

FITTING INSTRUCTIONS

making everyday smoother



VOLKSWAGEN T5/T6/T6.1

VB-NivoAir
rear axle

FOR KIT: 1900906201



REVISION TABLE

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1. SAFETY INSTRUCTIONS

Personal safety instructions

- Always wear suitable protective clothing and safety boots.
- Do not wear rings, watches or loose clothing.
- Never carry loose items in pockets.
- Tie back long hair.
- Never use broken tools. Only use tools for their intended purpose.
- Wear safety goggles.

General safety instructions

- If possible, always use a hydraulic ramp when carrying out the activities.
- If applicable, ensure that the vehicle is properly supported.
- Ensure that the vehicle cannot roll away.
- Improperly carried out installation can result in hazardous situations.

Caution



When the warning symbol is shown, information is provided that is extremely important for the safety and/or health of those involved. This symbol is also used for procedures that are critical for the correct installation of the air suspension kit.

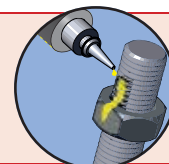


Attention: Please check, before mounting / disassemble, the workshop manual of the manufacturer. When in doubt always follow the instructions of the manufacturer!



Each bolt connection in this manual contains a tightening torque with which the bolt connection must be fixed and then marked with a durable security check paint marker.

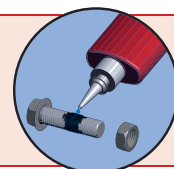
When the original nuts and bolts are reused, follow the guidelines of the vehicle manufacturer for the correct tightening torque.



Attention: All removed parts that are remounted must be checked for correct assembly and operation.



If screw thread locking agent is prescribed, use at least Loctite 243 or comparable agent with the same properties.



2. FITTING INSTRUCTIONS

This manual has been put together with great care and it contains a description of all the steps required to install the air suspension as stated on the front page. The content of this manual is a snapshot view of the situation as at the time it was written. VB-Airsuspension reserves the right to introduce technical changes at any time without warning.

Your vehicle may differ from the vehicles shown in the photographs. In some cases, it may not be possible to fit specific parts in the position indicated. In this case, you are advised to identify an alternative position for the parts yourself.

The warranty is only valid if installation is carried out by a specialist workshop. Installation may only be carried out by suitably authorized personnel. Staff must be experienced in working on light commercial vehicles, particularly in relation to electrics /electronics, pneumatics and general vehicle mechanics.

VB-Airsuspension is not liable for any damage resulting from not following these fitting instructions.

- Take a test drive prior to installing air suspension.
- Check whether the TUV documentation is valid for the vehicle.
- Ensure that the correct calibration supports are available.
- Keep the workplace clean and tidy.
- Use vehicle workshop manuals where necessary.
- Always follow the vehicle manufacturer's conversion instructions, unless expressly stated otherwise in this manual.
- Mark removed parts so that they are put back in the correct vehicle.
- All removed parts that are remounted must be checked for correct assembly and operation.
- Always tighten the supplied nuts and bolts to the specified torque, unless expressly stated otherwise in this manual. Then follow the guidelines of the vehicle manufacturer!
- Mark the tightened bolts and nuts with a durable security check paint marker.
- If alterations are made to the original anti-corrosion system, this must be remedied immediately. Use spray wax or a protective coating for this purpose.
- The air suspension kit is supplied for two corners. If a part is specifically for one corner, it is identified with a coloured sticker.
- Always refit pipes, tubes and wires that have been removed in the same way that they were originally fitted.
- Secure pipes and wires with a sufficient number of tie-wraps. Ensure that tension cannot be applied to the wires.
- Fit the air tubes in accordance with the color code system used by VB-Airsuspension.
- Ensure that there are no tight bends in air tubes and that they cannot be kinked or chafe against other parts.
- Never attach air tubes, wires or other parts to the vehicle's brake lines.
- The supply cable must be at least 100 mm away from the ABS/ESP block, the sensors and other control equipment.
- Wires must not be routed above or across the battery.
- Do not leave any tools, cleaning cloths or other materials behind after completing work.
- Use the checklist to check the air suspension system after fitting.
(This checklist must be archived by the dealer and must be available for VB-Airsuspension.)
- Check the system for air tightness after fitting.
- Check that the air springs always have at least a 1 cm all-round clearance.
- Also follow the vehicle manufacturer's instructions when storing the vehicle.
- Take the vehicle for a test drive after fitting.



Other languages are available: All non-vehicle specific information (Safety instructions, fitting instructions, symbols, calibration instructions, checklist and vocabulary) are made available digitally in other languages on the VB-Airsuspension Portal. Please scan the QR-code with your mobile device or visit www.vbairsuspension.com/nl/dms-user.html.



3. SYMBOLS



Refer to workshop manual



Security check paint marker



No tensile load on the wires



Reuse



Flatten the surface



Disassemble the seat



Dispose



Clean the surface



Assemble the seat



Tightening with torque



Protective coating



Lock the height sensor rod



Tightening / Loosen



Disconnect the connector



Manually



Tighten hand-tight



Attach the connector



Adjust headlights

1

Step

2

Fuse (see electrical diagram)

(P)

handbrake signal

2

Connector (see electrical diagram)

15+

15+ signal (ignition)

5/6

Volkswagen T5



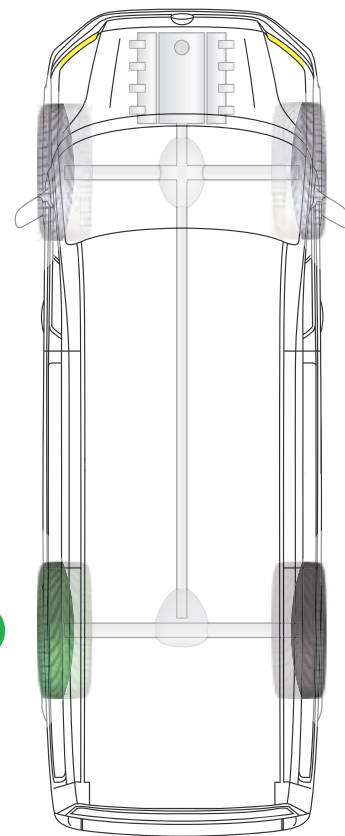
5/6

Volkswagen T6



6.1

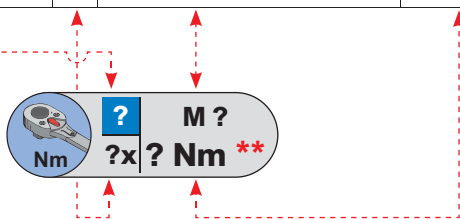
Volkswagen T6.1



L + R = L/R

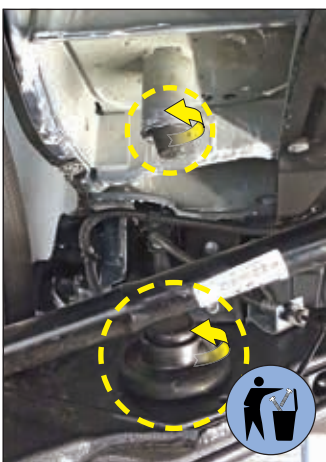
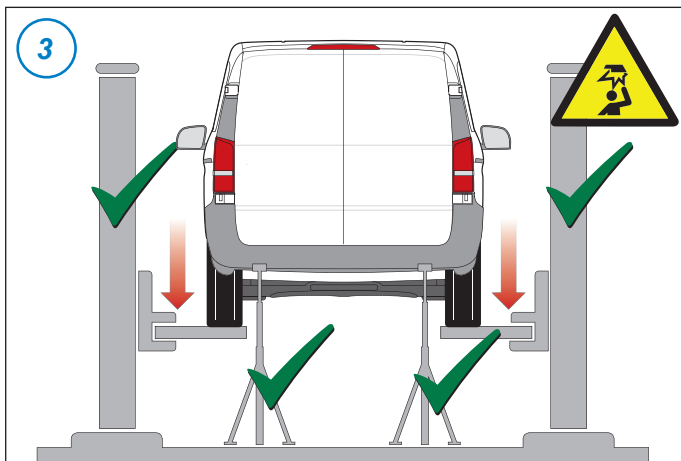
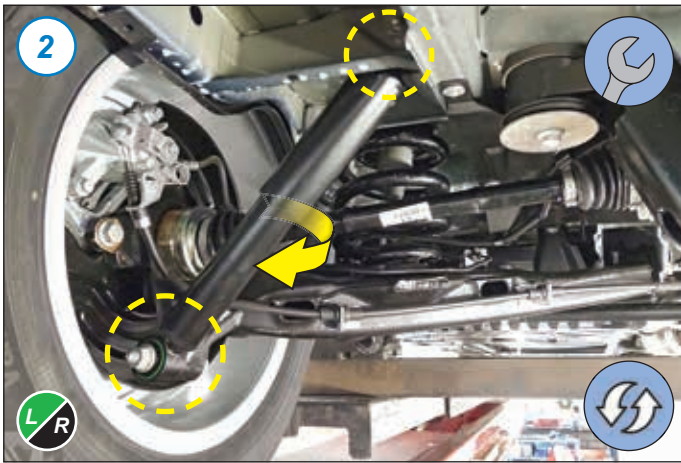
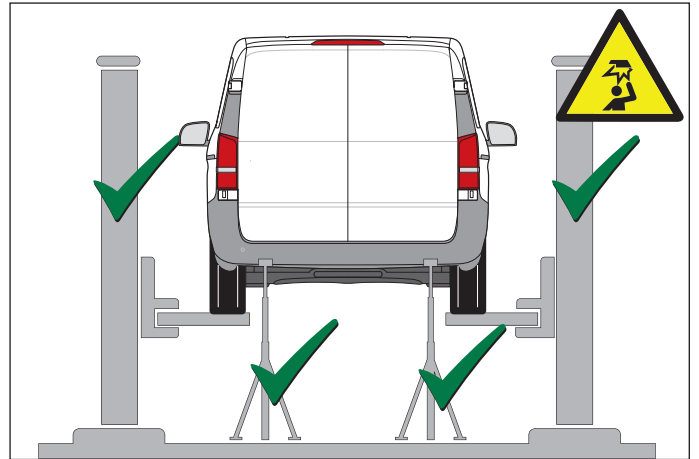
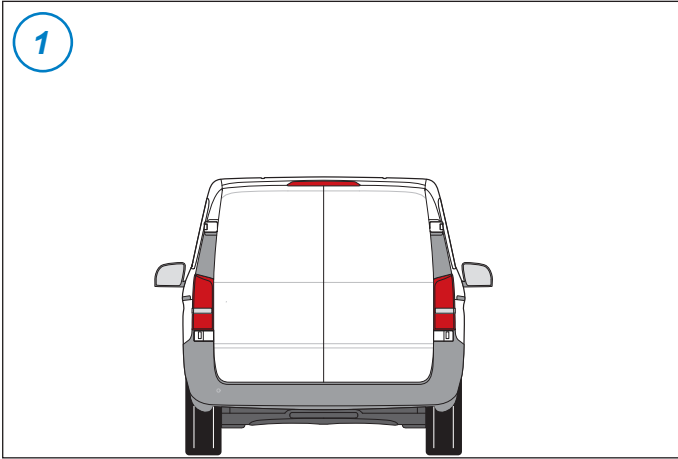
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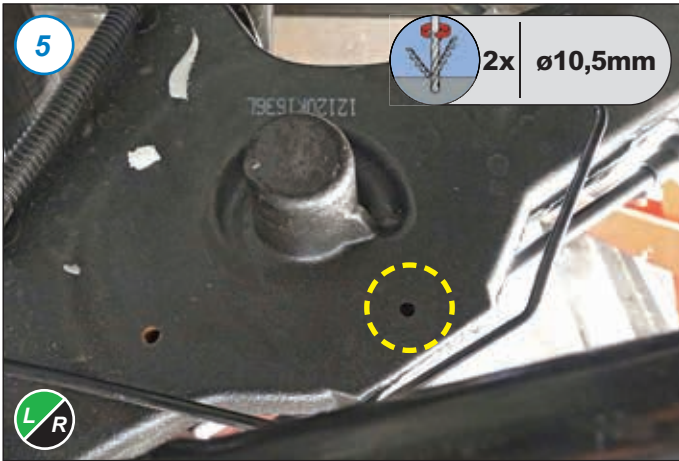
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2	0010714095SP	2	 M14x95x1.5 10.9	175
3	0011114000SP	2	 M14x1.5 10.9	175
4	0011106001AB	3	 M6 8.8	8
5	0012606016AA	3	 M6x16 10.9	8
6	0012748160	1	 4.8x16	4



** = Do not tighten the bolts yet. Tighten as soon as the vehicle is at driving height as indicated in this manual.

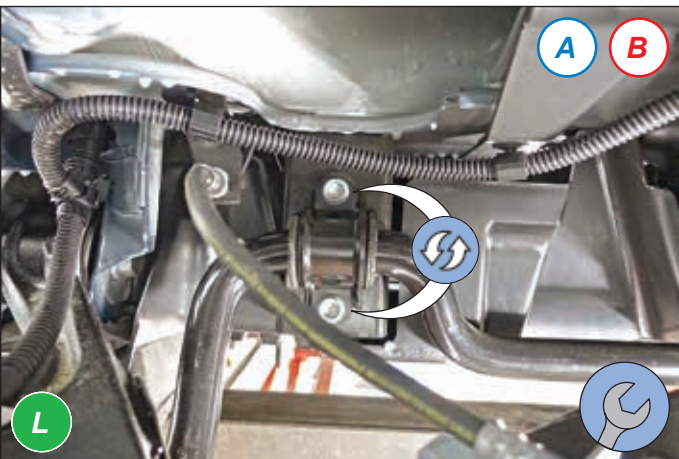
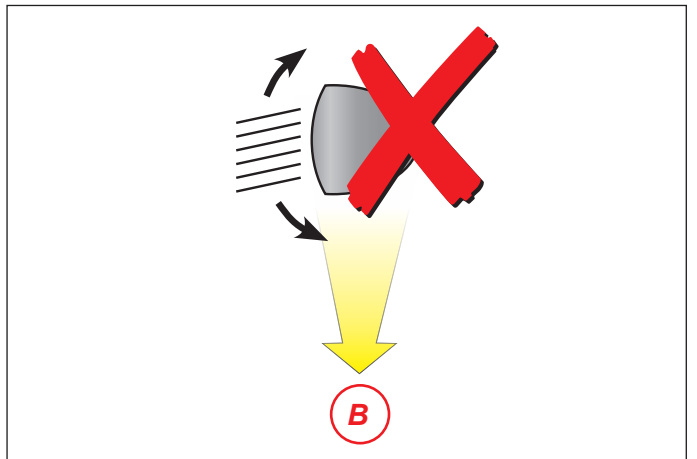
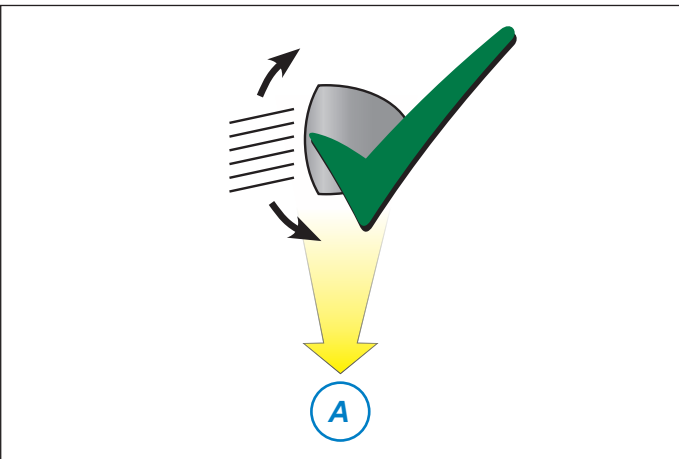
5. FITTING INSTRUCTIONS

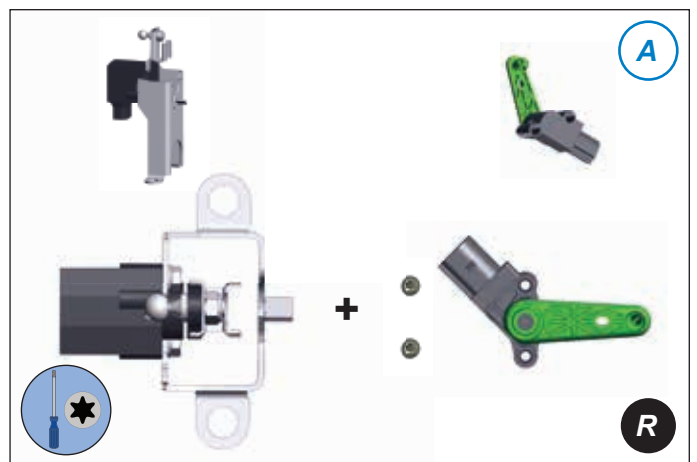
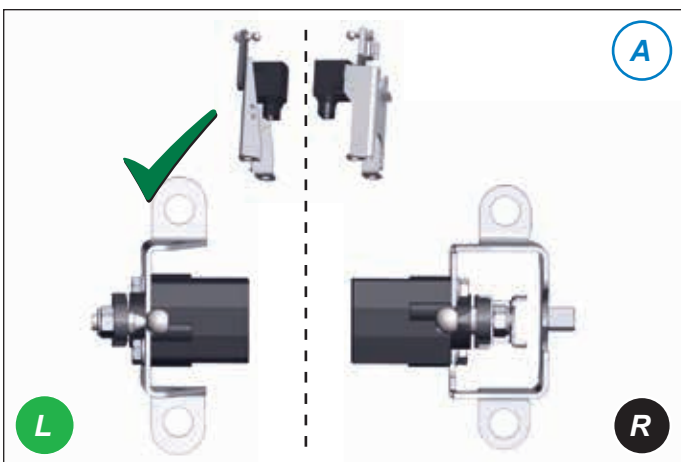
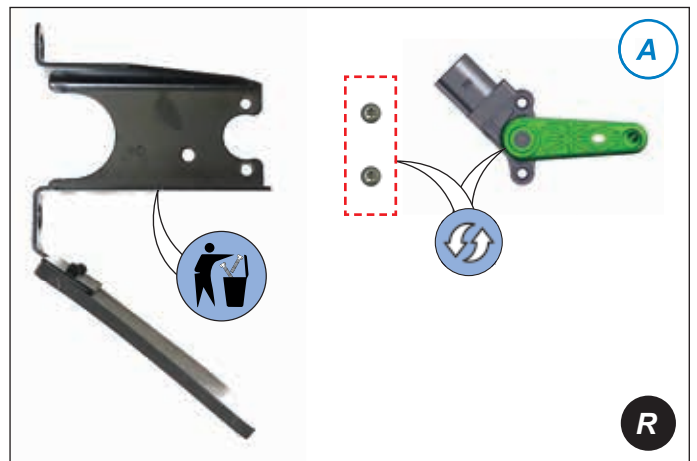
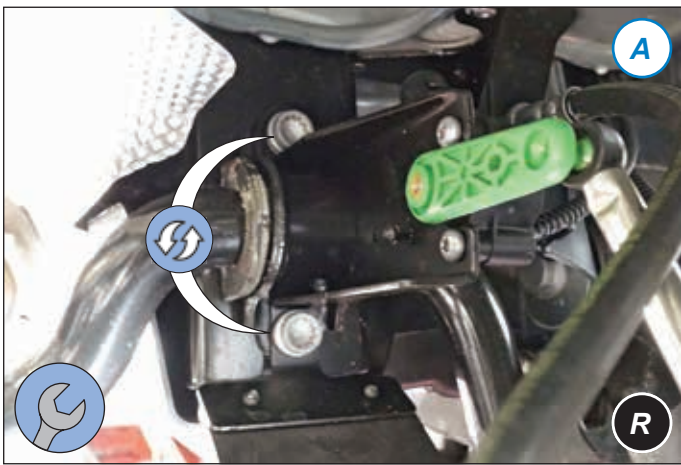
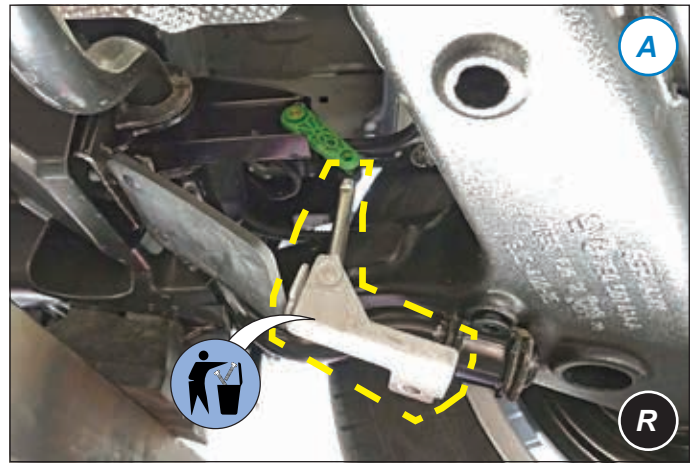
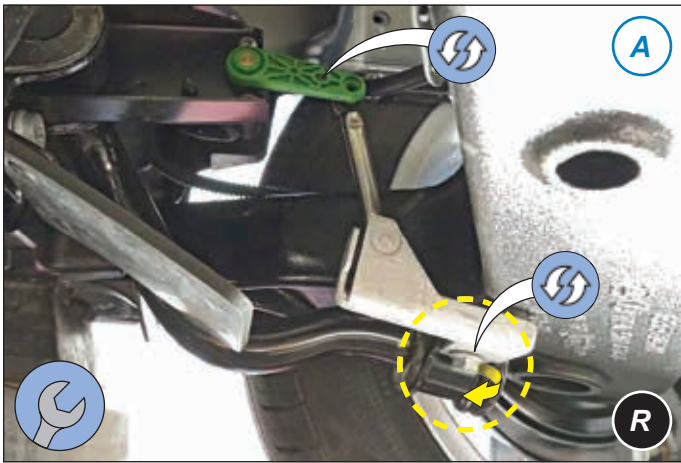


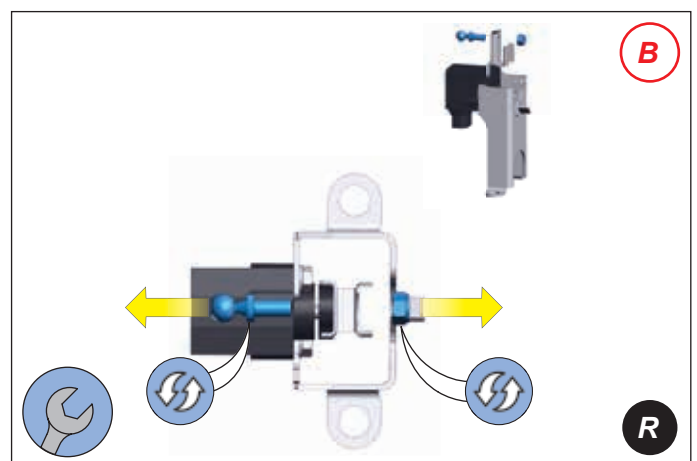
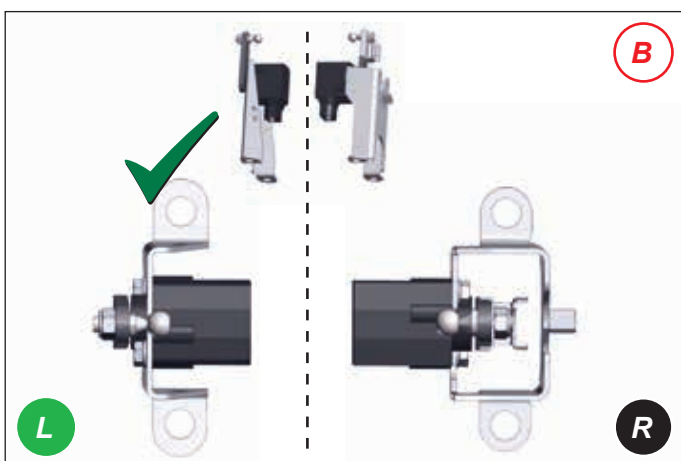
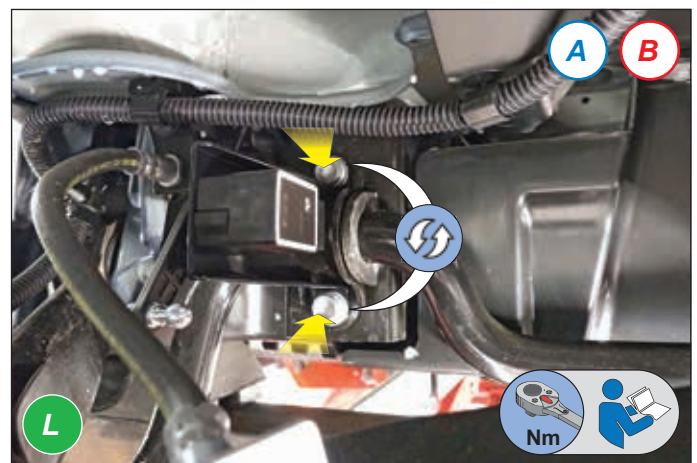
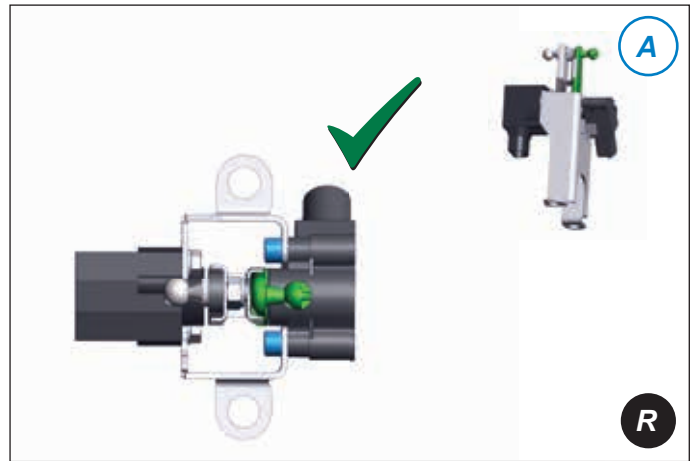
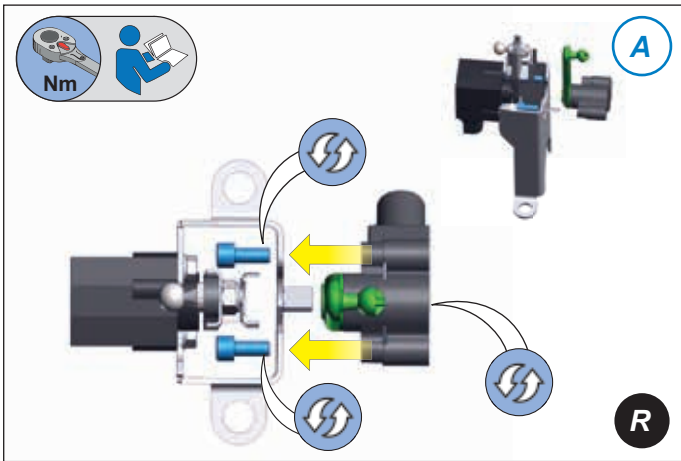


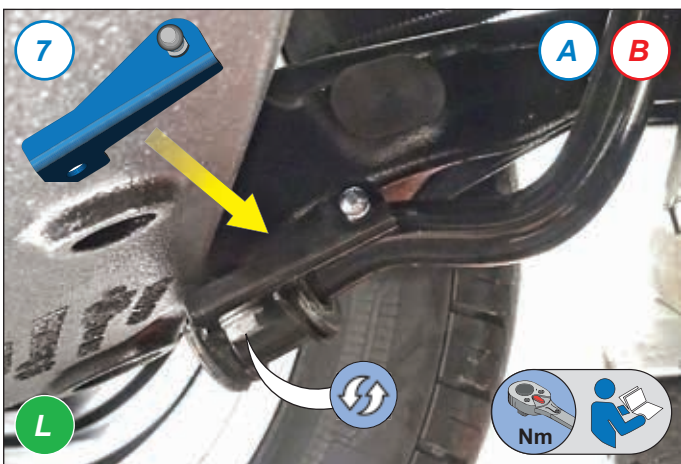
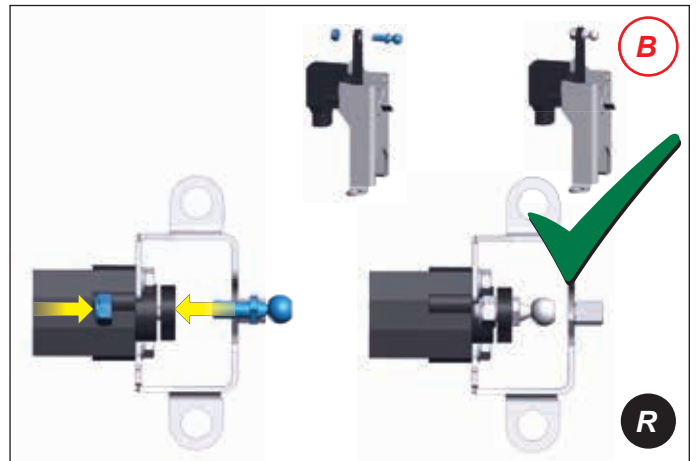
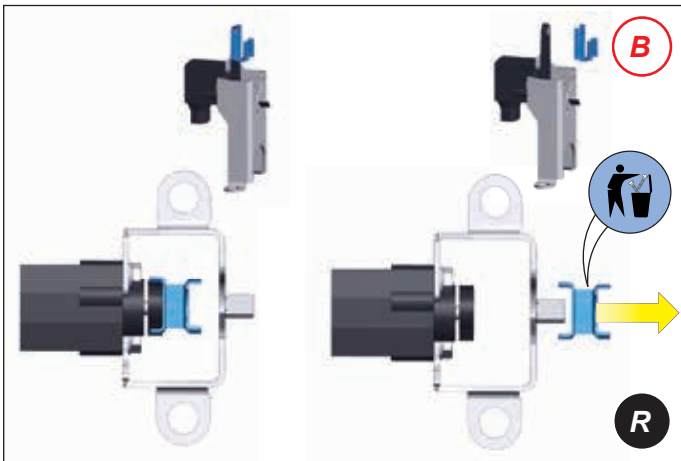
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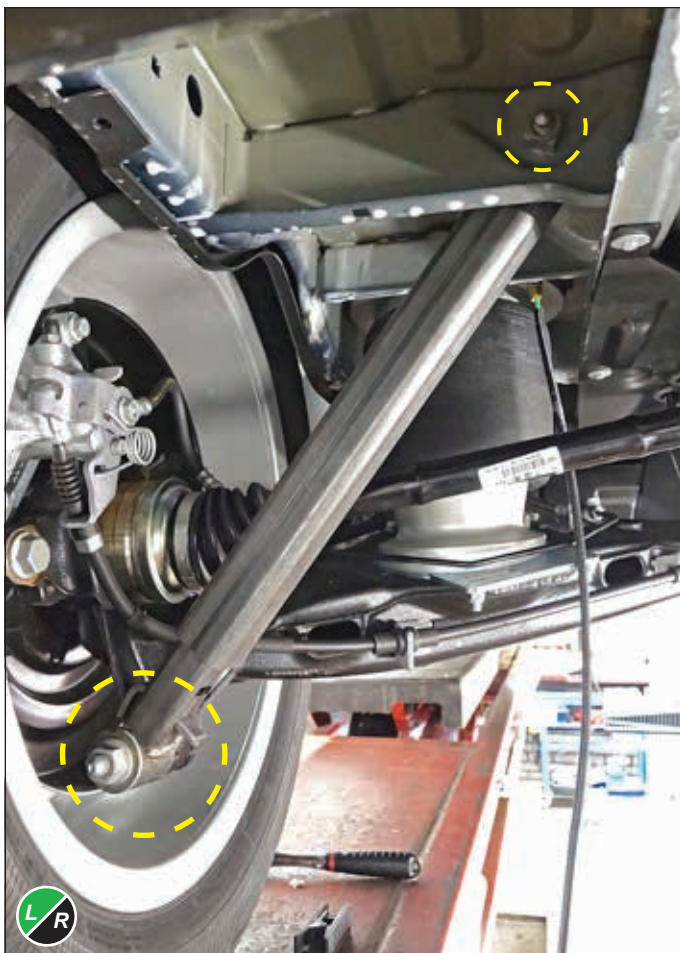
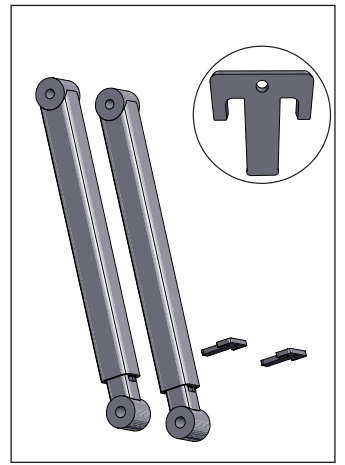
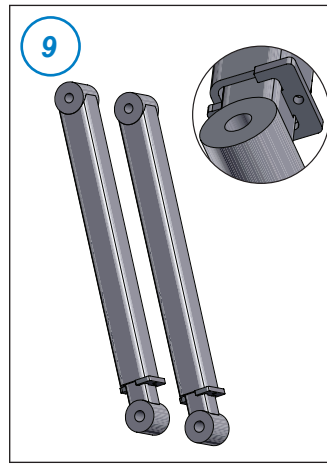
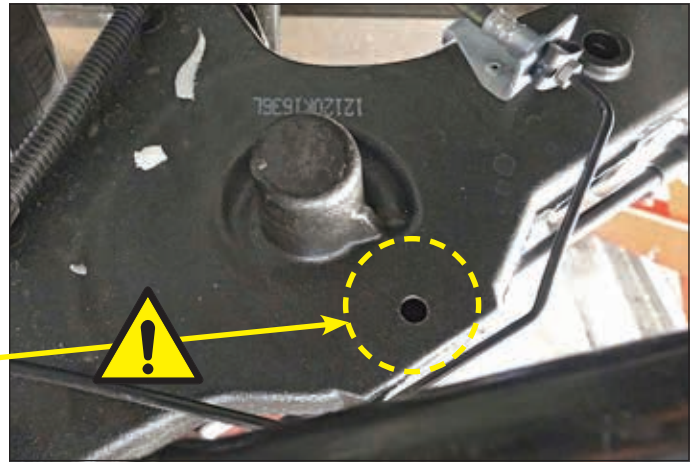
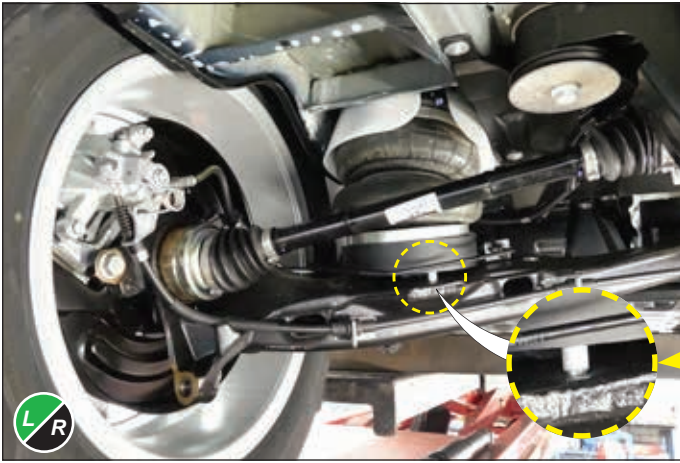
Automatic LED height control
 Automatische led-hoogteregeling
 Automatische LED-Höhenkontrolle
 Contrôle automatique de la hauteur des LED
 Controllo automatico dell'altezza del LED
 Automatisk LED-höjdkontroll
 Автоматический светодиодный контроль высоты

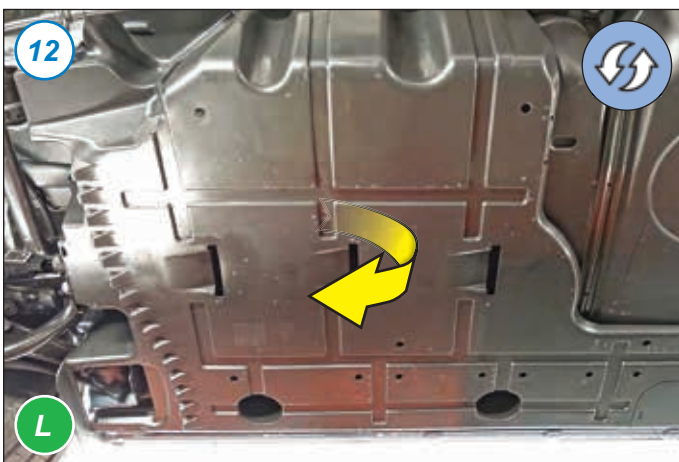
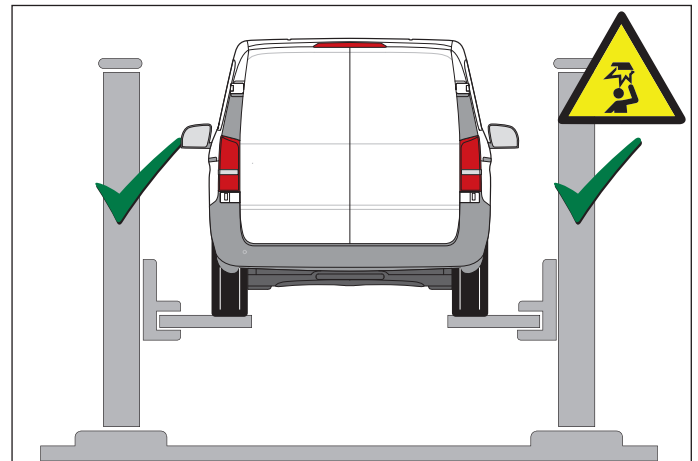
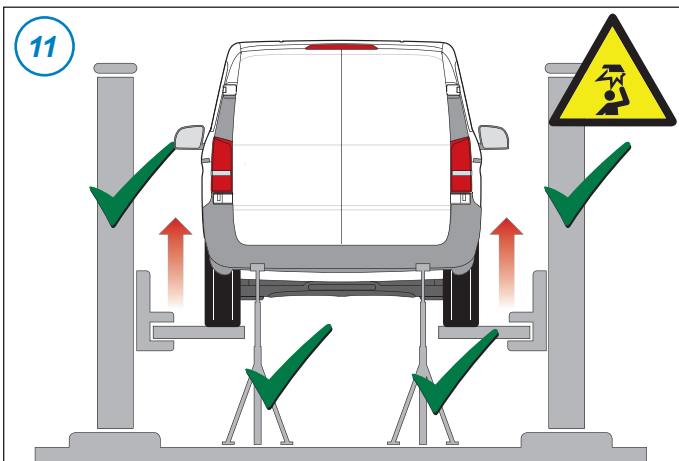
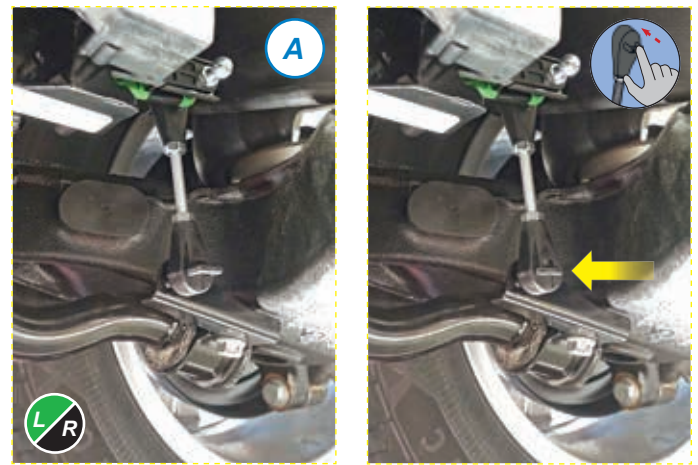


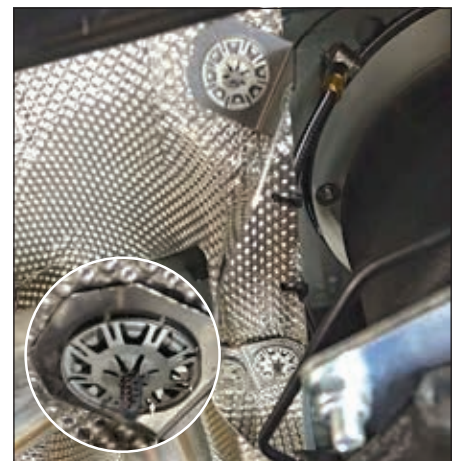
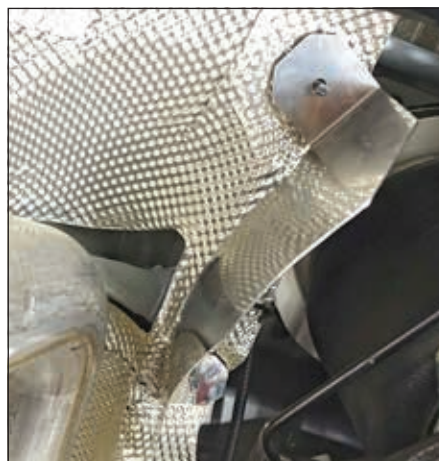
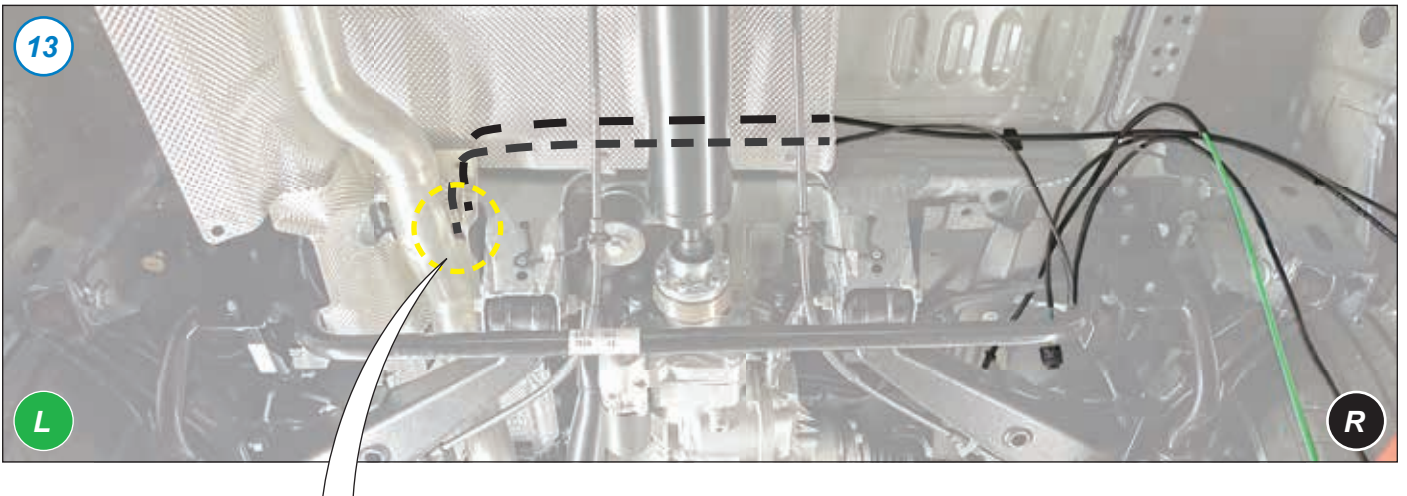
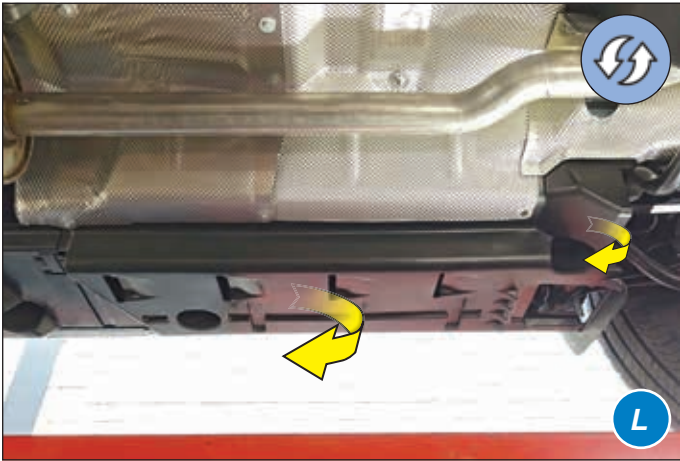


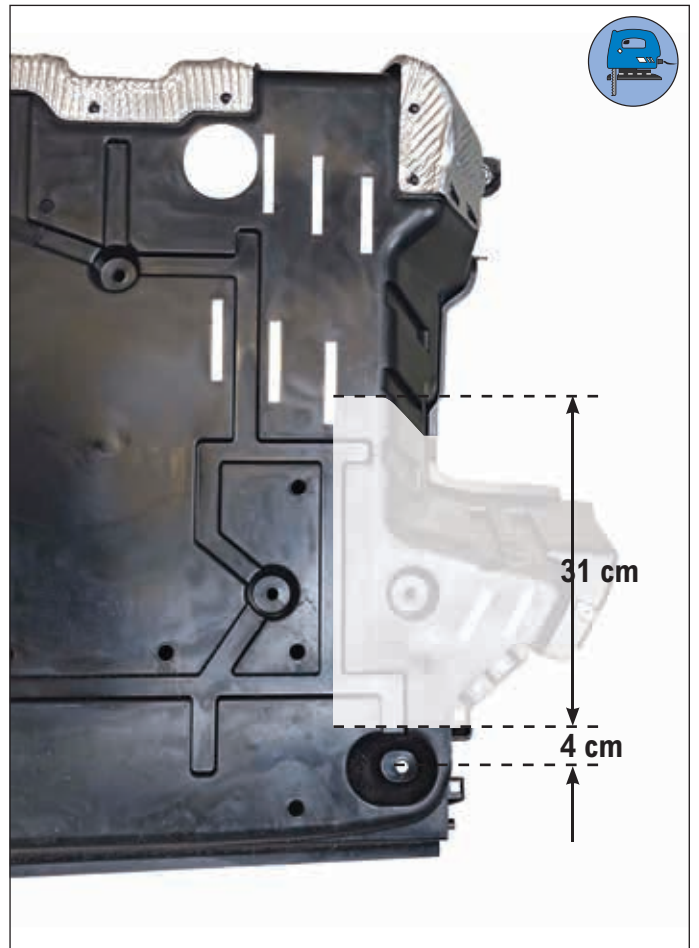
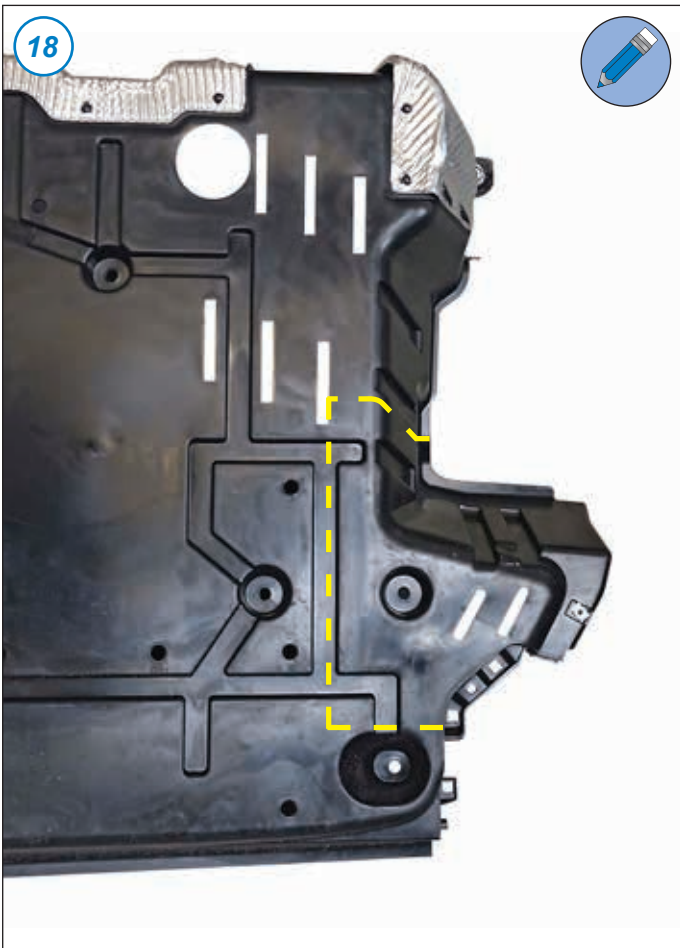
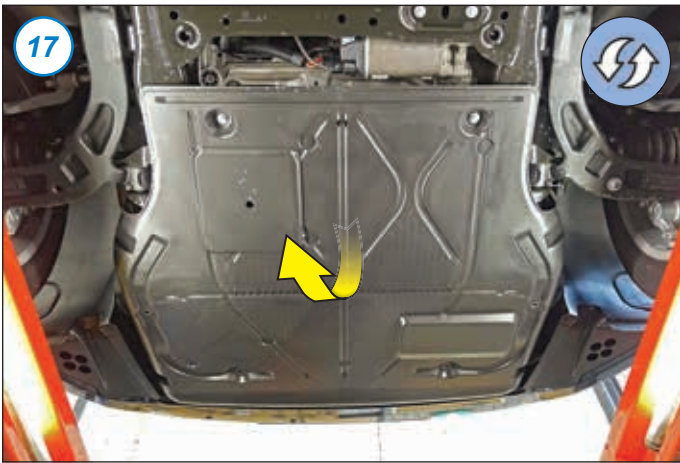


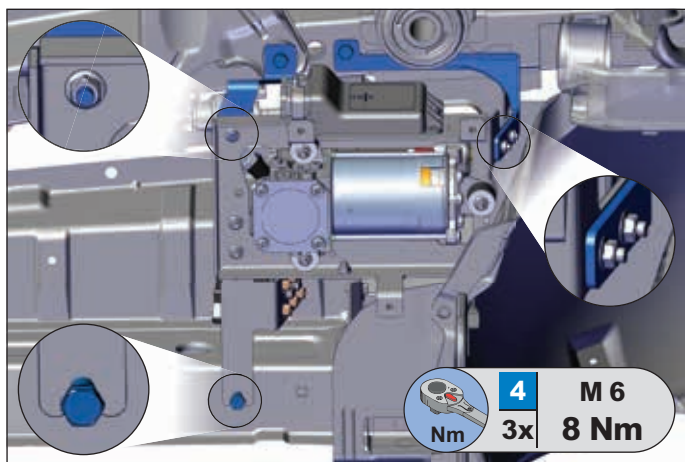
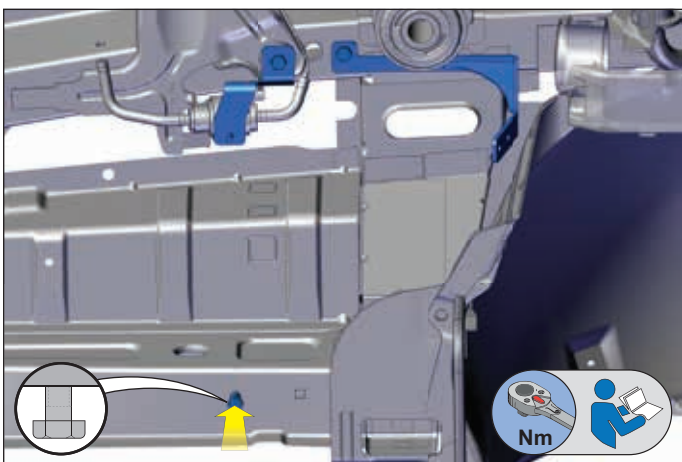
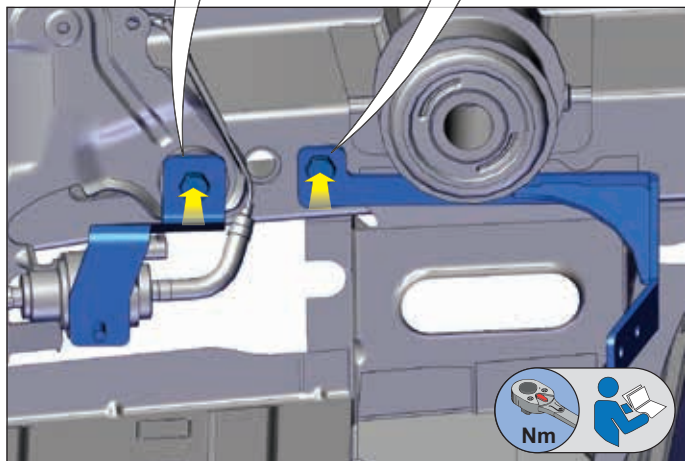
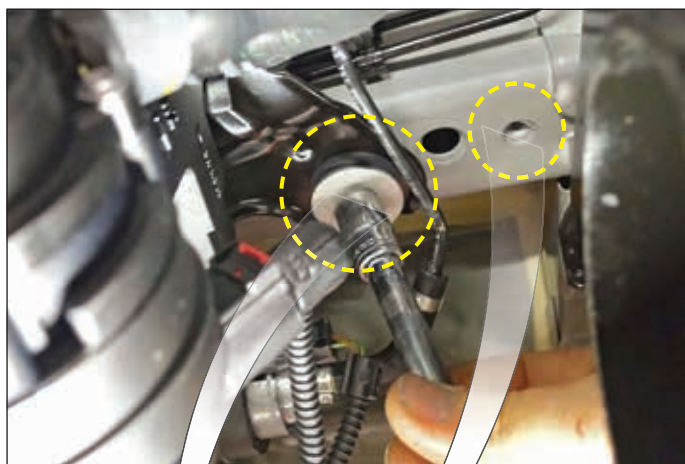
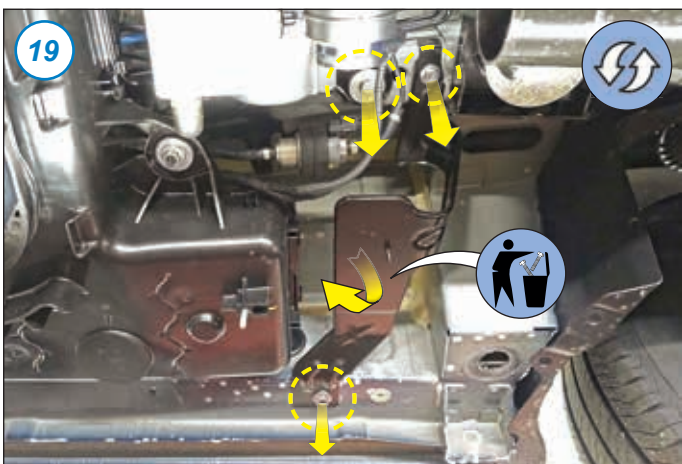
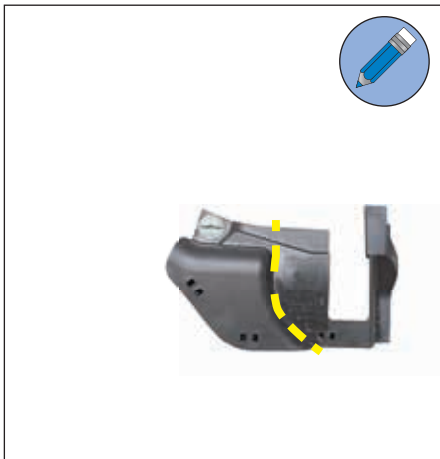


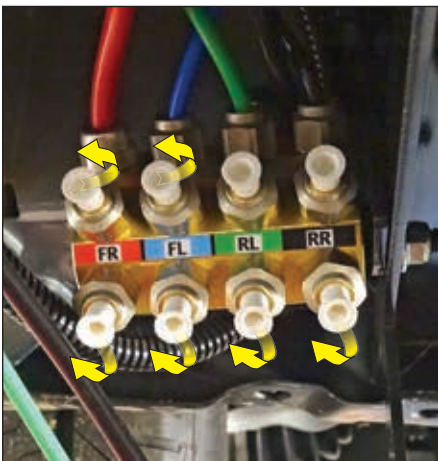
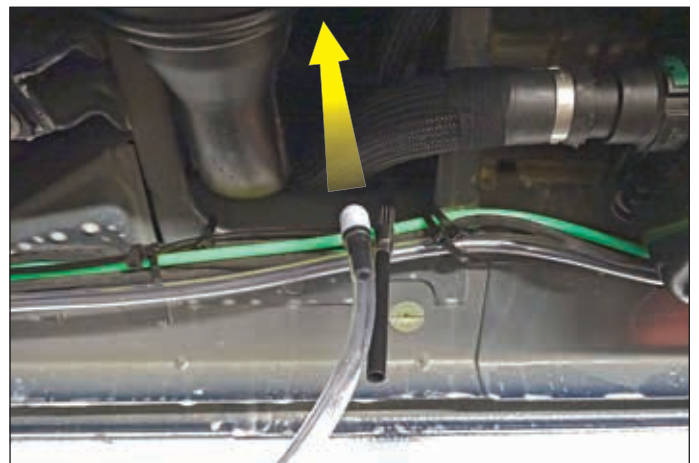
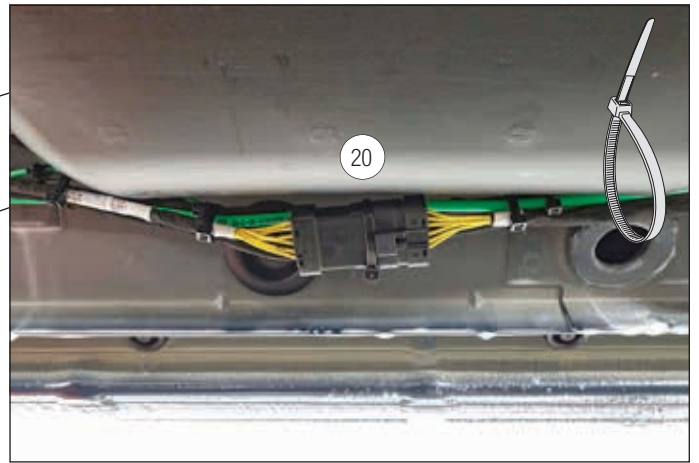


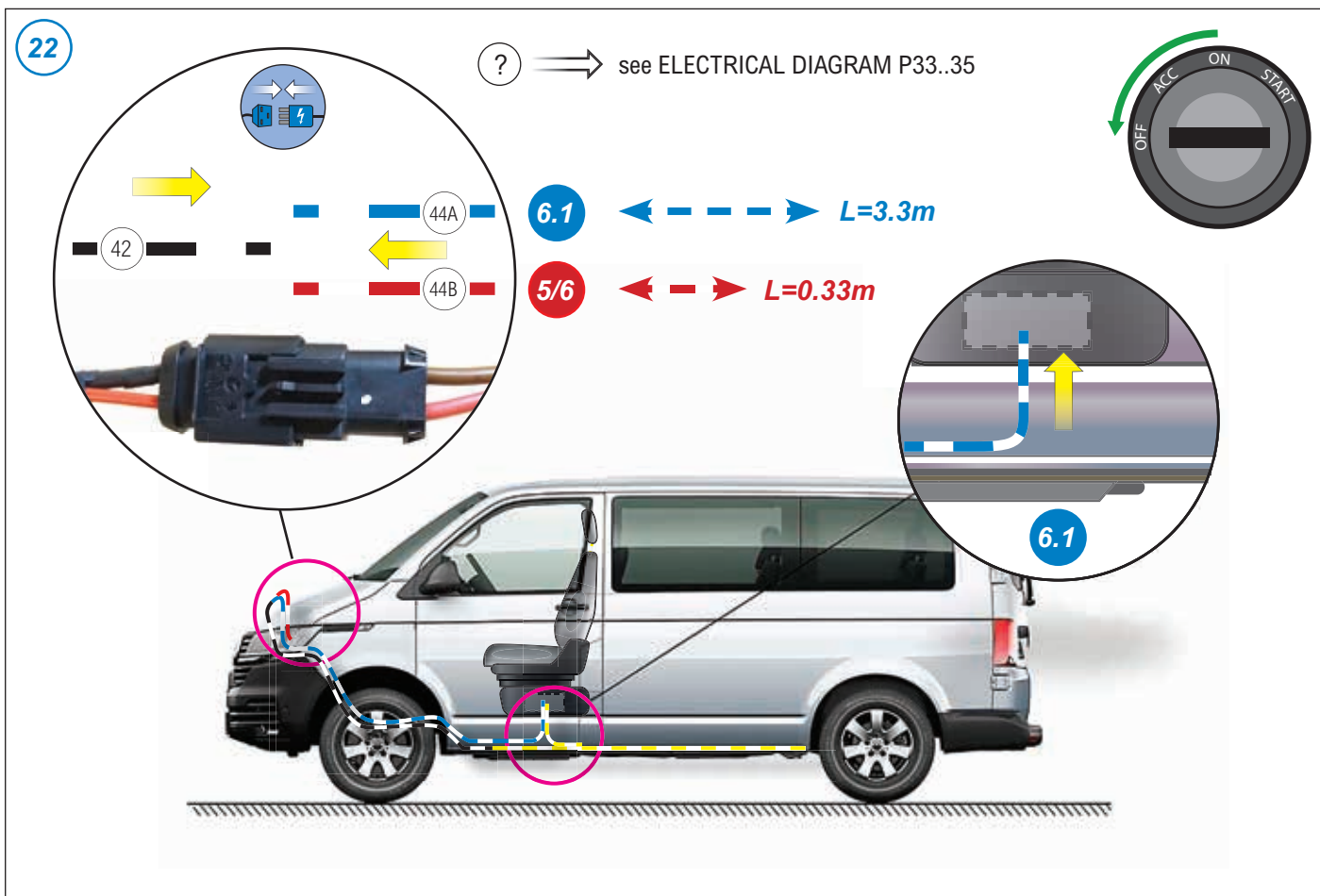




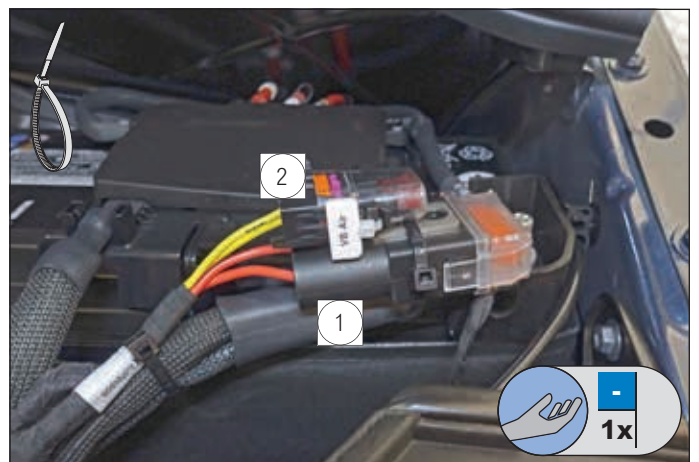
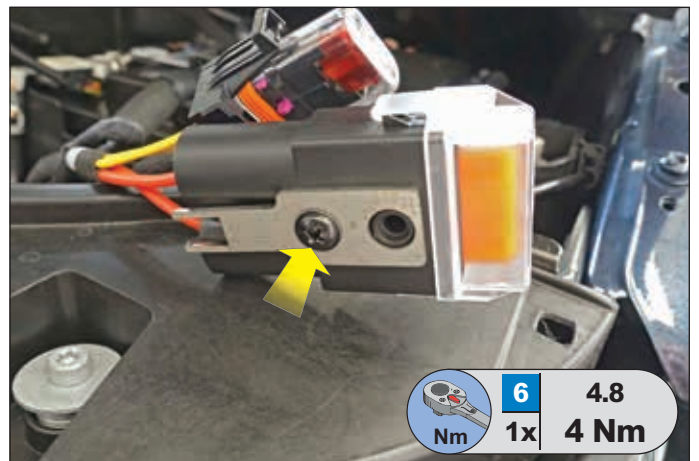
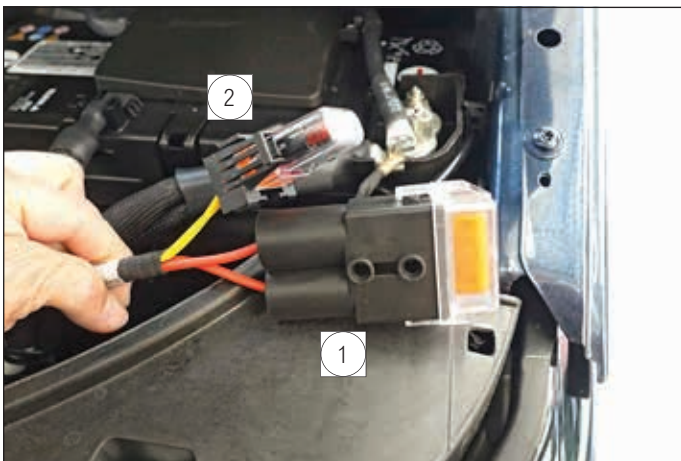
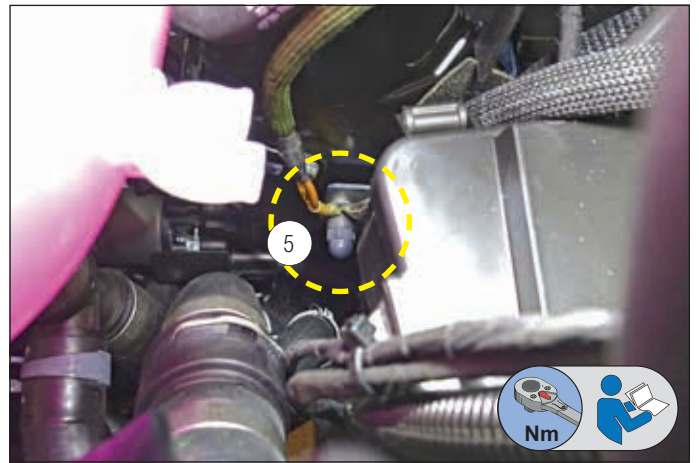
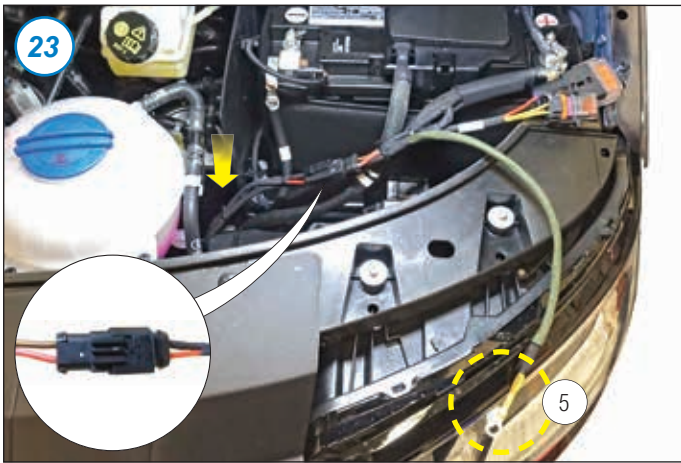
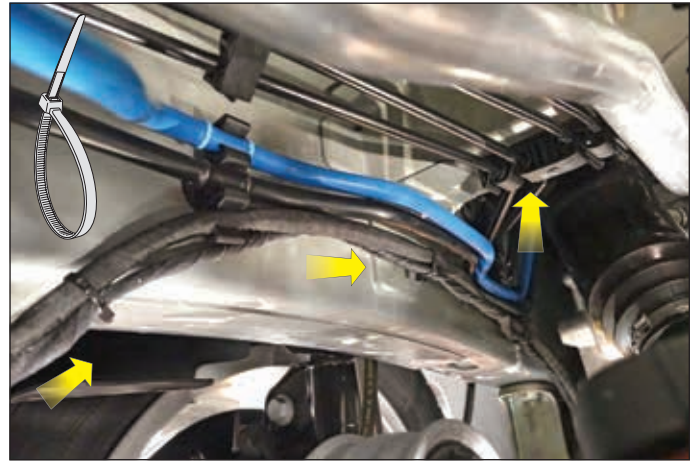
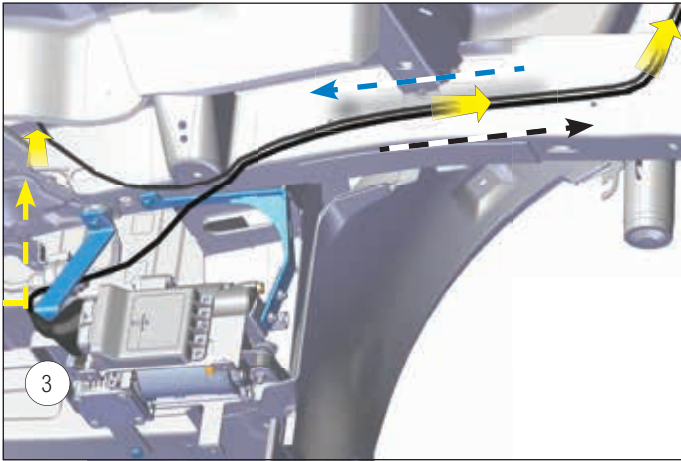


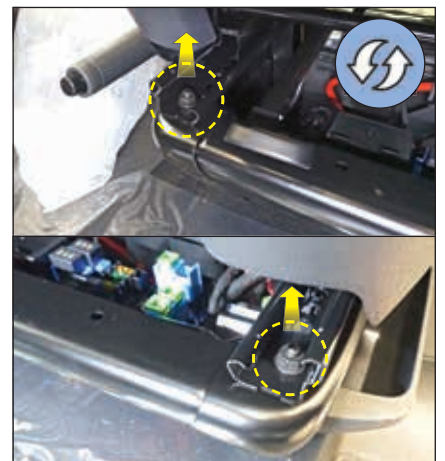
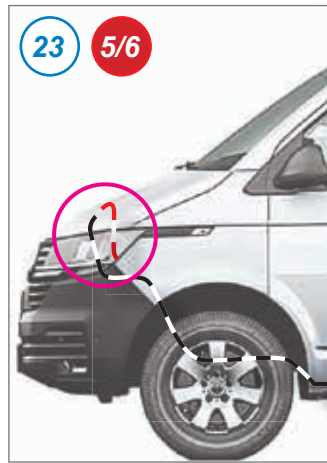
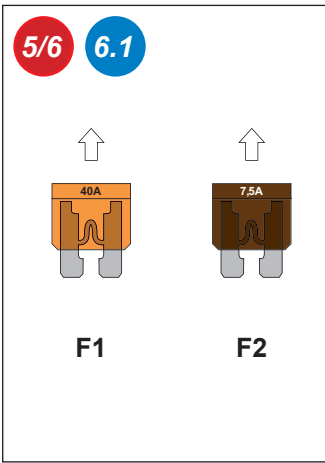
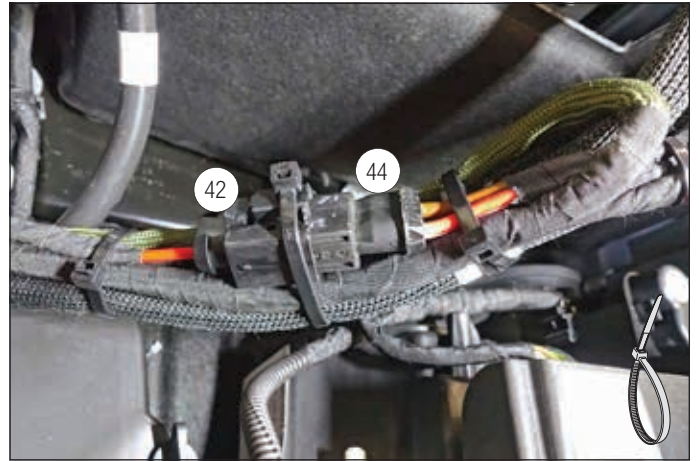
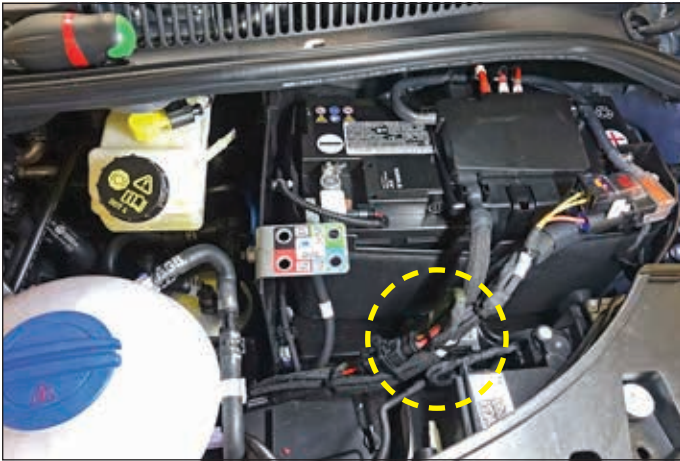




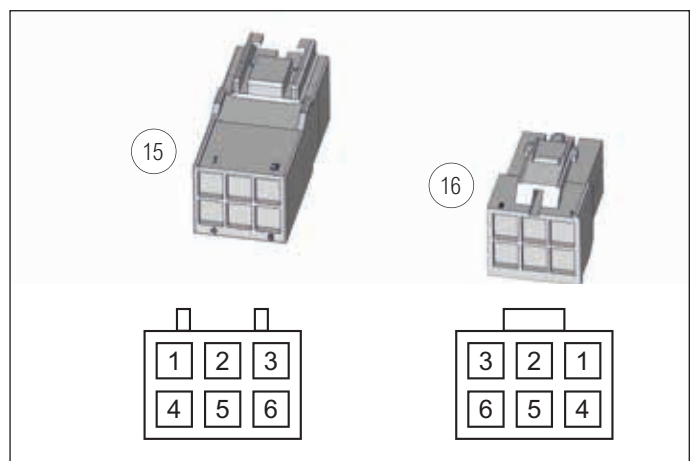
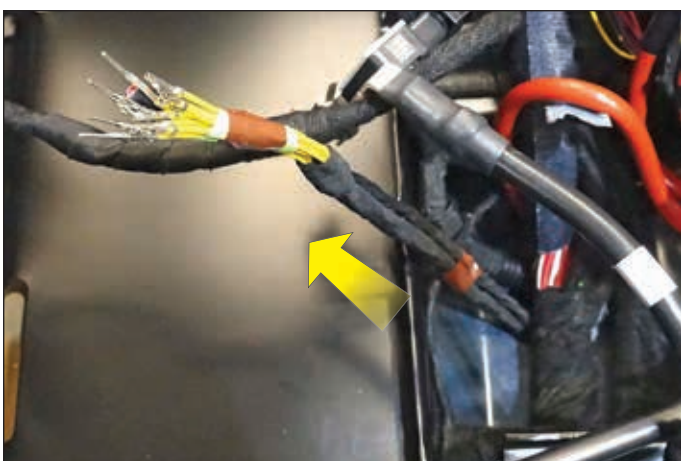
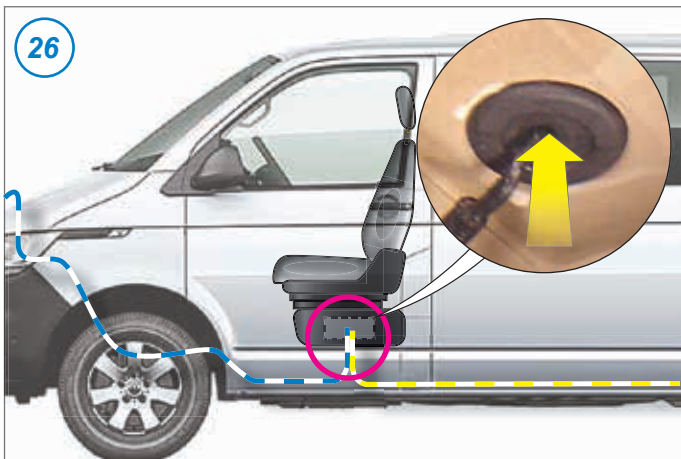
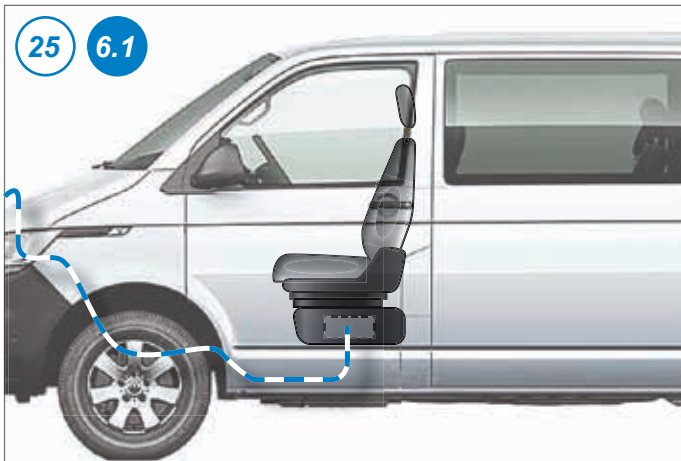


? → see ELECTRICAL DIAGRAM P33..35

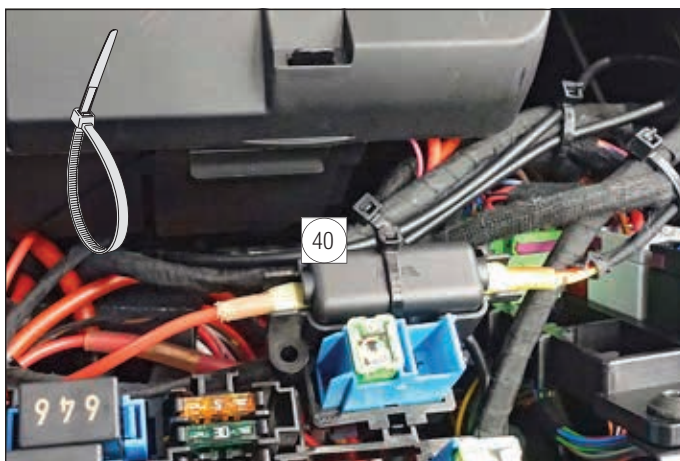
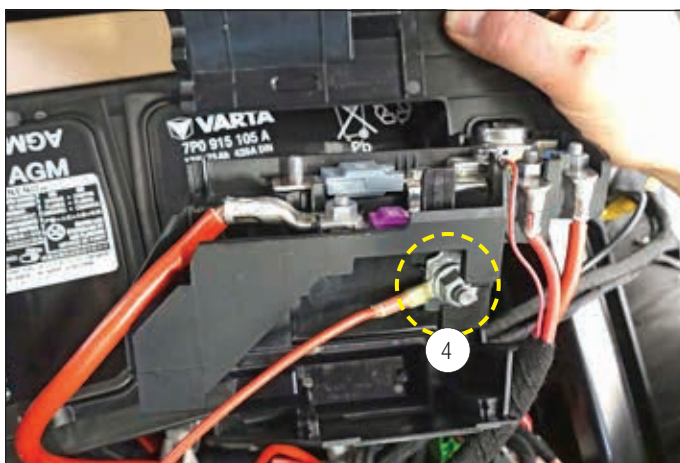
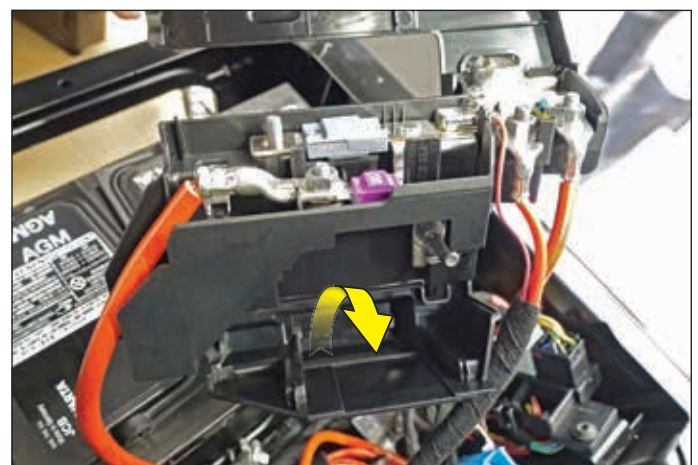
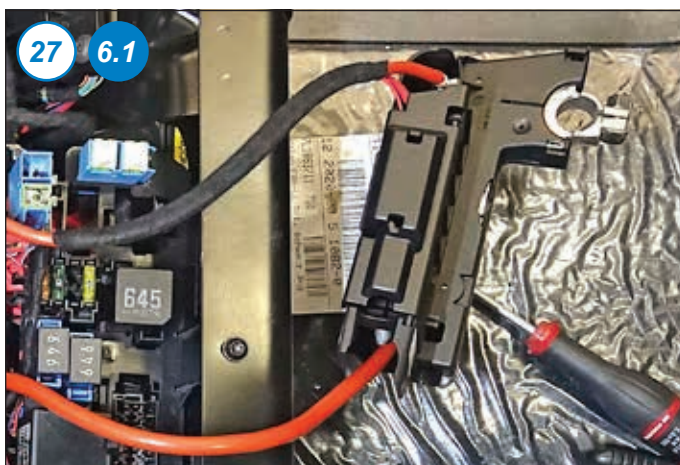
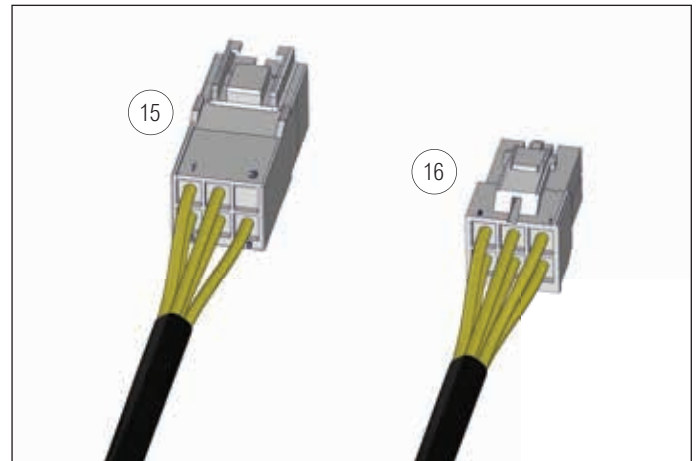
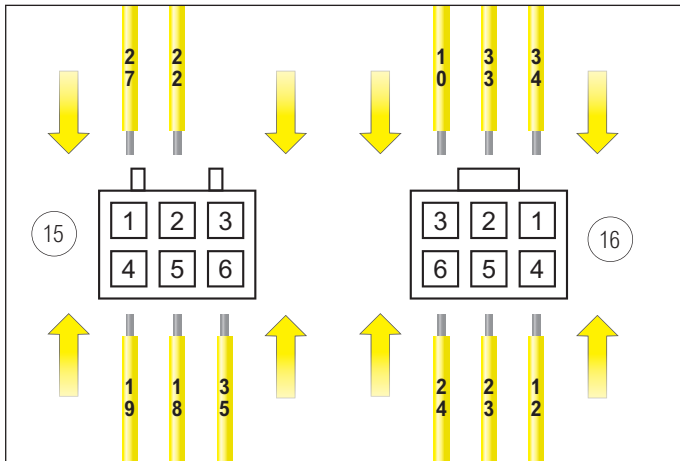




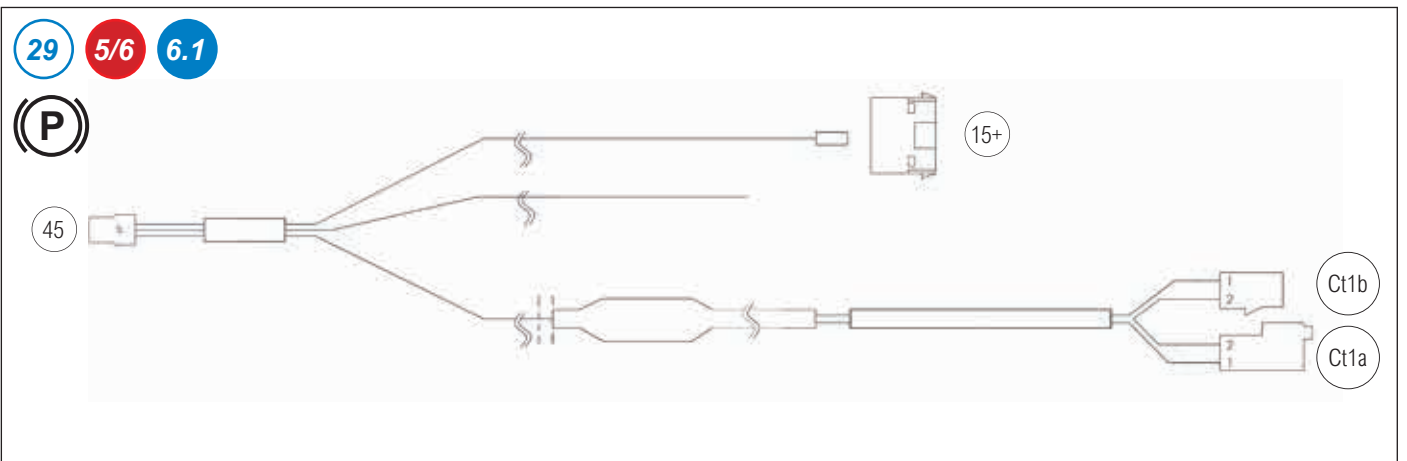
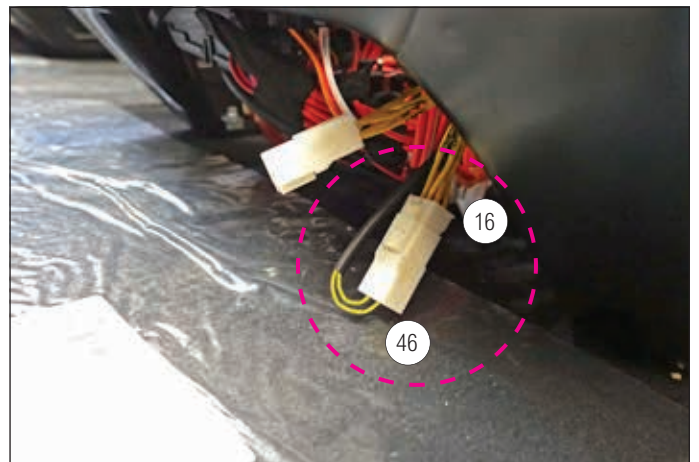
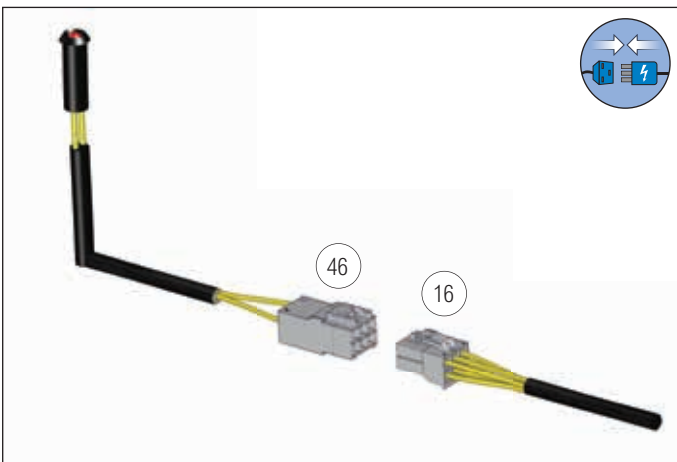
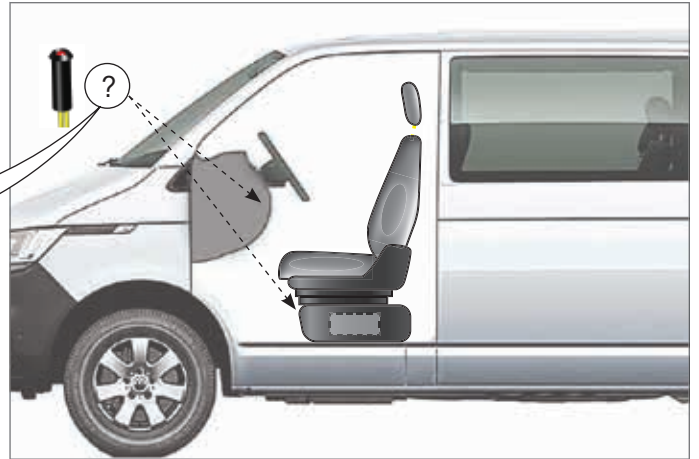
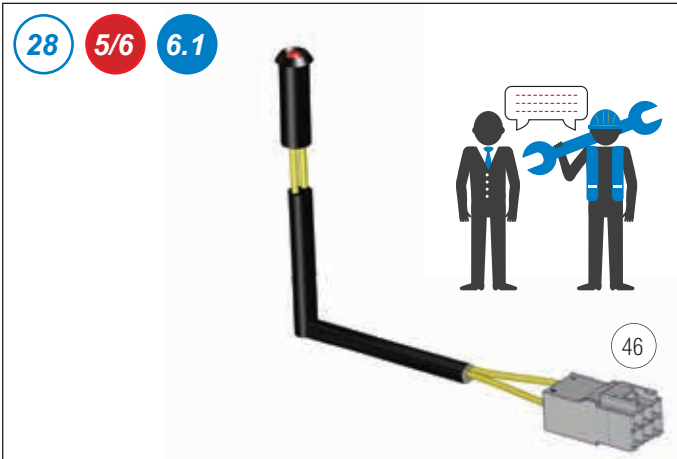
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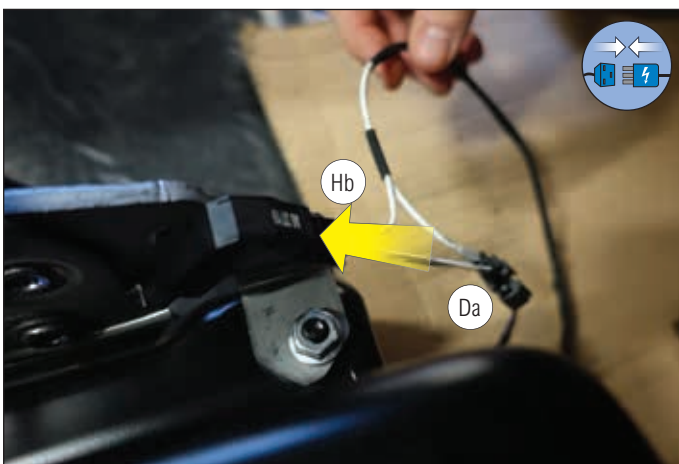
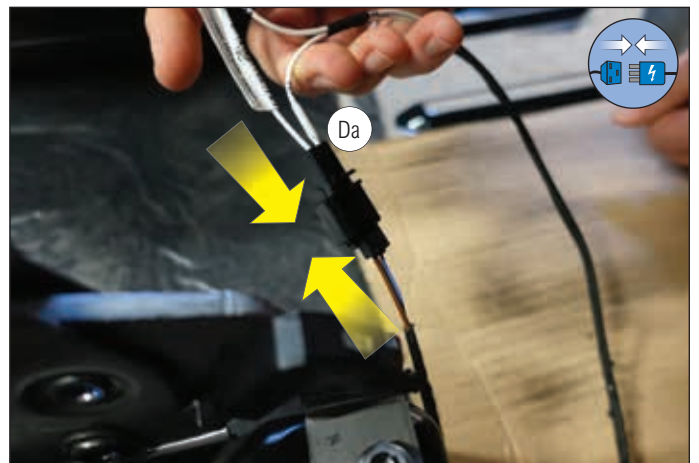


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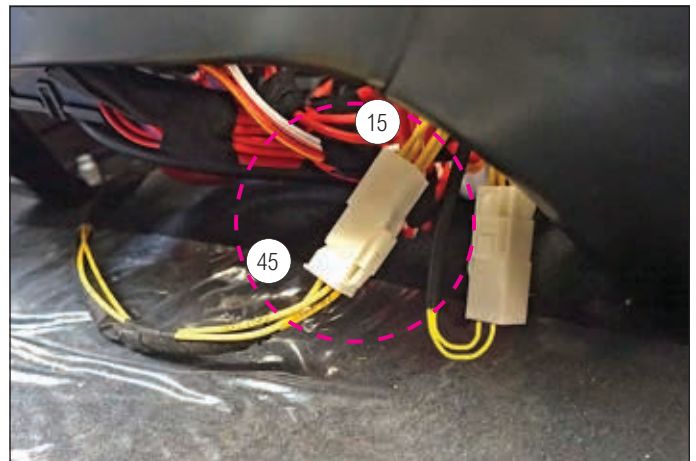
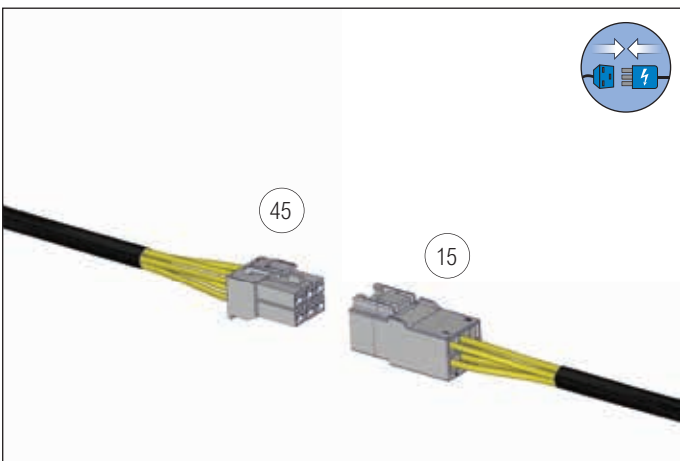
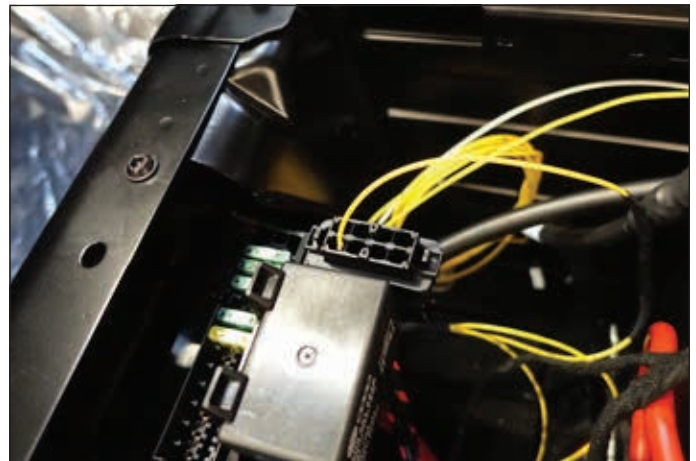
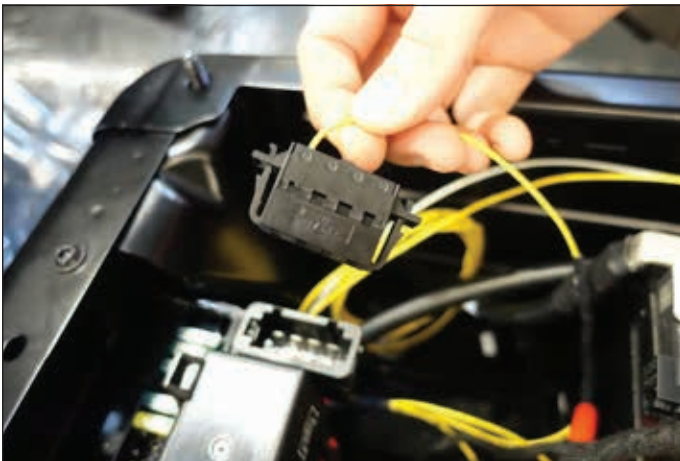
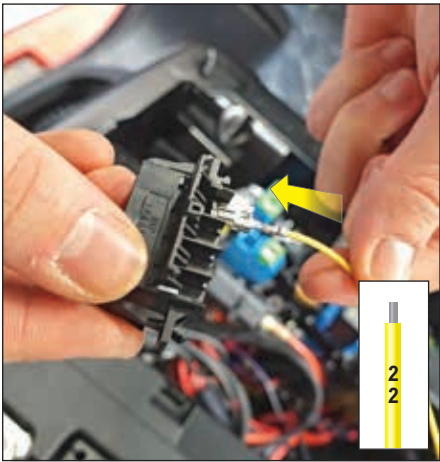
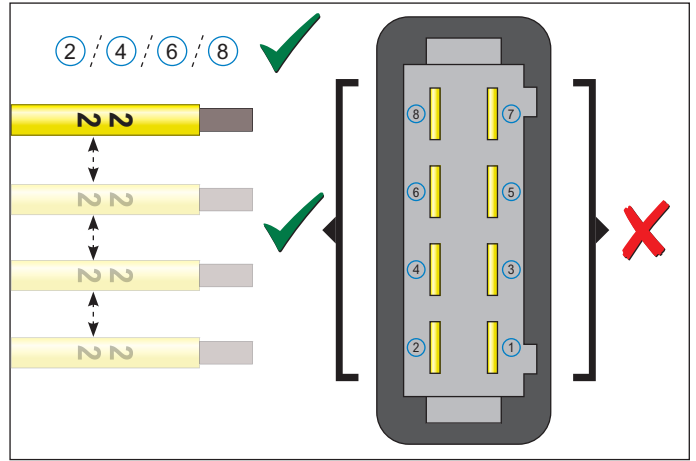


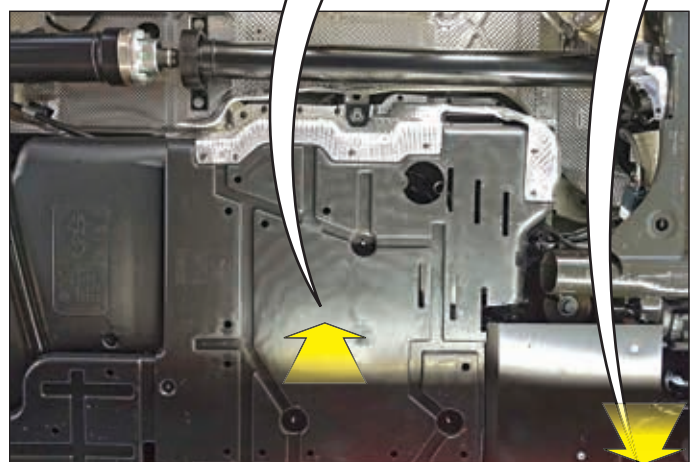
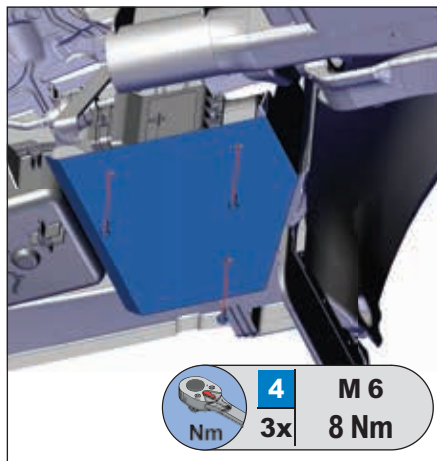
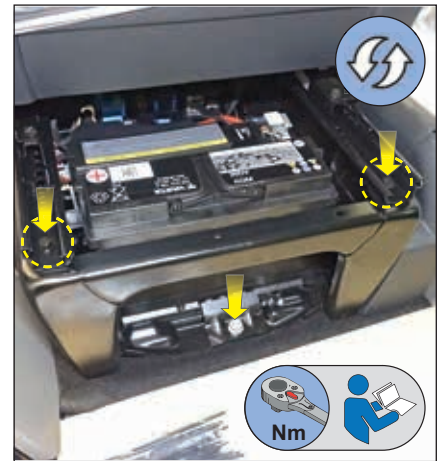
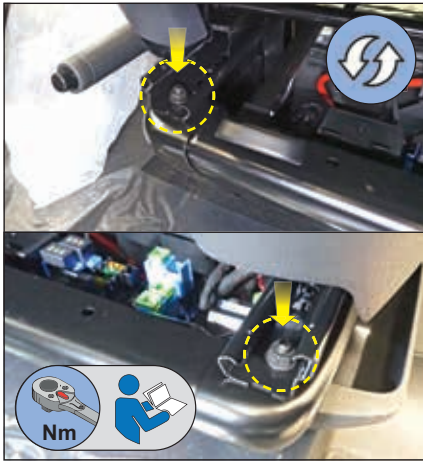
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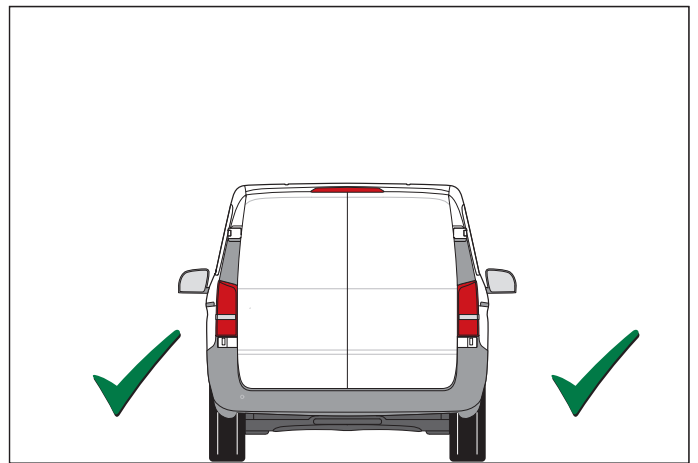
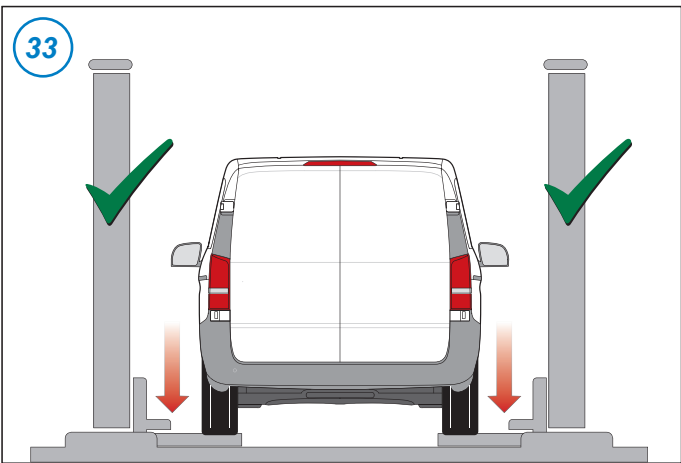
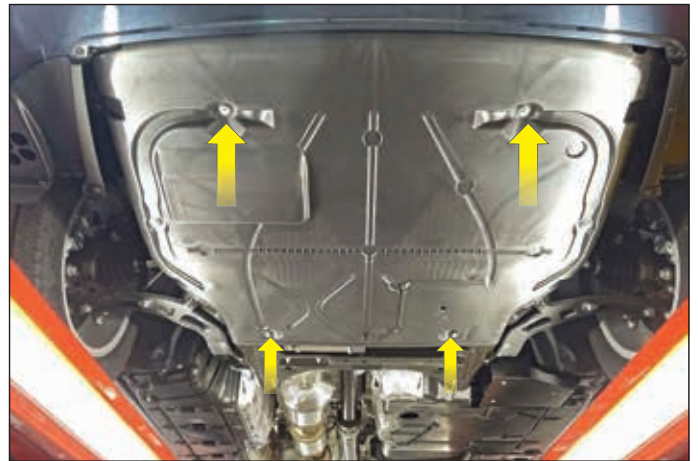
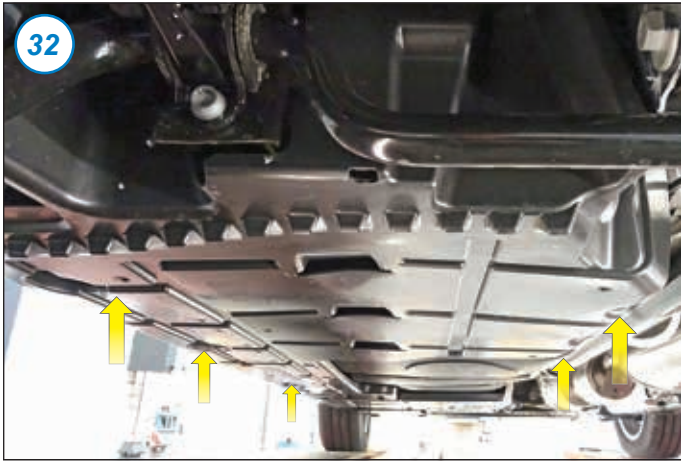




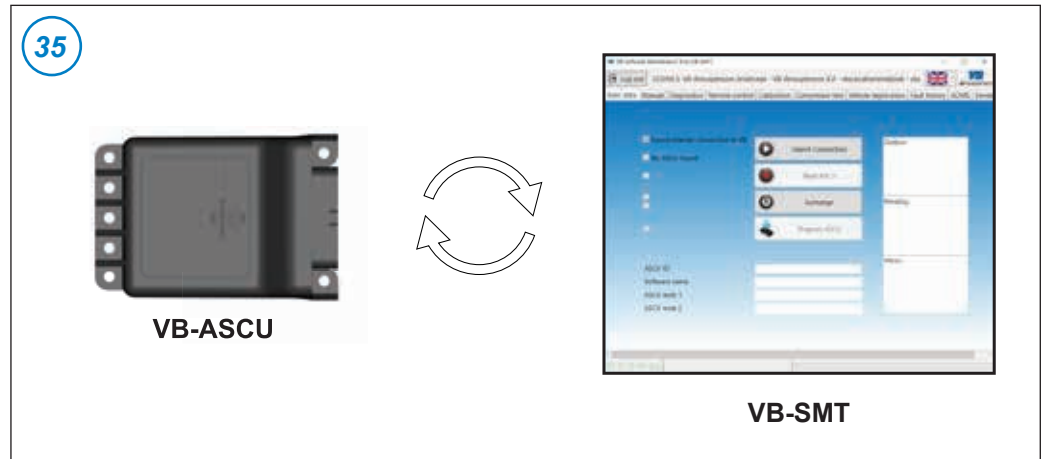
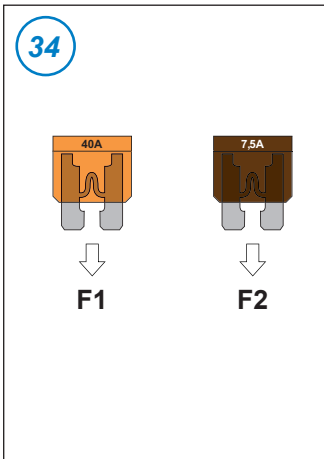
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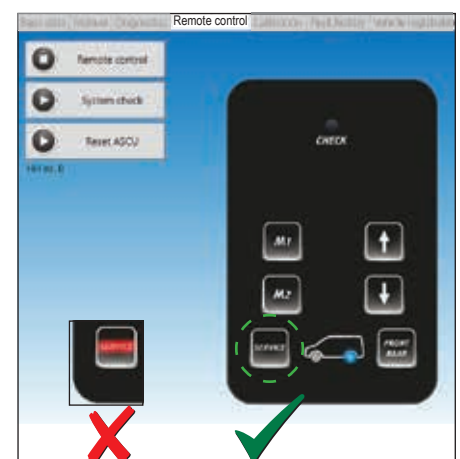
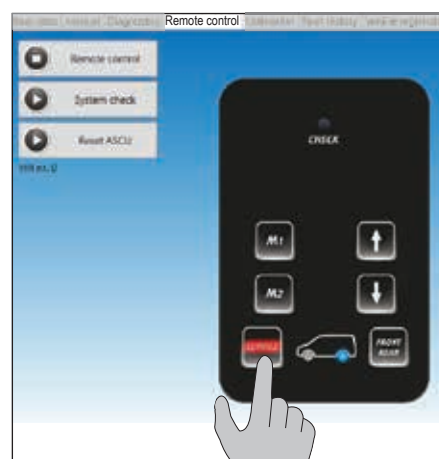
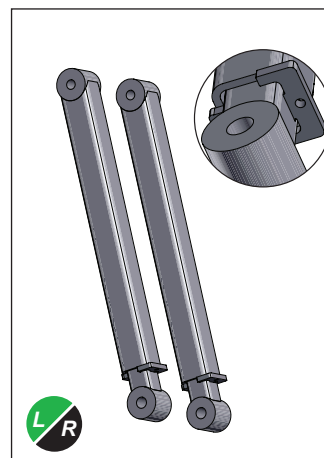


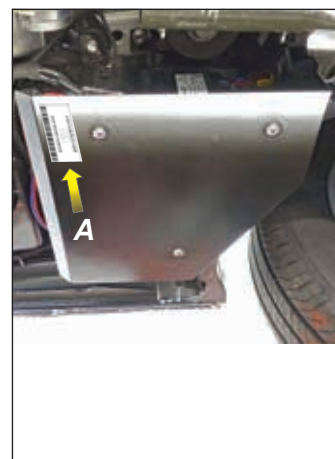
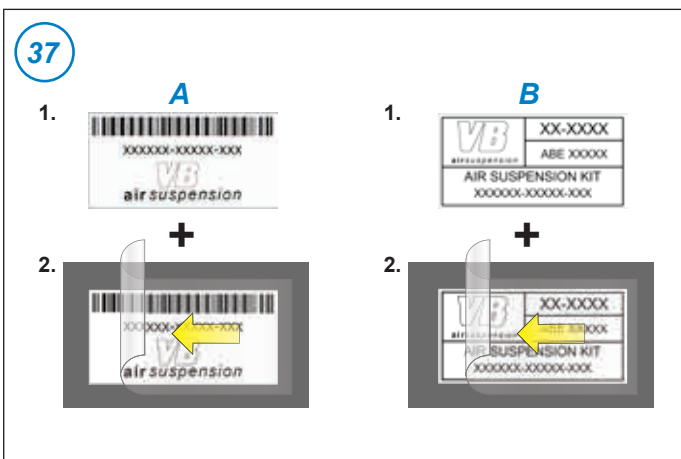
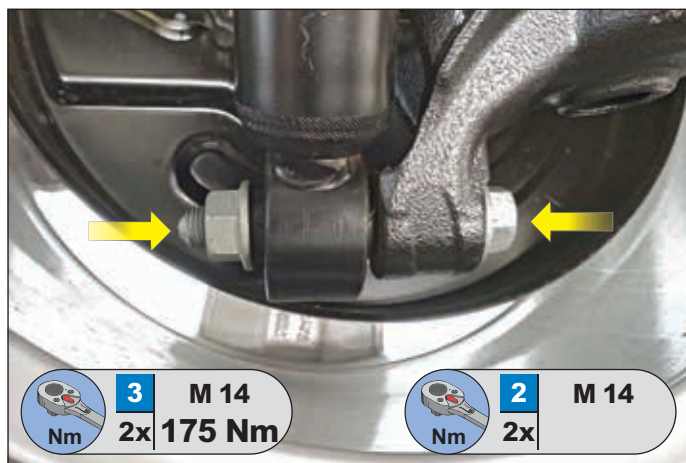
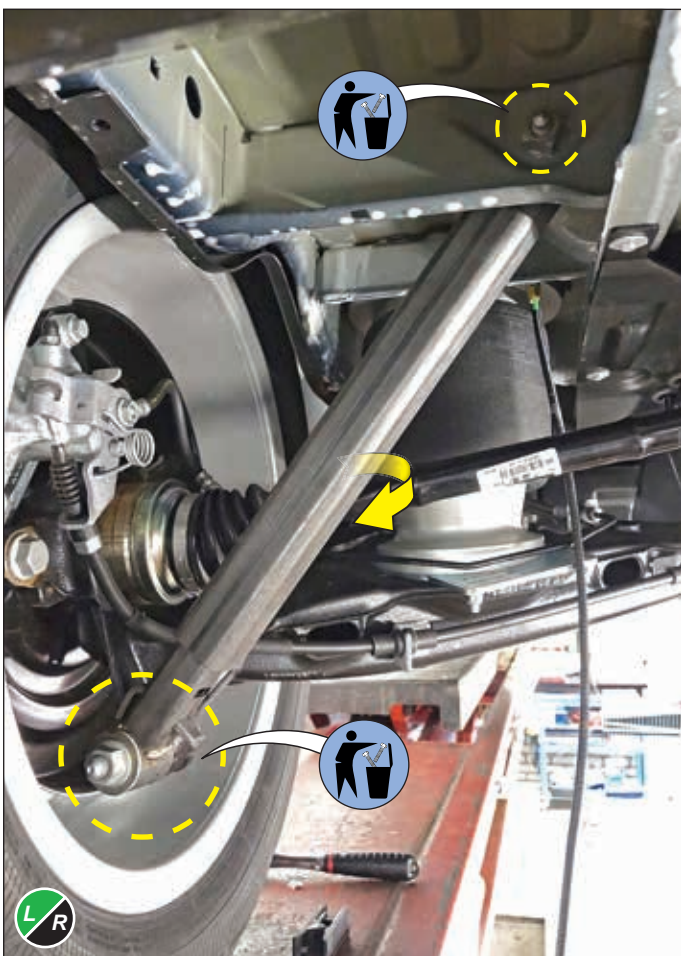
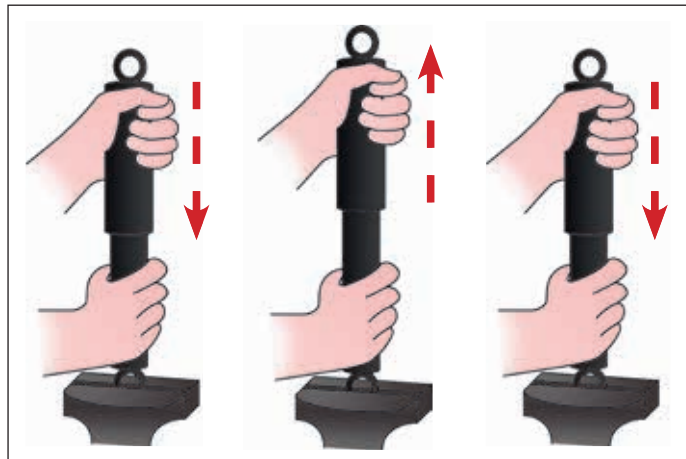
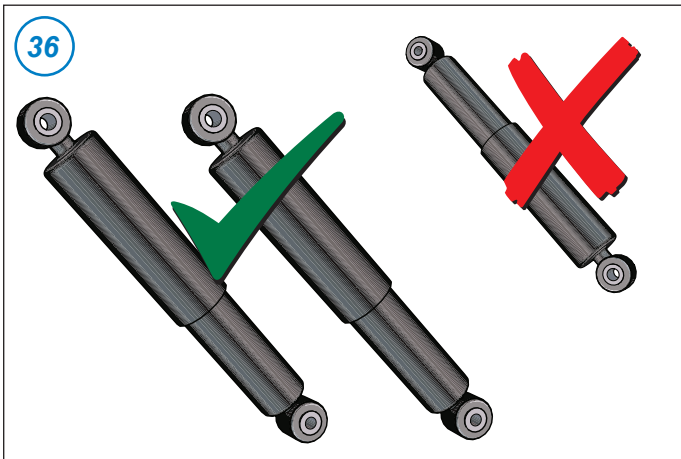
6. CALIBRATION



- 36
1. Programming the VB-ASCU
- 1. VB-ASCU programmeren
 - 1. VB-ASCU programmieren
 - 1. Programmer VB-ASCU
- SMT:**
- 1. Programmazione del VB-ASCU
 - 1. Programmera VB-ASCU
 - 1. Программирование блока управления системой пневматической подвески VB-ASCU

- 37
2. Calibration vehicle
- 2. Kalibratie voertuig
 - 2. Kalibrieren Fahrzeug
 - 2. Calibrage véhicule
- SMT:**
- 2. Calibrazione veicolo
 - 2. Kalibrering fordon
 - 2. Калибровка транспортное средство





7. CHECKLIST

Final checks

- 1.1 The safety instructions and the fitting instructions read and followed.
- 1.2 Ride height correctly calibrated.
- 1.3 Front axle / rear axle - aligned.
- 1.4 Height sensors correctly fitted.
- 1.5 Shock absorbers vented.
- 1.6 Screw connections secured with the correct torque and permanently marked.
- 1.7 Air tubes, wires and connectors properly secured.
- 1.8 All removed parts that are remounted checked for correct assembly and operation.
- 1.9 System checked for air tightness.
- 1.10 Clearance around air springs checked.
- 1.11 Identification stickers including protective film stuck to the vehicle.
- 1.12 Headlamp adjustment checked.
- 1.13 If prescribed, have ADAS (Advanced Driver Assistance Systems) recalibrated.
- 1.14 VB-ID card inside cover of user manual.
- 1.15 Documentation present in vehicle:
 - user manual
 - TUV / ABE documentation
 - Original vehicle documentation
- 1.16 Battery voltage (<12,4 Volt = load).
- 1.17 Tire pressure correct.

System functions

- 2.1 Test drive carried out.

SYSTEM OK

Naar waarheid ingevuld:

Datum: - -

VIN:

Dealer: -----

VB-Id-nr: - -

Setnummer(s):

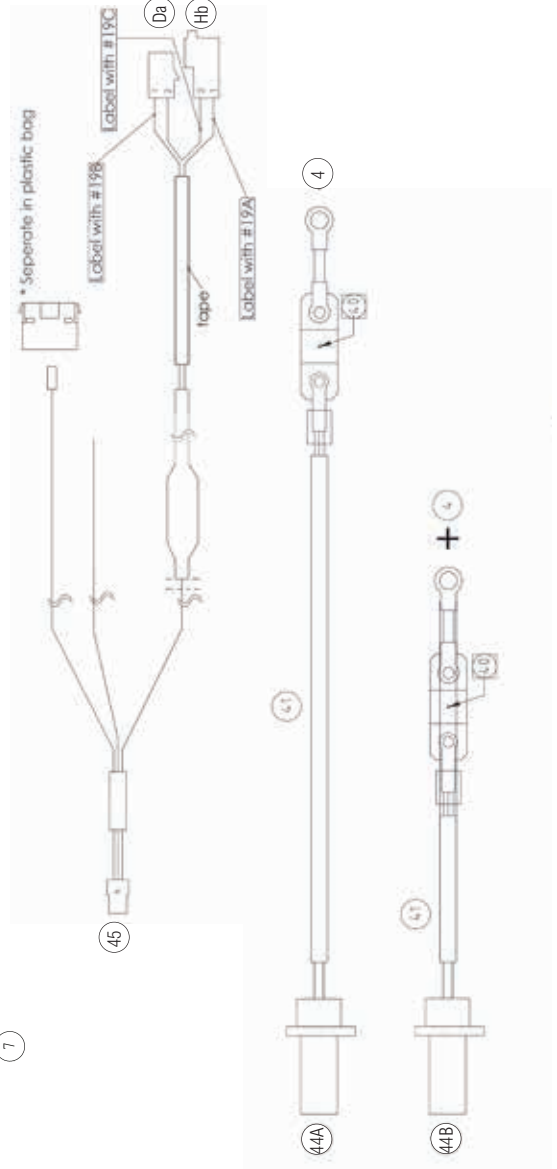
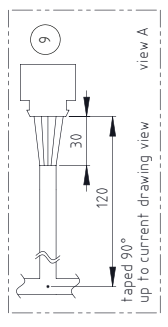
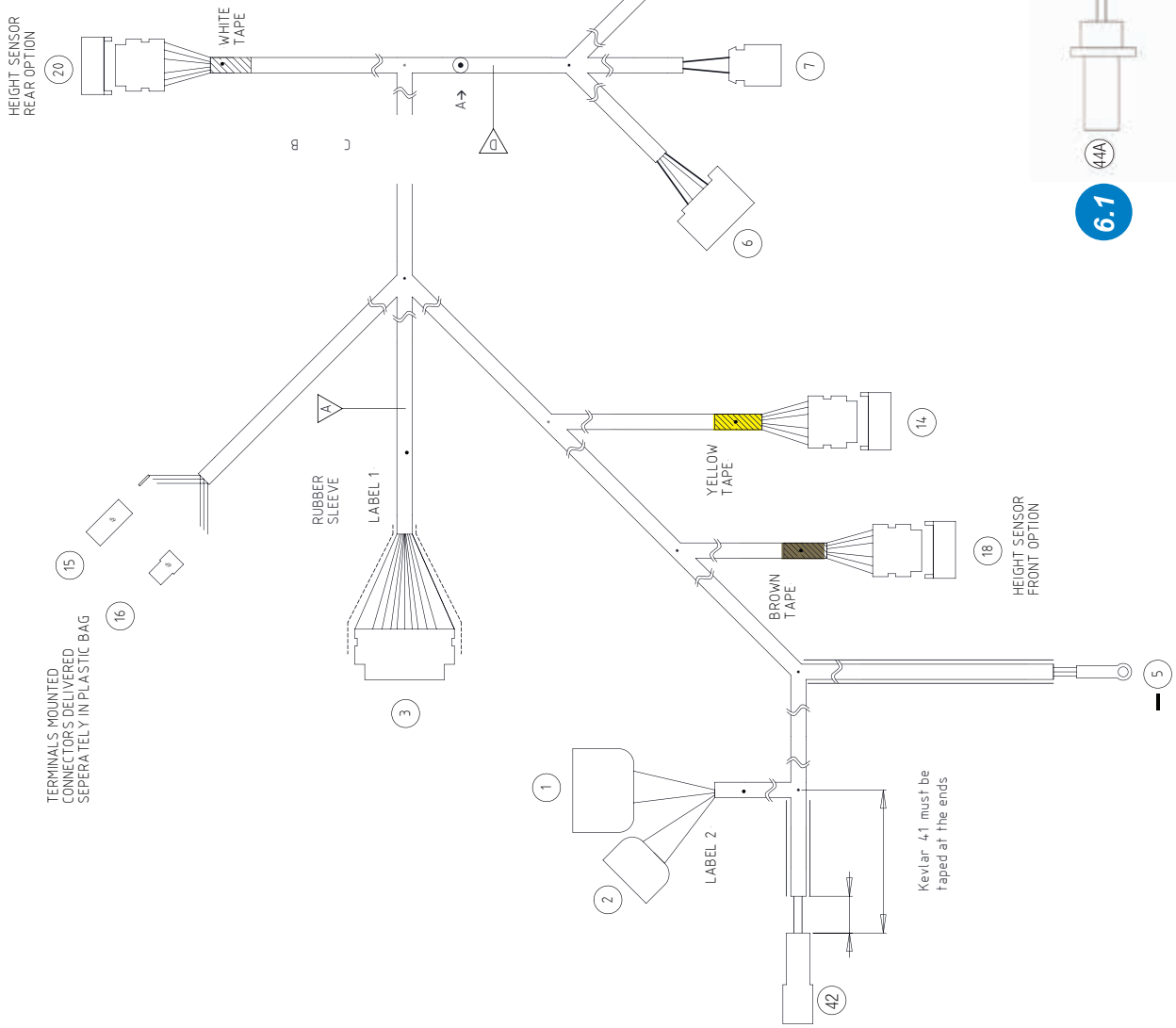
Montagehandleiding-nr: **7 3 0 1 9 0 0 9 0 6 0 0** Revision: **V 1 . 0**

This checklist must be archived by the dealer and must be available for VB-Airsuspension.



8. ELECTRICAL DIAGRAM

- 1 FUSE (40A), F1
- 2 FUSE (7.5A), F2
- 3 ASCU (35P), Ct35a
- 5 BATTERY -
- 6 RELAY (5P), Ct5a
- 7 COMPRESSOR (2P), Ct2a
- 8 REGENERATOR (2P), Ct2b
- 9 VALVE (10P), Ct10a
- 14 OPTION (6P), Ct6g
- 15 CABIN (6P), Ct6e
- 16 REMOTE CONTROL (6P), Ct6f
- 18 HEIGHT SENSOR F (6P), Ct6a
- 20 HEIGHT SENSOR R (6P), Ct6b
- 40 FUSE (50A), F3
- 4 BATTERY +
- 42 BATTERY +
- 44A CONNECTOR (2P), Ct2c
- 44B CONNECTOR (2P), Ct2c
- 45 CONNECTOR (6P), Ct6e
- 46 CONNECTOR (6P), Ct6f

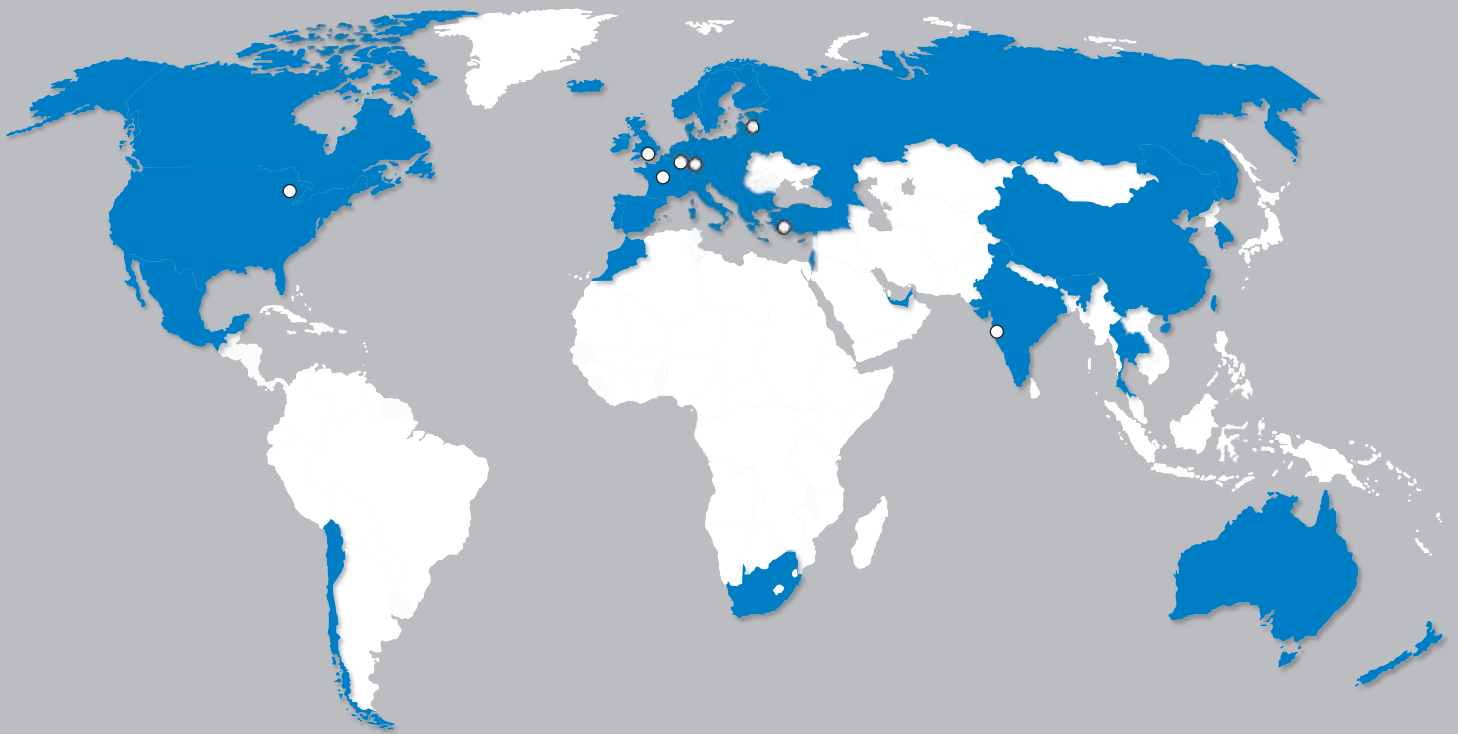


6.1

5/6

Name	Description
ASCU	VB-ASCU (electronic control unit)
AS3	Air spring, rear left
AS4	Air spring, rear right
Ct1a	Connector, 1-pin, handbrake
Ct1b	Connector, 1-pin, handbrake
Ct2a	Connector, 2-pin, compressor power supply
Ct2b	Connector, 2-pin, dump valve on compressor
Ct2c	connector, 2-pin, power supply system
Ct4a	Connector, 2-pin, canbus interface or PSM-module
Ct5a	Connector, 5-pin, compressor relay
Ct6a	Connector, 6-pin, height sensor rear left
Ct6b	Connector, 6-pin, height sensor rear right
Ct6e	Connector, 6-pin, VB supply cable
Ct6f	Connector, 6-pin, remote control
Ct6g	Connector, 6-pin, connector option (yellow)
Ct10a	Connector, 10-pin, valve block
Ct35a	Connector, 35-pin, VB-ASCU
Co	Compressor
Da	Dashboard
Di	Diode
Ds	eindstop
Ev	Emergency valves (option)
F1	Fuse, compressor, 40 A
F2	Fuse, VB-ASCU, 7.5 A
F3	Fuse, primary, 50 A
F4	Fuse, 3 A
Hb	Handbrake
Re	Compressor relay
S3	Height sensor, rear left
S4	Height sensor, rear right
S5	Pressure sensor on valve block
Sd	Air silencer/filter
Vb	Valve block
Vv1	Valve for front right air spring on valve block
Vv2	Valve for rear left air spring on valve block
Vv3	Valve for rear right air spring on valve block
Vv6	Dump valve on compressor

Name	Description
Colour codes (yellow with wire number is not indicated)	
bl	Blue
br	Brown
ge	Yellow
gn	Green
ro	Red
ro/ws	Red/white
rs	Pink
sw	Black
vi	Purple
ws	White
-----	0,50 mm ²
-----	0,75 mm ²
— — —	4,00 mm ²
— — — —	Air tube



VB-AIRSUSPENSION,

INCREASED COMFORT, BETTER DRIVEABILITY, MORE SAFETY.

