MODEL 91-730
AIR-HYDRAULIC SERVICE JACK
(20 TON - SERIES "F")

OWNER/OPERATOR MANUAL

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RATED LOAD CAPACITY</td>
<td>40,000 lbs</td>
</tr>
<tr>
<td>LOW PICK UP HEIGHT</td>
<td>16-1/4&quot;</td>
</tr>
<tr>
<td>HIGH LIFTING POINT</td>
<td>28&quot;</td>
</tr>
<tr>
<td>POWER RAISE</td>
<td>11-3/4&quot;</td>
</tr>
<tr>
<td>BASE SIZE</td>
<td>8&quot; x 5-1/2&quot;</td>
</tr>
<tr>
<td>RAM DIAMETER</td>
<td>2-3/16&quot;</td>
</tr>
<tr>
<td>HANDLE LENGTH</td>
<td>50&quot;</td>
</tr>
<tr>
<td>WHEEL DIAMETER</td>
<td>6&quot;</td>
</tr>
<tr>
<td>MAXIMUM AIR PRESSURE</td>
<td>150 psi</td>
</tr>
<tr>
<td>SUPPLY</td>
<td></td>
</tr>
<tr>
<td>REQUIRED AIR PRESSURE</td>
<td>140 psi for 40,000 lbs</td>
</tr>
<tr>
<td>FOR LIFTING LOADS</td>
<td>125 psi for 35,400 lbs</td>
</tr>
<tr>
<td></td>
<td>100 psi for 27,900 lbs</td>
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<tr>
<td></td>
<td>75 psi for 19,700 lbs</td>
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</tbody>
</table>

DESCRIPTION

Model 91-730 is an air operated high pickup jack designed for truck and trailer emergency road service calls. The jack provides the following features:

- Operates with air.
- Compact, portable, easy to transport and store.
- Medium pickup height for lifting at suspension and frame points.
- Built-in water separator provides corrosion protection from air line moisture.
- Automatic overload protection prevents overloading and exceeding the jack rated lifting capacity.
- Two speed lifting action to quickly contact a load then power raise it.

OWNER/OPERATOR RESPONSIBILITY

It is the owner/operator responsibility to properly use and maintain this equipment.

The instructions and warnings contained in this manual shall be read and understood by the owner/operator prior to operating this equipment.

If an owner/operator does not understand English, the contents of this manual shall be explained in the owner/operator native language to assure the owner/operator comprehends.

It is the owner/operator's responsibility to maintain the legibility of all warning and instruction labels.

The owner/operator shall retain this manual for future reference to important warnings, operating and maintenance instructions.

WARNING

FAILURE TO HEED THE FOLLOWING INSTRUCTIONS MAY RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE.

- Do not exceed rated capacity.
- Use only as a lifting device. Do not use to support a load or vehicle.
- Use jack on hard level surfaces.
- Center load on lift cap.
- Use vehicle stands or appropriate support after lifting a vehicle/load.
- Lift only at locations specified by the manufacturer.
- Do not crawl under a vehicle/load when placing stands or support.
- Lower a vehicle/load slowly.

NAPA LIFTING EQUIPMENT
One Lincoln Way - St. Louis, MO 63120-1578

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WARNING
FOR YOUR SAFETY
USE VEHICLE STANDS OR OTHER APPROPRIATE SUPPORT TO SUPPORT THE VEHICLE/LOAD BEFORE GETTING UNDER IT.

OPERATION
BEFORE USING JACK
Prior to operation, a visual jack inspection shall be made. Check for bent or worn parts, hydraulic leaks, damaged, loose or missing parts.

Check jack operation by closing release valve, connecting air hose to jack and pressing air control valve. If jack responds immediately to air pressure, it is ready to use. If not, refer to TROUBLESHOOTING and perform AIR PURGING procedure.

If jack is damaged, badly worn, or operates abnormally it shall be removed from service. Contact a factory authorized service center for repair.

If the jack has been subjected to an abnormal load or shock, the jack shall be inspected by a factory authorized service center.

An annual jack inspection is recommended to be performed by a factory authorized service center.

USING JACK
A. Set vehicle parking brakes and/or block vehicle wheels.
B. Open release valve by turning release knob counterclockwise and allow jack to fully retract.
C. Connect air hose to jack. 140 psi is required for rated lifting capacity (40,000 lbs.).
D. Position jack under desired vehicle lifting point suggested by manufacturer.
E. Firmly close release valve by turning release knob clockwise.
F. The jack lift cap must contact the vehicle lift surface squarely and as close to center of lift cap as possible.
G. Press air control valve and raise vehicle to desired height. DO NOT lift vehicle any higher than is needed to make repairs.
H. DO NOT crawl under vehicle while positioning vehicle stands.
I. Slowly turn release knob counterclockwise to open release valve and carefully lower vehicle on to vehicle stands or other appropriate supports.

REMOVING JACK
A. Make sure release valve is closed by firmly turning release knob clockwise.
B. Press air control valve and raise vehicle just enough to clear vehicle stands or support means.
C. Remove vehicle stands or other support means from under vehicle. DO NOT crawl under vehicle when removing vehicle stands.
D. Slowly turn release knob counterclockwise to open release valve and lower vehicle.
E. When vehicle is fully lowered, remove jack from under vehicle.

MAINTENANCE
CHECKING HYDRAULIC OIL LEVEL

CAUTION
BRAKE OR TRANSMISSION FLUIDS WILL DAMAGE EQUIPMENT SEALS.
A. Place jack in upright position.

LUBRICATION
Lubricate jack as follows:
A. Clean jack as required before applying lubricant.
B. Apply motor oil to wheel bearings.

TROUBLESHOOTING
If the following procedures do not correct the problem, contact a factory authorized service center. When submitting a jack or equipment to be repaired, be sure to state the nature of the problem.

AIR PURGING
As with any hydraulic unit, the jack may occasionally become air bound due to being tipped over during shipment or handling. To purge air from jack hydraulic circuit, perform the following procedure:
A. Close oil tank air vent by turning screw clockwise.
B. Place jack on its side with the air-hydraulic pump next to the floor. Prop up oil tank so it is horizontal. Support jack with appropriate means.
C. Open release valve by turning release knob counterclockwise.
D. Connect external air hose to jack.
E. Press air valve control lever and allow jack to operate slowly twenty or more cycles.
F. Place jack in upright position.
G. Open oil tank air vent by turning screw counterclockwise one or two full turns.
H. Manually push ram down until jack is fully lowered.
COMMON PROBLEMS

JACK WILL NOT LIFT TO FULL HEIGHT.

- Oil level low. Perform CHECKING HYDRAULIC OIL LEVEL procedure.
- Oil level to high. Remove filler screw. Open release valve and slowly push ram down until fully lowered. Replace filler screw when oil stops flowing.
- Air in hydraulic system. Perform AIR PURGING procedure.

JACK WILL NOT LIFT LOAD.

- Oil level low. Perform CHECKING HYDRAULIC OIL LEVEL procedure.
- Air in hydraulic system. Perform AIR PURGING procedure.
- Valves not closing. Make sure release valve is closed and try jack again. If jack still will not lift, open release valve and allow jack to cycle 20 times to flush the valves.

JACK WILL NOT LOWER COMPLETELY.

- Oil tank air vent closed. Open air vent one or two full turns.

JACK FEELS SPONGY UNDER LOAD.

- Oil level low. Perform CHECKING HYDRAULIC OIL LEVEL procedure.
- Air in hydraulic system. Perform AIR PURGING procedure.

JACK STALLS UNDER HEAVY LOAD.

- Air pressure to low. Check air pressure supply. 140 psi required for rated lifting capacity (40,000 lbs.).
- Air hose restricted or leaking. Check air hose for restrictions or leaks.

JACK LIFTS LOAD TO SLOW.

- Air-hydraulic pump requires lubrication. To lubricate, open air valve on handle and squirt 1/2 ounce SAE 30 oil into air inlet. Connect air hose and operate jack to distribute oil internally.
- Air lines restricted or to small.
- Inadequate air supply.

REPAIR

Repair is limited to replacement of listed service parts. Special procedures and tools are required. If the jack requires repair, contact a factory authorized service center.

LIMITED WARRANTY

Lincoln, a Pentair Company, warrants that jacks and related service equipment manufactured by it will be free from defects in material and workmanship during the one (1) year following the date of purchase. This warranty is extended to the original retailer purchaser only. If a jack or related service equipment proves to be defective during this warranty period, it will be repaired or replaced without charge. To obtain repair or replacement, it must be shipped, transportation charges prepaid, with proof of date of purchase, to a Lincoln authorized Warranty and Service Center, within the one (1) year following the date of purchase. This warranty does not apply to parts damaged from accident, overload, or abuse, nor does it apply to any equipment which has been altered or used with special attachments other than those recommended by Lincoln. No other express warranty applies to jacks and related service equipment manufactured by Lincoln.

ANY IMPLIED WARRANTIES applicable to jacks and related service equipment manufactured by Lincoln, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WILL LAST ONLY FOR ONE (1) YEAR FROM THE DATE OF PURCHASE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

In no event shall Lincoln be liable for incidental or consequential damages. The liability of Lincoln on any claim or damage arising out of the sale, resale, or use of a jack or related service equipment shall in no event exceed the purchase price. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.
### SERVICE PARTS (CONT)

**NOTES:**

1. Apply Never-Seez (or equivalent) to threads and face at both ends of 22713S cylinder before assembling. Assemble to 234983 base and tighten to crush joint.

2. Lubricate 228099 O-ring, 224648 O-ring and upper and lower I.D. of 228312 tank and I.D. of 227136 tank nut with Lubriplate (or comparable lubricant) before assembling.

3. Assemble 226813 snorkel tube to 224120 snorkel fitting with Accrabond #419 Glue (or equivalent).

4. Apply Loctite #515 Gasket Eliminator to both ends of 223910 tank before assembling.

5. Adjust 222209 nut 1/8" beyond valve block.

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**PART** | **QTY** | **DESCRIPTION**
--- | --- | ---
48230 | 2 | Washer
50052 | 2 | Bolt
200033 | 2 | Gasket
201733 | 1 | Expansion plug
201787 | 2 | Lockwasher
203199 | 2 | Ball
203200 | 1 | Ball
203202 | 3 | Ball
203299 | 1 | Nut
204446 | 2 | Cotter pin
210311 | 1 | Pipe plug
210411 | 1 | Washer
210532 | 1 | Lift cap
211737 | 1 | Lockwasher
212227 | 1 | Poppet
212540 | 1 | Filler screw
212566 | 1 | Bolt
212728 | 1 | Spacer
214555 | 1-0 | O-ring
216523 | 1-0 | U-cup packing
216647 | 1 | Spring
217649 | 2 | Roll pin
217898 | 1 | Roll pin
217276 | 1 | Roll pin
21880 | 1 | Retaining ring
222202 | 3 | Elbow
222209 | 1 | Nut
222533 | 1 | Screen
223166 | 1 | Screen
223172 | 1 | Hose clip
223179 | 1 | Hose clip
223180 | 1 | Air valve
223910 | 1 | Tank
224053 | 1 | Spring
224073 | 1 | Air vent screw
224074 | 1 | Spring
224081 | 1 | Screw
224120 | 1 | Snorkel fitting
224154 | 1 | Air hose assy.
224160 | 1 | Spring
224163 | 1 | Spring
224164 | 1 | Adapter
224165 | 1 | Rod
224166 | 1 | Hand knob
224180 | 1 | Spacer
224183 | 1 | Air hose
224186 | 1 | Air hose
224187 | 1 | Center tube
224210 | 1 | Diff. valve block
224212 | 1 | Spacer
224213 | 2 | Washer
224472 | 1 | Spacer
224475 | 2 | Wheel
224521 | 1 | Handle
224640 | 1 | Balance strap
224641 | 1 | Handle grip
224644 | 1 | Bolt
224648 | 1-0 | O-ring
225483 | 1 | Pin
226019 | 5 | Locknut
226331 | 1 | Spring
226401 | 2 | Spring
226483 | 1 | Pipe nipple
226813 | 1 | Snorkel tube
226956 | 1 | End block
227135 | 1 | Cylinder
227136 | 1 | Tank nut
228090 | 1 | Cross pin-female
228091 | 1 | Cross pin-male
228099 | 1 | O-ring
228234 | 1 | Spacer
228312 | 1 | Oil tank
228322 | 1 | Oil tank ass’y.
228929 | 1 | Air-hyd. pump assy.
229131 | 3 | Pipe plug
230125 | 1 | Heel plate
230126 | 1 | U-cup packing
230132 | 1 | Ram assembly
230133 | 1 | Ram
231102 | 1 | Axle
233917 | 1 | Plastic spring
233922 | 1 | Release stem
234963 | 1 | Base
235980 | 1 | Water Sep. assy.
235989 | 1 | Sep. mtg. bracket
239990 | 2 | Strap
238717 | 1 | Screw
238718 | 1 | Square nut
242876 | 1 | Bushing

* Included in 240579 Repair Kit.
PART | QTY | DESCRIPTION
--- | --- | ---
203202 | 1 | Ball
219861 | 1 | O-ring
221013 | 1 | U-cup packing
221377 | 1 | Roll Pin
221820 | 2 | Retaining ring
222202 | 1 | Elbow
222288 | 1 | O-ring
223173 | 1 | Return Spring
223183 | 1 | Plug
223184 | 1 | Spring
223187 | 1 | Valve & plunger
223194 | 1 | Spring & rubber cushion ass'y.
223203 | 2 | Trip washer
223678 | 1 | Pump packing & piston
223680 | 1 | Screen
224034 | 1 | Air cylinder
224038 | 1 | Pump rod
224156 | 1 | Spring
224469 | 1 | Washer
225371 | 1 | Rubber Cushion
225384 | 1 | Trip spring
226153 | 1 | Spring
226373 | 1 | Adjusting screw
226450 | 1 | End block
226451 | 2 | Set screw
2268235 | 1 | Cotter pin
228813 | 1 | Washer
228814 | 1 | Gland nut
228815 | 1 | U-cup packing
228816 | 1 | Washer
228930 | 1 | Piston assembly
228933 | 1 | Pump cylinder
231347 | 1 | Piston & roll pin assembly
231572 | 1 | Cylinder cap
236684 | 1 | Piston
236685 | 1 | Sealing ring
242877 | 1 | Bushing

▲ Included in 240564 Repair Kit.
● Included in 240579 Repair Kit.