

# V O L V O

## Volvo Car USA LLC

## Technical Journal

Technical Journal Title <b>Check Engine Light with Camshaft or VVT Pulley DTCs</b>		Ref. No. <b>TJ 37618.3.3</b>	
Issuer (Dept.) <b>Technical Service</b>		Issue Date <b>5/5/26</b>	Status Date <b>5/7/26</b>
Car Market <b>United States and Canada</b>	Partner <b>3 US 7510 Volvo Car USA</b>	Function Group <b>2154</b>	
Function Description <b>Camshaft</b>		Page <b>Page 1 of 135</b>	

### Attachment

File Name	File Size
How to find Structure Week and Engine Serial Number.jpg	0.2454 MB
TJ 37618 Flow Chart.jpg	0.5552 MB
TJI-531608-1_1_5_en-US.pdf	3.6219 MB
TJI-531608-2_1_5_en-US.pdf	3.3553 MB
TJ_37618_1.pdf	0.6309 MB
TJ_37618_2.pdf	0.2175 MB

Rows beginning with \* are modified

Note! If using a printed copy of this Technical Journal, first check for the latest online version.

### DESCRIPTION:

\*\*"Service" is updated with software information.

If the Check Engine Light is on in the DIM and one or more of the DTCs listed below are set, please follow the advice under "Service".

### 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	P036692	Permanent
ECM	P061C48	Permanent
ECM	P001500	Permanent
ECM	P001400	Permanent
ECM	P001200	Permanent
ECM	P001100	Permanent
ECM	P001792	Permanent
ECM	P001721	Permanent
ECM	P034100	Permanent

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### Vehicle Type

Type	Eng	Eng Desc	Sales	Body	Gear	Steer	Model Year	Plant	Chassis range	Struc Week Range
224	L1	BL1KERS					2022-2025	70	-	202122-202425
225	06	B06KERS					2023-2023	21	-	202017-202313
225	06	B06KERS					2023-2023	22	-	202222-202316
227	L1	BL1KERS					2023-2024	21	-	202217-202416
227	L1	BL1KERS					2023-2026	22	-	202222-202517
236	06	B06KERS					2022-2026	21	-	202122-202543
238	06	B06KERS					2022-2025	35	-	202122-202516
238	L1	BL1KERS					2026-2026	35	-	202517-202533
246	06	B06KERS					2022-2023	21	-	202122-202316
246	06	B06KERS					2022-2023	36	-	202122-202316
246	L1	BL1KERS					2022-2024	21	-	202122-202317
246	L1	BL1KERS					2022-2024	36	-	202122-202416
246	M1	BM1KERS					2025-2026	21	-	202416-202543
246	M1	BM1KERS					2025-2025	36	-	202417-202516
256	06	B06KERS					2023-2026	21	-	202222-202543
256	L1	BL1KERS					2023-2024	21	-	202217-202416
256	M1	BM1KERS					2025-2026	21	-	202407-202543
536	K9	BK9KERS					2023-2026	22	-	202222-202343
536	L1	BL1KERS					2023-2026	22	-	202222-202543

### SERVICE:

#### \*Updated ECM software is available for these DTCs:

1. Check if the software is the latest version. If the software is not the latest version, perform an upgrade of the software according to TJ 31543.
2. Perform a test drive at different loads for approximately 15 minutes in speed ranges between 50-100km/h (30-60 mph).
3. Check if the ECM DTC/DTCs are set again. If no ECM DTCs are set, release the car to the customer.

If the ECM DTC/DTCs are set again, or if the vehicle already has the latest software, continue with the instructions below.

1. **Note the vehicle's Structure Week and Engine Serial Number (see the attachment "How to find Structure Week and Engine Serial Number").**
2. **Open the attachment "TJ 37618 Flow Chart" and follow the chart to determine the correct repair.**

### Important notes:

- **If this is a repeat concern, please open a TIE Support Needed Vehicle Report for assistance.**
- If replacing camshafts or camshafts and VVT pulleys, follow the repair instructions attached to this TJ rather than the instructions in VIDA. (TJI-531608-1\_1\_5\_US 1.pdf for SPA1, TJI-531608-2\_1\_5\_en-US 1.pdf for CMA.)
- If replacing VVT pulleys only, follow the **VIDA** repair instructions with the exception of replacing the timing belt kit. The timing belt kit should be reused unless it **has been subjected to abnormal mechanical stress, damage, or oil contamination.**
- When setting the timing with a used timing belt reference VIDA > Information > Repair > Cleaning, Inspection, and Adjustment > 215 Timing belt, service position.
- Only hand tools should be used for repairs according to the VIDA methods; otherwise, parts may be damaged.
- VVT pulley covers (PN 32137525) should not be replaced unless they are damaged.
- When replacing VVT pulleys, the camshaft sealing rings (PN 31316040) should not be replaced unless they are damaged.
- When replacing camshafts, the sealing rings (PN 31316040) must be replaced.

### Abbreviations:

DIM: Driver Information Module  
ECM: Engine Control Module  
CSC: Customer Symptom Code  
RTS: Retailer Technical Support  
VVT: Variable Valve Timing

### 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.

Please note that fault tracing is not eligible for separate reimbursement under this TJ. Any fault tracing VST operation numbers will be rejected.

Note that the TJ number must be stated in the repair order text.

**Note: If replacing VVT Pulleys only, labor operation 21557-2 “Variable Valve timing unit replace” should be claimed.**

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### VST Operation Number

VST Operation Number	Description
98783-2	Camshaft sleeve acc.to TJ.
98802-2	General Reimbursement acc to TJ
98817-2	DTC readout/ reset incl. VIDA connection acc. to TJ
98821-3	Software download acc. to TJ
36100-2	Test drive according to Technical Journal 4JV

### VEHICLE REPORT:

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

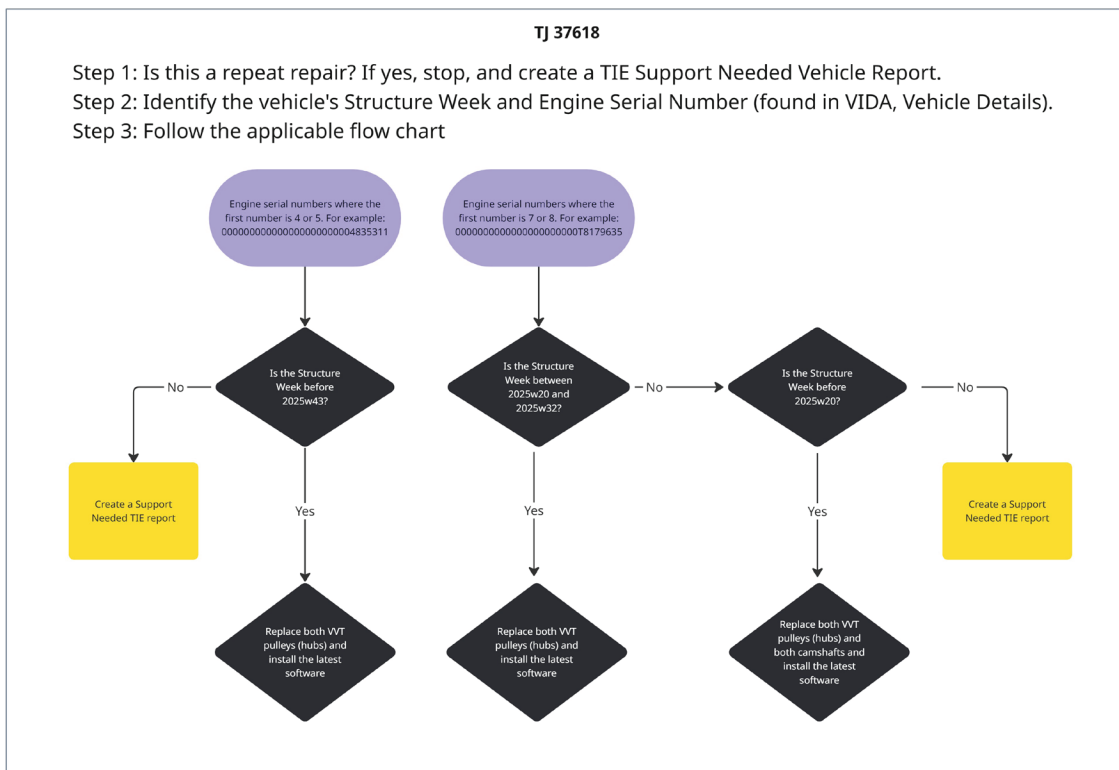
**To view TJ attachments continue to next page. This TJ has six attachments.**

**Step 1: Click on the VIN**

**Step 2: Click on General Attributes**

**Step 3: Note the Structure Week and Engine Serial Number**

Attribute	Value	Attribute	Value
Model:	XC90 (16-)	Type:	256
Factory Code:	21	License Plate:	
<b>Structure Week:</b>	<b>202437</b>	Partner Group:	America
Chassis:	329202	Diagnostic Wi-Fi Capable:	Yes
Model Year:	2025	Upholstery/Interior:	BLOND CHAR/LEAC/BLOND
Upholstery/Interior Code:	UC00	Vehicle Color:	DENIM BLUE
Vehicle Color Code:	723	Body Style:	NO SIGNIFICATION
Body Style Code:	0	Steering:	L.H.D
Steering Code:	1	Special Vehicles:	LH DRIVE
Special Vehicle Code:	1	Sales Version:	Ultra Bright 7-seat
Sales Version:	58	Market:	CALIFORNIA
Market Code:	31	Engine:	B420T
Engine Code:	06	<b>Engine Serial Number:</b>	<b>000000000000000000000005431704</b>
Engine Part No.:	6906518		



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VOLVO

Home S90L, 2025, B420T11, AWPB045... X Rainer Borch - Volvo Car Corporation Dept. 57334

Planning & Diagnostics Software Installation Information Service Journals

VIN: LVYPDM1D0SP444218 Model/Year/Chassis: S90L, 2025, 444218 14 V / 91% Driving Virtual #2 Disconnect

Readout (Latest) 17/02/2026 09:41:26

ECUs Sensors & Actuators Cable harnesses Connectors

ID	Name
4/184	Active Safety Domain Master (ASDM)
16/105	Audio Control Module (AUD)
4/17	Brake Control Module 2 (BCM2)
16/202	Center Console Display (CCD)
4/56	Central Electronic Module (CEM)
4/154	Climate Control Module (CCM)
4/213	Driver Door Module (DDM), Default
5/1	Driver Information Module (DIM)
4/197	Electronic Gear Selector Module (EGSM)
4/46	Engine Control Module (ECM)
4/318	Forward-Looking Camera 2 (FLC2)
4/291	Forward-Looking Radar (FLR)
4/112	Headlamp Control Module Left (HCML)
4/113	Headlamp Control Module Right (HCMR)
4/185	Infotainment Head Unit (IHU)
4/283	Integrated Starter Generator Module (ISGM)
4/270	Mid-Voltage Battery Module (MVBM)
4/265	Mid-Voltage Converter Module (MVCM)
4/198	Overhead Console (OHC)
4/214	Passenger Door Module (PDM), Default
4/199	Power Seat Module Driver (PSMD)
4/210	Power Seat Module Passenger (PSMP)

DTCs Documents Wiring Diagrams Parameters Activations Diagnostic Sequences Images ECU Identification

Confirmed All DTCs

DTC	Status
ECM-P034100 Camshaft Position Sensor "A" Circuit Range/Performance (Bank 1 or single sensor)	1.

Read DTCs Erase All

Client Version: 26.1.3.267 IT Requirement Help

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DTC Extended Information

**Overview** **Details** 2.

ECM-P034100 Camshaft Position Sensor "A" Circuit Range/Performance (Bank 1 or single sensor) .

**Information**

The camshaft position sensor is used by the Engine Control Module (ECM) to determine the camshaft's position. The camshaft position sensor uses a pulse wheel on the camshaft consisting of five teeth to detect the flanks.

**Test run criteria**

The control module's test for the DTC starts when:

- The vehicle is in usage mode driving.

**Detection criteria**

The DTC is set if the control module detects that:

- One or more pulses are missing during a revolution.

**Fault handling in the control module**

- The Engine Control Module (ECM) uses the crankshaft position sensor signal.
- The Engine Control Module (ECM) does not use the VVT-unit.

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DTC Extended Information

Overview **Details**

**ECM-P034100 Camshaft Position Sensor "A" Circuit Range/Performance (Bank 1 or single sensor).** Graph view **Data view**

Timeline

Last  
 17/02/2026 09:28:06  
First 17/02/2026 09:28:06 Now 17/02/2026 09:41:25  
Frozen values  
 17/02/2026 09:28:06

Test Run			Test Result				Calibration	
Name	This cycle	Since erase	Name	Now	This cycle	Since erase	Name	Value
Completed	Yes ✓	Yes ✓	Warning indicator	N/A	N/A	No	Confirmed limit	0 EOC
Started	Yes ✓	N/A	Symptom	N/A	N/A	No	Failed inhibited	False
			Confirmed	No	N/A	N/A	Unconfirmed limit	0
			Pending	Yes	N/A	N/A	Aged limit	0 EOC
			Failed	No	Yes	Yes	Step up	0
			Unconfirmed	No	Yes	Yes	Step down	0

**Fault Counter**

Failed +127

0

Passed -128

0 5 10 15 20 25 30 35 40 45 50 55 60

Unconfirmed 0

Start

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DTC Extended Information

Overview **Details**

**ECM-P034100 Camshaft Position Sensor "A" Circuit Range/Performance (Bank 1 or single sensor).** Graph view Data view

DTC first occurrence: 17/02/2026 09:28:06    DTC last occurrence: 17/02/2026 09:28:06

Frozen values		Value
Intake air pressure		34 kPa
<b>Engine speed</b>		<b>756,25 r/min</b> 4.
Vehicle speed (via CAN)		0 km/h
Ignition angle		4 CA
Intake air temperature		29 °C
Air mass		2,93 g/s

ID	ECU operation cycle counters	Value
OCC1	All cycles since last cycle with faults	0
OCC2	Confirmed fault free cycles since last cycle with faults	0
OCC3	All cycles since first cycle with faults	0
OCC4	All cycles with faults	1
OCC5	OBD cycles since "Check Engine" lamp off	0
OCC6	Consecutive cycles with faults	1
OCC7	Confirmed fault free cycles since first cycle with faults and all cycles with faults	0

ID	Status bits	Value
SB0	Failed now	No
SB1	Failed this cycle	Yes
SB2	Pending	Yes
SB3	Confirmed	No
SB4	Not completed since erase	No
SB5	Failed since erase	Yes
SB6	Not completed this cycle	No
SB7	Warning indicator now	No

ID	Status indicators	Value
SI0	Unconfirmed now	No
SI1	Unconfirmed this cycle	Yes
SI2	Unconfirmed since erase	Yes
SI3	Aged DTC	No
SI4	Symptom since erase	No
SI5	Warning indicator since erase	No
SI6	Emission related DTC	Yes
SI7	Failed since aging or erase	Yes

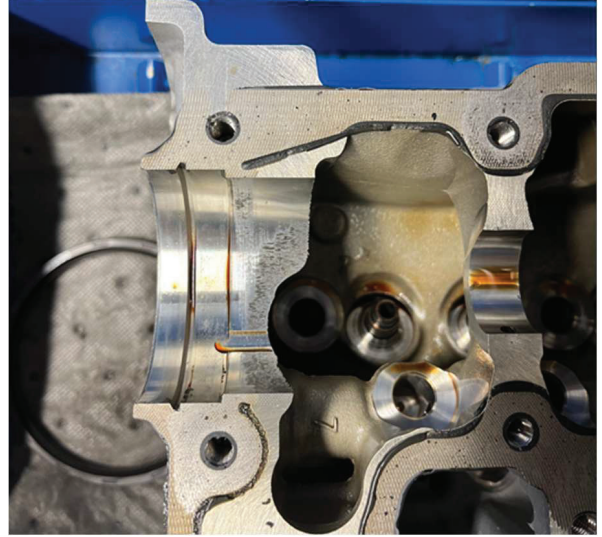
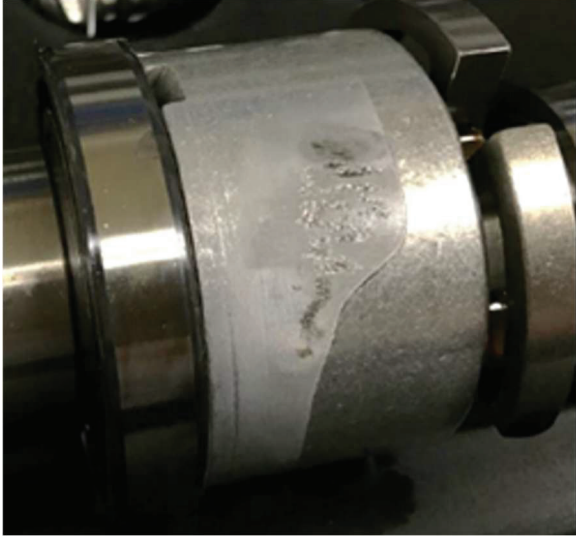
ID	Fault counters	Value
FDC10	Fault counter, current value	-128
FDC12	Fault counter, max since erase	127

ID	Timestamps	Value
TS20	Timestamp first	10863123,5
TS21	Timestamp last	10863123,5

Start

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## Volvo Car Customer Service

TJ Instruction VCC-531608-1

<b>Title</b>	Camshaft bushing	<b>Page</b>	1 ( 65 )
<b>Action</b>	Replacement	<b>Operation number:</b>	98783-2

Issue	Date	Reason
3	2025-11	Change in Affected Vehicles
2	2025-06	Change in Affected Vehicles
1	2025-03	First issue

### Affected vehicles

Model year	Model	Engine
2021, 2022, 2023, 2024, 2025, 2026	S60 (19-)	B420T, T10, T11, T2, T3, T4, T5, T6
2021, 2022, 2023, 2024	S90 (17-)	B420T, T10, T2, T6
2021, 2022, 2023, 2024, 2025, 2026	S90L	B420T, T11, T2, T6
2021, 2022, 2023, 2024, 2025, 2026	V60 (19-)	B420T, T10, T2, T3, T4, T5, T6
2021, 2022, 2023, 2024, 2025, 2026	V60 Cross Country (19-)	B420T10, T2
2021, 2022, 2023, 2024, 2025, 2026	V90 Cross Country	B420T, T10, T2
2021, 2022, 2023, 2024, 2025, 2026	XC60 (18-)	B420T, T10, T11, T2, T6
2021, 2022, 2023, 2024, 2025, 2026	XC90 (16-)	B420T, T10, T11, T2

### 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

**Special tools**

<b>Description</b>	<b>Part No.</b>
Mounting	999 7534
Support	999 7533
Counterhold	999 7718
Hook wrench	981 4129
L-hook	951 2943
Cleaning tool	999 7505

**Equipment**

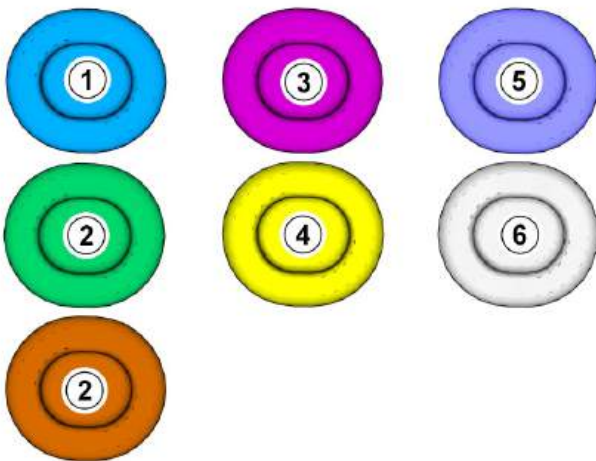
<b>Designation</b>	<b>Part No.</b>
Interior trim remover	
Marker pen	
Screw M10 x 20 mm	
Putty knife (plastic)	
Abrasive cloth	

## 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.**

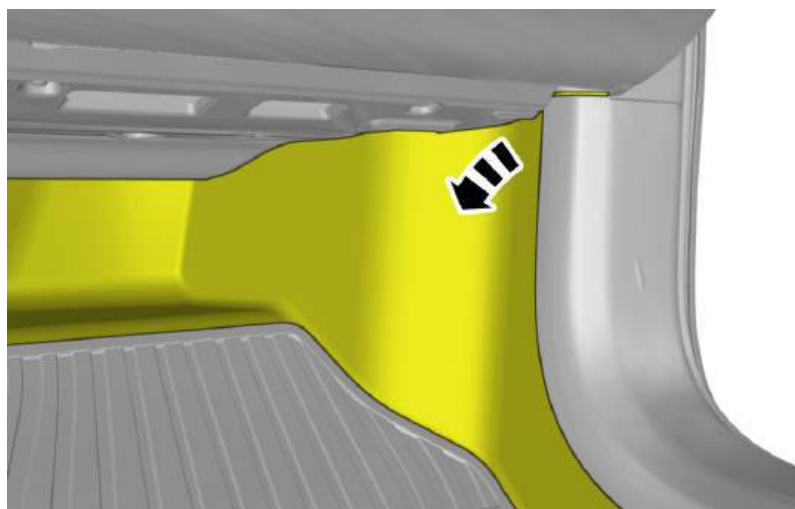
- 1 . Used for focused component, the component with which you will do something.
- 2 . Used as extra colors when you need to show or differentiate additional parts.
- 3 . Used for attachments that are to be removed/installed. May be screws, clips, connectors, etc.
- 4 . Used when the component is not 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:

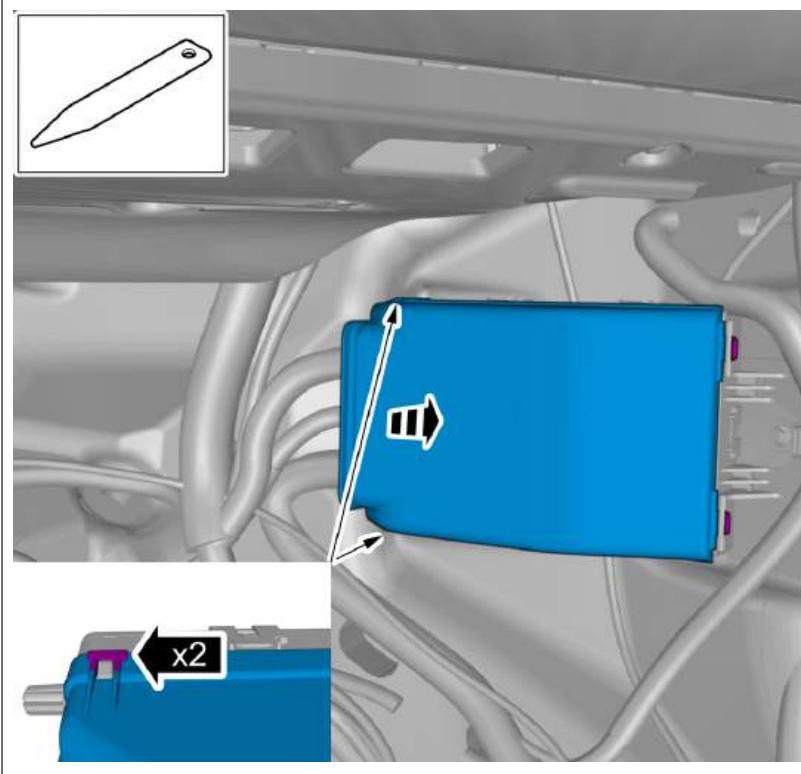
- General Safety Information
- 2 - Engine with mountings and equipment
- 23 - Fuel system
- 230 - general



**Note! Orientation view**

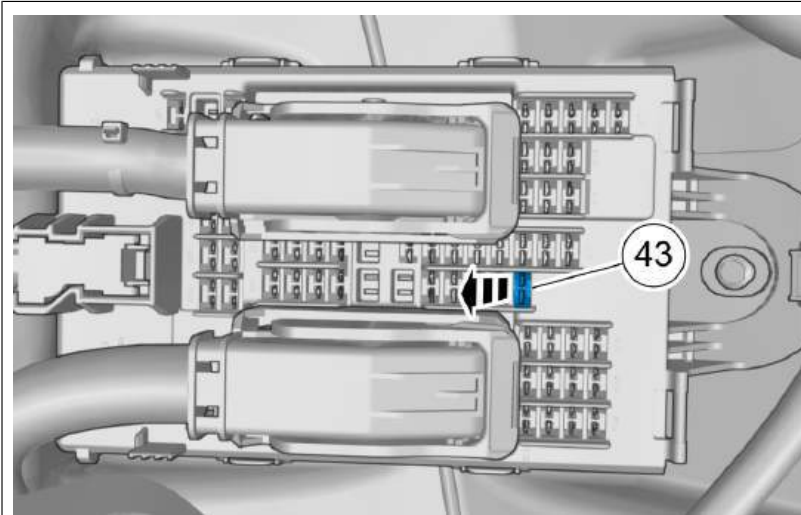


Fold the carpet aside.



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

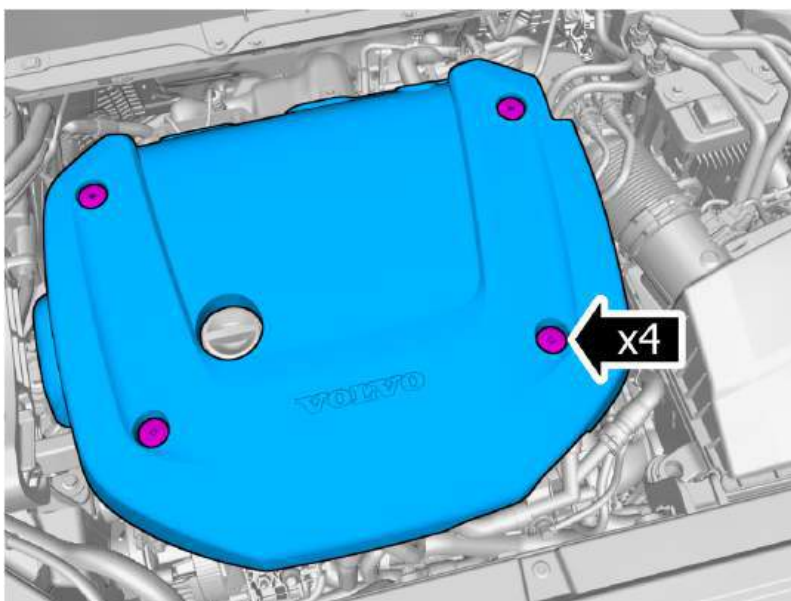
Disconnect mid voltage battery, disconnecting and connecting , refer to:

Cleaning, Inspection and Adjustment

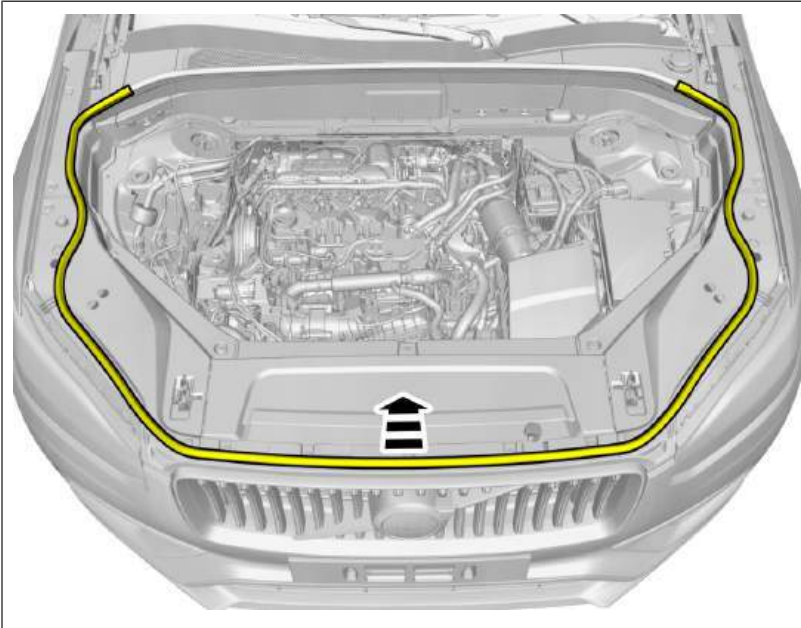
3 - Electrical system

31 - Battery and mounting

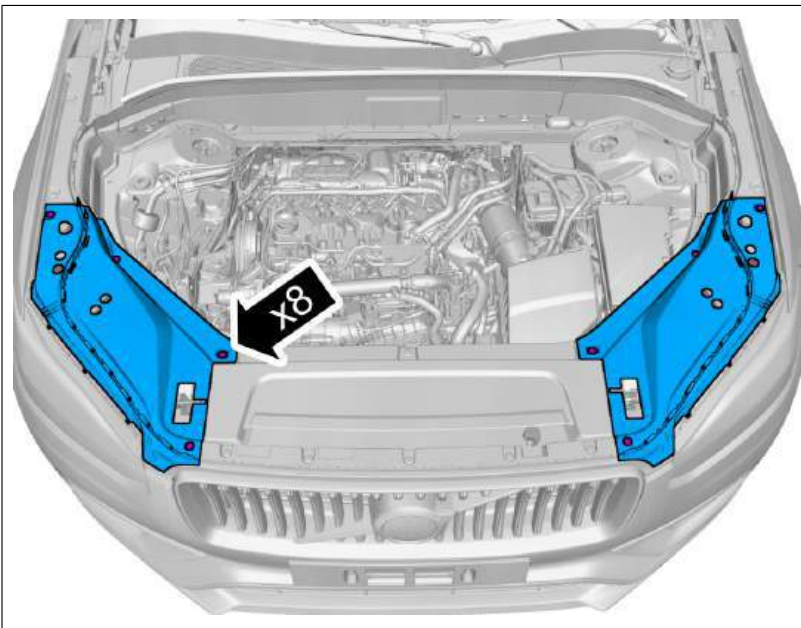
311 - battery



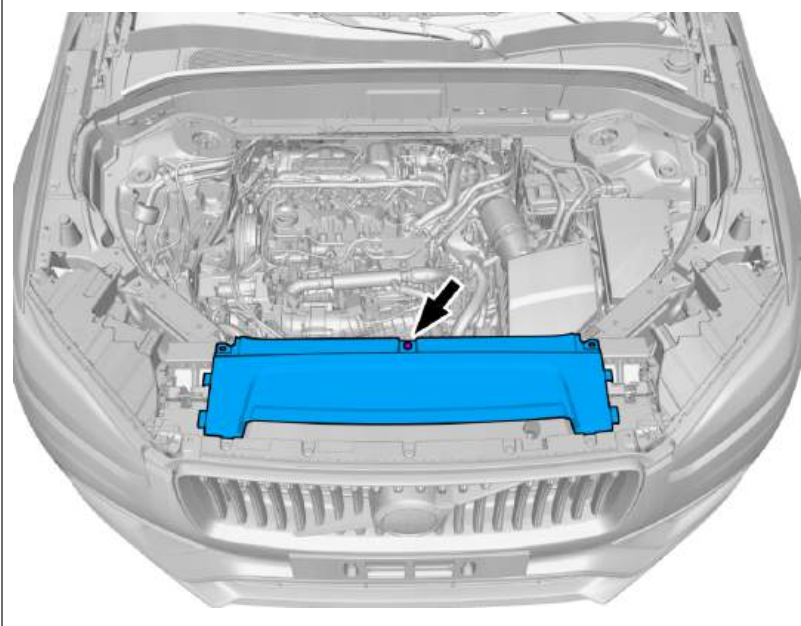
Loosen the screws.  
Remove the marked part.



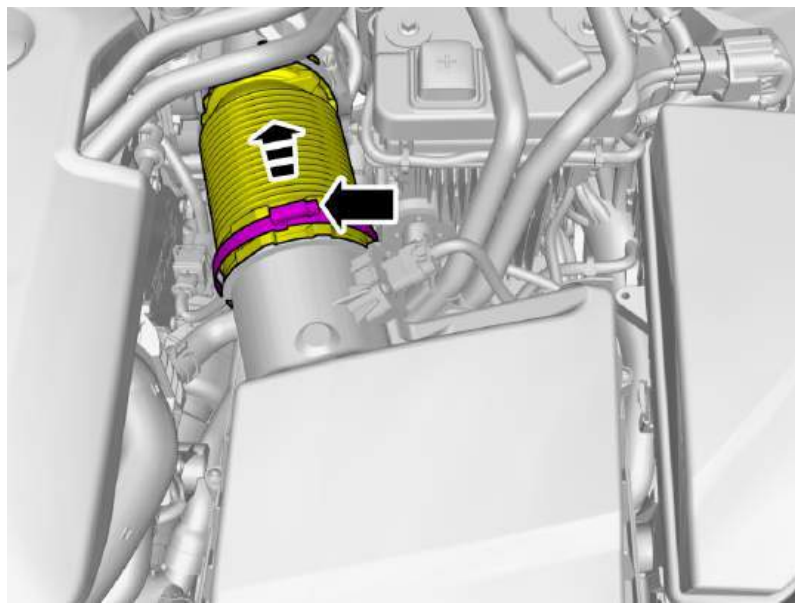
Fold marked part aside.



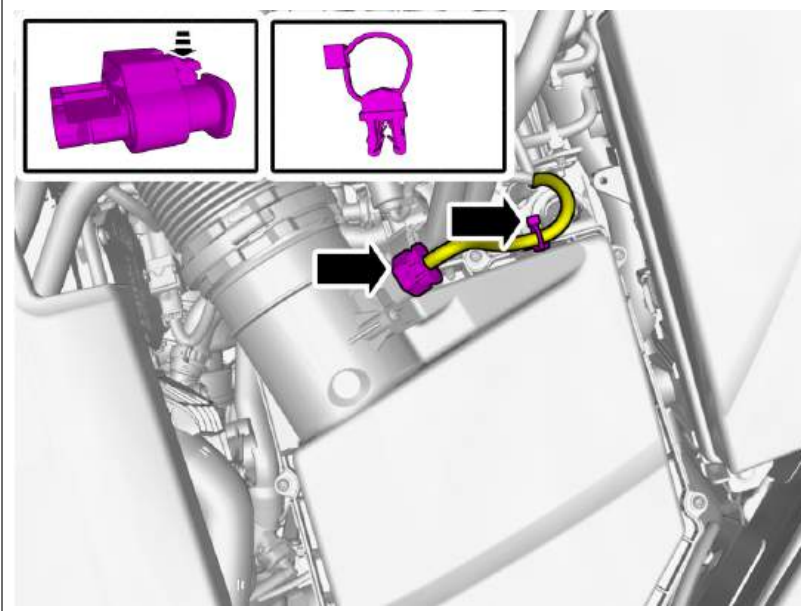
Remove the clips.  
Remove the marked parts.



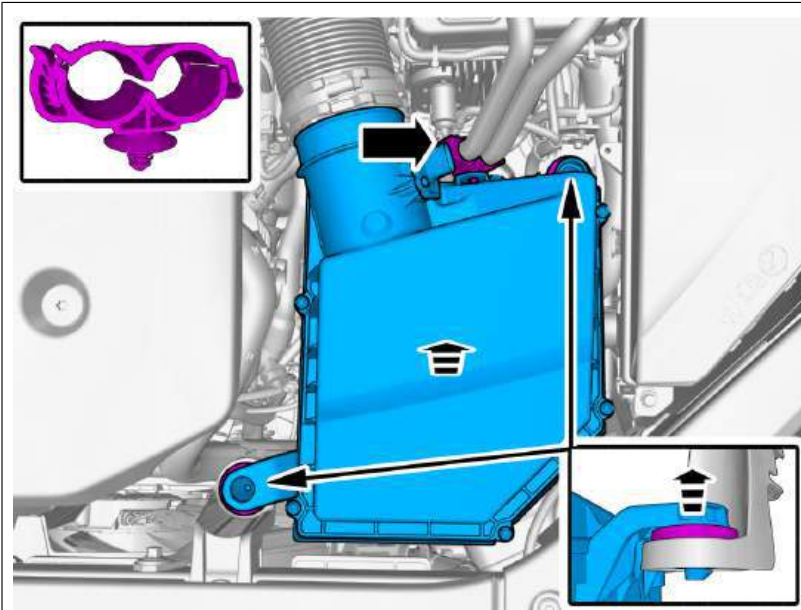
Remove the clip.  
Remove the marked part.



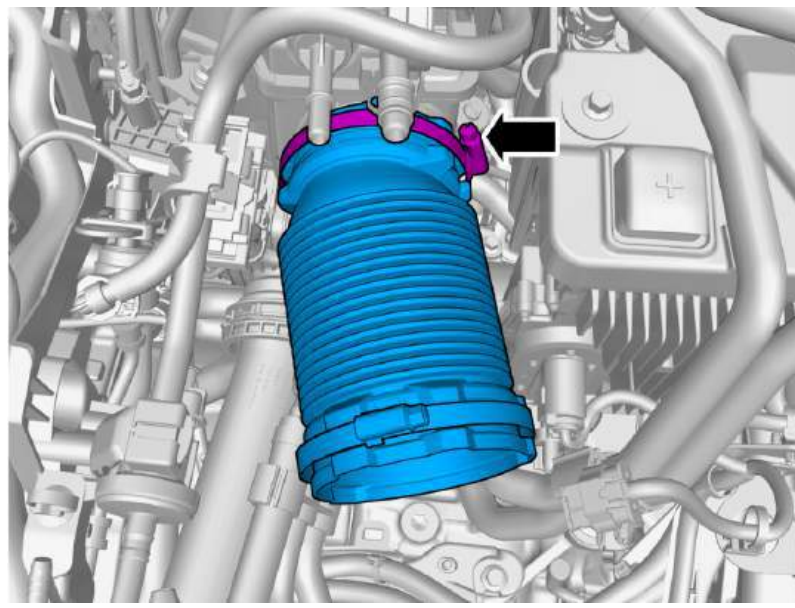
Loosen the hose clamp.  
Undo the hose from the connection.



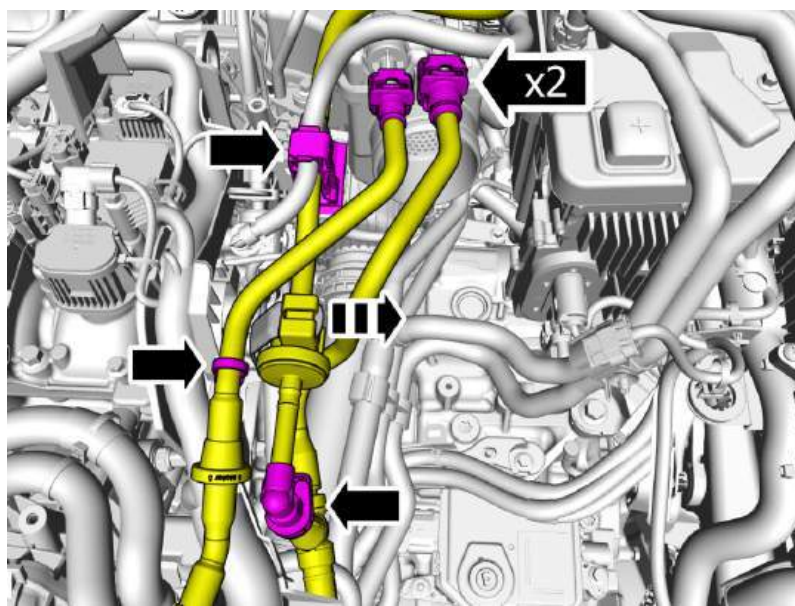
Disconnect the connector.  
Remove the cable harness clips.



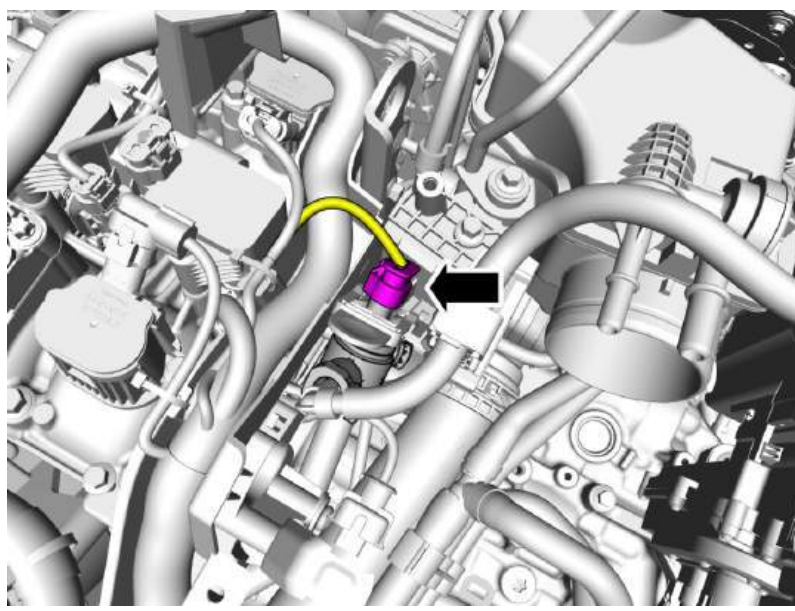
Loosen the clip.  
Lift the marked component up



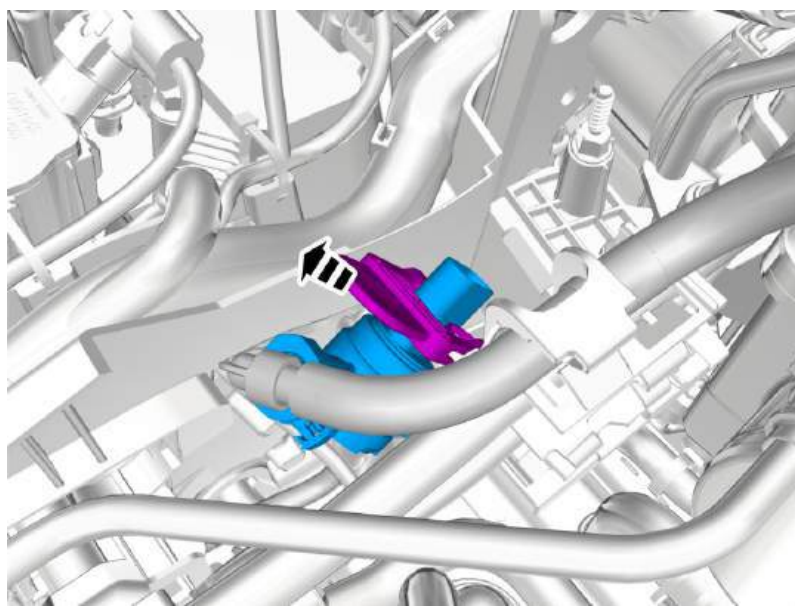
Loosen the hose clamp.  
Remove the marked part.



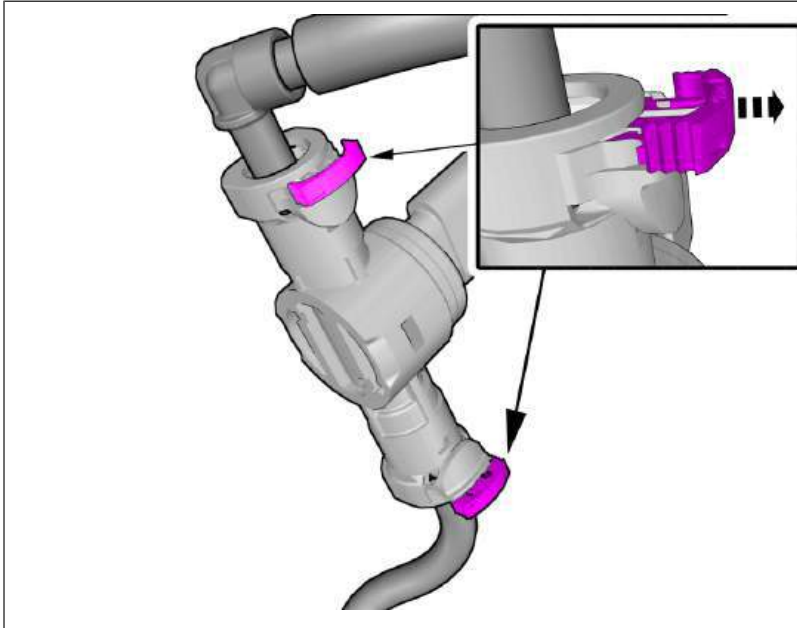
Remove the clips.  
Release the locks.  
Undo the hoses from the connections.  
Fold marked parts aside.



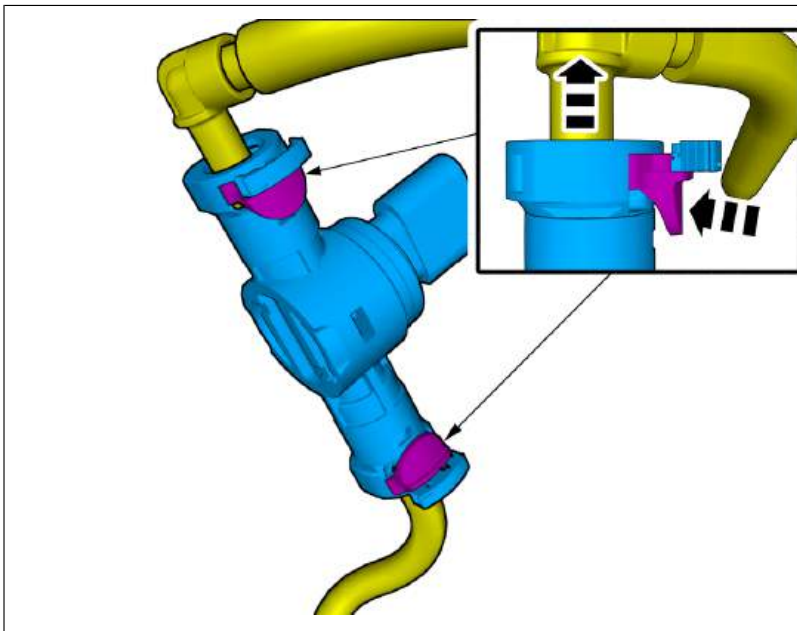
Disconnect the connector.



Loosen the clip.



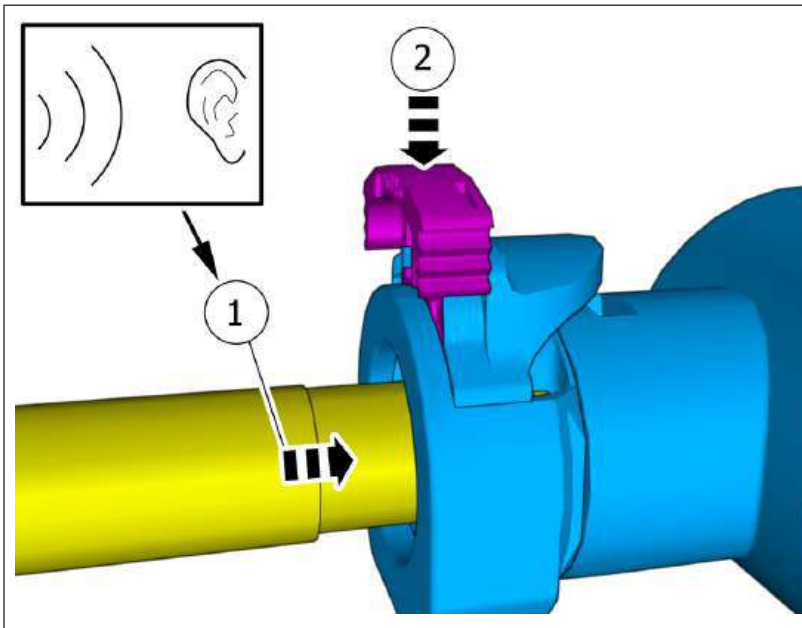
Release the locks.



**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.

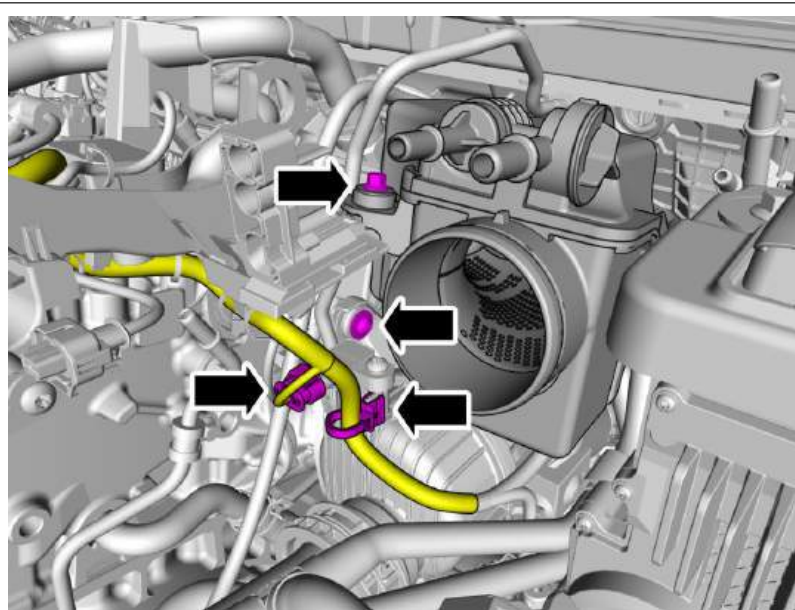
## Extra information



On both sides.

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

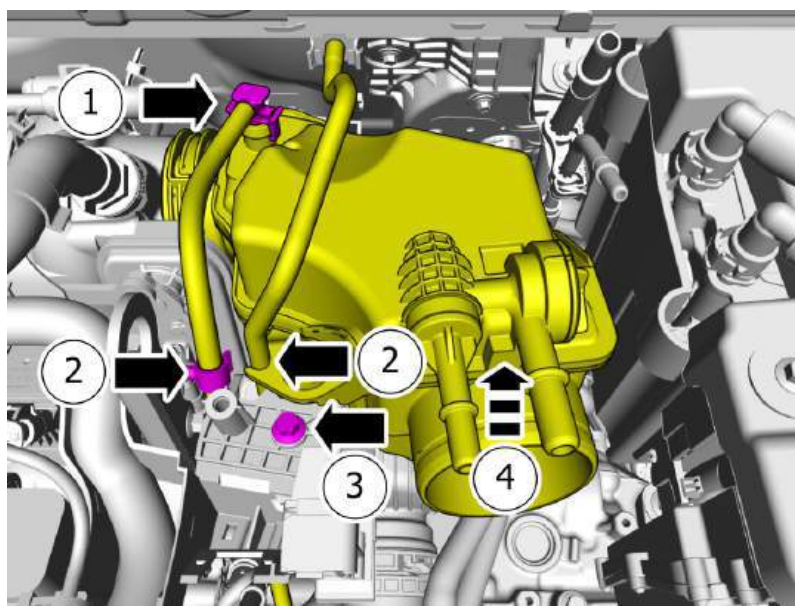
Continue the removal following the steps below.



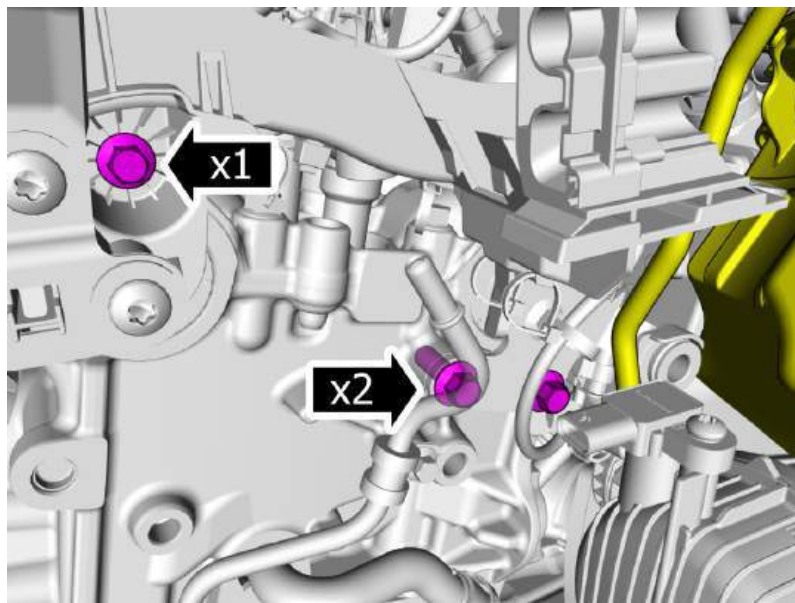
Remove the screws.  
Disconnect the connector.  
Loosen the clip.  
Fold the cable harness aside.

**Torque:**

M6 , 10 Nm

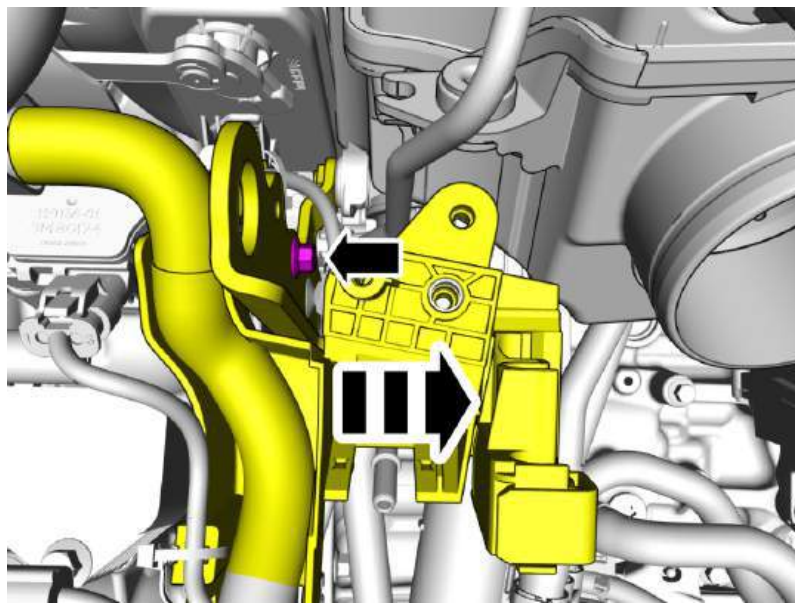


- 1 . Undo the hose from the connection.
- 2 . Loosen the marked details from the clip/ clips.
- 3 . Remove the screw.
- 4 . Turn in direction of arrow until stop.
- 5 . **Torque:**  
M6 , 10 Nm

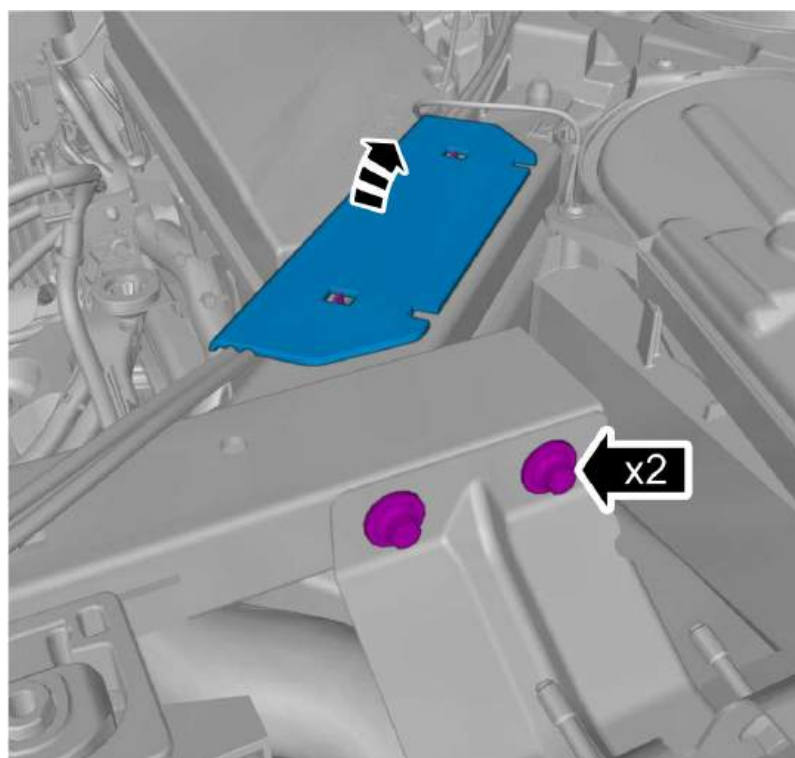


Remove the screws.

- 1 . **Torque:**  
M6 , 10 Nm
- 2 . **Torque:**  
M8 , 24 Nm



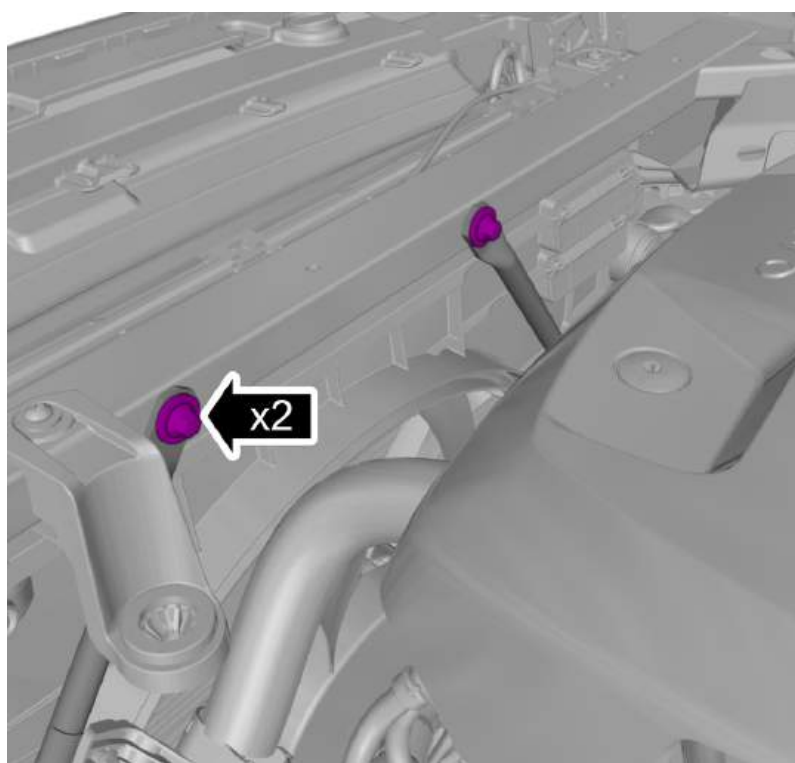
Fold marked parts aside.  
Remove the screw.



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

**Torque:**

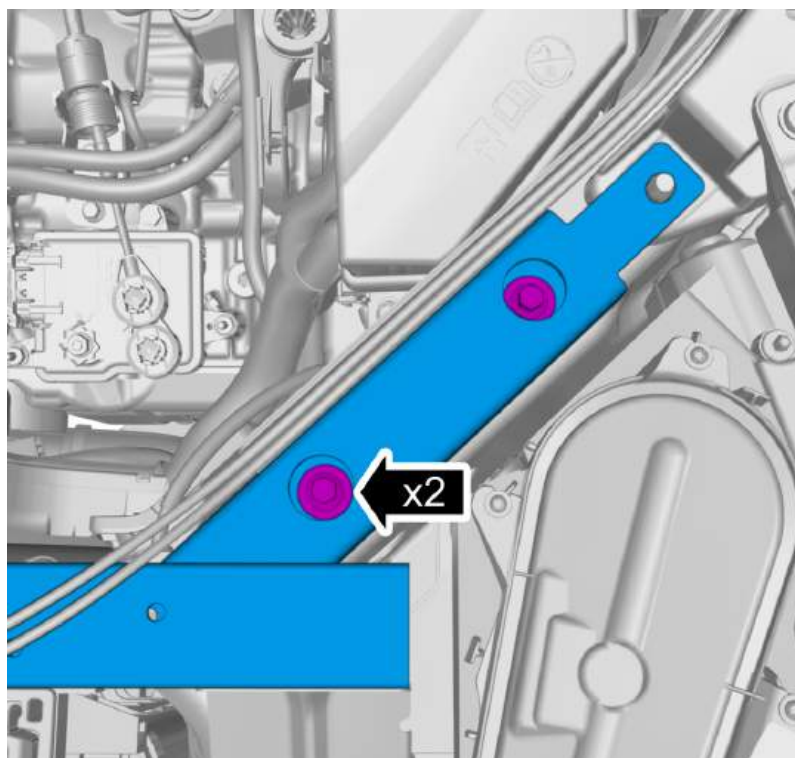
M6 , 10 Nm



Remove the screws.

**Torque:**

M8 , 24 Nm



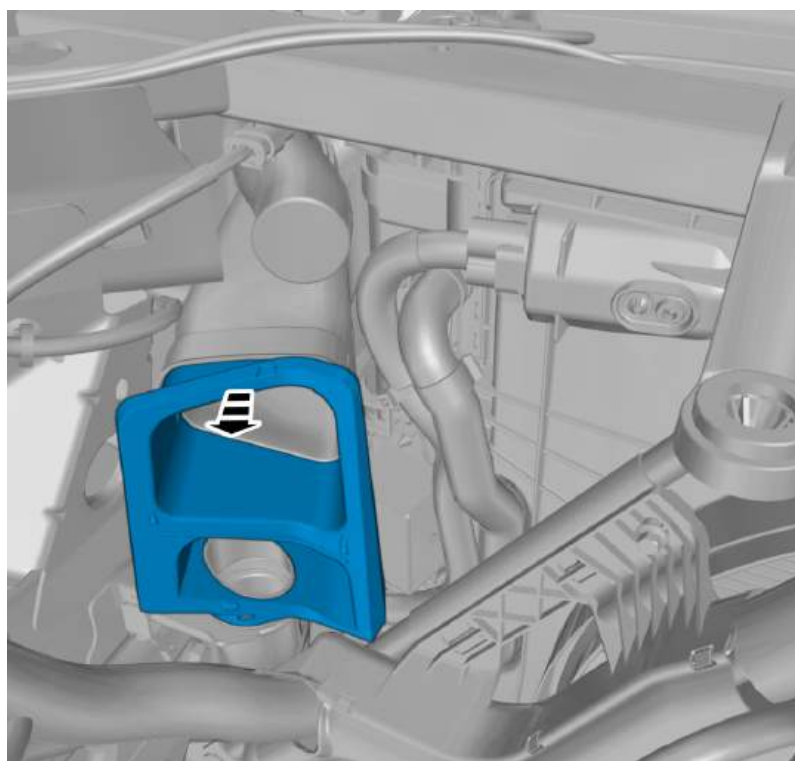
Remove the screws.

On both sides.

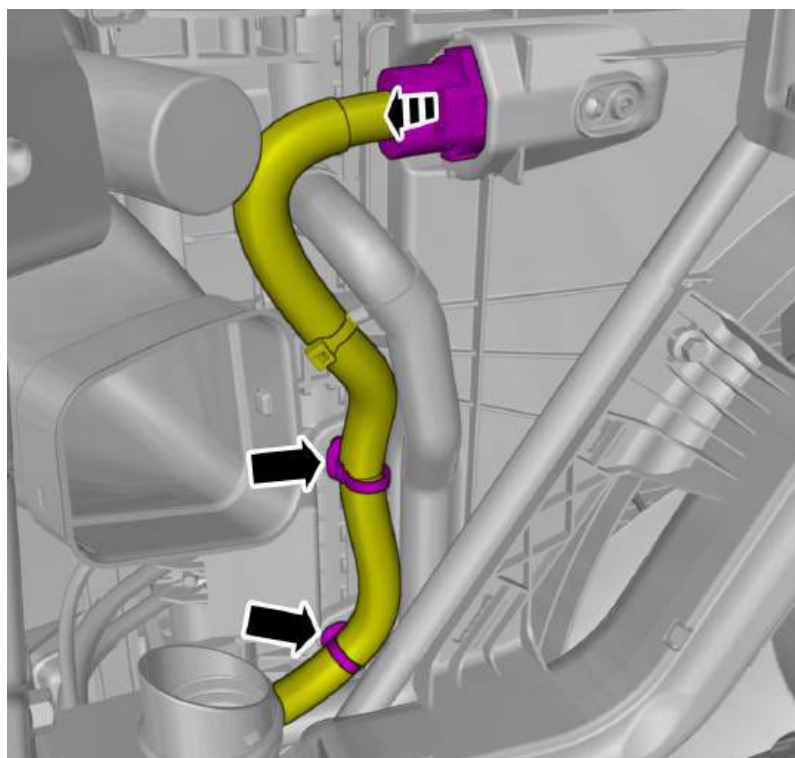
**Torque:**

Front end to upper side member , 30 Nm

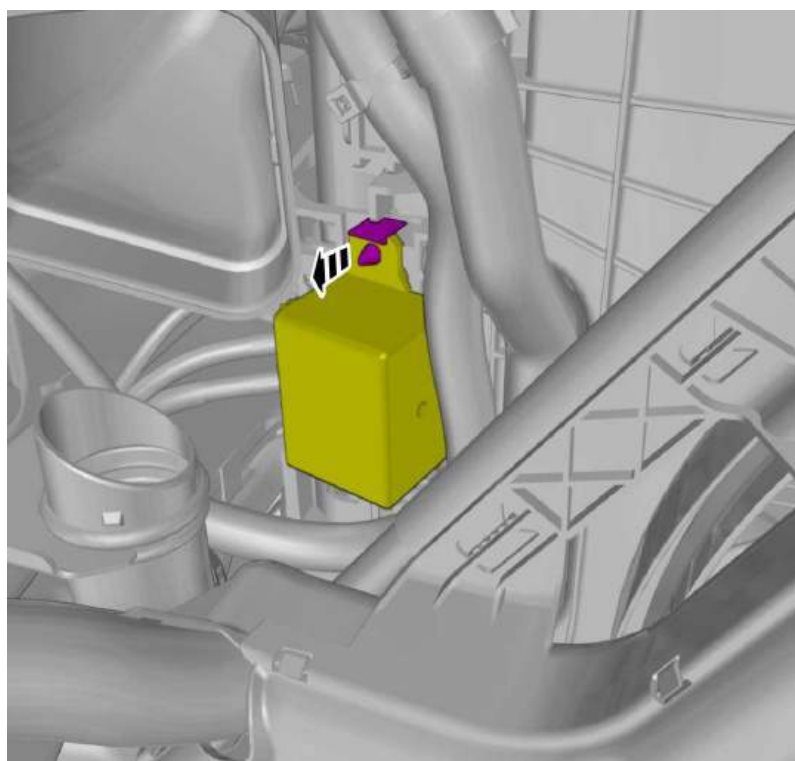
Remove the marked part.



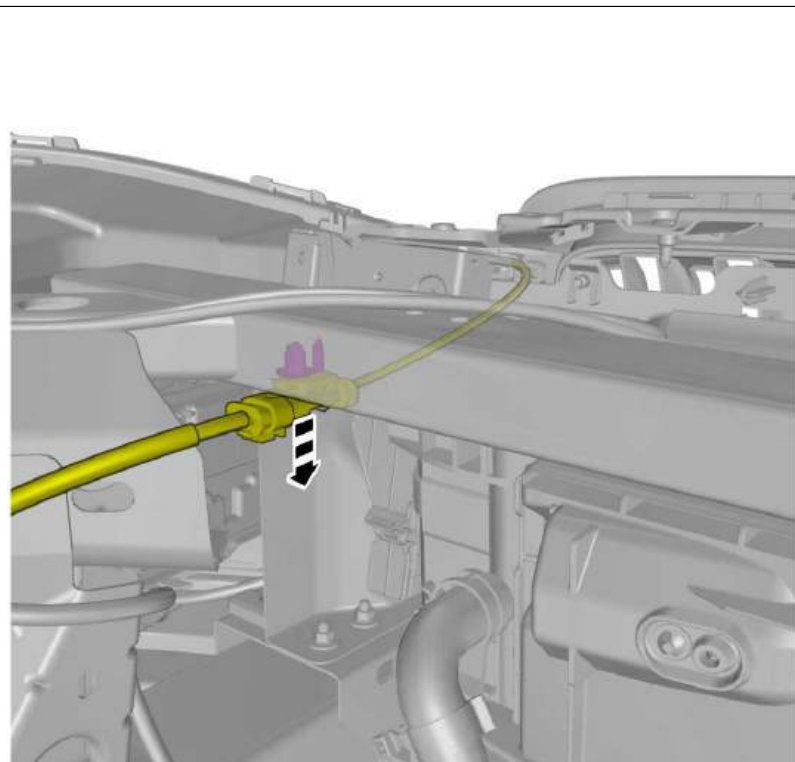
Remove the marked part.



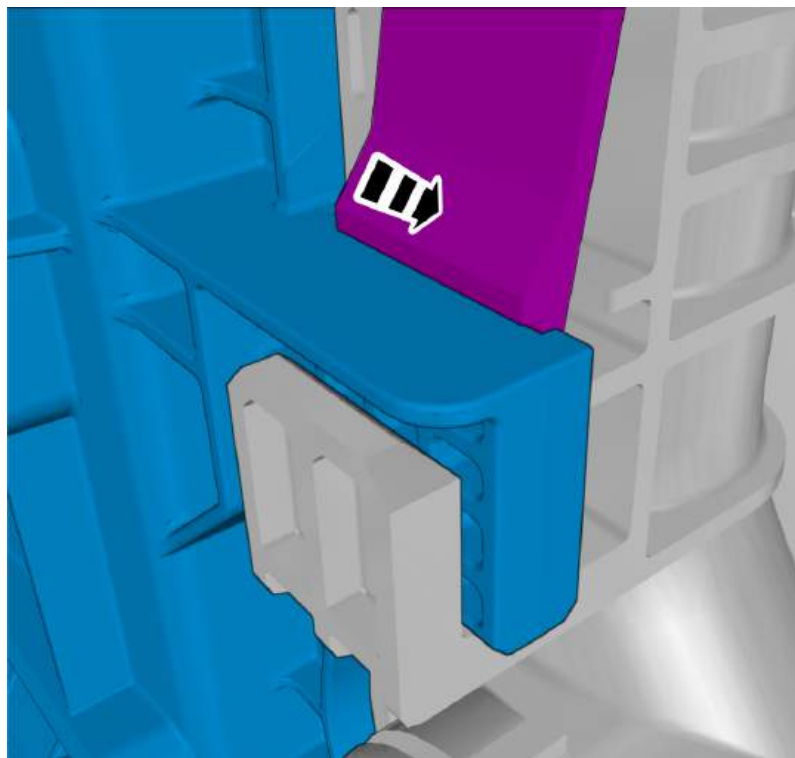
Disconnect the connector.  
Remove the cable harness clips.



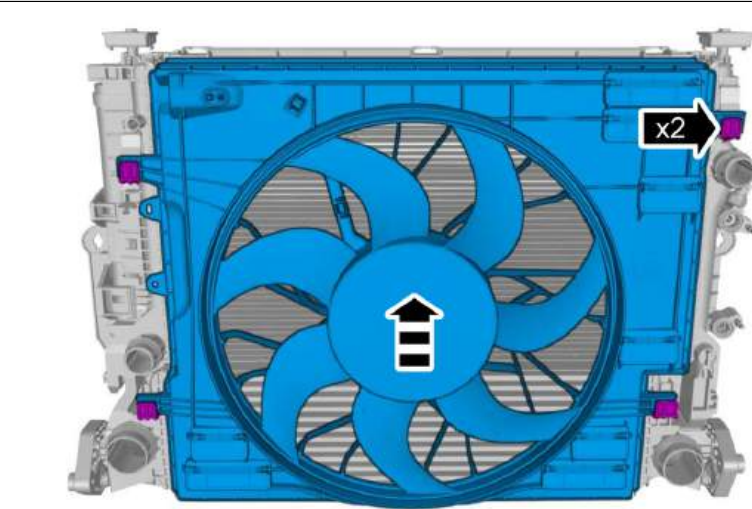
Fold marked part aside.



Remove the cable harness clips.

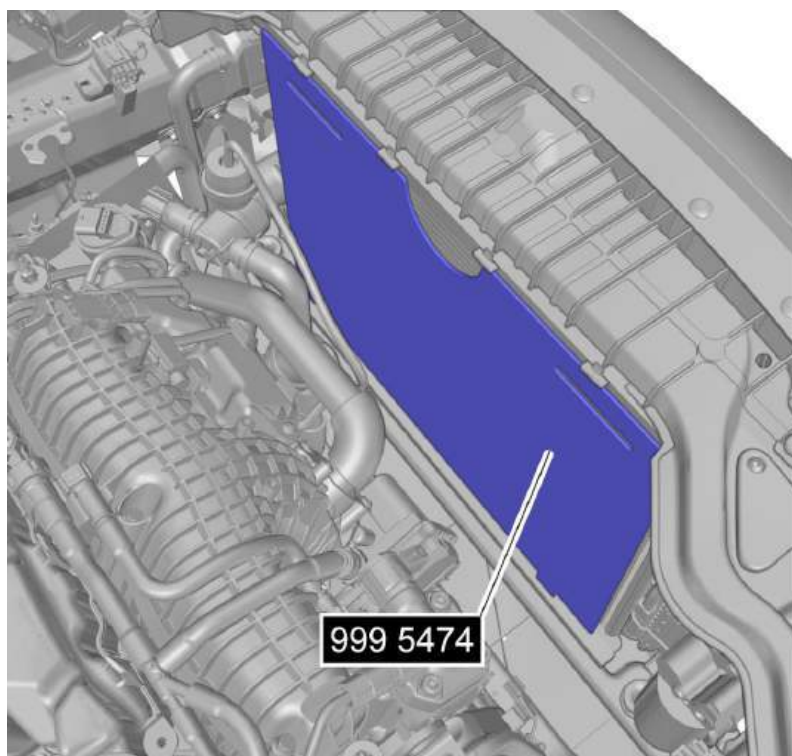


Press the marked component.



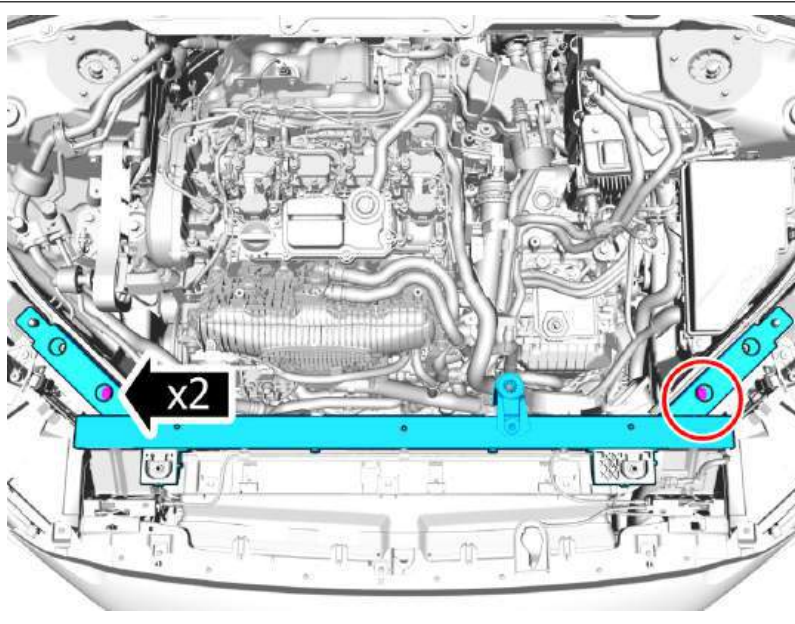
**Hint: It may be necessary to twist or turn the component.**

Remove the marked part.

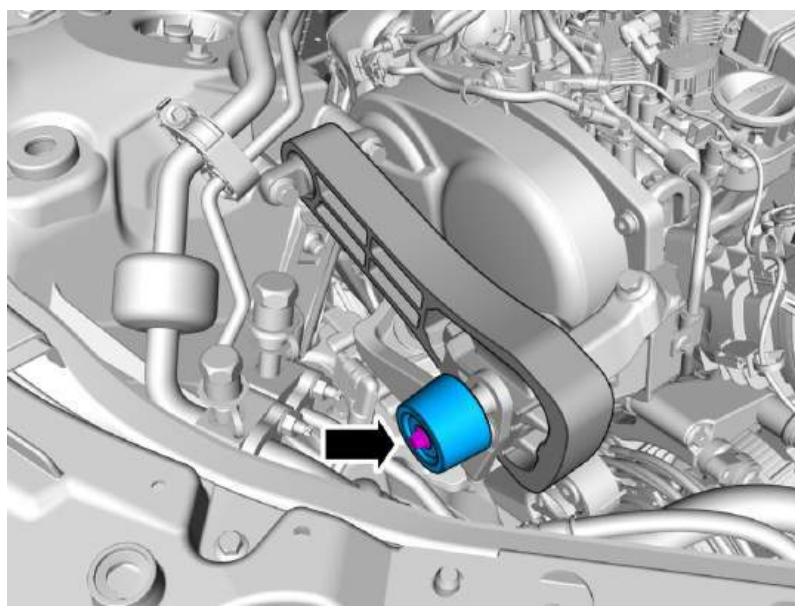


Place the component where indicated in the graphic.

Special Tool: T9995474, RADIATOR PROTECTION



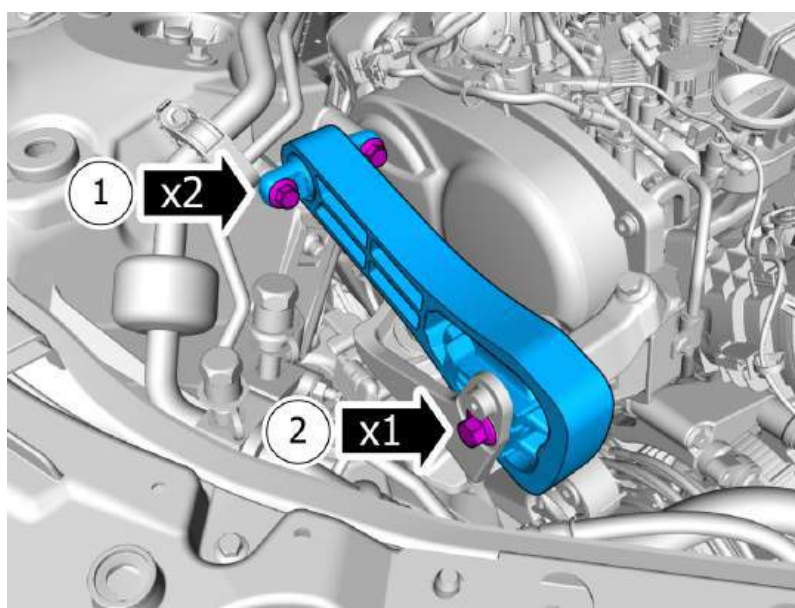
Install the marked component.  
Install the screws.



Loosen the screw.  
Remove the marked part.

**Torque:**

M6 , 10 Nm



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

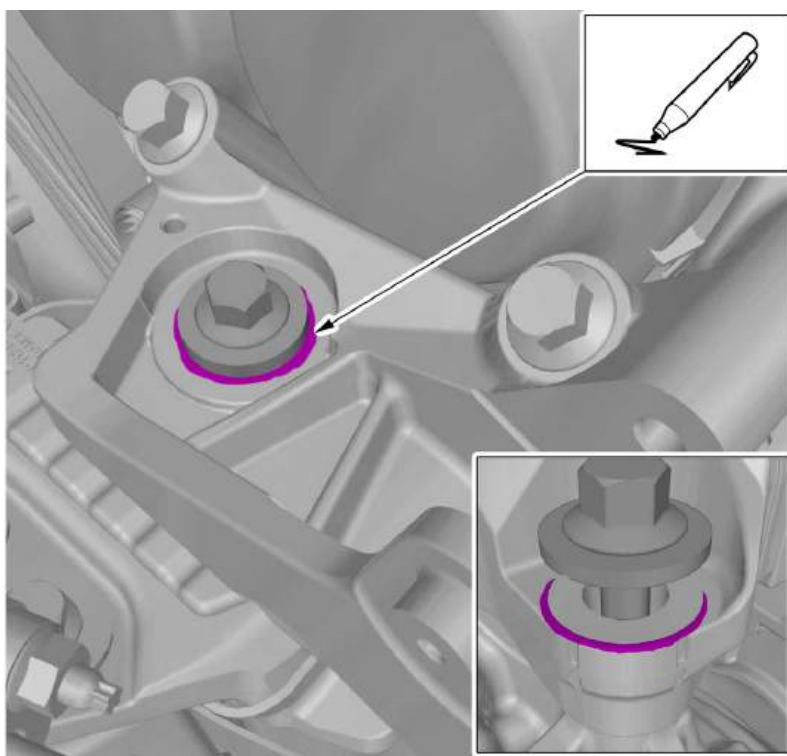
Remove the screws.

1 · **Torque:**

Upper torque rod to spring strut turret ,  
60 Nm

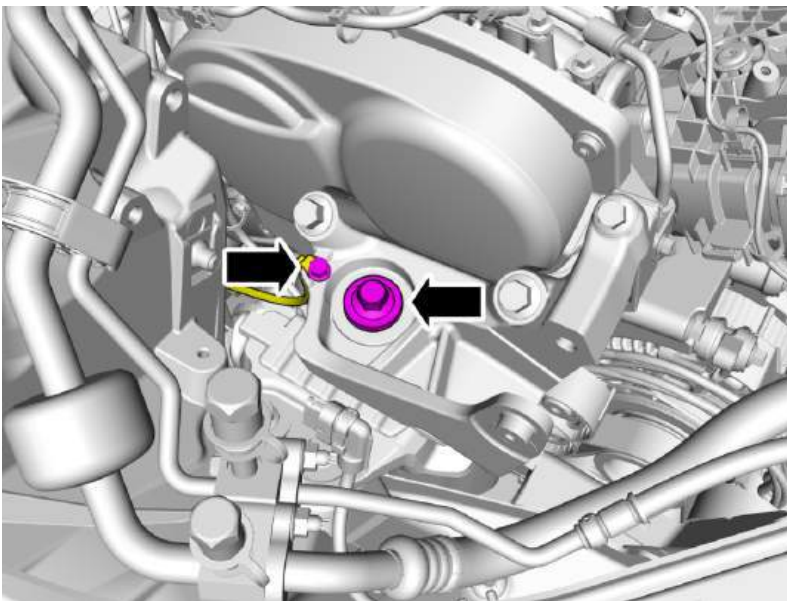
2 · **Torque:**

Upper torque rod to engine mount  
bracket , 110 Nm



**Caution! Note the position of the component before removal.**

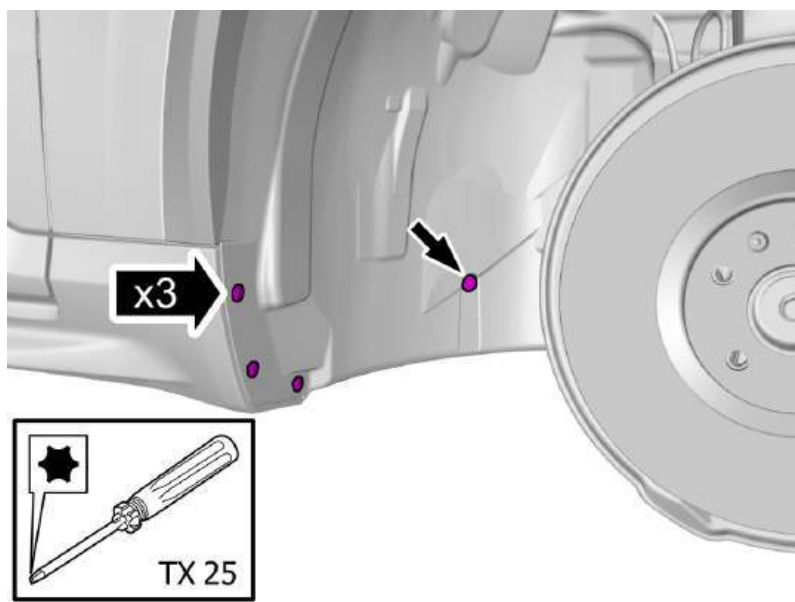
**Use:** Marker pen



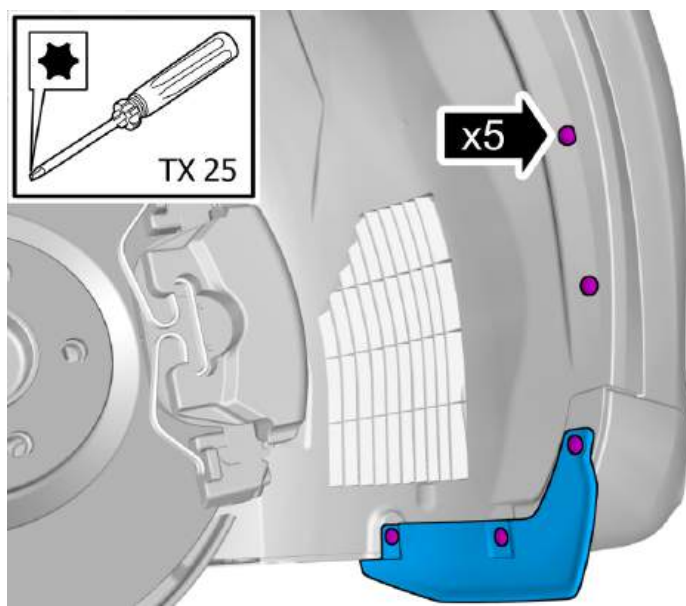
Remove the screws.

1. **Torque:**  
M6 , 10 Nm
2. **Torque:**  
Engine mount bracket, to Engine pad ,  
110 Nm

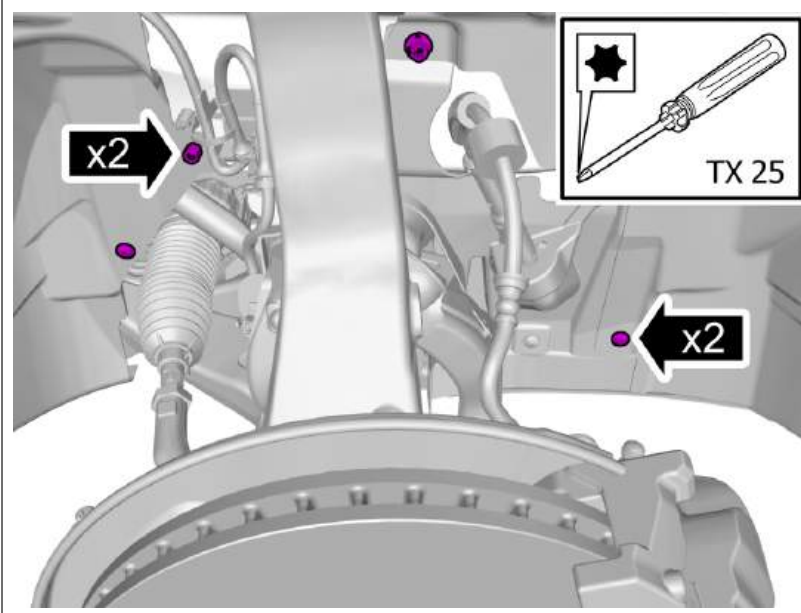
Remove right side the front wheel , refer to:  
Removal, replacement and installation  
7 - Springs and wheels  
77 - Wheels, tyres  
770 - complete wheels



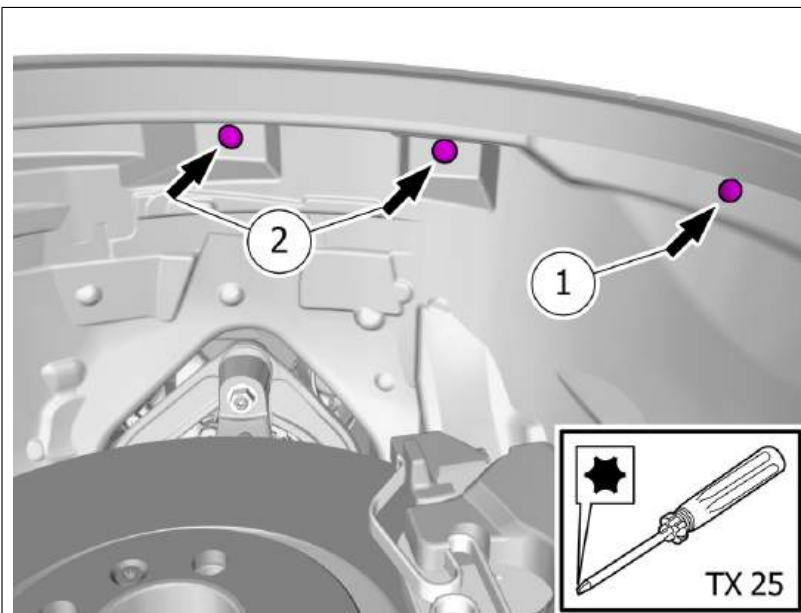
Remove the clip.  
Remove the screws.



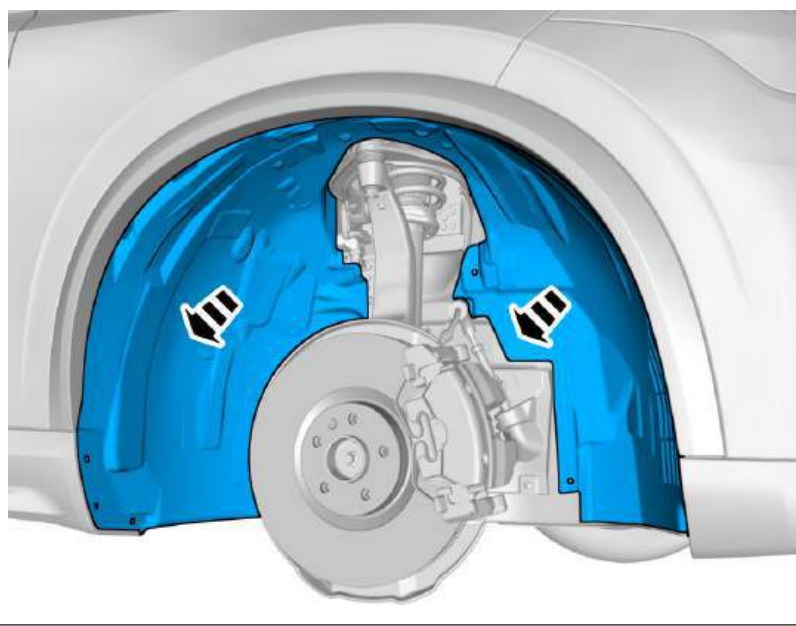
Remove the screws.  
Remove the marked part.



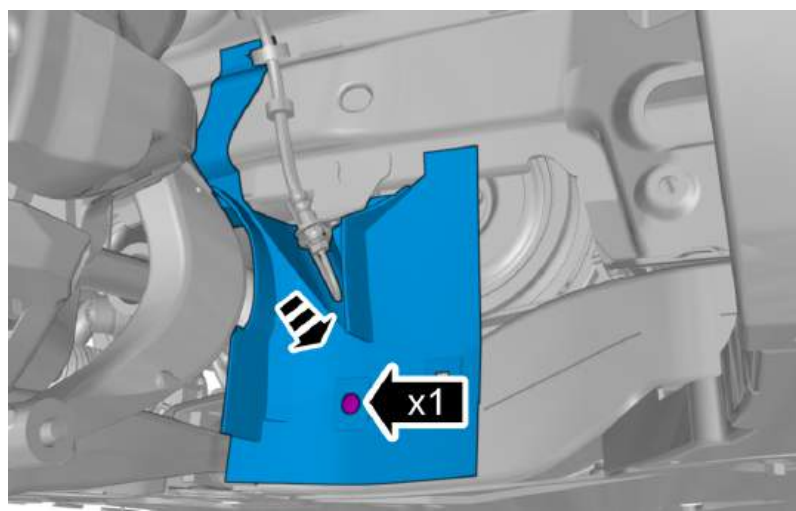
Remove the screws.  
Remove the nuts.



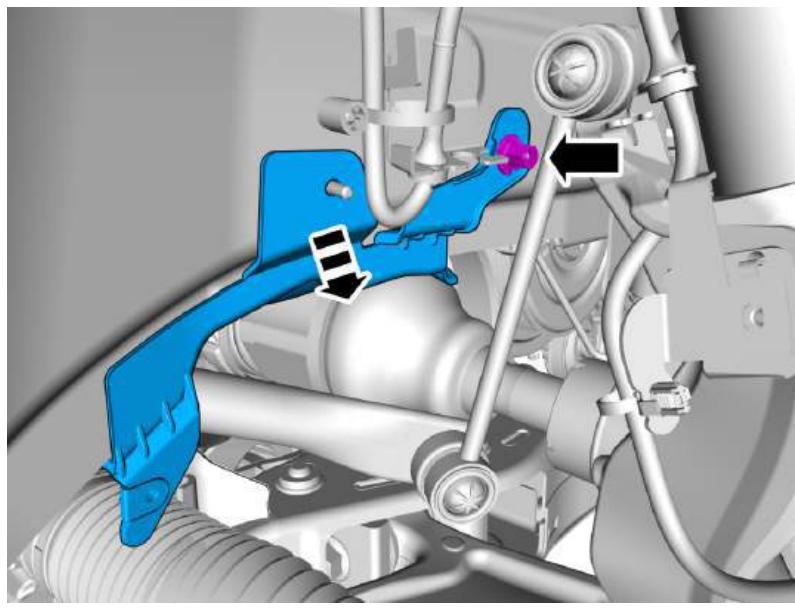
Remove the screw.  
Remove the clips.



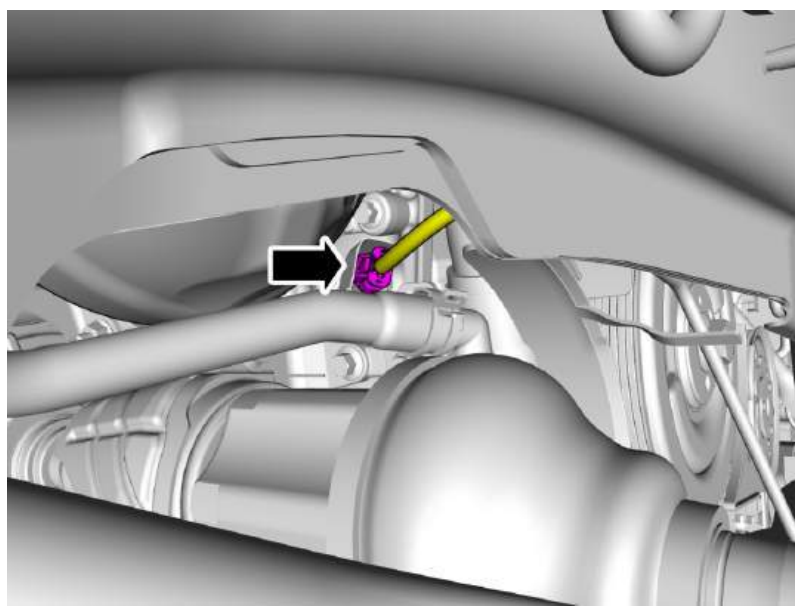
Remove the marked part.



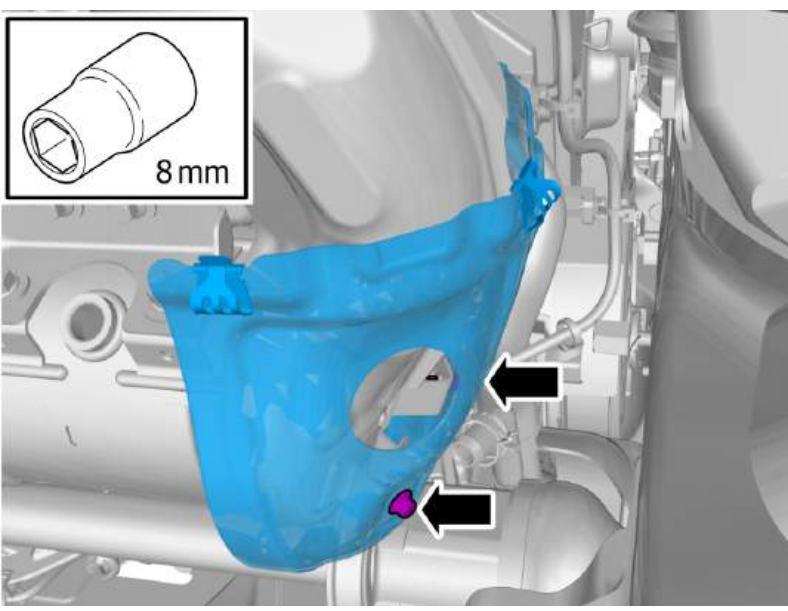
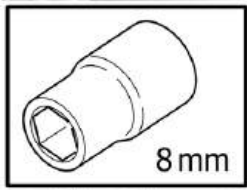
Remove the screw.  
Remove the marked part.



Remove the nut.  
Remove the marked part.

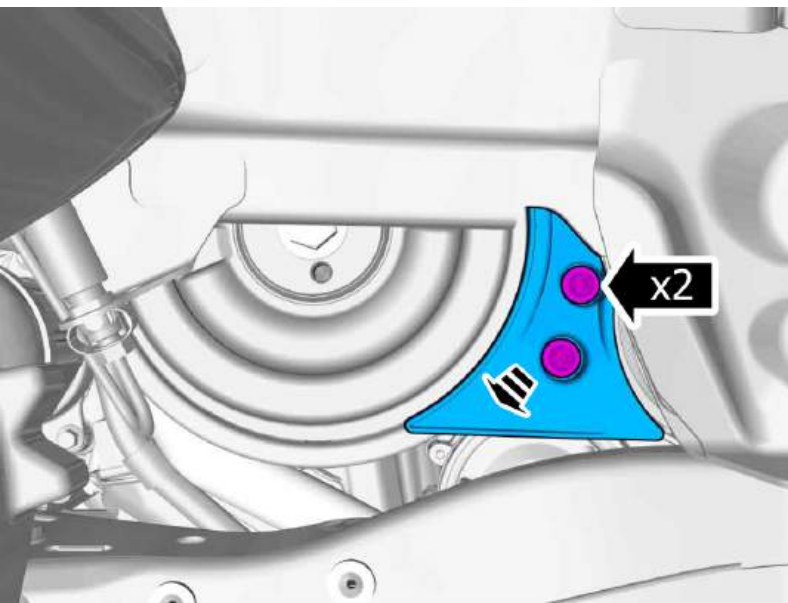


Disconnect the connector.  
Remove the cable harness clips.



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

Loosen the screws.



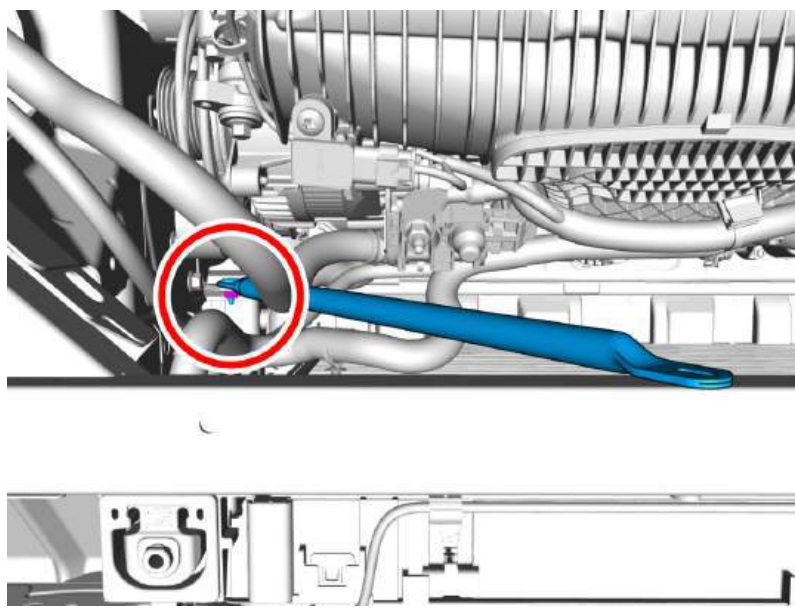
Remove the screws.  
Remove the marked part.



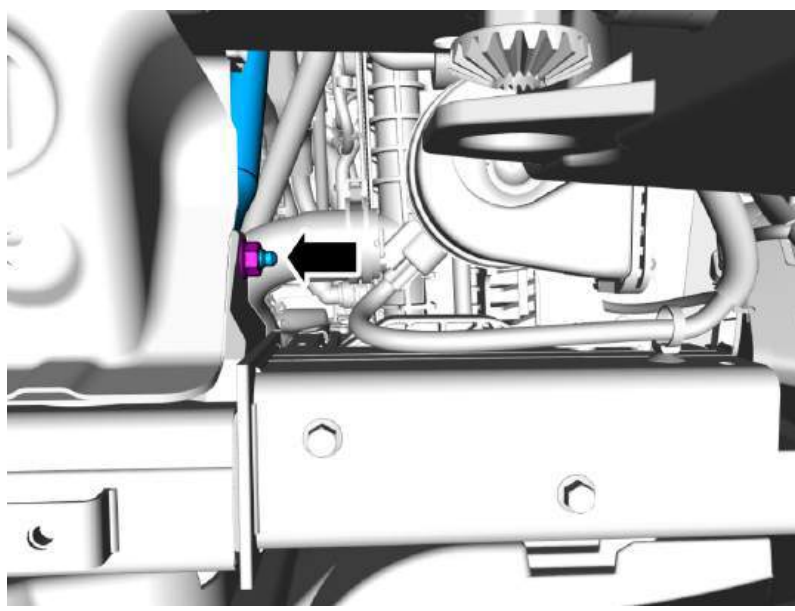
Remove the screws.  
Remove the marked part.

**Torque:**

M6 , 10 Nm



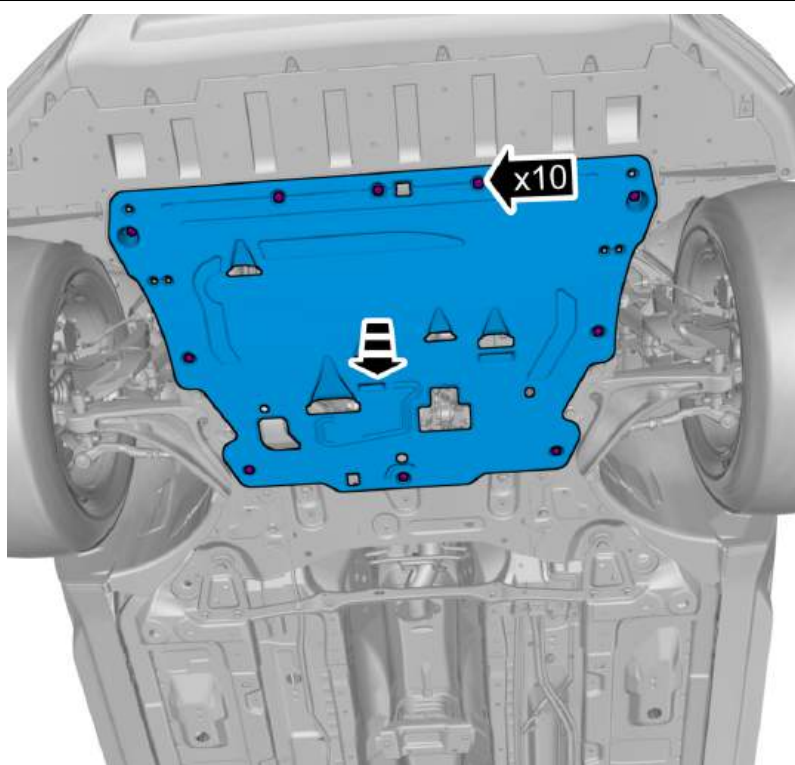
**Note! Orientation view**



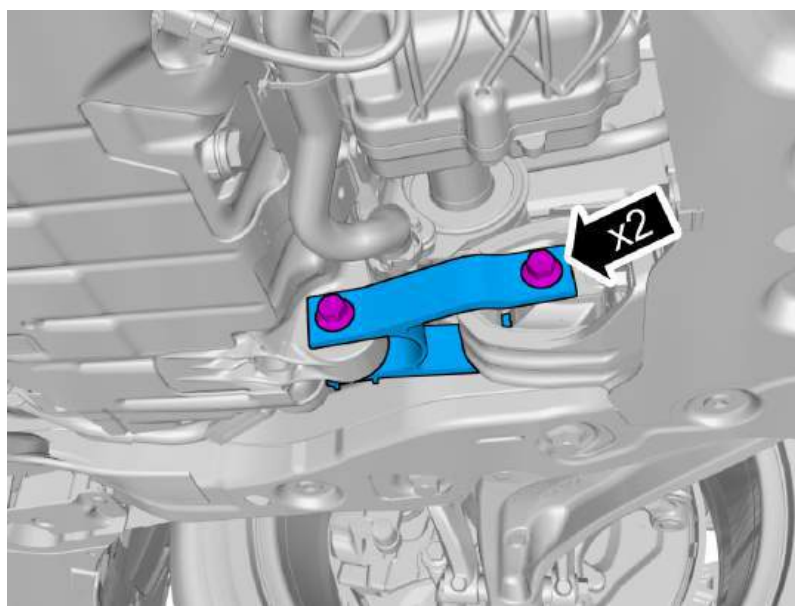
Remove the nut.  
Remove the marked part.

**Torque:**

M8 , 24 Nm



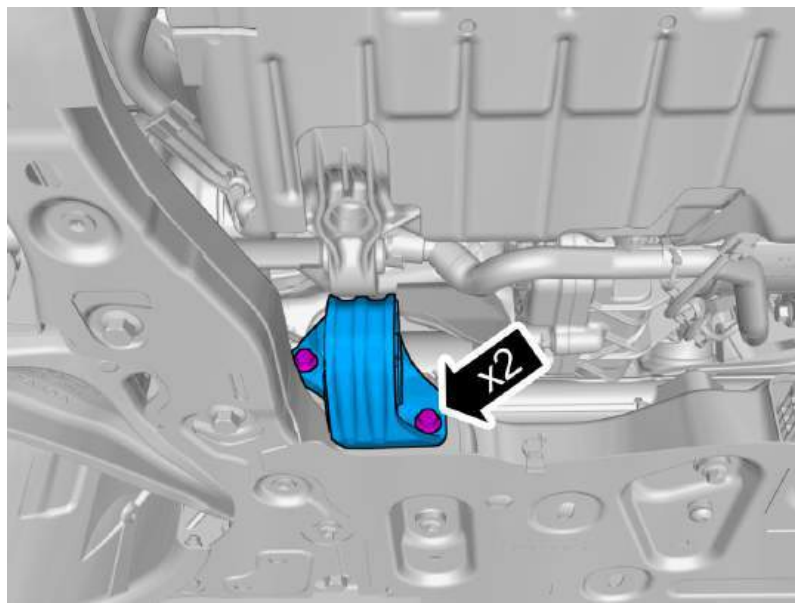
Remove the screws.  
Remove the clips.  
Remove the marked part.



Remove the screws.  
Remove the marked part.

**Torque:**

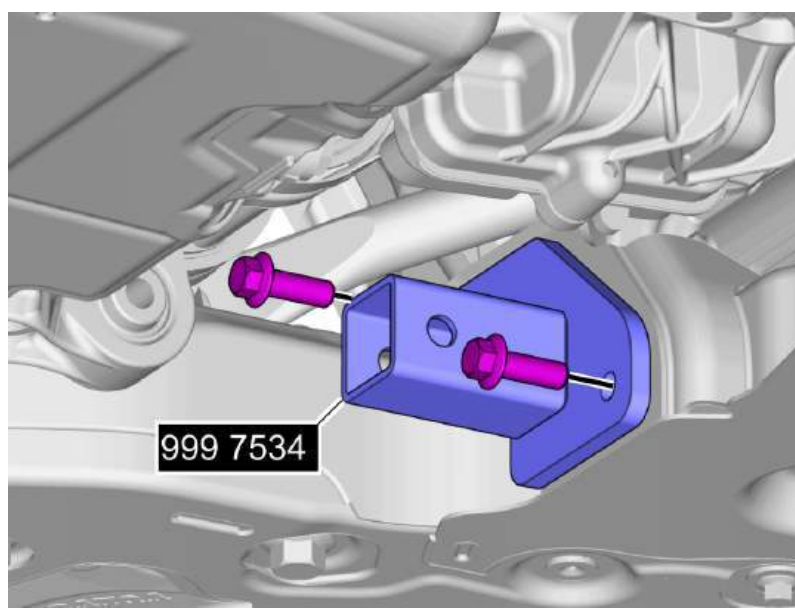
Lower torque rod rear right, to Engine mount bracket , 110 Nm



Remove the screws.  
Remove the marked part.

**Torque:**

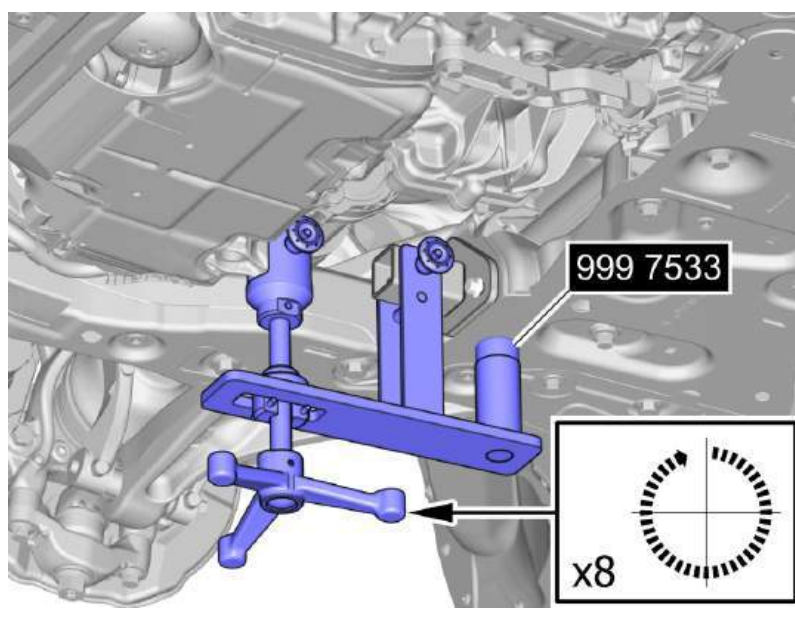
Lower torque rod rear right, to subframe , 60 Nm



Install the Special tool.  
Install the screws.

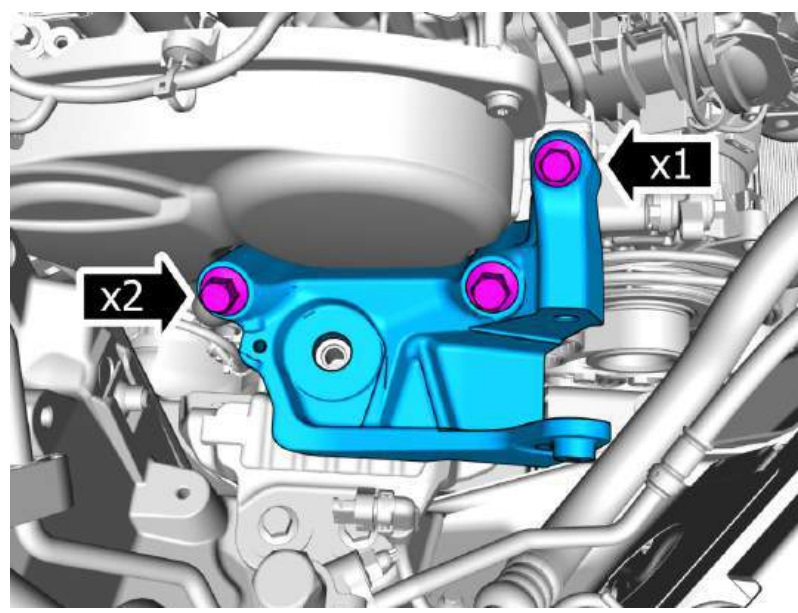
**Use:** Screw M10 x 20 mm

Special Tool: T9997534, Mounting



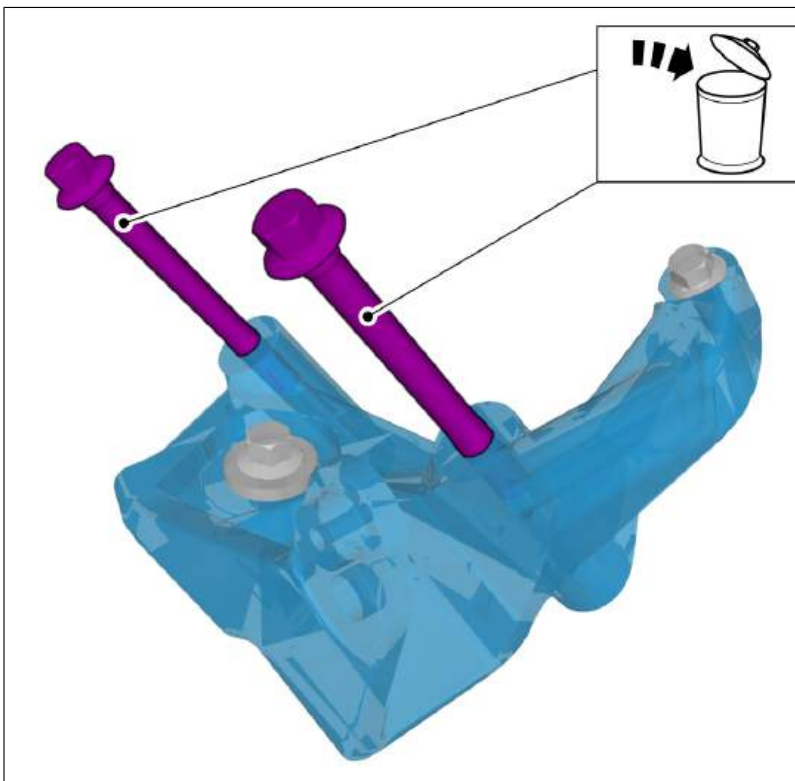
Install the Special tool.  
Adjust to the specified value.

Special Tool: T9997533, Support



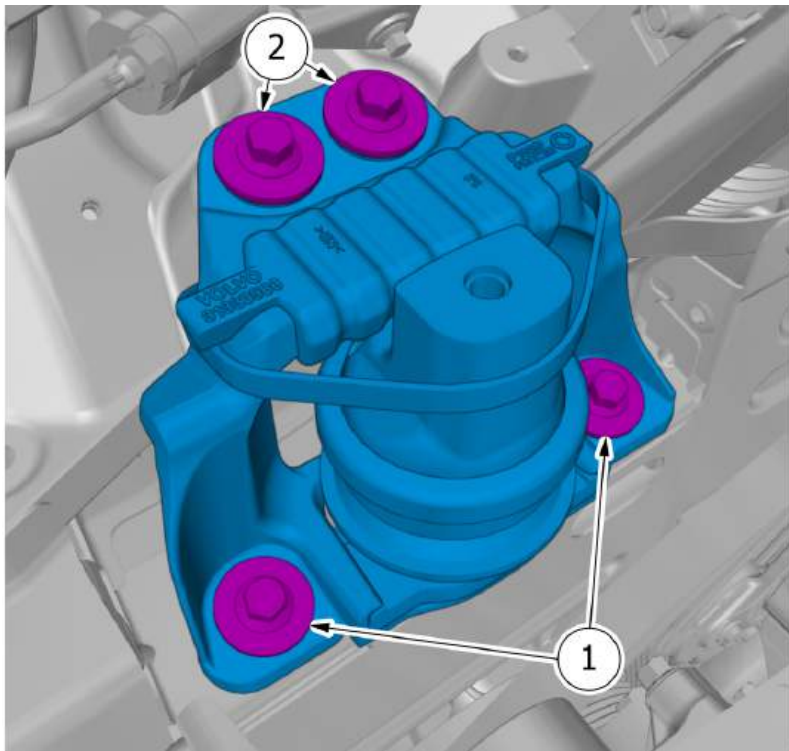
Remove the screws.  
Remove the marked part.

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



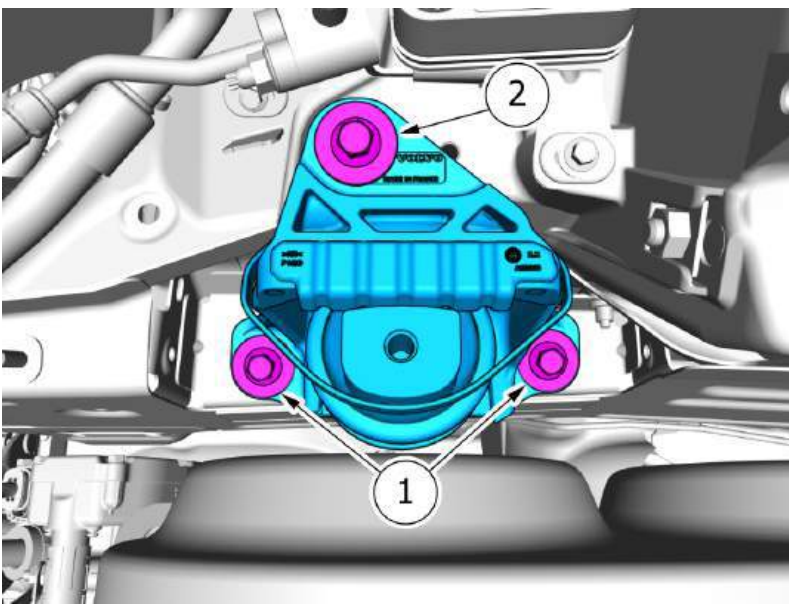
**Note! Make sure to follow the correct sequence during installation.**

Remove the screws.  
Remove the marked part.

**Torque:**

Right-hand engine pad to body frame ,  
60 Nm

Vehicles late version



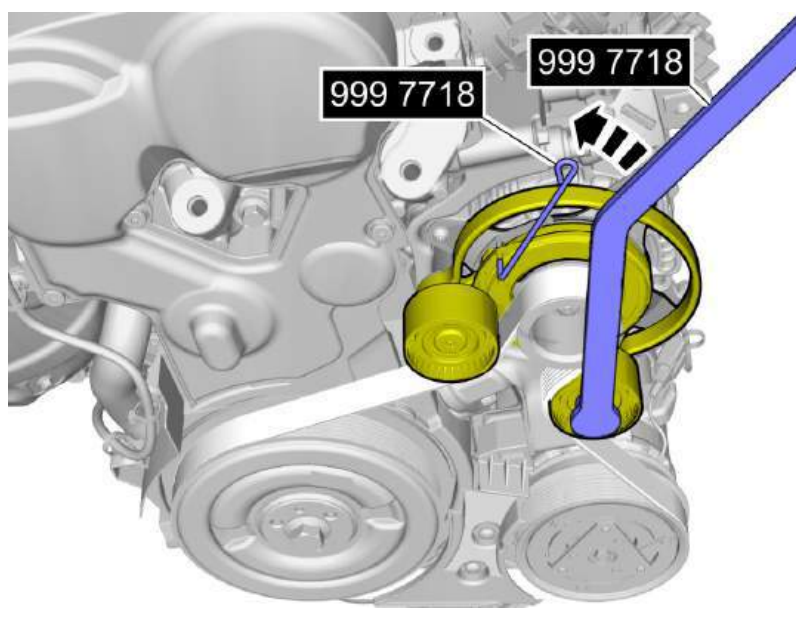
**Note! Make sure to follow the correct sequence during installation.**

Remove the screws.  
Remove the marked part.

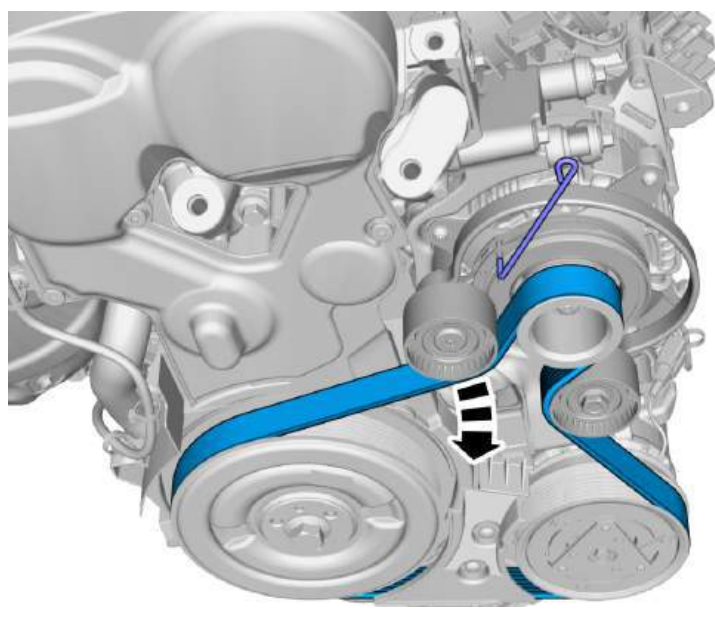
**Torque:**

Right-hand engine pad to body frame ,  
60 Nm

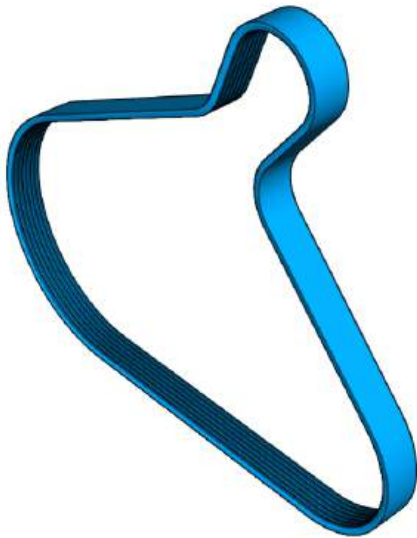
All vehicles



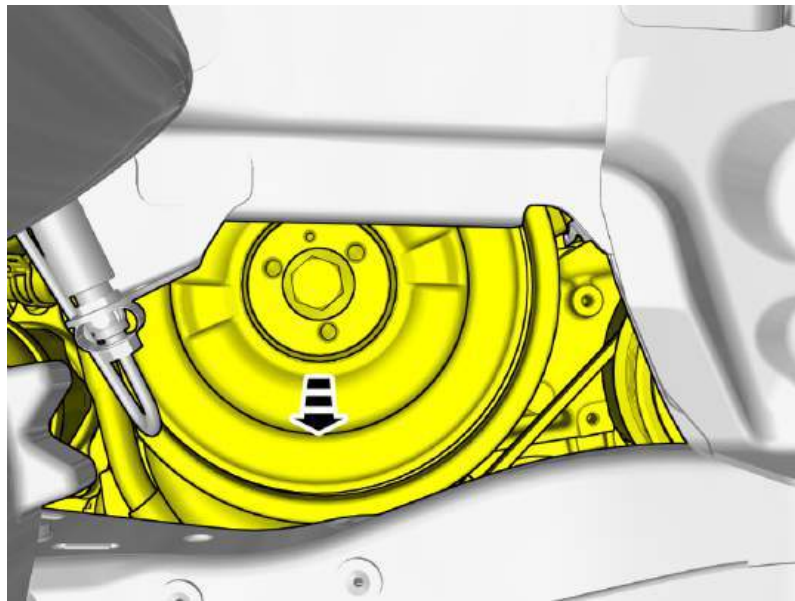
Special Tool: T9997718, Counterhold



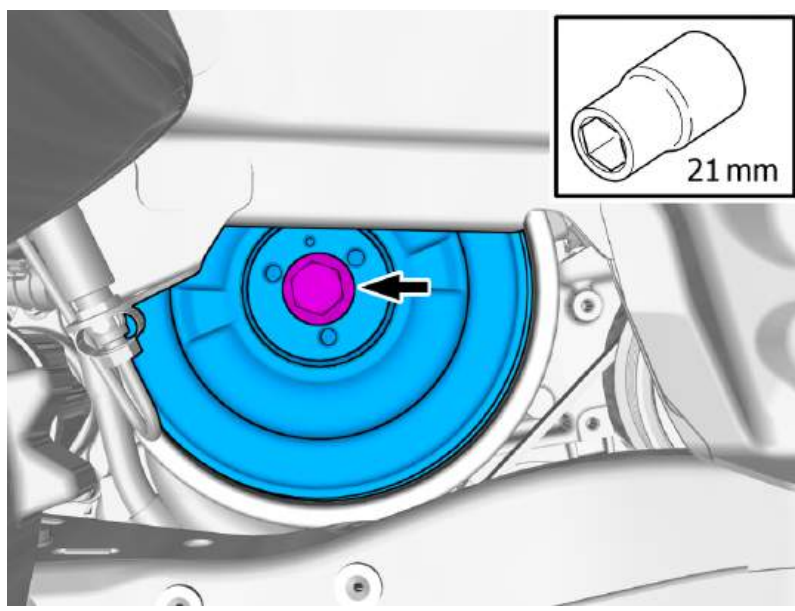
Remove the marked part.



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

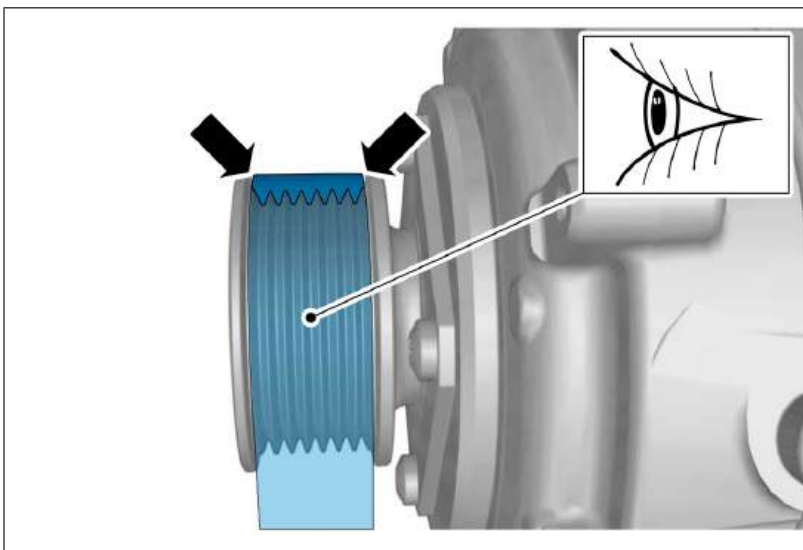


Lower the engine.



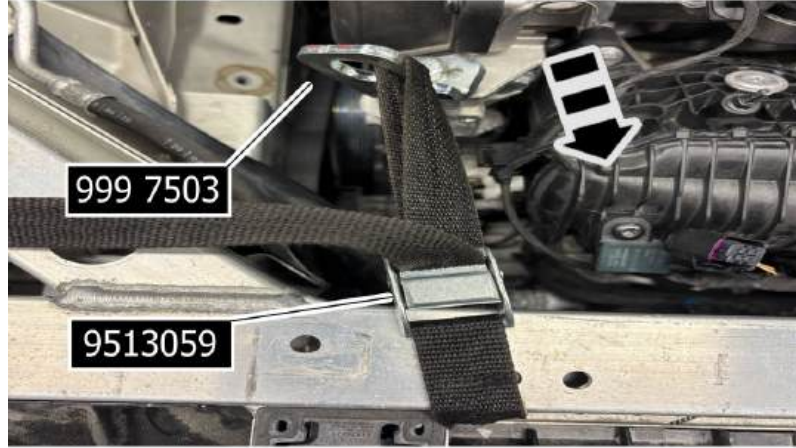
**Note!** Note the position of the component before removal.

**Extra information**

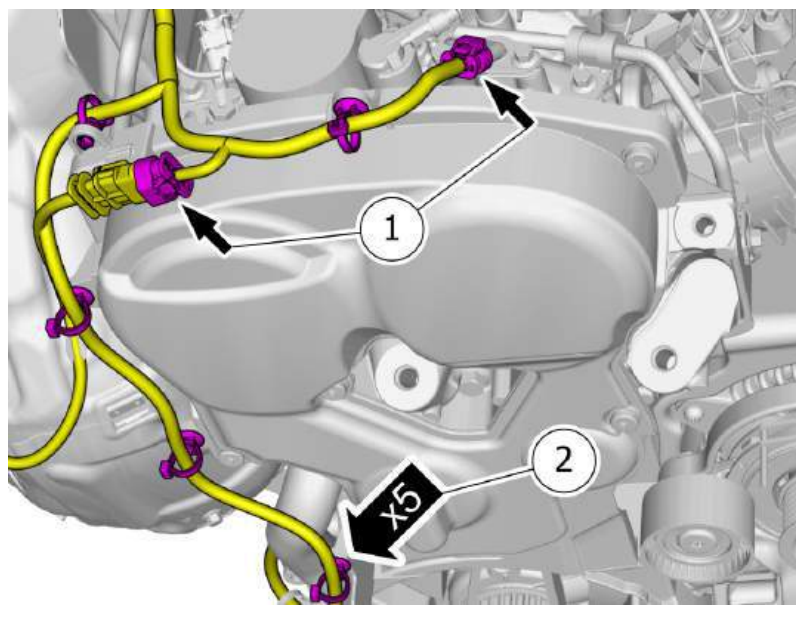


**Caution!** Make sure that the component is positioned correctly.

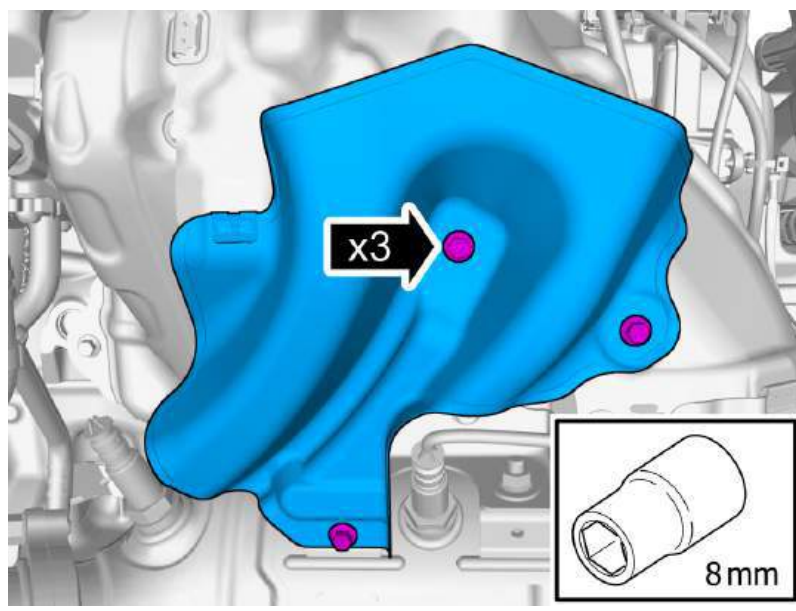
Continue the removal following the steps below.



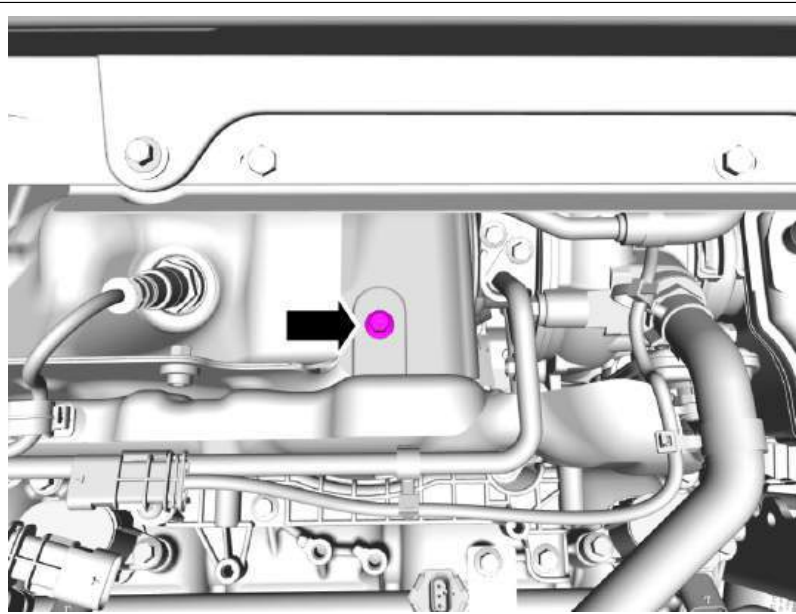
Install the Special tool.  
Pull the component in direction of the arrow.



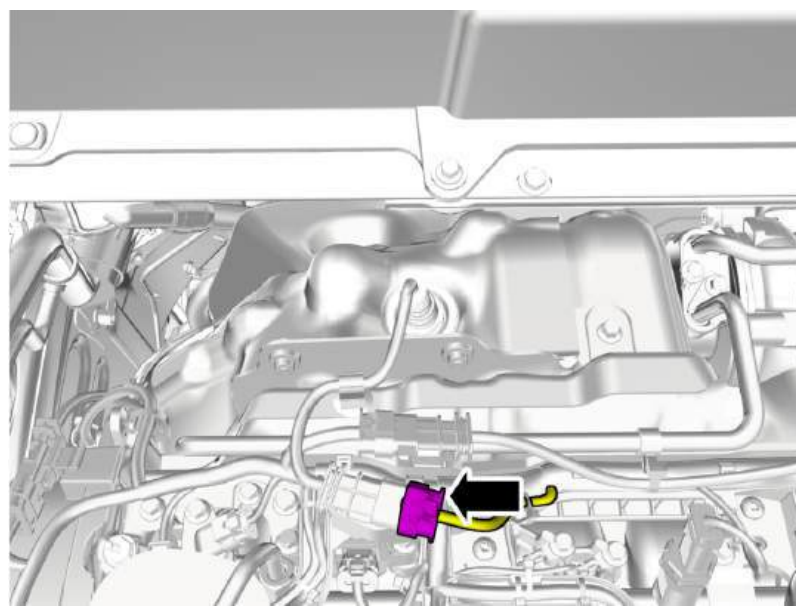
Disconnect the connectors.  
Remove the cable harness clips.



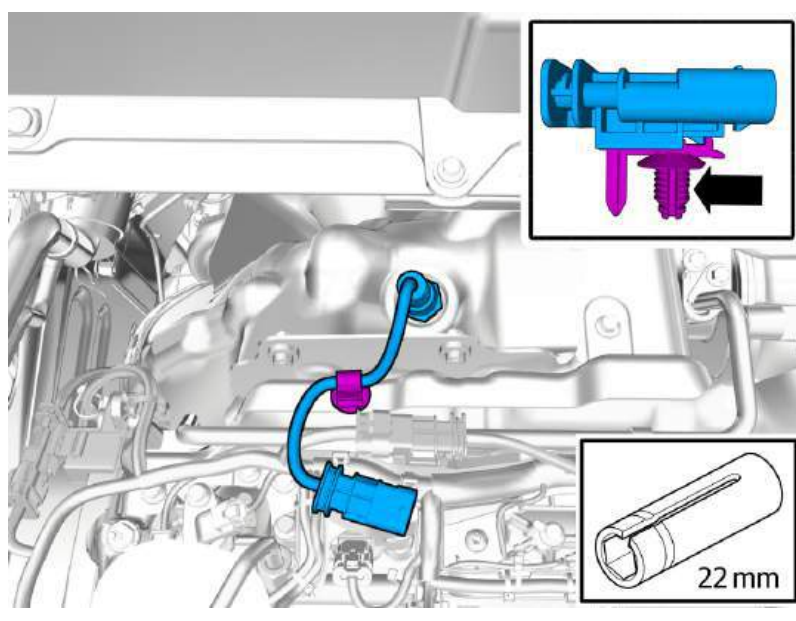
Remove the screws.  
Remove the marked part.



Remove the screw.



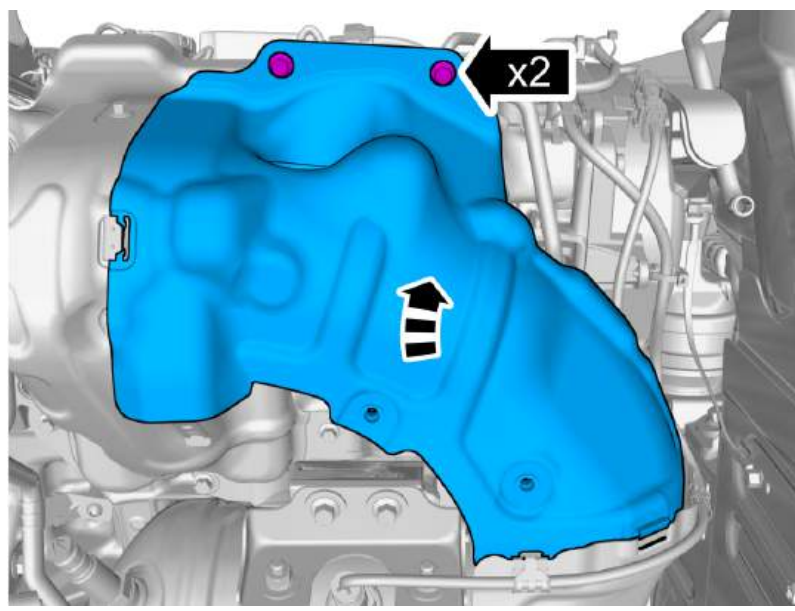
Disconnect the connector.



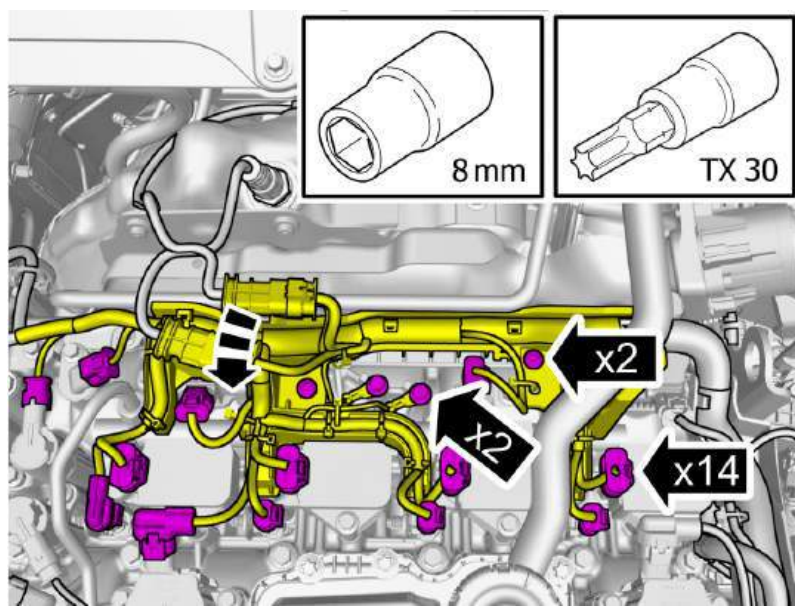
Loosen the clips.  
Remove the marked part.

**Torque:**

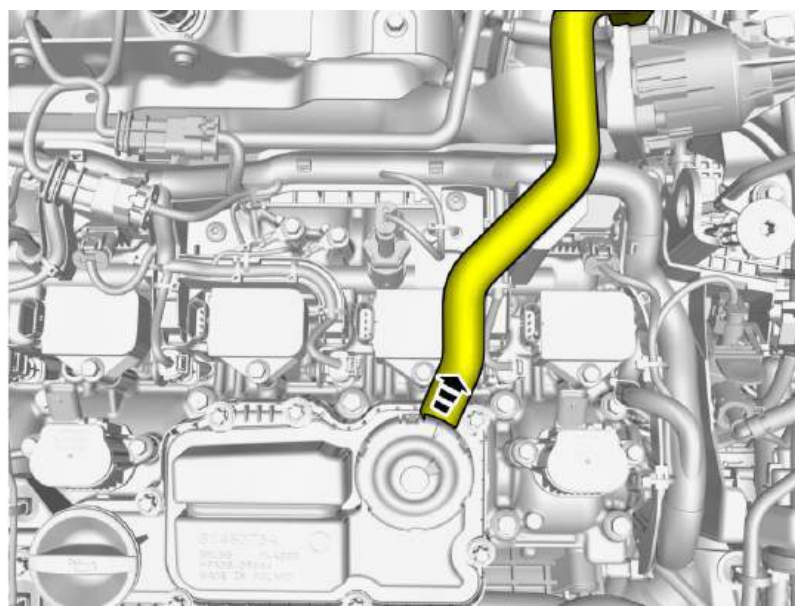
Lambda probe, tightening , 45 Nm



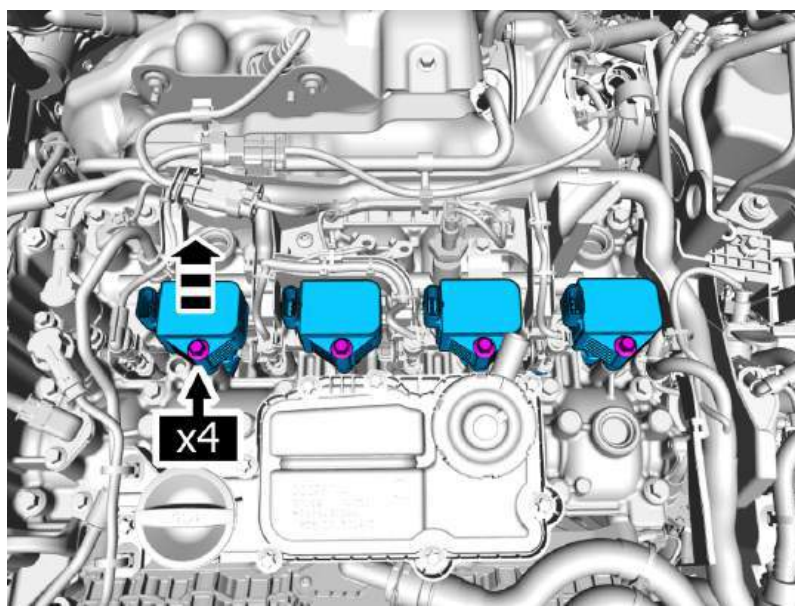
Remove the screws.  
Remove the marked part.



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



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

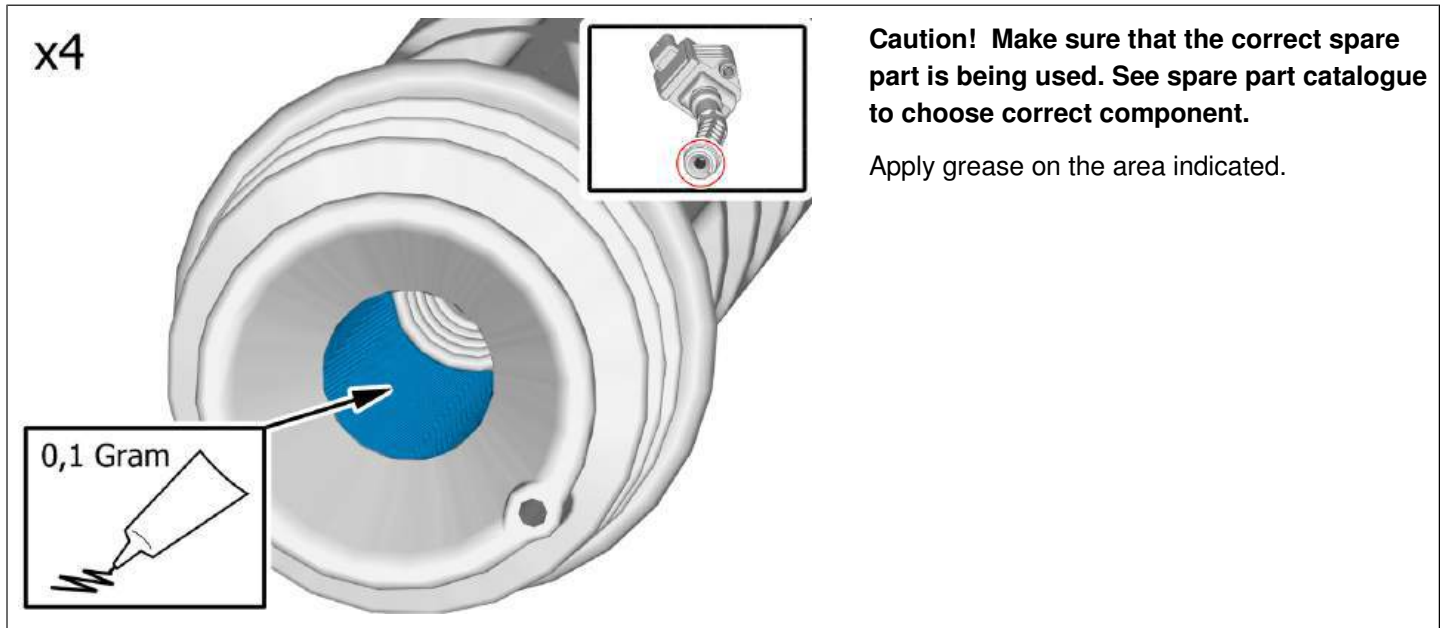


Remove the screws.  
Remove the marked parts.

**Torque:**

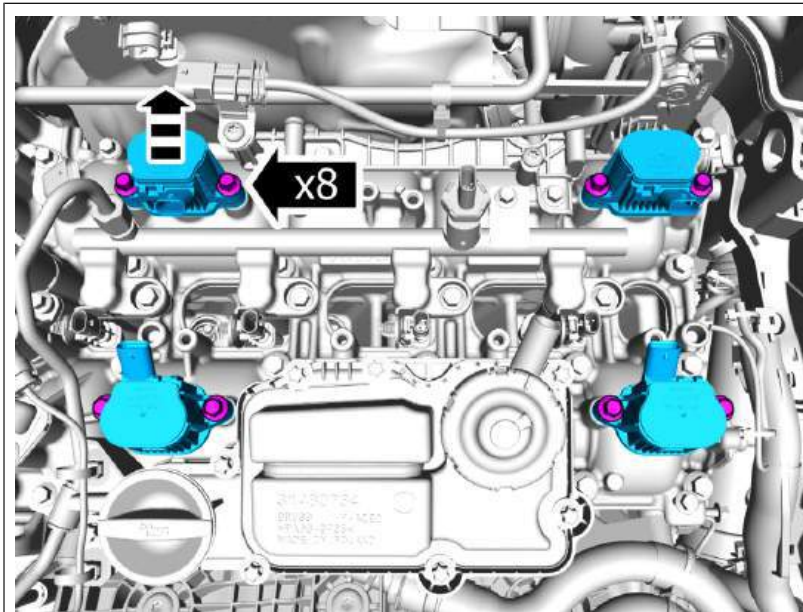
M6 , 10 Nm

## Extra information



Continue the removal following the steps below.

Vehicles early version



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

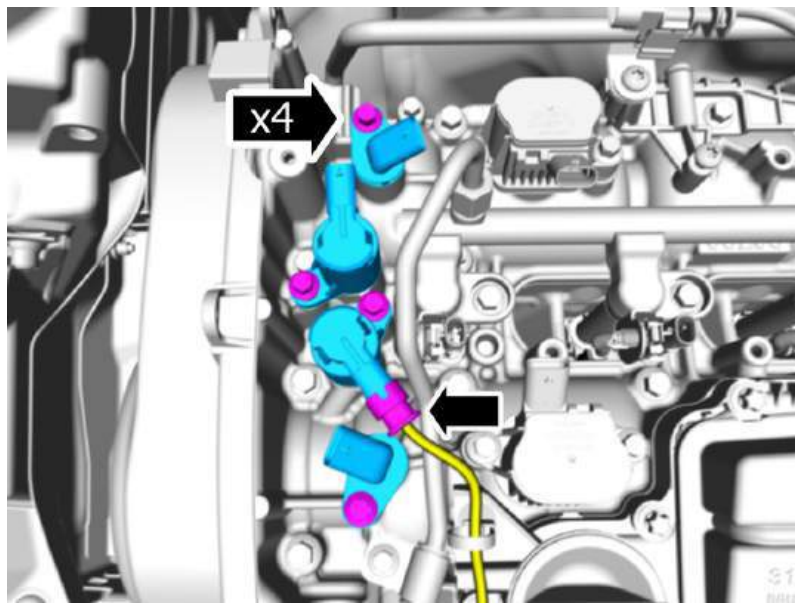
**Note! Use new seals.**

Remove the screws.  
Remove the marked parts.

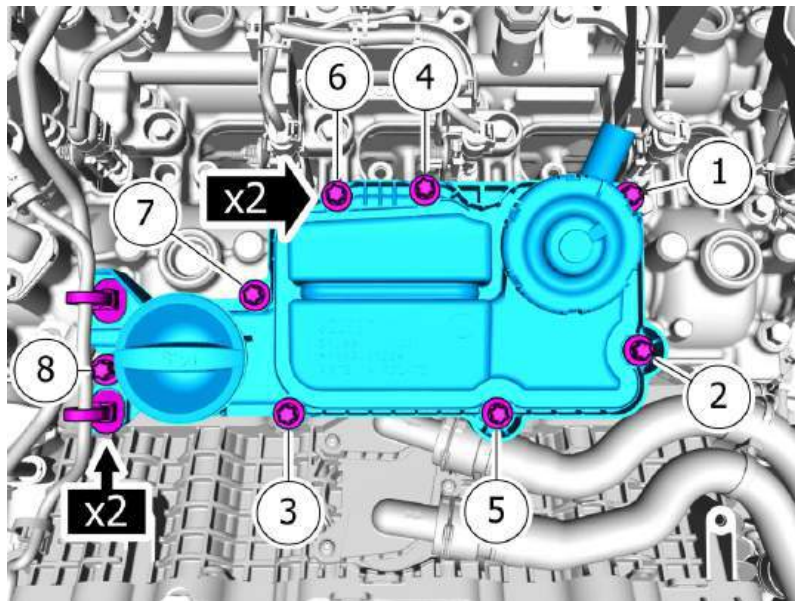
**Torque:**

M6 , 10 Nm

All vehicles



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



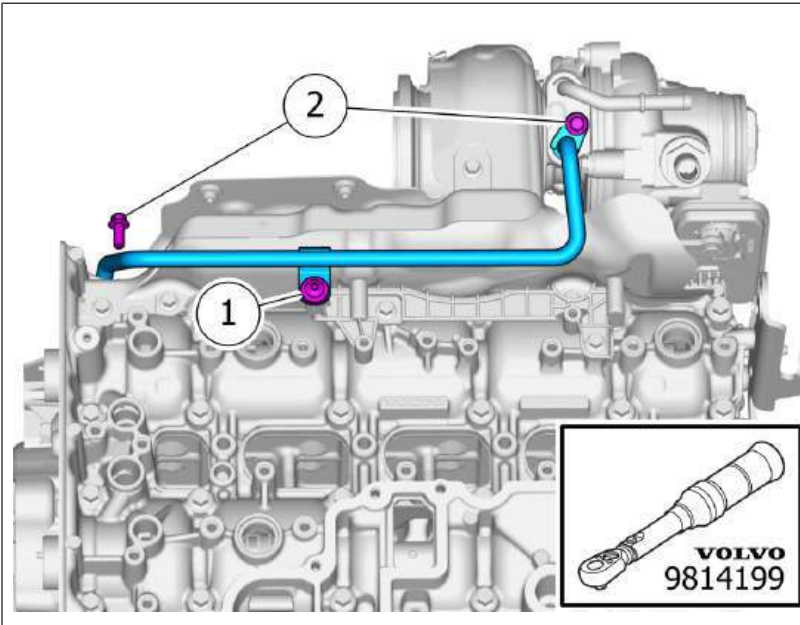
**Note! Make sure to follow the correct sequence during installation.**

**Note! Use a new seal.**

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

**Torque:**

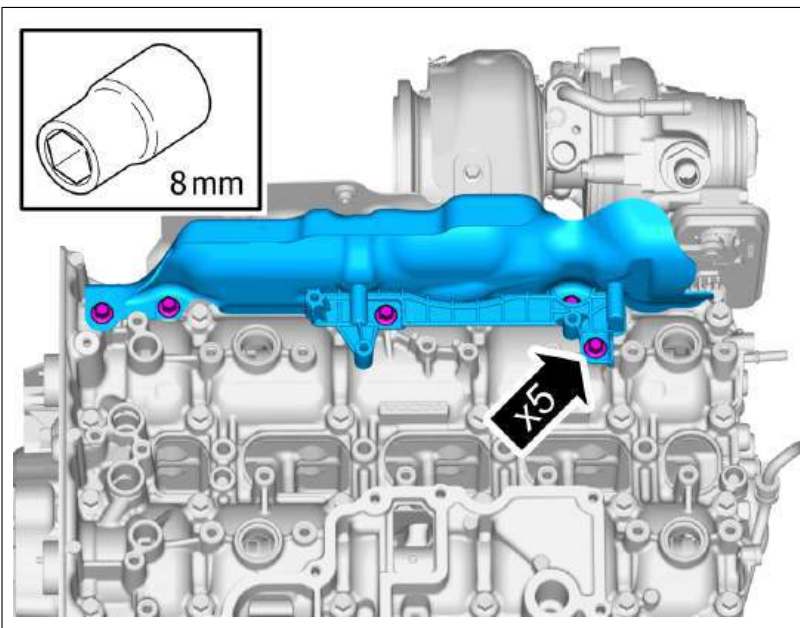
M6 , 10 Nm



**Note! Use new seals.**

Remove the screws.  
Remove the marked part.

- 1 · **Torque:**  
M5 , 5 Nm
- 2 · **Torque:**  
M6 , 10 Nm

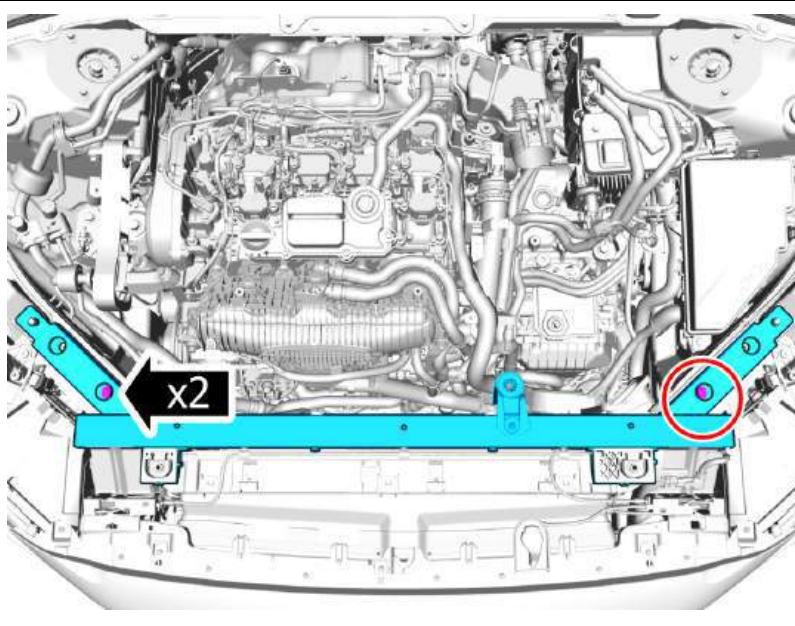


Remove the screws.  
Remove the marked part.

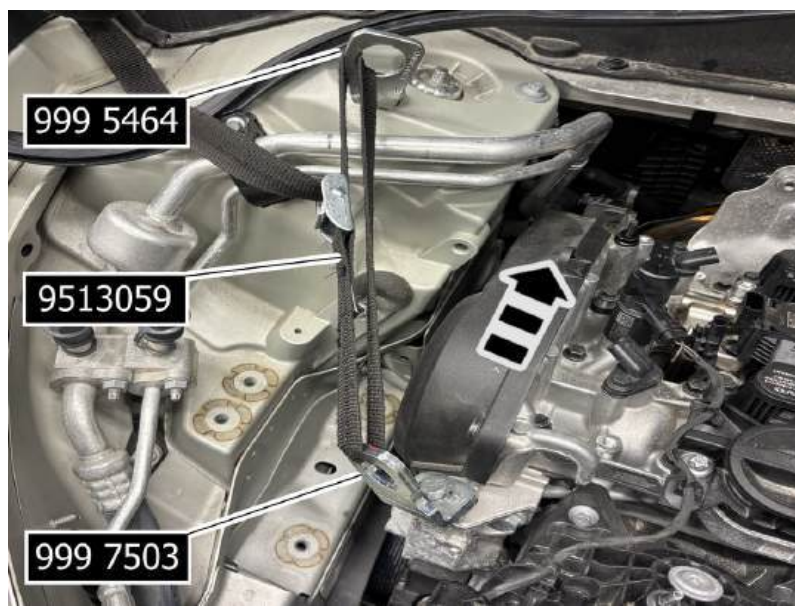
**Torque:**  
M6 , 10 Nm



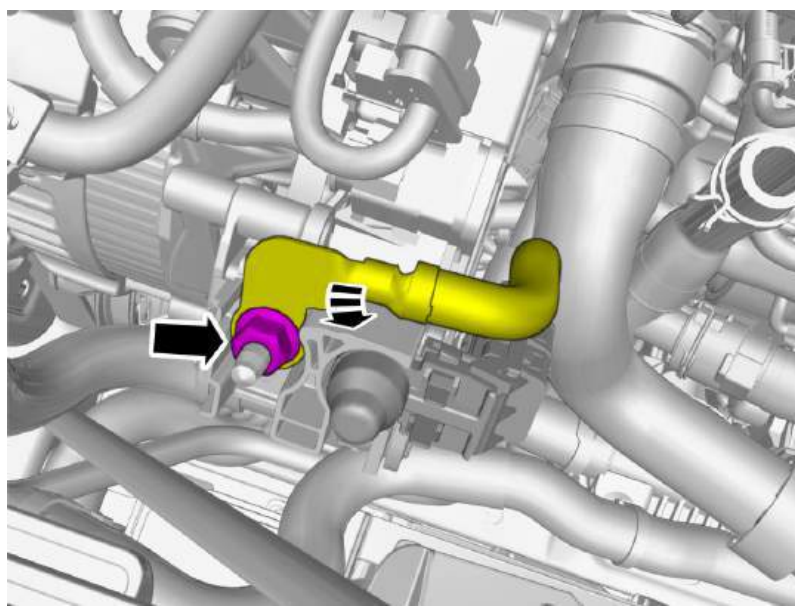
Remove the Special Tool.



Remove the screws.  
Remove the marked part.



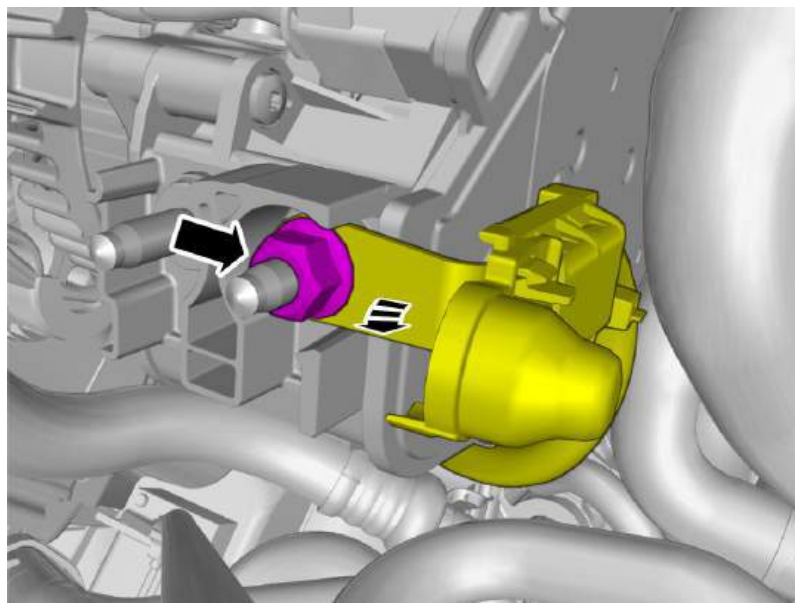
Install the Special tool.  
Pull the component in direction of the arrow.



Remove the nut.

**Torque:**

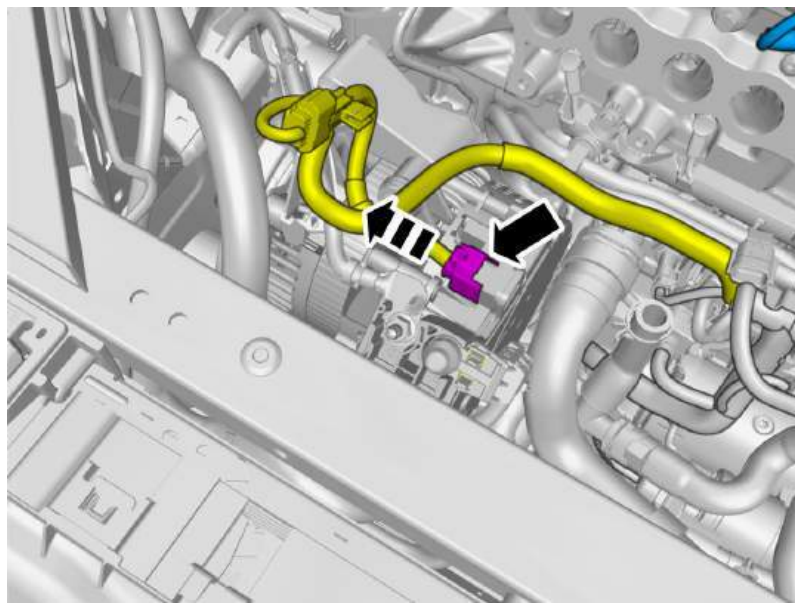
M8 , 24 Nm



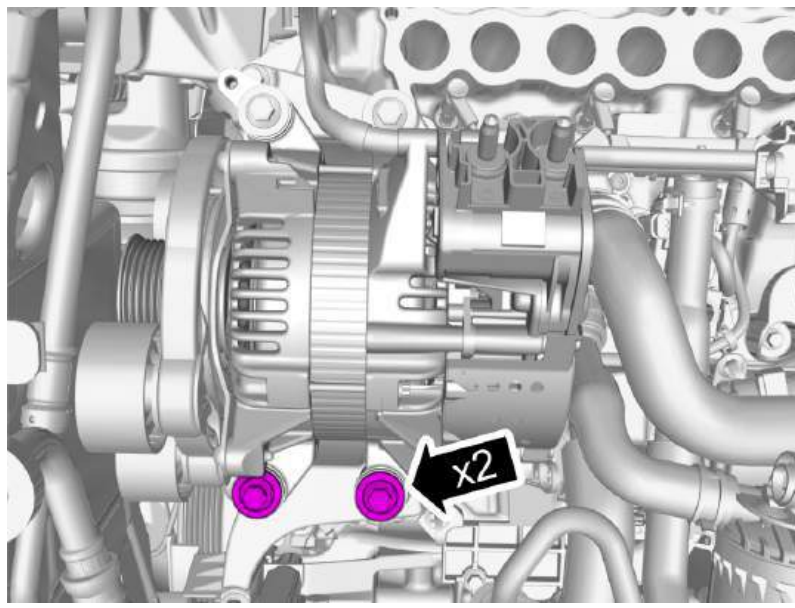
Remove the nut.

**Torque:**

M8 , 24 Nm



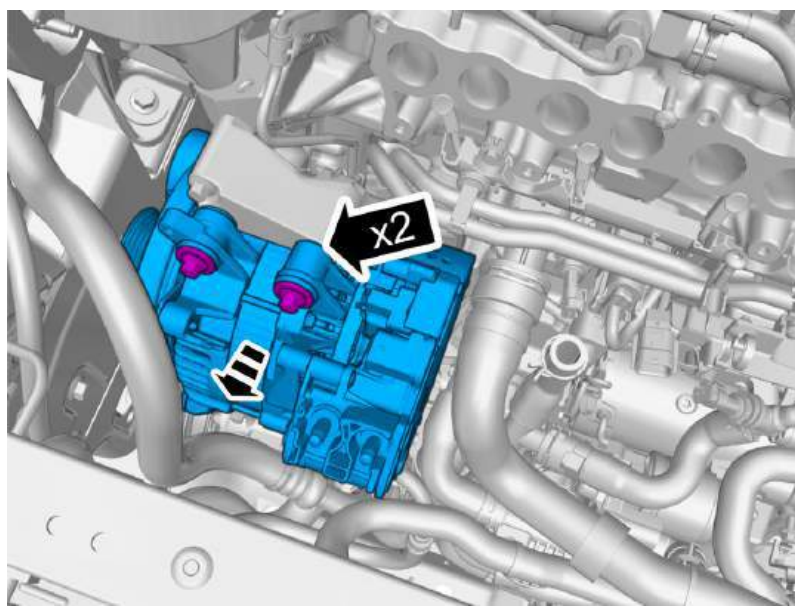
Disconnect the connector.



Remove the screws.

**Torque:**

M8 , 24 Nm



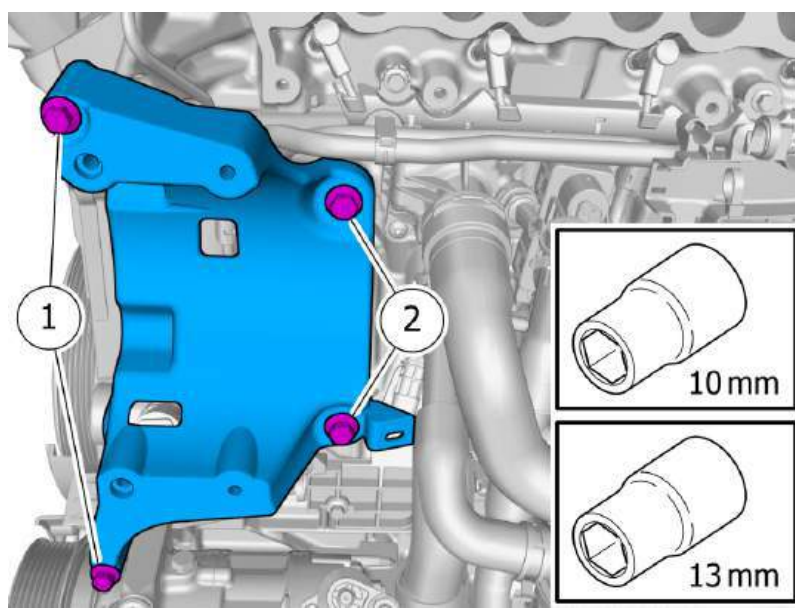
Remove the screws.

Remove the marked part.

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

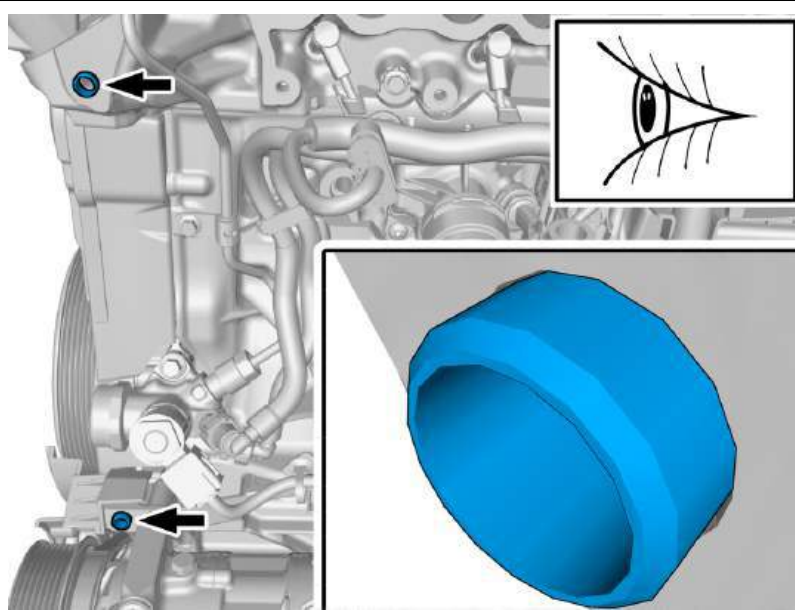
**Torque:**

M8 , 24 Nm

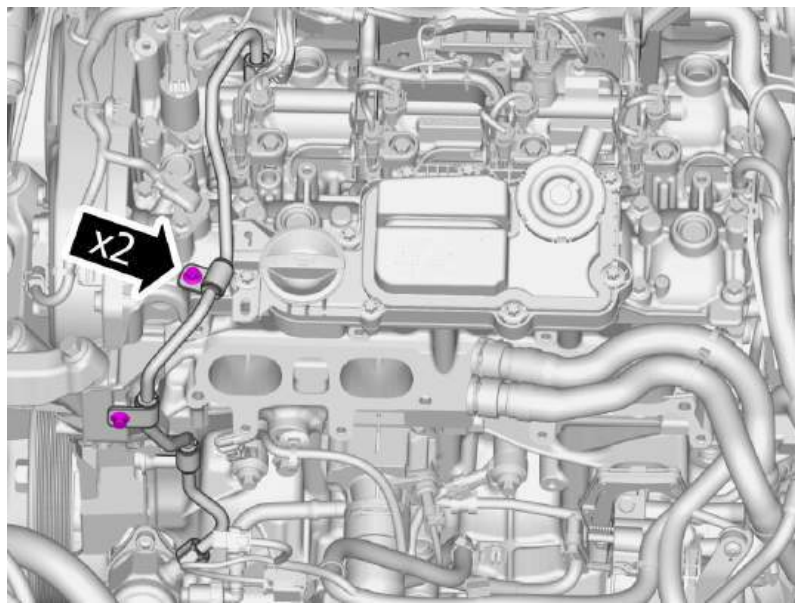


Remove the screws.  
Remove the marked part.

- 1 · **Torque:**  
M8 , 24 Nm
- 2 · **Torque:**  
M10 , 50 Nm



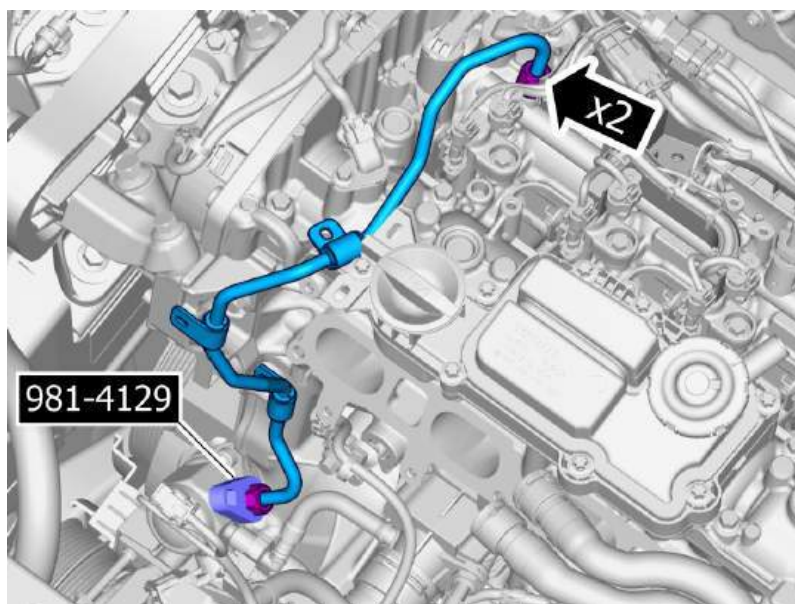
**Note!** Make sure that the component is installed.



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.

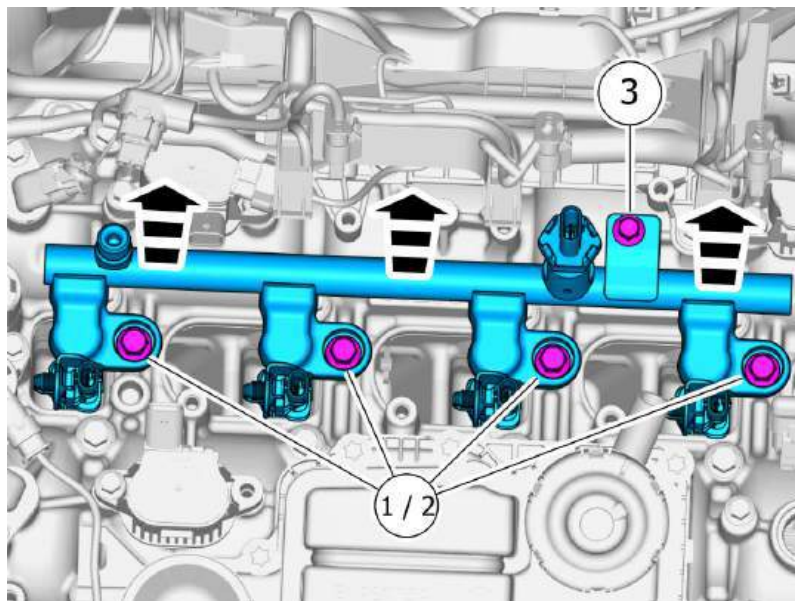
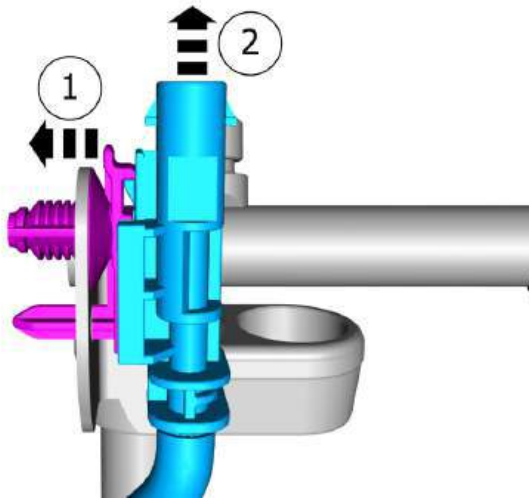
Remove the marked part.

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.

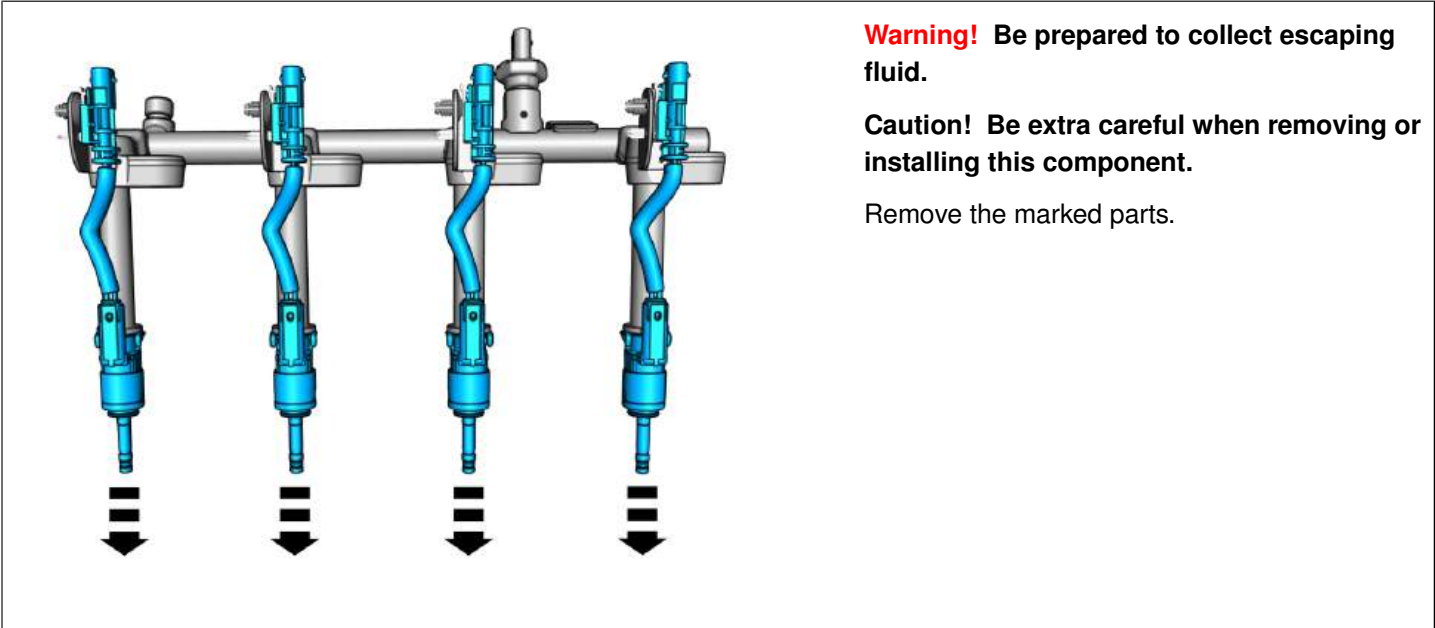
**Caution!** In order to avoid damage to the injectors, the part must be carefully pulled straight up.

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

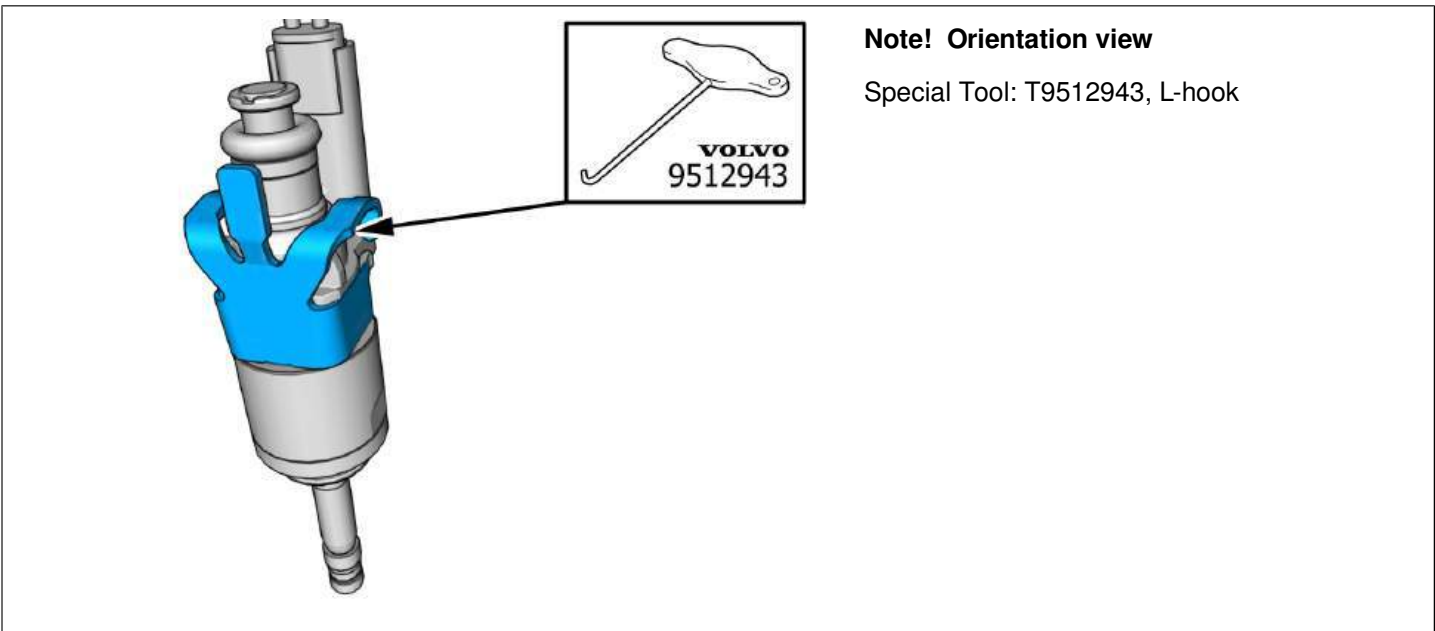
Remove the screws.

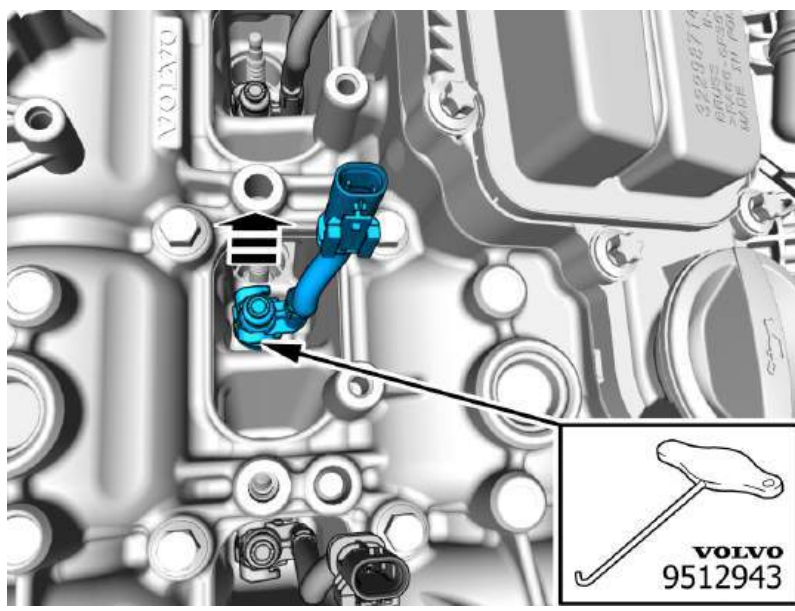
Remove the part carefully

- 1 · **Torque:**  
Fuel rail M7 , 22 Nm
- 2 · **Torque:**  
Fuel rail M8 , 30 Nm
- 3 · **Torque:**  
M6 , 10 Nm



When necessary, perform the following instruction.





**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

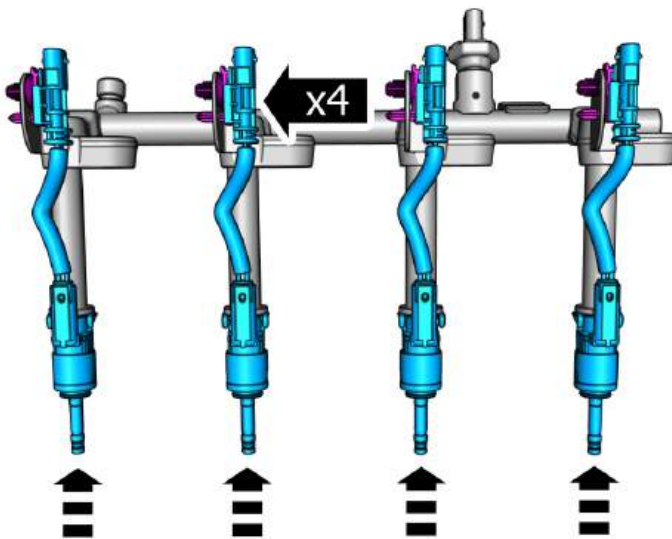
2 - Engine with mountings and equipment

23 - Fuel system

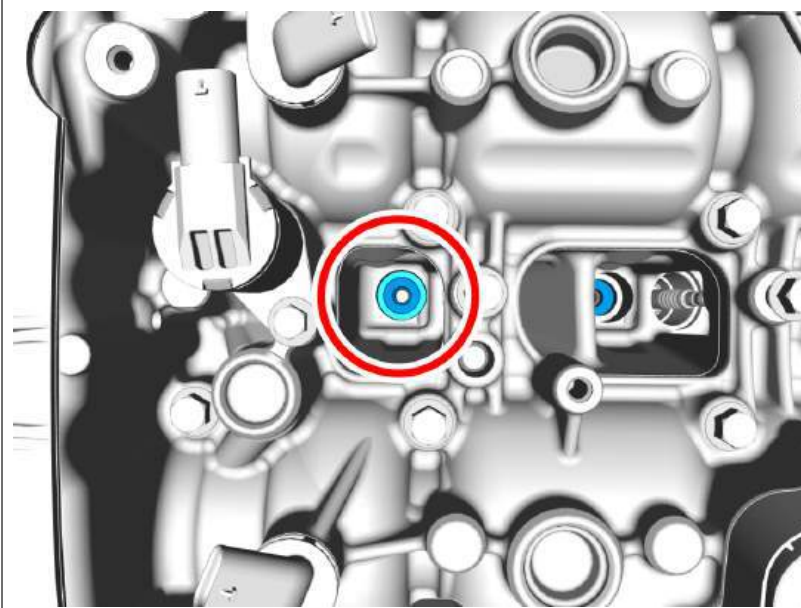
237 - injector and delivery pipe

**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.

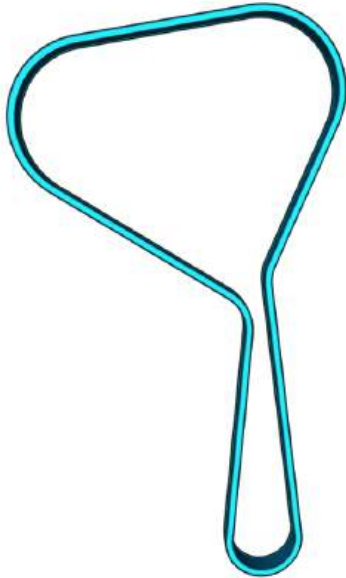
**Caution!** Clean carefully, using compressed air.

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.



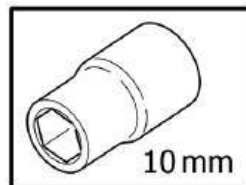
**Caution!** The part is to be reused.

**Caution! The part is to be reused.**

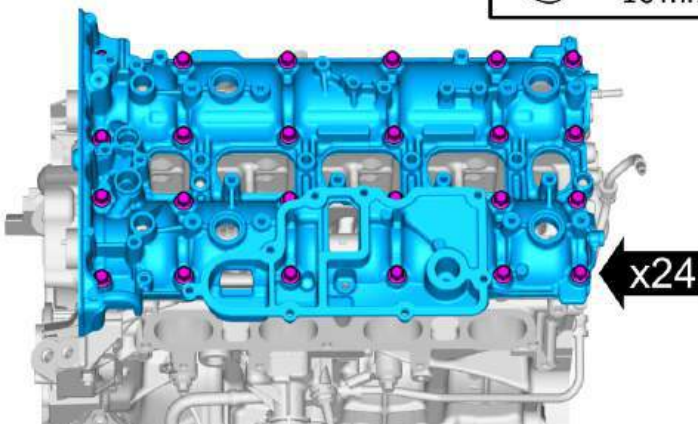


**Continue the removal following the steps below.**

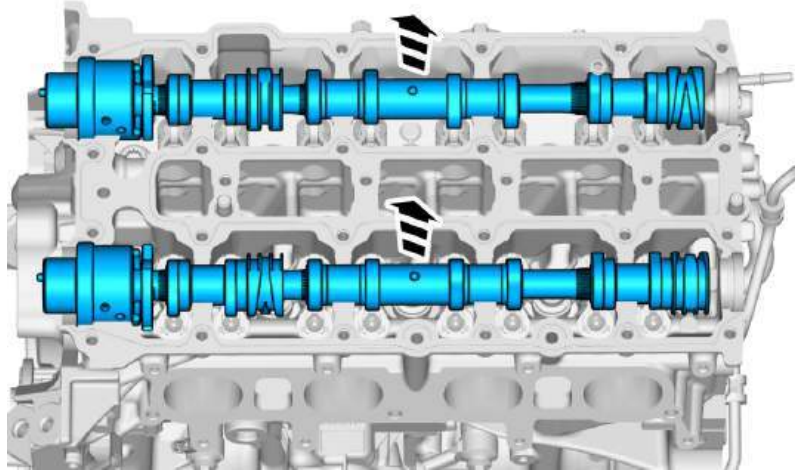
Remove camshaft seal , refer to:  
Removal, replacement and installation  
2 - Engine with mountings and equipment  
21 - Engine  
215 - transmission



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



Vehicles early version

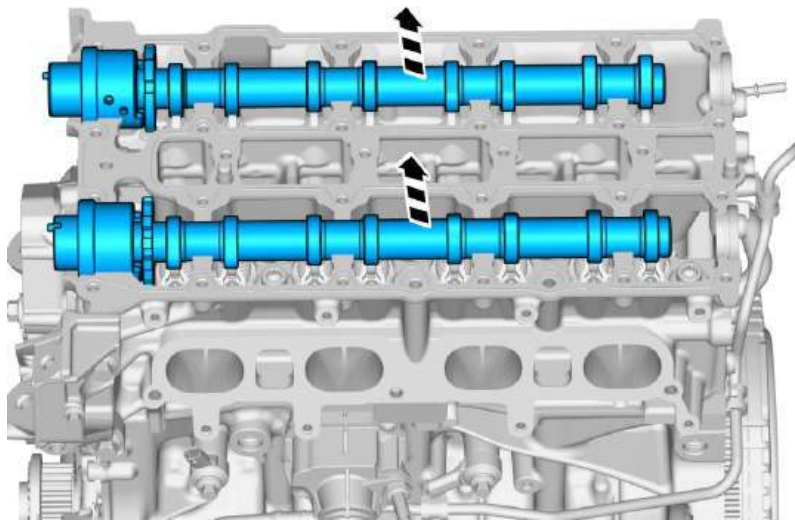


**Caution! Note the location of the component before removal.**

**Caution! Take extra care when handling the components.**

Remove the marked parts.

Vehicles late version

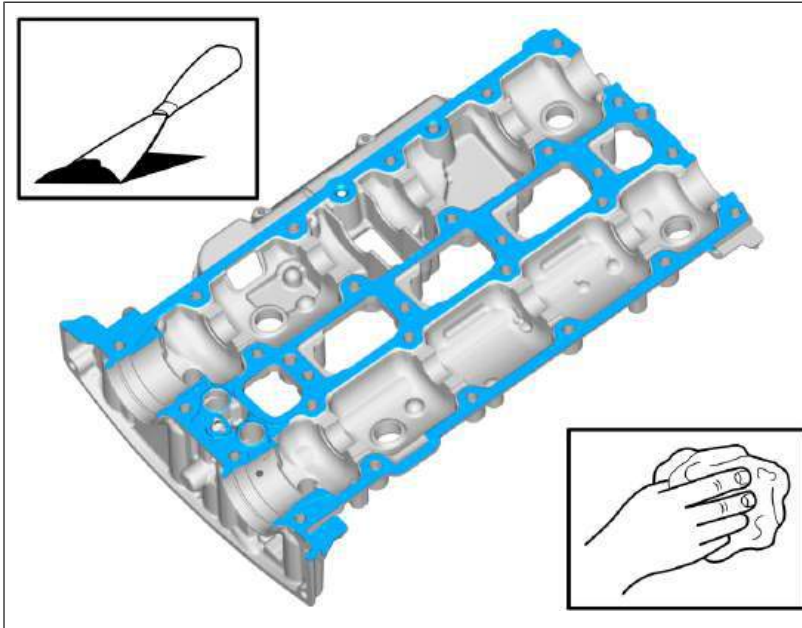


**Caution! Note the location of the component before removal.**

**Caution! Take extra care when handling the component.**

Remove the marked parts.

**Cleaning**



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

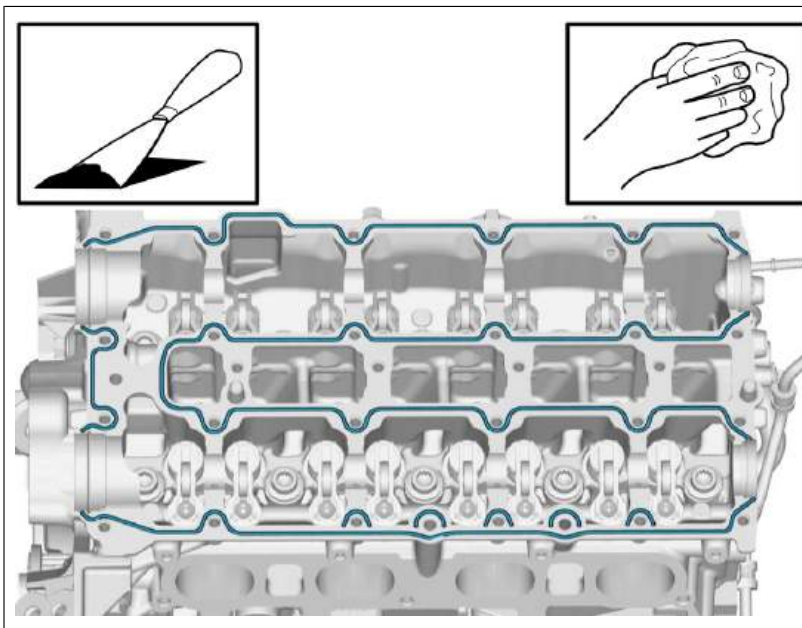
**Caution!** Make sure that the oil galleries are clean and free of foreign material.

**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.

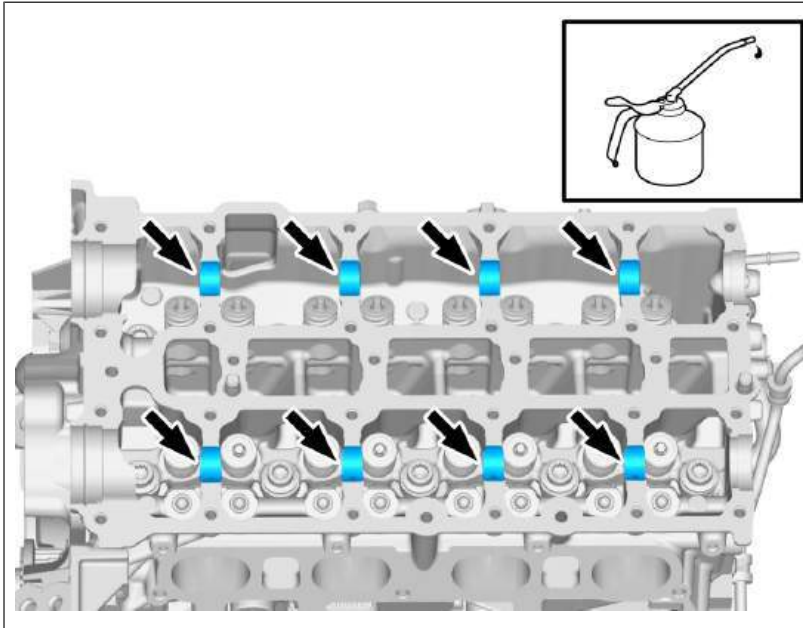
**Note!** Make sure that the mating faces are clean and free of foreign material.

**Use:** Putty knife (plastic)

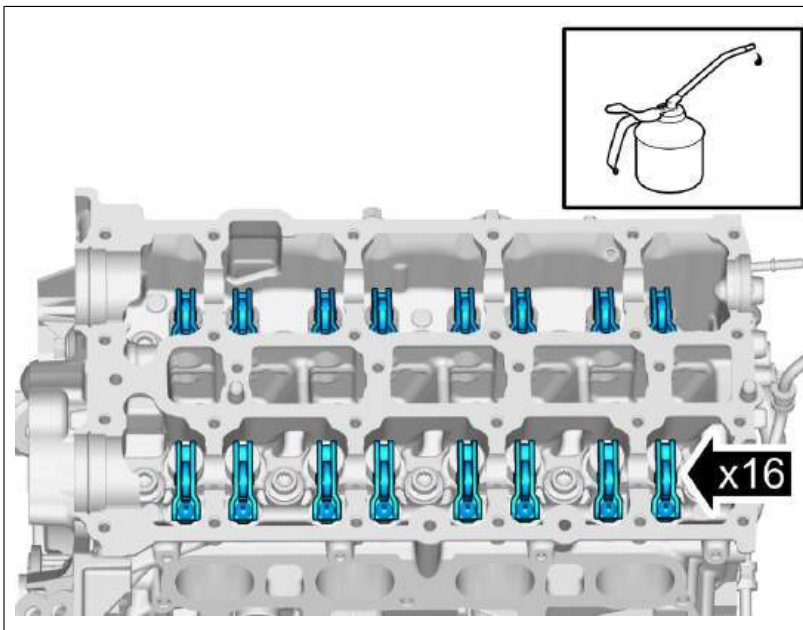
**Use:** Abrasive cloth

**Use:** Isopropanol ,

Installation



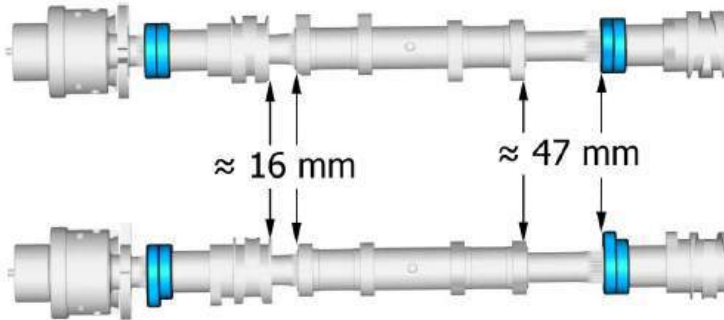
Use: Engine oil ,



Use: Engine oil ,

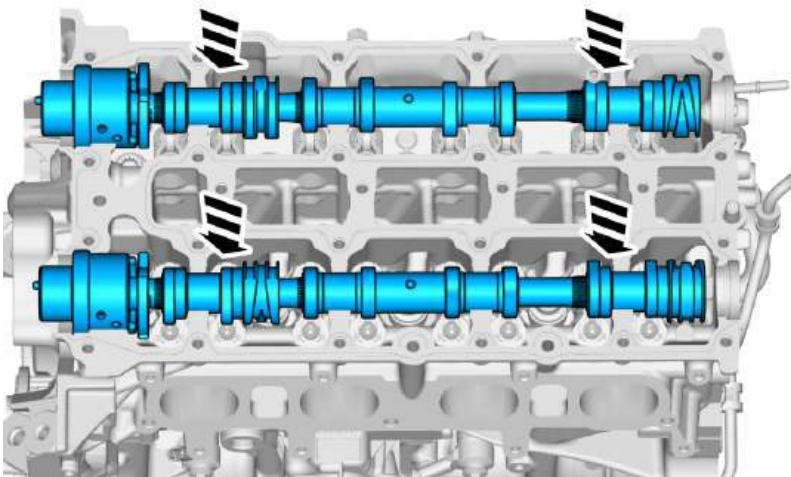
Vehicles early version

**Caution! Make sure that the components are positioned correctly.**

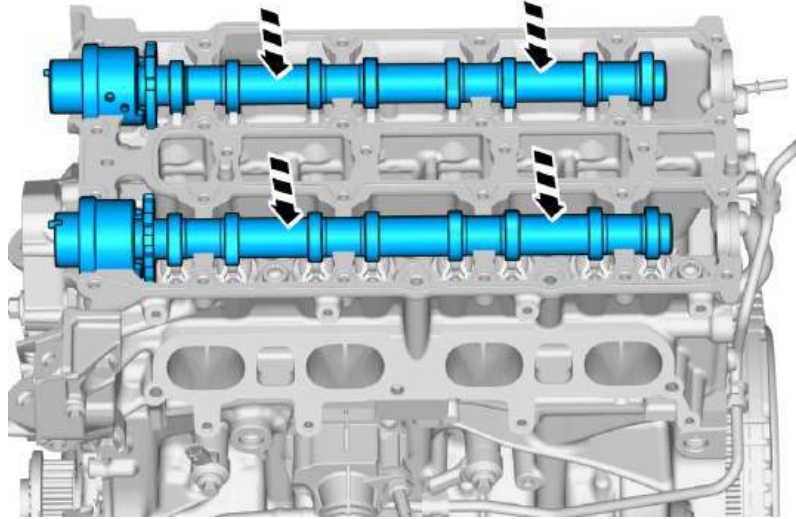


**Caution! Make sure that the components are positioned correctly.**

Install the marked components.



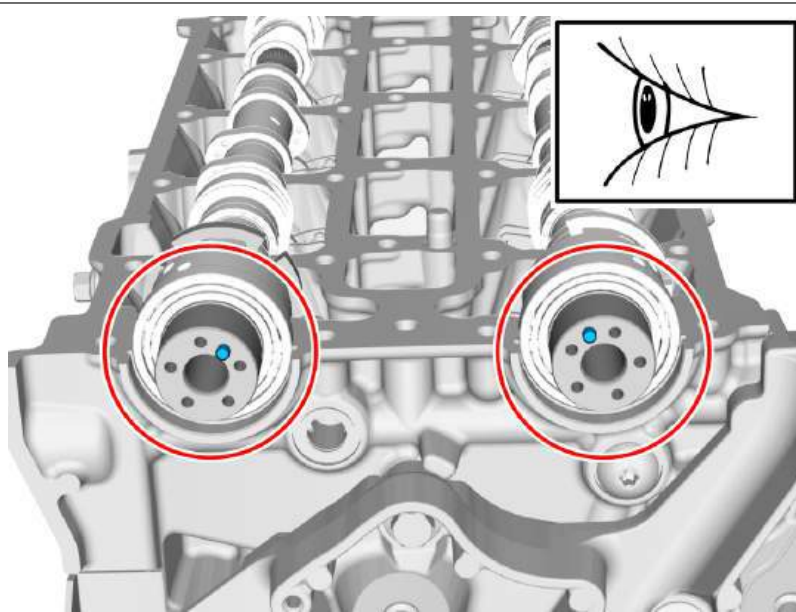
Vehicles late version



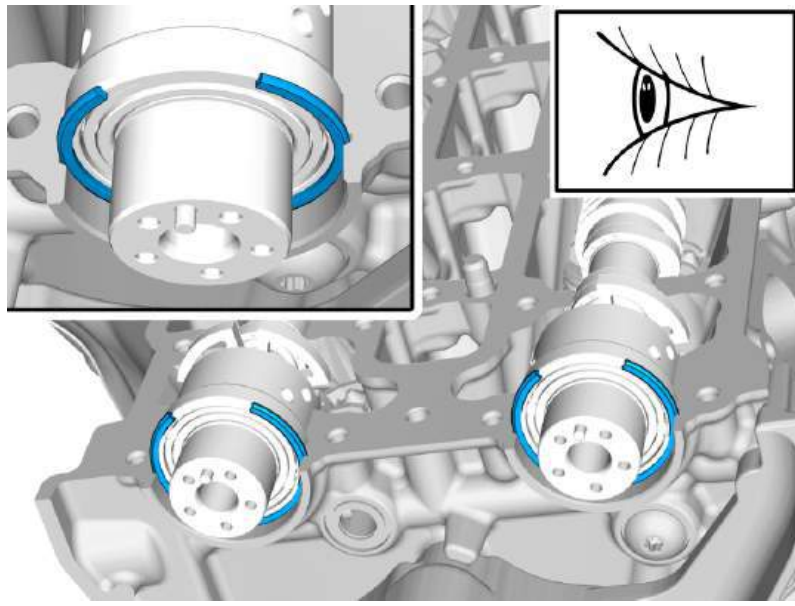
**Caution! Make sure that the components are positioned correctly.**

Install the marked components.

All vehicles

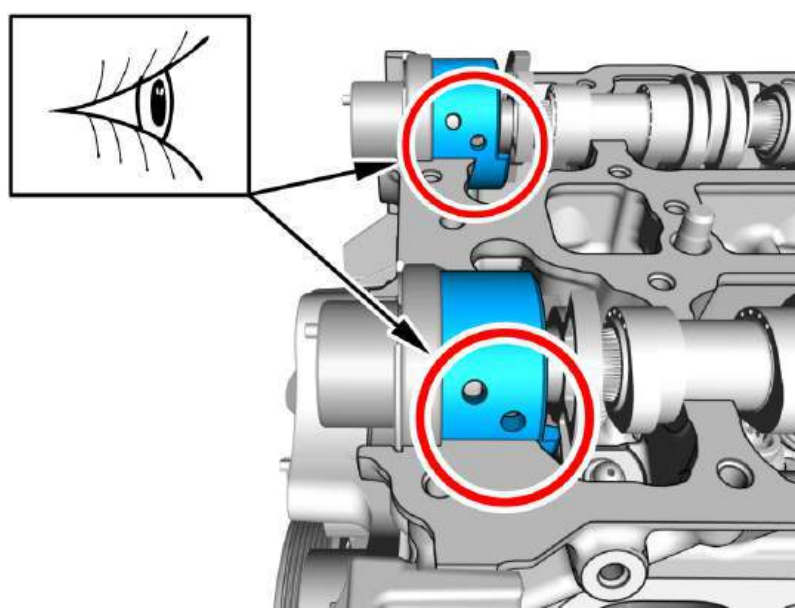


**Caution! Make sure that the components are positioned correctly.**



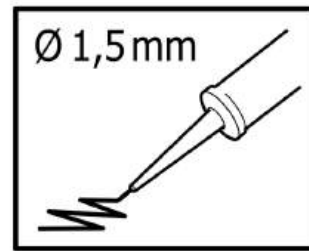
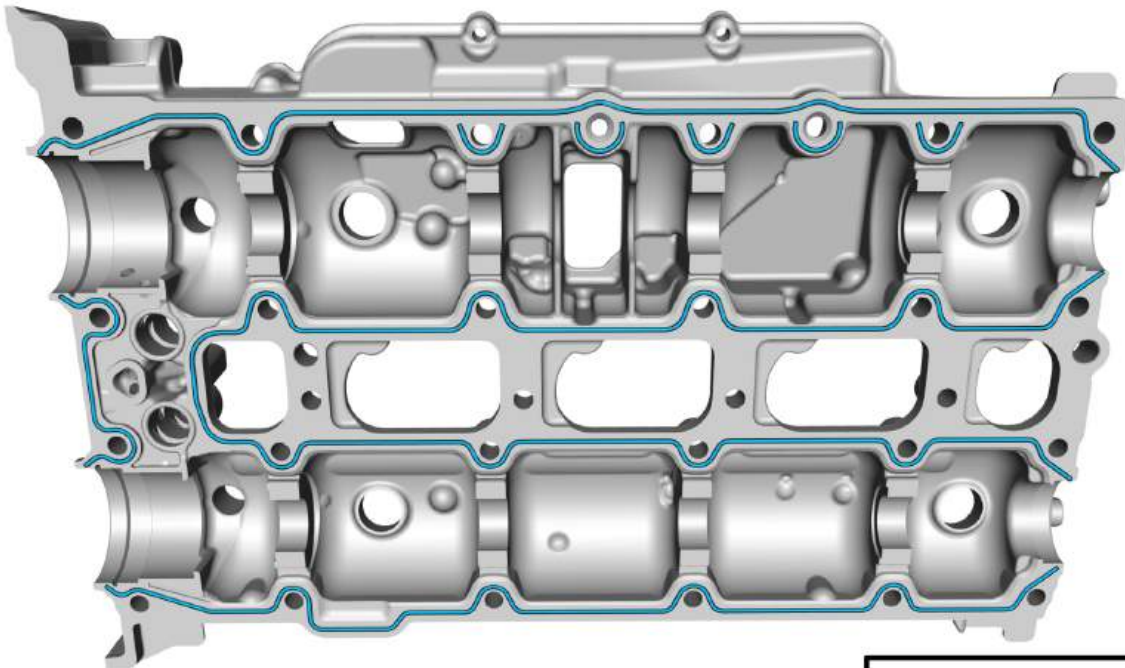
**Caution! Make sure that the components are positioned correctly.**

Install the marked components.



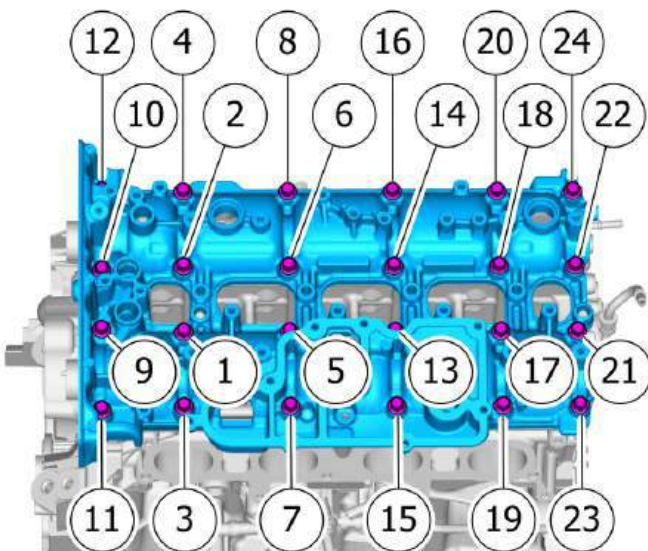
**Caution! Make sure that the components are positioned correctly.**

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.

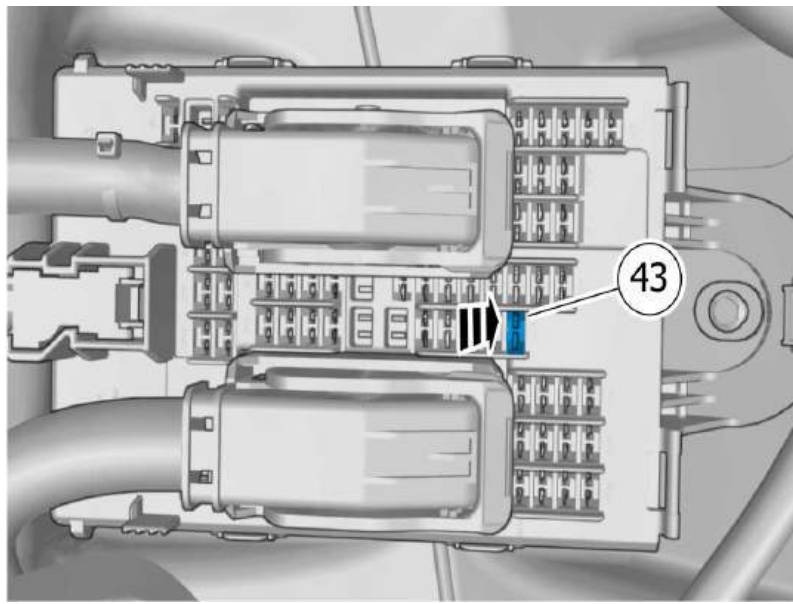
**Note!** Make sure to follow the sequence indicated.

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

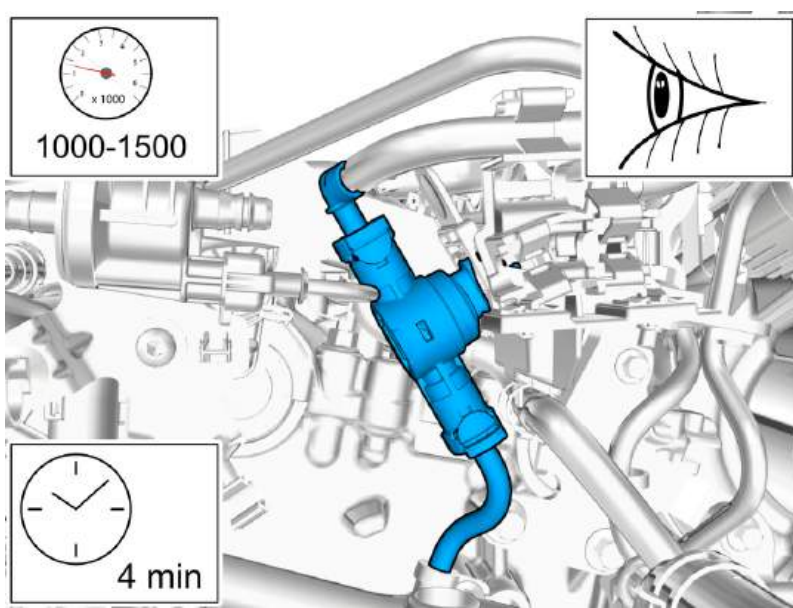
**Torque:**  
M7 , 17 Nm

To install, reverse the removal procedure.

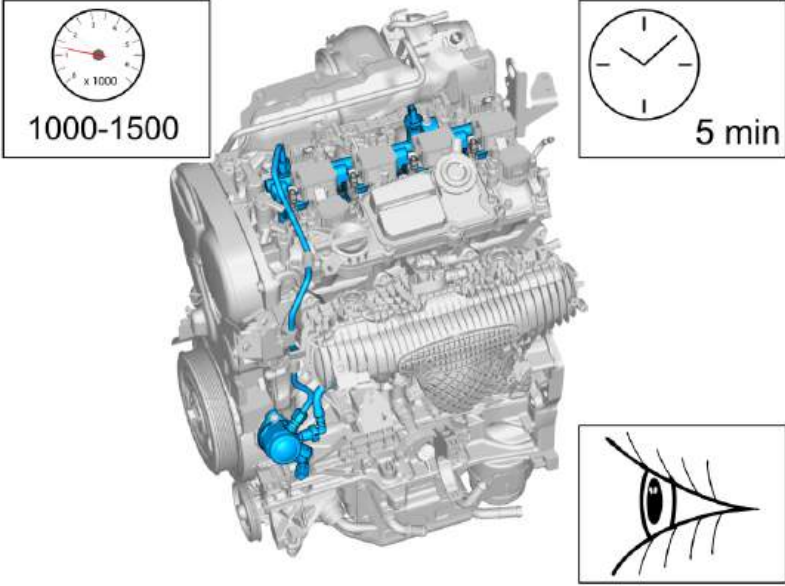
**Check**



Reinstall the fuse.  
Start the engine.

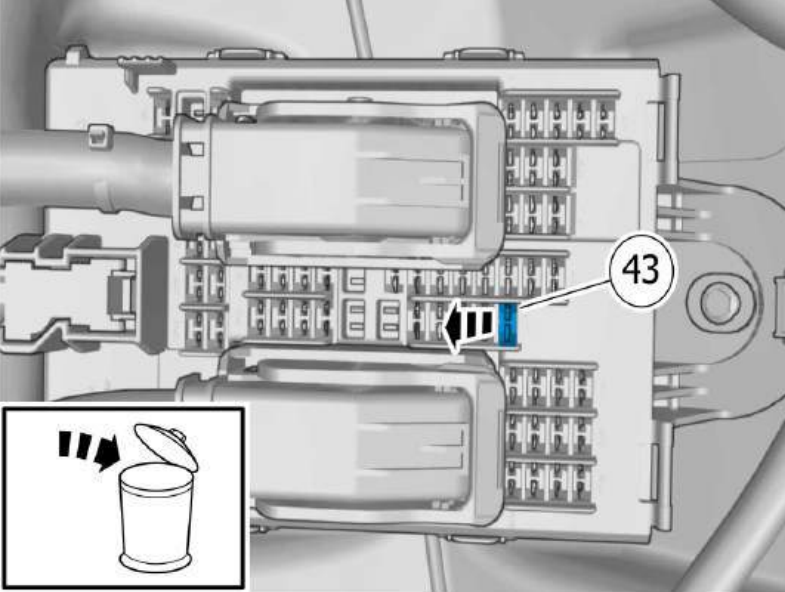


**Warning!** Make sure that there are no leaks.



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

The diagram shows a 3D cutaway view of an engine with blue hoses. To the left is a tachometer icon with a needle pointing to 1000-1500 RPM (x 1000). To the right is a clock icon labeled '5 min'. Below the engine is an icon of an eye, indicating a safety warning.



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

The diagram shows a fuse box with a callout '43' pointing to a specific fuse. An inset icon shows a fuse being discarded into a trash can.



## Volvo Car Customer Service

TJ Instruction VCC-531608-2

<b>Title</b>	Camshaft bushing	<b>Page</b>	1 ( 60 )
<b>Action</b>	Replacement	<b>Operation number:</b>	98783-2

Issue	Date	Reason
1	2025-03	First issue
2	2025-11	Change in Affected Vehicles

### Affected vehicles

Model year	Model	Engine
2021, 2022, 2023, 2024, 2025, 2026	EX40 / XC40	B420T10, T2, T4, T5, T6, T8

### 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

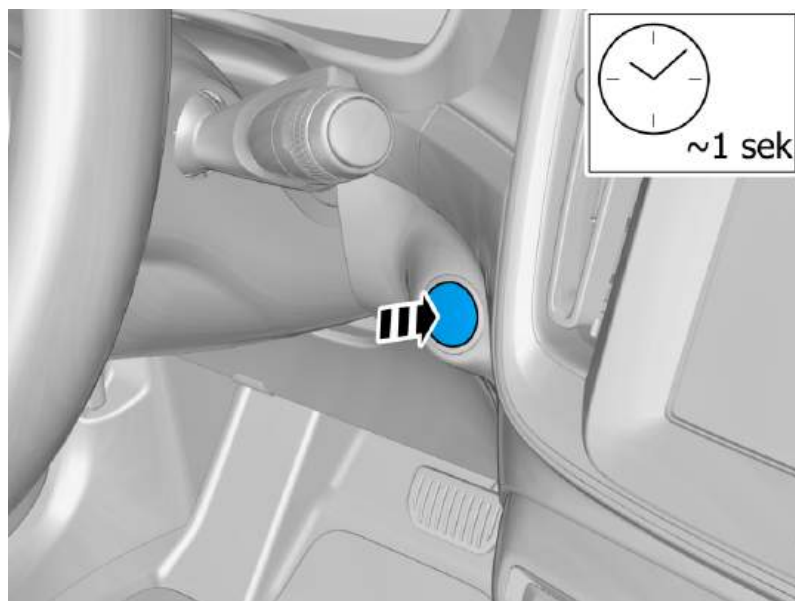
**Note! Removal steps in this procedure may contain installation details.**

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.

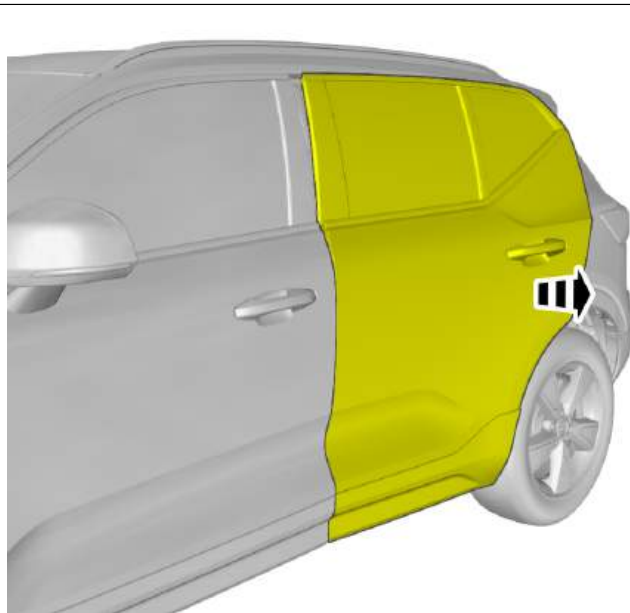
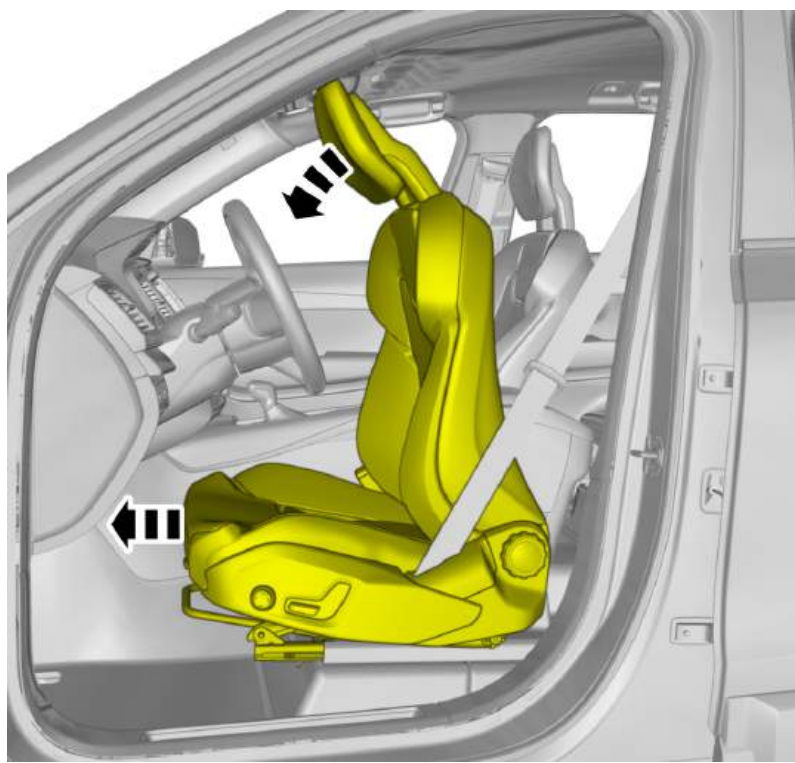
See information on safety information fuel system , refer to:

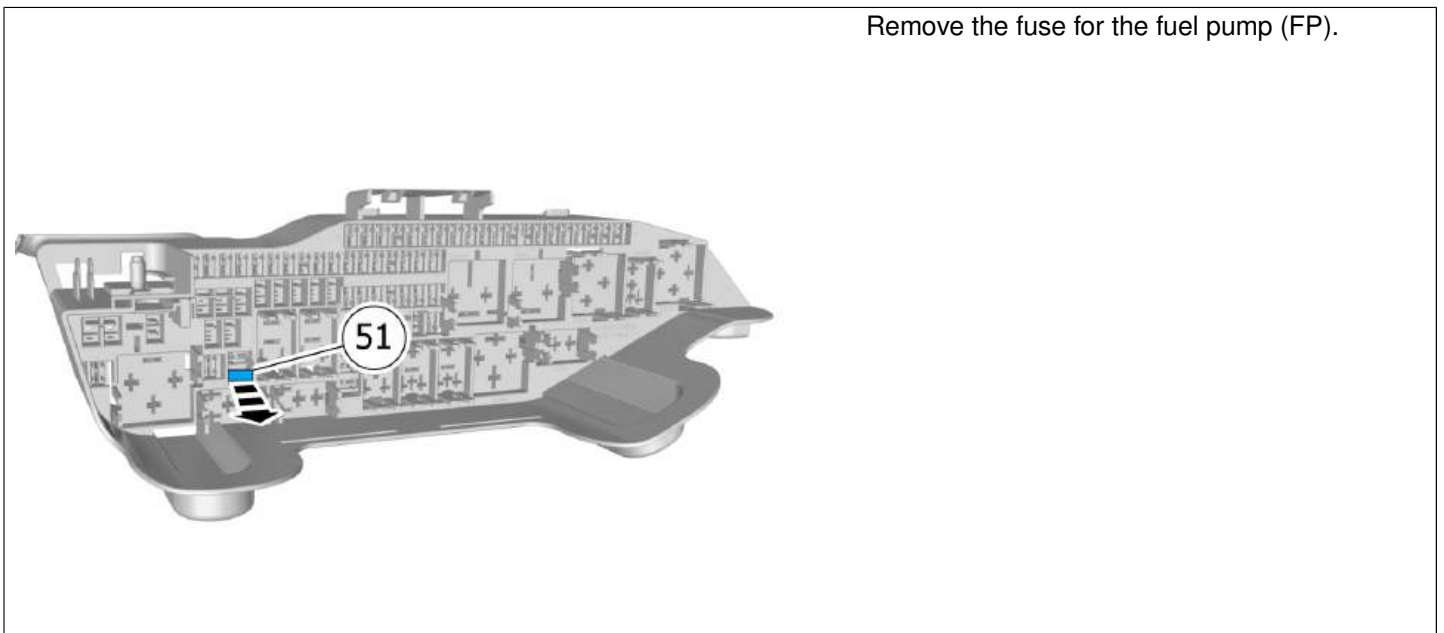
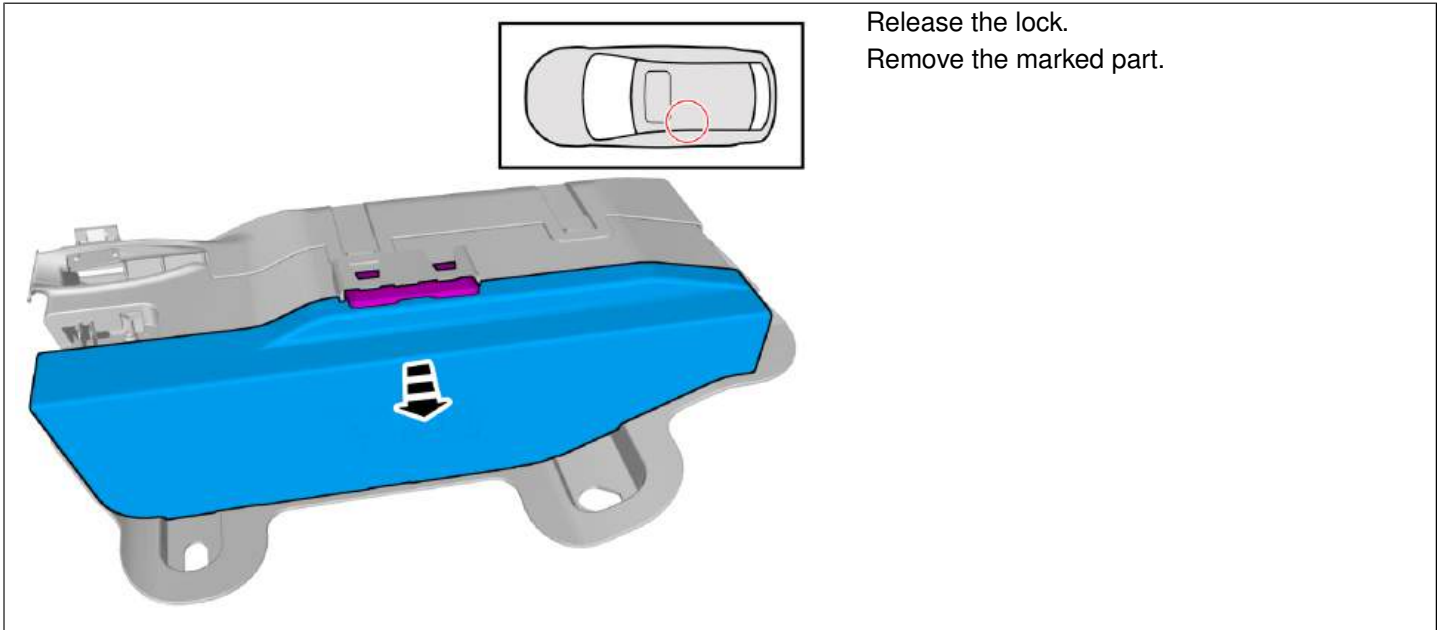
- General Safety Information
- 2 - Engine with mountings and equipment
- 23 - Fuel system
- 230 - general

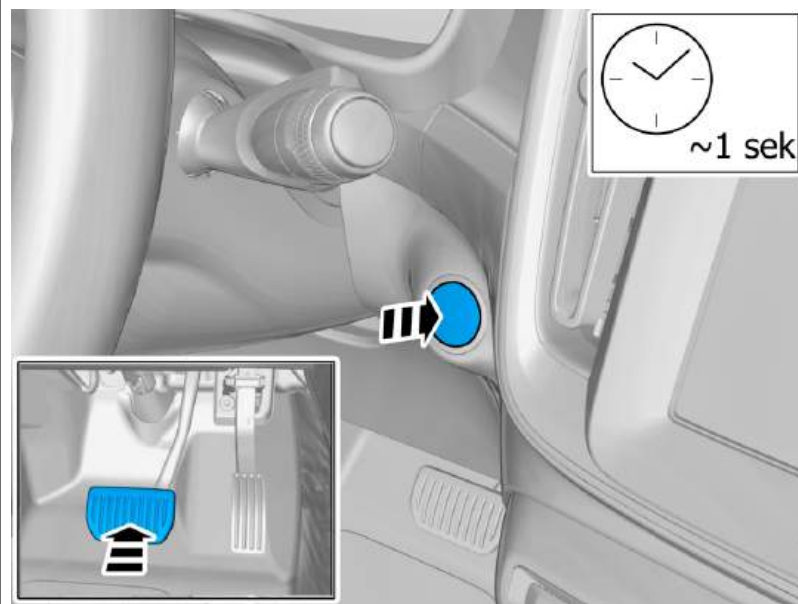
Inactive



Functional availability is limited.



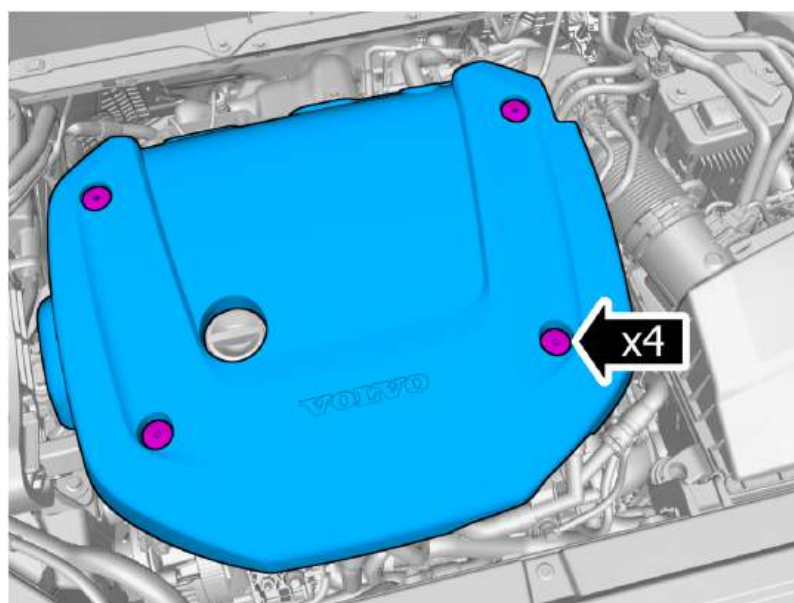


**Activation**

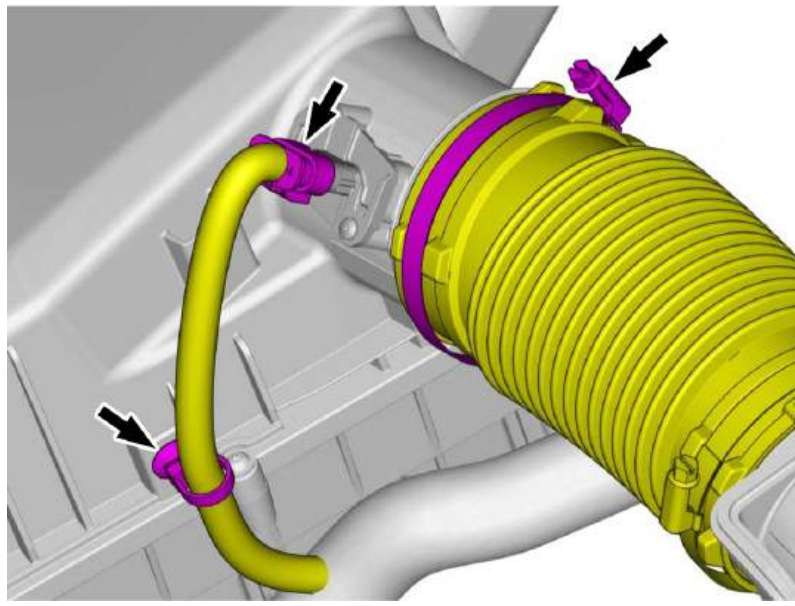
Start and run the engine at idle until it stops.

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

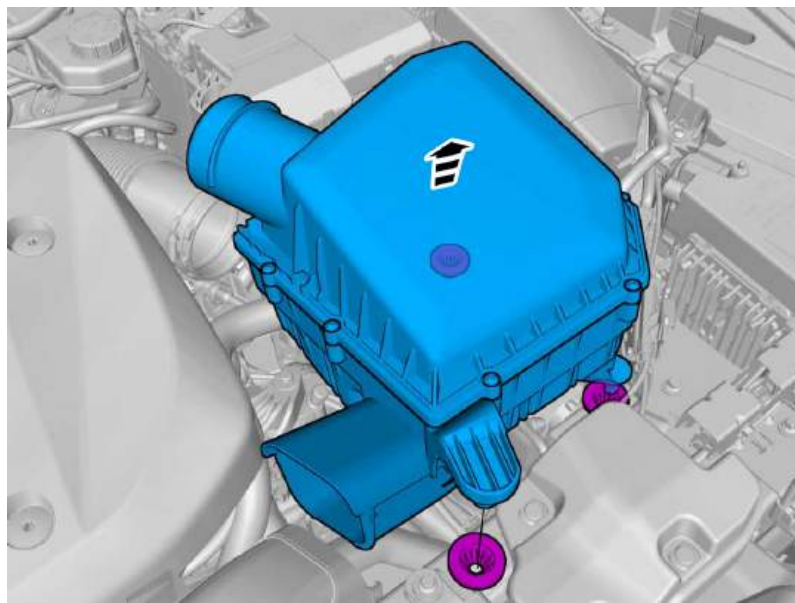
- Cleaning, Inspection and Adjustment
- 3 - Electrical system
- 31 - Battery and mounting
- 311 - battery



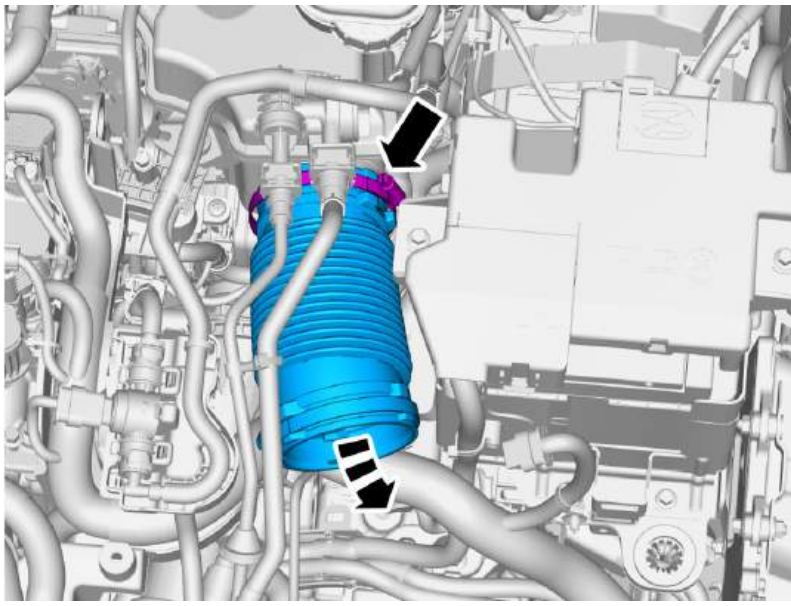
Loosen the screws.  
Remove the marked part.



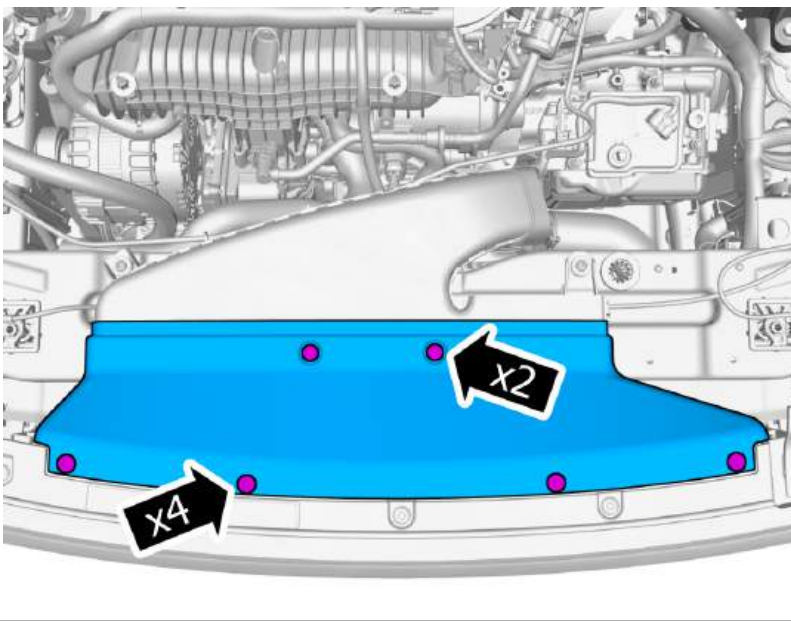
Disconnect the connector.  
Loosen the clips.  
Loosen the hose clamp.



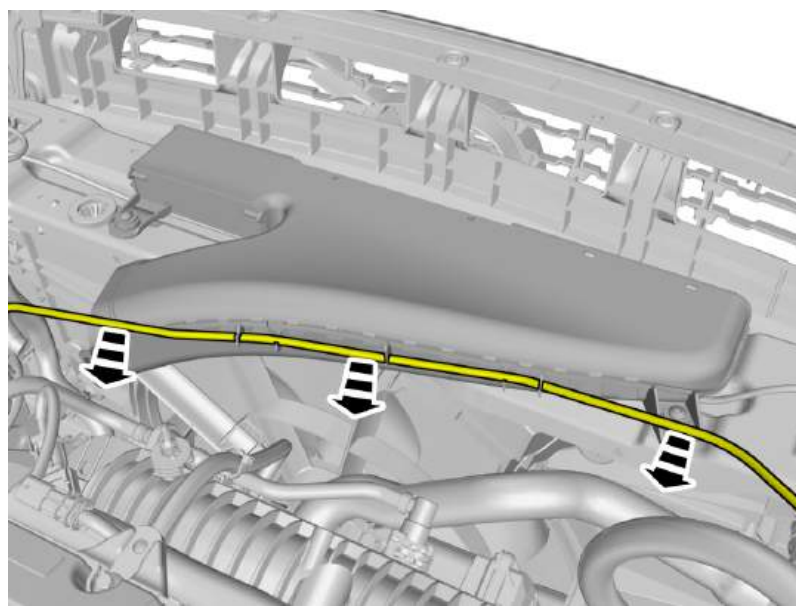
Remove the marked part.



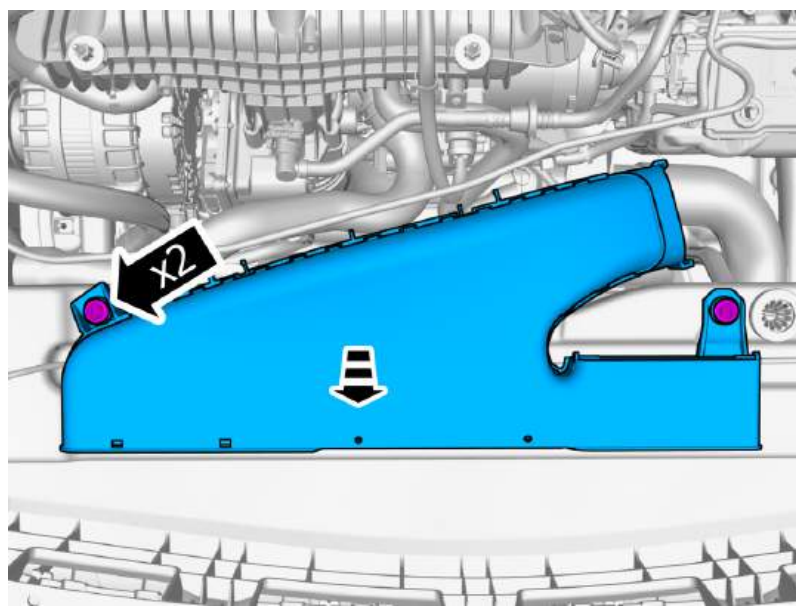
Loosen the hose clamp.  
Remove the marked part.



Remove the clips.  
Remove the marked part.



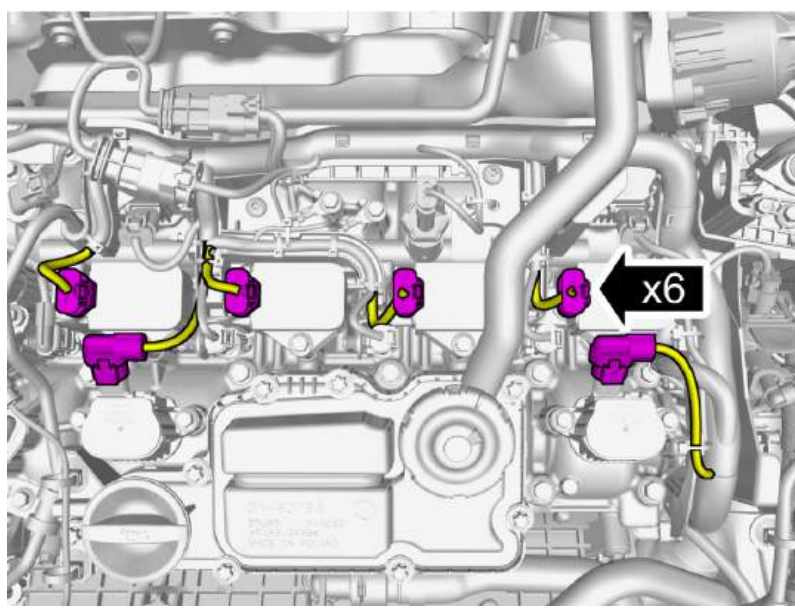
Fold marked part aside.



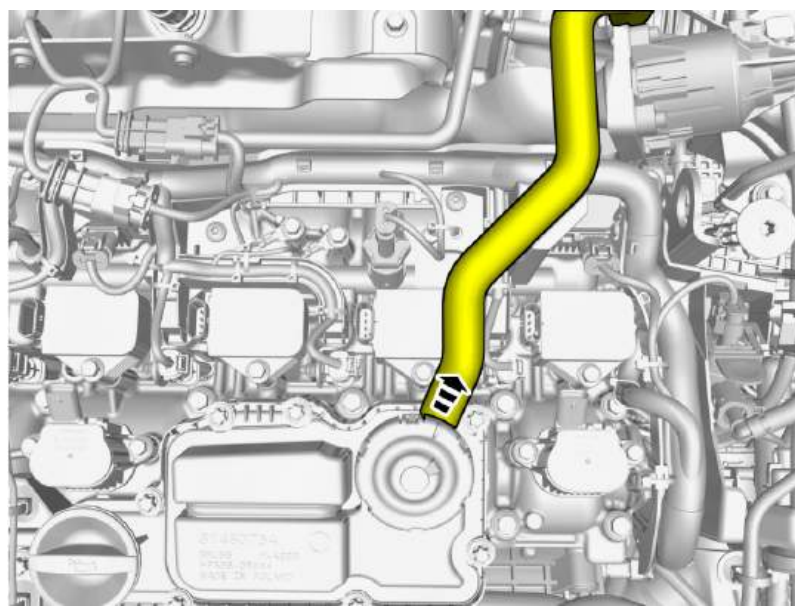
Remove the screws.  
Remove the marked part.

**Torque:**

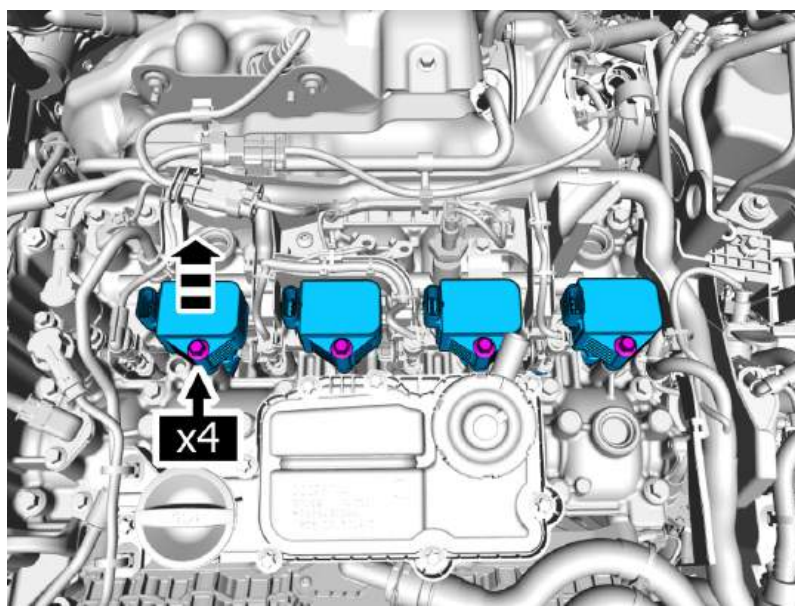
Air deflector to upper radiator member ,  
5 Nm



Disconnect the connectors.



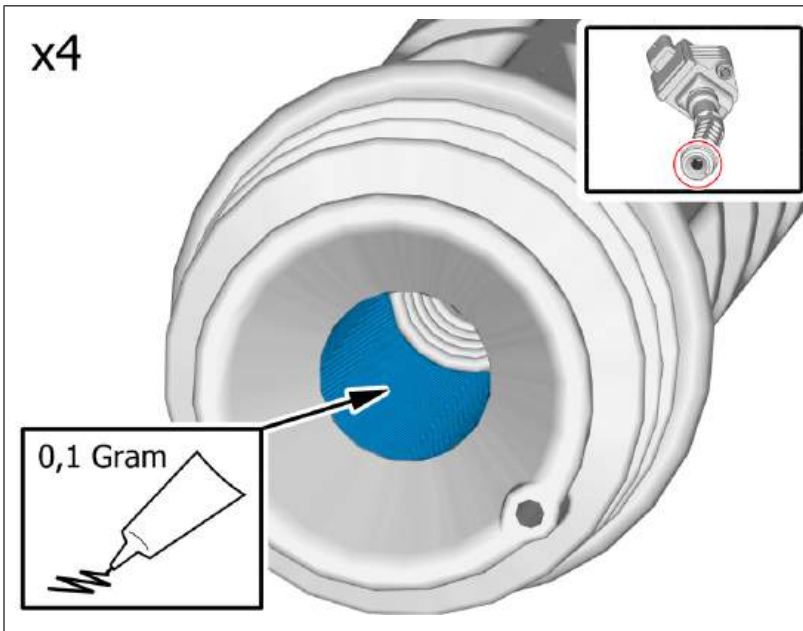
Undo the hose from the connection.



Remove the screws.  
Remove the marked parts.

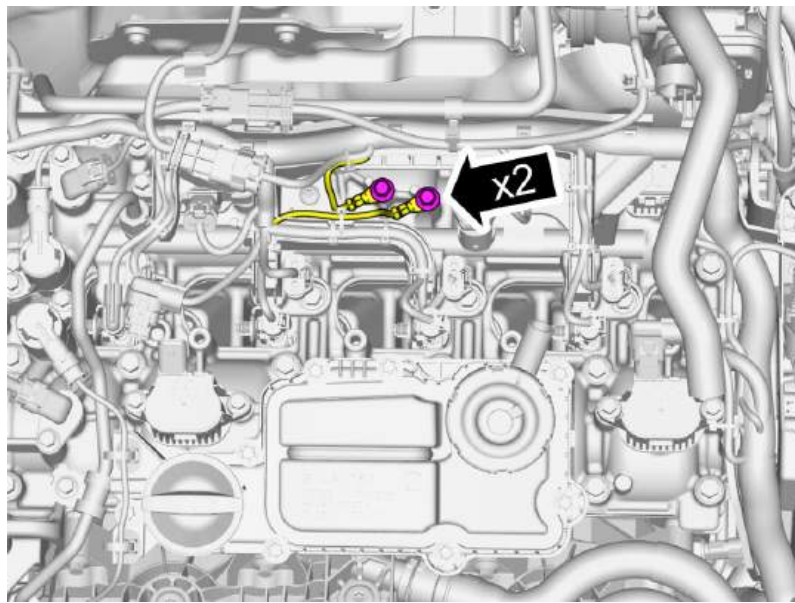
**Torque:**  
M6 , 10 Nm

**Installation**



Apply grease on the area indicated.

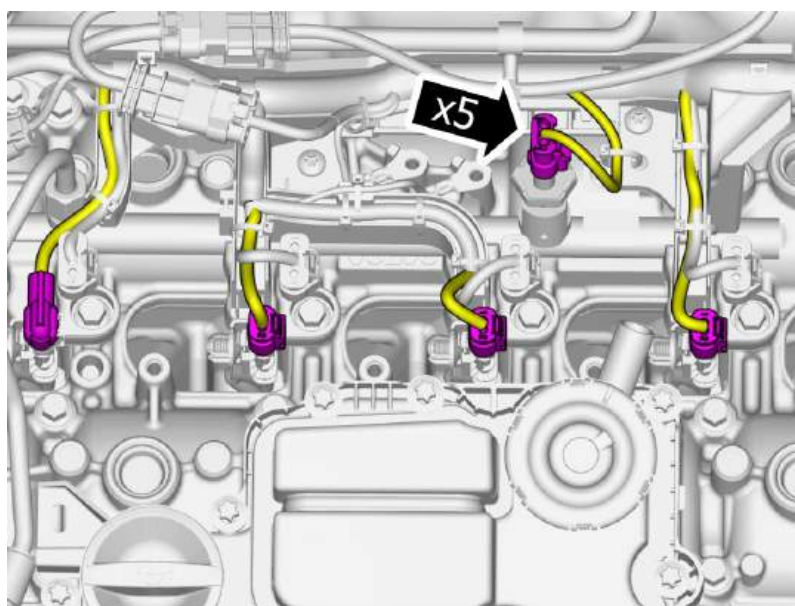
Continue the removal following the steps below.



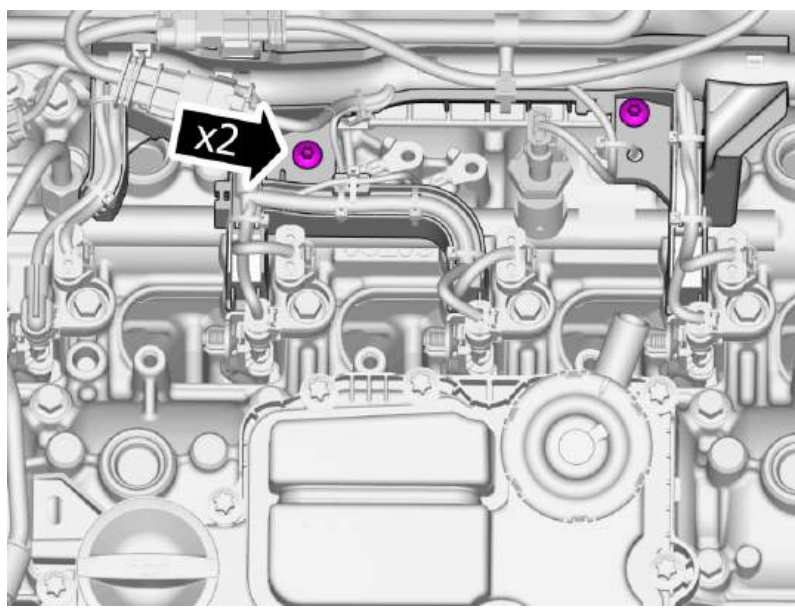
Remove the screws.

**Torque:**

M6 , 10 Nm



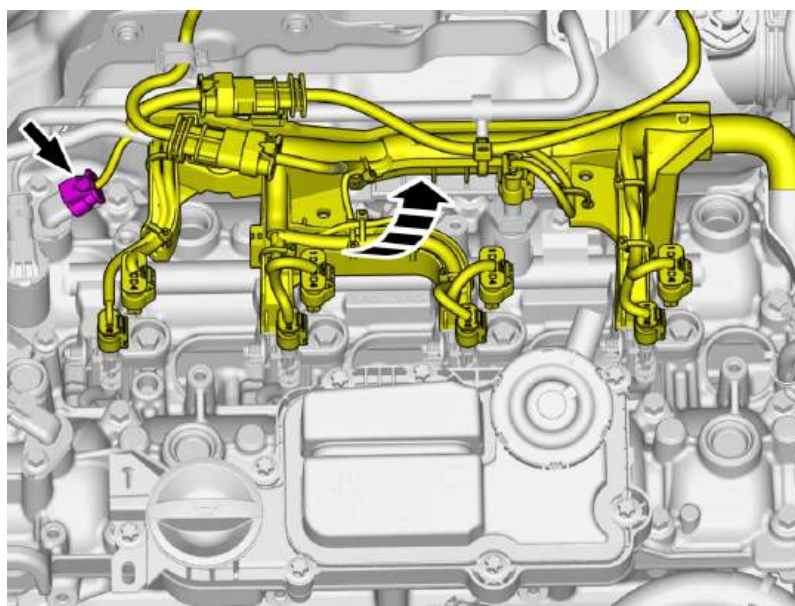
Disconnect the connectors.



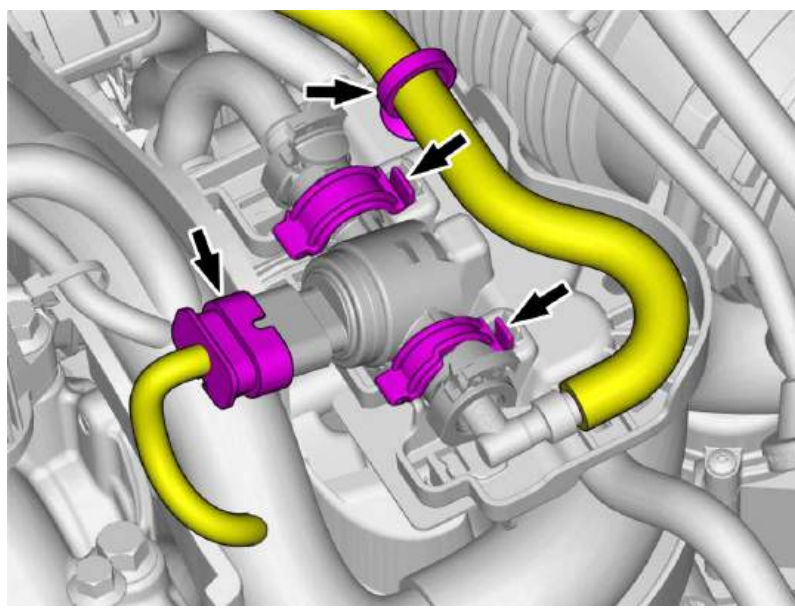
Remove the screws.

**Torque:**

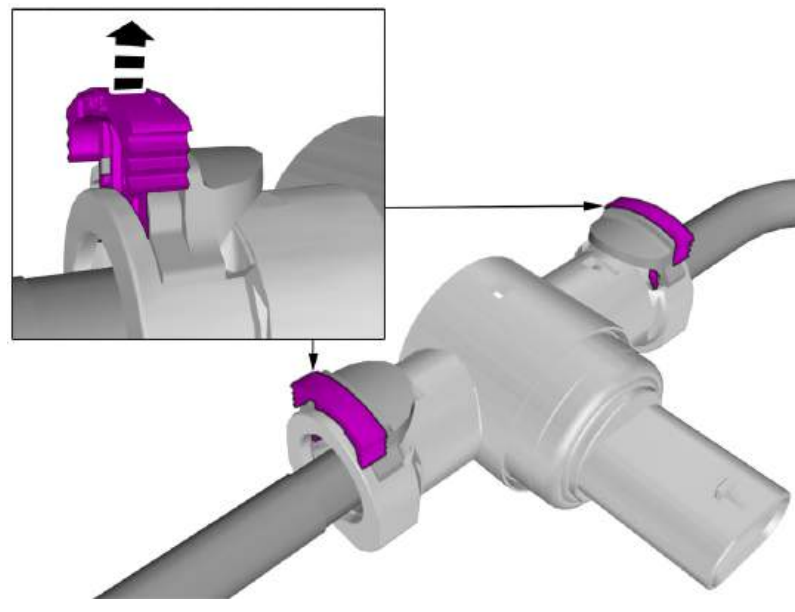
M5 , 5 Nm



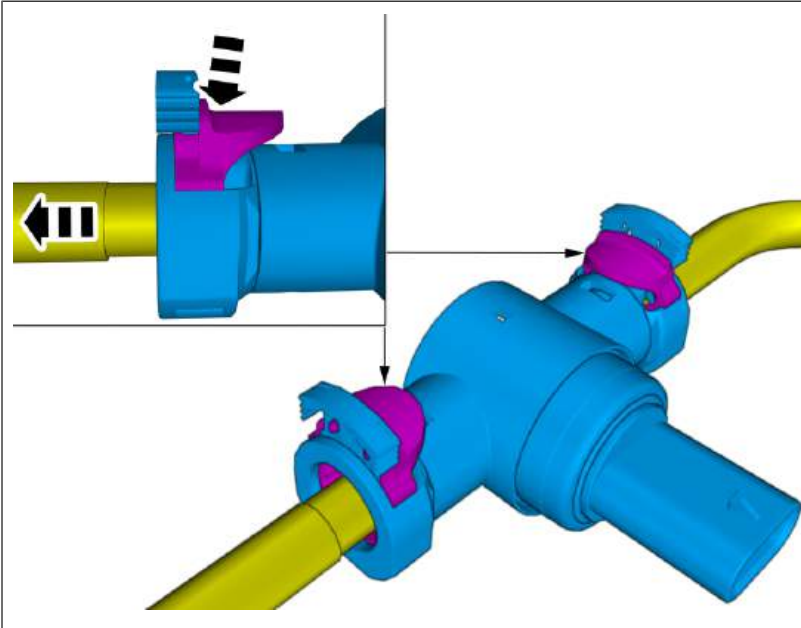
Disconnect the connector.  
Fold the cable harness aside.



Disconnect the connector.  
Loosen the clips.



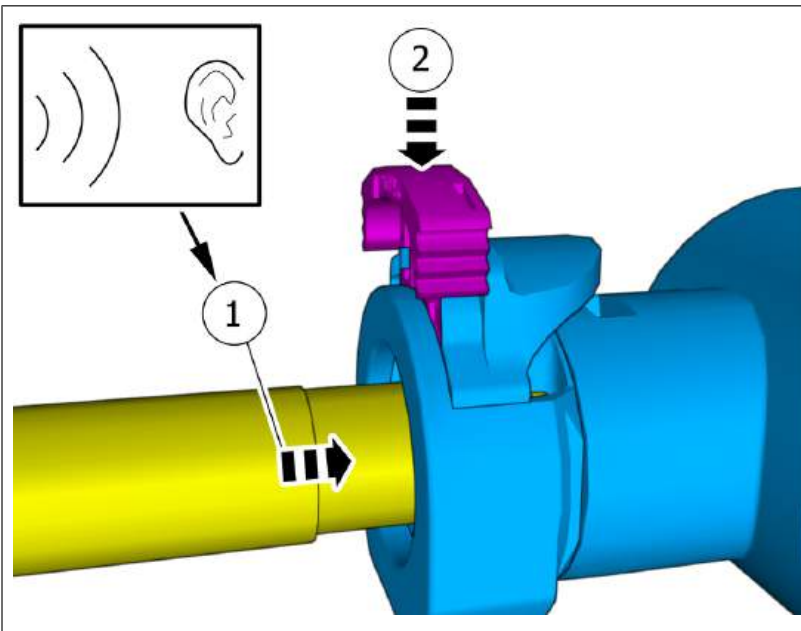
Release the locks.



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

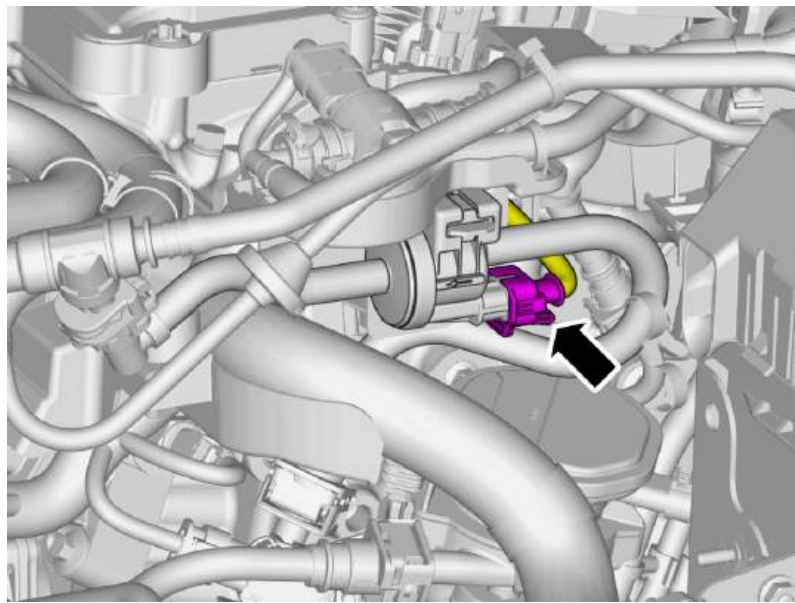
Depress the locking devices.  
Undo the hoses from the connections.

**Extra information**

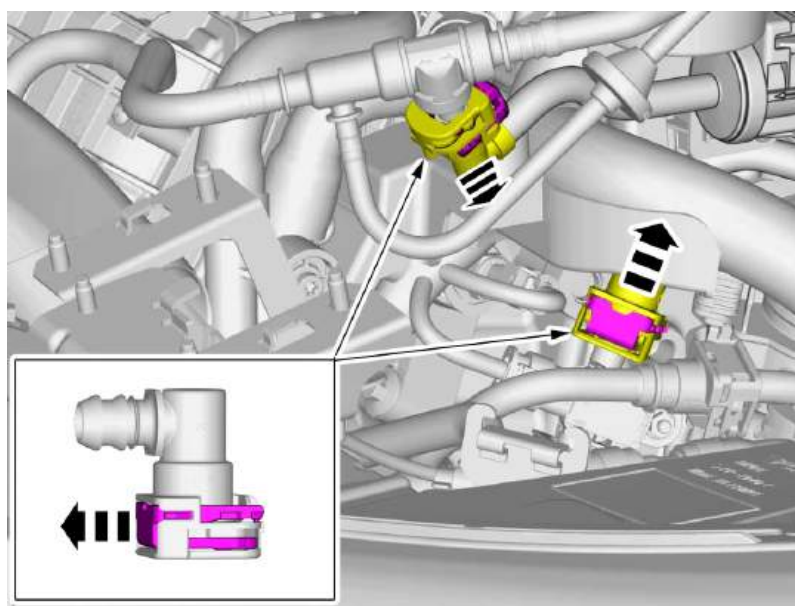


On both sides.

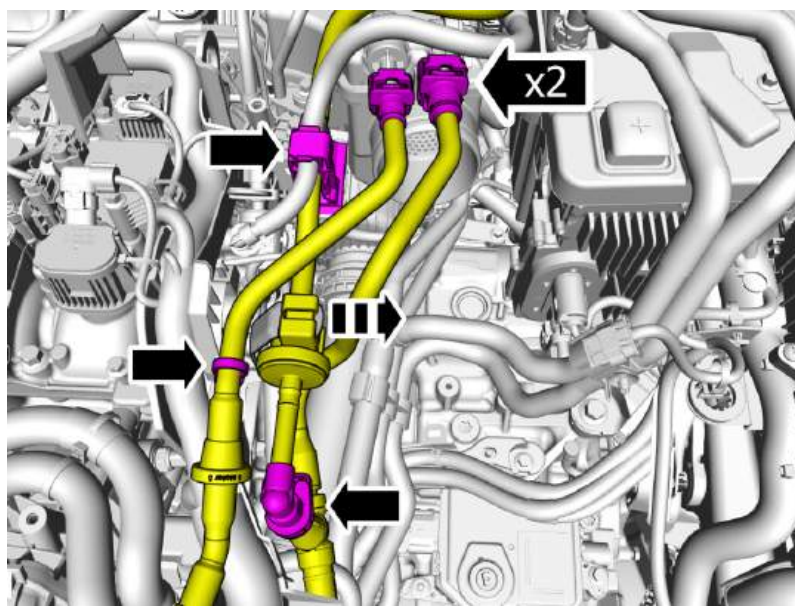
Continue the installation following the steps below.



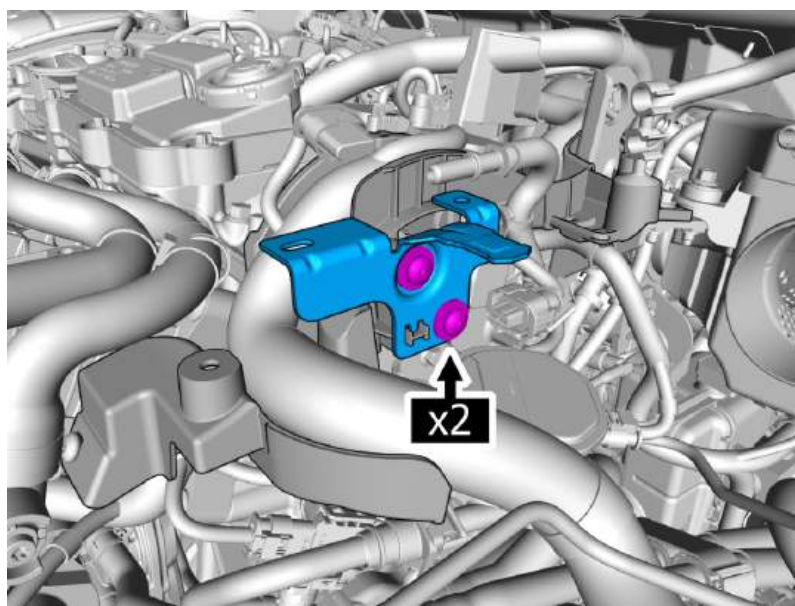
Disconnect the connector.



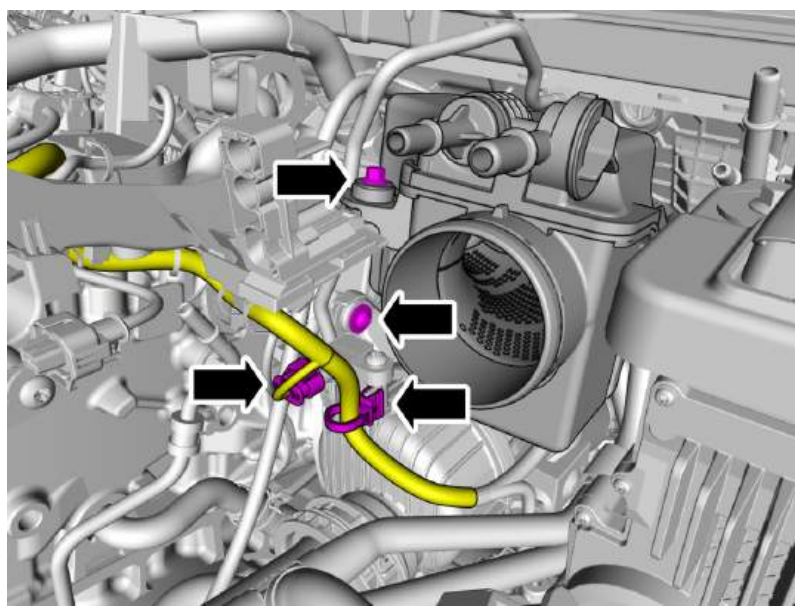
Release the locks.  
Undo the hoses from the connections.



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



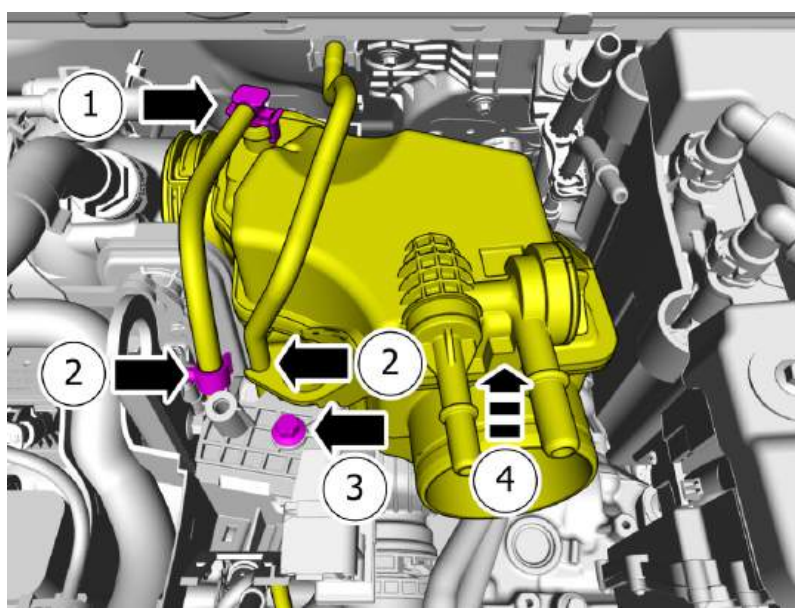
Remove the screws.  
Remove the marked part.



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

**Torque:**

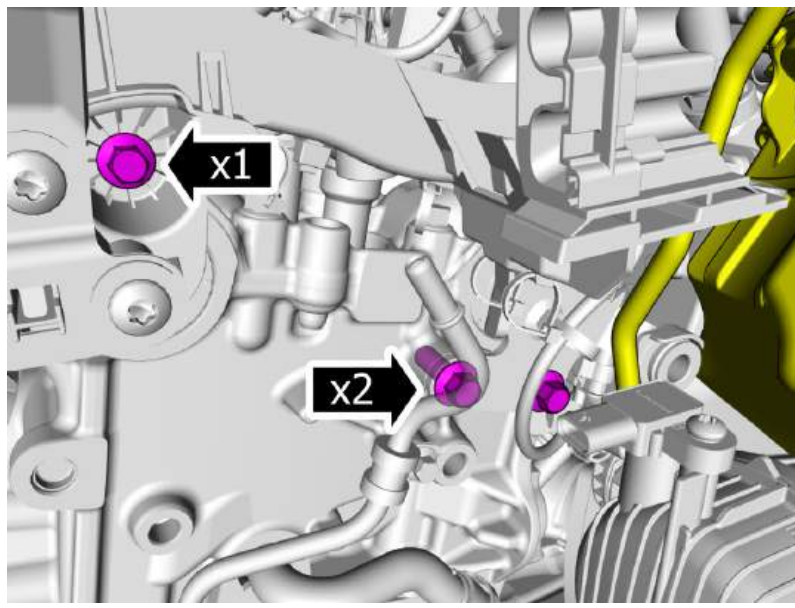
M6 , 10 Nm



- 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.

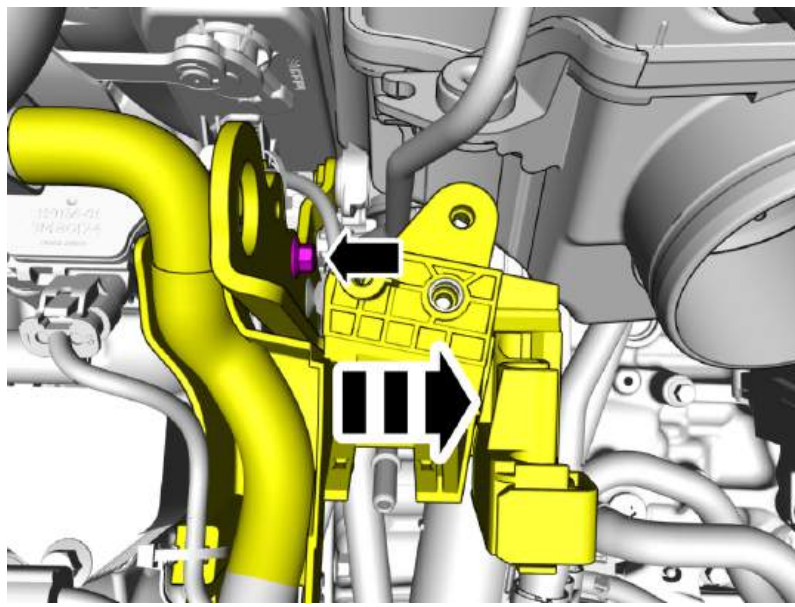
5 . **Torque:**

M6 , 10 Nm



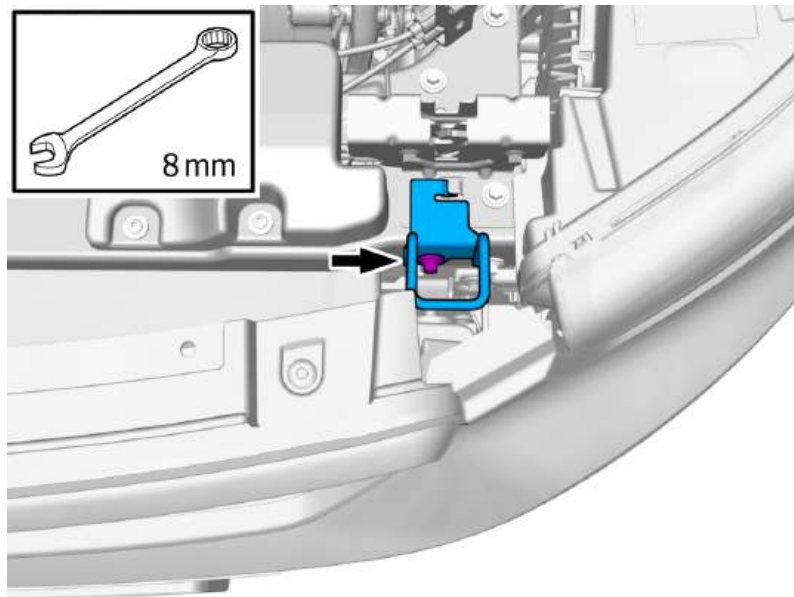
Remove the screws.

- 1 · **Torque:**  
M6 , 10 Nm
- 2 · **Torque:**  
M8 , 24 Nm

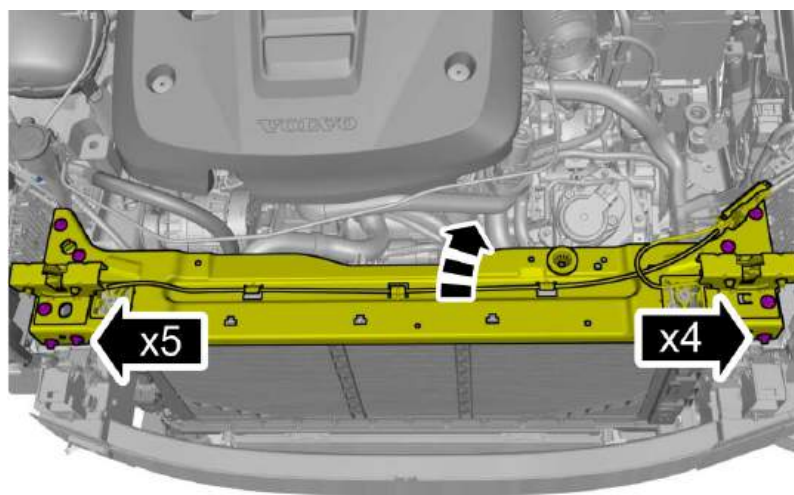


Remove the screw.  
Fold marked parts aside.

**Torque:**  
M6 , 10 Nm

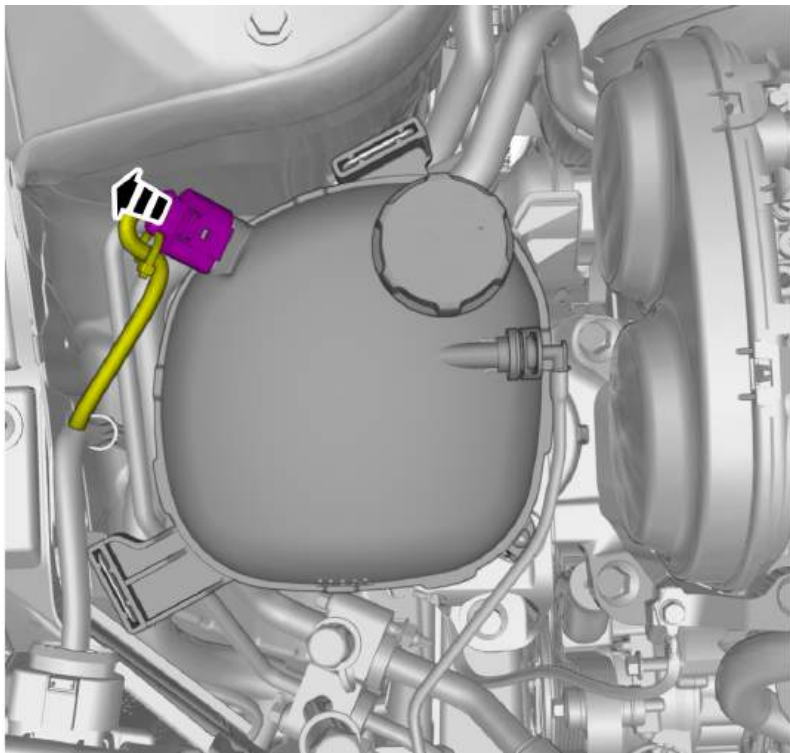


Remove the screw.  
Remove the marked part.

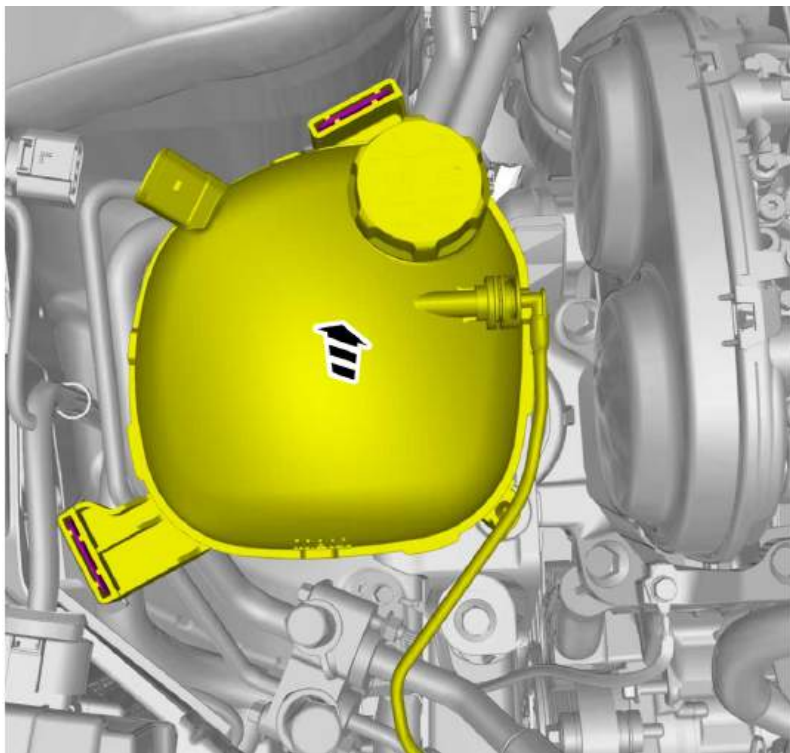


**Note! Note the position of the component before removal.**

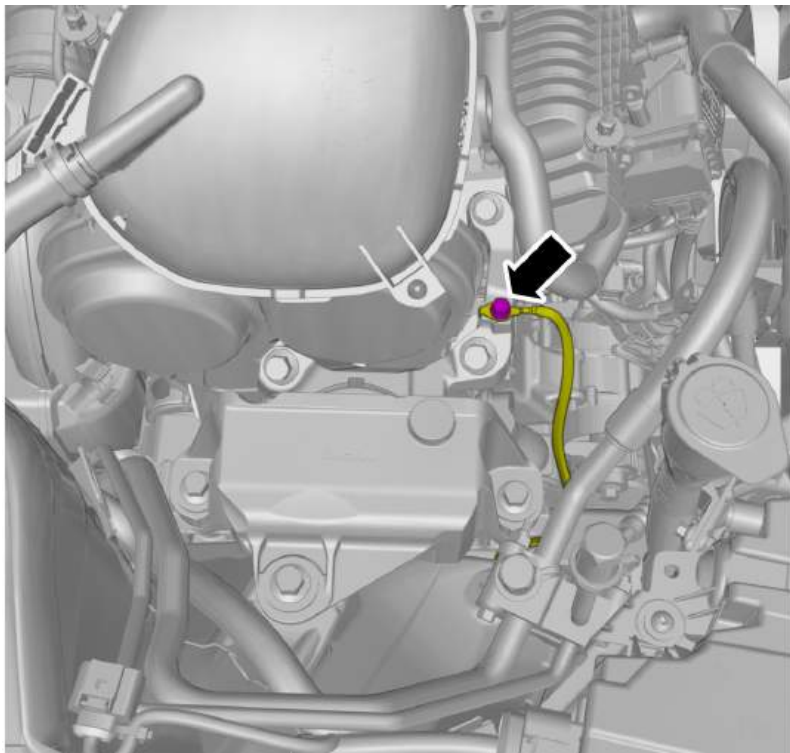
Remove the screws.  
Fold marked part aside.



Disconnect the connector.  
Fold marked part aside.



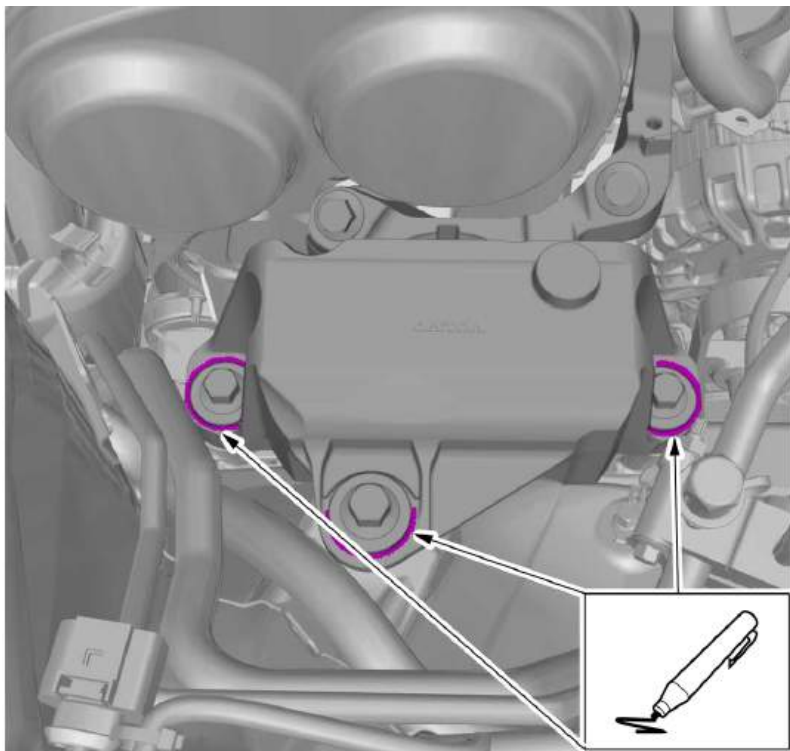
Lift the marked component up  
Fold marked part aside.



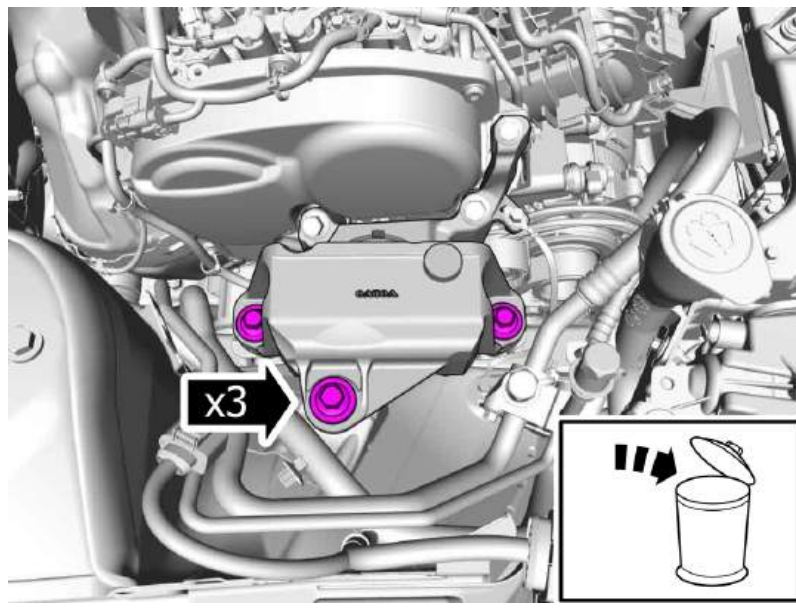
Remove the screw.  
Fold marked part aside.

**Torque:**

M6 , 10 Nm



**Note! Note the position of the component before removal.**

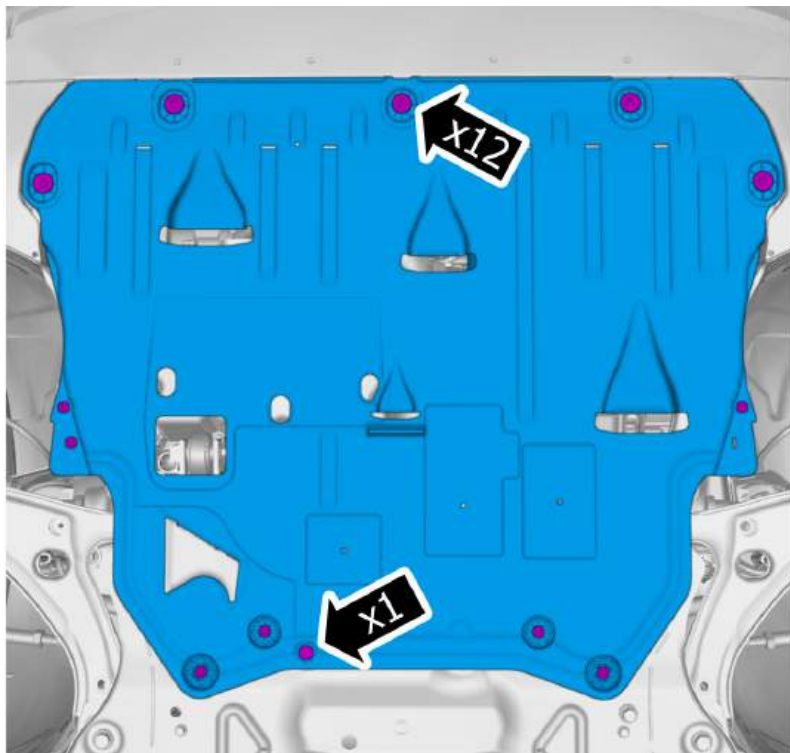


Remove the screws.

**Torque:**

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

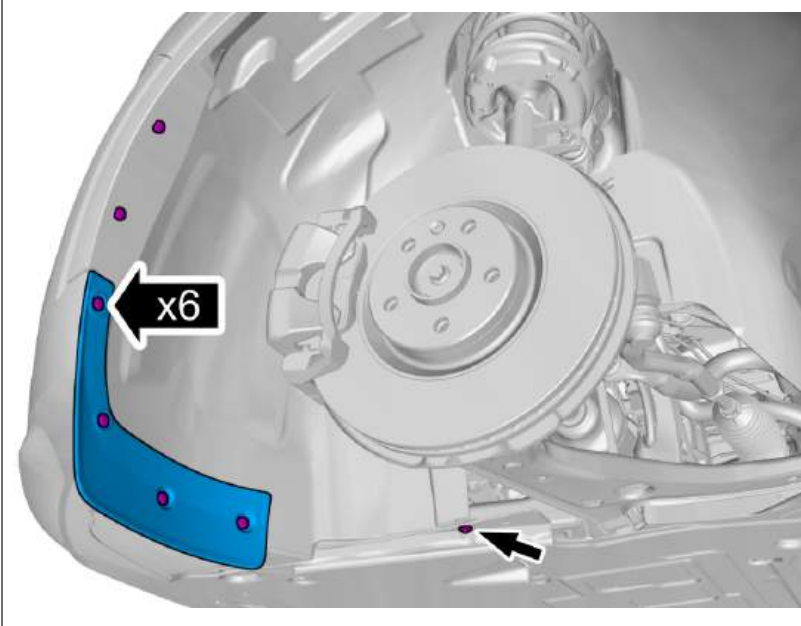
Remove right side the front wheel , refer to:  
Removal, replacement and installation  
7 - Springs and wheels  
77 - Wheels, tyres  
770 - complete wheels



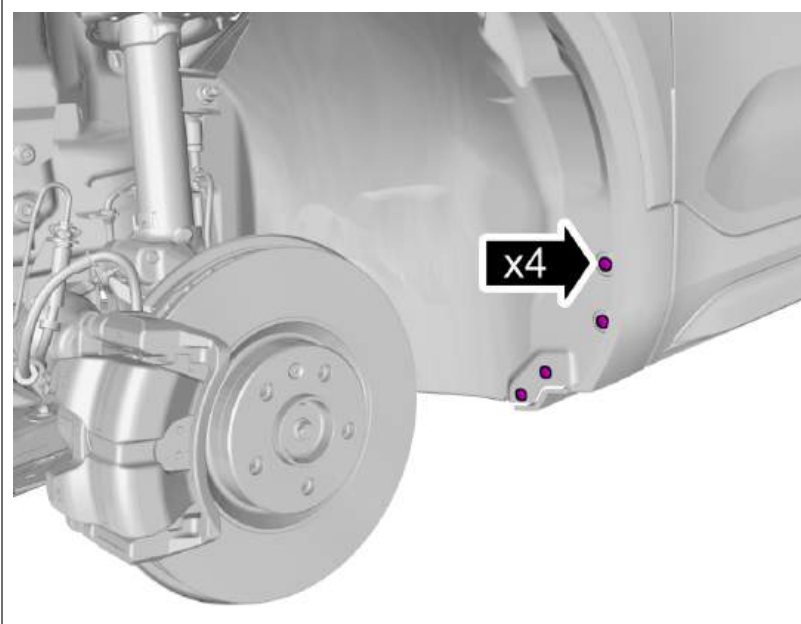
Remove the screws.

Remove the clip.

Remove the marked part.

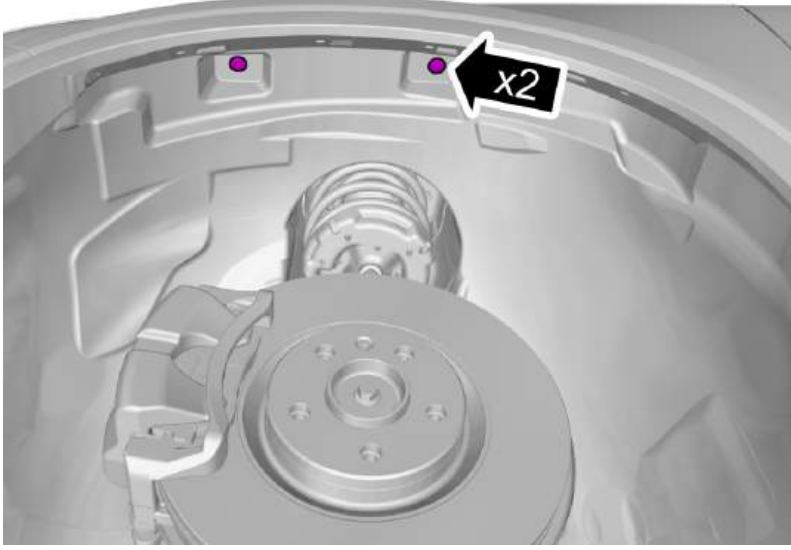


Remove the screws.  
Remove the marked part.

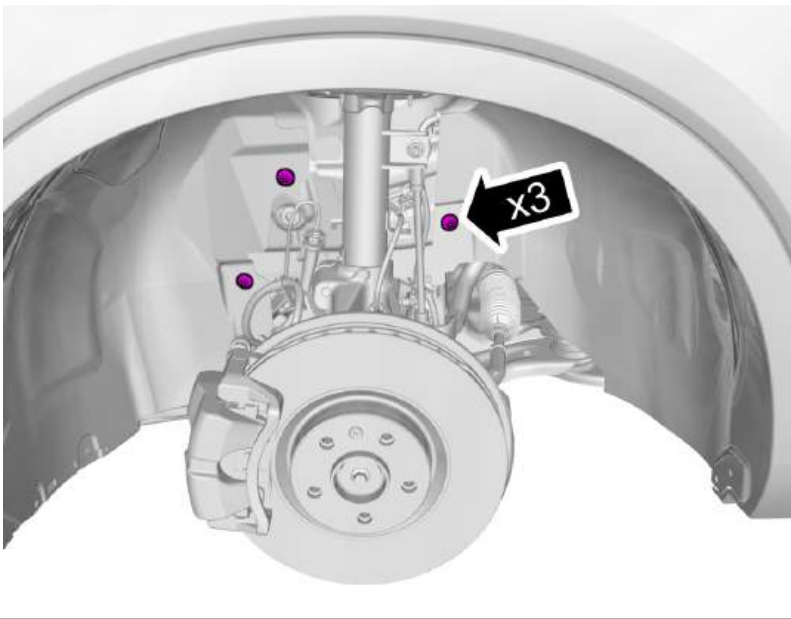


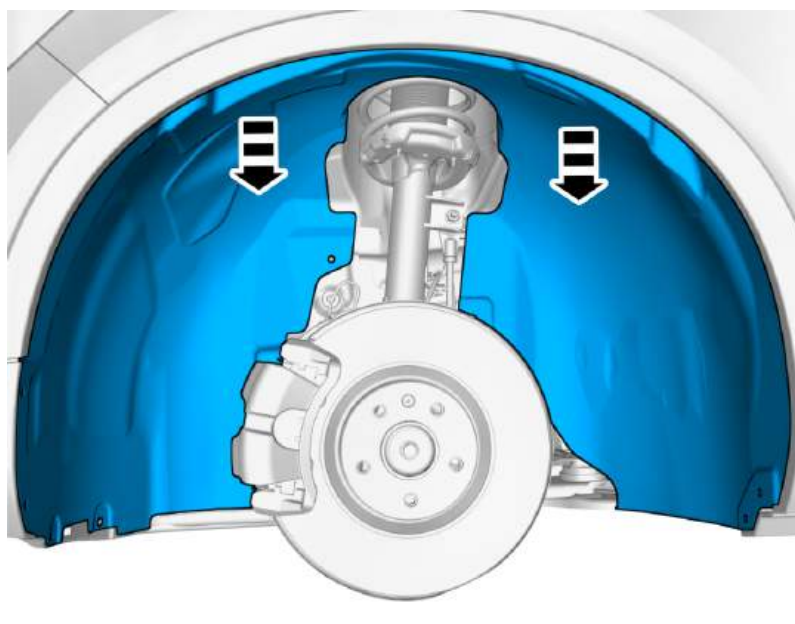
Remove the screws.

Remove the clips.

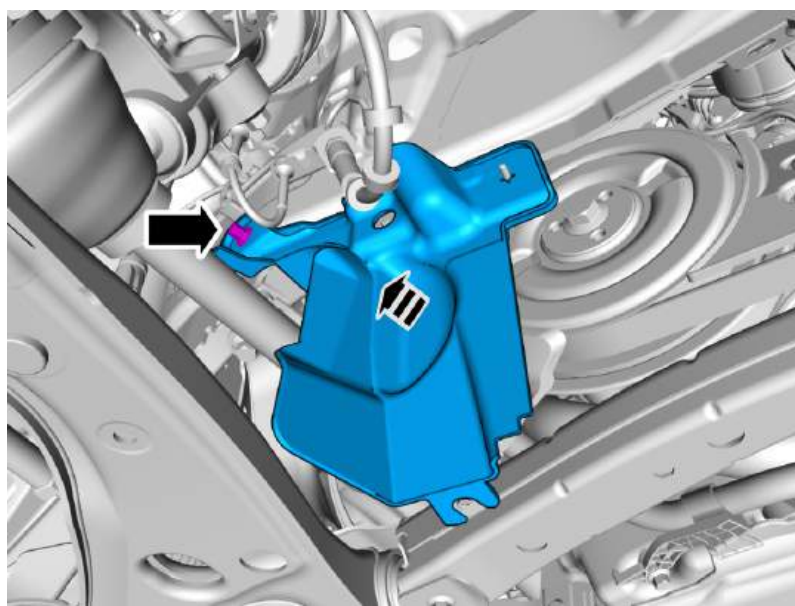


Remove the nuts.

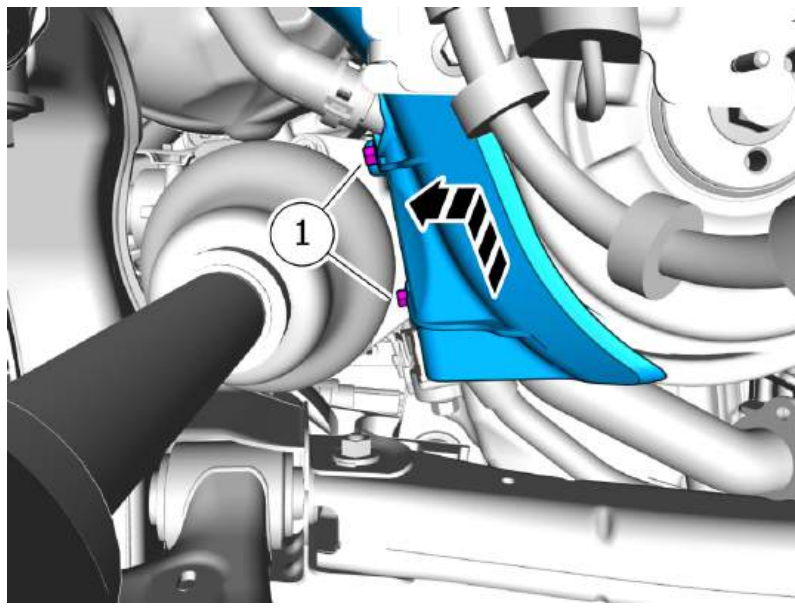




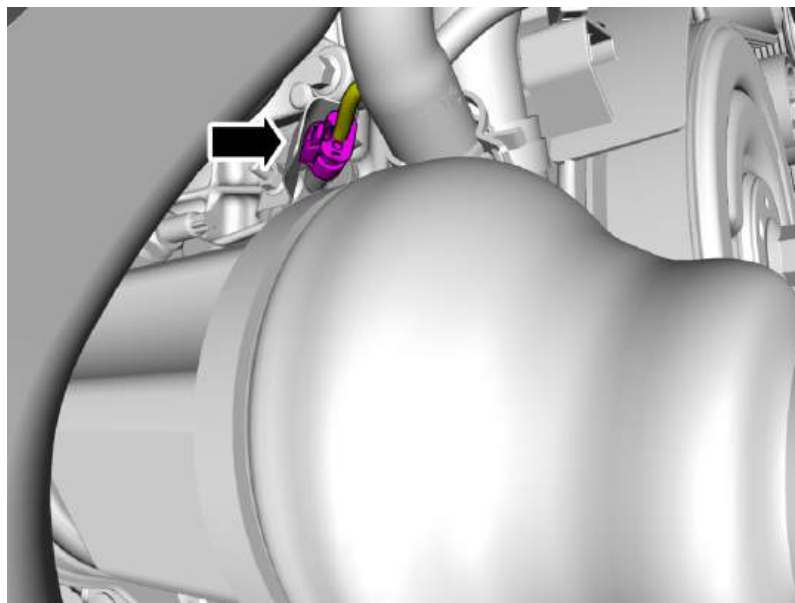
Remove the marked part.



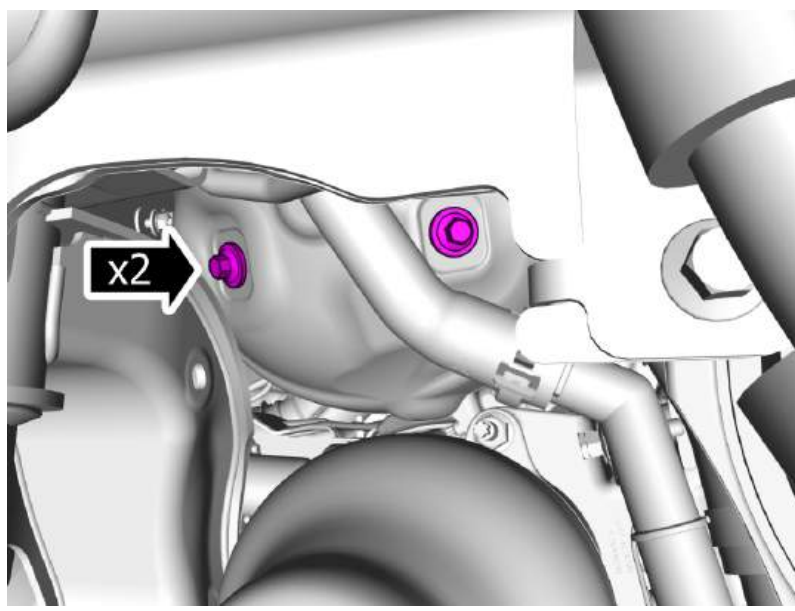
Remove the nut.  
Remove the marked part.



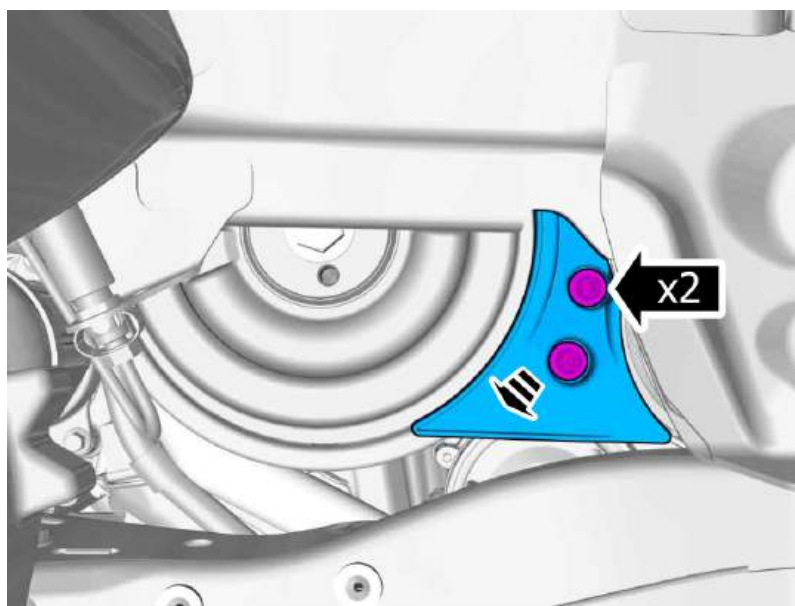
- 1 . Remove the screws.
- 2 . **Torque:**  
M6 , 10 Nm
- 3 . Remove the marked part.



Disconnect the connector.  
Loosen the clips.



Loosen the screws.  
Do not remove the screws completely.



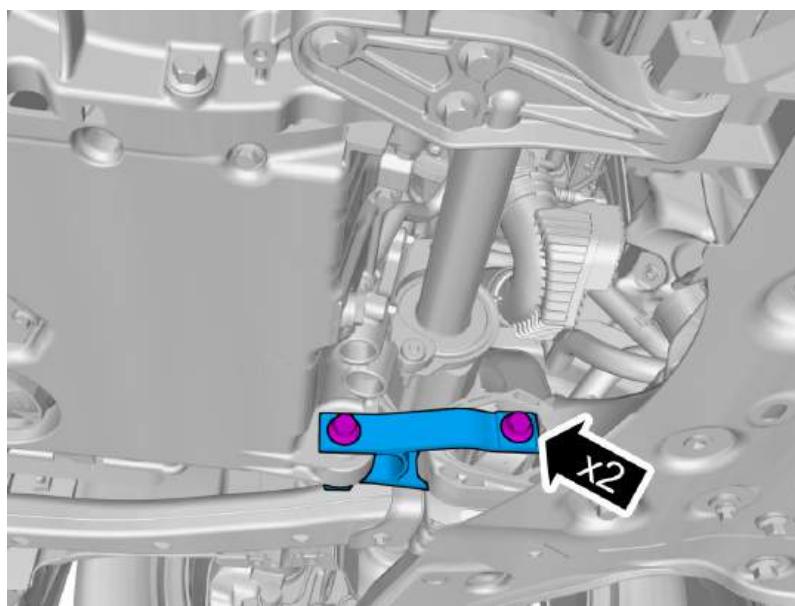
Remove the screws.  
Remove the marked part.



Remove the screws.  
Remove the marked part.

**Torque:**

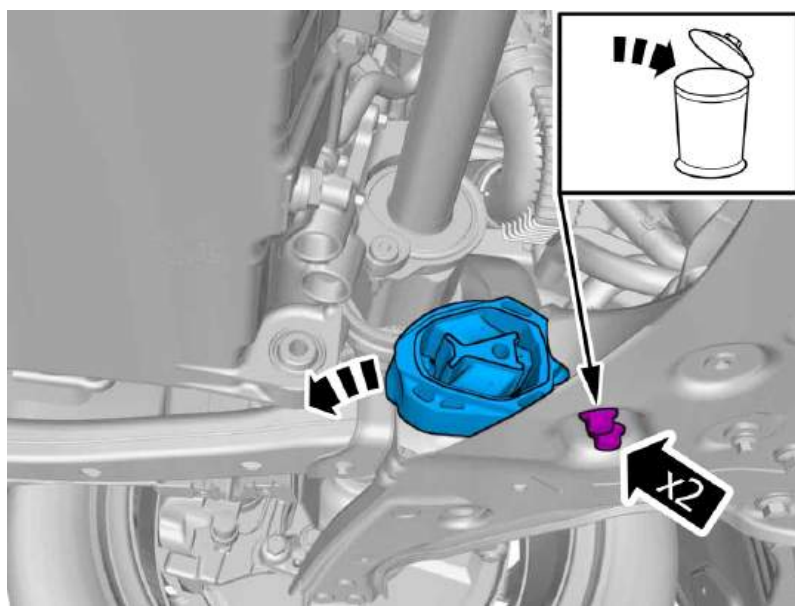
M6 , 10 Nm



Remove the screws.  
Remove the marked part.

**Torque:**

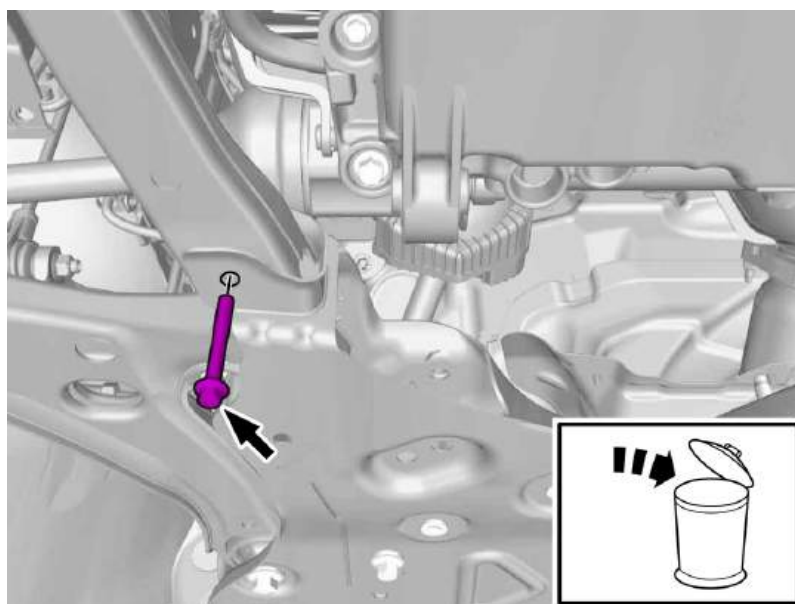
Lower torque rod rear right, to Engine mount  
bracket , 110 Nm



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°

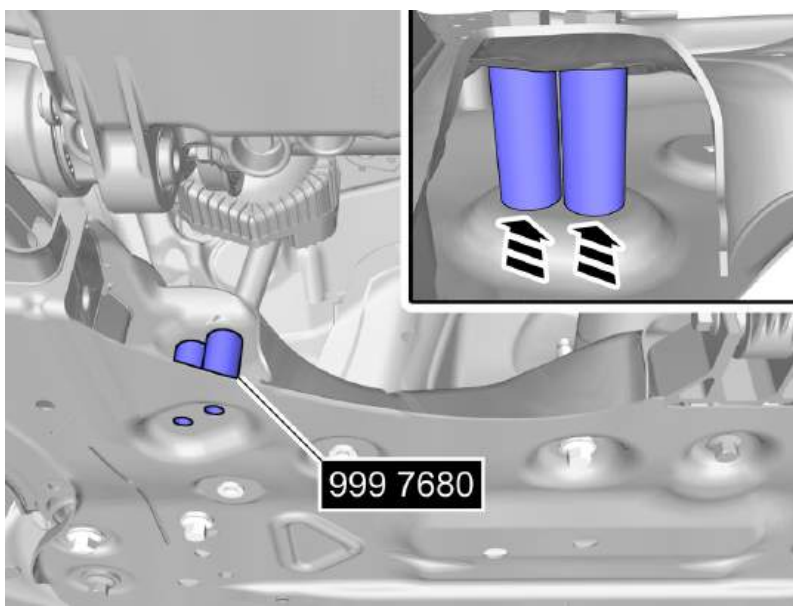
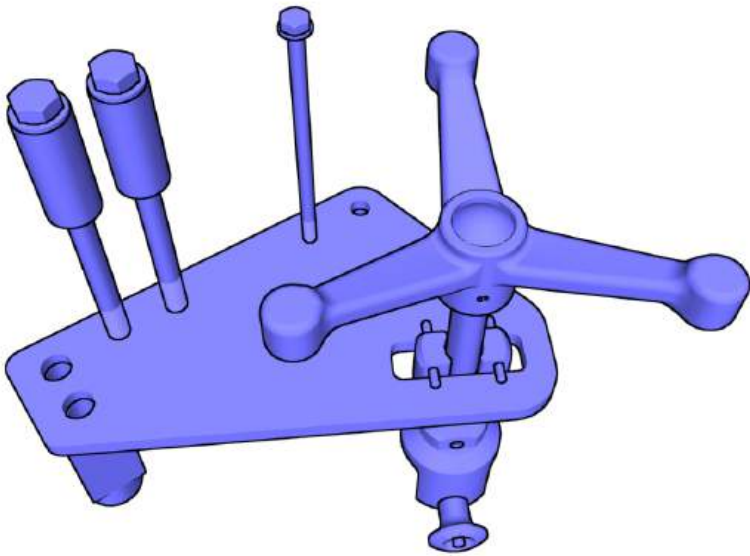


Remove the screw.

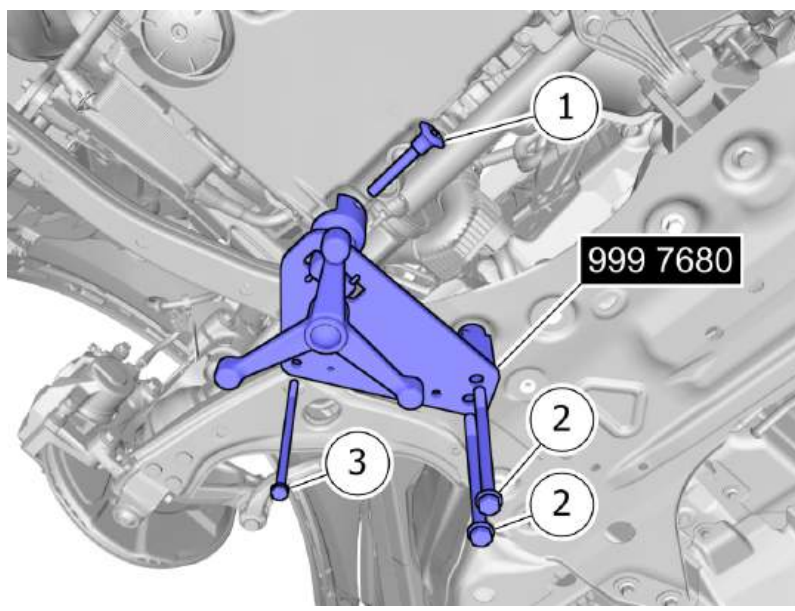
**Torque:**

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

Special Tool: T9997680, Support



Install the Special tool.

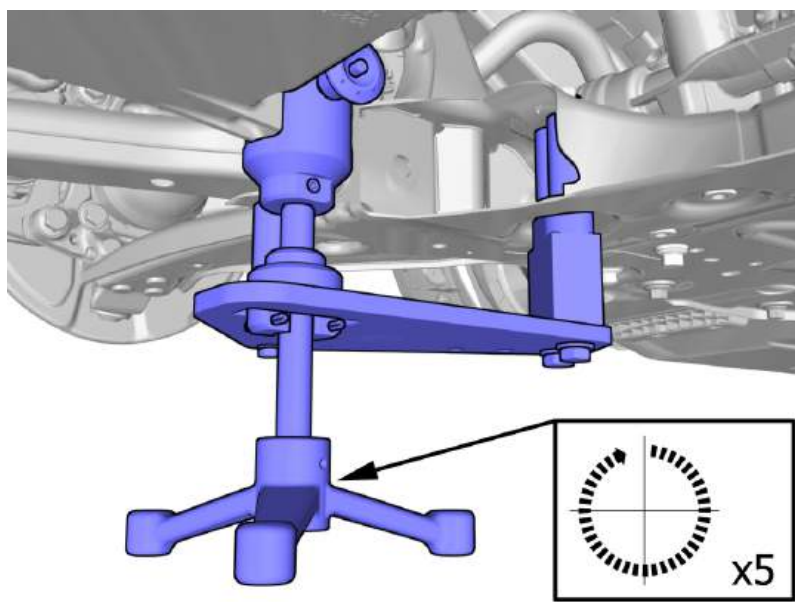


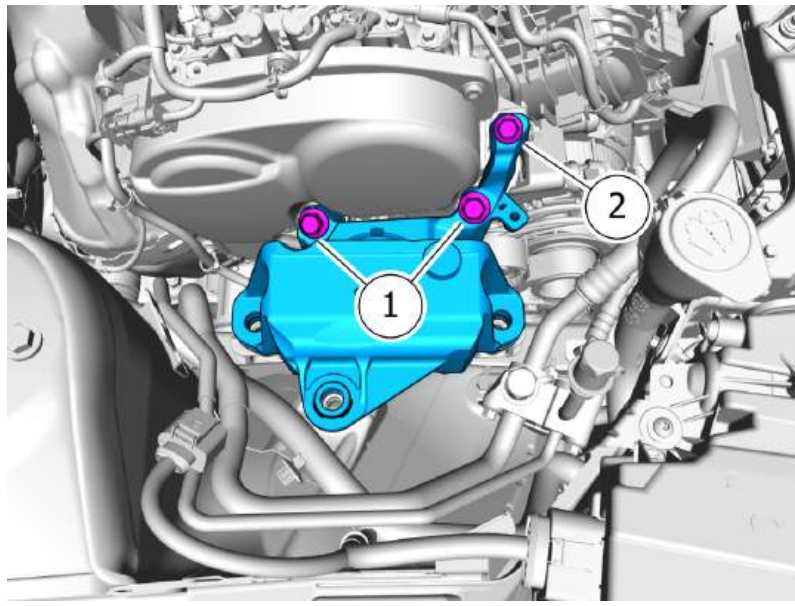
Install the Special tool.

1 . Install the marked component.

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

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





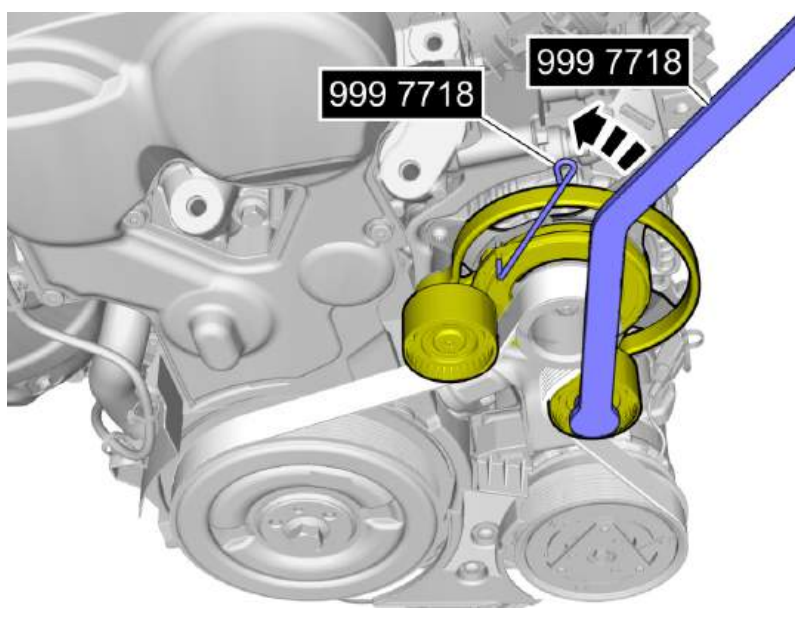
Remove the screws.

1. **Torque:**

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

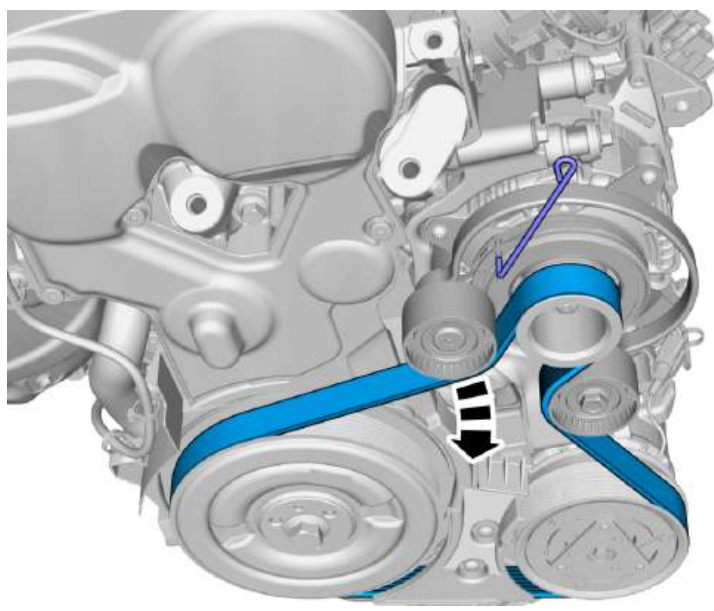
2. **Torque:**

Engine mount bracket, to Cylinder head, M10 , 60 Nm

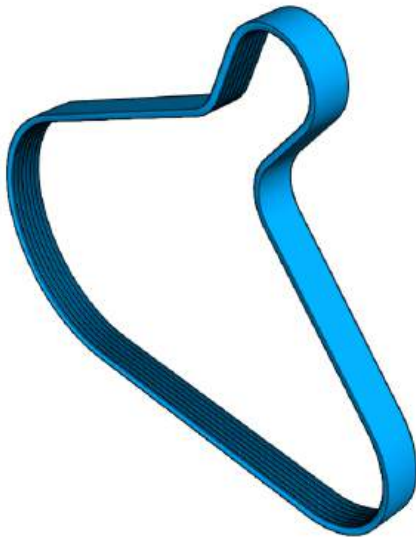


Install the Special tool.

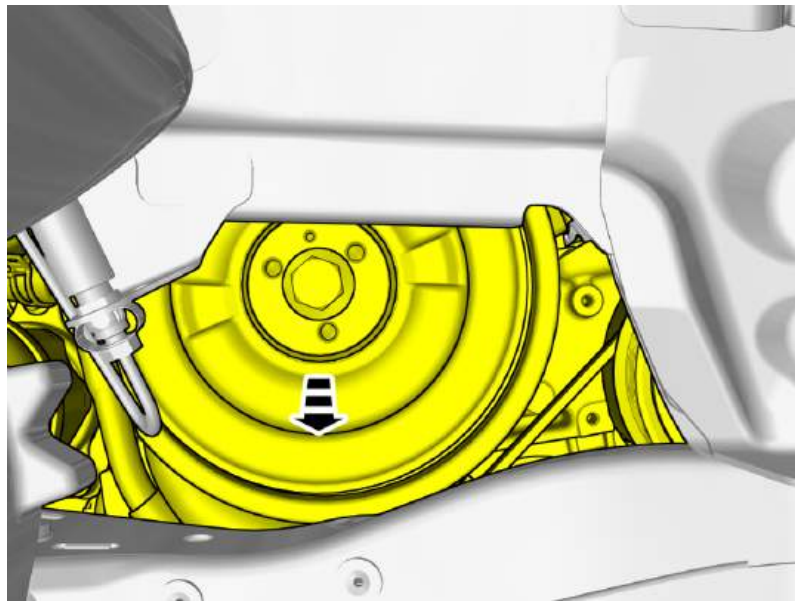
Special Tool: T9997718, Counterhold



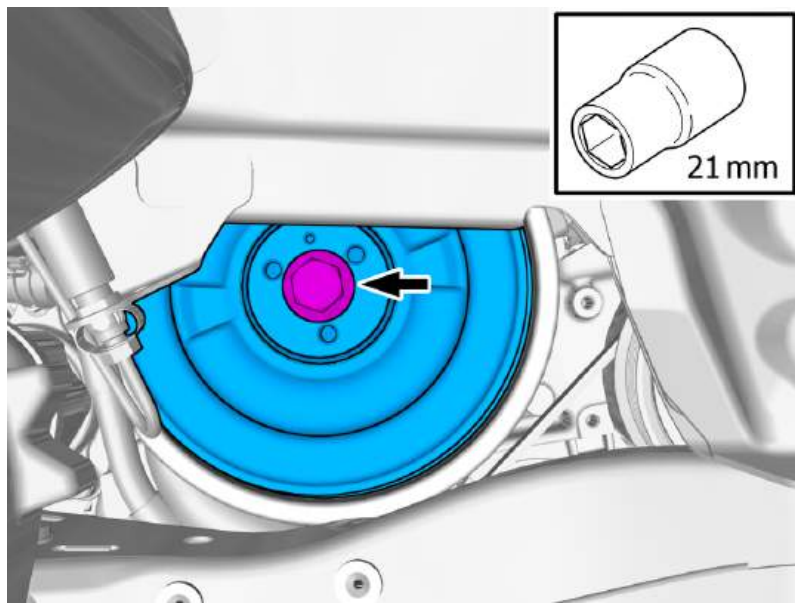
Remove the marked part.



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



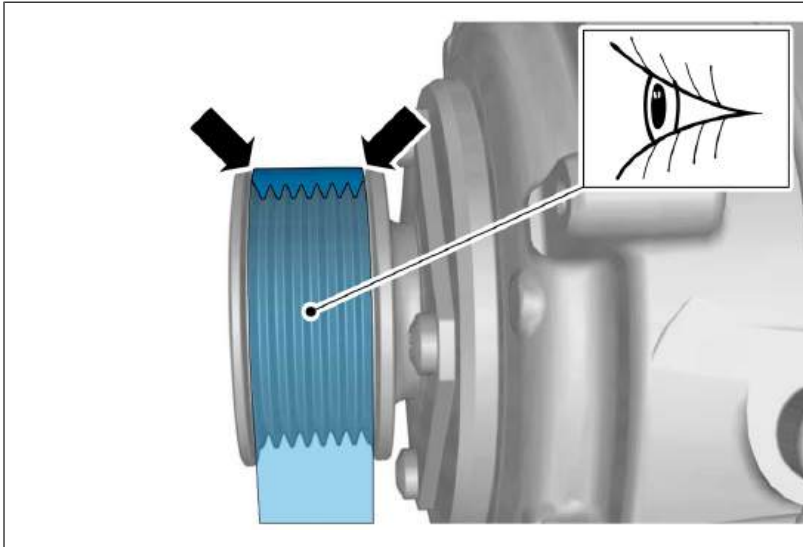
Lower the engine.



**Note! Note the position of the component before removal.**

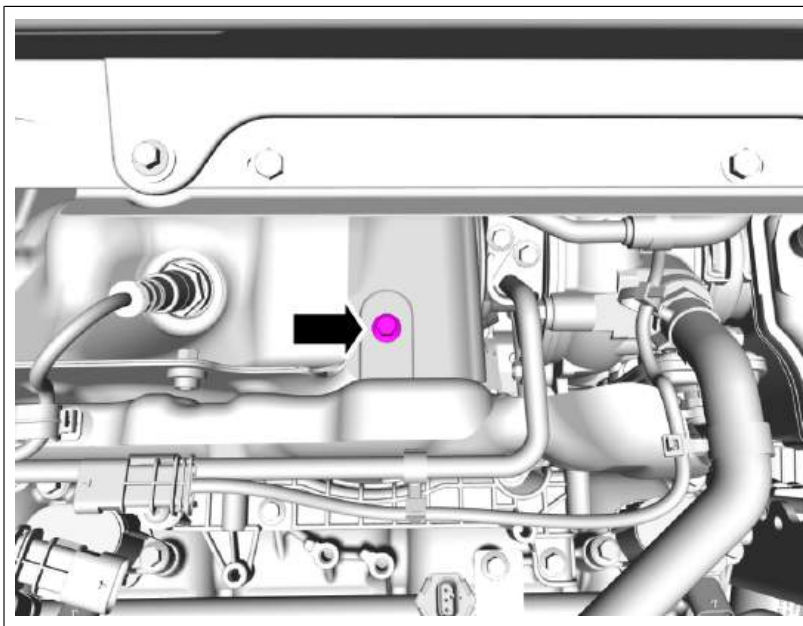
Remove the screw.  
Remove the marked part.

Extra information

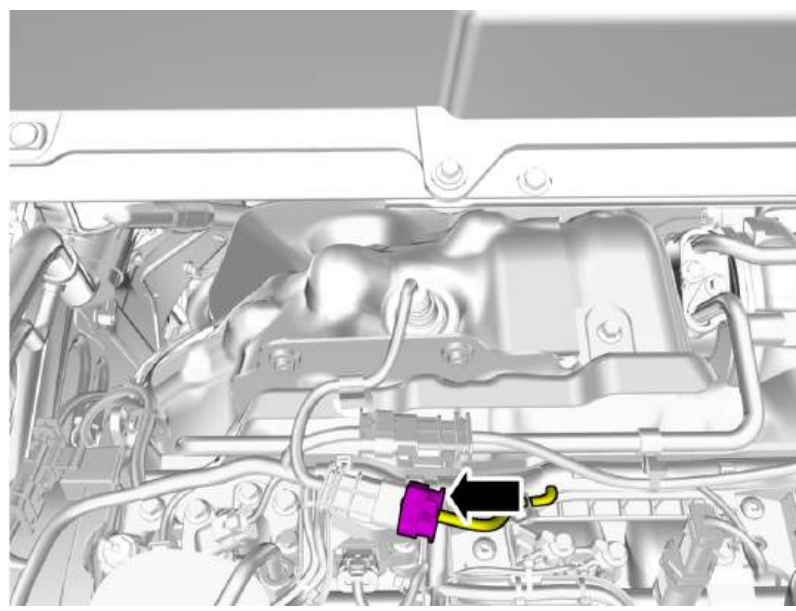


Caution! Make sure that the component is positioned correctly.

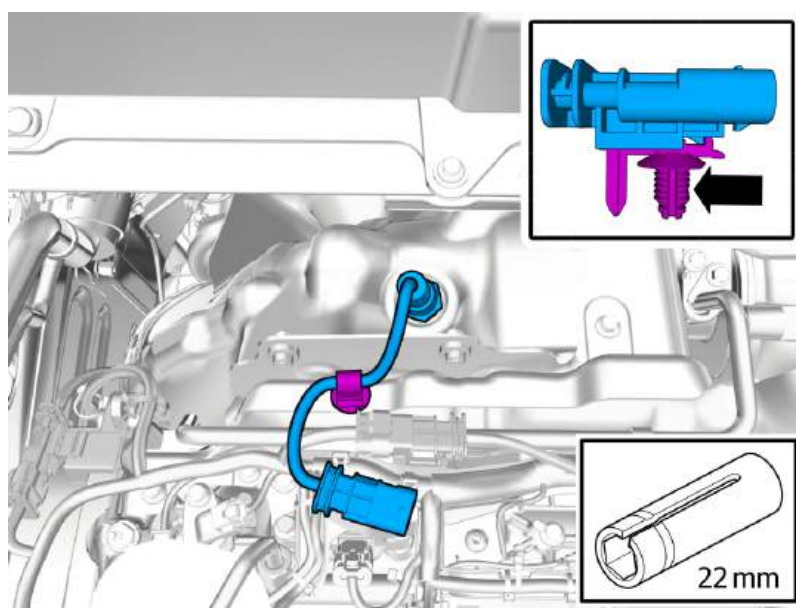
Continue the installation following the steps below.



Remove the screw.



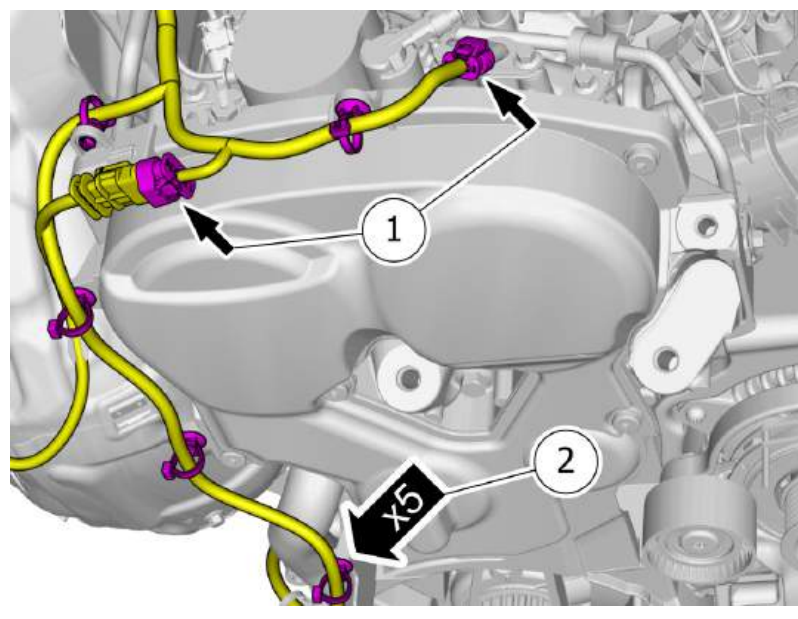
Disconnect the connector.



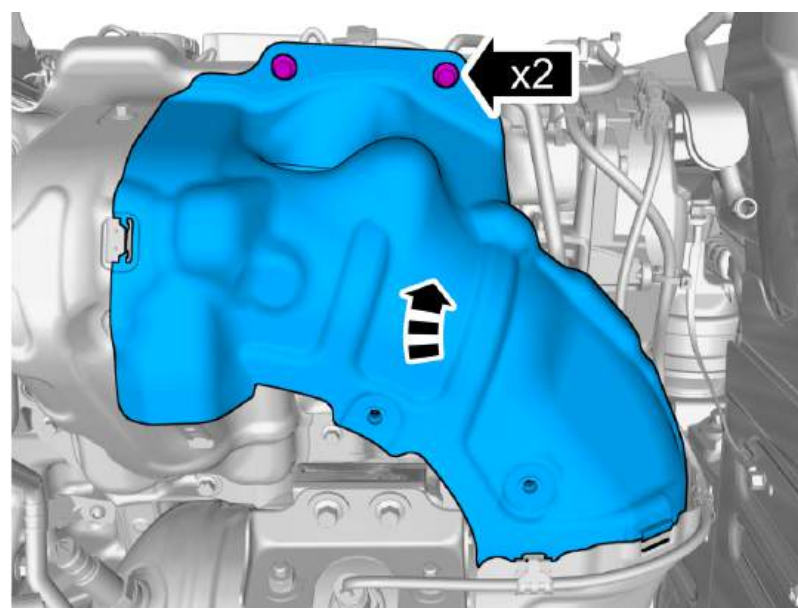
Loosen the clips.  
Remove the marked part.

**Torque:**

Lambda probe, tightening , 45 Nm

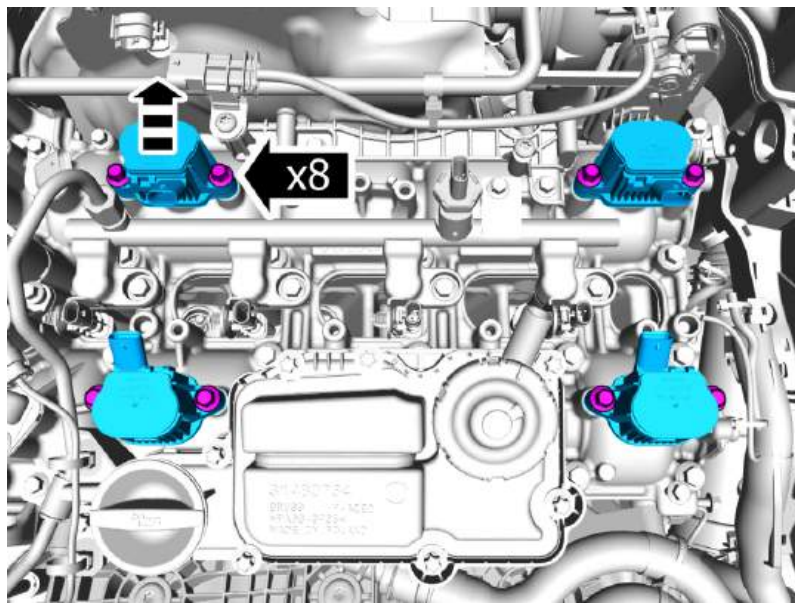


Disconnect the connectors.  
Remove the cable harness clips.  
Fold marked part aside.



Remove the screws.  
Remove the marked part.

Vehicles early version



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

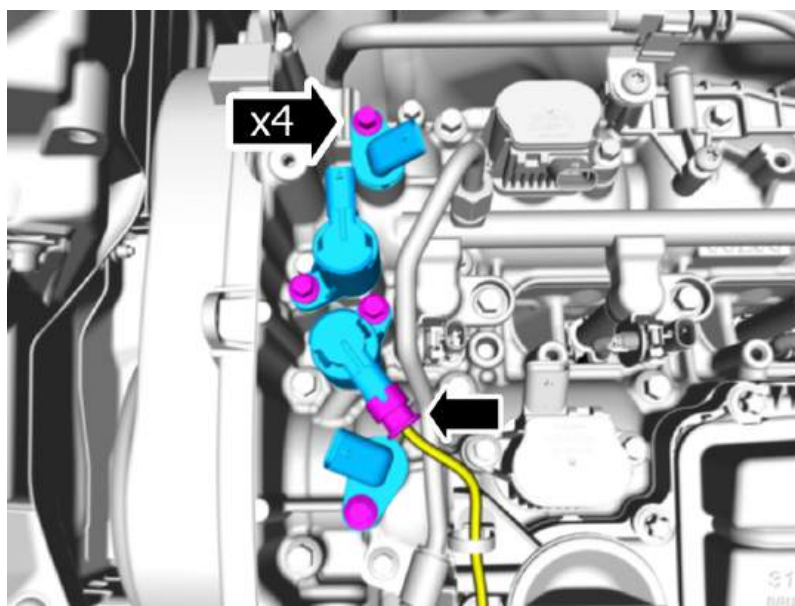
**Note!** Use new seals.

Remove the screws.  
Remove the marked parts.

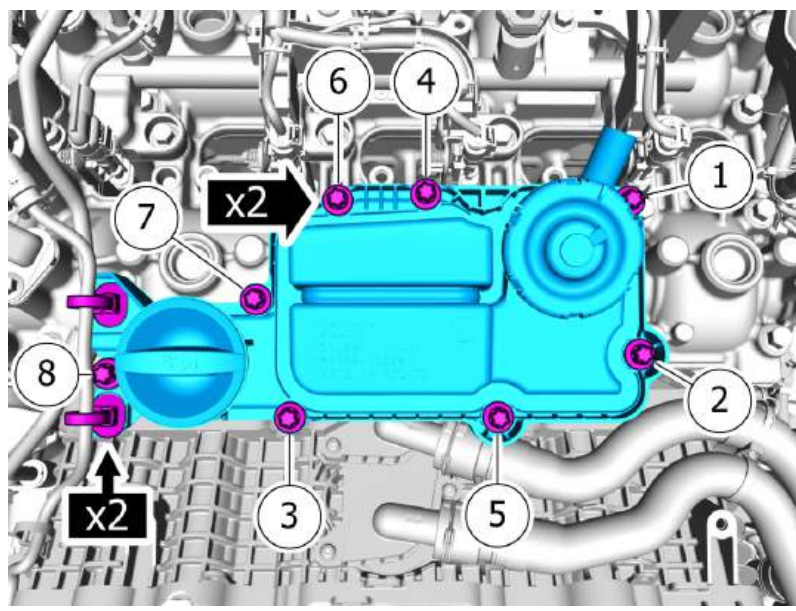
**Torque:**

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.

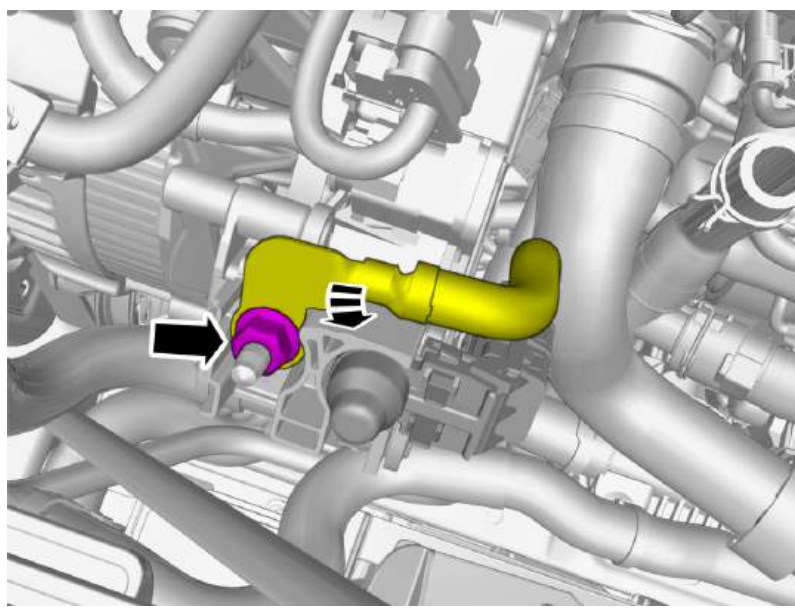
**Torque:**

M6 , 10 Nm



Install the Special tool.

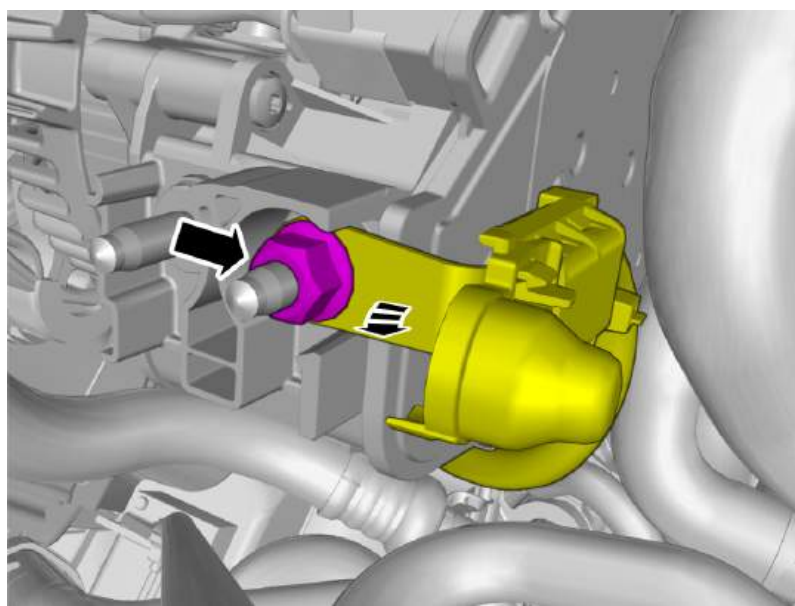
Pull the component in direction of the arrow.



Remove the nut.

**Torque:**

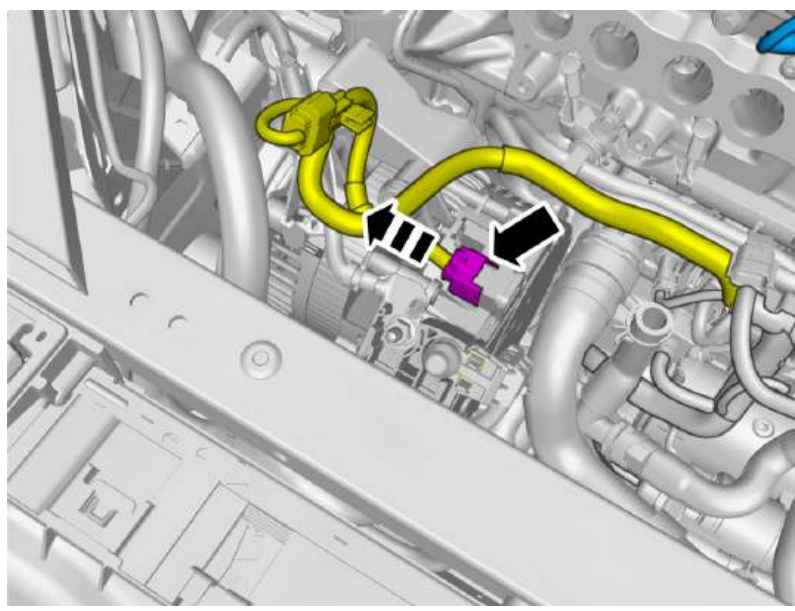
M8 , 24 Nm



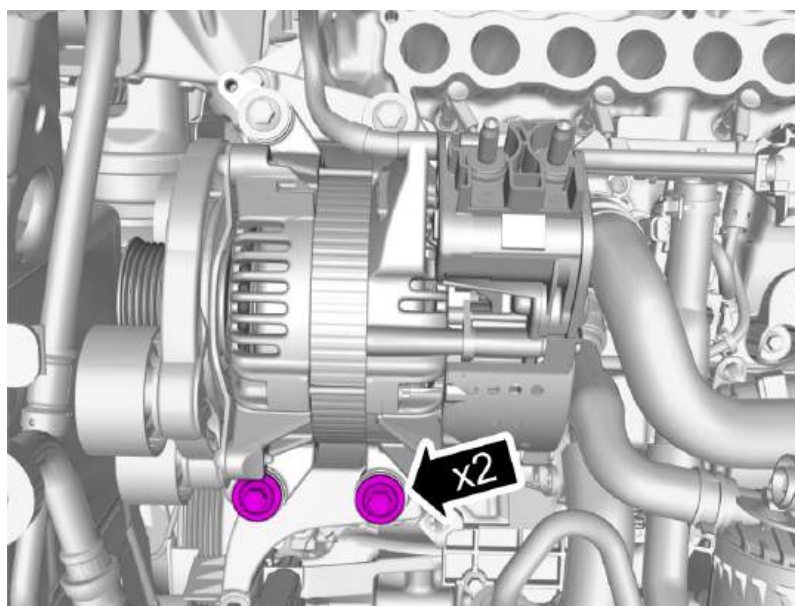
Remove the nut.

**Torque:**

M8 , 24 Nm



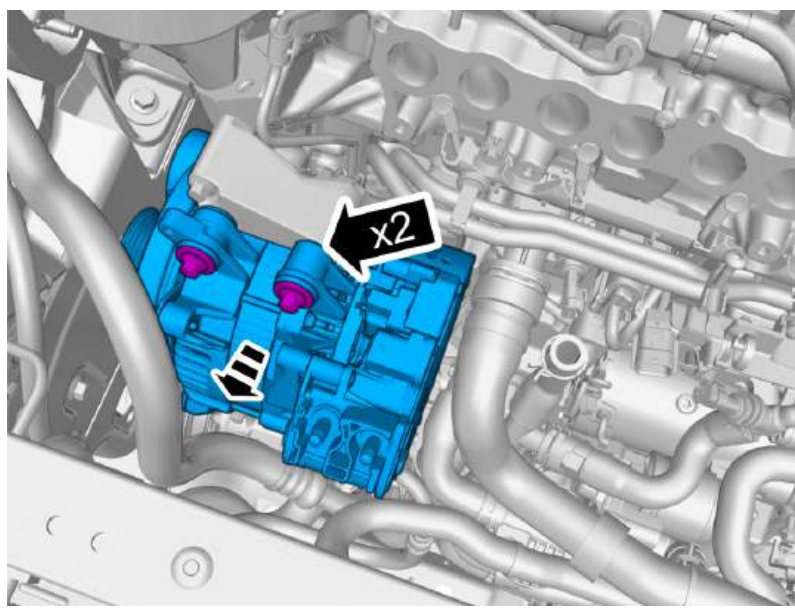
Disconnect the connector.



Remove the screws.

**Torque:**

M8 , 24 Nm

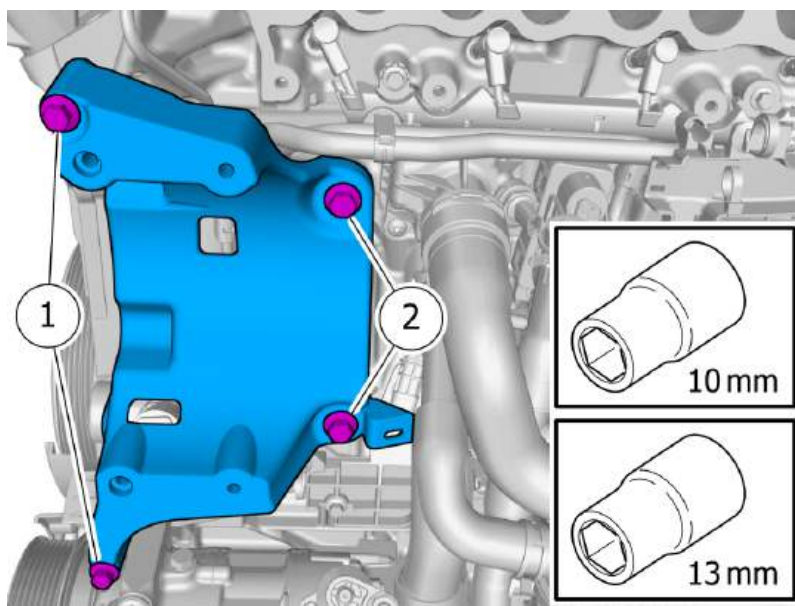


Remove the screws.  
Remove the marked part.

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

**Torque:**

M8 , 24 Nm



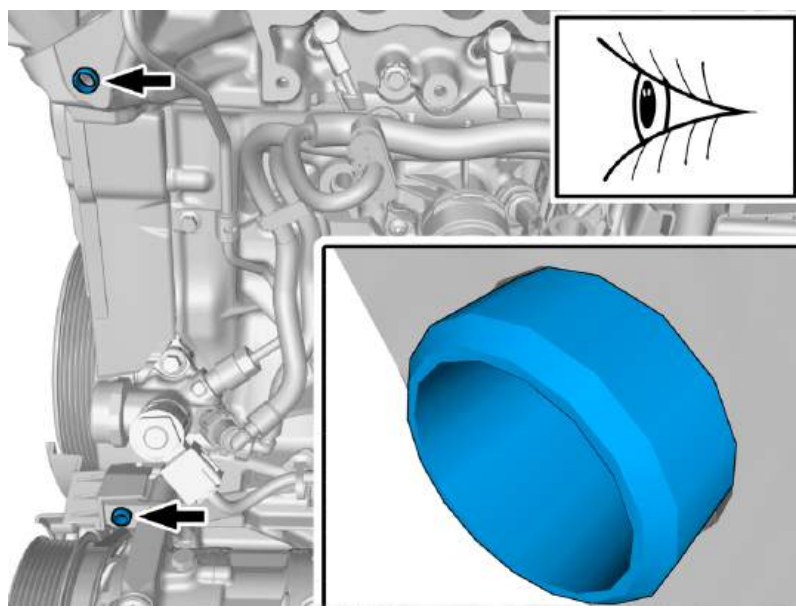
Remove the screws.  
Remove the marked part.

1 · **Torque:**

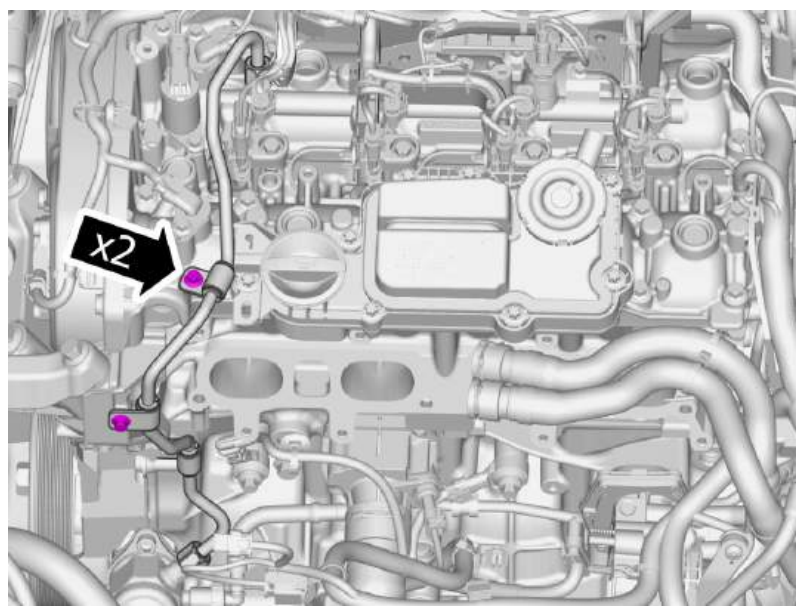
M8 , 24 Nm

2 · **Torque:**

M10 , 50 Nm

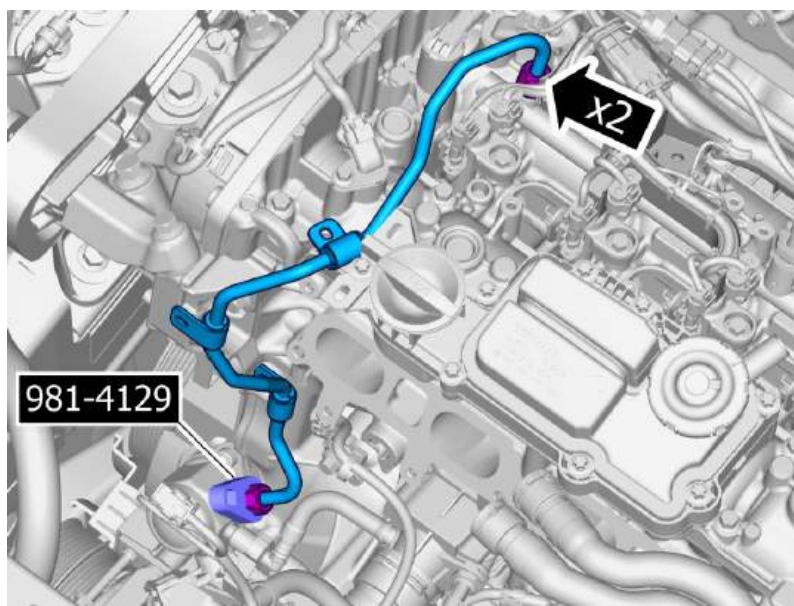


**Note!** Make sure that the component is installed.



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

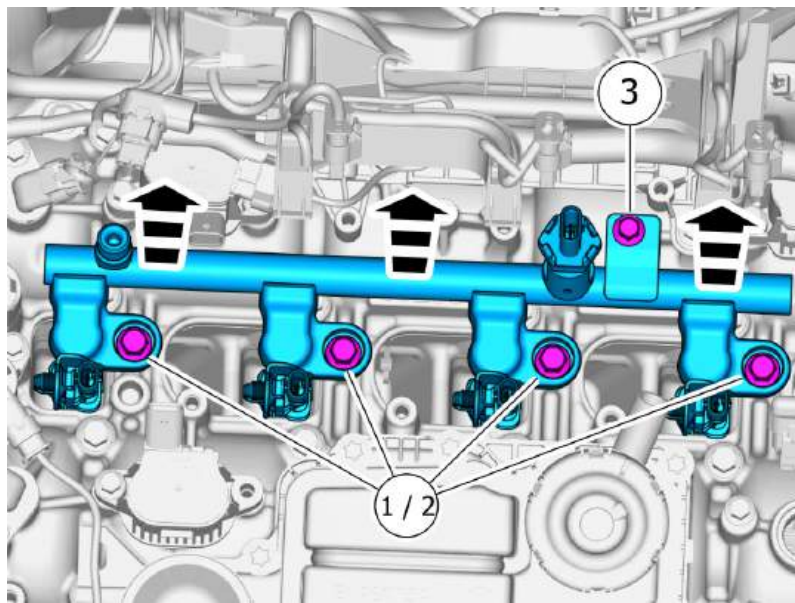
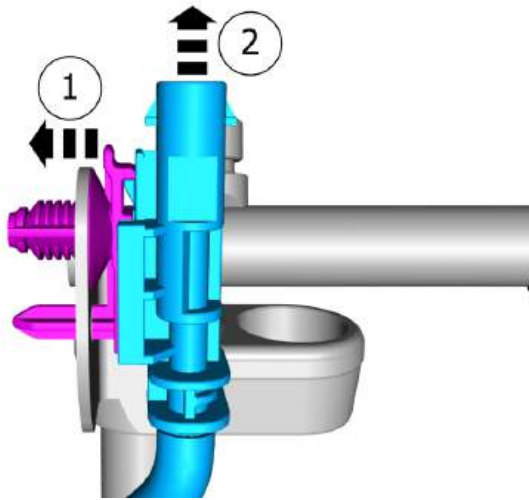
**Torque:**

- 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.**

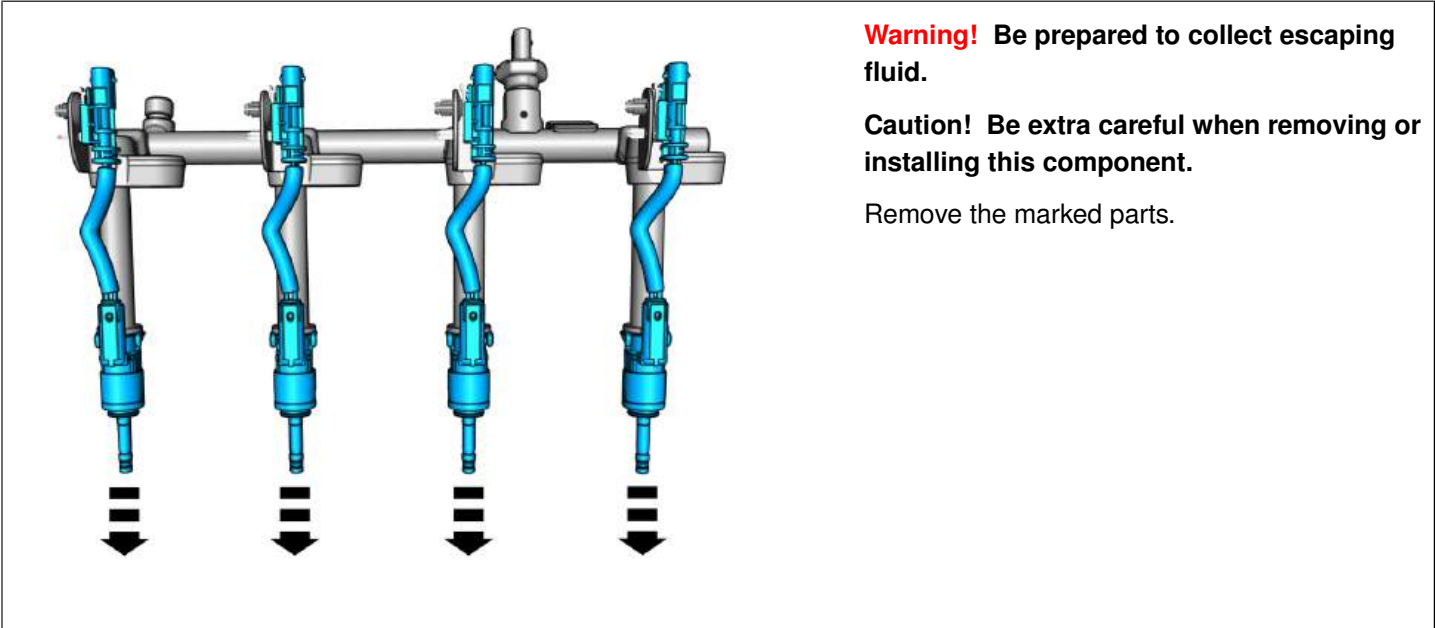
**Caution! In order to avoid damage to the injectors, the part must be carefully pulled straight up.**

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

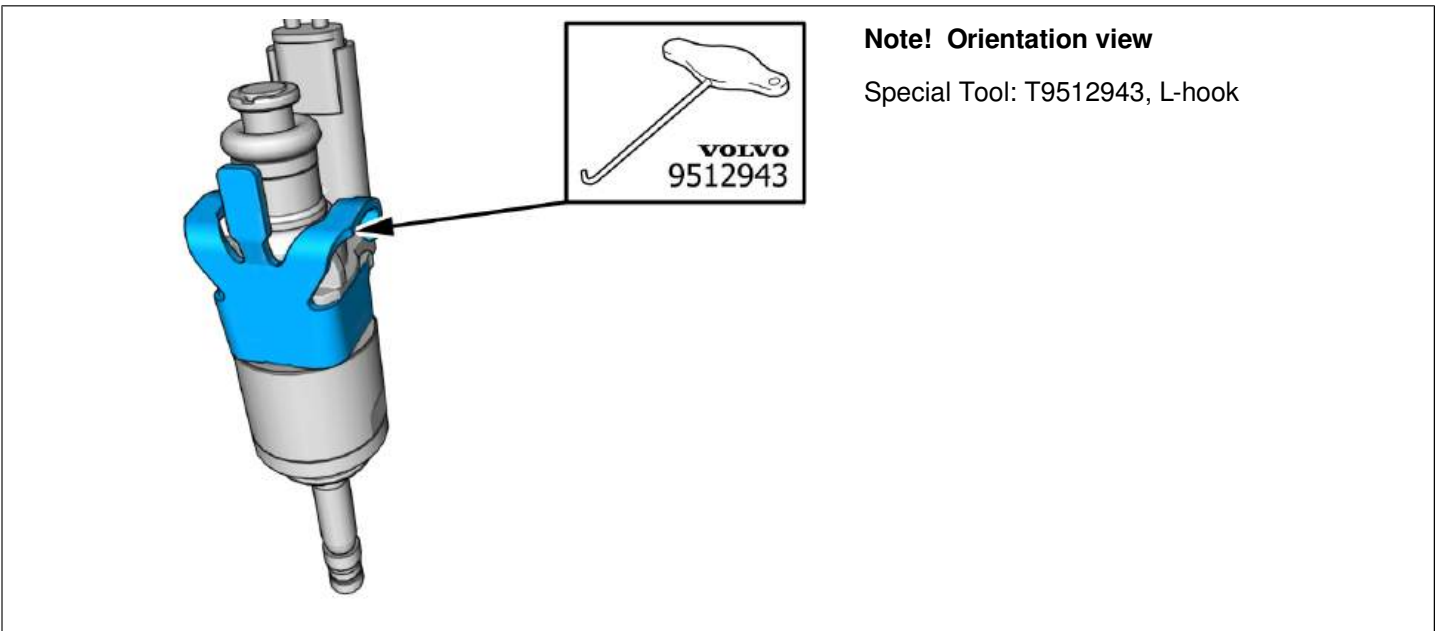
Remove the screws.

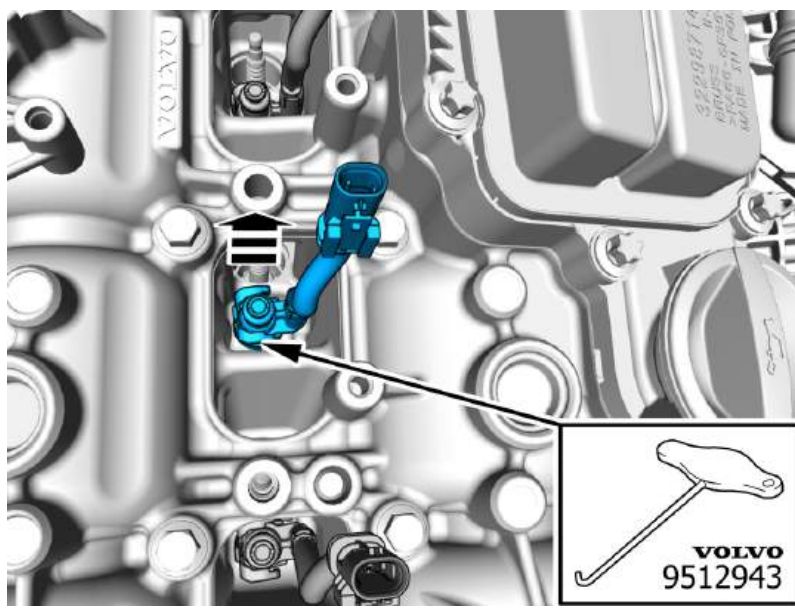
Remove the part carefully

- 1 · **Torque:**  
Fuel rail M7 , 22 Nm
- 2 · **Torque:**  
Fuel rail M8 , 30 Nm
- 3 · **Torque:**  
M6 , 10 Nm



When necessary, perform the following instruction.





**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.

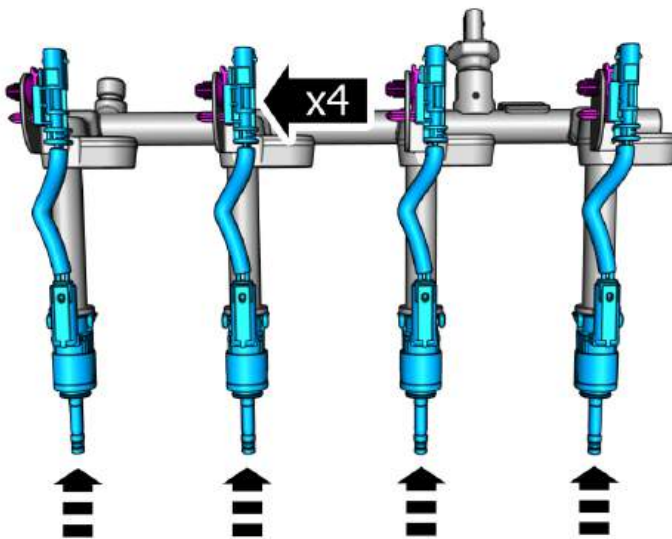
Remove the marked part.

Special Tool: T9512943, L-hook

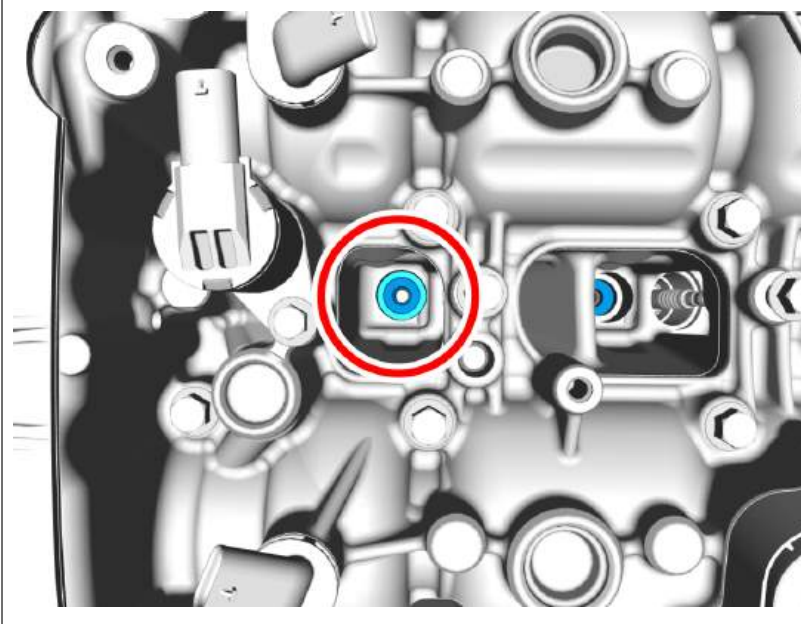
Replace injector seal , refer to:  
Removal, replacement and installation  
2 - Engine with mountings and equipment  
23 - Fuel system  
237 - injector and delivery pipe

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

Install the marked components.



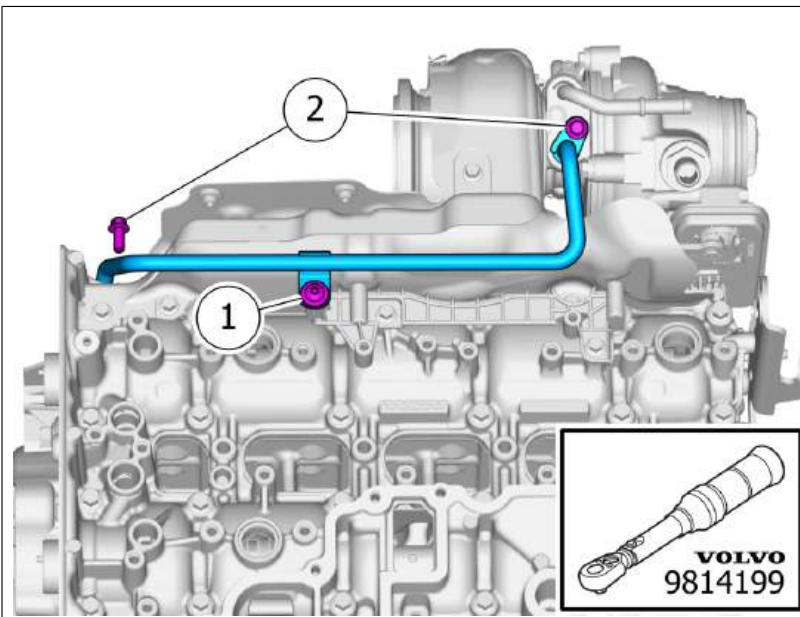
## Extra information



**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



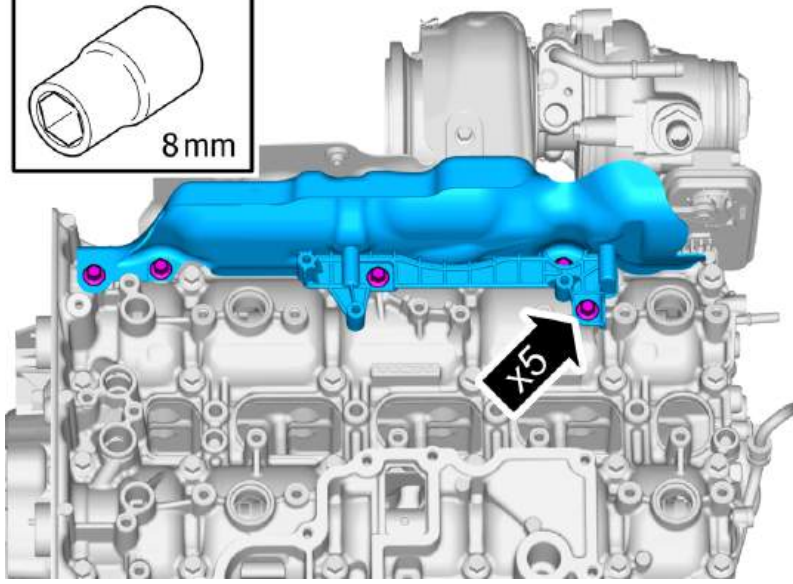
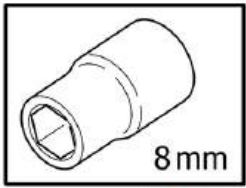
**Note!** Use new seals.

Remove the screws.

Remove the marked part.

1 · **Torque:**  
M5 , 5 Nm

2 · **Torque:**  
M6 , 10 Nm

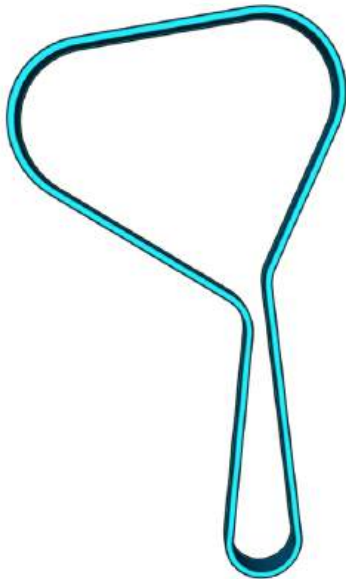


Remove the screws.  
Remove the marked part.

**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.**

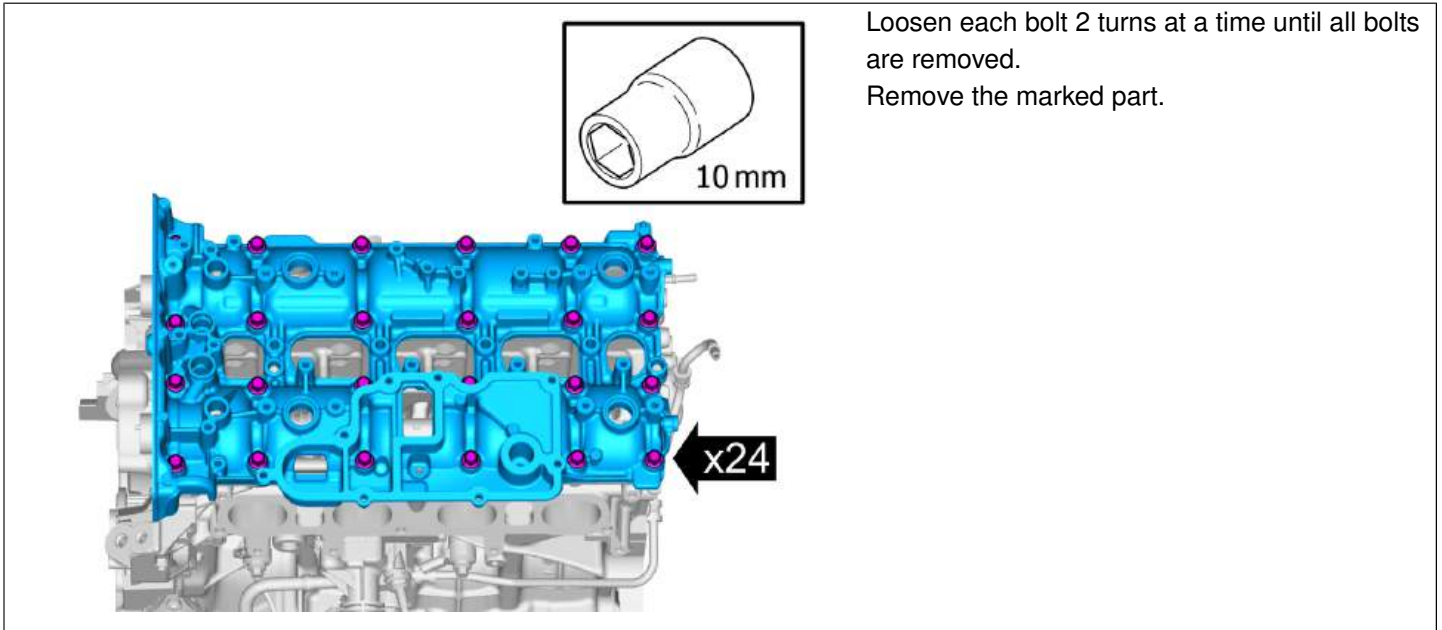


**Caution! The part is to be reused.**

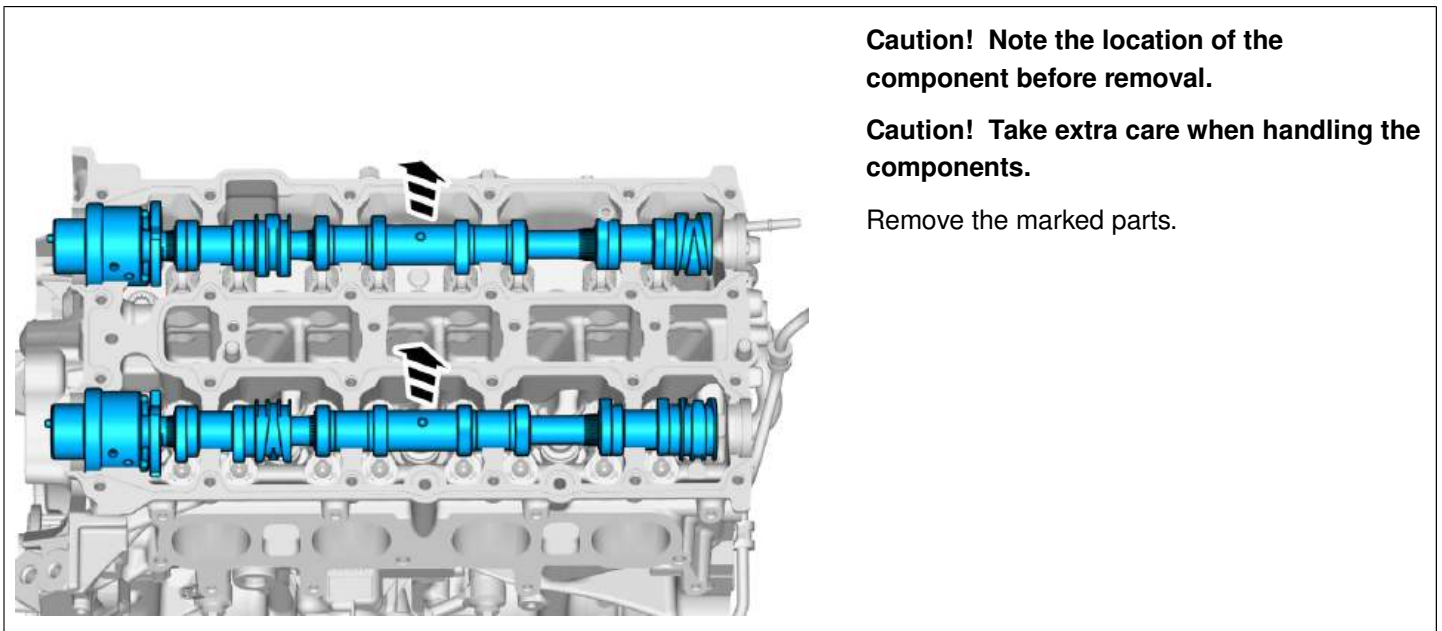


**Continue the removal following the steps below.**

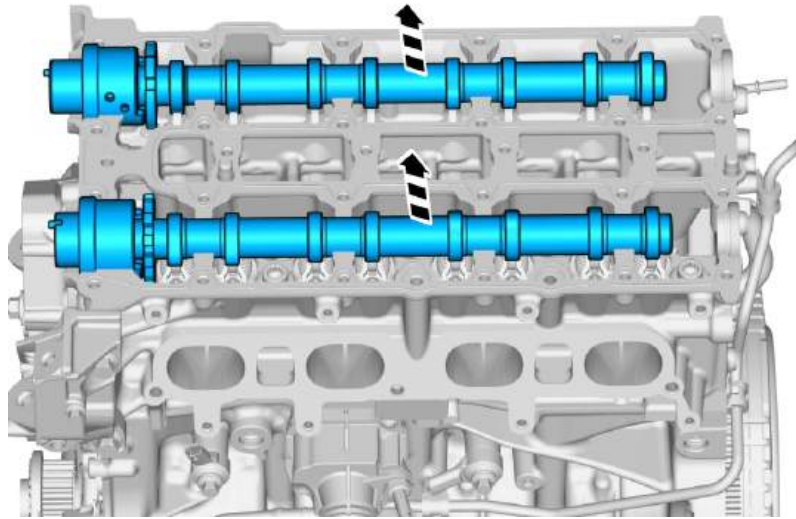
Remove camshaft seal , refer to:  
Removal, replacement and installation  
2 - Engine with mountings and equipment  
21 - Engine  
215 - transmission



Vehicles early version



Vehicles late version

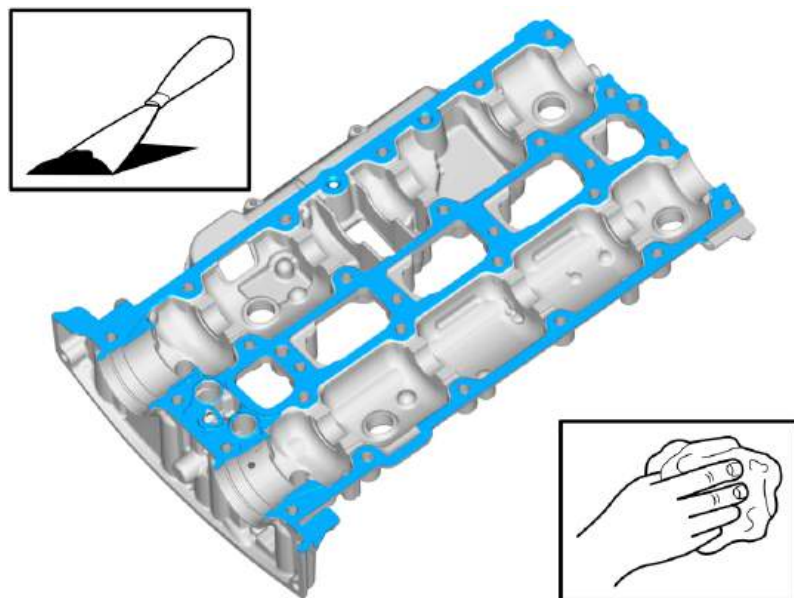


**Caution!** Note the location of the component before removal.

**Caution!** Take extra care when handling the components.

Remove the marked parts.

### Cleaning



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

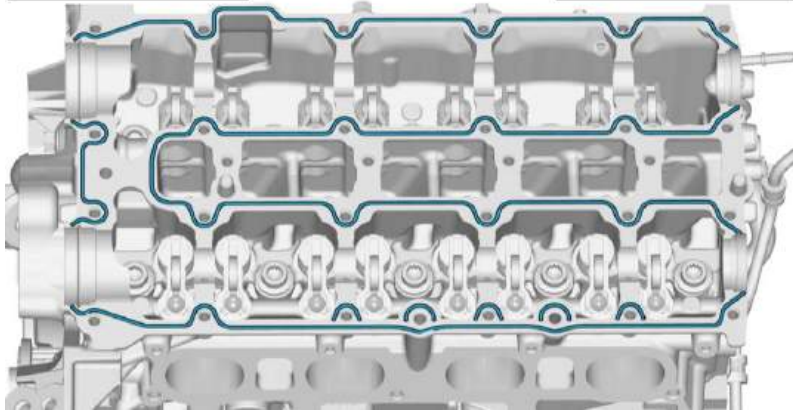
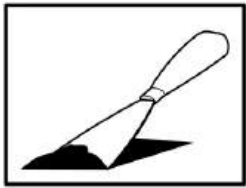
**Caution!** Make sure that the oil galleries are clean and free of foreign material.

**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.

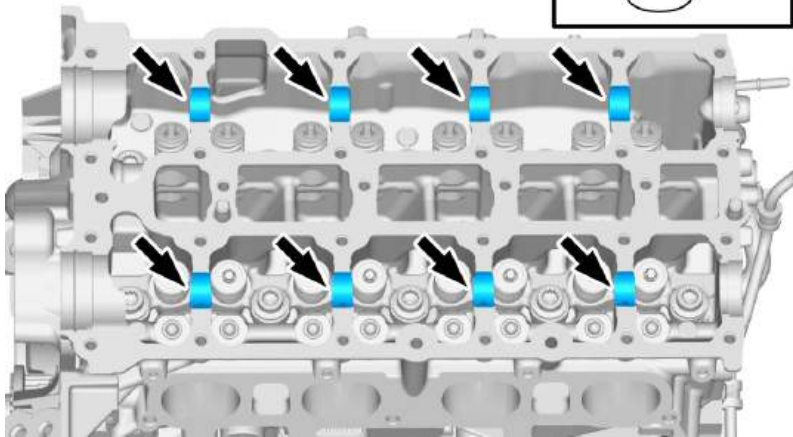
**Note!** Make sure that the mating faces are clean and free of foreign material.

**Use:** Putty knife (plastic)

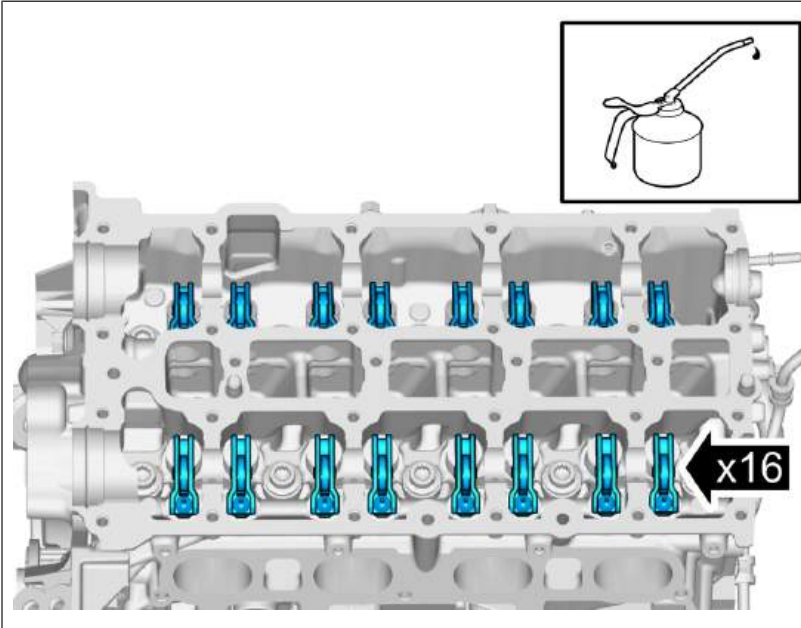
**Use:** Abrasive cloth , 9511024

**Use:** Isopropanol ,

### Installation

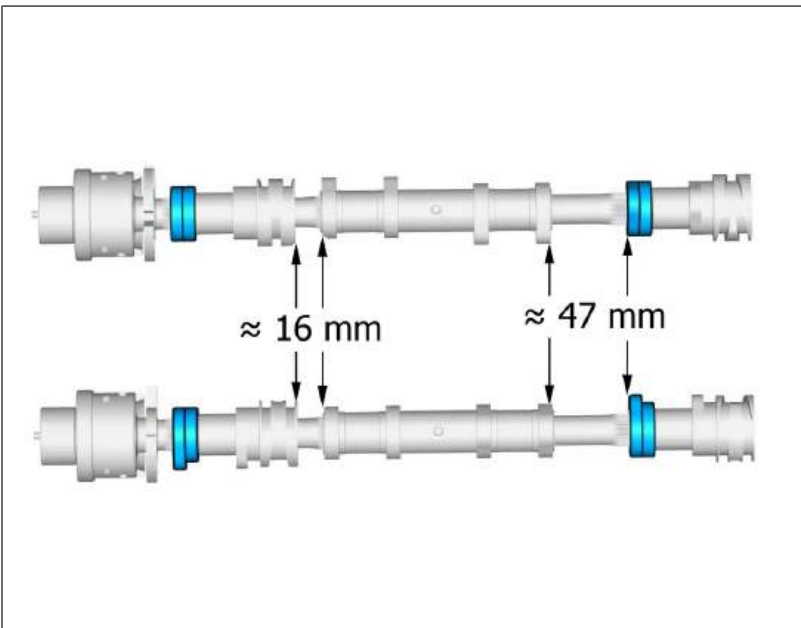


**Caution!** Make sure that the engine oil is to specification.

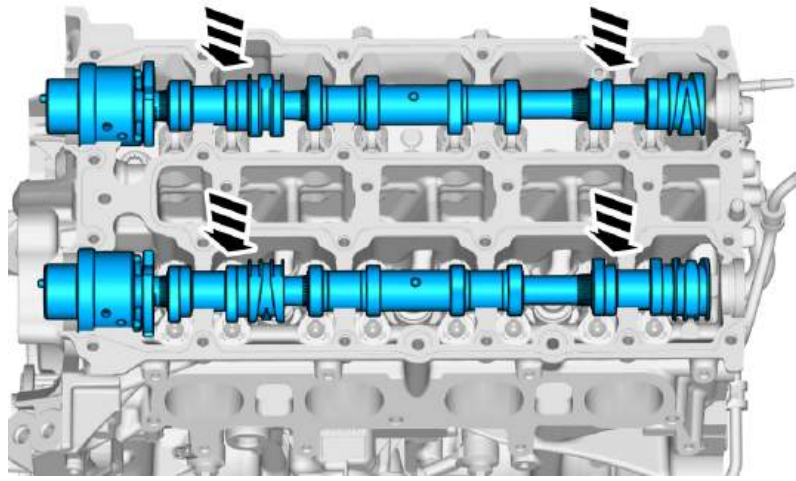


**Caution!** Make sure that the engine oil is to specification.

The following steps apply if no damages have been discovered

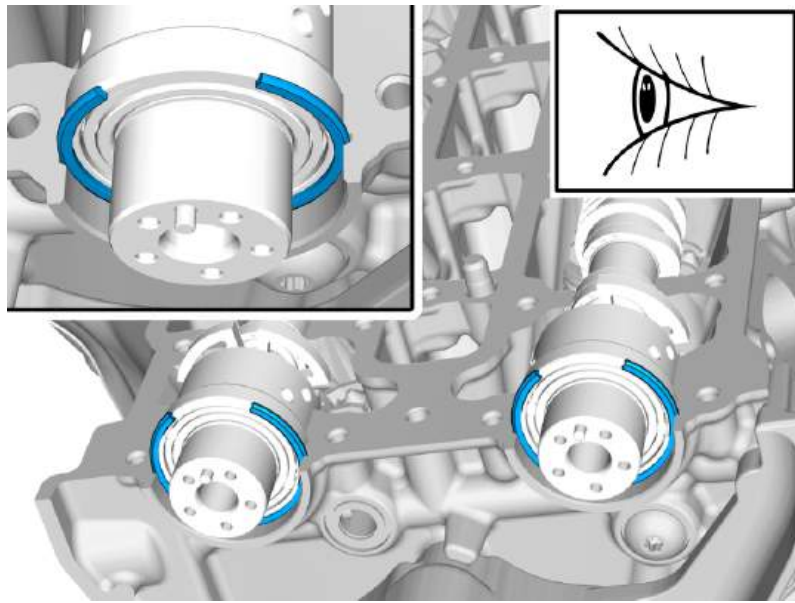


**Caution!** Make sure that the components are positioned correctly.

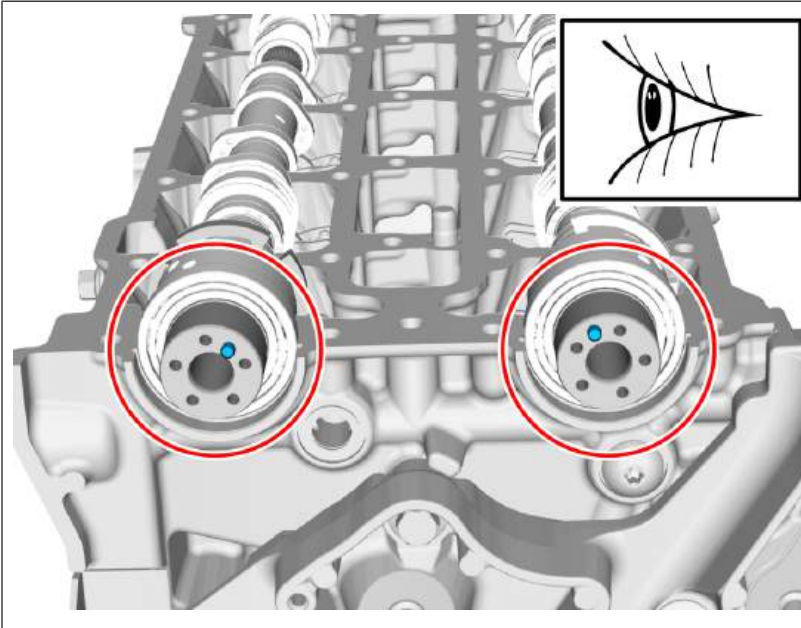


**Caution! Make sure that the components are positioned correctly.**

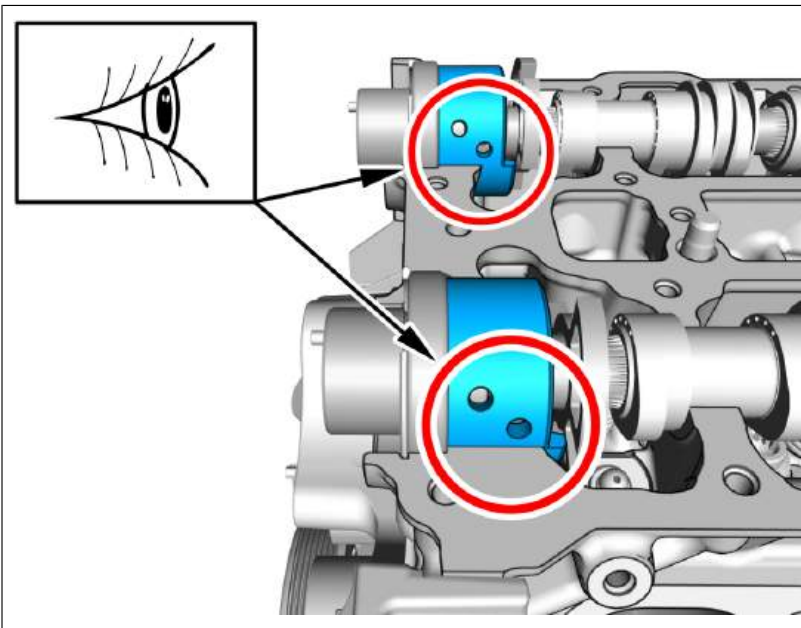
Install the marked component.



**Caution! Make sure that the components are positioned correctly.**

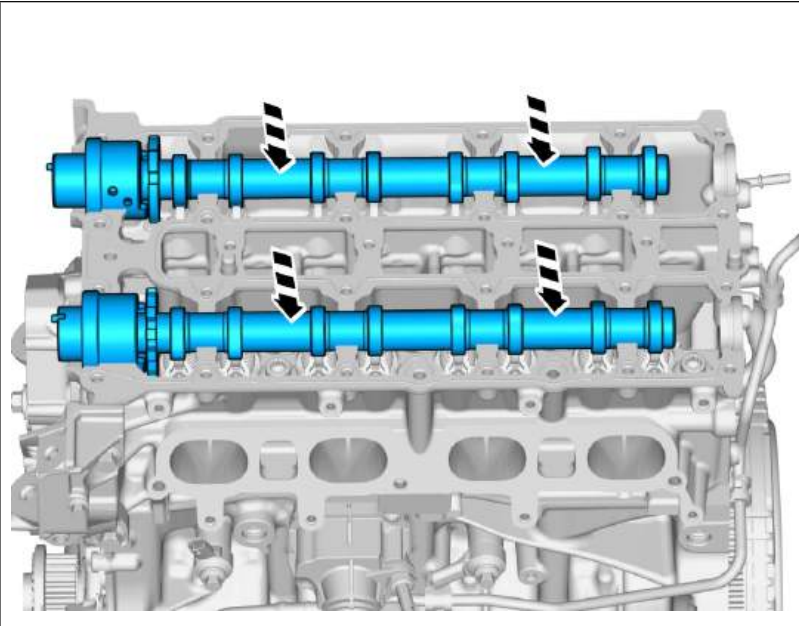


**Caution! Make sure that the components are positioned correctly.**



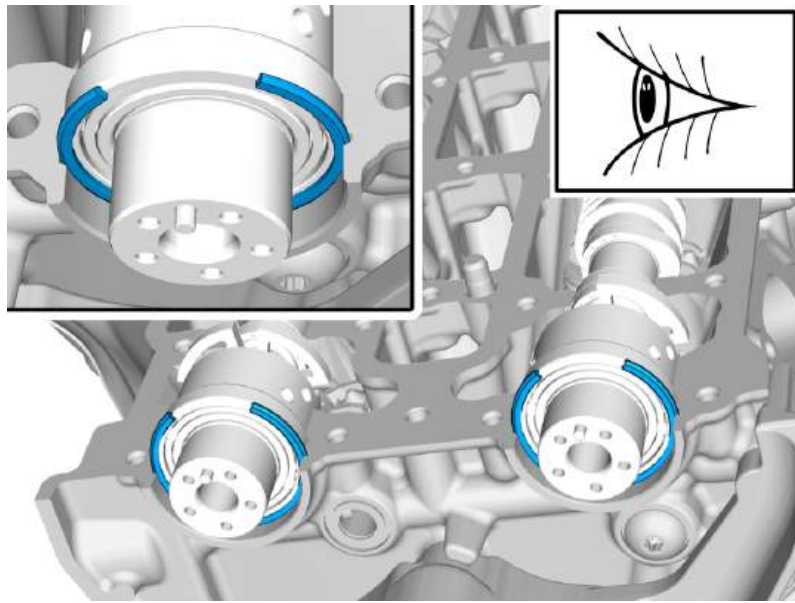
**Caution! Make sure that the components are positioned correctly.**

The following steps are performed on new component.



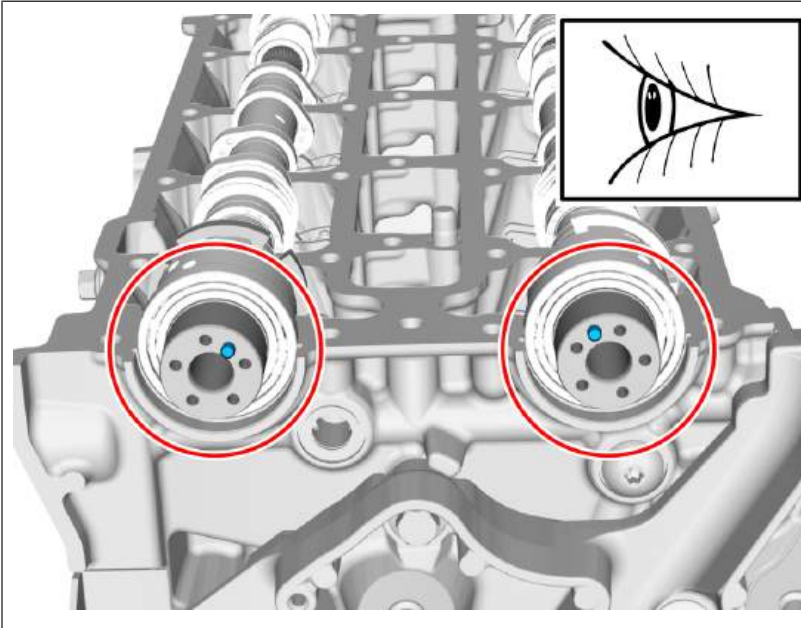
**Caution! Make sure that the components are positioned correctly.**

Install the marked components.

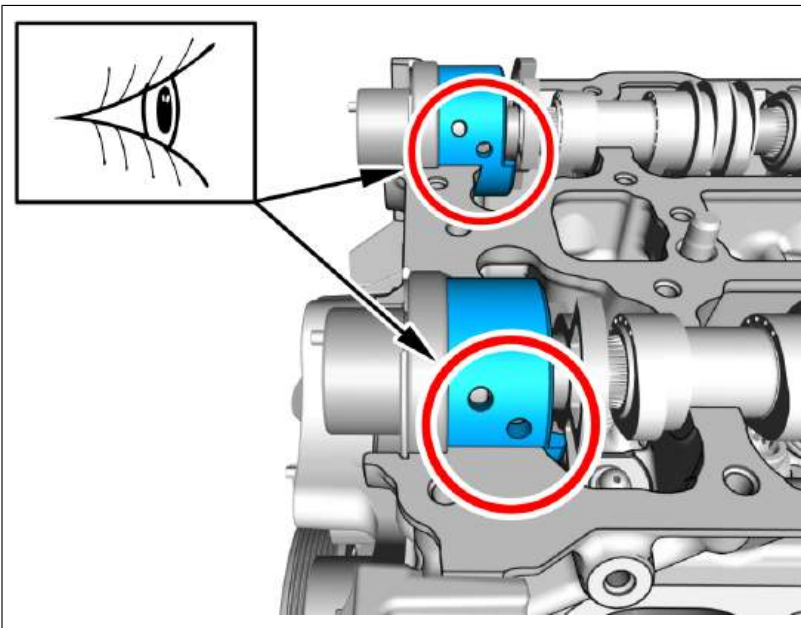


**Caution! Make sure that the components are positioned correctly.**

Install the marked components.

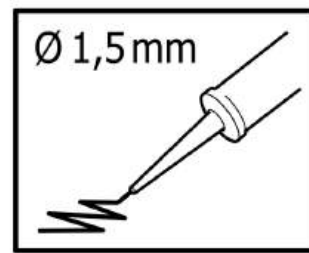
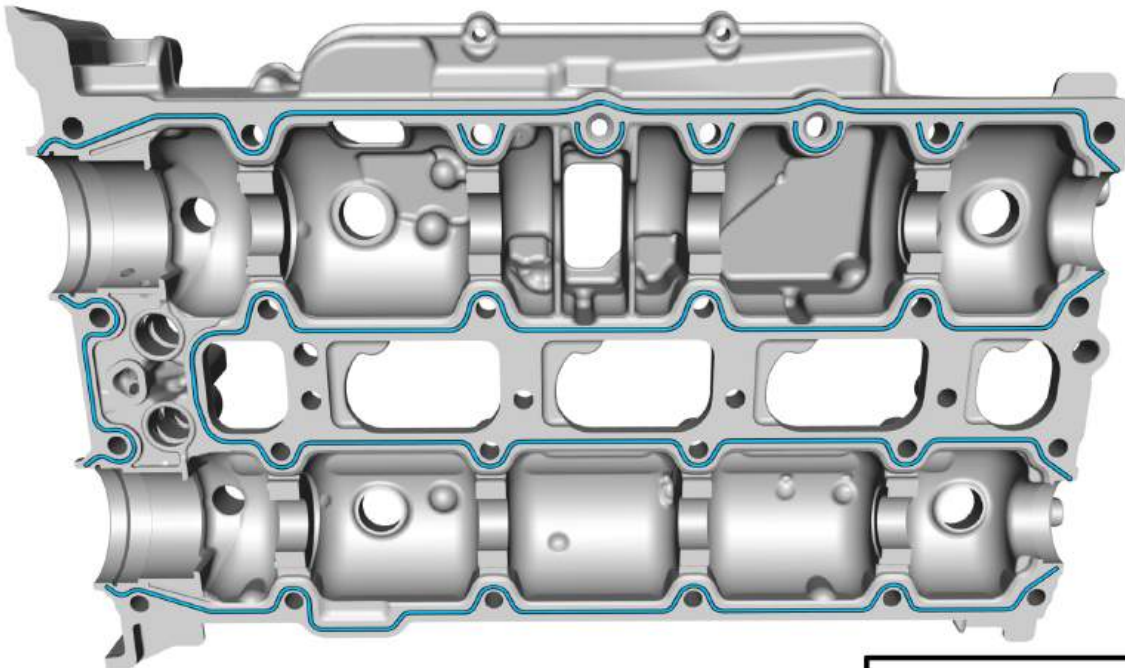


**Caution! Make sure that the components are positioned correctly.**



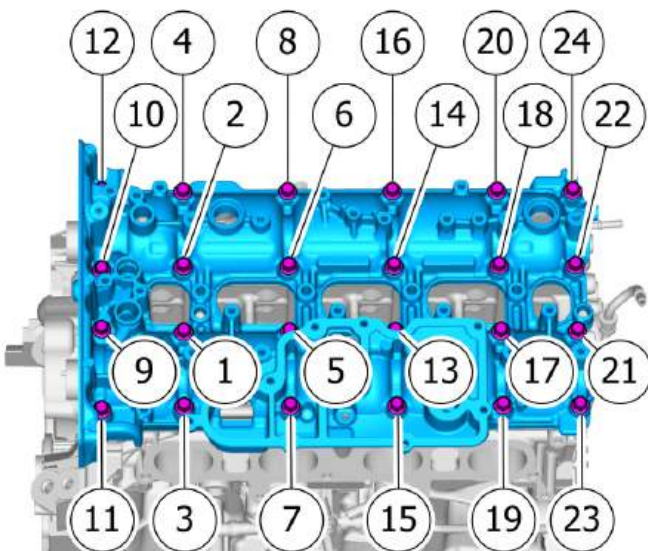
**Caution! Make sure that the components are positioned correctly.**

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:**

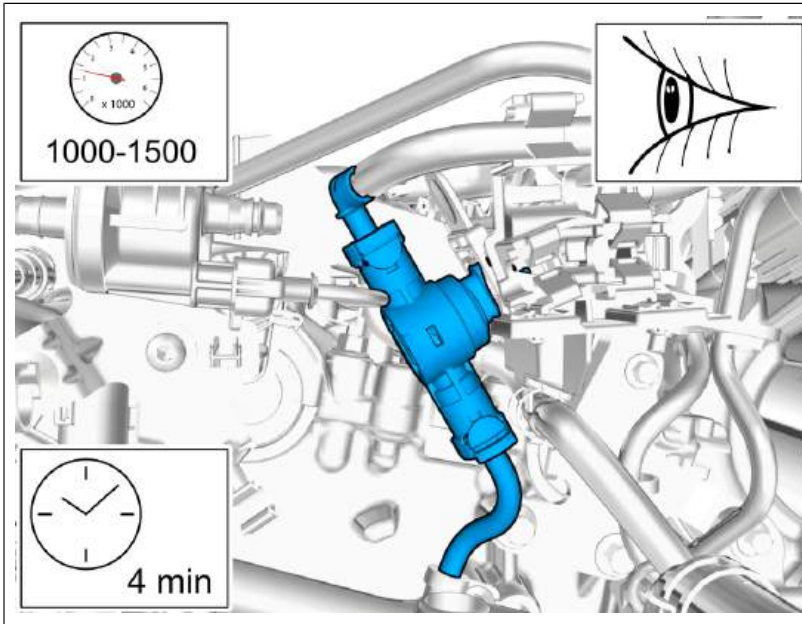
M7 , 17 Nm

### Installation

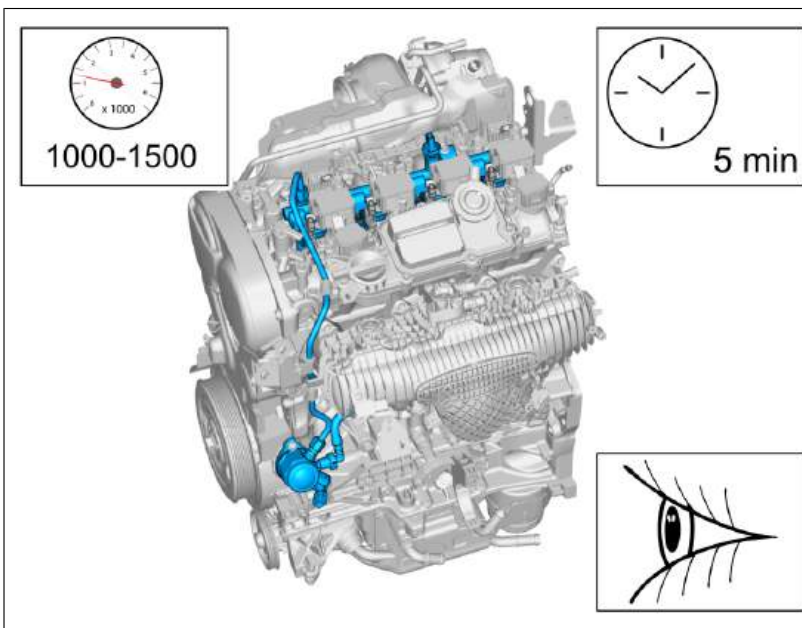
To install, reverse the removal procedure.

### Check

Start the engine.



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



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