

# Type CR Controlled Response Height Control Valve

## Installation Instructions



### General Information

The Haldex Controlled Response (CR) Height Control Valve (HCV) automatically adds air to, or exhausts air from air suspension to maintain a constant static design height. The Type CR Height Control Valve does not respond to short duration dynamic changes in axle position.

- The Haldex Type CR HCV can be used for right or left hand and long or short control arm applications. Refer to installation instructions for proper plumbing connection.
- All valve ports are 1/8" NPT.
- Compression fittings for 1/4", 3/8" or metric tubing, or push-in fittings are available - specify when ordering.
- Optional dump functions are available using Part No. 90554902 or Part No. 90554335.
- Several different linkage assemblies can be purchased. Contact your Haldex Distributor for details.

**NOTE:** The Haldex Type CR can be interchanged with other brands of height control valves.

### Pre-Installation Information

**IMPORTANT:** The Height Control Valve (Figure 1) and linkage maintain vehicle ride height as loads increase and decrease. Proper set up of the HCV(s) is critical to system performance. Read all instructions prior to any assembly or disassembly. Should you feel unable to properly install or adjust a Haldex Type CR HCV, contact Haldex Technical Services or have a certified mechanic install or adjust the valve.

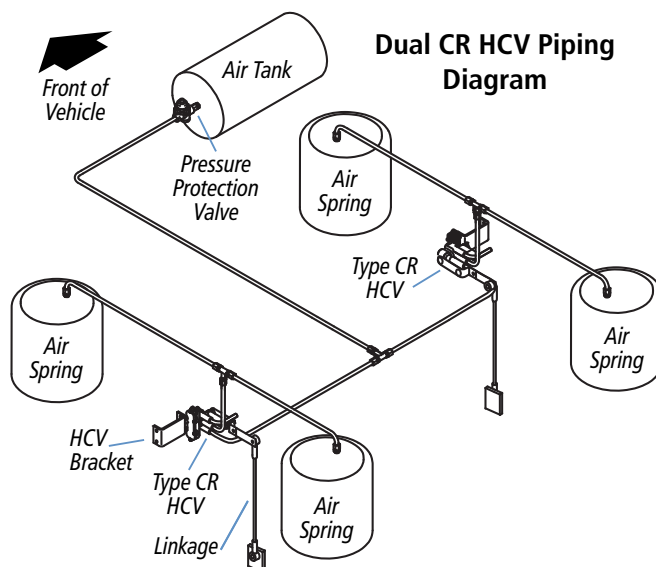
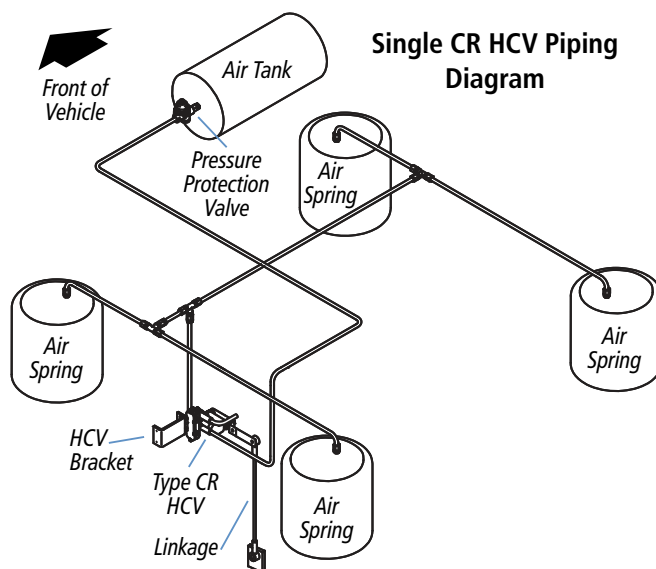
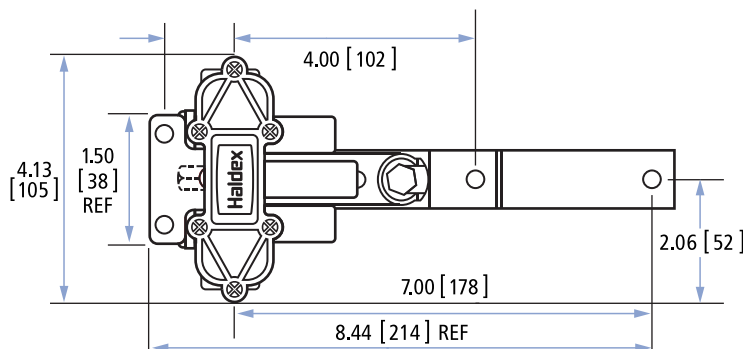
**CAUTION:** Incorrect installation of valves and associated components can impair suspension and vehicle performance. It is important that OEM specifications of a single- or dual-HCV system are followed when installing the air control system. Refer to vehicle and suspension manufacturer instructions for recommended valve location.

DO NOT install a single height control valve of any type if the suspension or vehicle manufacturer specifies a two (2) height control valve system.

DO NOT use antifreeze or solvents in air supply line. Solvents or antifreeze will damage seals and void valve warranty.

ALWAYS use a Pressure Protection Valve (PPV) and filter such as Haldex Part Number 90554107. Attach PPV directly to air reservoir for supply to the Type CR HCV.

Figure 1. Haldex Type CR HCV



# Installation Instructions

**NOTE:** Prior to installation, rotate control arm 3-5 times 360 degrees in both the intake and exhaust directions to remove any adverse effects of storage.

1. Prepare vehicle for installation. Vehicle should be in an unloaded condition before starting installation procedures. Be certain all dump switches are off. Park the vehicle making sure all vehicle wheels are on a hard, level surface. Raise and properly support all auxiliary axles. Do not set the parking brakes, instead use safety wheel chocks to secure the vehicle.

**WARNING:** Failure to support auxiliary axles could allow axle to drop, causing death or serious personal injury. Failure to use wheel chocks could allow vehicle to roll, resulting in death or serious personal injury.

Check to make sure there is enough room to work around and under the vehicle where the HCV linkage is attached.

2. Determine the location of the linkage end mounted to the vehicle's axle so that when the linkage is connected to the control arm of HCV proper ride height can be achieved.
3. Install fittings in valve before mounting to vehicle if possible. Haldex recommends fittings with pre-applied sealing compound. If they are not available, use a drop of oil or threadlocker. DO NOT use teflon tape or pipe sealing compound.
4. Mount Type CR HCV to vehicle frame or mounting bracket.
5. a. Connect air line from air springs to center port. (Figure 2)  
b. Connect air line from air supply to bottom port. (Figure 2)  
c. Top port is ALWAYS the exhaust port. Install supplied exhaust fitting to top port and slip exhaust hose over exhaust fitting. (Figure 2)
6. Air up the vehicle and check all fittings for leaks.
7. Raise the suspension by moving the control arm of the Height Control Valve up. Either place spacer blocks between the frame and axle or jack stands between the vehicle frame and ground. (Figure 3 and 4)

**CAUTION:** Spacer blocks or jack stands must be of sufficient strength to support vehicle.

**NOTE:** The spacer blocks or jack stands should be at a height which will allow the vehicle to come to rest at the correct ride height of the suspension

With spacer blocks or jack stands in position, lower the vehicle by moving the control arm of the valve down and deflate all air from the air springs and system. Recheck for proper ride height.

**NOTE:** It may be necessary to shim spacer blocks or jack stands to achieve the proper ride height.

Figure 2. Features of the Type CR HCV

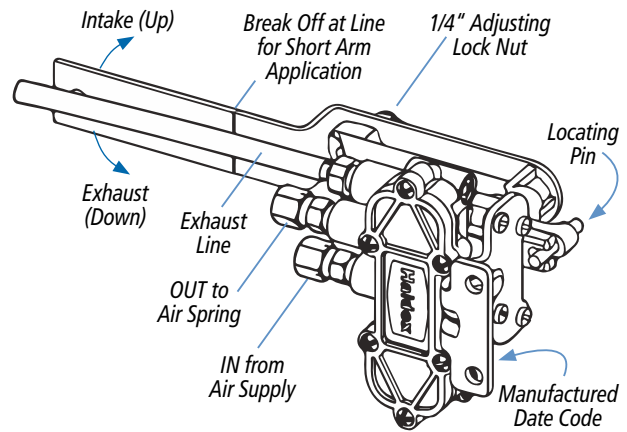


Figure 3. Block Height

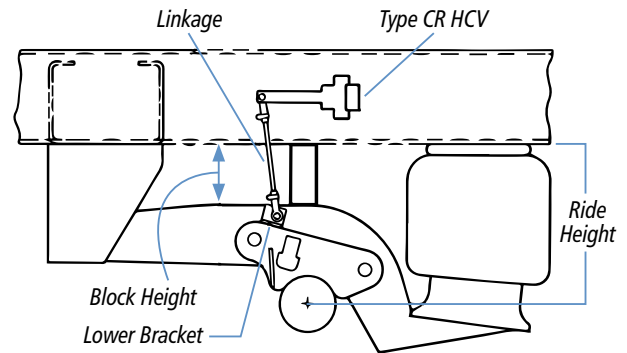
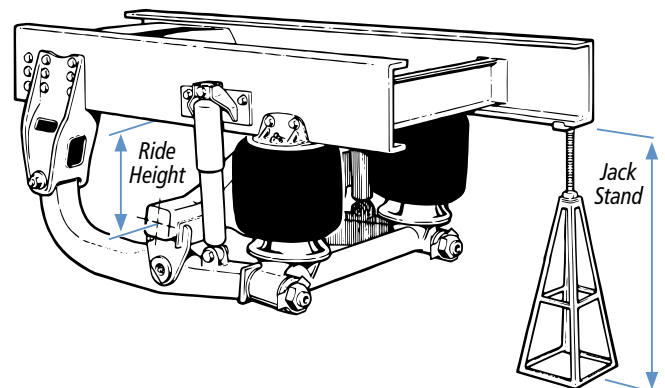


Figure 4. Jack Stand Height



## Installation Instructions (Continued)

8. Once proper ride height has been achieved, move control arm on Height Control Valve to a 45° "down" position for 10-15 seconds. Return the control arm slowly to the center position. Then insert the wood locating pin into the adjusting block and bracket on valve.
  9. Loosen the 1/4" adjusting lock nut on the adjusting block of Height Control Valve. With the suspension at ride height and the HCV control arm at the center position, install a linkage from the control arm to the pre-determined location (Step 2) for the linkage connection to the axle.
- NOTE:** If the linkage is not long enough, loosen and rotate the valve or replace the linkage.
10. Retighten the 1/4" adjusting lock nut at the adjusting block to 24-48 in.lbs.
  11. Remove the wood locating pin that was installed in Step 7. To remove the spacer blocks or jack stands disconnect the linkage at the vehicle's axle and move the control arm up. Then remove the spacer blocks or jack stands and reconnect the linkage. The suspension will return to and maintain the proper ride height.
  12. If proper ride height is not obtained or air springs do not inflate properly, check air pressure, check for proper piping and/or repeat Steps 6-10. As a final check, soap spray test all air line connections for air leaks and verify that all fasteners are tight. If unit is still not functioning properly, contact Haldex Technical Services.

## Periodic Air Control Maintenance

Drain all moisture from air reservoir at regular intervals.  
Normal air system maintenance should be practiced.

The air filter in the Haldex Pressure Protection Valve is removable and can be cleaned or replaced, if necessary.

## Haldex CR HCV Hardware

Part Number	Fittings Provided	Control Arm
90054007	1/4" Tube Compression	Long
90554183	3/8" Tube Compression	Long
90554147	1/8" NPT w/o Adaptors	Long
90554114	None	Long

### Additional parts available from Haldex enable you to:

#### Add a suspension dump feature to your truck or trailer.

Part No.	Description
90554902	Normally Closed Dump Valve for "Auto Dump" Installations
90554335	Normally Open Dump Valve for Manual Dump Installations
90554615	For Remote Mounted "Auto" or Manual Dump Installations
90054088	For Switch To Pilot Manual Dump Valves

#### Upgrade Pressure Protection Valve to include inline filter.

Part No.	Description
90554107	PPV With Inline Filter

#### Weigh your vehicle.

Part No.	Description
42123039	SM130 Economic Pressure Gauge and Decal
42123040	SM140 Robust Pressure Gauge and Decal, Mounted in a Weatherproof Fiberglass Box