



6 Timing chain covers - removal and installation

Upper cover

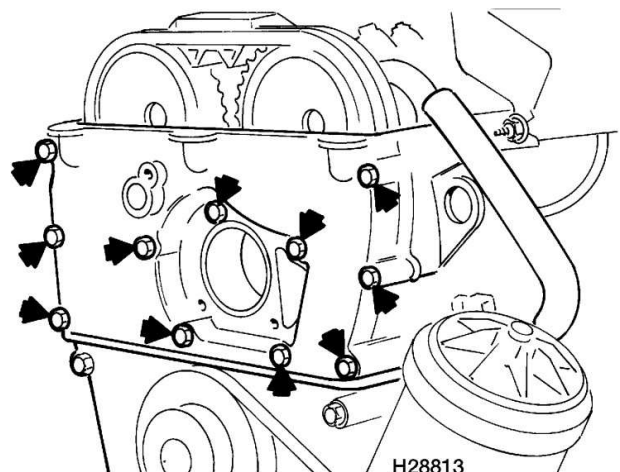
Note:

New gaskets will be required on installation, and RTV sealant will be required.

Removal

- 1 Drain the cooling system (see [Chapter 1](#)).
- 2 If desired, to improve access on M42 engines, remove the viscous cooling fan and shroud (see [Chapter 3](#)).
- 3 Remove the valve cover (see [Section 4](#)).
- 4 Remove the camshaft position sensor from the cover (see [Chapter 4A](#)).
- 5 On M42 engines, remove the thermostat housing (see [Chapter 3](#)). On January 1997 and later M44 engines, remove the secondary air check valve (see [Chapter 6](#)).
- 6 Unscrew the securing bolts, and withdraw the cover from the engine (see illustration) . Recover the gaskets.

6.6 Upper timing chain cover securing bolt locations (arrows)



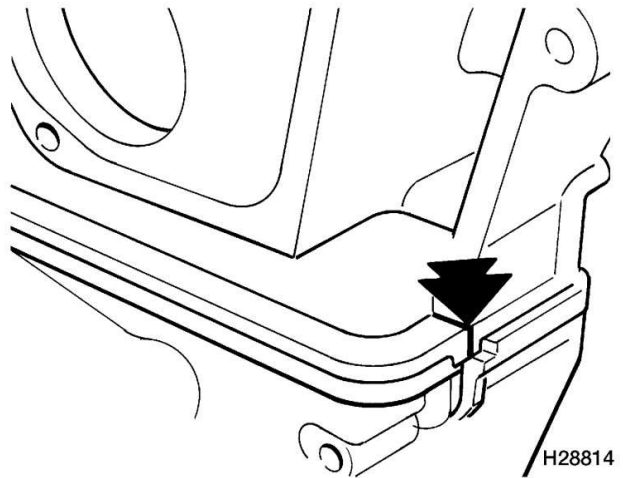
Installation

7 Commence installation by thoroughly cleaning the mating faces of the upper cover, lower cover and timing chain housing.

8 Position new gaskets on the timing chain housing, and on the top of the lower cover, using a little grease to hold the gaskets in place if necessary.

9 Apply a little RTV sealant to the joints between the lower gasket, timing chain housing, and lower cover (see illustration) .

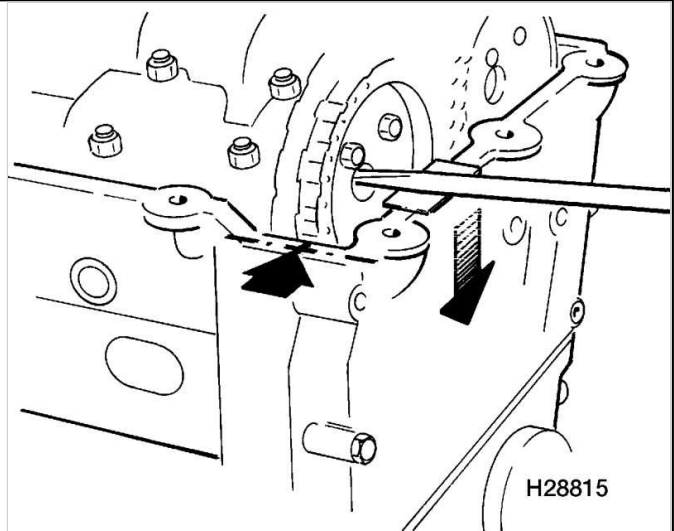
6.9 Apply a little RTV sealant to the joints between the lower gasket, timing chain housing and lower cover (arrow)



10 Offer the upper cover into position, then fit the two middle outer securing bolts - do not tighten the bolts at this stage.

11 Press down on the upper cover, for example using a screwdriver engaged with the camshaft sprocket (see illustration) , until the top surfaces of the upper cover are exactly aligned with the top surface of the cylinder head. Hold the upper cover in this position, then tighten the two securing bolts to the specified torque.

6.11 Press down on the cover using a screwdriver engaged with the camshaft sprocket



12 Install the remaining cover securing bolts, and tighten to the specified torque.

13 Install the thermostat (see [Chapter 3](#)).

14 Install the camshaft position sensor (see [Chapter 4A](#)).

15 Install the valve cover (see [Section 4](#)).

16 Where applicable, install the viscous cooling fan and shroud (see [Chapter 3](#)).

17 Refill the cooling system (see [Chapter 1](#)).

Lower cover

Note:

A new cover gasket and a new crankshaft oil seal will be required on installation.

Removal

18 Remove the upper timing chain cover as described previously in this Section.

19 If not already done, remove the viscous cooling fan and shroud (see [Chapter 3](#)).

20 Remove the drivebelt (see [Chapter 1](#)).

21 The coolant pump pulley must now be removed. Counterhold the pulley by wrapping an old drivebelt around it and clamping tightly, then unscrew the securing bolts and withdraw the pulley.

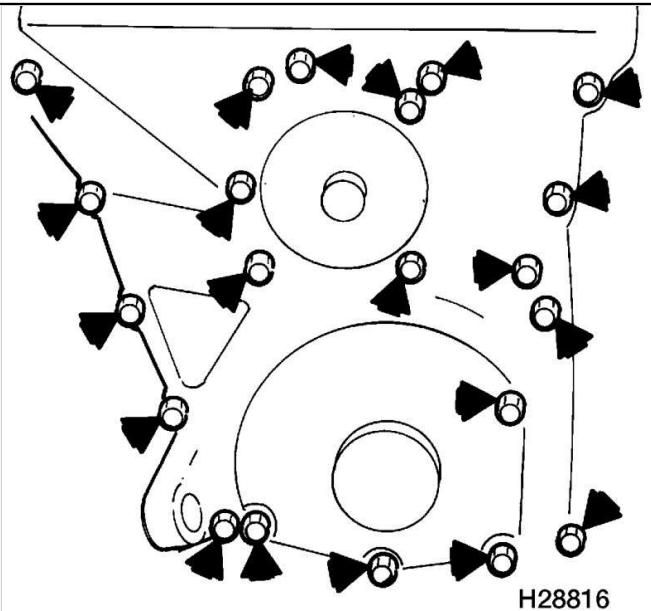
22 Unbolt the crankshaft position sensor from its mounting bracket (see [Chapter 4A](#)), and move it to one side. Note that it is preferable to completely remove the sensor to avoid the possibility of damage.

23 Where applicable, release any wiring/ducting from the cover, and move clear of the working area.

24 Remove the crankshaft vibration damper/pulley and pulley hub (see [Section 5](#)).

25 Unscrew the securing bolts, noting their locations, and remove the lower timing chain cover (see illustration). Recover the gasket.

6.25 Lower timing chain cover bolt locations (arrows)



Installation

26 Commence installation by thoroughly cleaning the mating faces of the lower cover, timing chain housing and upper cover.

27 Note the fitted depth of the crankshaft front oil seal in the cover, then lever out the seal.

28 Clean the oil seal housing, then fit a new oil seal, using a large socket or tube to drive the seal into position to the previously noted depth.

29 Check that the cover positioning dowels are in position in the timing chain housing.

30 Place a new gasket in position on the timing chain housing, using a little grease to hold the gasket in position if necessary.

31 Offer the lower cover into position, and install the securing bolts to their original locations. Tighten the bolts to the specified torque.

32 Install the crankshaft vibration damper/pulley and pulley hub (see [Section 5](#)).

33 Make sure that any wiring/ducting released during removal is correctly routed and repositioned during installation.

34 Install the crankshaft position sensor.

35 Install the coolant pump pulley and tighten the securing bolts.

36 Install the drivebelt (see [Chapter 1](#)).

37 Install the upper timing chain cover as described previously in this Section.

38 Install the viscous cooling fan and shroud (see Chapter 3).

© 2024 Haynes Manuals, Inc. Contact us