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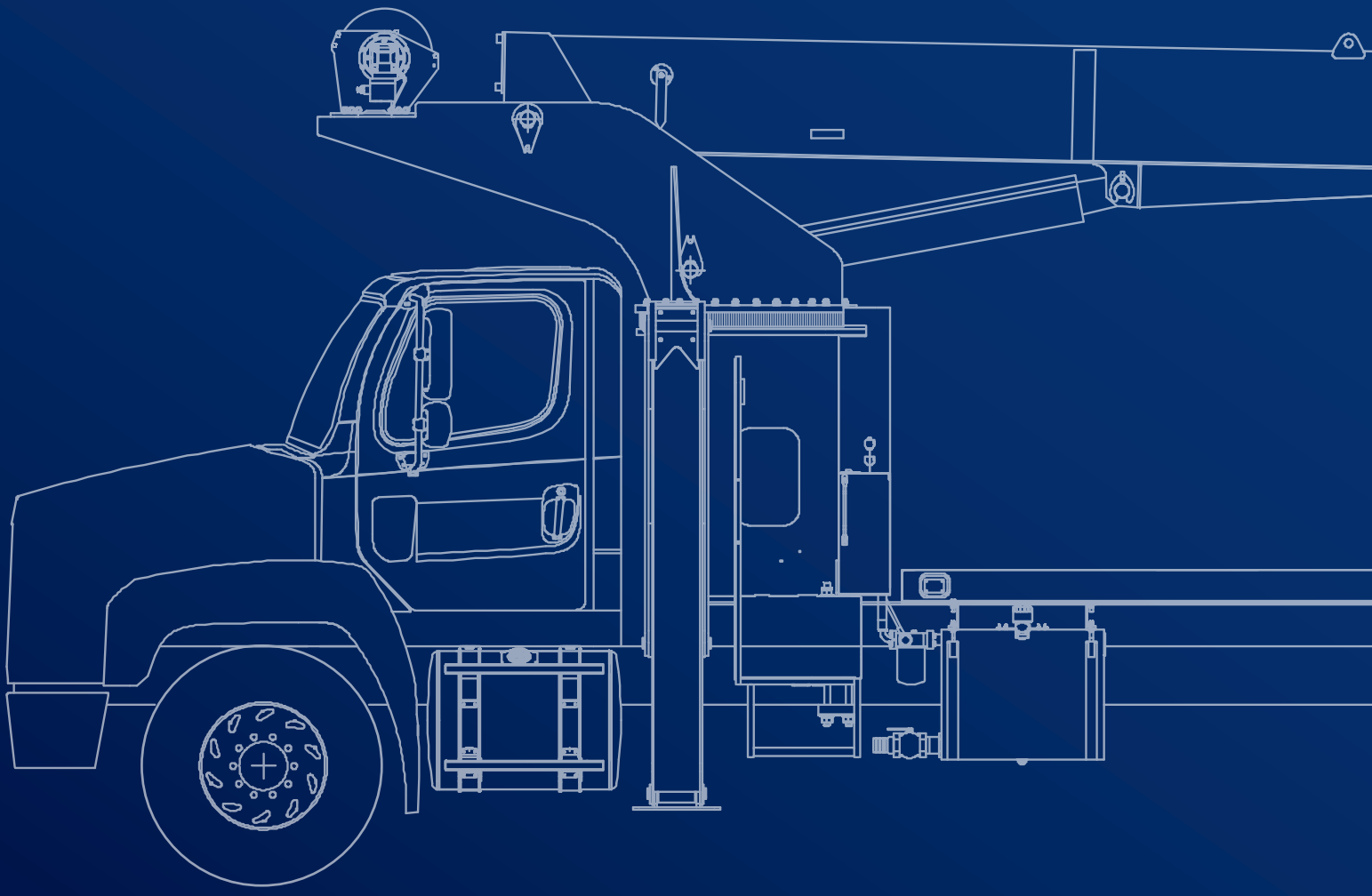
TECHNICAL DATA | IMPERIAL

CM300.1

SERIES PRODUCT GUIDE

30 TON (27 MT) TELESCOPIC CRANE



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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

A-Frame 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

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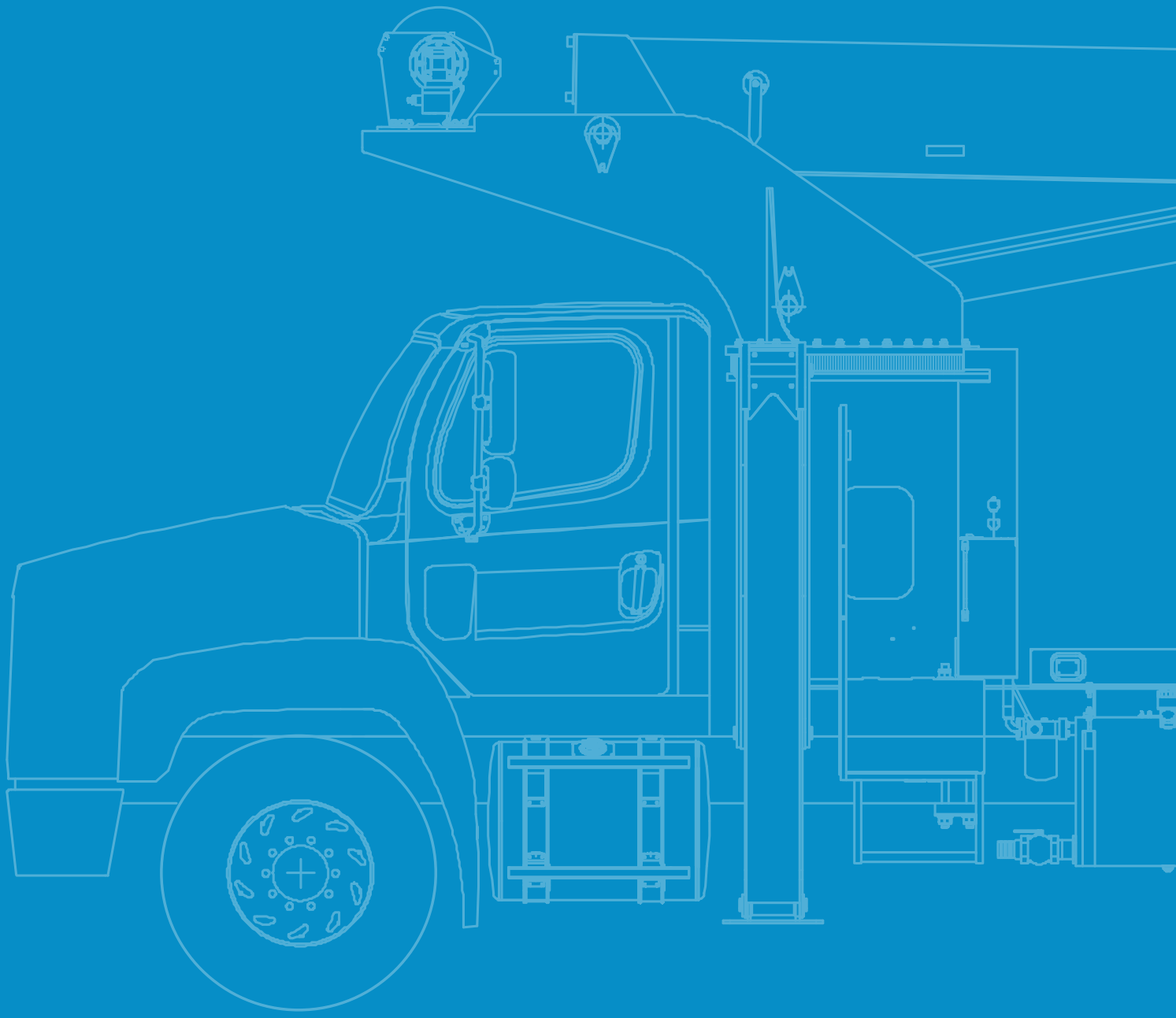
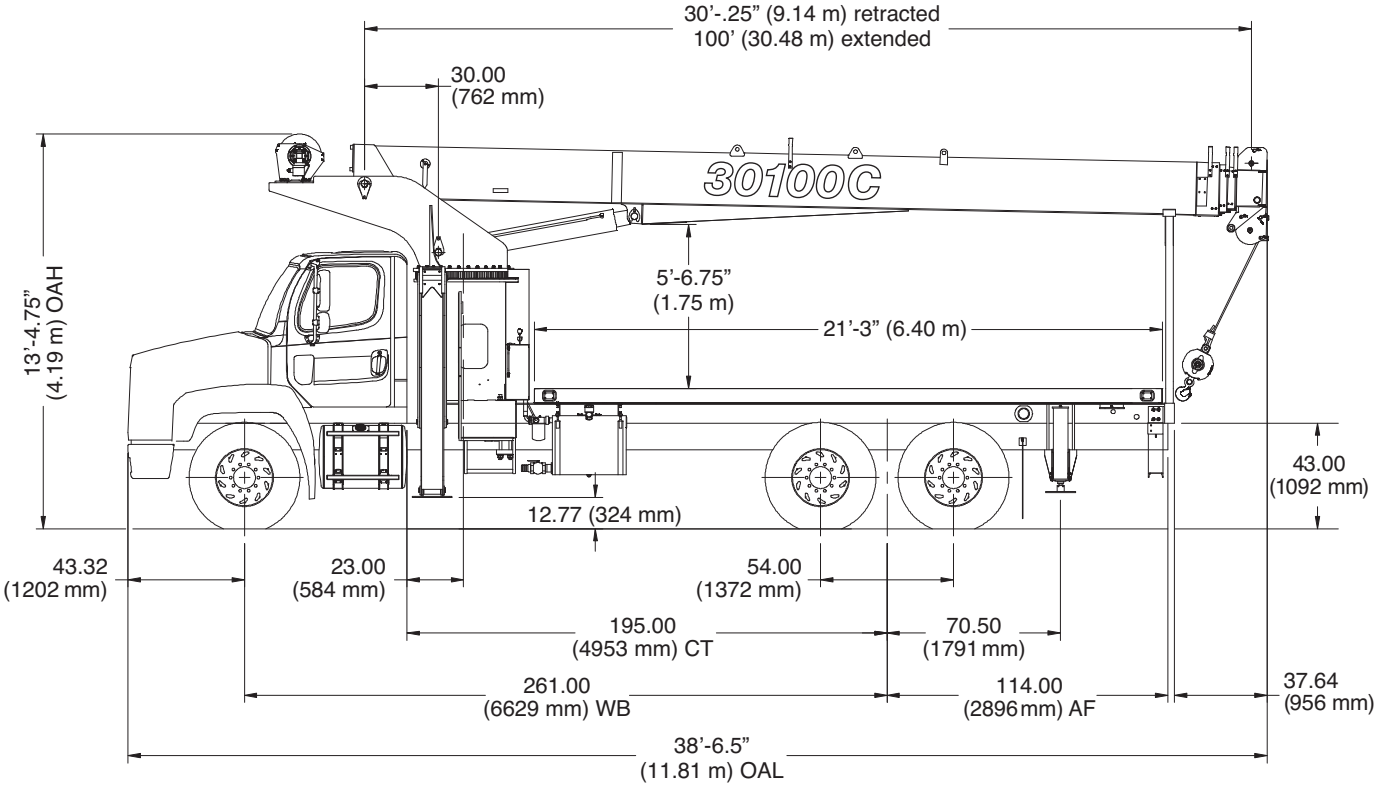


30102C / 30100C Chassis Data

30100C – Dimensions



Chassis Data

Model	30102C / 30100C
Wheelbase (WB)	261 in. (6,629 mm)
Cab to tandem (CT)	195 in. (4,953 mm)
After frame (AF)	114 in. (2,896 mm)
Nominal frame width	34 in. (864 mm)
Frame section modulus at 180° / 360° area of operation*	30 in^3 (491.6 cm^3) 110,000 psi · 758,423 kPa

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

Truck Axle Weight

Front axle gross weight rating	18,000 lbs (8,165 kg)
Rear axle gross weight rating	34,000 lbs (15,422 kg)
Min. truck axle weight – Front**	8,400 lbs (3,810 kg)
Min. truck axle weight – Rear**	8,400 lbs (3,810 kg)

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

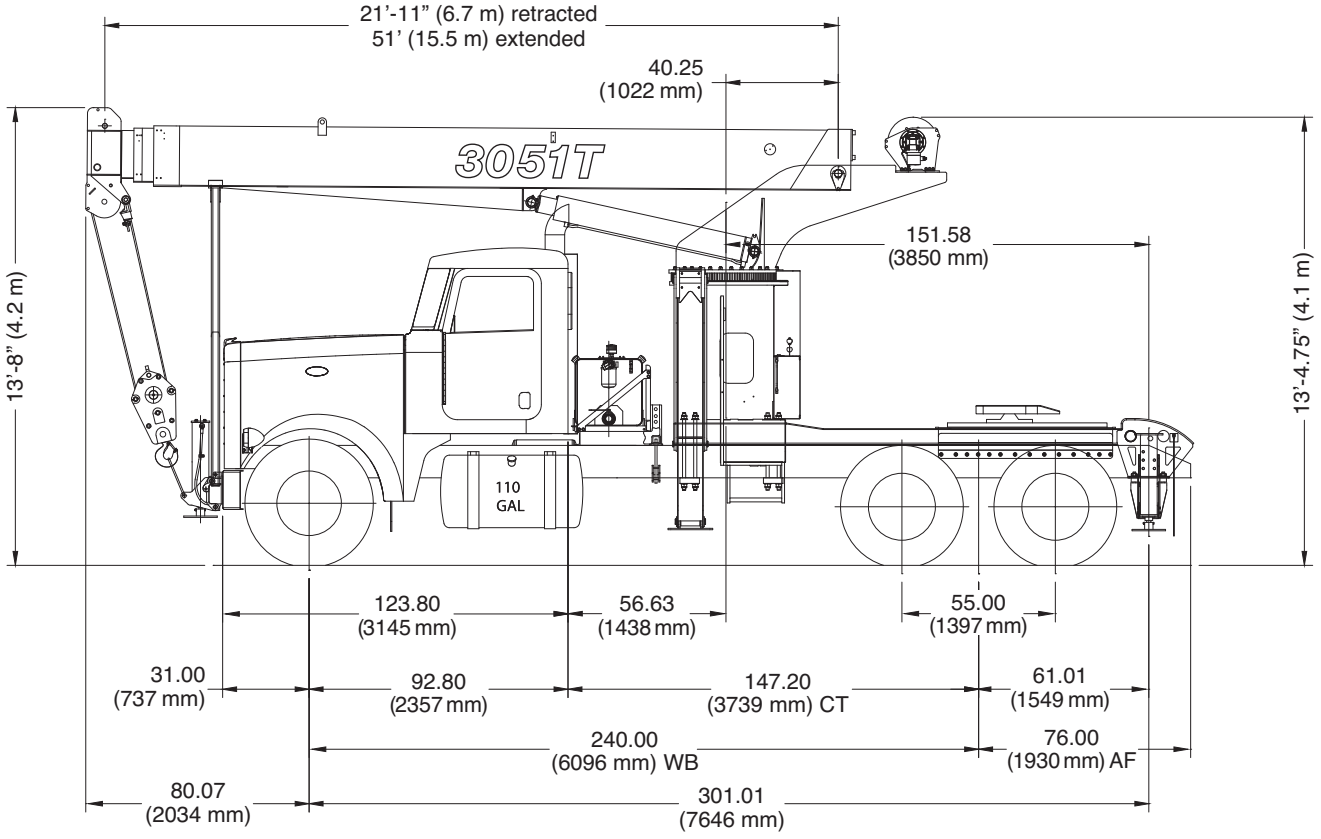
Crane Weight

Model	30102C / 30100C
Total crane 30102C A-Frame	22,212 lbs (10,075 kg)
Total crane 30102C Out & Down	23,040 lbs (10,451 kg)
Total crane 30100C A-Frame	22,485 lbs (10,199 kg)
Total crane 30100C Out & Down	23,047 lbs (10,454 kg)
Flatbed 22 ft (6.7 m)	2,552 lbs (1,144 kg)
Fixed jib 26 ft (7.9 m)	832 lbs (377 kg)
Telescoping jib 26 ft (7.92 m) to 46 ft (14.0 m)	1,220 lbs (553 kg)

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

3051T Chassis Data

3051T – Dimensions



Chassis Data

Model	3051T
Wheelbase (WB)	240 in. (6,096 mm)
Cab to tandem (CT)	147.2 in. (3,739 mm)
After frame (AF)	76 in. (1,930 mm)
Nominal frame width	34 in. (864 mm)
Frame section modulus at 180° / 360° area of operation*	30 in^3 (491.6 cm^3) 110,000 psi · 758,423 kPa

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

Crane Weight

Model	3051T
Total crane (standard)	16,129 lbs (7,316 kg)

Truck Axle Weight

Front axle gross weight rating	18,000 lbs (8,165 kg)
Rear axle gross weight rating	34,000 lbs (15,422 kg)
Min. truck axle weight – Front**	8,400 lbs (3,810 kg)
Min. truck axle weight – Rear**	8,400 lbs (3,810 kg)

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

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

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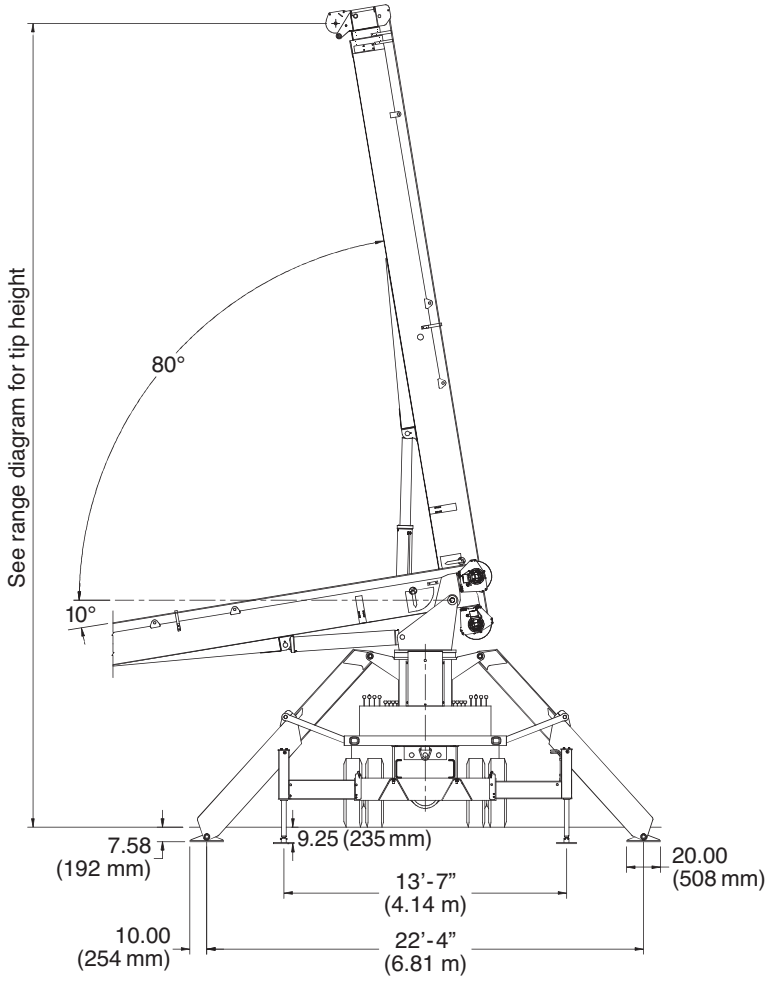
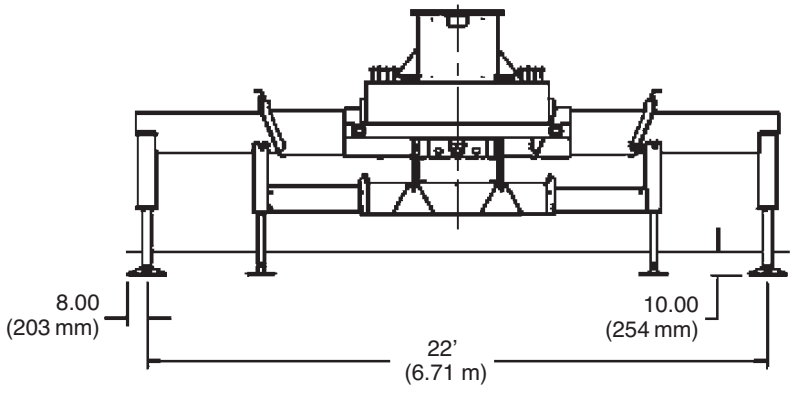
Outrigger Extension

Standard Outrigger Stabilizer Combination – Fully Extended



Out and Down Outrigger Stabilizer Combination – Fully Extended (optional)



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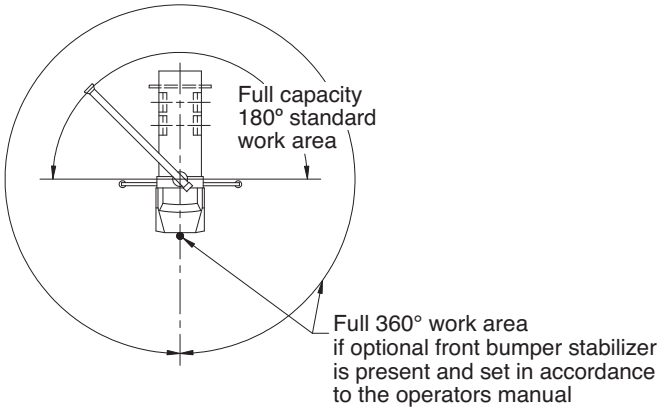
Area of Operation · Reeving Diagram

Area of Operation

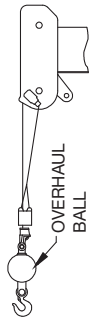
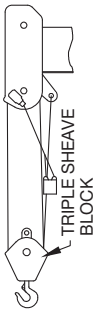
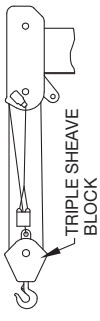
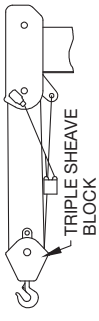
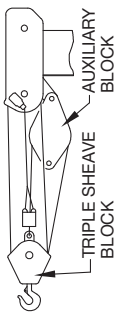


Deductions from rated loads for load handling devices supplied by Tadano

Auxilary block	50 lbs (22.7 kg)
Auxilary sheave	50 lbs (22.7 kg)
Overhaul ball	See overhaul ball mfgr. nameplate
Load blocks	See block mfgr. nameplate
Hose reel	140 lbs (63.5 kg)
Swing-around jib	See load chart

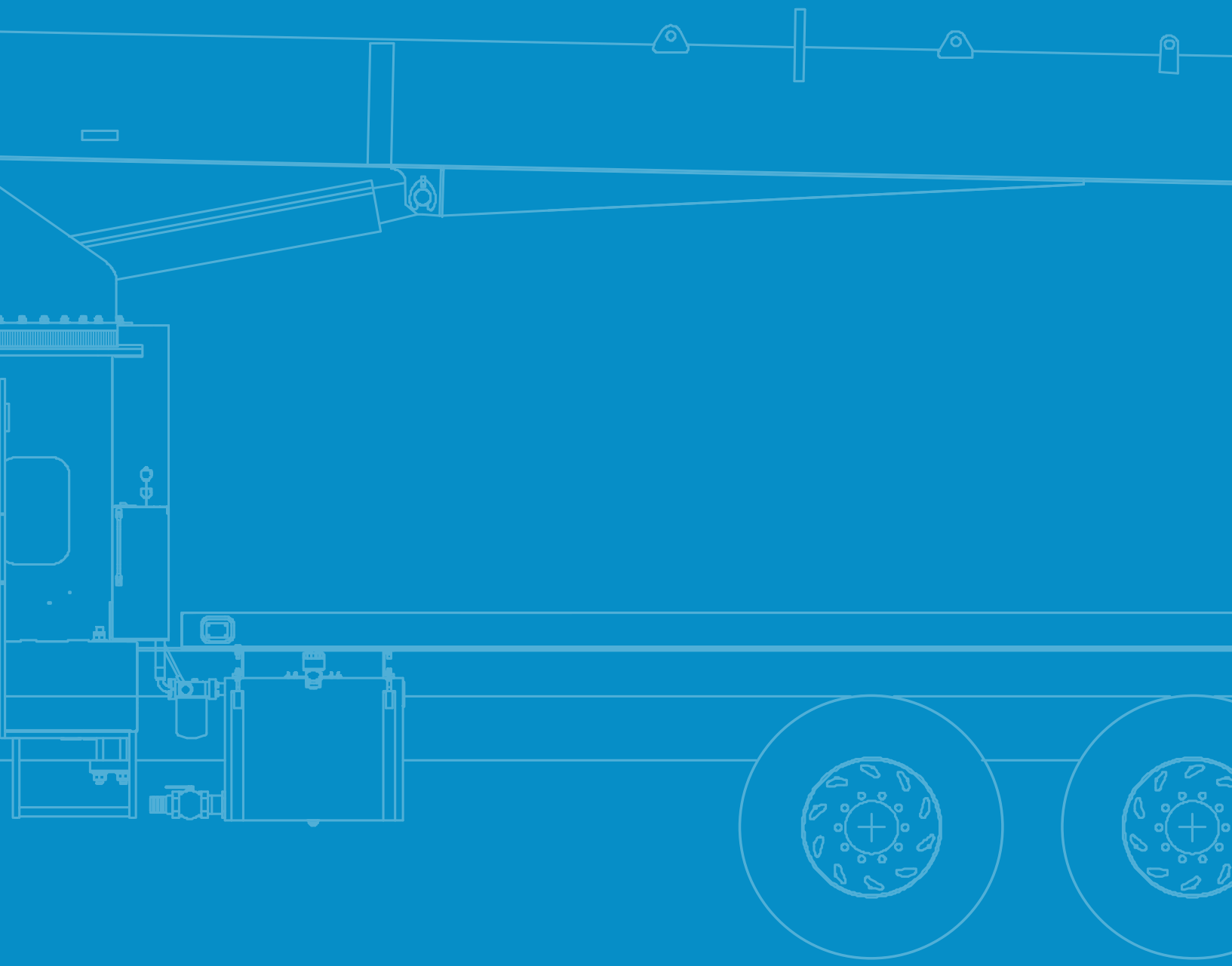
WARNING: Lifting off the main boom point while the jib is erected is not intended nor approved.

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) 29,750 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**

Notes

CM 300.1



30102C Load Chart

Main Boom
Jib

A-Frame Outriggers

30.5 ft – 102 ft – 4 section | **372° non-continuous** | **22.3 ft (6.8 m)**

	30.5 ft		42 ft (A)		52 ft (B)		62 ft (C)		72 ft (D)		82 ft (E)		92 ft (F)		102 ft (G)		
		Load capacity		Load capacity		Load capacity		Load capacity		Load capacity		Load capacity		Load capacity		Load capacity	
ft	°	lbs	°	lbs	°	lbs	°	lbs	°	lbs	°	lbs	°	lbs	°	lbs	ft
5	77	60,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
8	71	38,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
10	67	33,600	73	25,000	77	25,000	-	-	-	-	-	-	-	-	-	-	10
12	62	29,620	71	25,000	75	25,000	78	25,000	-	-	-	-	-	-	-	-	12
15	55	25,510	66	23,570	71	22,450	75	21,640	78	19,660	80	16,460	-	-	-	-	15
20	42	20,200	58	18,740	65	17,730	70	17,340	74	16,760	76	14,330	79	12,180	80	10,300	20
25	24	15,980	50	15,770	59	14,910	65	14,220	69	13,670	73	12,570	75	10,870	77	9,390	25
30	-	-	39	13,220	52	12,620	60	12,020	65	11,510	69	11,100	72	9,590	74	8,500	30
35	-	-	26	10,380	44	10,630	54	10,360	60	9,910	65	9,530	69	8,500	71	7,630	35
40	-	-	-	-	35	8,220	48	8,360	55	8,460	61	8,530	66	7,790	68	6,840	40
45	-	-	-	-	23	6,500	41	6,650	50	6,750	57	6,810	62	6,860	65	5,920	45
50	-	-	-	-	-	-	33	5,370	45	5,470	52	5,540	58	5,580	62	5,190	50
55	-	-	-	-	-	-	22	4,380	38	4,480	47	4,540	54	4,590	58	4,570	55
60	-	-	-	-	-	-	-	-	31	3,690	42	3,750	49	3,800	55	3,840	60
65	-	-	-	-	-	-	-	-	20	3,030	36	3,110	45	3,160	51	3,190	65
70	-	-	-	-	-	-	-	-	-	-	28	2,570	40	2,620	47	2,660	70
75	-	-	-	-	-	-	-	-	-	-	20	2,110	34	2,160	43	2,200	75
80	-	-	-	-	-	-	-	-	-	-	-	-	28	1,770	38	1,810	80
85	-	-	-	-	-	-	-	-	-	-	-	-	19	1,430	33	1,470	85
90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	1,180	90
95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	910	95

Deductions from main boom capacities for stowed jibs

SFJ	500 lbs	360 lbs	290 lbs	250 lbs	210 lbs	190 lbs	170 lbs	150 lbs
STJ	740 lbs	540 lbs	440 lbs	370 lbs	320 lbs	280 lbs	250 lbs	220 lbs

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

NOTES:
All loads rated at 360° pick
Loads based on crane on fully extended outriggers and stabilizers
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 stability rating

↑ Structural
↓ Stability

Jib 26 ft – 46 ft | **372° non-continuous** | **22.3 ft (6.8 m)**

	Fixed Jib		Telescopic Jib				Fixed Jib		Telescopic Jib			
	26 ft		26 ft		46 ft		26 ft		26 ft		46 ft	
		Load capacity		Load capacity		Load capacity		Load capacity		Load capacity		Load capacity
ft	°	lbs	°	lbs	°	lbs	ft	°	lbs	°	lbs	°	lbs
25	80	5,300	80	5,100	-	-	70	59	2,570	59	2,220	65	2,440
30	78	5,300	78	5,100	80	3,050	75	56	2,280	56	1,930	63	2,060
35	76	4,990	76	4,730	78	3,050	80	53	1,960	53	1,660	60	1,850
40	74	4,580	74	4,310	77	3,050	85	50	1,620	50	1,320	58	1,630
45	72	4,200	72	3,920	75	3,050	90	47	1,320	47	1,020	55	1,430
50	69	3,850	69	3,560	73	3,050	95	44	1,060	44	760	53	1,240
55	67	3,530	67	3,240	71	2,890	100	40	820	40	520	50	1,000
60	64	3,240	64	2,940	69	2,660	105	36	610	-	-	47	790
65	62	2,920	62	2,560	67	2,440	110	-	-	-	-	44	600

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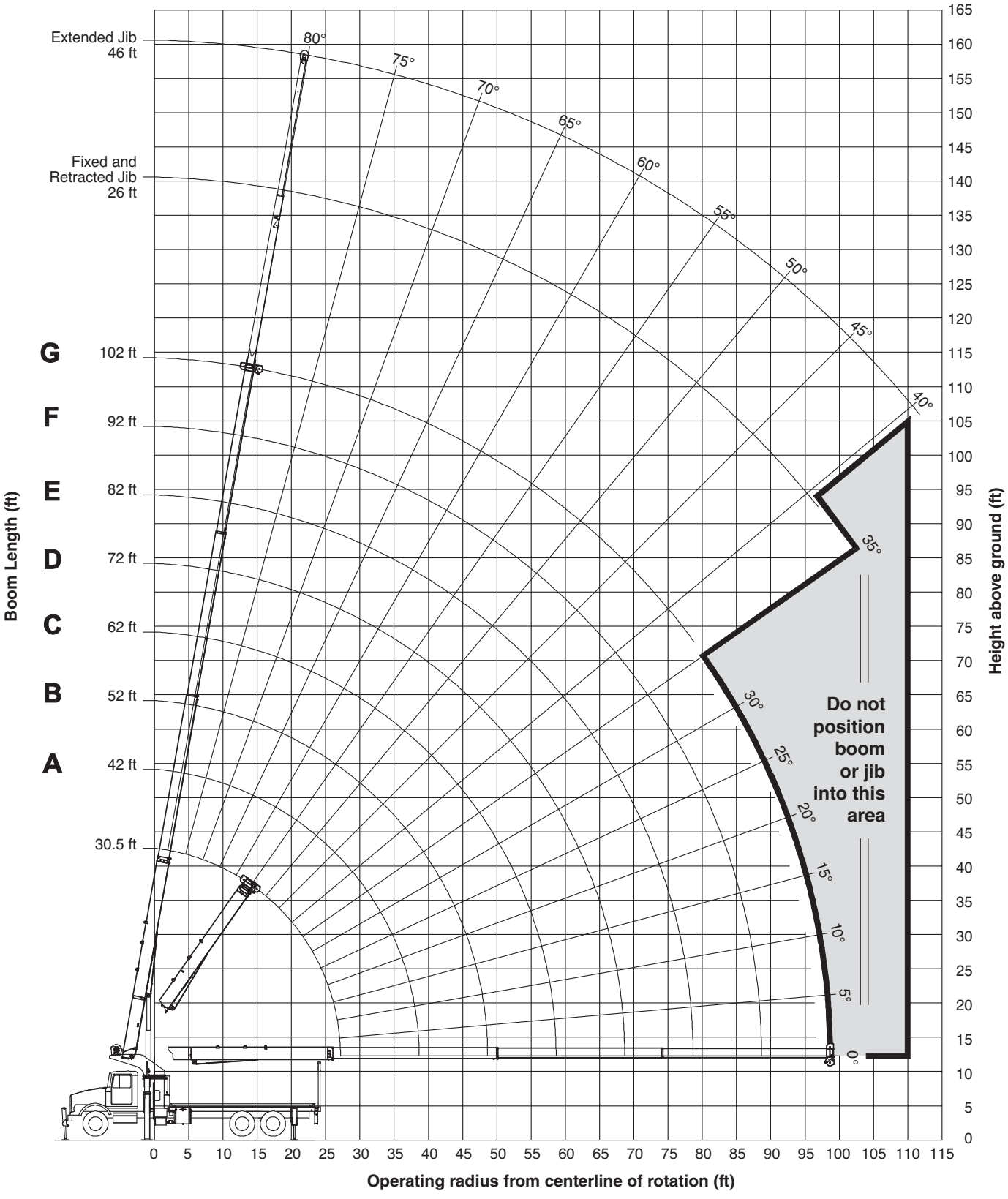
30102C Boom Diagram

Main Boom
Jib



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30100C Load Chart

Main Boom Jib

A-Frame Outriggers

30 ft – 100 ft – 4 section | **372° non-continuous** | **22.3 ft (6.8 m)**

	30 ft		40 ft (A)		50 ft (B)		60 ft (C)		70 ft (D)		80 ft (E)		90 ft (F)		100 ft (G)		
		Load capacity		Load capacity		Load capacity		Load capacity		Load capacity		Load capacity		Load capacity		Load capacity	
ft	°	lbs	°	lbs	°	lbs	°	lbs	°	lbs	°	lbs	°	lbs	°	lbs	ft
5	77	60,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
8	70.5	38,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
10	66.5	33,900	73	25,000	77	25,000	-	-	-	-	-	-	-	-	-	-	10
12	62	29,830	70	25,000	74.5	25,000	78	25,000	-	-	-	-	-	-	-	-	12
15	55	25,700	65.5	23,930	71	22,710	75	21,850	77.5	20,190	79.5	16,860	-	-	-	-	15
20	42	20,350	57	19,060	64.5	17,980	70	17,550	73.5	16,930	76	14,660	78.5	12,470	80	10,500	20
25	22	15,880	47.5	16,030	58	15,140	64.5	14,410	69	13,840	72.5	12,850	75	11,080	77	9,580	25
30	-	-	36	13,350	50.5	12,830	59	12,200	64.5	11,670	68.5	11,250	72	9,770	74	8,540	30
35	-	-	19	10,360	42.5	10,630	53	10,530	60	10,060	65	9,670	68.5	8,630	71	7,770	35
40	-	-	-	-	32.5	8,240	46.5	8,390	55	8,490	60.5	8,560	65.5	7,910	68	6,900	40
45	-	-	-	-	17.5	6,520	39	6,690	49.5	6,780	56.5	6,850	61.5	6,900	65	6,000	45
50	-	-	-	-	-	-	30	5,410	43.5	5,510	51.5	5,580	57.5	5,630	61.5	5,250	50
55	-	-	-	-	-	-	16	4,410	36.5	4,520	46.5	4,590	53.5	4,640	58	4,630	55
60	-	-	-	-	-	-	-	-	28	3,730	41	3,800	49	3,850	54.5	3,890	60
65	-	-	-	-	-	-	-	-	15.5	3,080	35	3,160	44.5	3,210	50.5	3,250	65
70	-	-	-	-	-	-	-	-	-	-	27	2,620	39	2,670	46.5	2,710	70
75	-	-	-	-	-	-	-	-	-	-	15	2,160	33.5	2,220	42	2,260	75
80	-	-	-	-	-	-	-	-	-	-	-	-	26	1,830	37.5	1,870	80
85	-	-	-	-	-	-	-	-	-	-	-	-	14.5	1,480	32	1,530	85
90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	1,230	90
95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	960	95

Deductions from main boom capacities for stowed jibs

SFJ	490 lbs	370 lbs	300 lbs	250 lbs	210 lbs	190 lbs	170 lbs	150 lbs
STJ	730 lbs	550 lbs	440 lbs	370 lbs	320 lbs	280 lbs	250 lbs	220 lbs

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

NOTES:
All loads rated at 360° pick
Loads based on crane on fully extended outriggers and stabilizers
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 stability rating

↑ Structural
↓ Stability

Jib 26 ft – 46 ft | **372° non-continuous** | **22.3 ft (6.8 m)**

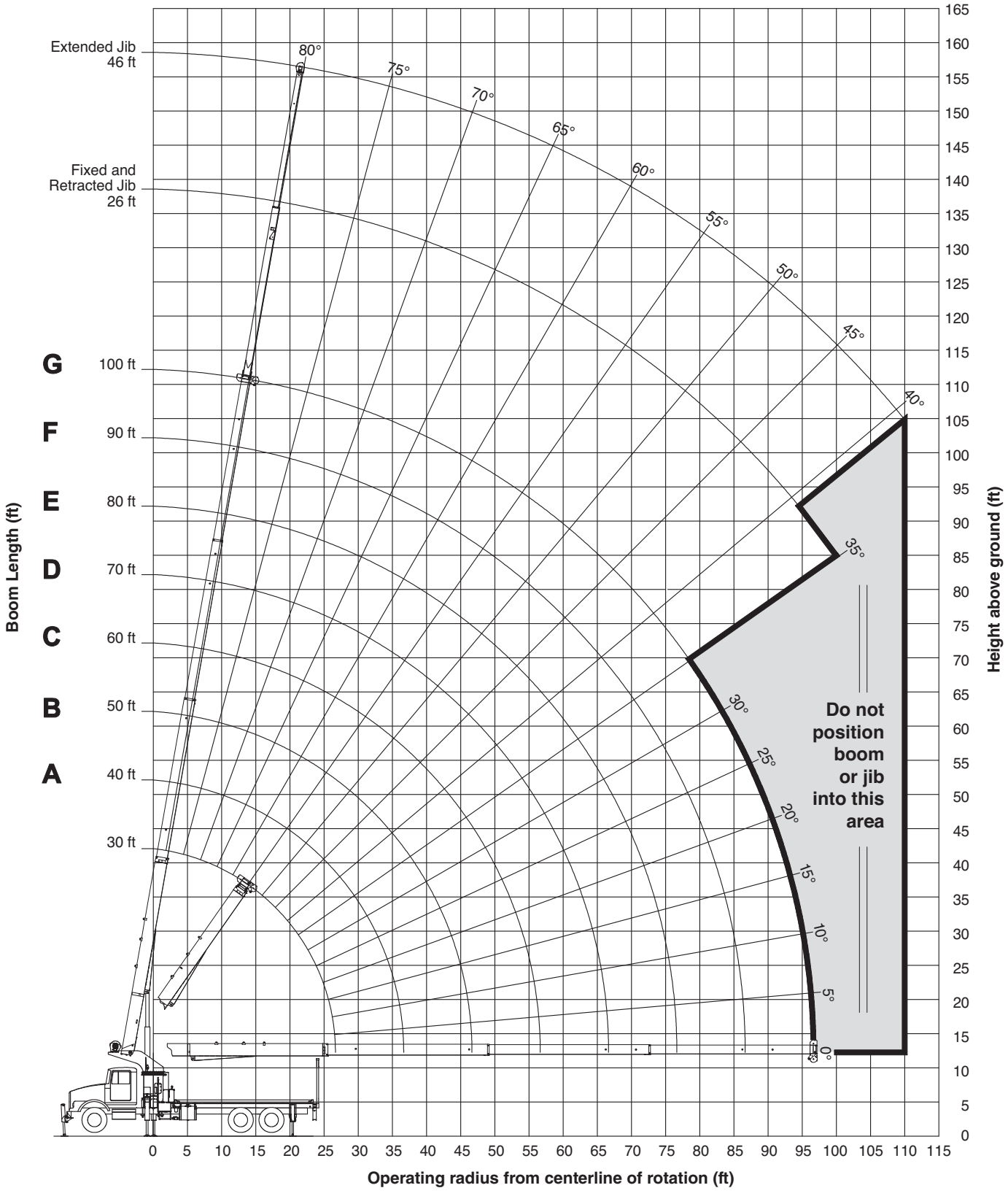
	Fixed Jib 26 ft		Telescopic Jib 26 ft		Telescopic Jib 46 ft	
		Load capacity		Load capacity		Load capacity
ft	°	lbs	°	lbs	°	lbs
25	80	5,300	80	5,100	-	-
30	78	5,300	78	5,100	79.5	3,050
35	76	5,000	76	4,800	78	3,050
40	73.5	4,650	73.5	4,380	76.5	3,050
45	71.5	4,250	71.5	3,980	74.5	3,050
50	69	3,890	69	3,610	73	3,050
55	66.5	3,560	66.5	3,280	71	2,930
60	64	3,270	64	2,980	69	2,690
65	61.5	2,950	61.5	2,600	66.5	2,470

	Fixed Jib 26 ft		Telescopic Jib 26 ft		Telescopic Jib 46 ft	
		Load capacity		Load capacity		Load capacity
ft	°	lbs	°	lbs	°	lbs
70	58.5	2,610	58.5	2,270	64.5	2,260
75	55.5	2,320	55.5	1,970	62.5	2,080
80	53	2,010	53	1,710	60	1,890
85	49.5	1,670	49.5	1,380	57.5	1,670
90	46.5	1,370	46.5	1,080	55	1,470
95	43	1,110	43	810	52.5	1,290
100	39	880	39	580	49.5	1,050
105	-	-	-	-	46.5	840
110	-	-	-	-	43.5	650

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

30100C Boom Diagram

Main Boom
Jib



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

3051T Load Chart

Main Boom

21.27 ft – 51 ft – 3 section | **372° non-continuous** | **22.3 ft (6.8 m)**

	21.27 ft		26 ft (A)		31 ft (B)		36 ft (C)		41 ft (D)		46 ft (E)		51 ft (F)		
		Load capacity		Load capacity		Load capacity		Load capacity		Load capacity		Load capacity		Load capacity	
ft	°	lbs	°	lbs	°	lbs	°	lbs	°	lbs	°	lbs	°	lbs	ft
5	70	60,000	-	-	-	-	-	-	-	-	-	-	-	-	5
8	60.5	43,700	66.5	41,700	71	40,100	74	38,900	76.5	38,000	-	-	-	-	8
10	54	38,200	61.5	36,400	67	35,200	70.5	34,100	73.5	33,200	75.5	32,200	77	28,520	10
12	47	34,300	56.5	32,700	62.5	31,200	67	30,100	70.5	29,250	73	28,540	75	25,800	12
14	38.5	30,700	50.5	29,440	58.5	28,160	63.5	27,110	67.5	26,640	70.5	25,940	72.5	23,780	14
16	27.5	27,160	44.5	26,760	53.5	25,990	60	25,010	64	24,190	67.5	23,520	70.5	21,820	16
18	-	-	37.5	24,640	49	23,840	56	22,960	61	22,200	65	21,550	68	20,190	18
20	-	-	28.5	22,260	43.5	21,980	52	21,230	57.5	20,530	62	19,910	65.5	18,520	20
25	-	-	-	-	26.5	17,760	40.5	17,770	48.5	17,570	54.5	17,070	58.5	15,410	25
30	-	-	-	-	-	-	24.5	13,170	38	13,260	46	13,310	51.5	12,950	30
35	-	-	-	-	-	-	-	-	23	10,240	36	10,310	44	10,350	35
40	-	-	-	-	-	-	-	-	-	-	22	8,270	34.5	8,320	40
45	-	-	-	-	-	-	-	-	-	-	-	-	21	6,860	45
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50

NOTES:

All loads rated at 360° pick

Loads based on crane on fully extended outriggers and stabilizers

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

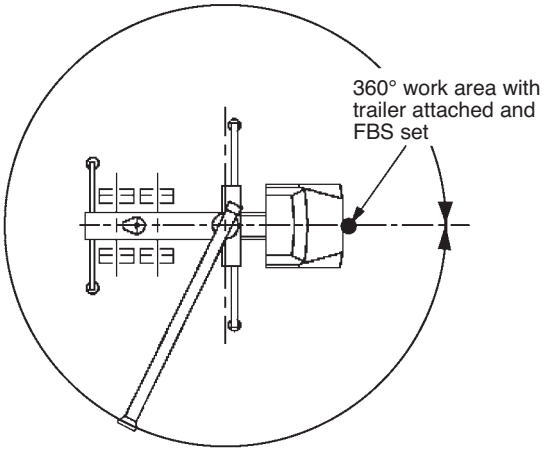
Loads above heavy line are based on structural rating

Loads below heavy line are based on stability rating

Structural

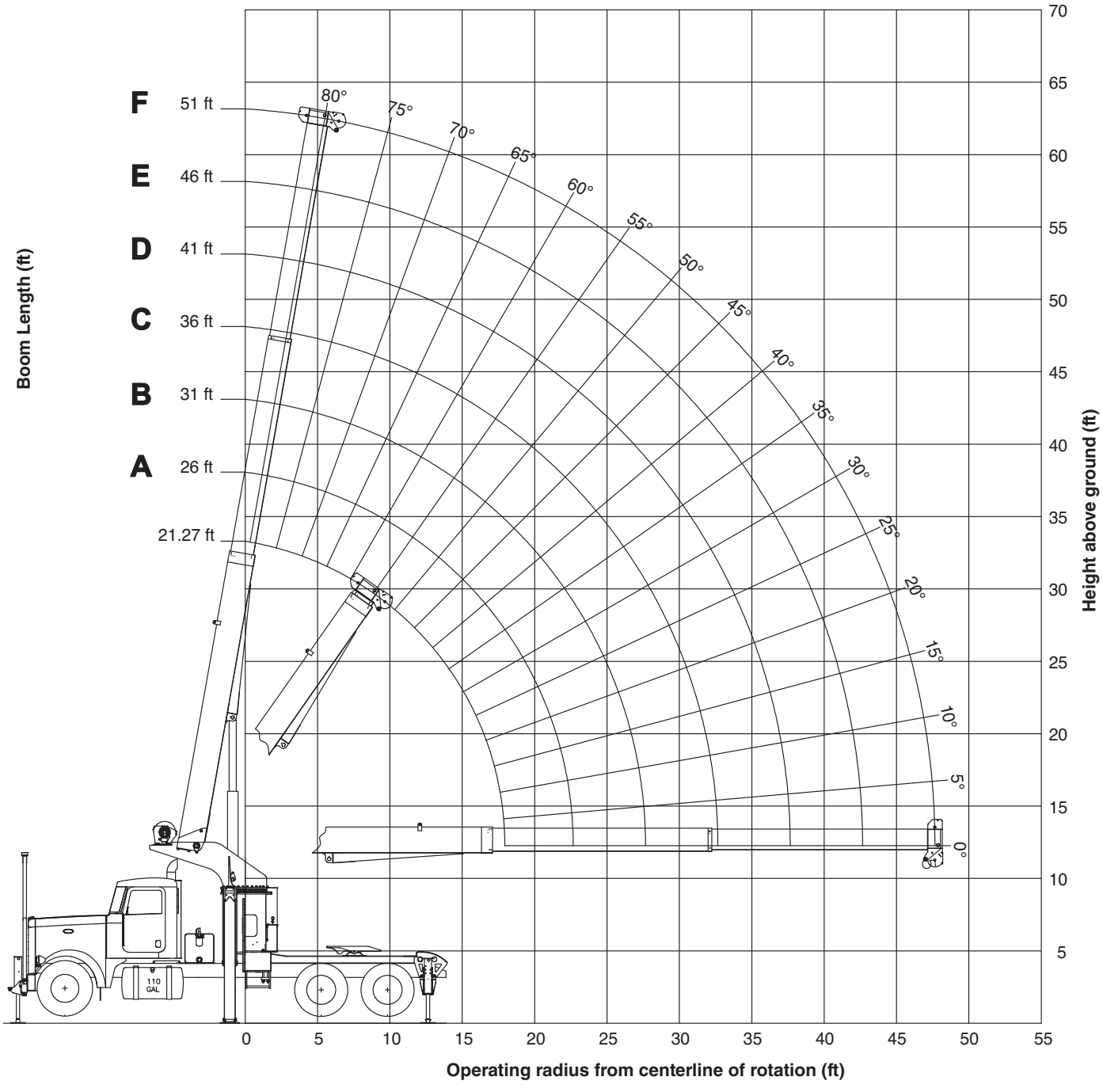
Stability

Area of Operation



3051T Boom Diagram

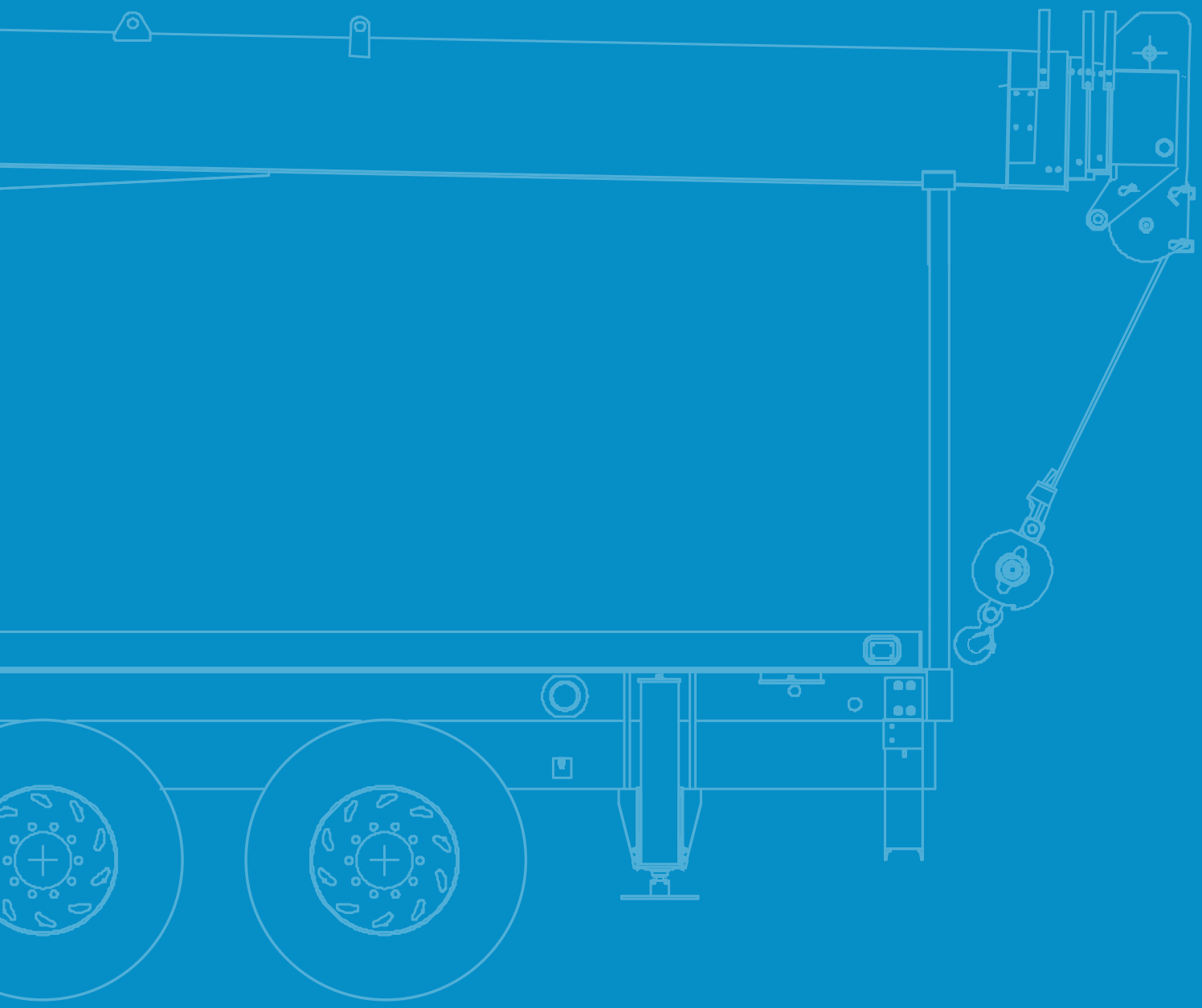
Main Boom



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

Notes

CM 300.1



Technical Description

Boom

Boom length: Proportional boom
- 4-section 102 ft (31.1 m)
- 4-section 100 ft (30.4 m)
- 3-section 51 ft (15.5 m)

3-sheave quick reeve boom point

Self lubricating slider pads

30102C:	• Boom length	102 ft (31.1 m)
	• Boom max. tip height	112 ft (34.1 m)
30100C:	• Boom length	100 ft (30.4 m)
	• Boom max. tip height	110.6 ft (33.7 m)
3051T:	• Boom length	51 ft (15.5 m)
	• Boom max. tip height	62.3 ft (19.0 m)

Boom angle (min./max.):
-10° / 80.6°

Rotation

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

Slewing brake:
Spring-applied pressure released parking brake

Slewing speed: 0 - 1.5 rpm
Boom rotation: 372° non-continuous

Outriggers

Outriggers: A-frame style

FBS – Front Bumper Stabilizer (optional)

A-frame fully extended: 22.3 ft (6.8 m)

Stabilizers fully extended: 14.6 ft (4.4 m)

Hoist, Rope and Hook

Maximum theoretical line speed:
300 fpm (91.4 mpm)

Bottom layer permissible line pull:
8,500 lbs (3,855.5 kg)

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

Line length: 335 ft (102.1 m)

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

Hook and ball:
7 t (6.4 mt) capacity hook with heavy-duty swivel and weight is provided for single line operation

Technical Description

Hydraulics

8-Bolt direct mounted PTO and SAE B input and SAE BB output

3-section gear pump, SAE BB input (standard)

Hydraulic reservoir capacity:
70 gallons (284 l)

Pump sections @ 2000 rpm with 100 psi
- Shaft end pump: 32.4 gpm (123 lpm)
- Center pump: 20.6 gpm (78 lpm)
- Cover end pump: 10 gpm (38 lpm)

Operator Aids

Externally wired LMI with crane function cut-offs for overload protection

Text display

Event recorder

Externally wired anti-two block system

Control System

Dual operating stations are equipped with four single-lever crane controls arranged in accordance with ANSI B30.5 standards.

Fully proportional control valves

Each station includes:
- Individual control levers for each outrigger and stabilizer
- Engine start and stop
- Electronic foot throttle
- Signal horn
- Boom angle indicator
- Beverage holder
- Load chart with range diagram and mount for removable LMI display

Electrical System

State-of-the-art, weather-resistant components throughout

Hermetically sealed enclosure includes power in relays and circuit status LEDs

Mounting System

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

Boom rest:
Heavy-duty fabrication, easily removed

Technical Description – Options

Outriggers

Outriggers: Out and down style
- Fully extended: 22 ft (6.7 m)

Stabilizer extended:
- Fully extended: 14.6 ft (4.4 m)

Jib

30102C / 30100C:
- 1-section fixed jib: 26 ft (7.9 m)
- 2-section telescopic jib: 26 ft (7.9 m) - 46 ft (14.0 m)

30102C:
- Max. tip height with extension: 157 ft (47.9 m)

30100C:
- Max. tip height with extension: 155 ft (47.2 m)

30102C:
- Max. tip height with extension retracted: 137 ft (41.8 m)

30100C:
- Max. tip height with extension retracted: 135 ft (41.1 m)

Hoist, Rope and Hook

0.625 in. (15.9 mm) diameter 6 x 25 EIPS IWRC wire rope

Hydraulics

3-section gear pump, SAE C input
FBS – Front Bumper Stabilizer
Hose reel – Boom mounted
Hydraulic oil cooler

Technical Description – Options

2-Person Basket

2-person man basket – Aluminum or steel – consult Tadano
- Non-rotating (600 lbs capacity) – Steel
- Rotating (1,200 lbs capacity) – Aluminum – Main boom only

Radio Remote

4-function radio remote crane control system
- 900 Mhz
- 433 Mhz

Tool Boxes and Bulkhead

Tool Boxes
- 24 in. L x 18 in. W x 18 in. H (610 mm L x 457 mm W x 457 mm H) – Steel
- 48 in. L x 24 in. W x 24 in. H (1,219 mm L x 610 mm W x 610 mm H) – Aluminium

Bulkhead:
- 24 in. (610 mm)

Flatbeds

- 21 ft (6.4 m) Wood bed x 96 in. (2.44 m)
- 21 ft (6.4 m) Heavy hauler steel bed x 96 in. (2.44 m)

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