



EcoBoost Engine /GB/04-2025

The 1.0 EcoBoost engine

Failure to replace the wet timing belt as recommended by the manufacturer, can have serious consequences for the Ford 1.0 EcoBoost engines. Vehicles used infrequently or for short journeys are more likely to suffer issues. Over time, the oil degrades the rubber material of the belt, causing cracking and deterioration. Small pieces of rubber can then detach and circulate through the engine's lubrication system, causing blocked oil passages and filters.

Failing to follow the manufactures belt replacement schedule can cause a multitude of problems:

Hard start

Rough idle and inconsistent performance at higher RPMs

Oil pump failure due to blockages of the oil ways by rubber debris.

Damage to the turbocharger caused by rubber or sludge circulation

Complete engine failure, requiring costly repairs or replacement.

For engines that are used infrequently or primarily for short trips, the oil may not heat up enough to evaporate moisture and combustion byproducts. This leads to the formation of oil sludge which further degrades the wet timing belt.

These problems can quickly escalate and lead to a total engine failure. It is essential to replace the wet timing belt before it degrades to avoid permanent damage.

WARNING: The timing belt replacement ranges from 160,000 km or 10 years to shorter deadlines

Vehicles	Engine Code	
	1.0 (95hp à 155CV)	1.1 (70hp à 95hp)
Ford B-Max (2012-2018) (JK8)	B3DA -> 100 hp (74 kW)	XPJA -> 70 hp (52 kW)
Ford C-Max II (2010-2018)	B7JB -> 125 hp (90kW)	XPJB -> 70 hp (52 kW)
Ford Grand C-Max (2010-2018) (DXA/CB7, DXA/CEU)	B7JC -> 125 hp (90kW)	XPJC -> 70 hp (52 kW)
Ford EcoSport (2011-2019)	BZJA -> 155 hp (114 kW)	XPJD -> 70 hp (52 kW)
Ford Fiesta (2012-2019) (JA8, JR8)	M0JB -> 95 hp (70 kW)	XYJA -> 85 hp (63kW)
Ford Focus (2012-2018) (DYB)	M1CA -> 125 hp (90kW)	XYJB -> 85 hp (63kW)
Ford Mondeo (2012-2018) (CD, CE, CF)	M1CB -> 125 hp (90kW)	XYJC -> 85 hp (63kW)
Ford KA+ (2014 - ...) (UK,TK, FK)	M1DA -> 125 hp (90kW)	XYJD -> 85 hp (63kW)
Ford Transit Courier (2014-2020)	M1DC -> 125 hp (90kW)	XYJE -> 85 hp (63kW)
Ford Puma (2019 -)	M1DD -> 125 hp (90kW)	
Ford Transit Connect (2013-2018)	M1DH -> 140 hp (103 kW)	
Ford Grand Tourneo Connect (2013-2018)	M1JA -> 125 hp (90kW)	
Ford Tourneo Courier (2014-2020)	SFJA -> 125 hp (90kW)	
	SFJB -> 125 hp (90kW)	
	SFJC -> 125 hp (90kW)	
	SFJD -> 125 hp (90kW)	
	M2DA -> 125 hp (90kW)	
	M1JH -> 125 hp (90kW)	
	M1JL -> 125 hp (90kW)	
	M1J -> 125 hp (90kW)	
	M1JE -> 125 hp (90kW)	
	M1JJ -> 125 hp (90kW)	
	M1JU -> 125 hp (90kW)	
	YYJA -> 125 hp (90kW)	
	M2DC -> 125 hp (90kW)	
	YYJA -> 125 hp (90kW)	
	YYJB -> 125 hp (90kW)	
	YYJC -> 125 hp (90kW)	



Timing belt 116 teeth
Width 16 mm

KD452.29



KDP452.290



Timing belt 116 teeth
Width 18 mm

KD452.30



KDP452.300



NTN

SNR

Brands of
NTN corporation

Timing belt 116 teeth
Width 16,8 mm

KD452.38



KDP452.380



Timing belt 116 teeth
Width 16.8 mm +
Oil pump belt 46 teeth
Width 10 mm

KD452.39



KDP452.390



Required special tools



Crankshaft Lock Pickup
OE (303-1604)



Camshafts fixing tool kit
OE (303-1605)



Crankshaft pulley locating
pin
OE (303-732)



Flywheel Lock Tool
OE (303-1602)



Torque Amplifier Support
OE (303-1611-01)



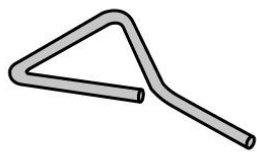
Adapter for Support
OE (303-1611-02)



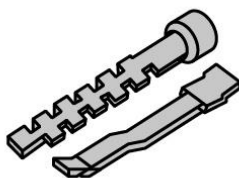
Torque Amplifier
OE (303-1611)



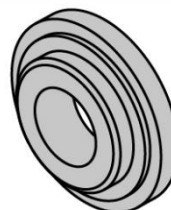
Camshaft Locking Tool Kit
OE (303-1606)



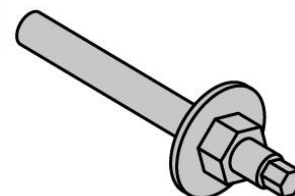
Tensioning pulley locking pin
OE (303-1054)



Removal tool kit
OE (303-293)



Thrust piece
OE (303-1603)

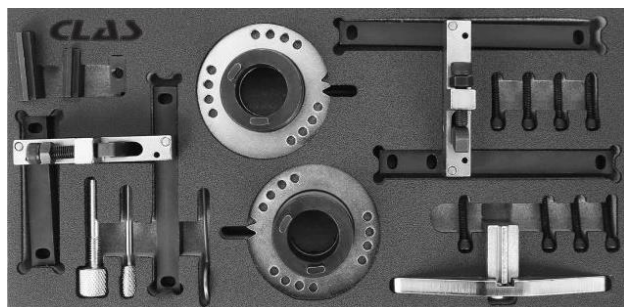


Installation tool
OE (303-1636)

SNR recommends Clas tool sets:

OM 4117 Timing tools 1.0 & 1.1 EcoBoost

OM 4109 Torque Multiplier 1.0 & 1.1 ECoBoost



Recommendations

Turn the engine only with the crankshaft pulley in the direction of operation.

Do not turn the crankshaft or camshafts when the timing belt has been removed.

Make adjustments to the timing belt only when the engine is cold.

It is recommended that accessory belts not be reused after disassembly, but that they should always be replaced.

Systematic replacement of parts

Designation	Quantity
Crankshaft gasket	1
Oil Separator Gasket	1
Water pump gasket	1
Joining the timing belt cover	1
Friction disc	1
Crankshaft pulley bolt	1
Injector Seals	3

Filling Volumes and Specifications	
Engine Oil & Filter	Engines SFJE, SFJF, SFJJ, SFJK, SFJN, SFJP 4,60 liters
Oil Specification	Engines SFJE, SFJF, SFJH, SFJJ, SFJK, SFJN, SFJP WSS-M2C948-B
Coolant	5,80 liters
Coolant Specification	WSS-M97B44-D



Tightening torques

Designation	Figures	Recommendations	Clamping values
Accessory belt tensionner bolts. (1)	(See figure 1)		25 Nm
Accessory belt idler bolt. (2)	(See figure 1)		25 Nm
Fuel rail screws (4)	(see figure 3)		23 Nm
Camshaft sensors boltss (1)	(See figure 4)		10 Nm
High Pressure Pump bolts	(See figure 7)		Stage 01 5 Nm Stage 02 13 Nm
Valves cover bolts (1)	(See figure 9)	Observe the tightening order.	Stage 01 Screw in by hand Stage 02 10 Nm
Catalyst support bolts (1)	(See figure 12)	Use new screws/nuts.	On the engine block, Stage 01 Screw in by hand Stage 02 25 Nm On the oil pan, Stage 01 Screw in by hand Stage 02 25 Nm
Nuts – catalytic converter (2)	(See figure 14)	Use new screws/nuts.	On turbocharger, Stud 11 Nm Nuts with base plate, Stage 01 Screw in by hand Stage 02 28 Nm
Air Conditioning Compressor bolts	(See figure 17)		25 Nm
Alternator bolts	(See figure 19)		48 Nm
Starter bolts	(See figure 21)		35 Nm
Drive shaft relay bearing bolts	(See figure 22)		on the engine block 24 Nm Mounting Flange Stage 01 6 Nm Stage 02 25 Nm
Motor block closing screws (1)	(See figure 23)		20 Nm
Controlling phase shifters screws (2)	(See figure 24)		7 Nm
Turbocharger Oil Front Line (3)	(See figure 37)		On turbocharger 30 Nm On the engine block 10 Nm



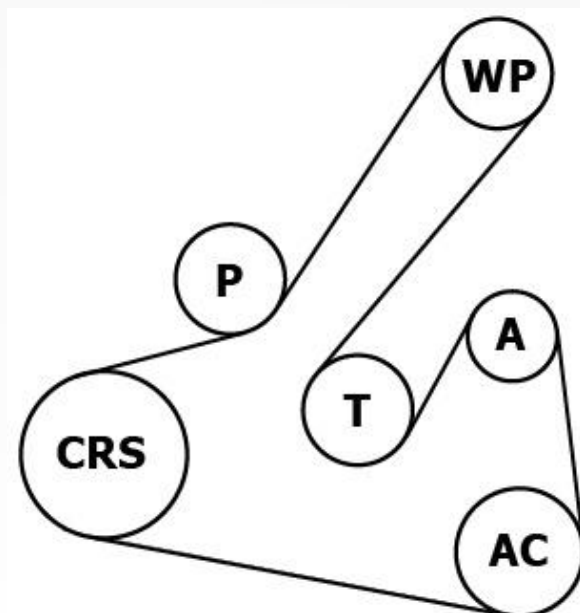
Tightening torques

Designation	Figures	Recommendations	Clamping values
Engine mount (3)	(See figure 40)		On the body 48 Nm On the engine mount 115 Nm
Tensioner screw GT352.28 (1)	(See figure 42)		26 Nm
Water pump screws	(See figure 46)	Respect the order and tightening torques.	
Water pump pulley screws			25 Nm
Screws - timing cover (1)	(See figure 48)	Respect the order and tightening torques.	
Screw - vibration damper (1)	(See figure 52)	Using a friction disc (2) and one screw (1) new.	Stage 01 25 Nm Stage 02 70 Nm with special tool 303-1611 Stage 03 60 Nm with special tool 303-1611 Stage 04 90° with special tool 303-1611 Stage 05 90° with special tool 303-1611 Stage 06 90° with special tool 303-1611 Stage 07 90° with special tool 303-1611 Stage 08 90°
Engine drain plug			25 Nm
Oil filter			15 Nm



Accessory Belt track

Rep	Désignation
A	Alternator
AC	Air conditioning compressor
CRS	Crankshaft
T	Tensioning roller
P	Deflection pulley
WP	Coolant pump



Remove

Lift the vehicle.

Remove the engine cover

Remove the right front wheel.

Remove the right front wheel splash protection.

Disconnect the battery.

Release the tensioning roller by turning anticlockwise. (2)

Insert locking pin with Ø 4.0 mm to fix the tension pulley. (1)

Remove the accessory belt.

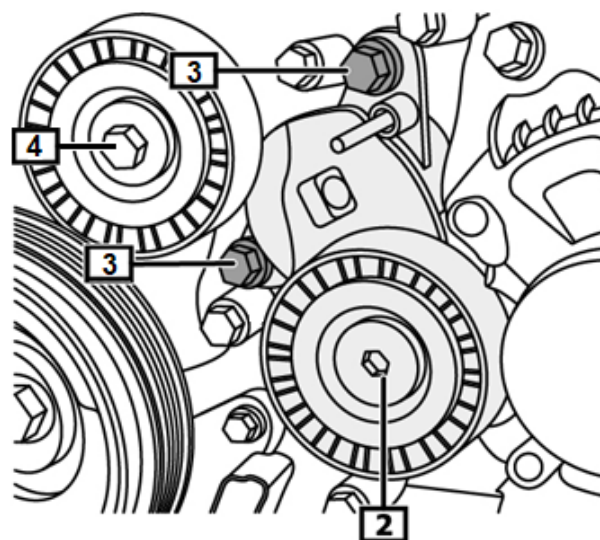
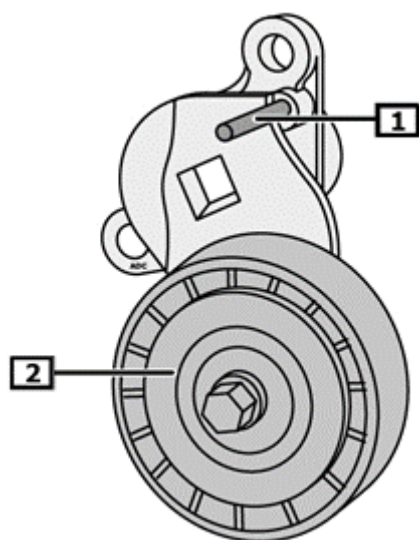
Special tools needed

Tensioner roller locking pin (1) **OE (0188-Q1)**

Unscrew (3) and remove the accessory belt tensioner roller (2)

Unscrew (4) and remove the accessory belt idler

Figure 1



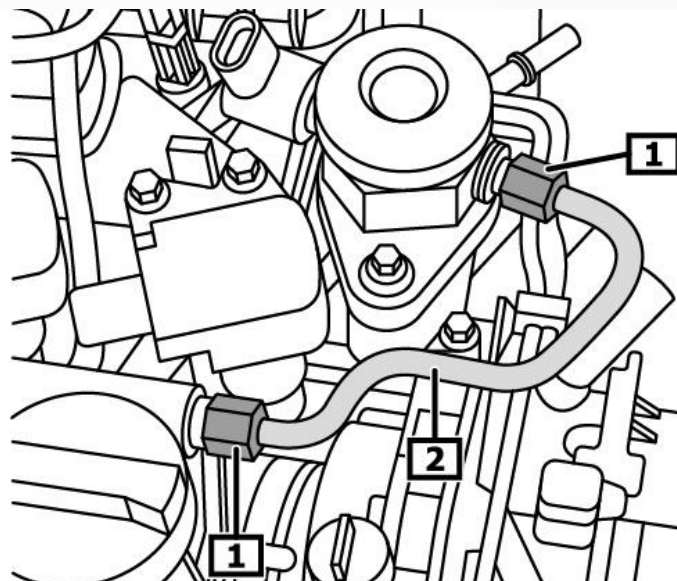
1 Tensioner roller locking pin
2 Accessory belt tensioner roller

3 Accessory belt tensioner roller screws
4 Accessory belt idler screw



Remove fuel pump fuse.
 Start engine and let it idle until engine cuts by itself.
 Rotate engine by starter for approx. 5 seconds in order to relieve the pressure completely.
 Remove ignition coils.
 Unscrew and remove high-pressure line union nuts. (1)
 Remove high-pressure line. (2)

Figure 2



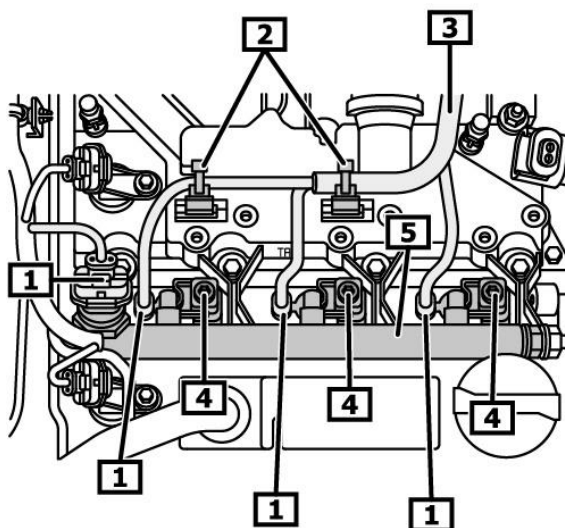
1 High-pressure line union nuts

2 High-pressure line

Disconnect electric plug connection(s). (1)
 Unclip electric line. (2)(3)
 Put electric line aside. (3)
 Unscrew and remove fuel rail screws. (4)
 Remove fuel rail evenly in upward direction. (5).
 Disconnect the injection valves from the fuel rail.

WARNING: Check for fuel leaks.

Figure 3



1 Electric plug connections

2 Clips

3 Electric cable

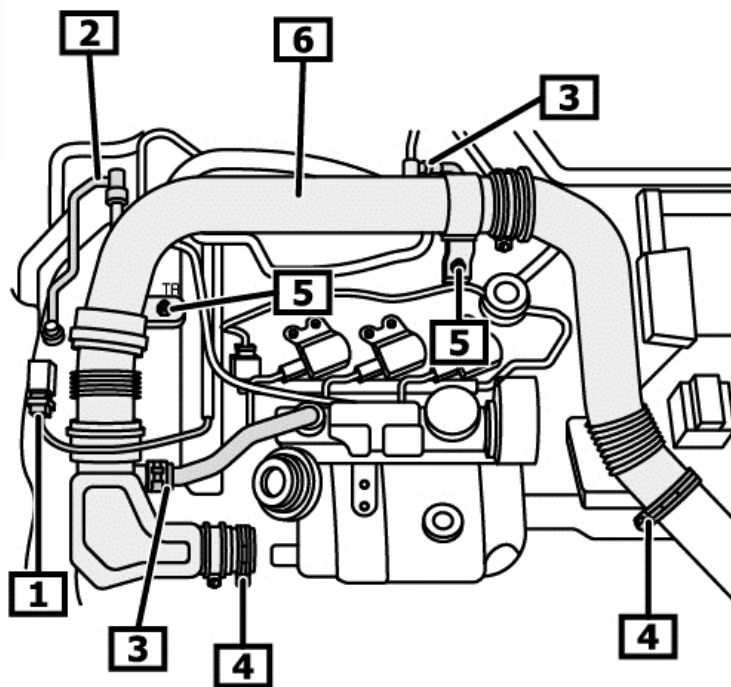
4 Fuel rail screws

5 Fuel distributor



Loosen and remove the air filter housing.
 Disassemble the battery
 Put down your bin and the electronic box.
 Remove evaporative emission system pipe. (2)
 Dismantle crankcase breather pipes. (3)
 Loosen the clamping collars. (4)
 Unscrew air intake pipe screw. (5)
 Remove air intake pipe. (6)

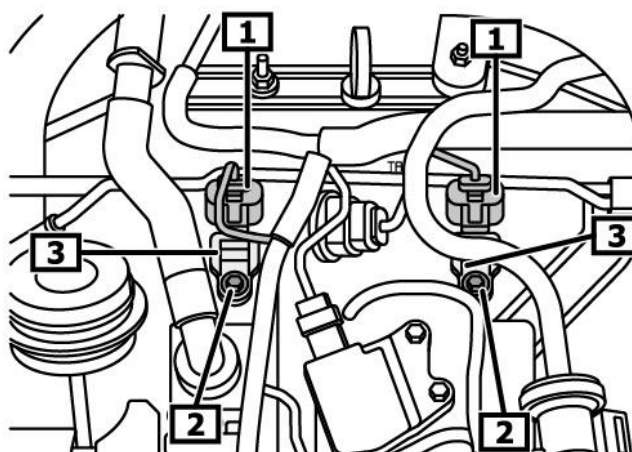
Figure 4



Disconnect camshaft sensor electric plug connections. (1)
 Unscrew and remove camshaft sensor screw. (2)
 Remove camshaft sensor. (3)

1 Intake air temperature and charge air pressure sensor electrical plug connection	2 Fuel evaporation control system pipe
3 Crank case breather pipe	4 Clamps
5 Air in-take pipe screw	6 Air in-take pipe

Figure 5

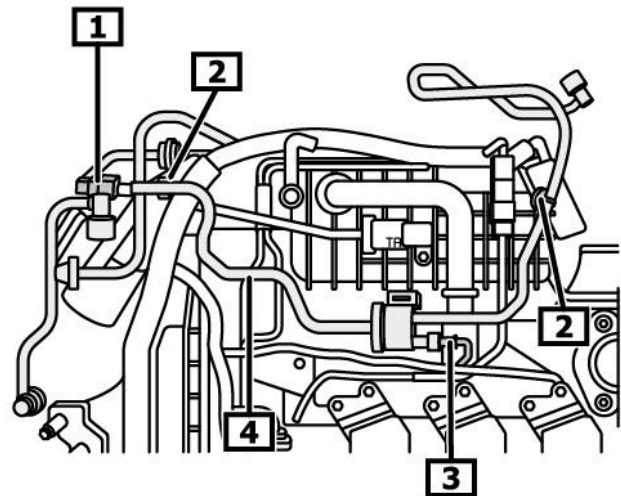


1 Electric plug connections	2 Camshaft sensor screw
3 Camshaft Position Sensor	



- Remove evaporative emission system pipe. (1)
- Unclip the line from the holder. (2)
- Pull off electric plug connection from solenoid valve for charcoal canister. (3)
- Put fuel evaporation control system pipe aside. (4)

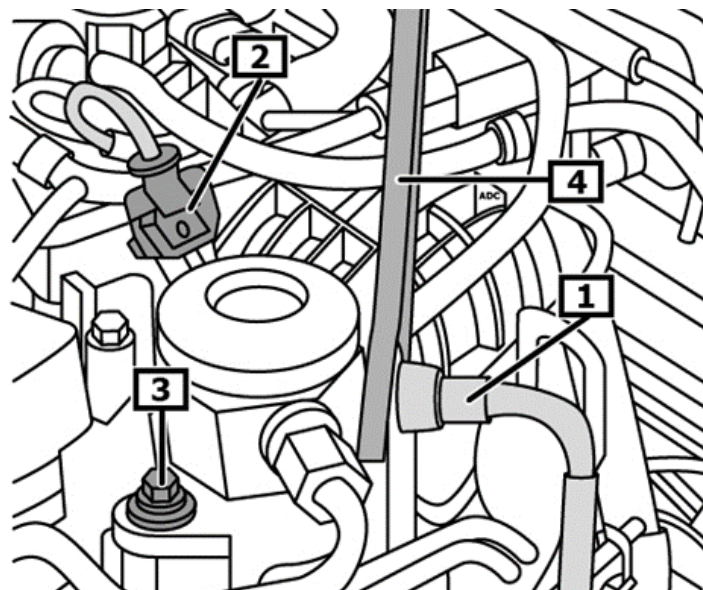
Figure 6



- | | |
|---|--|
| 1 Fuel evaporation control system pipe | 2 Clip |
| 3 Wiring harness connection, solenoid valve for charcoal canister | 4 Fuel evaporation control system pipe |

- Disconnect high-pressure pump electrical plug connection. (2)
- Disconnect the fuel line(s) from the high-pressure pump. (1)(4)
- Unscrew and remove high-pressure pump bolts. (3)

Figure 7



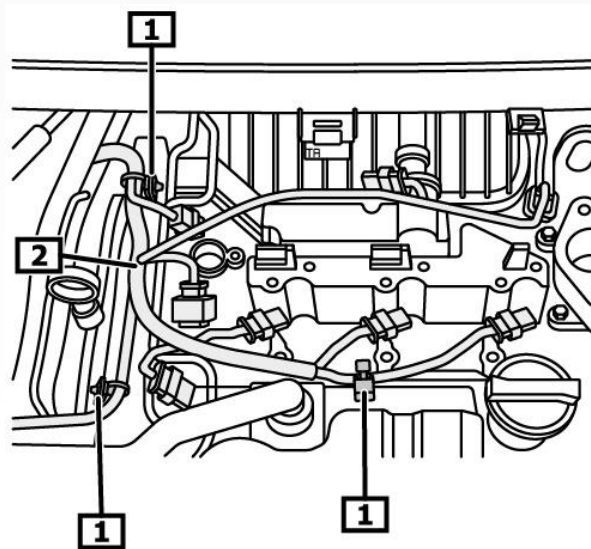
- | | |
|------------------------------|---|
| 1 Fuel line | 2 High-pressure pump electrical plug connection |
| 3 Bolts - high-pressure pump | 4 Release Tool Kit |



Unclip the wiring harness. (1)(2)

Put electric line aside. (2)

Figure 8



1 Clip

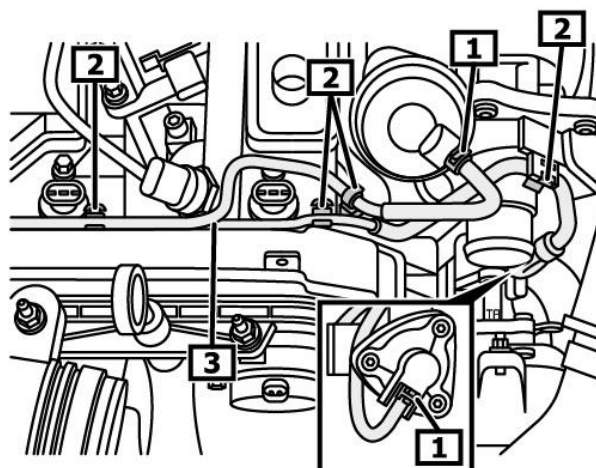
2 Wiring harness

Remove clamp. (1)

Loosen vacuum lines from bracket. (2)(3)

Put vacuum lines aside. (3)

Figure 9



1 Clamp

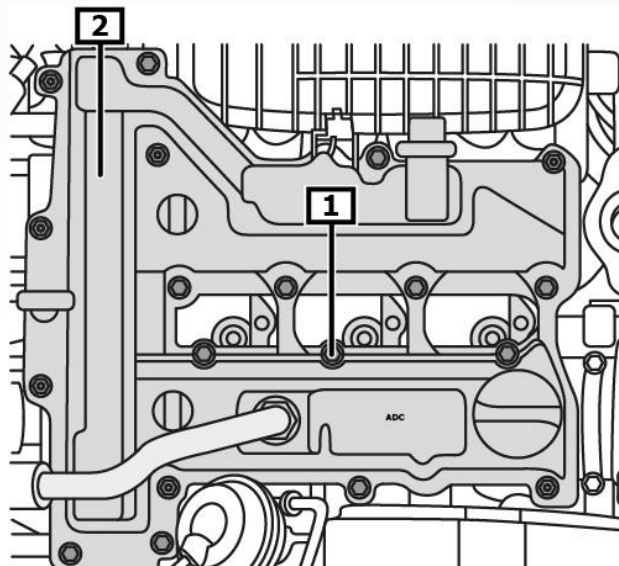
2 Retaining Clips

3 Vacuum line



Remove heat shield from exhaust manifold.
 Remove crankcase breather pipe(s).
 Bolts - unscrew and remove valve cover. (1)
 Remove valve cover. (2)

Figure 10

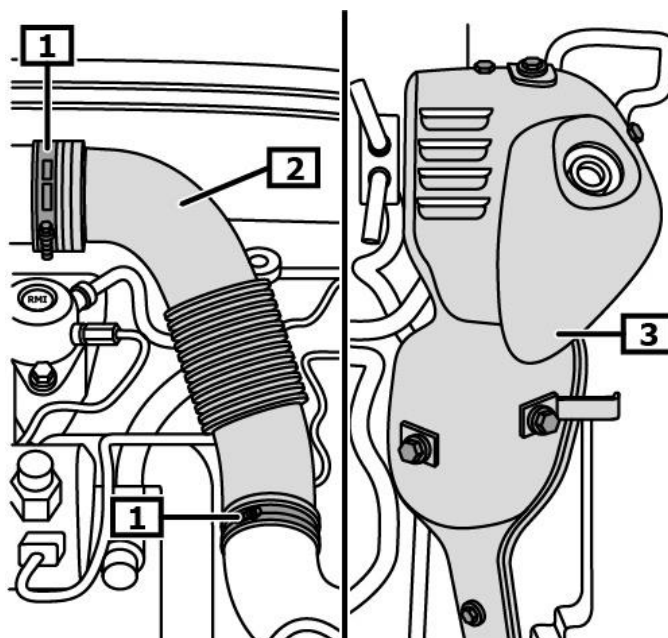


1 Bolts – Valves cover (20 Pieces)

2 Valves cover

Drain the coolant.
 Remove the hose clamps. (1)
 Remove air intake pipe. (2)
 Remove heat plate for catalytic converter.

Figure 11



1 Hose clamps

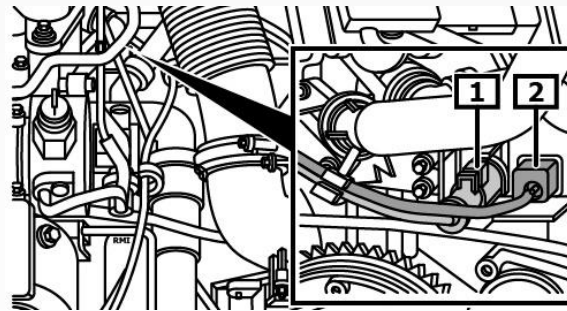
2 Air in-take pipe

3 Heat plate for catalytic converter



Disconnect lambda sensor plug in engine compartment.(1) (2)
 Unscrew and remove lambda sensor upstream of catalytic converter.

Figure 12

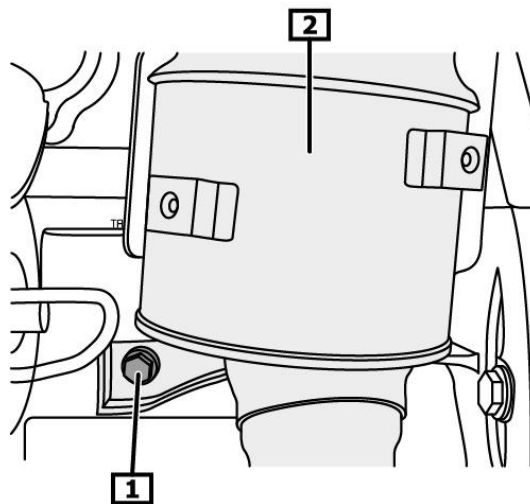


1 lambda sensor plug

2 lambda sensor plug

Unscrew and remove catalytic converter holder screw. (1)

Figure 13



1 Catalytic converter bolt

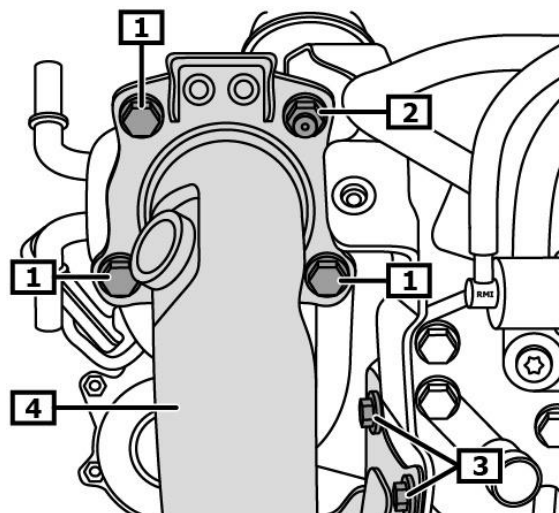
2 Catalytic converter

Unscrew and remove catalytic converter bolts. (1)

Unscrew and remove catalytic converter nuts. (2)

Unscrew and remove catalytic converter holder bolts. (3)

Figure 14



1 catalytic converter screws

2 catalytic converter nuts

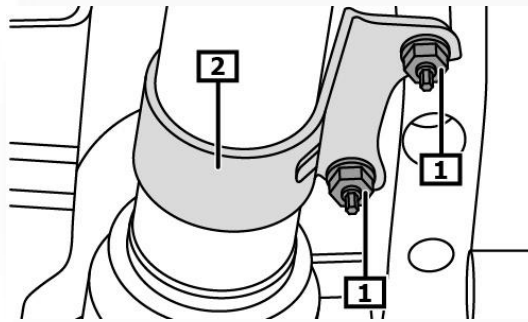
3 catalytic converter holder
screws

4 Catalytic converter
screws



Unscrew and remove catalytic converter holder nut. (1)

Figure 15



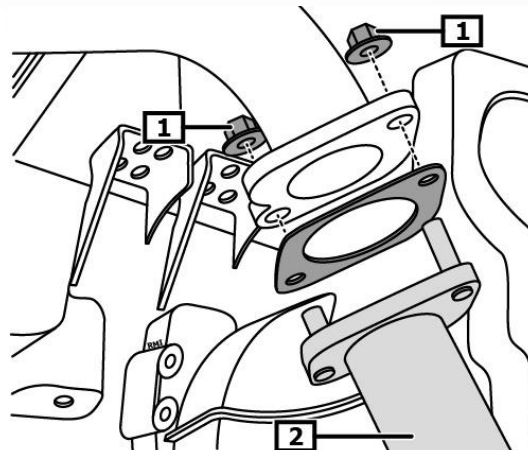
1 Catalytic converter bracket nut

2 Catalytic converter holder

Unscrew the front exhaust pipe nuts. (1)

Remove the catalytic converter. (2)

Figure 16



1 Front exhaust pipe nuts

2 Catalytic converter

Remove the alternator.

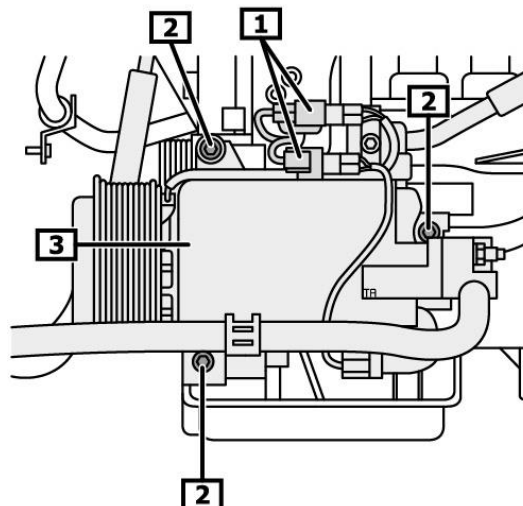
Disconnect air conditioning compressor plug connections. (1)

Unscrew air conditioning compressor bolts. (2)

Unscrew the air conditioning compressor from the holder and attach at the side. (3)

Lines remain connected.

Figure 17



1 Air conditioning compressor electric
plug connections

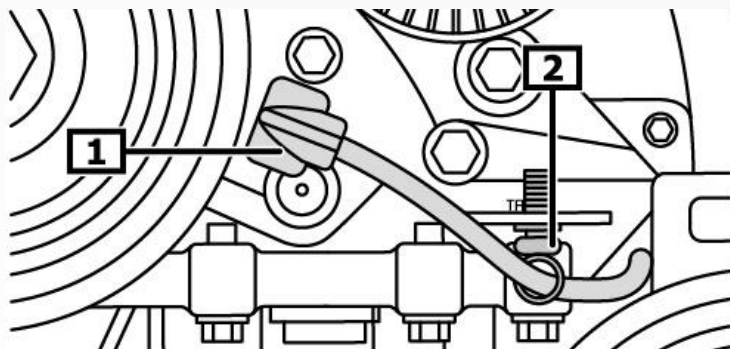
2 Air conditioning compressor bolts

3 Air conditioning compressor



Disconnect crankshaft position sensor electrical plug connection. (1)
Unclip electric line (2)

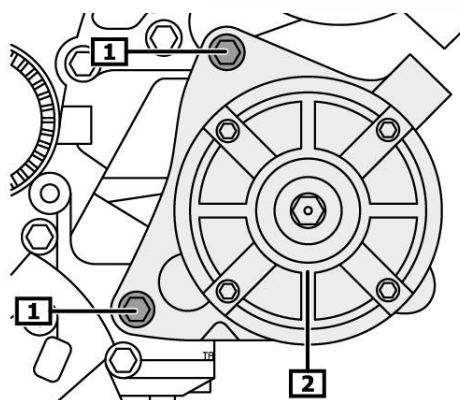
Figure 18



1 Crankshaft sensor electrical plug connection 2 Clip

Disconnect electric cables from alternator.
Unscrew and remove alternator bolts. (1)
Remove alternator. (2)

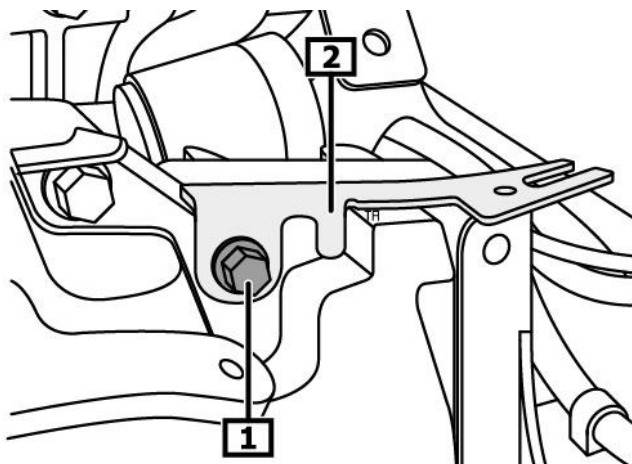
Figure 19



1 Alternator bolts 2 Alternator

Unscrew and remove bracket bolts. (1)
Remove the bracket. (2)

Figure 20

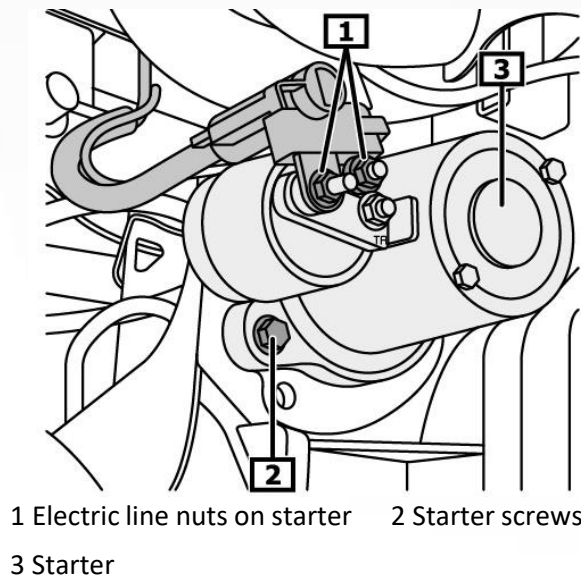


1 Holder screw 2 Support



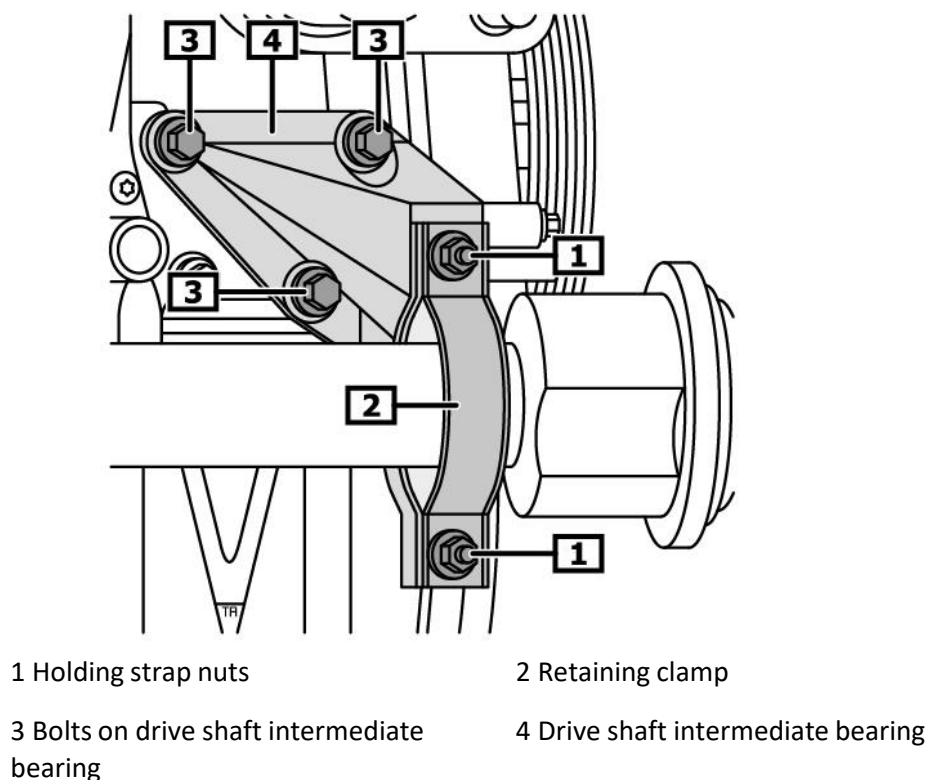
Unscrew and remove electric connection nuts on the starter. (1)
 Disconnect starter motor cable.
 Unscrew starter bolts. (2)
 Remove starter. (3)

Figure 21



Unscrew retaining bracket nuts. (1)
 Remove retaining bracket. (2)
 Unscrew and remove drive shaft intermediate bearing bolts. (3)
 Remove drive shaft intermediate bearing. (4)
 Rotate crankshaft clockwise until the piston in cylinder 1 is at about 35° before TDC.

Figure 22



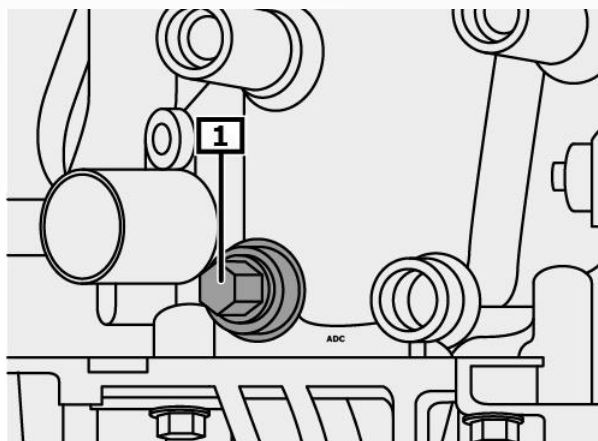
Unscrew and remove engine block locking screw. (1)
Insert the crankshaft blocking pin.

Required special tools

Crankshaft blocking pin **OE (303-1604)**

Slowly rotate crankshaft in direction of engine rotation until crankshaft comes into contact with the crankshaft blocking pin.

Figure 23



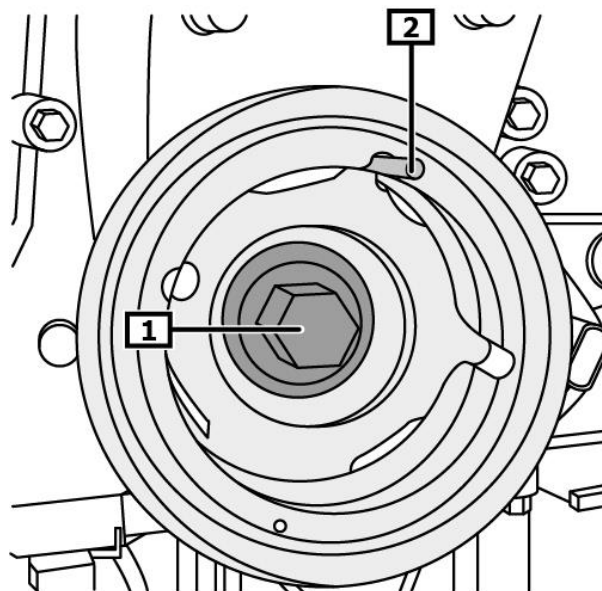
Engine block closure bolt

Check whether the crankshaft fixing pin can be inserted. (2)
Remove the crankshaft fixing pin. (2)

Required special tools

Crankshaft fixing pin (2) **OE (303-732)**

Figure 24



1 Vibration damper bolt

2 Crankshaft fixing pin

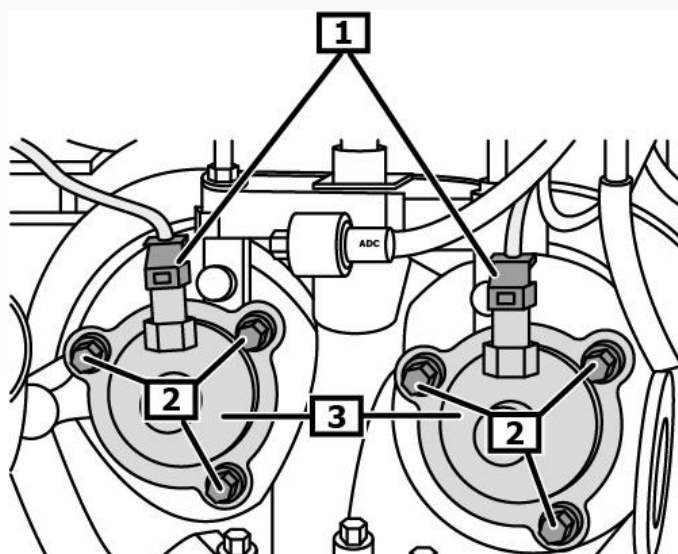


Pull off electr. plug connection from camshaft adjustment solenoid valve. (1)

Unscrew and remove camshaft adjustment solenoid valve screws. (2)

Remove camshaft adjustment solenoid valve. (3)

Figure 25



1 Electric plug connections

2 Camshaft adjustment solenoid valve screws

3 Camshaft adjustment solenoid valve

Insert blocking tool. (1)

Tighten the stop bolts with 10 Nm. (2)

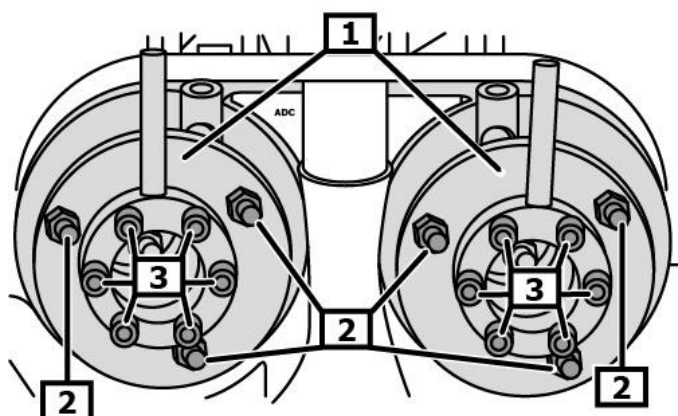
Rotate setting tool anticlockwise until resistance is perceivable. (1)

Tighten the screws with 15 Nm. (3)

Required special tools

Camshafts blocking tool set (1) **OE (303-1606) 03-1606)**

Figure 26



1 Camshafts blocking tool set 2 Bolt

3 Bolt

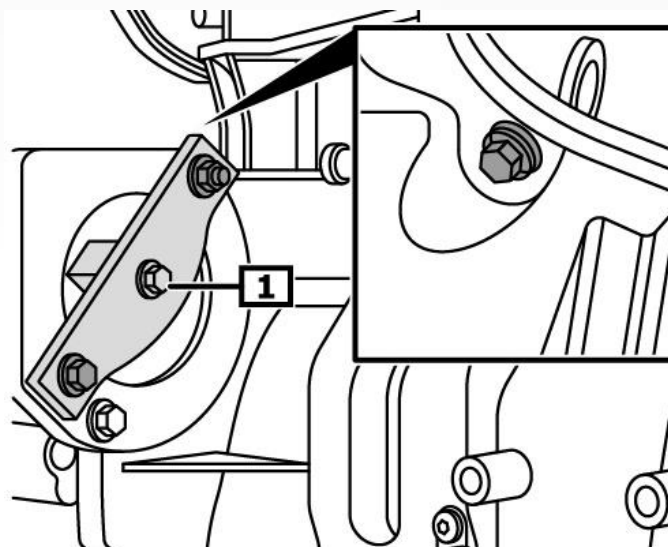


Use blocking tool flywheel. (1)

Required special tools

Flywheel blocking tool (1) **OE (303-1602)**

Figure 27



1 Flywheel blocking tool

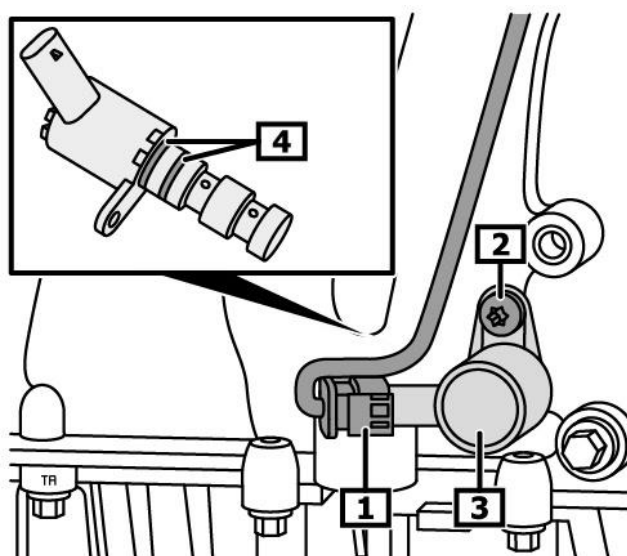
Disconnect engine oil pressure solenoid control valve electrical plug connection. (1)

Unscrew and remove solenoid valve screw. (2)

Remove oil pressure control valve. (3)

Check sealing rings, replace if necessary.

Figure 28



1 Electrical plug connection

2 Solenoid valve screw

3 Oil pressure control valve

4 Sealing rings

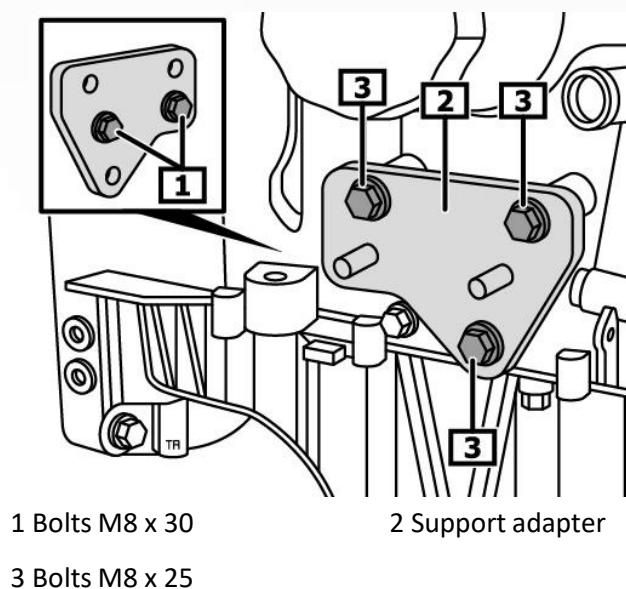


Tighten bolts applying 24 Nm. (1)
Mount adapter for support. (2)
Tighten screws applying 24 Nm. (3)

Required special tools

Support adapter (2) **OE (303-1611-02)**

Figure 29

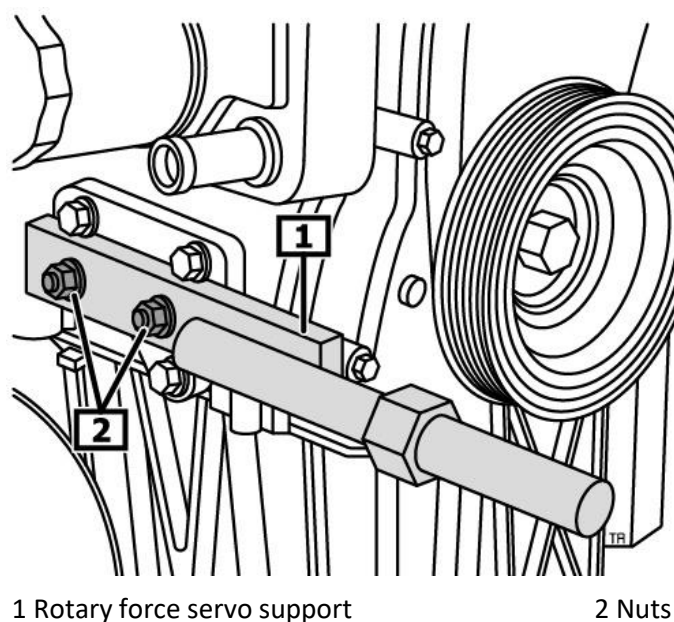


Install rotary force servo support. (1)
Tighten nuts applying 24 Nm. (2)

Required specialist tools

Rotary force servo support (1) **OE (303-1611-01)**

Figure 30

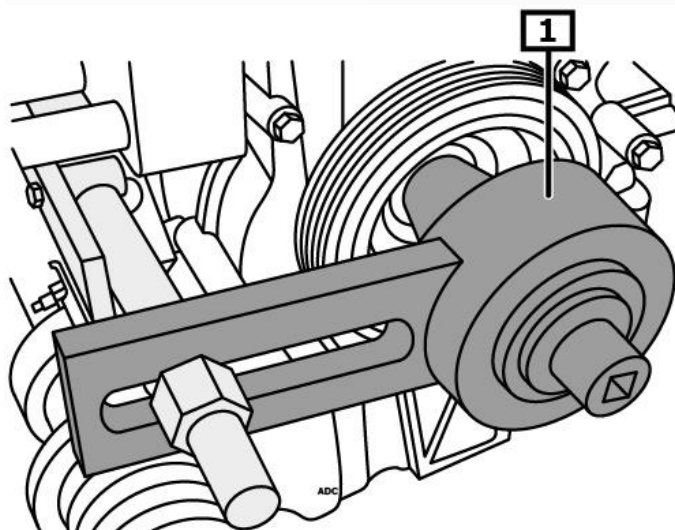


Insert rotary force servo. (1)
Loosen vibration damper screw. (5 revolutions)
Remove rotary force servo. (1)

Required special tools

Rotary force servo (1) **OE (303-1611)**

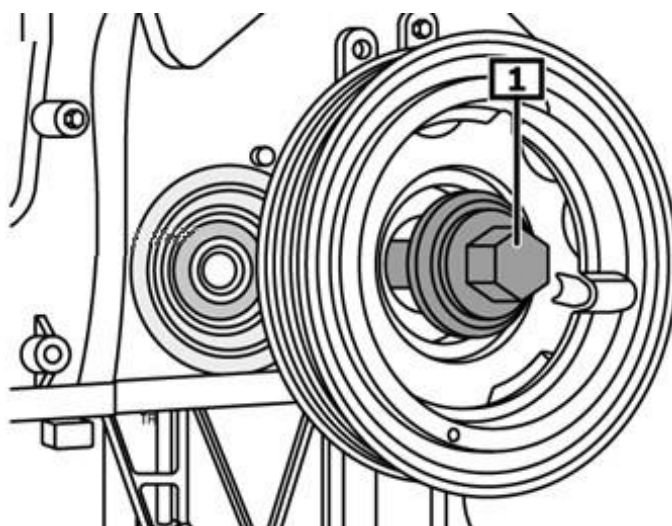
Figure 31



1 Rotary force servo

Unscrew vibration damper bolts. (1)
Remove vibration damper.

Figure 32



1 Vibration damper bolt



Remove sealing ring. (1)(2)

Use demounting tool. (1)

Required special tools

Removal tool kit (1) **OE (303-293)**

Place collecting container underneath.

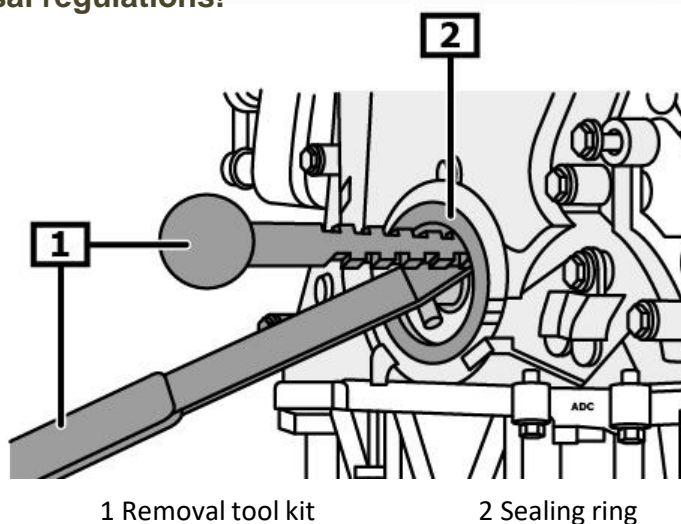
Drain engine oil.

Screw off engine-oil filter.

Collect draining fluid.

Observe disposal regulations!

Figure 33



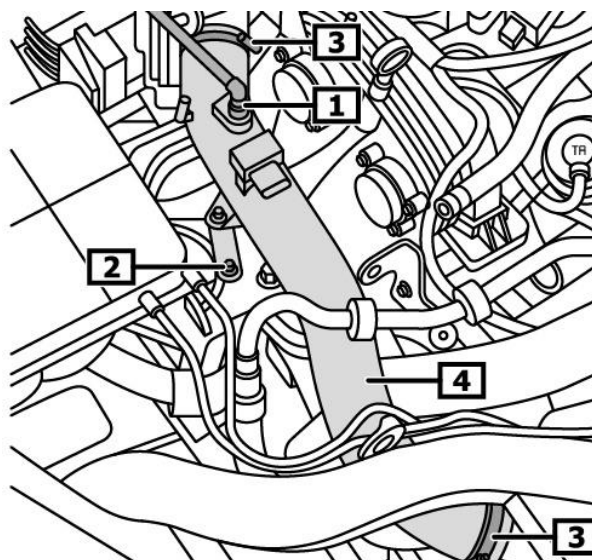
Disconnect, the fuel evaporation control system pipe. (1)

Uncrew - charge air tube attachment. (2)

Loosen the charge air line collars. (3)

Remove the charge air line. (4)

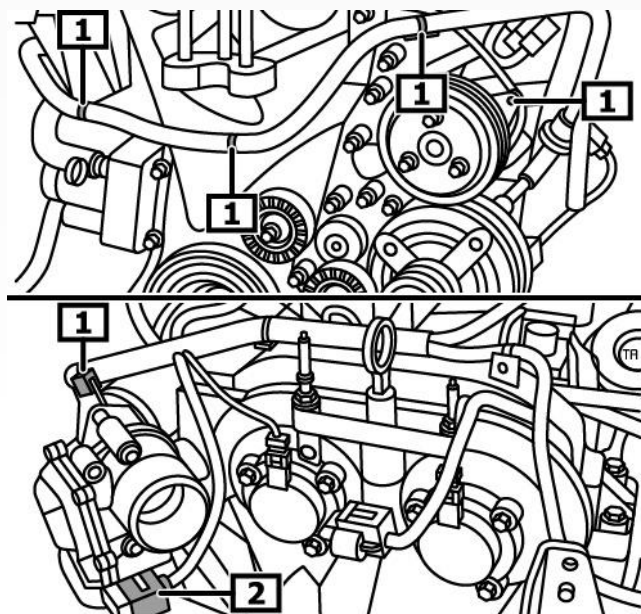
Figure 34



Losen the retaining clips. (1)

Disconnect the electrical connector from the inlet manifold valve control unit. (2)

Figure 35



1 Retaining Clips

2 Electrical Connector of the Intake Manifold Valve Control Unit

Remove plug from throttle-valve unit.

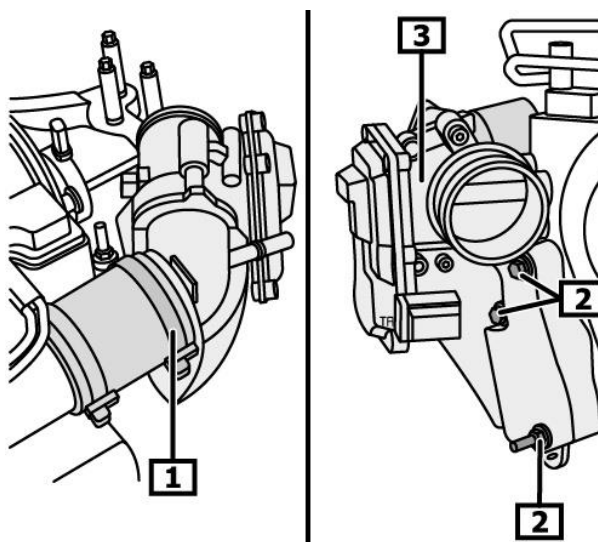
Remove clamp. (1)

Unscrew and remove the throttle-valve unit screws. (2)

Remove throttle-valve unit. (3)

Clean the throttle valve housing.

Figure 36



1 Clamps

2 Bolts

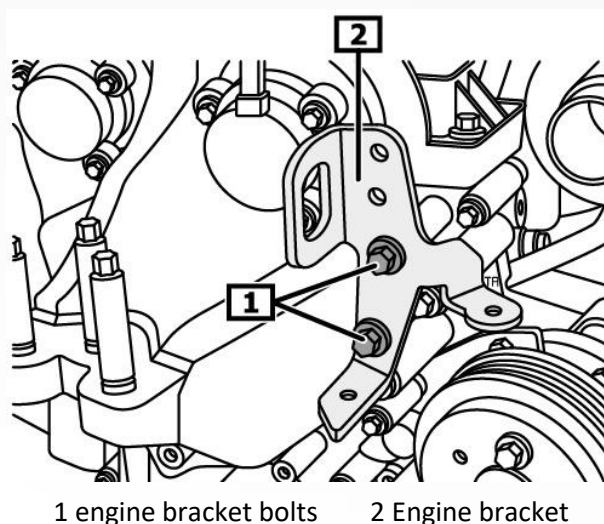
3 Throttle-valve unit



Unscrew and remove engine bracket screws. (1)

Remove engine bracket. (2)

Figure 37



Loosen fixing clip. (1)

Unscrew and remove coolant line bracket bolts. (2)

Unscrew and remove coolant pipe bracket bolts. (3)

Remove coolant pump coolant pipe. (4)

Replace sealing ring.

Unscrew and remove the pulley from the water pump

Unscrew and remove the water pump

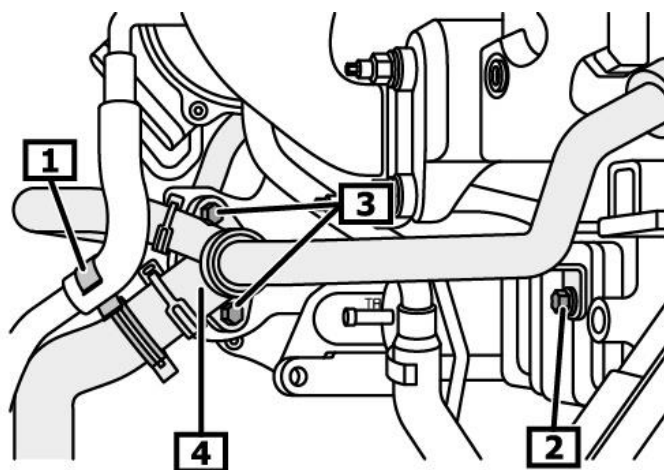
Position workshop crane with wooden block under sump.

Support engine with workshop car jack.

Loosen the coolant expansion tank and put to one side.

Lines remain connected.

Figure 38



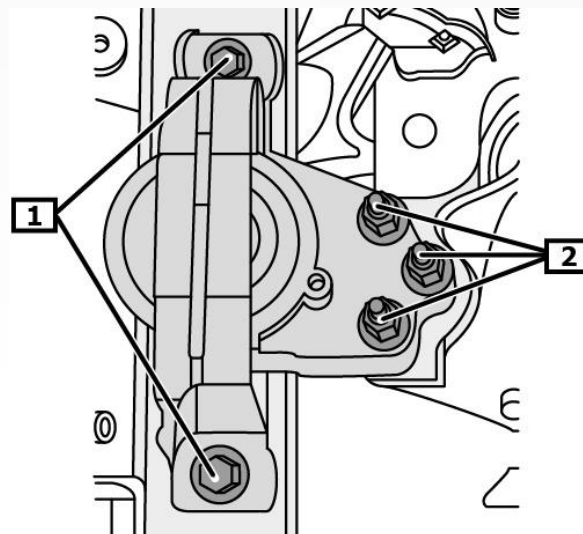
Mark engine mounting installation position.

Unscrew engine mounting nuts. (1)

Unscrew engine mounting bolts. (2)

Remove engine mounting. (3)

Figure 39



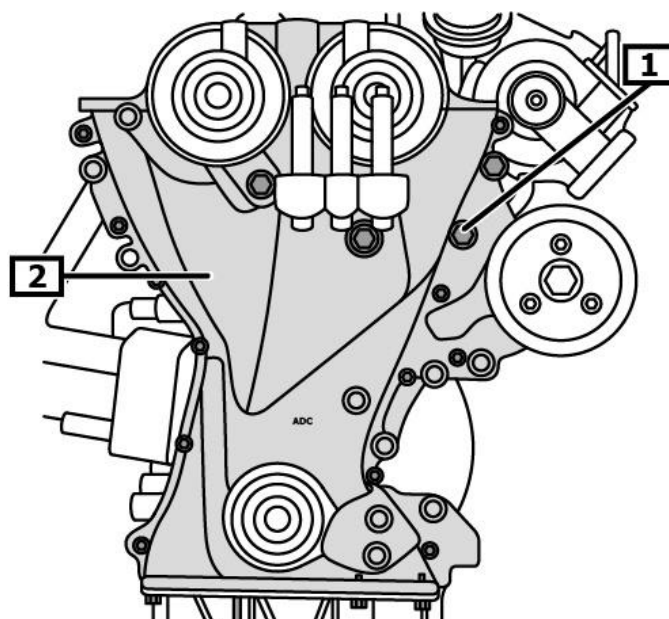
1 Engine mounting bolts 2 Engine mounting, nut.

Mind different bolt length.

Remove control unit housing cover bolts. (1)

Remove housing cover of control unit. (2)

Figure 40



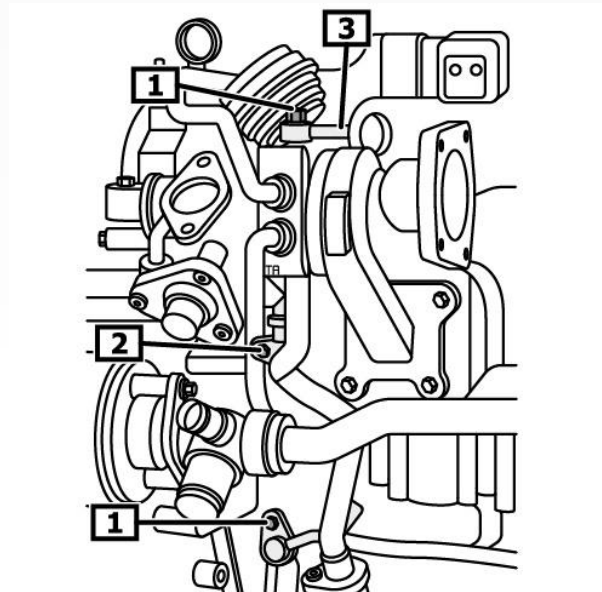
1 Control unit housing cover bolts (20 Pcs)

2 Control unit housing cover



- Unscrew and remove oil feed line bolts. (1)
- Unscrew and remove oil feed line holder bolts. (2)
- Dismantle turbocharger oil feed line. (3)
- Replace turbocharger oil feed line. (3)

Figure 41



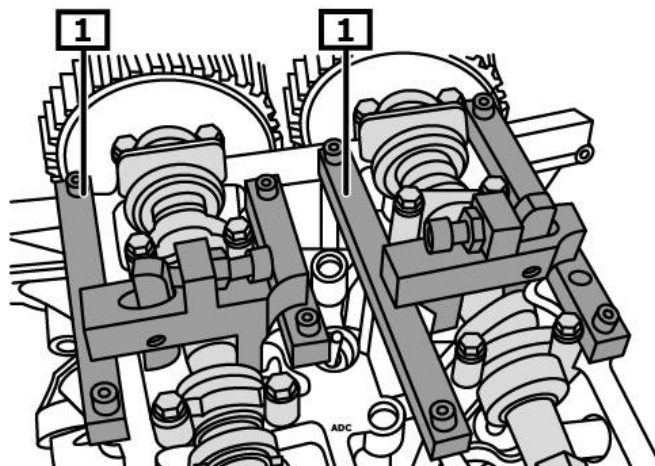
- 1 Oil feed line bolts
- 2 Oil feed line holder bolt
- 3 Turbocharger oil feed line

Insert camshafts locking tool. (1)

Required specialist tools

Camshafts locking tool (1) **OE (303-1605)**

Figure 42



- 1 Camshafts locking tool



Release the tensioning roller using a suitable tool. (1)

Locking pin – inserting tension pulley. (2)

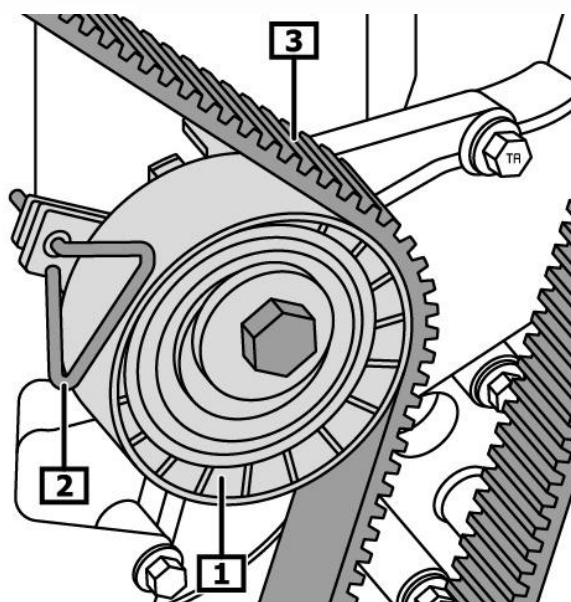
Remove timing belt. (3)

Required specialist tools

Tensioning roller blocking pin (2) **OE (303-1054)**

If it is not possible to re-pin the tensioner, Do not loosen the screw of the tensioner if the latter is still cocked, the tensioning effort is too great, risk of tearing the threads at the engine block, it is preferable to cut the timing belt

Figure 43



- 1 Timing belt tensioning roller 2 Tensioning roller locking pin
3 Timing belt



Install

Remove the timing gear from the crankshaft

Unclip the protective cover at the oil pump

Remove the oil pump belt

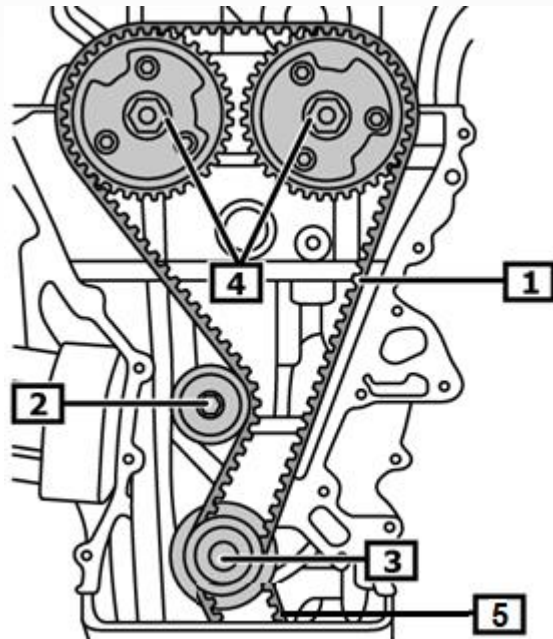
Fit new oil pump belt **SNR CD41241**. (5)

Reinstall the timing pinion on the crankshaft

Install and torque the tensioner roller **SNR GT352.28**. (2)

Fit timing belt **SNR CD41234** starting with the crankshaft in a counterclockwise direction. (1)

Figure 44



1 timing belt **SNR CD41234**

2 Tensioning roller **SNR GT352.28**

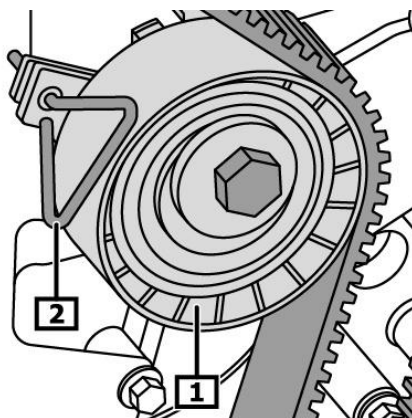
3 Crankshaft timing gear

4 Camshaft timing gear

5 oil pump belt **SNR CD41241**

Remove tensioning roller locking pin on **SNR GT352.28**. (2)

Figure 45

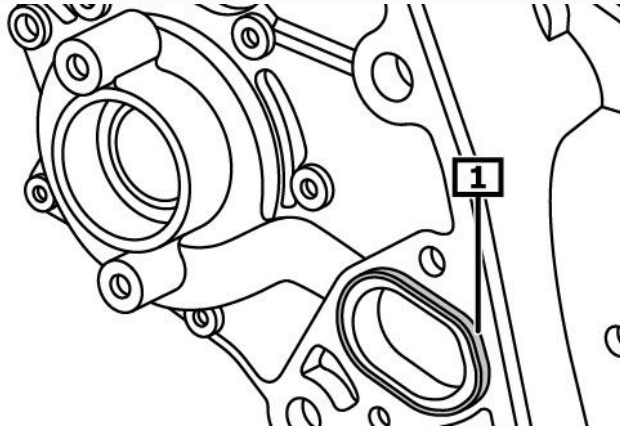


1 Tensioning roller **SNR GT352.28** 2 Tensioner roller locking pin



Changing the timing cover gasket. (1)

Figure 46

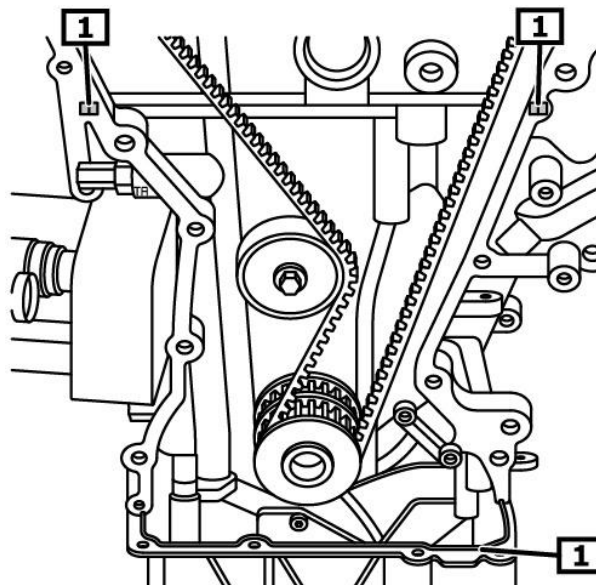


1 Timing cover gasket

Clean seal faces on the timing case cover and on the engine block.

Apply sealing compound bead of 4 mm thickness onto the timing case cover seal face. (1)

Figure 47



1 Sealing bead.



Clean installation surfaces.

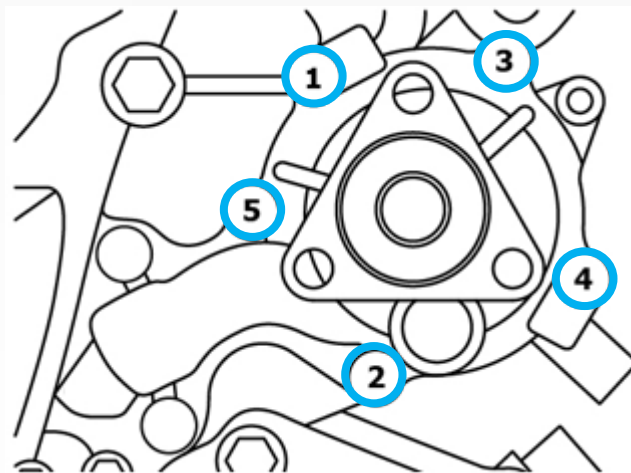
Install the new water pump **SNR WP107** with the new gasket

Tighten the pump bolts

Observe the tightening order.

Stage 01 : Vis 1 to 5 -> 10 Nm

Figure 48



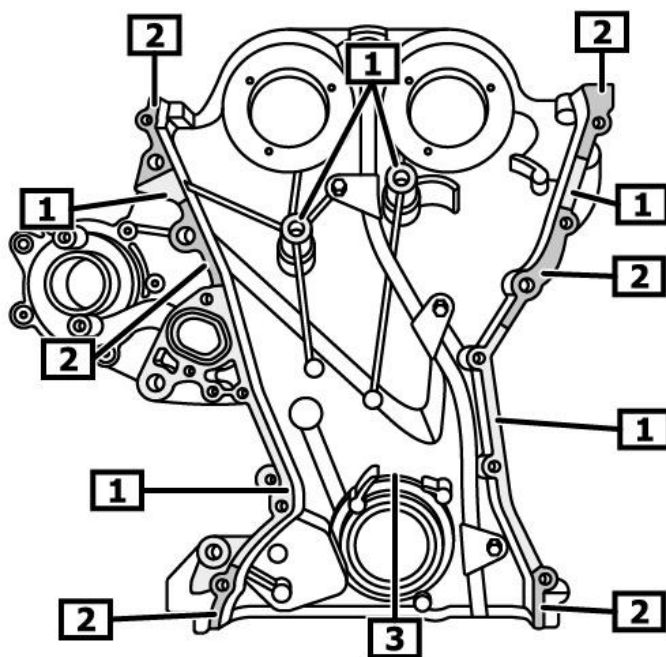
Apply sealing compound bead of 4 mm thickness onto the timing case cover seal face. (1)

Apply sealing compound bead of 6 mm thickness onto the timing case cover seal face. (2)

Install control unit housing. (3)

Install timing case cover within 10 minutes after applying the sealing compound.

Figure 49



1 Sealing bead

2 Sealing bead

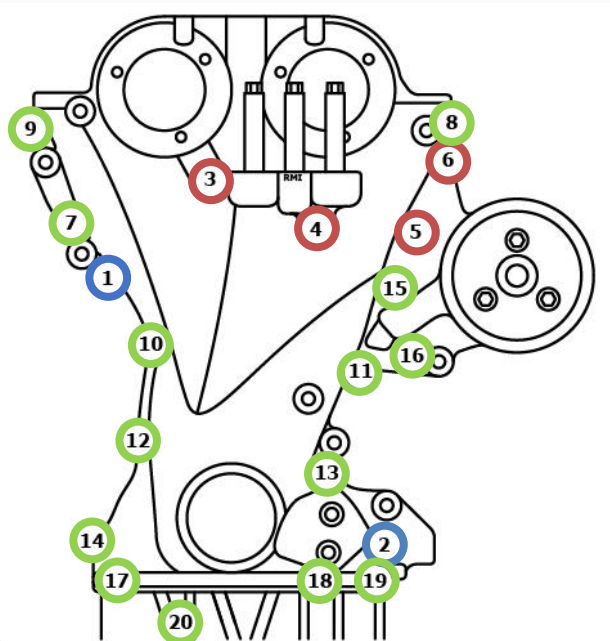
3 Control unit housing



Tighten timing case cover screws.
Note correct order of tensioning.

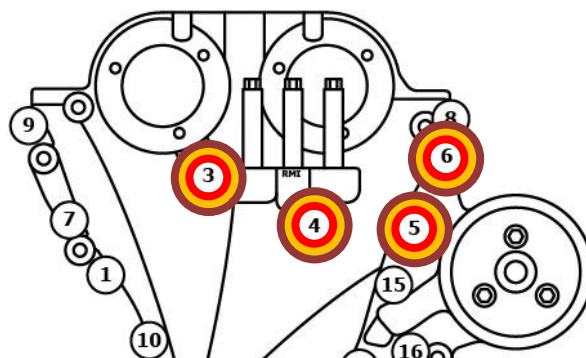
Figure 50

- Stage 01** : Vis 1 & 2 -> 5 Nm
- Stage 02** : Vis 3 to 6 -> 10 Nm
- Stage 03** : Vis 7 to 20 -> 5 Nm



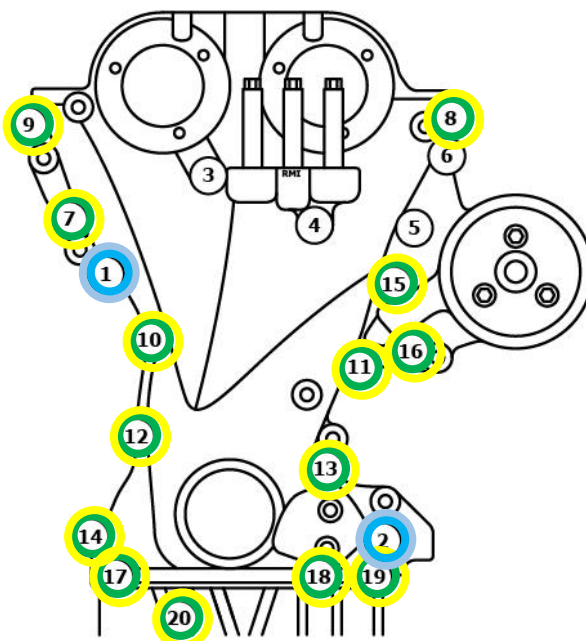
Note correct order of tensioning.

- Stage 04** : Vis 3 to 6 -> 40 Nm
- Stage 05** : Vis 3 to 6 -> 70 Nm
- Stage 06** : Vis 3 to 6 -> 90



Note correct order of tensioning.

- Stage 07** : Vis 1 & 2 -> 9 Nm
- Stage 08** : Vis 1 & 2 -> 90°
- Stage 09** : Vis 7 to 20 -> 15 Nm
- Stage 10** : Vis 7 to 20 -> 90°

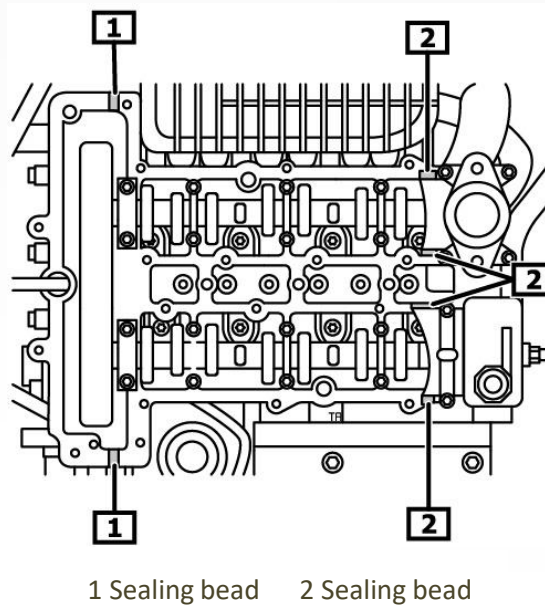


Replace the valve-cover gasket.

Apply 5 mm thick sealing compound bead onto the separating gap between timing case cover and timing case. (1)

Apply sealing compound bead of 4 mm thickness onto the valve cover seal face. (2)

Figure 51



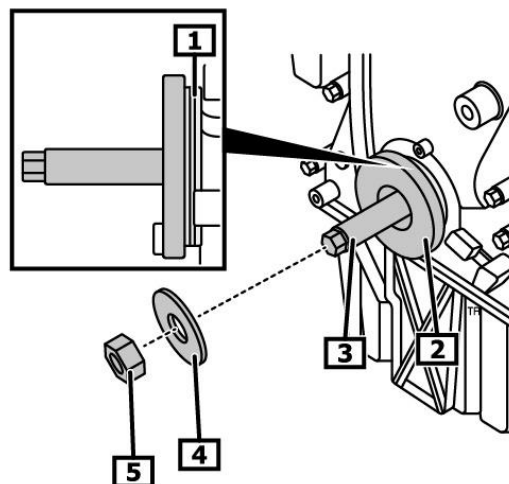
Install the radial sealing ring using the special tool. (1) - (5)

Required specialist tools

Thrust washer (2) **OE (303-1603)**

Installation tool (3) - (5) **OE (303-1636)**

Figure 52



1 Radial sealing ring

2 Thrust piece

3 Threaded bolt

4 Washer

5 Nut



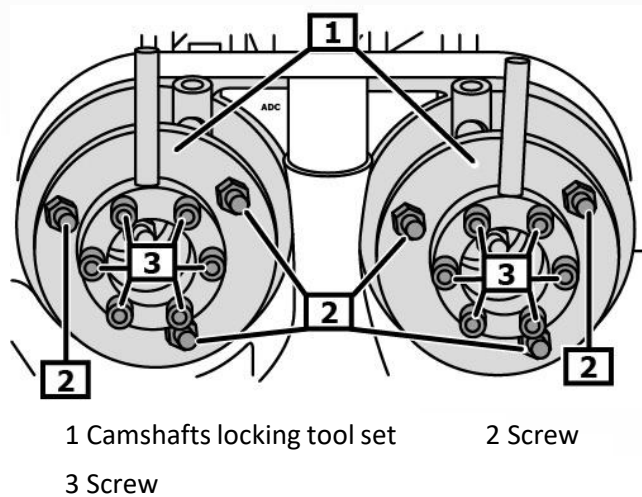
Turn the fastening tool counterclockwise until resistance is noticeable. (1)
Tighten the screws to 15 Nm. (3)

Required specialist tools

Camshafts locking tool set (1) **OE (303-1606)**

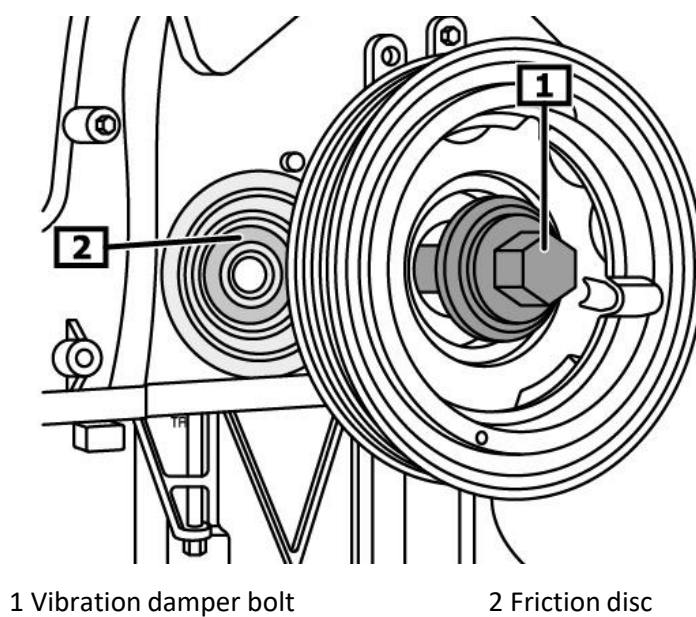
Remove camshafts locking tool set . (1)

Figure 53



Use new friction disc and bolt. (1)(2)

Figure 54



Mount vibration damper.

Screw in vibration damper screw. (1)

Check whether the crankshaft pulley fixing pin can be inserted. (2)

Tighten vibration damper screw acc. to torque table including stage 2. (1)

Remove crankshaft pulley locating pin. (2)

Required specialist tools

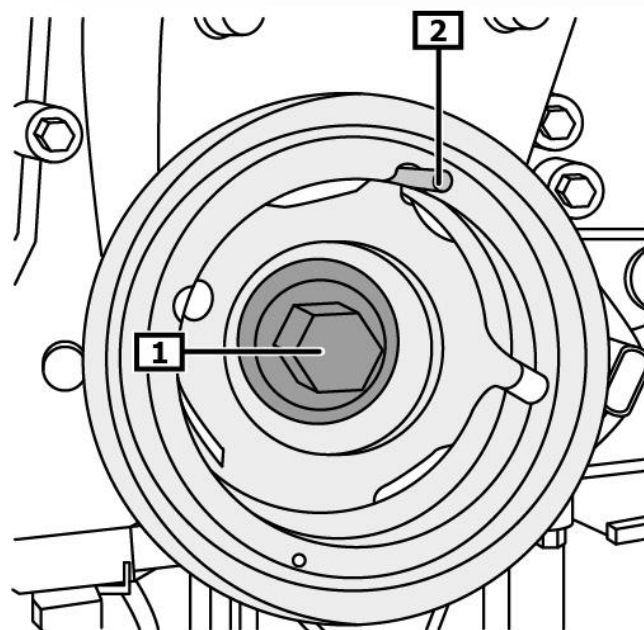
Crankshaft pulley locating pin (2) **OE (303-732)**

Insert rotary force servo. (1)

Tighten vibration damper bolt using special tool.

Remove rotary force servo. (2)

Figure 55



1 Vibration damper bolt

2 Crankshaft pulley locating pin

Remove all locking tools.

Turn crankshaft $1\frac{3}{4}$ revolutions clockwise until 1st cylinder piston is approx. 45° before TDC.

Insert the crankshaft locking pin. (1)

Slowly rotate crankshaft in direction of engine rotation until crankshaft comes into contact with the crankshaft blocking pin.

Check whether the crankshaft pulley fixing pin can be inserted (2)

Re-adjust timing if the crankshaft pulley locating pin cannot be inserted. (2)

There can be engine failure if the engine timing is incorrect!



If the crankshaft pulley locating pin inserts correctly
Continue assembly in reverse order of removal.

Install the pulley on the water pump
Install and torque the alternator.
Install and torque the air conditioning compressor
Install and torque the starter.
Install and torque the relay bearing
Install and torque the high-pressure pump.
Install and torque the fuel injection rail.
Install the accessory belt.
Replace the engine oil filter.
Top up engine oil.
Re-connect the battery.
Reinstall the fuel pump fuse.
Top up coolant.
Start engine and check function.
Carry out a test drive.
Document timing belt change.



Recommendations

Observe the manufacturers' assembly procedures and the torques indicated.

Consult the vehicle applications in our online catalogue: eshop.ntn-snr.com

Consult the dedicated assembly video on the SNR Youtube channel:

https://youtu.be/hqLV4vX_8eM?list=PLIEYgq5nxNI_WXO3q14F5ZISigdc5aOwx

https://youtu.be/bT2WNhf_Nvg?list=PLIEYgq5nxNI_WXO3q14F5ZISigdc5aOwx



**Flash this QR Code to find
our technical information.**

**COMPLY WITH THE VEHICLE
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RECOMMENDATIONS!**

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