

TECHNICAL BULLETIN

AIRTEK® for Volvo Vehicles

SUBJECT: Dual Ride Height Control Valves

LIT NO: SEU-0220

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REVISION: A

IMPORTANT NOTICE

INTRODUCTION

Hendrickson Truck Suspensions Systems has implemented a product modification for AIRTEK® suspensions. To be installed by Volvo on vehicles it builds after March 2005. The new AIRTEK suspensions will be equipped with dual ride height control valves.

This modification will:

- Eliminate the need for a front axle spacer on Volvo vehicles with a 338 ride height (spacer part numbers 64318-020, -012)
- However, Vehicles with a 366 ride height will continue to use a front axle spacer on both sides of the axle (spacer part number 64318-028).
- This will discontinue the use standard fasteners on the height control valve bracket. The new height control valve bracket will use metric mounting fasteners.

The following procedure is to be used for inspecting and making any necessary ride height adjustments on AIRTEK suspensions equipped with dual ride height control valves.

DUAL RIDE HEIGHT INSPECTION PROCEDURE

NOTE

The reference ride height measurements are different on the 12,000/12,500 and 13,200/14,600 pound capacity suspensions. Verify suspension capacity, and ensure the proper ride height gauge is used.

AIRTEK HEIGHT GAUGE

- Lit No. 45745-170 — 12,000 and 12,500 pound capacity
 - Lit No. 45745-195 — 13,200 and 14,600 pound capacity
1. Use a work bay with a level floor. Drive the vehicle slowly, straight ahead. Try to slacken or loosen the suspension as the vehicle is positioned. End with all the wheels positioned straight ahead. Try to roll to a stop without the brakes being used.
 2. Chock drive wheels. Do not set parking brake.

DANGER
AIR SPRINGS

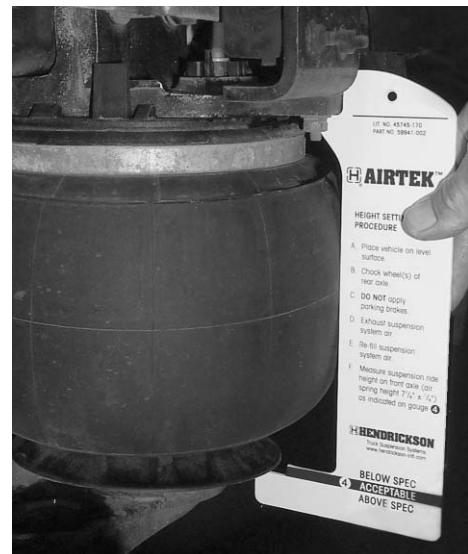
AIR SPRING ASSEMBLIES MUST BE DEFLATED PRIOR TO LOOSENING ANY CLAMP GROUP HARDWARE. UNRESTRICTED AIR SPRING ASSEMBLIES CAN VIOLENTLY SHIFT. DO NOT INFLATE AIR SPRING ASSEMBLIES WHEN THEY ARE UNRESTRICTED. AIR SPRING ASSEMBLIES MUST BE RESTRICTED BY SUSPENSION OR OTHER ADEQUATE STRUCTURE. DO NOT INFLATE BEYOND PRESSURES RECOMMENDED BY AIR SPRING MANUFACTURER, CONTACT HENDRICKSON TECHNICAL SERVICES FOR DETAILS. IMPROPER USE OR OVER INFLATION MAY CAUSE AIR SPRING ASSEMBLIES TO BURST, CAUSING PROPERTY DAMAGE AND/OR SEVERE PERSONAL INJURY.

3. Cycle the air system. Detach the upper rubber grommet(s) of the height control valve linkage(s) from the upper stud and exhaust the suspension system air by lowering the height control valve linkage arm.
4. Re-attach the upper grommet of the height control valve linkage onto the upper stud to fill the suspension system with air. Wait until the airflow to front air springs has stopped.

5. a.) 12K/12.5K Capacity

Hold the 45745-170 gauge vertically. See Figure 1. Place the gauge so that the upper notch feature is placed between the height control valve mounting bracket bolts and is flush against the bottom of the air spring mounting bracket.

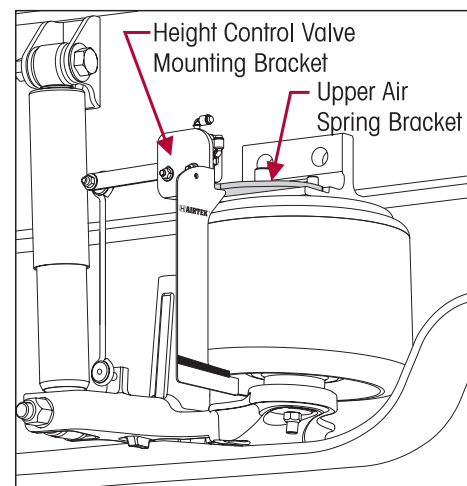
Figure 1
Shown for 12K/12.5K pound capacity


b.) 13.2K/14.6K Capacity

Hold the 45745-195 gauge upper notch feature against the outboard side of the height control valve mounting bracket and to ensure it is flush against the bottom of the upper air spring bracket. See Figure 2.

6. The air spring piston flange edge should contact the lower region marked "ACCEPTABLE".

Figure 2



7. If the air spring piston flange edge contacts the "BELOW SPEC" region, the ride height is set too low and requires adjustment. See Figure 2. If the air spring piston flange contacts the "ABOVE SPEC" region the ride height is set too high and requires adjustment.

If a gauge is not available, measure the suspension reference ride height on the front axle (air spring height). Measurement can be taken from the bottom of the upper air spring bracket to the bottom of the air spring piston flange.

- 12,000 and 12,500 pound capacity $7\frac{7}{8}'' \pm \frac{1}{8}''$
- 13,200 and 14,600 pound capacity $8\frac{1}{8}'' \pm \frac{1}{8}''$

ADJUSTMENT ALL MODELS

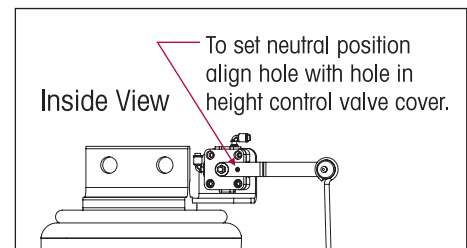
1. Verify that the air system is at full operating pressure.

SERVICE HINT

It is very important that the leveling valve be cycled completely before and after any ride height adjustments. Cycling of the leveling valve will help make the adjustment more accurate.

2. See Air Spring Safety Notice on front page prior to deflating or inflating the suspension system. Cycle the air system. Detach the upper rubber grommet(s) of the height control valve linkage(s) from the upper stud and exhaust the suspension system air by lowering the height control valve linkage arm.
3. Refill the suspension by raising the height control valve arm(s) by hand, so that the air springs are above the proper ride height.
4. Lower the leveling valve arm(s) to exhaust the air system until the suspension is at the proper ride height as measured on the correct height gauge.

Figure 3



5. Use a $\frac{1}{8}''$ wooden dowel rod (golf tee) to set the neutral position for the height control valve(s) by aligning the hole in the leveling arm(s) with the hole in the height control valve cover, as shown in Figure 3. **DO NOT** use a metal rod or nail as this may cause damage to the height control valve.

NOTE

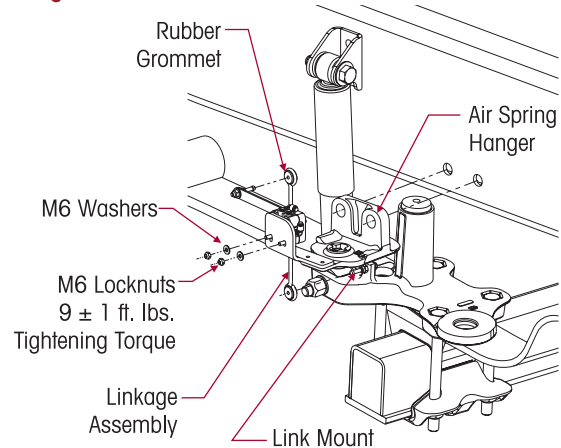
Hendrickson recommends the following be performed during any type of ride height adjustment to help prevent socket head cap screws from loosening from the height control valve housing, and any subsequent air leaks from the height control valve.


Prior to adjusting the height control valve, clean the threads of the M6 mounting fasteners of any debris and corrosion.

- The above procedure should also be performed in the event an air leak is detected in the height control valve. If air continues to leak after the socket head cap screws have been properly re-tightened, the height control valve should be replaced.

6. Adjust the height control valve by loosening the mounting locknuts and pivoting the valve body about the mounting bolt so the height control valve leveling arm stud inserts directly into the center of the hole on the rubber grommet(s) at the proper height. Check the rubber grommet(s) for any tearing or damage, replace as necessary.

7. Facing the air spring from the outboard side for the left side of the vehicle, pivot the valve body counter clockwise to increase the ride height and clockwise to decrease the ride height. For the right side of the vehicle, pivot the valve body clockwise to increase the ride height and counter clockwise to decrease the ride height.
8. Connect the height control valve arm(s) to the rubber grommet(s).

Figure 4

9. Tighten the mounting M6 locknuts  9 ± 1 foot pounds torque after the adjustment is made. See Figure 4. Install a 5 mm allen wrench in the bottom socket head cap screws to prevent the screws from turning while re-tightening the M6 locknuts. Remove the dowel from the height control valve(s).
10. Cycle the height control valve leveling arm(s) as stated in step number 2.
11. Recheck the ride height on both sides of the vehicle.
12. Repeat steps 2 through 10 until the ride height is within specification.

Refer any questions to this publication to Hendrickson Tech Services (800.910.2800 or email techservices@hendrickson-intl.com). For more information on Hendrickson products go to www.hendrickson-intl.com.

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