

Height Control Valves in Airmount™ Isolator Applications

Standard Time Delay Height Control Valve

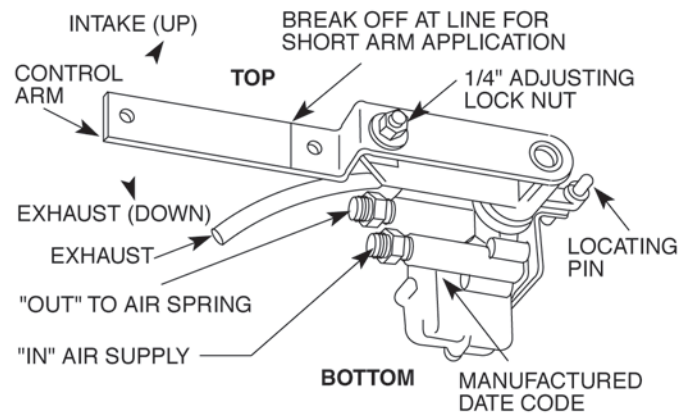
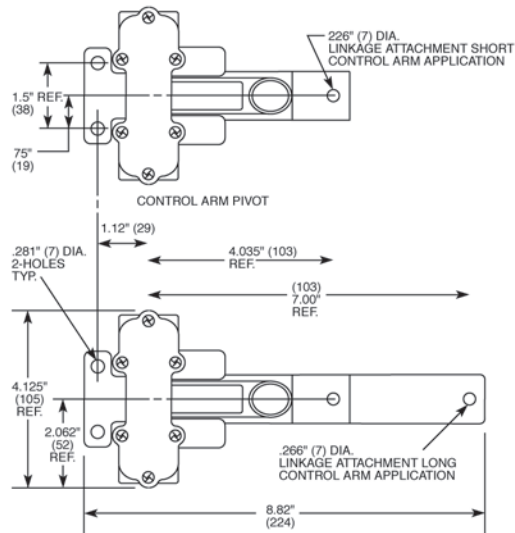
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General Discussion

These height control valves (HCV) are typically required to control the height of the air spring in applications that experience wide load variation or when off center loading might be encountered. Examples would include optical tables or isolation platforms for shaker systems. The standard time delay height control valve does not respond as fast, giving the system time to "damp out" unwanted motion. In most cases the height control valve body will be mounted on a stationary surface. The control arm needs to be attached to the moving mounted device. Adjustable linkage kits are available for both valves in order to connect the valve control arm to the device.

Key items regarding the use of these valves:

- These valves can be interchanged with other height control valves; however, do not use a time delay valve with an immediate response valve on the same base.
- Do not use any antifreeze or other solvents in air supply lines. The use of such solvents or antifreeze can damage seals and violates the warranty of the valve.
- The standard height control valve has three ports; the top must always be the exhaust port, the bottom must always be the air supply port, and the center must be connected to the air spring.
- The valves must be located in the same plane in relation to the air springs and have the same linkage length.



Installation Instructions - Standard HCV

1. Install the valve sub-assembly. Use a drop of oil or loctite to lubricate threaded connections. **Do not use a pipe compound or Teflon tape.**
2. Connect the Airmount isolator to the center port with filter fitting assembly after assembling fittings to the tubing. **The air spring is always connected to the center port.**

*Never use Airmount isolators to lift equipment into place. Equipment should be rested on stops set slightly below design height and raised into position for isolation. Refer to the Firestone Engineering Manual and Design Guide for further information.

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Installation Instructions Continued

3. Install the exhaust fitting in the top port and slip the exhaust hose over the end of the exhaust fitting. **The exhaust port is always the top port.**
4. Connect the air supply to the bottom port with the filter fitting assembly after assembling the fittings to the tubing. **The bottom port is always connected to the air supply.**
5. Disconnect the linkages at the lower brackets and move the control arms to the 'up' position and raise the system. Place the spacer blocks or jack stands between the ground and the support system. **Ensure that the supports used are of sufficient capacity to support the load.** With the supports in position, move the control arms to the "down" position. Recheck the height of the system.

Lower the system and release the air in the air springs/system and recheck once again for proper height of the system.

6. Move the valve control arms to a 45° "down" position for the duration of 10 -15 seconds. Return the control arms slowly to the center position and insert the wood locating pins into the adjusting block and bracket on the height control valves. Loosen the 1/4" adjusting lock nuts located on the adjusting blocks. This will allow the control arms to oscillate approximately +/- 1". Reconnect the linkages and torque to 12-24 in lbs.
7. Re-tighten the 1/4" adjusting lock nuts at the adjusting blocks to 2 - 4 ft lbs.
8. Remove the wood locating pins that were installed in step 6 and raise the system to remove the blocks or jack stands. The system will return to, and maintain, the proper height.