

**Haynes**  
*shows you how*

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

## 5 Crankshaft vibration damper/pulley and pulley hub - removal and installation

**Note:**

Models built before January 2000 are equipped with a two piece vibration damper and pulley assembly. Models built after January 2000 are equipped with a one piece damper/pulley assembly.

**Note:**

If the pulley hub is removed, a new retaining bolt will be required on installation, and a torque wrench capable of providing 302 ft-lbs (410 Nm) of torque will be required.

### Removal

- 1 Remove the engine splash shields (see [Chapter 11](#) ).
- 2 Remove the viscous cooling fan/electric cooling fan and fan cowl assembly as described in [Chapter 3](#) .
- 3 Remove the drivebelts (see [Chapter 1](#) ).
- 4 Two different designs of damper/pulley and hub may be installed. On some models the pulley/damper is bolted to the hub (two piece), and on others the hub is integral with the damper/pulley (one piece).

### Two-piece damper/pulley and hub

- 5 Unscrew the retaining bolts, and remove the vibration damper/pulley from the hub (see illustration) . If necessary, lock the hub using a socket or wrench on the hub retaining bolt.

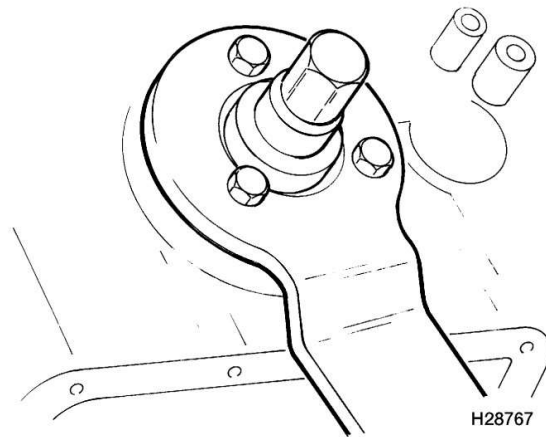
### 5.5 Remove the bolts and remove the damper/pulley from the hub



6 To remove the hub, the retaining bolt must be unscrewed. **Warning:** *The crankshaft pulley hub bolt is very tight. A tool will be required to lock the hub as the bolt is unscrewed. Do not attempt the job using inferior or poorly-improvised tools, as injury or damage may result.*

7 Make up a tool to hold the pulley hub. A suitable tool can be fabricated using two lengths of steel bar, joined by a large pivot bolt. Bolt the holding tool to the pulley hub using the pulley-to-hub bolts. If you can obtain them, use special tools 11 2 150 and 11 2 410 available from BMW dealers or automotive tool specialists (see illustration) .

### 5.7 BMW special tool used to hold the crankshaft pulley hub



8 Using a socket and a long breaker bar, loosen the pulley hub bolt.

9 Unscrew the pulley hub bolt, and remove the washer (see illustration) . Discard the bolt - a new one must be used on installation.

### 5.9 Unscrew the hub bolt and remove the washer . . .



10 Withdraw the hub from the end of the crankshaft (see illustration) . If the hub is tight, use a puller to draw it off.

### 5.10 . . . then withdraw the hub



11 Recover the Woodruff key from the end of the crankshaft if it is loose.

## One piece damper/pulley and hub

12 In order to prevent the hub from rotating while removing the central bolt, BMW specifies the use of tools 11 8 190 and 11 8 200, which engage in the holes between the webs of the pulley hub. In the absence of these tools, it may be possible to prevent the hub from rotating by using a strap wrench around the pulley (see illustrations) . The bolt is very tight, and assistance may be required.

**5.12a Use BMW special tools to prevent the pulley/hub from turning . . .**



**5.12b . . . or use a strap wrench to hold it**



- 13 Remove the hub bolt and the washer. Discard the bolt - a new one must be installed.
- 14 Withdraw the hub from the end of the crankshaft. If the hub is tight, use a puller to draw it off.
- 15 Recover the Woodruff key from the end of the crankshaft if it is loose.

## Installation

- 16 If the pulley hub has been removed, it is advisable to take the opportunity to replace the oil seal in the lower timing chain cover (see [Section 6](#) ).
- 17 If the pulley hub has been removed, proceed as follows, otherwise proceed to Step 20 (two piece damper/pulley and hub).
- 18 Where applicable, reinstall the Woodruff key to the end of the crankshaft, then align the groove in the pulley hub with the key, and slide the hub onto the end of the crankshaft.
- 19 Reinstall the washer, noting that the shoulder on the washer must face the hub, and install a new hub bolt.

## Two piece damper/pulley and hub

**20** Bolt the holding tool to the pulley hub, as during removal, then tighten the hub bolt to the torque listed in [this Chapter's Specifications](#). Take care to avoid injury and/or damage.

**21** Where applicable, unbolt the holding tool, and reinstall the vibration damper/pulley, ensuring that the locating dowel on the hub engages with the corresponding hole in the damper/pulley.

**22** Reinstall the damper/pulley retaining bolts, and tighten to the torque listed in [this Chapter's Specifications](#). Again, immobilize the pulley, if necessary, when tightening the bolts.

## One piece damper/pulley and hub

**23** Immobilize the hub using the method employed during removal, and tighten the bolt to the torque listed in [this Chapter's Specifications](#).

## All models

**24** Reinstall the drivebelts as described in [Chapter 1](#).

**25** Reinstall the viscous cooling fan and cowl as described in [Chapter 3](#).

**26** Where applicable, reinstall the engine splash shields.