

National Series 300B
Proposal



Date: _____	Description
Prepared for: _____	1. Series _____ \$ _____
_____	2. Deduct if torsion box not required (_____)
_____	3. Boom _____
_____	4. Jib _____
Submitted by: _____	5. Rear Stabilizers ☐ ASH ☐ RSH 18"
_____	6. Front Stabilizers ☐ Std. ☐ Tilt ☐ Single
_____	7. Behind the Cab Stabilizers ☐ ASHBC
(Firm Name) _____	8. Line Block ☐ 2 Part ☐ 2 & 3 Part
_____	Accessories
_____	9. PD-12 Planetary Winch _____
(Address) _____	10. _____
_____	11. _____
(City & State) _____	12. _____
(Zip) _____	Mounting
_____	13. Installation: Behind Cab _____
(Phone) _____	14. Installation: Rear Mounting (add to installation charge above)
Signed: _____	☐ ASH Behind Cab Stabilizers _____
_____	☐ Air Throttle _____
_____	☐ Rear Mounting Group _____
_____	☐ HO Outriggers _____
National reserves the right to change designs, prices, and specifications at any time without notice.	15. Frame Reinforcement: ☐ Weld ☐ Bolt-Extra _____
Your National Dealer	16. Platform Body _____ ft. ☐ Wood ☐ Steel _____
	17. Weight in bed _____ lbs. (if required) _____
	18. Boom rest: ☐ Parallel ☐ Low ☐ Other _____
	19. Mount Stabilizers (Rear) _____
	20. Mount Stabilizers (Front) _____
	21. Chassis _____
	22. Rear Bumper Underride Protection ☐ Ordered ☐ Not Ordered _____
	23. Freight _____
	This quotation will remain firm for _____ days.
	Accepted by: _____ \$ _____
	(Name) TOTAL PRICE
	(Firm Name) (Date)



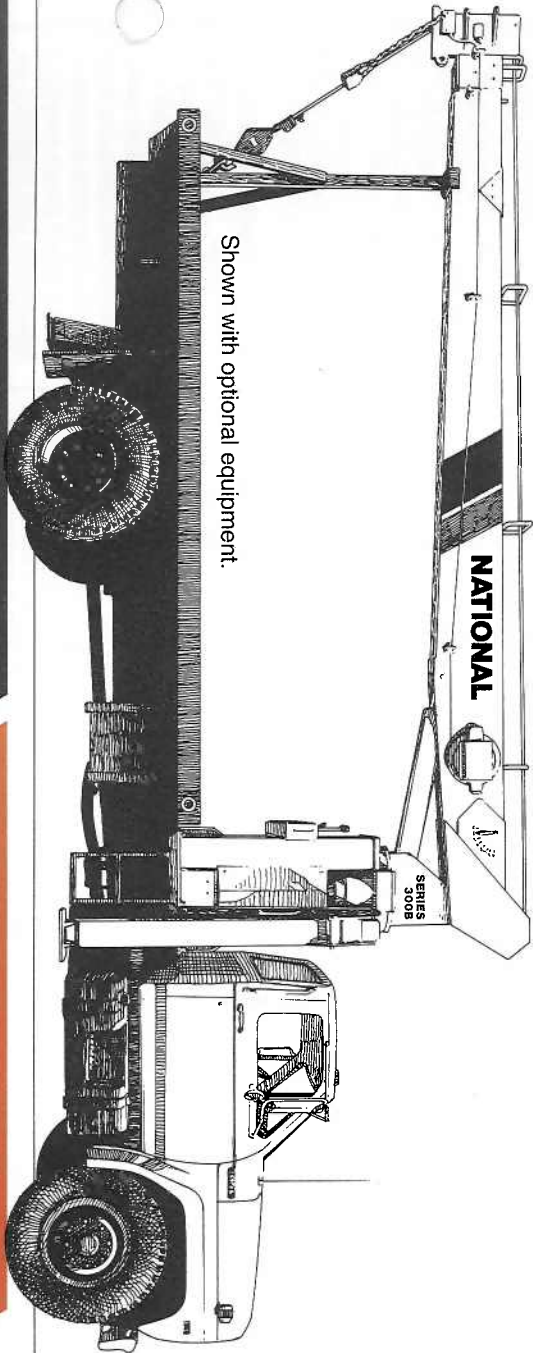
NATIONAL CRANE

General Offices: 11200 North 148th Street/Waverly, NE 68462
Phone: 402/786-2240, Telex: 438061, Fax: 402/786-3636

National
Series 300B

Truck-Mounted Telescoping Cranes and Accessories

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



Shown with optional equipment.

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

Preliminary
Specifications

Why buy a National Series 300B?

National Crane, America's truck-mounted hydraulic crane leader, features the industry's premier lineup of hard working telescoping and articulating cranes. The medium duty Series 300B telescoping crane with its 8-ton (7.3MT) capacity and 61-foot (18.6m) vertical reach offers many advantages:

National's field-proven durability

- National has manufactured cranes since 1963.
- Nearly 17,000 field-proven cranes verify National's manufacturing expertise.
- Nearly 90% of all National cranes ever manufactured are working on the job today.

Attention to quality

- National's industry-leading testing program subjects all prototype models to state-of-the-art strain gauge and life cycle testing to verify structural integrity.
- Each 300B undergoes numerous quality inspections at all levels of manufacture and assembly.

Retained market value

- National cranes traditionally retain higher resale value year after year.

Responsive service

- Each 300B is backed by strong after-sale and service support. Our professional, factory-trained dealer network spans the nation.
- Authorized National dealers maintain a parts stocking program for your 300B.
- When a dealer cannot immediately supply a part, the factory's backup program provides 24-hour parts shipping in 90% of all breakdown rush orders.

Strong warranty protection

- The 300B is backed by a solid warranty covering defects in materials and workmanship for six months from the date of shipment.

And more...

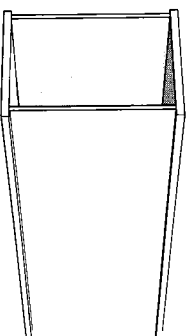
Our Series 300B telescoping crane gives you everything you want and need in a tough, compact, medium-duty crane. Here are all-new features that make the 300B the top crane in its class:

- 8-ton (7.3MT) rated capacity (1,500 pounds more than the 300B predecessor model) makes this unit the **highest capacity crane in its class in the industry**
- Higher reach — up to 61 feet (18.6m) with Model 337B with a 15-foot manual pull-out jib
- Proportional boom design provides smoother, more efficient boom operation, higher capacities (particularly in normal lifting areas), more efficient weight distribution, and 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) accomplished through a wider outrigger span and increased gross rear axle weight rating
- New, extra-wide outrigger span provides solid stability without adding extra counterweight
- New state-of-the-art O-ring seal fittings on all high pressure lines reduce downtime by eliminating fitting leakage
- New boom pivot and lift cylinder bearings provide longer life and lower maintenance
- A new standard tandem pump system isolates the winch from other crane functions to provide better overall performance.

- Dual controls in SAE recommended orientation of functions (you always 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 planetary winch with rotation-resistant cable
- Standard anti-two-block damage to prevent cable or extending the boom without paying-out the winch cable
- Planetary rotation gear box with a hydraulic release brake and a slip-through feature that helps protect the rotation system against damage from accidental side loading
- Outrigger location (behind the operator) allows occasional 360-degree working area without front stabilizers when the crane is mounted on a recommended truck
- Larger outrigger pads provide greater stability in soft footing
- Mounts on standard, single-rear-axle trucks with the versatility of five mounting configurations
- Horn and stop switches are located at both control stations
- Complete accessory line adds to the versatility of the 300B.

Strong Four-Plate Booms

Through computer aided design, National has improved weight efficiency of the Series 300B boom sections. We fabricate our telescoping boom sections from four high-strength steel members welded with perpendicular



corners. This box-section construction lets us use thicker top and bottom plates for extra strength. The use of thinner side plates means increased capacity through lower boom weight. Only strong, low-alloy steel is used in National booms. It is welded with automatic, low-hydrogen techniques for extra strong seams. Corner seams are ultrasonically tested for proper penetration.

The National Series 300B is equipped on all sides with large nylon wear pads impregnated with lubricants, providing a smooth, long-life operation. The wear resistance of the material used in the Series 300B pads is unequalled by competitive models.

Proportional Boom Extension

Proportional (cable crowd) boom design (each boom section extends and retracts proportionally during the telescoping operation) provides more efficient boom weight distribution. This means smoother, more efficient boom operation and higher capacities for you. Since the system utilizes only one extend cylinder, hydraulic maintenance is minimized. Boom telescope cylinder is fully protected with a direct mounting holding valve.

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.

Do not operate crane or accessories within 10 feet (3m) of live power lines.

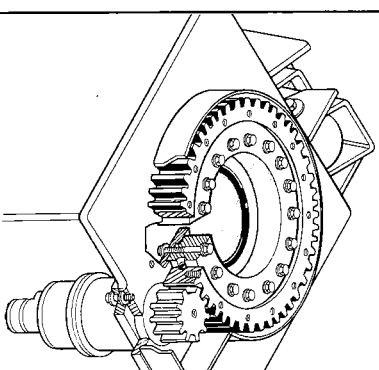
High Performance Planetary Winch

The 300B comes standard with a high-performance planetary gear drive winch. Anti-friction bearings are used throughout to maximize efficiency and seal life. A winch drum rotation indicator has been added.

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. New winch covers improve visibility of drum and cable. The winch is filled with 1/2" diameter rotation resistant cable. See the winch data chart on page seven for further information.

Positive Planetary Turret Rotation

The planetary rotation gearbox with a hydraulic release brake allows the gearbox to backdrive 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



to aid the operator in positioning loads.

Less Space

The National Series 300B is built tough, but compact, so it fits in just 36.75 inches (933mm) of bed space. That leaves ample payload space, making your Series 300B even more versatile. The 300B controls and operator platforms are designed with an improved 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.

Less Weight

The Series 300B is designed with wider outriggers and a new rigid subframe to reduce the need for counterweight on virtually every truck on which it can be mounted. Even with its increased capacity, it weighs less than its predecessor model when mounted on the same minimum truck.

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.

Dual Controls

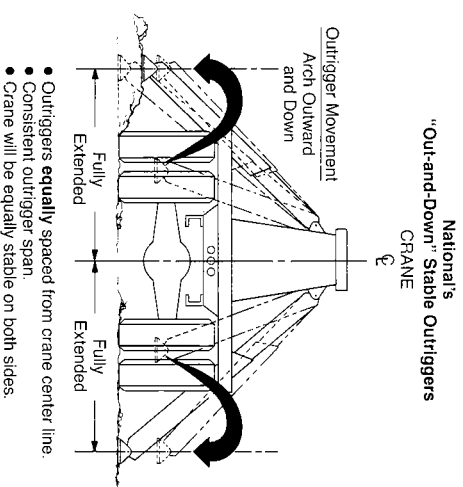
Dual controls are standard on the Series 300B. The extra fine metering and low spool forces give you smoother, more precise control. Crane controls are identical on each side with SAE recommended orientation of functions. That means you always work the same control with the same hand. All control knobs are labeled. 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.

Wide Stance

We've given our Series 300B the industry-acclaimed National out-and-down outriggers for a consistently wide stance and better leveling on uneven ground. The outrig-

gers retract smoothly, without binding under load, first moving up, then in. Their efficient design and wider span — 16.4-feet (5m) — gives you greater stability with less truck weight, so you can carry larger payloads. The 300B is equipped with larger pads for greater stability in soft footing. A precision mounted level indicator aids the operator in leveling the unit during the set-up procedure.



The National Parts System

Authorized National Crane dealers maintain a parts supply to support the National cranes in each dealer's area. If a dealer cannot immediately supply a needed part, the factory maintains a back-up parts supply that provides 24-hour parts shipping in 90% of all breakdown rush orders.

National's responsiveness to dealer requests means that your crane will be back on the job fast. National maintains a highly trained Service and Parts staff to answer dealer service questions and expedite parts shipping.

The National Warranty

National's warranty covers your crane against defects in materials or workmanship for **six full months** from the date of shipment, subject to the conditions of the warranty. When you select a National crane, you're getting more than just a crane. You're get-

ting a nationwide dealer warranty service network, strong warranty protection and our special concern for every product we make. Read our warranty. Then, don't settle for less. For complete information, write National Warranty Service, Waverly, NE 68462.

The National Service Center

National maintains a well-equipped service center where we do all our factory crane mounting. The central location of our Service Center makes it easy to return cranes for special modifications or extreme repairs. Most National dealers can perform all but the most unusual modifications or most serious repairs.

Should you need to return your crane to us for modification, warranty repair or other service, we will give it priority care and see it's returned as soon as possible.

ALL NEW!

National Series 300B Booms and Jibs

National Testing

National Crane established its original product durability standards by carefully evaluating the performance of competitive machines. Taking the best performances from these tests, National engineers set their own standards **more than 50% higher!** This is the same testing standard each National must pass today.

Before a new model is released for production manufacturing it is subjected to state-of-the-art testing. For example, a plastic-based "brittle lacquer" coating is applied to the crane. After loading, test engineers inspect the coating for cracks. The special lacquer has virtually no elastic qualities, so stretching or deformation of the metal shows up in "fractures" of the coating, perpendicular to the direction of stretching.

This procedure indicates where engineers are to place strain gauges, tiny chips printed with electronic circuitry which expand or contract with changes in the metal. Minute changes in electrical resistance are measured by a computerized strain gauge monitor and printed out for engineering studies. Strain gauges measure metal deformation as small as one-millionth of an inch.

After strain gauge testing, the prototype of each new model undergoes life-cycle testing. The crane is operated at full-load through a full life-cycle under close scrutiny. Outriggers, frames, and other components are loaded and rotated through a complete range of motion for the prescribed number of cycles.

All components used on National cranes are subject to a multi-level inspection program during manufacture and assembly. National's attention to testing ensures that each crane delivered to the field is ready for on-the-job action.

Heights to 61 feet (18.6m) available

The National Series 300B is available with a choice of booms and jibs. One of these combinations is right for your 8-ton (7.3MT) capacity lifting requirements. Select the telescoping boom you want, then add one of National's jib options as a cost-efficient way to increase the capacity and versatility of your Series 300B.

Telescoping Booms

- Model 328B: 12½- to 28-foot (3.8m to 8.5m) three section
- Model 337B: 15½- to 37-foot (4.7m to 11.3m) three section
- Model 346B: 18½- to 46-foot (5.6m to 14m) three section

Jib Options (side stowing)

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

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

NATIONAL SERIES 300B WINCH DATA

- Caution:**
- Do not deadhead inelock against boom tip when extending boom.
 - Keep at least three wraps of load line on 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 ½" diam. 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)	16,000 lbs. (7,950 kg) 61 fpm (19 m/min)
	Optional ½" diam. 6 x 19 or 6 x 25 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)	16,000 lbs. (7,950 kg) 61 fpm (19 m/min)
Optional High-pull Planetary Winch	Standard ¾" diam. 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)	16,000 lbs. (9,075 kg) 37 fpm (11 m/min)
	Optional ¾" diam. 6 x 19 or 6 x 25 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)	16,000 lbs. (9,075 kg) 37 fpm (11 m/min)

All 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 pulls may be limited by the winch capacity or the OSHA 5 to 1 or 3.5 to 1 safety factor. These are shown below.

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

National Series 300B Load Rating Charts

Do not operate cranes or accessories within 10 feet (3m) of live power lines.

- Load ratings shown on these 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 frame.
- The operator must reduce loads to allow for factors such as wind, ground conditions, operating speeds and the effect of freely suspended loads.
- Overloading the crane may cause structural collapse or instability.
- Weights of any accessories attached to the boom or loadline must be deducted from the load chart capacities.
- Do not exceed jib capacities at any reduced boom lengths.

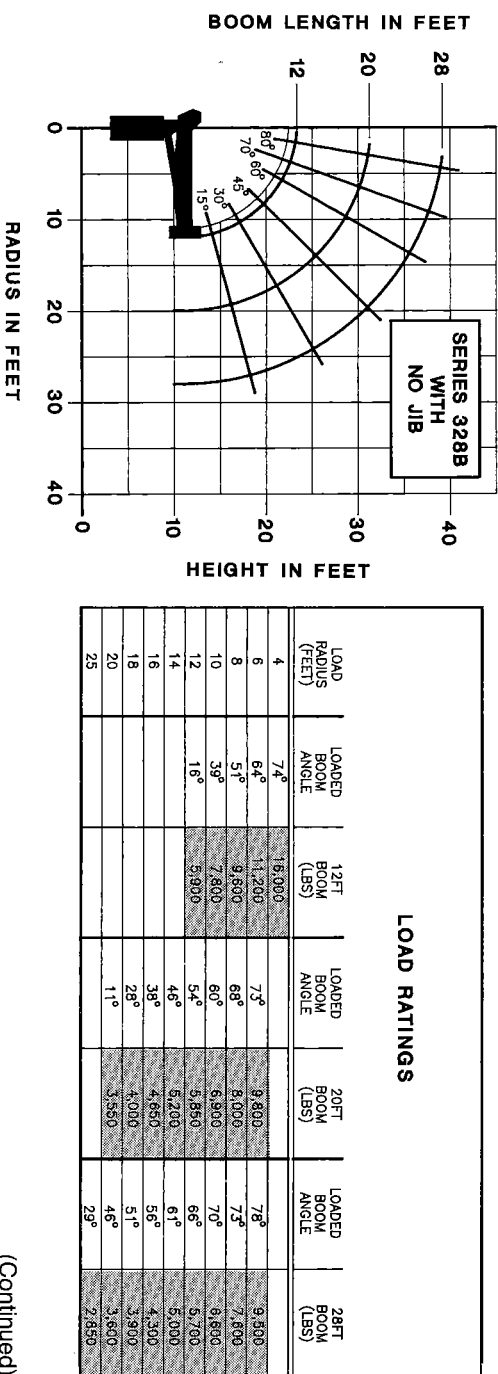
346B Capacity* (without jib)

(Metric equivalents shown in parentheses)

Radius	Boom Fully Retracted 19' (5.8m)	Boom 28' (8.5m) Extended	Boom 37' (11.3m) Extended	Boom 46' (14m) Extended
4' (1.2m)	16,000 lbs. (7,258 kg)	8,400 lbs. (3,810 kg)	5,900 lbs. (2,676 kg)	4,600 lbs. (2,087 kg)
6' (1.8m)	9,200 lbs. (4,173 kg)	6,650 lbs. (3,016 kg)	4,950 lbs. (2,245 kg)	3,800 lbs. (1,724 kg)
8' (2.4m)	7,100 lbs. (3,221 kg)	5,300 lbs. (2,404 kg)	4,200 lbs. (1,905 kg)	3,400 lbs. (1,542 kg)
10' (3.0m)	6,150 lbs. (2,790 kg)	4,400 lbs. (1,996 kg)	3,600 lbs. (1,633 kg)	2,900 lbs. (1,315 kg)
12' (3.7m)	5,100 lbs. (2,313 kg)	3,800 lbs. (1,724 kg)	3,100 lbs. (1,406 kg)	2,550 lbs. (1,157 kg)
14' (4.3m)	4,600 lbs. (2,087 kg)	3,400 lbs. (1,542 kg)	2,750 lbs. (1,247 kg)	2,250 lbs. (1,021 kg)
16' (4.9m)	3,800 lbs. (1,724 kg)	3,050 lbs. (1,383 kg)	2,500 lbs. (1,134 kg)	1,900 lbs. (862 kg)
18' (5.5m)	3,400 lbs. (1,542 kg)	2,750 lbs. (1,247 kg)	2,000 lbs. (907 kg)	1,450 lbs. (658 kg)
20' (6.1m)		2,100 lbs. (953 kg)	1,600 lbs. (726 kg)	1,250 lbs. (567 kg)
25' (7.6m)				1,050 lbs. (476 kg)
30' (9.1m)				750 lbs. (340 kg)
35' (10.7m)				
40' (12.2m)				
45' (13.7m)				

*Capacities shown are for the 346B with the load suspended; radius is for loaded boom. Capacities vary for cranes equipped with jibs or attachments. The capacities shown will be reduced when accessories are attached to the boom or loadline. Consult factory for specific load rating information.

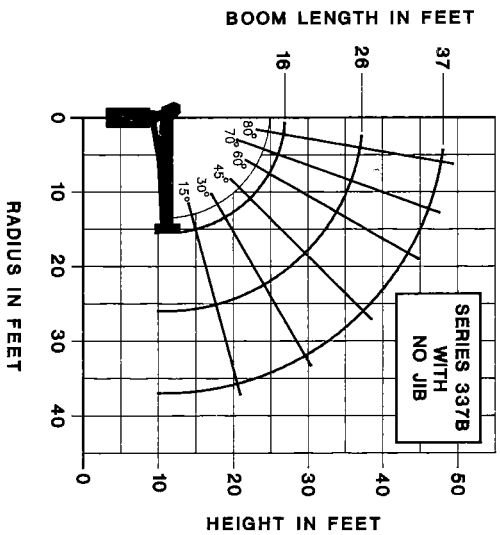
Note: Rated loads do not exceed 85% of the tipping load. The structural strength ratings in the chart above are shaded.



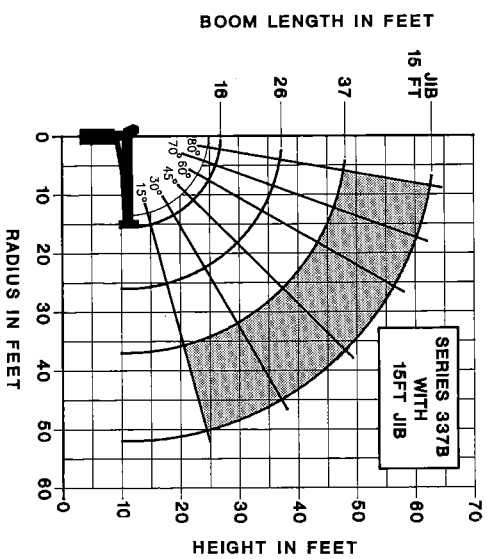
National Series 300B

Load Rating Charts (Continued)

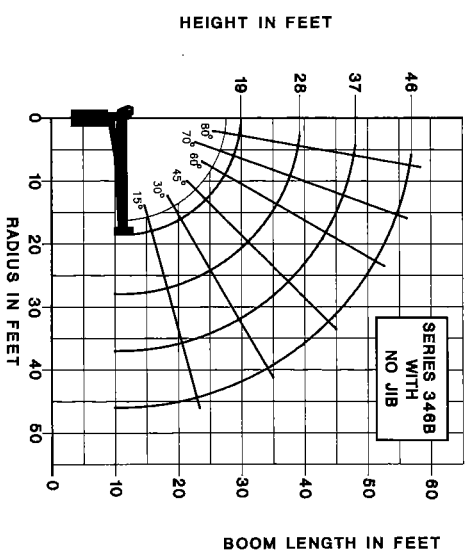
Note: Rated loads do not exceed 85% of the tipping load. Structural strength ratings in the charts below and on the following page are shaded.



LOAD RATINGS					
LOAD RADIUS (FEET)	LOADED BOOM ANGLE	16FT BOOM (LBS)	LOADED BOOM ANGLE	26FT BOOM (LBS)	LOADED BOOM ANGLE
4	79°	16,000	76°	9,100	80°
6	70°	10,400	74°	7,200	76°
8	62°	8,400	69°	6,000	73°
10	53°	6,800	65°	5,200	70°
12	42°	5,900	59°	4,500	66°
14	27°	5,200	54°	4,050	64°
16			47°	3,550	60°
18			43°	3,300	59°
20			19°	2,500	36°
25					21°
30					
35					



LOAD RATINGS					
LOAD RADIUS (FEET)	LOADED BOOM ANGLE	16FT BOOM (LBS)	LOADED BOOM ANGLE	26FT BOOM (LBS)	LOADED BOOM ANGLE
4	79°	16,000	76°	8,950	80°
6	70°	10,200	74°	7,050	76°
8	62°	8,200	69°	5,850	73°
10	53°	6,650	65°	5,050	70°
12	42°	5,700	59°	4,350	66°
14	27°	5,000	54°	3,900	64°
16			47°	3,500	60°
18			43°	3,150	59°
20			19°	2,350	39°
25					21°
30					
35					



LOAD RATINGS					
LOAD RADIUS (FEET)	LOADED BOOM ANGLE	16FT BOOM (LBS)	LOADED BOOM ANGLE	26FT BOOM (LBS)	LOADED BOOM ANGLE
4	79°	18,000	76°	8,400	80°
6	73°	9,200	75°	8,550	76°
8	66°	7,100	74°	8,300	73°
10	59°	6,150	69°	7,300	69°
12	52°	5,100	62°	6,400	66°
14	43°	4,600	57°	5,400	63°
16	32°	3,800	53°	4,500	60°
18	18°	3,400	47°	3,750	50°
20			30°	2,100	39°
26					22°
30					
35					
40					
45					

National Series 300B

Truck Specifications

Mounting Configurations

The versatility of the Series 300B can be enhanced by the mounting configurations described at the right. The configurations are based on the 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.

Configuration 1 with Subbase

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 this unit a firm base. With this configuration, a payload of approximately 9,000 pounds (4,082kg.) 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.

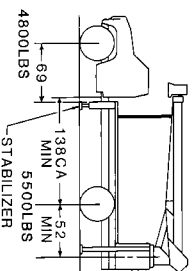
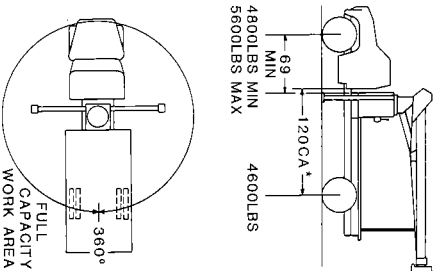
Configuration 2 with Heavy Duty Subbase

The advantages of a rear-mounted Serie 300A 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°	
Gross Axle Weight Rating (GAWR), Front	9,000 lbs.	
Gross Axle Weight Rating (GAWR), Rear	17,500 lbs.	
Wheelbase (WB)	184 inches on Models 326A, 328A, 337A 202 inches on Model 346A 120 inches on Models 326A, 328A, 337A 138 inches on Model 346A	
Cab to axle/trunnion (CA/CT)		
Frame Section Modulus (SM) under crane		
50,000 PSI	15 inch³	13 inch³
or		
110,000 PSI	10 inch³	10 inch³
Frame Section (SM) over rear stabilizers		
50,000 PSI	10 inch³	13 inch³
or		
110,000 PSI	10 inch³	10 inch³
Stability Weight, Front†	4,800 lbs. minimum, 5,600 lbs. maximum	4,800 lbs.
Stability Weight, Rear†	4,600 lbs.	5,500 lbs.
Estimated Average Final Weight (No Options included)	19,500 lbs.	22,500 lbs.

NOTES:

- (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. The National Lifting System can equip your 300B to do more than just lift or handle materials, it lets you equip your truck-mounted crane to perform the functions of a whole fleet of specialized vehicles, and at a fraction of the cost.

Because your 300B can do so many jobs from start to finish, you save time, money, and manpower on almost every job you do. You'll find you can do more, faster with less equipment. And that's money in your pocket.

Get the most from your National 300B. Make it more than just a crane with cost-efficient, hard-working accessories from the National Lifting System.

Note: Weights of all accessories attached to the boom or load-line 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 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 are built with 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 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.

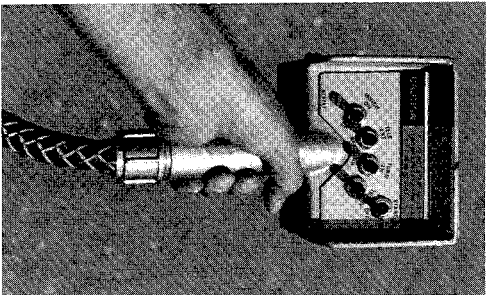
National's remote control is the lightweight, easy-to-use way to add extra versatility to your crane. Consult your dealer or the factory for availability.

Model R3

Tilt, turn and telescope

Model R4

Tilt, turn, telescope and winch.



Caution

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

One Person Basket

Strong, lightweight fiberglass basket with 300-pound (136.1kg) capacity puts personnel where you want them for tough maintenance and installation jobs. Optional dual basket bracket for two-basket operation on main boom.

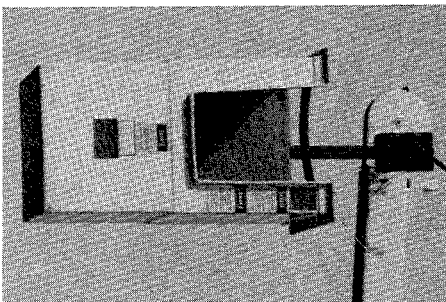
(Note: Jib will accommodate only one basket.) Easy on-off. Safety belts included. With basket(s) attached to the crane, the crane must not be operated at a position where the crane load chart shows less than the following capacities:

- One fiberglass basket — 550 pounds (249.5kg)
- Two fiberglass baskets — 1,100 pounds (499kg)

Model B-1

Model B1-L

With lock



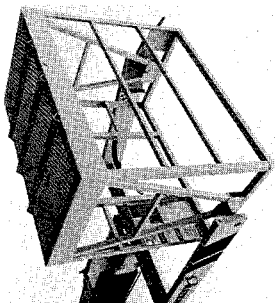
Two Person Basket

Extra capacity steel basket, swing-mounted to self-level. An adjustable, over-center, lever-operated friction brake for stability and locking. Safety belts included. The basket must not be used in load-rated areas where the crane load chart shows capacities less than 1,150 pounds (521.6kg). The maximum capacity of the basket is 500 pounds. (226.8kg)

(Note: Jib will accommodate only one basket.) Easy on-off. Safety belts included. With basket(s) attached to the 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 (249.5kg)
- Two fiberglass baskets — 1,100 pounds (499kg)

Model BS-1



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.

Stabilizers

Vertical Travel 3", 6" or 13"
Ground Penetration 15", 18" or 25"
Operation 6" (RSH-15)
Span 8' (RSH-18/25)

Controls

*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

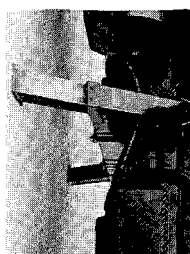
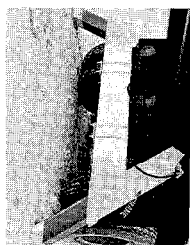
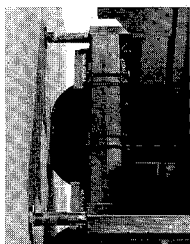
Extended Span 15'6"
Retracted Span 7'11"
Vertical Travel 25"
Over-Frame 18"
Under-Frame 10"
Ground Penetration 10"
(38" Frame Height)
Mounting Space 60"
Crane/Outrigger 24"
Outrigger Only Behind
Mounting cab at rear of chassis or both

Model 3HO

Hydraulic Oil Cooler

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

Model HOC



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

Rear Mounted
(Model ASH)

Front Mounted
(Model SFO Fixed*)

Behind Cab Mounted
(Model ASHBC)

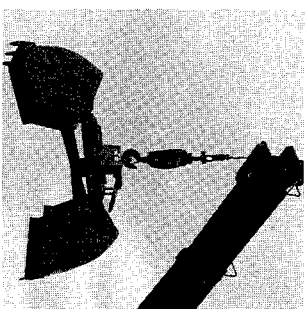
Vertical Travel 3", 6" or 13"
Ground Penetration 15", 18" or 25"
Operation 6" (RSH-15)
Span 8' (RSH-18/25)

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

Loose Material Clam Bucket

Increase the flexibility of your National crane with a National clam bucket. Use this versatile accessory to load or move up to 2/3 cubic yard 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.

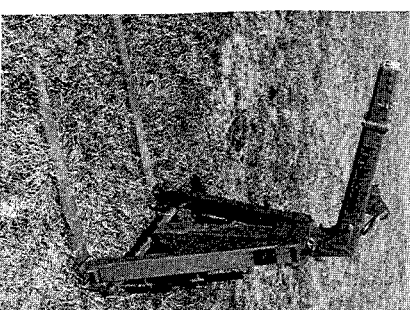
Model LMC



Pallet Fork

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

Capacity: 4,000 lbs. at 20" center 41" to 65"
Throat Opening: (adjustable) 38"
Tooth Length: 33.5" to 57" min. max.
Tooth Width: (outside to outside) 350 lbs.
Weight: 350 lbs.
Model MKF
(Manual leveling, adjustable throat)



Capacity Alert System

National offers two capacity alert options. The audible-visual capacity alert system is designed to alert the operator when he reaches a maximum capacity condition on the crane structure. This system activates the truck horn when the capacity load is exceeded on the main boom.

The hydraulic capacity alert system is hydraulically operated, maximum capacity sensing device that is designed to stop all of the normal crane functions that cause overload when maximum capacity is exceeded on the main boom. Neither of these systems is applicable to jib stability capacities.

Model AAS

(Audible capacity alert system)

Model HAS

(Hydraulic capacity alert system)

High Pull Planetary Winch

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

Model PD-12

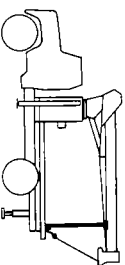
National Series 300B
Boom Rests

National Series 300B
Specifications

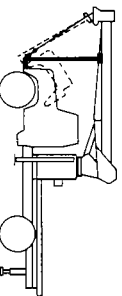
Cranes are tough when they're in use, but they can be severely damaged during travel from job to job. The only way a crane can be protected from this type of wear and damage is a strong, solid, boom rest.

Boom Rests

- Add years to the life of your crane
- Reduce stress on the crane frame
- Protect rotation gear from transit damage
- Remove stress from truck frame
- Spread crane load more evenly

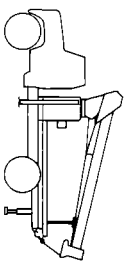


Horizontal rear bed mount for greater load space



Front mount for trucks with tilting hoods

Larger Front Axle Rating Required.



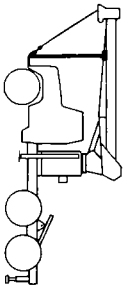
Low-profile rear bed mount for lower center of gravity

- Reduce maintenance and down time.

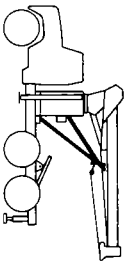
In addition, boom rests are required to provide a positive way to immobilize your crane for transit.

National Crane supplies five heavy-duty boom rests for strong, sure protection of your crane. There is a quality National 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.



Tractor/trailer front mount
Larger Front Axle Rating Required.



Tractor/trailer rear mount

General Construction:

Low-alloy, high strength steel, including T-1, Ex-Ten, Stress-proof, 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. 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 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 falling 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 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.

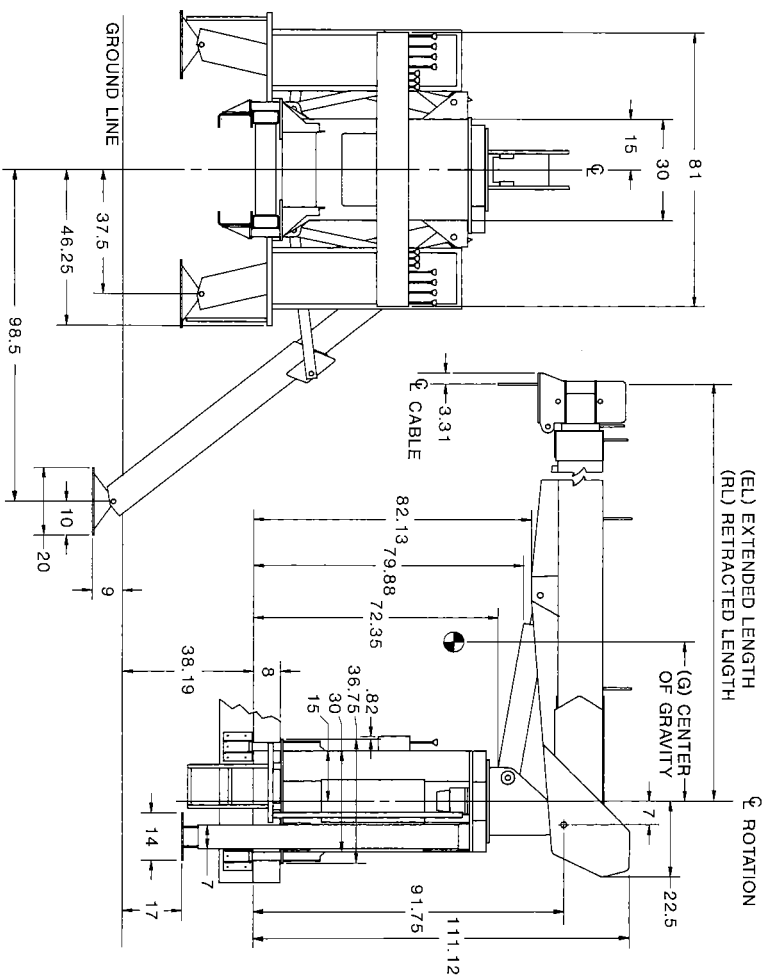
Winch:

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, rotation resistant, 37,000-pound breaking strength loadline or 9/16” diameter, 6 x 25 IWRC loadline with 29,750-pound breaking strength.

*Because of ANSI safety factors for requirements, the standard 1/2” rotation resistant wire rope is rated at 5,840-pound, 5:1, single line pull and the optional 9/16” 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



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)

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

Filter:

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

crane function speeds will be