

TRW Automotive

Steering & Suspension Systems

Service Bulletin #COL-105**Intermediate Column Installation**

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This TRW Commercial Steering Division service bulletin has been written to help you repair commercial vehicles more efficiently. This bulletin should not replace your manuals; you should use them together. These materials are intended for use by properly trained, professional mechanics, NOT "Do-it-yourselfers". You should not try to diagnose or repair steering problems unless you have been trained, and have the right equipment, tools and know-how to perform the work correctly and safely.

Seal Design

1. Remove old intermediate column if applicable. Retain nuts and bolts for reuse.

If intermediate column disassembly is not required

2. Connect the outer tube to the upper steering column, and then the inner tube to the steering gear input shaft. Be sure the nuts and bolts are the type specified by the vehicle manufacturer, and torque bolts to vehicle manufacturer's specifications. The installation is complete.

If intermediate column disassembly is required, continue with the following procedure.

2. Slide the inner tube out from the outer tube, leaving the seal and clamp in place.
3. Connect the outer tube to the upper steering column. Make sure the bolt is in the shaft groove, and torque to manufacturer's specifications.
4. Align the arrows on the inner and outer tubes. If arrows are not aligned, the two pieces will not fit together properly, and the u-joints may be out of phase. Slide the two pieces together.
5. Stroke the column several times to verify correct alignment.
6. Bolt the intermediate shaft to the steering gear's input shaft. Make sure the bolt is in the shaft groove, and torque to vehicle manufacturer's specifications.

Boot Design

1. Remove old intermediate column if applicable. Retain nuts and bolts for reuse.

If intermediate column disassembly is not required

2. Connect the outer tube to the upper steering column, and then the inner tube to the steering gear input shaft. Be sure the nuts and bolts are the type specified by the vehicle manufacturer, and torque bolts to vehicle manufacturer's specifications. The installation is complete.

If intermediate column disassembly is required, continue with the following procedure.

2. Remove the clamp from the larger end of the boot using Oetiker Model 1090/5 Low Profile Pincers.
3. Slide the outer tube out of the boot.
4. Connect the outer tube to the upper steering column. Make sure the bolt is in the shaft groove, and torque to manufacturer's specifications.
5. Put the clamp on the boot, but do not tighten.
6. Align the arrows on the inner and outer tubes. If arrows are not aligned, the two pieces will not fit together properly.
7. Place the large end of the boot over the outer tube, and slide it up to near the end of the formed section.
8. Slide the inner tube into the outer tube.

9. Clamp the boot onto the outer tube, with the clamping area of the boot as close as possible to the formed area, while clamping on the unformed area. The clamp must be flush against the flange on the boot. Pinch the clamp together using Oetiker Model 1090/5 Low Profile Pincers.
10. Stroke the column several times to make sure the boot is firmly in place, and the column slides freely.
11. Bolt the intermediate shaft to the steering gear's input shaft. Make sure the bolt is in the shaft groove, and torque to vehicle manufacturer's specifications.

