



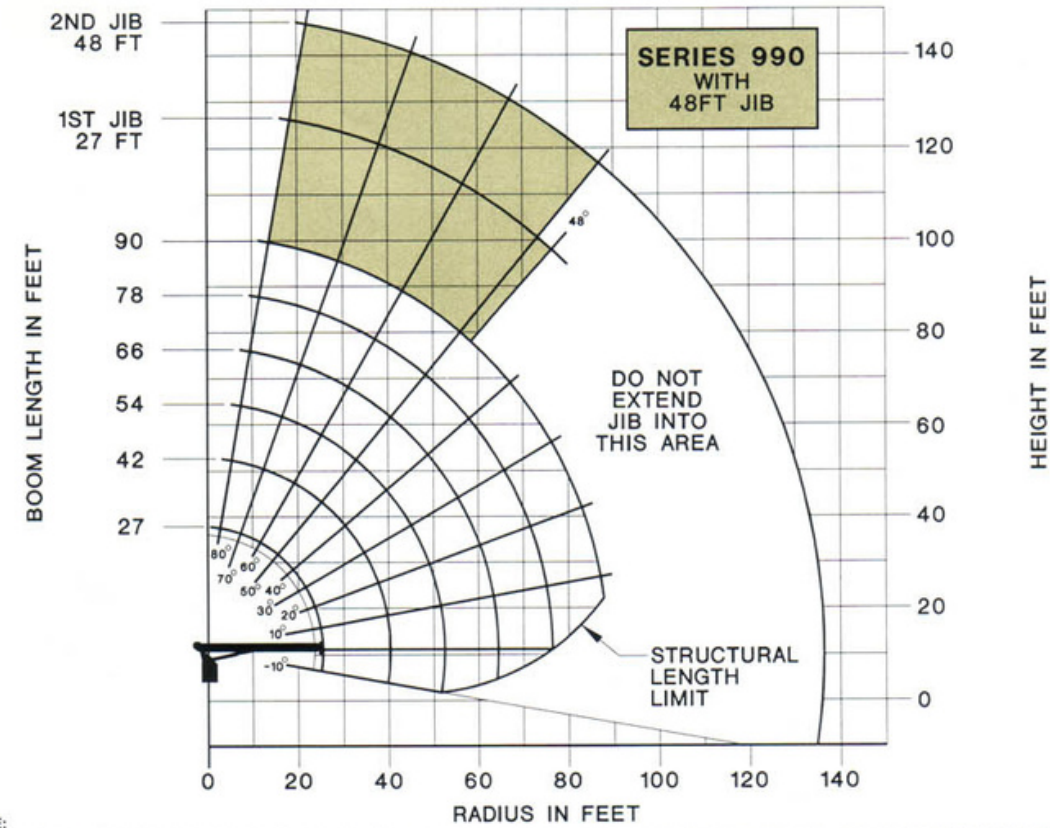
TITAN 21 TON

CERTIFICACIÓN DE: GRUA TELESCÓPICA
MARCA: NATIONAL CRANE
MODELO: 900
CAPACIDAD: 23 TON
AÑO: 2008
ASEGURADA Y CERTIFICADA



NATIONAL CRANE CORPORATION

876092



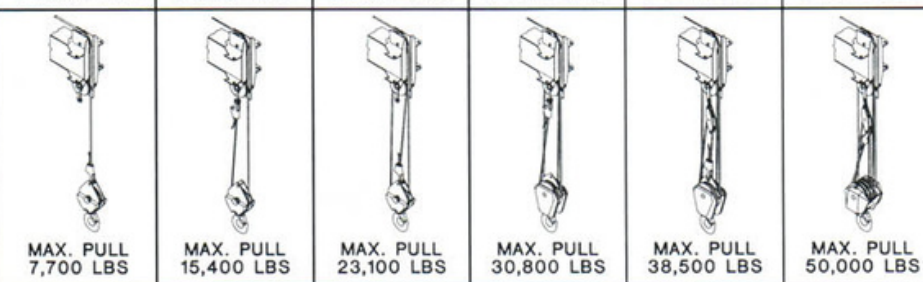
NOTE:
1. OPERATE WITH JIB BY RADIUS, WHEN MAIN BOOM IS FULLY EXTENDED. IF NECESSARY INCREASE BOOM ANGLE TO MAINTAIN LOADED RADIUS.
2. OPERATE WITH JIB BY BOOM ANGLE WHEN MAIN BOOM IS NOT FULLY EXTENDED. DO NOT EXCEED RATED JIB CAPACITIES AT ANY REDUCED BOOM LENGTHS.

LOAD RATINGS

LOAD RADIUS (FEET)	LOADED BOOM ANGLE	27FT BOOM (LBS)	LOADED BOOM ANGLE	42FT BOOM (LBS)	LOADED BOOM ANGLE	54FT BOOM (LBS)	LOADED BOOM ANGLE	66FT BOOM (LBS)	LOADED BOOM ANGLE	78FT BOOM (LBS)	LOADED BOOM ANGLE	90FT BOOM (LBS)
4.75	79.4	50,000										
5	79	46,000										
8	72	32,300										
10	67	26,700	76 1/2	23,500	80	22,000						
12	62	22,800	73 1/2	20,500	77 1/2	18,800						
14	57	19,800	70 1/2	17,700	75 1/2	16,400	79	15,200				
16	51	17,400	67 1/2	15,700	73 1/2	14,500	77	13,300	79 1/2	12,400		
20	37	13,800	61	12,700	68 1/2	11,700	73	10,800	76 1/2	10,000	79	9,500
25			52 1/2	10,100	62 1/2	9,400	68 1/2	8,700	72 1/2	8,000	75 1/2	7,800
30			43	8,250	56	7,800	63 1/2	7,100	68 1/2	6,500	72	6,100
35			30	6,550	49	6,400	58 1/2	6,000	64 1/2	5,450	68 1/2	5,100
40					41	5,400	53	5,100	60	4,650	65	4,400
45					31 1/2	4,400	47	4,400	55 1/2	4,000	61 1/2	3,800
50					17	3,100	40 1/2	3,650	51	3,500	57 1/2	3,250
55							32 1/2	3,000	45 1/2	3,000	53 1/2	2,800
60							22	2,250	40	2,500	49	2,400
65									33	2,050	44 1/2	2,050
70									25	1,550	39 1/2	1,700
75									11	700	34	1,350
80											27	1,000
85											17	500

*REQUIRES 6x25 WIRE ROPE OPTION

1 PART LINE 2 PART LINE 3 PART LINE 4 PART LINE 5 PART LINE 6 PART LINE

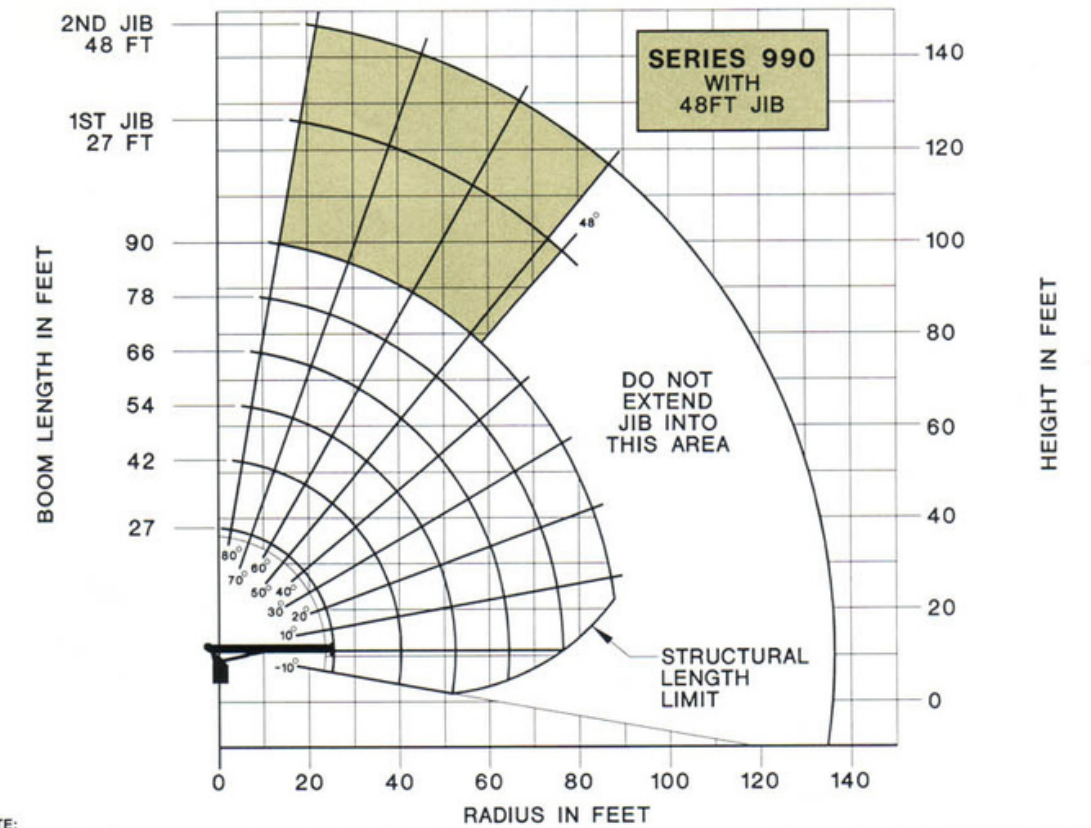


NOTICE

DO NOT DEADHEAD LINE BLOCK AGAINST BOOM TIP WHEN EXTENDING BOOM.
KEEP AT LEAST 3 WRAPS OF LOADLINE ON DRUM AT ALL TIMES.
USE ONLY 9/16" DIAMETER ROTATION RESISTANT CABLE WITH 38,500 LBS BREAKING STRENGTH ON THIS MACHINE.
MAXIMUM CAPACITY WITH "BURST OF SPEED" IS 3,000 LBS.

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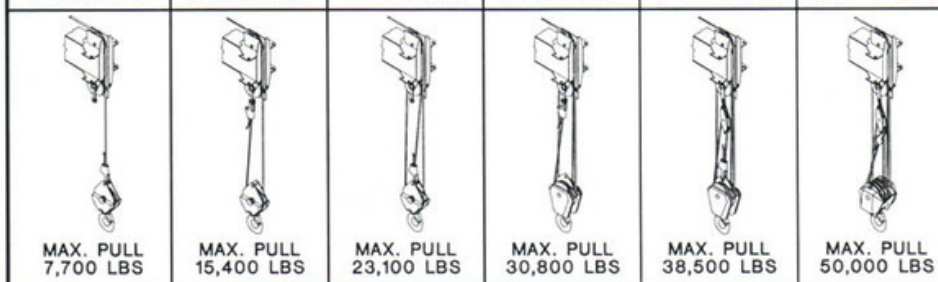
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NOTICE

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MAXIMUM CAPACITY WITH "BURST OF SPEED" IS 3,000 LBS.

Boom and Jib Combination

Series 900: 27 - 90 ft four section

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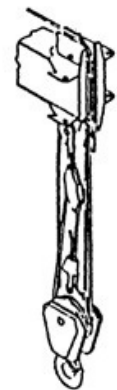
9FJ48M: 27 - 48 ft manual pull-out

Reaches to 146 feet
The Series 900 is currently available in the two configurations shown above
1 The Series 900 with the 27-90 ft four section boom
2 Same as above with optional side-stowing jib: Model 9FJ48M, 27 - 48 ft manual pull-out

Do not operate crane booms, jib extensions, any accessories, or loads within 10 feet (3m) of live power lines or other conductors of electricity.
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 900 WINCH DATA			1 Part Line	2 Part Line	3 Part Line	4 Part Line	5 Part Line	6 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 9/16" diameter rotation resistant cable with 38,500 pounds breaking strength on this machine - Maximum capacity with "Burst-of-Speed" is 3,000 pounds								
Winch	Cable Supplied	Average Breaking Strength	Lift and Speed	Lift and Speed	Lift and Speed	Lift and Speed	Lift and Speed	Lift and Speed
Standard Planetary Winch	9/16" diameter rotation resistant 19 x 7 IWRC	38,500 lbs	7,700 lbs 164 fpm	15,400 lbs 82 fpm	23,100 lbs 55 fpm	30,800 lbs 41 fpm	38,500 lbs 33 fpm	46,000 lbs 27 fpm
	Optional 9/16" diameter 6 x 25 IWRC	29,750 lbs	7,700 lbs 164 fpm	15,400 lbs 82 fpm	23,100 lbs 55 fpm	30,800 lbs 41 fpm	38,500 lbs 33 fpm	46,000 lbs 27 fpm
with "Burst-of-Speed" Feature	Same as corresponding cable data shown above		3,000 lbs 265 fpm	6,000 lbs 133 fpm	9,000 lbs 88 fpm	12,000 lbs 66 fpm	15,000 lbs 53 fpm	18,000 lbs 44 fpm

All winch pulls and speeds are shown on the fourth layer. Winch pulls would increase on the first, second and third layers. Winch line pulls would decrease on the first, second, and third 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	10,000 pounds	7,700 pounds
With optional 6 x 25 IWRC rope	10,000 pounds	8,400 pounds

Mounting Configurations

The versatility of the Series 900 can be enhanced by the mounting configurations described at the right. The configurations are based on the Series 900 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 Torsion Box

This configuration is the least expensive mounting method for the Series 900. This mount, with the crane mounted behind the truck cab, requires the least weight of all mounts for stability, thus, you can haul larger payloads on your truck. It requires standard subbase and rear (RSOD) stabilizers.

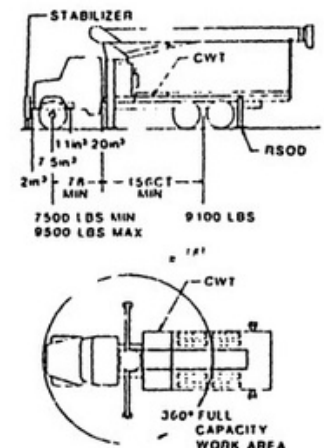
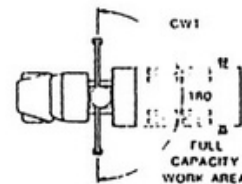
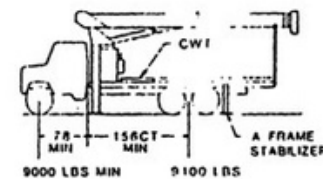
Configuration 2 with Torsion Box

This mount requires front stabilizers to give the machine full capacity 360° around the truck. Care must be taken in the selection of the truck. It must meet the minimum requirements shown below. The front stabilizer gives the machine a solid base, helping the operator control the loads precisely. Requires front and rear down-and-out stabilizers and a subbase. The truck frame must be made from 110,000 PSI steel. See "Truck Frame and Mounting Bolt Requirements for Front Stabilizer" statement on page 11. Contact the factory for details.

Stable	180°	360°
Gross Axle Weight Rating (GAWR), front	16,000 lbs	16,000 lbs
Gross Axle Weight Rating (GAWR), rear	34,000 lbs	34,000 lbs
Wheelbase (WB)	234 inches	234 inches
Cab to axle/trunnion (CA/CT)	156 inches	156 inches
Frame Section Modulus (SM) under crane 50,000 PSI or 110,000 PSI	35.0 inch ³ 15.9 inch ³	Not applicable (see note above) 20.0 inch ³
Frame Section Modulus (SM) over rear stabilizers: 50,000 PSI or 110,000 PSI	17.0 inch ³ 13.0 inch ³	Not applicable (see note above) 13.0 inch ³
Stability Weight, Front	7,500 lbs minimum *	7,500 lbs minimum *
Stability Weight, Rear	9,100 lbs minimum, RSOD *	9,100 lbs minimum, RSOD *
Estimated Average Final Weight	37,500 lbs	37,500 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) Diesel engines require variable speed governor and energize-to-run fuel solenoid for smooth crane operation.

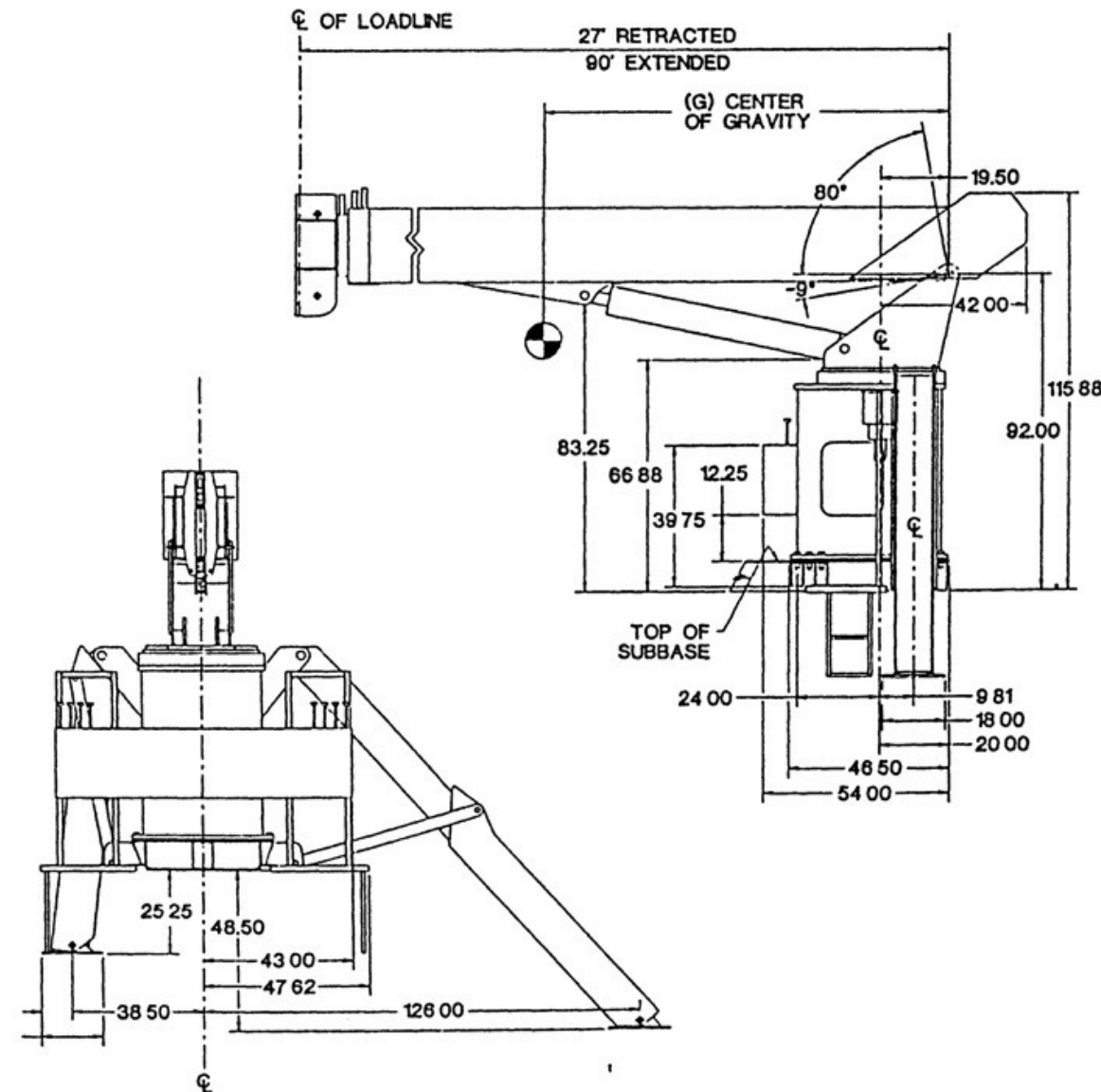
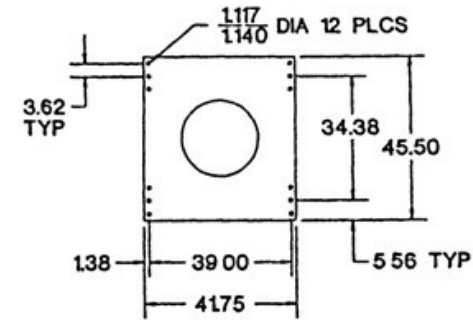


* Estimated axle scale weights prior to installation of crane, stabilizers, and subbase for 85% sta

Dimensional Specification

Series	Retracted Length	Extended Length	G	Dry* Wt/Lb	With Oil* Wt/Lb
990	27 ft	90 ft	98"	19,000*	19,800*

* Weight includes all items except RSOD (1200#)



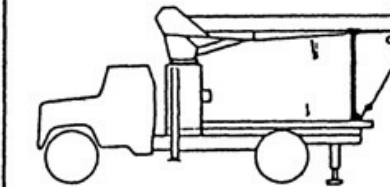
Cranes are tough when they're in use, but they can be severely damaged during travel from job to job. The only way a crane can be protected from this type of wear and damage is a strong, solid, boom rest.

Boom Rests

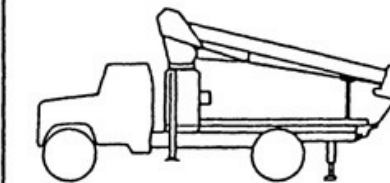
- Add years to the life of your crane
- Reduce stress on the crane frame
- Protect rotation gear from transit damage
- Remove stress from truck frame
- Spread crane load more evenly
- Reduce maintenance and downtime

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