VOLVO CAR
SERVICE AND PARTS BUSINESS

Technical Journal

TITLE:

Front Air Suspension, knock/rattle/clatter noise

REF NO:	ISSUING DEPARTMENT:	CAR MARKET:	
TJ 31236.10.0	Technical Service	United States and Canada	
PARTNER: 3 US 7510 Volvo Cars North America		ISSUE DATE: 2016-12-20	STATUS DATE: 2016-12-29
FUNC GROUP: 7251	FUNC DESC: FR SPR, HYD/GAS/AIR, BELLOWS, CYLINDER	Page 1 of 16	

"Right first time in Time"

Attachment

File Name	File Size
TJ 31236.m4a	0.2825 MB
TJ 31236.wmv	2.6571 MB
TJI-495571-1_1_0_en-US.pdf	5.4041 MB

Vehicle Type

Type	Eng	Eng Desc	Sales	Body	Gear	Steer	Model Year	Plant	Chassis range	Struc Week Range
256	10	B4204T23					2016-2017		0000001-0114847	201505-201621
256	A2	B4204T27					2016-2017		0000001-0114847	201505-201621
256	BC	B1BPHEV					2016-2017		0000001-0140101	201526-201640

CSC Customer Symptom Codes

Code	Description
WV	Suspension/Clicking/clonking noise/At start/stop
WY	Suspension/Clicking/clonking noise/Unsure when/at all times
X1	Suspension/Unusual noise
8J	Shock absorption/Unusual noise

VST Operation Number

VST Operation Number	Description
36004-2	Software control module downloading
36060-3	Calibration with VIDA
98632-2	Shock absorber replace acc, to TJ31236

DTC Diagnostic Trouble Codes

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

Text

DESCRIPTION:
If the vehicle is equipped with air suspension and if customer is complaining over a knock/rattle/clatter noise from the **front suspension** when driving on rough roads or over a road hump, then follow the advice under Service.

Note: Vehicles with Air suspension can be identified by the following VDN code: RI03

VIDA= Vehicle Information and Diagnostics for Aftersales
SUM= Suspension Module

SERVICE:
Too high tire pressure could produce noise that could be misinterpreted as noise from the front air suspension system. First ensure that the tire pressure is matching the Tire Label (located in left side B-pillar) or Owners Manual. It is required that the workshop test drive the vehicle with correct tire pressure in order to verify the customers complaints regarding unacceptable noise from the front suspension.

If the noise is confirmed, then it is necessary to replace all four shock absorbers and download a new software for the suspension module (SUM) according to TJ instruction.

*Spare parts to be used: Follow VIDA parts catalogue.
*- Replace front air springs and rear shock absorbers and then download SUM Upgrade.
- Important to calibrate SUM: VIDA -> Diagnostics -> Components -> Suspension module (SUM) -> Diagnostic Sequences -> Callibration of the Suspension Module (SUM)

VEHICLE REPORT:
No, only if the described noise is not comparable with attachments please submit a Vehicle Report. Use concern area “Vehicle Report” and sub concern area “Support not needed”, use function group 7251.
If material is needed it will be requested by report.

To view TJ attachments continue to next page. This TJ has three attachments.

Volvo Car Customer Service

TJ Instruction VCC-495571-1

Title	Shock absorber	**Page**	1 (14)
Action	Replacement	**Operation number:**	98632-2 36004-2 36060-3

Issue	Date	Reason
1	2016-06	First issue

Affected vehicles

Model year	Model
2016	XC90 (16-)

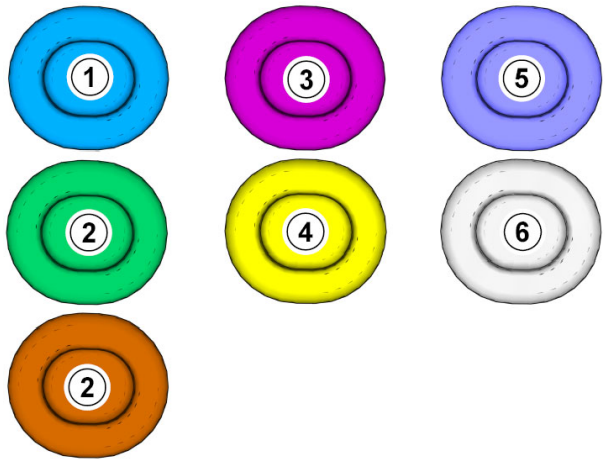
Materials

Materials	Qty.	Part No.	Notes
Air spring	1.0	31476850	
Air spring	1.0	31476851	
Flange screw	2.0	30670571	
Flange screw	2.0	988926	
Flange screw	2.0	30640924	
Shock absorber	1.0	31476853	
Shock absorber	1.0	31476854	

Removal

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

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.

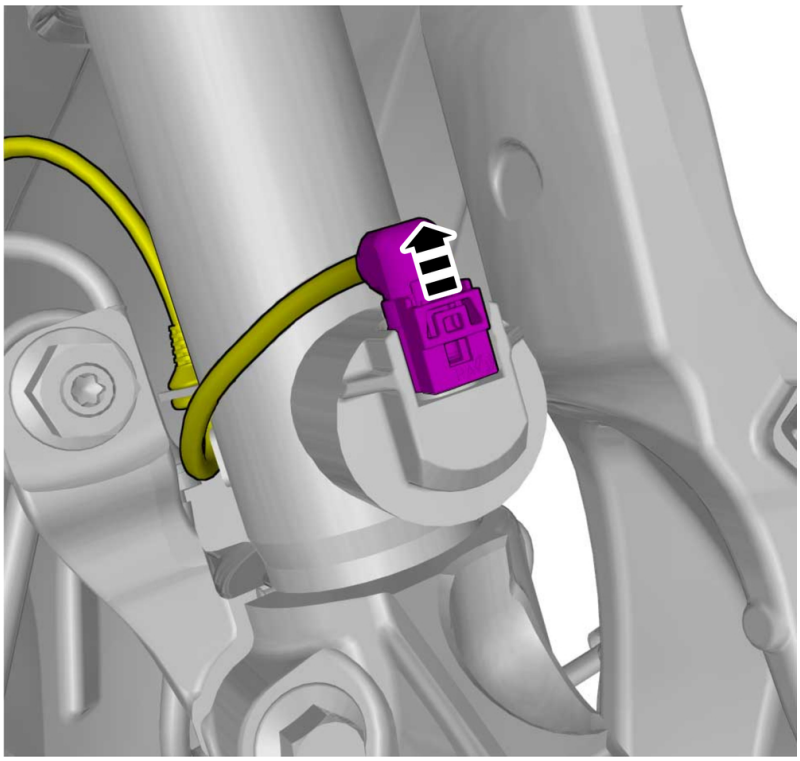
1 . Used for focused component, the component with which you will do something.
2 . Used as extra colors when you need to show or differentiate additional parts.
3 . Used for attachments that are to be removed/installed. May be screws, clips, connectors, etc.
4 . Used when the component is not fully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

Deactivate the Air suspension control in Settings, which is found in Center Console Display top view or by way of VIDA: Diagnostics/ Components/ECU/SUM/Diagnostic sequences/ Enable leveling control

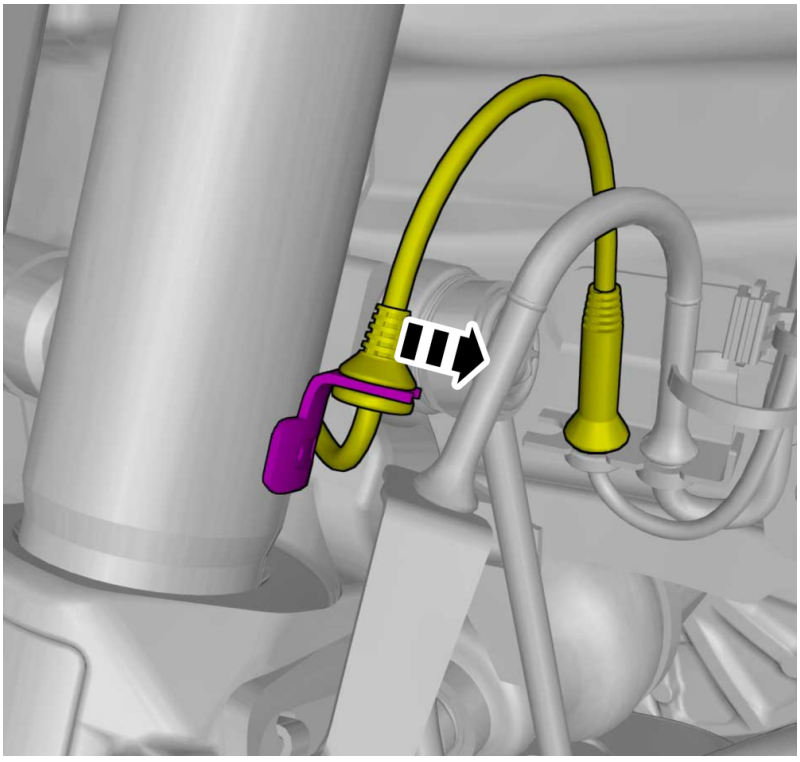
Remove the front wheel , refer to:
Removal, replacement and installation
7 - Springs and wheels
77 - Wheels, tyres, hubs
771 - wheel and wheel trim

Empty relevant air springs according to: Diagnostics/ Components/ ECU / SUM / Diagnostic Sequences / Emptying Air system, air bellows or Air system, air tank

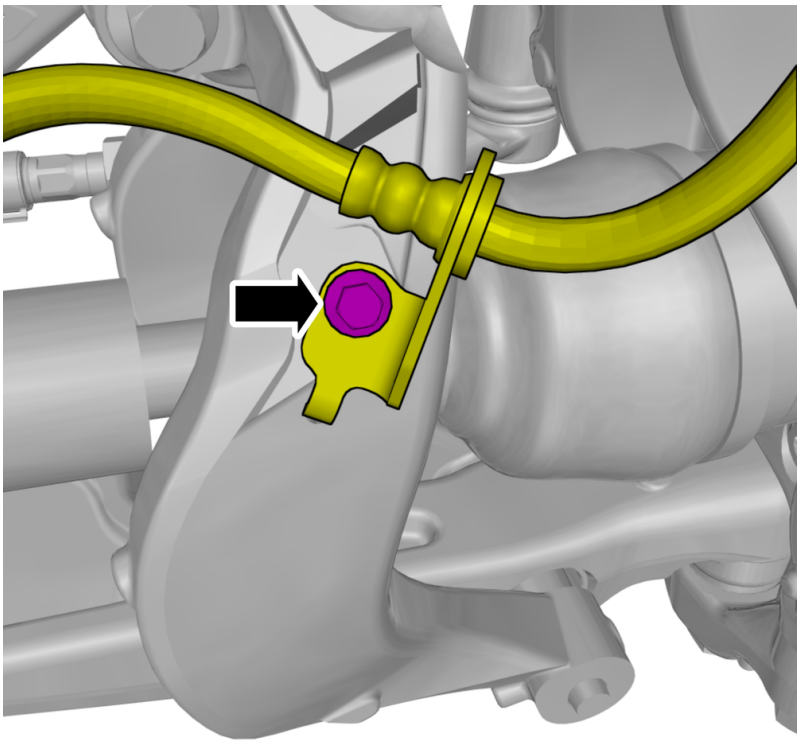
Note! Perform the procedure one side at a time.



Disconnect the connector.



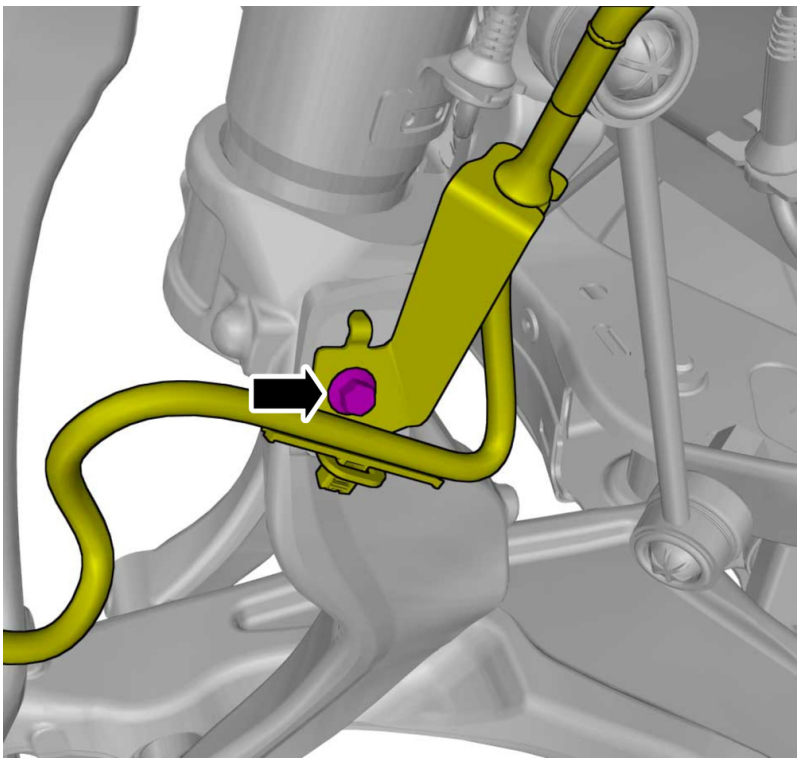
Loosen the wiring harness or move it to the side.



Remove the screw.

Torque:

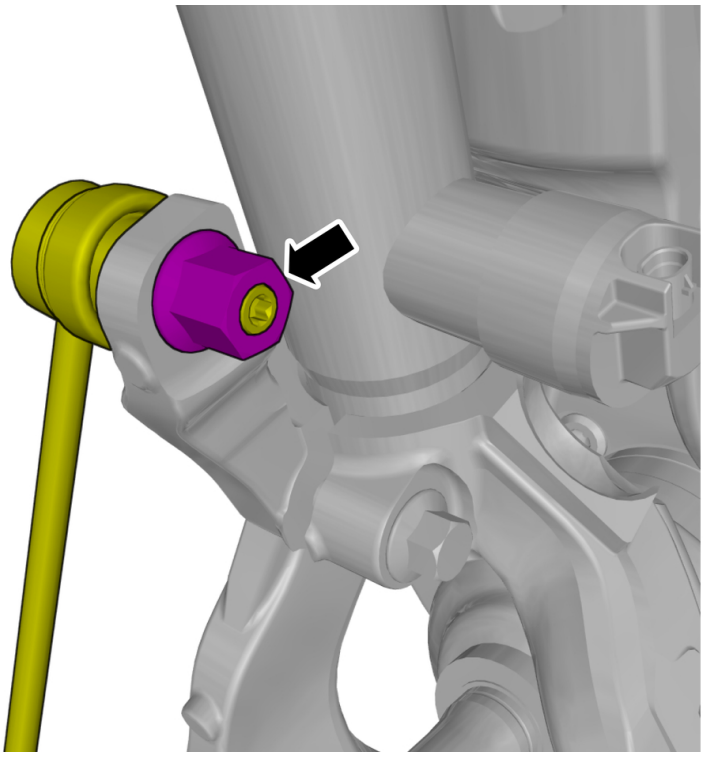
M5 , 5 Nm



Remove the screw.

Torque:

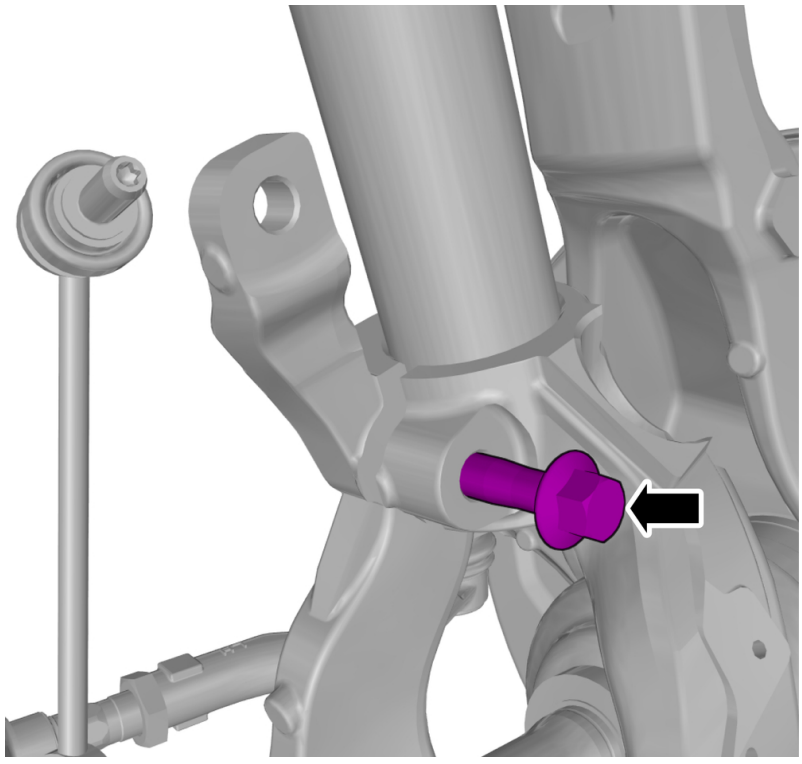
M5 , 5 Nm



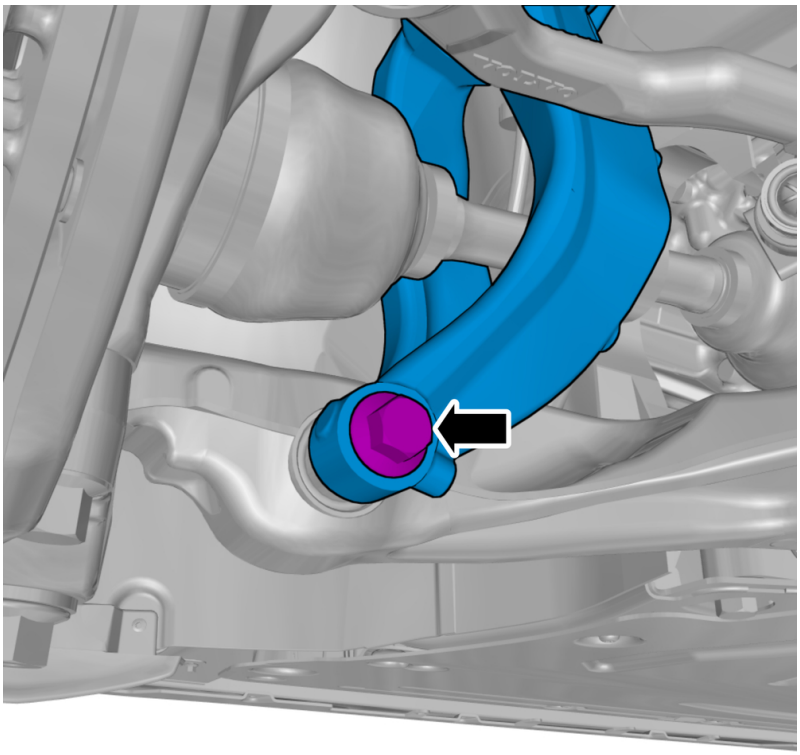
Remove the nut.

Torque:

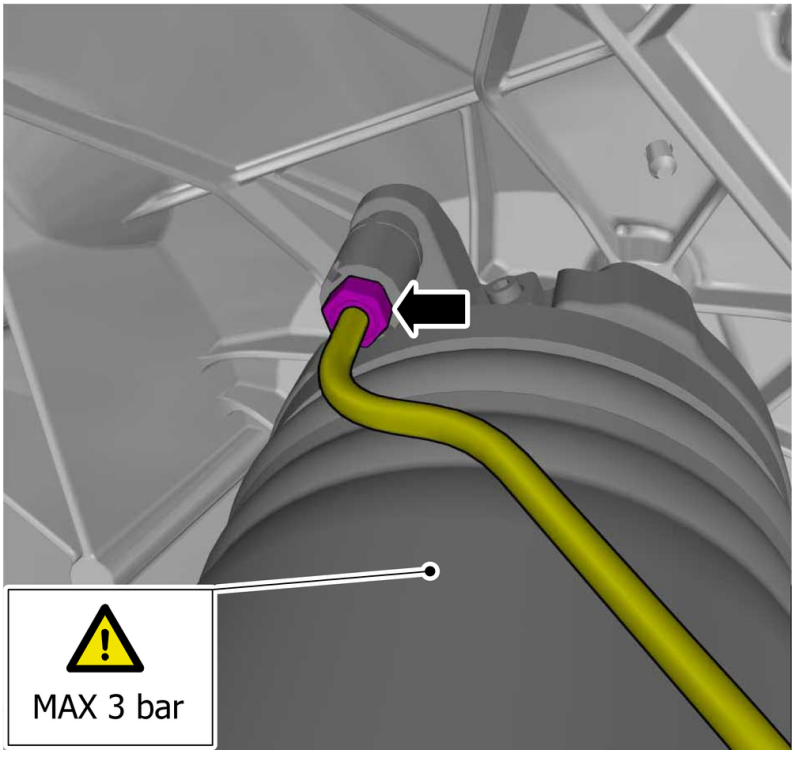
Front stabilizer bar link to strut and spring assembly , 80 Nm



Remove the screw.



Remove the screw.
Remove the marked part.

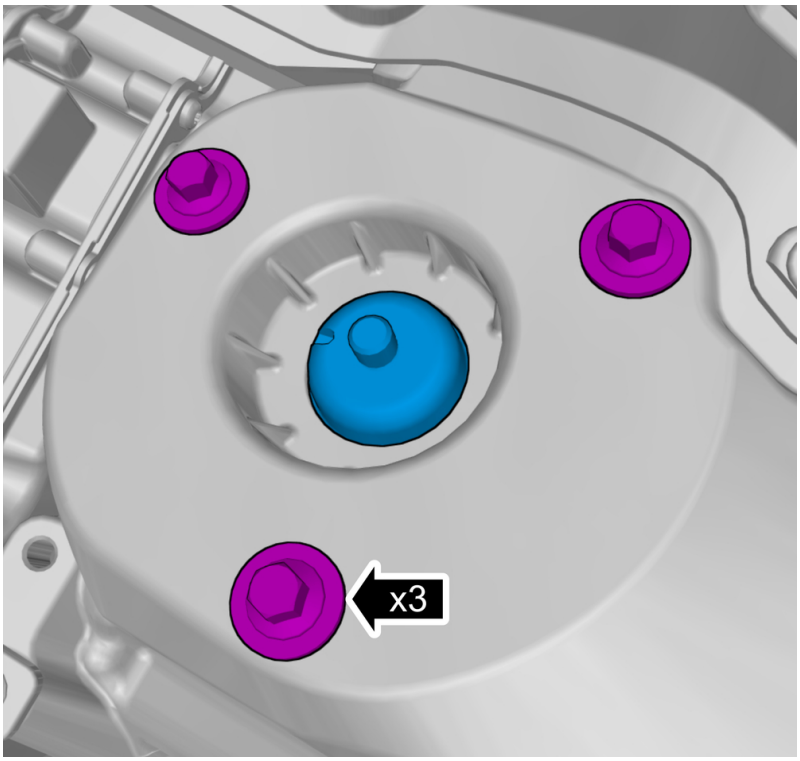


Caution! Make sure that the area around the component is clean and free of foreign material.

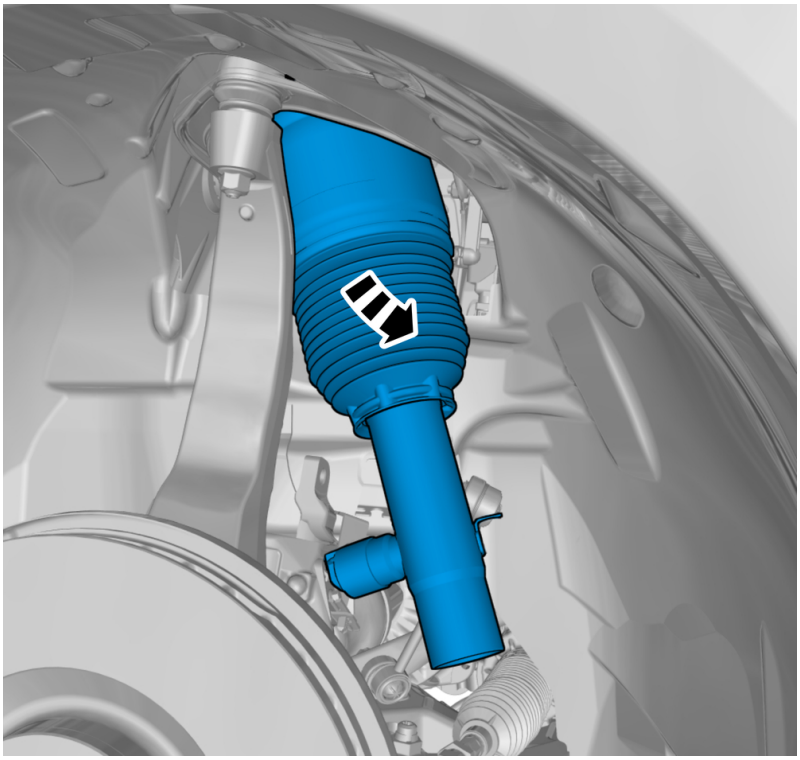
Remove the part carefully

Torque:

Air hose connector, to Connector with metal thread , 5 Nm

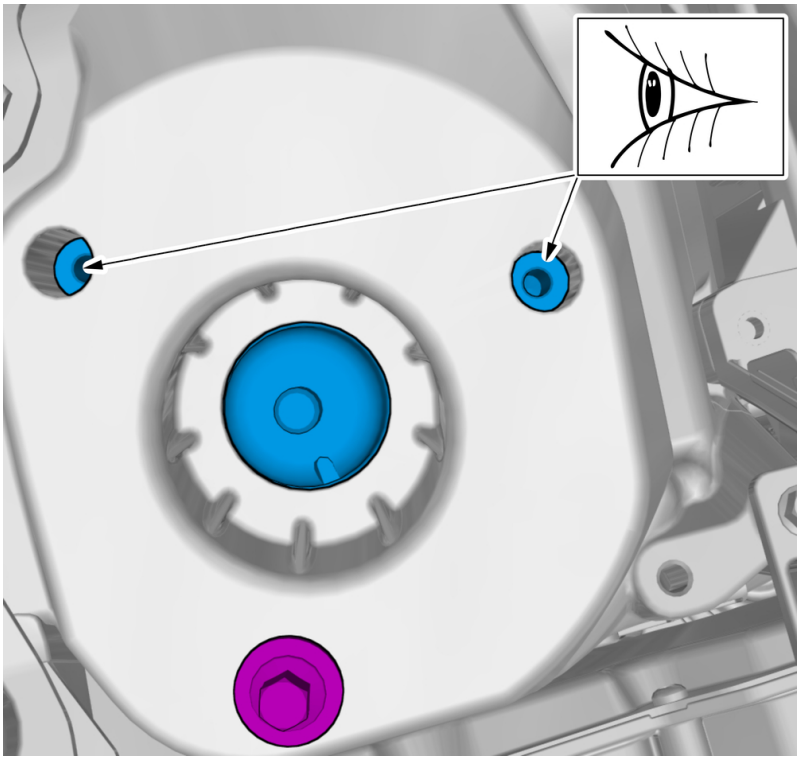


Remove the screws.



Remove the marked part.

Installation

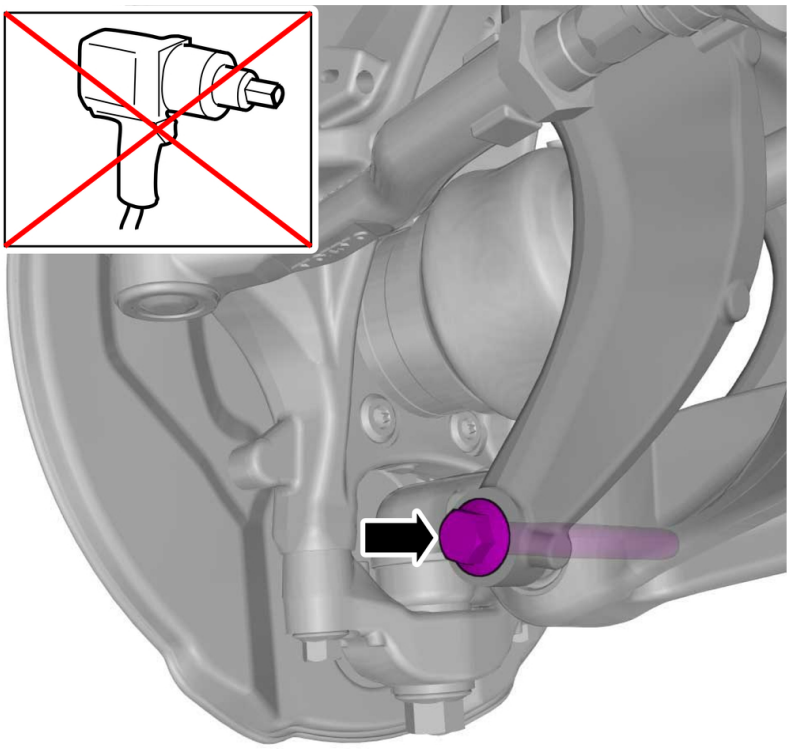


Note! Make sure that the component is centred.

Install the screws.

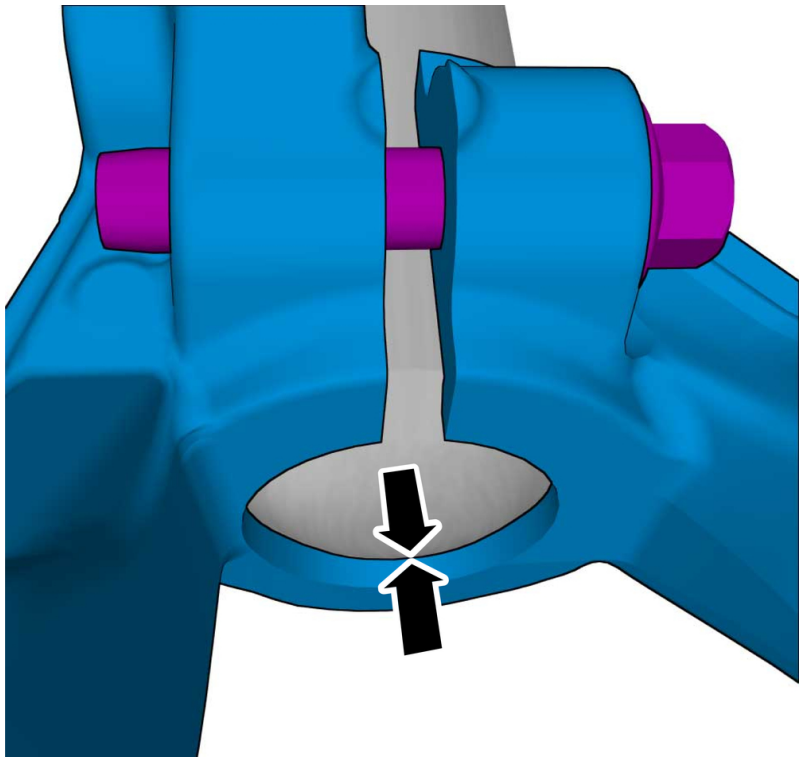
Torque:

M8 , 24 Nm



Caution! Make sure that a new bolt is installed.

Note! Do not fully tighten the bolt.



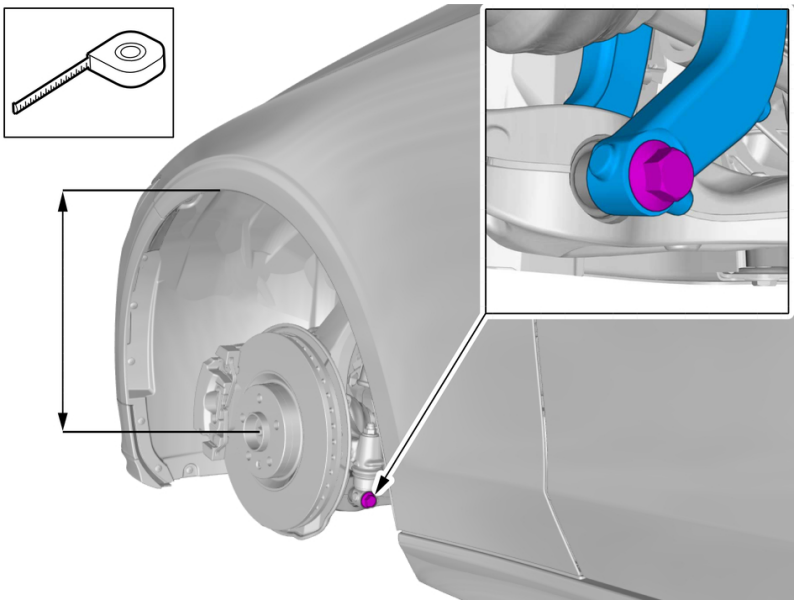
Caution! Make sure that a new bolt is installed.

Caution! Make sure that the component is positioned correctly.

Tighten the screw.

Torque:

Shock Absorber Fork, to Shock Absorber , 80 Nm



Note! Only tighten the nuts and bolts when the suspension is in the normal drive position.

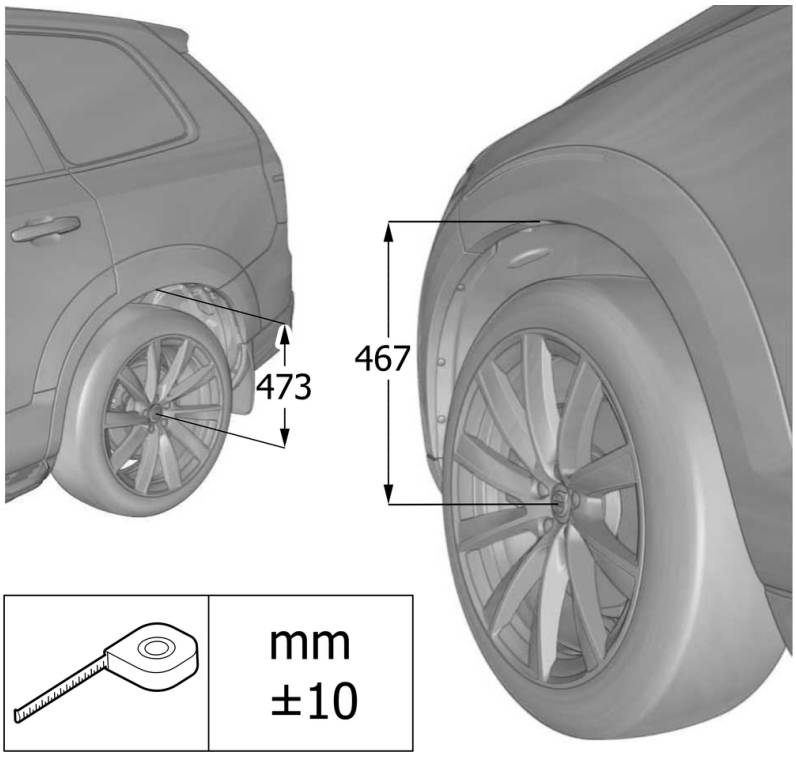
Tighten the screw.

Torque:

- Stage 1 : Shock Absorber Fork to Front Lower Control Arm , 140 Nm
- Stage 2 : Shock Absorber Fork to Front Lower Control Arm , 120°

See information about normal position , refer to:

Cleaning, Inspection and Adjustment
6 - Suspension and steering
65 - Rear wheel suspension
652 - stay, arm, joint



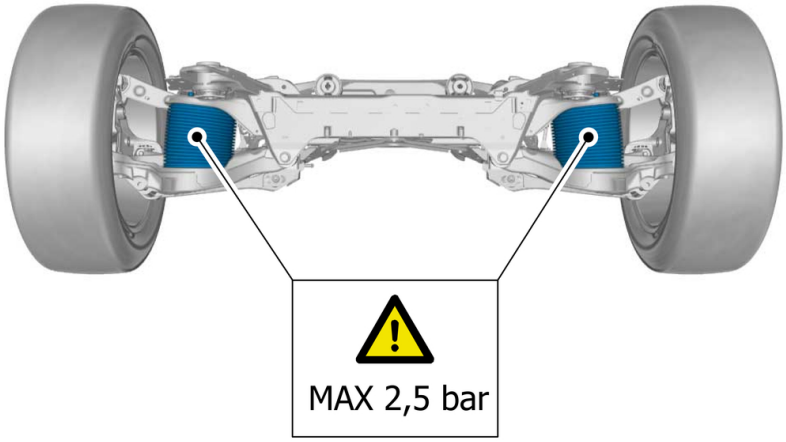
To install, reverse the removal procedure.

Fill relevant air springs according to:
Diagnostics/ Components/ ECU / SUM / Diagnostic Sequences / Emptying Air system, air bellows or Air system, air tank

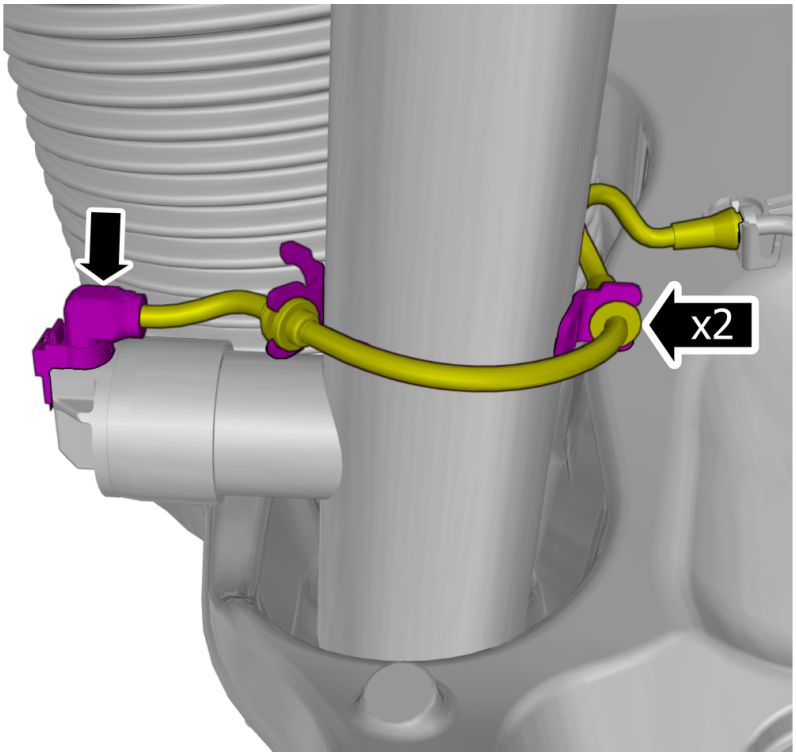
Repeat all method steps for the other side.

Remove rear wheel , refer to:
Removal, replacement and installation
7 - Springs and wheels
77 - Wheels, tyres, hubs
771 - wheel and wheel trim

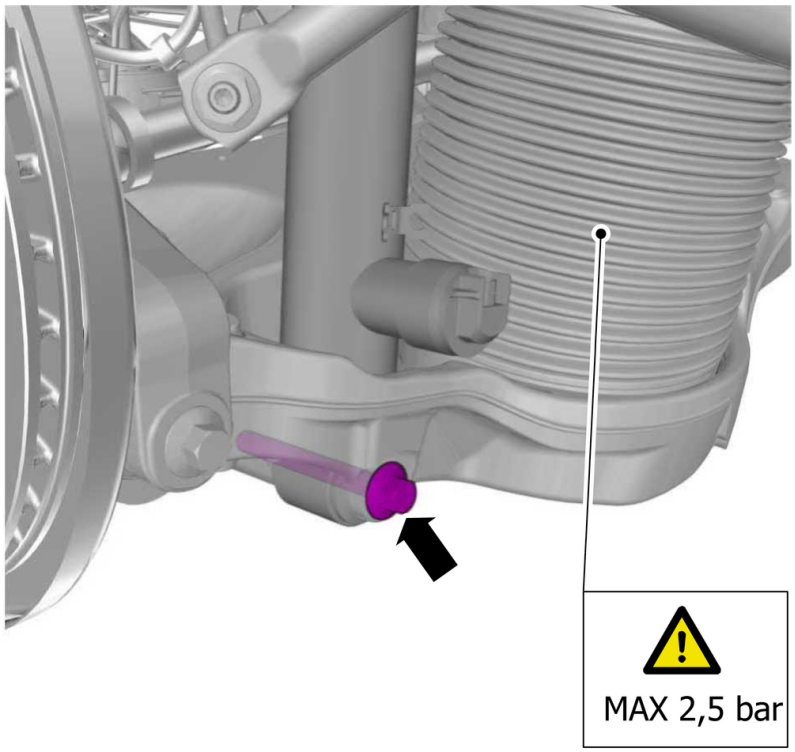
Empty relevant air springs according to:
Diagnostics/ Components/ ECU / SUM / Diagnostic Sequences / Emptying Air system, air bellows or Air system, air tank



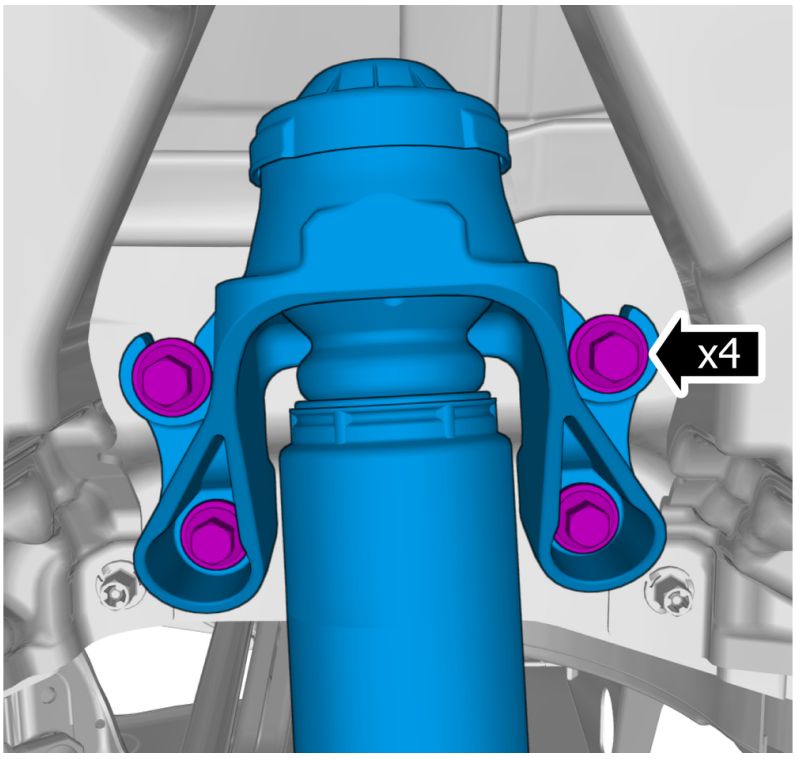
On both sides.



Disconnect the connector.
Loosen the wiring harness or move it to the side.



Remove the screw.



Remove the screws.
Remove the marked part.

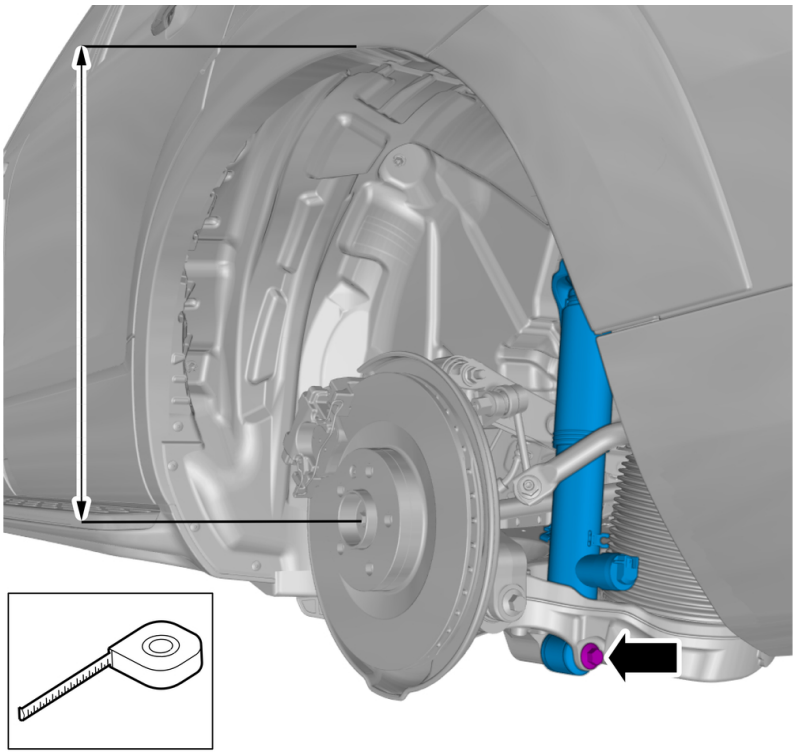
Torque:

Rear shock absorber top mount, to Body , 60 Nm

Repeat the steps when removing on opposite side.

Installation

To install, reverse the removal procedure.



Caution! Make sure that a new bolt is installed.

Note! Only tighten the nuts and bolts when the suspension is in the normal drive position.

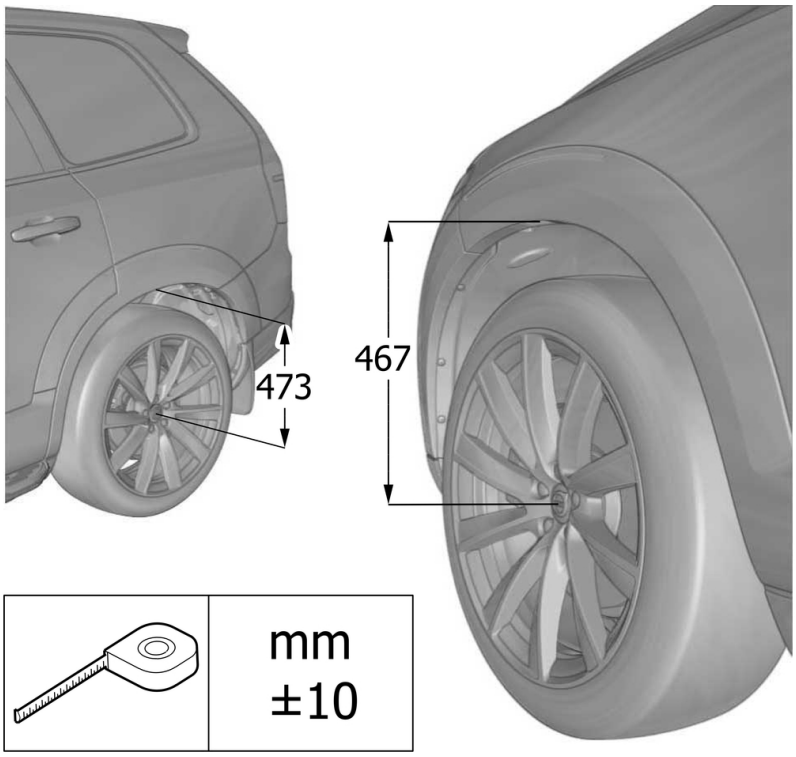
Tighten the screw.

Torque:

- Stage 1 : Rear shock absorber, to Lower control arm , 90 Nm
- Stage 2 : Rear shock absorber, to Lower control arm , 150°

See information about normal position , refer to:

Cleaning, Inspection and Adjustment
6 - Suspension and steering
65 - Rear wheel suspension
652 - stay, arm, joint



	Fill relevant air springs according to: Diagnostics/ Components/ ECU / SUM / Diagnostic Sequences / Emptying Air system, air bellows or Air system, air tank
	On both sides.
	Caution! Make sure that the air springs are inflated before lowering the vehicle.
	Order and download software according to VIDA/SOFTWARE.
	Check that no diagnostic trouble codes (DTCs) are stored.

When necessary, carry out the following instruction.

	Calibrate according to: Diagnostics / Components / Control modules / Suspension Module (SUM) / Diagnostic sequences / calibration of Suspension Module (SUM)