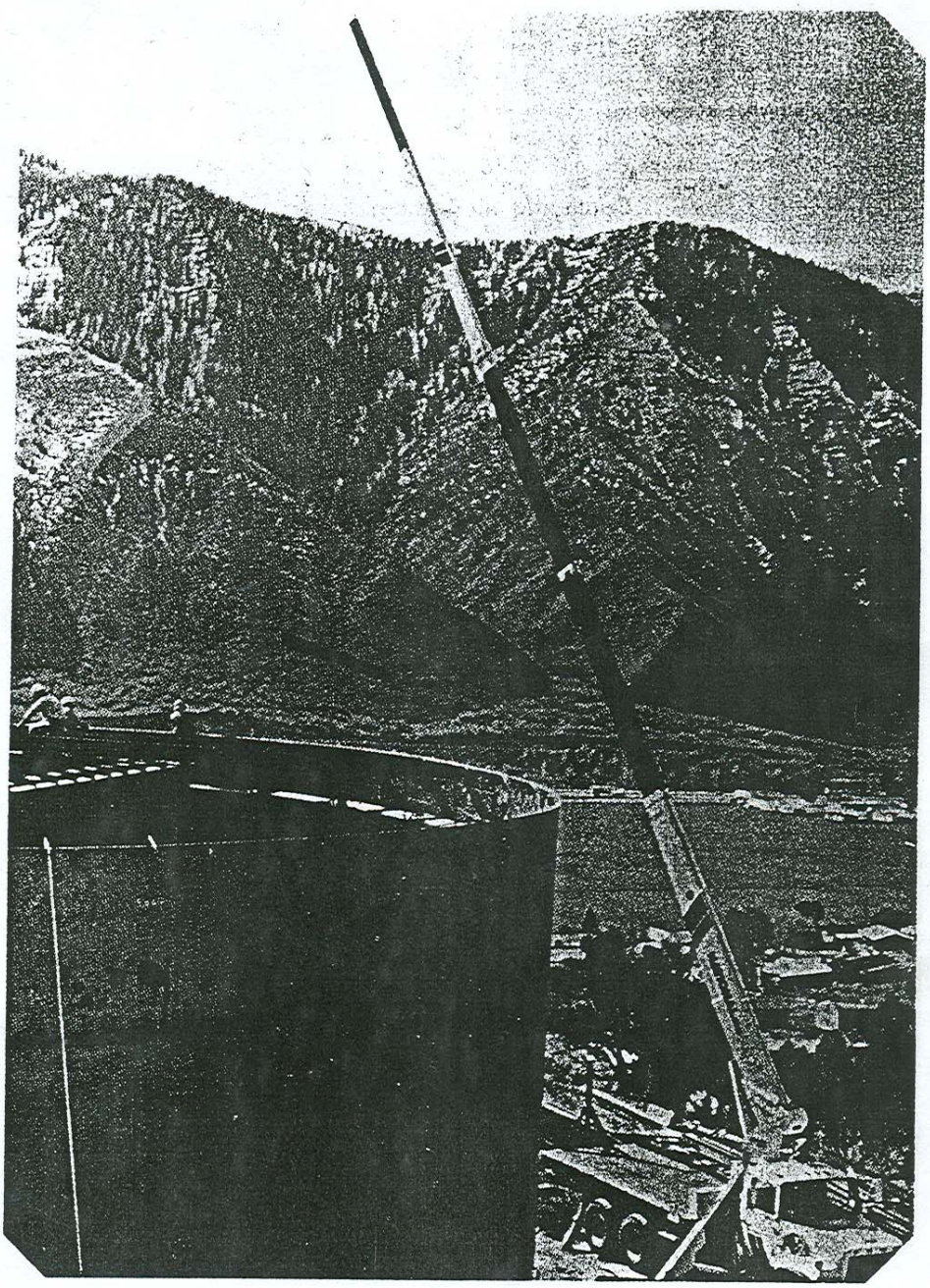


NATIONAL SERIES 800

TELESCOPING CRANES

LOAD RATINGS FOR AVAILABLE BOOM AND JIB OPTIONS

NATIONAL SERIES 800
LOAD RATINGS FOR AVAILABLE BOOM AND JIB OPTIONS

The capacities shown will be reduced when accessories are attached to the boom or loadline.

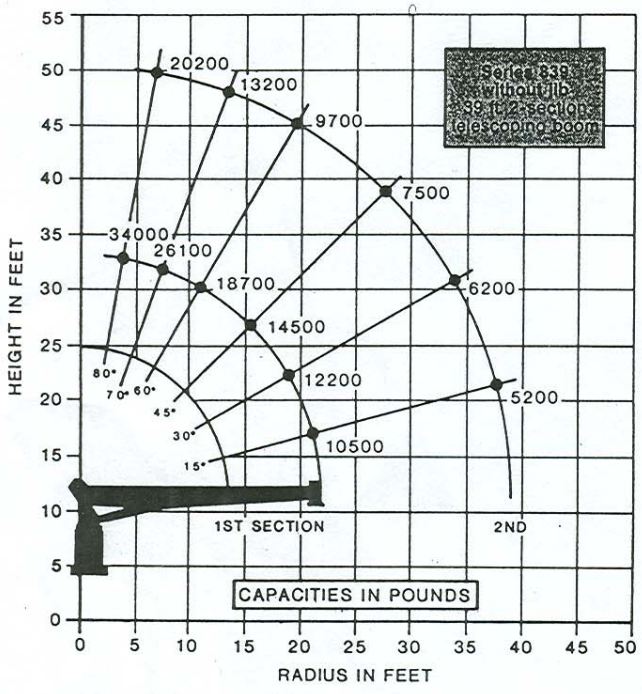
Boom and Jib Combinations

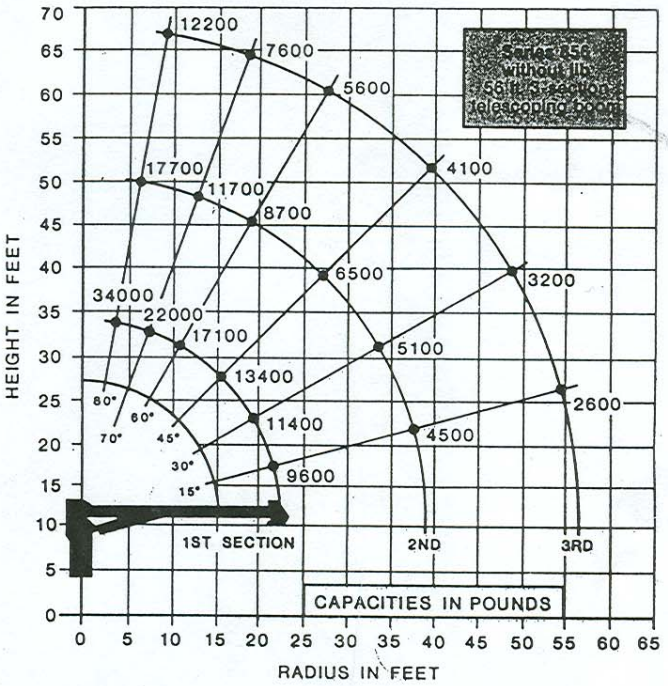
Telescoping Booms

- Model 839 ..... 22- to 39-foot 2-section
- Model 856 ..... 22- to 56-foot 3-section
- Model 875 ..... 22- to 75-foot 4-section

Jib Options (Side-Stowing)

- 21-foot straight (for Models 839, 856, 875)
- 21- to 35-foot manual pull-out (for Models 839, 856, 875)
- 21- to 55-foot swing under/manual pull-out (for Model 875)
- 15-foot angling jib (for Models 856, 875)





Planetary Winch Data—Series 839 & 856

	1 Part	2 Part	3 Part	4 Part
Std. Speed Std. Line Pull	150 F.P.M. 8,400 Lbs.	75 F.P.M. 16,800 Lbs.	50 F.P.M. 25,000 Lbs.	37 F.P.M. 34,000 Lbs.
Burst-of-Speed Line Pull	240 F.P.M. 3,000 Lbs.	120 F.P.M. 6,000 Lbs.	80 F.P.M. 9,000 Lbs.	60 F.P.M. 12,000 Lbs.

Caution

Do not dead head line block against boom tip when extending boom. Keep at least 3 wraps of line on drum at all times. Use only 9/16" diameter cable on this machine. Average breaking strength of wire rope 29,750 pounds. Maximum allowable 3.5:1 line pull at design factor is 8,500 pounds.

Planetary Winch Data—Series 875

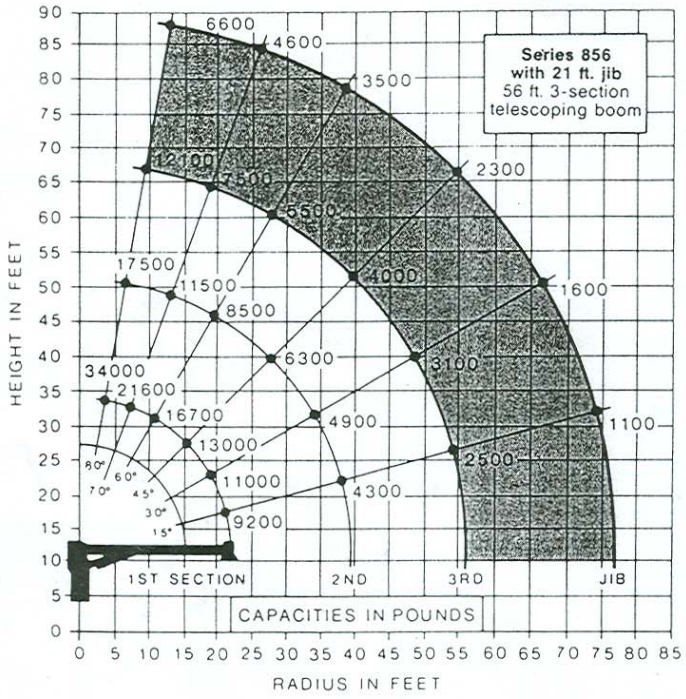
	1 Part	2 Part	3 Part	4 Part
Std. Speed Std. Line Pull	164 F.P.M. 7,500 Lbs.	80 F.P.M. 15,000 Lbs.	55 F.P.M. 22,500 Lbs.	40 F.P.M. 34,000 Lbs.
Burst-of-Speed Line Pull	260 F.P.M. 3,000 Lbs.	130 F.P.M. 6,000 Lbs.	85 F.P.M. 9,000 Lbs.	65 F.P.M. 12,000 Lbs.

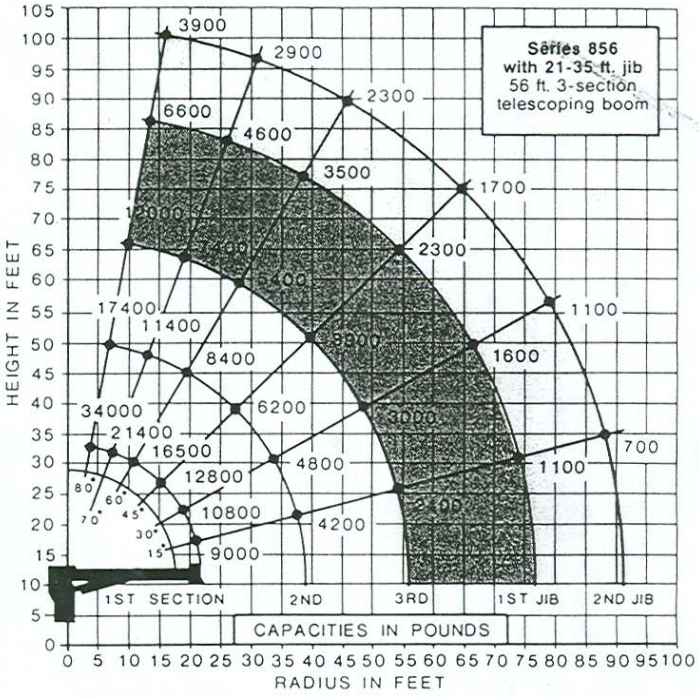
Maximum bare drum pulls are 10,200 pounds, but because of the 3.5 to 1 OSHA safety factor, maximum rated pull on a single line cannot exceed 8,500 pounds.

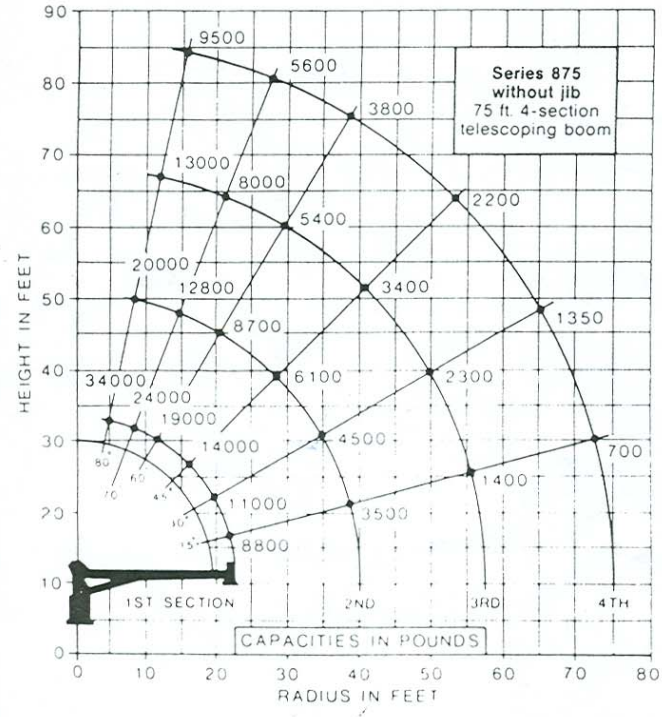
IMPORTANT INFORMATION AND CAUTIONS

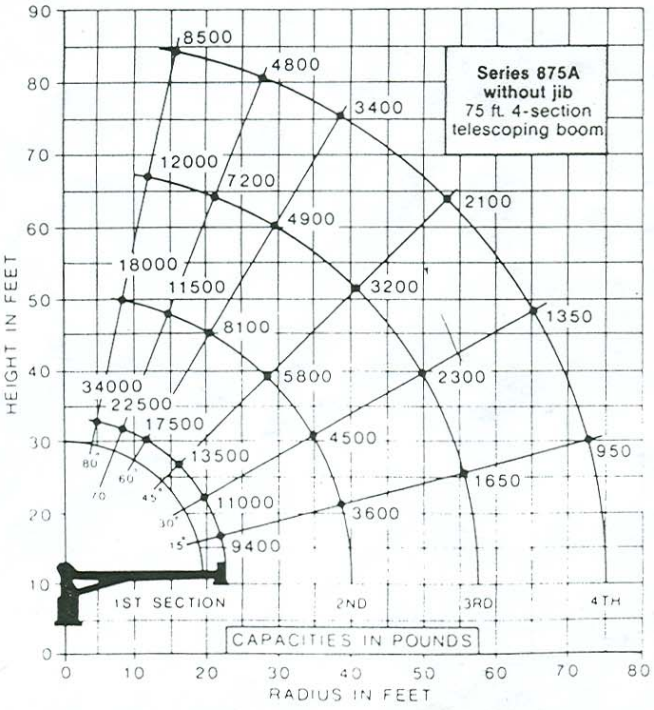
Do not operate cranes or accessories within 10 feet of live power lines.

1. Load ratings shown on the above charts are maximum allowable loads with the outriggers properly extended on a firm, level surface and the crane leveled and mounted in a factory-recommended configuration.
2. Always level the crane with the level indicator located on the crane frame.
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.



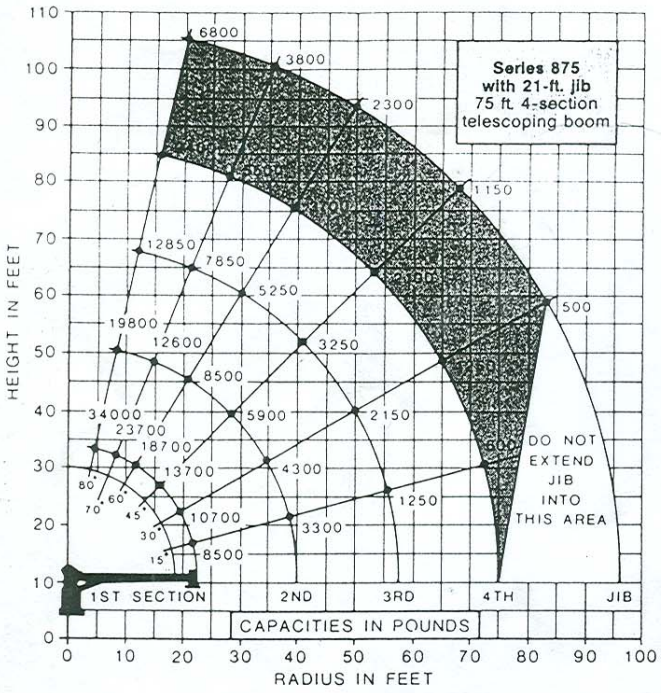


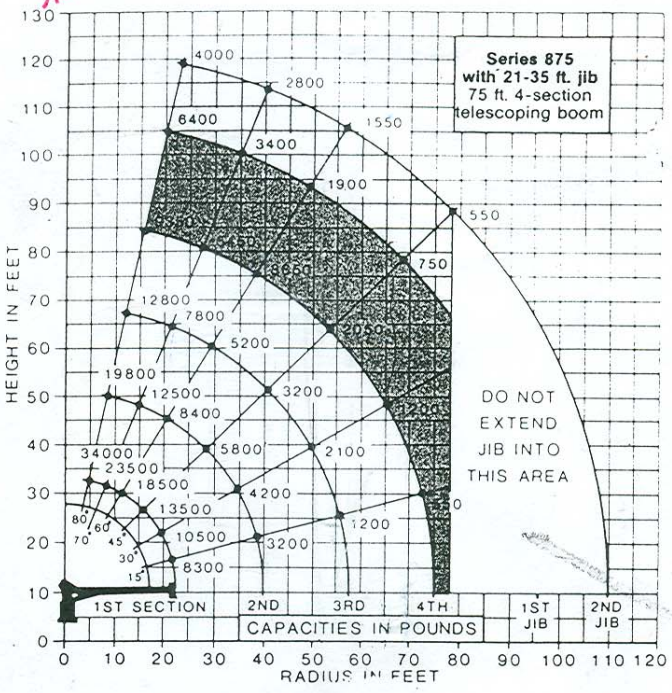


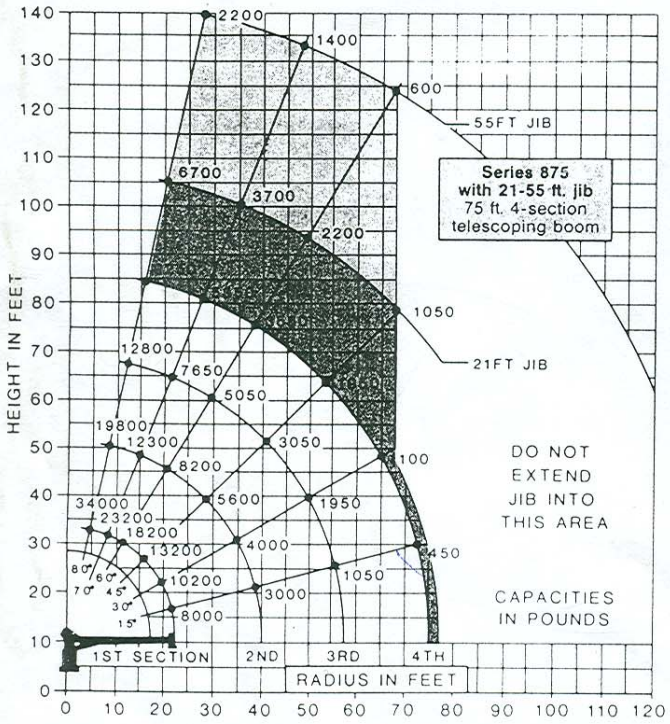


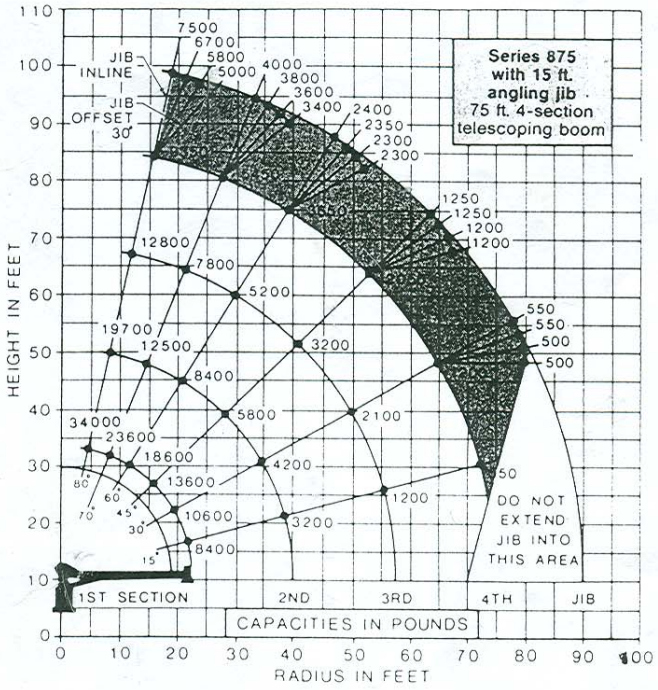
The Series 875A is equipped with National's self-stowing auger

17 tons
*









NATIONAL CRANE
Subsidiary of Kidde, Inc.
KIDDE

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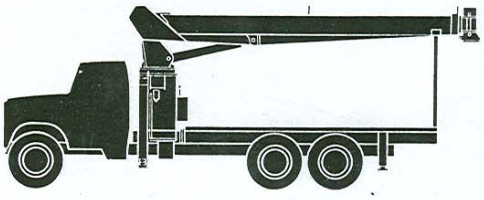
National Series 800B Buyer's Guide

Truck-Mounted Telescoping Cranes and Accessories
Maximum Height: 140 feet (42.7 Meters)
Maximum Capacity: 35,000 Pounds (15.9 Metric Tons)



America's Truck-Mounted Hydraulic Crane Leader

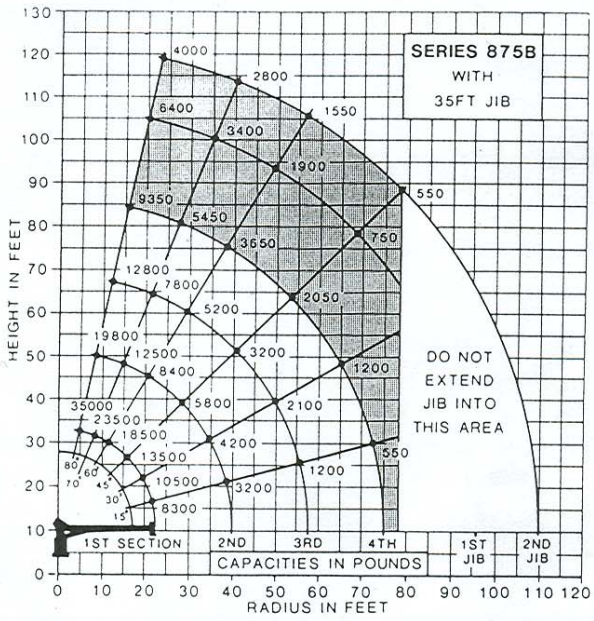
75-foot, fully-hydraulic, four-section boom available

The 800B features National's field-proven, fully-hydraulic, four-section, 75-foot boom. National pioneered the design of four-section, fully hydraulic boom technology first offering it on the Series 800 telescoping crane in 1981.

When combined with the 55-foot side-stowing jib, the 875B reaches to a height of 140 feet. All boom sections extend and retract hydraulically for greater ease in handling. At the full 140 feet, the National 875B has a capacity of 2,200 pounds. With the jib stowed and the booms fully extended to 85 feet above the ground level, the 875B will lift more than 9,000 pounds. The unit's maximum capacity is 35,000 pounds.

The 875B is ideal for placing materials at job sites requiring more-than-typical reach. Like all Nationals, it can be used to load, transport, and unload materials. The one-step, sequential-extension boom saves time, effort, and money. It sets up fast at the job site. There is no need for the operator to leave the controls to set up the full boom length.

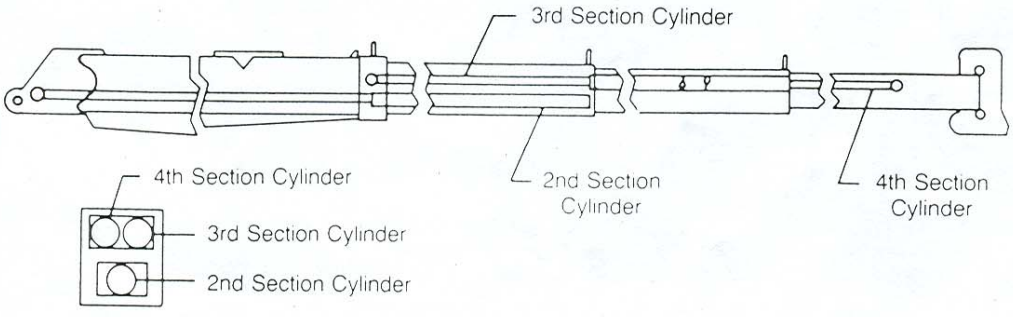
The 875B is comparatively lightweight. It requires only the basic truck mounting specifications for other 800B Series models.



The capacities shown on this load rating chart will be reduced when the crane is equipped with jib and other boom-mounted accessories.

Do not exceed jib capacities at any reduced boom length.

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



Warranty, Parts and Service

The National Warranty

The National warranty covers your crane against defects in materials and workmanship for **six months** from the date of shipment, subject to the conditions of the warranty. When you purchase a National crane, you have — along with strong warranty protection and National's longstanding commitment to quality — access to our nationwide dealer warranty service network. Questions concerning the National warranty should be directed to: National Warranty Service; 11200 North 148th Street; Waverly, NE 68462.

The National Parts System

Authorized National Crane dealers stock an inventory of parts to support the National cranes in their areas. If your dealer cannot immediately supply a needed part, the factory maintains a back-up program providing 24-hour parts shipping in 90% of all breakdown rush orders. National's responsiveness to dealer parts orders means that your crane will be back on the job without needless delay. National maintains a trained Service and Parts staff to answer dealer service questions and expedite parts shipping.

The National Service Center

National maintains a fully equipped Service Center at its Waverly, Nebraska plant. Here, we do all factory crane mounting and handle special crane modifications or repairs. Most National dealers can accommodate all but the most unusual modifications or serious repairs. The Service Center gives each crane requiring warranty repair, modification, or other service, priority attention to ensure that it's back on the job as soon as possible.

National Series 800B Booms and Jibs

The capacities shown will be reduced when accessories are attached to the boom or loadline.

Boom and Jib Combinations

839B: 22-39 ft. two section

839B: 22-39 ft. two section
8FJ21: 21 ft. straight

839B: 22-39 ft. two section
8FJ35M: 21-35 ft. manual pull-out

856B: 22-56 ft. three section

856B: 22-56 ft. three section
8FJ21: 21 ft. straight

856B: 22-56 ft. three section
8FJ35M: 21-35 ft. manual pull-out

875B: 22-75 ft. four section

875B: 22-75 ft. four section
8FJ21: 21 ft. straight

875B: 22-75 ft. four section
8FJ35M: 21-35 ft. manual pull-out

875B: 22-75 ft. four section
8FJ55M: 21-55 ft. manual pull-out

875BA: 22-75 ft. four section*

875BA: 22-75 ft. four section*
8FJ35M: 21-35 ft. manual pull-out

*The series 875BA is designed for National's self-stowing auger.

Note: An angling jib (8FJ13A) is available for Models 856B, 875B and 875BA (see load rating charts on pages 12 and 13).

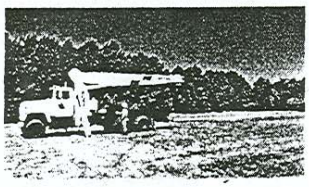
Reaches to 140 feet

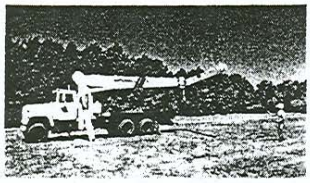
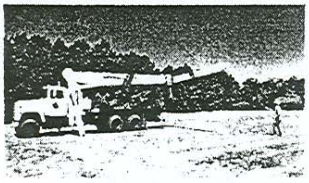
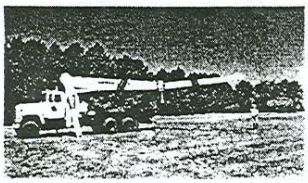
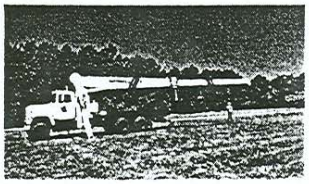
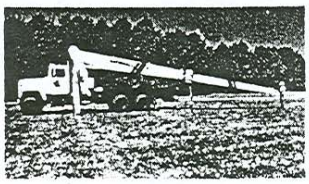
The National Series 800B is available with a choice of booms and jibs. One of these combinations is right for the work you do. Pick the telescoping boom you want, then add one of our jib options as a cost-efficient way to increase the capability and versatility of your Series 800B for long-reach, high-capacity jobs.

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

1. 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.
2. Always level the crane with the level indicator located on the crane frame.
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 this 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 lengths.

National Series 800B
Booms and Jibs



This sequence of photos shows how a National jib folds out into a working position.

856B Capacity*
(Metric equivalents shown in parentheses)

Radius	All Booms Retracted	Second Section Extended	Third Section Extended
5' (1.5m)	35,000 lbs. (15,876kg.)		
8' (2.4m)	21,000 lbs. (9,526kg.)	16,300 lbs. (7,394kg.)	
12' (3.7m)	16,200 lbs. (7,348kg.)	12,700 lbs. (5,761kg.)	11,000 lbs. (4,990kg.)
16' (4.9m)	13,100 lbs. (5,942kg.)	10,300 lbs. (4,672kg.)	9,000 lbs. (4,082kg.)
20' (6.1m)	10,600 lbs. (4,808kg.)	8,500 lbs. (3,856kg.)	7,400 lbs. (3,357kg.)
24' (7.3m)		7,450 lbs. (3,379kg.)	6,500 lbs. (2,948kg.)
28' (8.5m)		6,400 lbs. (2,903kg.)	5,600 lbs. (2,540kg.)
32' (9.8m)		5,500 lbs. (2,495kg.)	5,100 lbs. (2,313kg.)
36' (11.0m)		4,750 lbs. (2,155kg.)	4,550 lbs. (2,064kg.)
40' (12.2m)			4,100 lbs. (1,860kg.)
44' (13.4m)			3,650 lbs. (1,656kg.)
48' (14.6m)			3,250 lbs. (1,474kg.)
52' (15.9m)			2,800 lbs. (1,270kg.)
56' (17.1m)			2,600 lbs. (1,179kg.)

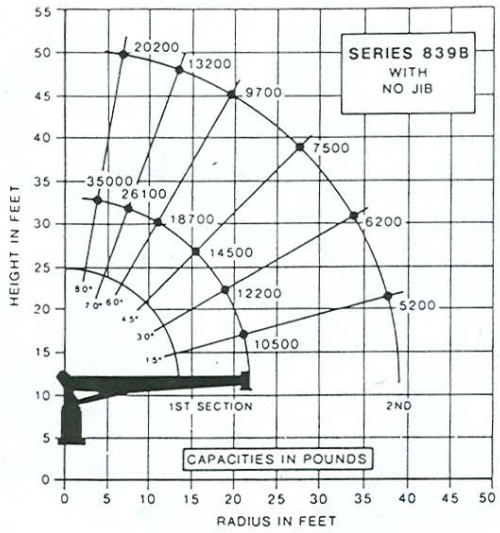
*Capacities shown are for the 856B with the load suspended; radius shown includes increase due to boom deflection. Capacities vary for cranes equipped with jibs or attachments. Consult factory for specific load rating information.

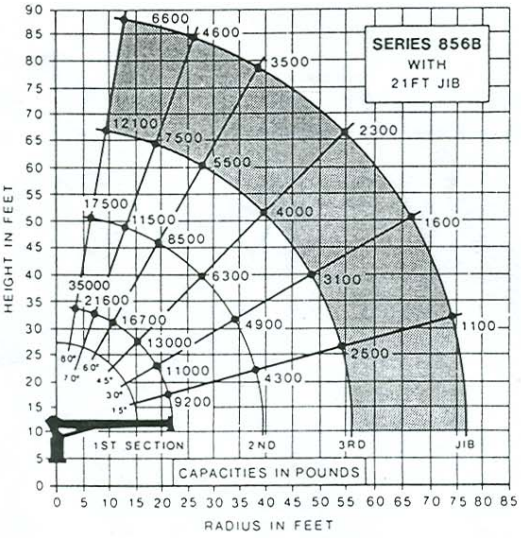
875B Capacity*
(Metric equivalents shown in parentheses)

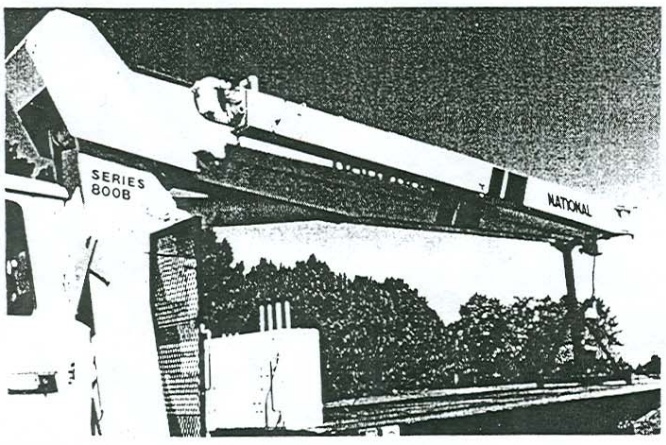
Radius	All Booms Retracted	Second Section Extended	Third Section Extended	Fourth Section Extended
5' (1.5m)	35,000 lbs. (15,876kg.)			
8' (2.4m)	23,250 lbs. (10,546kg.)	20,000 lbs. (9,072kg.)		
12' (3.7m)	18,050 lbs. (8,187kg.)	15,300 lbs. (6,940kg.)	13,000 lbs. (5,897kg.)	
16' (4.9m	14,000 lbs. (6,350kg.)	11,500 lbs. (5,216kg.)	10,500 lbs. (4,763kg.)	9,250 lbs. (4,196kg.)
20' (6.1m)	10,500 lbs. (4,763kg.)	8,800 lbs. (3,992kg.)	8,200 lbs. (3,720kg.)	7,900 lbs. (3,583kg.)
24' (7.3m)		7,450 lbs. (3,379kg.)	6,900 lbs. (3,130kg.)	6,500 lbs. (2,948kg.)
28' (8.5m)		6,150 lbs. (2,790kg.)	5,700 lbs. (2,586kg.)	5,400 lbs. (2,449kg.)
32' (9.8m)		5,200 lbs. (2,359kg.)	4,900 lbs. (2,223kg.)	4,750 lbs. (2,155kg.)
36' (11.0m)		4,150 lbs. (1,882kg.)	4,200 lbs. (1,905kg.)	4,100 lbs. (1,860kg.)
40' (12.2m)			3,500 lbs. (1,588kg.)	3,600 lbs. (1,633kg.)
44' (13.4m)			3,000 lbs. (1,361kg.)	3,150 lbs. (1,429kg.)
48' (14.6m)			2,500 lbs. (1,134kg.)	2,750 lbs. (1,247kg.)
52' (15.9m)			1,950 lbs. (885kg.)	2,300 lbs. (1,043kg.)
56' (17.1m)			1,400 lbs. (635kg.)	2,000 lbs. (907kg.)
60' (18.3m)				1,700 lbs. (771kg.)
64' (19.5m)				1,400 lbs. (635kg.)
68' (20.7m)				1,100 lbs. (499kg.)
72' (22.0m)				750 lbs. (340kg.)

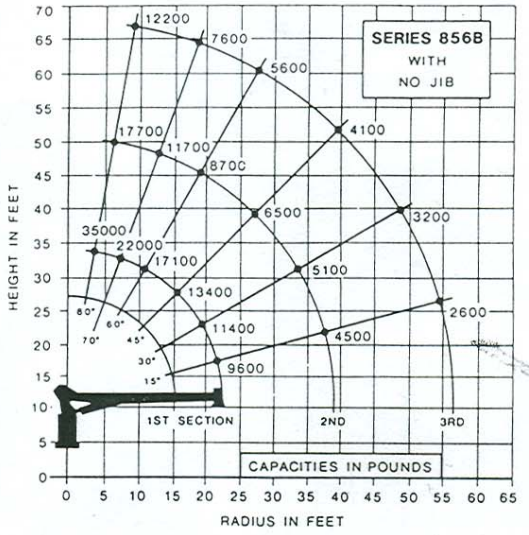
*Capacities shown are for the 875B with the load suspended; radius shown includes increase due to boom deflection. Capacities vary for cranes equipped with jibs or attachments. Consult factory for specific load rating information.

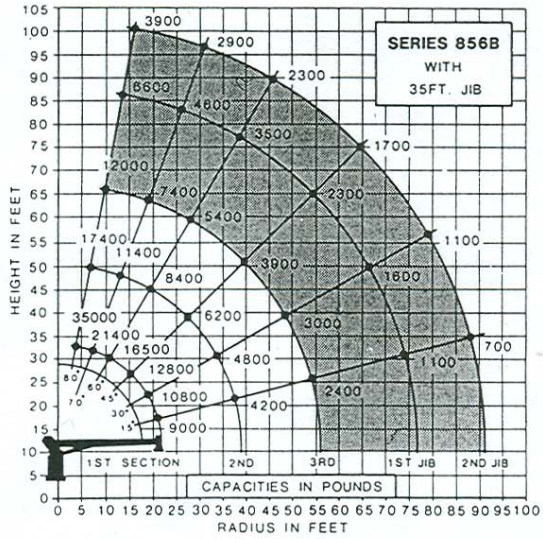
National Series 800B
Load Rating Charts

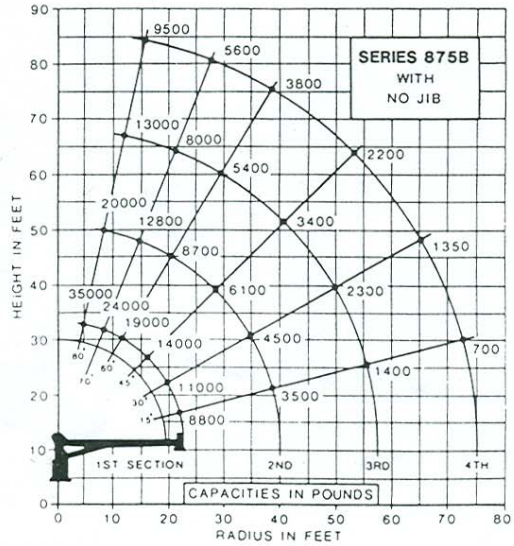




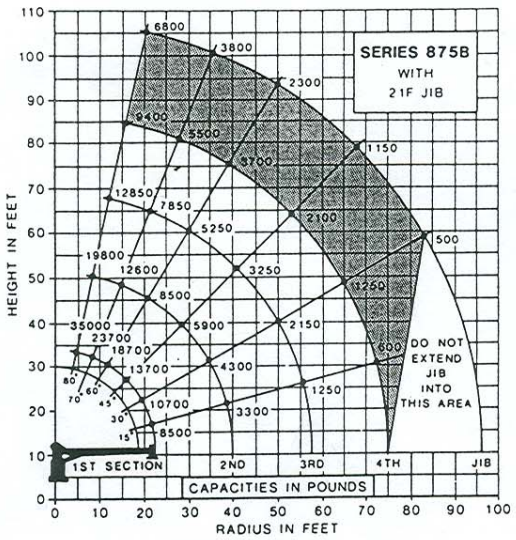


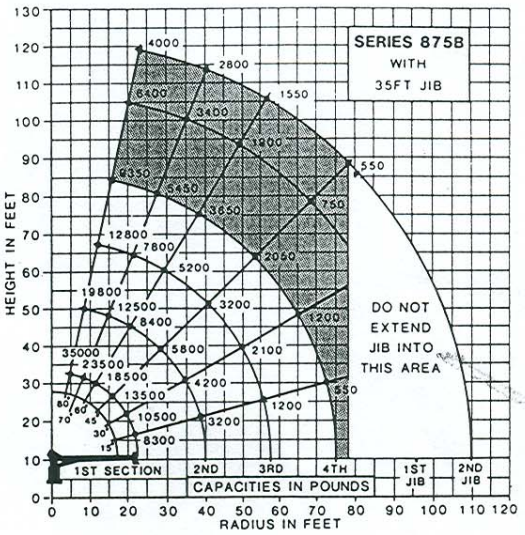


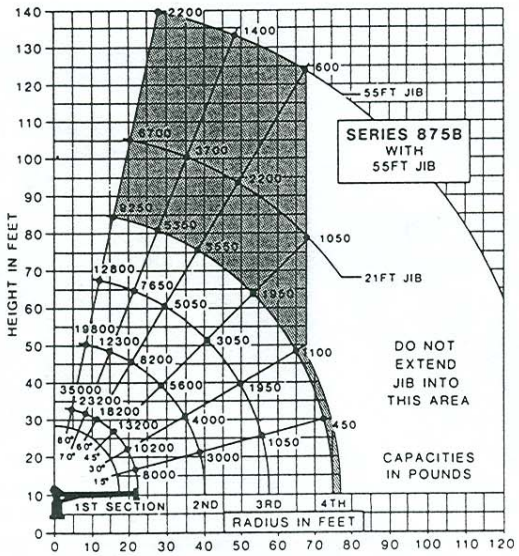


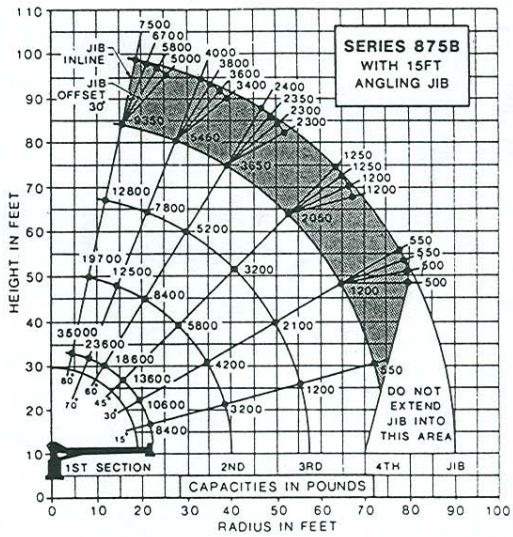


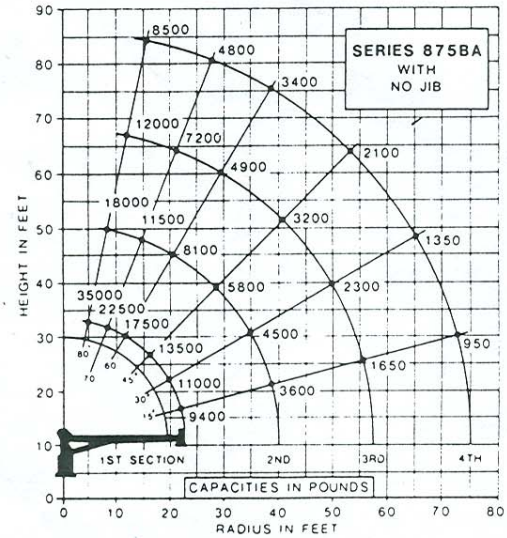
National Series 800B
Load Rating Charts

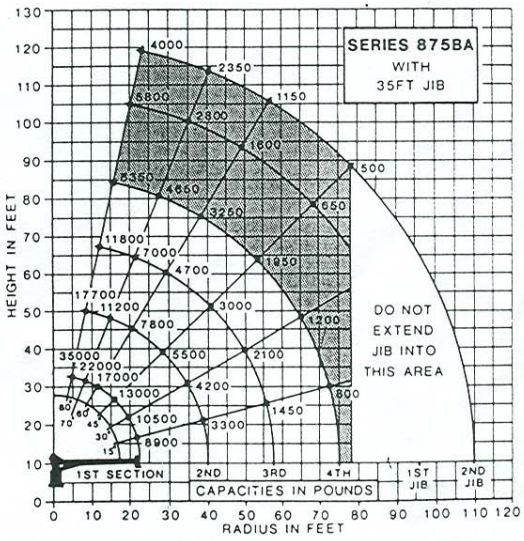


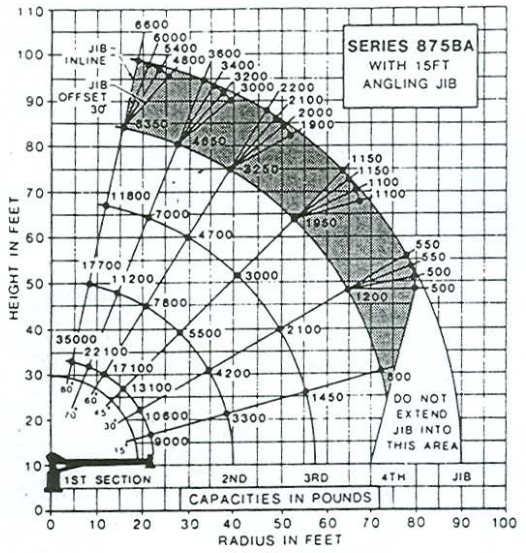


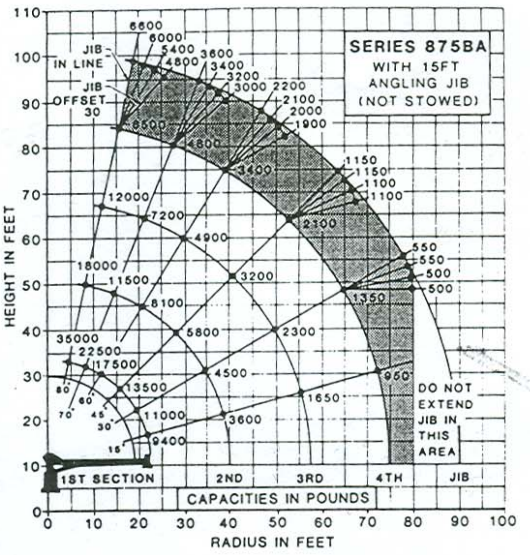












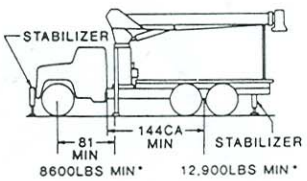
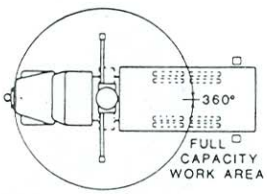
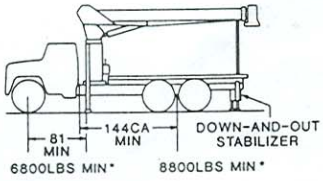
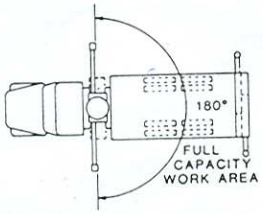
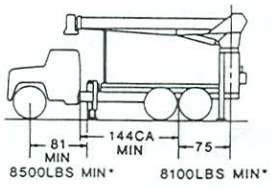
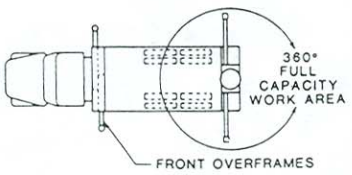
National Series 800B Winch Data

NATIONAL SERIES 800B			1 Part Line	2 Part Line	3 Part Line	4 Part Line	5 Part Line
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 the specified cable on this machine.							
Winch	**Cable Supplied**	**Average Breaking Strength**	**Lift and Speed**	**Lift and Speed**	**Lift and Speed**	**Lift and Speed**	**Lift and Speed**
Standard Planetary Winch	Standard 9/16" diameter rotation resistant	35,000 lbs.	Data applies to all 800B booms				
			7,000 lbs. 150 fpm	14,000 lbs. 75 fpm	21,000 lbs. 50 fpm	28,000 lbs. 37 fpm	35,000 lbs. 30 fpm
	Optional 9/16" diameter 6 x 25 IWRC	29,750 lbs.	*Applicable to the 875B boom. †Applicable to all other Series 800B booms. Speeds shown are the same for all Series 800B booms.				
			7,500 lbs.* 8,400 lbs.† 150 fpm	15,000 lbs.* 16,800 lbs.† 75 fpm	22,500 lbs.* 25,000 lbs.† 50 fpm	30,000 lbs.* 34,000 lbs.† 37 fpm	35,000 lbs.* 35,000 lbs.† 30 fpm
With Optional Burst-of-Speed Feature**	Same as corresponding cable data shown above.		3,000 lbs. 240 fpm	6,000 lbs. 120 fpm	9,000 lbs. 80 fpm	12,000 lbs. 60 fpm	15,000 lbs. 48 fpm

All winch pulls and speeds are shown on the third layer (the fourth layer on 875B). 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 cable safety factor. These are shown below:

Winch	Bare Drum Pull	Allowable Cable Pull
With standard rotation resistant rope	10,200 pounds	7,000 pounds
With optional 6 x 25 IWRC rope	10,200 pounds	8,400 pounds

**This feature is available with either the standard or optional cable. Ratings are based on intermittent use. High cycle applications may require optional oil cooler.

Configuration 2 with Torsion Box	Configuration 3 with Torsion Box	Configuration 4 with Torsion Box
This mount requires front stabilizers and additional counterweight in the underside of the bed for full capacity 360° around the truck. Care must be taken in truck selection. The front stabilizer gives the machine a solid base, helping the operator control the loads precisely. Requires front and rear stabilizers.	This configuration allows a mount behind the cab on a 12,000 pound diesel truck with no counterweights. Some counterweight is required when mount is on a gas truck. Requires **down-and-out hydraulic cross-frame rear stabilizers and the special rear-mount sub-base.**	The advantages of a rear-mounted Series 800B are: (1) allows the operator to effectively use the close-in work area to lift heavier loads; (2) 360° stability at full-rated load, and (3) front axle weight rating lower than the standard behind-the-cab mounts. Hydraulic out-and-down outriggers located behind the cab are necessary to keep the total weight of the unit to a minimum with full stability. Requires front overframes, special rear-mount sub-base, and bed with counterweight. Contact factory for complete information.
360°	180°	360°
16,000 lbs.	12,000 lbs.	16,000 lbs.
32,000 lbs.	32,000 lbs.	32,000 lbs.
222 inches	222 inches	222 inches
144 inches	144 inches	144 inches
32.0 inch³	32.0 inch³	32.0 inch³
15.9 inch³	15.9 inch³	15.9 inch³
15.0 inch³	15.0 inch³	32.0 inch³
13.0 inch³	13.0 inch³	15.9 inch³
8,600 lbs. minimum	6,800 lbs. minimum	8,500 lbs. minimum HO
12,900 lbs. minimum ASH	8,800 lbs. minimum HO	8,100 lbs. minimum HO
38,800 lbs.	34,800 lbs.	35,900 lbs.
 	 	 

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

National Boom Rests

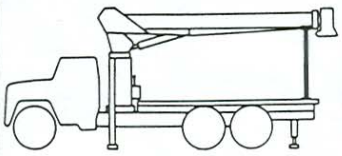
Cranes are tough when they're in use, but they can be severely damaged during travel from job to job. The only way a crane can be protected from this type of wear and damage is a strong, solid, boom rest.

Boom Rests

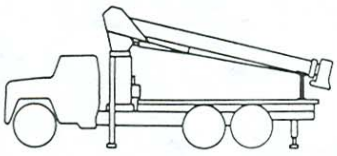
- Add years to the life of your crane
- Reduce stress on the crane frame
- Protect rotation gear from transit damage
- Remove stress from truck frame
- Spread crane load more evenly
- Reduce maintenance and downtime

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

National Crane supplies two 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.



Horizontal rear bed mount for greater load space



Low-profile rear bed mount for lower center of gravity

National Series 800B Truck Specifications

Mounting Configurations

The versatility of the Series 800B can be enhanced by the mounting configurations described at the right. The configurations are based on the 800B 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 Torision Box
	This configuration is the least expensive mounting method. This mount, with the crane mounted behind the truck cab, requires the least weight for stability, thus, you can haul larger payloads on your truck. Requires rear stabilizers and bed with counterweight.
Stable	180°
Gross Axle Weight Rating (GAWR), Front	16,000 lbs.
Gross Axle Weight Rating (GAWR), Rear	32,000 lbs.
Wheelbase (WB)	222 inches
Cab to axle/trunnion (CA/CT)	144 inches
Frame Section Modulus (SM) under crane 50,000 PSI	32.0 inch³
or 110,000 PSI	15.9 inch³
Frame Section Modulus (SM) over rear stabilizers 50,000 PSI	15.0 inch³
or 110,000 PSI	13.0 inch³
Stability Weight, Front	8,600 lbs. minimum
Stability Weight, Rear	12,900 lbs. minimum ASH
Estimated Average Final Weight	38,800 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) Air dryer option on truck is required for continuous rotation machines and recommended for all others.

(6) Air bag rear suspension is not acceptable.