

Height Control Kit (HCK) Installation Procedure

- All ports use push-to-connect (PTC) fittings to 3/8" tubing.
- Install the exhaust port at or below a horizontal position.
- Pressure-Dump HCV: The dump pilot port cannot be plugged if the dump feature is not used. Plumb the dump pilot port with at least 6" of air line tubing open to the atmosphere at one end.
- Zero Pressure-Dump HCV: The dump pilot port must be plugged. The Zero-Pressure Dump height control valve requires a minimum pressure of 75 psi at the pilot port for normal operation.
- A pressure protection valve (PPV) on the air tank is required when the tank is shared with an air brake system.
- The installer is responsible for the air system installation complying with all federal/state requirements such as "FMVSS 121 for Air Brake Systems."

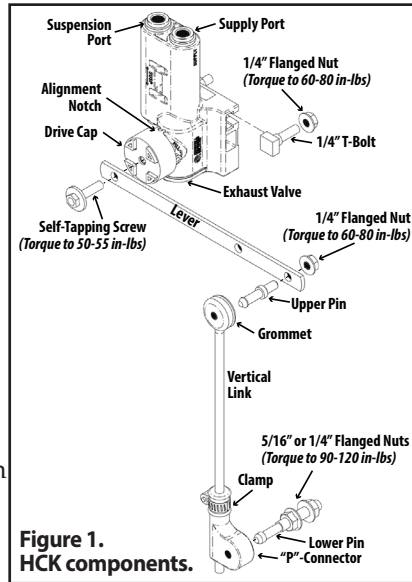


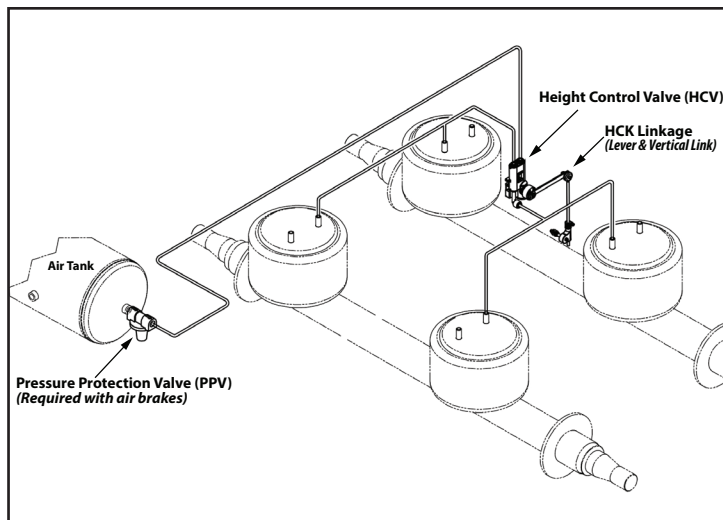
Figure 1.
HCK components.

Service Notes

Exhaust all pressure from the air system and wear proper eye protection and personal protective equipment at all times. Park the vehicle on a level, debris-free surface. Chock the vehicle wheels to prevent movement.

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.

1. Raise the suspension/axle system to the desired ride height and support.
 2. Set drive cap alignment notch to center (neutral) position. Lever moves up to fill ("FILL"); down to exhaust ("EXH"). Attach lever. Torque to 50-55 in-lbs (Fig 1).
 3. Mount HCV lever assembly to vehicle mounting bracket with two T-bolts. Torque to 60-80 in-lbs (Fig 1).
- (Continued on back)



Tandem-Axle plumbing schematic example with linkage attached to axle. Publication #9710021 "HCK Trailer Installation Guide" reviews suspension-specific mounted HCK orientations.

Extreme Air™ Height Control Valve



HCK INSTALLATION GUIDE

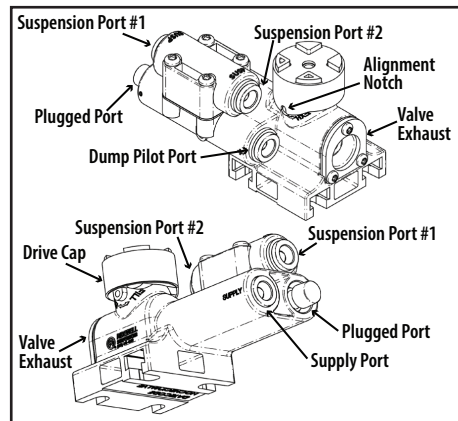


**RIDEWELL
SUSPENSIONS**

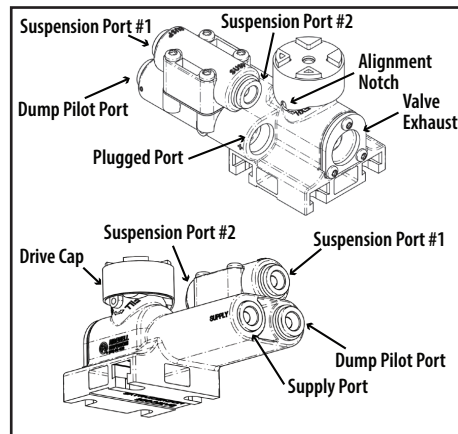
Part No. 9710008

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Air control systems that need a slower-reacting height control valve with a slower air flow should use the Extreme Air™ Lo-Flo HCV.



**Pressure-Dump
configuration
(Normally Open).**



**Zero-Pressure
Dump configuration
(Normally Closed).**

Drawing #63300AAAA00 indicates the height control kit components for different suspension models.

4. Attach "P"-Connector to lower mounting bracket with the lower pin. Torque to 90-120 in-lbs (Fig 2).
5. Set lever to neutral (center) position. Slide vertical link into "P"-Connector. Slide rod until grommet reaches the same height as the lever. Attach vertical link to lever with the upper pin. Torque to 60-80 in-lbs. Tighten P-Connector band clamp to hold the rod in place. Cut and remove excess rod, leaving about one-inch of rod beneath the P-Connector (Fig 2).
6. Install air lines to HCV supply port and to the suspension and dump ports. Pressurize system and check for leaks.
7. Remove the suspension/axle system supports. Lower suspension/axle to ground.

Operational Check

Move suspension through entire range of travel. Check lever travel range through full jounce and rebound movement. No binding, toggling or interference should be present.

1. Raise the suspension by manually rotating the lever arm 20-30 degrees towards the "FILL" position. Hold the lever in place until air springs inflate. Rotate lever down to exhaust the 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 suspension dump/exhaust feature(s) is not activated.
 - Check to make sure lever is oriented properly.
NOTE: The drive bearing cap may need to be rotated 180 degrees and the lever re-positioned.
2. If air springs are inflating properly, manually rotate the lever 20-to-30 degrees down towards the Exhaust (EXH) position. Hold lever in place and check that air is escaping from the exhaust port.

CAUTION Be sure that turning wheels does not interfere with the HCV/other components if HCK is installed on steer axle.

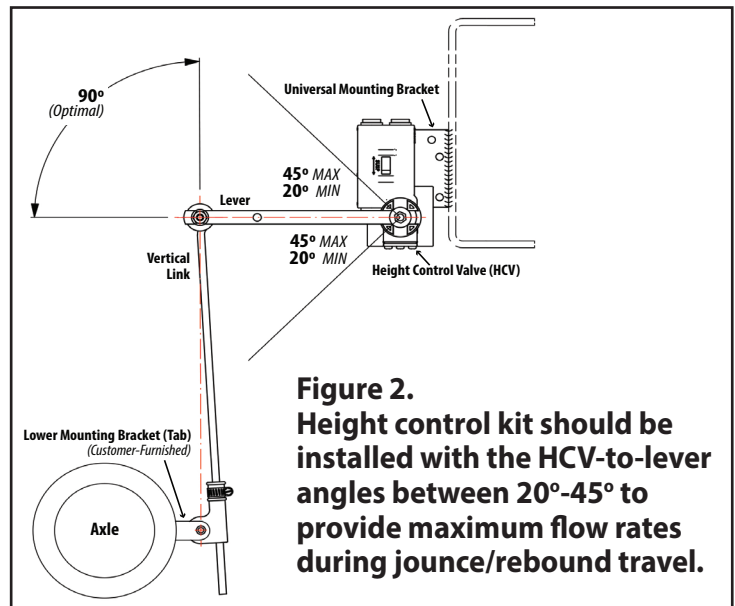


Figure 2.
Height control kit should be installed with the HCV-to-lever angles between 20°-45° to provide maximum flow rates during jounce/rebound travel.

Preventive Maintenance

- Drain all moisture from the air tank 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 it is maintaining the desired ride height. Adjust the linkage and re-torque fasteners as necessary.

Troubleshooting – Height Control Valve Installation

A "bad HCV" is a common misdiagnosis of the air system not working. Most problems are traced to other parts of the system such as pinched/damaged lines, other valves or loose component fittings. Repair problems before resuming troubleshooting.

Problem	Possible Cause	Corrective Action
Ride Height too high or too low.	— HCV out of adjustment or not installed correctly.	— Refer to engineering drawing for ride height specifications. Check HCV adjustment.
HCV is not receiving air or is not delivering air to the air springs.	— Blocked air supply line. — Air tank is not filling/ reaching set pressure. — Pressure Protection Valve (PPV) not working correctly. — Pilot port is not plumbed or is plumbed incorrectly.	— Verify air lines are pressurized by removing the air supply line at HCV. Check for pinched lines. — Verify tank pressure with manual/in-line pressure gauge. — Check PPV operation - Valve opens when system reaches the desired pressure setpoint (<i>usually greater than 70 psi</i>). — Check HCV configuration – Non-Dump; Pressure-Dump (Normally Open); Zero-Pressure Dump (Normally Closed). Reinstall, if necessary.
Air springs fill but do not exhaust.	— Obstructed air line. — HCV installed backwards. — Supply line installed in the suspension port	— Disconnect linkage and rotate actuating lever to the "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.	— HCV installed backwards. — Leak in air system beyond the accepted standards.	— Disconnect linkage and rotate actuating lever to the "Up" position (fill). If air springs do not inflate, reinstall HCV. — Pressurize system and spray soapy water solution onto the HCV and fittings. Check for bubbles (leaks): No leak found – Do not remove valve, check the rest of the system for leaks. Check that tubing cuts are straight and tubing is pushed onto fittings. Re-cut and reassemble if necessary.