



ASSEMBLY INSTRUCTIONS

Steering Stabilizer Kits Volvo Vehicles Equipped with AIRTEK® U-bolt Clamp Group

SUBJECT: Kit Nos. 66083-000, 66084-000
and 66085-000

LIT NO: 59310-044

DATE: April 2010

REVISION: B

INTRODUCTION

Hendrickson Truck Suspension Systems has worked with Volvo Trucks North America, Inc. to develop the following Steering Stabilizer Kits available for Volvo VNL and VNM model vehicles manufactured with Hendrickson AIRTEK integrated front air suspension and steer axle systems after November 2006 (2007 Engine):

Volvo Part No.	Hendrickson Kit No.	Ride Height	Axle Rating	Clamp Group Bolt Length
21477980	66083-000	338	12.0K/12.5K	225 mm
21477981	66084-000	338	13.2K/14.6K	255 mm
21477982	66085-000	366	12.0K/12.5K 13.2K/14.6K	275 mm

These Assembly Instructions cover the proper installation of the Steering Stabilizer Kits. These kits are available only through Volvo Trucks North America, who must authorize the installation of any of the above referenced Steering Stabilizer Kits. Contact the Volvo Technical Support line at 1-800-888-2039 for further information or questions regarding, such kits. Contact Hendrickson at 630-910-2800 with any questions regarding these Assembly Instructions.

STABILIZER KIT INSTALLATION INSTRUCTIONS

DISASSEMBLY

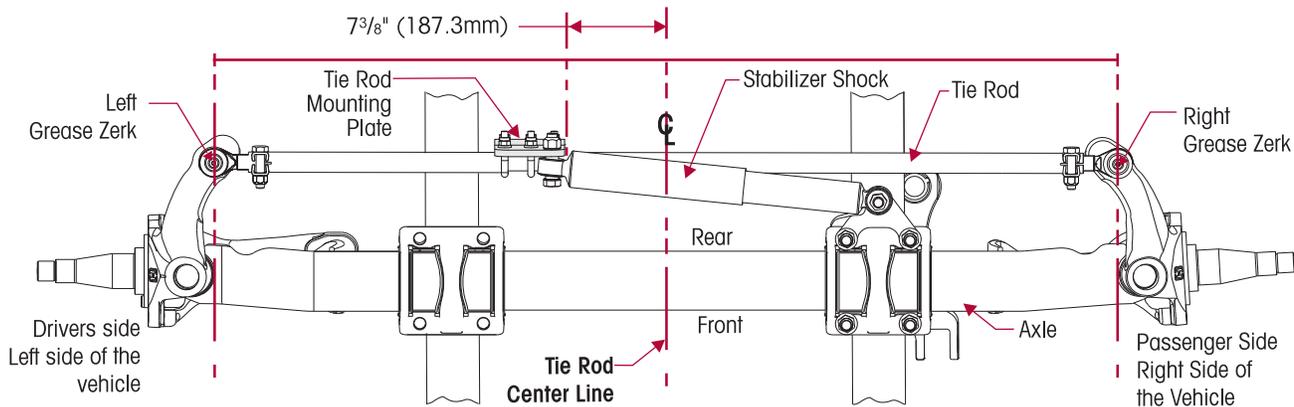
1. Turn wheels left and right and ensure that the steering stops contact the axle stops.
2. After checking to see that wheel stops contact the axle stop, ensure the tires are returned to the straight position.
3. Chock the wheels.

 **DANGER**

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.

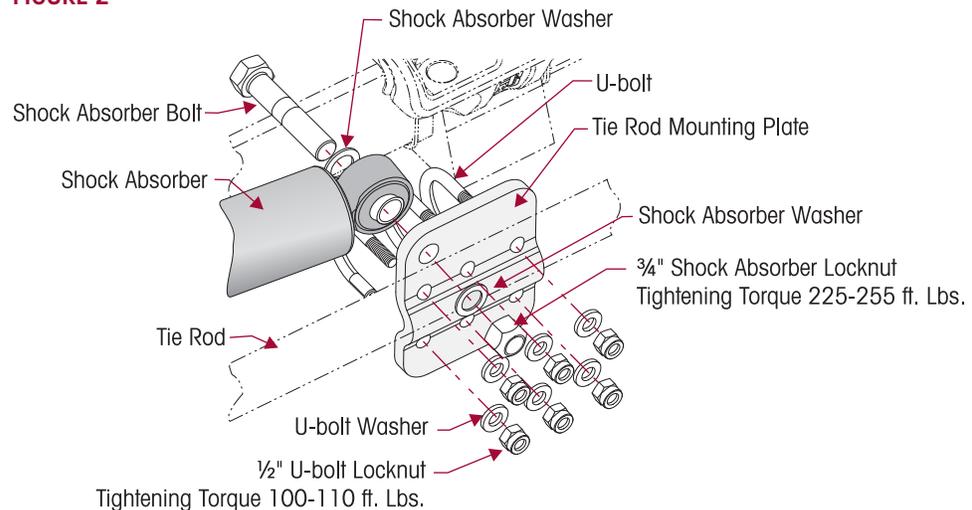
4. Remove the air from the air system by disconnecting the height control valve linkage(s) at the rubber grommet(s) and allowing the lever to drop. This will exhaust air from the system.
5. Raise the vehicle.
6. Support the frame and suspend the front axle with the shocks attached.
7. Support the axle with a jack.
8. Unseat the right air springs at the axle top pad.
9. Measure the distance between the left and right grease zerks on the tie rod assembly, see Figure 1.

FIGURE 1



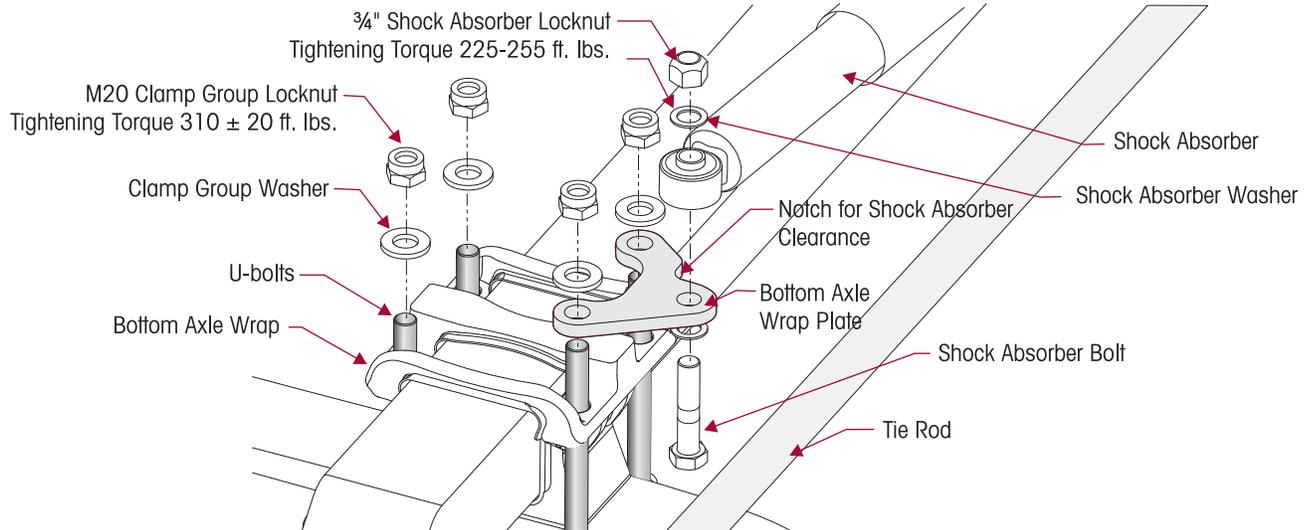
10. Divide this measurement in half.
11. Mark the centerline of the tie rod tube with this measurement.
12. Position the **tie rod mounting plate** 187.3 mm ($7\frac{3}{8} \pm \frac{1}{16}$) to the left of the centerline (towards the drivers side) of the centerline of the tie rod, see Figure 1.
13. Attach **tie rod mounting plate** using the hardware provided, see Figure 2. **DO NOT tighten** to torque at this time.
14. Remove the M20 U-bolt clamp group fasteners from the right side only and discard.

FIGURE 2

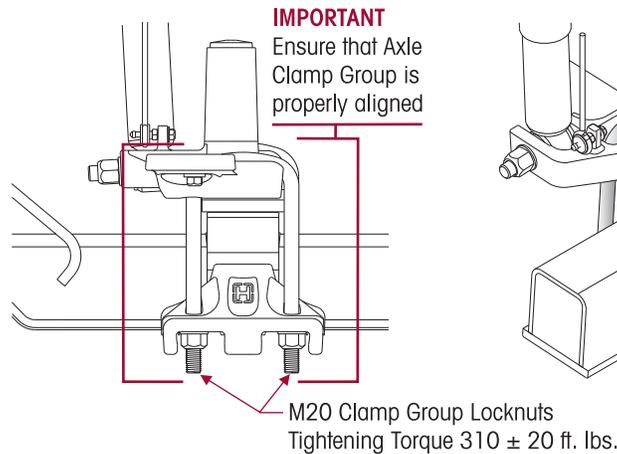
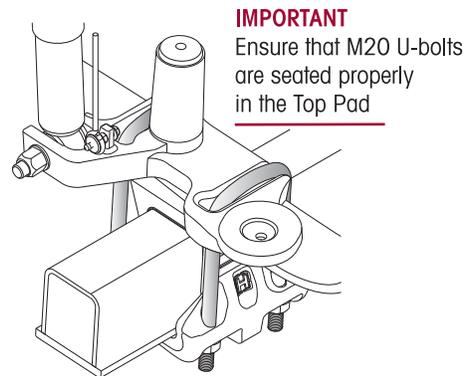


ASSEMBLY

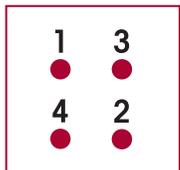
1. Install the new M20 clamp group U-bolts.
2. Place the bottom wrap plate over the rear clamp group U-bolts as shown. See notch orientation in Figure 3.
3. Add the new M20 locknuts. Snug the locknuts, **DO NOT** tighten to torque at this time.

FIGURE 3
Bottom View of Axle


4. Ensure that the clamp group is properly aligned and the U-bolts are seated properly in the top pad, and the bottom axle wrap is centered on the top axle wrap, see Figure 4 and 5.

FIGURE 4

FIGURE 5


5. Tighten the M20 clamp group locknuts evenly in 50 foot pound increments to 310 ± 20 foot pounds (420 Nm) torque in the proper pattern to achieve uniform bolt tension, see Figure 6.
6. Attach steering stabilizer shock to bottom wrap plate using the 3/4" x 3.5" long hex bolt, locknut and washer. **DO NOT** tighten to torque at this time.

FIGURE 6




7. Attach the other end of the stabilizer shock to the tie rod mounting plate using the remaining $\frac{3}{4}$ " x 3.5" long bolt, locknut and washer, see Figure 2.
8. Verify that the tie rod mounting plate is still 187.3 mm ($7\frac{3}{8}$ " \pm $\frac{1}{16}$ "") from the centerline of the tie rod, see Figure 1.
9. Tighten the $\frac{1}{2}$ " U-bolt locknuts to the tie rod mounting plate evenly to  100-110 foot pounds in a cross pattern.
10. Tighten the $\frac{3}{4}$ " locknut for the steering stabilizer shock on the bottom axle wrap plate to  225-255 foot pounds.
11. Tighten the $\frac{3}{4}$ " shock locknut for the tie rod mounting plate to  225-255 foot pounds.
12. Verify that the tie rod mounting plate is vertical.
13. Install the new front vertical shocks (Volvo Part number 20485633), tighten to Volvo specifications (200 foot pounds). The vertical shock is not included in the Hendrickson kit, contact Volvo for the vertical shock component.
14. Verify that the vehicle can achieve full left and right wheel cut without the steering stabilizer running out of travel. If the wheel cut test fails adjust the location of the tie rod mounting plate left or right to achieve full wheel cut.
15. Reseat the air spring at the axle top pad.
16. Remove safety stands.
17. Install the height control valve linkage(s) and inflate the suspension to normal operating pressure.
18. Verify proper ride height, adjust if necessary.
19. Remove chocks from wheels.

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