**MODEL W93731**  
**AIR-HYDRAULIC SERVICE JACK**  
**(20 TON - SERIES "J")**

**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>9-1/2&quot;</td>
</tr>
<tr>
<td>HIGH LIFTING POINT</td>
<td>17-1/2&quot;</td>
</tr>
<tr>
<td>POWER RAISE</td>
<td>5-1/2&quot;</td>
</tr>
<tr>
<td>SCREW EXTENSION</td>
<td>2-1/2&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 SUPPLY</td>
<td>150 psi</td>
</tr>
<tr>
<td>REQUIRED AIR PRESSURE</td>
<td></td>
</tr>
<tr>
<td>FOR LIFTING LOADS</td>
<td></td>
</tr>
<tr>
<td>140 psi for 40,000 lbs</td>
<td></td>
</tr>
<tr>
<td>125 psi for 35,400 lbs</td>
<td></td>
</tr>
<tr>
<td>100 psi for 27,900 lbs</td>
<td></td>
</tr>
<tr>
<td>75 psi for 19,700 lbs</td>
<td></td>
</tr>
</tbody>
</table>

**DESCRIPTION**

Model W93731 is an air operated low 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.
- Long handle and low height for lifting loaded trailers and trucks by the axles.
- 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.
- Screw extension provides low pickup height adjustments.

**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.
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 the 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.

B. Open release valve and allow jack to retract to its lowest position.

C. Remove filler screw.

D. Fill oil tank with clean hydraulic jack oil. Do not overfill.

E. Reinstall filler screw.

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 a prop (approximately 12" high) under the jack base allowing handle end of jack to rest on floor.

C. Connect external air hose to jack.

D. Open release valve and cycle pump as slow as possible for 20 or more strokes.

E. Place jack in upright position. Open oil tank air vent by turning screw counterclockwise one or two full turns.

F. Close release valve and operate jack until ram has reached full extension. Let pump cycle slowly for 20 more strokes.

G. Open release valve and 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 too 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 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 retail 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.
NOTES:

1. Apply Never-Seez (or equivalent) to threads and face at both ends of 227533 cylinder before assembling. Assemble to 234935 base and tighten to crush joint.

2. Lubricate 228099 O-ring, 22468 O-ring and upper and lower I.D. of 234933 tank and I.D. of 227136 tank nut with Lubriplate (or comparable lubricant) before assembling. Tighten to a crush point.

<table>
<thead>
<tr>
<th>PART</th>
<th>QTY</th>
<th>DESCRIPTION</th>
<th>PART</th>
<th>QTY</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>48230</td>
<td>2</td>
<td>Washer</td>
<td>224475</td>
<td>2</td>
<td>Wheel</td>
</tr>
<tr>
<td>50062</td>
<td>2</td>
<td>Bolt</td>
<td>224521</td>
<td>1</td>
<td>Handle</td>
</tr>
<tr>
<td>200003</td>
<td>2</td>
<td>Gasket</td>
<td>224640</td>
<td>1</td>
<td>Balance strap</td>
</tr>
<tr>
<td>201733</td>
<td>1</td>
<td>Expansion plug</td>
<td>224641</td>
<td>1</td>
<td>Handle grip</td>
</tr>
<tr>
<td>201787</td>
<td>1</td>
<td>Lockwasher</td>
<td>224644</td>
<td>3</td>
<td>Bolt</td>
</tr>
<tr>
<td>203199</td>
<td>1</td>
<td>Ball</td>
<td>224648</td>
<td>1</td>
<td>O-ring</td>
</tr>
<tr>
<td>203202</td>
<td>3</td>
<td>Ball</td>
<td>225483</td>
<td>1</td>
<td>Pin</td>
</tr>
<tr>
<td>204446</td>
<td>2</td>
<td>Cotter pin</td>
<td>226019</td>
<td>5</td>
<td>Locknut</td>
</tr>
<tr>
<td>210311</td>
<td>1</td>
<td>Pipe plug</td>
<td>226331</td>
<td>1</td>
<td>Spring</td>
</tr>
<tr>
<td>210411</td>
<td>1</td>
<td>Washer</td>
<td>226401</td>
<td>2</td>
<td>Spring</td>
</tr>
<tr>
<td>211737</td>
<td>1</td>
<td>Lockwasher</td>
<td>226483</td>
<td>1</td>
<td>Pipe nipple</td>
</tr>
<tr>
<td>212227</td>
<td>1</td>
<td>Poppet</td>
<td>227136</td>
<td>1</td>
<td>Tank nut</td>
</tr>
<tr>
<td>212540</td>
<td>1</td>
<td>Rifer screw</td>
<td>227533</td>
<td>1</td>
<td>Ram cylinder</td>
</tr>
<tr>
<td>212566</td>
<td>1</td>
<td>Bolt</td>
<td>228090</td>
<td>1</td>
<td>Cross pin</td>
</tr>
<tr>
<td>213728</td>
<td>1</td>
<td>Spacer</td>
<td>228091</td>
<td>1</td>
<td>Cross pin</td>
</tr>
<tr>
<td>214555</td>
<td>1</td>
<td>O-ring</td>
<td>228099</td>
<td>1</td>
<td>O-ring</td>
</tr>
<tr>
<td>216647</td>
<td>2</td>
<td>Spring</td>
<td>228929</td>
<td>1</td>
<td>Air-hydraulic pump assembly</td>
</tr>
<tr>
<td>217649</td>
<td>2</td>
<td>Roll pin</td>
<td>229131</td>
<td>2</td>
<td>Pipe plug</td>
</tr>
<tr>
<td>217998</td>
<td>1</td>
<td>Roll pin</td>
<td>230125</td>
<td>1</td>
<td>Heel plate</td>
</tr>
<tr>
<td>222533</td>
<td>1</td>
<td>Screen</td>
<td>230128</td>
<td>1</td>
<td>U-cup packing</td>
</tr>
<tr>
<td>223166</td>
<td>1</td>
<td>Screen</td>
<td>230134</td>
<td>1</td>
<td>Ram assembly</td>
</tr>
<tr>
<td>223172</td>
<td>1</td>
<td>Hose clip</td>
<td>230135</td>
<td>1</td>
<td>Ram</td>
</tr>
<tr>
<td>223180</td>
<td>1</td>
<td>Air valve</td>
<td>231102</td>
<td>1</td>
<td>Axle</td>
</tr>
<tr>
<td>224073</td>
<td>1</td>
<td>Air vent screw</td>
<td>232618</td>
<td>1</td>
<td>Extension screw assembly</td>
</tr>
<tr>
<td>224081</td>
<td>1</td>
<td>Screw</td>
<td>233917</td>
<td>1</td>
<td>Plastic spring</td>
</tr>
<tr>
<td>224164</td>
<td>1</td>
<td>Adapter</td>
<td>233922</td>
<td>1</td>
<td>Release stem</td>
</tr>
<tr>
<td>224165</td>
<td>1</td>
<td>Rod</td>
<td>234933</td>
<td>1</td>
<td>Oil tank</td>
</tr>
<tr>
<td>224166</td>
<td>1</td>
<td>Hand knob</td>
<td>234935</td>
<td>1</td>
<td>Base</td>
</tr>
<tr>
<td>224180</td>
<td>1</td>
<td>Spacer</td>
<td>234990</td>
<td>2</td>
<td>Strap</td>
</tr>
<tr>
<td>224182</td>
<td>1</td>
<td>Air hose</td>
<td>234999</td>
<td>1</td>
<td>Support bracket</td>
</tr>
<tr>
<td>224472</td>
<td>1</td>
<td>Spacer</td>
<td>236717</td>
<td>1</td>
<td>Screw</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>236718</td>
<td>1</td>
<td>Nut</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>242876</td>
<td>1</td>
<td>Bushing</td>
</tr>
</tbody>
</table>

* Included in 240579 Repair Kit.
SERVICE PARTS (CONT)

APPLY LOCTITE #242 (COLOR BLUE) TO THREADS BEFORE ASSEMBLING.

PART   QTY   DESCRIPTION
203202  1   Ball
219861  10   O-ring
221013  1   U-cup packing
221377  1   Roll Pin
221820  2   Retaining ring
222202  1   Elbow
222288  10   O-ring
223173  1   Return Spring
223183  1   Plug
223184  1   Spring
223187  11   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
224510  1   Rubber Cushion
225384  1   Trip spring
225387  1   Spring
225390  1   Adjusting screw
225395  1   End block
225435  1   Cotter pin
225436  1   Washer
225437  1   Gland nut
225438  1   U-cup packing
225439  1   Washer
225440  1   Piston assembly
225441  1   Pump cylinder
225442  1   Pump & roll pin assembly
225443  1   Cylinder cap
225444  1   Piston
225445  1   Sealing ring
225446  1   Bushing