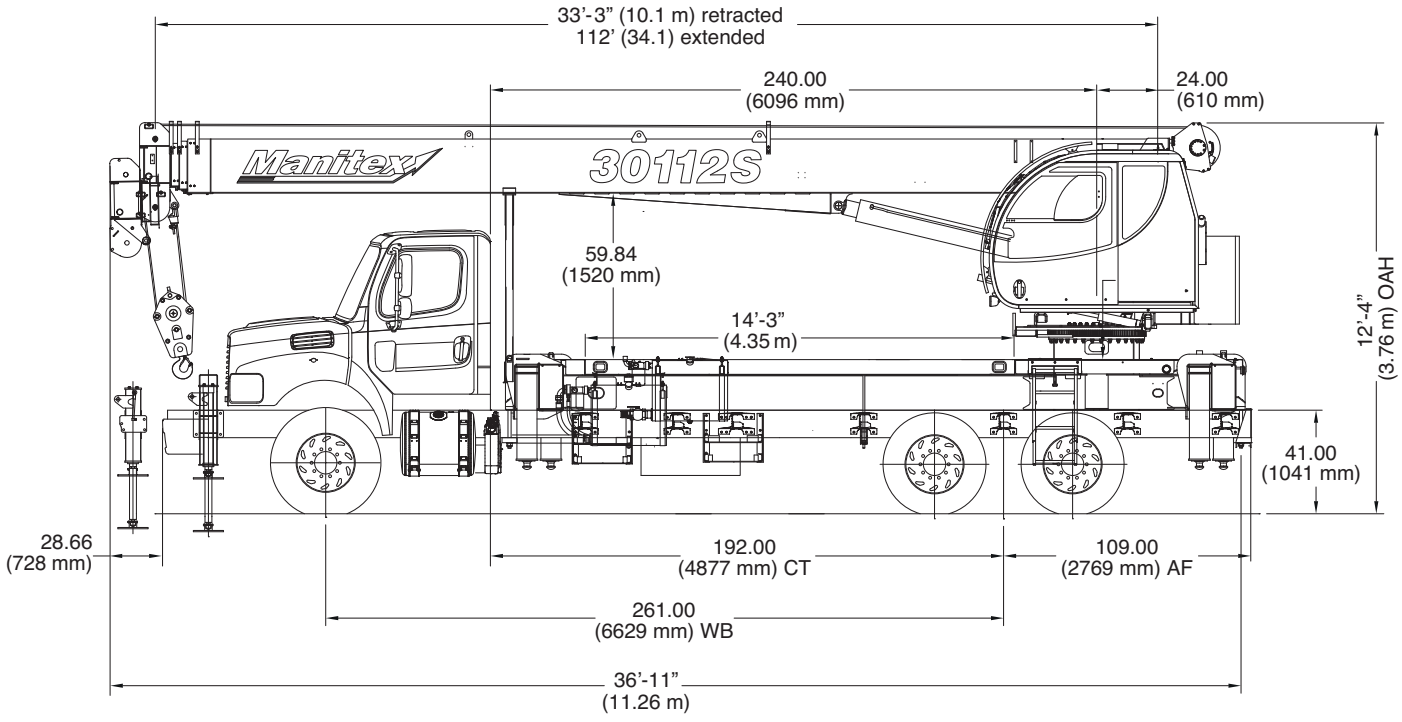

Tip height

TC 300.1



TC300.1 Series Chassis Data

Dimensions



Chassis Data

Model	30112S
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^3 120,000 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 Ratings and Minimum Weights

Front axle (GW)	20,000 lbs (9,790 kg)
Rear axle	40,000 lbs (19,580 kg)
Min. truck axle weight – Front**	8,300 lbs (3,765 kg)
Min. truck axle weight – Rear**	8,500 lbs (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 Weight

Crane dry weight	26,300 lbs (11,929 kg)
Flatbed 14.25 ft	1,200 lbs (544 kg)
Tele fixed	1,220 lbs (553 kg)

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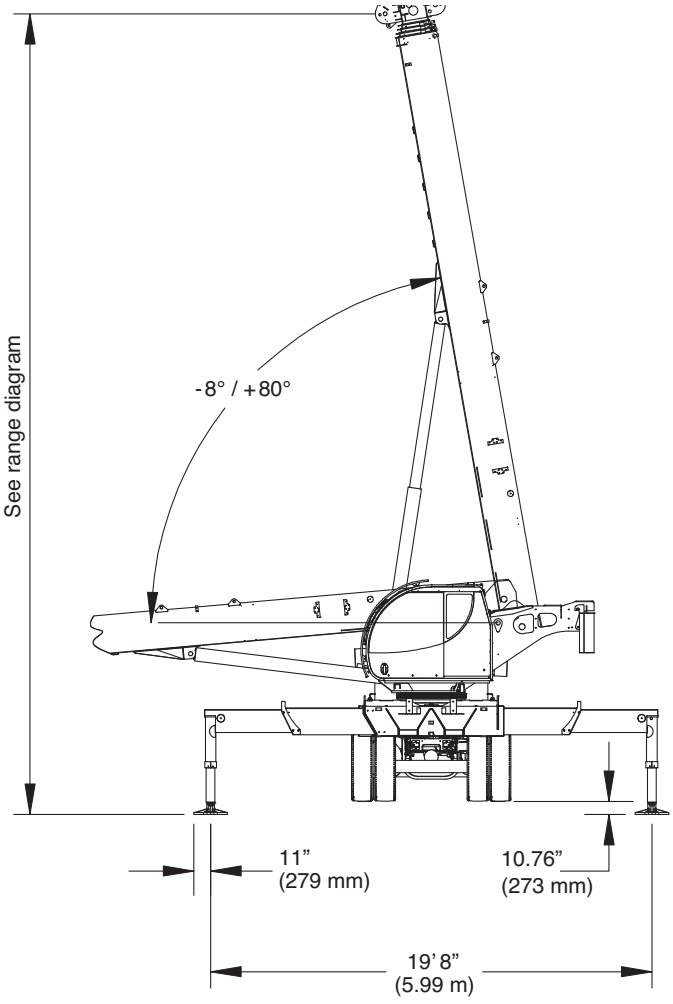
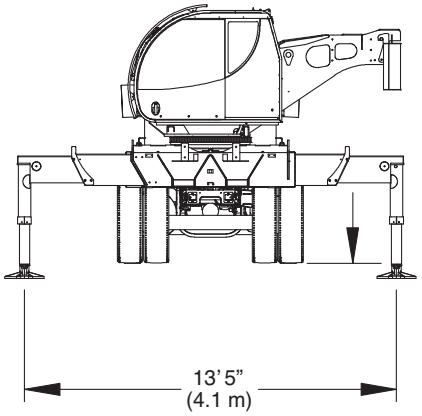
Outrigger Extension

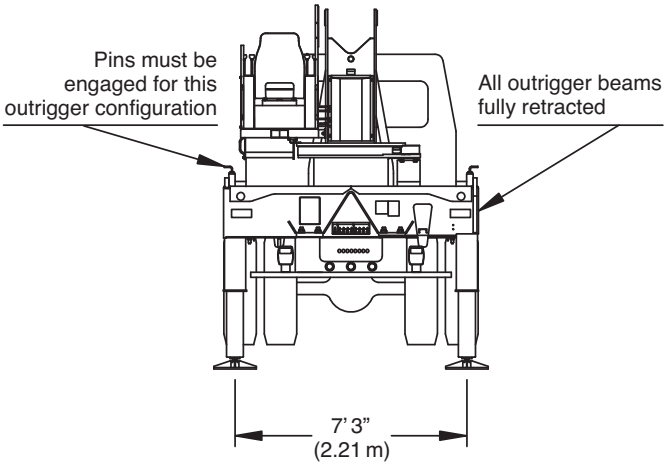
Full Extension



Intermediate Spread



Fully Retracted Spread



Sub Frame

– Integral 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

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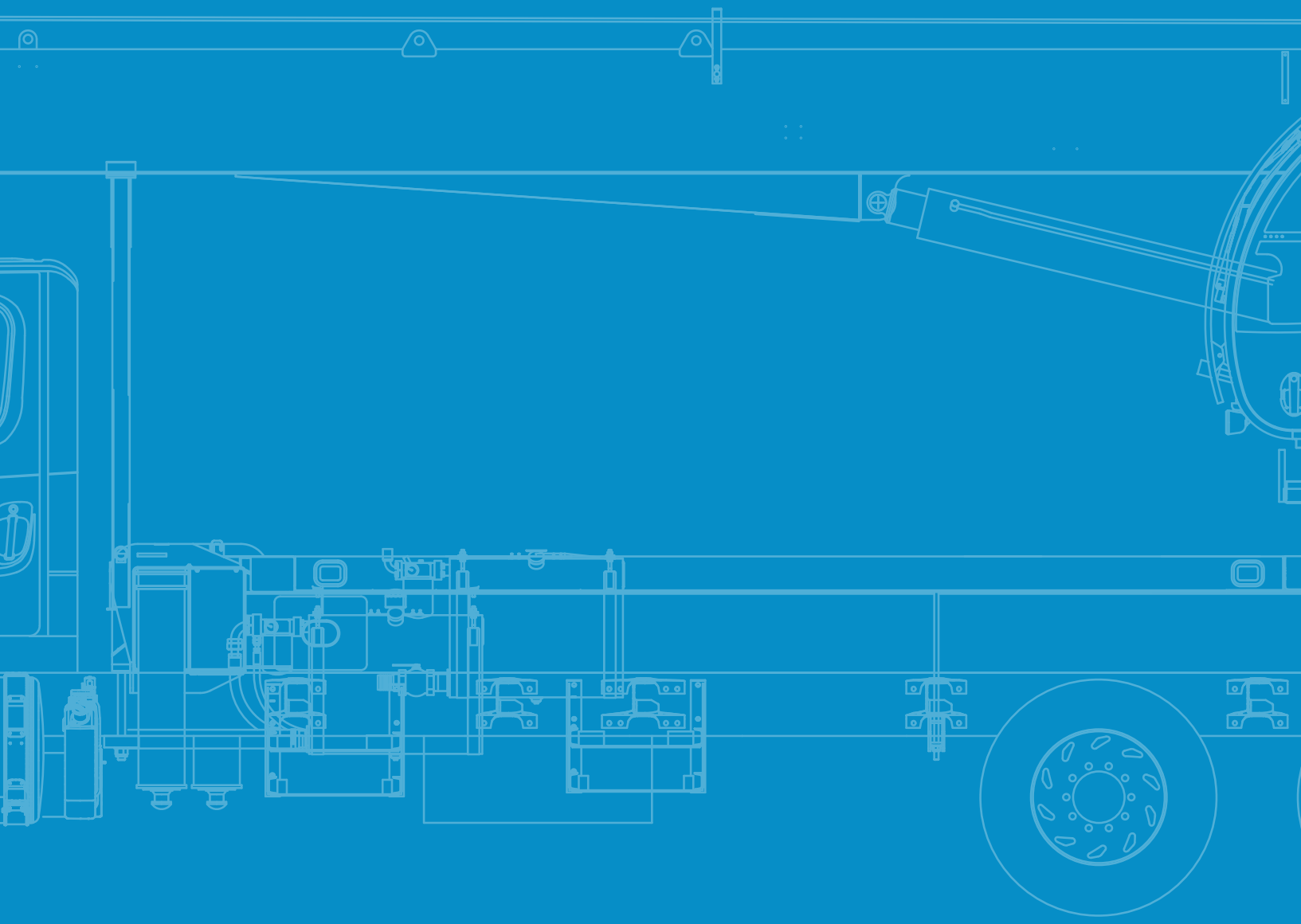
Notes

TC 300.1



30112S Load Chart

Main Boom Jib

Fully Extended Outriggers

33.25 ft – 112.0 ft – 4 section | **19’ 8” (5.99 m)** | **Fully Extended**

	33.25 ft		55 ft (A)		74 ft (B)		93 ft (C)		112 ft (D)		Fixed Jib 26 ft		Telescopic Jib 26 ft		Telescopic Jib 46 ft	
ft	°	lbs	°	lbs	°	lbs	°	lbs	°	lbs	°	lbs	°	lbs	°	lbs
5	80	60,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	75	43,830	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	71.5	37,330	79.5	25,000	-	-	-	-	-	-	-	-	-	-	-	-
12	68	32,640	77.5	25,000	-	-	-	-	-	-	-	-	-	-	-	-
15	62	27,600	74.5	24,610	79.5	22,120	-	-	-	-	-	-	-	-	-	-
20	51.5	21,850	69	19,320	75.5	18,080	79.5	13,300	-	-	-	-	-	-	-	-
25	38.5	16,630	63	15,930	71.5	14,750	76.5	11,900	79.5	8,000	-	-	-	-	-	-
30	18.5	12,710	57	13,250	67.5	12,440	73.5	10,550	77	8,000	80	4,500	80	4,300	-	-
35	-	-	50	10,540	63	10,720	70	9,330	74.5	7,290	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	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	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	72.5	4,000	72.5	3,720	75	2,700
55	-	-	-	-	42.5	4,550	55.5	4,660	63.5	4,730	70.5	3,700	70.5	3,420	73.5	2,700
60	-	-	-	-	36	3,740	51.5	3,860	60.5	3,920	68	3,420	68	3,140	72	2,700
65	-	-	-	-	27.5	3,070	47	3,190	57	3,260	66	3,130	66	2,800	70	2,580
70	-	-	-	-	16	2,510	42.5	2,640	54	2,710	63.5	2,790	63.5	2,440	68	2,390
75	-	-	-	-	-	-	37	2,170	50.5	2,240	61	2,350	61	2,050	66.5	2,220
80	-	-	-	-	-	-	31	1,770	46.5	1,840	58	1,940	58	1,650	64.5	2,020
85	-	-	-	-	-	-	23.5	1,410	42.5	1,490	55.5	1,590	55.5	1,300	62	1,770
90	-	-	-	-	-	-	11	1,100	38.5	1,180	52.5	1,290	52.5	990	59.5	1,460
95	-	-	-	-	-	-	-	-	33.5	910	49.5	1,020	49.5	720	57	1,190
100	-	-	-	-	-	-	-	-	28	670	46.5	780	46.5	480	54.5	940
105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	730
110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49.5	530

Deductions from main boom capacities for stowed jibs

SFJ	510 lbs	310 lbs	230 lbs	190 lbs	160 lbs
STJ	770 lbs	470 lbs	350 lbs	280 lbs	230 lbs

SFJ = Stowed fixed jib · **STJ** = Stowed telescopic jib

↑ Structural

↓ Stability

NOTES:

All “on outriggers” loads are based on 85% tipping

Loads based on crane with outriggers and with tires off the ground

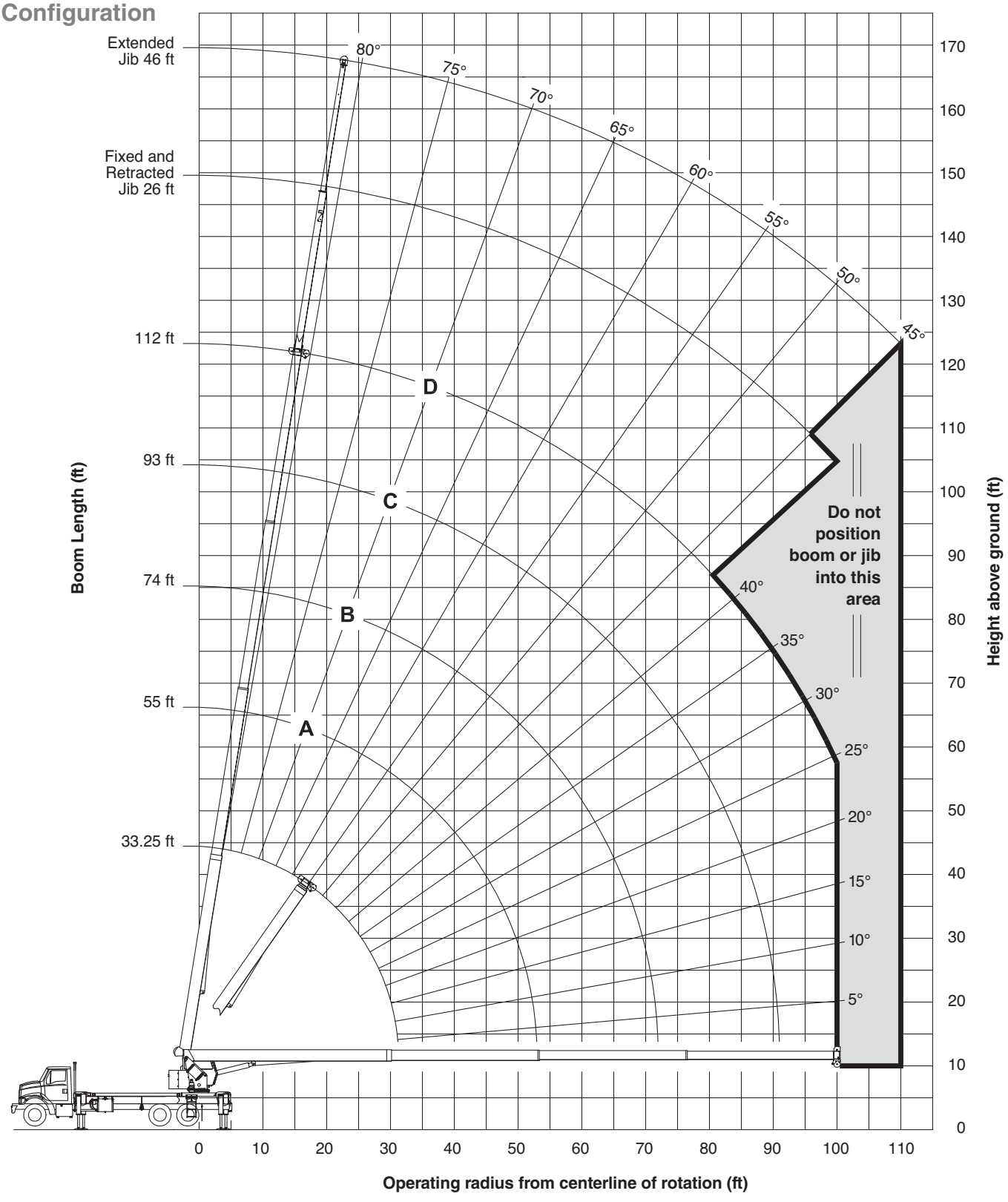
Loads above heavy line are based on structural rating

Loads below heavy line are based on stability rating

30112S Boom Diagram

Main Boom
Jib

Fully Extended Outrigger Configuration



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30112S Load Chart

Main Boom Jib

Mid Extended Outriggers

33.25 ft – 112.0 ft | **13’ 5” (4.1 m)** | **Mid Extended**

		33.25 ft		55 ft (A)		74 ft (B)		93 ft (C)		112 ft (D)
ft	°	lbs	°	lbs	°	lbs	°	lbs	°	lbs
5	80	60,000	-	-	-	-	-	-	-	-
8	75	43,830	-	-	-	-	-	-	-	-
10	71.5	37,330	79.5	25,000	-	-	-	-	-	-
12	68	32,640	77.5	25,000	-	-	-	-	-	-
15	62	24,850	74.5	24,610	79.5	22,120	-	-	-	-
20	51.5	13,890	69	14,520	75.5	14,760	79.5	13,300	-	-
25	38.5	8,910	63	9,510	71.5	9,720	76.5	9,850	79.5	8,000
30	18.5	6,030	57	6,650	67.5	6,850	73.5	6,960	77	7,040
35	-	-	50	4,790	63	4,990	70	5,100	74.5	5,170
40	-	-	42.5	3,490	58.5	3,690	67	3,800	72	3,860
45	-	-	33.5	2,530	53.5	2,730	63	2,830	69.5	2,900
50	-	-	21.5	1,770	48	1,990	59.5	2,090	66.5	2,160
55	-	-	-	-	42.5	1,400	55.5	1,500	63.5	1,570
60	-	-	-	-	36	920	51.5	1,020	60.5	1,090
65	-	-	-	-	-	-	-	-	-	-
70	-	-	-	-	-	-	-	-	-	-

	Fixed Jib		Telescopic Jib			
		26 ft		26 ft		46 ft
ft	°	lbs	°	lbs	°	lbs
5	-	-	-	-	-	-
8	-	-	-	-	-	-
10	-	-	-	-	-	-
12	-	-	-	-	-	-
15	-	-	-	-	-	-
20	-	-	-	-	-	-
25	-	-	-	-	-	-
30	80	4,500	80	4,300	-	-
35	78	4,500	78	4,300	79.5	2,700
40	76.5	3,950	76.5	3,640	78	2,700
45	74.5	2,980	74.5	2,670	76.5	2,700
50	72.5	2,230	72.5	1,920	75	2,440
55	70.5	1,640	70.5	1,330	73.5	1,830
60	68	1,160	68	850	72	1,350
65	-	-	-	-	70	940
70	-	-	-	-	-	-

Deductions from main boom capacities for stowed jibs

SFJ	510 lbs	310 lbs	230 lbs	190 lbs	160 lbs
STJ	770 lbs	470 lbs	350 lbs	280 lbs	230 lbs

SFJ = Stowed fixed jib · **STJ** = Stowed telescopic jib

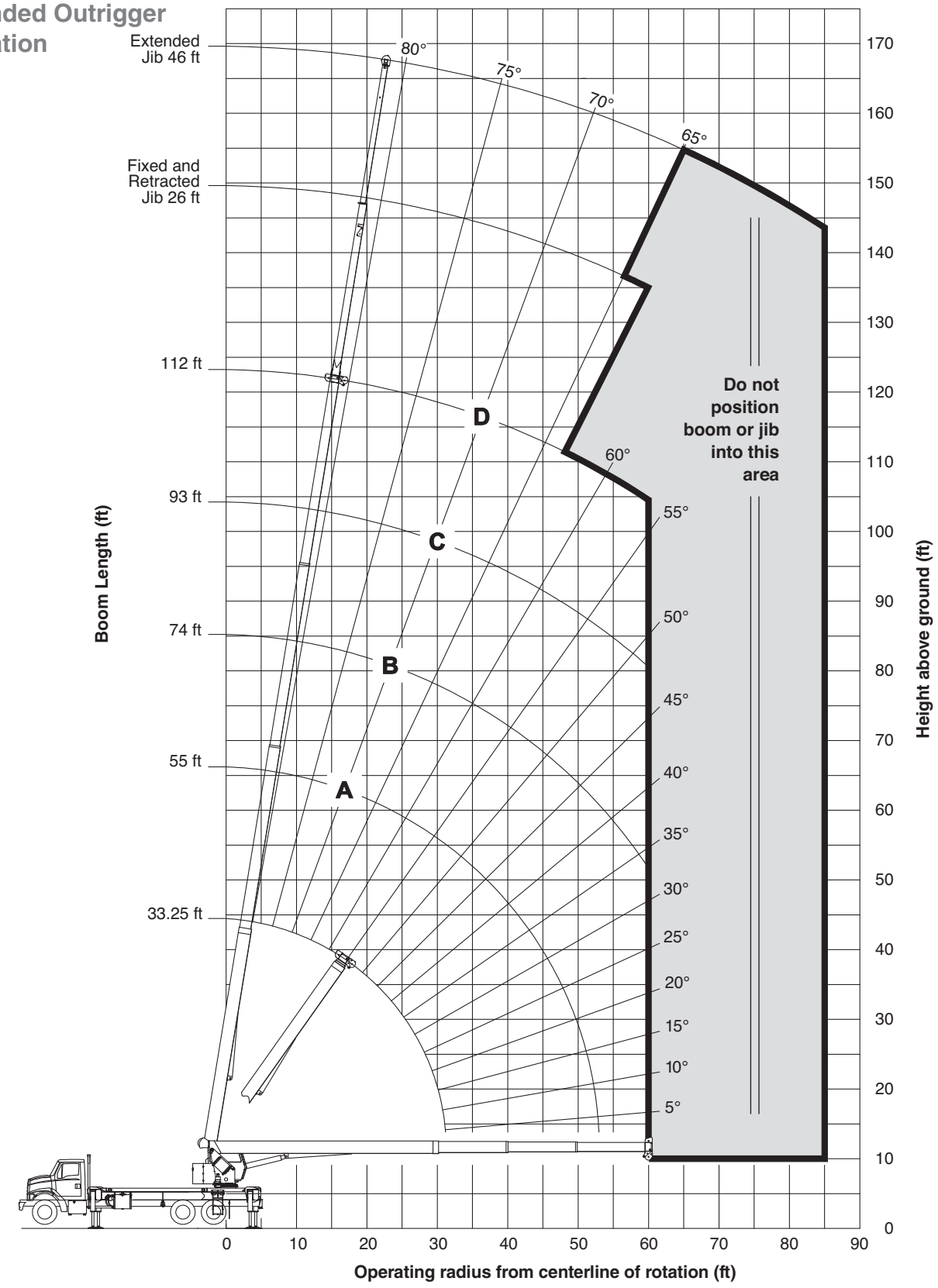
↑ Structural
↓ Stability

NOTES:
All “on outriggers” loads are based on 85% tipping
Loads based on crane with outriggers off the ground
Loads above heavy line are based on structural rating
Loads below heavy line are based on stability rating

30112S Boom Diagram

Main Boom
Jib

Mid Extended Outrigger Configuration



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30112S Load Chart

Main Boom

Fully Retracted Outriggers

33.25 ft – 112.0 ft – 4 section										7’ 3” (2.21 m) Fully Retracted
		33.25 ft		55 ft (A)		74 ft (B)		93 ft (C)		112 ft (D)		No jibs are to be erected in this outrigger configuration
ft	°	lbs	°	lbs	°	lbs	°	lbs	°	lbs	
5	80	60,000	-	-	-	-	-	-	-	-	
8	75	27,790	-	-	-	-	-	-	-	-	
10	71.5	17,750	79.5	18,400	-	-	-	-	-	-	
12	68	12,510	77.5	13,100	-	-	-	-	-	-	
15	62	8,100	74.5	8,640	79.5	8,850	-	-	-	-	
20	51.5	4,330	69	4,850	75.5	5,030	79.5	5,140	-	-	
25	38.5	2,310	63	2,820	71.5	3,000	76.5	3,100	79.5	3,170	
30	18.5	1,020	57	1,560	67.5	1,740	73.5	1,840	77	1,900	
35	-	-	50	700	63	880	70	980	74.5	1,040	

Deductions from main boom capacities for stowed jibs

SFJ	510 lbs	310 lbs	230 lbs	190 lbs	160 lbs
STJ	770 lbs	470 lbs	350 lbs	280 lbs	230 lbs

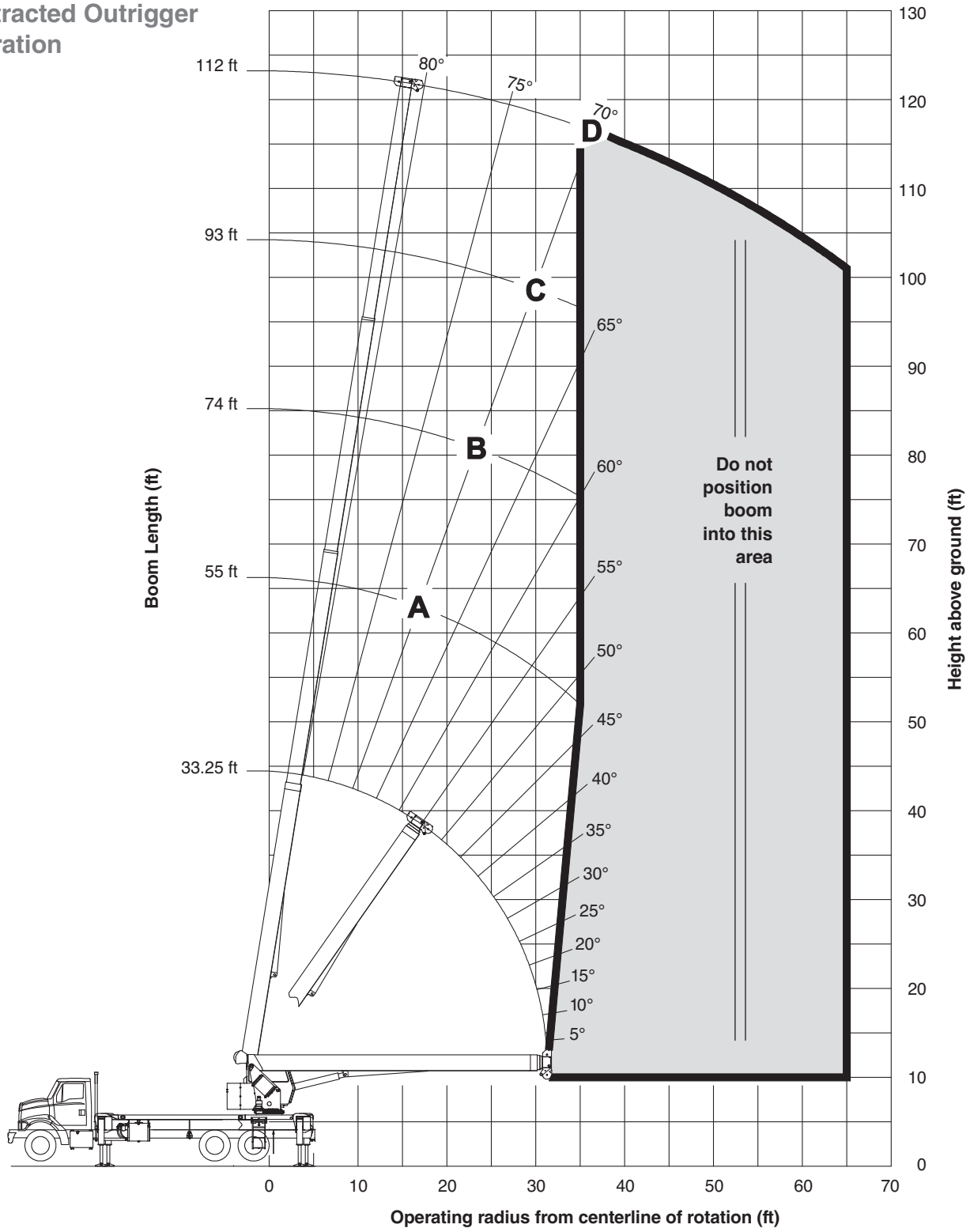
SFJ = Stowed fixed jib · **STJ** = Stowed telescopic jib

NOTES:
All “on outriggers” loads are based on 85% tipping
Loads based on crane with outriggers off the ground
Loads above heavy line are based on structural rating
Loads below heavy line are based on stability rating

30112S Boom Diagram

Main Boom

Fully Retracted Outrigger Configuration



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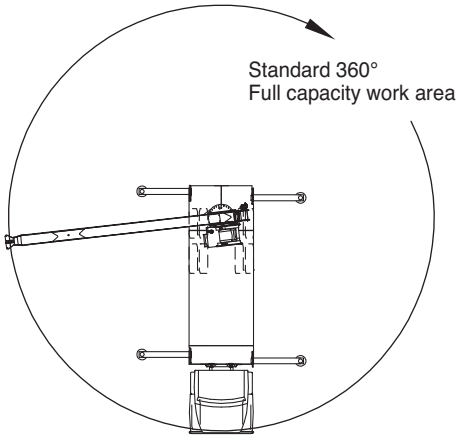
Area of Operation · Reeving Diagram

Area of Operation

Standard 360° area of operation

Optional front stabilizer available

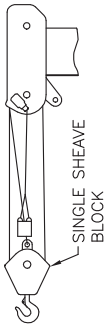
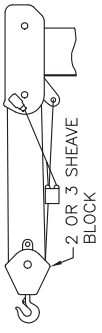
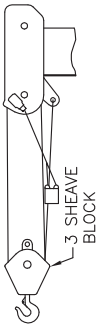
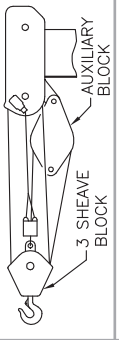


Deductions from rated loads for load handling devices supplied by Manitex

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

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

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	**Anti-Two-Block System must be in good operating condition before operating crane.** **Refer to the owner's manual.** **Keep at least 3 wraps of load line on the drum at all times.**
							
8,500 lbs	**17,000 lbs**	**25,500 lbs**	**34,000 lbs**	**42,500 lbs**	**51,000 lbs**	**60,000 lbs**	**9/16" 6 x 25 IWRC (3.5 : 1 SF) 30,000 lbs min. breaking strength**
7,700 lbs	**15,400 lbs**	**23,100 lbs**	**30,800 lbs**	**38,500 lbs**	**46,200 lbs**	**53,900 lbs**	**9/16" rot resistant (5.0 : 1 SF) 38,500 lbs min. breaking strength**

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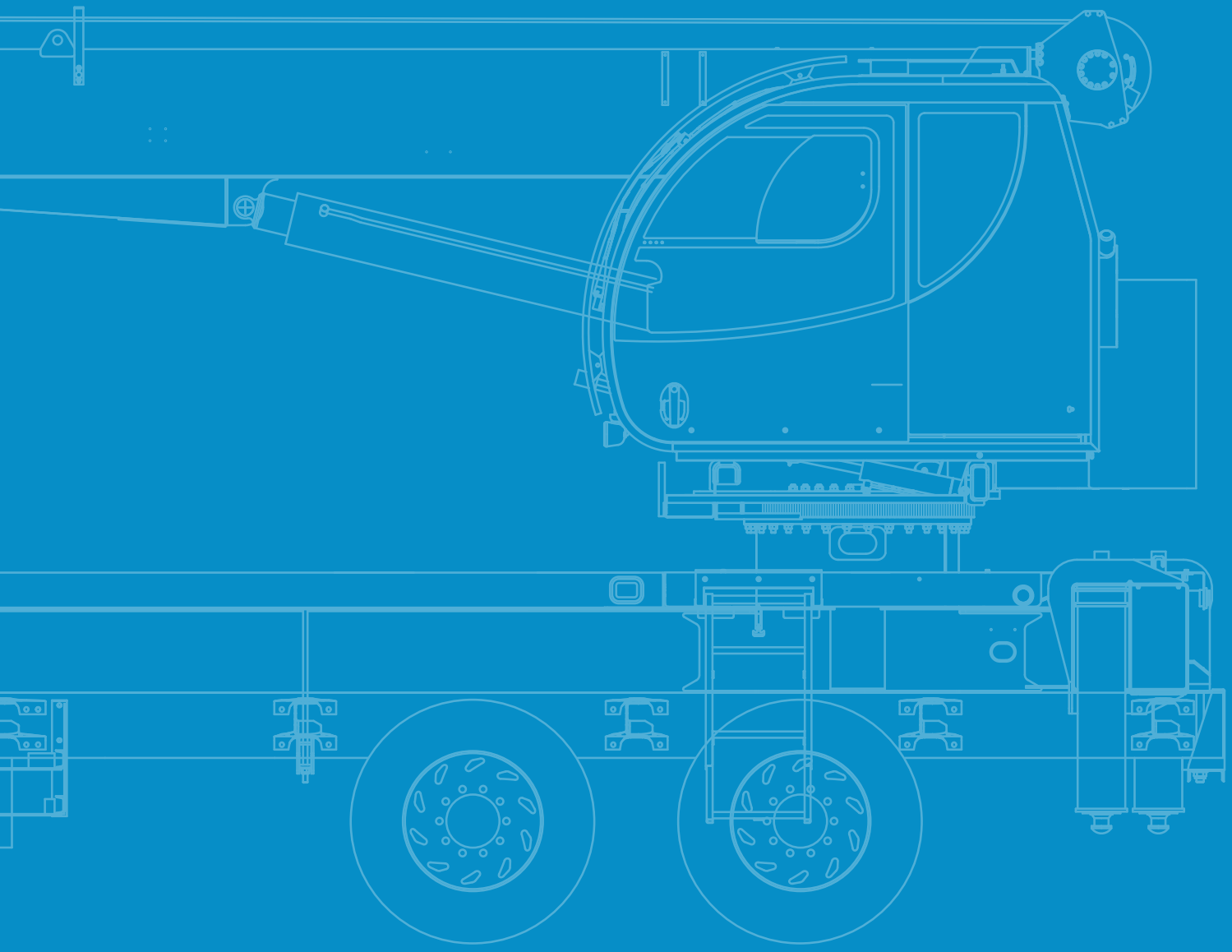
TC 300.1



Technical Description

Boom

Boom lengths: Proportional boom
• 4-section 112 ft (34.1 m)

4-sheave quick reeve boom point
• 1 upper idler sheave
• 3 load sheaves

Self lubricating slider pads with Teflen inserts

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

Boom angle (min./max.):
-8° / 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

Fully extended
• Center to center: 19.4 ft (5.91 m)

Fully retracted
• Center to center: 6.9 ft (2.1 m)

ROC – Rock sold radio remote Outrigger Control

Operator Aids

Anti two block system
Outrigger motion alarm
Boom angle indicator
Bubble level
LMI – Load Moment Indicator

Technical Description

Hoist, Rope and Hook

Maximum theoretical line speed:
300 fpm (91 mpm)

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

Main winch cable diameter: 0.5625 in. (14.3 mm)
Rotation resistant rope

Line length:
335 ft (102.2 m)

Main winch motor:
Gear

Overhaul ball:
7 t (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)

3-section gear pump, SAE C input

Hydraulic reservoir capacity: 70 gallons (265 l)
- Suction stainer
- Ball shutoff valve
- Magnetic drain plug

Return filter – 10 micron

Winch 32 gpm

Pump sections @ 2000 rpm with 100 psi
- Cover end pump: 11.7 gpm (44 lpm)

Boom hoist / telescopic 20 spm

Oil cooler

Reclining 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, standard diesel fired heater, retractable sun screen, 12 volt DC outlet, E-coated cab

Controls:
four single axis pilot oil controls, CANBUS communication, J1939 truck engine communication capability, electronic hand and foot throttle, Hirschmann / PAT iScout D3 LMI system

Technical Description – Options

Boom

Jibs

30112S
- 1-section fixed jib: 26.0 ft (7.9 m)
- 2-section telescopic jib: 26.0 ft - 46.0 ft (7.9 m - 14 m)

Max. Tip Height with Extension

30112S
- Max. tip height with extension: 168 ft (51.2 m)
- Max. tip height with extension retracted: 146.6 ft (44.7 m)

Bulkhead

24 in. (607 mm) bulkhead

Tool Boxes and 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
- 14.1 ft (4.3 m) steel flatbed
- 14.1 ft (4.3 m) wood flatbed

Hydraulics

HYDR

Hose reel – boom mounted
Front Bumper Stabilizer (FBS)
Free swing – No free swing control option

Technical Description – Options

Cab

Video camera (1 or 2)
Cab weather band radio system

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 leveled basket with friction brake
- 2-person aluminum quick attached rotating basket

Hoist and Hook

Auxiliary lower sheave block for 5-7 part lines
Load blocks 1, 2-4, 2-6 part lines

Notes

Notes

www.tadano.com
www.manitex.com

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Phone: +81-3-6811-7309 (International Division)

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3000 South Austin Avenue #7544, Georgetown, TX 78626, USA
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Reaching new heights

TADANO