



**Haynes**  
shows you how

**BMW 3-Series and Z4 (99-05) Includes 2006 325ci/330ci Coupe and Convertible models Haynes Online Manual.**

## 9 Differential oil seals - replacement

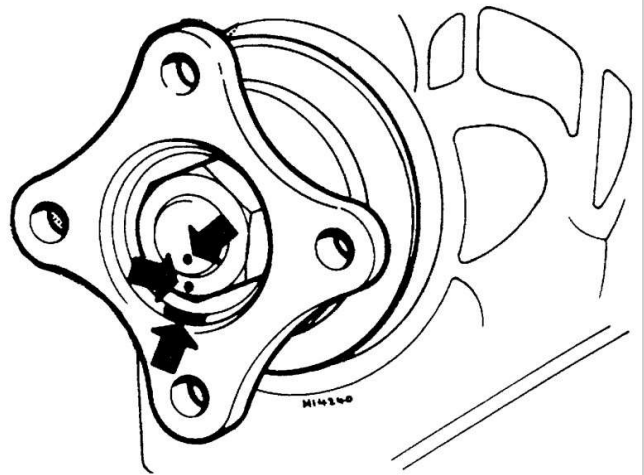
### Driveshaft flange oil seal

**Note:**

A new flange nut retaining plate will be required.

- 1 Drain the differential as described in [Chapter 1](#) .
- 2 Remove the differential unit as described in [Section 8](#) and carefully secure the unit in a vise (or equivalent).
- 3 Remove the retaining plate and make alignment marks between the drive flange nut, the drive flange and pinion (see illustration). Discard the retaining plate a new one must be used on installation.

**9.3 Make alignment marks 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 Pry the oil seal from the differential casing with a screwdriver or seal removal tool and clean the oil seal seat.

7 Apply a little oil on the sealing lip of the new oil seal, then press it squarely into the casing until it is flush with the outer face. If necessary, the seal can be tapped into position using a metal tube that only contacts 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 match.

**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 unit 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 as described in [Section 8](#) and refill it with oil as described in [Chapter 1](#) .

## Driveaxle flange oil seal

**Note:**

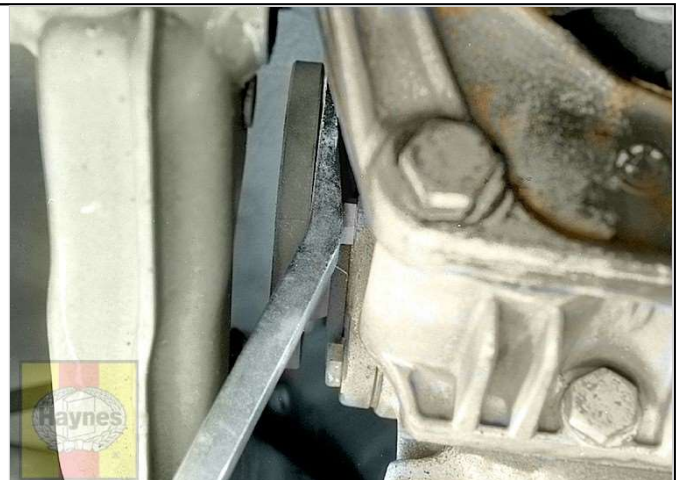
New driveaxle joint retaining bolts and a driveshaft flange circlip will be required.

11 Drain the differential oil as described in [Chapter 1](#) .

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

13 Using a suitable lever, carefully pry the driveshaft flange out from the differential unit 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.

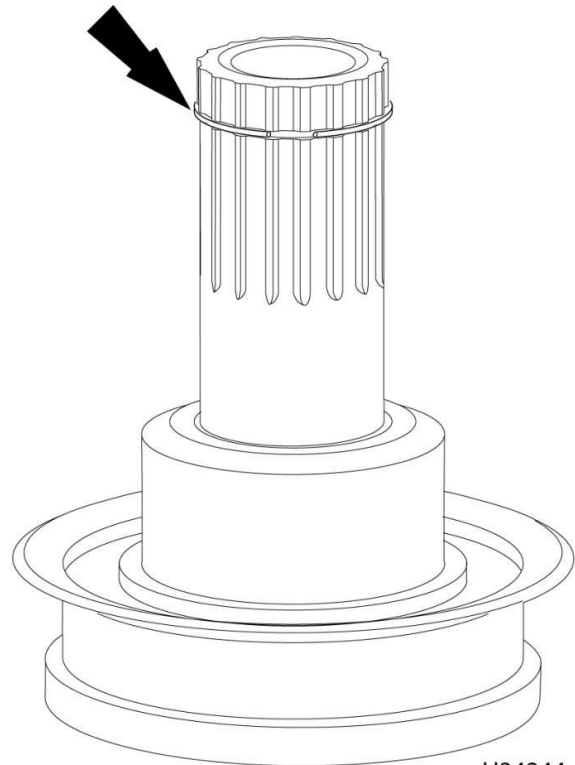
**9.13 Use a suitable lever to remove the driveshaft flange from the differential unit**



14 Carefully pry the oil seal out from the differential unit and clean the oil seal seat.

15 With the flange removed, pry out the circlip from the end of the splined shaft (see illustration) .

### 9.15 Replace the output flange circlip



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16 Install a new circlip, making sure its is correctly located in the splined shaft groove.

17 Apply a little differential 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 large socket that only contacts its hard outer edge (see illustration).

### 9.17 Tap the new seal into position using a socket which only contacts the hard 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 circlip.

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

**20** Refill the differential unit with oil as described in [Chapter 1](#) .

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