Service Bulletin #COL-104

Adjustment Procedure for Elimination of Torsional Free Play in TC34 Tilt Telescope Columns

Revised December, 1994
Electronic Version April, 1998

Tools Required:

• Cotter pin puller (or other tool that can safely be used for pulling springs)*

• Various sockets*

• 3/16" hex wrench - at least 10 inches long and/or

• 1/4" hex wrench - at least 10 inches long

• Chassis grease

* Necessary only if using the alternate method

Service Kit #SK 036289-X1 includes

• Plug 036289

• Bulletin COL-104

Wheel Tube

Drill 3/16 Dia. or 1/4 Dia. by .63 + .03 Deep

3/16 or 1/4 Allen Wrench 1.63 + .03 long Pressed into hole until seated

Note: Round all sharp edges

Brazed Joint

.375 Bar Stock
Is it a 3/16" drive or 1/4" drive pipe plug? Is the plug stripped?

Discontinue procedure. Refer to alternate method.

The column should telescope with minor assistance (tilted up and tilted down). If it does not, re-insert the hex wrench and back off the pipe plug in 1/8 turn increments until the column telescopes properly. Retest telescope movement.

Did the old plug get stuck coming out, or the new plug get stuck going in to the wheel tube?

Put a small amount of grease on the hex-end of the 3/16" hex wrench and remove the pipe plug from the steering column u-joint by turning counterclockwise until plug is free. Discard the plug. The pipe plug can be retrieved with a magnetic probe if it falls into the column during this step.

Put a small amount of grease on the hex-end of the 1/4" hex wrench. Put the new pipe plug on the wrench and grease the plug threads with chassis grease. Install the plug into the steering column u-joint.

For Freightliner TC34017, TC34032, TC34037 and TC34039 columns: reinstall the horn wire and steering wheel.

Reinstall the horn button. Reconnect at battery if disconnected.

**WARNING** Failure to disconnect the battery before removing the horn contact wire could cause electrical shock or fire.
Alternate Method

- Park the vehicle with wheels straight ahead to make steering wheel alignment easier for reinstallation.
- Disconnect Power
- Remove column from truck (see vehicle manufacturer’s service manual for details)

![Warning]

**WARNING** Disconnect the battery, or unplug the ignition switch prior to removing any ignition assembly and cables from the column. Failure to do this could cause electrical shock or fire when ignition assembly is removed from column.

**Disconnect tilt springs**
1. Place the column in a vice by clamping on one support bracket flange. Make sure the column is in the full up position (tilted up). Unhook the tilt springs from the housing without damaging the springs. Remove upper spring cover.

**Remove support bracket bolts**
2. Make sure the column is in the full extend (tele-scoped out) position. Remove the bolts from the support bracket and the lower housing. On reinstallation the bolts must go back in the same locations.

**Remove u-joint/subassembly**
3. Remove the lower bearing housing, universal joint assembly and spring from the main housing.

**Remove pipe plug**
4. Remove pipe plug from slotted end of the universal joint using a 3/16" Allen wrench if possible. If the pipe plug is stripped, remove with Ezy-Out. Discard the pipe plug.
5. Place the new ¼" drive pipe plug in tapped hole in the slotted end of the universal joint. Screw in to ensure threads are engaged. Adjustment will be made later.

### NOTE
If the pipe plug is tightened so the end of the universal joint is spread open, the shaft may not assemble into the splined sleeve correctly.

6. Using a steering wheel as a holding fixture, place the main housing assembly (wheel tube end down) vertically into the steering wheel.

### CAUTION
Do not damage the serrations, threads or taper on the end of the wheel shaft.

7. Note the design of the splined sleeve. Use a marker to highlight two separate places: 1) one of the large spaces in the sleeve, 2) the shaft of the u-joint assembly beginning at one of the slots in the splined-end and continuing 2" up the shaft. This will make installation easier.

8. Place the telescope spring inside the jacket tube in main housing.

9. Put clean grease on u-joint splines. Hold the lower bearing housing while feeding the splined end of the u-joint into the splined sleeve with marks aligned. Compress the telescope spring by pushing the lower bearing housing into position. (Do not trap the tilt springs). Align the bolt holes in the support bracket with holes in the main housing assembly.

### NOTE
Photo has telescope spring
Install support bracket bolts  
10. Tighten the support bracket bolts while holding the u-joint and lower housing assembly in place. Torque to 25-35 ft. lbs.

Assemble upper spring cover  
11. Assemble the upper spring cover over the two tilt springs.

Hook springs onto housing  
12. Hook the loose ends of the springs in the holes in the main housing.

Tighten pipe plug  
13. Push the column to the full forward position (telescoped in). Use the hex wrench to screw in the pipe plug until it is as tight as possible by hand. Final adjustments will be made after installation in the vehicle.

Final Adjustments  
- Use torque values noted throughout this bulletin for proper column installation.  
- The pinch bolt must pass through the whistle notch on the serrated end of the u-joint for proper alignment.

Pipe plug adjustment  
- Tighten plug only enough to lock the telescope function then back off plug 1/8 of a turn and retest telescope function. Telescope should function with minor assistance; if not, back off plug 1/8 of a turn again to regain telescope function.