

STERLING CRANE



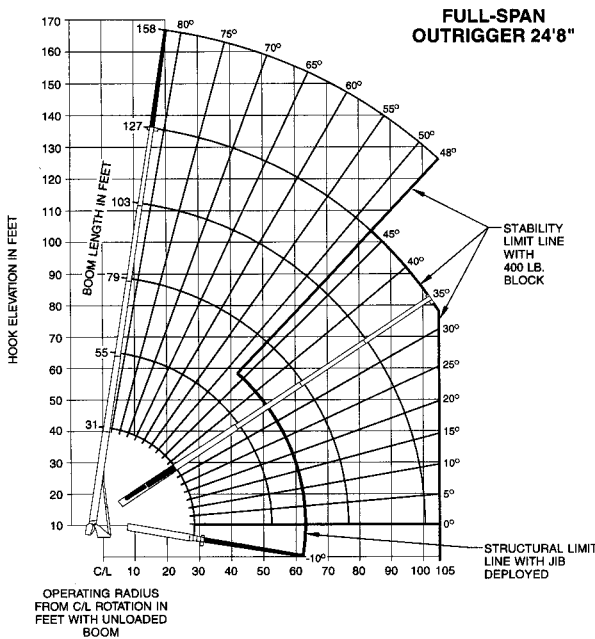
LIFTING CHARTS - Boom Trucks

NATIONAL MODEL 15127 - 36 TON CAPACITY

Sample Load Rating Chart

Notes:

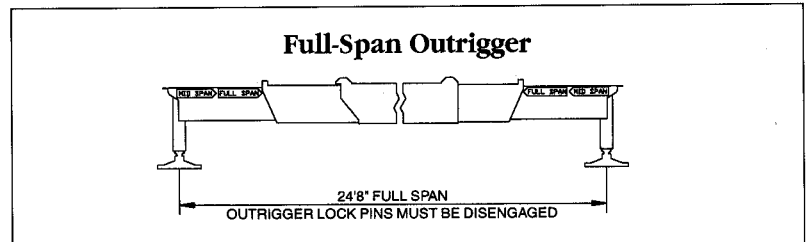
- Jib and boom capacities shown are maximum allowable loads for each section under optimal conditions
- Rated loads do not exceed 85% of the tipping load



Capacity charts for Model 15103 are available on request

CAUTION

- This chart shows maximum allowable loads with the crane properly leveled (using the frame-mounted level indicator), mounted on a specified truck, with the outriggers properly extended on a firm, level surface
- Always refer to the capacity chart, and do not exceed maximum rated boom/jib capacity at any boom length—overloading the crane may cause instability or structural collapse
- Reduce loads to allow for wind, ground conditions, operating speeds and the effect of freely suspended loads
- Do not operate the crane (truck, boom/jib, accessories or loads) within 10 ft (3 m) of live power lines or any other source or conductor of electricity
- Weights of any accessories, including jibs, attached to the boom or loadline will automatically be deducted from the load capacity charts by the LMI
- Do not exceed jib capacities at any reduced boom length
- No protection system is infallible, and there is no substitute for training, sound judgment and caution; follow all guidelines outlined in the operator's manual



Load Radius (Feet)	Loaded Boom Angle	31 Ft Boom (Lbs)	Loaded Boom Angle	55 Ft Boom (Lbs)	Loaded Boom Angle	79 Ft Boom (Lbs)	Loaded Boom Angle	103 Ft Boom (Lbs)	Loaded Boom Angle	127 Ft Boom (Lbs)
6	76.4	72,000								
8	72.2	63,000								
10	68	54,000								
12	63.7	47,000	76.8	36,000						
15	57	38,500	73.5	31,000	79.5	25,000				
20	44.3	29,500	67.8	24,600	75.8	20,500	79.6	14,000		
25	27.1	22,000	61.8	20,500	71.9	17,000	77	13,000	79.5	8,700
30			55.5	17,400	68	14,700	74.2	11,700	77.5	8,200
35			48.6	14,000	63.9	12,900	71.3	10,600	75.3	7,700
40			40.7	11,000	59.7	11,300	68.4	9,500	73.1	7,200
45			31.3	9,000	55.2	9,400	65.4	8,400	70.8	6,700
50			18.9	7,400	50.6	7,800	62.2	7,600	68.5	6,200
55					45.4	6,500	58.9	6,600	65.9	5,400
60					39.6	5,300	55.3	5,500	63.3	4,800
65					33.1	4,300	51.5	4,500	60.6	4,200
70					25.1	3,500	47.6	3,700	57.8	3,700
75					12.7	2,850	43.4	3,050	55	3,100
80							38.8	2,400	51.9	2,550
85							33.8	1,900	48.7	2,050
90							27.9	1,500	45.4	1,600
95							20.5	1,100	41.9	1,200
100							7.3	800	38.1	850
105									34	550
	0	15,500	0	6,300	0	2,600	0	750		

31' Jib Rated Loads		
Radius Fully Extended	Loaded Boom Angle	Rated Loads All Boom Lengths
29	80	3,800
44	75	3,300
58	70	2,900
72	65	2,500
84	60	2,150
94	55	1,600
104	50	1,000

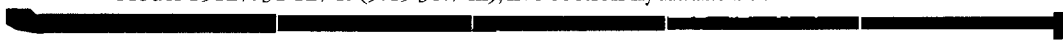

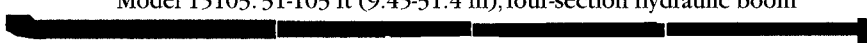
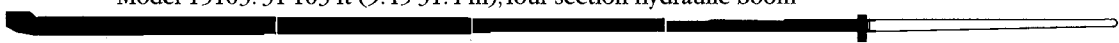

Rated Load Reductions with Jib		
Boom Length	31' Jib Stowed	31' Jib Erected
	31'	Reduce load 500 lb
55'	Reduce load 300 lb	Reduce load 1,400 lb
79'	Reduce load 200 lb	Reduce load 1,300 lb
103'	Reduce load 150 lb	Reduce load 1,250 lb
127'	Reduce load 100 lb	Reduce load 1,200 lb

- Note: 1. All capacities are in pounds, angles in degrees, radius in feet.
 2. Loaded boom angles are given as reference only.
 3. Bold figures are structurally limited capacities.

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Crane Boom / Jib Combinations

The new Series 1500 is available in the basic model: **Model 15127**, equipped with a 31- to 127-ft (9.45-m to 38.7-m) five-section hydraulic boom. This model can be equipped with the 31-ft (9.45-m) **15FJ31**, a single-section, side-stowing jib. Attached to the basic boom, the jib extends the maximum vertical reach to 166 ft (50.6 m). **Model 15103** has a 31- to 103-ft (9.45-m to 31.4-m) four-section hydraulic boom that accepts both the 31 ft (9.45 m) jib (noted above) offering a vertical reach of 143 ft (43.6 m), and a 31- to 55-ft (16.8-m) side-stowing folding jib providing a vertical reach of 166 ft (50.6 m). Contact factory for information on the angling jib.

Model 15127: 31-127 ft (9.45-38.7 m), five section hydraulic boom	
Model 15127: 31-127 ft (9.45-38.7 m), five section hydraulic boom	 15FJ31: 31-ft (9.45-m) single-section, manual jib
Model 15103: 31-103 ft (9.45-31.4 m), four-section hydraulic boom	
Model 15103: 31-103 ft (9.45-31.4 m), four-section hydraulic boom	 15FJ31: 31-ft (9.45-m) single-section, manual jib
Model 15103: 31-103 ft (9.45-31.4 m), four-section hydraulic boom	 15FJ55: 31- to 55-ft (9.45- to 16.8-m) two-section manual jib




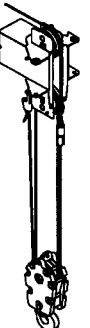

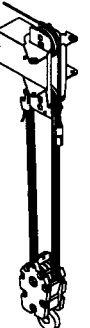


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Winch Data

All winch pulls and speeds are shown on the fifth layer. Winch line pulls would increase on the first, second, third and fourth layers. Winch line speeds would decrease on the first, second, third and fourth layers. Winch line pulls may be limited by winch capacity or the cable safety factor shown below.

Caution

- Do not deadhead lineblock against boom tip when extending boom
- Keep at least three wraps of loadline on drum at all times
- Use only 5/8-in (15.9-mm) diameter rotation resistant cable with 45,400-lb (20 593-kg) breaking strength

Cable Supplied	1-Part Line	2-Part Line	3-Part Line	4-Part Line	5-Part Line	6-Part Line	7-Part Line	8-Part Line	
Standard 5/8-in diameter rotation-resistant Average breaking strength: 45,400 lb (20 593 kg)									
Maximum boom length at maximum elevation with rigging shown to reach the ground	127-ft (38.7-m) plus 31-ft (9.45-m) jib	114-ft (34.7-m)	83-ft (25.3-m)	64-ft (19.5-m)	52-ft (15.8-m)	43-ft (13.1-m)	36-ft (11-m)	31-ft (9.45-m)	
Winch	Line Pull and Speed Data								
Standard Planetary Winch— Low Speed	Line Pull	9,000 lb (4082 kg)	18,000 lb (8165 kg)	27,000 lb (12 247 kg)	36,000 lb (16 330 kg)	45,000 lb (20 412 kg)	54,000 lb (24 494 kg)	63,000 lb (28 577 kg)	72,000 lb (32 659 kg)
	Speed	230 ft/min (70 m/min)	115 ft/min (35 m/min)	77 ft/min (23 m/min)	58 ft/min (18 m/min)	46 ft/min (14 m/min)	38 ft/min (12 m/min)	33 ft/min (10 m/min)	29 ft/min (9 m/min)
High Speed	Line Pull	4,500 lb (2041 kg)	9,000 lb (4082 kg)	13,500 lb (6124 kg)	18,000 lb (8165 kg)	22,500 lb (10 206 kg)	27,000 lb (12 247 kg)	31,500 lb (14 288 kg)	36,000 lb (16 330 kg)
	Speed	460 ft/min (140 m/min)	230 ft/min (70 m/min)	153 ft/min (47 m/min)	115 ft/min (35 m/min)	92 ft/min (28 m/min)	77 ft/min (23 m/min)	66 ft/min (20 m/min)	58 ft/min (18 m/min)

Winch

With rotation resistant cable

Bare Drum Pull

12,800 lb (5806 kg)

Allowable Drum Pull

9,080 lb (4119 k)

(Auxiliary winch specifications are identical)

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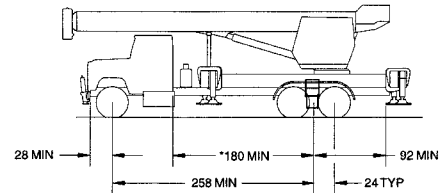
Mounting Specifications

The mounting configuration shown is based on an 85% stability factor. The complete unit must be installed on the truck in accordance with factory requirements, and a test performed to determine actual stability and counterweight requirements, since individual truck chassis vary. If bare truck weights are not met, counterweight will be required.

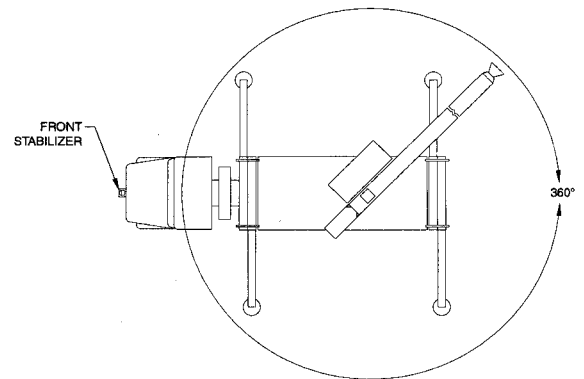
Working area.....	360°
Gross Axle Weight Rating (GAWR), front.....	20,000 lb (9072 kg)
Gross Axle Weight Rating (GAWR), rear.....	34,000 lb (15 422 kg)
Gross Vehicle Weight Rating.....	54,000 lb (24 494 kg)
Wheelbase (WB).....	258 in (6.55 m)
(minimum for 54,000 GVWR on bridge law formula)	
Cab to Axle/Trunnion (CT).....	180-in (4.57 m); afterframe (AF)
96-in (2.44 m) minimum
Frame Section Modulus (SM), front axle to end of afterframe:	
110,000 psi (759 MPa).....	30-in ³ (492-cm ³)
Estimated bare chassis weight required for stability prior to installation of crane or accessories:	
Front*.....	9,700 to 10,000 lb (4535 kg)
Rear*.....	8,500 to 8,800 lb (3992 kg)
Estimated Final Average Weight**.....	51,880 lb (23 587 kg)

* Required to mount basic crane with 31-ft (9.45-m) jib. Additional options or heavier bare chassis weights will require additional axles or a GVWR in excess of 54,000 lb (24 494 kg); in some states special permits for overload are required

** Includes basic crane without jib, 100-gal. (379-L) fuel tank and two workers in cab



*CLEAR OF OBSTRUCTIONS (MUFFLERS, EXHAUST STACKS, ETC.) ON TOP OF TRUCK FRAME FOR FULL 8 FOOT WIDTH.



360° FULL CAPACITY WORKING AREA

The diagrams at the right show the 360° working area that can be achieved with the front stabilizer (standard on the Series 1500). The front stabilizer is essential when extending the boom and lifting loads over the front of the truck. A minimum of 10-in³ (104 cm³) section modulus at 110,000 psi (759 MPa) is required from the rear of the front spring hanger forward to the front stabilizer.

Notes:

- Gross Vehicle Weight Rating (GVWR) is dependent on all components of the vehicle (axles, tires, springs, frame, etc.) meeting manufacturers' recommendations; always specify GVWR when purchasing trucks
- Diesel engines require a variable speed governor and energize-to-run fuel solenoid for smooth crane operation; electronic fuel injection is required
- All mounting data is based on a National Series 1500 with subbase and an 85 percent stability factor
- The complete unit must be installed in accordance with factory requirements, and a test performed to determine actual stability and counterweight requirements; contact the factory for details
- Transmission neutral safety interlock switch is required

STERLING CRANE

Dimensions

1500 Model	Retracted Length	Extended Length	Center of Rotation	Weight with Oil*
15127	31 ft. (9.4 m)	127 ft. (38.7 m)	89 in (2.26 m)	32,201 lb (14606 kg)
15103	31 ft. (9.4 m)	103 ft. (31.4 m)	85 in (2.16 m)	30,776 lb (13960 kg)

*Weight includes all items including complete HO outriggers and SFO. Booms fully retracted.

