

## LIMITED SLIP DIFFERENTIAL INSTALLATION

Installation of the limited slip gear can be done with axle out of car or with car lifted to gain access from underneath. Refer to repair manual for proper lifting instructions if car is to be lifted. These MODIFIED instruction are taken from manual 610987.

### TRANSAXLE DISASSEMBLY

Tool List	Qty. Required
Extension, 4", 3/8" drive .....	1
Small diameter pick-up magnet .....	1
Rubber mallet, medium .....	1
Snap ring pliers, medium .....	1
Snap ring pliers, small.....	1
Standard pliers .....	1
Seal puller .....	1
Ratchet, 3/8" drive.....	1
Ratchet, 1/2" drive.....	1
Flat blade screwdriver, small.....	1
Phillips screwdriver, #2.....	1
Socket, 12mm, 3/8" drive .....	1
Socket, 14mm, 3/8" drive .....	1
Socket, 17mm, 3/8" drive .....	1
Socket, 1/2", 3/8" drive.....	1
Socket, 1 1/8", 1/2" drive.....	1
Socket, 15/16", 1/2" drive.....	1
Combination wrench, 1/2" .....	1
Lug wrench, 3/4" .....	1

### NOTE

*It is assumed that the wheels have been removed, the oil drained from the transaxle, and that the transaxle has been removed from the vehicle. If these things have not been done, do so before continuing with this section. Refer to the Repair and Service Manual of the specific vehicle for information and safety considerations when removing the transaxle.*

*Press-fit shaft bearings should be cleaned and inspected; and replaced only if they appear to be damaged or excessively worn. Replace bearings that are pitted, nicked, burred, discolored, or that rotate roughly or noisily.*

### WARNING

**Keep work area clean and well organized while performing the operations described in this manual. This will help prevent accidents and reduce the possibility of mistakes that could damage or impair the performance of the transaxle.**



### CAUTION

Because some mating parts with wear surfaces were machined together when the transaxle was manufactured, or have established wear patterns during operation, the reassembly of parts in their original positions and orientations, with their original mating parts, is critical to the performance and life expectancy of the transaxle. Mark and sort all parts as they are disassembled so that they will be reassembled and installed in their original positions.

#### Differential Cover Plate Removal

1. Remove rubber plug. Take care not to damage the plug flange.



Fig. 1 Rubber Plug Removal, Step 1



Fig. 2 Rubber Plug Removal, Step 2

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2. Remove ten bolts from differential cover plate.



**Fig. 3 Differential Cover Plate, Assembled**



**Fig. 4 Removing Bolts from Differential Cover Plate**

3. Carefully insert a rigid gasket scraper between the cover plate and the differential housing. Pry gently and remove differential cover plate. Use caution when prying to avoid bending cover plate.



**Fig. 5 Removing Differential Cover Plate**



**Fig. 6 Bolts and Differential Cover Plate Removed**

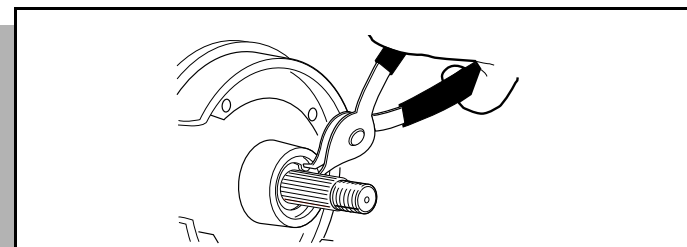
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## Axle Shaft Assembly Removal

Tool List	Qty. Required
Arbor press .....	1
Bearing separator.....	1
Needle nose pliers .....	1
Internal snap ring pliers.....	1
Slide hammer, P/N 18753-G1 .....	1

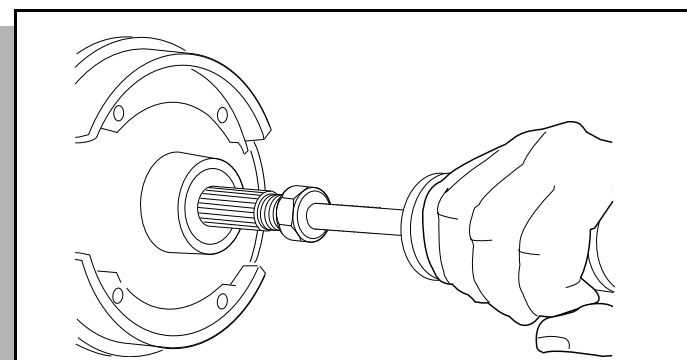
Remove brake drum.

Remove the outer snap ring from the axle tube.



**Fig. 7 Removing/Installing Outer Snap Ring**

Attach a slide hammer to the axle shaft thread and remove the axle and bearing from the axle tube.



**Fig. 8 Removing/Installing Axle Shaft**

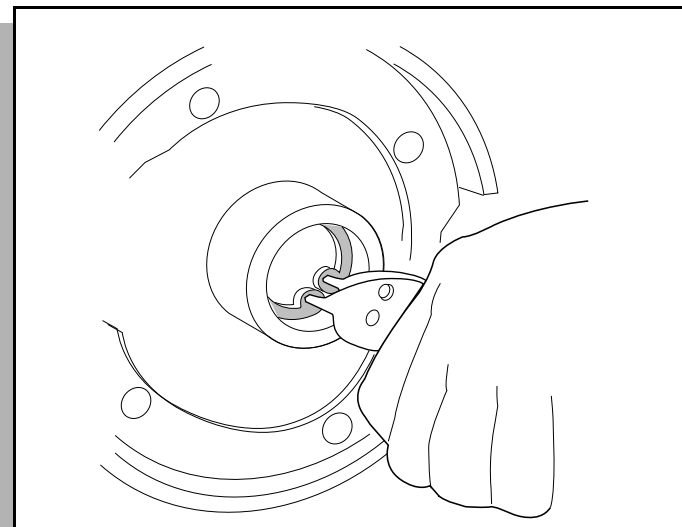
## Axle Shaft Seal Removal and Replacement

Tools List	Qty. Required
Internal snap ring pliers.....	1
Seal puller .....	1
Seal installer, P/N 18739-G1 .....	1
Ball peen hammer.....	1

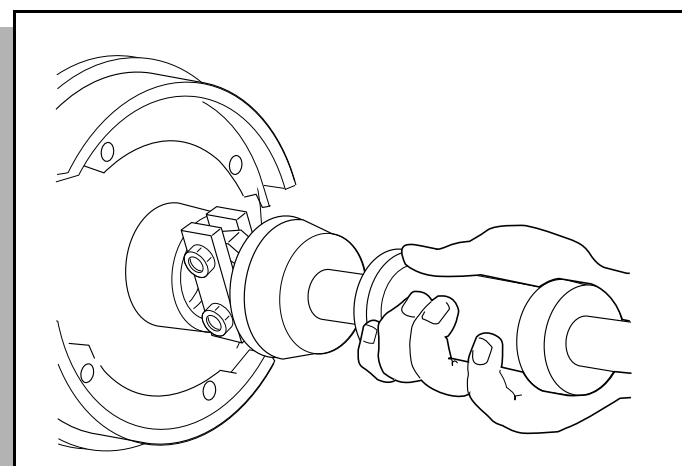
**CAUTION** Use care to prevent damage to the inner surface of the axle tube at the sealing area.

Remove the inner snap ring.

Use a puller to remove the seal.



**Fig. 9 Removing/Installing Inner Snap Ring**



**Fig. 10 Removing Seal**

To install the seal, use the special seal installer to drive the seal into its correct position.

**CAUTION** To prevent seal damage, lightly coat the axle shaft with bearing grease and support the shaft during installation.

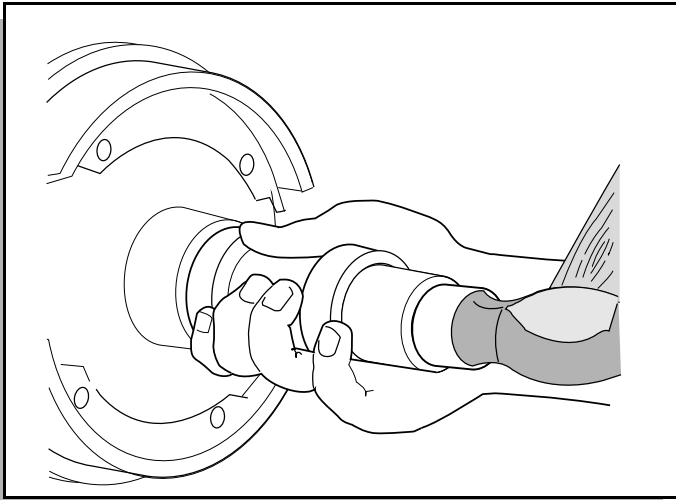
Install the inner snap ring.

## Axle Shaft Replacement

Carefully insert the axle shaft and bearing through the oil seal. Rotate the shaft until the spline engages with the differential side gears. Install the outer snap ring.

Coat the outboard spline of the axle with a commercially available anti-seize compound. Install the brake hub and drum, thrust washer, nut and new cotter pin.

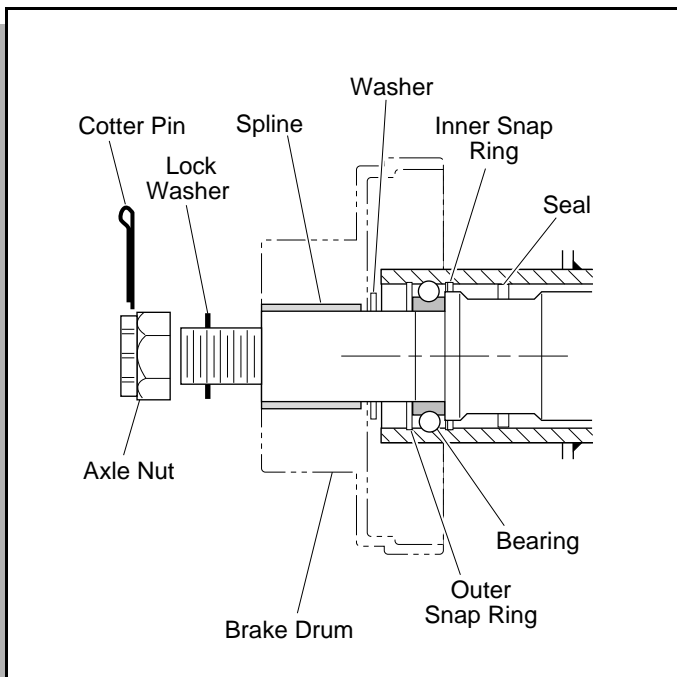
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**Fig. 11 Installing Seal**

### NOTE

Tighten the castellated axle nut to 70 ft. lbs. (95 Nm) torque minimum, 140 ft. lbs. (190 Nm) torque maximum. Continue to tighten until the slot in the nut aligns with the cotter pin hole. Do not back off on the nut install cotter pin, to do so will result in damage to the hub and drum assembly.



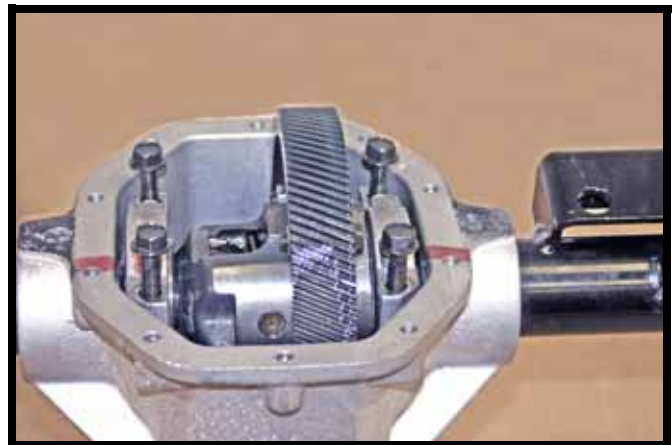
**Fig. 12 Cut Away of Outer Bearing and Brake Drum**

### Differential-Carrier Assembly Removal

1. From axle housing, remove four saddle bolts from saddles, then remove saddles.

### NOTE

Note the alignment marks on both the housing and saddles. Saddles must be reassembled on the same side from which removed. If alignment marks are missing, use a permanent marker to mark saddle and housing.



**Fig. 13 Removing Saddle Bolts from Saddles**

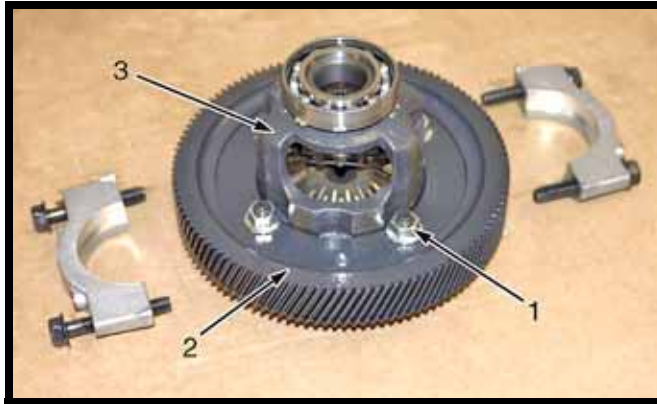
2. Remove differential-carrier assembly from axle housing.



**Fig. 14 Removing Differential-Carrier Assembly from Axle Housing**



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**Fig. 15 Saddle Bolts, Saddles, and Differential-Carrier Assembly Removed**

3. Remove drive gear (2) from differential-carrier (3) by removing four locknuts and four hex head bolts (1).

### NOTE

*Do not remove bearings from differential-carrier.*

*The differential-carrier is replaced as a single unit. No disassembly of the clutch is required.*



### CAUTION

If working on a hard surface, handle the ring gear carefully to prevent damage to the ring gear teeth.

## TRANSAXLE REASSEMBLY

Tool List	Qty. Required
Extension, 4", 3/8" drive, .....	1
Ball peen hammer, small.....	1
Seal installer.....	1
Rubber mallet, medium .....	1
Snap ring pliers, medium .....	1
Snap ring pliers, small.....	1
Standard pliers .....	1
Mechanical press .....	1
Non-ferrous punch, medium .....	1
Non-ferrous punch, small.....	1
Ratchet, 3/8" drive.....	1
Ratchet, 1/2" drive.....	1

Flat Blade screwdriver, medium .....	1
Phillips screwdriver, #2.....	1
Socket, 12mm, 3/8" drive .....	1
Socket, 14mm, 3/8" drive .....	1
Socket, 17mm, 3/8" drive .....	1
Socket, 1/2", 3/8" drive.....	1
Socket, 1 1/8", 1/2" drive .....	1
Socket, 15/16", 1/2" drive .....	1
Combination wrench, 1/2" .....	1
Lug wrench, 3/4" .....	1
Torque wrench, 3/8" drive.....	1



### CAUTION

Prior to transaxle reassembly, all parts must be thoroughly cleaned and free of dirt, oil, grease, or residue of any kind, free of nicks, burrs, or damage of any kind to wear surfaces, and inspected for excessive wear. Parts that are damaged or are not within dimensional specifications should be replaced.

Because some mating parts with wear surfaces were machined together when the transaxle was manufactured, or have established wear patterns during operation, the reassembly of transaxle parts in their original positions and orientations with their original mating parts is critical to the performance and life expectancy of the transaxle.

Make sure all threaded surfaces are clean and free of gasket material/residue.

When tightening a number of screws or bolts in a given pattern, tighten them in two stages. Tighten them to 1/2 of specified torque in one pass through the pattern, and then to specified torque on the second pass.

### NOTE

*Fasteners that are plated, or are lubricated when installed, are considered "wet" and require approximately 80% of the specified torque for "dry" fasteners. All transaxle fasteners are considered "wet".*

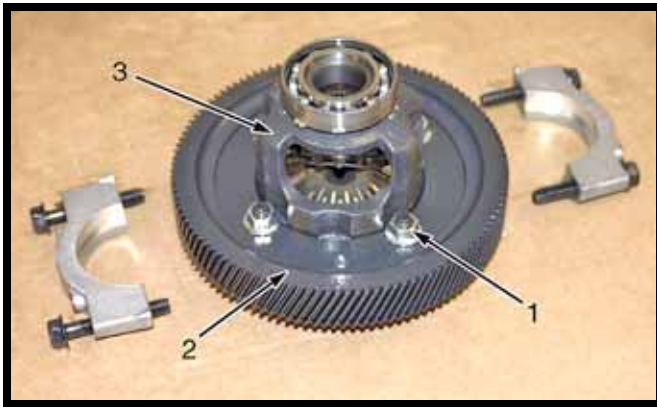
### NOTE

*Because assemblies of moving parts establish wear patterns together, it is recommended that all parts of an assembly be replaced if one part is found to be damaged. Noise levels during operation may be increased if only individual parts are replaced.*

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## Differential-Carrier Assembly Installation

1. Install drive gear (2) on new limited slip differential-carrier (3) using four hex head bolts and four locknuts (1). Tighten locknuts to 55 to 63 lb-ft (75 to 85 N•m).



**Fig. 16 Saddle Bolts, Saddles, and Differential-Carrier Assembly Removed**

2. Position differential-carrier into axle housing.



**Fig. 17 Installing Differential-Carrier into Axle Housing**



## CAUTION

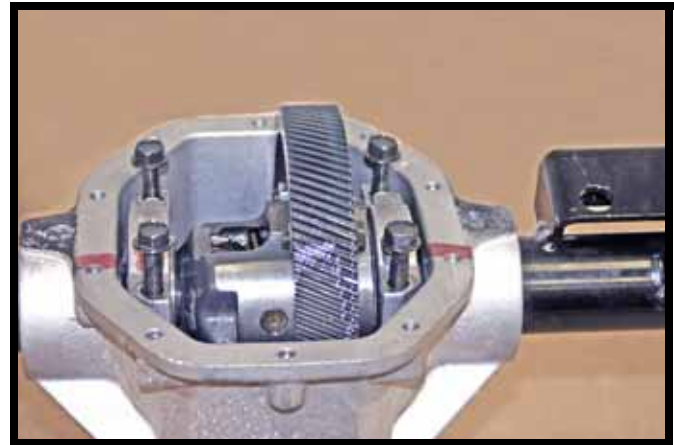
For accurate torque readings, make sure threads are clean and lightly lubricated.

## NOTE

Make sure the saddles are installed in their original positions

and orientation. Align the saddles with the alignment marks prior to installation.

3. Install saddles into axle housing using four saddle bolts. Tighten bolts to 35 to 45 lb-ft (46 to 61 N•m).



**Fig. 18 Installing Saddle Bolts and Saddles**  
**Differential Cover Plate Installation**



## CAUTION

Thoroughly inspect housing bolt threads for silicone residue. Failure to properly clean the threads may result in false torque readings and oil leakage.

Apply Permatex RTV to differential cover plate prior to installation.

1. Install differential cover plate using ten bolts. Torque bolts in a cross pattern to 16 to 24 lb-ft (22 to 33 N•m).
2. Add **2 ounces of friction modifier** and **25 ounces of Mobilube HD 85W140** gear oil to the differential.
3. Install rubber plug.

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Fig. 19 Bolts and Differential Cover Plate



Fig. 20 Differential Cover Plate

### KIT CONTENTS

614756 - Limited Slip Differential

