

Lower Timing Chain Cover

Special tools and workshop equipment required

Use Oil Collecting and Extracting Device - VAG 1782-

Use Hand drill with plastic brush attachment

Use Protective eye wear

Use Sealant, refer to [→ Electronic Parts Catalog "ETKA"](#)

Removing

1 The transmission is removed. Refer to [→ Automatic Transmission; Rep. Gr. 37.](#)

1 Engine oil drained. Refer to [→ Booklet 405.](#)



Note

All cable ties which are opened or cut open when removing, must be replaced in the same position when installing.

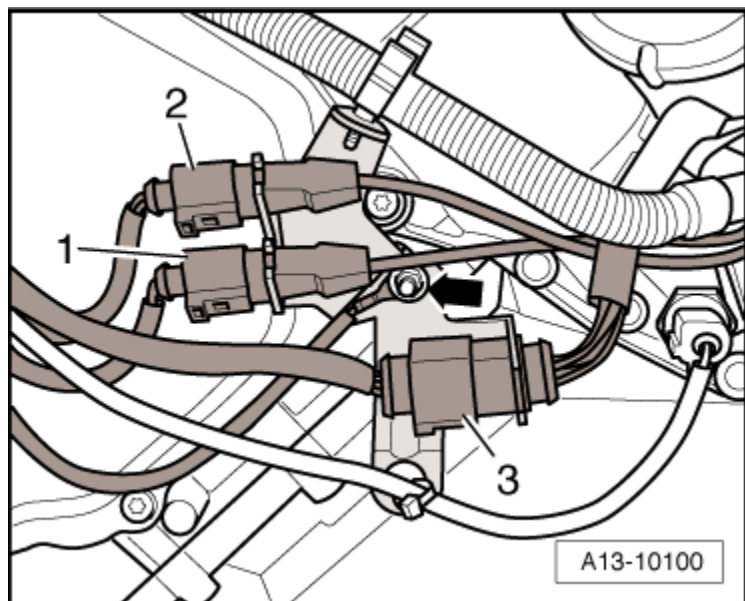


WARNING

To continue performing the repair procedure, ensure lock carrier is installed and torque support is tightened.

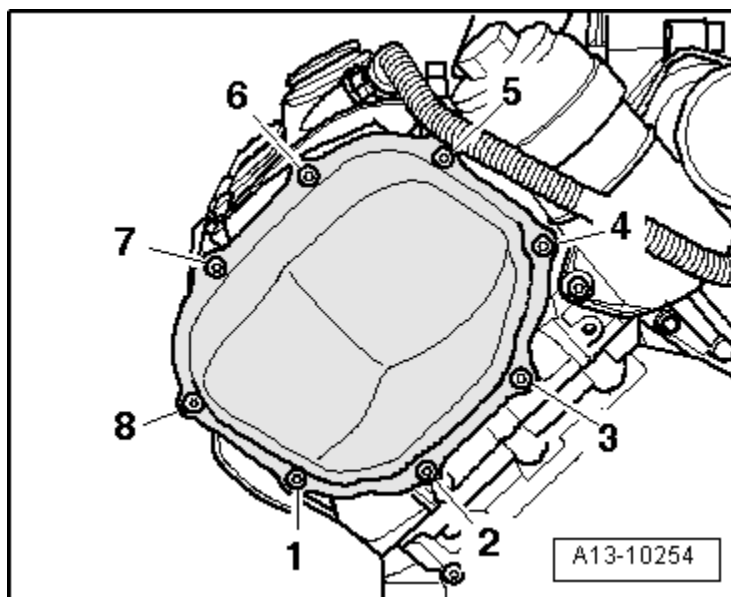
- Vehicles with multitronic transmission. Refer to: Remove damper unit [→ Chapter „Damper Unit“](#) and flywheel [→ Chapter „Flywheel, Multitronic Transmission“](#).
- Vehicles with automatic transmission 09L: Remove drive plate. Refer to [→ Chapter „Drive Plate, Automatic Transmission 09L“](#).

- Disconnect electrical harness connectors - 1 to 3-
- Remove nut -arrow -.
- Remove retainer for connection -3-.
- Remove the double-bolt lying beneath.
- Remove retainer for connections -1- and -2-.

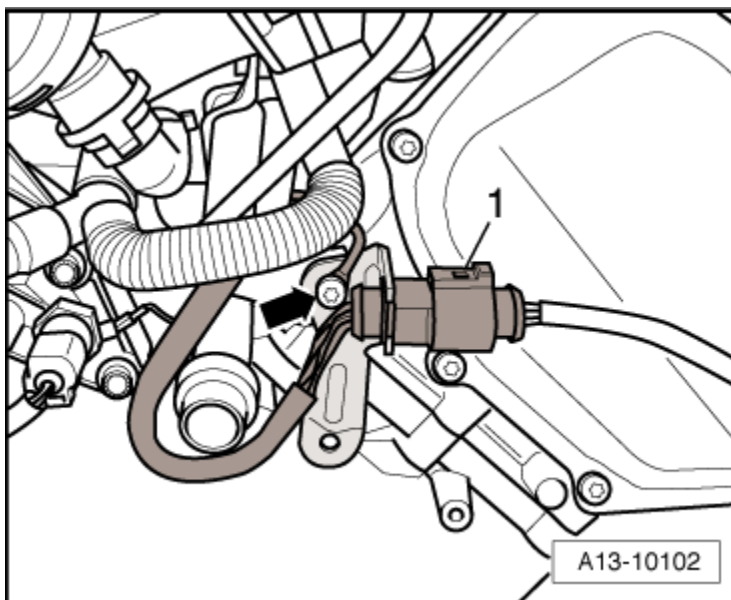


- Remove the bolts -1 through 8- and then

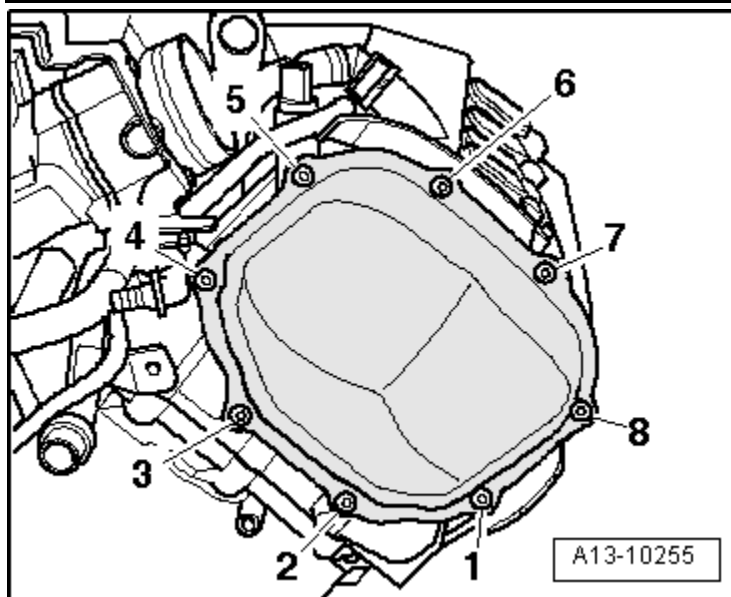
Remove the left cover for the timing chain from the bond.



- Separate the electrical connector -1-.
- Remove bolt -arrow - and remove retainer for connection.



- Remove the bolts -1 through 8- and then remove the right cover for the timing chain from the bond.

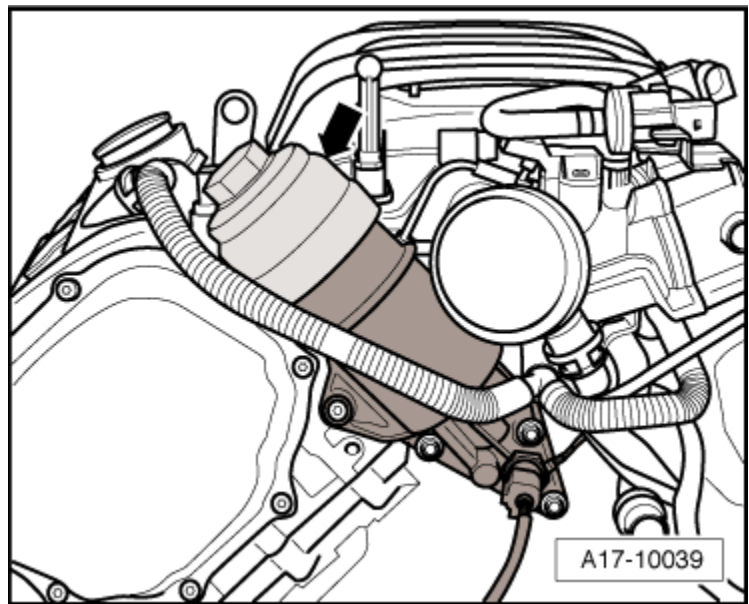


- Remove cap -arrow- for oil filter housing.
- Remove oil filter element.
- Extract the oil from the oil filter housing using the Used Oil Collection and Extraction Device -V A G 1782-.

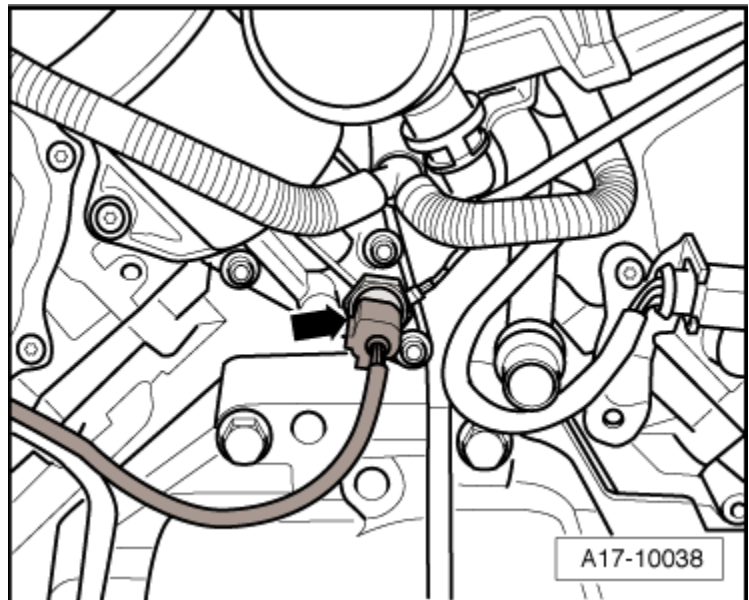


Note

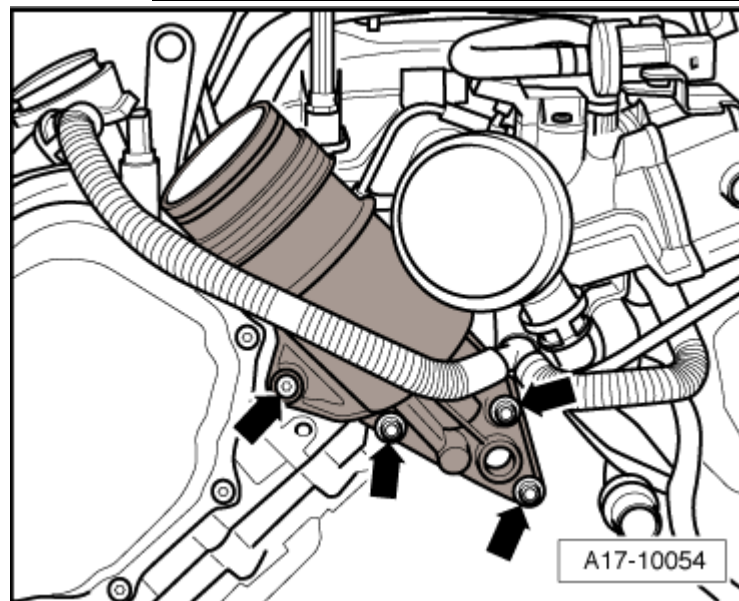
Place a rag under oil filter housing to catch escaping engine oil.



- Disconnect electrical harness connector from Oil Pressure Switch -F1- -arrow-.
- Remove oil pressure switch.

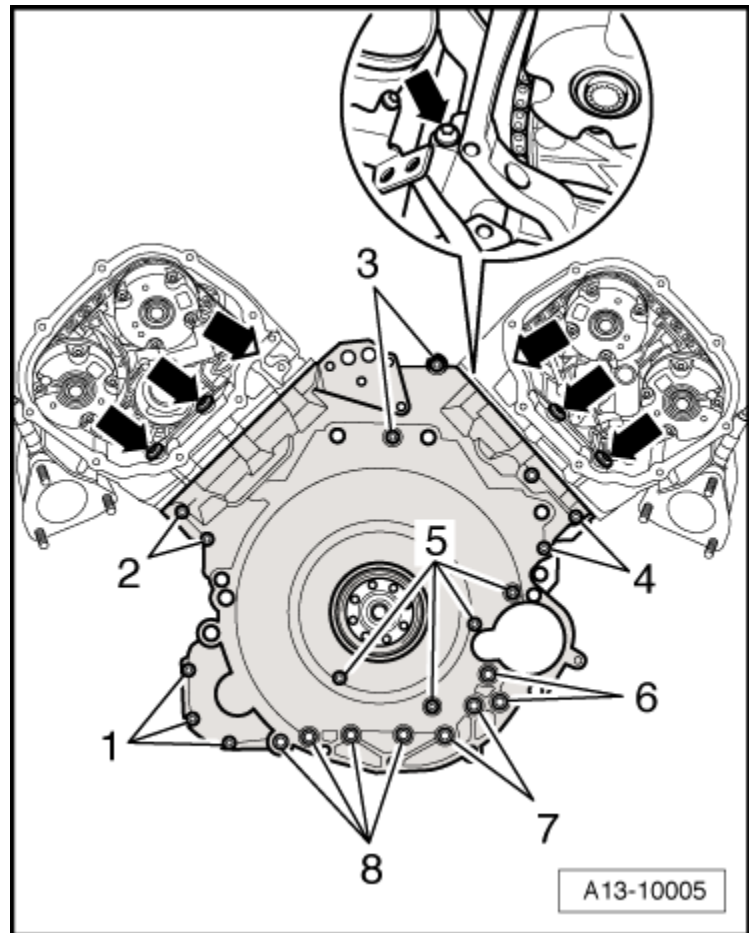


- Remove bolts -arrow s-.
 - Remove oil filter housing.
- Vehicles through 04 2005:



- Remove bolts -arrow s-.
- Remove bolts -1 through 8- and then remove the lower cover for the timing chain from the bond.

Vehicles from 05/2005:



- Remove bolts -arrow s-.
- Remove bolts -1 through 9- and then remove the lower cover for the timing chain from the bond.

All:

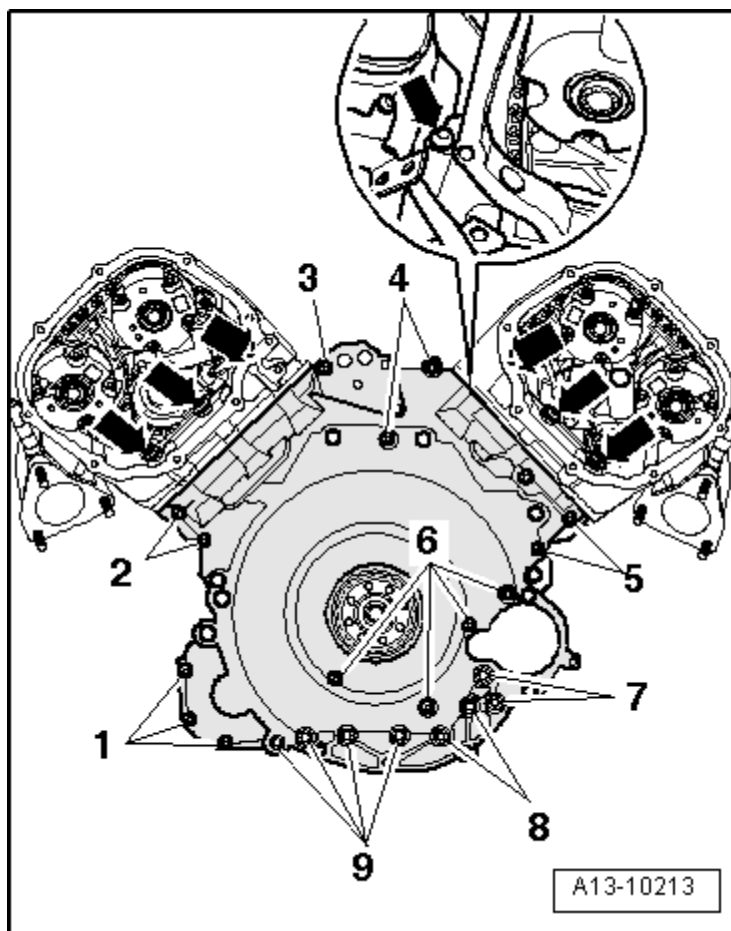
- Press rear crankshaft seal out of lower timing chain cover.

Installing



Note

- Replace gaskets, seals and O-rings.
- During installation, all cable ties must be re-installed at the same location.
- Pull alignment bushing out of top right of cylinder block.



- Chamfer the alignment bushing with a file, as shown in the illustration.

Dimension -x- = 6.5 mm .

Dimension -y- = 8 mm .

- Install the alignment bushing into the cylinder block so that the chamfered side faces upward.



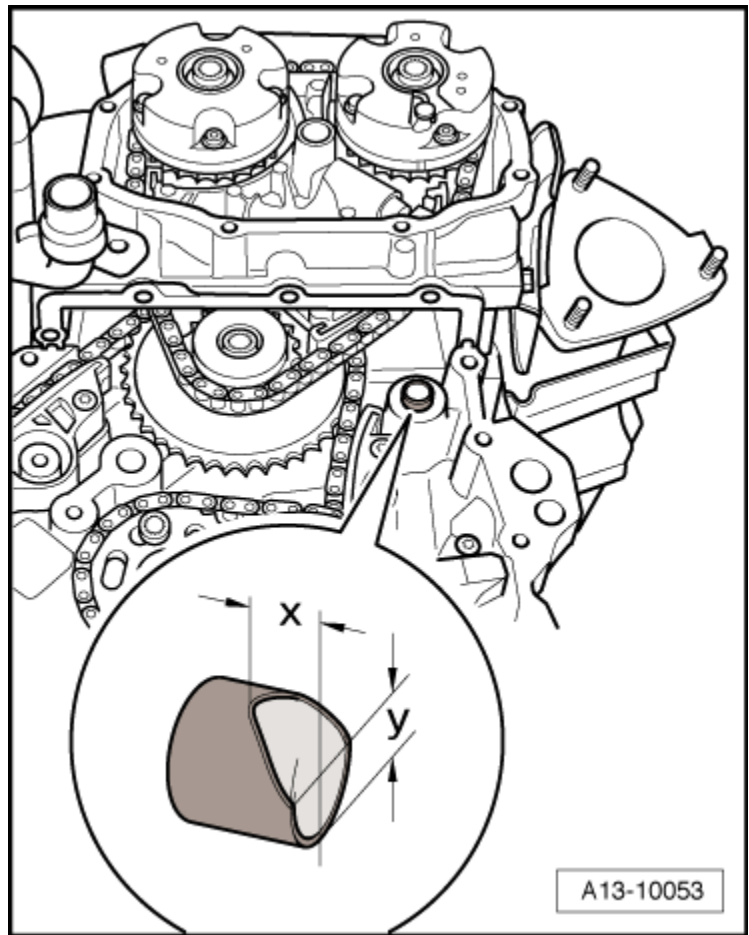
Note

The chamfer simplifies installation of the lower timing chain cover with cylinder head installed.



WARNING

Wear safety glasses.

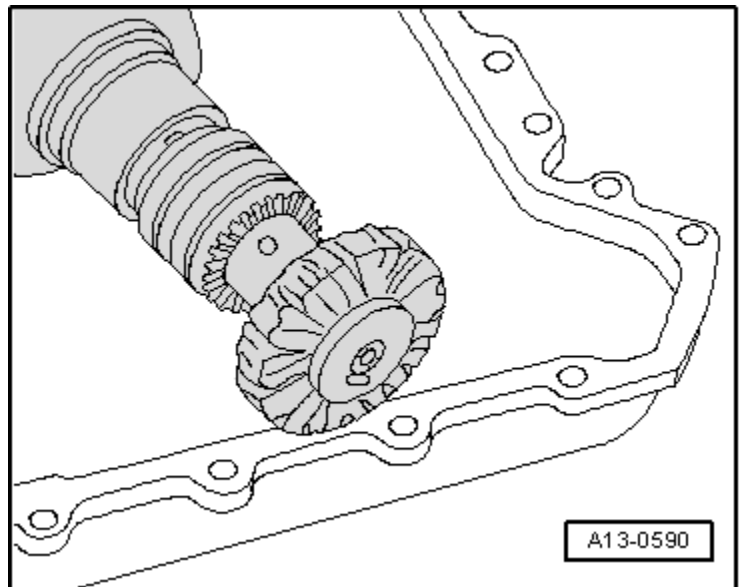


Using for example a rotating plastic brush, remove sealant residue on cover for timing chain and on cylinder block and head.

! Caution

Make sure that no sealant residue enters the engine.

- Clean sealing surfaces so they are completely free of any oil or grease.



- Clean the old sealant from the holes -

arrow - in the cylinder head gaskets.



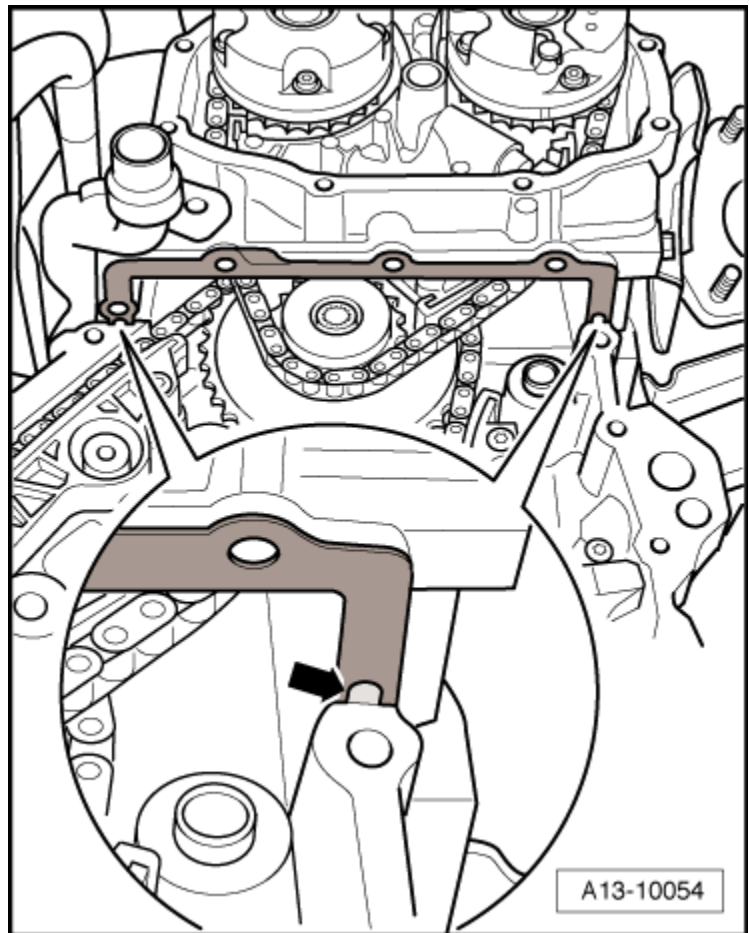
Note

With the cylinder head installed only half of the holes in the cylinder head gasket are visible.



Caution

Cylinder head gasket must not be kinked. A kinked cylinder head gasket must be replaced.



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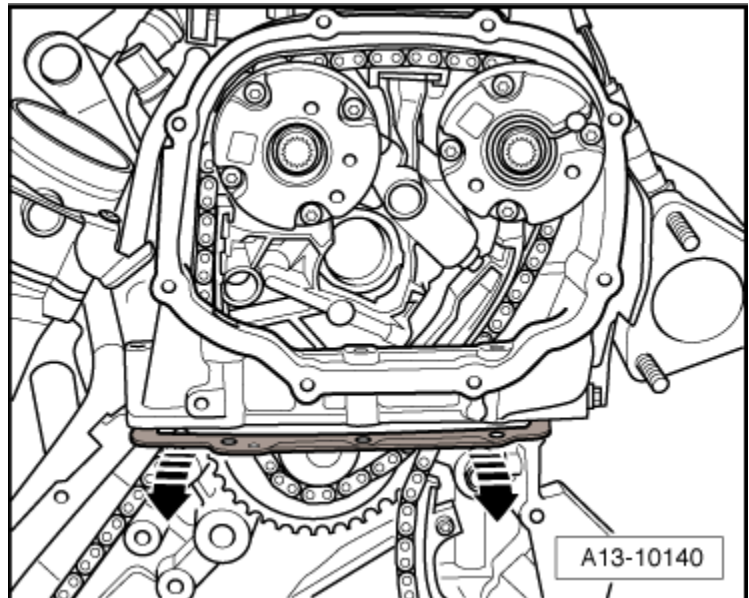
Bend the ends of the cylinder head gaskets - very slightly down and -arrow s- until the upper sealing surface of the gasket and cylinder head can be cleaned.

Clean both cylinder head gaskets, top and bottom, so they are completely free of any oil or grease.



Note

Note the expiration date of the sealing compound.



A13-10140

Cut tube nozzle at front marking (jet dia. approximately 2 mm).



Note

The sealant must be applied to several places on the engine, as described in the

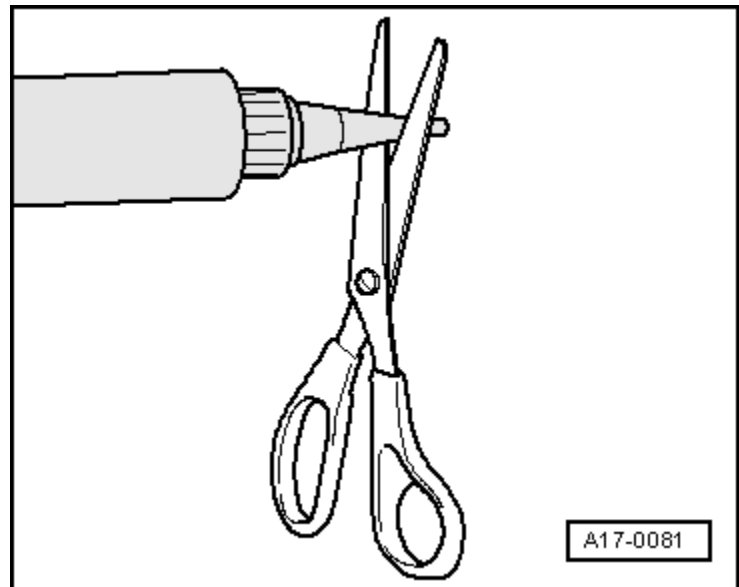
following.

Timing chain cover must be installed within 5 minutes of applying sealant.



Caution

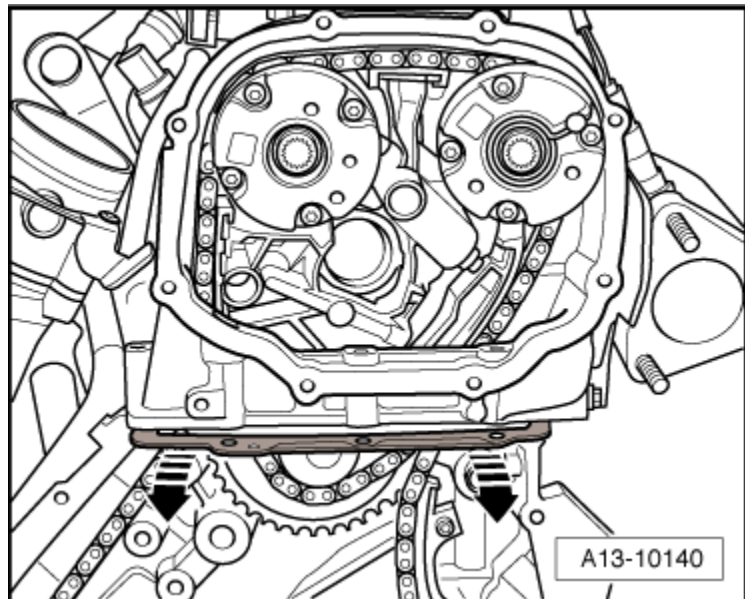
Cylinder head gasket must not be kinked. A kinked cylinder head gasket must be replaced.



A17-0081

Coat the sealing surfaces of the cylinder head gaskets, top and bottom, with a thin layer of sealant, slightly bending the cylinder head gaskets downward again to do this.

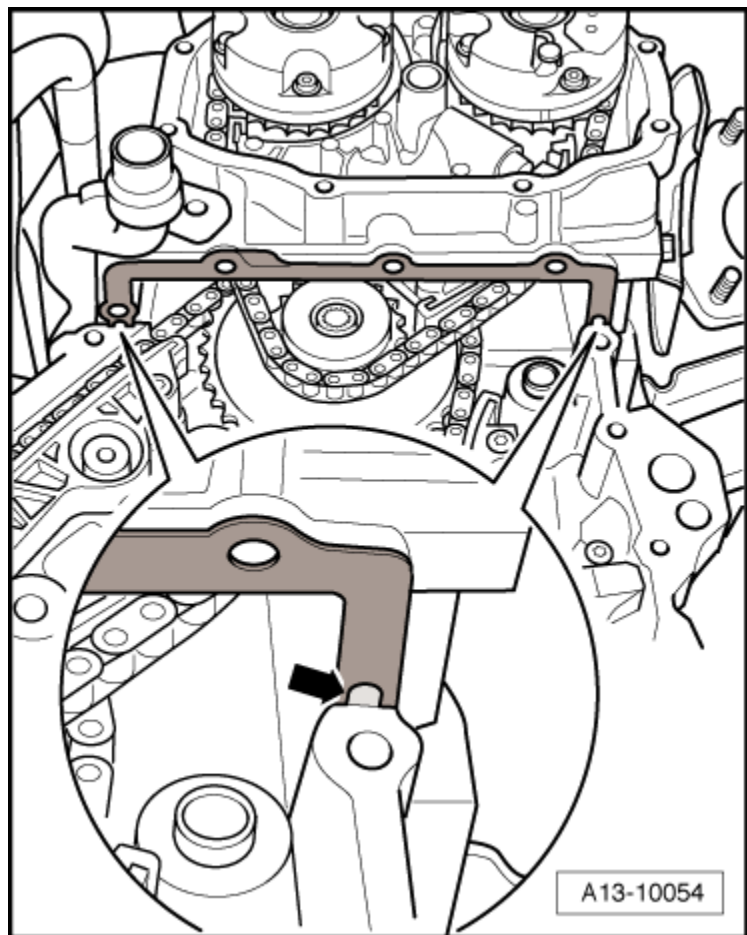
Use a flat object, for example a feeler gauge, to coat surfaces between cylinder head and gasket.



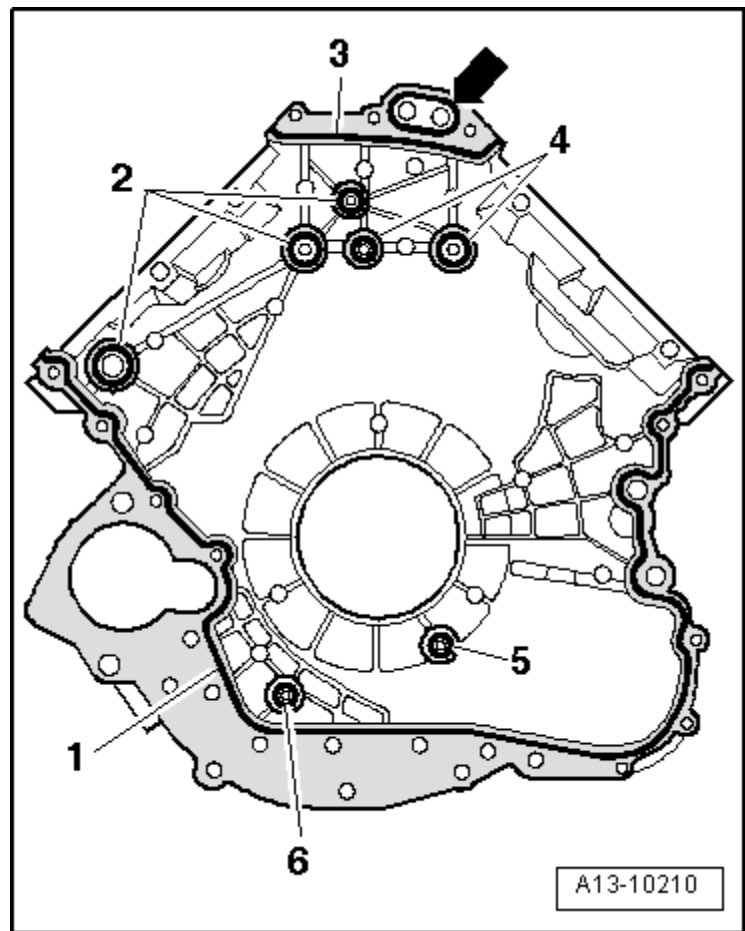
A13-10140

- Fill the cleaned holes -arrow- in the cylinder head seal with sealant.

Vehicles through 04.2005:



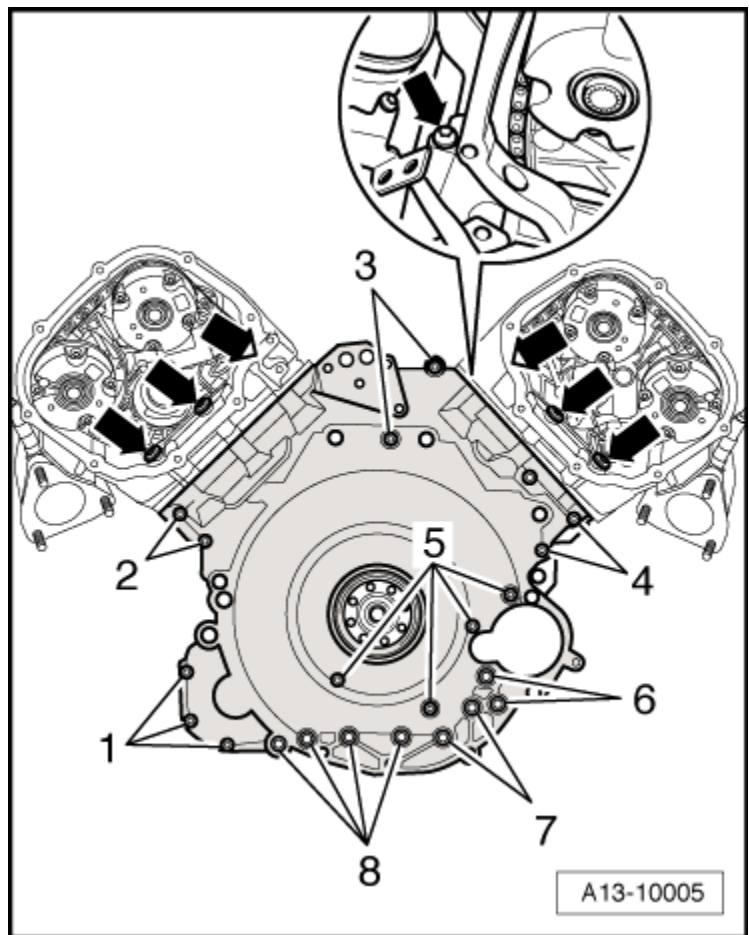
- Apply sealant beads -1 to 6- on clean sealing surfaces of lower timing chain cover, as shown in illustration.
- 1 The groove of sealing surface must be completely filled with sealant.
- 1 The sealant beads must be 1.5 to 2.0 mm above the sealing surface.
- 1 The sealant bead -3- must be pulled through as shown in the illustration even though the groove is intermittent.
- Lay O-ring -arrow- in lower timing chain cover groove.
- Secure O-ring with some sealant.



Set the lower timing chain cover in place,
- guiding the cover at an angle from below
onto the sealing surface of the cylinder
block and cylinder head.

When installing, make sure that the
- cylinder head gaskets do not become
damaged. A damaged gasket must be
replaced.

- Tighten bolts in 4 stages as follows:



Step	Bolts	Tighten specifications/angle
1.	-A row s-	Install w ith locking compound, 5 N m
2.	-1 to 8-	Diagonally, to 9 N m
3.	-A row s-	9 N m
4.	-6, 7, 8-	20 N m

- Then immediately install the oil filter housing. Refer to [→ Chapter „Oil Filter Housing“](#).

Vehicles from 05.2005:

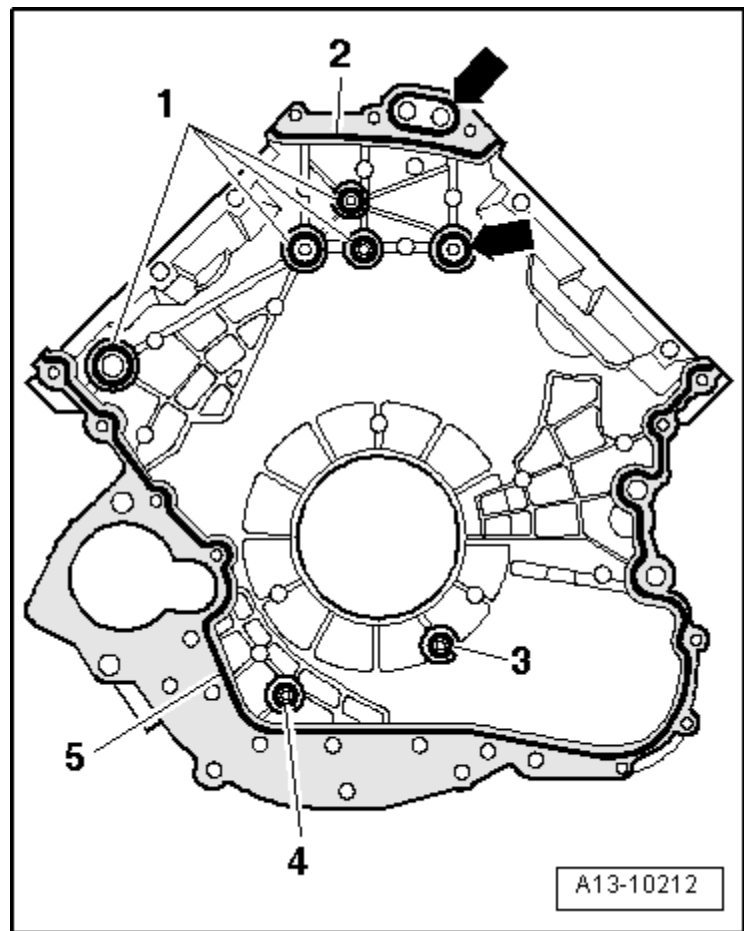
- Apply sealant beads -1 to 5- on clean sealing surfaces of lower timing chain cover, as shown in illustration.

1 The groove of sealing surface must be completely filled with sealant.

1 The sealant beads must be 1.5 to 2.0 mm above the sealing surface.

The sealant bead must be pulled through as shown in the illustration even though the groove is intermittent.

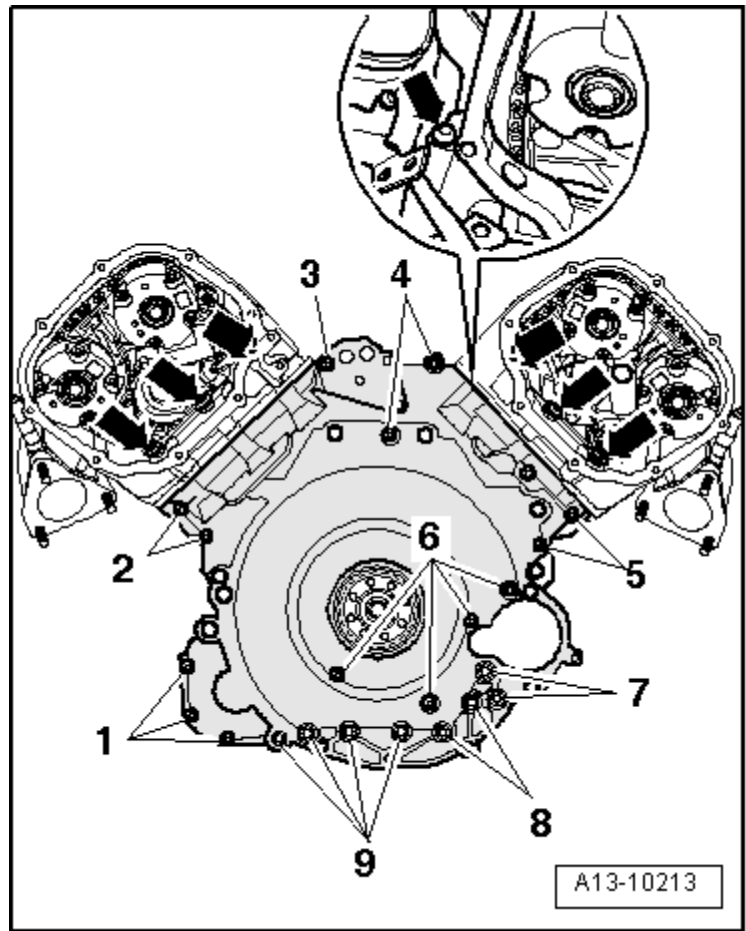
- Insert seals -arrows- in lower timing chain cover grooves.



Set the lower timing chain cover in place,
 - guiding the cover at an angle from below onto the sealing surface of the cylinder block and cylinder head.

When installing, make sure that the
 - cylinder head gaskets do not become damaged. A damaged gasket must be replaced.

- Tighten bolts in 5 stages as follows:



Step	Bolts	Tighten specifications/angle
1.	-A row s-	Install with locking compound, 5 Nm
2.	-1 to 9-	Diagonally, to 9 Nm
3.	-A row s-	9 Nm
4.	-7, 8, 9-	20 Nm
5.	-3-	16 Nm

All:

Further installation is in reverse order of removal, note the following:

- Install left and right timing chain covers → [Anchor](#).
- Install oil filter housing. Refer to → [Chapter „Oil Filter Housing“](#).
- Install the crankshaft seal on the transmission side. Refer to → [Chapter „Crankshaft Seal, Transmission Side“](#).
- Vehicles with multitronic transmission: Install flywheel. Refer to → [Chapter „Flywheel, Multitronic Transmission“](#) and damper unit → [Chapter „Damper Unit“](#).
- Vehicles with automatic transmission 09L: Install drive plate. Refer to → [Chapter „Drive Plate, Automatic Transmission 09L“](#).
- Fill engine oil and check oil level. Refer to → [Booklet 405](#).

Tightening Specifications

Component	Nm

Lower timing chain cover to engine	M 6	9 ¹⁾
	M 7	16
	M 8	20
Left and right cover for timing chain on engine		5 + 90° ²⁾
Retainer for connections to cylinder head		9
<p>1) Install threaded fasteners between cylinder head and lower timing chain cover with locking compound; Locking compound. Refer to → Electronic Parts Catalog "ETKA".</p> <p>2) Replace bolts.</p>		