



Haynes
shows you how

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

8 Timing chain sprockets and tensioners - removal, inspection and installation

Camshaft sprockets

1 Removal, inspection and installation of the sprockets is described as part of the secondary timing chain removal and installation procedure in [Section 7](#).

Crankshaft sprocket

Removal

2 The sprocket is combined with the oil pump drive sprocket. On some engines, the sprocket may be a press-install on the end of the crankshaft.

3 Remove the primary timing chain as described in [Section 7](#).

4 Slide the sprocket from the front of the crankshaft. If the sprocket is a press-install, use a three-jawed puller to remove the sprocket from the crankshaft. Protect the threaded bore in the front of the crankshaft by installing the pulley hub bolt, or by using a metal spacer between the puller and the end of the crankshaft. Note which way the sprocket is installed to ensure correct installation.

5 Once the sprocket has been removed, recover the Woodruff key from the slot in the crankshaft if it is loose.

Inspection

6 Inspection is described with the timing chain inspection procedure in [Section 7](#).

Installation

7 Where applicable, reinstall the Woodruff key to the slot in the crankshaft.

8 Slide the sprocket into position on the crankshaft. Ensure that the sprocket is installed the correct way as noted before removal. If a press-install sprocket is to be reinstalled, before installation, the sprocket must be

heated to a temperature of 302-degrees F (150-degrees C). Do not exceed this temperature, as damage to the sprocket may result.

9 Once the sprocket has been heated to the given temperature, align the slot in the sprocket with the Woodruff key, then tap the sprocket into place with a socket or metal tube. **Warning:** *When the sprocket is heated, take precautions against burns - the metal will stay hot for some time.*

10 Reinstall the primary timing chain as described in [Section 7](#) .

Secondary chain tensioner

Removal

11 Remove the secondary timing chain as described in [Section 7](#) .

12 Unscrew the retaining bolts and withdraw the chain tensioner housing from the cylinder head (see illustration 7.28) .

13 Remove the tool locking the secondary timing chain tensioner in position, then withdraw the plunger, spring and plunger housing (see illustration) .

8.13 Details of the secondary timing chain tensioner plunger, spring, and plunger housing



Inspection

14 Inspect the tensioner, and replace if necessary. Check the plunger and the plunger housing for wear and damage. Inspect the chain contact face of the plunger slipper for wear, and check the condition of the spring. Replace any components which are worn or damaged.

15 When installing the plunger to the tensioner, note that the cut-out in the plunger should be positioned on the right-hand side of the engine when the assembly is reinstalled.

Installation

16 Reinstall the chain tensioner and tighten the bolts securely.

17 Reinstall the tool to lock the tensioner in position.

18 Reinstall the secondary timing chain (see [Section 7](#)).

Primary chain tensioner

19 Removal and installation is described as part of the primary timing chain removal procedure in [Section 7](#) .

© 2024 Haynes Manuals, Inc. Contact us