

Series **1100**

product guide

features

- 105 ft (32.0 m) Four-Section Boom
- 28 USt (25.4 t) Rating
- “Easy Glide” Wear Pads



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features

Why Buy a National Crane Series 1100?

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*Product may be shown with optional equipment.

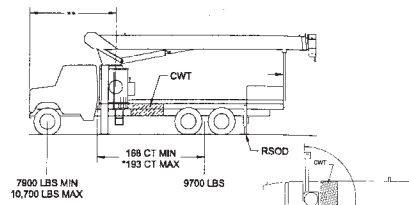
- **28 USt (25.4 t) Rating** – The 1100 provides a 28 USt capacity at a 55 ft radius, an 8% increase in capacity over the Series 900A.
- **105 ft (32.0) Four-section Boom** – The longest in its size range. The long boom allows the operator to perform more lifts without the use of a jib, reducing setup time and improving efficiency.
- **Overload Protection** – All National Crane boom trucks are equipped with overload protection:
 - Load Moment Indicator (LMI) standard on all Series 1100 machines.
 - LMI display and CPU are weatherproof.
 - LCD display is visible in full or low light.
 - All crane load lifting values are displayed simultaneously.
- **“Easy Glide” Boom Wear Pads** – Reduce the conditions that cause boom chatter and vibration. The net result is smoother crane operation.
- **Stronger Torsion Box** – The stronger standard torsion box improves rigidity, reduces truck frame flex and reduces the need for counterweight.
- **Pre-painted Components** – Painting crane components before assembly reduces the possibility of rust, improves serviceability and enhances the appearance of the machine.
- **Electronic versions of manuals available through Manitowoc Crane CARE.**
- **Improved Serviceability** –
 - Bearings on the boom extend and retract cables can be greased through access holes in the boom side plates.
- **State-of-the-art Control Valve** – Provides smoother operation. The new control valve has specially designed spools to provide optimum control for the smoothest metering and precise load positioning.
- **National Crane is the Market Leader** – National Crane is number one in the production of commercial truck-mounted boom trucks and has many programs and people directly and indirectly involved to provide our customers with reliable products.
 - Parts are available for all National Crane machines for the life of the crane.
- **National Crane has the boom truck industry’s leading test program.** Every structural part of the crane is cycle tested, some up to 60,000 cycles at full capacity. In addition to cycle testing, each model is subjected to state-of-the-art strain gauge testing that measures metal deformation as small as one one-millionth of an inch. The net result is that weak areas are caught in test, not on job sites where costly downtime occurs.
- All lift and telescoping cylinders are manufactured by National Crane, so that the seals, packing glands, and end plates are traced for accurate shipment of replacement parts.
- National Crane has a formalized quality program and is ISO 9001 approved.

- 28 USt (25.4 t) maximum capacity
- 161 ft (49.10 m) maximum vertical reach*
- 114 ft (34.75 m) maximum vertical hydraulic reach*
- Load Moment Indicator System (LMI)
- Proportional boom extension
- High performance planetary winch
- Heavy-duty triple pump hydraulics
- * Maximum vertical reach is ground-level to boom tip height at maximum extension and angle with outriggers/stabilizers fully extended

1100

mounting configurations

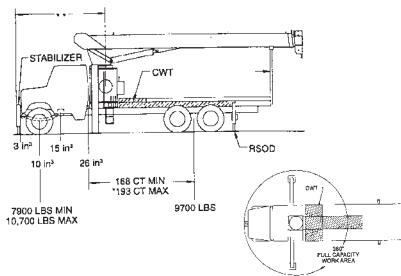
The configurations are based on the Series 1100 with an 85% stability factor. The complete unit must be installed in accordance with factory requirements and a test performed to determine actual stability and counterweight requirements since individual truck chassis vary. Trucks with a frame height in excess of 42-in (107 cm) after mounting will have a final mounted unit height more than 13.5 ft (411.5 cm). Chassis that do not meet these minimum stability weights may require counterweight.



Configuration 1 - 11105

Working area	180°
Gross Axle Weight Rating Front	18,000 lb (8 165 kg)
Gross Axle Weight Rating Rear	34,000 lb (15 422 kg)
Gross Vehicle Weight Rating	52,000 lb (23 587 kg)
Wheelbase	256 in (650 cm)
Cab to Axle/trunnion (CA/CT)	192 in (488 cm)
Frame Section Modulus (SM) under crane w/110,000 PSI (758 MPa)	15.9 in ³ (261 cm ³)
Frame Section Modulus (SM) over rear stabilizers w/110,000 PSI (758 MPa)	13.0 in ³ (213 cm ³)
Stability Weight, Front	7,900 lb (3 583 kg) minimum*
Stability Weight, Rear	9,700 lb (4 400 kg) minimum*
Estimated Average Final Weight	46,300 lb (21 001 kg)

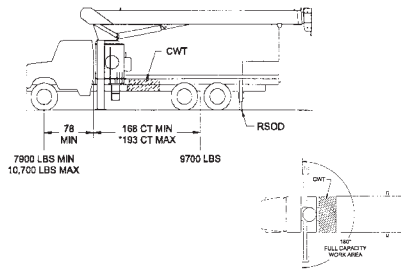
This configuration allows the installation of the Series 11105 by using the subbase for a 22 ft (6.71 m) bed.



Configuration 2 - 11105 with SFO (Extended front frame axles required for SFO installation.)

Working area	360°
Gross Axle Weight Rating Front	18,000 lb (7 257 kg)
Gross Axle Weight Rating Rear	34,000 lb (15 422 kg)
Gross Vehicle Weight Rating	52,000 lb (23 587 kg)
Wheelbase	256 in (650 cm)
Cab to Axle/trunnion (CA/CT)	192 in (488 cm)
Frame Section Modulus (SM) under crane w/110,000 PSI (758 MPa)	26.0 in ³ (426 cm ³)
Frame Section Modulus (SM) over rear stabilizers w/110,000 PSI (758 MPa)	15.0 in ³ (245 cm ³)
Stability Weight, Front	7,900 lb (3 583 kg) minimum*
Stability Weight, Rear	9,700 lb (4 400 kg) minimum*
Estimated Average Final Weight	46,300 lb (21 001 kg)

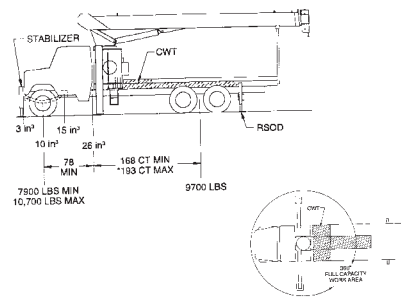
This mount requires front stabilizer for full capacity 360° around the truck. Front stabilizer gives the machine a solid base, helping the operator control loads precisely. This configuration requires a 22 ft (6.71 m) bed.



Configuration 3 - 1195 / 1169

Working area	180°
Gross Axle Weight Rating Front	18,000 lb (8 165 kg)
Gross Axle Weight Rating Rear	34,000 lb (15 422 kg)
Gross Vehicle Weight Rating	52,000 lb (23 587 kg)
Wheelbase	246 in (625 cm)
Cab to Axle/trunnion (CA/CT)	168 in (427 cm)
Frame Section Modulus (SM) under crane w/110,000 PSI (758 MPa)	15.9 in ³ (261 cm ³)
Frame Section Modulus (SM) over rear stabilizers w/110,000 PSI (758 MPa)	13.0 in ³ (213 cm ³)
Stability Weight, Front	7,900 lb (3 583 kg) minimum*
Stability Weight, Rear	9,700 lb (4 400 kg) minimum*
Estimated Average Final Weight	44,800 lb (20 321 kg)

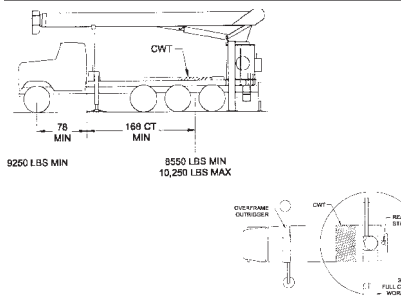
This configuration allows the installation of the Series 1195 or 1169 on a chassis with a small frame by using a subbase for a 20 ft (6.10 m) bed or a different subbase for a 22 ft (6.71 m) bed.



Configuration 4 - 1195 / 1169 with SFO (Extended front frame axles required for SFO installation.)

Working area	360°
Gross Axle Weight Rating Front	18,000 lb (8 165 kg)
Gross Axle Weight Rating Rear	34,000 lb (15 422 kg)
Gross Vehicle Weight Rating	52,000 lb (23 587 kg)
Wheelbase	246 in (625 cm)
Cab to Axle/trunnion (CA/CT)	168 in (427 cm)
Frame Section Modulus (SM) under crane w/110,000 PSI (758 MPa)	26.0 in ³ (426 cm ³)
Frame Section Modulus (SM) over rear stabilizers w/110,000 PSI (758 MPa)	13.0 in ³ (213 cm ³)
Stability Weight, Front	7,900 lb (3 583 kg) minimum*
Stability Weight, Rear	9,700 lb (4 400 kg) minimum*
Estimated Average Final Weight	44,800 lb (20 321 kg)

This configuration allows the installation of the 1195 or 1169 on a chassis by using a subbase for a 20 ft (6.10 m) bed or a different subbase for a 22 ft (6.71 m) bed. This mount requires front stabilizer for full capacity 360° around the truck. Front stabilizer gives the machine a solid base, helping the operator control loads.



Configuration 5 - Rear Mount

Working area	360°
Gross Axle Weight Rating Front	16,000 lb (7 257 kg)
Gross Axle Weight Rating Rear	40,000 lb (18 143 kg)
Gross Vehicle Weight Rating	56,000 lb (25 401 kg)
Wheelbase	246 in (625 cm)
Cab to Axle/trunnion (CA/CT)	168 in (427 cm)
Frame Section Modulus (SM) under crane w/110,000 PSI (758 MPa)	15.9 in ³ (261 cm ³)
Frame Section Modulus (SM) over rear stabilizers w/110,000 PSI (758 MPa)	15.9 in ³ (261 cm ³)
Stability Weight, Front	9,250 lb (4 196 kg) minimum*
Stability Weight, Rear	8,550 lb (3 878 kg) minimum*
Estimated Average Final Weight	48,000 lb (21 772 kg)

This configuration allows the rear-mount installation of the Series 1100. This configuration is 360° stable and allows the effective use of close working area to lift the heavier capacity loads. maximum bed length is 16 ft (4.87 m).

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 requires EET engine remote throttle

- All mounting data is based on a National Series 1100 with an 85% stability factor
- The complete unit must be installed in accordance with factory requirements, and a test performed to determine actual stability and counterweight requirements per SAE J765; contact the factory for details
- Transmission neutral safety interlock switch is required with optional remote control

*Estimated axle scale weights prior to installation of crane, stabilizers and subbase for 85% stability.

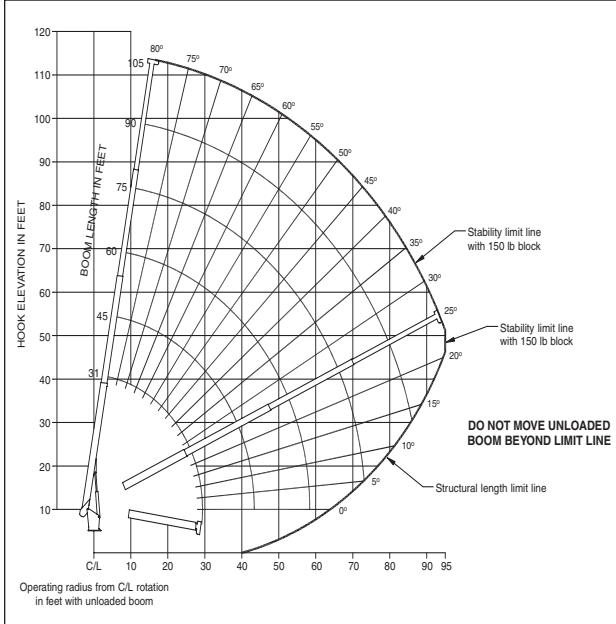
**If the distance from the front bumper (SFO) to center of rotation exceeds 144 in (366 cm), the 40 ft (12.19 m) overall truck length restriction will be exceeded. Overall length restrictions vary from state to state. In some states it is legal to be more than 40 ft (12.18 m) in length, and some states allow overlength permits.

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Load Rating Chart: Series 11105 (32.0 m) Boom

National Crane will send you a chart on request – or you may secure needed load rating information through your nearest National Crane dealer.



CAUTION:

- Do not operate crane booms, jib extensions, any accessories or loads within 10 ft (3m) of live power lines or other conductors of electricity.
- Jib and boom capacities shown are maximum for each section.
- Do not exceed capacities at reduced radii
- Load ratings shown on the load rating charts are maximum allowable loads with the outriggers properly extended on a firm, level surface and the crane leveled and mounted on a factory recommended truck.
- Always level the crane with the level indicator located on the crane.
- The operator must reduce load to allow for factors such as wind, ground conditions, operating speeds and their effects on freely suspended loads.
- Overloading this crane may cause structural collapse or instability.
- Weights on any accessories attached to the boom or loadline must be deducted from the load chart capacities.
- Do not exceed jib capabilities at any reduced boom lengths.
- Do not deadhead lineblock against boom tip when extending boom or winching up.
- Keep at least three wraps of loadline on drum at all times.
- Use only specified cable with this machine.

**SERIES 11105
NO JIB**

LOADLINE EQUIPMENT DEDUCT	
Downhaul weight.....	150 lb (68 kg)
One sheave block	305 lb (138 kg)
Two sheave block.....	355 lb (161 kg)
Three sheave block.....	575 lb (261 kg)

Load Rating Chart: Series 11105 (32.0 m) Boom

LOAD RADIUS (ft)	LOADED BOOM ANGLE	31 ft BOOM (lb)	LOADED BOOM ANGLE	45 ft BOOM (lb)	LOADED BOOM ANGLE	60 ft BOOM (lb)	LOADED BOOM ANGLE	75 ft BOOM (lb)	LOADED BOOM ANGLE	90 ft BOOM (lb)	LOADED BOOM ANGLE	105 ft BOOM (lb)
5	79.4	*53,900										
8	73.1	38,400	79.3	30,000								
10	68.9	31,800	76.8	29,100								
12	64.6	27,300	74	24,800	78.8	22,300						
14	60.2	23,700	71.2	21,700	76.8	19,500	80	15,400				
16	55.6	21,000	68.4	19,200	74.8	17,300	78.5	15,000				
20	45.5	16,700	62.6	15,600	70.7	14,100	75.4	12,600	78.4	10,800	80.2	7,700
25	29.1	12,200	54.8	12,500	65.4	11,300	71.3	10,200	75.1	9,000	77.8	7,300
30			46.3	10,200	59.8	9,400	67.1	8,500	71.8	7,800	75	6,500
35			36.1	8,200	53.9	7,950	63.1	7,050	68.6	6,500	72.2	5,700
40			23.5	6,100	48	6,600	58.6	6,100	65	5,550	69.3	5,000
45					40.8	5,550	53.8	5,250	61.3	4,800	66.2	4,300
50					32.2	4,550	48.7	4,550	57.5	4,200	63.1	3,800
55					20.6	3,300	43	3,900	53.5	3,700	60	3,400
60							36.7	3,250	49.2	3,200	56.6	2,950
65							29.1	2,650	44.6	2,750	53.2	2,650
70							18.7	1,800	39.4	2,200	49.5	2,300
75									33.6	1,800	45.5	1,850
80									26.8	1,400	41.2	1,450
85									17.2	800	36.5	1,150
90											31.2	850
95											24.8	600
	0	5,200	0	2,400	0	900						

NOTE: 56,000 lb (25.4 t) LOAD REQUIRES OPTIONAL 9/16 in 6x25 IWRC CABLE.

Shaded areas are structurally limited capacities.

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE. The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane.

accessories

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Radio Remote Controls –

Eliminate the handling and maintenance concerns that accompany cabled remotes. Operate to a range of about 250 ft (76 m), varying with conditions.

• **NB4R**

One-Person Basket –

Strong but lightweight steel basket with 300 lb (139 kg) capacity, gravity hung with swing lock and full body harness.

• **B1-S**
• **2B1-S** (for dual locking baskets)

Heavy-duty Personnel Basket –

1,200 lb. (544 kg) capacity steel basket with safety loops for four passengers. Gravity leveling 72 x 42 in (183 x 107 cm) platform. Fast attachment and secure locking systems. Load chart must show 2,300 lb (1 043 kg) minimum to operate this accessory.

• **BSA-1**
• **BSA-R1** (provides rotation)

Hydraulic Oil Cooler –

Automatic, self-contained radiator system with electric fans cools oil under continuous operation.

• **OC**

Outrigger Motion Alarms –

Available for “A” frame O/R and ASH stabilizers.
Available for HO outriggers and RSO stabilizers.

• **OMA-1**
• **OMA-2**

Hour Meter –

Hour meter in truck cab to record crane operation hours.

• **HRM**

Bulkhead Option –

Steel 30 in solid wall bulkhead for all flatbeds.

• **BHSD**

Steel Tool Box Options

Spanish-Language Danger Decals, Control Knobs,
and Operators’ Manuals

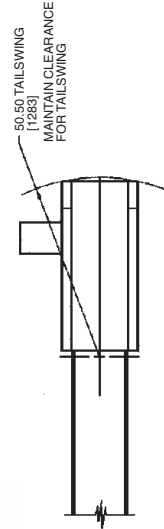
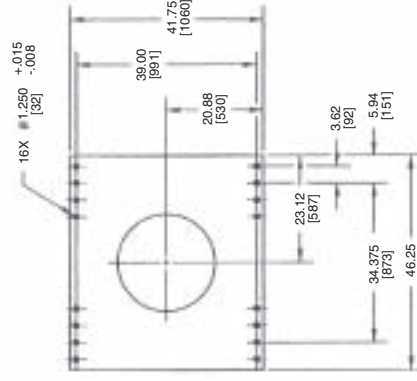
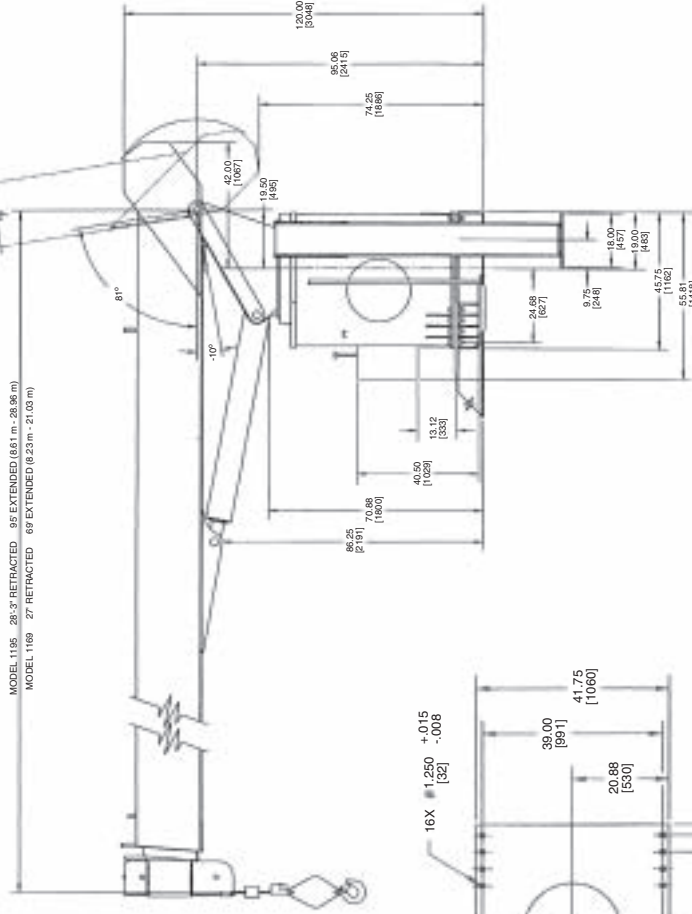
• **SDD**
• **SOM**

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dimensions specifications

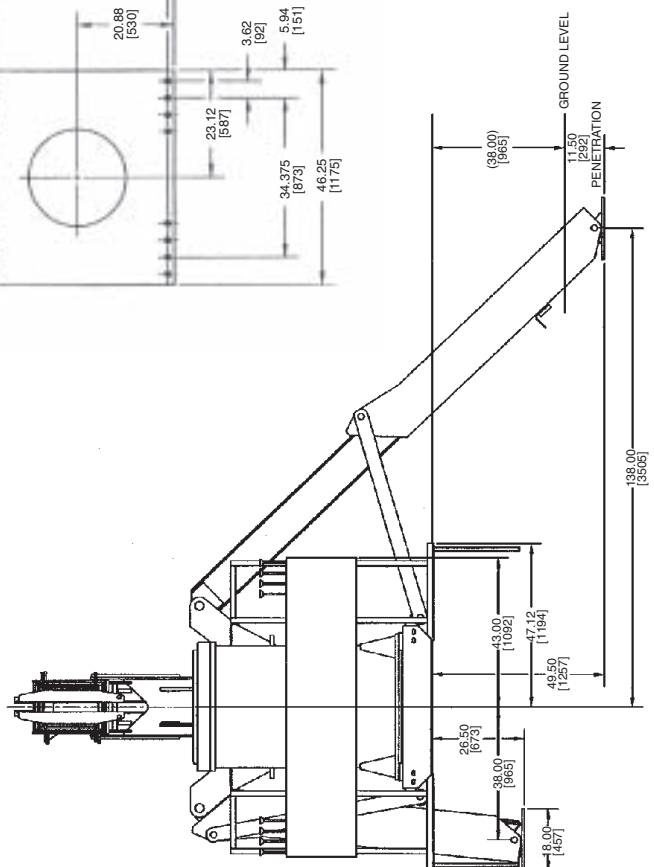
Dimensions Specifications

MODEL 1105 30 ft-95 ft RETRACTED 105 ft EXTENDED (9.40 M-32.00 M)



Mount	Series	G in (mm)	DRY WEIGHT lb (kg)	WITH OIL/WT lb (kg)
Std	1169	96 (2438)	19600 (8890)	20400 (9253)
Rear	1169	114 (2896)	23150 (10500)	23950 (10864)
Std	1195	98 (2489)	20800 (9434)	21600 (9798)
Rear	1195	117 (2972)	24350 (11045)	25150 (11408)
Std	11105	100 (2540)	21640 (9816)	22480 (10197)
Rear	11105	119 (3023)	25190 (11426)	25990 (11789)

*Weight includes all items except RSOD (1400 lb). Boom fully retracted
 **Weight includes all items including complete HO and SRO. Boom fully retracted.



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Constant improvement and engineering progress make it necessary that we reserve the right to make specification, equipment and price changes without notice. Illustrations shown may include optional equipment and accessories, and may not include all standard equipment.