

Pre-Installation Notes

- Pressure protection valve (PPV) must be installed at the air reservoir when the reservoir is shared with air brakes.
- The exhaust port (rubber boot end) of the HCV must be installed at, or below, the horizontal position.
- Extreme Air Lo-Flo HCV supply port is a 3/8" push-to-connect (PTC) fitting. The Lo-Flo HCV delivery ports are 1/4" PTC fittings.
- The installer is responsible for making sure that air system requirements comply with the Federal Motor Vehicle Safety Standards (FMVSS) 121 for Air Brake Systems.

Height Control Kit (HCK) Installation Procedure

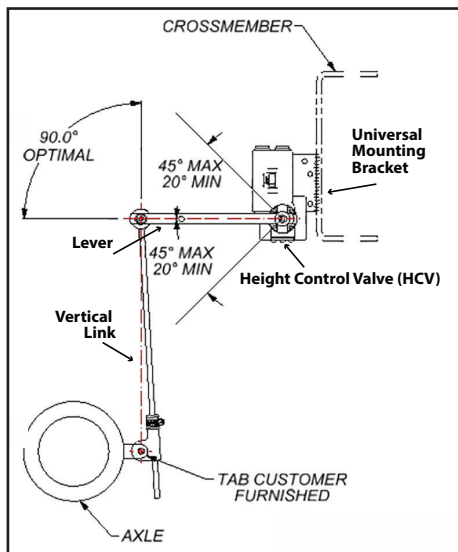
Park vehicle on a flat, level, debris-free surface. Chock the vehicle wheels to prevent movement. Raise the suspension/axle system to the desired ride height and support.

CAUTION Failure to provide proper support, chock vehicle's wheels or exhaust the air system could allow vehicle movement that could result in serious injury.

Refer to the vehicle or suspension manufacturers instructions for mounting position and valve orientation (Figure 2).

1. Check location of alignment notch on drive cap, place lever arm into drive cap slots and attach lever. Torque screw to 50-55 in-lbs. Make sure lever arm rotates up to fill ("FILL") and down to exhaust ("EXH").
2. Mount the height control valve (HCV) with lever arm to the vehicle frame or mounting bracket with two T-bolts. Torque to 60-80 in-lbs.
3. Attach the vertical link "P-Connector" to the lower mounting bracket with lower pin. Torque to 90-120 in-lbs. Make sure lever arm in the center position, slide vertical link (rod) up-or-down through P-Connector until grommet is at the same height as lever arm. Connect vertical linkage to lever with upper pin. Torque to 60-80 in-lbs.
4. Slide vertical link up-or-down through the P-Connector until lever arm reaches desired angle (Figure 1). Tighten the band clamp on the P-Connector to hold vertical link in place. Leave approximately 1" of the rod beneath the "P" connector and cut off excess.
5. Install air lines to the 3/8" HCV supply port. The delivery port fittings attaches to 1/4" air lines. An optional 3/8"-to-1/4" reducer fitting is included for the supply port.
6. Pressurize air system and check for leaks.
7. Remove the suspension/axle system supports. Lower suspension/axle to ground.
8. Move suspension through entire travel range to ensure no linkage binding, toggling or interference is present at full jounce and rebound of the suspension system.

Figure 1.
Example-
HCV linkage
installation



Extreme,
Air™



Lo-Flo HCV Installation Guide



Part No.: 9710009

Doc: Lo-Flo-HCV-Install-RevB-10-04-16

Operational Check

Raise the suspension by manually rotating the lever arm 20-30 degrees towards the "FILL" position. Hold lever in place until air springs inflate. Release the lever to exhaust air springs. If air springs do not inflate:

- Verify air supply pressure is sufficient to open the pressure protection valve (usually greater than 70 psi).
- Check to make sure that any suspension dump/exhaust feature is not activated.
- Check to make sure lever is oriented properly. The drive bearing cap may need to be rotated 180 degrees and the lever re-positioned.

If air springs are inflating properly, manually rotate the lever arm 20-30 degrees towards the "EXH" (Exhaust) position. Hold lever in place and check that air is escaping from the exhaust port.

Maintenance

- Drain all moisture from air reservoir at regular intervals.
- Periodically check for pinched/damaged lines or loose fittings on components that could cause an air leak in the system. Repair any problems found.
- Routinely inspect the HCK system to make sure that the HCV is maintaining the desired ride height. Adjust the linkage and re-torque fasteners as necessary.

Troubleshooting Height Control Valve Installation

"Bad" Height Control Valve - Pinched/damaged lines or loose component fittings are often the cause of an air leak that leads to the HCV not working as it should. Check the air system and repair any problems before continuing with troubleshooting.

Problem	Possible Cause	Corrective Action
Ride Height too high or too low.	<ul style="list-style-type: none"> HCV out of adjustment or not installed correctly. 	<ul style="list-style-type: none"> Refer to engineering drawing for ride height specifications. Check adjustment of HCV.
HCV is not receiving air or is not delivering air to the air springs.	<ul style="list-style-type: none"> Blocked air supply line. Air tank is not filling/reaching set pressure. Pressure Protection Valve (PPV) not working correctly. External dump feature is engaged or HCV is plumbed incorrectly. 	<ul style="list-style-type: none"> Verify air lines are pressurized by removing supply line at HCV. Check for pinched lines. Verify tank pressure with manual/in-line pressure gauge. Check PPV operation by making sure that valve opens when system reaches the desired pressure setpoint (<i>usually greater than 70 psi</i>). Check Extreme Air Lo-Flo® HCV configuration. Reinstall, if necessary.
Air springs fill but do not exhaust.	<ul style="list-style-type: none"> Obstructed air line. HCV installed backwards. Supply line installed in suspension port 	<ul style="list-style-type: none"> Disconnect linkage and rotate actuating lever to down position (exhaust). If springs remain inflated, check for pinched/blocked lines. Check installation. Reinstall, if necessary. Move air supply line to HCV supply port.
Air system leaks down in a short period of time.	<ul style="list-style-type: none"> HCV installed backwards. Leak in air system beyond accepted standards. 	<ul style="list-style-type: none"> Disconnect linkage and rotate actuating lever to the up position (fill). If air springs do not inflate, reinstall HCV. To find leak in the HCV area, pressurize system and spray soapy water solution onto the valve and lines. Check for bubbles (leaks): <ul style="list-style-type: none"> No leak found – Do not remove valve, check the rest of the system for leaks. Check that tubing cuts are straight and smooth. Re-cut and reassemble if necessary.

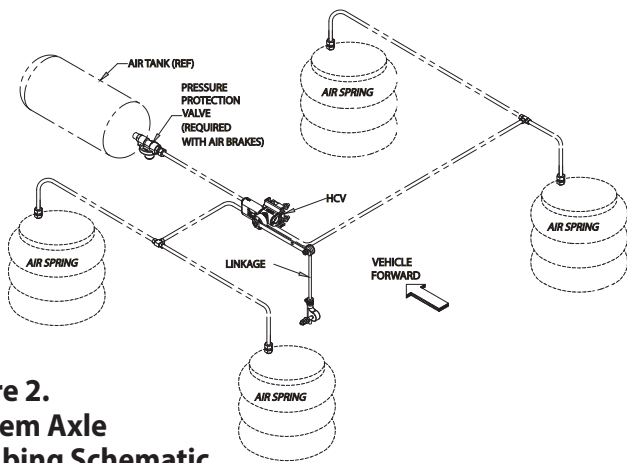


Figure 2.
Tandem Axle
Plumbing Schematic

RAR-244 8K - HCV Configuration

Symbol Identification

- 1 - Height Control Valve
- 2 - Lever
- 3 - Upper Pin Assembly
- 4 - Vertical Link
- 5 - "P" Connector
- 6 - Clamp
- 7 - Lower Pin Assembly
- 8 - Upper Mounting Bracket

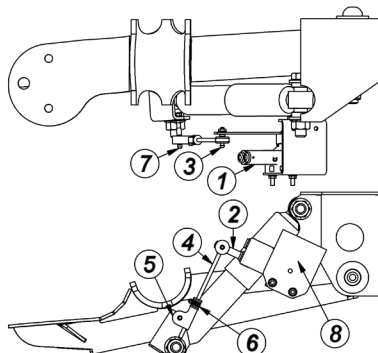


Figure 3.

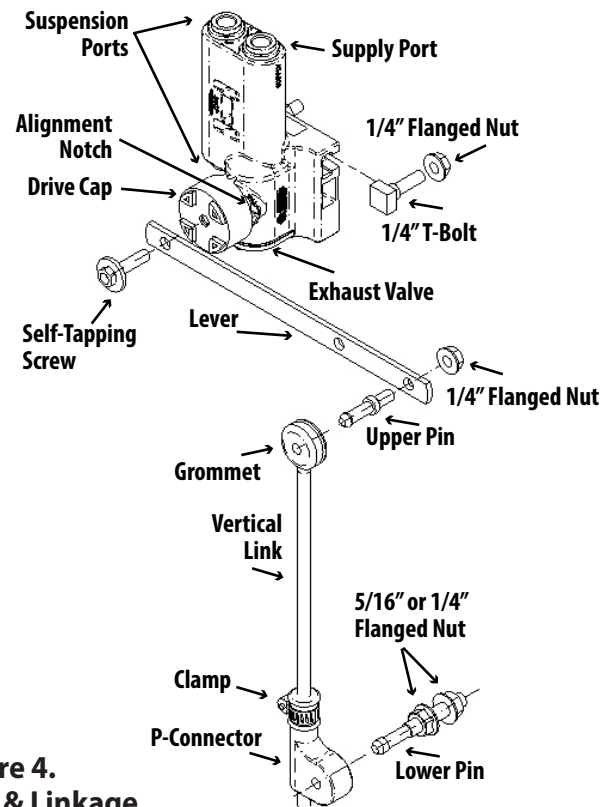


Figure 4.
HCV & Linkage