

## **Service Call:**

Vacuum Prevention System Testing on  
Category C Aerial Devices

## **Tools Required:**

1. A jumper hose with pressure gauge and appropriate fittings (as outlined in the procedure) for in-line check valves (foot valves)

## **Model(s):**

All Category C Aerials with foot valves installed. Typically, Aerial Devices that are 50 feet or more will have them installed.

## Tech Tip Safety Rules




### Danger


Failure to obey the instructions and safety rules in the appropriate Operator's Manual and Service Manual for your machine will result in death or serious injury. Many of the hazards identified in the operator's manual are also safety hazards when maintenance and repair procedures are performed.

### Do Not Perform Maintenance Unless:

- You are trained and qualified to perform maintenance on this machine.
- You read, understand and obey:
  - manufacturer's instructions and safety rules
  - employer's safety rules and worksite regulations
  - applicable governmental regulations
- You have the appropriate tools, lifting equipment and a suitable workshop.

The information contained in this tech tip is a supplement to the service manual. Consult the appropriate service manual of your machine for safety rules and hazards.

 **WARNING**



Escaping fluid under pressure can penetrate skin causing serious injury.

Relieve pressure before disconnecting hydraulic lines. Keep away from leaks and pin holes. Use a piece of cardboard or paper to search for leaks. Do not use your hand.

Fluid injected into skin must be surgically removed within a few hours by a doctor familiar with this type injury or gangrene will result.

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The vacuum prevention system may be installed on units with a platform height of 50 foot or greater to keep the hydraulic oil in the lines and prevent a vacuum from forming, which reduces the dielectric strength.

Check valves are located in the hydraulic lines to keep the oil in the line. Typically, they are located just above the 'collector block' or hydraulic swivel joint. With controls below rotation, the foot valves are typically installed at the pressure and return line going into the lower control valve. The following procedure will test the check or 'foot' valves.

## **Step 1**

Perform the pre-operation inspections according to the manual and company policies.

## **Step 2**

Operate all unit functions from the upper controls to make sure hoses are filled with oil.

## **Step 3**

Store the booms in the travel position before proceeding to Step 4.

## Step 4

Turn off the chassis engine. Cycle the control handles to bleed off any trapped pressure.

## Step 5

Install the jumper hose with pressure gauge in the configuration listed in steps 6 – 8 as applicable to the unit being tested. In each configuration, the pressure reading should stabilize at 30-60 PSI and hold for a minimum of 30 seconds. This will indicate that the check valves will hold oil in the line.



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## Step 6

Install jumper hose with pressure gauge between the *Tool Pressure* and *Tool Return* couplers. If unit has “free flow return”, connect it to the *Tool Return* temporarily.

## [Foot Valve Testing](#)

## Step 7 (If Equipped)

Install jumper hose with pressure gauge between the *Power Assist* pressure line and return.

## Step 8 (If Equipped)

Install jumper hose with pressure gauge between the *Option Valve* pressure line and return.

## Step 9

Record the value for the system tested in the inspection form for the unit tested.

## Foot Valve Testing



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