

# Bulletin ServiceLink<sup>SM</sup>



SERVICE TIPS FOR THE PROFESSIONAL TECHNICIAN

Bulletin SL7-88

## DETERMINING FRONT AXLE BALL JOINT ADJUSTMENT

**Applications:** Full Size Four Wheel Drive Trucks With Rigid Axle Design

A situation that may arise following four wheel drive ball joint service is that the truck may feel unstable at highway speeds, another symptom may be the feeling of excessive play in the steering system. These are two reasons why the technician must always check the break-a-way torque of each of the steering knuckles.

When these ball joints are not torqued in sequence and to the recommended specifications one or both ball joints can be under or over-loaded. These situations could lead to the above mentioned symptoms.

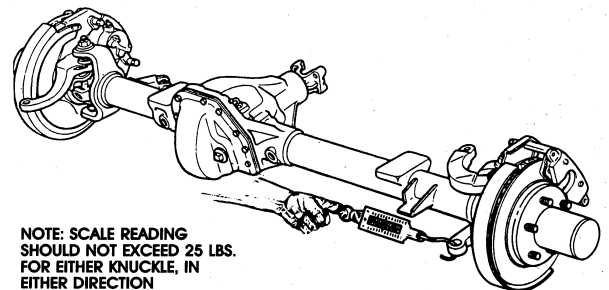
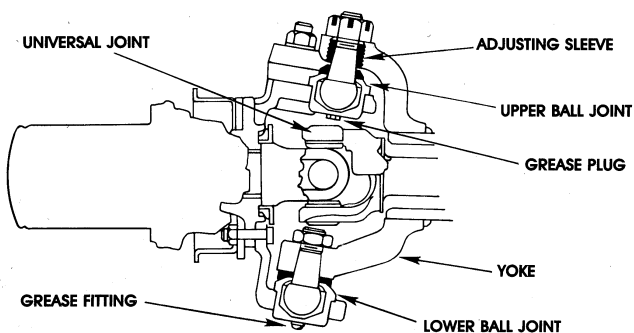
The reason for these problems is the fact that both ball joints, upper and lower, in most full size four wheel drive systems are load carriers. By design the load will be equally distributed on both ball joints if they are properly installed and torqued in sequence to the recommended specifications.

The Torque Sequence should be:

- 1) Torque lower ball joint stud nut to recommended specifications
- 2) Torque taper plug adjusting sleeve to recommended specifications
- 3) Torque upper ball joint stud nut to recommended specifications

After torquing the ball joints in sequence and to the proper specifications a pull scale will be needed to check the break-a-way torque of the steering knuckle assembly. This can be checked as follows:

- 1) Disconnect connecting rod and tie rod to allow independent movement of each steering knuckle.
- 2) Apply a pull-scale to the tie rod mounting hole of the steering knuckle arm, with the steering knuckle assembly in the straight-ahead position, pull on the pull scale at a right angle to the steering arm. The pressure needed to keep the steering knuckle assembly turning after initial break-a-way should not exceed 25 lbs. in either direction.
- 3) If the effort exceeds 25 lbs. remove the upper ball joint stud nut and loosen the taper plug adjusting sleeve as required. Re-torque the upper ball joint stud nut and recheck the turning effort.



NOTE: SCALE READING SHOULD NOT EXCEED 25 LBS. FOR EITHER KNUCKLE, IN EITHER DIRECTION