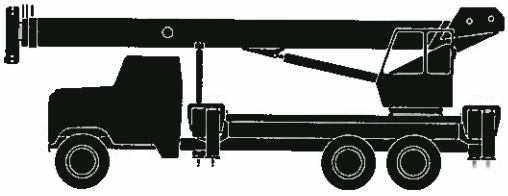
National Series 1200 Buyer's Guide

Truck-Mounted Telescoping Cranes and Accessories

Maximum Vertical Reach: 150 Feet (46.7 Meters)
Maximum Capacity at 10-Foot Radius: 35,000 Pounds (15.9 Metric Tons)



America's Truck-Mounted Hydraulic Crane Leader

NATIONAL SERIES 1200

Dear Crane User:

National Crane Corporation values your goodwill. We have developed our engineering, manufacturing, sales and service programs with you — our customer — in mind.

This Series 1200 Buyer's Guide provides you with technical data and other considerations that will give you an informational base to make a sound and sensible buying decision. We encourage you to compare the technologies, capabilities and other benefits that National Crane offers against those of competitive manufacturers. We are confident that when you are equipped with all of the facts, National will be your brand of preference.

Our extra-heavy-duty Series 1200 offers a vertical reach of 150 feet, a rated capacity of 35,000 pounds at a 10-foot radius, and a selection of optional equipment, adding versatility to the crane.

National has been in business, manufacturing truck-mounted hydraulic telescoping and articulating cranes, for a full quarter-century. We have earned our reputation for quality through performance — through sound, sensible engineering and the manufacture of durable, user-oriented cranes that meet the most stringent on-the-job demands. The new Nationals combine time-proven strengths and exciting new technologies that afford greater vertical reach than ever before, and more lift, particularly in areas where capacity really counts.

Our cranes are subjected to the industry's most demanding testing program. Each crane undergoes quality inspections at all levels of the manufacturing and assembly process. We like to think that National's emphasis on quality is a key reason our cranes have, traditionally, retained the highest market value among comparable products year after year.

We offer strong warranty protection. Moreover, when you buy a National, you receive support from our outstanding network of dealers. Working with National, they are responsive to your parts and repair requirements. National's emphasis on customer service and responsiveness is unexcelled in the industry.

For these, and other reasons, National is touted as America's truck-mounted crane leader. We hope that you will take your cue from the some 17,000 demanding users who have purchased Nationals over the past 25 years. Read the information that follows carefully. I am confident that you will be impressed.

Sincerely,

T. J. Urbanek

Ted Urbanek
President
National Crane Corporation

An extra-heavy-duty, hydraulic telescoping crane from National

National Series 1200

NATIONAL CRANE CORPORATION
To provide our customers with products where Quality and Reliability are integral with design and manufacturing.
COMMITMENT TO QUALITY

The National Testing Program

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.

Why buy a National Series 1200?

National Crane, America's truck-mounted hydraulic crane leader, manufactures an extensive line of telescoping and articulating cranes. The **Series 1200** is the product of National's field-proven know-how and pace-setting new technologies. Here are some of the reasons that you should "think National" when buying an extra-heavy-duty telescoping crane to serve your lifting needs:

- The National Series 1200 provides you with heavy-duty lifting power and extra-long hydraulic reach. The rated capacity is 35,000 pounds at a ten-foot radius. The 95-foot all-hydraulic, four-section boom reaches vertically to more than 100 feet (and to 150 feet with the optional 52-foot manual pull-out jib).
- The Series 1200 offers you field-proven quality, backed by National's more than 25 years of manufacturing excellence. Buy with confidence. Take your cue from the 17,000 demanding users who have put National cranes to the test over the past 25 years.
- Nationals are durable. Nearly 90% of all National cranes ever manufactured are working on the job today.
- The value of a National crane traditionally remains high year after year. The Series 1200 is a solid, enduring, cost-efficient investment.
- All National cranes, including the 1200, are subjected to the industry's most rigorous, demanding testing.
- The Series 1200 undergoes detailed inspections at all levels of manufacturing and assembly processes.
- All structural welders at National must pass AWS welder certifications.
- Component manufacturers are subjected to critical review by National's senior management before they can qualify as a supplier of National crane parts.
- Inspections of incoming material and components ensure that purchased items will perform as expected.
- Material certifications are maintained and steel composition is regularly verified.
- All tooling and instruments are calibrated and verified to ensure parts consistency.
- The Series 1200 is backed by strong warranty protection (covering defects in materials and workmanship for **six months** from the date of shipment).
- When you purchase a 1200, you get committed sales and service support from National's professional, well-trained nationwide dealer network.
- You receive responsive parts and repair service from your authorized National dealer and the factory. 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. Your needs are National's first concern.
- National's box-section boom design utilizes thicker top and bottom plates to enhance boom strength and thinner side plates to increase the crane capacity through lower boom weight.
- Proportional boom design provides more efficient boom weight distribution. This maximizes boom operational efficiency and allows higher capacities (particularly in normal working radii). The design permits minimum overlap to get the most reach with minimum retracted length for maneuverability. The use of cable (rather than chain) means longer service life and less maintenance.
- Large bolt-in wear pads are easier to replace and provide longer, more durable service.
- The sheave case is rigged with two sheaves on top and three underneath for easy, multiple-part reeving and to accommodate the optional auxiliary winch.
- An optional auxiliary planetary winch is available for use in picking lighter loads at higher speeds when the standard winch is rigged for heavy-load lifting at slower speeds with multi-part reeving.
- Boom pivot and hoist cylinder bearings provide longer life and lower maintenance.
- Control rods supported by nylon bearings permit smooth, low-maintenance operation of the crane.
- Rotation resistant cable provides tangle-free, multi-part loadline applications. It restricts wire rope spinning, resulting in better load control.
- National's standard anti-two-block system helps prevent cable damage when winching up or extending the boom without paying out the winch cable.
- The 1200's angle indicator, located on the cylinder barrel, is easy to read and readily visible. It allows the operator to determine the boom angle during crane operation.
- The 1200's standard high-performance planetary winch has roller bearings throughout and a highly efficient, axial piston motor to provide the smoothest and fastest winch operation that National has ever offered.
- One-, two- and three-part load blocks are standard.
- Two sets of hydraulic cross-frame outriggers, each with an 18½-foot span, provide solid stability.
- The 1200's rotation stop design eliminates the sudden stop on noncontinuous rotation machines by gradually slowing the rotation of the boom.
- The 100-gallon oil reservoir has dual spin-on return line filters, dirty filter indicator, oil level and temperature gauge, magnetic plug, clean-out, three suction strainers, and a diffuser.
- The aluminized hydraulic reservoir prevents the gathering of rust in the system, keeping the hydraulic oil clean.
- The outrigger and stabilizer hydraulic power is sufficient to allow the leveling of a fully-loaded truck and still not lock up in the air.

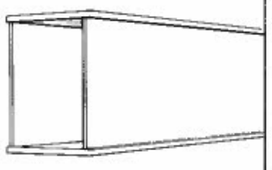
- The Series 1200 is equipped with a standard operator's cabin that rotates with the horizontal movement of the boom.
- A single station control console, housed in the operator's cab, has extra fine metering and low spool forces, directly coupled with adjustable levers for precise control of all crane functions.
- Outrigger controls are located at the rear of the crane.
- Horn, start/stop switches, a pressure gauge monitoring all crane functions, and foot and hand control throttles are located at the control station.
- The standard three-pump system isolates the winch and rotation functions from other crane functions to provide an independent operation capability.
- The 1200 provides a precise machine leveling indicator. The level bubble bracket is machined to be parallel with the turntable bearing to ensure the unit is level before operating the crane.
- Labeled control knobs make it easy for the operator to determine the function of each control.
- The pressure gauge on the operator's console permits the operator to monitor the hydraulic system pressure to ensure maximum performance.
- National's planetary rotation gear box design includes a hydraulic release brake and a "slip-through" feature that helps protect the rotation system against damage from accidental side loading.
- The turntable bearing full-circle bolt pattern provides longer bearing life due to uniform loads on the bearing.
- The Series 1200 can be mounted on standard, commercially available tandem rear-axle trucks. Installation on a high-powered commercial chassis provides unparalleled mobility.
- A subbase is available to eliminate truck reinforcing and, in some cases, counterweight (many diesel engine trucks require no counterweight).
- A standard horizontal, behind-the-cab boom rest reduces stress on the crane-frame and protects the crane from transit damage.
- A custom-built three-piece bed provides maximum flat payload area and operator mobility.
- The rear bumper complies to recommended DOT underride protection.
- A choice of accessories adds to the Series 1200's versatility.

National Series 1200

Strong Four-Plate Boom

Through computer aided design, National has removed weight from the Series 1200 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 1200 is equipped on all sides with large nylon wear pads impregnated with lubricants which provide a smooth, long-life operation. The wear resistance of the material used in the Series 1200 pads is unexcelled by competitive models.

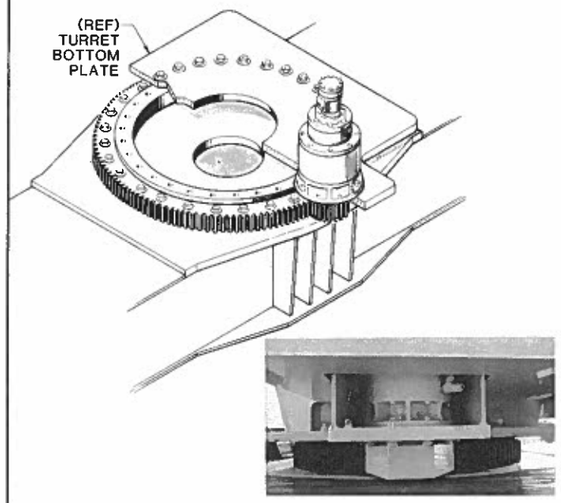


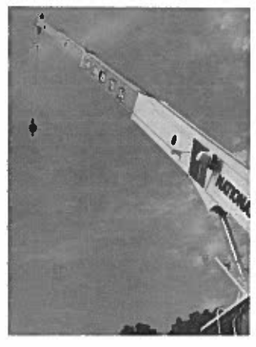
Proportional Boom Extension

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 mount holding valve.

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 gearbox and rotation bearing mounting surfaces are precision machined after welding. This ensures consistent tooth alignment for smooth rotation and low wear, even under maximum loads. The entire turret glides smoothly on a low inertia ball bearing race. Standard rotation is 375° noncontinuous.





Anti-Two-Block

The 1200 is equipped with a standard anti-two-block system. 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 system 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.

Multiple Part Reeving

The Series 1200 sheave case is rigged with two sheaves on top and three underneath for easy multiple part reeving and to accommodate the optional auxiliary winch. One, two, and three part load blocks are standard. Four and five part load blocks, for greater lifting capacities while using the winch, are optional.

High Performance Planetary Winch

Every Series 1200 comes standard with a high performance planetary gear winch with roller bearings throughout and highly efficient, axial piston motor to provide the smoothest and fastest winch operation National has ever offered. This two-speed winch is filled with our largest diameter cable — 9/16". See the winch data chart on page nine for further information.

Easy Service, Low Downtime

The Series 1200 is designed with boom access holes for serviceability. Valves are positioned for convenient accessibility and servicing. Oil filters and reservoir are located externally to enhance maintenance.

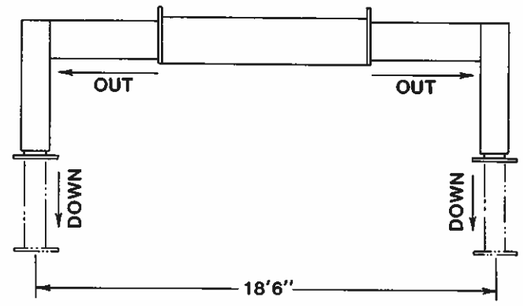
Operator's Cabin

A deluxe, spacious, well-ventilated operator's cabin that rotates with horizontal boom movement is standard on the Series 1200. The cabin design provides for constant forward vision of the boom hook and load. It features safety-glass windows on all four sides of the cab and an impact-resistant, durable Lexan window above the cab for excellent upward visibility. The Lexan top lifts up for ventilation. Other features include a sliding door, front windshield wiper, dome light, circulation fan, optional heater and defroster system, and a cushioned adjustable seat that can be easily positioned for comfort.

The cabin houses the control console, the horn, start/stop switches, a pressure gauge monitoring all functions, and foot and hand control throttles.

Wide Stance

The Series 1200 is equipped with two sets of hydraulic, out-and-down, cross-frame outriggers. Each has a wide 18½ foot (5.64m) span, affording solid stability. The outriggers retract smoothly, without binding under load. Outrigger controls are located at the rear of the crane. A precision-mounted level indicator aids the operator in leveling the unit during the set-up procedure.



Standard Commercial Truck Mounting

The Series 1200 mounts on standard, commercially available tandem rear axle trucks, yet it meets DOT and stability standards with ease. The crane, not the truck, takes most of the stress. That's the kind of engineering that adds up to lower investment and longer truck life. Procedures allow for the crane to be easily mounted. A subbase is supplied to eliminate truck reinforcing and, in most cases, counterweight (many diesel engine trucks require no counterweight). Installation on a high-power commercial chassis provides unparalleled mobility.

Payload Area

A 9½-foot deck area is provided for material handling and transport. The deck area is minimally restricted by the boom tailswing when the machine is rotated to the rear quadrant.

National Series 1200

National Series 1200 Boom and Jib

Precise Controls

The Series 1200 is equipped with a single station control console. Extra-fine metering and low spool forces coupled with adjustable levers provide smooth, precise, fingertip control of crane functions and foot control of telescope functions. Control rods are supported by nylon bearings, promoting smooth operation and serviceability. A horn, start/stop switches, a pressure gauge monitoring all functions and a foot and hand control throttle are located at the control station in the operator's cabin. Outrigger controls are located at the rear of the crane.

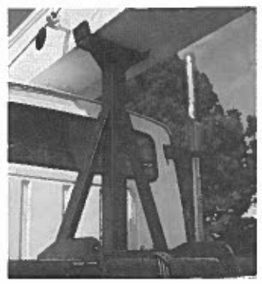
Cranes are tough when in use, but they can be severely damaged during travel from job to job. The only way a crane can be protected from this type of wear and damage is a strong, solid, boom rest.

A Boom Rest will:

- 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 down time

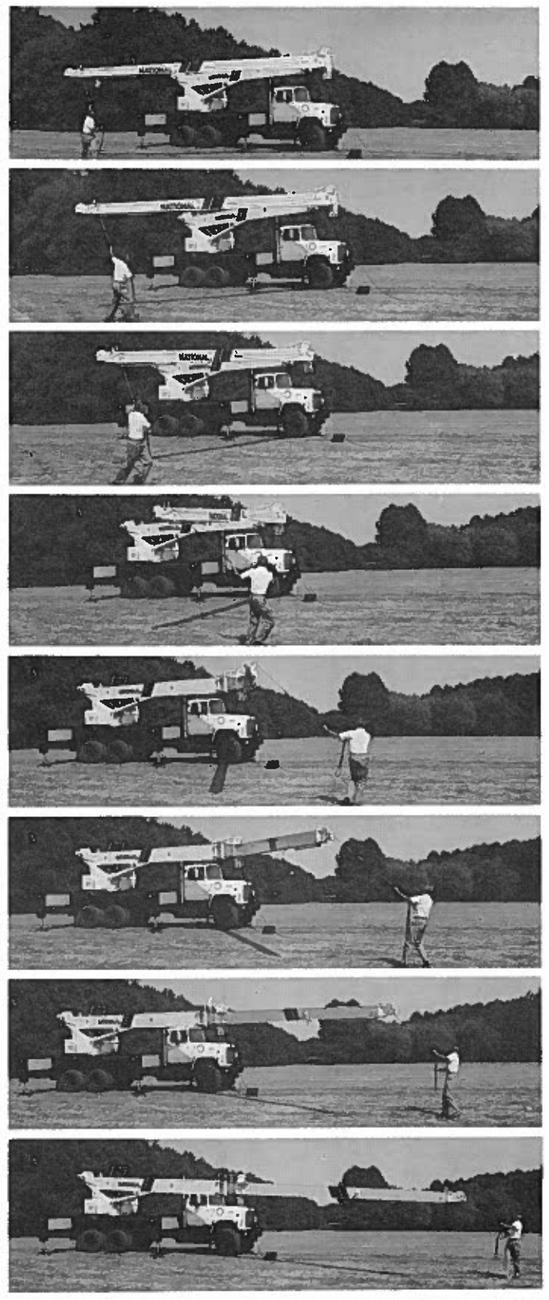
In addition, a boom rest is required to provide a positive way to immobilize your crane for transit.

National Crane supplies a heavy-duty, behind-the-cab boom rest for strong, sure protection of your Series 1200. All National cranes must be fitted with a boom rest. All factory mounted cranes will be supplied with a boom rest.



Angle Indicator

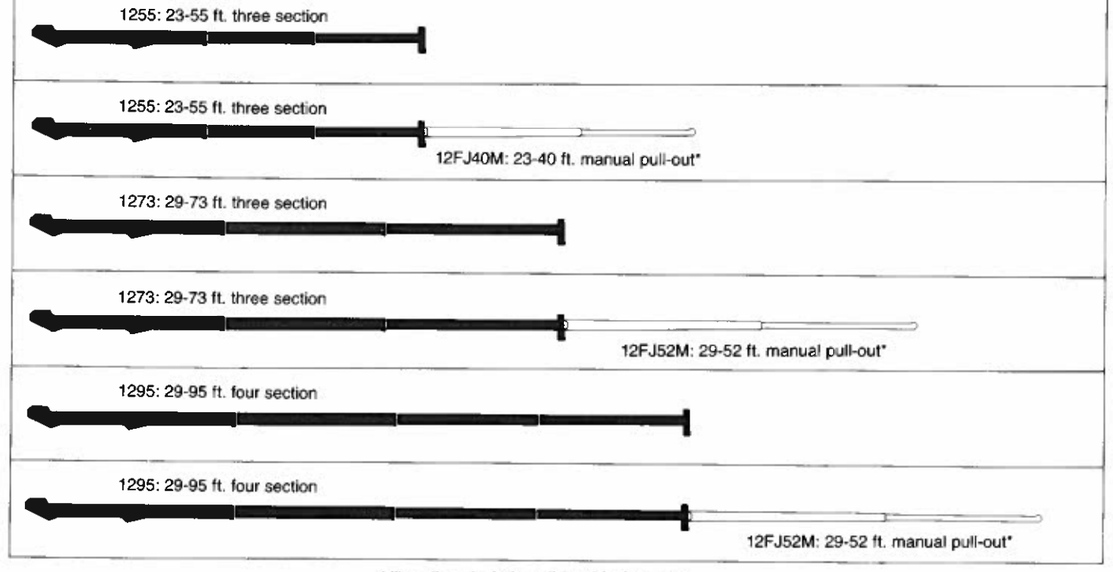
The Series 1200 angle indicator is located on the cylinder barrel and is readily visible, at all boom angles, from the operator's station. The positive movement of the boom lift cylinder and the wide spacing of the angle markings make the indicator exceptionally easy to read.



The sequence of photos above shows how the National 1200 29-52 foot jib folds out into a working position.

The Series 1200 is available in three boom lengths and with optional jibs as shown in the chart below.

Boom and Jib Combinations

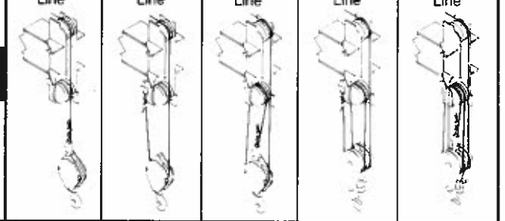


*Jib options include anti-two-block system.

NATIONAL SERIES 1200 WINCH DATA

DANGER

- Do not deadhead lineblock 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	High Speed and Low Pull				
			1 Part	2 Part	3 Part	4 Part	5 Part
Standard Planetary Winch & Auxiliary Winch	9/16" diam. 19,x 7 IWRC	35,000 lbs.	350 fpm 4,100 lbs.	175 fpm 8,200 lbs.	117 fpm 12,300 lbs.	88 fpm 16,400 lbs.	70 fpm 20,500 lbs.
			Low Speed and High Pull				
			1 Part	2 Part	3 Part	4 Part	5 Part
			200 fpm 7,000 lbs.	100 fpm 14,000 lbs.	67 fpm 21,000 lbs.	50 fpm 28,000 lbs.	40 fpm 35,000 lbs.

All winch pulls and speeds are shown on the fourth layer. Winch pulls would increase on the first, second and third layers. Winch line speeds would decrease on the first, second, and third layers. Winch line pulls may be limited by the winch capacity or the ANSI 5 to 1 cable safety factor. These are shown below:

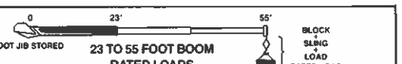
Winch	Bare Drum Pull	Allowable Cable Pull
Standard planetary & Auxiliary planetary	5,270 pounds (high speed) 9,000 pounds (low speed)	7,000 pounds

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

1. Load ratings shjown on the following load rating 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 at the outrigger control station.
3. The operator must reduce loads to allow for factors such as wind, ground conditions, operating speeds and the effect of freely swinging 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 1255
Load Rating Charts

The 1255 is equipped with a 23- to 55-foot, fully hydraulic, three-section proportional boom offering a 62-foot vertical reach. The 40-foot manual pull-out jib extends the vertical reach to 102 feet. Note the load rating data on the charts below.



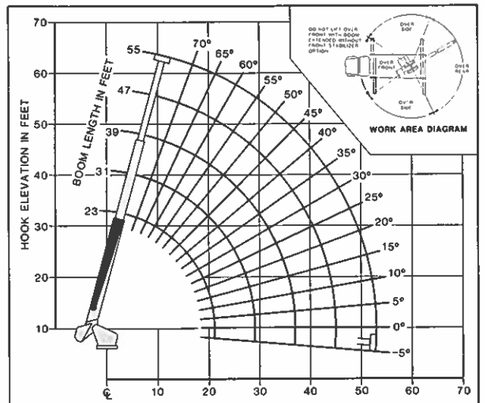
23 TO 40 FOOT JIB STORED

23 TO 55 FOOT BOOM RATED LOADS

LOAD RADIUS	LOADED BOOM ANGLE	OVER SIDE	OVER REAR	LOADED BOOM ANGLE	OVER SIDE	OVER REAR	LOADED BOOM ANGLE	OVER SIDE	OVER REAR	LOADED BOOM ANGLE	OVER SIDE	OVER REAR
	23' BOOM LENGTH			31' BOOM LENGTH			39' BOOM LENGTH			47' BOOM LENGTH		
10'	59	35,000	35,000	67°½	35,000	35,000	72°½	34,300	34,300			
15'	42	25,500	25,500	57°½	25,500	25,500	64°½	24,700	24,700	69	24,000	24,000
20'	13	14,500	14,500	44°½	19,100	19,100	56	19,000	19,000	62°½	18,500	18,500
25'				28°½	14,200	14,200	46	15,200	15,200	55	15,000	15,000
30'							34°½	12,100	11,300	47	11,700	11,500
35'							16°½	8,300	8,300	37°½	9,200	9,200
40'										26	7,000	7,600
45'										0	3,300	3,300
50'												

LOAD RADIUS	55' BOOM LENGTH		
10'			
15'	72°½	23,000	23,000
20'	67	17,900	17,900
25'	61	14,600	14,600
30'	55	12,400	11,600
35'	48	9,100	9,200
40'	40°½	7,300	7,700
45'	31	5,900	6,400
50'	18	4,900	5,400

NOTE 1 ALL CAPACITIES IN POUNDS, ANGLES IN DEGREES, RADIUS IN FEET
2 LOADED BOOM ANGLES ARE GIVEN AS REFERENCE ONLY
3 SHADED AREAS ARE STRUCTURALLY LIMITED CAPACITIES



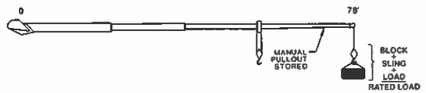
OPERATING RADIUS FROM ℄ ROTATION IN FEET WITH UNLOADED BOOM.

SET-UP:
1. Fully extend and set outriggers and level crane.
2. 23 to 40 ft. jib stored on side of main boom.

OPERATION:
1. The 23 ft. boom length capacities are based on boom fully retracted. If not fully retracted, do not exceed 31 ft. boom length capacities.

WINCH DATA

	1 PART	2 PART	3 PART	4 PART	5 PART
MAX WINCH CAPACITY	7,000 lb	14,000 lb	21,000 lb	28,000 lb	35,000 lb
MAX BOOM LENGTH AT 75° WITH LOAD BLOCK AT GROUND LEVEL	—	—	—	—	46 ft



23 FOOT JIB RATED LOADS

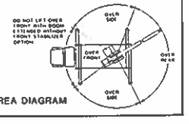
LOAD RADIUS (FEET)	LOADED BOOM ANGLE (DEGREES)	OVER SIDE (lb)	OVER REAR (lb)
19	74°	6700	6700
24	70°	6350	6350
31	65°	5950	5950
38	60°	5200	5200
43	55°	4700	4700
49	50°	4250	4250
54	45°	3850	3850
58	40°	3400	3450
62	35°	3050	3200
66	30°	2650	3000

SHADED AREAS ARE STRUCTURALLY LIMITED CAPACITIES

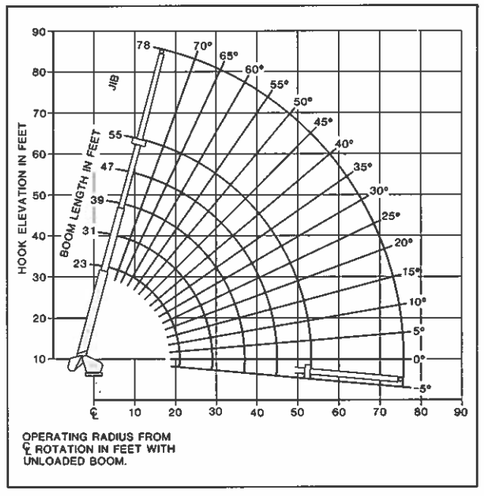
Capacities shown are with 400-pound block rigged on main boom. If 200-pound block is rigged on main boom, add 150 pounds to capacities shown. If no block is rigged on main boom, add 300 pounds to capacities shown.

SET UP
1. Fully extend outriggers and level crane.
2. Rig jib as shown in the operators manual.

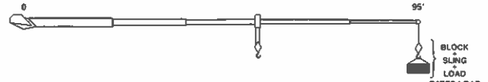
OPERATION
1. Operate with jib by radius, when main boom is fully extended. If necessary increase boom angle to maintain loaded radius.
2. Operate with jib by boom angle when main boom is not fully extended. Do not exceed rated jib capacities at any reduced boom lengths.
3. All jib loads must be lifted with single part reeving.



WORK AREA DIAGRAM



OPERATING RADIUS FROM ℄ ROTATION IN FEET WITH UNLOADED BOOM.



40 FOOT JIB RATED LOADS

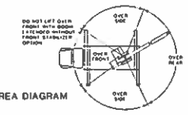
LOAD RADIUS (FEET)	LOADED BOOM ANGLE (DEGREES)	OVER SIDE (lb)	OVER REAR (lb)
24	74°	4700	4700
31	70°	3800	3800
39	65°	3200	3200
46	60°	2750	2750
53	55°	2350	2350
60	50°	2100	2100
65	45°	1900	1900
71	40°	1750	1750
76	35°	1800	1600
81	30°	1500	1500

SHADED AREAS ARE STRUCTURALLY LIMITED CAPACITIES

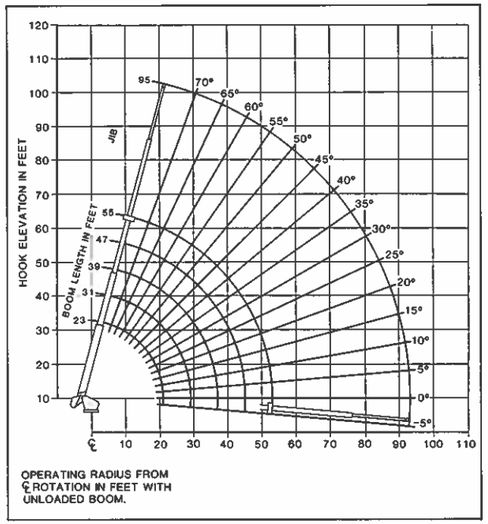
Capacities shown are with 400-pound block rigged on main boom. If 200-pound block is rigged on main boom, add 150 pounds to capacities shown. If no block is rigged on main boom, add 250 pounds to capacities shown.

SET UP
1. Fully extend outriggers and level crane
2. Rig jib as shown in the operators manual

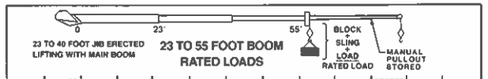
OPERATION
1. Operate with jib by radius, when main boom is fully extended. If necessary increase boom angle to maintain loaded radius.
2. Operate with jib by boom angle when main boom is not fully extended. Do not exceed rated jib capacities at any reduced boom lengths.
3. All jib loads must be lifted with single part reeving.



WORK AREA DIAGRAM



OPERATING RADIUS FROM ℄ ROTATION IN FEET WITH UNLOADED BOOM.



23 TO 40 FOOT JIB ERECTED LIFTING WITH MAIN BOOM

23 TO 55 FOOT BOOM RATED LOADS

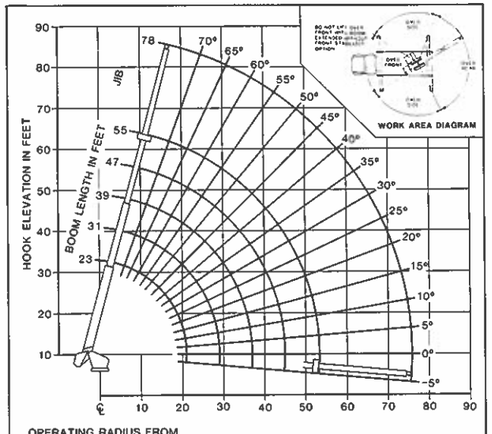
LOAD RADIUS	LOADED BOOM ANGLE	OVER SIDE	OVER REAR	LOADED BOOM ANGLE	OVER SIDE	OVER REAR	LOADED BOOM ANGLE	OVER SIDE	OVER REAR	LOADED BOOM ANGLE	OVER SIDE	OVER REAR
	23' BOOM LENGTH			31' BOOM LENGTH			39' BOOM LENGTH			47' BOOM LENGTH		
10'	59	33,000	33,000	67°½	33,200	33,200	72°½	32,600	32,600			
15'	42	23,500	23,500	57°½	23,700	23,700	64°½	23,000	23,000	69	22,400	22,400
20'	13	12,500	12,500	44°½	17,300	17,300	56	17,300	17,300	62°½	16,900	16,900
25'				28°½	12,400	12,400	46	13,500	13,500	55	13,400	13,400
30'							34°½	10,400	9,600	47	10,100	9,900
35'							16°½	6,600	6,600	37°½	7,600	7,600
40'										26	5,400	6,000
45'										0	1,700	1,700
50'												

LOAD RADIUS	55' BOOM LENGTH		
10'			
15'	72°½	21,500	21,500
20'	67	16,400	16,400
25'	61	13,100	13,100
30'	55	10,900	10,100
35'	48	7,600	7,700
40'	40°½	5,800	6,200
45'	31	4,400	4,900
50'	18	3,400	3,900

NOTE: 1. ALL CAPACITIES IN POUNDS, ANGLES IN DEGREES, RADIUS IN FEET
2 LOADED BOOM ANGLES ARE GIVEN AS REFERENCE ONLY
3 SHADED AREAS ARE STRUCTURALLY LIMITED CAPACITIES

SET-UP:
1. Fully extend outriggers and level crane
2. 23 to 40 foot jib pinned on boom tip (at 23 foot length) with 150 lb. downhaul weight freely suspended over jib tip.

OPERATION:
1. Capacities shown are maximum rated loads lifted at the boom tip with the main winch. The 23 foot jib is deployed with the 150 lb. downhaul weight rigged on the auxiliary winch line and freely suspended. DO NOT ATTEMPT ANY LIFT WITH BOTH BLOCKS.
2. When telescoping boom, lower both blocks to avoid two-blocking.
3. 23 foot boom length capacities are based on fully retracted boom.



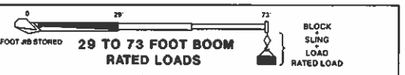
OPERATING RADIUS FROM ℄ ROTATION IN FEET WITH UNLOADED BOOM.

WINCH DATA

	1 PART	2 PART	3 PART	4 PART	5 PART
MAX WINCH CAPACITY	7,000 lb	14,000 lb	21,000 lb	28,000 lb	35,000 lb
MAX BOOM LENGTH AT 75° WITH LOAD BLOCK AT GROUND LEVEL	—	—	—	—	46 ft

National Series 1273
Load Rating Charts

The 1273 is equipped with a 29- to 73-foot, fully hydraulic, three-section proportional boom offering an 80-foot vertical reach. The 52-foot manual pull-out jib extends the vertical reach to 130 feet. Note the load rating data on the charts below.

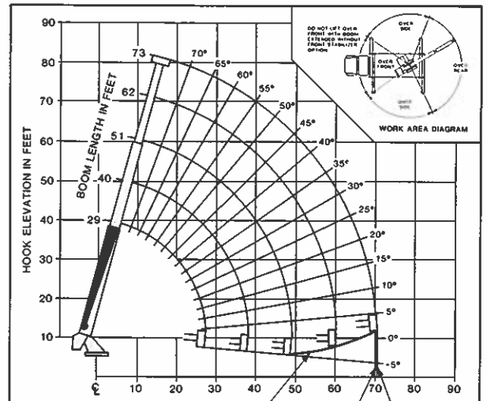


29 TO 73 FOOT BOOM RATED LOADS

LOAD RADIUS	LOADED BOOM ANGLE	OVER SIDE	OVER REAR	LOADED BOOM ANGLE	OVER SIDE	OVER REAR	LOADED BOOM ANGLE	OVER SIDE	OVER REAR	LOADED BOOM ANGLE	OVER SIDE	OVER REAR
	29' BOOM LENGTH			40' BOOM LENGTH			51' BOOM LENGTH			62' BOOM LENGTH		
10'	67	35,000	35,000	73°½	32,200	32,200						
15'	55	24,000	24,000	65°½	23,200	23,200	71°½	22,300	22,300			
20'	41	17,600	17,600	57	17,600	17,600	65°½	17,000	17,000	70°½	16,400	16,400
25'	21	11,600	11,600	48	14,000	14,000	59	13,700	13,700	65°½	13,300	13,300
30'				37	11,100	11,100	52	11,300	11,300	60	11,000	11,000
35'				22	7,700	7,700	44	9,000	9,000	54°½	9,000	9,150
40'							35	7,150	7,200	48°½	7,400	7,350
45'							23	5,600	5,600	41°½	5,850	6,050
50'										34	4,700	5,050
55'										24	3,800	4,000

	73' BOOM LENGTH	
20'	74	16,000	16,000
25'	70	12,900	12,900
30'	65°½	10,700	10,700
35'	61	9,000	8,800
40'	56°½	7,500	7,500
45'	51°½	5,950	6,200
50'	46	4,850	5,150
55'	40	3,950	4,300
60'	33	3,200	3,600
65'	24°½	2,600	3,000
70'	10	1,400	1,400

NOTE
1 ALL CAPACITIES IN POUNDS, ANGLES IN DEGREES, RADIUS IN FEET
2 LOADED BOOM ANGLES ARE GIVEN AS REFERENCE ONLY
3 SHADED AREAS ARE STRUCTURALLY LIMITED CAPACITIES



OPERATING RADIUS FROM ℄ ROTATION IN FEET WITH UNLOADED BOOM.

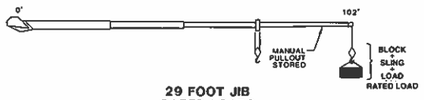
DO NOT MOVE UNLOADED BOOM BEYOND LIMIT LINE

SET-UP:
1. Fully extend and set outriggers and level crane.
2. 29 to 52 ft. jib stored on side of main boom.

OPERATION:
1. The 29 ft. boom length capacities are based on boom fully retracted. If not fully retracted, do not exceed 40 ft. boom length capacities.
2. Do not extend unloaded boom with block beyond no load stability limit line on range chart as loss of stability may occur. A 400 lb. main block has been considered

WINCH DATA

	1 PART	2 PART	3 PART	4 PART	5 PART
MAX. WINCH CAPACITY	7,000 lb	14,000 lb	21,000 lb	28,000 lb	35,000 lb
MAX. BOOM LENGTH AT 75° WITH LOAD BLOCK AT GROUND LEVEL	125 ft.	73 ft.	73 ft.	57 ft.	46 ft



29 FOOT JIB RATED LOADS

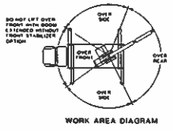
LOAD RADIUS (FEET)	LOADED BOOM ANGLE (DEGREES)	OVER SIDE (lb)	OVER REAR (lb)
28	74°	5200	5200
35	70°	4200	4200
43	65°	3250	3550
51	60°	1950	2300
58	55°	1200	1550
65	50°		1000

SHADED AREAS ARE STRUCTURALLY LIMITED CAPACITIES

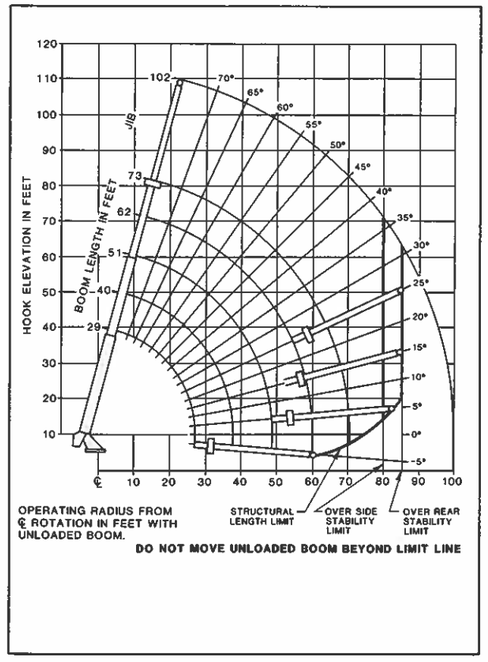
Capacities shown are with 400-pound block rigged on main boom. If 200-pound block is rigged on main boom, add 150 pounds to capacities shown. If no block is rigged on main boom, add 300 pounds to capacities shown.

SET UP
1. Fully extend outriggers and level crane.
2. Rig jib as shown in the operators manual.

OPERATION
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.
3. Do not extend unloaded boom beyond stability limit rade shown on range diagram, as loss of stability may occur rapidly and without warning. A 400 lb. main block and 150 lb. downhaul weight have been considered.
4. All jib loads must be lifted with single part reeving.



WORK AREA DIAGRAM



OPERATING RADIUS FROM ℄ ROTATION IN FEET WITH UNLOADED BOOM.

DO NOT MOVE UNLOADED BOOM BEYOND LIMIT LINE

52 FOOT JIB RATED LOADS

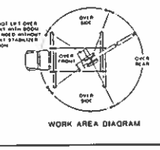
LOAD RADIUS (FEET)	LOADED BOOM ANGLE (DEGREES)	OVER SIDE (lb)	OVER REAR (lb)
36	74	2800	2800
44	70	2400	2400
54	65	2000	2000
63	60	1400	1600
72	55	800	1100

SHADED AREAS ARE STRUCTURALLY LIMITED CAPACITIES

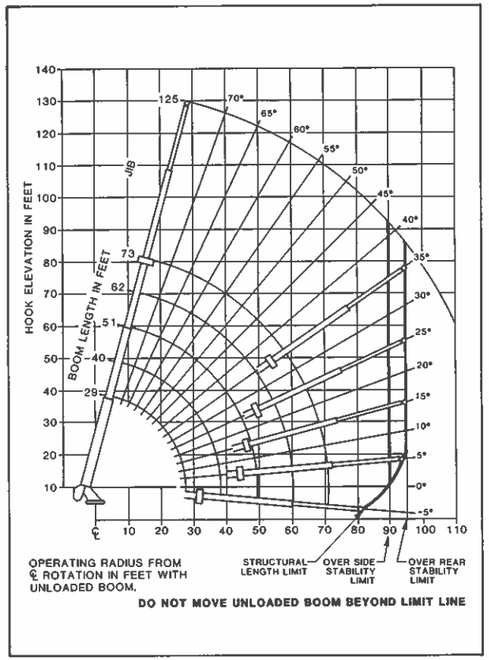
Capacities shown are with 400-pound block rigged on main boom. If 200-pound block is rigged on main boom, add 100 pounds to capacities shown. If no block is rigged on main boom, add 200 pounds to capacities shown

SET UP
1. Fully extend outriggers and level crane
2. Rig jib as shown in the operators manual

OPERATION
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
3. Do not extend unloaded boom beyond stability limit rade shown on range diagram, as loss of stability may occur rapidly and without warning. A 400 lb. main block and 150 lb. downhaul weight have been considered.
4. All jib loads must be lifted with single part reeving.

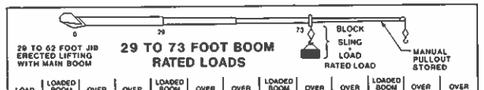


WORK AREA DIAGRAM



OPERATING RADIUS FROM ℄ ROTATION IN FEET WITH UNLOADED BOOM.

DO NOT MOVE UNLOADED BOOM BEYOND LIMIT LINE



29 TO 62 FOOT JIB ERECTED LIFTING WITH MAIN BOOM

29 TO 73 FOOT BOOM RATED LOADS

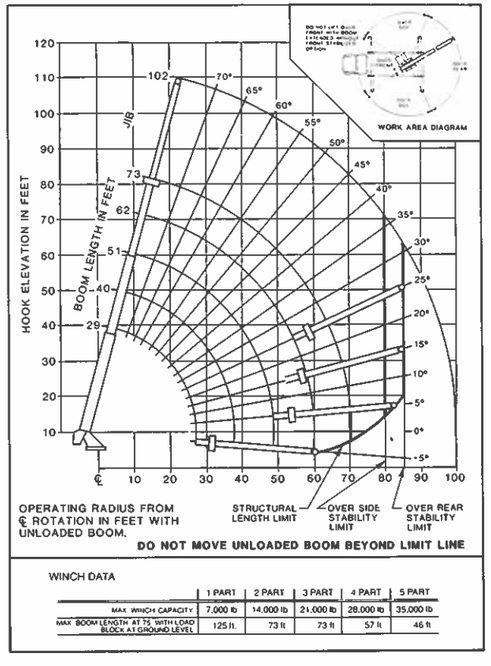
LOAD RADIUS	LOADED BOOM ANGLE	OVER SIDE	OVER REAR	LOADED BOOM ANGLE	OVER SIDE	OVER REAR	LOADED BOOM ANGLE	OVER SIDE	OVER REAR	LOADED BOOM ANGLE	OVER SIDE	OVER REAR
	29' BOOM LENGTH			40' BOOM LENGTH			51' BOOM LENGTH			62' BOOM LENGTH		
10'	67	33,200	33,200	73°½	31,000	31,000						
15'	55	22,700	22,700	65°½	21,300	21,300	71°½	20,600	20,600			
20'	41	16,100	16,100	57	15,900	15,900	65°½	15,600	15,600	70°½	15,100	15,100
25'	21	10,100	10,100	48	12,400	12,400	59	12,200	12,200	65°½	11,900	11,900
30'				37	9,400	9,400	52	9,700	9,700	60	9,500	9,500
35'				22	6,100	6,100	44	7,600	7,600	54°½	7,700	7,700
40'							35	5,600	5,900	48°½	5,800	6,100
45'							23	3,900	3,900	41°½	4,400	4,800
50'										34	3,200	3,700
55'										24	2,400	2,500

	73' BOOM LENGTH	
20'	74	14,300	14,300
25'	70	11,300	11,300
30'	65°½	9,000	9,000
35'	61	7,600	7,600
40'	56°½	6,000	6,100
45'	51°½	4,500	4,900
50'	46	3,400	3,800
55'	40	2,500	2,500
60'	33	1,200	1,800

NOTE
1 ALL CAPACITIES IN POUNDS, ANGLES IN DEGREES RADIUS IN FEET
2 LOADED BOOM ANGLES ARE GIVEN AS REFERENCE ONLY
3 SHADED AREAS ARE STRUCTURALLY LIMITED CAPACITIES

SET-UP:
1. Fully extend outriggers and level crane
2. 29 to 52 foot jib pinned on boom tip (at 29 foot length) with 150 lb. downhaul weight freely suspended over jib tip

OPERATION:
1. Capacities shown are maximum rated loads lifted at the boom tip with the main winch. The 29 foot jib is deployed with the 150 lb. downhaul weight rigged on the auxiliary winch line and freely suspended. DO NOT ATTEMPT ANY LIFT WITH BOTH BLOCKS.
2. When telescoping boom, lower both blocks to avoid two-blocking.
3. 29 foot boom length capacities are based on fully retracted boom.
4. Do not extend unloaded boom and jib beyond stability limit radii shown on range diagram. Loss of stability may occur rapidly and without warning. A 400 lb. main block and 150 lb. downhaul weight have been considered.



OPERATING RADIUS FROM ℄ ROTATION IN FEET WITH UNLOADED BOOM.

DO NOT MOVE UNLOADED BOOM BEYOND LIMIT LINE

WINCH DATA

	1 PART	2 PART	3 PART	4 PART	5 PART
MAX. WINCH CAPACITY	7,000 lb	14,000 lb	21,000 lb	28,000 lb	35,000 lb
MAX. BOOM LENGTH AT 75° WITH LOAD BLOCK AT GROUND LEVEL	125 ft.	73 ft	73 ft	57 ft	46 ft

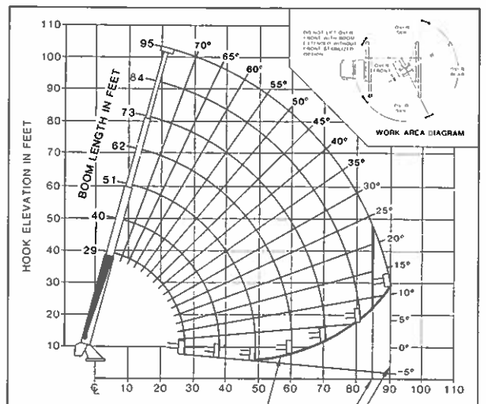
National Series 1295 Load Rating Charts

The 1295 is equipped with a 29- to 95-foot, fully hydraulic, four-section proportional boom offering over a 100-foot vertical reach. The 52-foot manual pull-out jib extends the vertical reach to 150 feet. Note the load rating data on the charts below.

29 TO 95 FOOT BOOM RATED LOADS

LOAD RADIUS	LOADED BOOM ANGLE	OVER SIDE	OVER REAR	LOADED BOOM ANGLE	OVER SIDE	OVER REAR	LOADED BOOM ANGLE	OVER SIDE	OVER REAR	LOADED BOOM ANGLE	OVER SIDE	OVER REAR
	29 BOOM LENGTH			40 BOOM LENGTH			51 BOOM LENGTH			62 BOOM LENGTH		
10	67	35 000	35 000	73°₂	33 300	33 300						
15	55	24 300	24 300	65°₂	23 400	23 400	71°₂	22 600	22 600			
20	41	17 800	17 800	57	17 500	17 500	65°₂	17,100	17,100	70°₂	16 400	16 400
25	21	11 800	11 800	48	13 800	13 800	59	13 500	13 500	65°₂	13 100	13 100
30				37	10 800	10 650	52	11 000	10 900	60	10 700	10 700
35				22	7 400	7 400	42	8 800	8 450	54°₂	8 800	8 650
40							35	6 750	6 700	48°₂	6 950	6 850
45							23	4 900	4 900	41°₂	5 400	5 500
50										34	4 250	4 450
55										24	3 300	3 400
	73 BOOM LENGTH			84 BOOM LENGTH			95 BOOM LENGTH					
20	74	15 700	15 700									
25	70	12 700	12 700	73	12 200	12 200						
30	65°₂	10 400	10 400	69°₂	9 900	9 900	72°₂	9 700	9 700			
35	61	8 600	8 600	65°₂	8 200	8 200	69°₂	8 200	8 200			
40	56°₂	7 100	7 000	62	6 900	6 900	66	6 800	6 800			
45	51°₂	5 550	5 650	58	5 650	5 700	62°₂	5 700	5 800			
50	46	4 350	4 550	53°₂	4 450	4 650	59	4 550	4 750			
55	40	3 450	3 750	49	3 550	3 800	55	3 600	3 900			
60	33	2 700	3 050	44	2 800	3 100	51	2 850	3 200			
65	24°₂	2 100	2 300	39	2 200	2 550	47	2 250	2 600			
70				33	1 700	2 050	42°₂	1 750	2 100			
75				26	1 250	1 600	37°₂	1 300	1 700			
80							32	950	1 300			
85							25°₂		1 000			
90												

NOTE 1 ALL CAPACITIES IN POUNDS ANGLES IN DEGREES, RADIUS IN FEET
2 LOADED BOOM ANGLES ARE GIVEN AS REFERENCE ONLY
3 SHADED AREAS ARE STRUCTURALLY LIMITED CAPACITIES

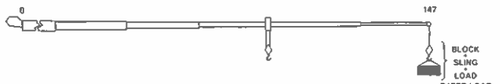


SET-UP:
1 Fully extend and set outriggers and level crane
2 29 to 52 ft jib stored on side of main boom

OPERATION:
1 The 29 ft boom length capacities are based on boom fully retracted If not fully retracted do not exceed 40 ft boom length capacities
2 Do not extend unloaded boom with block beyond no load stability limit line on range chart as loss of stability may occur A 400 lb main block has been considered

WINCH DATA

	1 PART	2 PART	3 PART	4 PART	5 PART
MAX WINCH CAPACITY	7,000 lb	14 000 lb	21,000 lb	28,000 lb	35 000 lb
MAX BOOM LENGTH AT 75 with LOAD BLOCK AT GROUND LEVEL	147 ft	95 ft	73 ft	57 ft	46 ft



52 FOOT JIB RATED LOADS

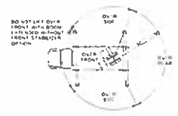
LOAD RADIUS (FEET)	LOADED BOOM ANGLE (DEGREES)	OVER SIDE (lb)	OVER REAR (lb)
44	74	2800	2800
54	70	2400	2400
66	65	2000	2000
78	60	1400	1600
88	55	800	1100

SHADED AREAS ARE STRUCTURALLY LIMITED CAPACITIES

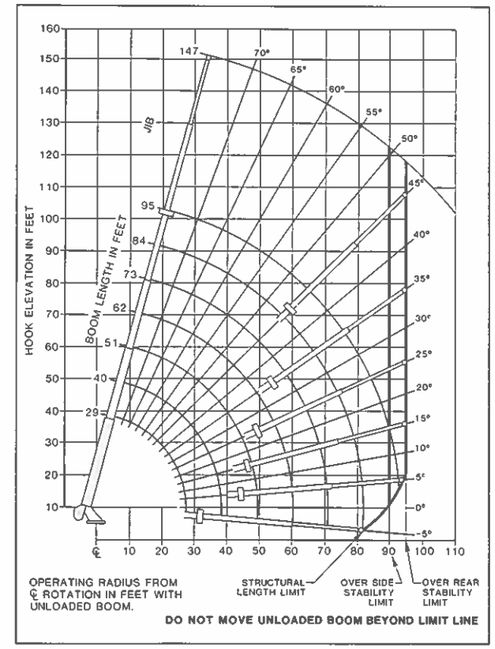
Capacities shown are with 400-pound block rigged on main boom If 200-pound block is rigged on main boom, add 100 pounds to capacities shown If no block is rigged on main boom, add 200 pounds to capacities shown

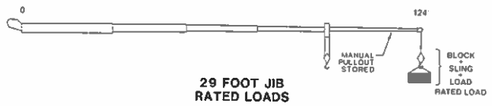
SET UP
1 Fully extend outriggers and level crane
2 Rig jib as shown in the operators manual

OPERATION
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
3 Do not extend unloaded boom beyond stability limit radii shown on range diagram, as loss of stability may occur rapidly and without warning A 400 lb main block and 150 lb downhaul weight have been considered
4 All jib loads must be lifted with single part reeving



WORK AREA DIAGRAM





29 FOOT JIB RATED LOADS

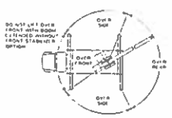
LOAD RADIUS (FEET)	LOADED BOOM ANGLE (DEGREES)	OVER SIDE (lb)	OVER REAR (lb)
36	74	5200	5200
44	70	4200	4200
54	65	3250	3550
64	60	1950	2300
72	55	1200	1550
80	50		1000

SHADED AREAS ARE STRUCTURALLY LIMITED CAPACITIES

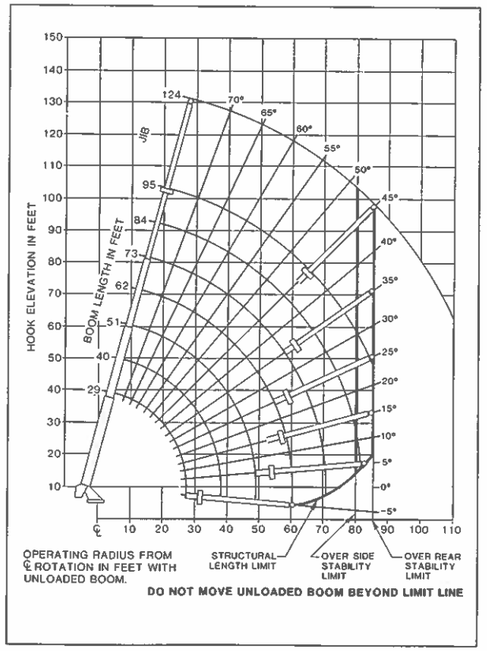
Capacities shown are with 400-pound block rigged on main boom If 200-pound block is rigged on main boom add 150 pounds to capacities shown If no block is rigged on main boom add 300 pounds to capacities shown

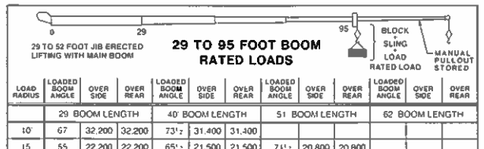
SET UP
1 Fully extend outriggers and level crane
2 Rig jib as shown in the operators manual

OPERATION
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
3 Do not extend unloaded boom beyond stability limit radii shown on range diagram, as loss of stability may occur rapidly and without warning A 400 lb main block and 150 lb downhaul weight have been considered
4 All jib loads must be lifted with single part reeving



WORK AREA DIAGRAM





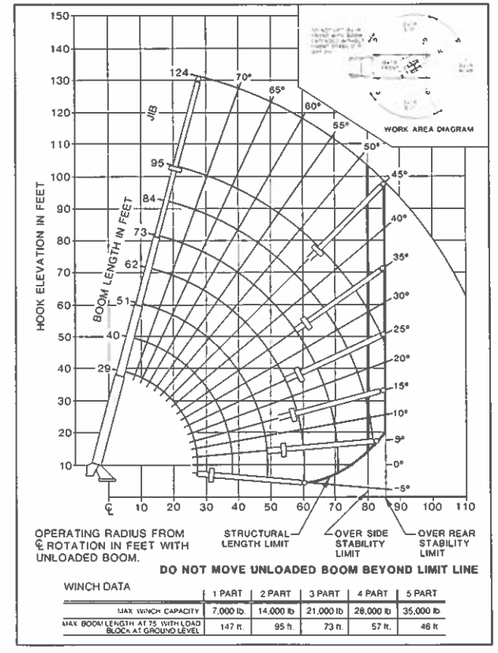
29 TO 95 FOOT BOOM RATED LOADS

LOAD RADIUS	LOADED BOOM ANGLE	OVER SIDE	OVER REAR	LOADED BOOM ANGLE	OVER SIDE	OVER REAR	LOADED BOOM ANGLE	OVER SIDE	OVER REAR	LOADED BOOM ANGLE	OVER SIDE	OVER REAR
	29 BOOM LENGTH			40 BOOM LENGTH			51 BOOM LENGTH			62 BOOM LENGTH		
10'	67	32,200	32,200	73°₂	31,400	31,400						
15'	55	22,200	22,200	65°₂	21,500	21,500	71°₂	20,800	20,800			
20'	41	15,700	15,700	57	15,600	15,600	65°₂	15,300	15,300	70°₂	14,700	14,700
25'	21	9,700	9,700	48	11,900	11,900	59	11,700	11,700	65°₂	11,400	11,400
30'				37	8,900	8,600	52	9,200	8,900	60	9,000	9,000
35'				22	5,500	5,500	44	6,700	6,600	54°₂	6,900	6,800
40'							35	4,800	4,900	48°₂	5,000	5,100
45'							23	3,100	3,100	41°₂	3,550	3,850
50'										34	2,500	2,850
55'										24		1,700
	73 BOOM LENGTH			84 BOOM LENGTH			95 BOOM LENGTH					
20'	74	14,000	14,000									
25'	70	11,000	11,000	73	10,600	10,600						
30'	65°₂	8,700	8,700	69°₂	8,300	8,300	72°₂	8,100	8,100			
35'	61	6,900	6,900	65°₂	6,600	6,600	69°₂	6,600	6,600			
40'	56°₂	5,100	5,200	62	5,200	5,300	66	5,200	5,200			
45'	51°₂	3,700	3,950	58	3,800	4,050	62°₂	3,900	4,100			
50'	46	2,600	3,000	53°₂	2,700	3,050	59	2,800	3,100			
55'	40	1,800	2,200	49	1,900	2,300	55	1,950	2,350			
60'				44		1,600	51		1,700			

NOTE 1 ALL CAPACITIES IN POUNDS, ANGLES IN DEGREES, RADIUS IN FEET
2 LOADED BOOM ANGLES ARE GIVEN AS REFERENCE ONLY
3 SHADED AREAS ARE STRUCTURALLY LIMITED CAPACITIES

SET-UP:
1 Fully extend outriggers and level crane
2 29 to 52 foot jib pinned on boom tip (at 29 foot length) with 150 lb downhaul weight freely suspended over jib tip

OPERATION
1 Capacities shown are maximum rated loads lifted at the boom tip with the main winch The 29 foot jib is deployed with the 150 lb downhaul weight rigged on the auxiliary winch line and freely suspended DO NOT ATTEMPT ANY LIFT WITH BOTH BLOCKS
2 When telescoping boom, lower both blocks to avoid two-blocking
3 29 foot boom length capacities are based on fully retracted boom
4 Do not extend unloaded boom and jib beyond stability limit radii shown on range diagram Loss of stability may occur rapidly and without warning A 400 lb main block and 150 lb downhaul weight have been considered



WINCH DATA

	1 PART	2 PART	3 PART	4 PART	5 PART
MAX WINCH CAPACITY	7,000 lb	14,000 lb	21,000 lb	28,000 lb	35,000 lb
MAX BOOM LENGTH AT 75 WITH LOAD BLOCK AT GROUND LEVEL	147 ft	95 ft	73 ft	57 ft	46 ft

National Series 1200 Accessories

You can add to your crane's versatility with National accessories. Weights of all accessories attached to the boom or loadline of the crane must be deducted from the effective lifting capacity. Consult your National dealer for specific accessory availability. Some accessories cannot be used in combination with other accessories or the optional jibs.

One Person Basket

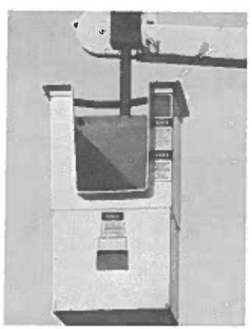
Strong, lightweight fiberglass basket with 300-pound (136.1kg) capacity puts personnel where you want them for tough maintenance and installation jobs. Optional dual basket bracket for two-basket operation on main boom. Easy on-off. Safety belts included. With basket(s) attached to the crane, the crane 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 B1

Model B1-L

With lock



Boom Length Indicator

This electronic option indicates the boom length on a display panel. Contact the factory for availability and additional information.

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 1,500 pounds (521.6kg). The maximum capacity of the basket is 750 pounds (226.8kg).

Model BS-1

5-ft. (1.5m) yoke

Auxiliary Winch

An auxiliary high-performance planetary winch may be used to pick lighter loads at higher speeds when the standard winch is rigged for heavy-load lifting at slower speeds with multi-part reeving. This winch, like our standard winch, is filled with 9/16" diameter cable. See the winch data chart on page nine for information.

Model OW

Glide Swing

The glide swing option allows the crane operator to manually apply a swing brake. When swinging the turret/boom, he can coast the unit to a stop.

GS

Positive Swing Lock

This one-position mechanical locking method prevents the rotation of the turret/boom when the crane is stowed for transit.

Pallet Fork

Turns your Series 1200 into a versatile, payload-packing fork lift. Great for delivering palleted material right where you want it. 4,400 lbs. (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" to 57" min. max.
Weight:	350 lbs.

Model MKF

(Manual leveling, adjustable throat)

Hydraulic Oil Cooler

Automatic hydraulic device designed to cool the oil under continuous operation.

Model HOC

Caution

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

Front-mounted Stabilizer

A single front-mounted stabilizer, while not designed to lift the vehicle, provides stability for the vehicle after it has been leveled. It has a 25-inch vertical stroke. This option is required when lifting loads over the front of the truck.

Model SFO

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 hydraulic hose on automatic reel and quick-connecting fittings. Extension hoses are required for use with jibs. Just position the load where you want it and open the bucket.

Model LMC

National Series 1200 Truck Specifications

Load Moment Indicator

This electronic system provides a comprehensive, easy-to-read display of information: boom length, boom angle, tip height, load radius, actual load, permissible load, and relative load moment. Digital readouts are in English, Spanish, French, or German. A PAT "info run" explains the system and function of the console, reminding the operator of the basic set-up points. The approach-to-overload is signalled by an amber light; overload is signalled by a red light, audible warning, and motion cut-off. The system has a trouble-shooting capability; in the event of a problem in the system or incorrect set-up, the console displays an error code. The reliable system uses a rugged microprocessor, eliminating most moving parts.

Model PAT-LMI

Four and Five Part Load Blocks

These optional load blocks provide greater lifting capacities while using the winch. See winch data chart on page ten.

LB-4-5

Continuous Rotation

This hydraulic and electrical swivel allows a continuous rotational movement of the turrent for convenient load positioning. It is available only on a standard crane with no hydraulic or electronic options.

CR

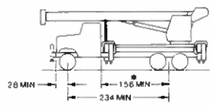
Cab Heater

A propane-fueled cab heater provides comfort for the operator in cold weather operations. It is shipped less the propane bottle due to interstate regulations.

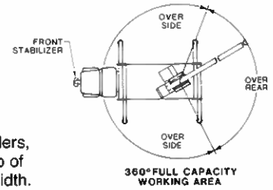
Model CH

The mounting configuration shown below is based on an 85% stability factor. The complete unit must be installed on the truck in accordance with factory requirements and a test performed to determine actual stability and counterweight requirements since individual truck chassis vary. If bare truck weights are not met, counterweight will be required.

Working area, front outrigger to front outrigger	290°
Gross Axle Weight Rating (GAWR), Front	18,000 lbs.
Gross Axle Weight Rating (GAWR), Rear	34,000 lbs.
Wheelbase (WB)	234 inches
Cab to Axle/Trunnion (CA/CT), free of obstructions, full width in crane mounting area	156 inches
Frame Section Modulus (SM), front axle to rear axle 50,000 PSI	25 inch³
or 100,000 PSI	15 inch³
Estimated bare chassis weight required for stability prior to installation of crane or accessories:	
Front	8,000 lbs.
Rear	7,500 lbs.
Estimated final average weight	45,000 lbs.

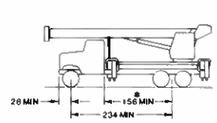


*Clear of obstructions (mufflers, exhaust stacks, etc.) on top of truck frame for full 8-foot width.

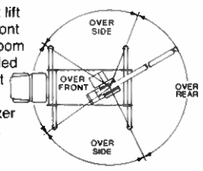


360° FULL CAPACITY WORKING AREA

The diagrams below show the 360° working area that can be achieved with the front stabilizer option. Truck requirements are the same as those shown for the 290° working area above (including Section Modulus, axle rating, and bare stability weights). The front stabilizer option (SFO) is required to extend the boom and lift loads over the front of the truck. The "over side" capacity chart should be used when lifting over the front of the vehicle. A minimum of 8 inch³ Section Modulus at 110,000 PSI or 15 inch³ Section Modulus at 50,000 PSI is required from the rear of the front spring hanger forward to the front stabilizer.



Do not lift over front with boom extended without front stabilizer option.



290° FULL CAPACITY WORKING AREA

*Clear of obstructions (mufflers, exhaust stacks, etc.) on top of truck frame for full 8-foot width.

NOTES:

(1) Maximum front and rear axle weights vary from state to state. Contact factory for details.

(2) 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.**

(3) Minimum axle requirements may increase if more payload carrying capabilities are required and local regulations allow.

(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 is recommended for all other 1200 crane/truck applications.

(6) Air bag rear suspension system is not acceptable.

National Series 1200 Specifications

General Construction
Low-alloy, high strength steel including T-1, Exten, Stress Proof and and other steels combined with special low-hydrogen welding techniques wherever advantageous. Standard color: National Ivory and Brown.

Subbase/Frame
Box construction, torsion resisting sub-base integral with front and rear outrigger boxes. Sub-base is attached to truck frame and bed by bolt on attachment brackets. Rotation bearing and level indicator surfaces are precision machined after welding to ensure accurate alignment and flat surfaces for prolonged life.

Turret
Fabricated rigid structure well braced for stability. Bearing surface, rotation gearbox mounting and pivot pins are machined after welding to insure accurate alignment and flat surfaces for prolonged life.

Rotation
375 degree non-continuous rotation. Rotation force 518,000 in-lb (1,564,000 in-lb breaking strength). Turret rotation is powered by a 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
Front and rear outriggers are beam and box style out-and-down with an 18'6" span (center of pad at ground level). Outriggers are individually controlled from rear of unit and will not bind when raising or lowering truck. They can be positioned up to 11" below ground level when mounted on a truck with a frame height of 38". Outrigger pads are removable, 22" diameter and are stored underneath truck bed. Vertical outrigger cylinders are equipped with butt mounted safety check valves.

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

Boom
Boxed construction sections telescope proportionally through use of a double acting hydraulic cylinder with proportioning cables. Internal cable sheaves use maintenance-free, self-lubricating bearings. Boom wear pads are nylon plates impregnated with molybdenum disulfide on all sides of the boom permitting maximum loads to be extended at greater radii. Holding valve prevents retraction except under power.

Controls
Single operator station mounted to turret provides excellent load visibility at all times. Telescopic control levers with adjustable padded seat for operator comfort. Operator platform is mounted on isolation mounts for noise and vibration control. Foot control on telescope function is standard. Simultaneous operation of loadline, boom functions and swing are standard. Horn, stop/start switch and pressure gauge are located at the control console for convenience. Covers are easily removable for maintenance.

Winch
Hydraulic axial piston motor with planetary gearbox, brake and counterbalance valve for power down load lowering. 7,000-pound single line pull available with 325 feet of rotation resistant 9/16" diameter, 35,000 pound breaking strength loadline. Standard two speed winch option provides continuous duty high and low speed winch operation. An auxiliary winch is available with the same performance specifications.

Pump
One high pressure, high speed gear type three section pump independently providing 35 gpm to winch, 35 gpm to crane and 15 gpm to swing for smooth fast simultaneous operation. Pump is bi-directional for convenient installation and hookup.

Cylinders
Shaft packing polyurethane U-cup type shafts, high yield stress relief chrome plated. Piston seals polyurethane U-cup and rider construction. Cylinder barrels microhoned tubing, butt mounted safety check valves.

Valves
Four way, spring centered, spool type, with independent relief valves set at 2650 psi on all circuits to protect circuits against overload.

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

Operating Speeds
Winch fourth layer high speed: 350 fpm; winch fourth layer low speed: 200 fpm. Rotation 375°: 35 seconds. Boom up (−5° to 75°): 24 seconds. Boom down (75° to −5°): 24 seconds. Boom extend (29 feet to 95 feet): 90 seconds. Boom retract (95 feet to 29 feet): 60 seconds. (Speeds above assume no load on boom with 35 gpm oil flow on boom and winch, and 15 gpm oil flow on rotation.)

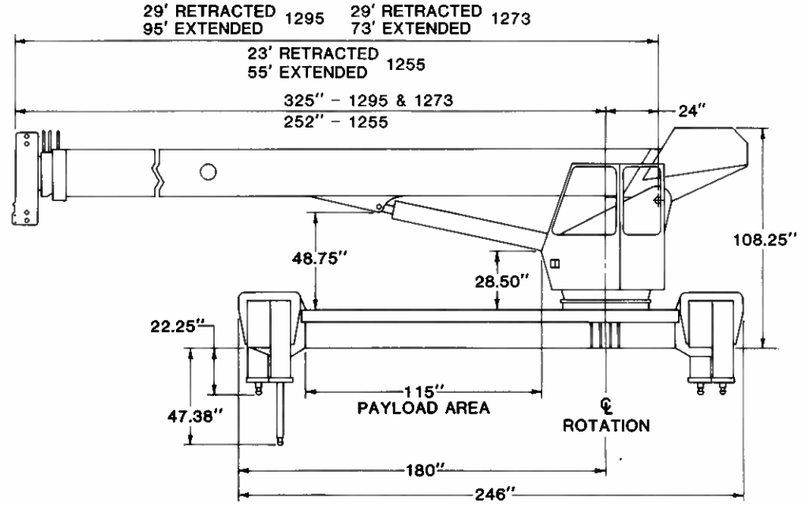
Oil Tank Capacities
100-gallon supply tank normally mounted on sub-frame. Sight gauge, breather, suction strainer, clean out, magnetic plug and thermometer.

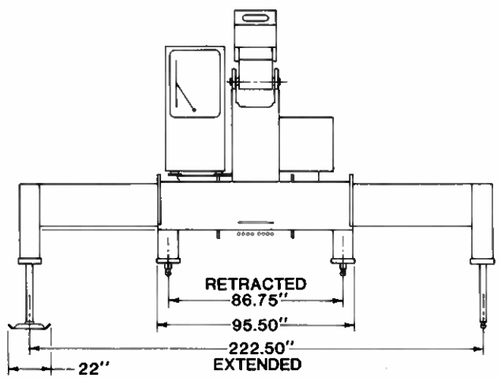
Filter
10 micron, replaceable cartridge return line filter. 100% filtration with change indicator gauge.

Operator's Cab
Totally enclosed operator's cab complete with locks on door. Opening top, side and rear windows. Safety glass side windows with Lexan, impact resistant top window. Wind shield wiper, dome light and sound insulation are standard. Cab is isolation mounted for operator comfort.

Capacity Alert Systems
Devices are available to reduce the possibility of operator error. Contact your dealer for information and availability.

Dimensional Specifications





Warranty, Parts and Service

The National Warranty
The National 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 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 supply 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 accomodate all but the most unusual modifications or serious repairs. The Service Center gives each crane requiring warranty repair, modification, or other service, priorty attention to ensure that it's back on the job as soon as possible.

National Series 1200
Proposal

Date: _____

Prepared for:

_____

_____

_____

Submitted by:

_____

_____
(Firm Name)

_____

_____
(Address)

_____

_____
(City & State)

_____
(Zip)

_____
(Phone)

Signed:

_____

_____

Description	Price
1. Series _____	$ _____
2. Boom _____	_____
3. Jib _____	_____
4. Front Stabilizers _____	_____
5. Line Block ____ 4 & 5 Part	_____
Accessories	
6. Auxiliary Planetary Winch Feature	_____
7. _____	_____
8. _____	_____
9. _____	_____
Mounting	
10. Installation: Rear Mounting	_____
11. Frame Modifications _____	_____
12. Counterweight (if required) _____	_____
13. Install Front Stabilizers (if required) _____	_____
14. Chassis _____	_____
15. Rear Bumper Underride Protection ☐ Ordered ☐ Not Ordered _____	_____
16. 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 reserves the right to change designs, prices, and specifications at any time without notice.

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