VOLVO

Volvo Car USA LLC		Technical Journal	
Technical Journal Title Check Engine Light and ECM P061C48		Ref. No. TJ 36920.9.0	
Issuer (Dept.) Technical Service		Issue Date 7/2/25	Status Date 7/23/25
Car Market United States and Canada	Partner 3 US 7510 Volvo Car USA	Function Group 2154	
Function Description Camshaft		Page Page 1 of 130	

Attachment

File Name	File Size
TJI-531608-CMA_en-US.pdf	3.9702 MB
TJI-531608-SPA1_en-US.pdf	4.2441 MB
TJ_36920_1.png	0.0899 MB
TJ_36920_3.mp4	3.6388 MB

Rows beginning with * are modified
Note! If using a printed copy of this Technical Journal, first check for the latest online version.

DESCRIPTION:

*Attachments *TJI-531608*... updated.

If the customer experiences “Check engine light” message in DIM and listed DTC are set, please follow advice under “service”.

DIM: Driver Information Module.
DTC: Diagnostic Trouble Code.

CSC Customer Symptom Codes

Code	Description
DL	Warning lights and chimes/Malfunction Indicator Light ("Check engine" light) indication/no indication

DTC Diagnostic Trouble Codes

Control Module	Code	Fault Type
ECM	P061C48	Permanent

Vehicle Type

Type	Eng	Eng Desc	Sales	Body	Gear	Steer	Model Year	Plant	Chassis range	Struc Week Range
224	K6	BK6KERS					2021-2022		-	202022-202221
224	K7	BK7KERS					2023-2023		-	202222-202316
224	K8	BK8KERS					2023-2026		-	202222-202520

Type	Eng	Eng Desc	Sales	Body	Gear	Steer	Model Year	Plant	Chassis range	Struc Week Range
224	K9	BK9KERS					2021-2024		-	202022-202416
224	L1	BL1KERS					2021-2025		-	202022-202426
224	L5	BL5KERS					2022-2025		-	202122-202516
224	M1	BM1KERS					2025-2026		-	202417-202519
225	06	B06KERS					2021-2026		-	202022-202520
225	K6	BK6KERS					2021-2022		-	202022-202140
225	K7	BK7KERS					2022-2024		-	202141-202416
225	K8	BK8KERS					2022-2026		-	202141-202520
225	K9	BK9KERS					2021-2024		-	202022-202416
225	L1	BL1KERS					2021-2026		-	202022-202520
227	L1	BL1KERS					2021-2026		-	202022-202520
227	L5	BL5KERS					2022-2025		-	202122-202516
234	06	B06KERS					2021-2024		-	202022-202416
234	K9	BK9KERS					2021-2024		-	202022-202316
234	L1	BL1KERS					2021-2024		-	202022-202416
234	L5	BL5KERS					2022-2024		-	202122-202416
235	06	B06KERS					2021-2026		-	202022-202520
235	K9	BK9KERS					2021-2024		-	202022-202416
235	L1	BL1KERS					2021-2025		-	202022-202516
236	06	B06KERS					2021-2026		-	202022-202520
236	L1	BL1KERS					2021-2026		-	202022-202520
236	L5	BL5KERS					2022-2024		-	202122-202416
238	06	B06KERS					2021-2025		-	202046-202516
238	K9	BK9KERS					2021-2023		-	202022-202316
238	L1	BL1KERS					2021-2026		-	202022-202520
238	M1	BM1KERS					2025-2026		-	202417-202519
246	06	B06KERS					2020-2026		-	201946-202520
246	K9	BK9KERS					2021-2024		-	202022-202416
246	L1	BL1KERS					2020-2025		-	201946-202516
246	L5	BL5KERS					2022-2026		-	202122-202520
246	M1	BM1KERS					2025-2026		-	202417-202519
256	06	B06KERS					2020-2026		-	201946-202520
256	L5	BL5KERS					2022-2026		-	202122-202520
256	M1	BM1KERS					2025-2026		-	202417-202519
536	K7	BK7KERS					2022-2026		-	202146-202520
536	K8	BK8KERS					2022-2026		-	202146-202520
536	K9	BK9KERS					2021-2026		-	202020-202520

Type	Eng	Eng Desc	Sales	Body	Gear	Steer	Model Year	Plant	Chassis range	Struc Week Range
536	L1	BL1KERS					2021-2026		-	202020-202520
536	L3	BL3KERS					2023-2026		-	202222-202520
536	L5	BL5KERS					2022-2026		-	202122-202520

SERVICE:

Do not replace any parts before steps 1-7 have been performed:

- Note: this is not a repair method, it is a triggering attempt for the DTC.

1. Clear the DTC.
2. Rev the engine at a standstill to 1500-2200 RPM, maintain RPM for 10 seconds.
3. Release pedal to idle, wait 3 seconds.
4. Repeat steps 2-3 10 times.
5. Check if DTC has re-occurred.
6. If not, take a short test drive and repeat step 2-5, after the test drive.
7. If the DTC doesn't re-occur, release the car to the customer.

If a DTC occurs before the entire cycle 1-7 is completed, there is no need to go through the entire cycle again.

If the DTC re-occurs, follow the instructions/guidelines below:

Change the intake camshaft

- * Use the method in attachment *TJI-531608-**SPA1**_en-US.pdf* or *TJI-531608-**CMA**_en-US.pdf* for the applicable model.
- An anodized sleeve has been introduced at the engine plant.

Observe: only hand tools should be used according to VIDA methods, otherwise parts can be damaged.

* If a camshaft is replaced or the cylinder head is disassembled, the camshaft oil seals must always be replaced.

The camshaft should be replaced if the sleeve is axially locked. Compare with the attached files:

OK: *TJ_36920_1.MOV*

NOK: *TJ_36920_2.MOV*

Wear on the outside of the camshaft is not a reason to replace the part. Compare with the attached file *TJ_36920_1.PNG*.

If a vehicle comes in for a repeat repair with the same DTC, and the intake camshaft has *not* been replaced previously, then replace the intake camshaft.

*If a vehicle built between structure week 2022w01 and 2022w34 has had the same DTC multiple times and the camshaft sleeve is not locked, replace the intake camshaft.

If the VVT pulley seems loose or has free play, it is not a reason to replace the part. Compare with the attached file *TJ_36920_3.mp4*.

Warranty claim info:

To get a warranty claim accepted for a job described in this TJ, use the corresponding VST OP number stated in this TJ.
Note that the TJ number must be stated in the repair order text.

NOTE: Your warranty claim will be rejected if the procedure in this TJ is not followed. This will be followed using warranty claim control.

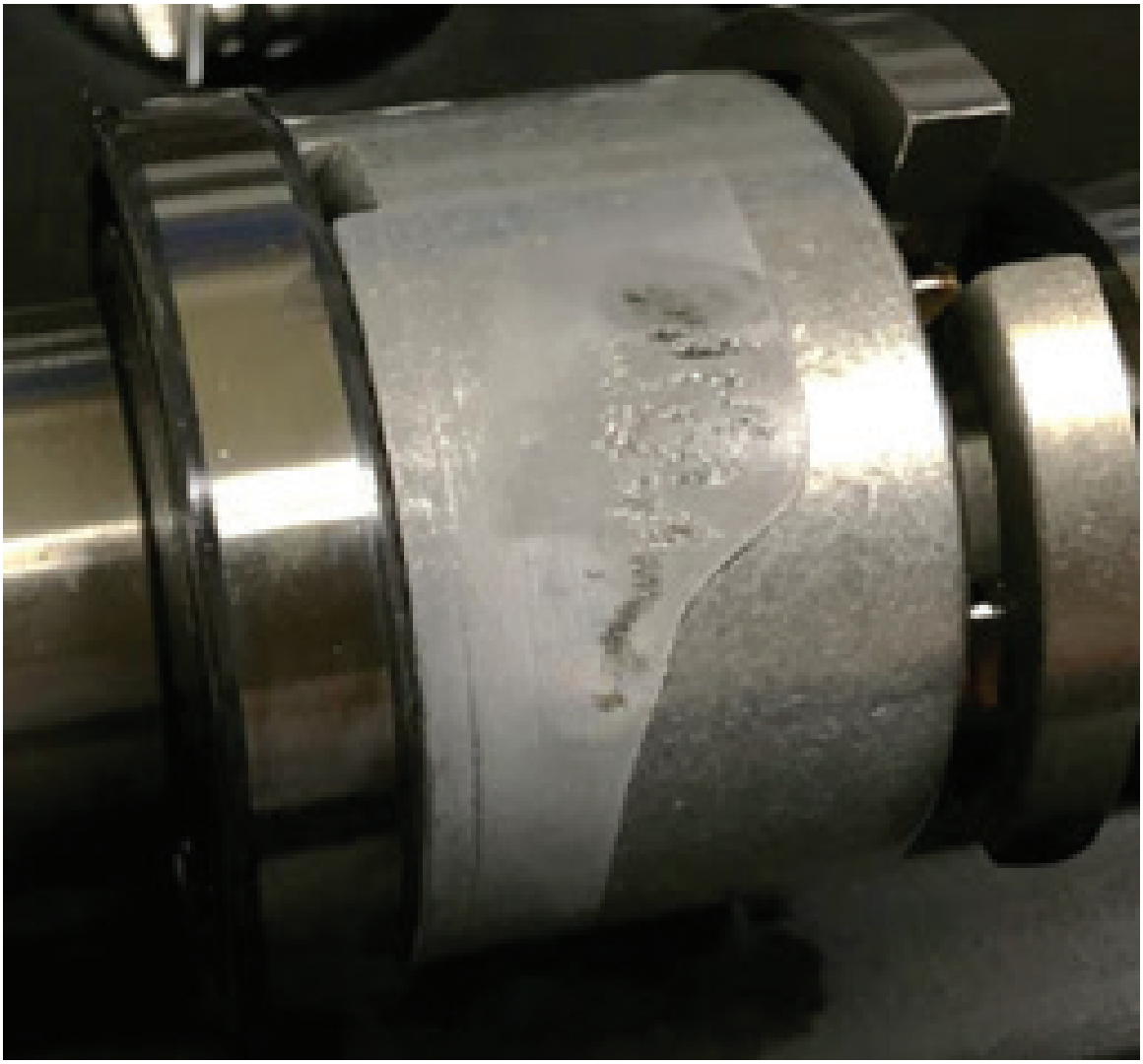
VST Operation Number

VST Operation Number	Description
98783-2	Camshaft sleeve acc.to TJ.
36001-2	Diagnostic trouble codes read / reset / known Diagnostic trouble codes with VIDA
99922-2	General Reimbursement acc to TJ

VEHICLE REPORT:

Yes, please submit a Vehicle Report if the service solution described in this TJ has no effect. Use concern area “Vehicle Report” and sub concern area “Support needed”, use function group 2154.

To view TJ attachments continue to next page. This TJ has three attachments and one video file.



Volvo Car Customer Service

TJ Instruction VCC-531608-2

Title	Camshaft bushing	**Page**	1 (60)
Action	Replacement	**Operation number:**	98783-2

Issue	Date	Reason
1	2025-03	First issue

Affected vehicles

Model year	Model	Engine
2023 -	EX40 / XC40	L1, K9

Materials

Materials	Qty.	Part No.	Notes
Abrasive cloth	2	9511024	
Isopropanol	2		
Chemical gasket	1.0	1161771	

Special tools

Description	Part No.
Support	999 7680
Counterhold	999 7718
Hook wrench	981 4129
L-hook	951 2943
Cleaning tool	999 7505

Equipment

Designation	Part No.
Putty knife (plastic)	

Removal

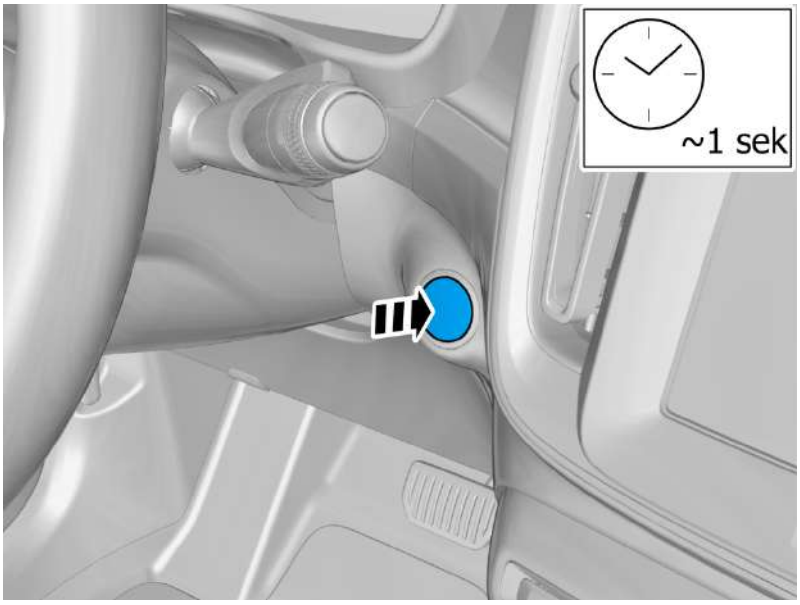
Note! Removal steps in this procedure may contain installation details.

Illustrations in the information may be reused from previous models and may therefore deviate as regards the background's motif. The technical content relevant to the operation is, however, always correct.

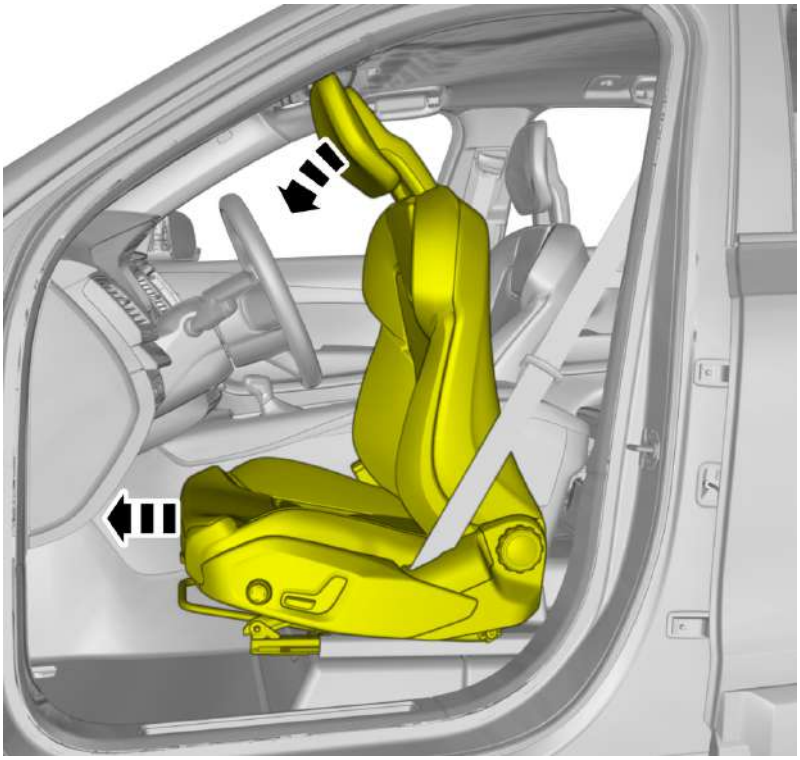
See information on safety information fuel system , refer to:

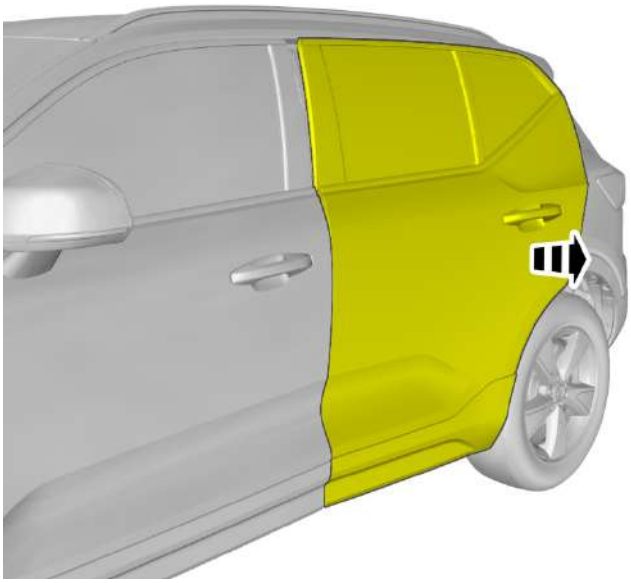
- General Safety Information
- 2 - Engine with mountings and equipment
- 23 - Fuel system
- 230 - general

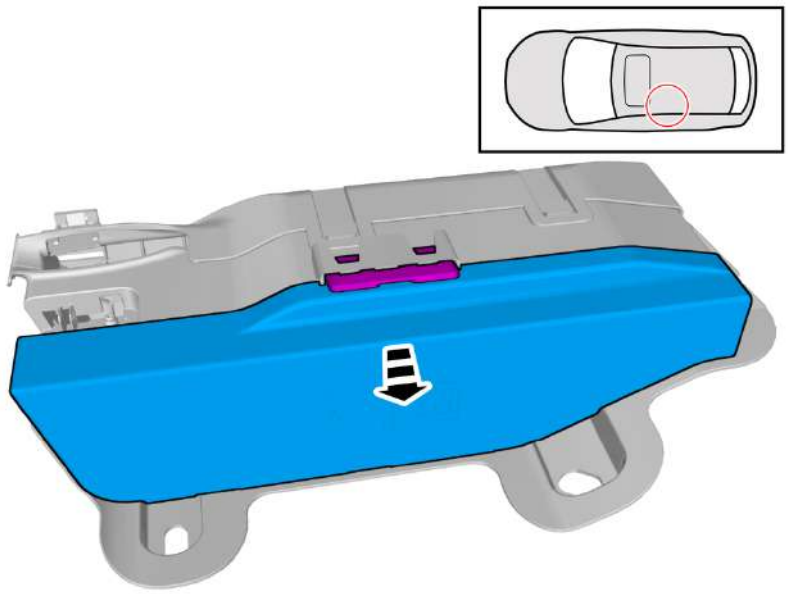
Inactive



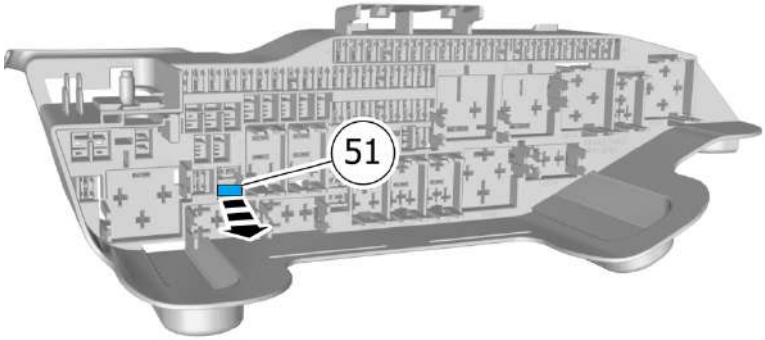
Functional availability is limited.





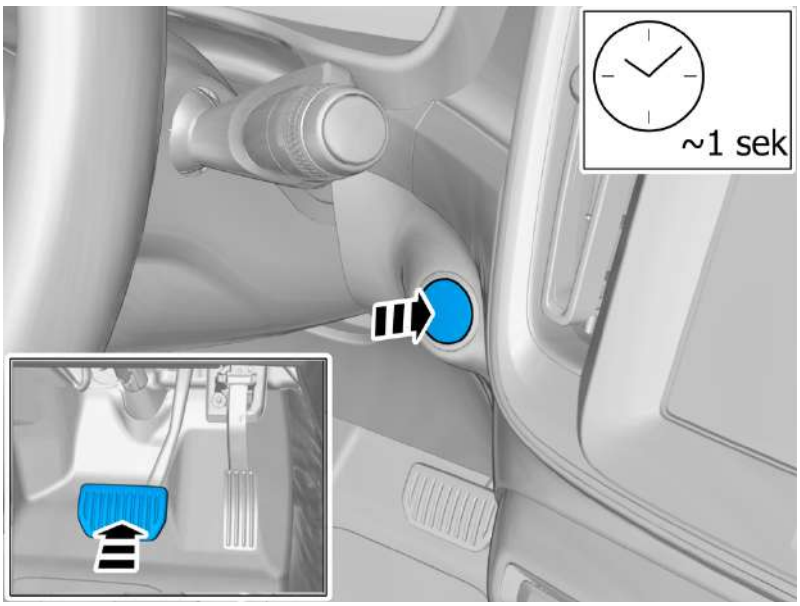


Release the lock.
Remove the marked part.



Remove the fuse for the fuel pump (FP).

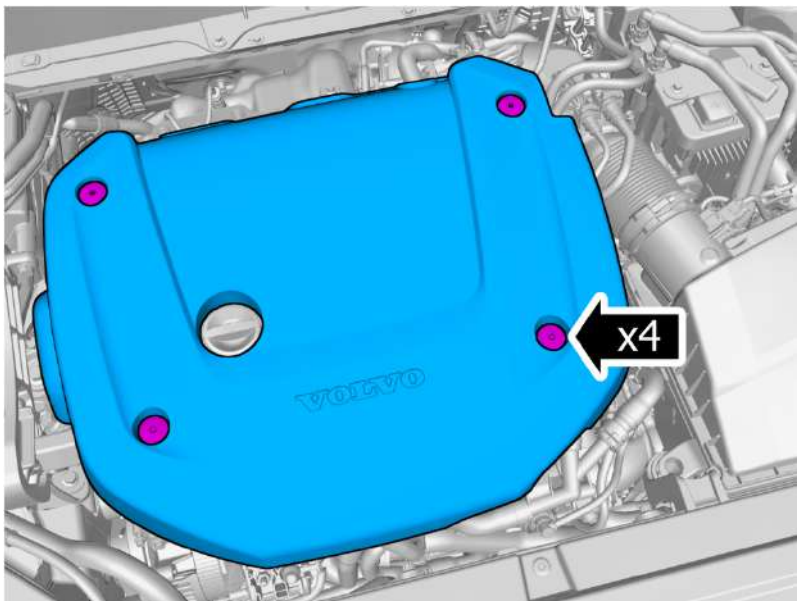
Activation



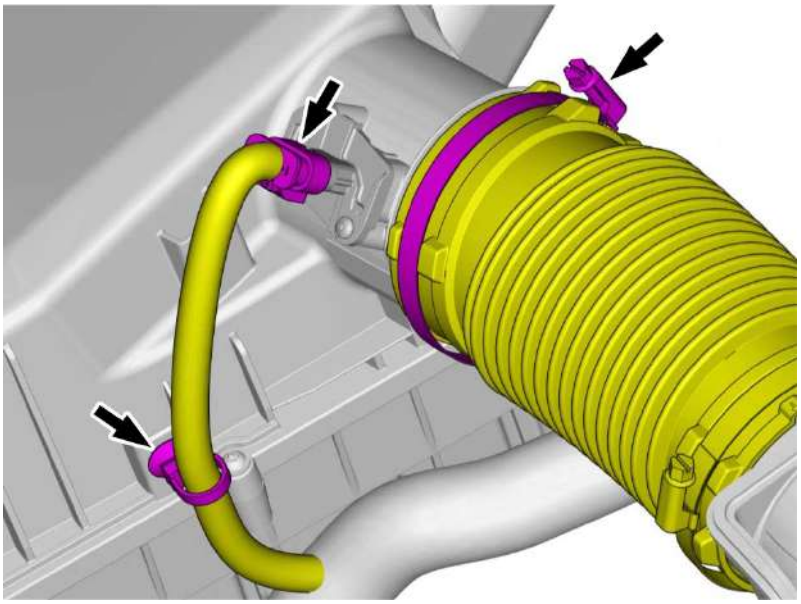
Start and run the engine at idle until it stops.

Perform mid voltage battery, disconnecting and connecting , refer to:

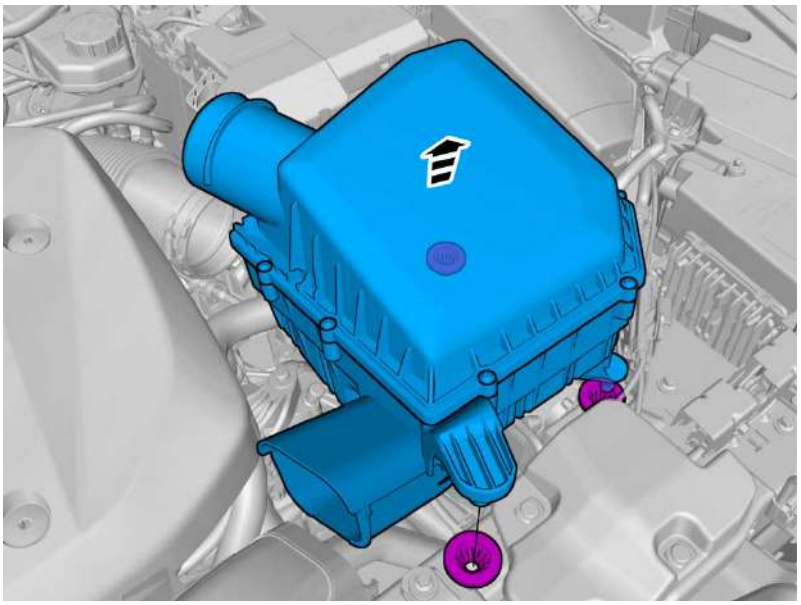
Cleaning, Inspection and Adjustment
3 - Electrical system
31 - Battery and mounting
311 - battery



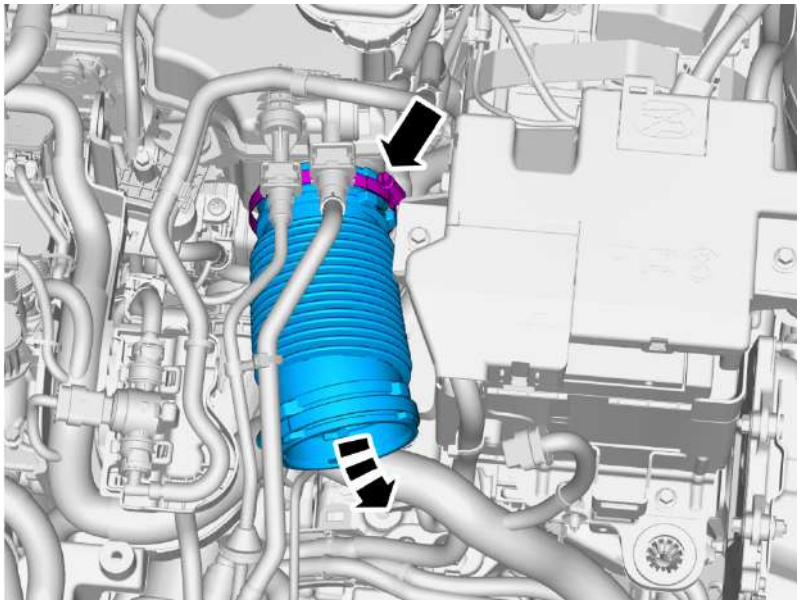
Loosen the screws.
Remove the marked part.



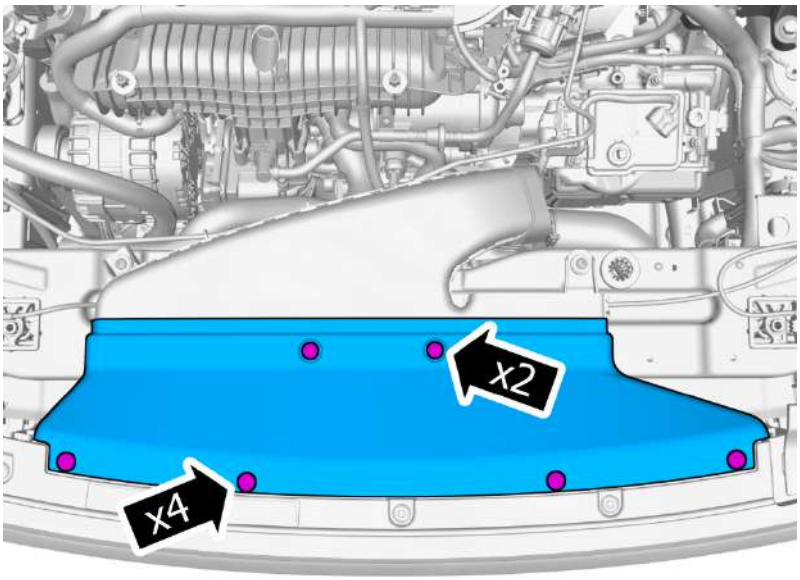
Disconnect the connector.
Loosen the clips.
Loosen the hose clamp.



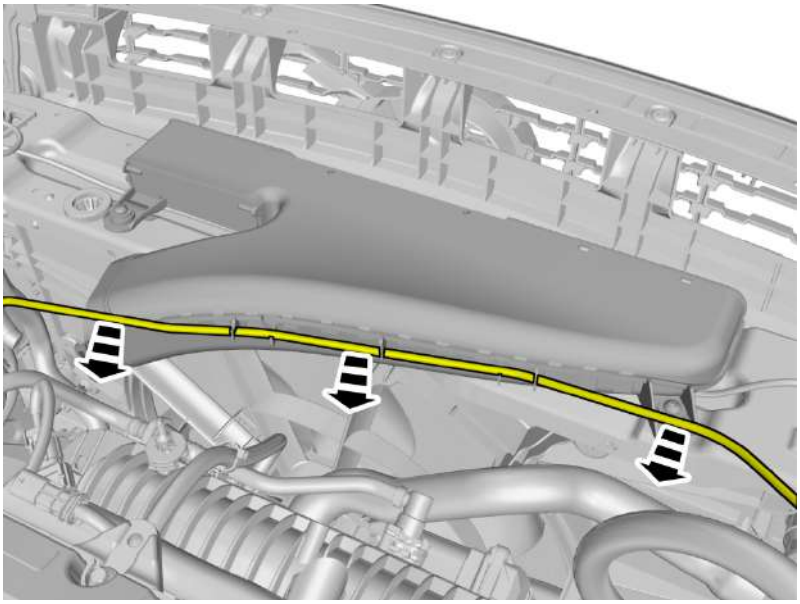
Remove the marked part.



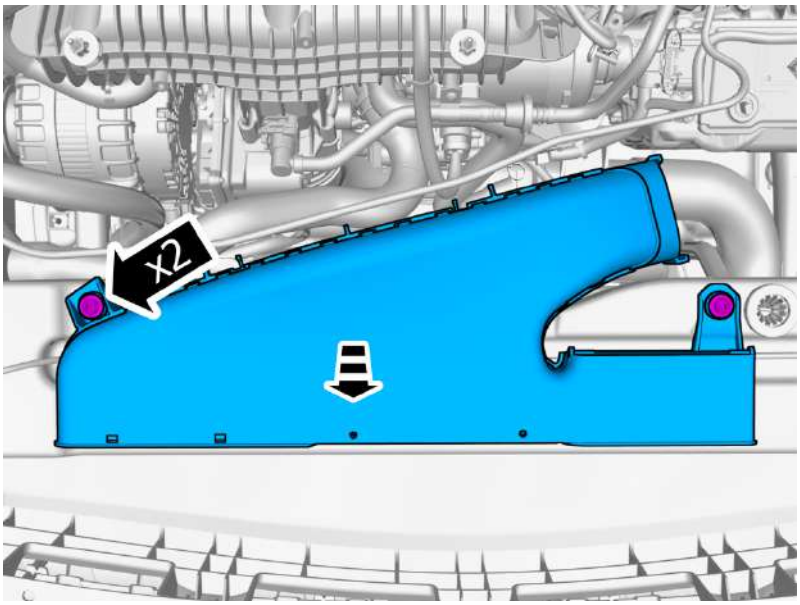
Loosen the hose clamp.
Remove the marked part.



Remove the clips.
Remove the marked part.



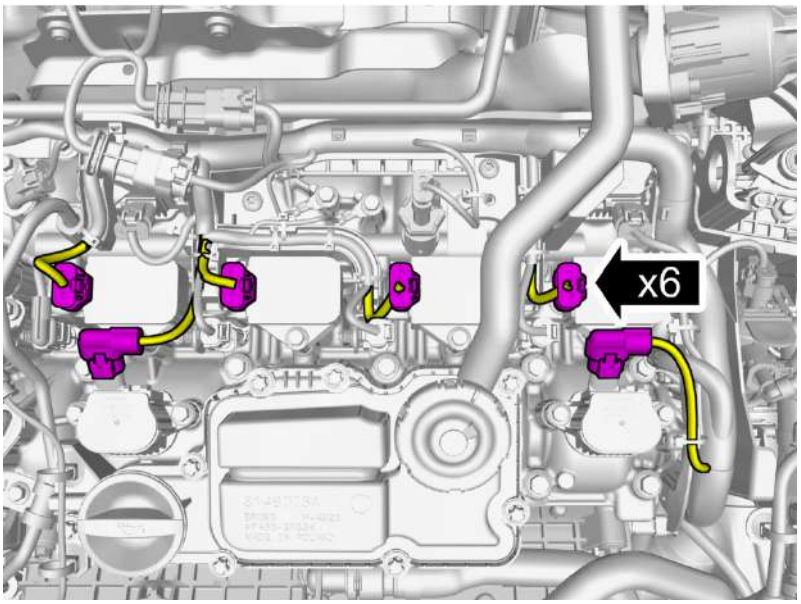
Fold marked part aside.



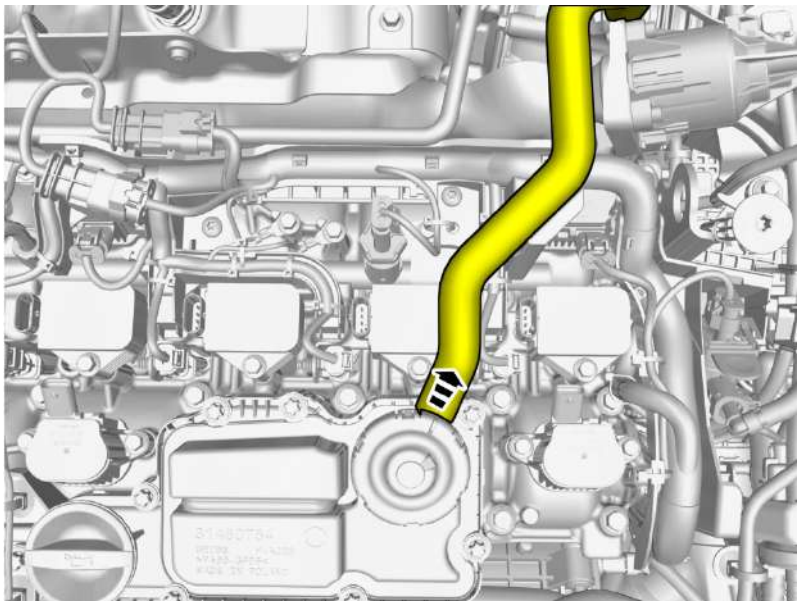
Remove the screws.
Remove the marked part.

Torque:

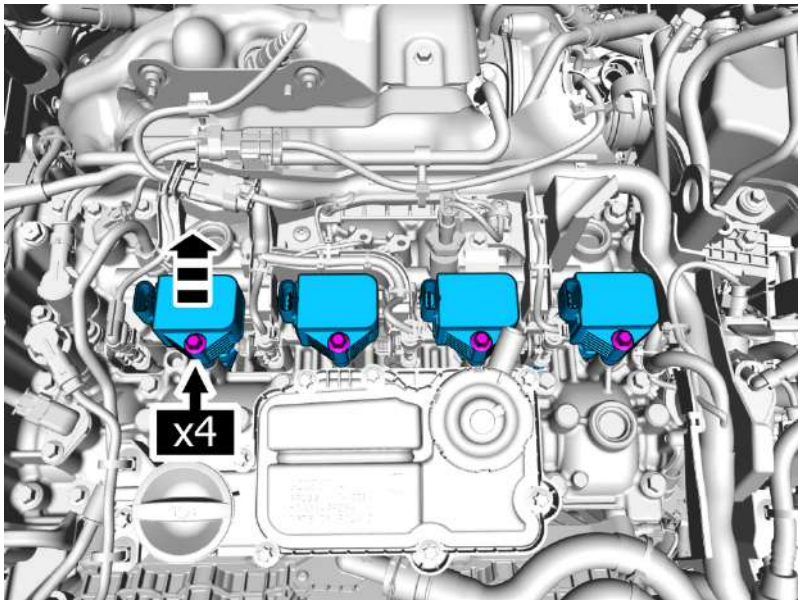
Air deflector to upper radiator member , 5 Nm



Disconnect the connectors.



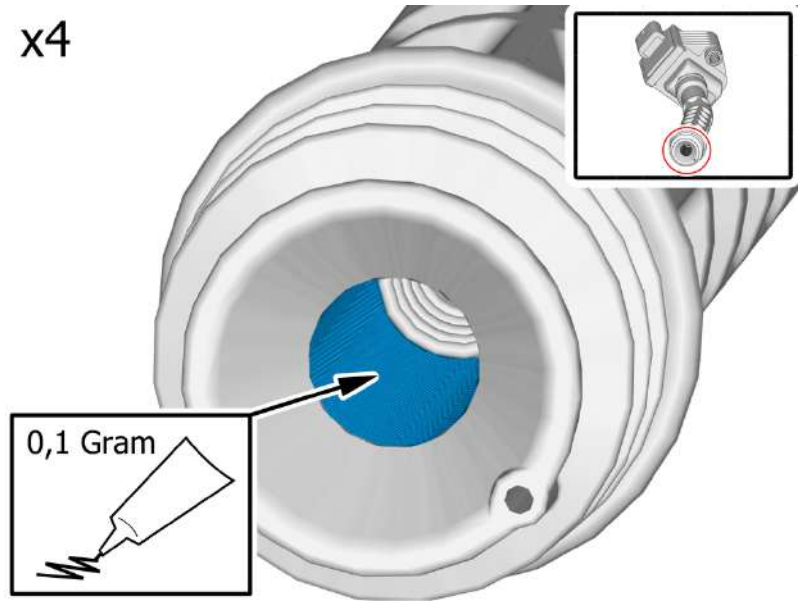
Undo the hose from the connection.



Remove the screws.
Remove the marked parts.

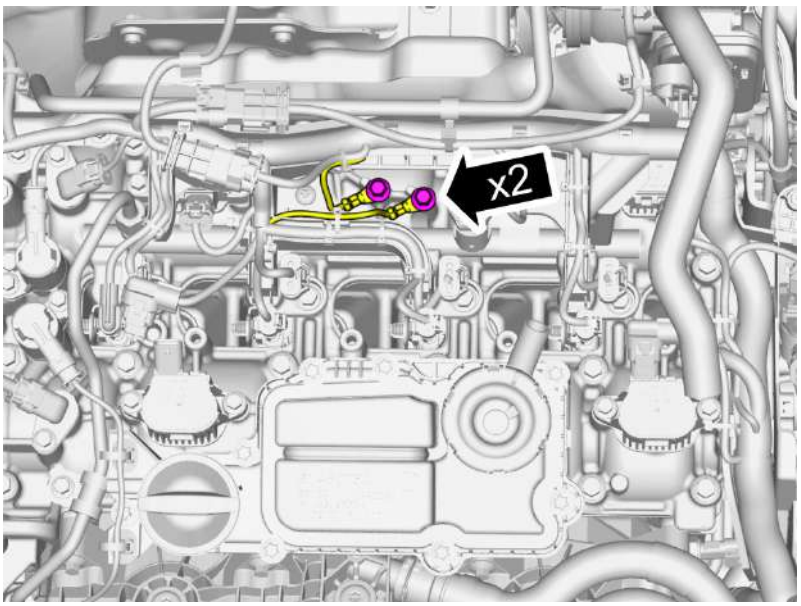
Torque:
M6 , 10 Nm

Installation



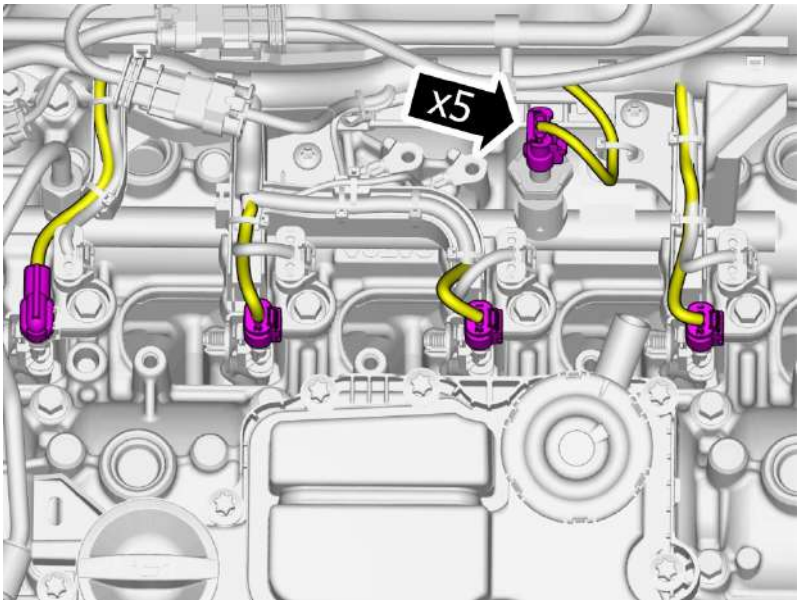
Apply grease on the area indicated.

Continue the removal following the steps below.

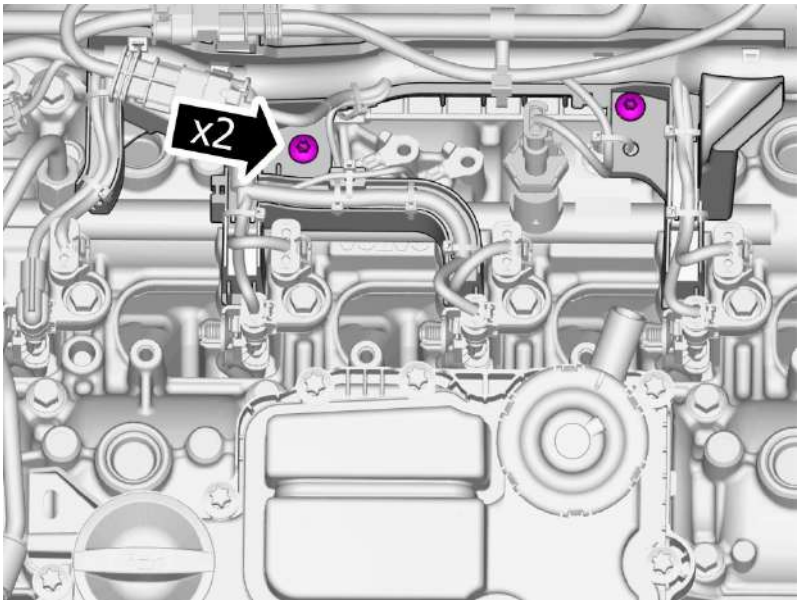


Remove the screws.

Torque:
M6 , 10 Nm



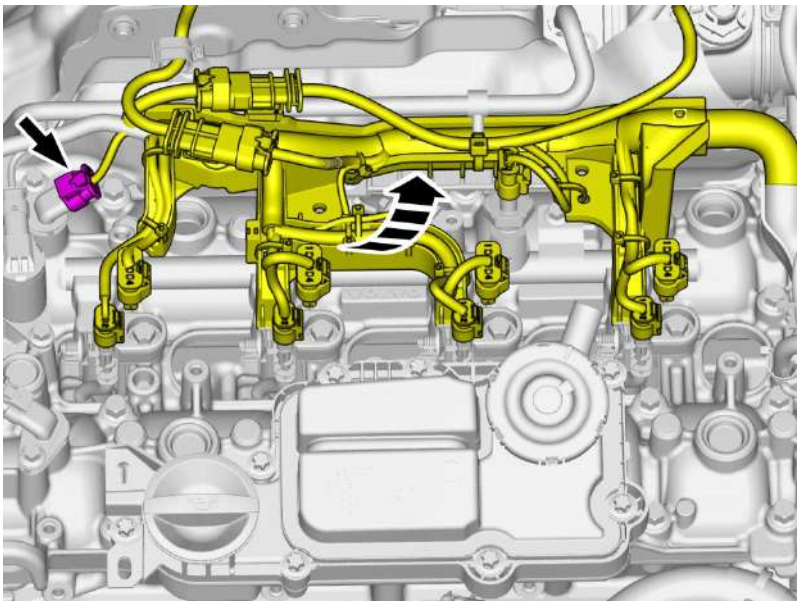
Disconnect the connectors.



Remove the screws.

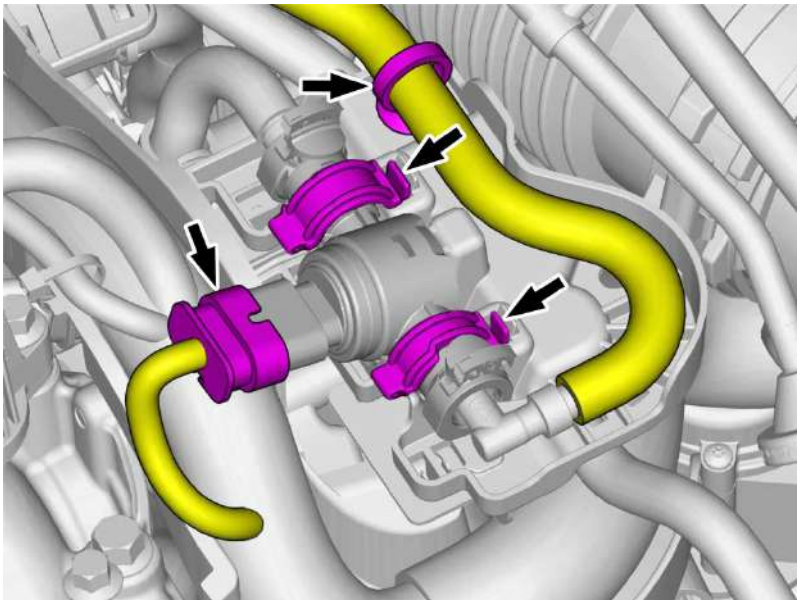
Torque:

M5 , 5 Nm

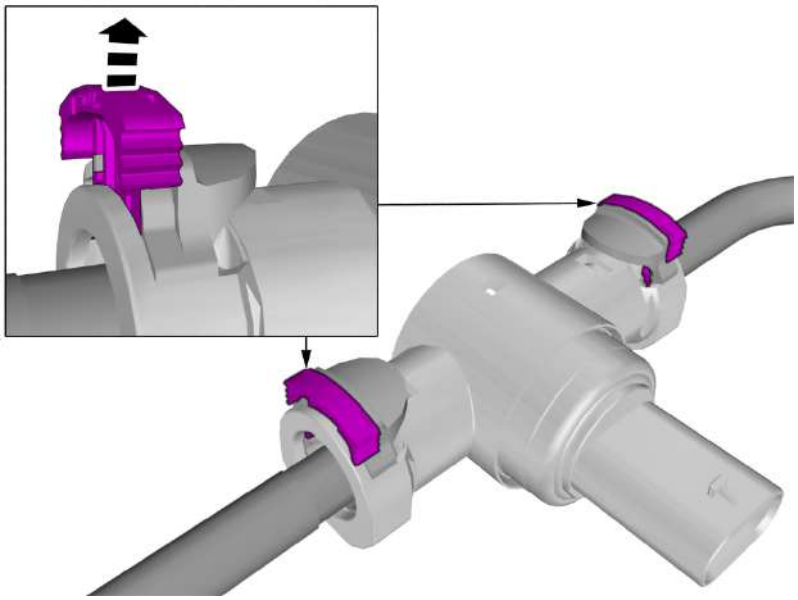


Disconnect the connector.

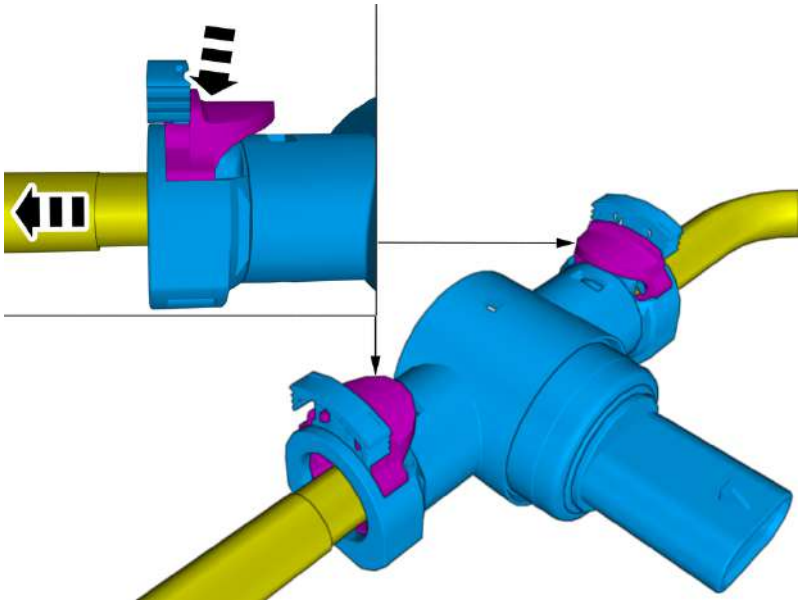
Fold the cable harness aside.



Disconnect the connector.
Loosen the clips.



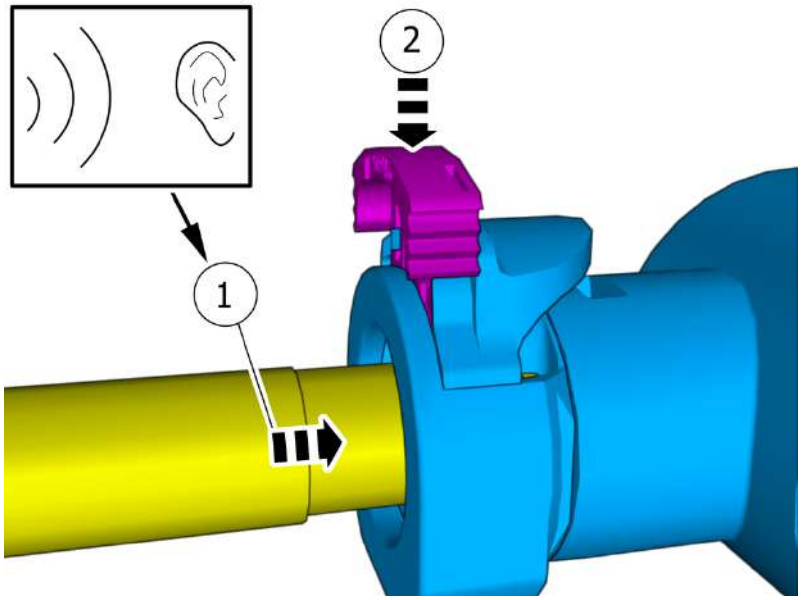
Release the locks.



Warning! **Be prepared to collect escaping fluid.**

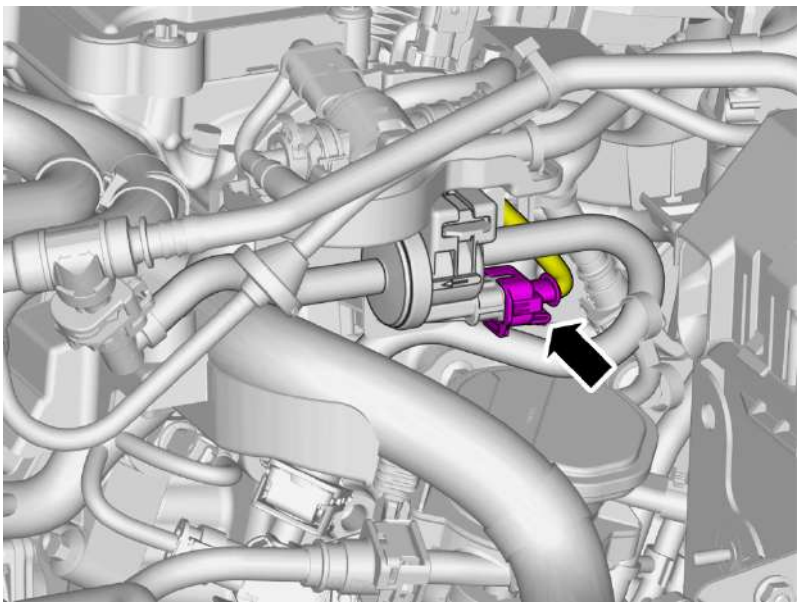
Depress the locking devices.
Undo the hoses from the connections.

Extra information

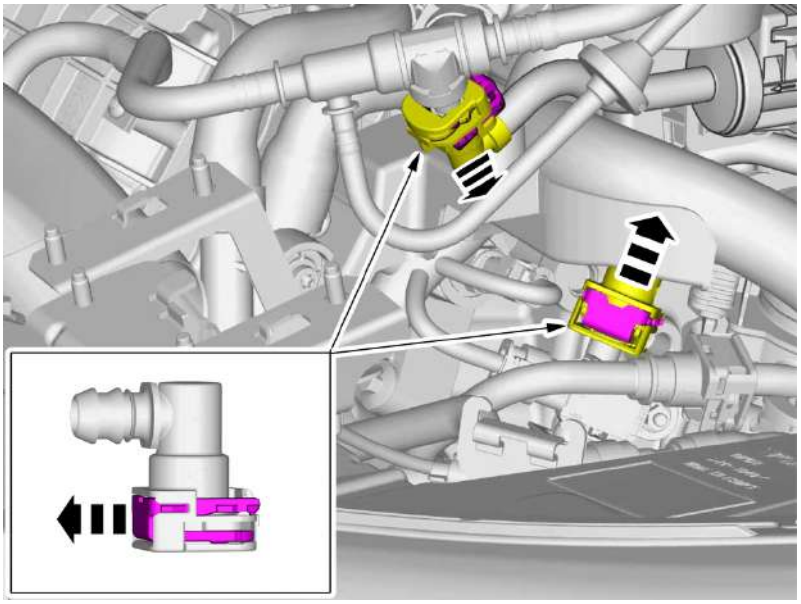


On both sides.

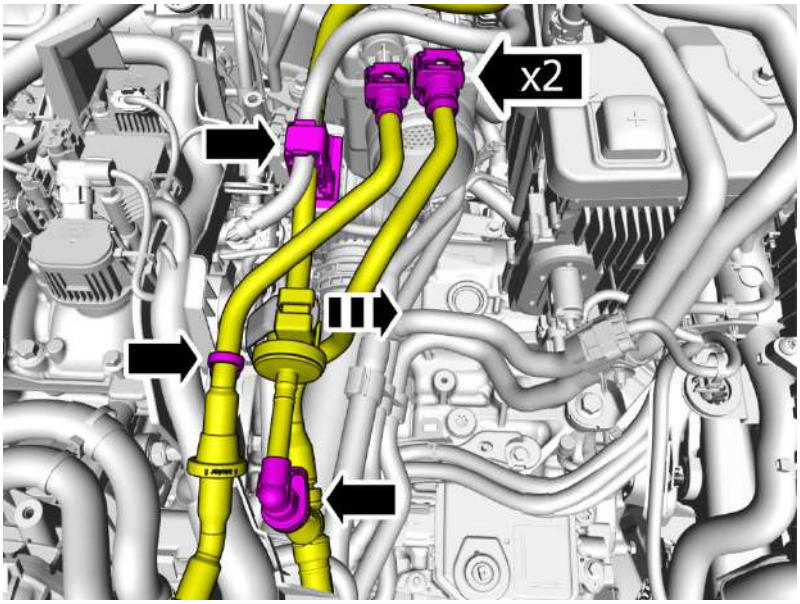
Continue the installation following the steps below.



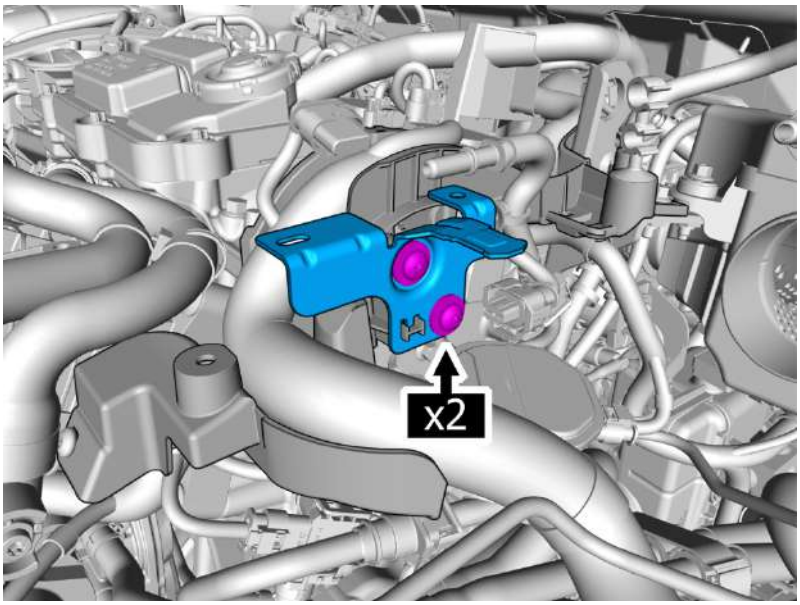
Disconnect the connector.



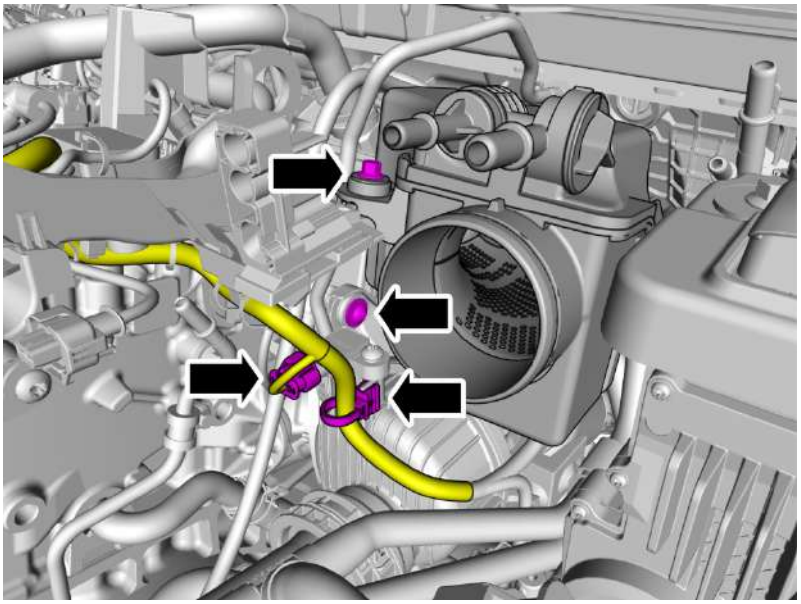
Release the locks.
Undo the hoses from the connections.



Remove the clips.
Release the locks.
Undo the hoses from the connections.
Fold marked parts aside.

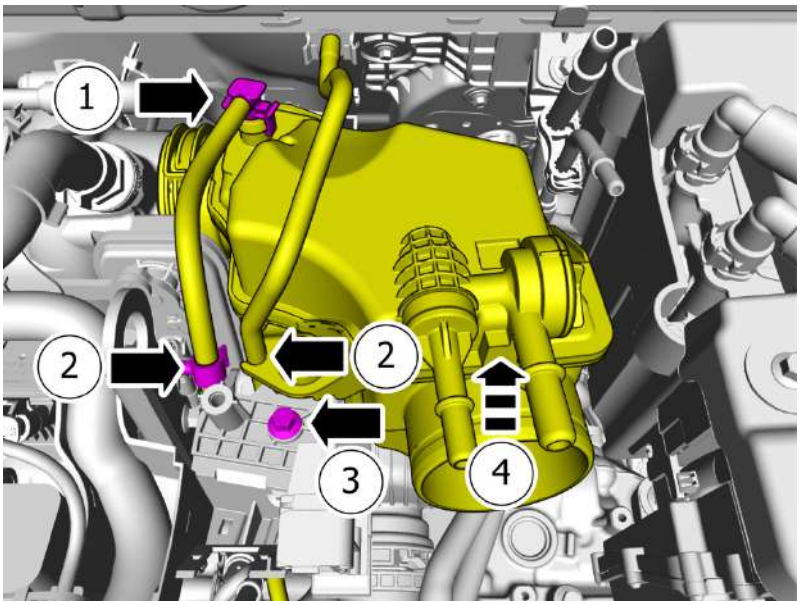


Remove the screws.
Remove the marked part.

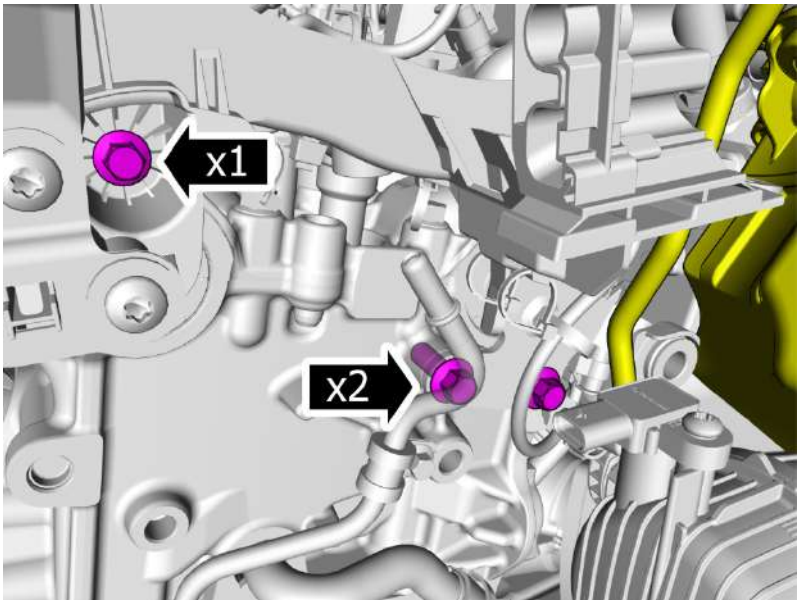


Remove the screws.
Disconnect the connector.
Loosen the clip.
Fold marked parts aside.

Torque:
M6 , 10 Nm



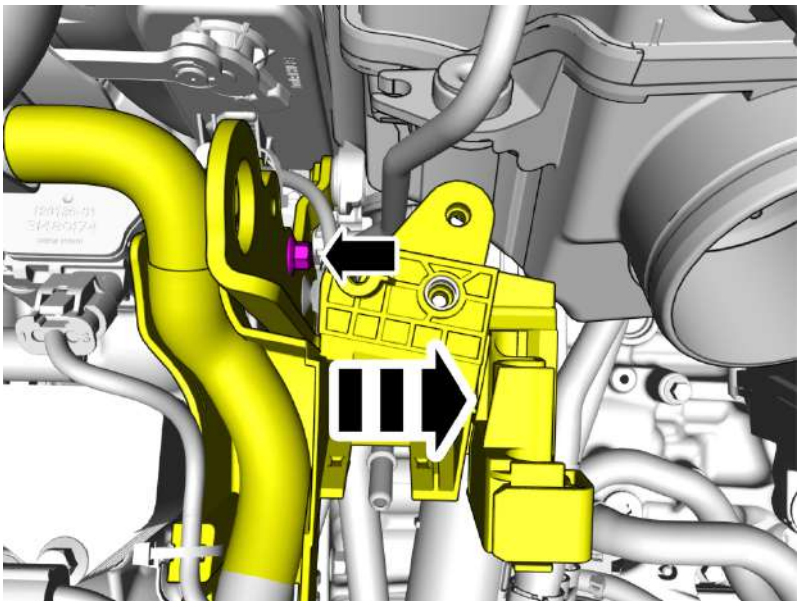
1 . Undo the hose from the connection.
2 . Loosen the marked details from the clip/ clips.
3 . Remove the screw.
4 . Turn in direction of arrow until stop.
5 . **Torque:**
M6 , 10 Nm



Remove the screws.

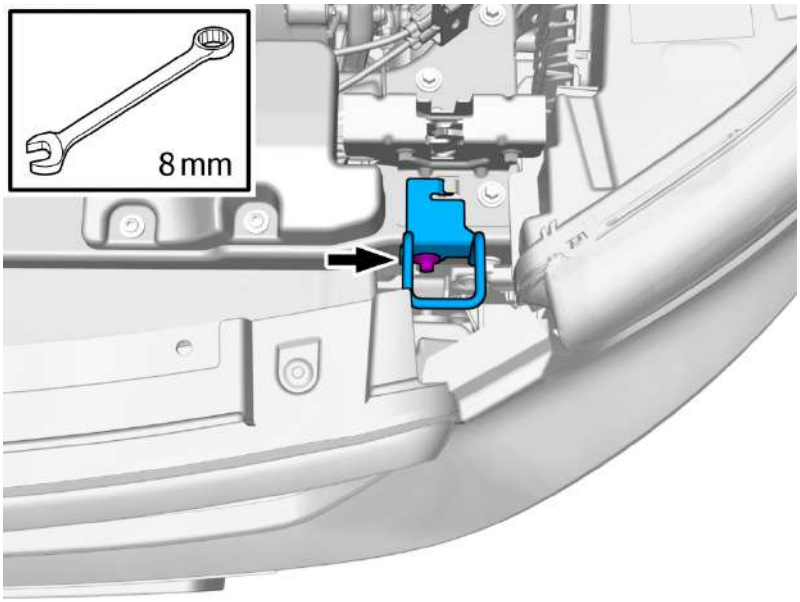
1 . **Torque:**
M6 , 10 Nm

2 . **Torque:**
M8 , 24 Nm

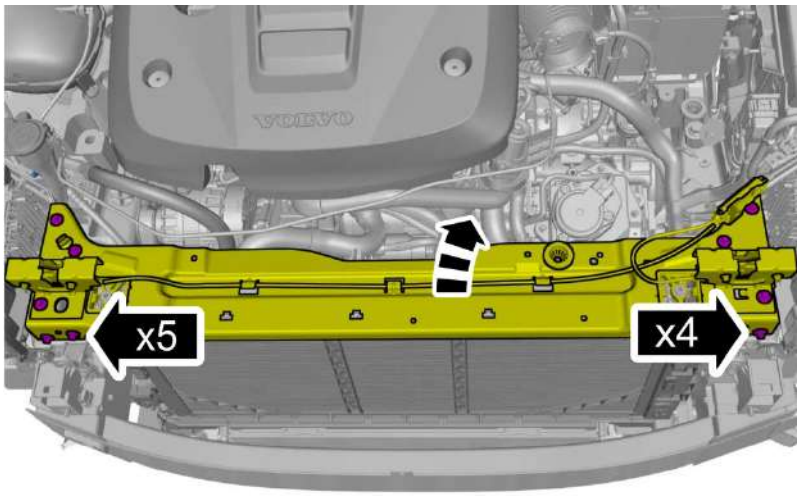


Remove the screw.
Fold marked parts aside.

Torque:
M6 , 10 Nm

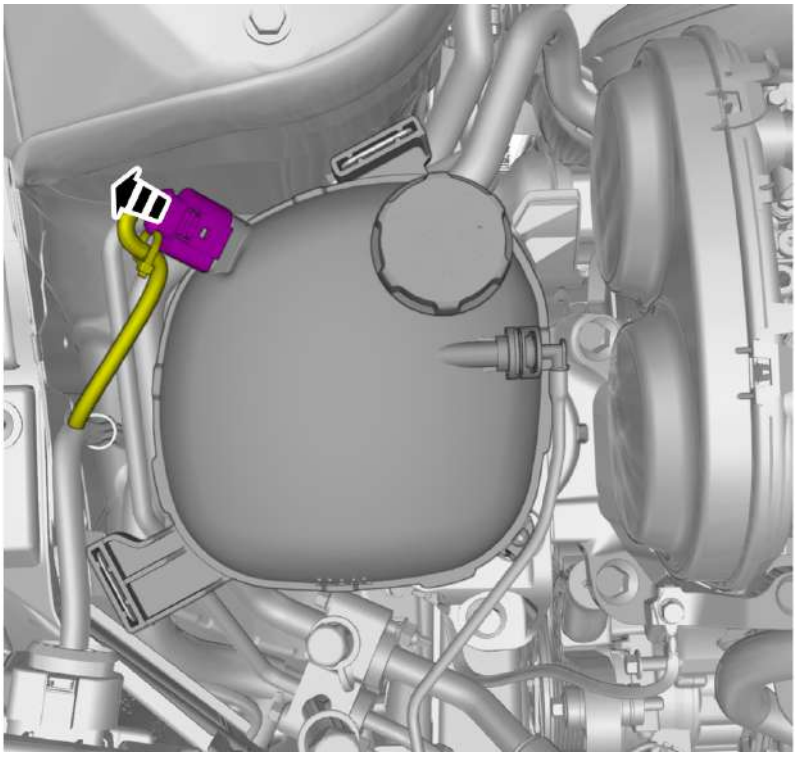


Remove the screw.
Remove the marked part.

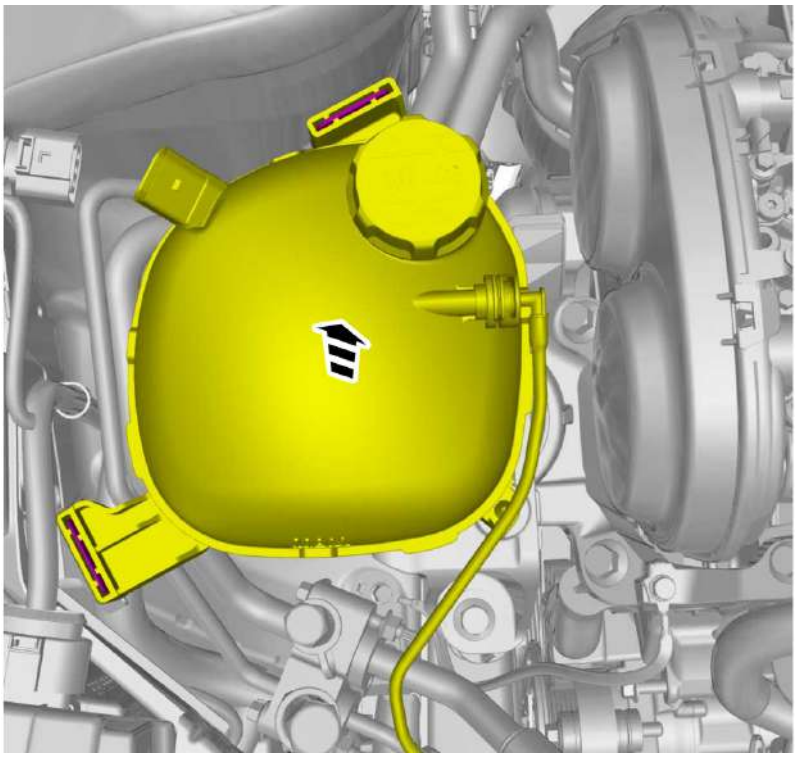


Note! Note the position of the component before removal.

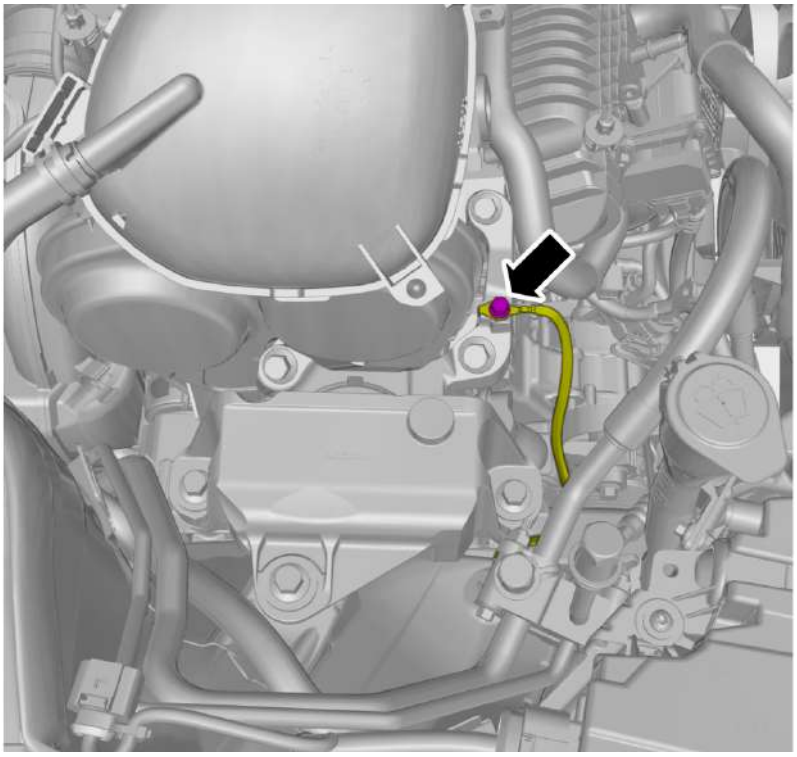
Remove the screws.
Fold marked part aside.



Disconnect the connector.
Fold marked part aside.

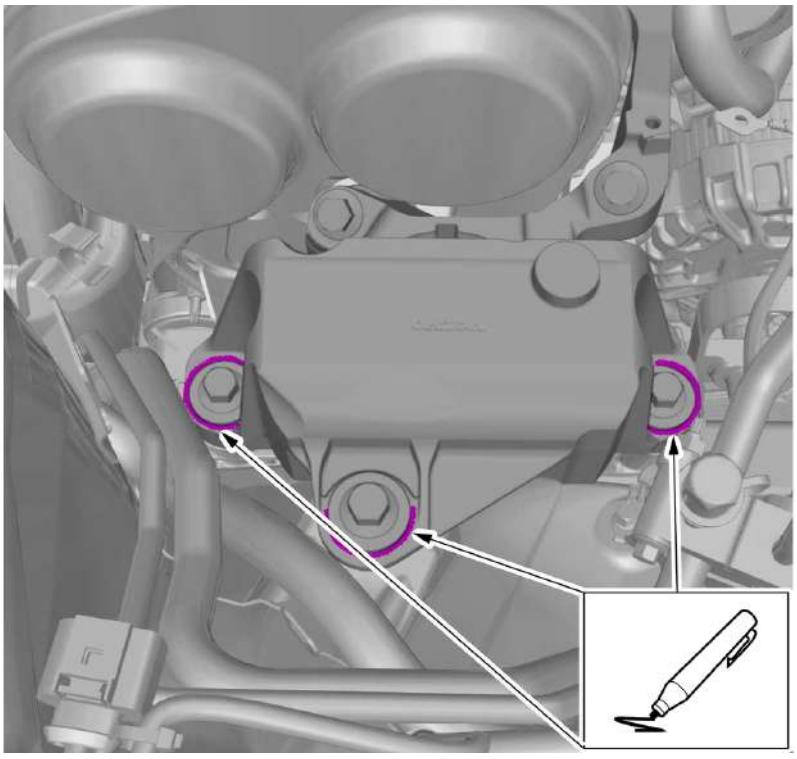


Lift the marked component up
Fold marked part aside.

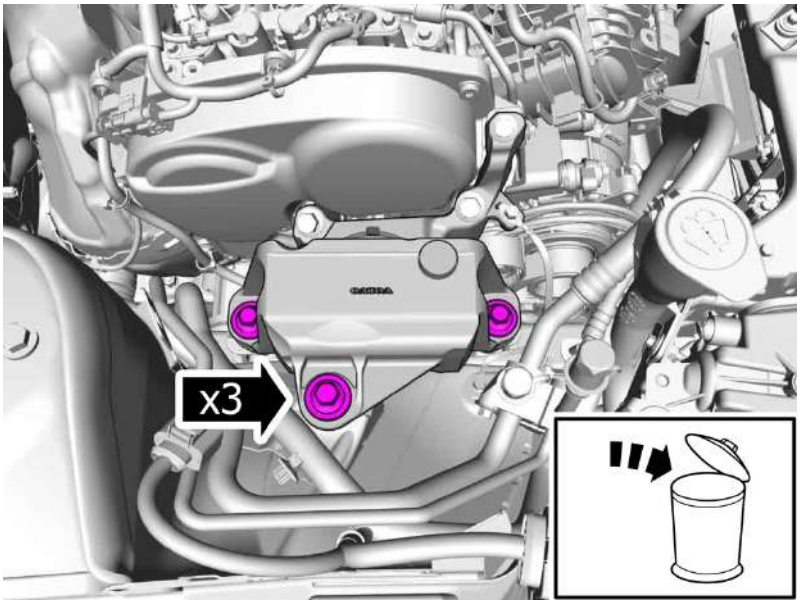


Remove the screw.
Fold marked part aside.

Torque:
M6 , 10 Nm



Note! Note the position of the component before removal.



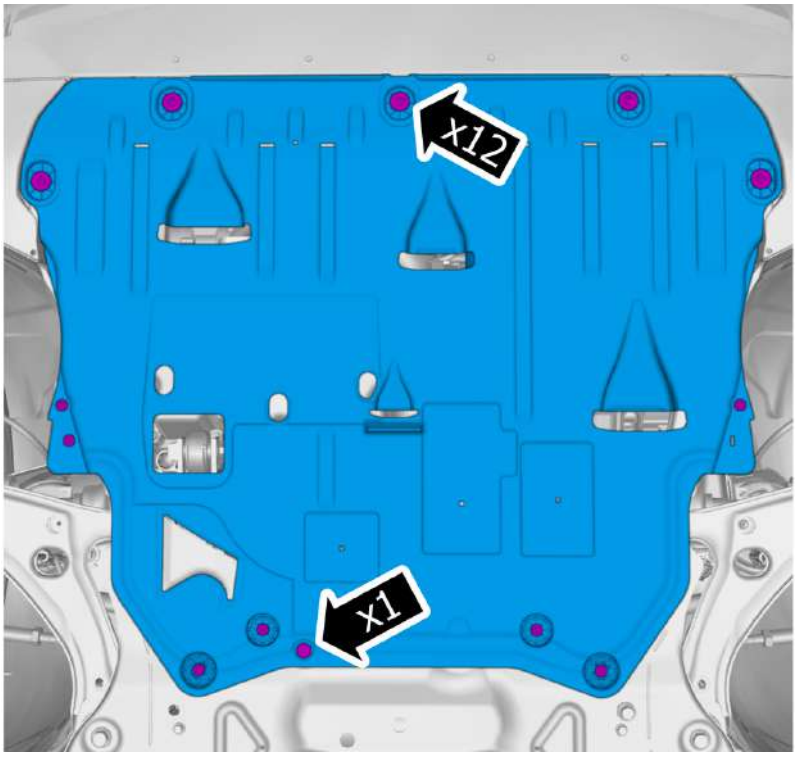
Remove the screws.

Torque:

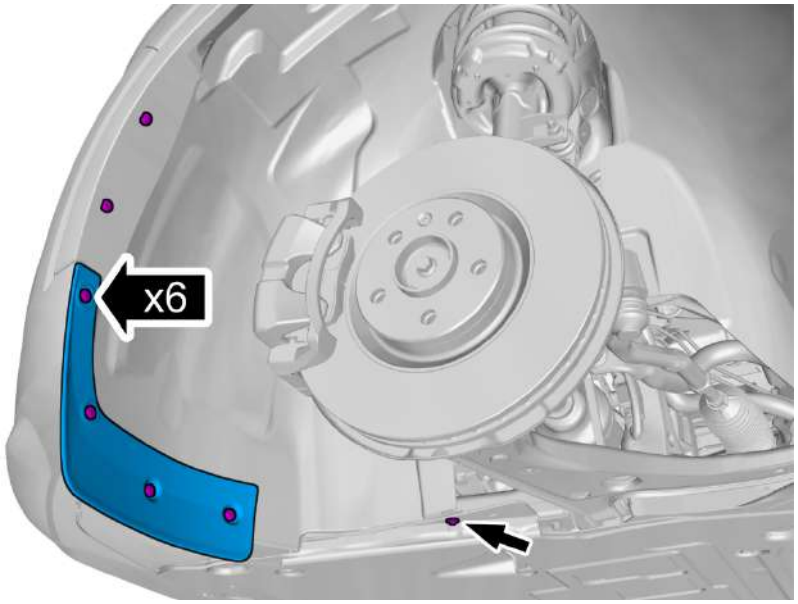
- Stage 1 : Right-hand engine pad to body frame , 90 Nm
- Stage 2 : Right-hand engine pad to body frame , 60°

Remove right side the front wheel , refer to:

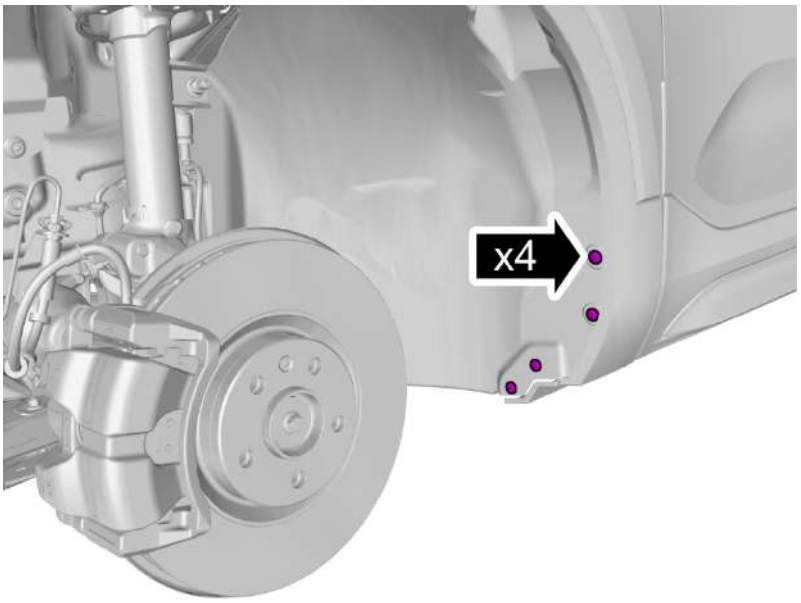
Removal, replacement and installation
7 - Springs and wheels
77 - Wheels, tyres
770 - complete wheels



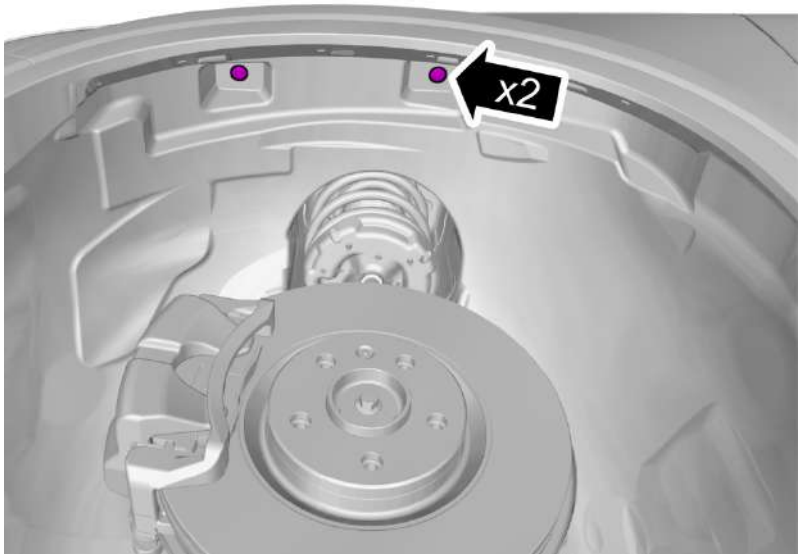
Remove the screws.
Remove the clip.
Remove the marked part.



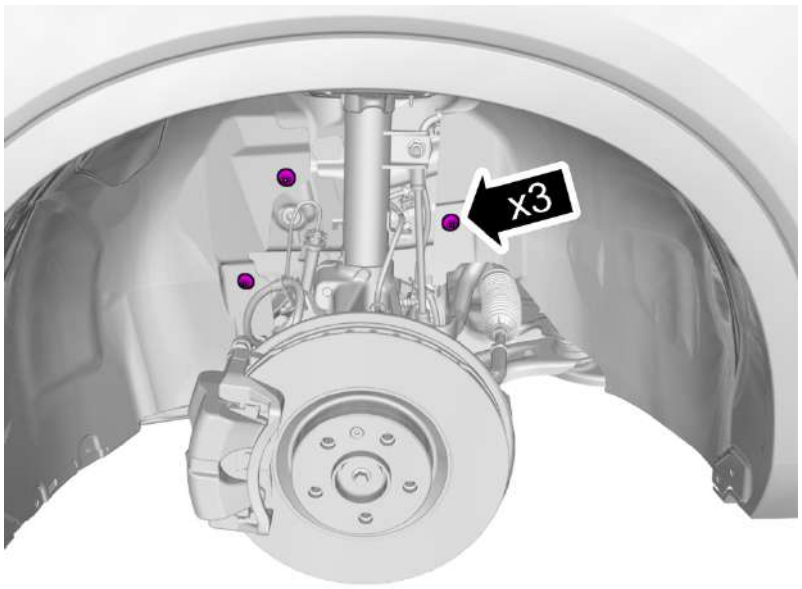
Remove the screws.
Remove the marked part.



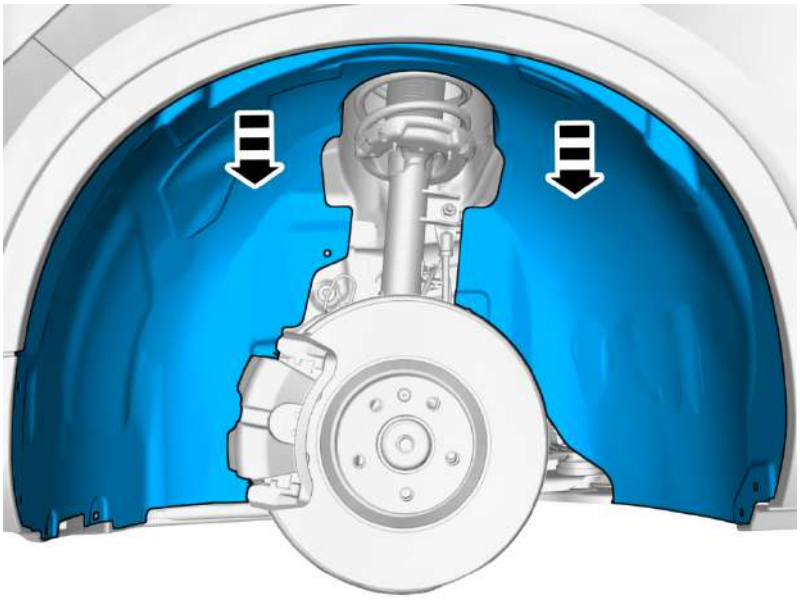
Remove the screws.



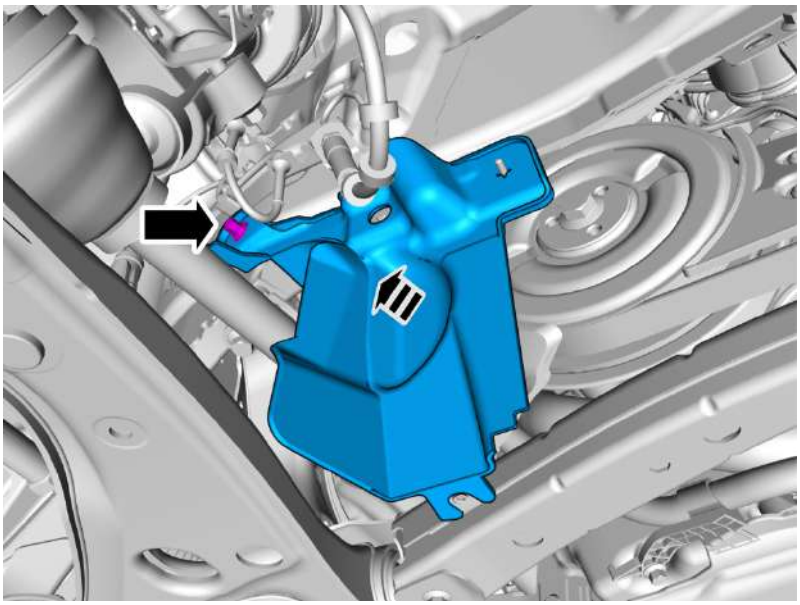
Remove the clips.



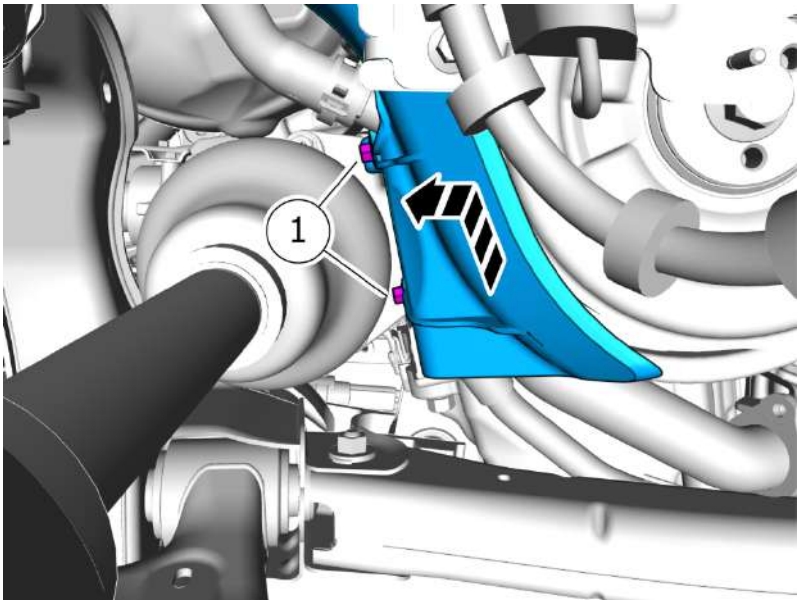
Remove the nuts.



Remove the marked part.



Remove the nut.
Remove the marked part.

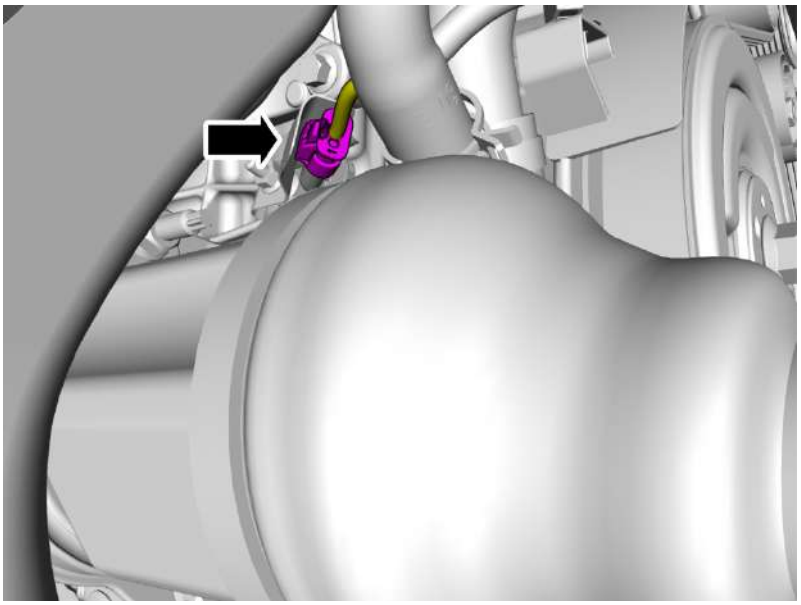


1 . Remove the screws.

2 . **Torque:**

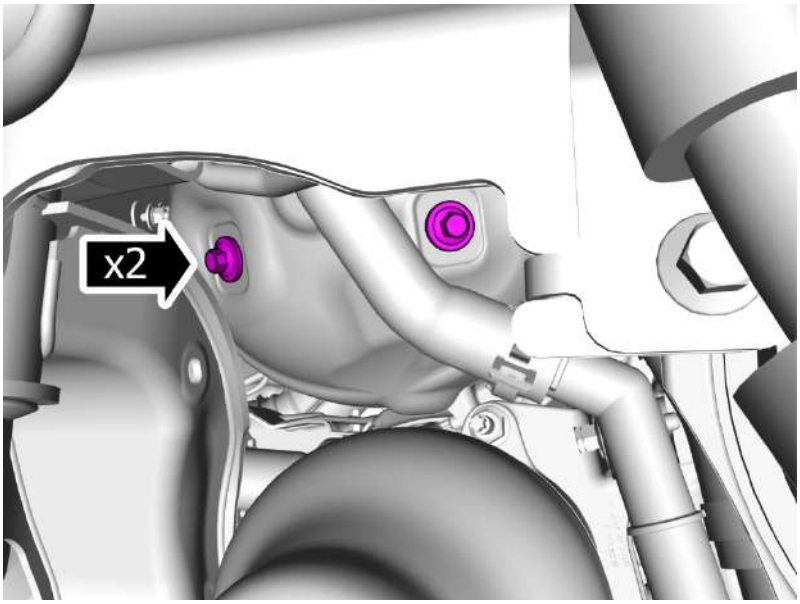
M6 , 10 Nm

3 . Remove the marked part.

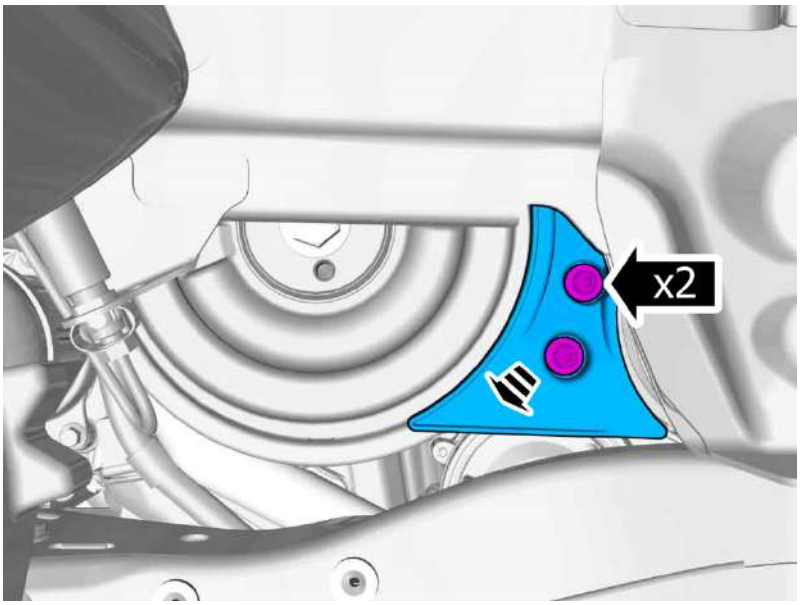


Disconnect the connector.

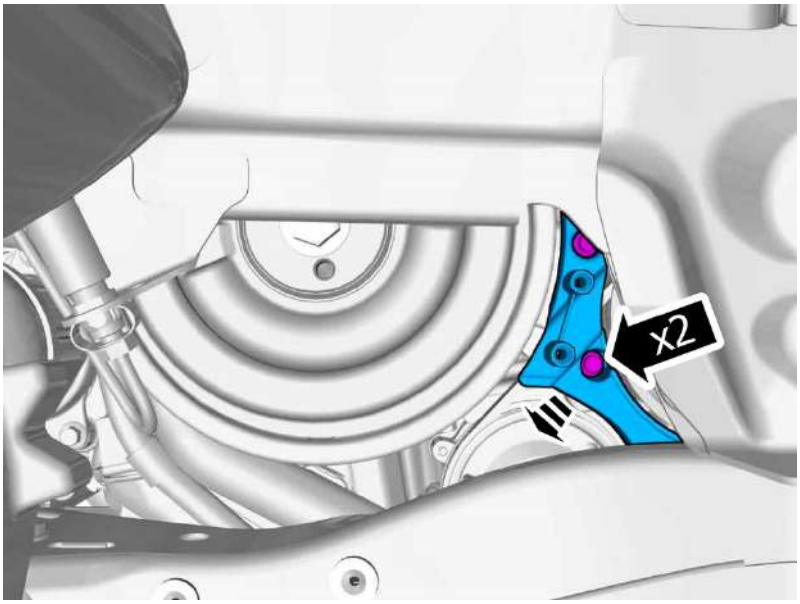
Loosen the clips.



Loosen the screws.
Do not remove the screws completely.



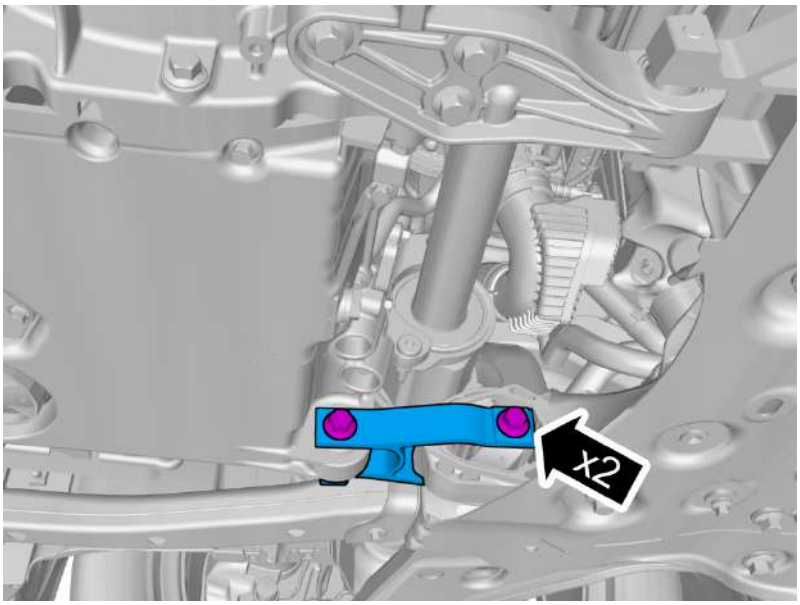
Remove the screws.
Remove the marked part.



Remove the screws.
Remove the marked part.

Torque:

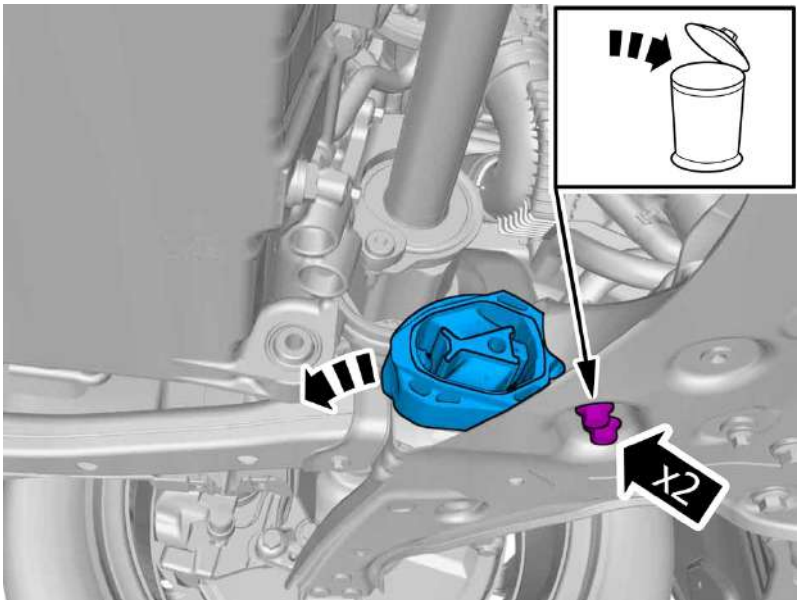
M6 , 10 Nm



Remove the screws.
Remove the marked part.

Torque:

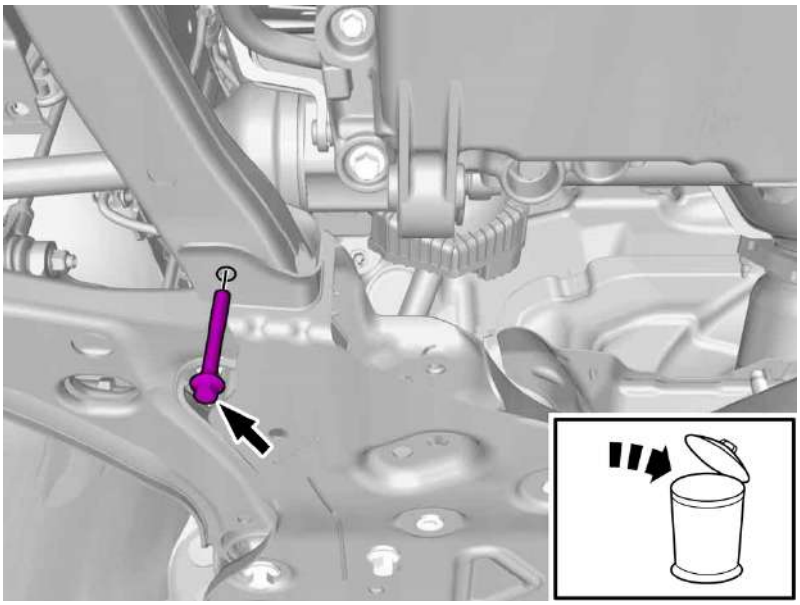
Lower torque rod rear right, to Engine mount bracket , 110 Nm



Remove the screws.
Remove the marked part.

Torque:

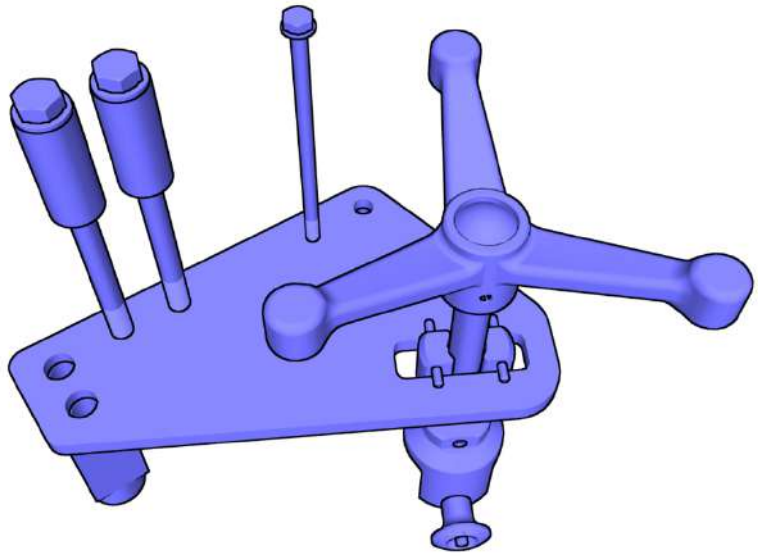
- Stage 1 : Lower torque rod rear right, to subframe , 90 Nm
- Stage 2 : Lower torque rod rear right, to subframe , 120°



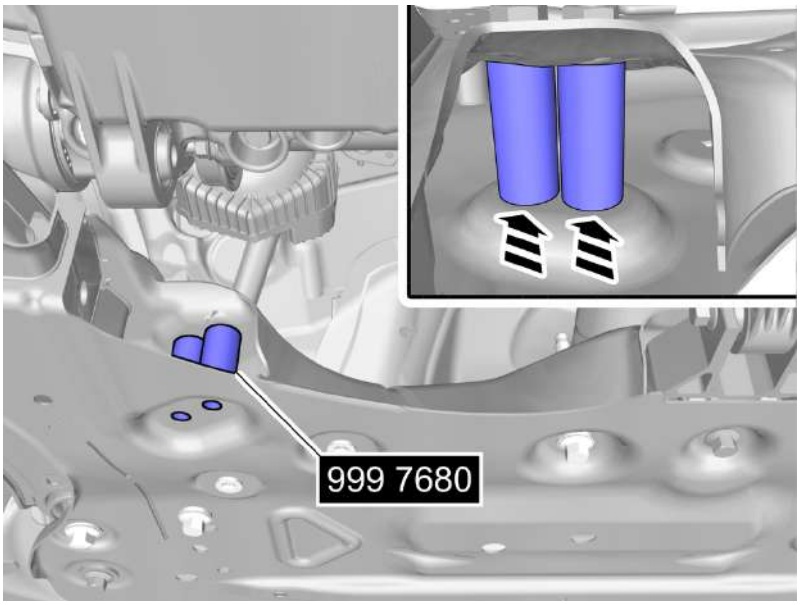
Remove the screw.

Torque:

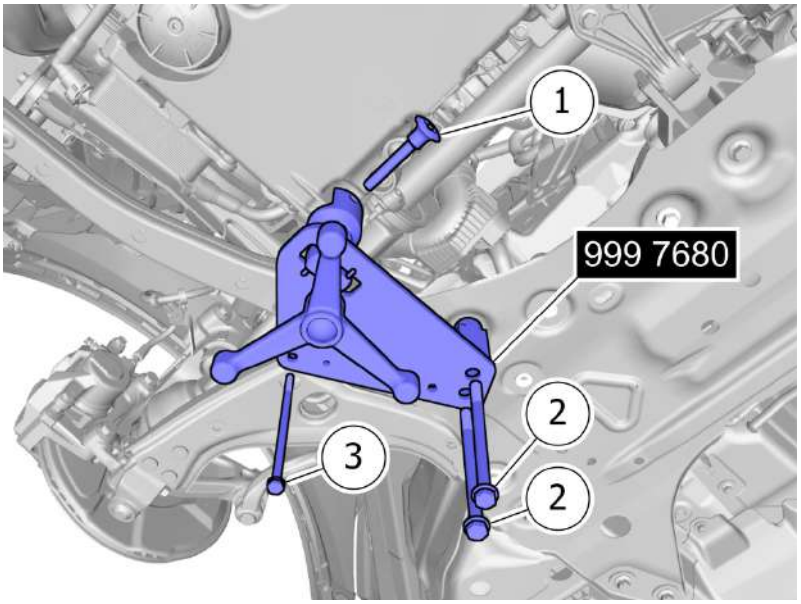
- Stage 1 : Collision member to subframe , 30 Nm
- Stage 2 : Collision member to subframe , 90°



Special Tool: T9997680, Support



Install the Special tool.

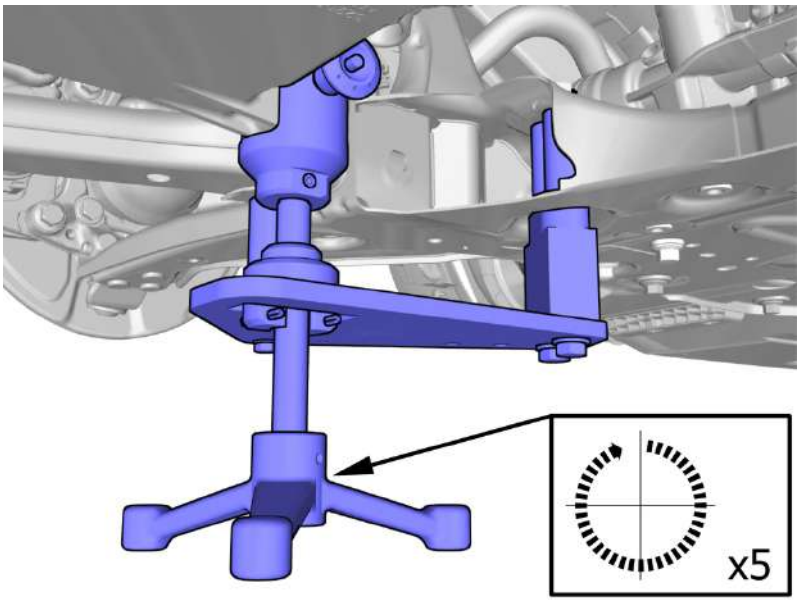


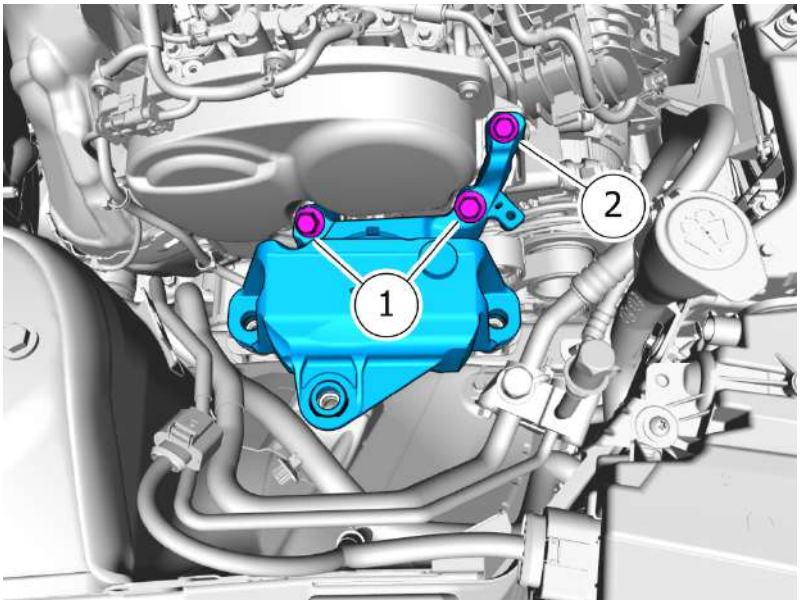
Install the Special tool.

1 . Install the marked component.

2 . **Torque:**
M12 , 80 Nm

3 . **Torque:**
M8 , 24 Nm

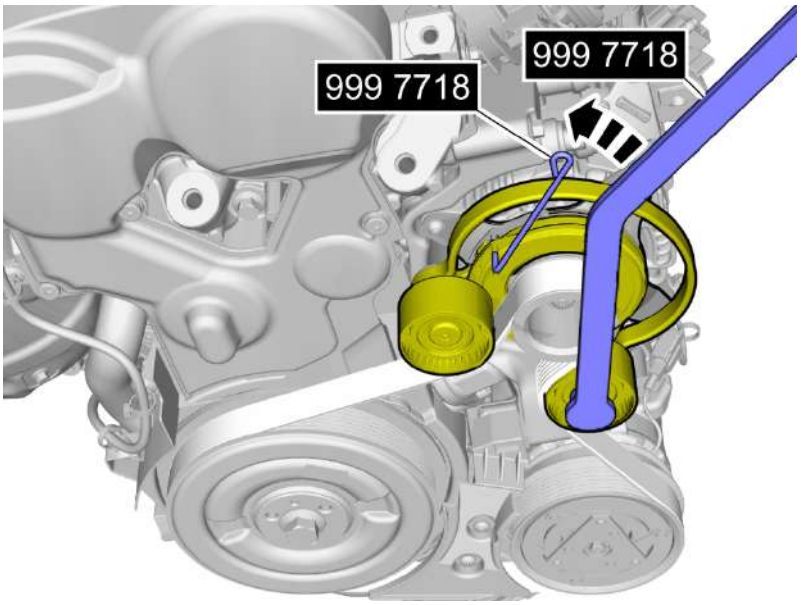




Remove the screws.

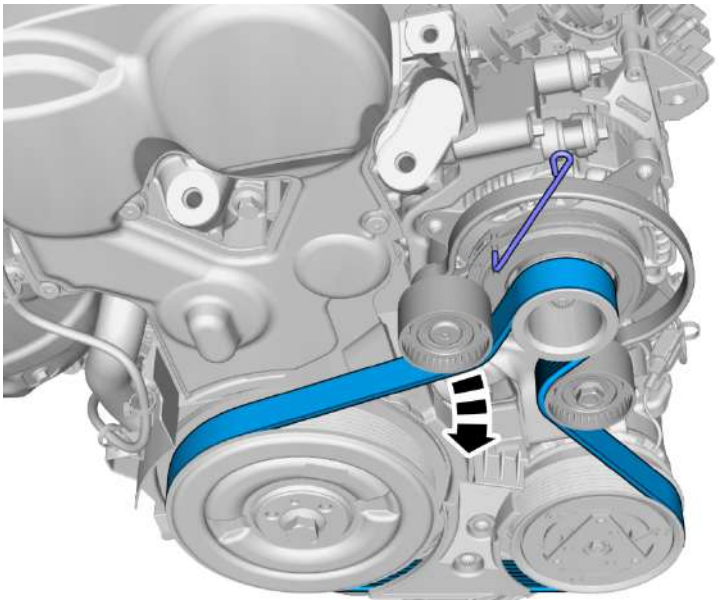
1 . **Torque:**
- Stage 1 : Engine mount bracket, to Cylinder head, M12 , 90 Nm
- Stage 2 : Engine mount bracket, to Cylinder head, M12 , 90°

2 . **Torque:**
Engine mount bracket, to Cylinder head, M10 , 60 Nm

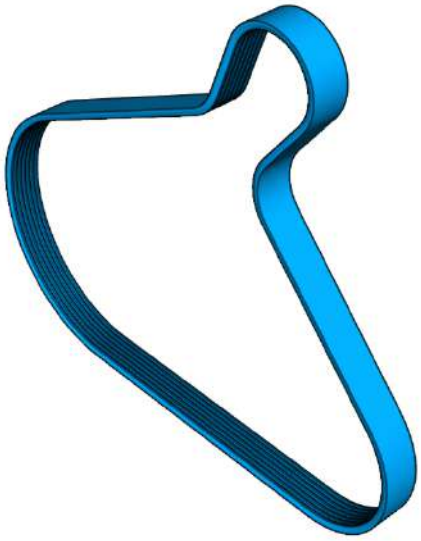


Install the Special tool.

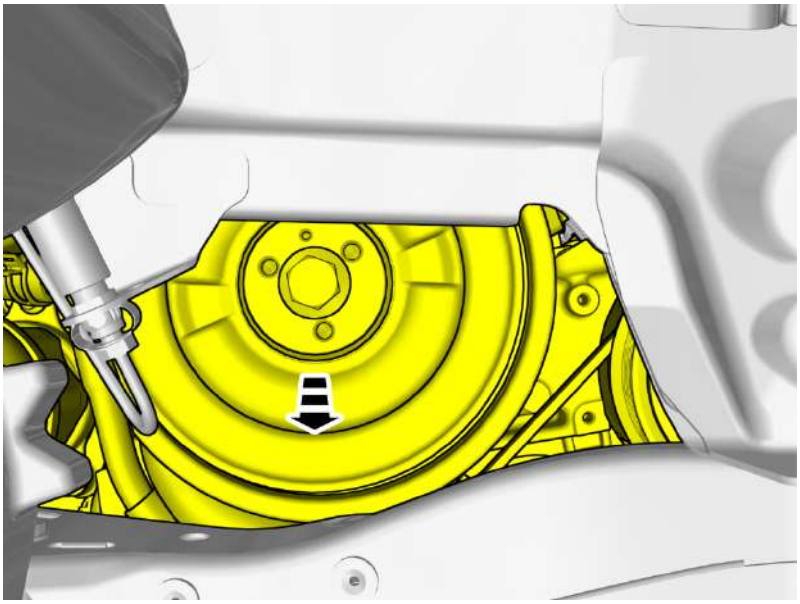
Special Tool: T9997718, Counterhold



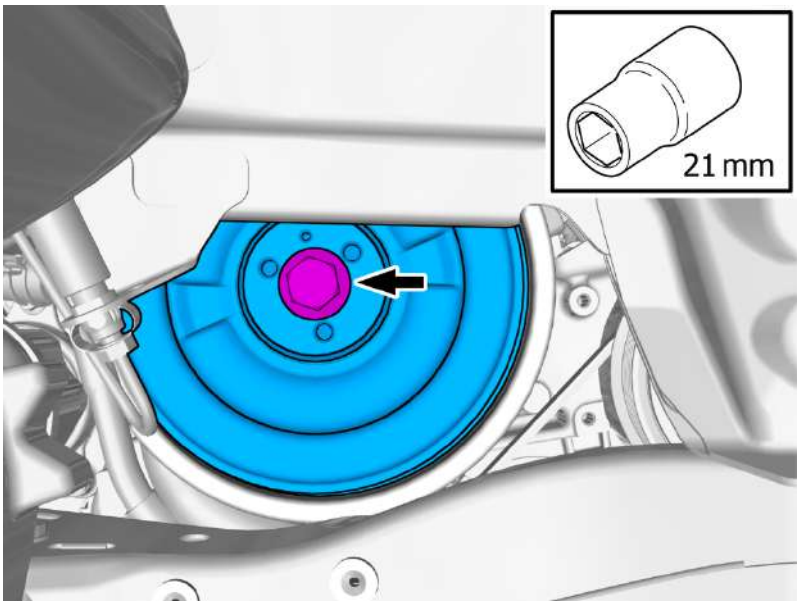
Remove the marked part.



Note! The component can be reused unless it has been subjected to abnormal mechanical stress, damage or oil contamination.



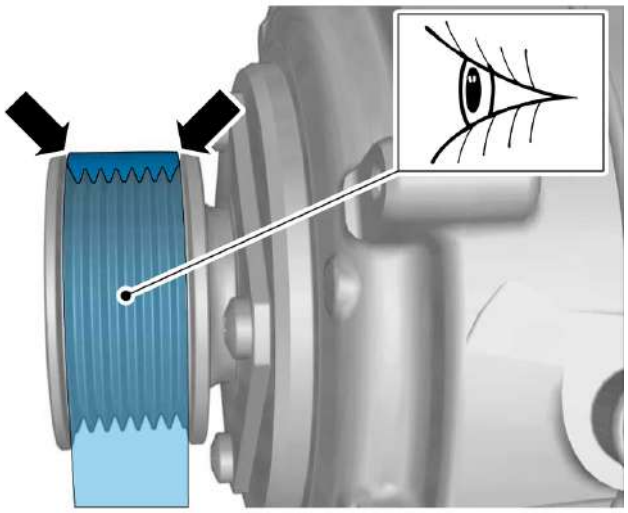
Lower the engine.



Note! Note the position of the component before removal.

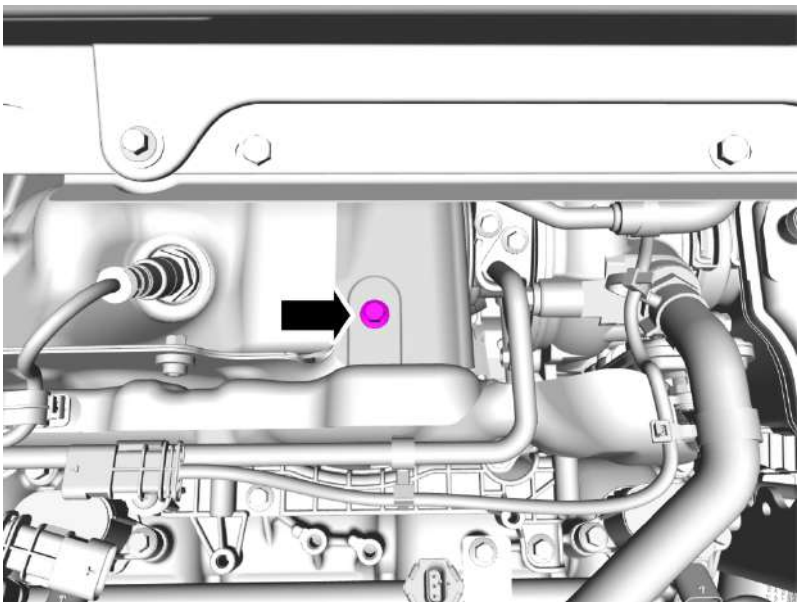
Remove the screw.
Remove the marked part.

Extra information

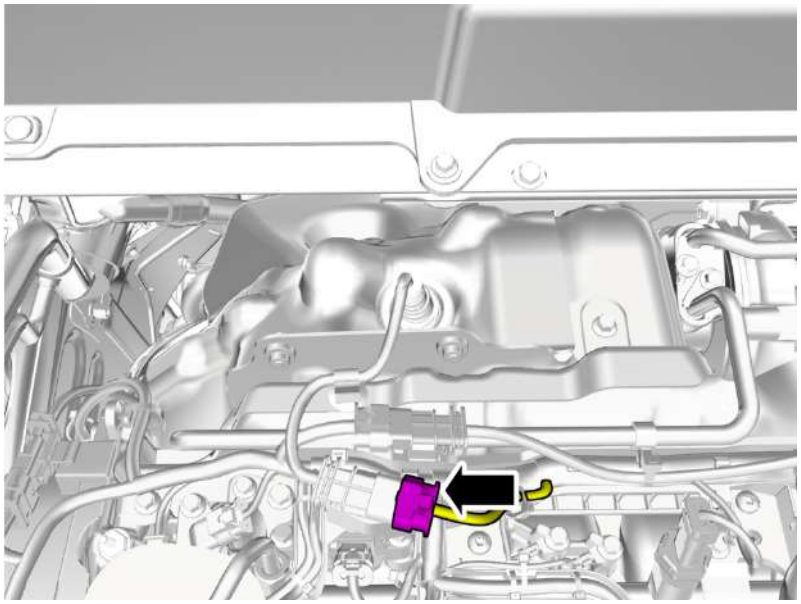


Caution! Make sure that the component is positioned correctly.

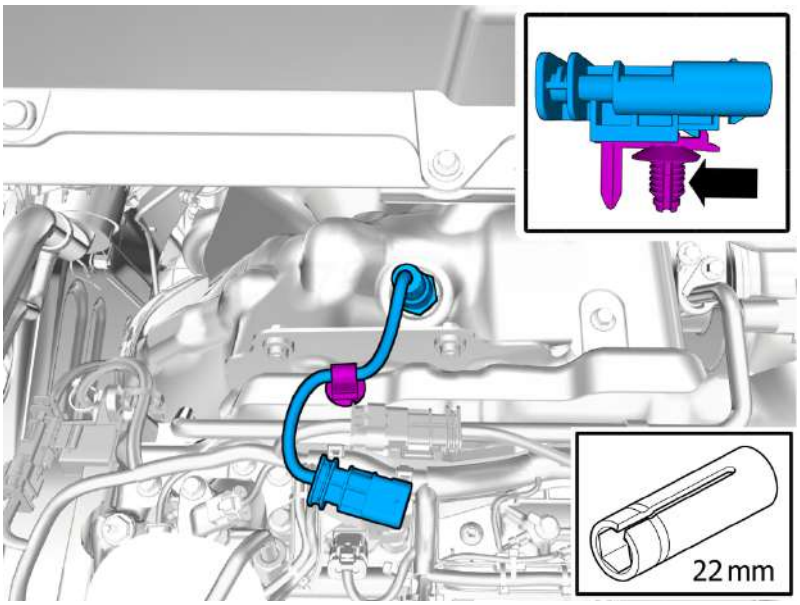
Continue the installation following the steps below.



Remove the screw.



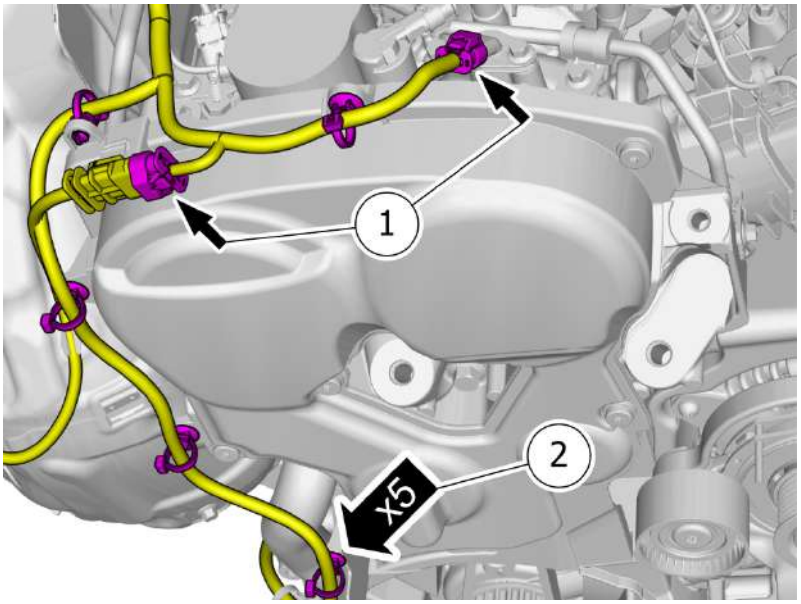
Disconnect the connector.



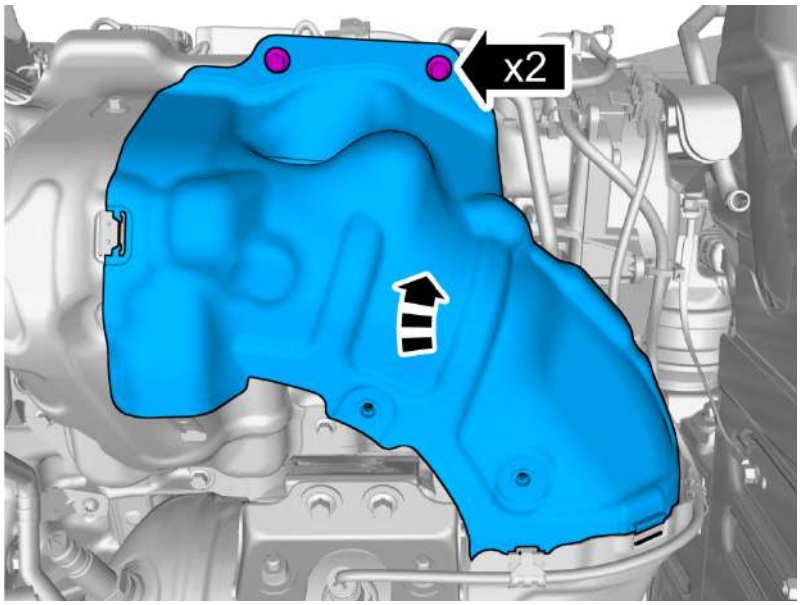
Loosen the clips.
Remove the marked part.

Torque:

Lambda probe, tightening , 45 Nm

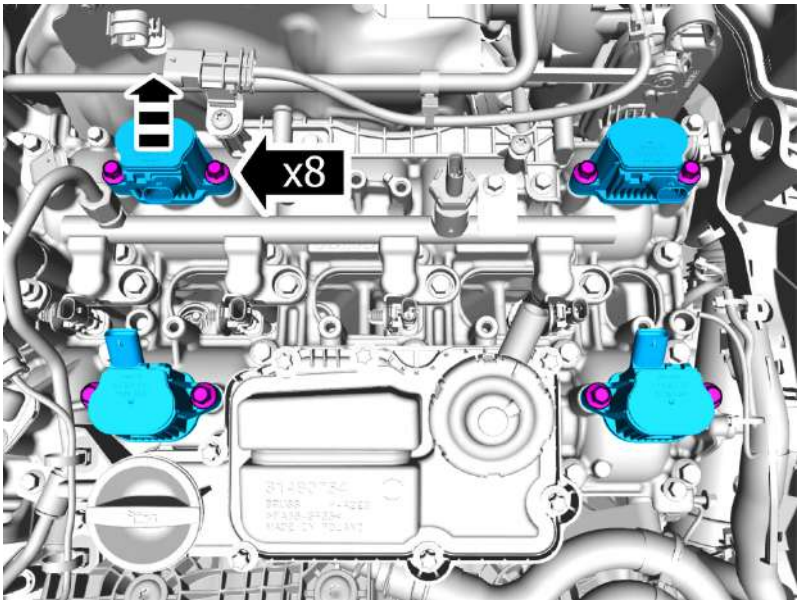


Disconnect the connectors.
Remove the cable harness clips.
Fold marked part aside.



Remove the screws.
Remove the marked part.

Vehicles early version



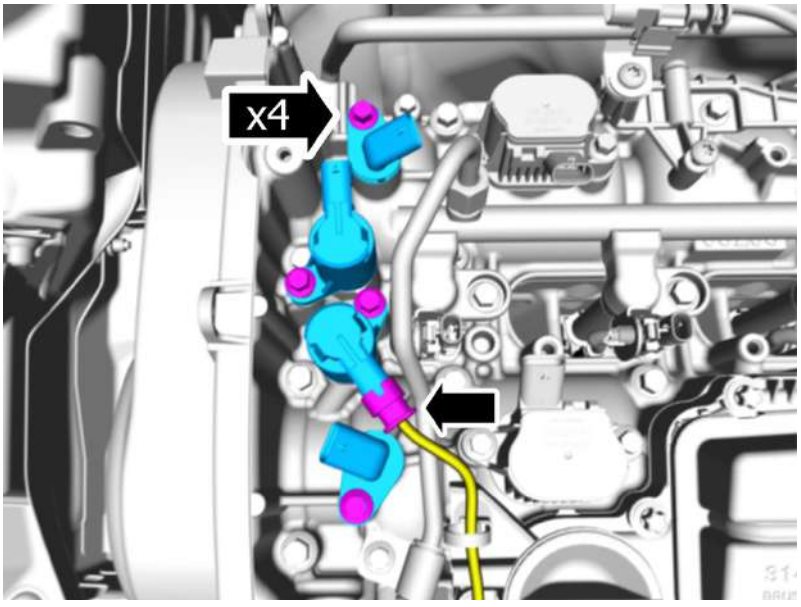
Caution! The component must be removed by hand. Tools may not be used.

Note! Use new seals.

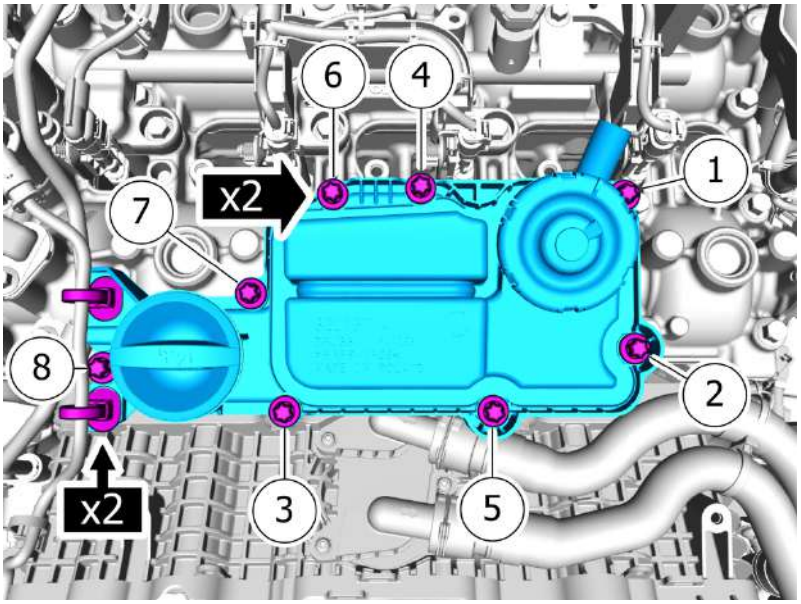
Remove the screws.
Remove the marked parts.

Torque:
M6 , 10 Nm

All vehicles



Disconnect the connector.
Remove the screws.
Remove the marked parts.



Note! Make sure to follow the correct sequence during installation.

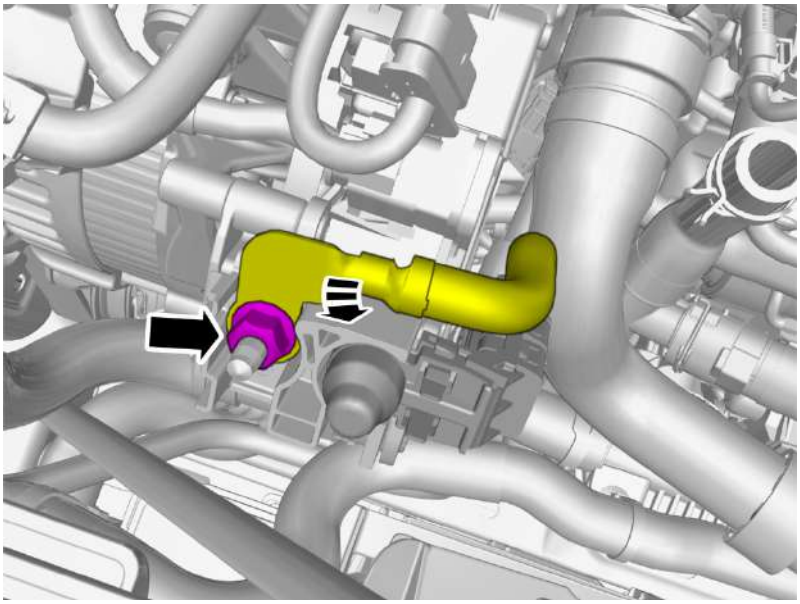
Note! Use a new seal.

Remove the clips.
Remove the screws.
Remove the marked part.

Torque:

M6 , 10 Nm

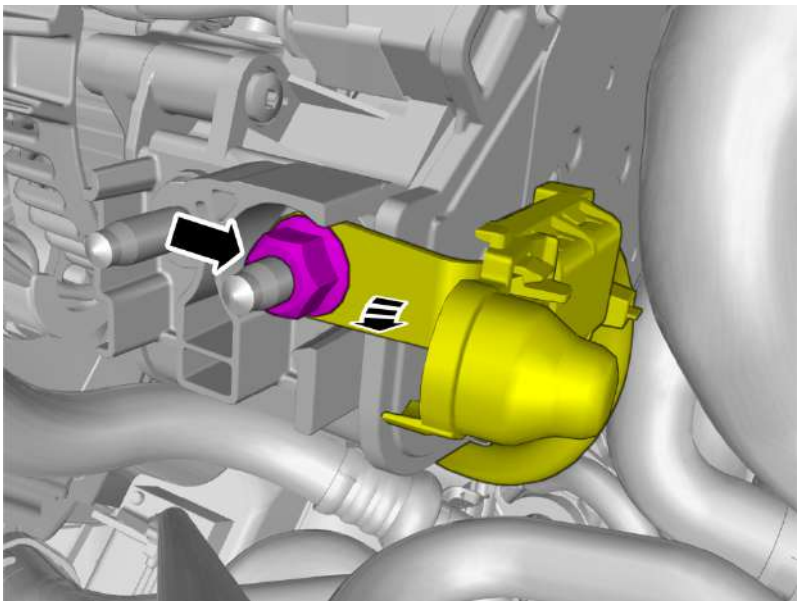
Install the Special tool.
Pull the component in direction of the arrow.



Remove the nut.

Torque:

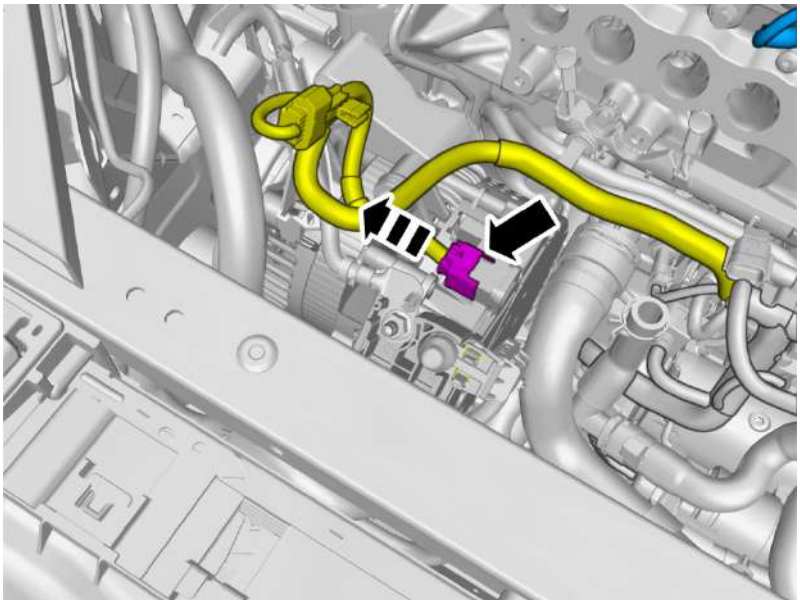
M8 , 24 Nm



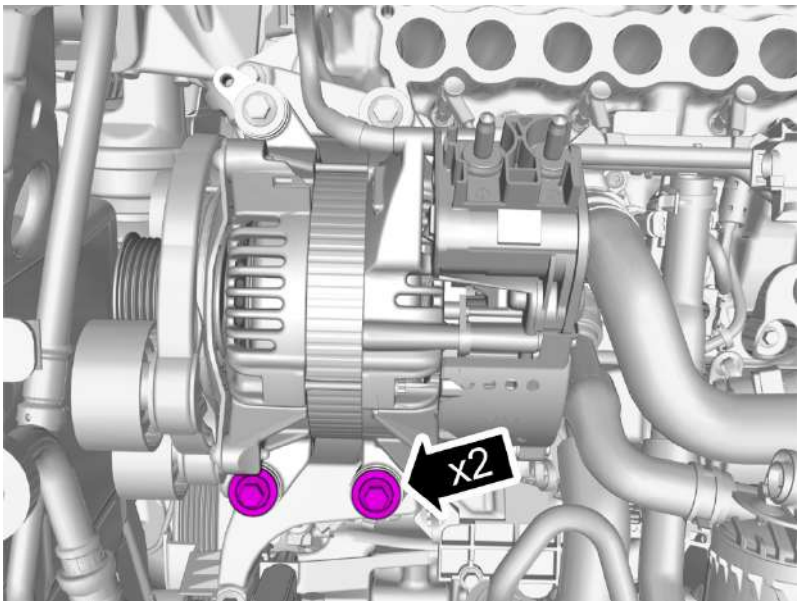
Remove the nut.

Torque:

M8 , 24 Nm



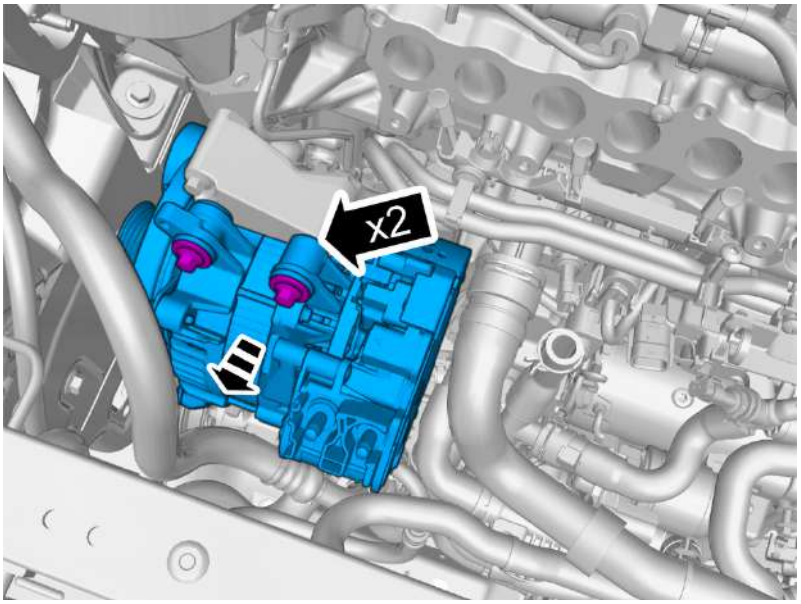
Disconnect the connector.



Remove the screws.

Torque:

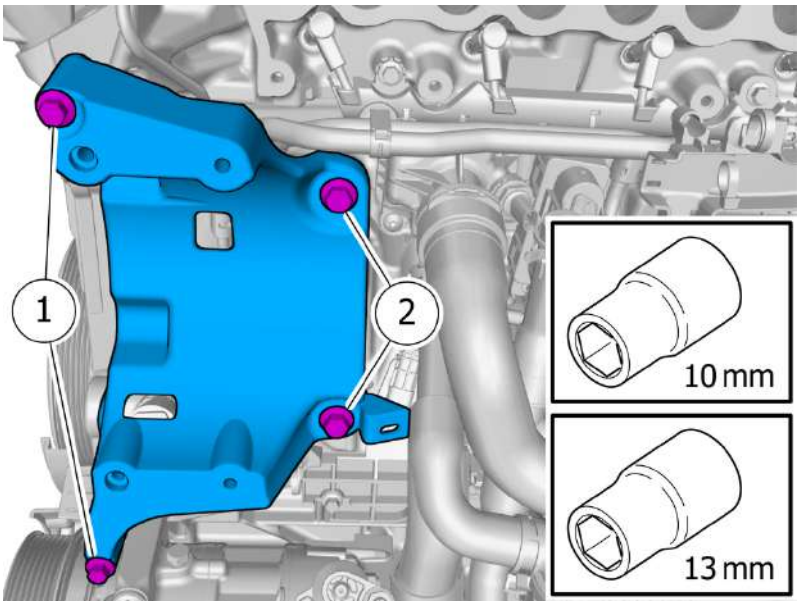
M8 , 24 Nm



Remove the screws.
Remove the marked part.

Hint: It may be necessary to twist or turn the component.

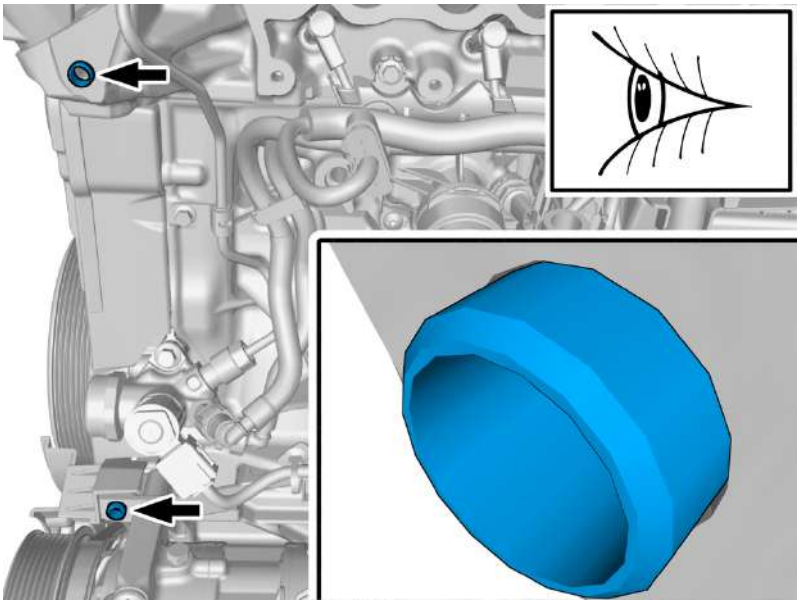
Torque:
M8 , 24 Nm



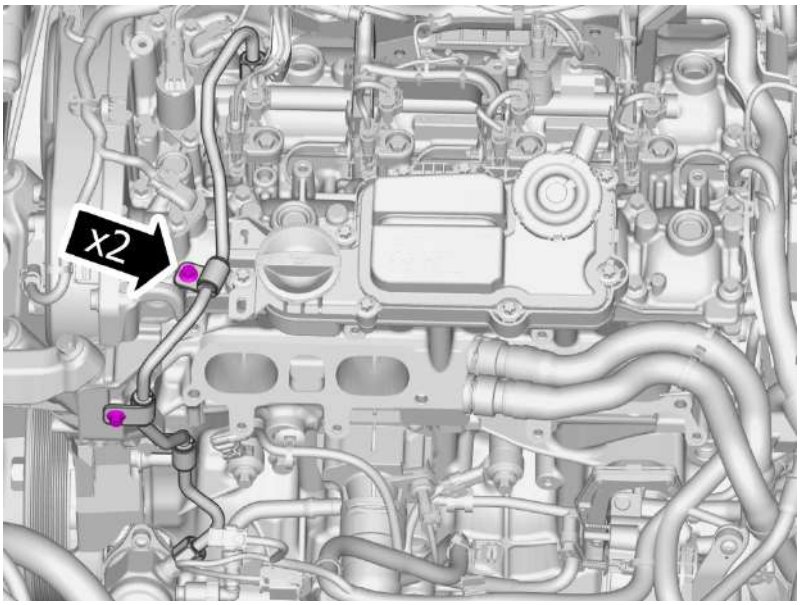
Remove the screws.
Remove the marked part.

1 . **Torque:**
M8 , 24 Nm

2 . **Torque:**
M10 , 50 Nm



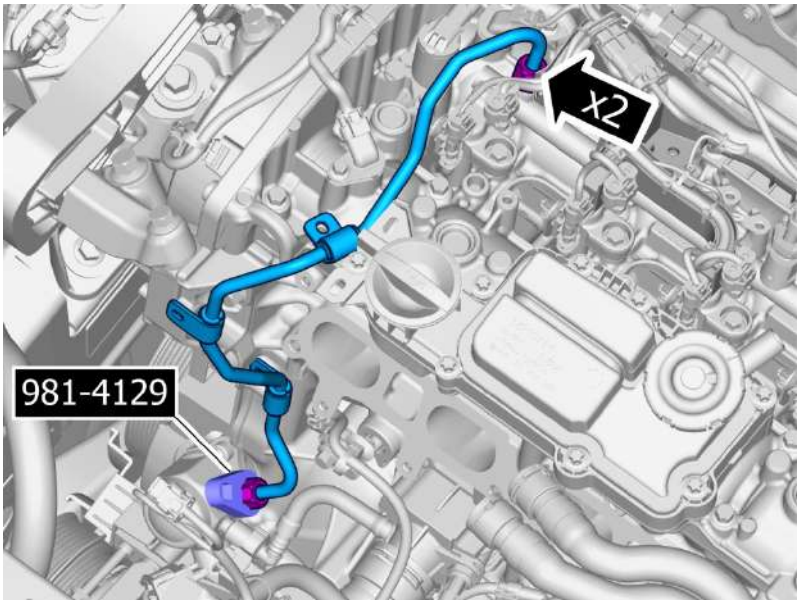
Note! Make sure that the component is installed.



Remove the screws.

Torque:

M6 , 10 Nm



Warning! **Be prepared to collect escaping fluid.**

Caution! Make sure that the area around the component is clean and free of foreign material.

Note! Make sure that a new component is installed.

Remove the nuts.
Remove the marked part.

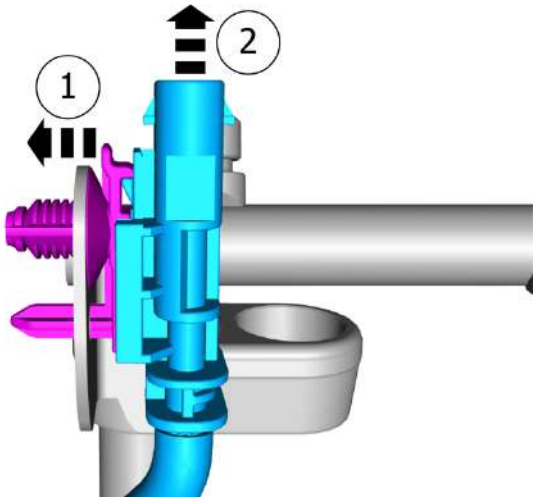
Special Tool: T9814129, Hook wrench

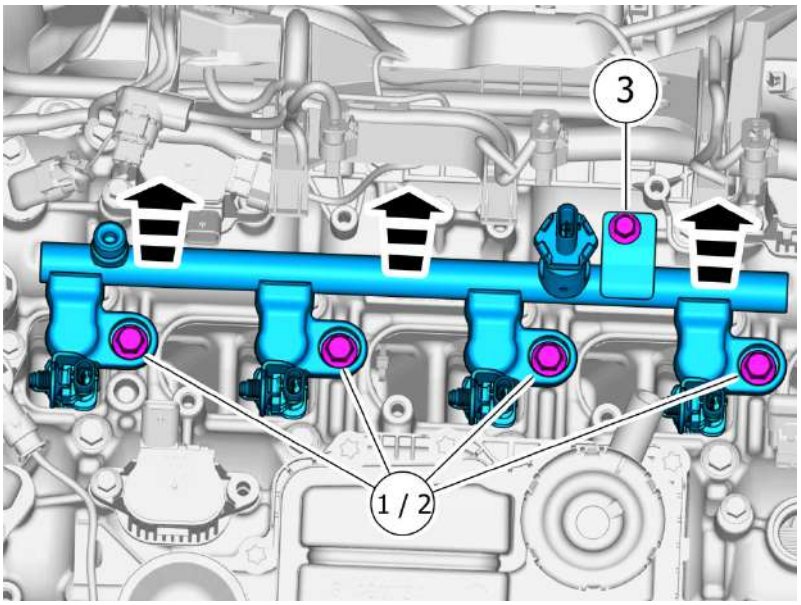
Torque:

- Stage 1 : High-Pressure Fuel Line to Fuel Pump , 18 Nm
- Stage 2 : High-Pressure Fuel Line to Fuel Pump , 30 Nm

Remove the Special Tool.

Release the locks.





Caution! Make sure that the area around the component is clean and free of foreign material.

Caution! In order to avoid damage to the injectors, the part must be carefully pulled straight up.

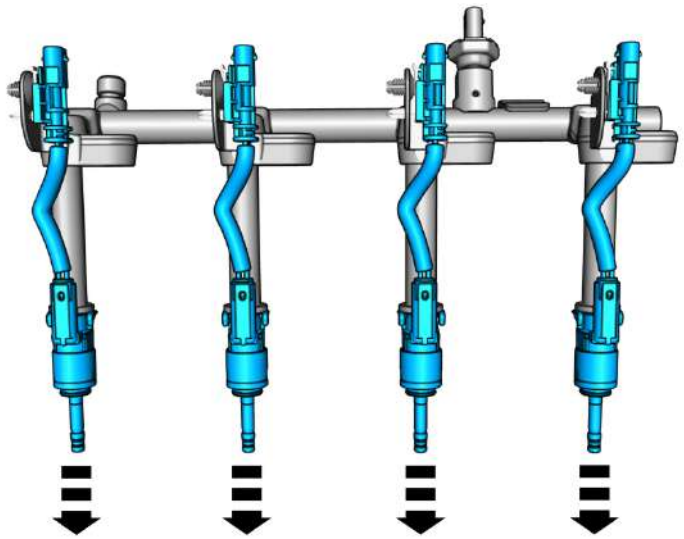
Caution! Be extra careful when removing or installing this component.

Remove the screws.
Remove the part carefully

1 . **Torque:**
Fuel rail M7 , 22 Nm

2 . **Torque:**
Fuel rail M8 , 30 Nm

3 . **Torque:**
M6 , 10 Nm

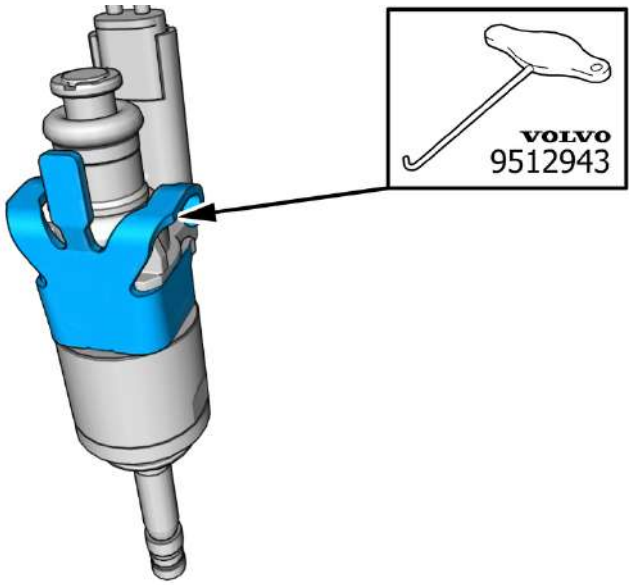


Warning! **Be prepared to collect escaping fluid.**

Caution! Be extra careful when removing or installing this component.

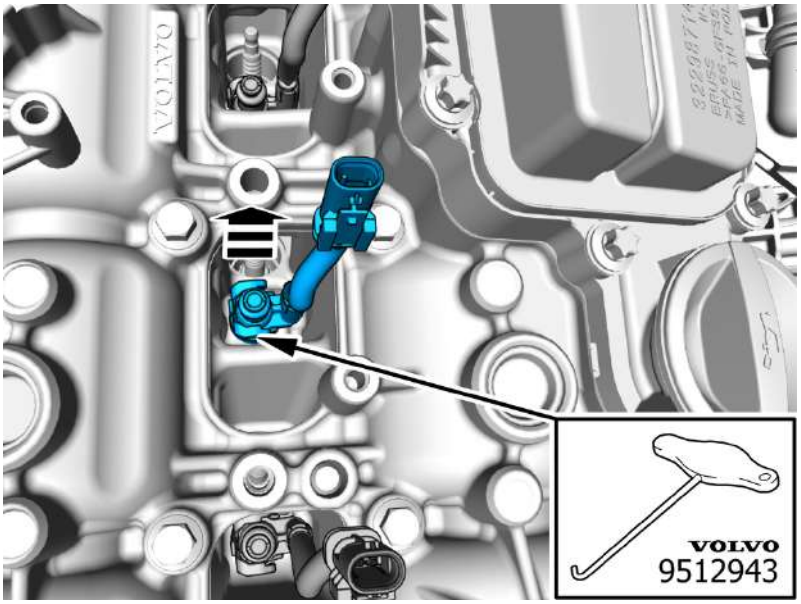
Remove the marked parts.

When necessary, perform the following instruction.



Note! Orientation view

Special Tool: T9512943, L-hook



Caution! In order to avoid damage to the injectors, the part must be carefully pulled straight up.

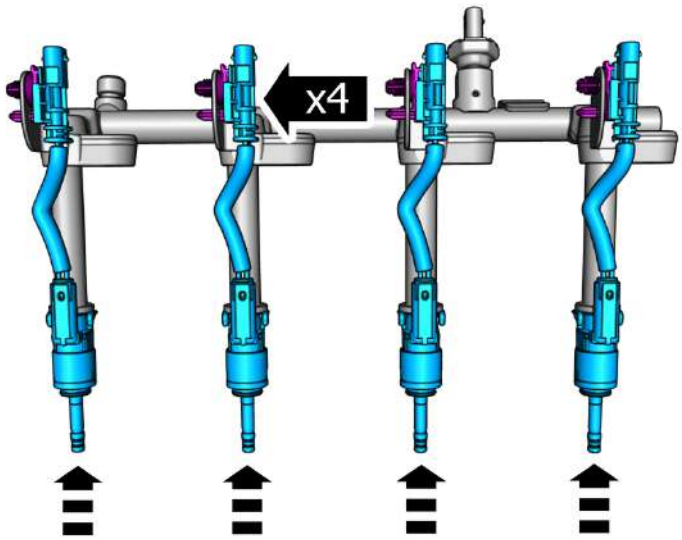
Caution! Be extra careful when removing or installing this component.

Remove the marked part.

Special Tool: T9512943, L-hook

Replace injector seal , refer to:

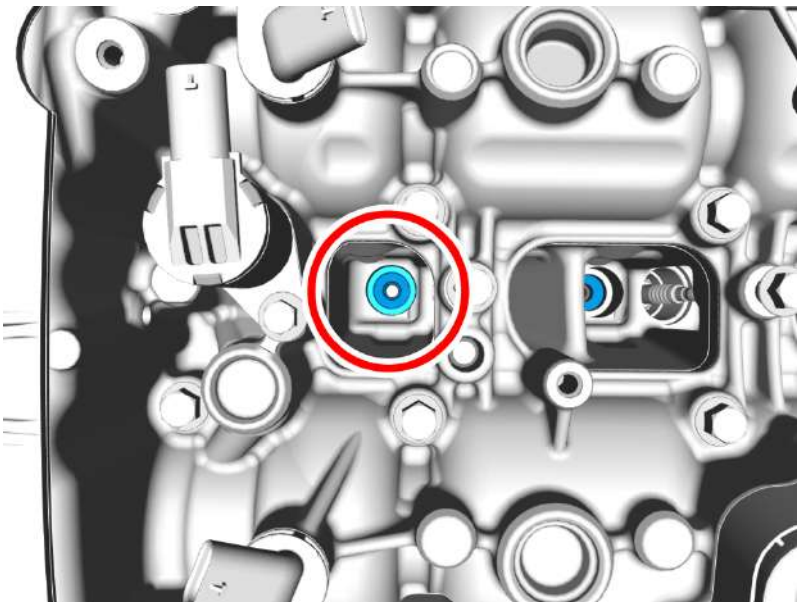
Removal, replacement and installation
2 - Engine with mountings and equipment
23 - Fuel system
237 - injector and delivery pipe



Caution! Be extra careful when removing or installing this component.

Install the marked components.

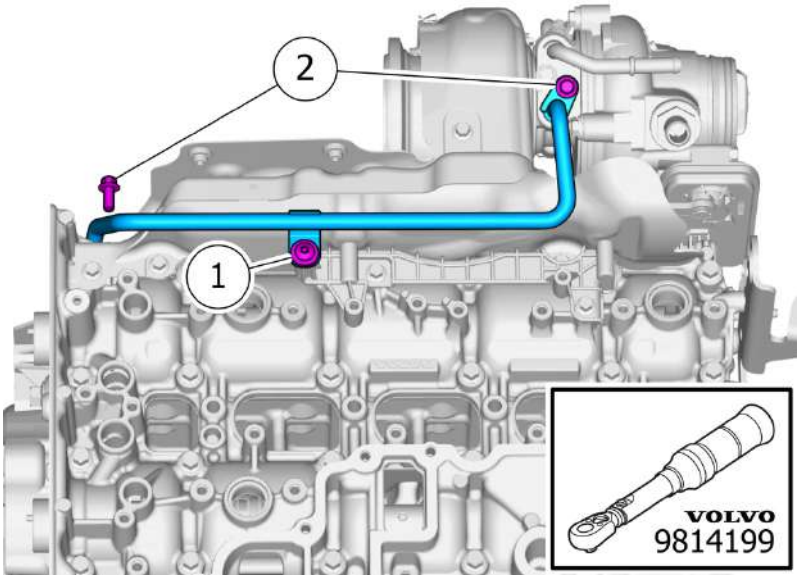
Extra information



Caution! Make sure that the mating faces are clean and free of foreign material.

Caution! Clean carefully, using compressed air.

Special Tool: T9997505, Cleaning tool

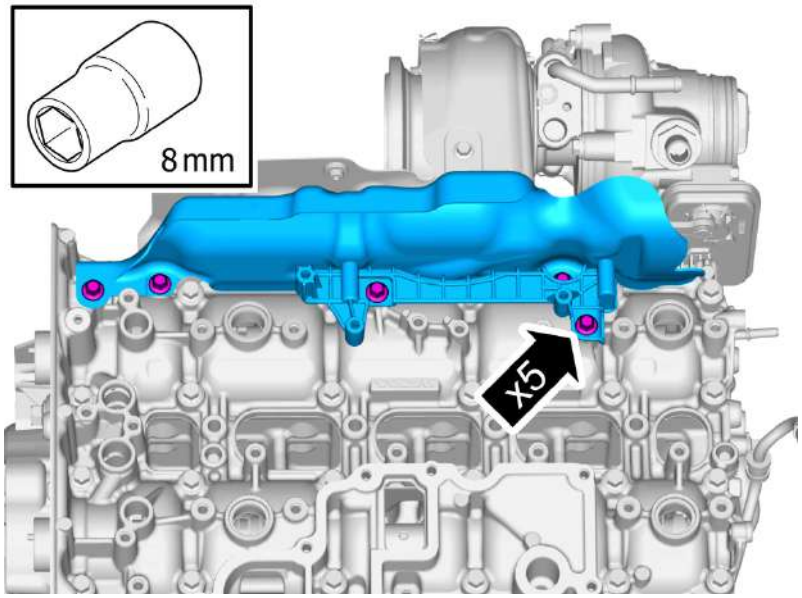


Note! Use new seals.

Remove the screws.
Remove the marked part.

1 . **Torque:**
M5 , 5 Nm

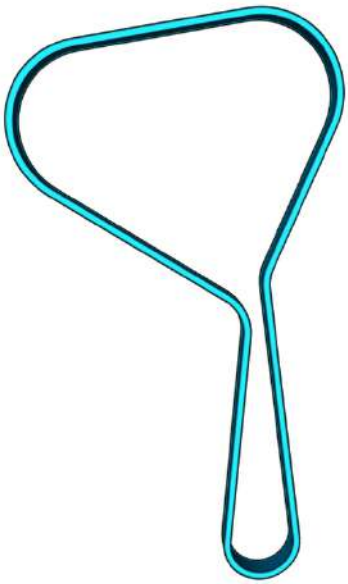
2 . **Torque:**
M6 , 10 Nm



Remove the screws.
Remove the marked part.

Torque:
M6 , 10 Nm

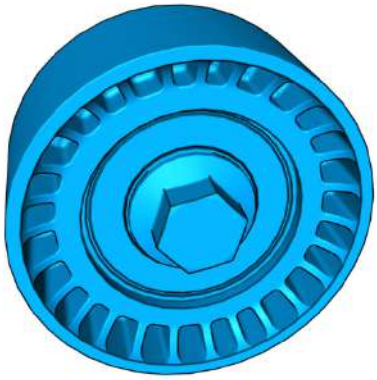
Applies to reassembly of the same component



Note! The component can be reused unless it has been subjected to abnormal mechanical stress, damage or oil contamination.

Caution! The part is to be reused.

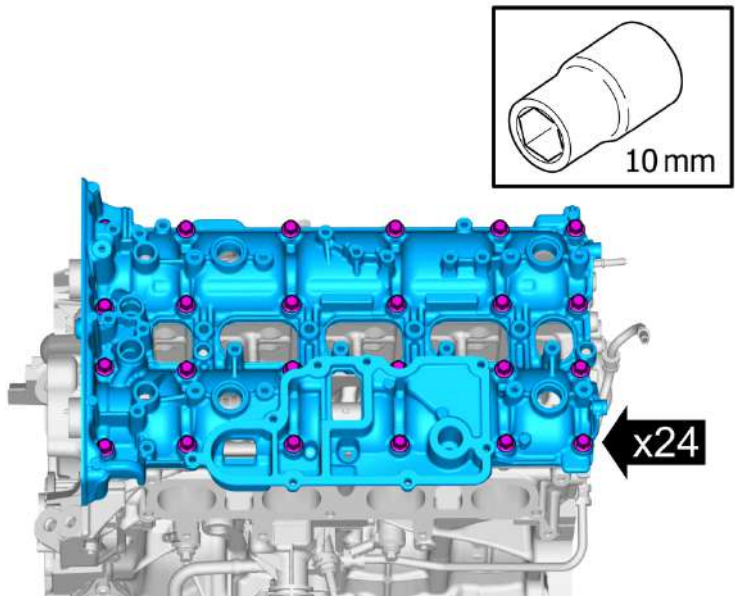
Caution! The part is to be reused.



Continue the removal following the steps below.

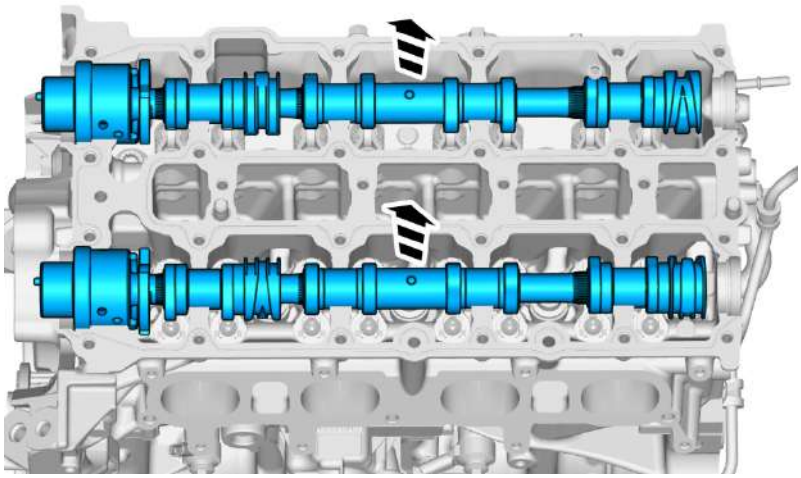
Remove camshaft seal , refer to:

Removal, replacement and installation
2 - Engine with mountings and equipment
21 - Engine
215 - transmission



Loosen each bolt 2 turns at a time until all bolts are removed.
Remove the marked part.

Vehicles early version

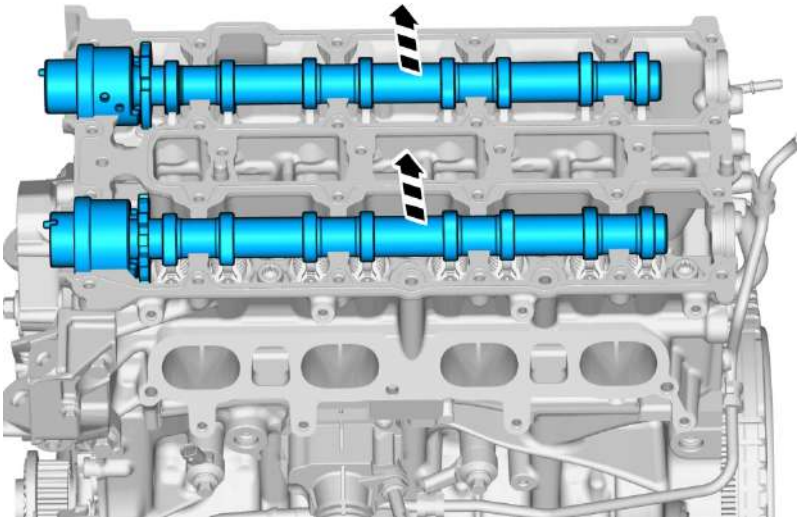


Caution! Note the location of the component before removal.

Caution! Take extra care when handling the components.

Remove the marked parts.

Vehicles late version

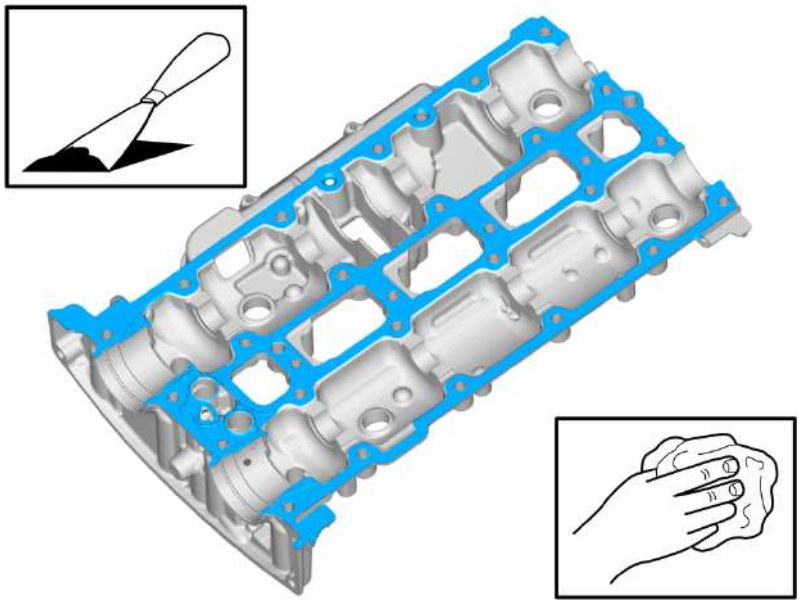


Caution! Note the location of the component before removal.

Caution! Take extra care when handling the components.

Remove the marked parts.

Cleaning



Caution! Take extra care not to damage the mating faces.

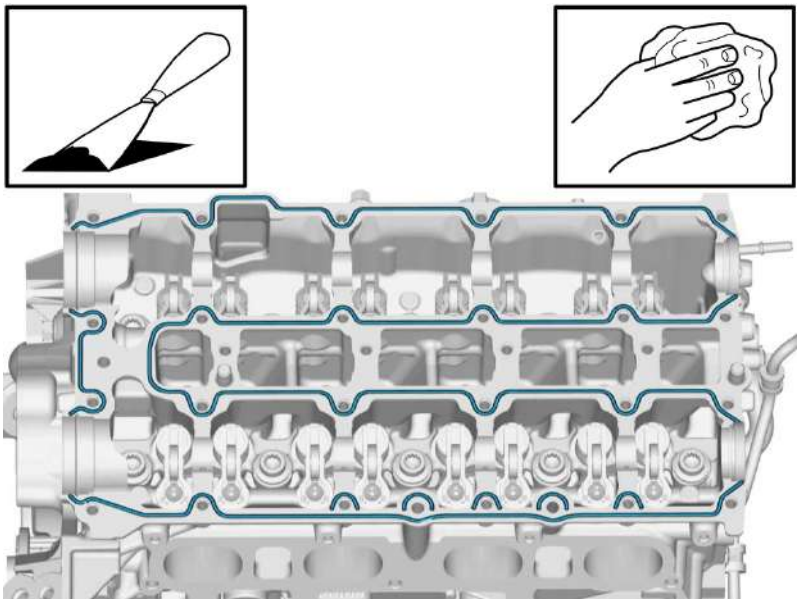
Caution! Make sure that the oil galleries are clean and free of foreign material.

Note! Make sure that the mating faces are clean and free of foreign material.

Use: Putty knife (plastic)

Use: Abrasive cloth , 9511024

Use: Isopropanol ,



Caution! Take extra care not to damage the mating faces.

Caution! Make sure that the oil galleries are clean and free of foreign material.

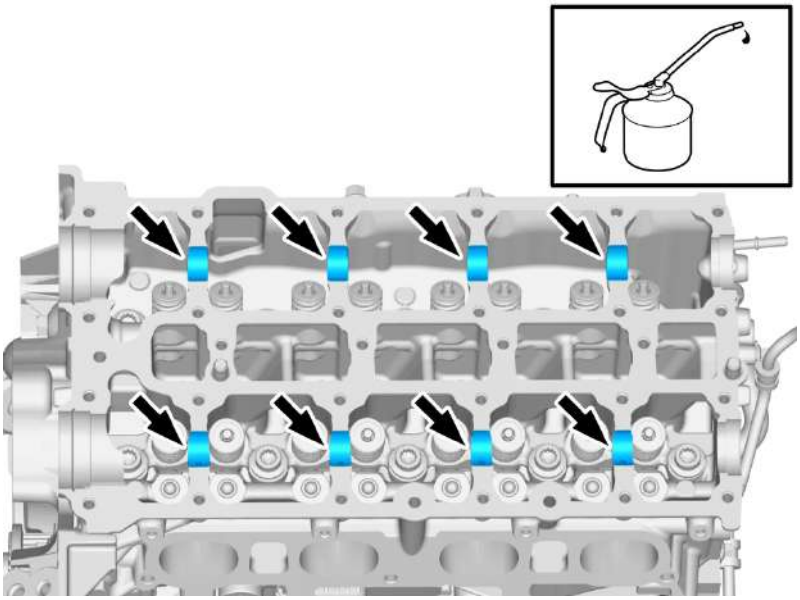
Note! Make sure that the mating faces are clean and free of foreign material.

Use: Putty knife (plastic)

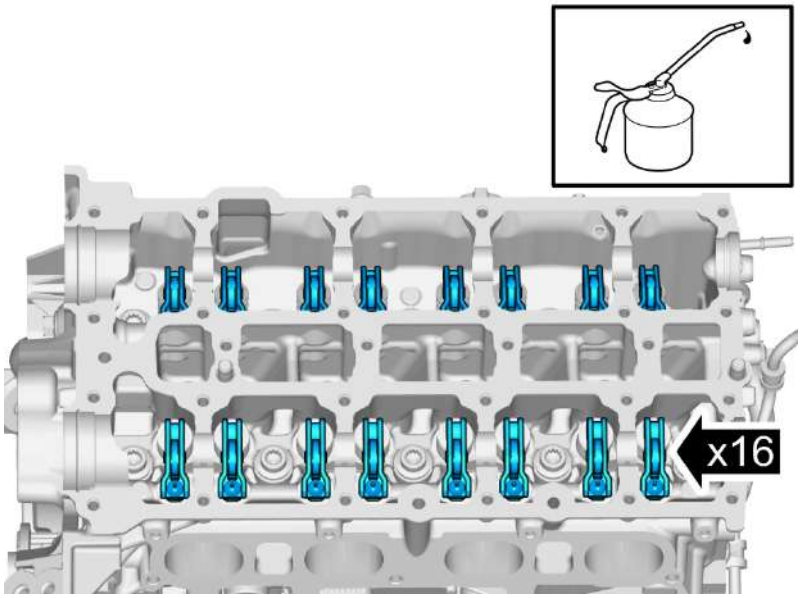
Use: Abrasive cloth , 9511024

Use: Isopropanol ,

Installation



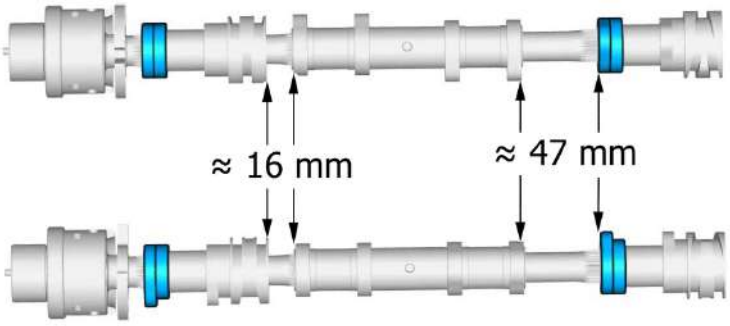
Caution! Make sure that the engine oil is to specification.

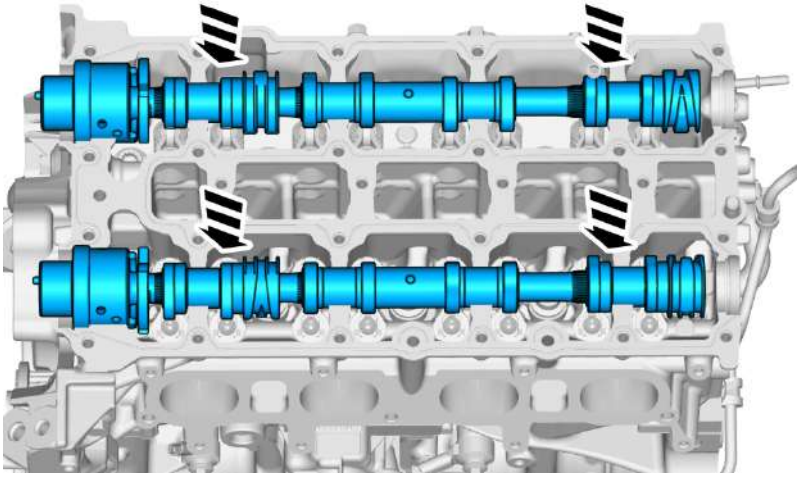


Caution! Make sure that the engine oil is to specification.

The following steps apply if no damages have been discovered

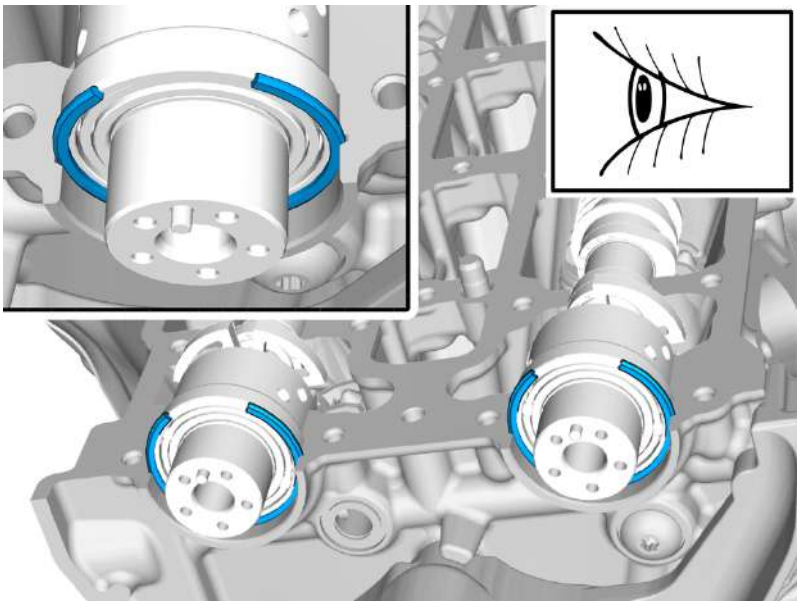
Caution! Make sure that the components are positioned correctly.



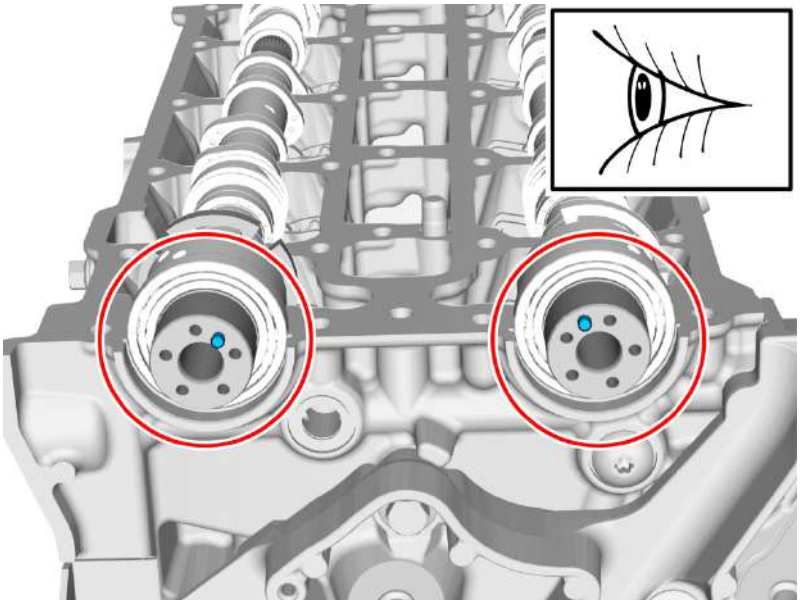


Caution! Make sure that the components are positioned correctly.

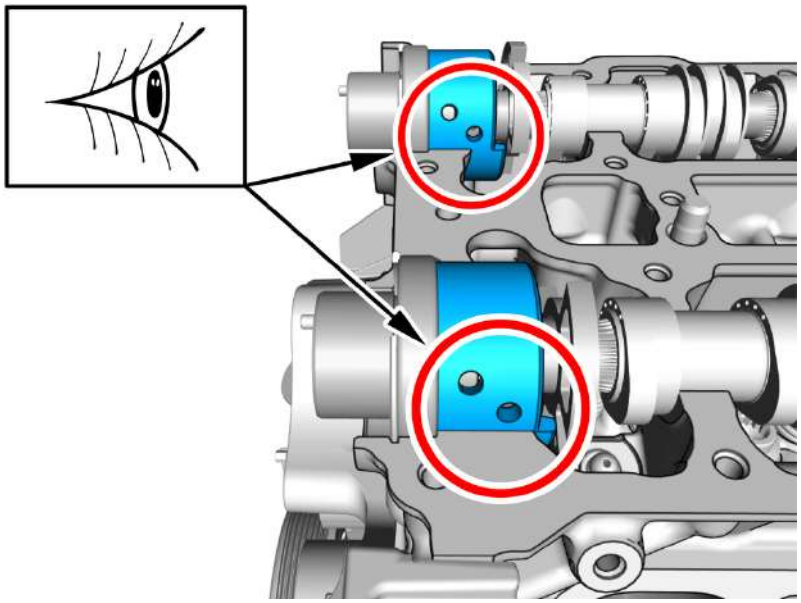
Install the marked component.



Caution! Make sure that the components are positioned correctly.

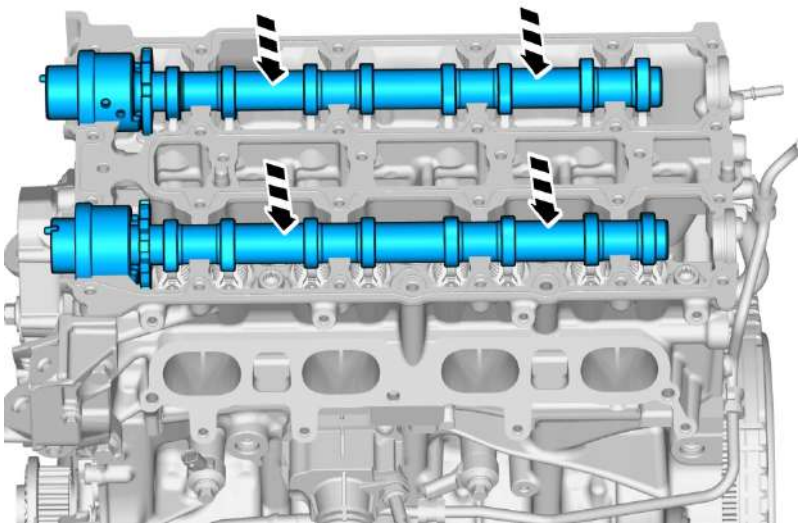


Caution! Make sure that the components are positioned correctly.



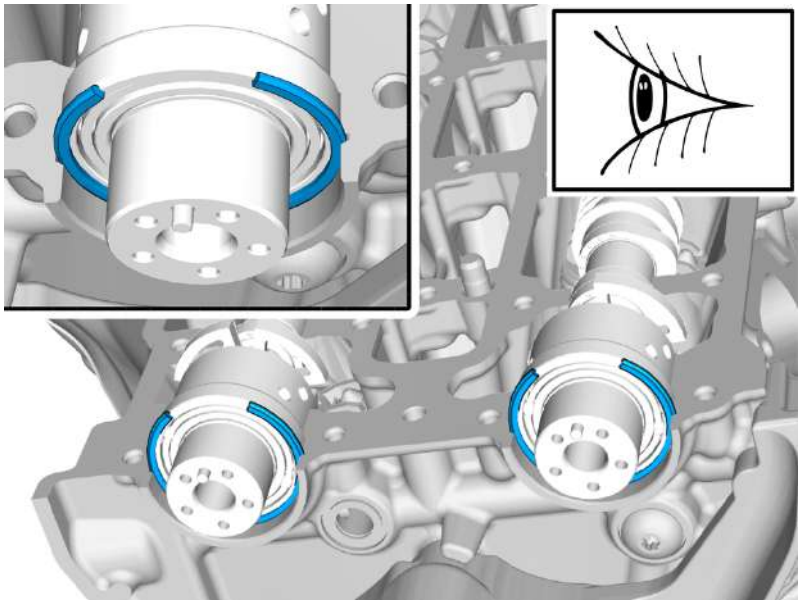
Caution! Make sure that the components are positioned correctly.

The following steps are performed on new component.



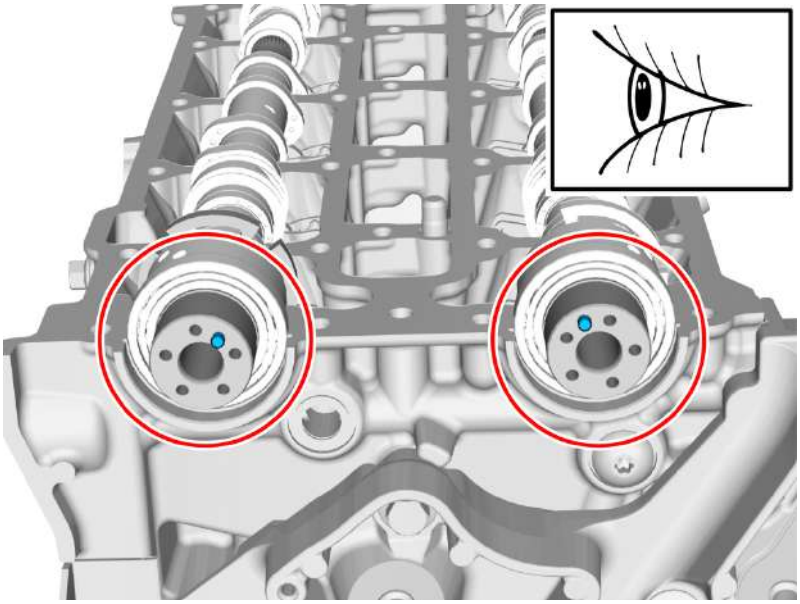
Caution! Make sure that the components are positioned correctly.

Install the marked components.

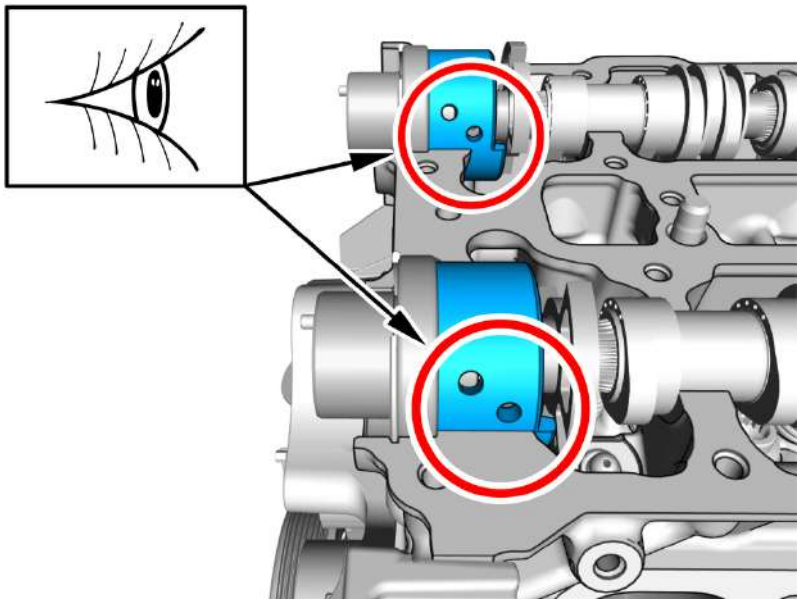


Caution! Make sure that the components are positioned correctly.

Install the marked components.

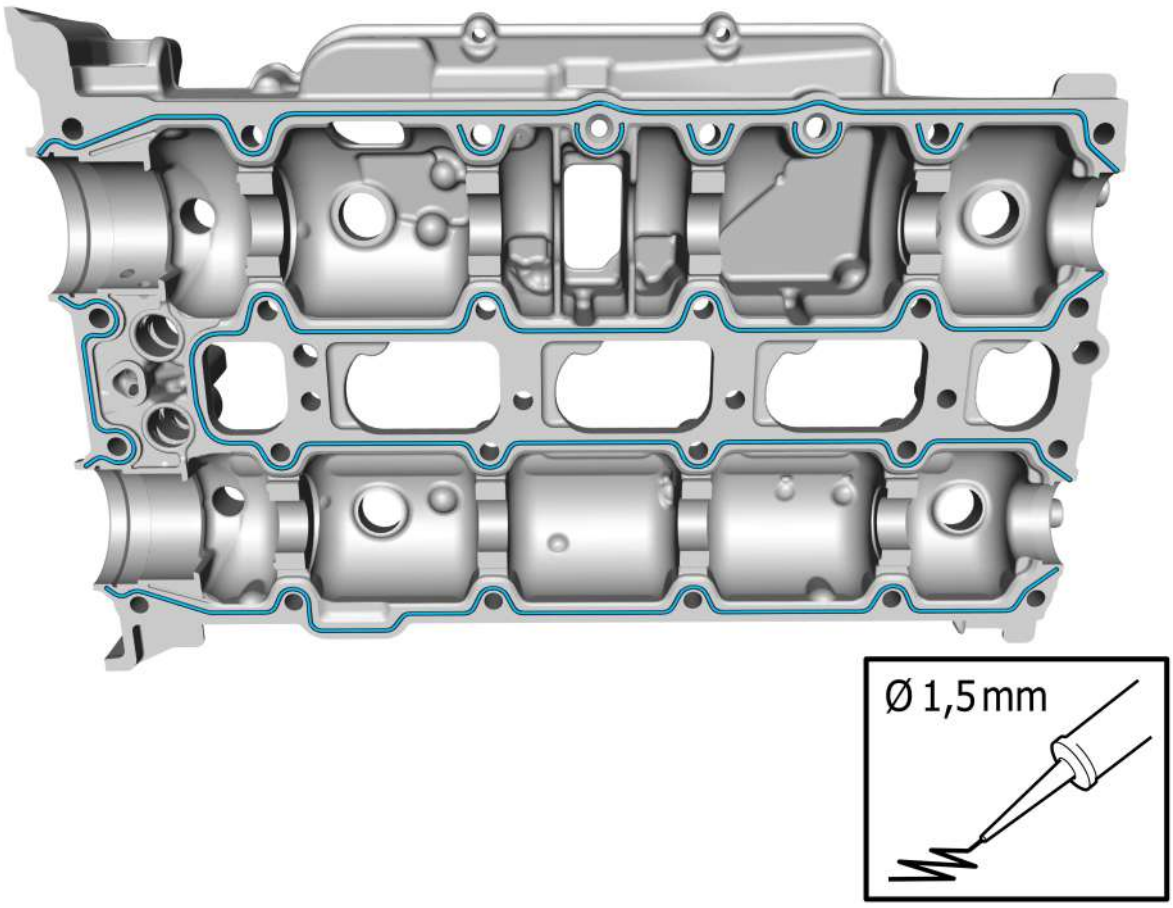


Caution! Make sure that the components are positioned correctly.



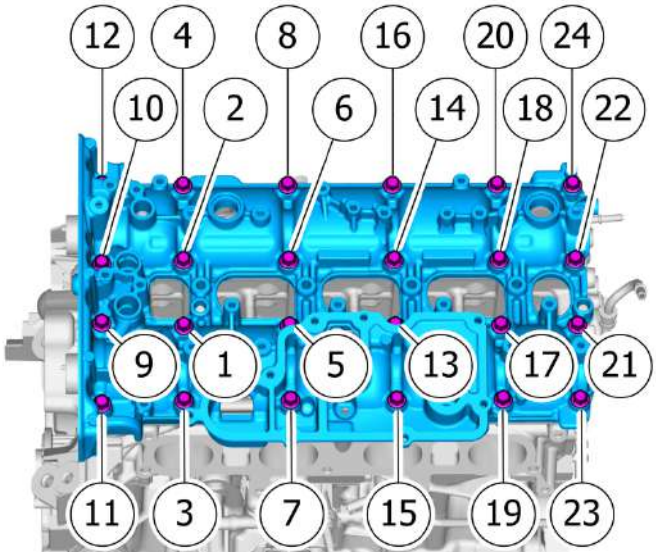
Caution! Make sure that the components are positioned correctly.

All vehicles



Note! The component must be installed within 5 minutes of applying the sealant.

Use: Chemical gasket , 1161771



Caution! Make sure that equal pressure is applied to the full length of the component.

Note! Make sure to follow the sequence indicated.

Install the marked component.
Install the screws.
Tighten each bolt 2 turns at a time.

Torque:

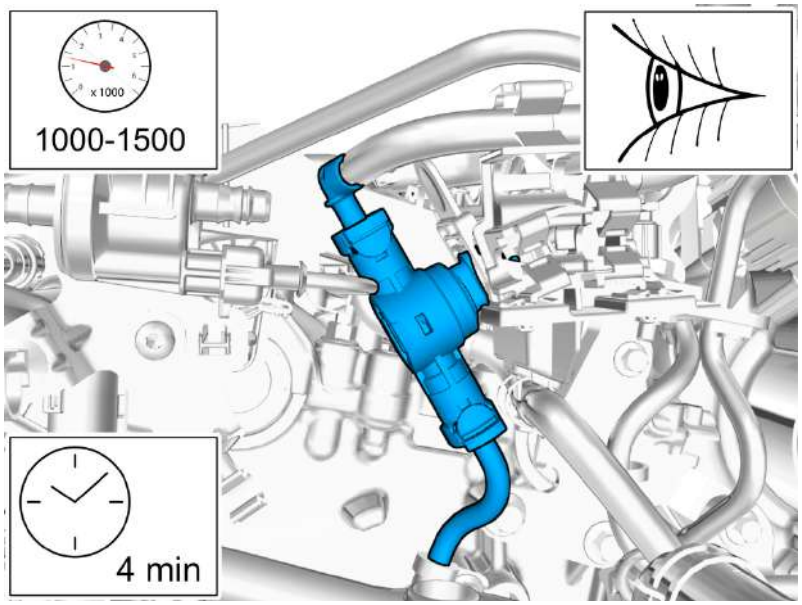
M7 , 17 Nm

Installation

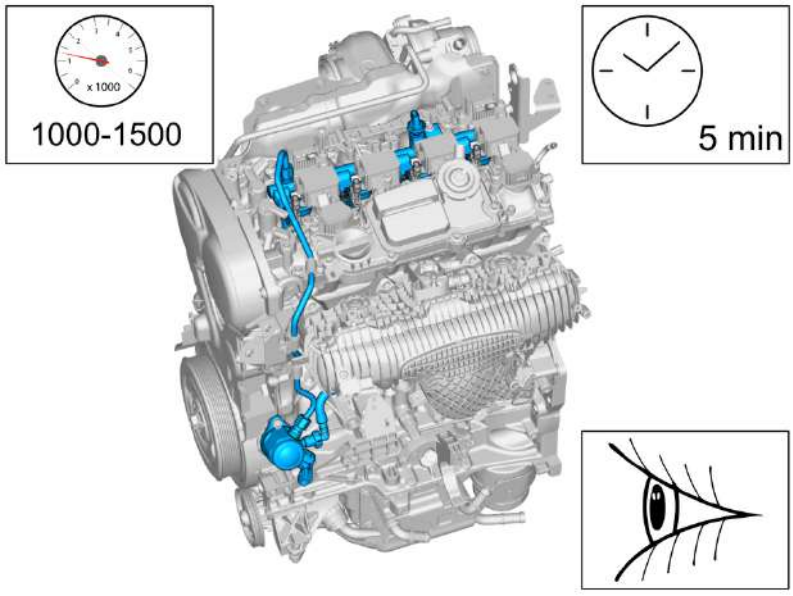
To install, reverse the removal procedure.

Check

Start the engine.



Warning! **Make sure that there are no leaks.**



Warning! **Make sure that there are no leaks.**

Volvo Car Customer Service

TJ Instruction VCC-531608-1

Title	Camshaft bushing	**Page**	1 (65)
Action	Replacement	**Operation number:**	98783-2

Issue	Date	Reason
2	2025-06	Change in Affected Vehicles
1	2025-03	First issue

Affected vehicles

Model year	Model	Engine
2022 - 25	S60 (19-)	L1
2023-	V60 Cross Country (19-)	L1
2022-	S90L	06
2022-	V90 Cross Country	06
2022-	XC60 (18-)	L1, 06, M1
2023-	XC90 (16-)	L1, 06, M1

Materials

Materials	Qty.	Part No.	Notes
Isopropanol	0.02		
Engine oil	0.02		
Chemical gasket	0.1	1161771	

Special tools

Description	Part No.
RADIATOR PROTECTION	999 5474
Mounting	999 7534

Special tools

Description	Part No.
Support	999 7533
Counterhold	999 7718
Hook wrench	981 4129
L-hook	951 2943
Cleaning tool	999 7505

Equipment

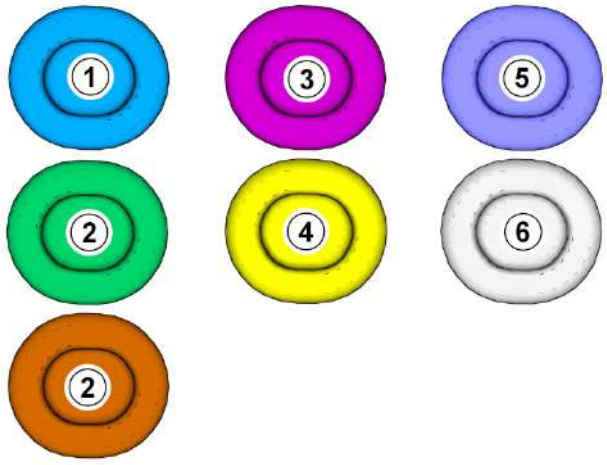
Designation	Part No.
Interior trim remover	
Marker pen	
Screw M10 x 20 mm	
Putty knife (plastic)	
Abrasive cloth	

Removal

Note! Removal steps in this procedure may contain installation details.

Illustrations in the information may be reused from previous models and may therefore deviate as regards the background's motif. The technical content relevant to the operation is, however, always correct.

Color symbols



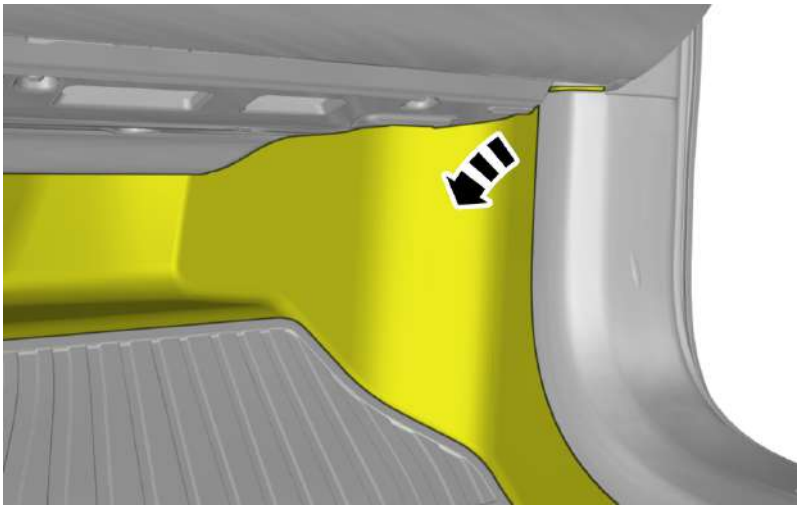
Note! This colour chart displays (in colour print and electronic version) the importance of the different colours used in the images of the method steps.

1 . Used for focused component, the component with which you will do something.
2 . Used as extra colors when you need to show or differentiate additional parts.
3 . Used for attachments that are to be removed/installed. May be screws, clips, connectors, etc.
4 . Used when the component is not fully removed from the vehicle but only hung to the side.
5 . Used for standard tools and special tools.
6 . Used as background color for vehicle components.

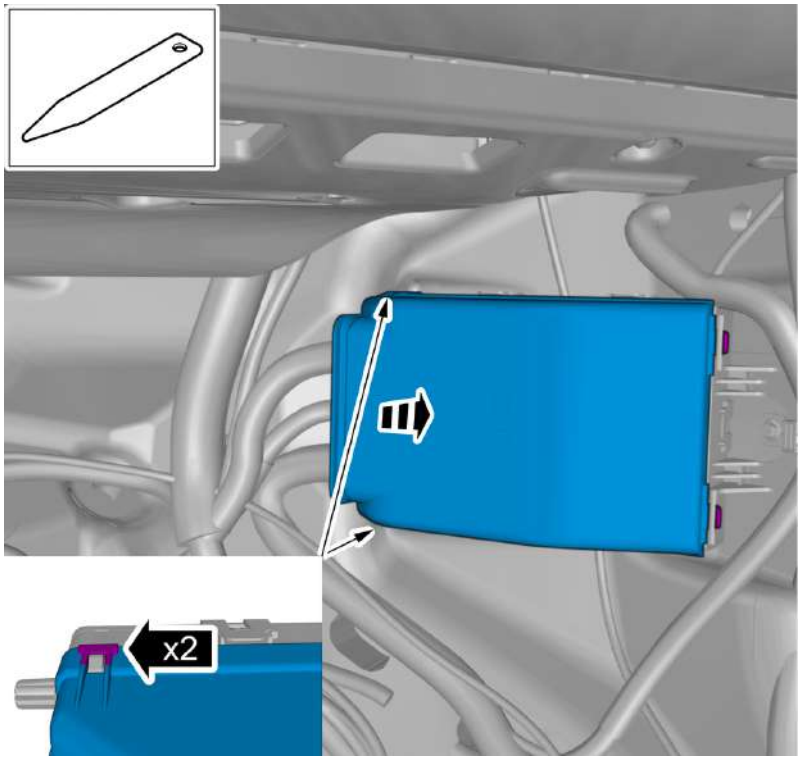
See information on safety information fuel system , refer to:

General Safety Information
2 - Engine with mountings and equipment
23 - Fuel system
230 - general

Note! Orientation view

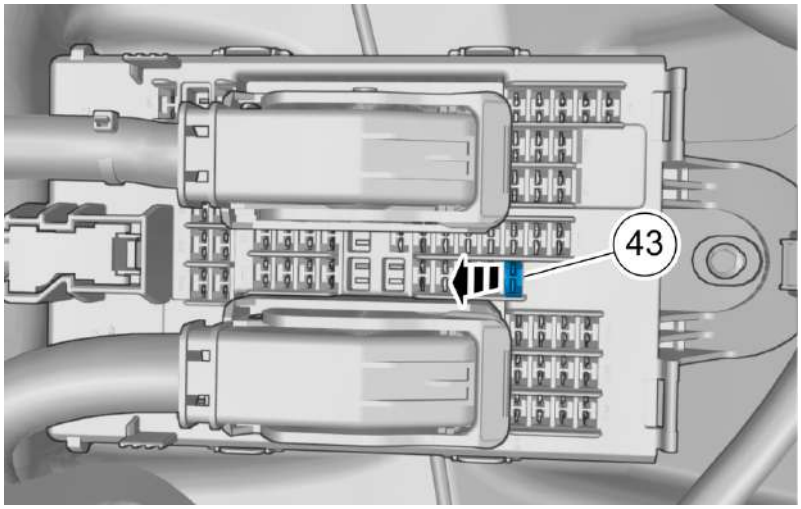


Fold the carpet aside.



Remove the marked part.

Use: Interior trim remover



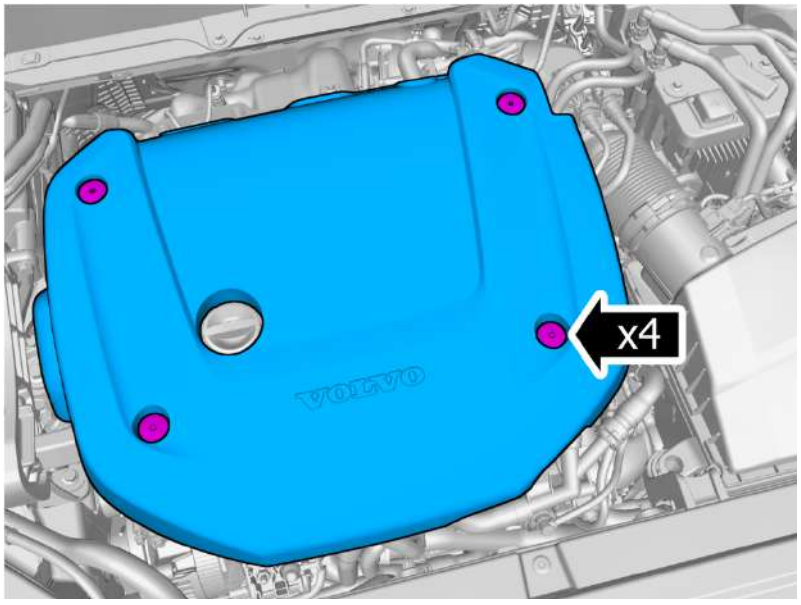
Remove the fuse for the fuel pump (FP).

Start and run the engine at idle until it stops.

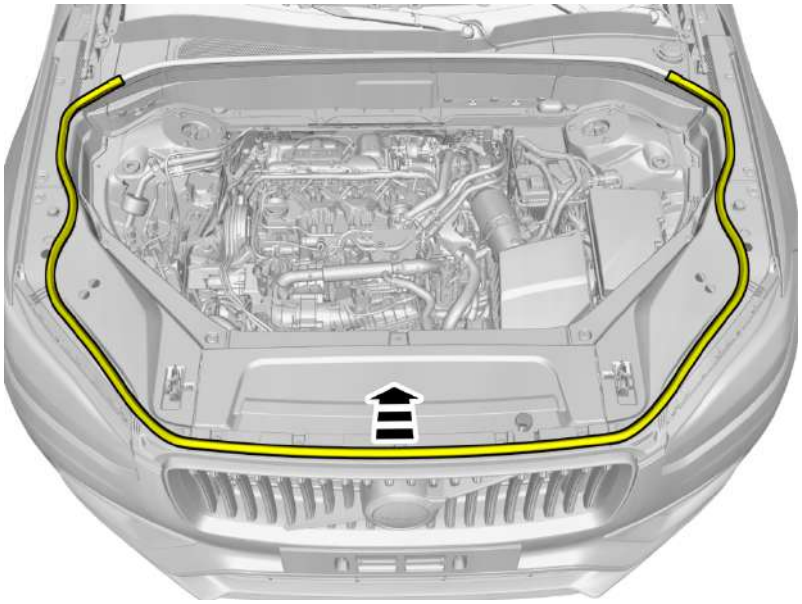
Disconnecting the battery

Disconnect mid voltage battery, disconnecting and connecting , refer to:

Cleaning, Inspection and Adjustment
3 - Electrical system
31 - Battery and mounting
311 - battery

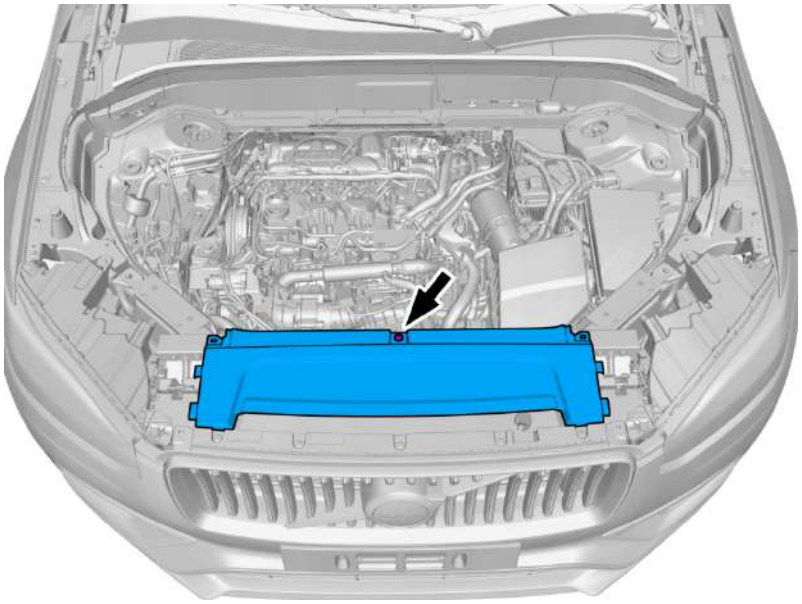


Loosen the screws.
Remove the marked part.

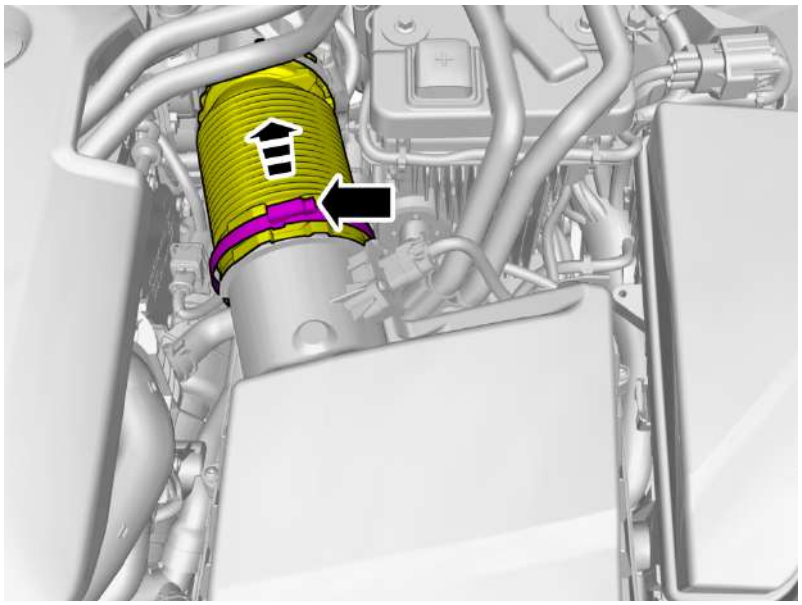


Fold marked part aside.

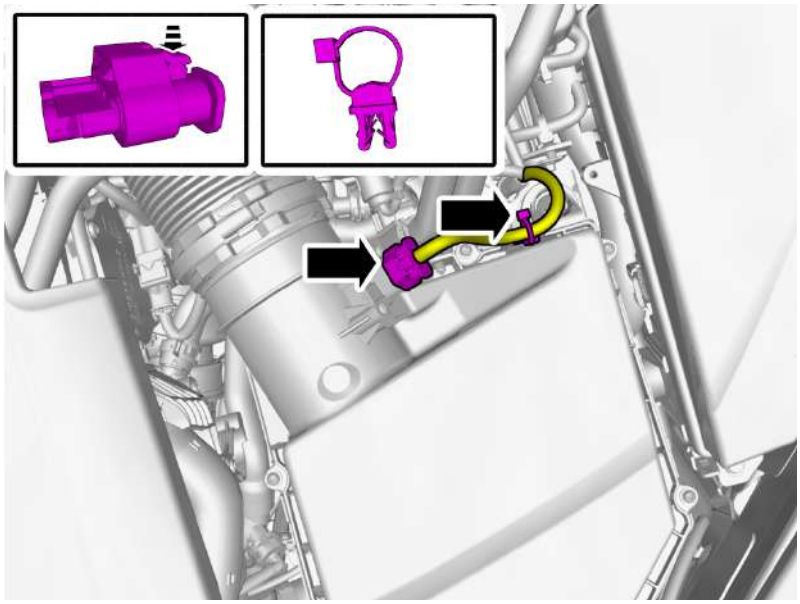
Remove the clips.
Remove the marked parts.



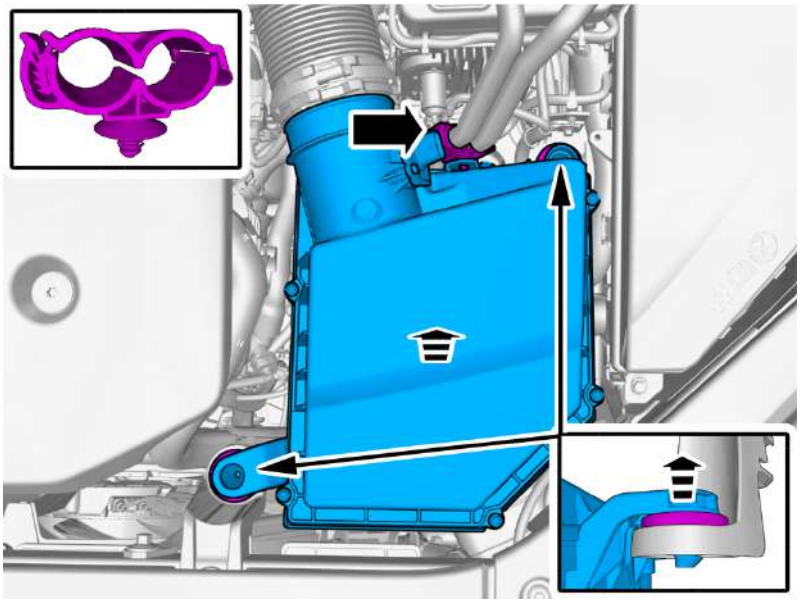
Remove the clip.
Remove the marked part.



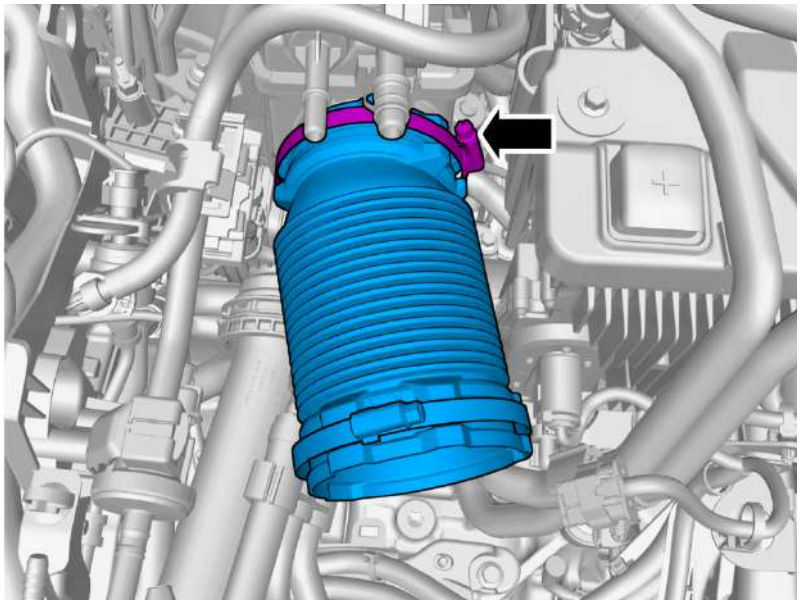
Loosen the hose clamp.
Undo the hose from the connection.



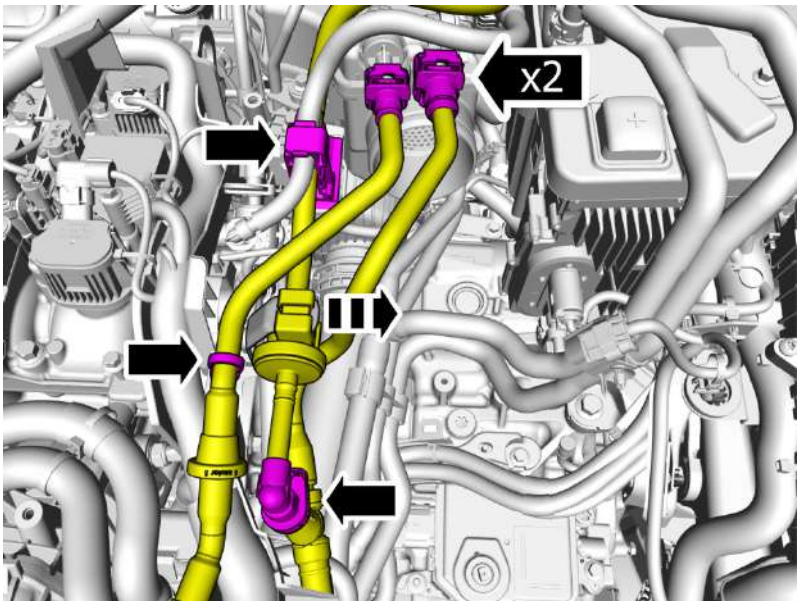
Disconnect the connector.
Remove the cable harness clips.



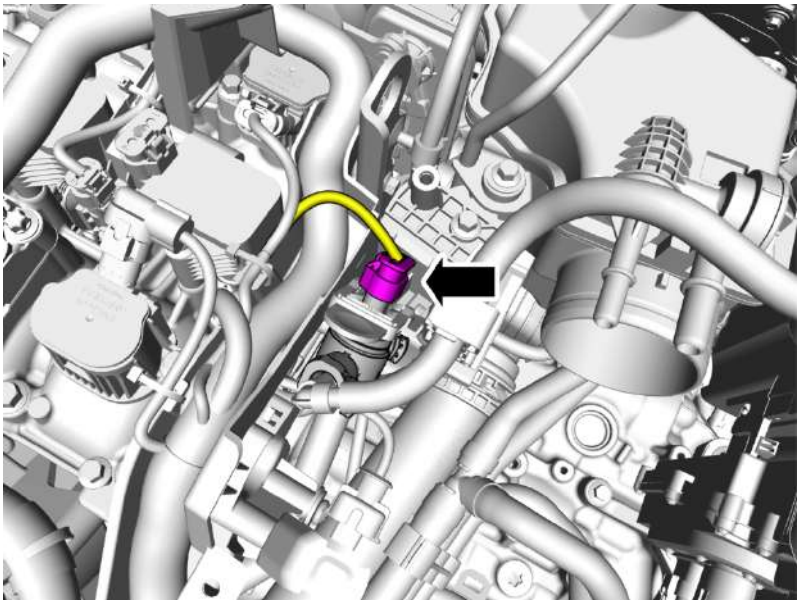
Loosen the clip.
Lift the marked component up



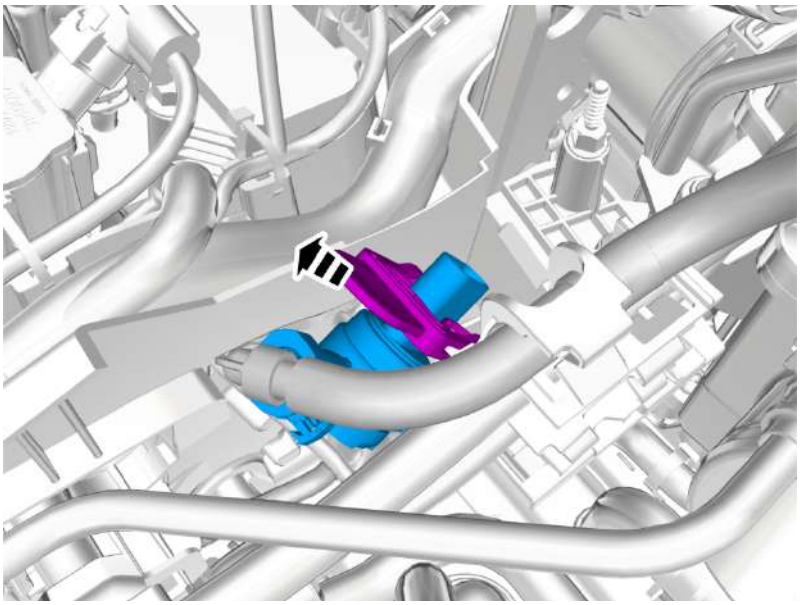
Loosen the hose clamp.
Remove the marked part.



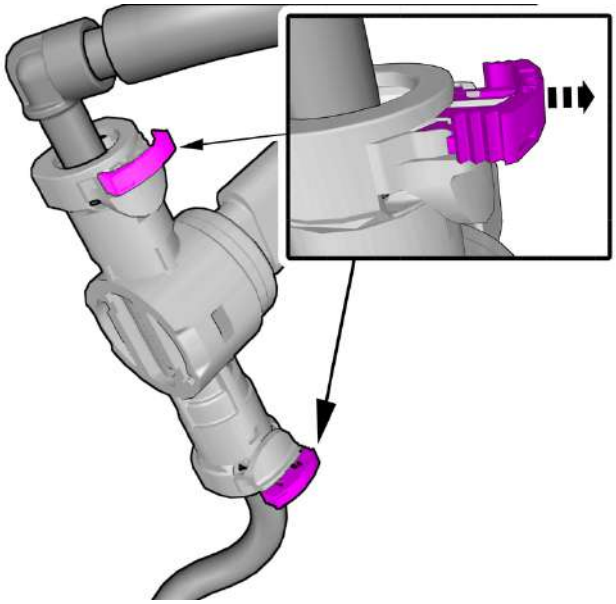
Remove the clips.
Release the locks.
Undo the hoses from the connections.
Fold marked parts aside.



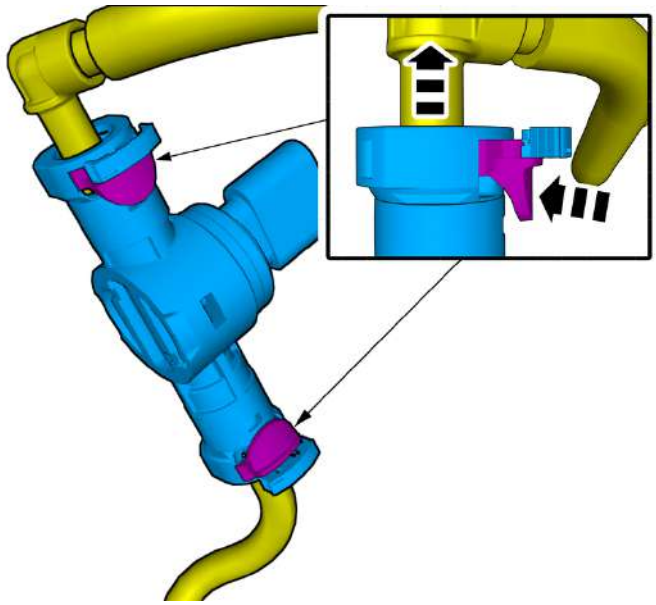
Disconnect the connector.



Loosen the clip.



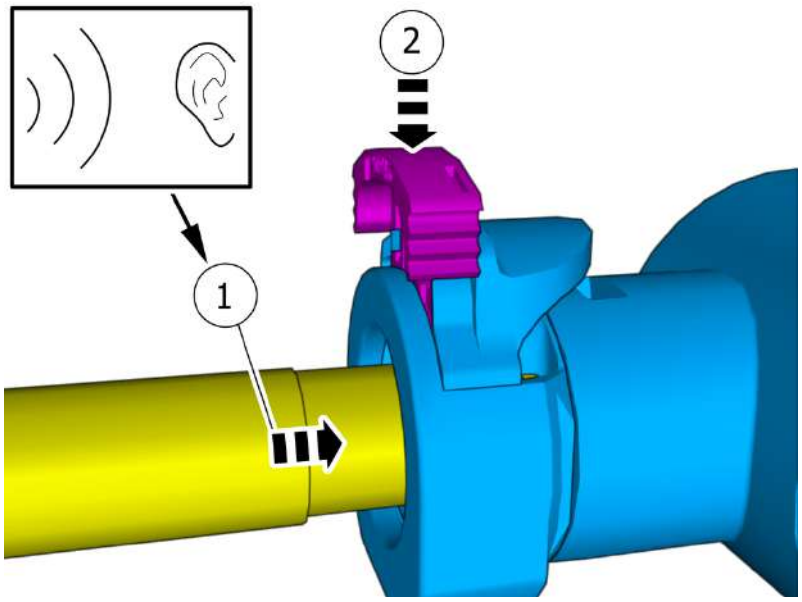
Release the locks.



Warning! Be prepared to collect escaping fluid.

Depress the locking devices.
Undo the hoses from the connections.
Fold marked part aside.
Remove the marked part.

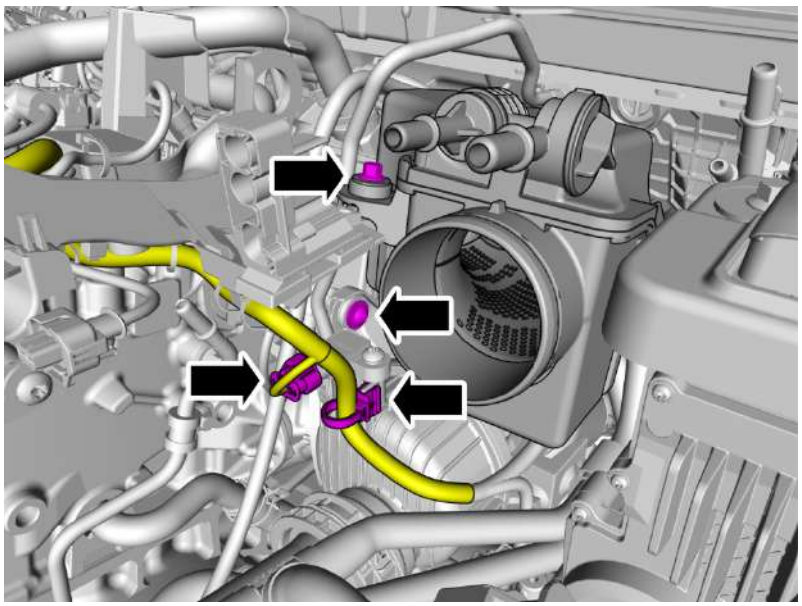
Extra information



On both sides.

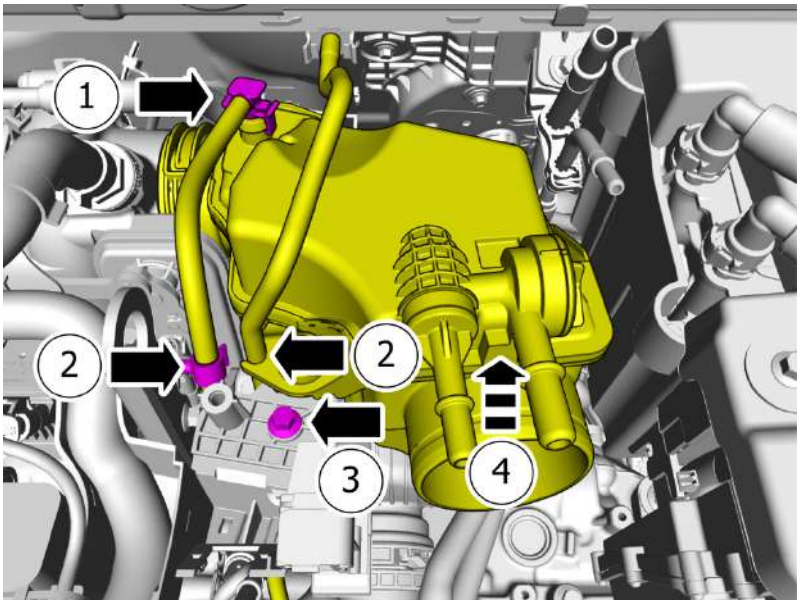
1 . Press until a click is heard.
2 . Depress the locking devices.

Continue the removal following the steps below.

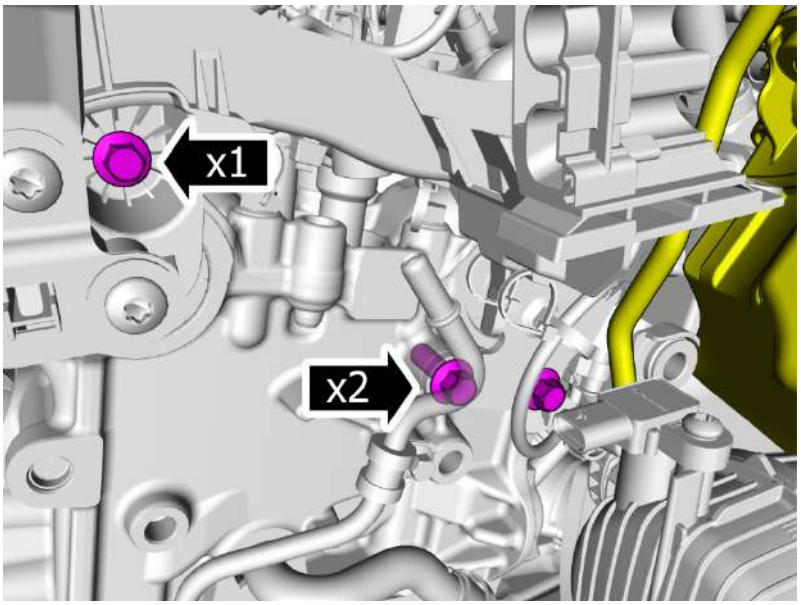


Remove the screws.
Disconnect the connector.
Loosen the clip.
Fold the cable harness aside.

Torque:
M6 , 10 Nm



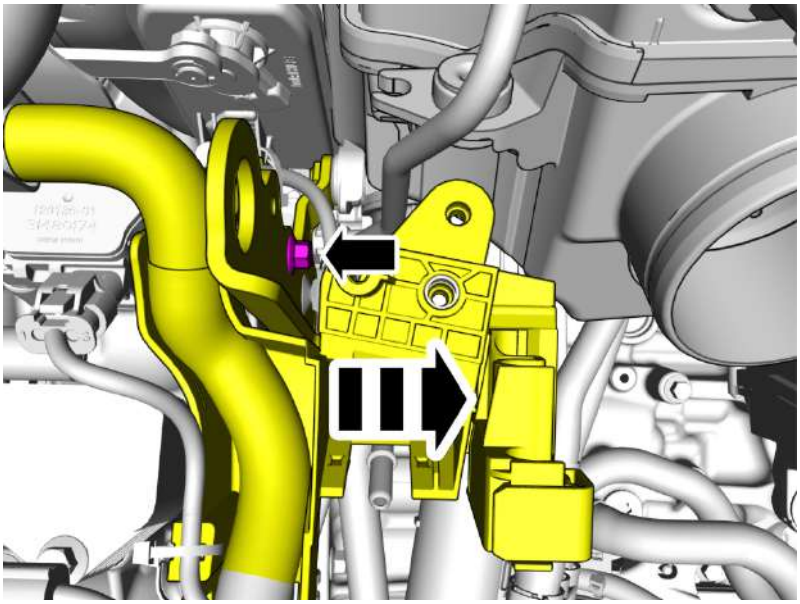
1 . Undo the hose from the connection.
2 . Loosen the marked details from the clip/ clips.
3 . Remove the screw.
4 . Turn in direction of arrow until stop.
5 . **Torque:**
M6 , 10 Nm



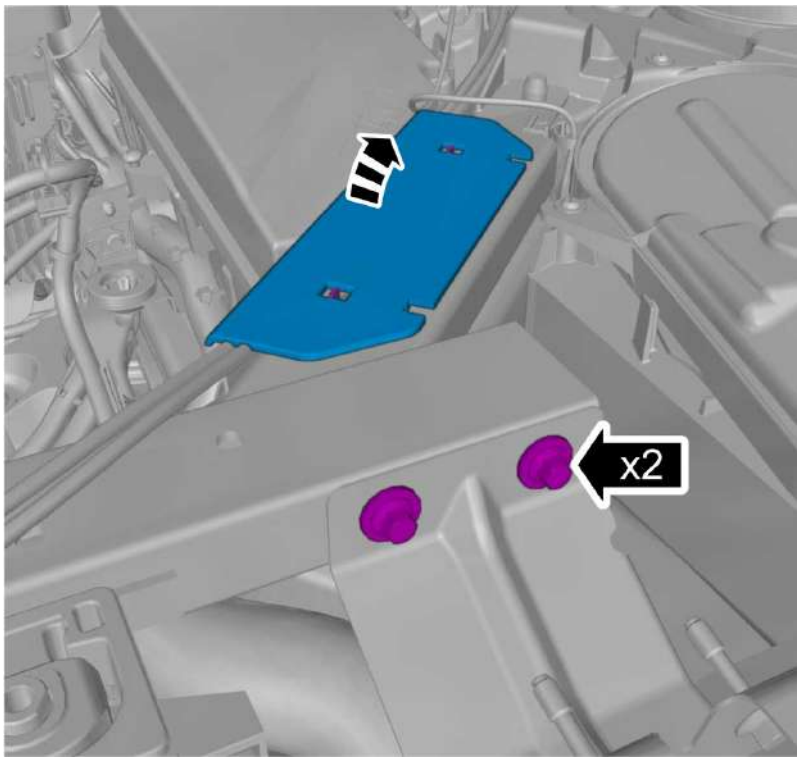
Remove the screws.

1 . **Torque:**
M6 , 10 Nm

2 . **Torque:**
M8 , 24 Nm

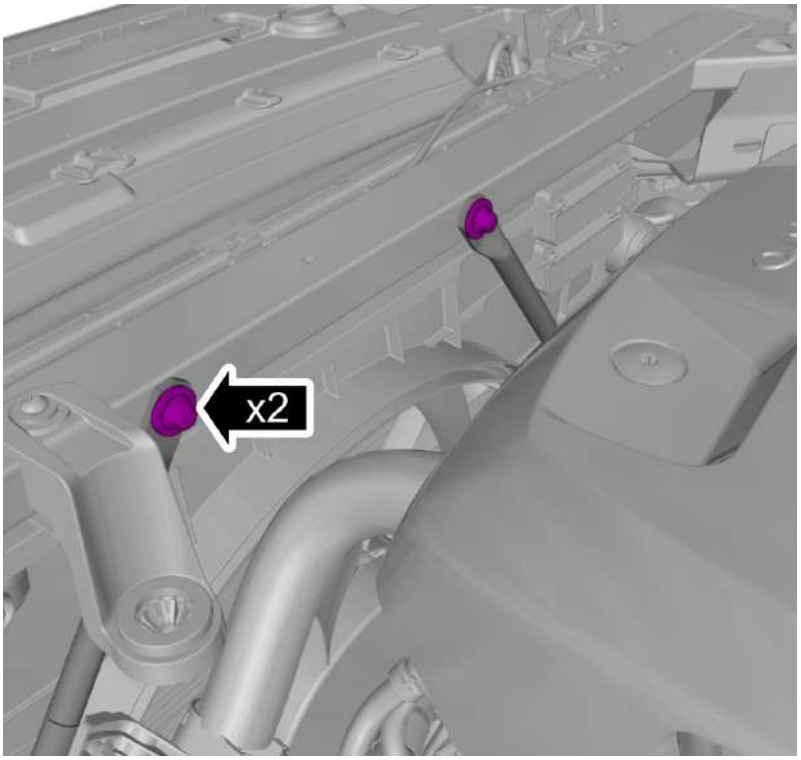


Fold marked parts aside.
Remove the screw.



Remove the marked part.
Remove the screws.
On both sides.

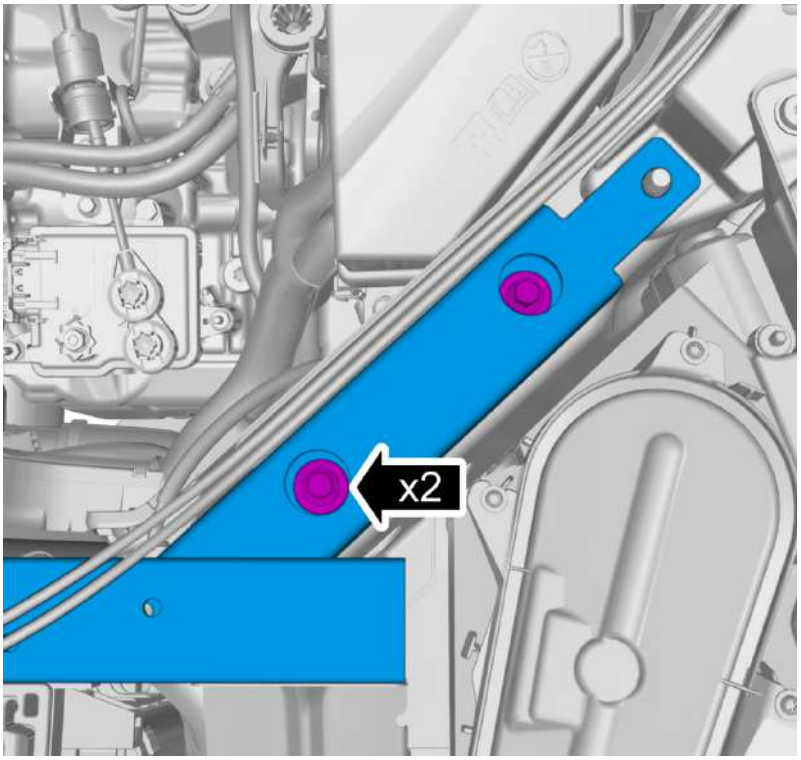
Torque:
M6 , 10 Nm



Remove the screws.

Torque:

M8 , 24 Nm

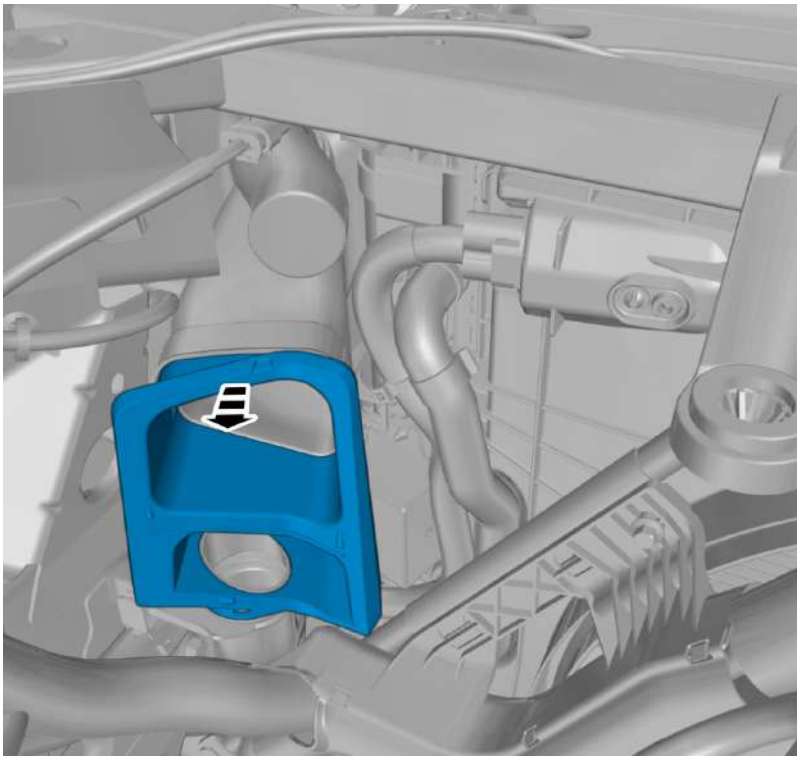


Remove the screws.
On both sides.

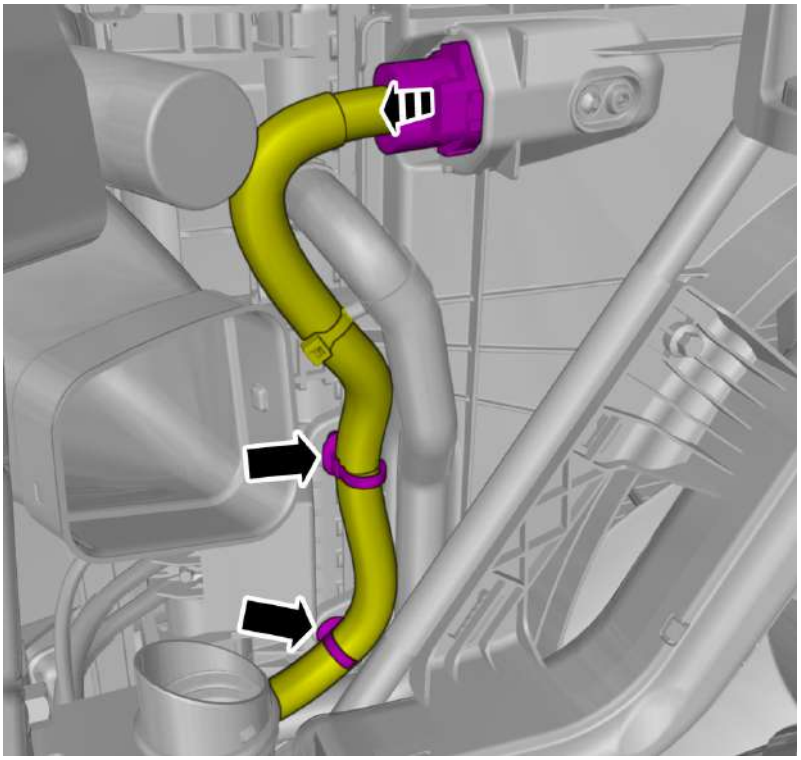
Torque:

Front end to upper side member , 30 Nm

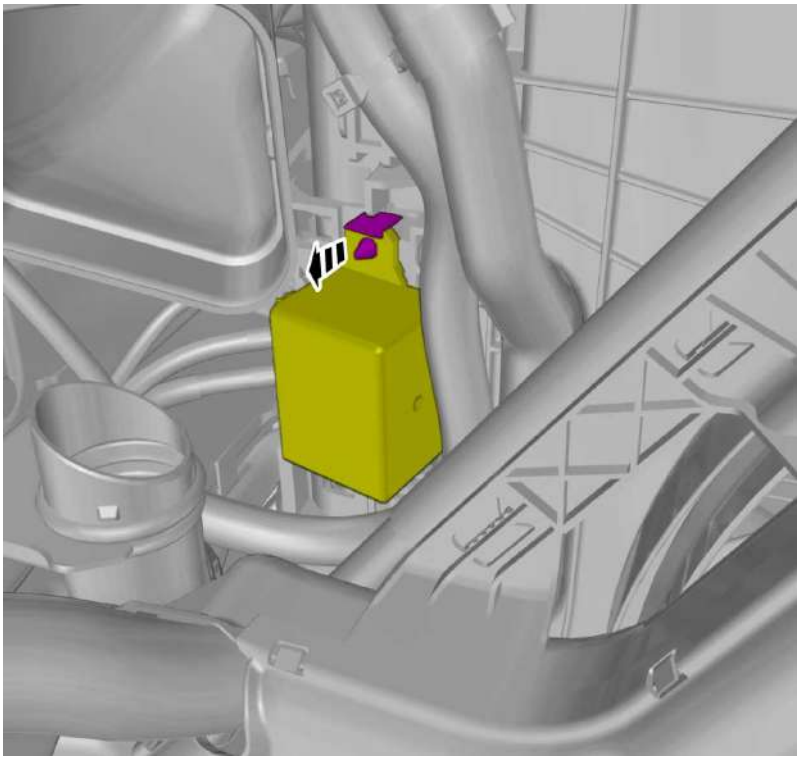
Remove the marked part.



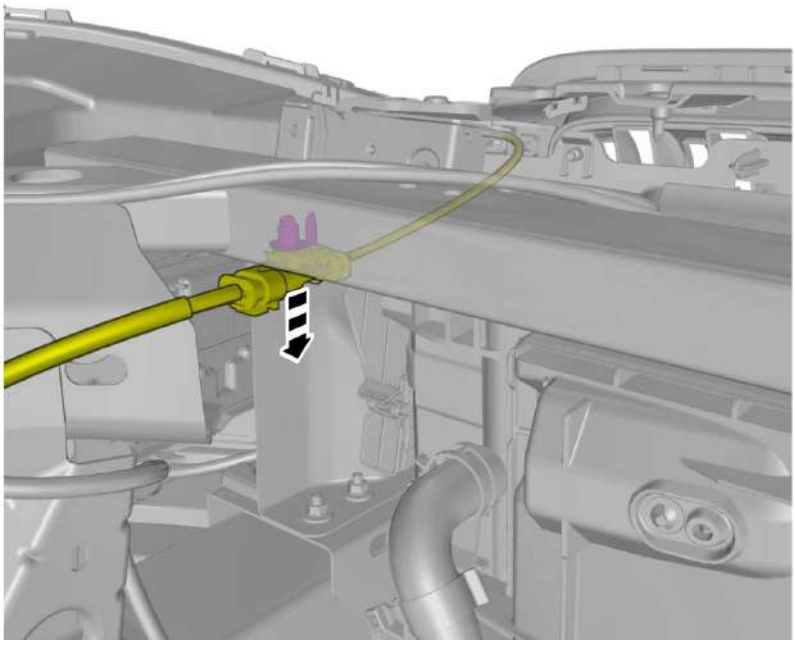
Remove the marked part.



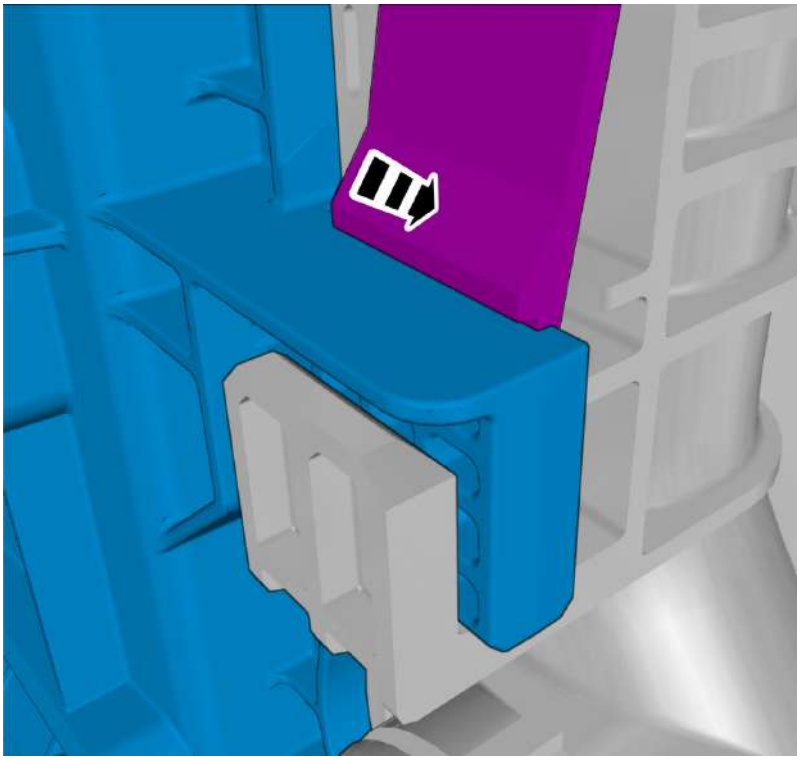
Disconnect the connector.
Remove the cable harness clips.



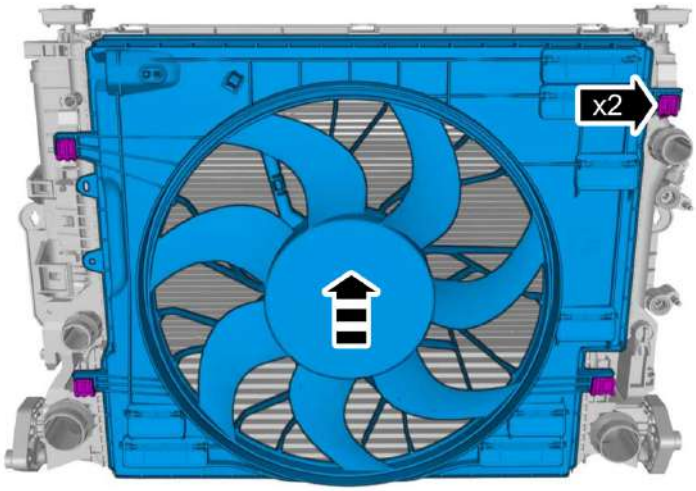
Fold marked part aside.



Remove the cable harness clips.

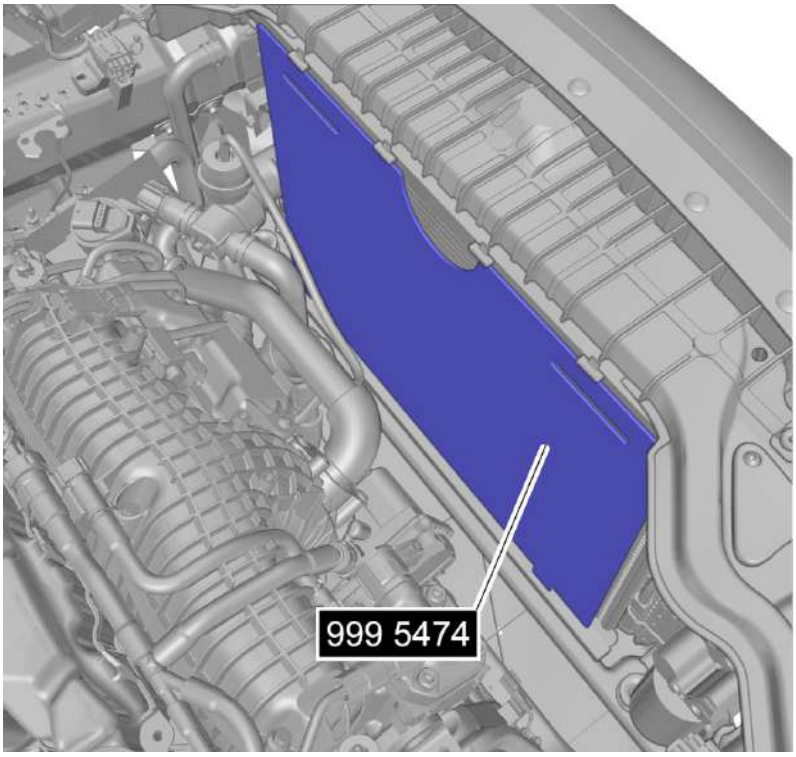


Press the marked component.



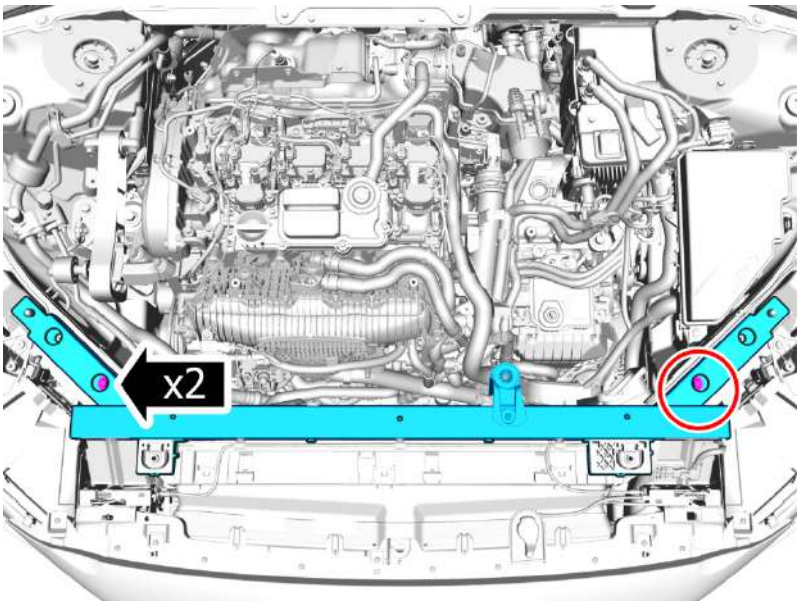
Hint: It may be necessary to twist or turn the component.

Remove the marked part.

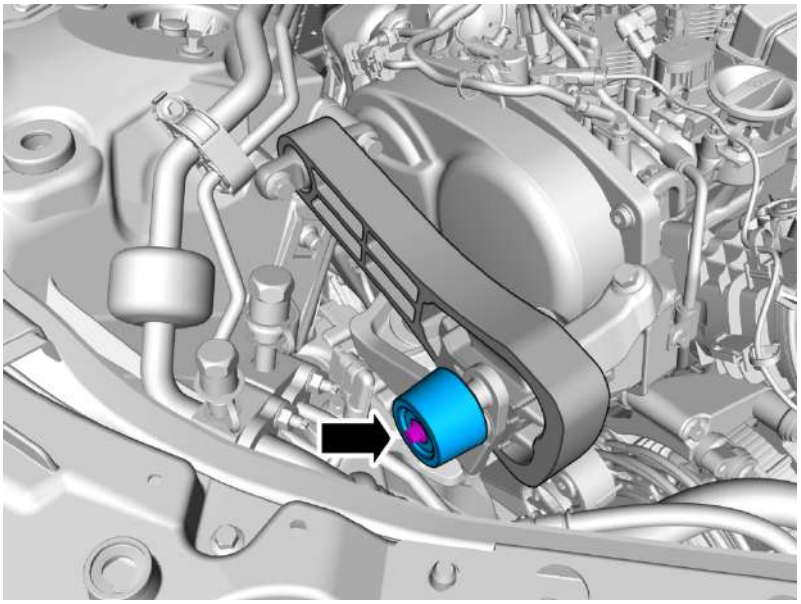


Place the component where indicated in the graphic.

Special Tool: T9995474, RADIATOR PROTECTION

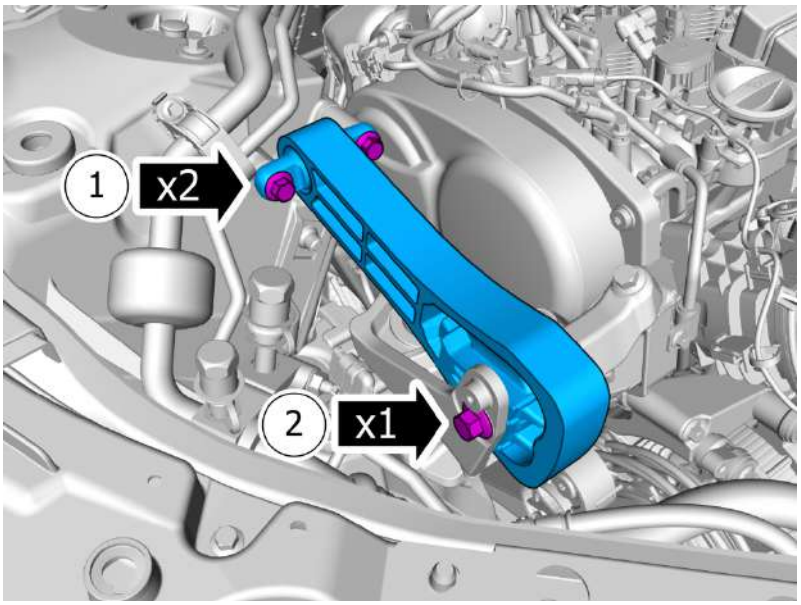


Install the marked component.
Install the screws.



Loosen the screw.
Remove the marked part.

Torque:
M6 , 10 Nm

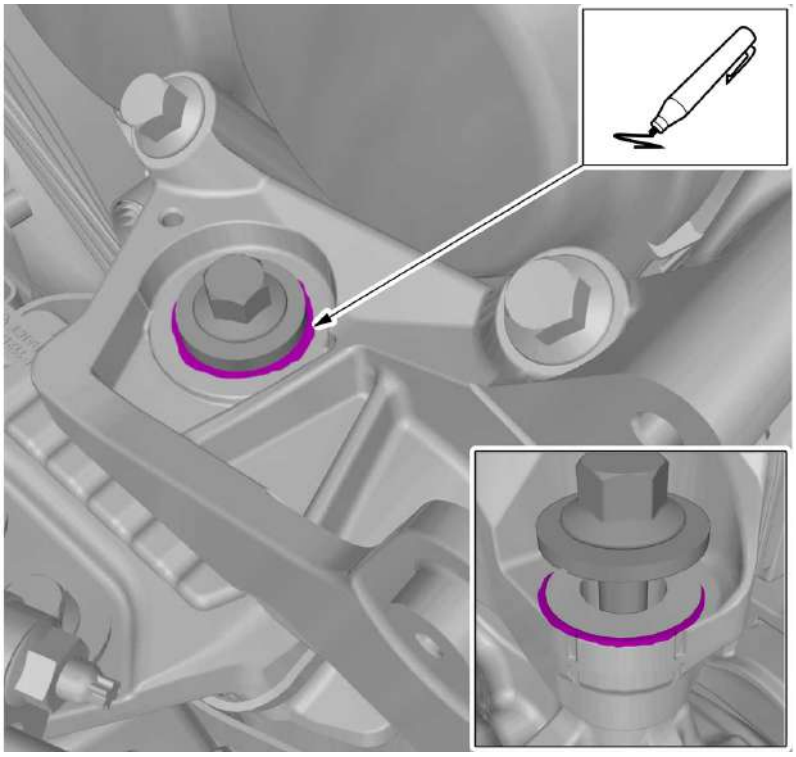


Note! Make sure to follow the correct sequence during installation.

Remove the screws.

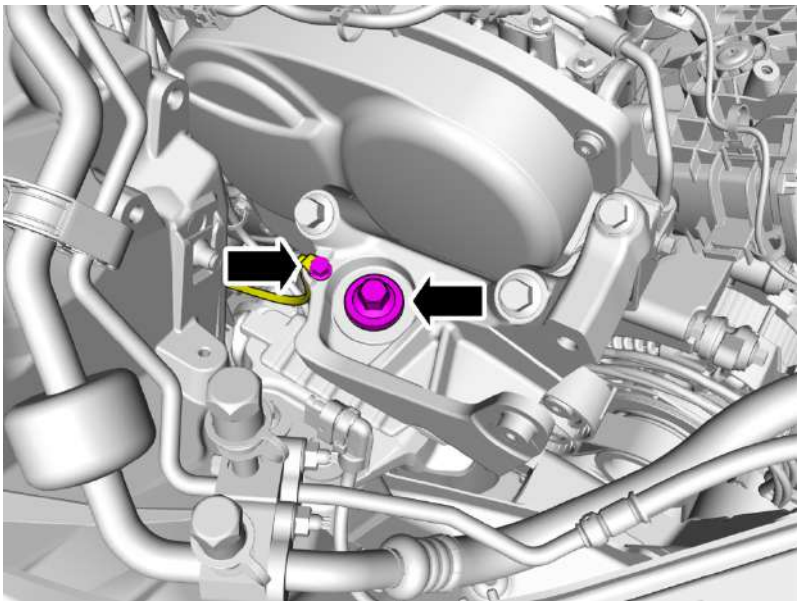
1 . **Torque:**
Upper torque rod to spring strut turret , 60 Nm

2 . **Torque:**
Upper torque rod to engine mount bracket , 110 Nm



Caution! Note the position of the component before removal.

Use: Marker pen

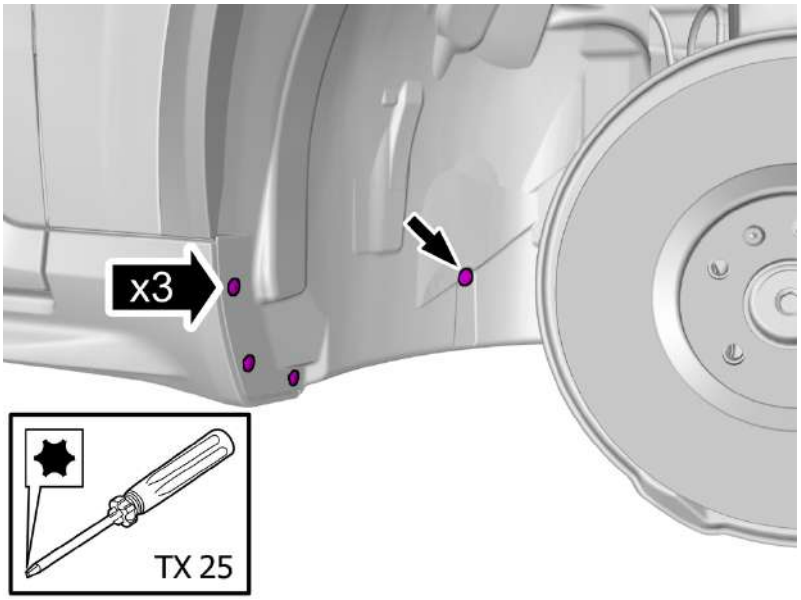


Remove the screws.

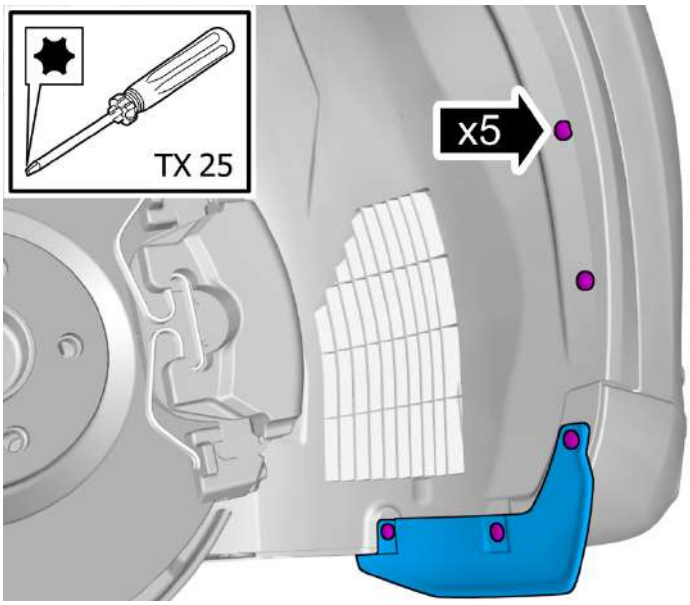
1 . **Torque:**
M6 , 10 Nm

2 . **Torque:**
Engine mount bracket, to Engine pad , 110 Nm

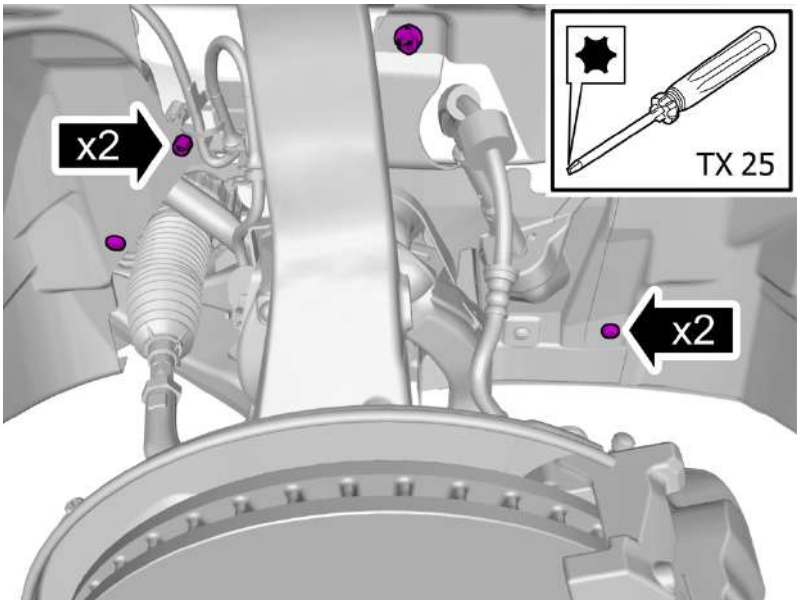
Remove right side the front wheel , refer to:
Removal, replacement and installation
7 - Springs and wheels
77 - Wheels, tyres
770 - complete wheels



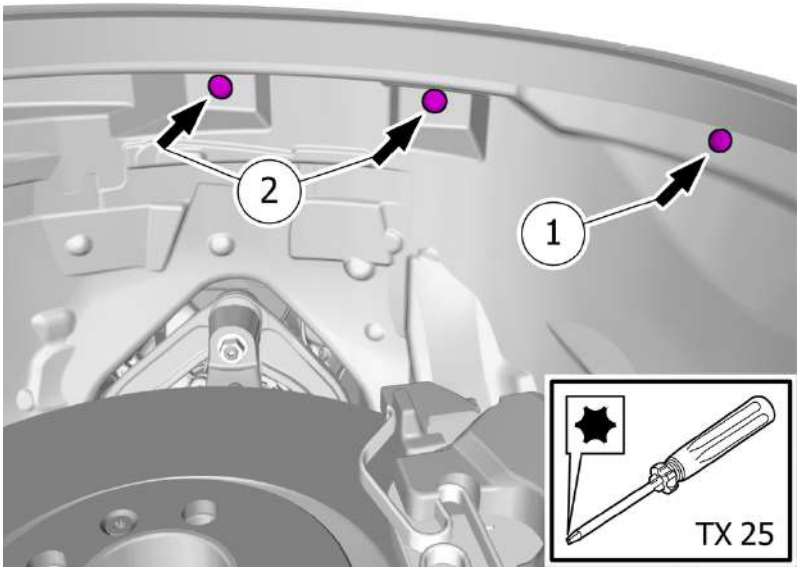
Remove the clip.
Remove the screws.



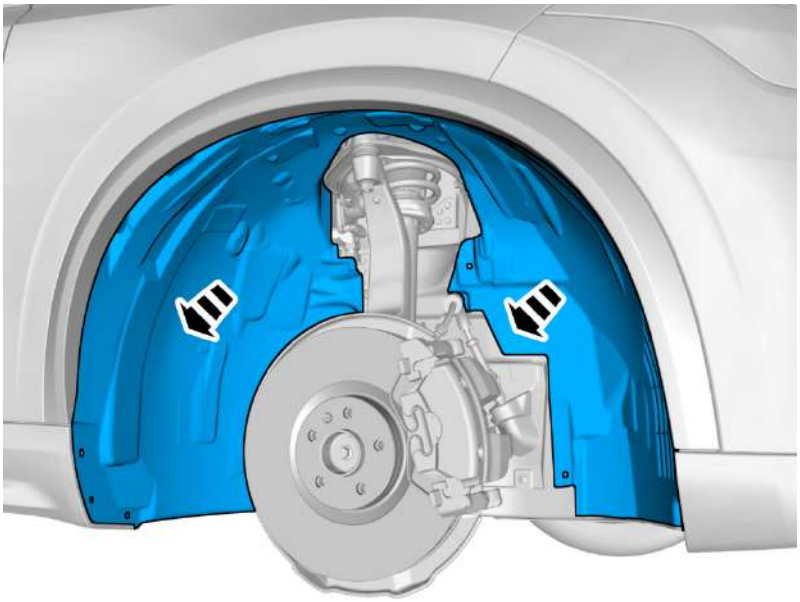
Remove the screws.
Remove the marked part.



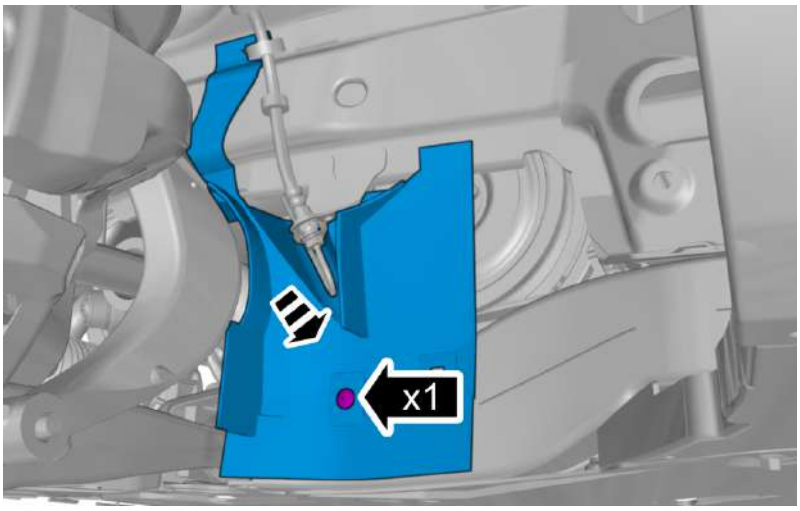
Remove the screws.
Remove the nuts.



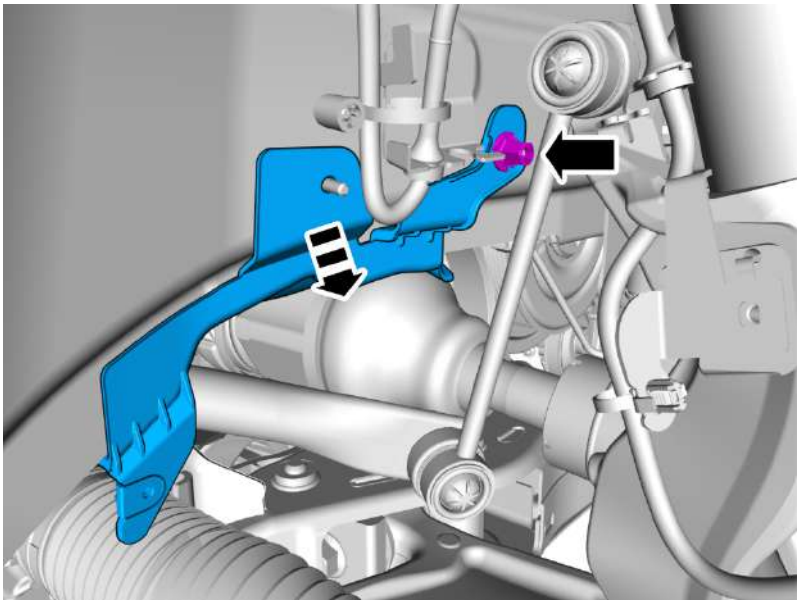
Remove the screw.
Remove the clips.



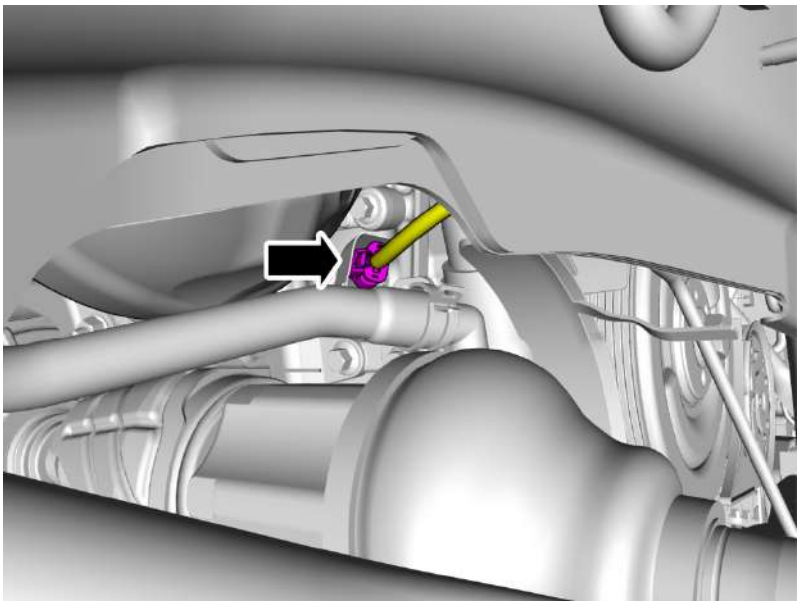
Remove the marked part.



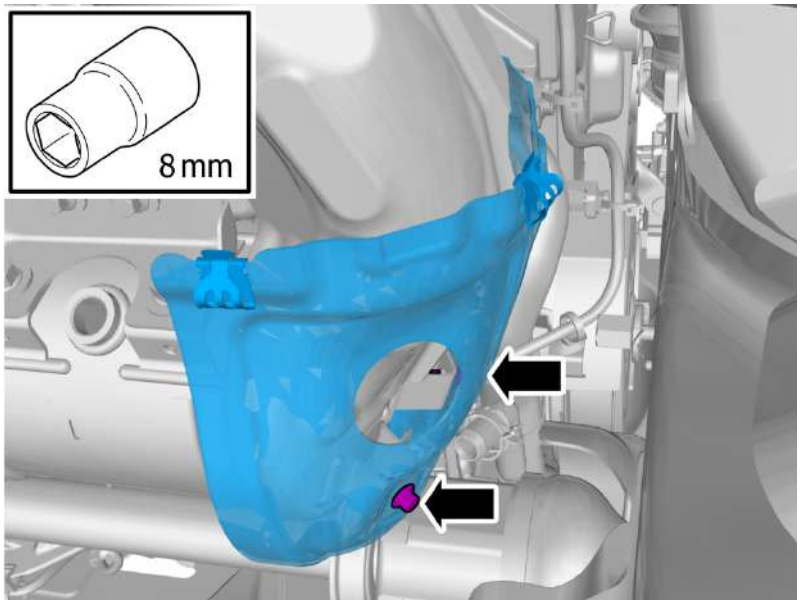
Remove the screw.
Remove the marked part.



Remove the nut.
Remove the marked part.

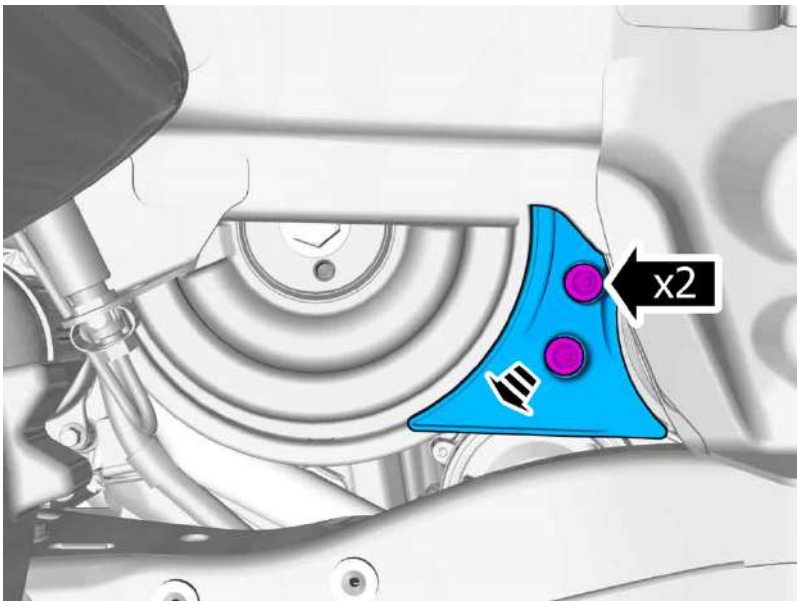


Disconnect the connector.
Remove the cable harness clips.

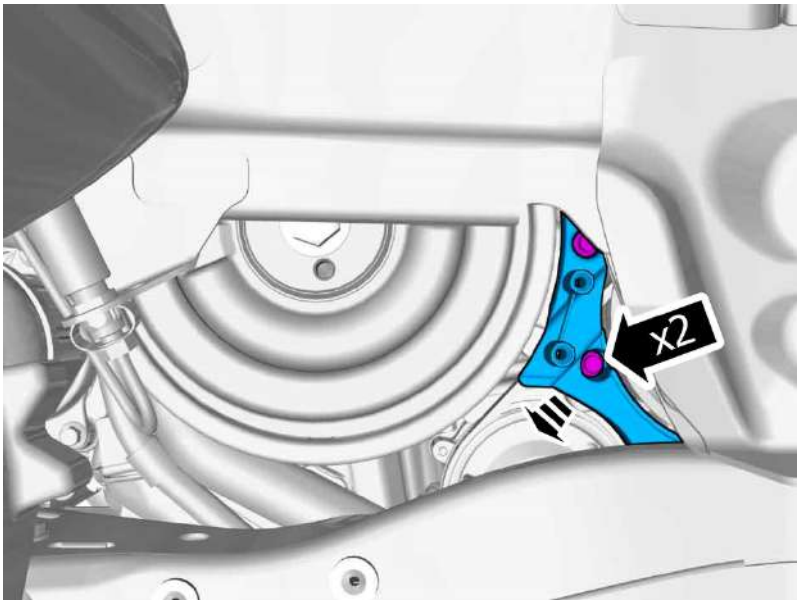


Note! Do not loosen the bolts more than 2 turns.

Loosen the screws.

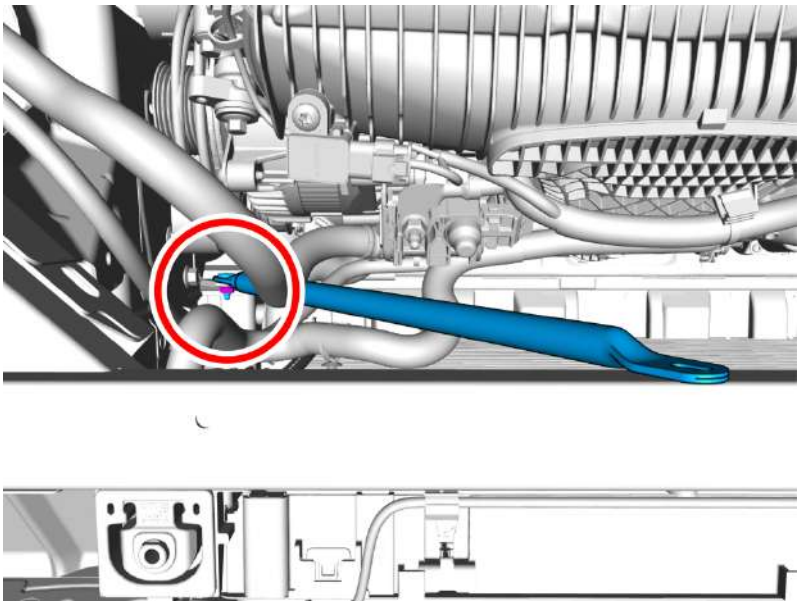


Remove the screws.
Remove the marked part.

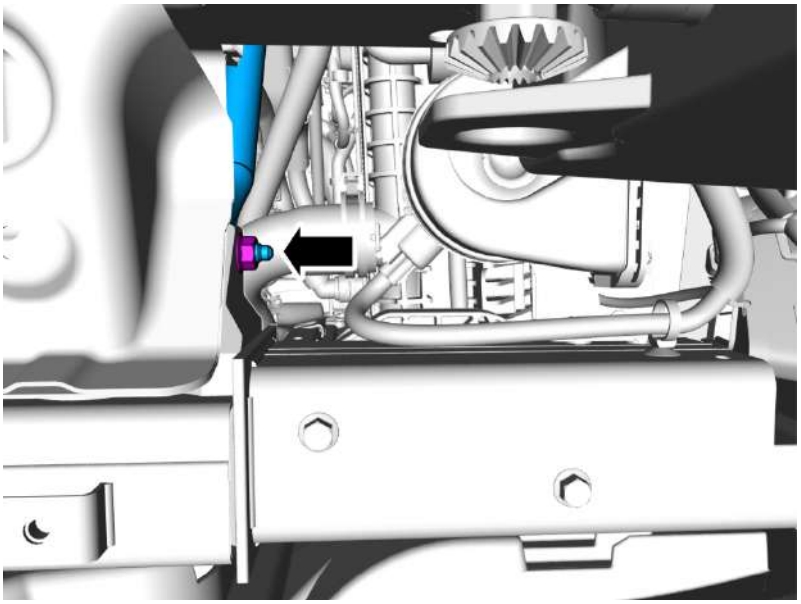


Remove the screws.
Remove the marked part.

Torque:
M6 , 10 Nm

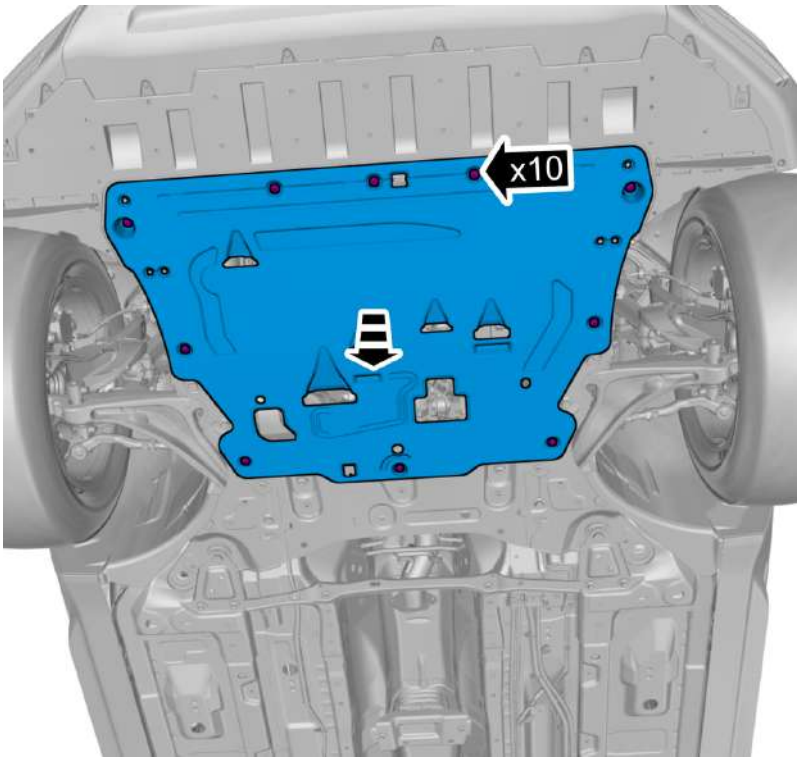


Note! Orientation view

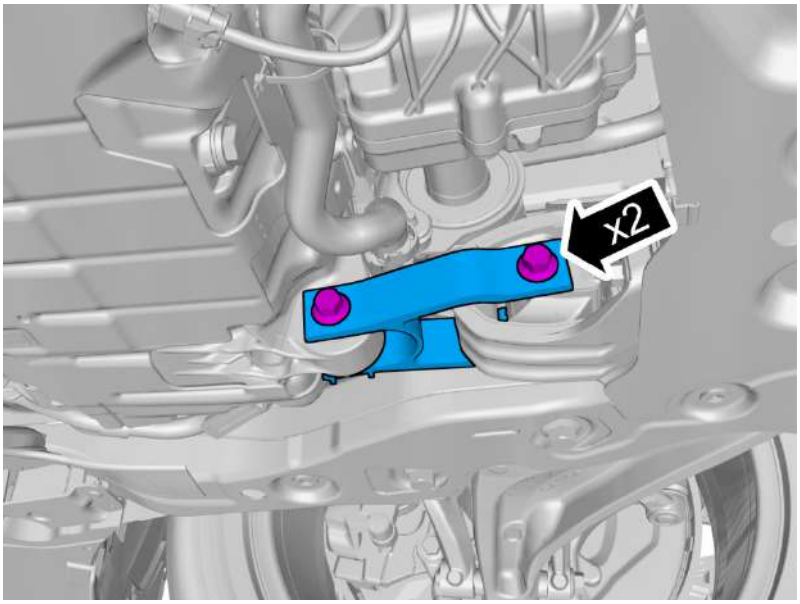


Remove the nut.
Remove the marked part.

Torque:
M8 , 24 Nm



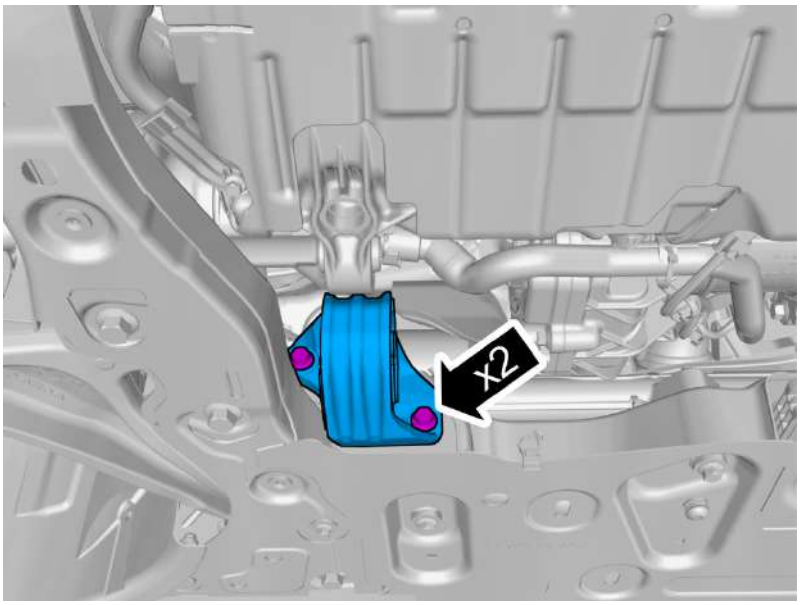
Remove the screws.
Remove the clips.
Remove the marked part.



Remove the screws.
Remove the marked part.

Torque:

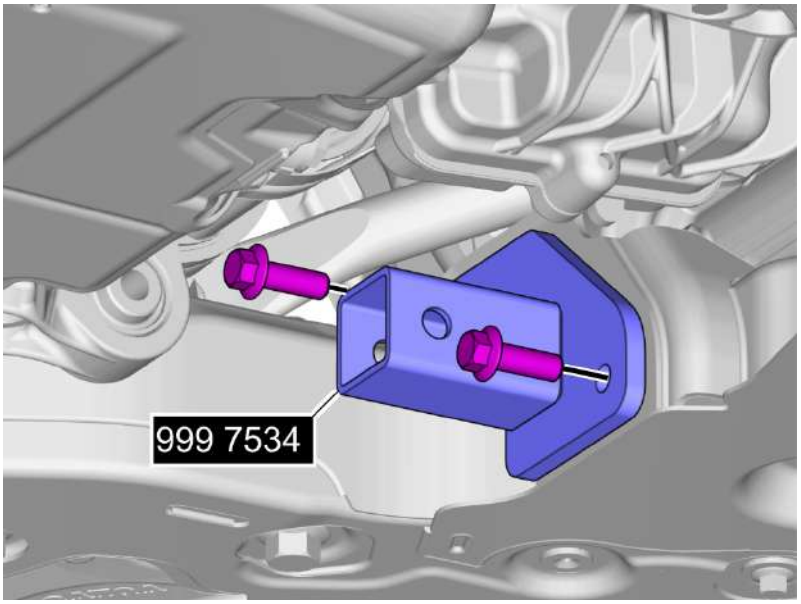
Lower torque rod rear right, to Engine mount bracket , 110 Nm



Remove the screws.
Remove the marked part.

Torque:

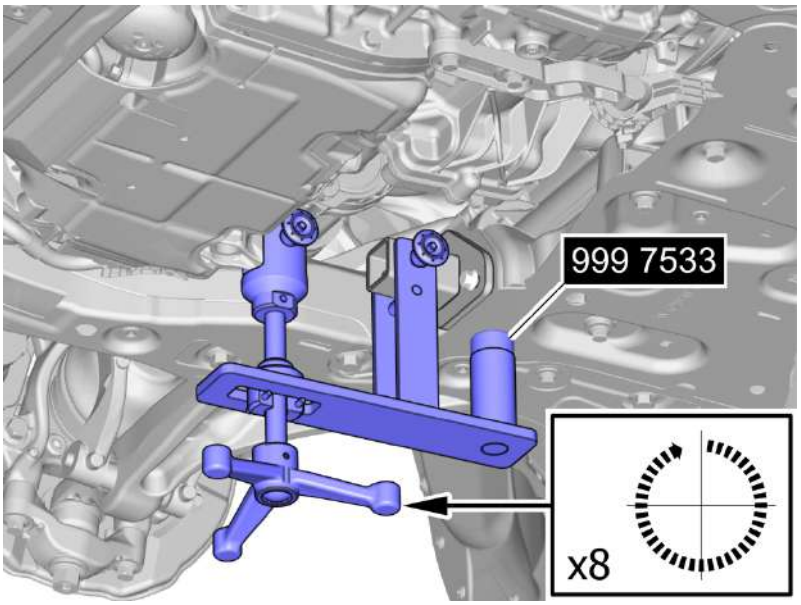
Lower torque rod rear right, to subframe , 60 Nm



Install the Special tool.
Install the screws.

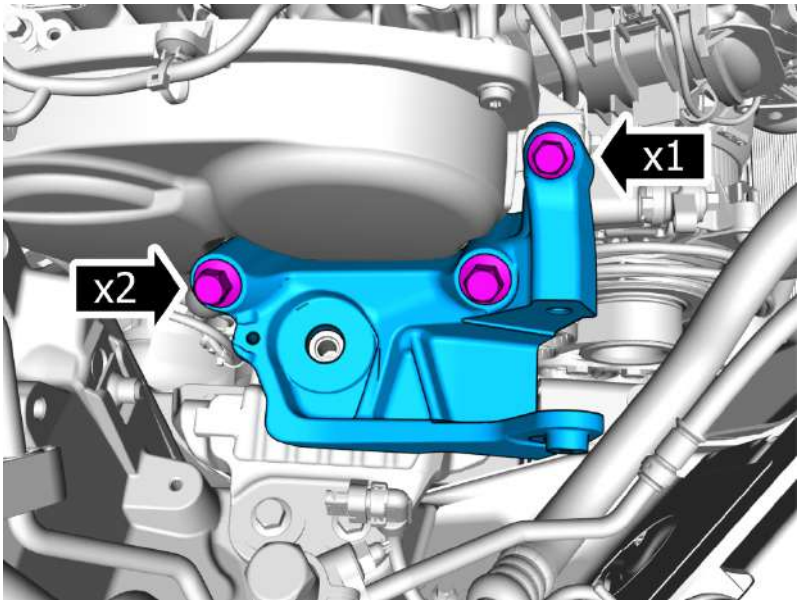
Use: Screw M10 x 20 mm

Special Tool: T9997534, Mounting



Install the Special tool.
Adjust to the specified value.

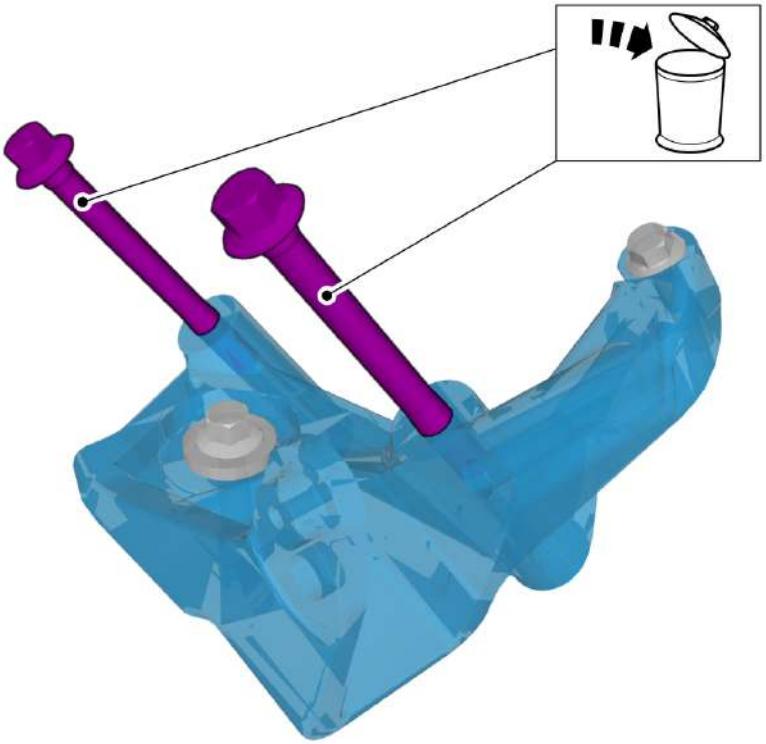
Special Tool: T9997533, Support



Remove the screws.
Remove the marked part.

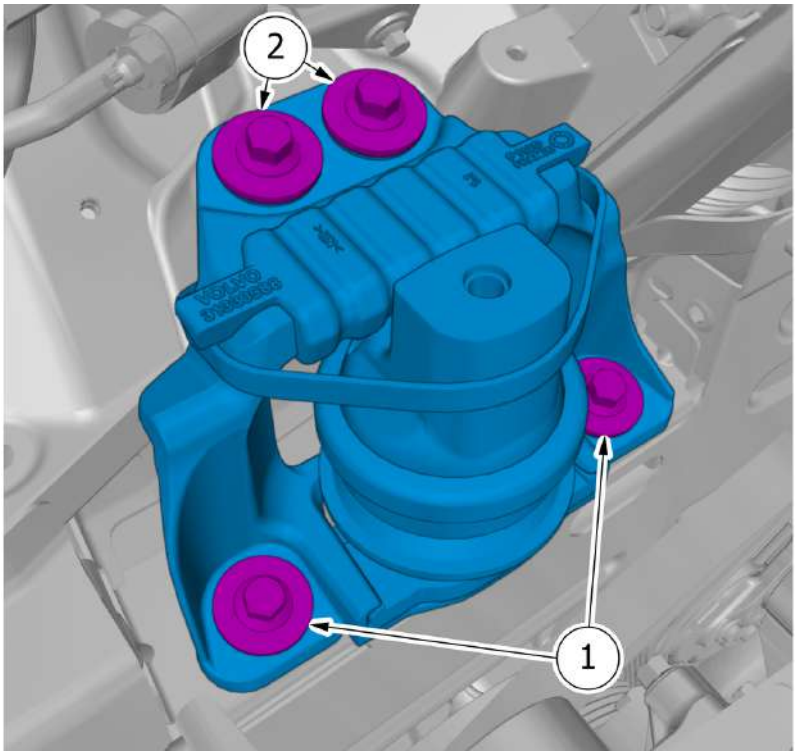
1 . **Torque:**
- Stage 1 : Engine mount bracket, to Cylinder head, M12 , 90 Nm
- Stage 2 : Engine mount bracket, to Cylinder head, M12 , 130°

2 . **Torque:**
Engine mount bracket, to Cylinder head, M10 , 60 Nm



Caution! Make sure that new bolts are installed.

Vehicles early version



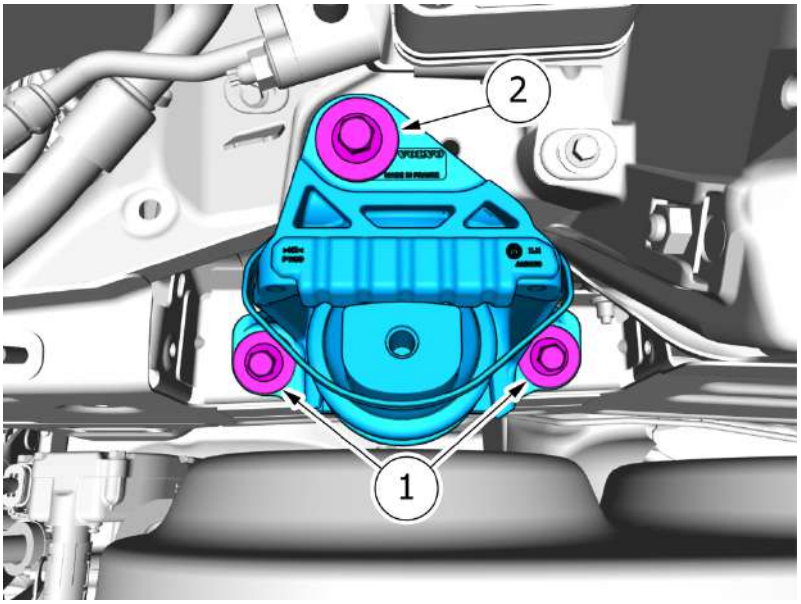
Note! Make sure to follow the correct sequence during installation.

Remove the screws.
Remove the marked part.

Torque:

Right-hand engine pad to body frame , 60 Nm

Vehicles late version



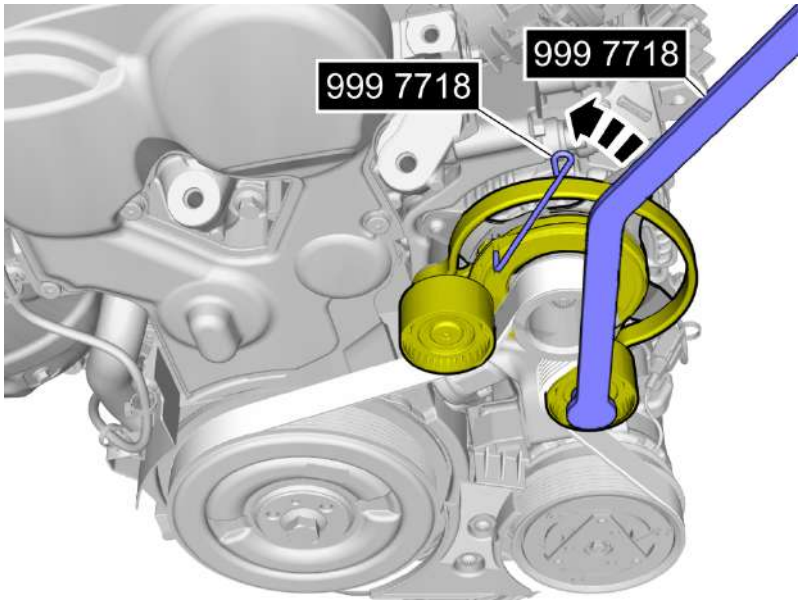
Note! Make sure to follow the correct sequence during installation.

Remove the screws.
Remove the marked part.

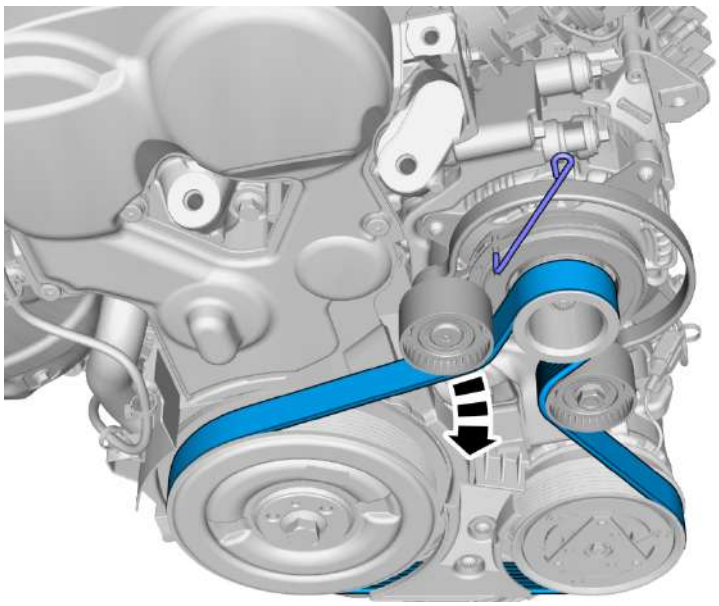
Torque:

Right-hand engine pad to body frame , 60 Nm

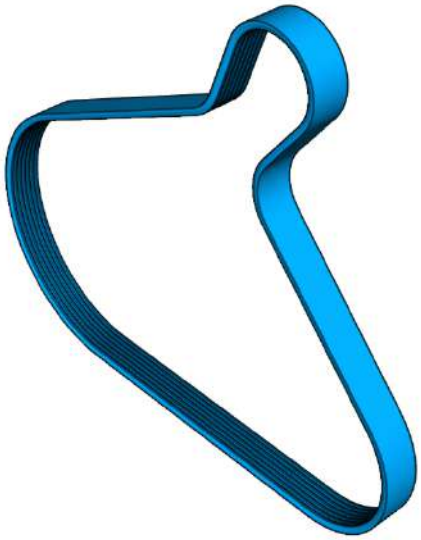
All vehicles



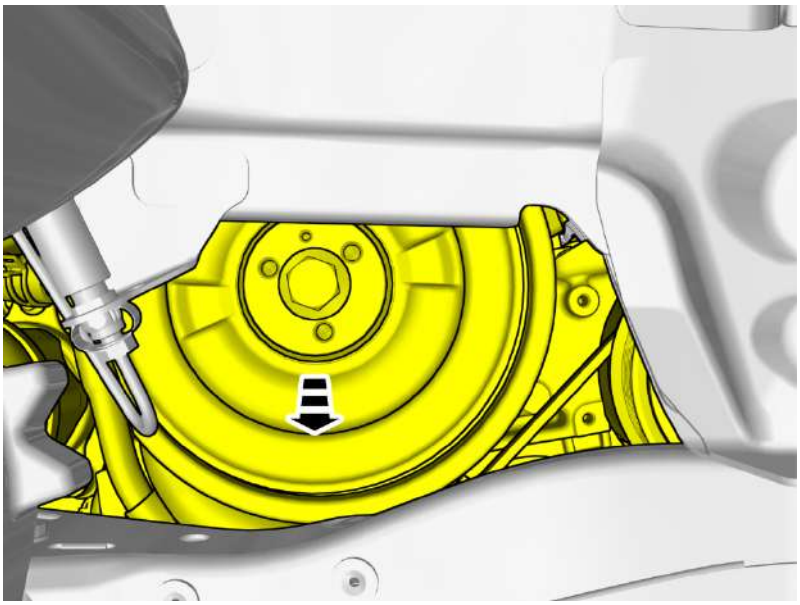
Special Tool: T9997718, Counterhold



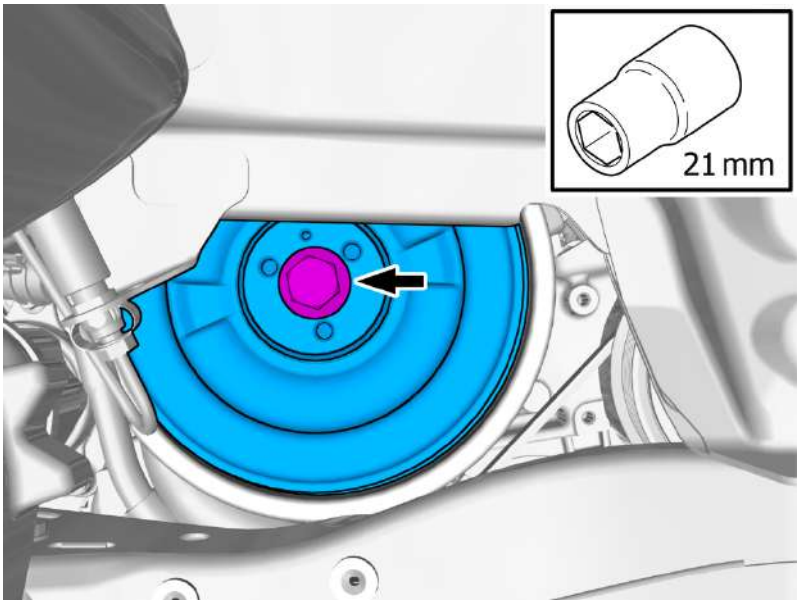
Remove the marked part.



Note! The component can be reused unless it has been subjected to abnormal mechanical stress, damage or oil contamination.

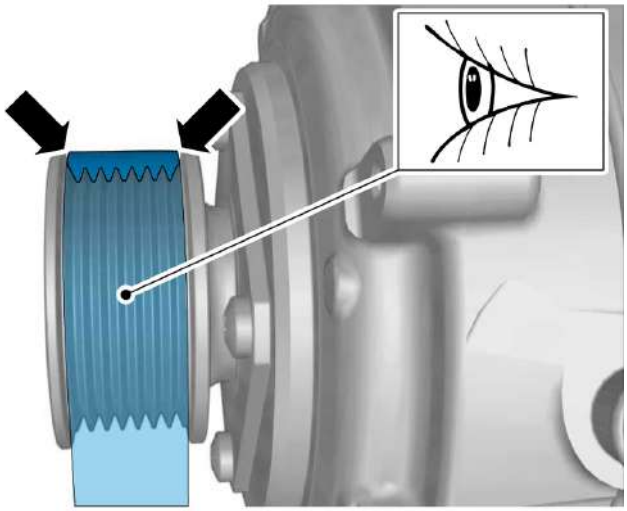


Lower the engine.



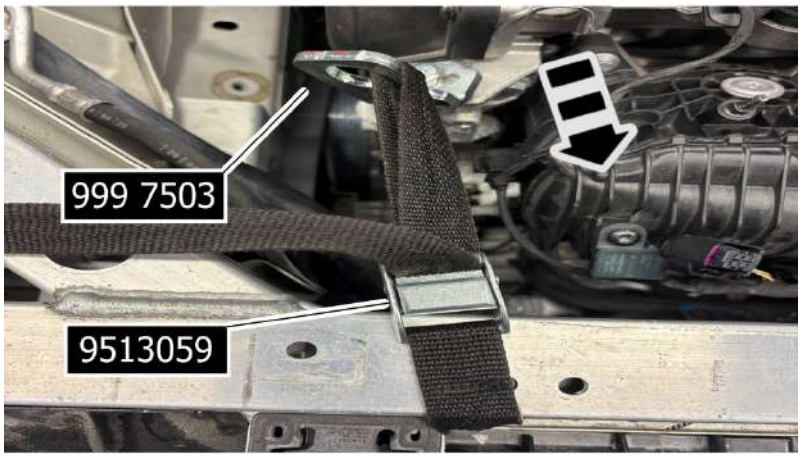
Note! Note the position of the component before removal.

Extra information

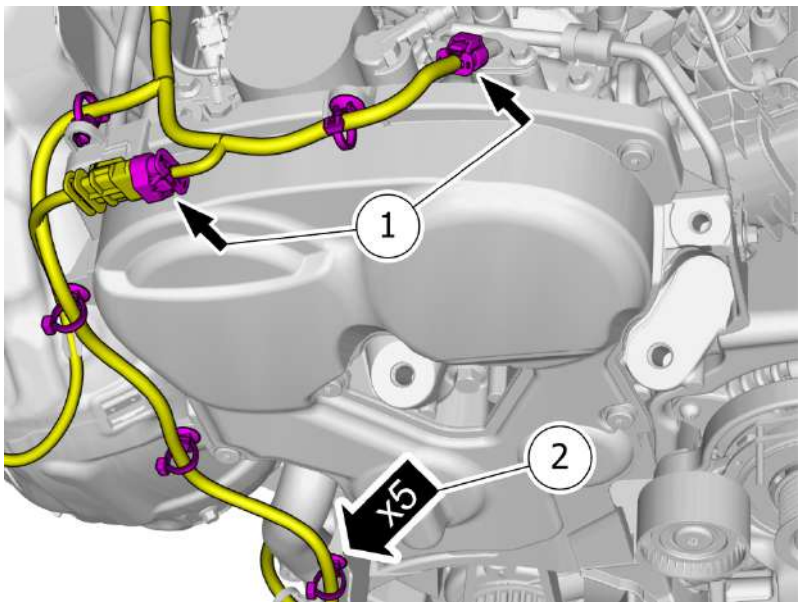


Caution! Make sure that the component is positioned correctly.

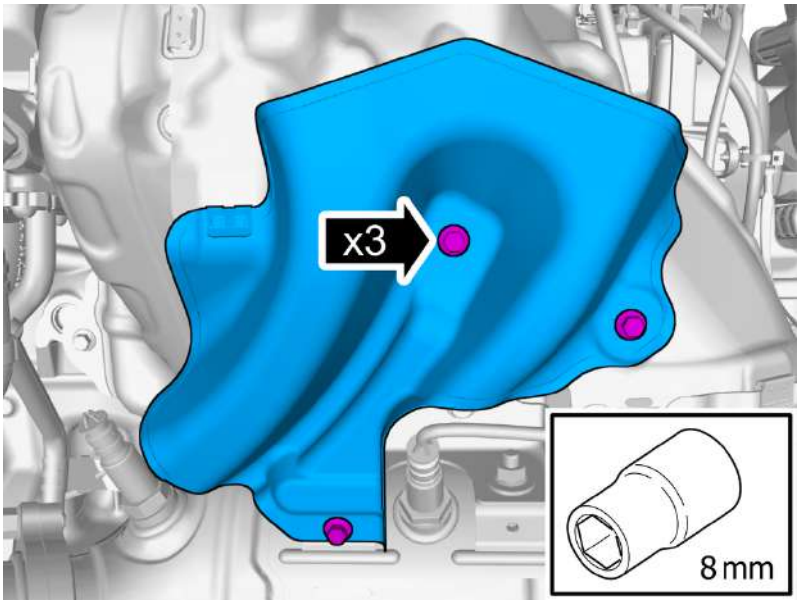
Continue the removal following the steps below.



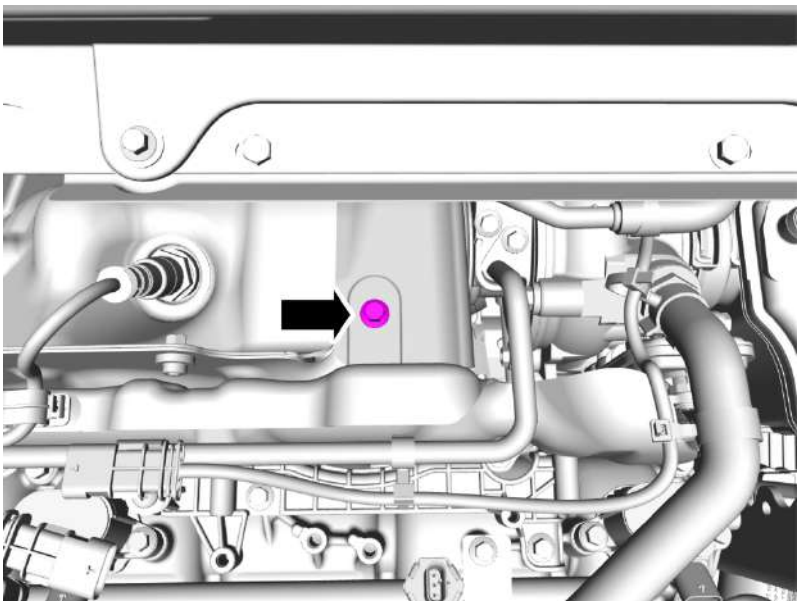
Install the Special tool.
Pull the component in direction of the arrow.



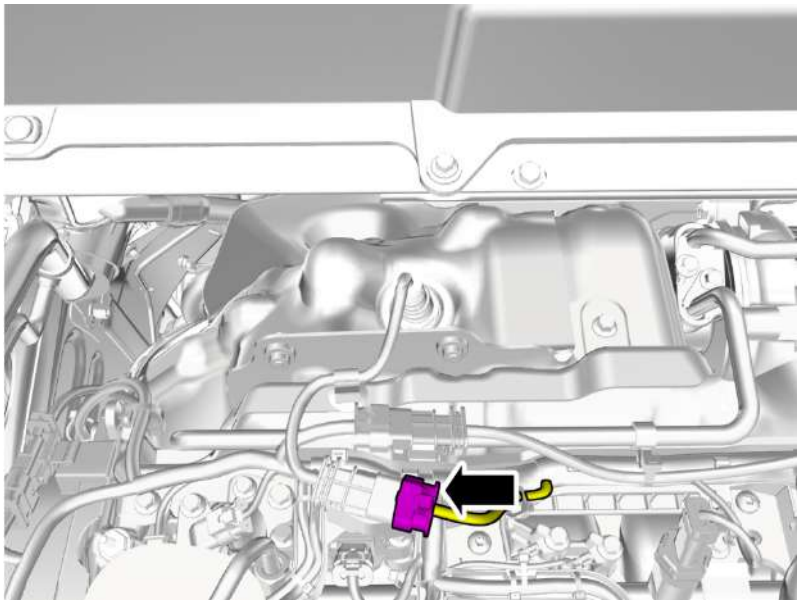
Disconnect the connectors.
Remove the cable harness clips.



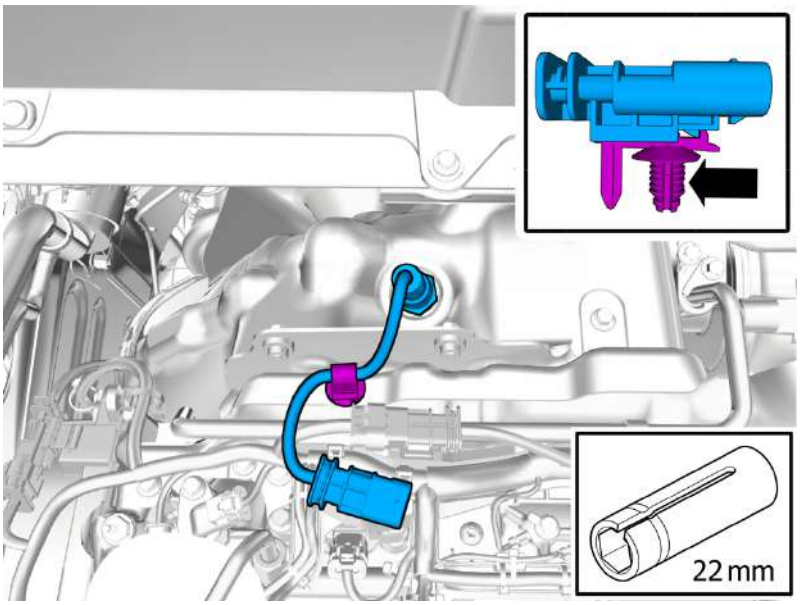
Remove the screws.
Remove the marked part.



Remove the screw.



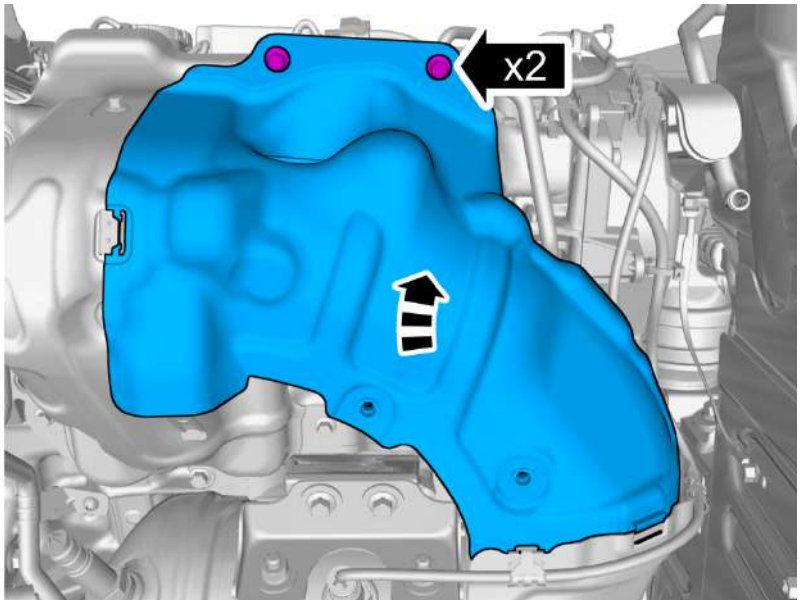
Disconnect the connector.



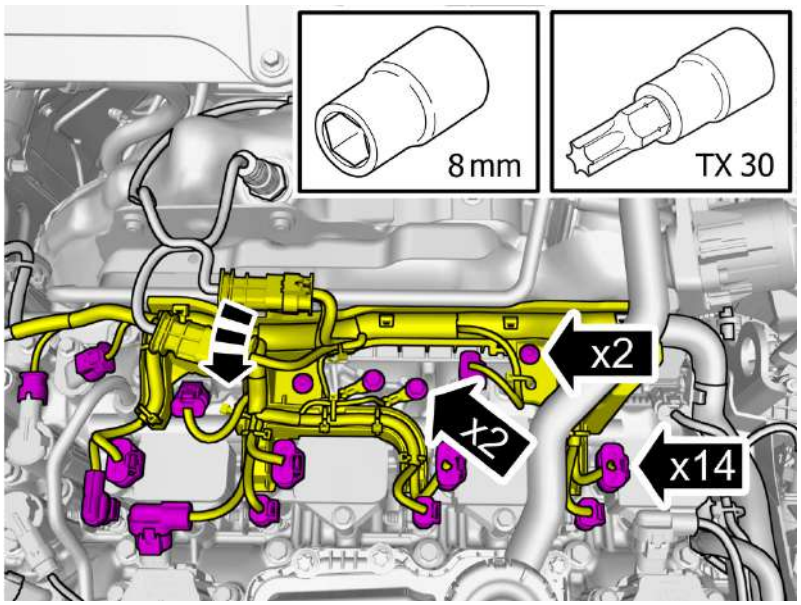
Loosen the clips.
Remove the marked part.

Torque:

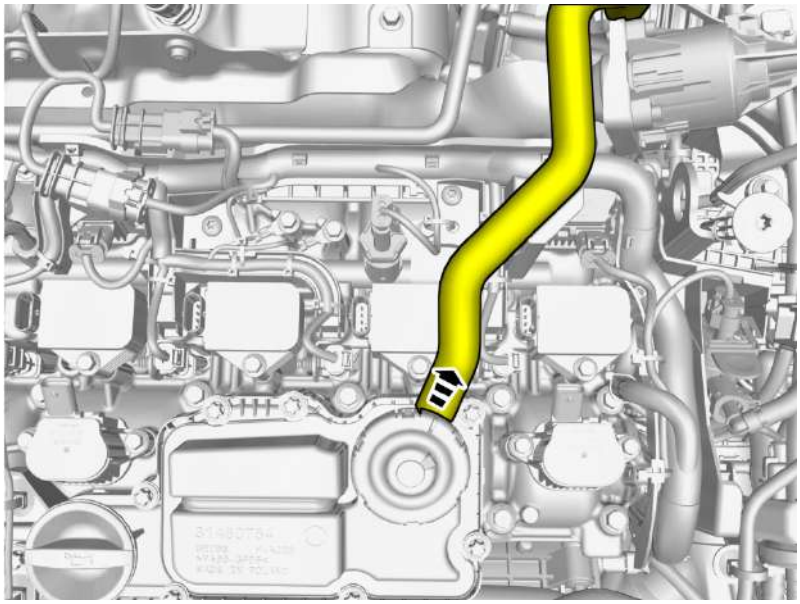
Lambda probe, tightening , 45 Nm



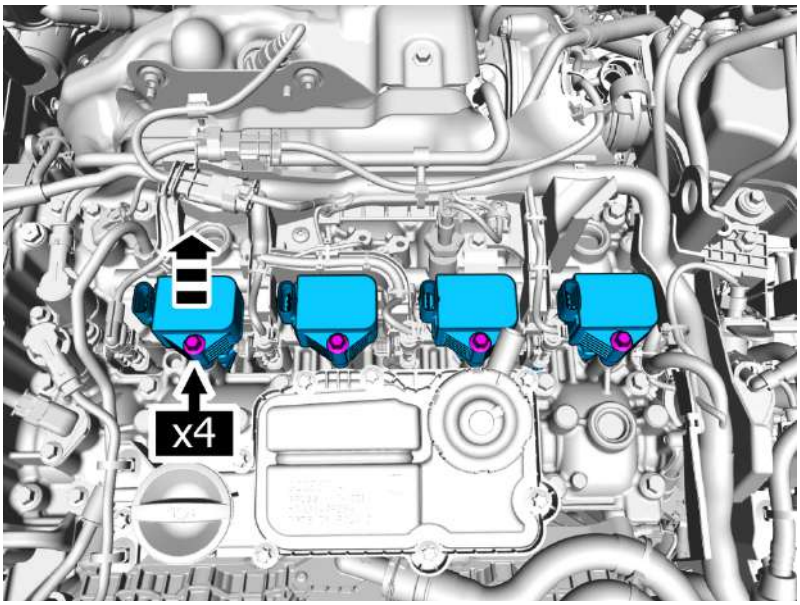
Remove the screws.
Remove the marked part.



Remove the screws.
Disconnect the connectors.
Fold marked part aside.



Undo the hose from the connection.
Fold marked part aside.

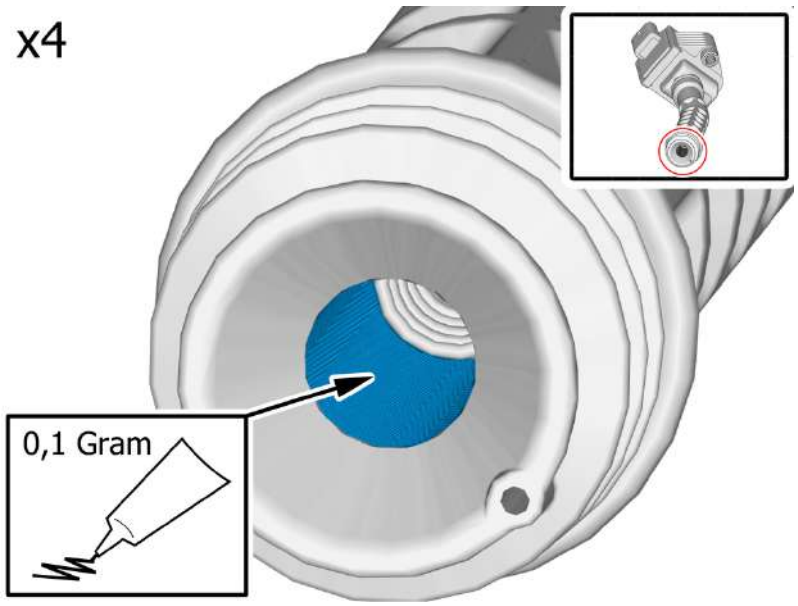


Remove the screws.
Remove the marked parts.

Torque:

M6 , 10 Nm

Extra information

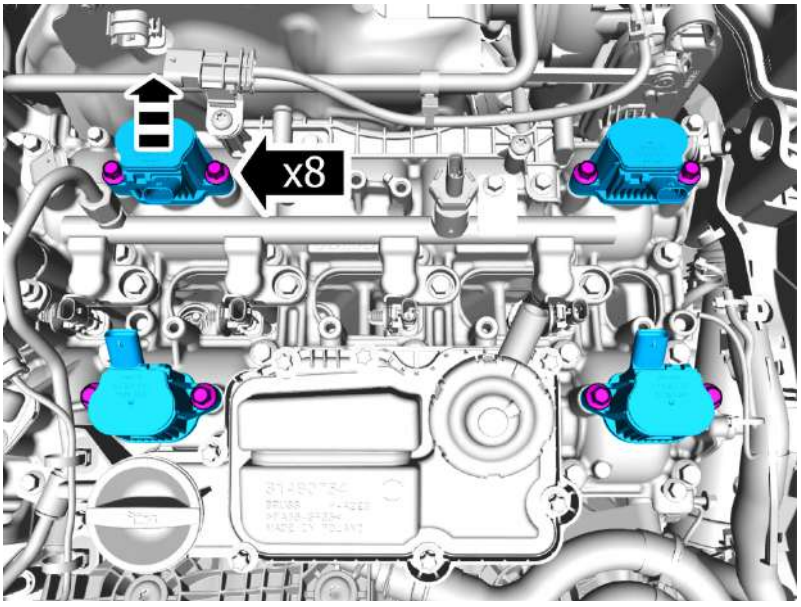


Caution! Make sure that the correct spare part is being used. See spare part catalogue to choose correct component.

Apply grease on the area indicated.

Continue the removal following the steps below.

Vehicles early version



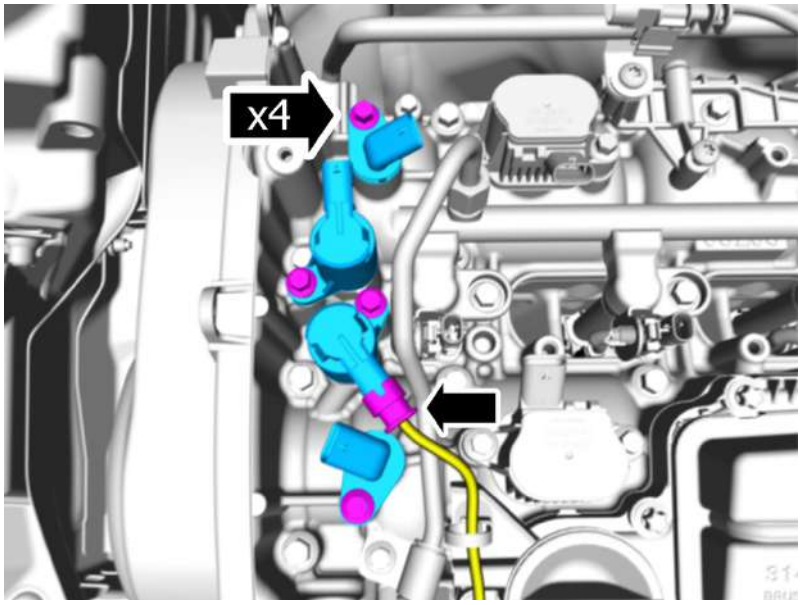
Caution! The component must be removed by hand. Tools may not be used.

Note! Use new seals.

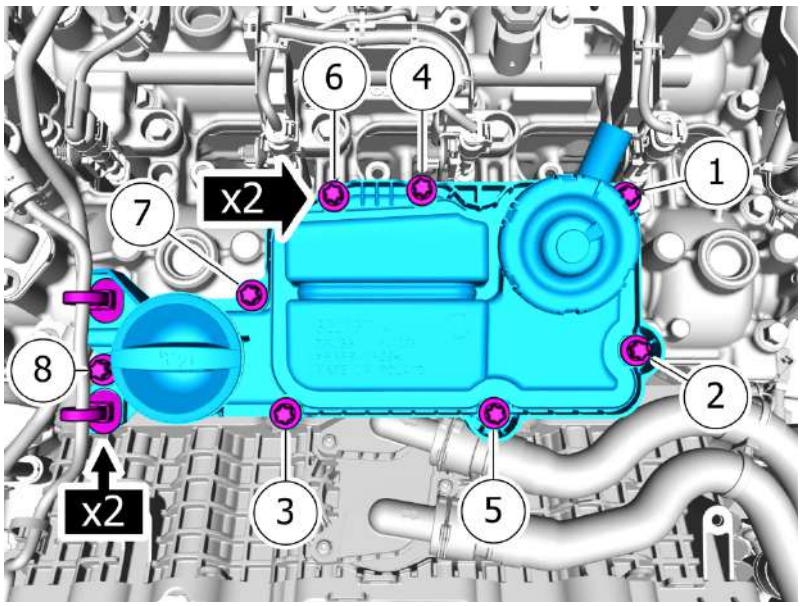
Remove the screws.
Remove the marked parts.

Torque:
M6 , 10 Nm

All vehicles



Disconnect the connector.
Remove the screws.
Remove the marked parts.



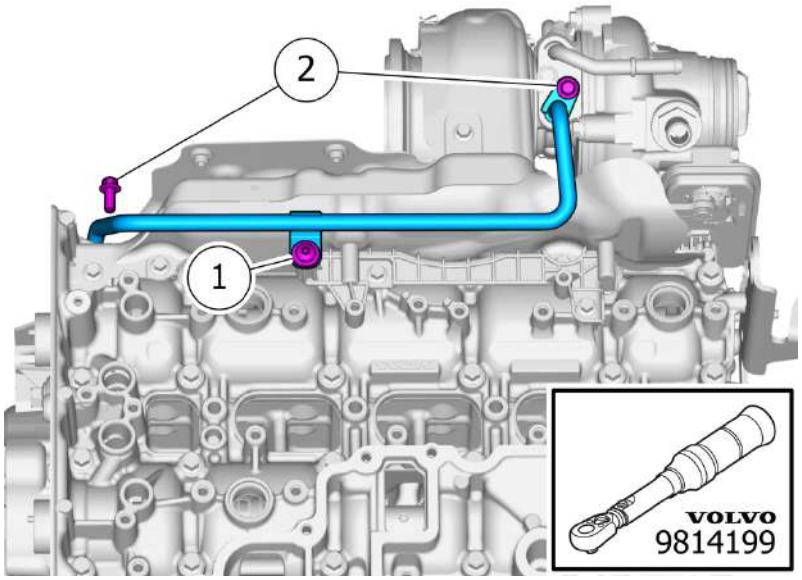
Note! Make sure to follow the correct sequence during installation.

Note! Use a new seal.

Remove the clips.
Remove the screws.
Remove the marked part.

Torque:

M6 , 10 Nm

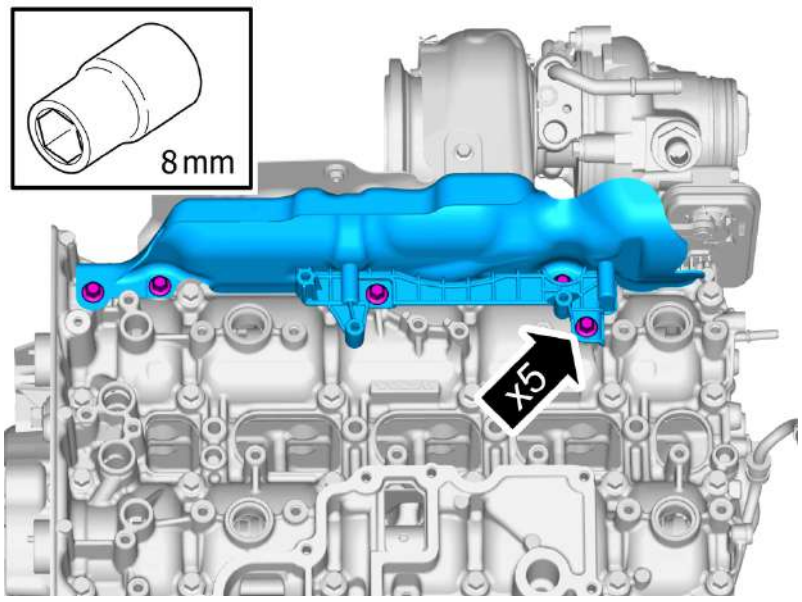


Note! Use new seals.

Remove the screws.
Remove the marked part.

1 . **Torque:**
M5 , 5 Nm

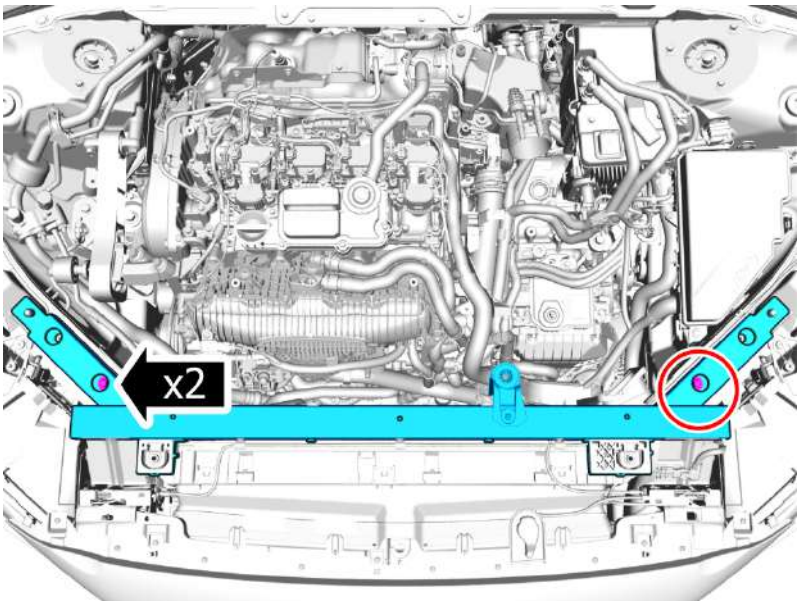
2 . **Torque:**
M6 , 10 Nm



Remove the screws.
Remove the marked part.

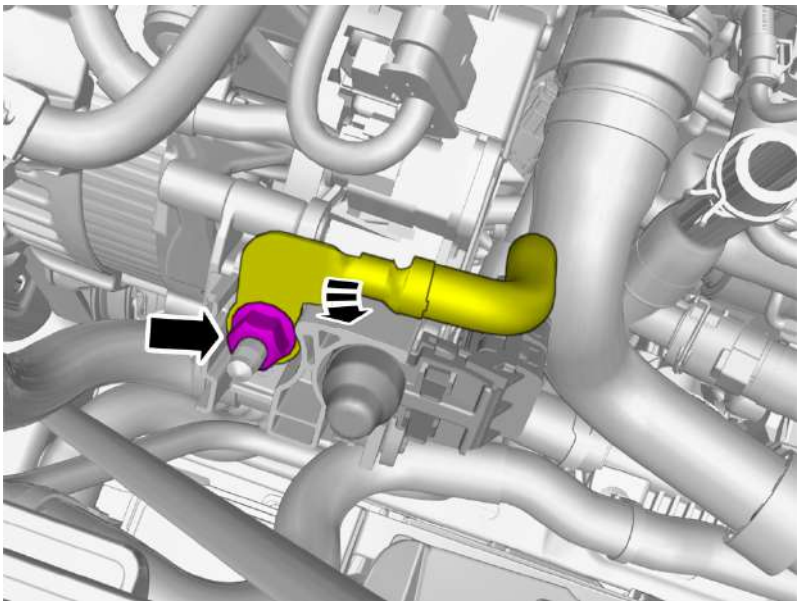
Torque:
M6 , 10 Nm

Remove the Special Tool.



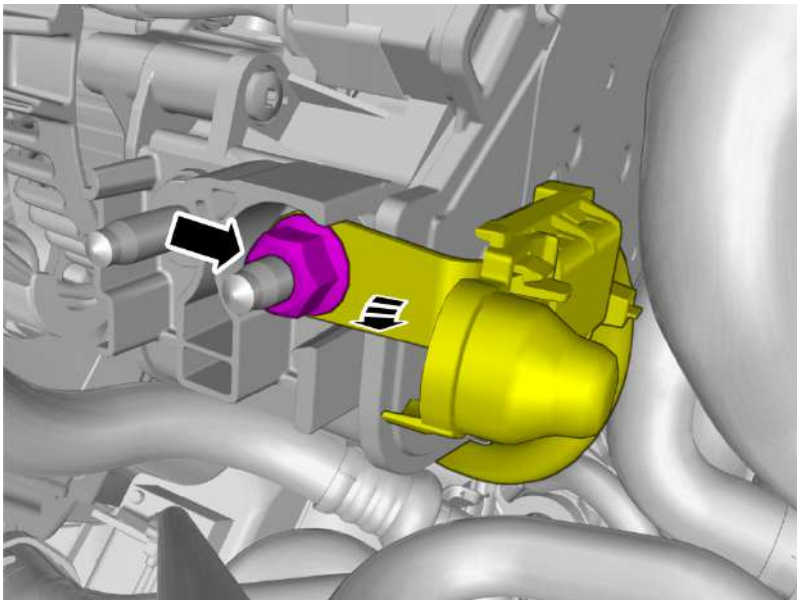
Remove the screws.
Remove the marked part.

Install the Special tool.
Pull the component in direction of the arrow.



Remove the nut.

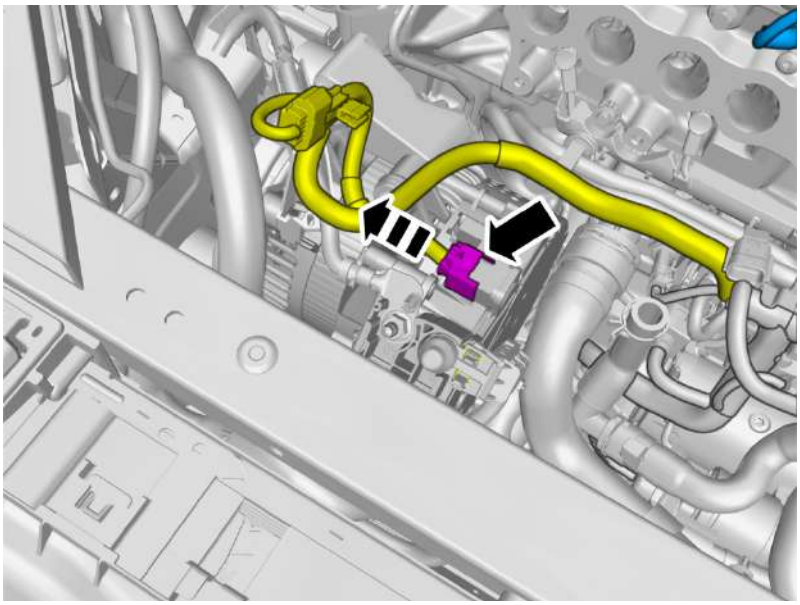
Torque:
M8 , 24 Nm



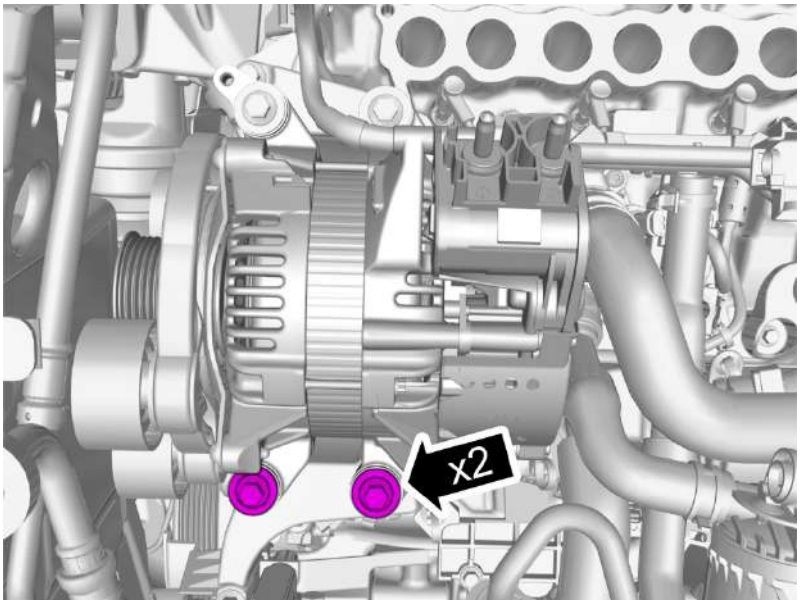
Remove the nut.

Torque:

M8 , 24 Nm

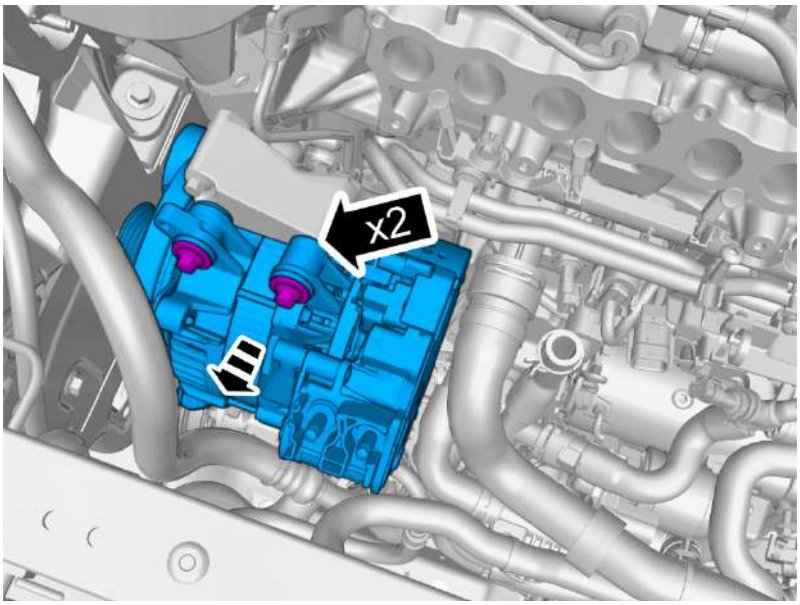


Disconnect the connector.



Remove the screws.

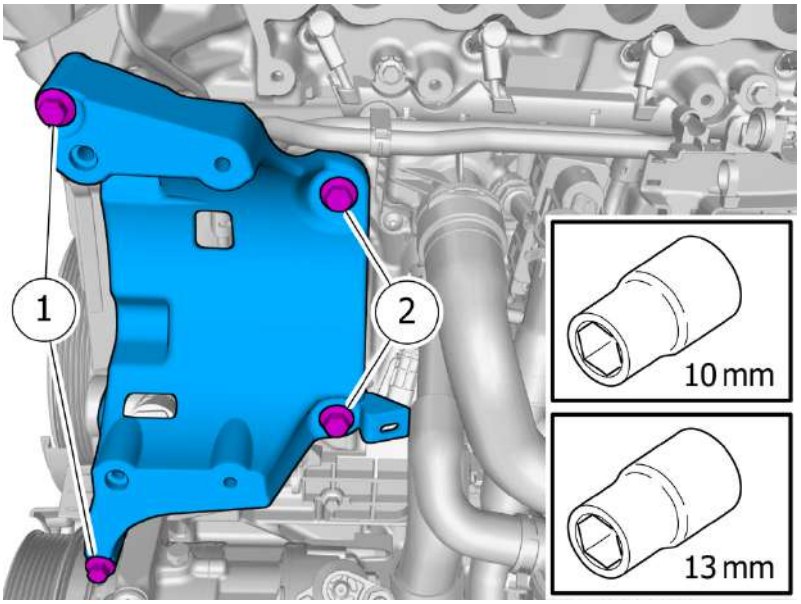
Torque:
M8 , 24 Nm



Remove the screws.
Remove the marked part.

Hint: It may be necessary to twist or turn the component.

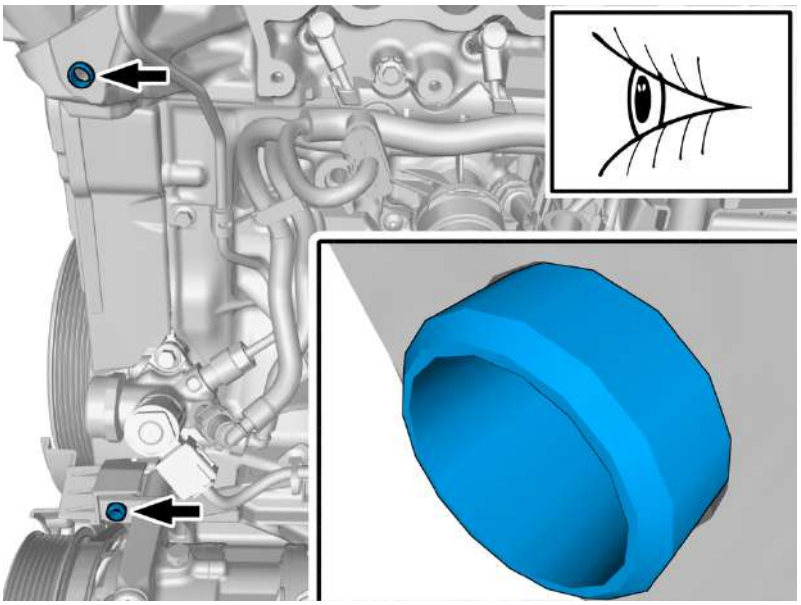
Torque:
M8 , 24 Nm



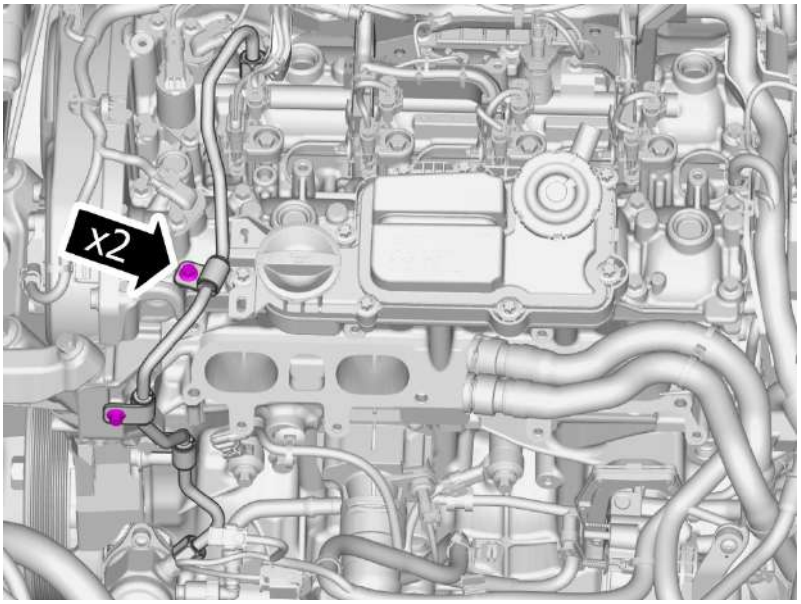
Remove the screws.
Remove the marked part.

1 . **Torque:**
M8 , 24 Nm

2 . **Torque:**
M10 , 50 Nm



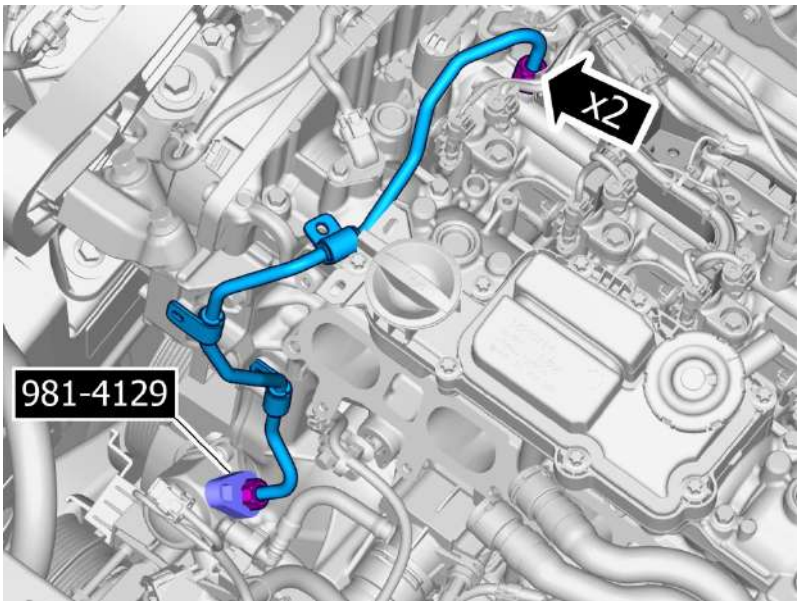
Note! Make sure that the component is installed.



Remove the screws.

Torque:

M6 , 10 Nm



Warning! Be prepared to collect escaping fluid.

Caution! Make sure that the area around the component is clean and free of foreign material.

Note! Make sure that a new component is installed.

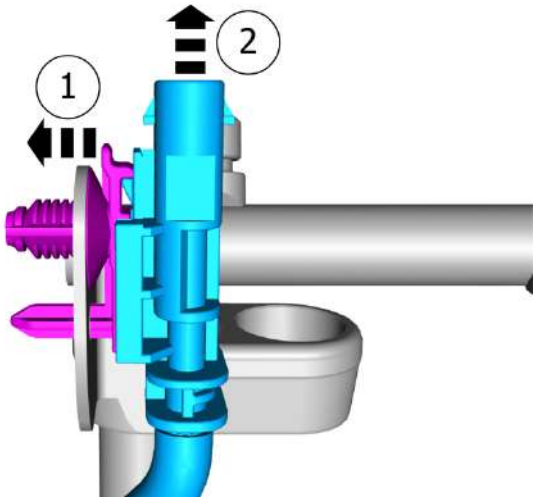
Remove the nuts.
Remove the marked part.

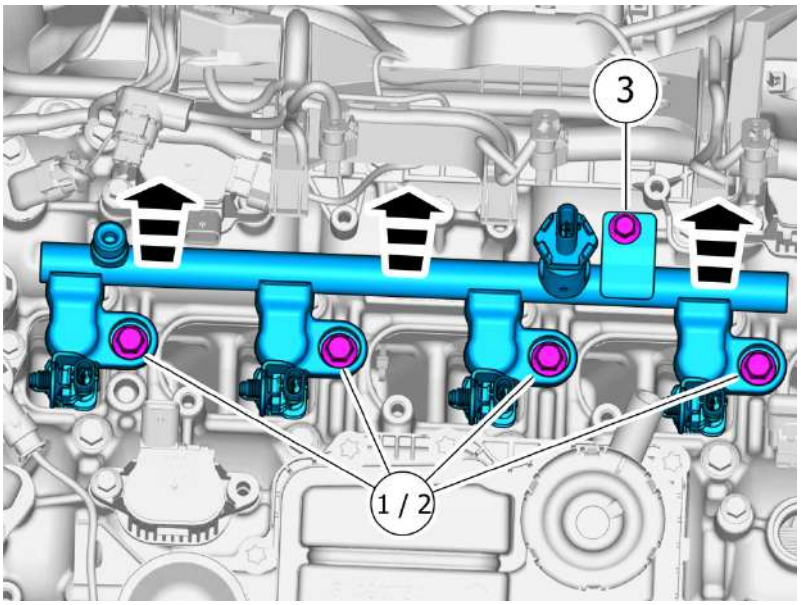
Special Tool: T9814129, Hook wrench

Torque:

- Stage 1 : High-Pressure Fuel Line to Fuel Pump , 18 Nm
- Stage 2 : High-Pressure Fuel Line to Fuel Pump , 30 Nm

Release the locks.





Caution! Make sure that the area around the component is clean and free of foreign material.

Caution! In order to avoid damage to the injectors, the part must be carefully pulled straight up.

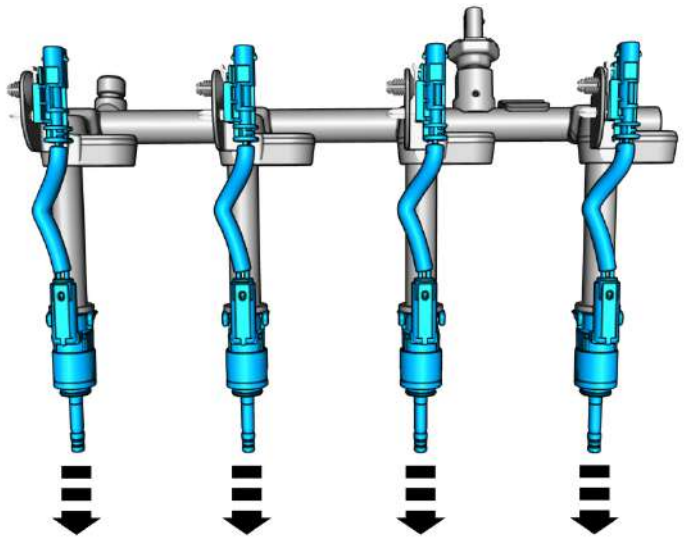
Caution! Be extra careful when removing or installing this component.

Remove the screws.
Remove the part carefully

1 . **Torque:**
Fuel rail M7 , 22 Nm

2 . **Torque:**
Fuel rail M8 , 30 Nm

3 . **Torque:**
M6 , 10 Nm

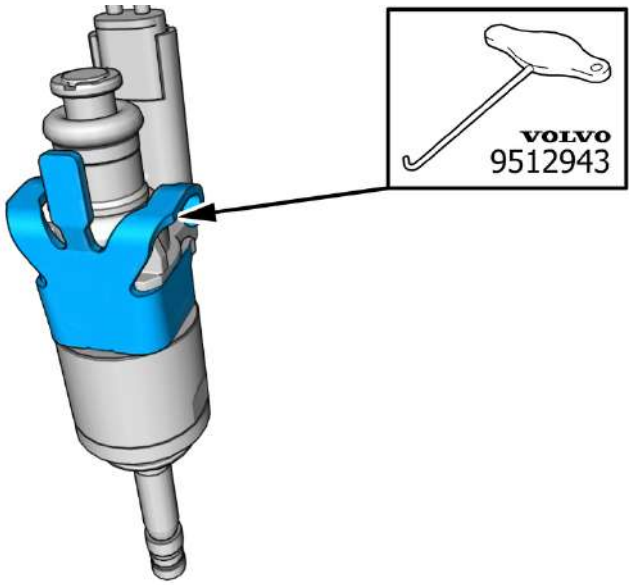


Warning! **Be prepared to collect escaping fluid.**

Caution! Be extra careful when removing or installing this component.

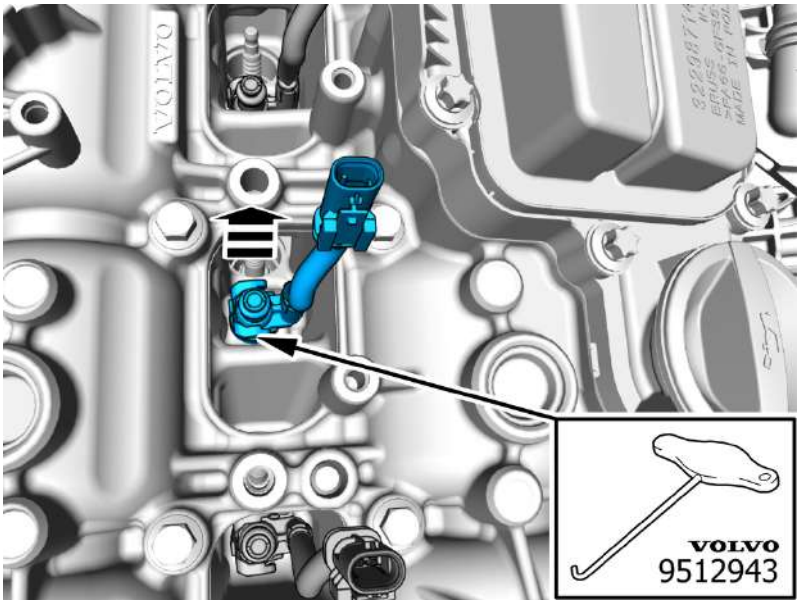
Remove the marked parts.

When necessary, perform the following instruction.



Note! Orientation view

Special Tool: T9512943, L-hook



Caution! In order to avoid damage to the injectors, the part must be carefully pulled straight up.

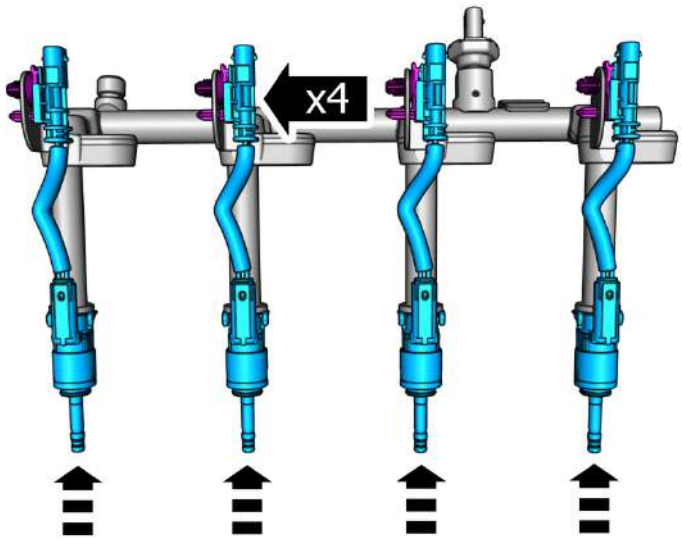
Caution! Be extra careful when removing or installing this component.

Remove the marked part.

Special Tool: T9512943, L-hook

Replace injector seal , refer to:

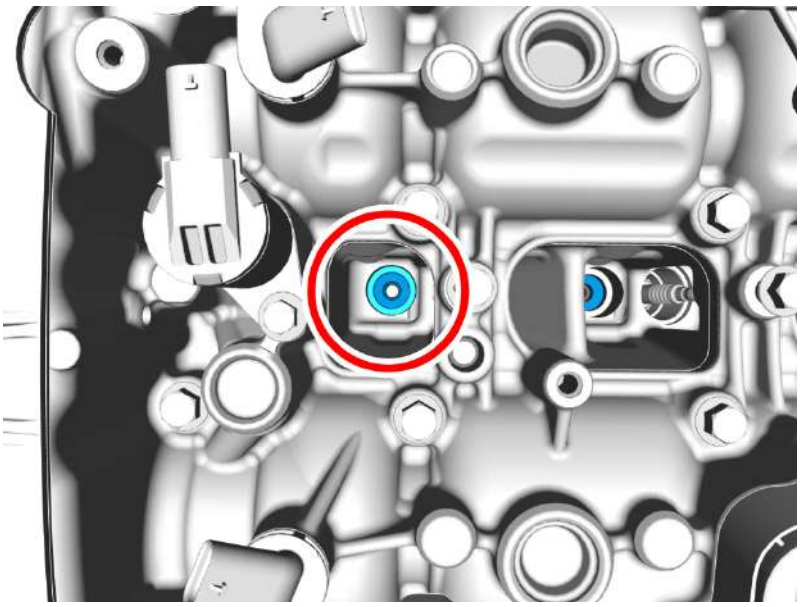
Removal, replacement and installation
2 - Engine with mountings and equipment
23 - Fuel system
237 - injector and delivery pipe



Caution! Be extra careful when removing or installing this component.

Install the marked components.

Extra information



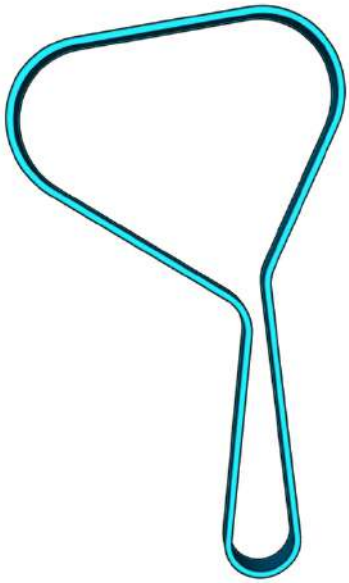
Caution! Make sure that the mating faces are clean and free of foreign material.

Caution! Clean carefully, using compressed air.

Special Tool: T9997505, Cleaning tool

Remove the Special Tool.

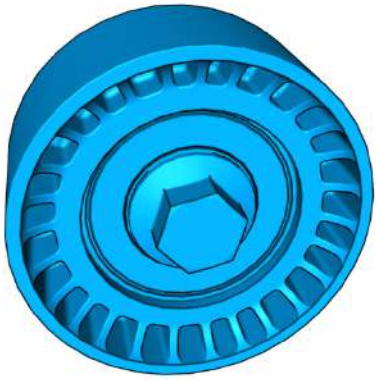
Applies to reassembly of the same component



Note! The component can be reused unless it has been subjected to abnormal mechanical stress, damage or oil contamination.

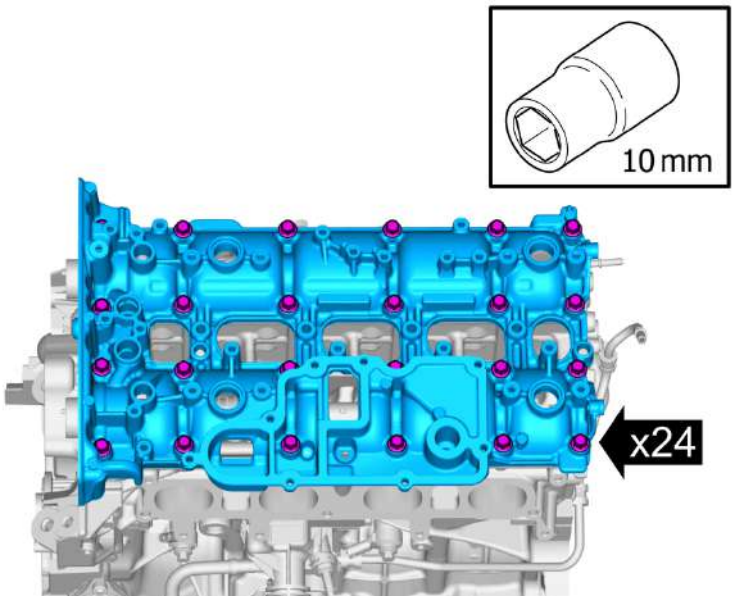
Caution! The part is to be reused.

Caution! The part is to be reused.



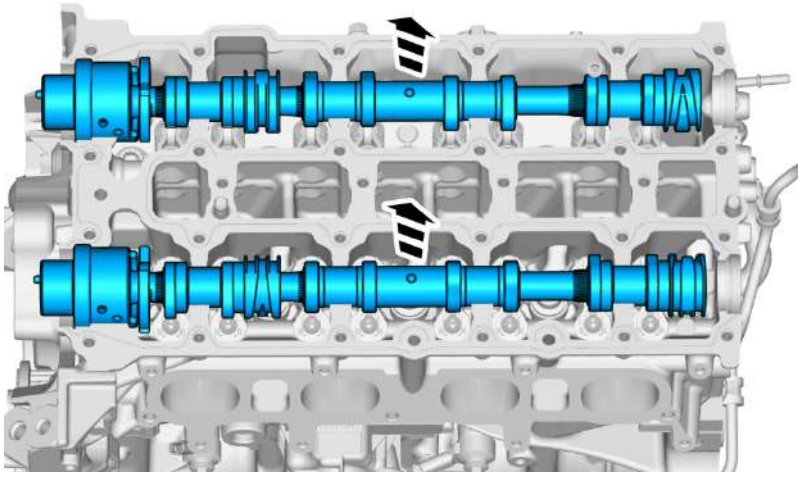
Continue the removal following the steps below.

Remove camshaft seal , refer to:
Removal, replacement and installation
2 - Engine with mountings and equipment
21 - Engine
215 - transmission



Loosen each bolt 2 turns at a time until all bolts are removed.
Remove the marked part.

Vehicles early version

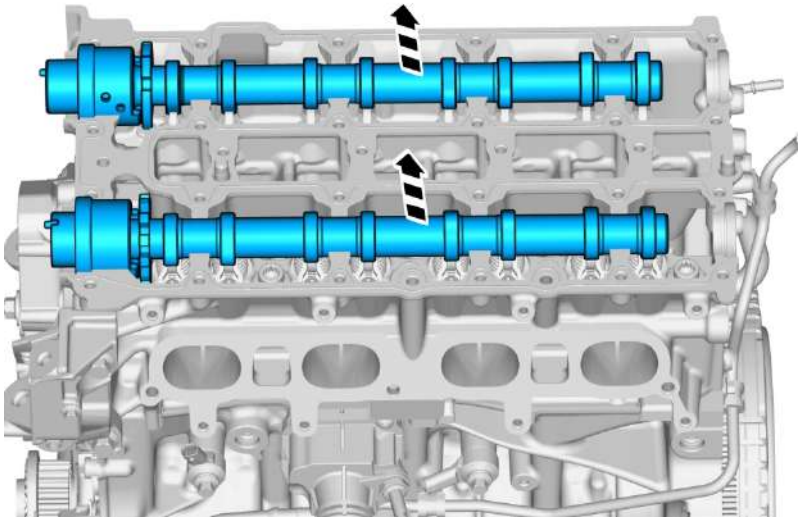


Caution! Note the location of the component before removal.

Caution! Take extra care when handling the components.

Remove the marked parts.

Vehicles late version

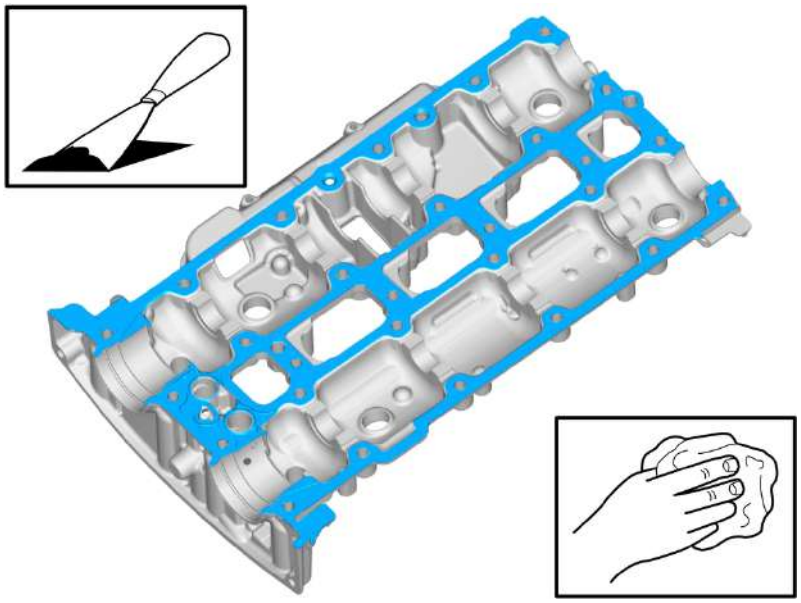


Caution! Note the location of the component before removal.

Caution! Take extra care when handling the component.

Remove the marked parts.

Cleaning



Caution! Take extra care not to damage the mating faces.

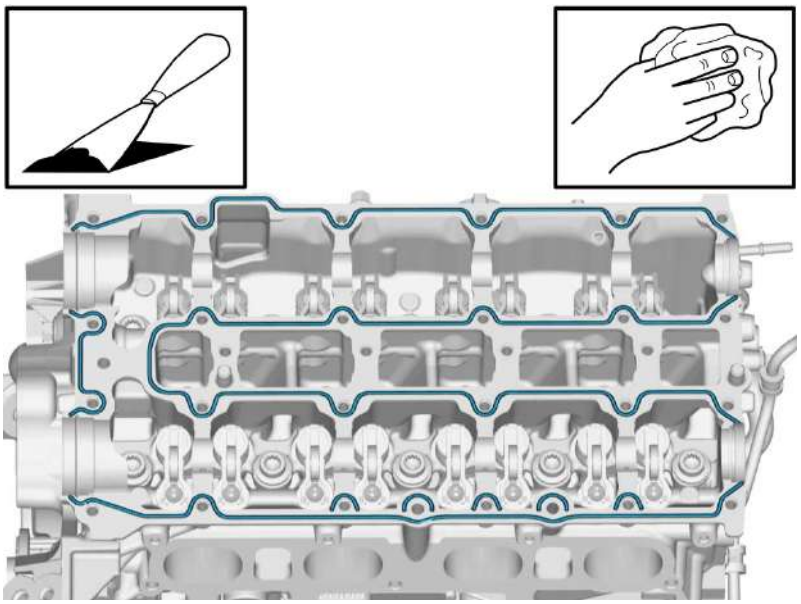
Caution! Make sure that the oil galleries are clean and free of foreign material.

Note! Make sure that the mating faces are clean and free of foreign material.

Use: Putty knife (plastic)

Use: Abrasive cloth

Use: Isopropanol ,



Caution! Take extra care not to damage the mating faces.

Caution! Make sure that the oil galleries are clean and free of foreign material.

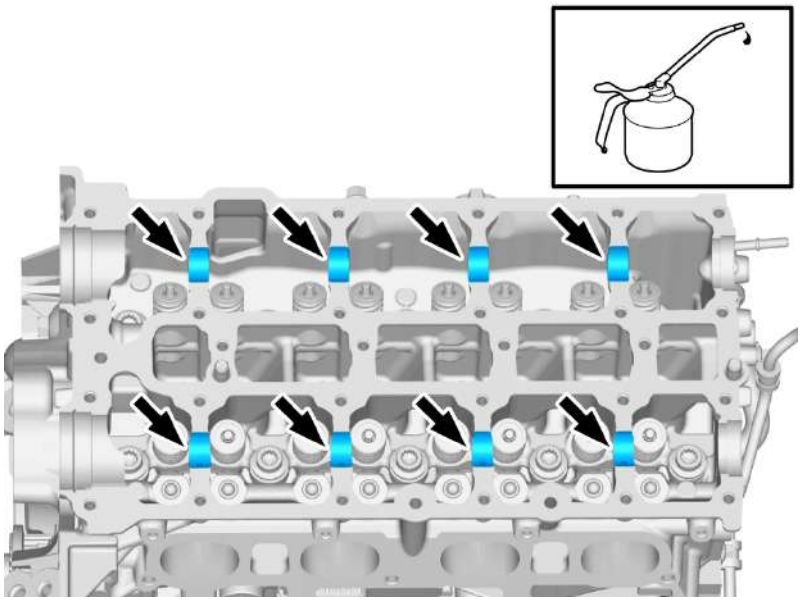
Note! Make sure that the mating faces are clean and free of foreign material.

Use: Putty knife (plastic)

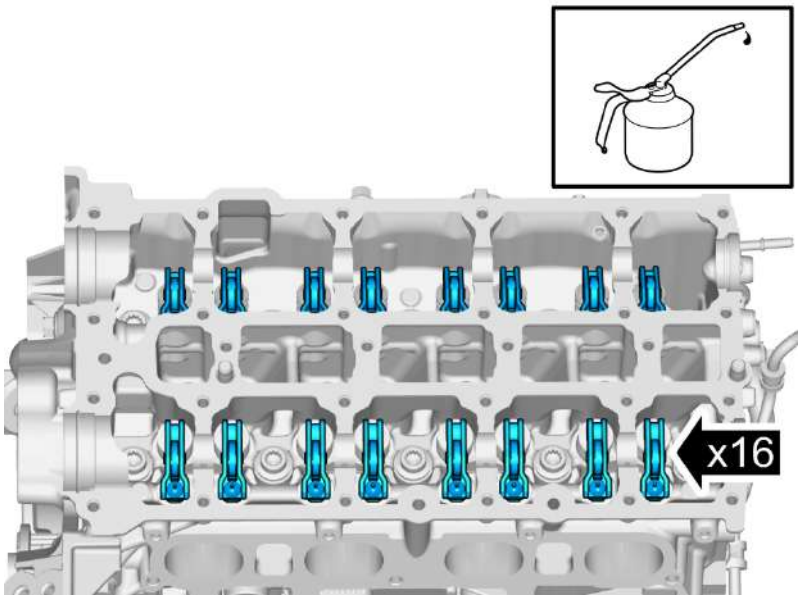
Use: Abrasive cloth

Use: Isopropanol ,

Installation

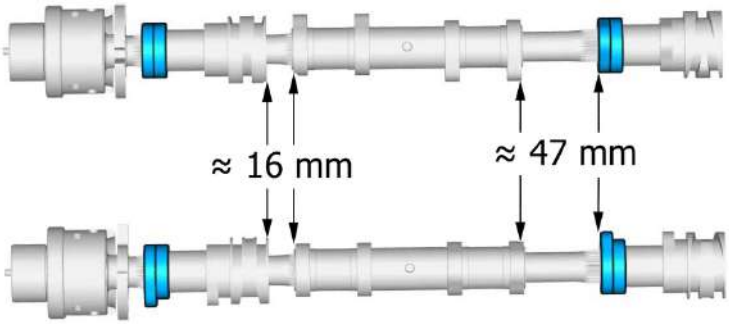


Use: Engine oil ,

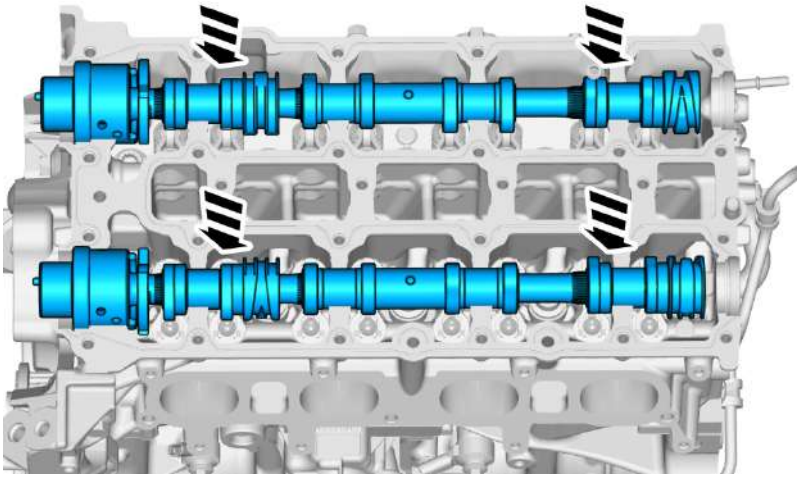


Use: Engine oil ,

Vehicles early version



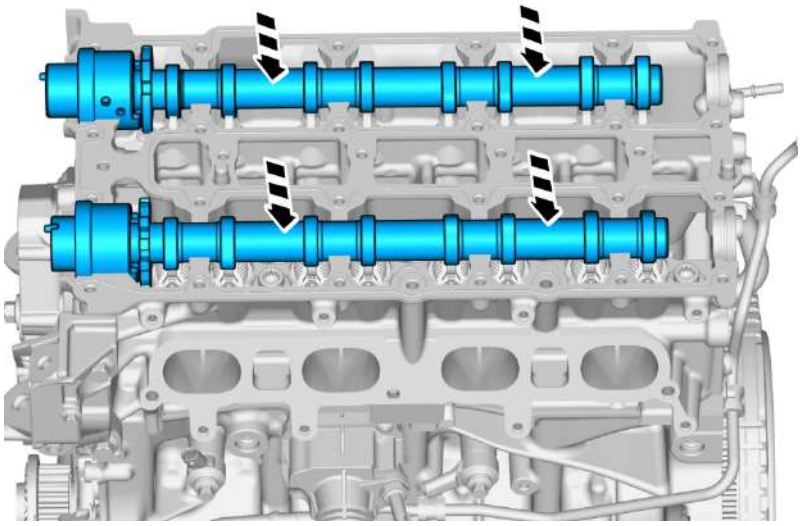
Caution! Make sure that the components are positioned correctly.



Caution! Make sure that the components are positioned correctly.

Install the marked components.

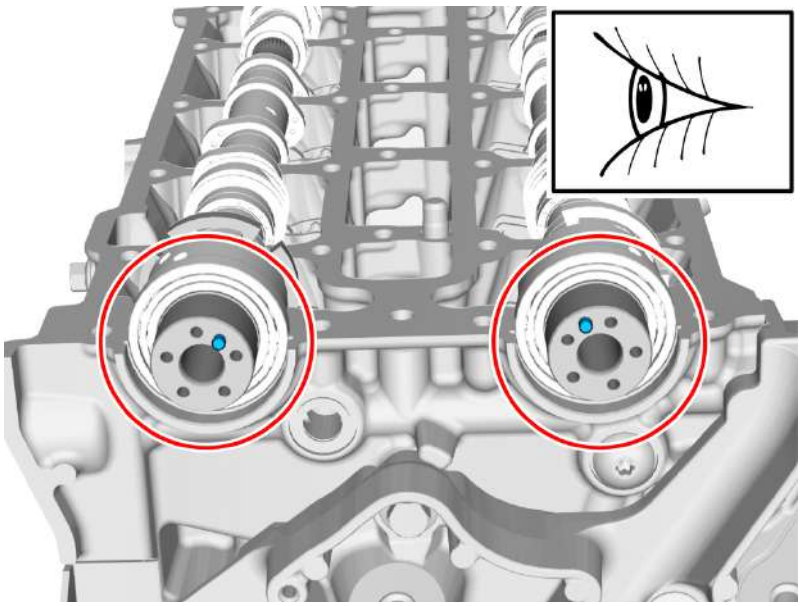
Vehicles late version



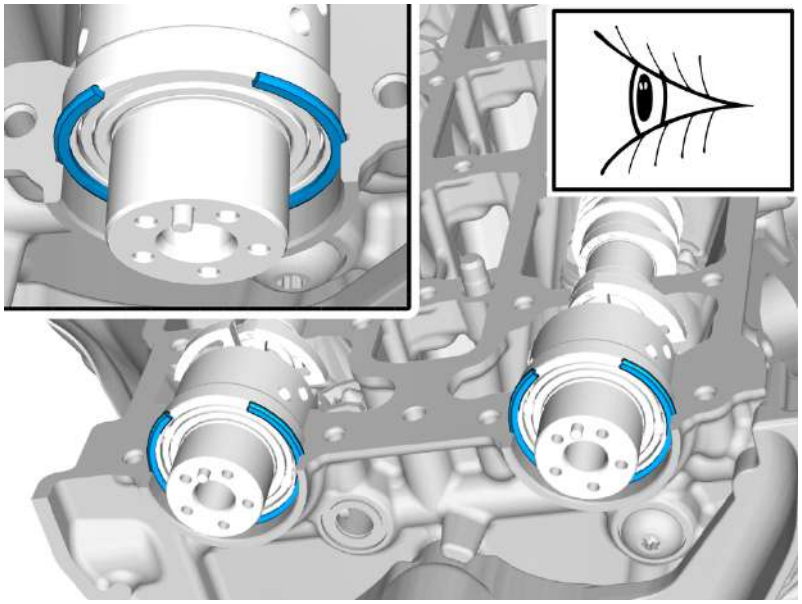
Caution! Make sure that the components are positioned correctly.

Install the marked components.

All vehicles

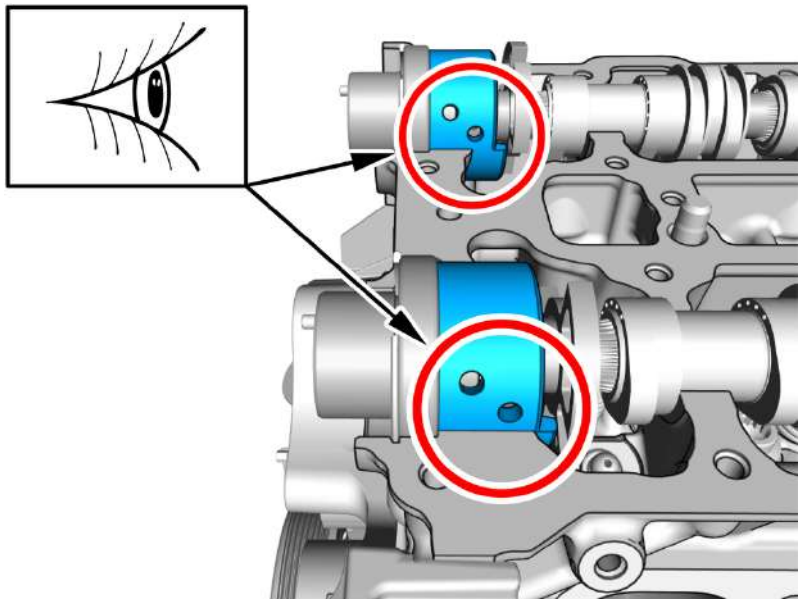


Caution! Make sure that the components are positioned correctly.



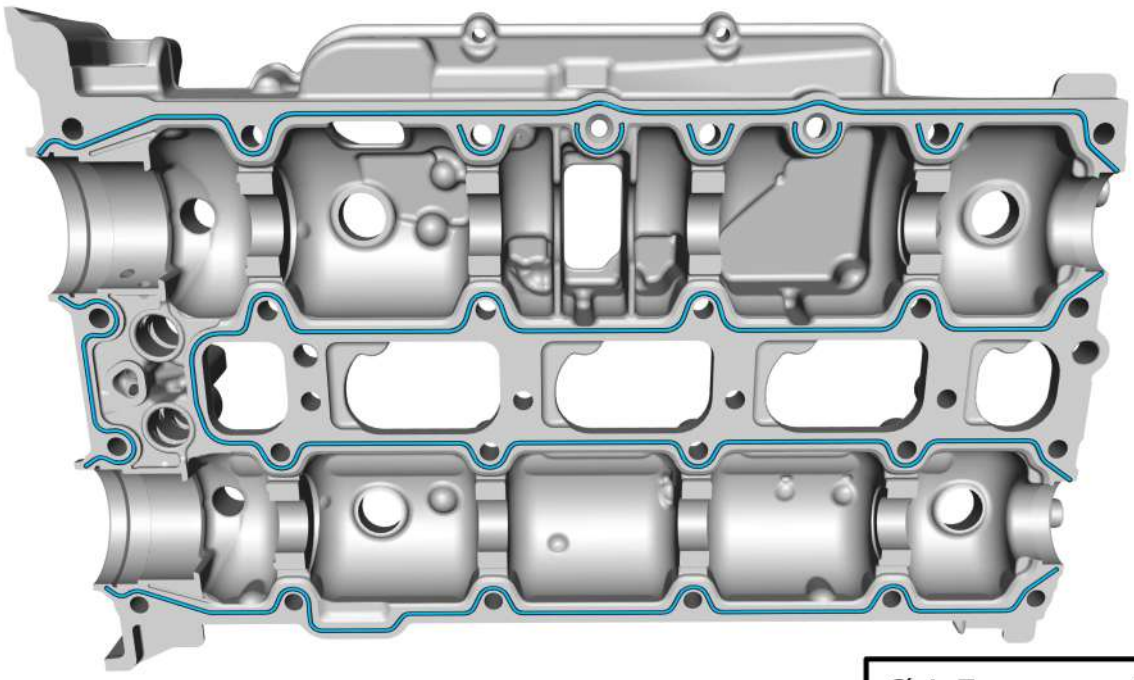
Caution! Make sure that the components are positioned correctly.

Install the marked components.



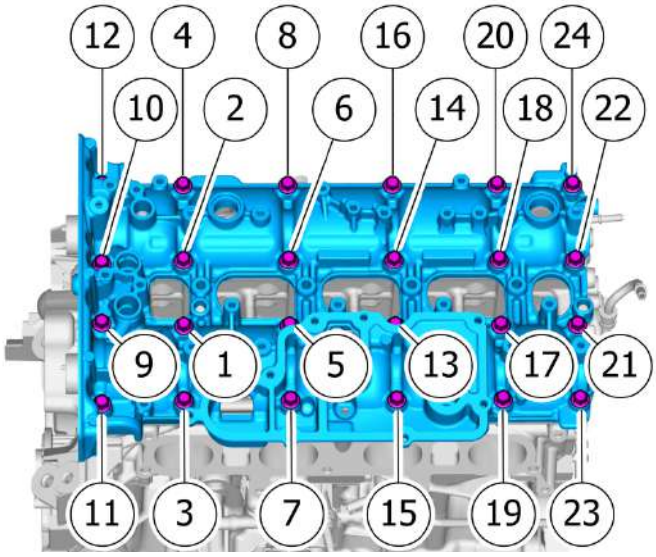
Caution! Make sure that the components are positioned correctly.

All vehicles



Note! The component must be installed within 5 minutes of applying the sealant.

Use: Chemical gasket , 1161771



Caution! Make sure that equal pressure is applied to the full length of the component.

Note! Make sure to follow the sequence indicated.

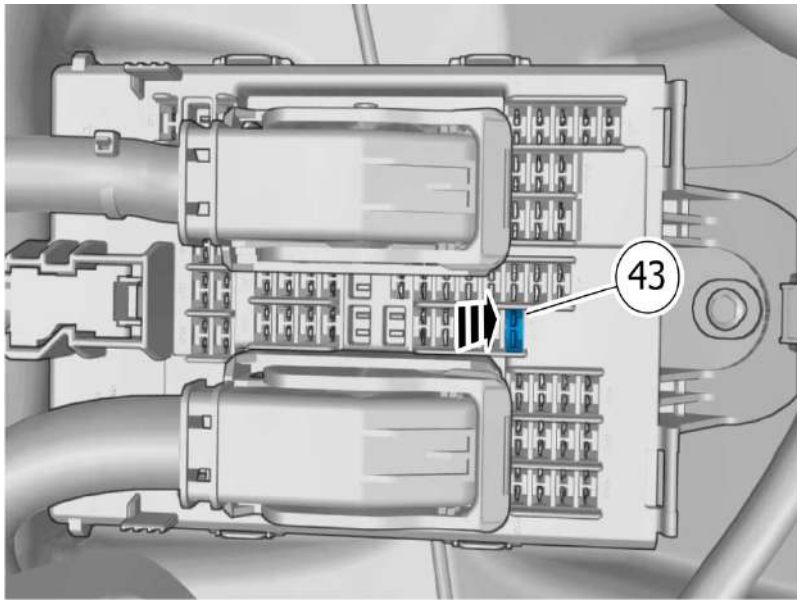
Install the marked component.
Install the screws.
Tighten each bolt 2 turns at a time.

Torque:

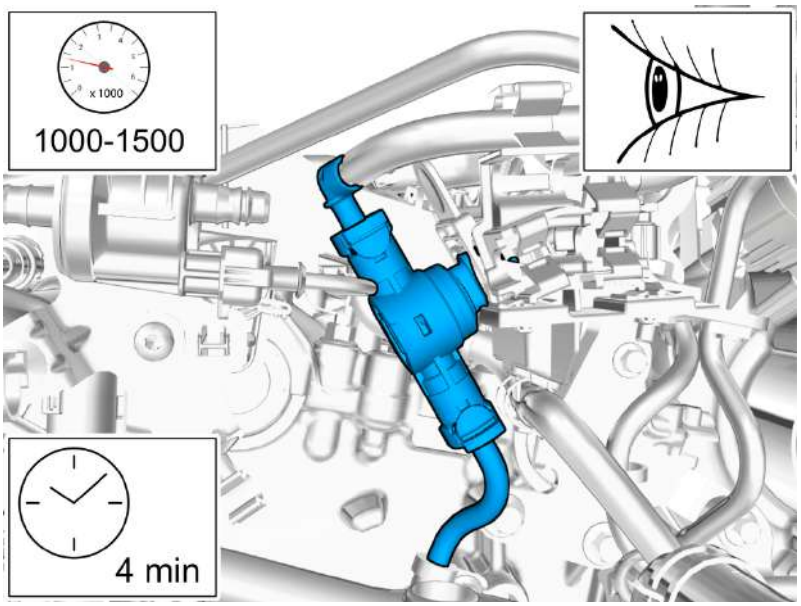
M7 , 17 Nm

To install, reverse the removal procedure.

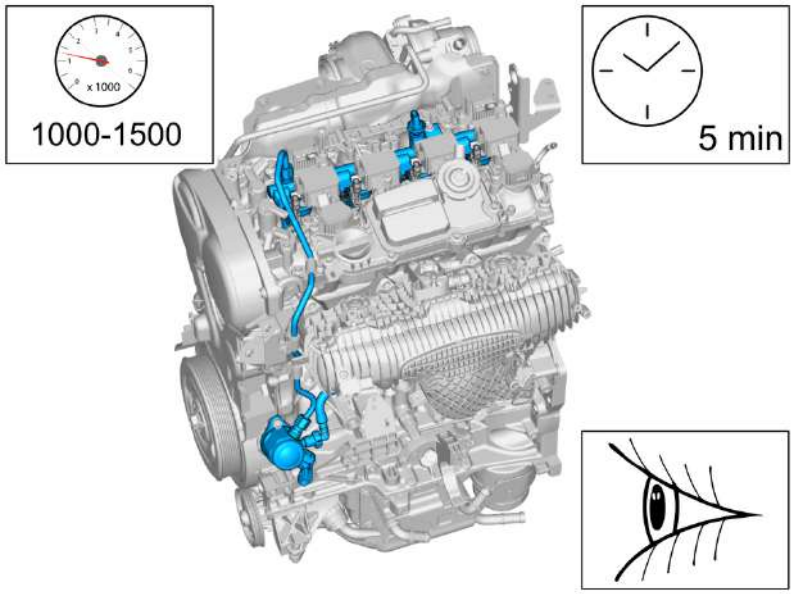
Check



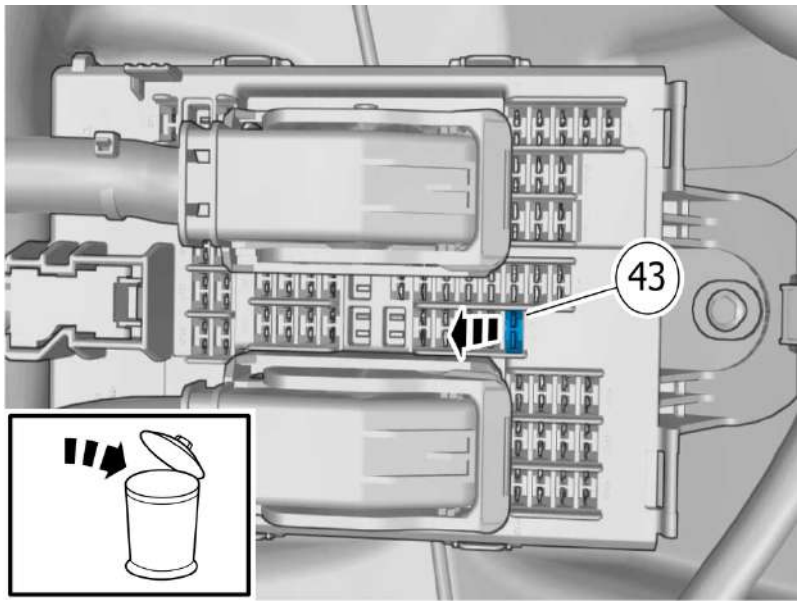
Reinstall the fuse.
Start the engine.



Warning! **Make sure that there are no leaks.**



Warning! **Make sure that there are no leaks.**



Switch off the engine.
Discard of the previously installed fuse and install a new one.