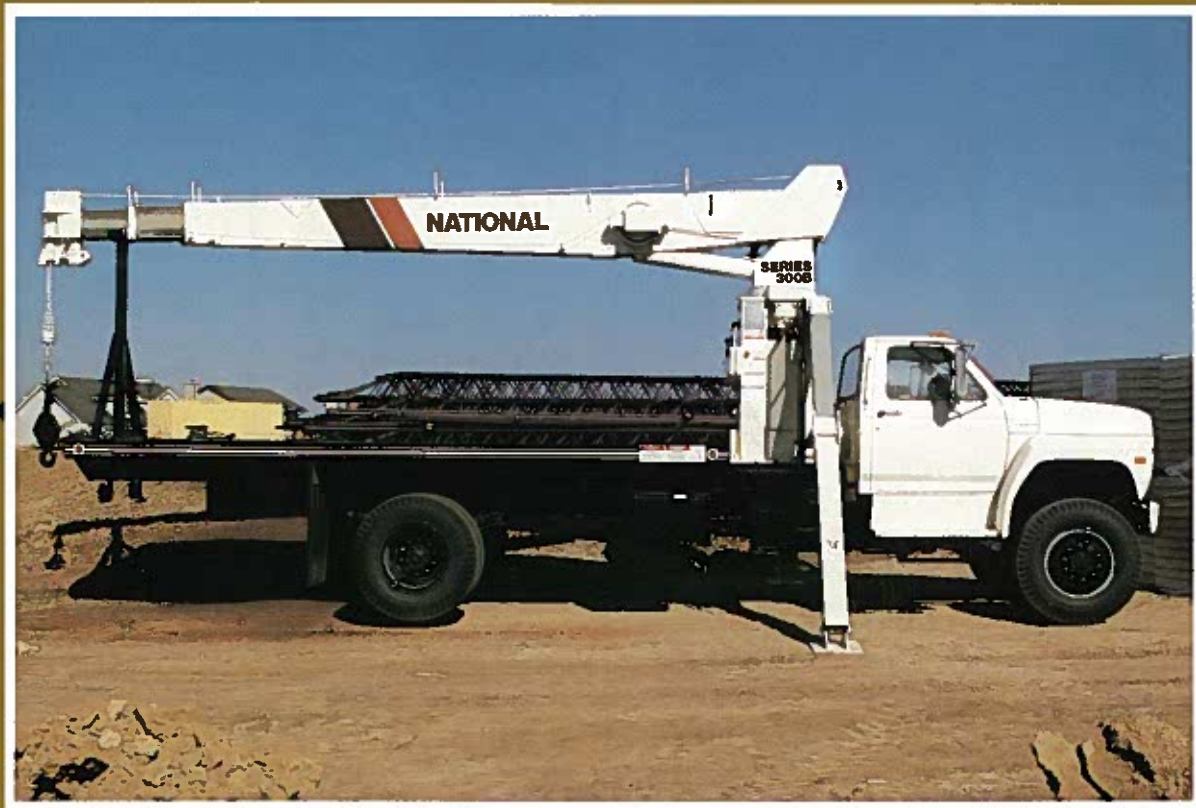


National Series 300B



**A medium-duty telescoping crane from National,
America's truck-mounted hydraulic crane leader**

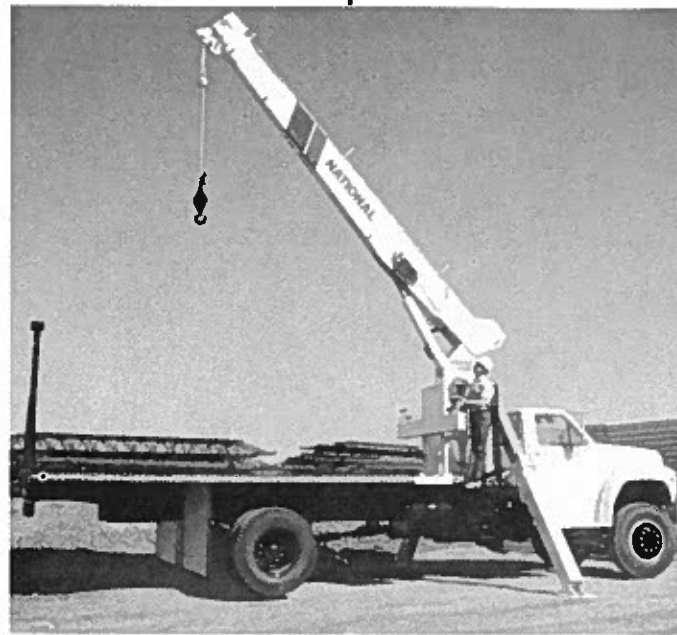
- Maximum Capacity: 16,000 Pounds (7.3 Metric Tons)
- Maximum Vertical Reach: 61 Feet (18.6 Meters)

Why buy the National 300B telescoping crane?

The Series 300B telescoping crane gives you everything you want and need in a tough, compact, medium-duty crane. Here are some of the features that make the 300B the crane of choice in its class:

- 8-ton (7.3MT) rated capacity gives this crane the muscle to handle your tough lifting jobs.
- 61-feet (18.6m) of vertical reach with Model 337B with a 15-foot manual pull-out jib.
- Proportional boom design provides smoother, more efficient boom operation and higher capacities (particularly in normal lifting areas).
- The system utilizes a single extend cylinder eliminating 18 potential leak points and minimizing hydraulic maintenance.
- Increased payload capacity (up to 7,000 pounds can be hauled on a standard truck) is accomplished through a wide outrigger span and increased gross rear axle weight rating.
- Extra-wide outrigger span provides solid stability without adding extra counterweight.

- State-of-the-art O-ring seal fittings on all high pressure lines reduce downtime by minimizing fitting leakage.
- Boom pivot and lift cylinder bearings provide longer life and lower maintenance.
- A standard tandem pump system isolates the winch from other crane functions to provide better overall performance.
- National's unique *Easy Glide* wear pads reduce conditions that produce noise, are exceptionally durable, and are easy to change.
- Dual controls in an SAE recommended orientation of functions allow the operator to work the same control with the same hand.
- Each operating station is equipped with a foot throttle and a precision machine level.
- Standard high-performance with rotation resistant cable increases efficiency.
- Standard anti-two-block feature prevents cable damage when winching up or extending the boom without paying out the winch cable.
- Planetary rotation gear box with a hydraulic release brake and a slip-through feature helps protect



the rotation system against damage from accidental side loading.

- Outrigger location (behind the operator) allows occasional 360° working area without front stabilizers when the crane is mounted on a recommended truck.
- Large outrigger pads enhance stability in soft footing.
- Mounts on standard, single-rear-axle trucks.
- Horn and stop switches are located at both control stations.
- Complete accessory line adds to the versatility of the 300B.

And here are even more reasons to buy a National Series 300B:

Field-proven durability

- National has manufactured cranes since 1963. Over 90% of all Nationals ever produced are still in operation.

Attention to quality

- National never skimps on quality. The material used in the manufacture of National cranes often costs more -- sometimes significantly more -- than that found in competitive products. With a National, you get more for each dollar that you invest in a crane.

Industry-leading test program

- Each prototype model must pass the stringent structural test requirements of SAE J1063 and the stability test requirements of SAE J765.
- National's test program subjects all prototype cranes to state-of-the-art

strain gauge testing, a procedure that measures metal deformation as small as one-millionth of an inch. These and other test procedures verify the structural integrity of the cranes that National manufactures.

- Prototype cranes must undergo National's life-cycle tests, the toughest in the industry. They receive more punishment than most cranes encounter in a lifetime of rigorous, on-the-job use. Every structural part of the crane is cycle-tested. Some components are operated through 60,000 cycles at full capacity load. The process requires thousands of working hours and takes months to complete.

- Boom corner seam welds on all Nationals are ultrasonically tested to verify proper boom weld penetration.

Rigid quality controls

- Each Series 300B undergoes numerous quality inspections at all levels of manufacture and assembly. No crane is shipped without a rigid final inspection.
- Component manufacturers are critically reviewed by National's senior management before they qualify as suppliers of parts.
- Inspections of incoming materials and components ensure that all purchased items meet National's standards.
- Material certifications are maintained and steel composition is regularly verified.

- All structural welders at National must pass AWS welder certifications.

More value for your investment

- Nationals consistently have the highest resale value in the industry. You will realize a greater return on your investment when you trade or sell your used National.

Responsive service and parts support

- Each Series 300B is backed by strong after sale and service support. National's professional dealer network is worldwide. That means that service and repair resources are ever near, wherever you may be operating your National.
- The typical National dealer has been associated with National for more than eleven years. He knows the product.
- Authorized National dealers maintain a parts stocking program for your crane. That means when your Series 300B needs parts or service, it will be back on the job without undue frustration or delay.
- When a dealer cannot immediately supply a part for your Series 300B, the factory can. National is committed to providing 24-hour parts shipping in 92% of all breakdown rush orders.

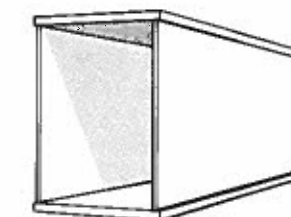
The National Service Center

- National maintains a fully equipped Service Center at the plant to handle factory crane mounting and special crane modifications or

repairs. Most dealers can handle all but the most unusual or serious service/repair requirements.

Efficient boom design

- National's computer aided structural design system utilizes sophisticated state-of-the-art software programs such as Finite Element Analysis to analyze and accurately predict the structural behavior of a machine or crane component prior to the actual manufacture of the unit. National's boom program mathematically calculates boom stress factors, allowing National engineers to determine boom competence during the design process. This program enables National engineers to maximize boom weight efficiency, thus enhancing crane capabilities. All engineered parts are detailed on the computer. The program assures accurate fits in every phase of the manufacturing process.
- Boom sections are fabricated from four high-strength steel members welded with perpendicular corners.



This "box-section" design (shown above) utilizes thicker top and bottom plates to

enhance boom strength and thinner side plates to increase the crane capacity through lower boom weight.

- Only high-strength, low-alloy steel is used in boom fabrication.
- Welds are made with automatic, low-hydrogen techniques to provide strong, fatigue-resistant seams.

Proportional boom extension system

- The Series 300B comes with proportional boom extension.
- Proportional (cable crowd) boom design (each boom extends and retracts proportionally during the telescoping operation) provides more efficient boom weight distribution, maximizing boom operational efficiency and allowing higher capacities, particularly in normal working radii.
- Dual high-load-carrying cables cycle the third stage boom. The other section is supported by the hydraulic cylinder. Redundant cable sets are used for durability and reliability. The internal bearings and cable require no lubrication.
- The design permits minimum overlap to get the most reach with minimum retracted length. It reduces boom overhang (when the boom is stowed) and allows increased truck maneuverability.
- The use of cable (rather than chain) means more

National Series 300B

capacity, longer service life, and less maintenance.

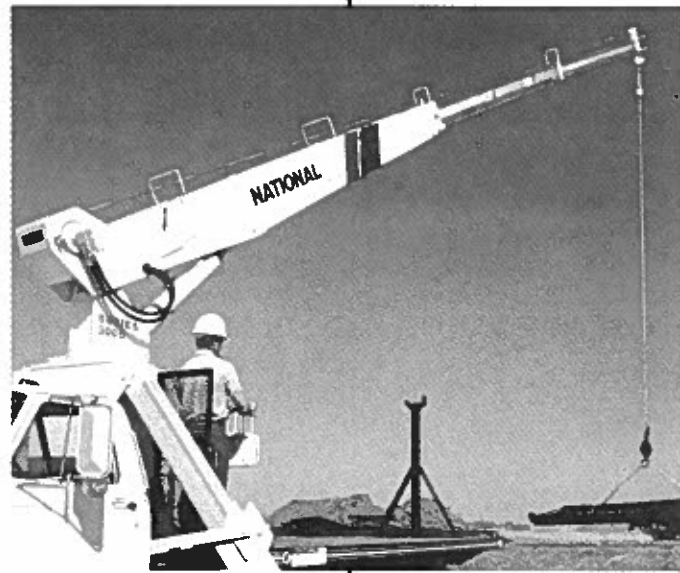
- There are no fittings, tubes, or hoses inside the booms, and since the system utilizes only one extend cylinder, hydraulic maintenance is minimized.

Stronger, more efficient sheaves

- The sheaves on the Series 300B consist of iron, not plastic (as is used on most competitive cranes). Iron sheaves provide greater strength and longer wear, resist flange chipping, and help prevent core damage to the wire rope.

"Easy Glide" boom wear pads

- Series 300B booms are equipped with National's unique *Easy Glide* wear pads, a technology pioneered by National engineers.
- These pads reduce the conditions that cause noisy boom chatter and vibration.
- They feature an innovative self-lubricating capability that deposits and maintains a long-lasting film on boom sections and wear pad surfaces. This results in a smooth, reduced friction boom in/out movement during the extend/retract modes of operation -- even at slow operating speeds.
- While these uniquely efficient wear pads do not completely eliminate the need for routine greasing of boom surfaces, they enhance a smooth and quiet crane



operation, reduce wear and tear on the unit, and are easy to replace.

- The wear resistance of the material in *Easy Glide* wear pads is unexcelled.

National-manufactured cylinders

- Because National controls the manufacture of its own lift, outrigger, and stabilizer cylinders and the packing used as the seals, standardization is ensured and seal replacements fit properly.

Direct mount holding valve

- In the event of hose failure, the boom telescope cylinder is protected by a direct mount holding valve. The quiet, smooth, and stable boom cylinder holding valve provides a precise load placement capability with the boom.

High performance planetary winch

- The 300B comes standard with a high-performance planetary gear

drive winch. Anti-friction bearings are used throughout to maximize efficiency and seal life.

- This high-capacity winch has increased efficiency and, therefore, requires less horsepower and generates less heat. For fine control, both brake and counterbalance valves are standard.
- Winch covers permit visibility of drum and cable. The winch is filled with 1/2" diameter rotation resistant cable. See the winch



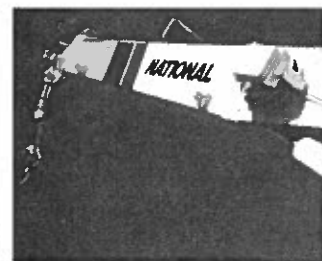
data chart on page eight for further information.

Hydraulic capacity alert system

- A new hydraulic capacity alert system (HCA) is a hydraulically operated, maximum capacity sensing device with indicator lights, memory-keyed override switch, and color-coded load indicator gauges at each console. The system, standard on the 300B, is designed to stop crane functions when maximum capacity is exceeded on the main boom. This system is not applicable for jib or basket use.

Anti-two-block

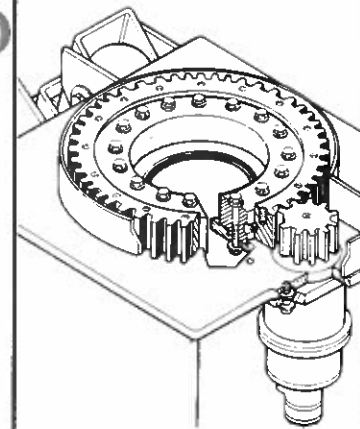
- The 300B is equipped with a standard anti-two-block attachment. Two-blocking occurs when the winch cable and attachments contact the underside of the boom sheave case, whether by winching up or extending the boom without paying out the winch cable. When this happens, the cable can be damaged by crimping or over-tensioning. The anti-two-block attachment prevents cable damage by sensing the position of the winch cable end attachments with respect to the



sheave case and shutting down the functions that can cause two-blocking.

Positive planetary turret rotation

- The planetary rotation gearbox with a hydraulic release brake allows the gearbox to back-drive whenever excessive side load is applied to the boom, reducing shock loads on the upper and lower crane structure and gearbox.
- The turret drive is designed with extra heavy bearings below the drive pinion.
- The gearbox and rotation bearing mounting surfaces are precision



machined after welding. This ensures constant tooth alignment for smooth rotation and low wear, even under maximum loads.

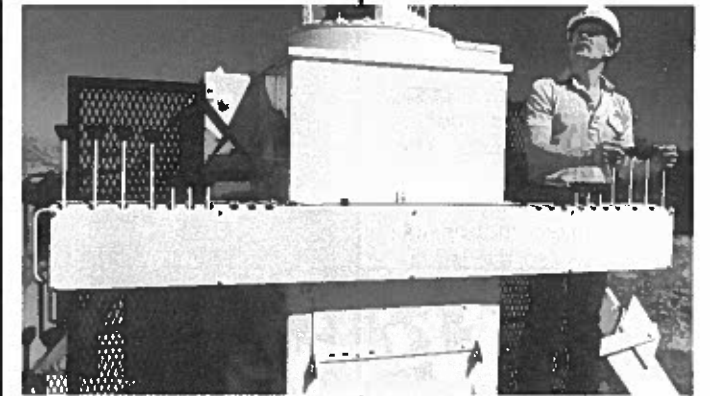
- The entire turret glides smoothly on a low inertia ball bearing race. Rotation is 375° noncontinuous.
- The 300B is equipped with a turret rotation indicator to aid the operator in positioning loads.

Compactness allows payload space

- The Series 300B is tough but compact. It fits in just 36.75 inches (933mm) of bed space. That leaves ample payload space.
- The 300B controls and operator platforms are designed with easy access to the truck bed, permitting the operator to move from one control station to the other.
- The operator platforms are made with open mesh expanded metal to keep dirt and mud buildup to a minimum.

Dual controls

- Dual controls are standard on the Series 300B. The extra fine metering and low spool forces give you smooth and precise control.
- Crane controls are identical on each side with SAE recommended orientation of functions. That means the operator always works the same control with the same hand.
- Dual stations provide more efficient operations and greater load visibility.



- Each station is equipped with kill and audible warning switches. A system pressure gauge is standard for easily checking pressures on all control functions. Foot throttles allow identical foot operation of engine speed from either side.
- Control rods are supported by nylon bearings, promoting smooth operation and reducing lubrication requirements.

Less counterweight

- The Series 300B is designed with wide outriggers and a rigid subframe to reduce the need for counterweight on virtually every truck on which it can be mounted.

Heavy-duty hydraulic system

- A standard high-pressure, high-speed balanced vane replaceable cartridge-type tandem pump provides for a smooth, fast, simultaneous operation.
- The winch is isolated from other crane functions to provide for an independent operation capability. The vane

- pump is more efficient and less costly to repair than the gear pumps used by some competitive manufacturers.
- Control valve spools are hard, chrome-plated for long life and resistance to corrosion. All spools are selected and hone-fitted for minimum internal leakage and for maximum load-holding ability.

Unitized mounting

- National's unitized mount includes an optional one piece, 8-inch deep subbase that extends along the frame and supports the crane and bed. It reduces counterweighting and increases stiffness and stability.
- Reinforcing is not required on trucks with 10.0 inch³ section modulus frames of 110,000 PSI minimum yield steel. The crane and subbase ship separately, then bolt together to form one solid integrated unit.

National Series 300B (Continued)

Lower truck requirements

- The Series 300B is engineered to lower your truck requirements. The wide outrigger span, stabilizers (if required), and unitized mount take the stress (so the truck doesn't have to).
- That means that the 300B can mount on trucks with lower axle ratings and still easily meet DOT and industry stability standards. It all adds up to lower maintenance, lower costs, and longer truck life for you.
- The Series 300B with subbase mounts on most standard, heavy-duty commercial trucks without requiring counterweight.



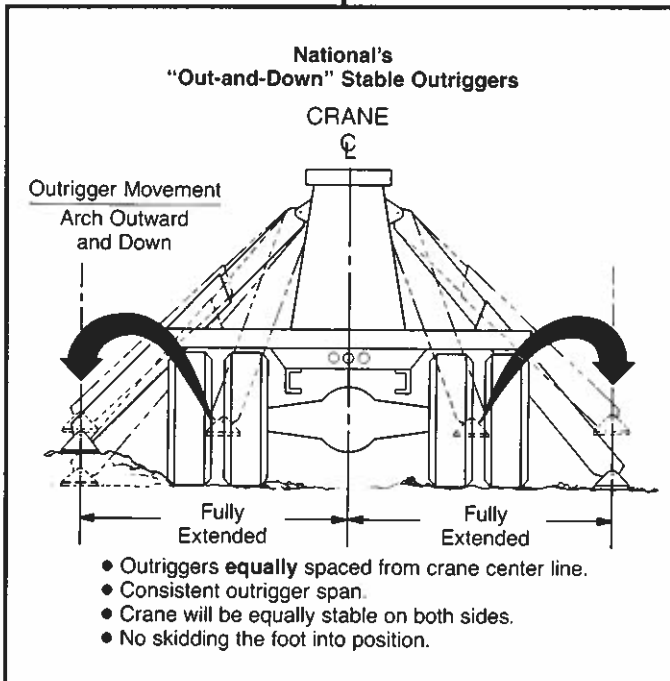
Wide outrigger stance

- The Series 300B utilizes National's industry-acclaimed out-and-down outriggers for a consistently wide stance and efficient leveling on uneven ground.
- The outriggers retract smoothly, without binding under load, first moving up, then in. The efficient design and wide span -- 16.4 feet

(5,000mm) -- provides ample stability with less truck weight, so you can carry larger pay loads.

- The 300B is equipped with large pads to enhance stability in soft footing.
- A precision mounted level indicator aids the operator in leveling the unit during the set-up procedure.

Caution: Do not operate crane booms, jib extensions, any accessories, or loads within 10 feet (3m) of live power lines or other conductors of electricity.



Easy service, low downtime

- The Series 300B frame allows easy access to control valves and plumbing for minor adjustments and fitting tightening. The complete console is easily removable for major repair.
- Boom pivot and lift cylinder bearings provide longer life and lower maintenance.
- Rear boom access to wear pads and holding valve means easy maintenance.
- O-ring face seal fittings are used on all high pressure circuits to minimize fluid leakage.
- Main pins are chromed to inhibit rust and allow for easy removal.
- Greaseless bearings are used throughout to reduce maintenance.
- 32-gallon capacity oil reservoir with sight gauge, breather, clean-out, and magnetic plug reduces heat buildup and keeps the hydraulic oil clean, ensuring ease of maintenance and long machine life. The aluminized reservoir prevents the gathering of rust in the system.

The National warranty

- National's warranty covers your 300B against defects in materials and workmanship for six months from the date of shipment, subject to the conditions of the warranty.

National Series 300B Booms and Jibs

Boom and Jib Combinations

328B: 12½ ft.-28 ft. three section

337B: 15½ ft.-37 ft. three section

337B: 15½ ft.-37 ft. three section

3FJ15: 15 ft. straight

346B: 18½ ft.-46 ft. three section

Heights to 61 feet (18.6m) available

The Series 300B is available with a choice of booms and jibs. One of these combinations is right for your 8-ton (3.7MT)

capacity lifting requirements. Select the telescoping boom you need, then add a National jib option as a cost-efficient way to increase the reach and versatility of your 300B.

Do not operate crane booms, jib extensions, any accessories, or loads within 10 feet (3m) of live power lines or other conductors of electricity.

3. The operator must reduce loads to allow for factors such as wind, ground conditions, operating speeds and the effect of freely suspended loads.

4. Overloading the crane may cause structural collapse or instability.
 5. Weights of any accessories attached to the boom or loadline must be deducted from the load chart capacities.
 6. Do not exceed jib capacities at any reduced boom length.

Boom and jib combinations

Telescoping booms

- Model 328B: 12.5- to 28-ft. (3.8m to 8.5m) three section
- Model 337B: 15.5- to 37-ft. (4.7m to 11.3m) three section
- Model 346B: 18.5- to 46-ft. (5.6m to 14m) three section

Jib options (side stowing)

- Model 3FJ15: 15-ft. (4.6m) straight for Model 337B)

Boom rests

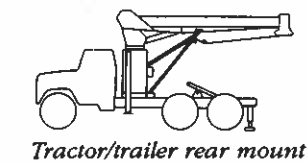
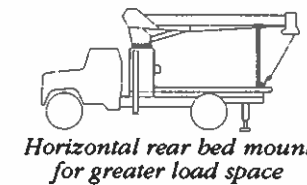
Cranes are tough when in use, but they can be severely damaged during travel from job to job. The only way a crane can be protected from this type of wear and damage is a strong, solid boom rest.

A boom rest:

- Adds years to the life of your crane
- Reduces stress on the crane frame
- Protects rotation gear from transit damage
- Removes stress from truck frame
- Spreads crane load more evenly

• Reduces maintenance and downtime
 A boom rest is required to provide a positive way to immobilize your crane for transit. National Crane supplies five heavy-duty boom rests for strong, sure protection of your crane. There is a quality boom rest to fit your mounting configuration. All National cranes must be fitted with a boom rest. All factory mounted cranes will be supplied with a boom rest.

NOTE: Only shorter booms can be stowed forward.



National Series 300B Winch Data and Load Rating Charts

National Series 300B Load Rating Charts (Continued)

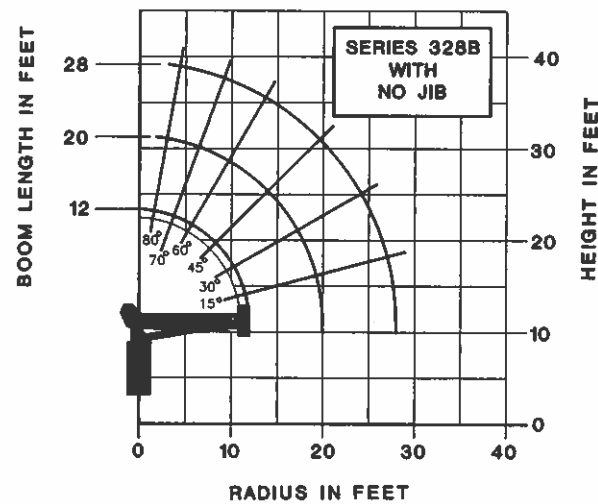
Caution:			1 Part Line	2 Part Line	3 Part Line
<ul style="list-style-type: none"> Do not deadhead lineblock against boom tip when extending boom. Keep at least three wraps of load line on the drum at all times. Use only the specified cable on this machine. 					
Winch	Cable Supplied	Average Breaking Strength	Lift and Speed	Lift and Speed	Lift and Speed
Standard Planetary Winch	Standard 1/2" diameter rotation resistant	29,200 lbs. (13,250 kg)	5,840 lbs. (2,650 kg) 184 fpm (56 m/min)	11,680 lbs. (5,300 kg) 92 fpm (28 m/min)	17,520 lbs. (7,950 kg) 61 fpm (19m/min)
	Optional 1/2" diameter 6x19 or 6x25 IWRC	23,000 lbs. (10,436 kg)	5,840 lbs. (2,650 kg) 184 fpm (56 m/min)	11,680 lbs. (5,300 kg) 92 fpm (28 m/min)	17,520 lbs. (7,950 kg) 61 fpm (19 m/min)
Optional High-pull Planetary Winch	Standard 9/16" diameter rotation resistant	37,000 lbs. (16,788 kg)	7,400 lbs. (3,357 kg) 110 fpm (34 m/min)	14,800 lbs. (6,715 kg) 55 fpm (17 m/min)	20,000 lbs. (9,075 kg) 37 fpm (11 m/min)
	Optional 9/16" diameter 6x19 or 6x25 IWRC	29,750 lbs. (13,500 kg)	8,400 lbs. (3,811 kg) 110 fpm (34 m/min)	16,800 lbs. (7,622 kg) 55 fpm (17 m/min)	20,000 lbs. (9,075 kg) 37 fpm (11 m/min)

Above winch pulls and speeds are shown on the third layer. Winch pulls would increase on the first and second layers. Winch line speeds would decrease on the first and second layers. Winch line pulls may be limited by the winch capacity or the OSHA 5 to 1 or 3.5 to one safety factor. These are shown below.

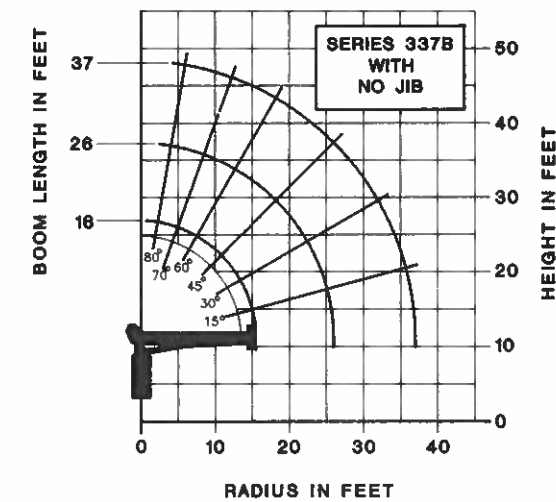
Winch	Winch Limited	Standard Cable Limited	Optional Cable Limited
Standard Planetary.....	6,835 lbs. (3,101 kg)	5,840 lbs. (2,650 kg)	5,840 lbs. (2,650 kg)
Optional Planetary.....	10,200 lbs. (4,628 kg)	7,400 lbs. (3,357 kg)	8,400 lbs. (3,811 kg)

Load Rating Charts

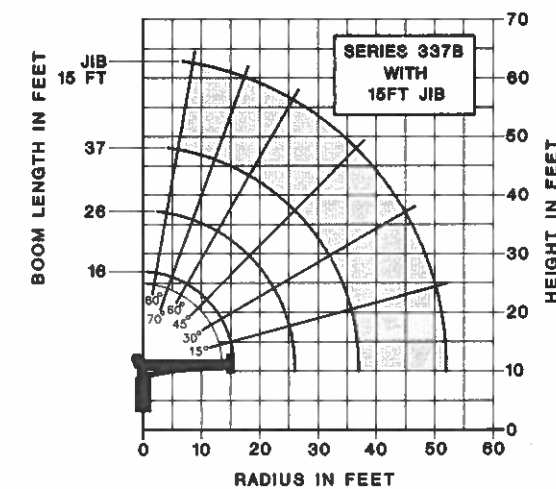
Note: Rated loads do not exceed 85% of the tipping load. Structural strength ratings in the chart below and on the following page are shaded. The capacities shown are for the load suspended, radius is for loaded boom. Capacities shown will be reduced when accessories are attached to the boom or loadline. Consult factory for specific load rating information.



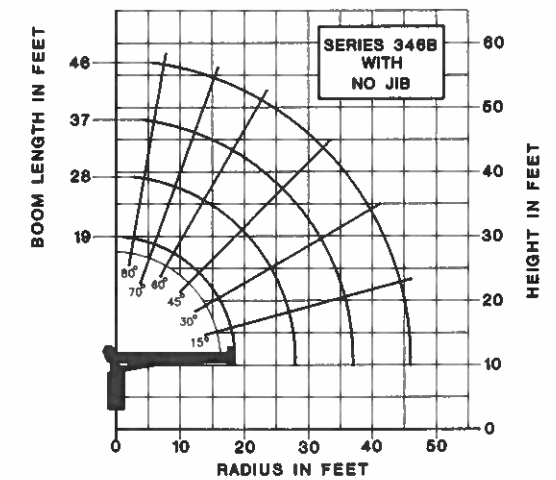
LOAD RADIUS (FEET)	LOADED BOOM ANGLE	12FT BOOM (LBS)	LOADED BOOM ANGLE	20FT BOOM (LBS)	LOADED BOOM ANGLE	28FT BOOM (LBS)
4	74°	16,000				
6	64°	11,200	73°	9,800	78°	9,500
8	51°	9,800	68°	8,000	73°	7,600
10	39°	7,800	60°	6,900	70°	6,800
12	30°	5,900	54°	5,850	66°	5,700
14			46°	5,200	61°	5,000
16			38°	4,650	56°	4,300
18			28°	4,000	51°	3,900
20			11°	3,550	46°	3,600
25					29°	2,850



LOAD RADIUS (FEET)	LOADED BOOM ANGLE	16FT BOOM (LBS)	LOADED BOOM ANGLE	26FT BOOM (LBS)	LOADED BOOM ANGLE	37FT BOOM (LBS)
4	79°	16,000				
6	70°	10,400	78°	9,100		
8	62°	8,400	74°	7,200	80°	6,500
10	53°	6,800	69°	6,000	76°	5,400
12	42°	5,900	65°	5,200	73°	4,800
14	27°	5,200	59°	4,500	70°	4,100
16			54°	4,050	66°	3,500
18			47°	3,650	64°	3,200
20			43°	3,300	60°	3,000
25			19°	2,500	50°	2,500
30					39°	2,000
35					21°	1,600



LOAD RADIUS (FEET)	LOADED BOOM ANGLE	16FT BOOM (LBS)	LOADED BOOM ANGLE	26FT BOOM (LBS)	LOADED BOOM ANGLE	37FT BOOM (LBS)	LOADED BOOM ANGLE	15FT JIB (LBS)
4	79°	16,000					80°	3,000
6	70°	10,200	78°	8,950			70°	1,900
8	62°	8,200	74°	7,050	80°	6,400	60°	1,400
10	53°	6,600	69°	5,850	76°	5,300	45°	1,000
12	42°	5,700	65°	5,050	73°	4,500	30°	700
14	27°	5,000	59°	4,350	70°	4,000	15°	600
16			54°	3,900	66°	3,400		
18			47°	3,500	64°	3,100		
20			43°	3,150	60°	2,900		
25			19°	2,350	50°	2,400		
30					39°	1,900		
35					21°	1,500		



LOAD RADIUS (FEET)	LOADED BOOM ANGLE	19FT BOOM (LBS)	LOADED BOOM ANGLE	28FT BOOM (LBS)	LOADED BOOM ANGLE	37FT BOOM (LBS)	LOADED BOOM ANGLE	46FT BOOM (LBS)
4	79°	16,000						
6	73°	9,200	79°	8,400				
8	66°	7,100	75°	6,650	80°	5,900		
10	59°	6,150	71°	5,300	76°	4,950	80°	4,600
12	52°	5,100	66°	4,400	73°	4,200	77°	3,800
14	43°	4,600	62°	3,800	69°	3,600	74°	3,400
16	32°	3,800	57°	3,400	66°	3,100	72°	2,900
18	18°	3,400	53°	3,050	63°	2,750	69°	2,550
20			47°	2,750	60°	2,500	67°	2,250
25			30°	2,100	50°	2,000	60°	1,900
30					39°	1,600	53°	1,450
35					22°	1,250	45°	1,250
40							32°	1,050
45							15°	750

National Series 300B Truck Specifications

Mounting Configurations	Configuration 1 with Subspacer	Configuration 2 with Heavy Duty Subbase
The versatility of the Series 300B can be enhanced by the mounting configurations described at the right. The configurations are based on a 300B 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.	In most cases, if the truck is purchased to minimum specifications, this configuration allows 360° stability without counterweight or rear stabilizers. Since the front tires are used as a stabilizing base, lifting over the front is recommended only for occasional use. If loads are to be continually lifted around the front of the vehicle, front stabilizers are recommended to give the unit a firm base. With this configuration, a payload of approximately 9,000 pounds (4,028kg) can be hauled on a minimum truck. Most trucks will be equipped with an 18,500 pound GAWR rear axle and will haul a payload of approximately 9,000 pounds.	The advantages of a rear-mounted Series 300B are: (1) It allows the operator to effectively use the close-in working area to lift heavier loads, and (2) 360° solid stability at full rated load. Counterweight may be required on a minimum truck. With this configuration, a payload of approximately 7,000 pounds (3,175kg) can be hauled on a minimum truck. Rear mounts require either "behind the cab" stabilizers (ASHBC) or cross-frame outriggers and heavy-duty subbase. Underframe stabilizers behind the cab may interfere with the drive line or cause ground clearance problems. If so, contact the factory for alternatives.
Stable	360°	360°
Gross Axle Weight Rating (GAWR), Front	9,000 lbs.	9,000 lbs.
Gross Axle Weight Rating (GAWR), Rear	17,500 lbs.	17,500 lbs.
Wheelbase (WB)	184 inches on Models 328B, 337B 202 inches on Model 346B	202 inches
Cab to axle/trunnion	120 inches on Models 328B, 337B 138 inches on Model 346B	138 inches
Frame Section Modulus (SM) under crane: 50,000 PSI	15 inch ³	13 inch ³
or 110,000 PSI	10 inch ³	10 inch ³
Frame Section Modulus (SM) over rear stabilizers: 50,000 PSI	10 inch ³	13 inch ³
or 110,000 PSI	10 inch ³	10 inch ³
Stability Weight, Rear** (See Note 6)	4,800 lbs. minimum 5,600 lbs. maximum	4,800 lbs. minimum
Stability Weight, Rear**	4,600 lbs.	5,500 lbs.
Estimated Average Final Weight (No Options Included)	19,500 lbs.	22,500 lbs.
Note: (1) GAWR means gross axle weight rating and is dependent on all components of the vehicle such as axles, tires, springs, frame, etc., meeting manufacturer's recommendations. Always specify GAWR when purchasing trucks. (2) Minimum axle requirements may increase with use of longer wheelbase, service bodies, diesel engines or front stabilizers. (3) Tandem axle trucks must be used for hauling larger payloads. (4) Diesel engines require variable speed governor and energize-to-run fuel solenoid for smooth crane operation. (5) On trucks shorter than 120 CA, additional weight may be required at the rear axle for 360° stability. (6) On trucks with front axle weight of 5,200 lbs. or greater, a 9,000-lb. GAWR (Front) will not be adequate if front-mounted stabilizers are used for continuous lifting over the front axle.	 	
	* May use shorter CA with all boom lengths, depending upon bed length. ** Estimated axle scale weights prior to installation of crane, stabilizers, and subbase if required for 85% stability.	

National Series 300B Accessories

Every Series 300B is part of the National Lifting System.

With National accessories you can equip your 300B to perform the functions of a whole fleet of specialized vehicles, and at a fraction of the cost.

Note:

Weights of all accessories attached to the boom or loadline of the crane must be deducted from the effective lifting capacity. Consult your dealer for specific accessory availability. Some accessories cannot be used in combination with other accessories and/or certain boom/jib combinations.

Remote control

National offers a one-hand remote control for your Series 300B. Ideal for use where precise control and total load visibility are required.

Fine metering and instant response mean operators can position loads or work platforms easily.

National's remote controls feature solid state circuitry and few working parts. They are designed for reliability.

Available in two models: R4 with tilt, turn, telescope and winch functions; and R3 with tilt, turn, and telescope only.



R3 should be used to control cranes from a basket. A priority control valve, operated by a trigger on the remote control unit, regulates oil flow and gives you fingertip speed control over all crane functions.

National's remote control is the lightweight, easy-to-use way to add versatility to your crane. Consult your dealer or the factory for availability.

Model R3

Tilt, turn, telescope

Model R4

Tilt, turn, telescope and winch



Radio remote control

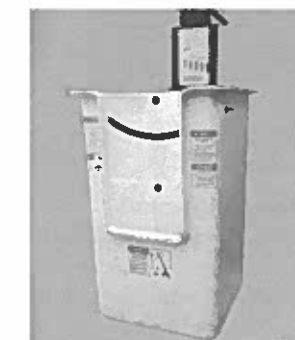
National also offers a radio remote control for all crane models, eliminating handling and maintenance concerns that accompany cabled remotes. Coded FM signal operates to a range of approximately 400 feet (varying with conditions).

Model R3R

Tilt, turn, telescope

Model R4BR

Tilt, turn, telescope and winch



Heavy-duty personnel basket

New high-capacity steel personnel basket provides a rated lifting capacity of 1,200 pounds and safety loops to secure up to four passengers.* Dimensions are 72"x42"x42". Ideal for simultaneously lifting personnel, tools, and materials to above the ground job sites. A fast attachment system allows fast, easy pinning of basket to the boom. The gravity-leveling basket has a new, secure disc-brake locking system.

Model BSA-1

**This basket must not be used in load-rated areas where the crane load chart shows capacities less than 2,300 pounds.*



One person basket

Strong, lightweight fiberglass basket with 300-pound (136.1kg) capacity puts personnel where they need to be for tough maintenance and installation jobs. Optional dual basket bracket for two basket operation on main boom. (Note: Jib will accommodate only one basket.) Easy on-off safety harness included. With basket(s) attached to crane, the crane must not be operated at a position where the crane load chart shows less than the following capacities:

- One fiberglass basket: 550 pounds
- Two fiberglass baskets: 1,100 pounds

Model B1-L

With lock

Caution:

Do not operate crane booms, jib extensions, any accessories, or loads within 10 feet (3m) of live power lines or other conductors of electricity. Do not exceed jib capacities at any reduced boom lengths.

Stabilizers

We offer a complete range of front and rear stabilizers with hydraulic vertical and horizontal motion. All cylinders are fully enclosed for protection against dirt and on-the-job damage.



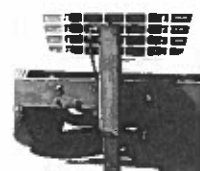
Rear Mounted
(Models RSH-15/18/25)



Rear Mounted
(Model ASH)



Behind Cab Mounted
(Model ASHBC)



Front Mounted
(Model SFO Fixed)*

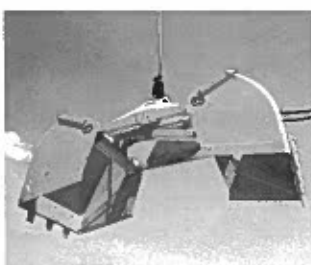
Vertical travel.....	15", 18" or 25"	20"	20"	25"
Ground penetration (38" frame height).....	3", 6", or 13"	8"	7"	13"
Operation.....	All-hydraulic	All-hydraulic	All-hydraulic	All-hydraulic
Span.....	6' (RSH-15) 8' (RSH-18/25)	10'	10'	Single

Controls..... All stabilizers noted above can be operated from either crane control station

Load moment indicator

The optional PAT DSI150 load moment indicator (LMI) is a state-of-the-art load sensing system. It offers a console display of boom length and angle, load on the hook, and available load capacity that can be lifted. These features provide the operator with a continuous reading of the crane's capacity as it moves through the motions required to make a lift. If overload capacities are approached, the LMI warns the operator by means of an audible alarm. It lights up a console warning light and halts crane movement to prevent overload.

LMI



Loose material clam bucket

Increase the flexibility of your National crane with a National clam bucket. Use the versatile accessory to load or move up to 2/3 cubic yards of loose materials with each bite. Hooks easily to loadline, comes with 50 feet of hydraulic hose on automatic reel and quick connect fittings. Extension hoses are required for use with jibs. Just position the load where you want it and open the bucket.

Model LMC

Pallet Fork

Turns your Series 300B into a versatile, payload-packing fork lift. Great for delivering palleted material right where you want it. 4,400 pounds (1,996kg) capacity with adjustable throat and teeth. Handles most loads with ease.

Capacity.....4,400 lbs. at 20" center

Throat opening: (adjustable).....41" to 65"

Tooth length.....38"

Tooth width: (outside to outside).....33.5" min. to 57" max.

Weight.....350 lbs.

Model MKF
(Manual leveling, adjustable throat)



**The SFO, a single front mounted hydraulic stabilizer, is not designed to lift the vehicle, but will provide stability for the vehicle after it has been leveled. The SFO has a 25" vertical stroke.*

Cross-frame outriggers

Extended span.....15'6"

Retracted span.....7'11"

Vehicle travel

Over frame.....25"

Under frame.....18"

Ground Penetration (38" frame height).....10"

Mounting space

Crane/outrigger....60"

Outrigger only.....24"

Mounting.....Behind cab at rear of chassis or both

Model 3HO

Hydraulic oil cooler

High duty cycle applications may require this option, which is designed to automatically cool the hydraulic oil.

Model HOC

High pull planetary winch

Extra capacity, heavy-duty winch with planetary gear drive for smoothness and strength.

Model PD-12

National Series 300B Specifications

General construction:

Low-alloy, high-strength steel, including T-1, Ex-Ten, Stressproof, Hi-Yield, and other steels combined with special low-hydrogen welding techniques wherever advantageous. Standard color: National Ivory.

Frame:

Box construction. Bolt-on truck frame mounting

brackets form base for crane frame and subbase attachment. Rotation bearing, gearbox, and level indicator mounting surfaces are precision machined after welding to ensure accurate alignment and flat surfaces for prolonged life.

Turret:

Fabricated, rigid structure, well-braced for stability.

The bearing surface is machined and the pin holes are bored after welding to ensure accurate alignment and flat surfaces for prolonged life.

Rotation:

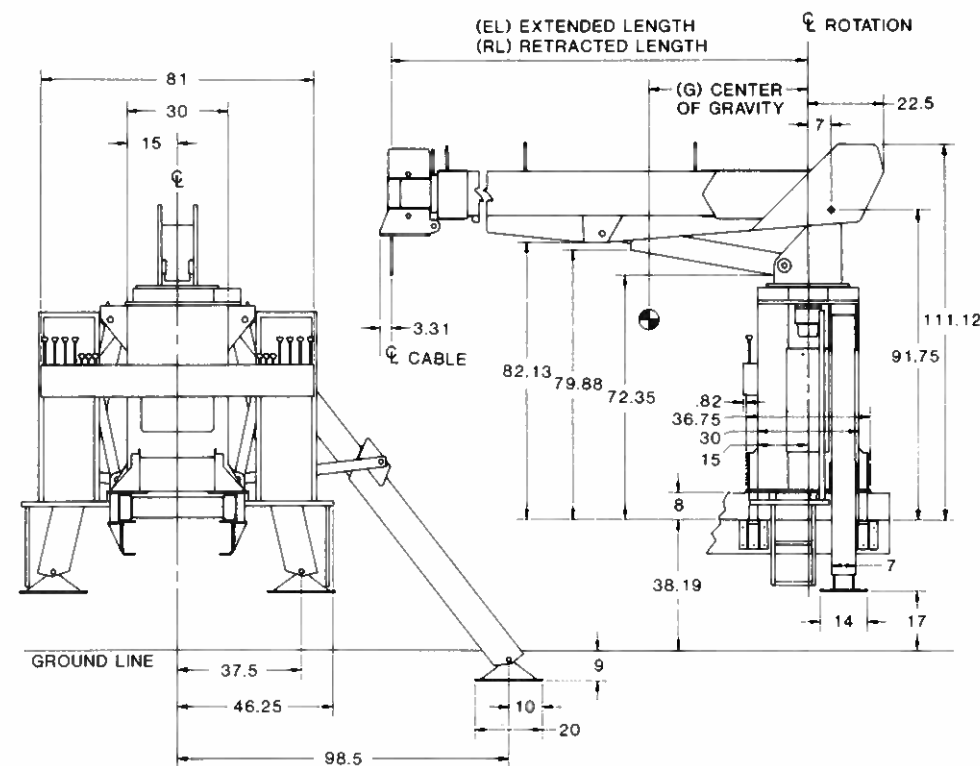
375° non-continuous. Rotational force 141,000 in.-lbs. (299,000 in.-lbs. breaking strength). Turret rotation is by hydraulic

orbit motor and planetary gearbox driving a pinion. The turret rotates on a ball-bearing race. A spring-applied hydraulic release brake provides positive, no-drift lateral positioning.

Outriggers:

"A" frame box-type 16.4-foot span (center of pad at ground level) moves out-and-down, will not bind

Dimensional Specification



G. CENTER OF GRAVITY

Series	RL	EL	G	*Dry Weight	*W/Oil Weight
346B	18'7"	46'	38"	7,400 lbs.	7,700 lbs.
337B	15'7"	37'	30"	7,050 lbs.	7,325 lbs.
328B	12'7"	28'	23"	6,850 lbs.	7,150 lbs.

* Above weights do not include subbase spacer (subbase spacer weight: 200 pounds)

when raising or lowering truck. Can be positioned to 9 inches below ground level when mounted on truck with a frame height of 38 inches. Outrigger cylinders are equipped with butt-mounted safety check valves. Equipped with extra large pads to reduce ground pressure loading and for greater stability in soft footing.

Tilt:

Double-acting hydraulic cylinder raises and lowers the boom. Butt-mounted safety holding valve prevents the boom from failing in the event of hose failure. Tough, field-tested bearings in tilt, cylinder and boom pivot combined with micro-honed pins provide long life with reduced maintenance.

Boom:

Boxed construction. Telescopes hydraulically proportionally under rated load on nylon plates impregnated with molybdenum disulfide on all sides of the boom, permitting maximum loads to be extended at greater radii. Holding valves prevent retraction except under power.

Controls:

Dual side, stand-up, with operator platform and foot accelerator identical on both sides. Simultaneous operation of load-line and other operations standard. Horn and stop switch on both sides. Controls easily removable for maintenance.

Winch:

Hydraulic motor with planetary gear reduction, brake, and counterbalance valve for "power down" load lowering.* 6,835-pound bare drum, single line pull available with 195 feet of 1/2" diameter, 29,200-pound breaking strength on the standard rotation resistant loadline. Optional 1/2" diameter, 23,000-pound breaking strength 6 x 25 IWRC loadline is available. Optional planetary winch is available with 10,200 pounds bare drum, single line pull, 220 feet of 9/16" diameter, 6 x 25 IWRC loadline with 29,750-pound breaking strength.

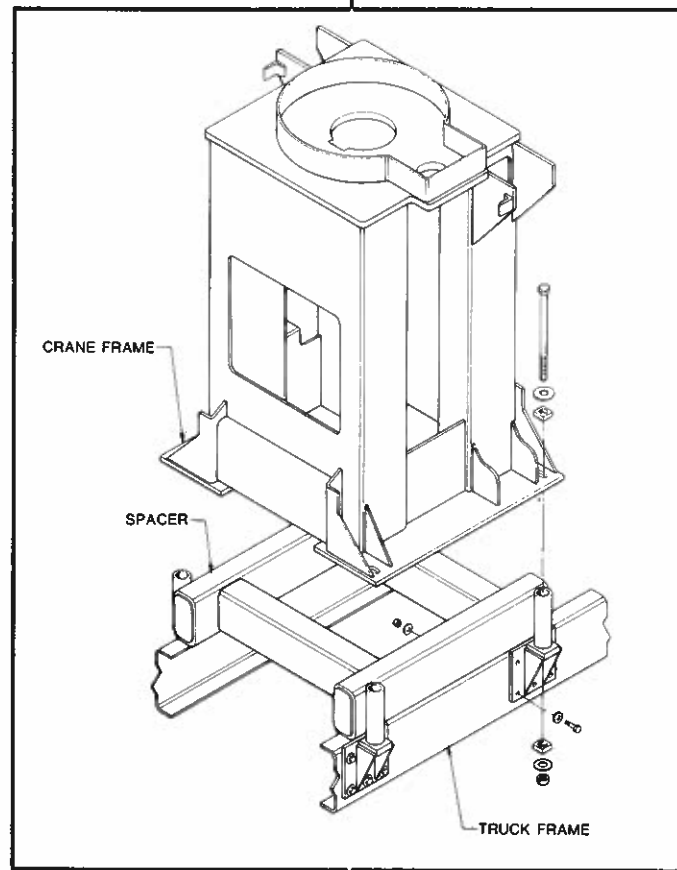
**Because of ANSI safety factor requirements, the standard rotation resistant wire rope is rated at 5,840-pound, 5:1, single line pull and the optional 6 x 25 IWRC wire rope is rated at an 8,400-pound, 3.5:1, single line pull.*

Pump:

One Vickers, high-pressure, high-speed, balanced vane, replaceable cartridge-type tandem pump independently providing 25 gpm to winch, and 12 gpm to crane for smooth, fast, simultaneous operation.

Cylinders:

Shaft packing: Polyurethane U-cup type. Shafts Hi-Yield, stress-relieved, chrome-plated. Piston sets: Polyurethane U-cup and rider construction. Cylinder barrels: Micro-honed tubing, butt-mounted safety check valves.



Valves:

Four-way, spring-centered, spool-type with independent relief valves set at 2,850 psi (maximum 3,050 psi on winch system) to protect circuits against overpressure.

Hose:

All high-pressure hose is wire-braid reinforced, having a minimum safety factor of 4 to 1.

Operating speeds:

Rotation 375°, 39 seconds. Boom up, -15° to 80°, 20 seconds. Boom down, 80° to -15°, 20 seconds. Boom extend: 37 fpm. Boom retract: 43 fpm. When using remote control, crane function speeds will be reduced by 50%

to assure smooth operation. (Speeds above assume no load with 12 gpm oil flow on boom and 25 gpm on winch.)

Oil tank capacities:

32-gallon supply tank. Normally mounted on subframe. Sight gauge, clean-out, and magnetic plug. System has an approximate 45-gallon total capacity.

Filter:

10-micron, replaceable cartridge, return-line filter. 100% filtration.

National Series 300B Proposal

Date: _____

Prepared for: _____

Submitted by: _____

(Firm Name)

(City & State)

(Address)

(Zip)

(Phone)

Signed: _____

Description

- | Description | Price |
|--|----------|
| 1. Series _____ | \$ _____ |
| 2. Boom _____ | _____ |
| 3. Jib _____ | _____ |
| 4. Rear Stabilizers <input type="checkbox"/> ASH <input type="checkbox"/> RSH 18" | _____ |
| 5. Front Stabilizers <input type="checkbox"/> Std. <input type="checkbox"/> Tilt <input type="checkbox"/> Single | _____ |
| 6. Behind the Cab Stabilizers <input type="checkbox"/> ASHBC | _____ |
| 7. Line Block <input type="checkbox"/> 2 Part <input type="checkbox"/> 2&3 Part | _____ |

Accessories

- | | |
|--------------------------|-------|
| 8. PD-12 Planetary Winch | _____ |
| 9. _____ | _____ |
| 10. _____ | _____ |
| 11. _____ | _____ |

Mounting

- | | |
|--|-------|
| 12. Installation Behind Cab | _____ |
| 13. Installation: Rear Mounting (add to installation charge above) | _____ |
| <input type="checkbox"/> ASH Behind Cab Stabilizers | _____ |
| <input type="checkbox"/> Air Throttle | _____ |
| <input type="checkbox"/> Rear Mounting Group | _____ |
| <input type="checkbox"/> HO Outriggers | _____ |
| 14. Frame Reinforcement <input type="checkbox"/> Weld <input type="checkbox"/> Bolt-Extra | _____ |
| 15. Platform Body _____ ft. <input type="checkbox"/> Wood <input type="checkbox"/> Steel | _____ |
| 16. Weight in Bed _____ lbs. (if required) | _____ |
| 17. Boom Rest: <input type="checkbox"/> Parallel <input type="checkbox"/> Low <input type="checkbox"/> Other | _____ |
| 18. Mount Stabilizers (Rear) _____ | _____ |
| 19. Mount Stabilizers (Front) _____ | _____ |
| 20. Chassis _____ | _____ |
| 21. Rear Underride Bumper Protection <input type="checkbox"/> Ordered <input type="checkbox"/> Not Ordered | _____ |
| 22. Freight _____ | _____ |

This quotation will remain firm for _____ days.

Accepted by: _____ \$ _____

(Name)

(Firm Name)

(Date)

National Series 300B Telescoping Crane



 **NATIONAL CRANE**
A Grove Worldwide Company

General Offices: 11200 North 148th Street • Waverly, NE 68462
Phone: (402) 786-6300 • FAX (402) 786-6363

Your National Dealer:

National reserves the right to change designs, prices, and specifications at any time without notice.