

Sealing flanges and flywheel/drive plate, removing and installing

Note:

For repairs to the clutch:

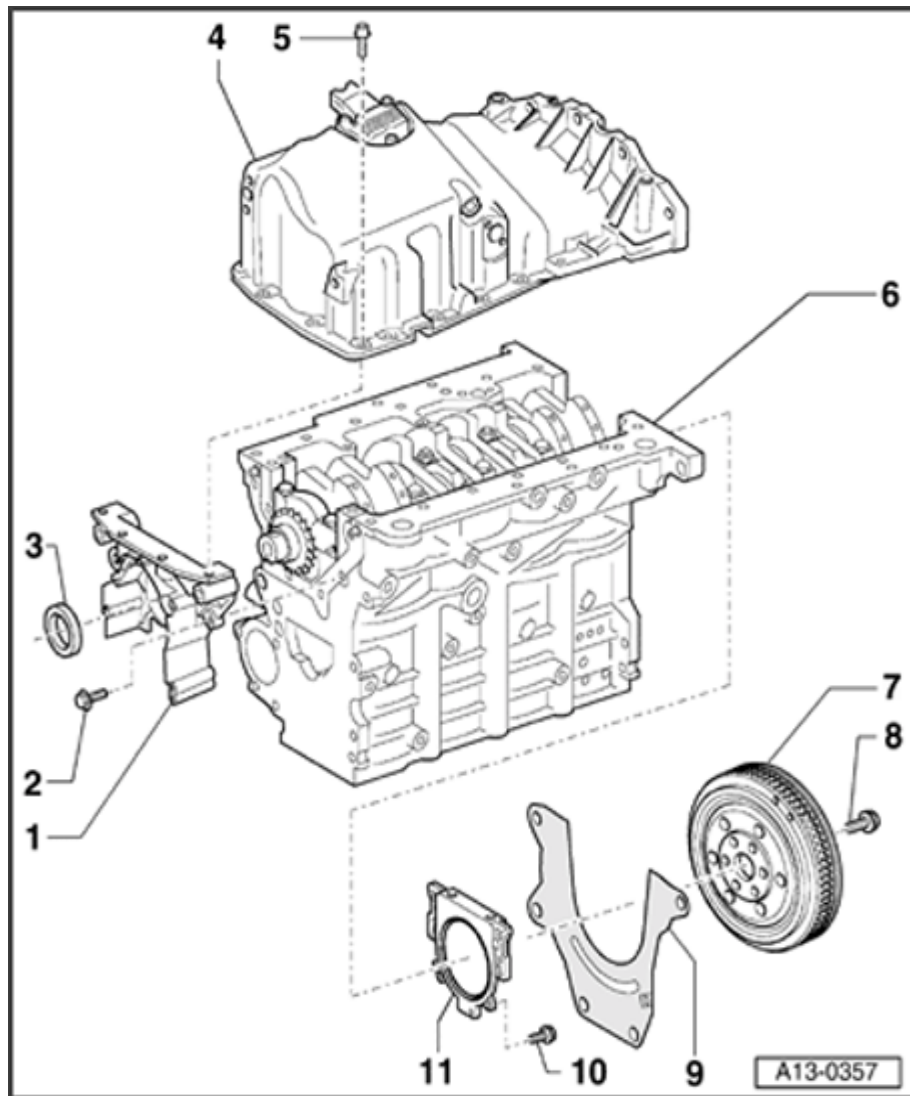
⇒ [Repair Manual, 5 Spd. Manual Transmission 012/01W Front Wheel Drive, Repair Group 30](#)

⇒ [Repair Manual, 5 Spd. Manual Transmission 01A All Wheel Drive, Repair Group 30](#)

1 - Sealing flange - front

- ◆ Must be located on dowel sleeves
- ◆ Removing and installing ⇒ [Page 13-56](#) .

2 - 15 Nm



3 - Sealing ring

- ◆ Replacing ⇒ [Page 13-51](#)
- ◆ Do not oil sealing lip of oil seal

4 - Sump

- ◆ Removing and installing ⇒ [Page 17-11](#)

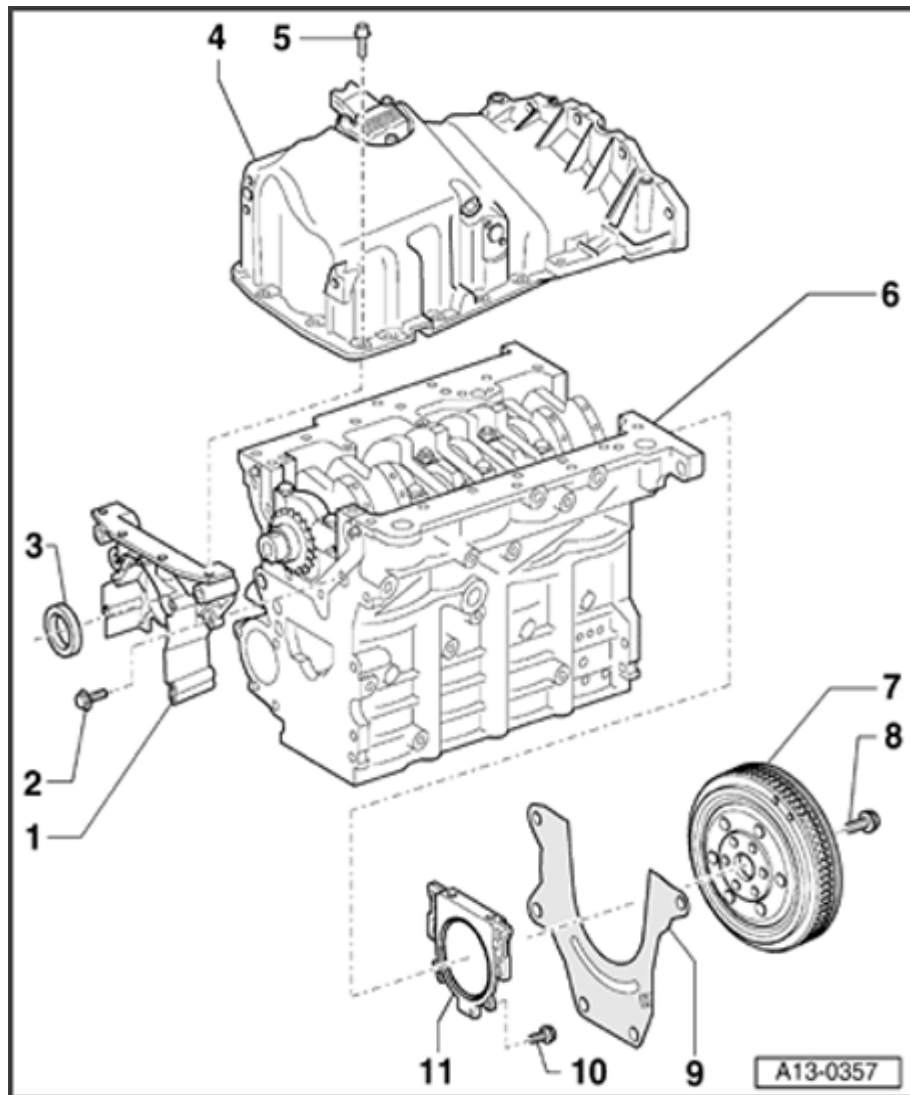
5 - 15 Nm

6 - Cylinder block

- ◆ Removing and installing crankshaft ⇒ [Page 13-67](#) .
- ◆ Dismantling and assembling pistons and conrods ⇒ [Page 13-79](#) .

7 - Dual-mass flywheel/drive plate

- ◆ Removing and installing dual mass flywheel ⇒ [Page 13-62](#)
- ◆ Removing and installing drive plate ⇒ [Page 13-64](#)
- ◆ Can only be installed in one position. Holes are offset.

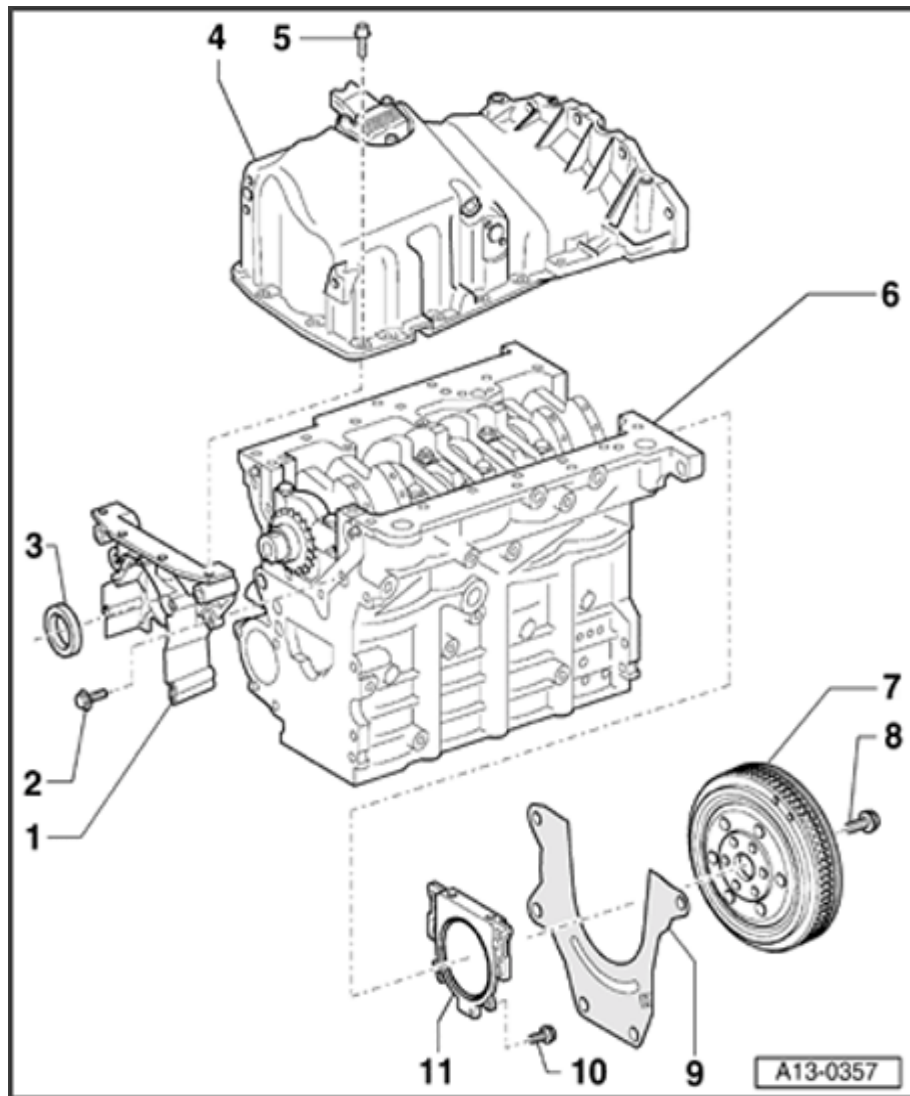


8 - Securing bolt for dual-mass flywheel or drive plate

- ◆ Always replace
- ◆ Tightening torque for dual mass flywheel ⇒ [Page 13-63](#)
- ◆ Tightening torque for drive plate (vehicles with automatic gearbox) ⇒ [Page 13-66](#)

9 - Intermediate plate

- ◆ Must be located on dowel sleeves
- ◆ Do not damage/bend when assembling

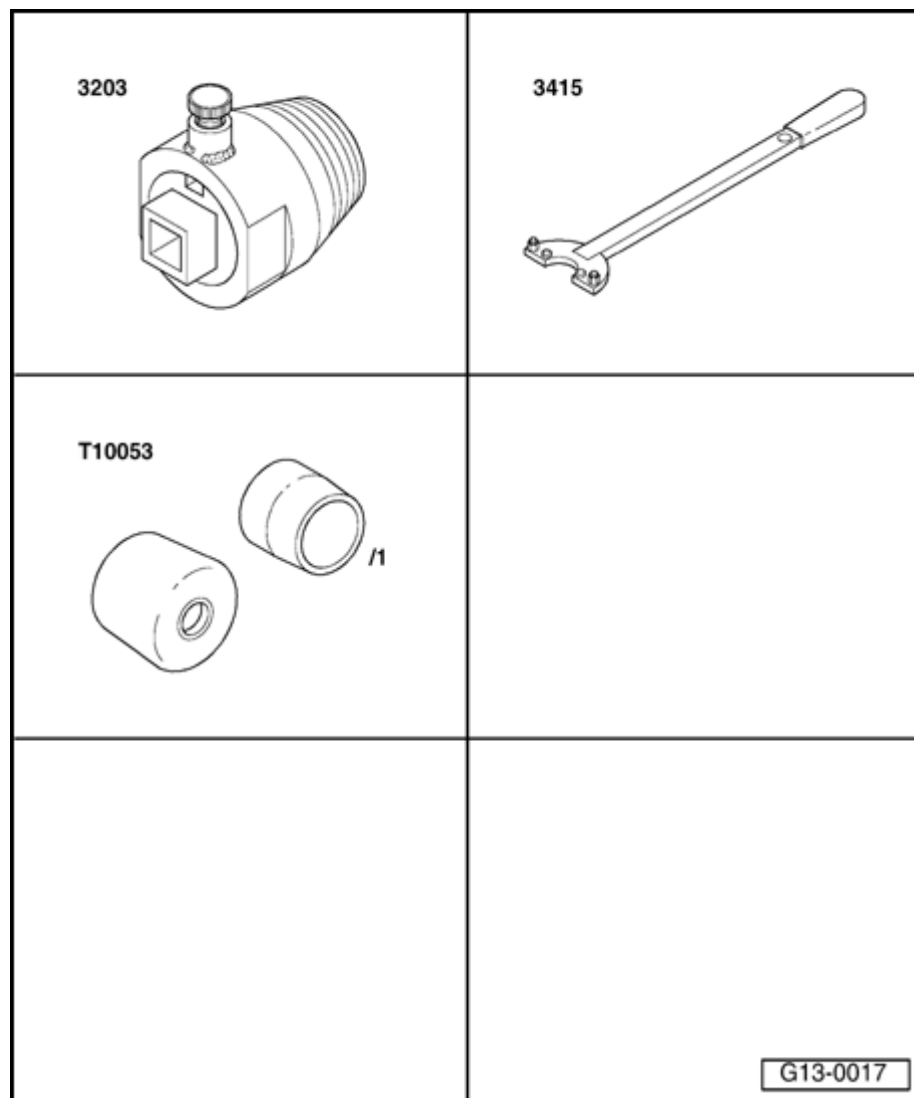


10 - 15 Nm

11 - Rear sealing flange with oil seal

- ◆ With gasket for cylinder block
- ◆ Do not oil sealing lip of oil seal
- ◆ Make sure that the sealing lip of the sealing ring is not folded back or damaged when installing
- ◆ Removal and installation, removing sump
⇒ [Page 17-11](#)
- ◆ When installing, push guide sleeve from repair kit onto crankshaft

13-51



Crankshaft oil seal on pulley end, replacing

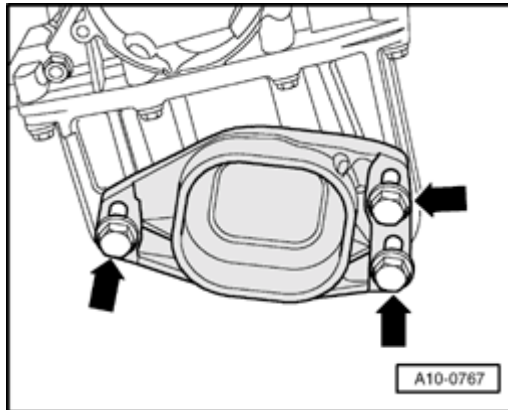
Special tools and equipment

- ◆ Oil seal extractor 3203
- ◆ Holding tool 3415
- ◆ Assembly tool T10053

Removing

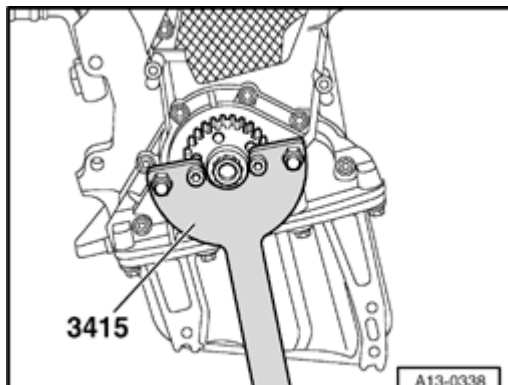
- Engine in vehicle
- Lock carrier must be in service position ⇒ [Page 13-1](#) .

- Remove toothed belt ⇒ [Page 13-40](#) .



A

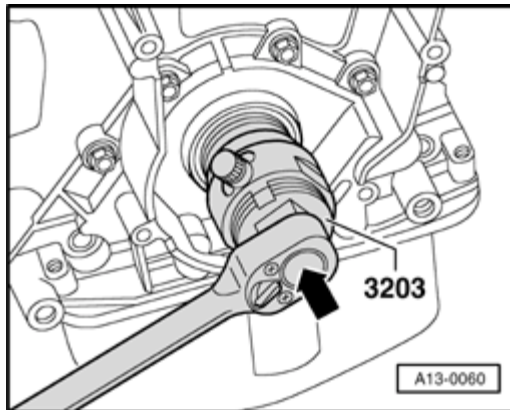
- Unbolt stop for torque reaction support -arrows-.



A

- Remove toothed belt sprocket from crankshaft. To do this, counter hold sprocket with 3415.

- Before applying oil seal extractor, thread central bolt for toothed belt sprocket into crankshaft as far as it will go.
- Remove inner section of oil seal extractor 3203 one turn out of outer section and lock with knurled screw.



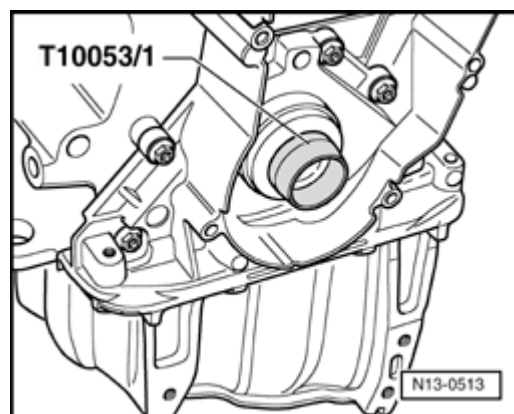
A

- Lubricate threaded head of oil seal extractor, place it in position and exerting firm pressure, screw it into oil seal as far as possible.
- Loosen knurled screw and turn inner part against crankshaft until the oil seal is pulled out.
- Clamp flats of oil seal extractor in vice. Remove oil seal with pliers.
- Clean contact surface and sealing surface.

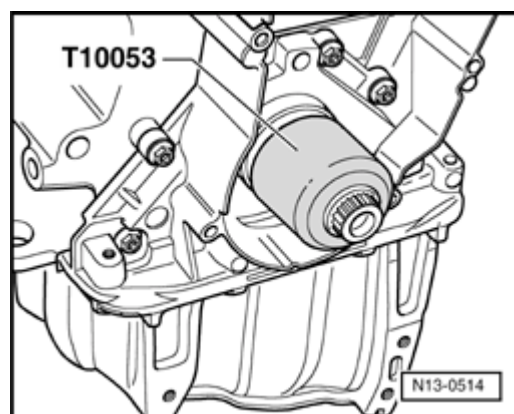
Installing

Note:

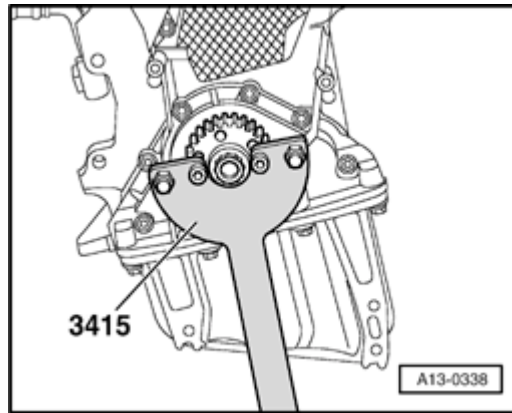
Do not lubricate sealing lip or outer circumference of seal before pressing in.

**A**

- Place guide sleeve T10053/1 onto crankshaft journal.
- Slide oil seal over guide sleeve.

**A**

- Press sealing ring flush with central bolt of toothed belt sprocket and pressure sleeve from T10053.



- Replace central bolt for toothed belt sprocket.

A

- Remove crankshaft toothed belt sprocket. To do this, counter-hold toothed belt sprocket with 3415.

Note:

- ◆ *Contact surface between sprocket and crankshaft must be free of oil.*

- ◆ *Do not oil bolt for crankshaft sprocket.*

- Install toothed belt (adjust valve timing) ⇒ [Page 13-44](#) .

- Install ribbed belt and tensioner for ribbed belt ⇒ [Page 13-20](#) .

- Install lock carrier ⇒ [Page 13-1](#) .

Tightening torque

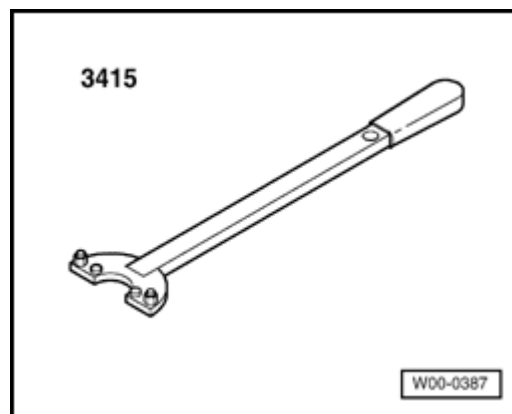
Component	Nm
Toothed belt sprocket to crankshaft	90 + 90° ¹⁾²⁾

1) Replace bolt

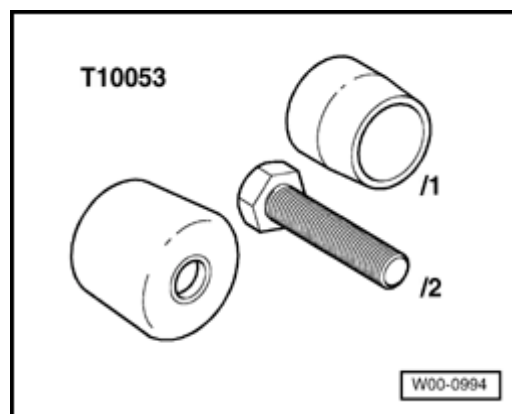
2) 90° corresponds to a quarter turn

Front sealing flange, removing and installing

Special tools, material and equipment



- ◆ Holding tool 3415



- ◆ Assembly tool T10053
- ◆ Electric drill with plastic brush attachment
- ◆ Protective goggles
- ◆ Silicone sealant D 176 404 A2

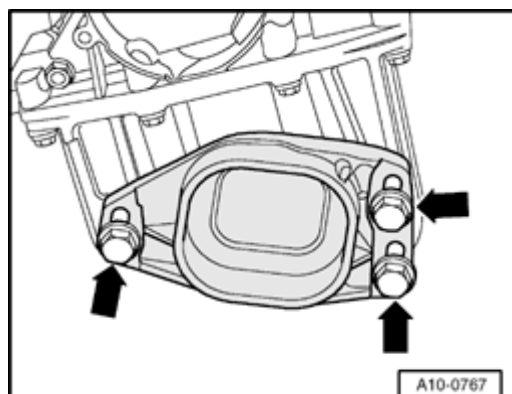
Removing

- Engine in vehicle
- Lock carrier must be in service position ⇒ [Page 13-1](#) .
- Remove toothed belt ⇒ [Page 13-40](#) .

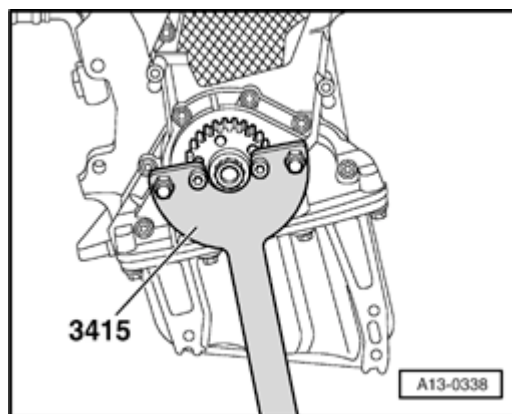
CAUTION!

The air conditioner refrigerant circuit must not be opened.

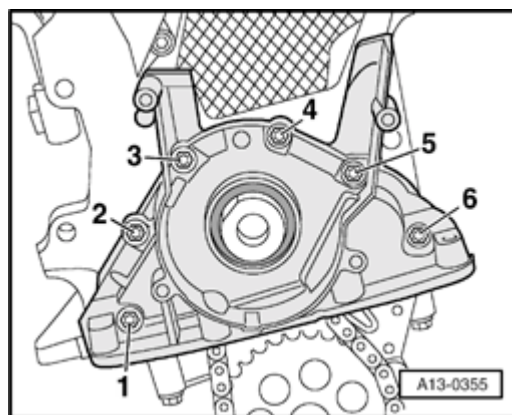
- Disconnect A/C compressor from bracket and secure to body with wire.
- Unbolt bracket for A/C compressor -Item 5 -, ⇒ [Page 13-15](#)
- Unbolt stop for torque reaction support -arrows-.



13-58

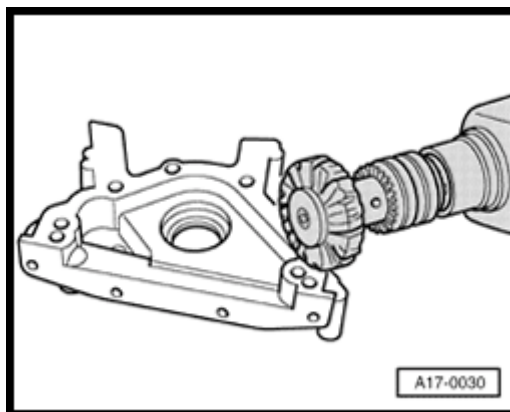


- A**
- Remove toothed belt sprocket from crankshaft. To do this, counter hold sprocket with 3415.
 - Remove oil pan ⇒ [Page 17-11](#)



- A**
- Remove bolts -1 to 6-.
 - Pry sealing flange loose and remove.
 - Carefully remove any remains of sealant from cylinder block.

13-59



- A
- Remove remaining sealant from sealing flange with rotating plastic brush.

WARNING!

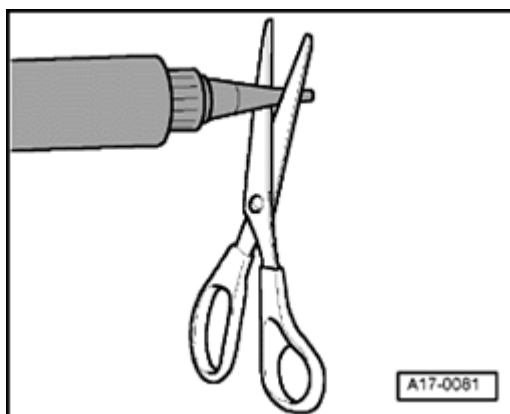
Wear protective glasses.

- Clean sealing surfaces: they must be free of oil and grease.

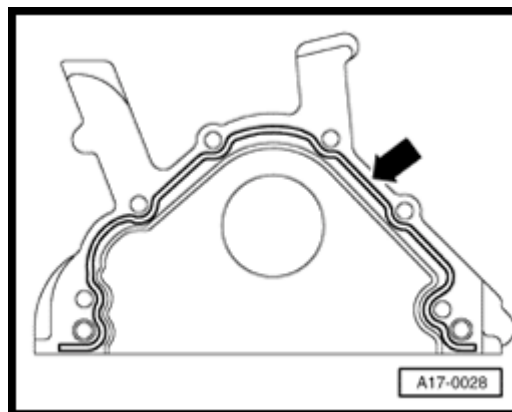
Installing

Note:

The sealing flange must be installed within 5 minutes after applying silicone sealant.



- A
- Cut off nozzle of silicon sealant tube at front marking (diameter of nozzle = approx. 3 mm).
 - ◆ Silicone sealant D 176 404 A2



A

- Apply bead of silicone sealant -arrow-onto clean sealing surface of sealing flange, as illustrated (arrow).
- Sealant bead width -arrows-: 2 to 3 mm

Note:

The bead of sealant must not be thicker than 3 mm, otherwise excess sealant will enter the oil pan and obstruct the strainer in the oil intake line.

- Install sealing flange immediately, and tighten all bolts lightly.

Note:

Use guide sleeve T10053/1 to attach the sealing flange with sealing ring installed.

- Tighten sealing flange bolts in diagonal sequence.
- Install oil pan ⇒ [Page 17-23](#) .

Note:

After assembly, the sealant must dry for approx. 30 min. Only then may the engine be filled with oil.

- Install crankshaft oil seal ⇒ [Page 13-54](#) .
- Install toothed belt (adjust valve timing) ⇒ [Page 13-44](#) .
- Install bracket for A/C compressor -Item 5 -, ⇒ [Page 13-15](#) .
- Install lock carrier ⇒ [Page 13-1](#) .

Tightening torques

Component	Nm
Sealing flange to cylinder block	15
Bracket for air conditioner compressor on cylinder block	33
A/C compressor to bracket	25

Dual mass flywheel/drive plate, removing and installing

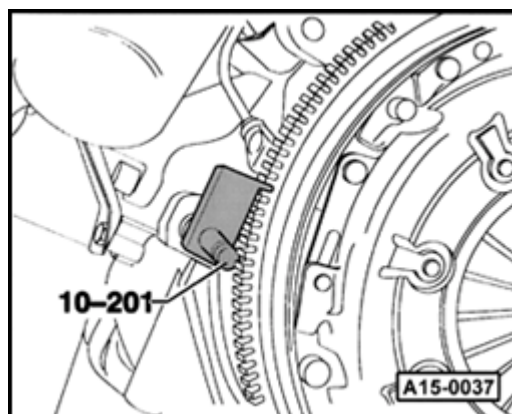
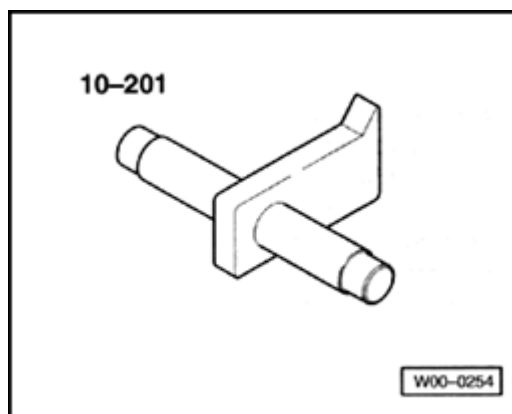
Dual-mass flywheel

Special tools and equipment

A

- ◆ Counter-hold tool 10-201

Removing



A

- Reverse position of counter-hold tool 10-201 for loosening/tightening bolts.
- Mark position of flywheel relative to engine.
- Unbolt flywheel.

Installing

Installation is carried out in the reverse order of removal; note the following:

- Replace bolts.

Tightening torque

Component		Nm
Dual-mass flywheel	22.5 mm ¹⁾	60 + 90° ²⁾
on crankshaft	43 mm ¹⁾	60 + 180° ³⁾

1) Bolt length

2) 90° corresponds to a quarter turn

3) 180° = 1/2 turn

Drive plate

Special tools and equipment

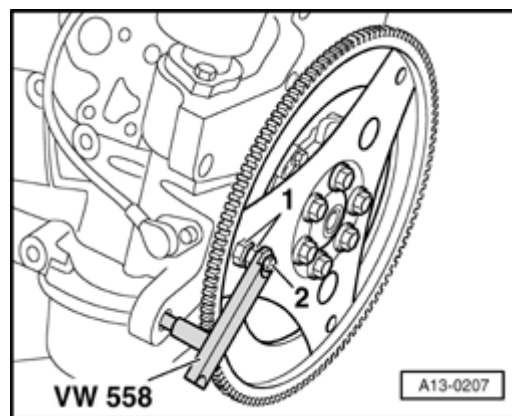
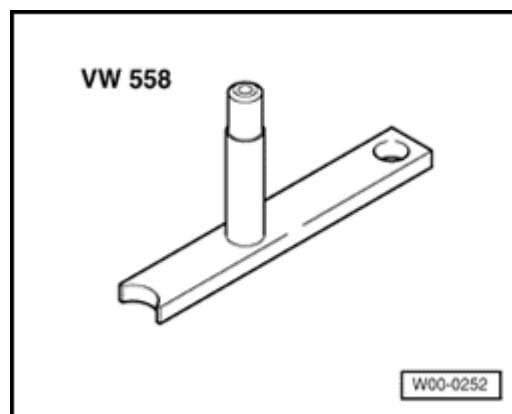
A

- ◆ Counter hold VW 558
- ◆ Hex bolt M8 x 45 and two M10 hex nuts
- ◆ Caliper gauge or depth measure

Removing

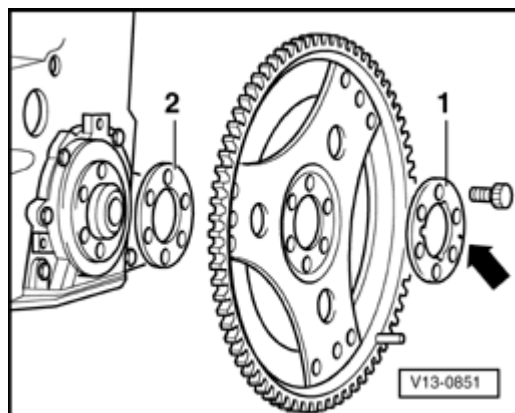
A

- Secure counter hold tool VW 558 to drive plate with hex bolt M8 x 45 - Item 2-. Place two M10 hex nuts between counter-hold tool and drive plate.
- Mark position of drive plate relative to engine.
- Unbolt drive plate.

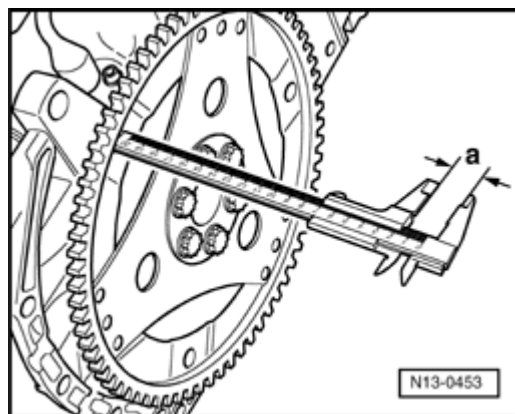


13-65

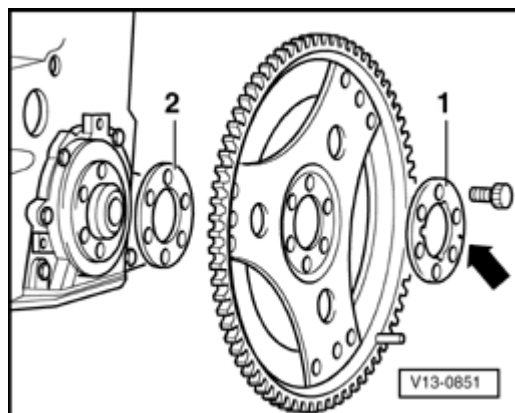
Installing



- A
- Place drive plate in position with shim -2- and washer -1-. Lug -arrow- must face towards torque converter.
 - Insert at least 3 old securing bolts and tighten to 30 Nm.



- A
- Measure distance -a- at three points and calculate average value.
 - Specified value: 18.9 to 20.5 mm



If nominal value is exceeded:

A

- Remove drive plate again and fit without shim -2-. Retighten bolts to 30 Nm.
- Measure distance again.

If specified value is attained:

- Install new bolts and tighten.

Tightening torque

Component	Nm
Drive plate to crankshaft	60 + 90° 1)

1) 90° corresponds to a quarter turn