

# Positive Traction Differentials

9-47

## CHRYSLER CORP. SURE-GRIP 9 $\frac{1}{4}$ " RING GEAR

Dodge, Plymouth; Front & Rear Axles

### DESCRIPTION

The cone clutch Sure-Grip is a limited slip type differential. It is similar in operation to conventional type differentials, except for helix-grooved clutch cones that clutch side gears to differential case. These grooves assure maximum lubrication of clutch surface during operation.

Clutch cones and side gears are spring preloaded by 2 thrust plates and 4 coil spring. During torque application to axle, initial spring preloading of the clutch cones is increased by the gear separating forces between side gears and differential pinions.

This progressively increases internal resistance (friction) in differential. This differential is not a positive or locking type unit, and will release before excessive driving force can be applied to 1 wheel.

### AXLE RATIO & IDENTIFICATION

Sure-Grip differential is optional on Chrysler axles with 9 $\frac{1}{4}$ " ring gear. See *Chrysler Corp. 8 $\frac{3}{8}$ " & 9 $\frac{1}{4}$ " Ring Gear* in this Section.

### LUBRICATION

Use only Mopar Hypoid Gear Lubricant or equivalent.

### TESTING ON VEHICLE

1) Raise rear wheels off ground. Shut engine off. Place shift lever for automatic transmission in "P" (manual transmission in low and transfer case in "N", if equipped). Grip tread of tire, and attempt to rotate wheel.

2) If rotation is extremely difficult or impossible, differential is performing correctly. If either wheel turns relatively easily or continuously, differential is not performing correctly and should be replaced.

### REMOVAL & INSTALLATION

The same procedure is used to remove and install Sure-Grip differential as standard differential. See *Chrysler Corp. 8 $\frac{3}{8}$ " & 9 $\frac{1}{4}$ " Ring Gear* article in this section.

**CAUTION:** During removal and installation of axle shafts, do not rotate one axle shaft unless both are in position. Rotation of one axle shaft without the other in place may result in misalignment of 2 spline segments with which axle shaft splines engage. This would necessitate difficult realignment procedures when shaft is reinstalled.

### OVERHAUL

Sure-Grip differential is serviced as an assembly only. Under no circumstances should Sure-Grip differential be disassembled, reassembled, and installed in vehicle.

Fig. 1: Sectional View of Chrysler Corp. Sure-Grip Differential Assembly

