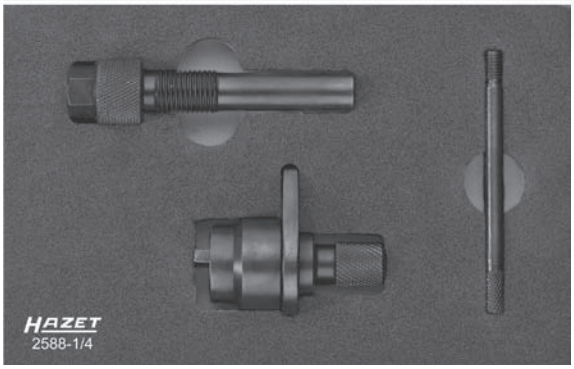
HAZET 2588-1/4

Petrol Engine Setting/Locking Tool Kit



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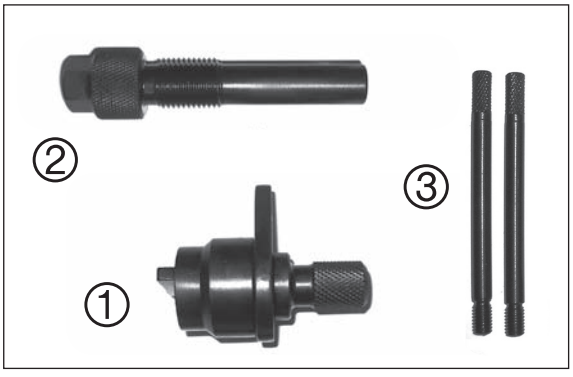
Additional Tools required:
HAZET 2540-2 Camshaft Holding Tool

2540-2



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Applications:

VW Group 1.2TFSi Petrol engines in:

AUDI
A1 A3

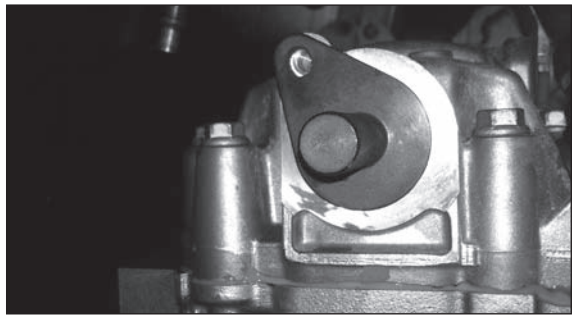
SEAT
Altea/XL Ibiza Leon

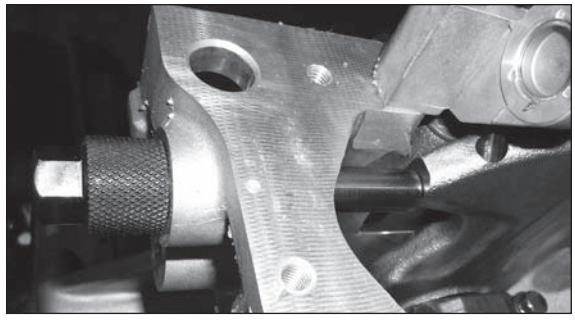
SKODA
Fabia II Octavia II Roomster
Yeti

VOLKSWAGEN
Caddy Golf Golf Plus
Jetta Polo Touran

Engines: CBZA, CBZB, CBZC

IMPORTANT: Always refer to the vehicle manufacturer's service instructions, or proprietary manual, to establish the current procedures and data. Product Information Sets detail applications and use of the tools, with any general instructions provided as a guide only.





Set contents/spares

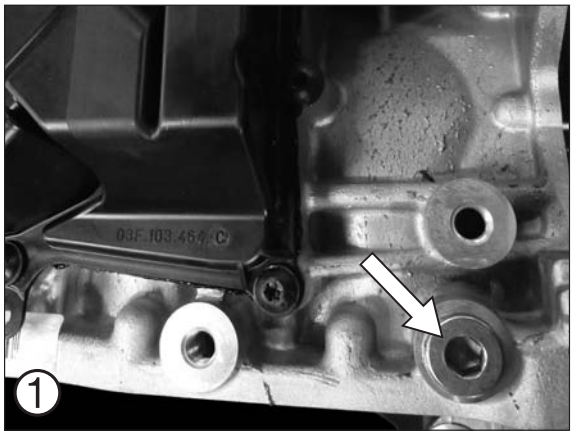
Item	Part Number	VAG Reference	Description
1	HAZET 2588-20	T10414	Camshaft Locking Tool
2	HAZET 2588-21	T10340	Crankshaft Locking Pin
3	HAZET 2588-22	-	Timing Cover Guide Pins

Introduction

These VW group 1.2TFSI engines were first introduced in 2010 and are available in vehicles across the four brands.

These four cylinder engines have a single camshaft, with two valves per cylinder. A timing chain is used to connect drive between the crankshaft and camshaft. These engines are turbo charged and use a high pressure direct injection fuel system.

Timing Check

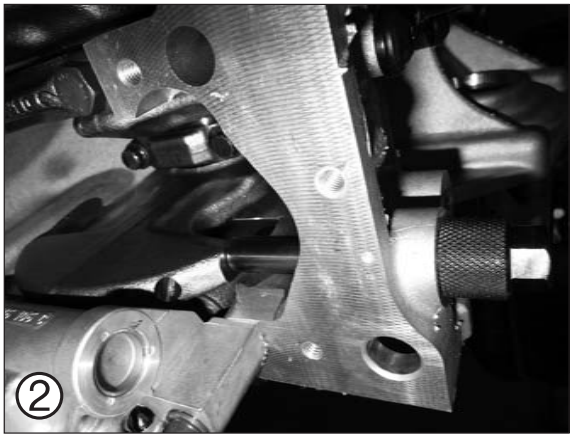


The threaded hole for the crankshaft locking pin is located at the rear of the engine block, and towards the timing chain cover.

Remove the blanking plug from the engine.

Install HAZET 2588-21 crankshaft locking pin and tighten to 30Nm.

NOTE: If it is not possible to fully screw in HAZET 2588-21 pin, then remove the pin and rotate the crankshaft pulley 90 degrees in the direction of engine rotation and then refit HAZET 2588-21 crankshaft locking pin.



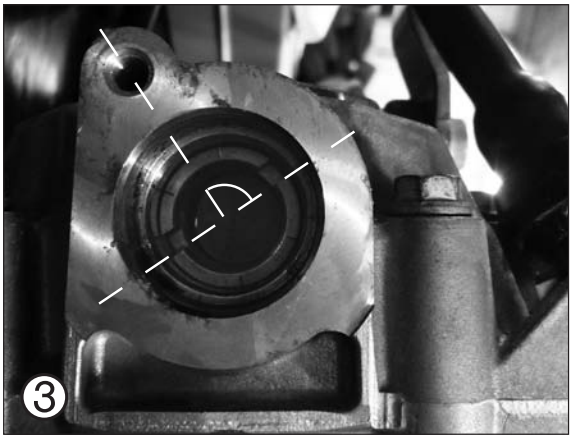
Carefully rotate the crankshaft pulley in the direction of engine rotation until the web of the crankshaft contacts HAZET 2588-21 crankshaft locking pin.

The engine is shown with the sump removed for clarity

The camshaft locking tool locates into the cylinder head at gearbox end.

Remove engine components to give access.

Examine the camshaft position relative to the cylinder head. The position should appear as in picture 3.



Install HAZET 2588-20 camshaft locking tool and secure in place with a suitable bolt.

If it is not possible to correctly install HAZET 2588-20 camshaft locking tool then the engine timing requires adjustment.

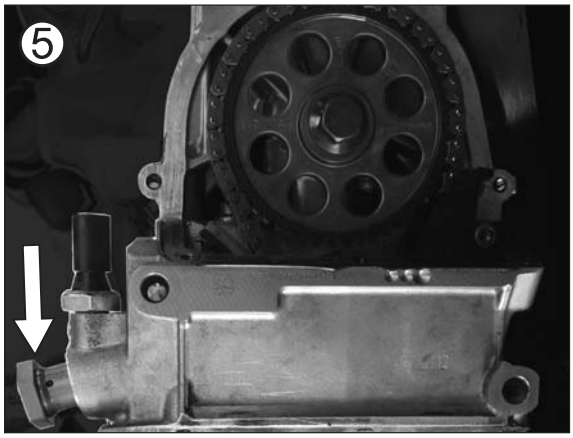
When correct valve timing has been established, refer to section “Refitting timing cover” on page 4 for important information on the correct assembly procedure.

Timing Adjustment

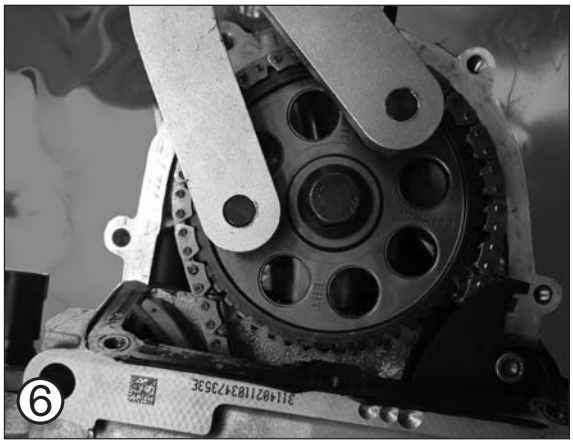
Remove the camshaft timing chain cover.

Install HAZET 2588-21 crankshaft locking pin and tighten to 30Nm.

Carefully rotate the crankshaft pulley in the direction of engine rotation until the web of the crankshaft contacts HAZET 2588-21 crankshaft locking pin (See picture 2).



Remove the timing chain cover. Remove the timing chain tensioner.

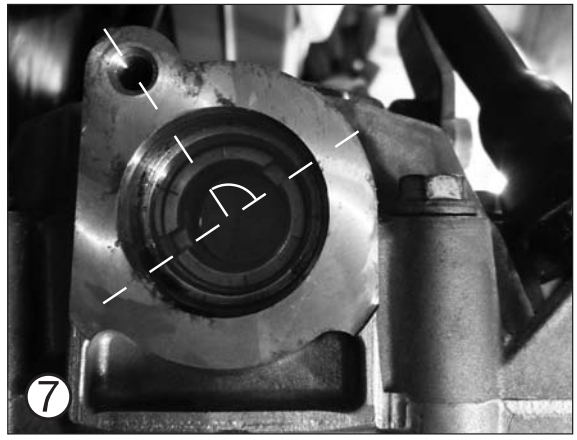


Using a suitable counter hold (such as HAZET 2540-2 Camshaft Holding Tool) remove the camshaft central bolt.

Remove the camshaft sprocket and secure the chain, ensuring that it does not fall into the sump.

Rotate the crankshaft 90 degrees anti-clockwise to prevent any possible valve contact as the camshaft is moved to its 'timed' position.

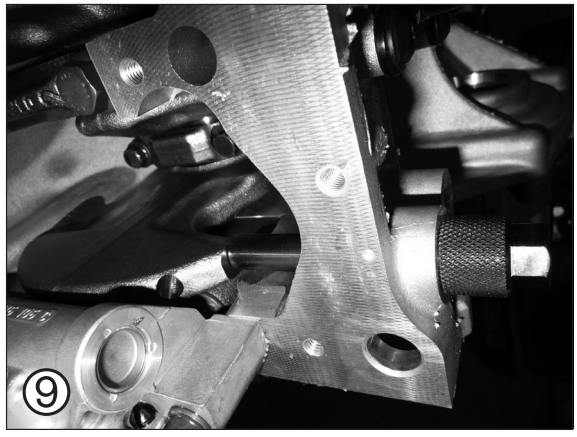
Refit the camshaft sprocket and retaining bolt **without** the timing chain, and tighten the central bolt to a torque of 50Nm.



Using a suitable counter hold (such as HAZET 2540-2 Camshaft Holding Tool) rotate the camshaft to the position shown in picture 7.

Install HAZET 2588-20 camshaft locking tool and secure in place with a suitable bolt.

Using a suitable counter hold (such as HAZET 2540-2 Camshaft Holding Tool) remove the camshaft sprocket and its retaining bolt.



Carefully rotate the crankshaft pulley in the direction of engine rotation until HAZET 2588-21 crankshaft locking pin contacts the web of the crankshaft.

Install the camshaft sprocket and timing chain.

Loosely fit the camshaft sprocket retaining bolt, ensuring that the camshaft sprocket rotates freely on the camshaft and that the timing chain is correctly fitted on to the camshaft and crankshaft sprockets.

Remove slack from the non-tensioned side of the timing chain by rotating the camshaft sprocket by hand in an anti-clockwise direction, and then tighten the camshaft retaining bolt.

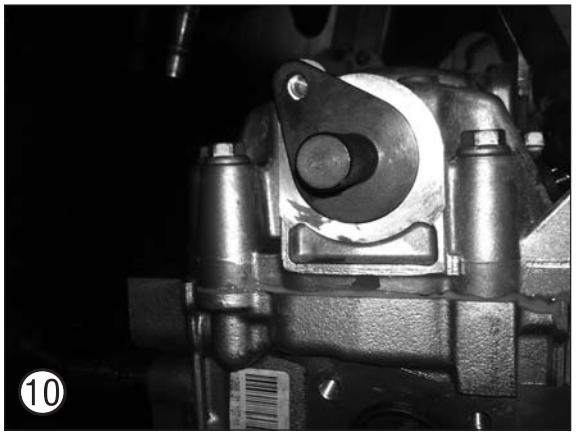
Refit the timing chain tensioner and tighten to a torque of 60Nm.

Using a suitable counter hold (such as HAZET 2540-2 Camshaft Holding Tool) remove the camshaft sprocket retaining bolt.

Fit a new bolt, tightening to 50Nm.

Remove the timing tools and rotate the crankshaft two full revolutions in the direction of engine rotation, stopping just before its timed position.

Refit HAZET 2588-21 crankshaft locking pin and carefully rotate the crankshaft pulley in the direction of engine rotation until the web of the crankshaft contacts the locking pin.



Install HAZET 2588-20 camshaft locking tool and secure in place with a suitable bolt.

NOTE: If it is not possible to correctly install HAZET 2588-20 camshaft locking tool then the engine timing requires adjustment.

Using a suitable counter hold (such as HAZET 2540-2 Camshaft Holding Tool) tighten the camshaft sprocket bolt to its final setting of 50Nm + 90 degrees.

When correct valve timing has been established, refer to section "Refitting timing cover" on page 4 for important information on the correct assembly procedure.

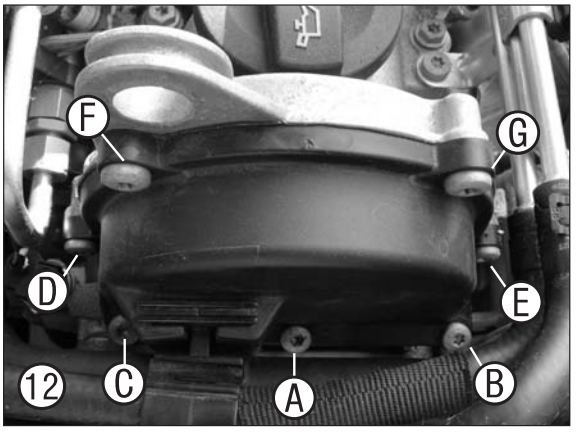
Refitting Timing Cover

When refitting the timing chain cover the correct procedure must be followed to prevent damage to engine components and to ensure that a good oil seal is achieved, HAZET 2588-22 timing cover guide pins form part of this process.

Screw HAZET 2588-22 timing cover guide pins into two of the threaded holes on the cylinder head, (see picture 11).

Apply a continuous bead of sealant to the inner edge of the timing cover.

Ensuring that timing cover remains square to the engine, position the cover over HAZET 2588-22 timing cover guide pins and slide it along the pins to its fitted position.



Remove HAZET 2588-22 timing cover guide pins.

Fit the timing cover retaining screws, **finger tight only** at this stage.

Tighten screws in order **A, B, C, D, E** to 5Nm.

Tighten screws in order **A, B, C, D, E, F, G** to their final setting of 8Nm.

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