



NATIONAL N-70

Truck-Mounted Articulating Cranes and Accessories

Maximum Capacity: 12,000 Pounds (5.4 Metric Tons)

Reach Above Truck Frame: 34 Feet (10.4 Meters)

Reach Below Truck Frame: 20 Feet (6.1 Meters)

Horizontal Reach: 28 Feet 6 Inches (8.7 Meters)



**America's Truck-Mounted
Hydraulic Crane Leader**









Caution

Do not operate crane booms, jib extensions, any accessories, or loads within 10 feet (3m) of live power lines. Jib and boom capacities shown are maximum for each section. Do not exceed capacities at reduced radii.

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 program 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 boom. After loading the boom, 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. These strain gauges measure current fluctuations as small as one-millionth of an ohm—which measures 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.

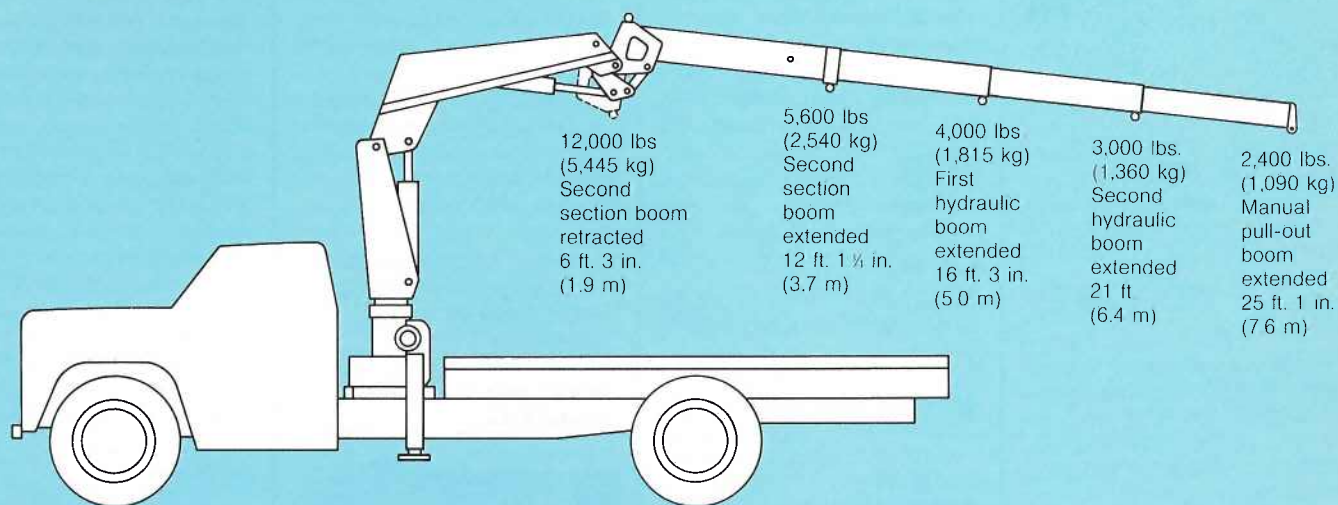
More than 400 individual quality control inspections are made on each National crane during manufacture and assembly. National attention to testing ensures that each crane delivered to the field is as close to perfect as state-of-the-art technology permits.





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

(Shaded extensions denote manual pull-out.)



Jib and boom capacities shown are maximum for each section. Do not exceed capacities at reduced radii.

H21 Hydraulic Extension Option (Model H21)

Add extra versatility to your N-70 by specifying the H21 option. It replaces the standard manual pull-out booms with two all-hydraulic extensions and a manual pull-out extension.

The hydraulic extensions retract and extend under full load up to 21 feet (6.4 m). The manual pull-out extends the reach to 25 feet 1 inch (7.6 m). Held in or out with a single pin, the manual pull-out is quick to rig, easy to use.

Maximum reach

- Above truck frame to 30 feet (9.2 m)
- Below truck frame to 16 feet (4.6 m)
- Horizontal to 25 feet 1 inch (7.6 m)





**Winch**

Optional National winch increases the versatility of your N-70. Extra capacity, heavy-duty winch handles up to 4,100 pounds (1,860 kg). Easy single-pin attachment of boom-tip sheave head. Includes winch control.

Model N4**Line Pull**

1st wrap	4,100 lbs.
2nd wrap	3,700 lbs.
3rd wrap	3,400 lbs.

Speed

1st wrap	34 ft./min.
2nd wrap	38 ft./min.
3rd wrap	42 ft./min.

Cable

95 ft. of 7/16" rotation resistant cable.

Winch

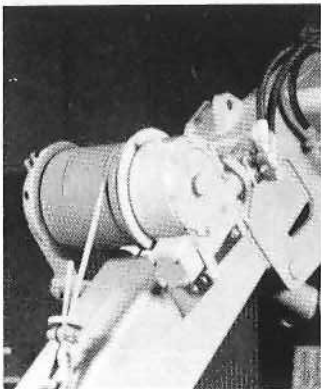
7½" dia. drum, 12" dia. flange, 10" wide with safety brake. OSHA required 18:1 ratio drum diameter to cable diameter.

Sheaves

Run on roller bearings with OSHA required 18:1 ratio sheave diameter to cable diameter.

Controls

Includes hydraulic control valve and hoses to winch.

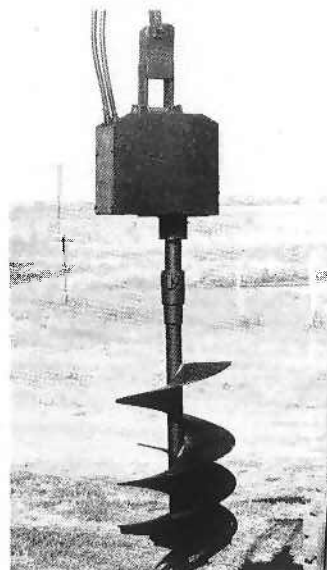
**Hydraulic Auger**

This popular N-70 accessory gives you digging depths to 4½ feet (1.8 m) and flightings up to 18 inches (46 cm). Attaches easily, works fast and disconnects quickly. Requires 14 gpm (53 L/min) pump and AH1 Accessory Control Valve group. Optional extension will provide a digging depth of 6½ feet (2.4 m). Contact factory for details.

Reach	16' 3"
Reduction	4:1
RPM	70 rpm at 14 gpm
Pressure	2,850 psi
Pump	14 gpm required
Torque Output	1,450 ft./lbs.
Drive Weight	205 lbs.
Length	48" overall
Controls	Requires AH1 hydraulic control valve option

Flightings and Weight:

Flightings	Length	Weight
9"	30" double flighting	66 lbs.
12"	30" double flighting	78 lbs.
15"	30" double flighting	92 lbs.
18"	30" double flighting	123 lbs.
24"	30" double flighting for high performance auger only	152 lbs.
24"	9" long, 12" tree diameter bottom planter flighting	
	18" long, 24" diameter top flighting	
	42" overall length for high performance auger only	146 lbs.

Model AG**Model AGHP (high performance)****Pallet Fork**

Turns your N-70 into a versatile, payload-packing fork lift. Great for delivering palletized materials right where you want them. 4,400 pounds (1,996 kg) capacity with adjustable throat and teeth. Handles most loads with ease. Available with hydraulic leveling or with a manual slide collar for leveling. For extra versatility, specify a National Hydraulic Rotator.

Capacity	4,400 lbs
Throat Opening	41" to 65" (adjustable)
Tooth Length	38½"
Tooth Width	33.5" to 57" (outside to outside) min. max.
Weight	
MKF	300 lbs.
HKF	350 lbs.
HKFR	435 lbs.

Model MKF

(Manual leveling, adjustable throat)

Model HKF

(Hydraulic leveling, adjustable throat)

Requires AH1

Model HKFR

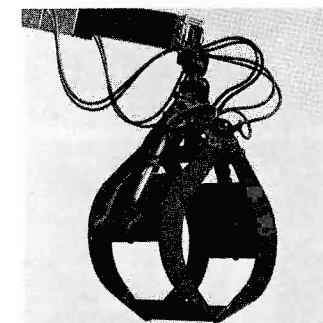
(Hydraulic leveling, adjustable throat with hydraulic rotator)

Requires AH2

**Clam Bucket and Grapples**

Turn your N-70 into more than a crane with National clam bucket or grapple attachments. The clam bucket can be used to load or move loose materials in 1/3 cubic yard (.25 m³) bites. The grapples, available in butt or bypassing type, will get a grasp on difficult handling jobs. Butt type handles up to 1/3 cord, bypassing will pick up 36-inch (91 cm) log or pipe. One person can install and remove bucket or grapples easily. Both come with hydraulic rotator and quick-connect fittings. Require AH2 accessory control valves.

	Butt Type	By-passing	Clam
Capacity	1/3 cord	36" log or pipe	1/3 yd. ¹
Rotation	315°	315°	315°
Opening			
Max.	72"	66"	72"
Min.	30"	6"	
Weight	590 lbs.	510 lbs.	520 lbs.
Height			
Open	38"	41"	38"
Closed	58"	54½"	58"
Tooth Width	20"	Teeth Width	Width
		Front 12"	36"
		Back 20"	
		(2, 3" wide teeth, 14" apart)	

Clam Bucket**Model GPC****Butt Grapple****Model BTG****Bypassing Grapple****Model BPG**





11

