



National Series 1500 Telescoping Crane

**From
America's
Truck-Mounted
Hydraulic
Crane Leader**



**NATIONAL
CRANE
A Grove
Worldwide
Company**

- **Maximum
Capacity
36 Tons
(32.65 t)**
- **Maximum
Vertical
Reach:
166 ft
(50.6 m)**



National Telescoping Cranes

The National Advantage

When you invest in a National telescoping crane, you are assured of these competitive advantages:

Quality

National cranes are designed for durability, performance and ease of service. National's cutting edge technologies set the industry standard for the manufacture of lifting and materials handling equipment. An experienced, forward-looking workforce turns innovative designs into quality-crafted cranes. Factory prototypes are subjected to the toughest testing requirements in the industry. Each National crane is checked throughout the manufacturing and assembly process, then given a detailed final inspection before its release from the factory.

Performance

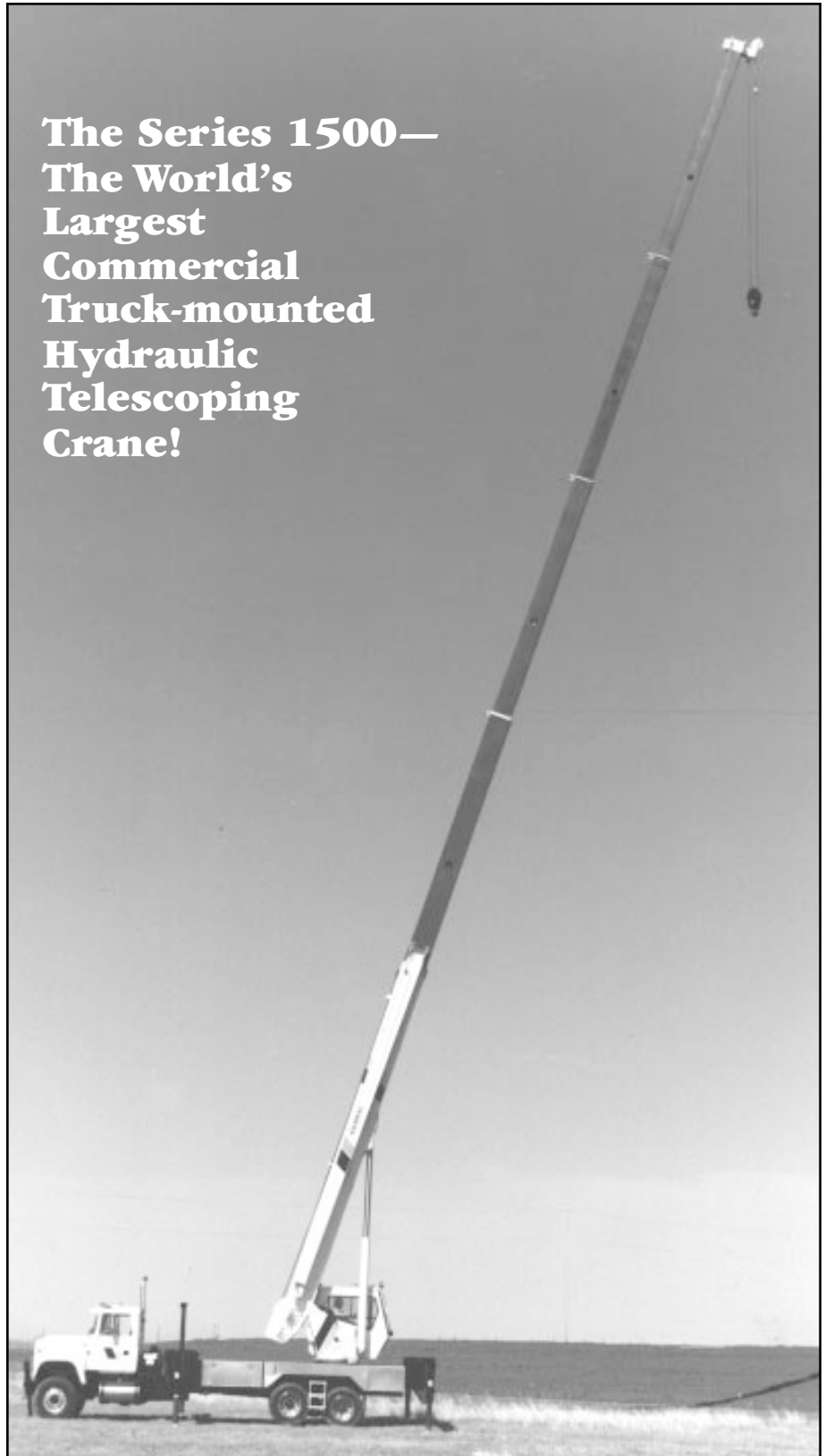
Each user friendly National gives you what you expect in a crane. Long reach. High capacity. Fast set-up. Easy operation. Smooth movement. Versatile accessories. Premium components. Add it all up—you'll find that a National is not only a pleasure to operate, but a reliable investment in bottom line performance.

Value

National has manufactured cranes since 1963 (nine out of ten are still on the job). With a National you get field-proven reliability plus the best factory/dealer support in the industry. National's warranty provides protection against defects in materials and workmanship for a full year from the date the customer takes delivery. Dealers maintain extensive parts stocking programs. Should a dealer be unable to supply a part you need, National's back-up program is committed to providing equipment replacement parts on a breakdown rush basis, holding your downtime to a minimum. These advantages enhance a National crane's resale value, consistently the highest in the industry.

National Crane is ISO 9001 Certified

The Series 1500— The World's Largest Commercial Truck-mounted Hydraulic Telescoping Crane!





National Series 1500 Telescoping Crane



- **36-ton (32.65-t) maximum capacity at a 6-ft (1.83-m) radius**
- **27.5-ton (25-t) capacity at a 10-ft (3.05-m) radius**
- **166-ft (50.6-m) maximum vertical reach***
- **127-ft (38.7-m) hydraulic extension**
- **Quick reeve load block and boom tip standard**
- **Operator's cab**
- **Load sensing pressure compensated hydraulic system**
- **24 ft 8 in (7.5-m) outrigger span**
- **Interactive load moment indicator (LMI) system**
- **Five-section proportional boom**
- **Mounts on standard commercial carrier**

** Maximum vertical reach is ground-level to boom tip height at maximum extension and angle with outriggers fully extended. Note: maximum vertical reach will vary depending on truck frame, tires, load, etc.*

Boom construction

- Computer aided design maximizes boom weight efficiency and lifting capacity
- High-strength, low-alloy steel
- Four-plate "hat" design pairs thinner boom side and top plates with a thicker bottom compression plate for greater strength-to-weight ratio and maximized stability
- Automatic, low-hydrogen welds ensure fatigue-resistant seams; ultrasonic testing verifies proper weld penetration

Proportional boom extension

- Five-section fully hydraulic, synchronous boom extension system (Model 15127), pioneered by National Crane, extends from 31 ft (9.45 m) to 127 ft (38.7m)
- Four-section, fully hydraulic, synchronous boom extension system (Model 15103) extends from 31 ft (9.45 m) to 103 ft (31.4 m)
- Boom sections extend and retract proportionally
- Hydraulic-powered boom extension systems permit fast set-up
- Careful design placement of load-carrying cables and wear pads permits minimum boom overlap, resulting in more reach with minimum retracted boom length
- Less stowed boom overhang increases truck maneuverability

- Efficient boom weight distribution enhances capacity at normal working radii
- Dual and triple high-load cables (rather than chain) cycle the boom sections, increasing capacity and reducing maintenance; redundant cable sets add durability and reliability
- Boom sections are supported by one hydraulic extend cylinder, minimizing maintenance
- Boom elevation moves from -10 to +80 degrees for increased operating flexibility (especially when fitting the jib)

31-ft (9.45-m) jib for extra reach

- Optional side-stow, swing-around 31-ft (9.45-m) jib Model 15FJ31 increases the tip working height to 166 ft (50.6 m) when used with the five section Model 15127 boom and to 143 ft (43.6) when used with the four section Model 15103 boom
- Optional side-stow, swing around 55 ft (16.76 m) jib, available exclusively for the four section Model 15103 boom, increases the maximum vertical reach to 166 ft (50.6 m)
- Four-plate, tapered design gives high strength-to-weight ratio for increased capacity
- Jib tips equipped with dual-basket hanger trunnions and jib jack for easy pin-up

** Patent pending*

Easy Glide boom wear pads/ Polymer Paint*

- Exclusive *Easy Glide* wear pads used in conjunction with National's specially formulated *Polymer Paint** provides ultra-smooth extension and retraction with minimal lubrication

**Patent pending*

National cylinders

- National controls the manufacture of all cylinders so standardized replacement parts, seals and bearings fit properly for precise, smooth, and stable load placement.



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- Heavy-duty lift cylinder design incorporates a thicker barrel wall and a large diameter, hollow shaft for extra strength and stability
- Threaded one-piece, phosphate-dipped piston and an atmospheric O-ring seal on the packing gland help prevent thread corrosion
- Low-temperature rod seals, polyurethane U-cup piston seals, composite piston and rod bearings and buna N O-rings with back-up rings form a long-lasting and virtually trouble-free cylinder seal and bearing system
- Close-tolerance, line-bored pin bearing holes with field-proven composite bearings ensure long-lasting, trouble-free pin joint life
- A manifold-mounted counterbalance valve coupled with a fine-metering pressure-compensated control valve ensures smooth operation at all boom speeds; helps prevent cylinder collapse in the event of hose leakage

Stronger sheaves

- Iron (not plastic) sheaves resist flange chipping and cable core damage
- All boom-tip sheaves rotate on efficient needle bearings and hardened pins for increased performance and smoothness

Fast multi-part reeving

- Quick reeve boom tip has three lower sheaves. When coupled with our new one-to-four sheave quick-reeve blocks, they allow simple reeving from one to eight parts of line by pulling four pins (no disassembly of the wedge socket is required)
- Multiple load blocks offer increased winch capacities (See "Winch Data" on page 9)

High performance winch

- A planetary gear drive winch with roller bearings increases efficiency, requires less horsepower, and generates less heat
- A variable volume, bent-axis piston motor coupled with a pres-



Deluxe operator's cab



Load Moment Indicator

- sure-compensated control valve and load sensing pump provides the smoothest loadline control in the industry, whether inching or at full speed, up or down
- Winch is mounted directly to the boom base with cable centering guides to ensure level, non-fouling loadline wrap on winch drums (boom mounted winches eliminate one cause of two-blocking)
- Standard high-speed circuitry increases winch payout/pickup of cable by 100 percent
- New 5/8-in (15.9 mm) diameter, die-drawn, rotation-resistant wire rope minimizes load spin and gives more precise load control and greater line-pull ratings

Load moment indicator

- PAT DS 350 LMI with console display of boom length/angle, load on hook, maximum load, hook radius, and a dial readout showing approximate percentage of maximum load on hook
- Caution light illuminates as load capacity is approached; red warning light and horn activate when capacity is reached
- To prevent overload, LMI then allows only functions that relieve load (boom up, winch down, telescope in)—the system will auto-

matically readjust to allow use of all functions

- LMI audibly warns and visually displays a two-block condition
- Minimum and maximum boom angle presets can be input for repetitive work or to warn if required
- Momentary override switch and horn mute touch pad are standard with LMI
- Integrally mounted battery in central processing unit (CPU) keeps the LMI energized for two hours when cab power is turned off

Anti-two-block system

- An ATB sensor shuts down functions that can cause two-blocking, preventing wire-rope damage (crimping, etc.) from attachment contact with the underside of the boom or sheave case

Upper revolving frame

- The turret is a simple, reinforced structure with line-bored pin holes and faced base plate
- A four port hydraulic rotation swivel is mounted above the turret base plate for easy access
- A twenty-four-channel electrical swivel is mounted above hydraulic swivel with plug termination above and below the hy-



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draulic swivel for easy removal for service

- Control valves are mounted inside the turret to reduce weight and improve appearance
- Two banks of manifold mounted solenoid valves control free-swing, boom extend, hoist-up, boom-down and auxiliary hoist-up for anti-two-block and LMI shutdown
- The line-bored, heavy-duty rotation gearbox is mounted rigidly to turret and incorporates a newly designed, free-swing dynamic brake activated by a cab-mounted, low-pressure pedal valve to provide smooth, positive stops with minimal brake pressure

Operator cab

- Rigid aluminized steel structure, well insulated, with ample safety glass for operator visibility and comfort
- Any-position seat with folding back, and armrests housing either two single-axis hydraulic controllers or one dual-axis joystick in each arm rest
- Arm rests contain winch high/low speed switches, horn switch, and auxiliary winch on/off switch
- Sliding side door travels freely on ball-bearing rollers
- Sliding side, back and top windows allow for ventilation; see-through sunscreen on top of cab
- Propane heater with ducted heat to windows or cab floor
- Separate variable-speed ventilation fan mounted at top left corner of cab can be positioned to move air to any cab location
- Self-parking front and top windshield wipers with washers
- Control console located at lower right front of cab contains high-speed winch indicator lights, hot-hydraulic-oil indicator light, truck engine distress light, LMI display console, heater controls and manual locking truck engine throttle
- Crane cab ignition switch is live only when truck cab ignition switch is off



Anti-two-block protection is standard

- Truck engine start function is interlocked with transmission neutral safety switch to prevent inadvertent movement
- Floor-mounted electronic engine throttle control and swing brake (foot-controlled telescope pedal is optional)

Pressure compensated, load sensing hydraulic system

- State-of-the-art hydraulics for ultimate control and minimal horsepower requirements
- Vickers PVH 131 pressure compensated, load sensing, axial piston, variable volume pump direct mounts to PTO and delivers up to 70 gal/min (265 L/min) at up to 4200 psi (29 MPa)
- Control valve spools are hard chrome-plated for corrosion resistance
- Extra-capacity 100-gal (379-L) oil reservoir, 10-micrometer in-tank filter, fill and temperature gage, change filter indicator, diffuser, magnetic plug and cleanout covers
- The aluminized reservoir inhibits rust and is located above pump for positive suction line pressure
- Automatic radiator system with electric fan cools oil under continuous operation
- Hydraulic swivel with only four passages (pressure, return, drain, and load sense) for low maintenance and long life
- O-ring boss, O-ring face seal, four-bolt flange connections on all high-pressure ports
- Two pairs of low pressure-activated single axis hydraulic con-

trollers offer simultaneous control of all functions without adverse interaction, featuring load sensing, individual section pressure compensated main control valves (dual-axis joysticks are optional)

- Extensive use of tubing and manifold solenoid valves simplifies plumbing and aids troubleshooting

Hydraulic outriggers/stabilizers

- Two extra-wide cross-frame hydraulic outriggers, each spanning 24 ft 8 in (7.52 m) and a standard single front stabilizer provide 360-degree operating radius and stability, even on unlevel ground (there is no derate for over the side, over the front, or over the rear operation)
- Reduced outrigger span—17 ft 6 in (5.34 m) on center—load chart is available for working in tight areas; reduced-span manual locks are standard
- Two-stage outrigger beams move synchronously from full retraction to full extension
- Outriggers can be controlled from either side of the truck or from within the crane cab
- Level bubbles are located at all outrigger control stations and on subbase behind bearing
- 24-in (.6-m) diameter aluminum pads can be carried pinned to the outrigger legs at less than 8 ft 6 in (2.6 m) width
- Convenient pad stowage pegs located on the legs provide for less than 8 ft (2.44) travel width
- Outrigger leg design provides best departure angle clearance in the industry
- Integral mount dual lock valves automatically lock beams and legs to prevent unpowered movement or collapse due to hose breaks
- Rod fed extend cylinder and proportioning cables eliminate extend hoses in beam
- The single front stabilizer (standard) incorporates integrally mounted dual lock valves and a pressure relief valve to maintain



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proper downward pressure; the stabilizer leg is slightly angled to reduce stress at mounting surface

Commercial truck requirements

- The crane mounts on standard commercial trucks (see page 10)

Subbase with integral outrigger boxes

- Rigid box construction provides a solid base and better “feel” and control
- Two shear plates and four flex plates allow for simple, secure attachment to truck
- Numerous access holes in the subbase provide easy routing and inspection of hoses/wires
- Slewing ring mount surface is machined to precise flatness after welding for optimum bearing life
- Level bubble mount plate is machined parallel with slewing ring mount surface

A choice of in-the-cab-controls



National gives you a choice of two standard in-the-cab controls for the Series 1500 telescoping crane. Unless you specify otherwise, the crane will be equipped with the single axis, dual lever control shown above left. You may, at no extra charge, specify the dual axis, single lever joystick (“wobble stick” style), shown above right.

Accessories

Accessories add to the versatility of a National crane. Some of the popular options that are part of the National lifting system are shown here. Contact National Crane or your National dealer for detailed information.

Weights for accessories attached to the crane boom or loadline must be deducted from the effective lifting capacity. Some accessories cannot be used in combination with other accessories and/or jibs. Consult your National dealer for accessory availability and requirements.

Personnel basket operation limits vary based on crane configuration and basket type. Refer to the owners manual for details and operation restrictions.

One-Person Basket

Strong, lightweight fiberglass basket. Optional dual basket bracket for two basket operation on the main boom. Easy on-off. Body harness and lanyard are included. **Model B1-L** (with lock)

Heavy-Duty Personnel Basket

High capacity steel basket with safety loops to secure up to four passengers. Dimensions: 72- x 42- x 42-in (1.83- x 1.07- x 1.07 m). Fast attachment system allows easy pinning of the basket to the boom. The gravity leveling basket has a secure disc-brake locking system. Two body harnesses and lanyards included. **Model BSA-1**

Winch Option

Auxiliary winch, 9,000 lb line pull with 375 ft of 5/8 in diameter rotation resistant wire rope and 180 lb downhaul weight. **(15AW)**

Control Option

Dual axis, single lever joystick (“wobble stick” style) control in lieu of standard single axis, dual lever control. **(JSC)**

Air Conditioning

Air conditioning for the operator's cab. **(AC)**

Safety Beacon

Rotating amber safety beacon for cab roof. **(ABR)**

Spotlight

Manually adjusted from crane cab. **(MS)**

Worklight Wiring on Boom

Provision for switch and wiring for a customer-supplied worklight on boom. **(WLB)**

Fixed-Position Worklight

Fixed-position worklight on the cab with in-cab control. **(WLF)**

Remote Worklight

Remote operated worklight with an in-the-cab control. **(WLR)**

Winch Motion Indicator

Winch drum rotation indicator(s) are available. **(WDRI)**

“Light Bar” Indicator

A “light bar” indicator displays the load weight on the hook. Available for in-the-cab or exterior use.

Fenders/Tool Boxes

Aluminum fenders and four toolboxes in lieu of standard fenders only. Requires mounting. **(FTA)**

Angling Jib

Contact factory for information.



Series 1500 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



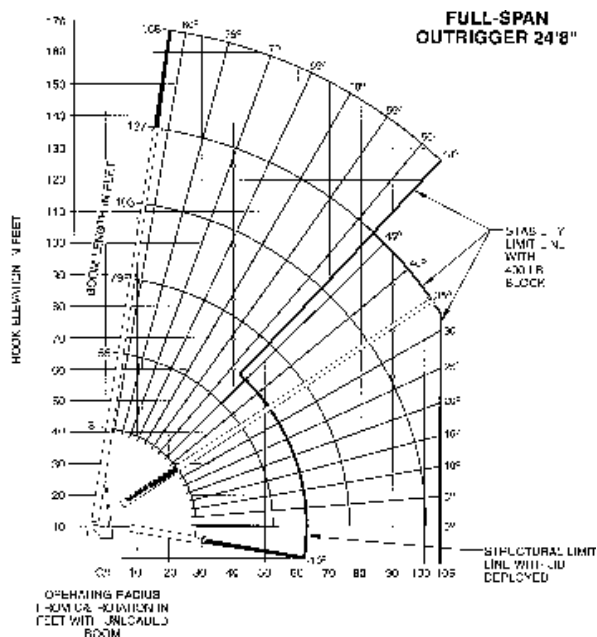
A National jib folds out into a working position quickly and easily.



Series 1500 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

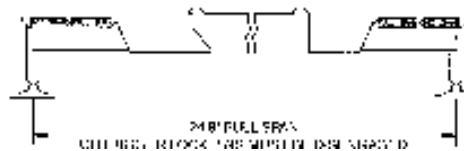


Capacity charts for Model 15103 are available on request

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

Full-Span Outrigger



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			Rated Load Reductions with Jib		
Radius Fully Extended	Loaded Boom Angle	Rated Loads All Boom Lengths	Boom Length	31' Jib Stowed	31' Jib Erected
29	80	3,800			
44	75	3,300			
58	70	2,900	31'	Reduce load 500 lb	Reduce load 1,600 lb
72	65	2,500	55'	Reduce load 300 lb	Reduce load 1,400 lb
84	60	2,150	79'	Reduce load 200 lb	Reduce load 1,300 lb
94	55	1,600	103'	Reduce load 150 lb	Reduce load 1,250 lb
104	50	1,000	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.



















National Series 1500 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

Bare Drum Pull

Allowable Drum Pull

With rotation resistant cable 12,800 lb (5806 kg) 9,080 lb (4119 k)

(Auxiliary winch specifications are identical)



National Series 1500 Mounting Specifications

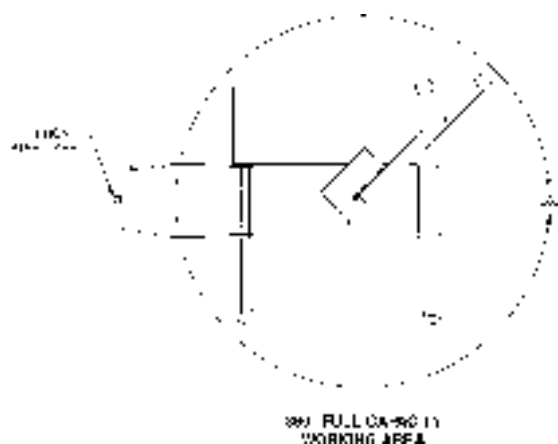
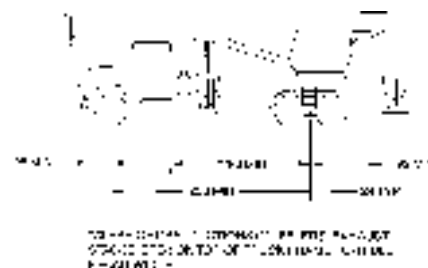
The mounting configuration shown is based on an 85% stability factor. The complete unit must be installed on the truck in accordance with factory requirements, and a test performed to determine actual stability and counterweight requirements, since individual truck chassis vary. If bare truck weights 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

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

Dimensional Specifications

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)

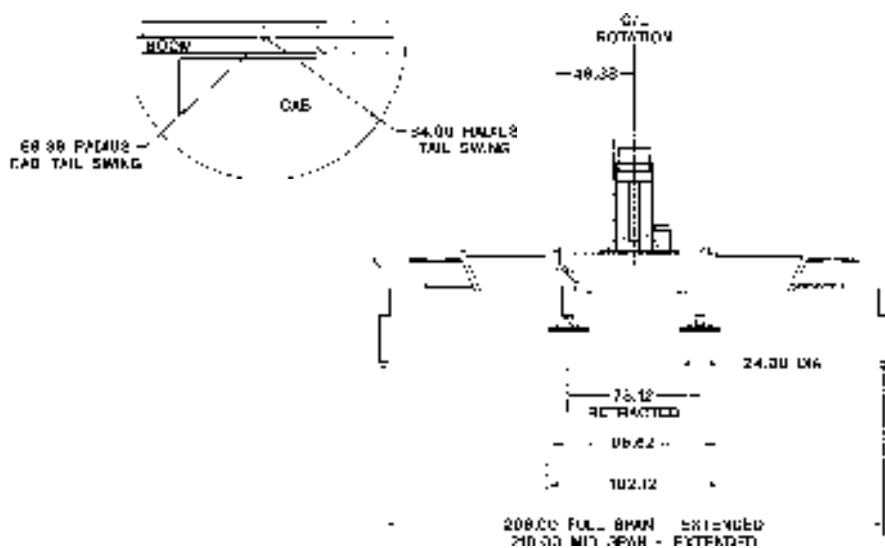
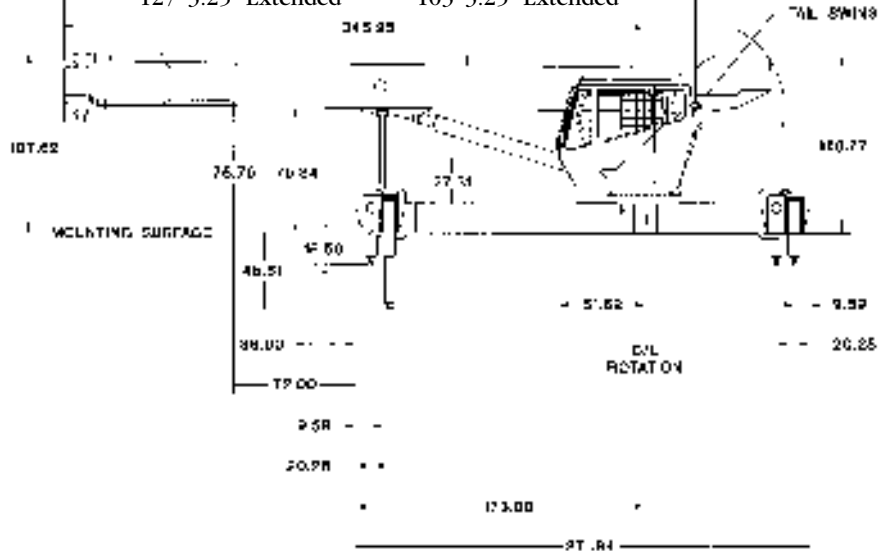
**Weight includes all items including complete HO outriggers and SFO. Booms fully retracted.*

Model 15127

31' 3.25" Retracted
127' 3.25" Extended

Model 15103

31' 3.25" Retracted
103' 3.25" Extended





National Series 1500 Telescoping Crane



NATIONAL CRANE
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Printed in U.S.A. • Form No. S1500/1-97/5M/JN