



Haynes
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BMW 3-Series (92-98) & Z3 (96-98) Haynes Online Manual

10 Differential oil seals - replacement

Driveshaft flange oil seal

Note:

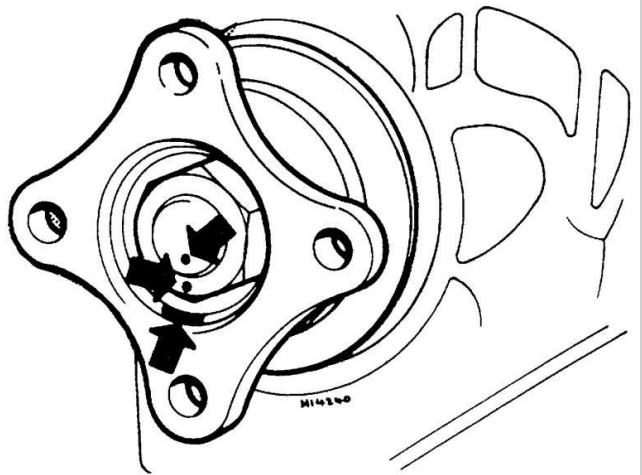
A new flange nut retaining plate will be required.

1 Drain the differential (see [Chapter 1](#)).

2 Remove the differential (see [Section 2](#)) and secure the unit in a vise.

3 Remove the retaining plate and make alignment marks between the propeller flange nut, the drive flange and pinion (see illustration) . Discard the retaining plate a new one must be used on installation.

10.3 Scribe or paint alignment marks (arrows) on the flange, the pinion shaft and nut to ensure proper reassembly



4 Hold the drive flange stationary by bolting a length of metal bar to it, then unscrew the nut noting the exact number of turns necessary to remove it.

5 Using a suitable puller, draw the drive flange from the pinion and remove the dust cover. If the dust cover shows signs of wear, replace it.

6 Lever the oil seal from the differential casing with a screwdriver. Wipe clean the oil seal seating.

7 Smear a little oil on the sealing lip of the new oil seal, then press it squarely into the casing until flush with the outer face. If necessary the seal can be tapped into position using a metal tube which bears only on its hard outer edge.

8 Install the dust cover and locate the drive flange on the pinion aligning the marks made on removal. Install the flange nut, screwing it on by the exact number of turns counted on removal, so that the alignment marks align.

Warning: *Do not overtighten the flange nut. If the nut is overtightened, the collapsible spacer behind the flange will be deformed necessitating its replacement. This is a complex operation requiring the differential to be disassembled (see [Section 1](#)).*

9 Secure the nut in position with the new retaining plate, tapping it squarely into position.

10 Install the differential (see [Section 2](#)) and refill it with oil (see [Chapter 1](#)).

Driveaxle flange oil seal

Note:

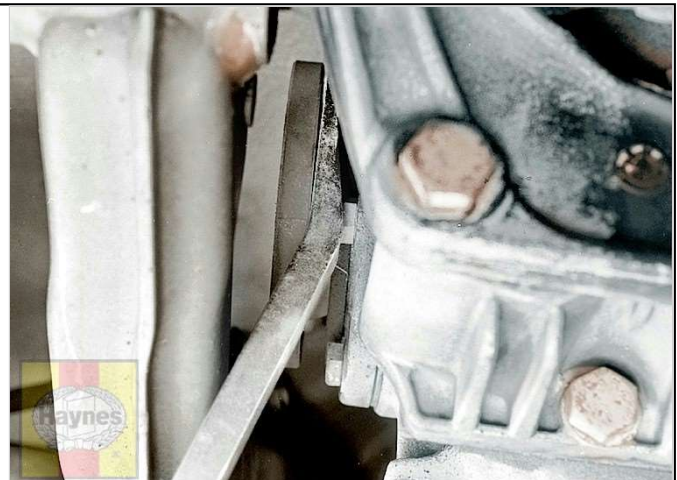
New driveaxle joint retaining bolts and a driveaxle flange snap-ring will be required.

11 Drain the differential oil (see [Chapter 1](#)).

12 Loosen and remove the bolts securing the driveaxle constant velocity joint to the differential and recover the retaining plates. Position the driveaxle clear of the flange and tie it to the vehicle underbody using a piece of wire. **Note:** *Do not allow the driveaxle to hang under its own weight as the CV joint may be damaged.*

13 Using a suitable lever, carefully pry the driveaxle flange out from the differential taking care not to damage the dust seal or casing (see *illustration*). Remove the flange and recover dust seal. If the dust seal shows signs of damage, replace it.

10.13 Using a prybar to remove the driveaxle flange from the differential



14 Carefully lever the oil seal out from the differential. Wipe clean the oil seal seating.

15 With the seal removed, pry out the snap-ring from the center of the differential gear (see illustration) .

10.15 Remove the flange retaining snap-ring from the center of the differential gear



16 Install a new snap-ring, making sure its is correctly located in the differential groove.

17 Smear a little oil on the sealing lip of the new oil seal, then press it squarely into the casing until it reaches its stop. If necessary the seal can be tapped into position using a socket or metal tube which bears only on its hard outer edge (see illustration) .

10.17 Tap the new seal into position with a hammer and socket which bears only on the outer edge of the seal



18 Install the dust cover and insert the drive flange. Push the drive flange fully into position and check that it is securely retained by the snap-ring.

19 Align the driveaxle with the flange and install the new retaining bolts and plates, tightening them to the specified torque.

20 Refill the differential with oil (see [Chapter 1](#)).