



Air Bleeding Instructions for Air / Manual Service Jacks HEIN-WERNER Models HW93662 (10 Ton) & HW93667 (4 Ton)

Problem: LIFT ARM will not rise when air pressure is applied.

Resolution: Follow the Air Bleeding Procedure in this document.

Models: HW93662 (10 Ton) & HW93667 (4 Ton) Air / Manual Service Jacks.

Tools Required: Hex Wrench for **AIR MOTOR VENT PLUG**, Open End Wrench, Combination Wrench, or Socket Wrench for **AIR VENT SCREW**. Air Compressor, or other Compressed Air Source [suggested 110 psi (7,6 bar) minimum air pressure].

Procedure:

WARNING!

- Read and understand all information contained in Operating Instruction Manual (supplied with the equipment), and this document before starting this procedure.
- **NO LOAD** should be placed on this equipment during this procedure.
- Any persons not involved in the work should leave the area.
- Work area should be clean and free of any hazards such as oil spills.
- Only trained, competent adults should perform this procedure.
- Use **ONLY** approved Hydraulic Jack Oil when adding or replacing oil in a hydraulic jack.
- **NEVER** use brake fluid, turbine oil, transmission fluid, motor oil or glycerin in a Hydraulic Jack. Improper fluid can cause failure of the jack and the potential for sudden and immediate loss of load.

Step 1:

- Read and understand all information contained in the **Operating Instruction Manual** for this piece of equipment. Nomenclature used in this document refers to items discussed in the **Operating Instruction Manual**.
- Read and understand all information contained in this document before starting this procedure.
- Place the unit in the work area such that all sides are easily accessible, and such that **LIFT ARM** can rise to its maximum height with no obstruction.



Hein-Werner Automotive

10939 N. Pomona Avenue, Kansas City, Missouri 64153, USA

Telephone: (816) 891-6390, Toll Free (888) 332-6419

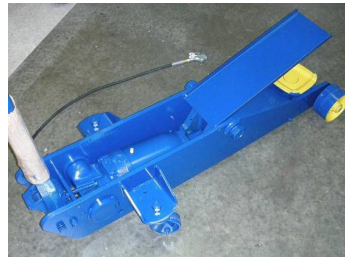
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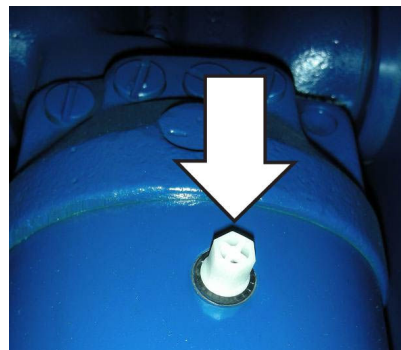
Step 2:

- Open the **COVER PLATE**.



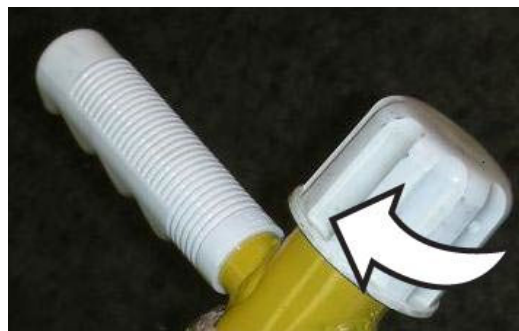
Step 3:

- Locate and remove **AIR VENT SCREW**.



Step 4:

- Verify that the Release Valve is in the **CLOSED** position, by turning the **RELEASE VALVE KNOB** clockwise until resistance is felt.



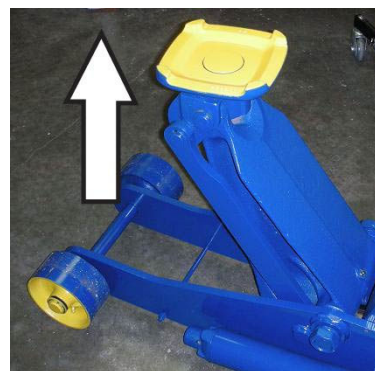
Step 5:

- Lift the jack manually, by pumping the **HANDLE**, until the **LIFT ARM** has reached its maximum height.

Approximate Maximum Height:

25-1/2" (648mm) for HW93662 (10 Ton)

25-3/4" (654mm) for HW93667 (4 Ton).



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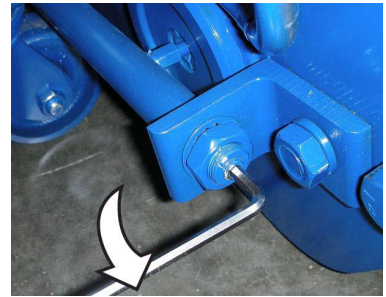
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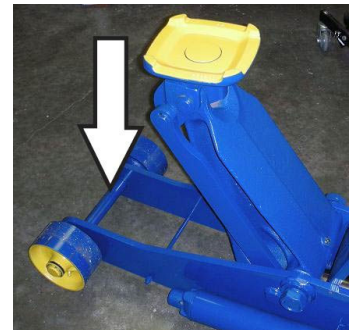
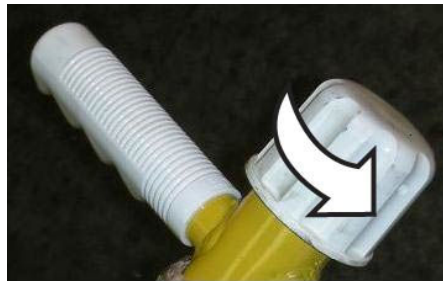
Step 6:

- Use a Hex Wrench, to loosen the **AIR MOTOR VENT PLUG** by turning Counter Clockwise.
- Remove the **AIR MOTOR VENT PLUG**. Retain for later re-installation.



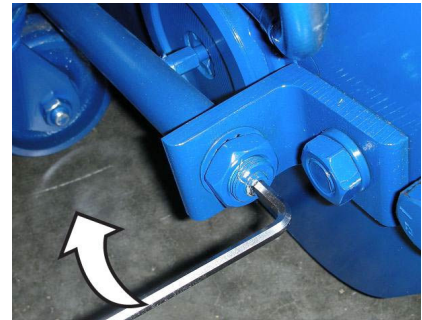
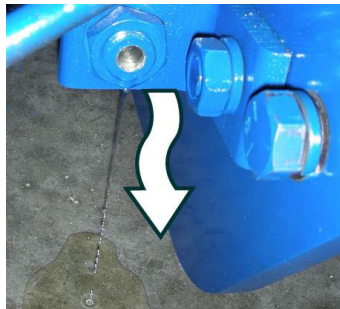
Step 7:

- Turn the **RELEASE VALVE KNOB** counter-clockwise to allow the **LIFT ARM** to lower.
- After making note of Step 8, manually pump the **HANDLE**, as the **LIFT ARM** moves downward.



Step 8:

- When oil is expelled from the **AIR MOTOR VENT PLUG** hole, quickly re-install the **AIR MOTOR VENT PLUG**.
- Next, securely tighten the **AIR MOTOR VENT PLUG**.
- If oil is not expelled, as shown, repeat Steps 4, 5 and 7.



Step 9:

- Attach an air compressor hose to the **AIR CONTROL VALVE** located on the **HANDLE** of the unit.

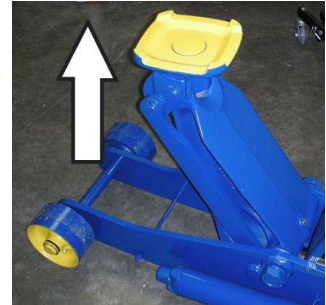




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Step 10:

- Depress Lever on **AIR CONTROL VALVE** so **LIFT ARM** begins to slowly rise upward.
- Check that **LIFT ARM** rises to maximum height.
- Repeat lifting procedure 2-3 times until lifting speed increases and seems consistent.



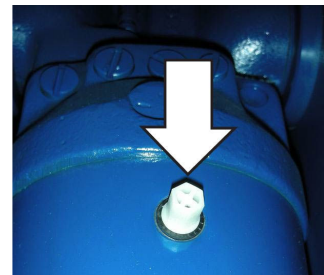
Approximate Maximum Height: 25-1/2" (648mm) for HW93662 (10 Ton).
25-3/4" (654mm) for HW93667 (4 Ton).

WARNING!

- Use **ONLY** approved Hydraulic Jack Oil when adding or replacing oil in a hydraulic jack.
- **NEVER** use brake fluid, turbine oil, transmission fluid, motor oil or glycerin in a Hydraulic Jack. Improper fluid can cause failure of the jack and the potential for sudden and immediate loss of load.

Step 11:

- Add oil to replace the expelled oil using the instructions supplied in the Operation Manual. Use **ONLY** Hein-Werner hydraulic jack oil, part number HW93291, or equal.
- Re-Install and securely tighten the **AIR VENT SCREW**.



Step 12:

- Close the **COVER PLATE**.



Step 13:

- Clean Work Area, Including any oil that was expelled from the unit during this procedure.

SERVICE ADJUSTMENT PROCEDURE - 229999 AIR HYDRAULIC PUMP

- I. If Air-Hydraulic Jack will not lift but **sounds** normal:
 - A. It is probably air bound. To correct, tip jack on its left side (as viewed from handle end) and cycle the air pump slowly.
 - B. The Hydramatic valve might be stuck open. To check, open release, pull bellcrank up to full height by hand, close the release valve while at full height and let go of the bellcrank. If it returns to low position, the trouble is in the hydraulic unit. If it holds position, lower the jack and try to make a lift with the air pump. If successful, the trouble was in the Hydramatic and raising the bellcrank by hand corrected it.
- II. If Air-Hydraulic Jack will not lift and does **not** sound normal, look for the following:
 - A. If the air pump is cycling unusually fast:
 1. The jack may be air bound.
 2. The suction ball in the hydraulic unit may not be seating.
 - B. If the air pump is not cycling at all, but air can be heard rushing out the exhaust port, the air pump should be removed and checked for the following:
 1. Rubber bumper on cushion spring may have been dislodged from the spring.
 2. The valve plunger assembly 223187 may be stuck open.
 3. The two weep holes in the pump retainer plug 223183 may be plugged with dirt.
 4. The return spring 223173 may be broken.
 - C. If the air pump is not cycling at all and no air is coming out of the exhaust, check for the following:
 1. The pump rod 231619 may be frozen in its packing gland.
 2. The Valve Plunger Assembly 223187 is not opening. Look for a bent Trip Washer or a bent or rusted Valve Plunger which has seized in the piston.
- III. If the jack will raise a load but much more slowly than normal, the trouble is almost certainly related to the air pump. Look for the following:
 - A. If the pump cycles very slowly:
 1. There may be a restriction in the air line between the air valve and the air pump.
 2. One of the weep holes in the 223183 Pump Retainer Plug may be plugged.
 - B. If the pump cycles very rapidly:
 1. The 225384 Trip Spring may be deformed or broken.

Model	Air Cylinder	Pump Rod	Elbow	Pump Cylinder	Spring	Trip Spring	Return Spring	Washer
229752	224034	224038	222202	229755	226153	225384	223173	224469
229999	223176	231619	222202	230000	226153	225384	223173	224469
230289	228804	228812	230822	230291	228807	228809	228805	—————

Model	Air Hose Assembly	Pipe Nipple	Air Valve	Piston Assembly	Spring & Rubber Cushion	Pump Cylinder & Tube Assembly	Retaining Ring	Air Hose Clamp
229752	230430	226483	223180	228930	223194	229753	221820	—————
229999	224021	226483	223180	231604	223194	—————	221820	—————
230289	230985	—————	223180	228810	228806	—————	—————	230820

TROUBLESHOOTING

Problem	Solution
1) Air pump does not cycle, air rushing out exhaust port.	<p>225371 Rubber Cushion on Spring may have been dislodged - Replace rubber cushion.</p> <p>223187 Valve & Plunger may be stuck open - Clean valve and valve seat. Replace valve & plunger if necessary.</p> <p>Weep holes in 223183 Retainer Plug may be plugged - Remove and clean. Reassemble to dimension shown on front page.</p> <p>Return Spring may be broken - Replace spring.</p>
2) Air pump does not cycle, no air from exhaust port.	<p>223187 Valve & Plunger not opening - Check for bent 223202 Trip Washer or a bent or rusted valve plunger. Replace parts as necessary.</p>
3) Jack raises load slower than normal, air pump cycles slowly.	<p>Air restriction in line between air valve and air pump - Clear restriction from hose or air valve.</p> <p>Weep holes in 223183 Retainer Plug may be plugged - Remove and clean. Reassemble to dimension shown on front page.</p>
4) Jack raises load slower than normal, air pump cycles rapidly.	<p>Trip Spring may be deformed or broken - Replace trip spring.</p>

————— RETAIN THIS INFORMATION FOR FUTURE REFERENCE —————

When ordering replacement parts, list: Part Number, Description, Model Number, and Series Letter.

LINCOLN provides a Distributor Network that stocks equipment and replacement parts.