



Repair Manual Arteon 2018 ➤

Electrical Equipment

Edition 07.2018





List of Workshop Manual Repair Groups

Repair Group

- 00 - General, Technical Data
- 27 - Battery, Starter, Generator, Cruise Control
- 90 - Instruments
- 92 - Wiper/Washer Systems
- 94 - Exterior Lights, Switches
- 96 - Interior Lights, Switches
- 97 - Wiring

Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.



Contents

00 - General, Technical Data	1
1 Safety Precautions	1
1.1 Safety Precautions when Working on Vehicles with Start/Stop System	1
1.2 Safety Precautions during Road Test with Testing Equipment	1
2 Repair Information	2
2.1 Contact Corrosion	2
2.2 Line Routing and Securing	2
3 Battery	3
3.1 Battery, General Information	3
3.2 Battery Types	3
27 - Battery, Starter, Generator, Cruise Control	4
1 Battery	4
1.1 Overview - Battery	4
1.2 Battery, Removing and Installing	7
1.3 Battery, Disconnecting and Connecting	13
1.4 Battery Tray, Removing and Installing	16
1.5 Battery, Checking	18
1.6 Battery, Charging	18
1.7 Ground Cable with Battery Monitoring Control Module J367, Removing and Installing	18
1.8 Battery Monitoring Control Module J367, Adapting	20
2 Generator	21
2.1 Overview - Generator	21
2.2 Generator, Removing and Installing	23
2.3 Generator, Checking	26
2.4 Ribbed Belt Pulley, Removing and Installing	27
2.5 Voltage Regulator, Removing and Installing	32
3 Starter	35
3.1 Overview - Starter	35
3.2 Starter, Removing and Installing	36
4 Cruise Control System	40
5 Start/Stop System	41
5.1 General Description - Start/Stop System	41
6 Adaptive Cruise Control (ACC)	42
6.1 Component Location Overview - Adaptive Cruise Control (ACC)	42
6.2 Control Module for Adaptive Cruise Control, Removing and Installing	43
6.3 Adaptive Cruise Control (ACC), Calibrating	43
7 Special Tools	45
90 - Instruments	48
1 Instrument Cluster	48
1.1 Overview - Instrument Cluster	48
1.2 Overview - Windshield Projection (Head-Up Display)	50
1.3 Instrument Cluster KX2, Removing and Installing	50
1.4 Windshield Projection Head Up Display Control Module, Removing and Installing	54
2 Clock	55
2.1 Clock, Removing and Installing	55
3 Horn	56
3.1 Overview - Horn	56
3.2 High Tone Horn H2 / Low Tone Horn H7, Removing and Installing	56
4 Special Tools	58



92 - Wiper/Washer Systems	59
1 Windshield Wiper System	59
1.1 Overview - Windshield Wiper System	59
1.2 Windshield Wiper, Bringing into Service Position	61
1.3 Wiper Blade, Removing and Installing	61
1.4 Windshield Wiper Arms, Removing and Installing	62
1.5 Windshield Wiper Arms, Adjusting	63
1.6 Windshield Wiper Motor V, Removing and Installing	64
1.7 Windshield Wiper Motor, Deactivating Alternating Park Position Function	65
1.8 Rain/Light Recognition Sensor, Removing and Installing	66
1.9 Rain/Light Recognition Sensor, Servicing	68
2 Windshield Washer System	72
2.1 Overview - Windshield Washer System	72
2.2 Washer Fluid Reservoir, Removing and Installing	75
2.3 Windshield Washer Fluid Level Sensor, Removing and Installing	78
2.4 Windshield Washer Pump, Removing and Installing	80
2.5 Washer Nozzles, Removing and Installing	81
2.6 Washer Nozzles, Adjusting	82
3 Headlamp Washer System	83
3.1 Overview - Headlamp Washer System	83
3.2 Washer Fluid Reservoir, Removing and Installing	85
3.3 Headlamp Washer System Pump V11, Removing and Installing	85
3.4 Washer Nozzles, Adjusting	86
3.5 Lift Cylinder, Removing and Installing	86
3.6 Headlamp Washer System Guide Frame, Replacing	88
4 Washer Fluid Hoses	89
4.1 Washer Fluid Hoses, Servicing	89
5 Special Tools	90
94 - Exterior Lights, Switches	91
1 Headlamps	91
1.1 Overview - Headlamps	91
1.2 Headlamp, Removing and Installing	96
1.3 Headlamp, Adjusting	97
1.4 Headlamp Installation Position, Correcting	97
1.5 Left and Right Front Turn Signal Bulb M5 / M7, Removing and Installing	99
1.6 Headlamps, Changing from RHD to LHD	101
1.7 Headlamps, Changing from LHD to RHD	101
1.8 Left and Right Headlamp Beam Adjustment Motor V48 / V49, Removing and Installing	102
1.9 Low Beam Headlamp Bulb, Removing and Installing	103
1.10 Left and Right High Beam Headlamp Bulb M30 / M32, Removing and Installing	104
1.11 Left and Right Daytime Running Lamp and Position Lamp LED Module L176 / L177, Removing and Installing	104
1.12 Right and Left LED Headlamp Power Output Module 1 A27 / A31, Removing and Installing	105
1.13 LED Headlamp Cover Trim, Removing and Installing	106
1.14 LED Headlamp Frame, Removing and Installing	107
1.15 LED Headlamp Trim Molding, Removing and Installing	108
1.16 Left and Right Adaptive Cornering Lamp Motor V318 / V319, Removing and Installing	109
1.17 Left and Right Cornering Lamp Bulb L148 / L149, Removing and Installing	109
1.18 Left and Right Headlamp Power Output Module J667 / J668, Removing and Installing	110
2 Lamps in Exterior Rearview Mirror	112
2.1 Overview - Lamps in Exterior Rearview Mirror	112
2.2 Turn Signal, Removing and Installing	113



2.3	Exterior Rearview Mirror Entry Lamp, Removing and Installing	115
3	Tail Lamps	116
3.1	Overview - Body Tail Lamps	116
3.2	Overview - Rear Lid Tail Lamps	117
3.3	Rear Lid Tail Lamp, Removing and Installing	117
3.4	Tail Lamp, Correcting Installation Position	118
3.5	Lower Tail Lamp, Removing and Installing	119
3.6	Right and Left Tail Lamp Bulb M2 / M4 , Removing and Installing	120
3.7	Left and Right Rear Fog Lamp Bulb L46 / L47 , Removing and Installing	120
3.8	Left and Right Brake/Tail Lamp Bulb M21 / M22 , Removing and Installing	120
3.9	Back-Up Lamp Bulb, Removing and Installing	121
3.10	Turn Signal Bulb, Removing and Installing	121
4	High-Mounted Brake Lamp	122
4.1	Overview - High-Mounted Brake Lamp	122
4.2	High-Mounted Brake Lamp, Removing and Installing	123
5	License Plate Lamp	125
5.1	Left License Plate Lamp X4 / Right License Plate Lamp X5 , Removing and Installing	125
5.2	Bulb for Left and Right License Plate Lamp X4 / X5 , Removing and Installing	125
6	Access/Start Authorization	127
6.1	Component Location Overview - Access/Start Authorization System	127
6.2	Component Location Overview - Keyless Access Authorization System	130
6.3	Access/Start System Interface J965 , Removing and Installing	131
6.4	Driver Exterior and Front Passenger Exterior Door Handle Touch Sensor G415 / G416 , Removing and Installing	132
6.5	Left and Right Rear Exterior Door Handle Touch Sensor G417 / G418 , Removing and Installing	132
6.6	Access/Start System Antenna 1 in Vehicle Interior R138 , Removing and Installing	132
6.7	Access/Start System Antenna 2 in Vehicle Interior R139 , Removing and Installing	133
6.8	Driver Access/Start System Antenna R134 , Removing and Installing	133
6.9	Front Passenger Access/Start System Antenna R135 , Removing and Installing	134
6.10	Left and Right Rear Access/Start Authorization Antenna R165 / R166 , Removing and Installing	134
6.11	Access/Start System Antenna in Luggage Compartment R137 , Removing and Installing	134
6.12	Access/Start System Antenna in Rear Bumper R136 , Removing and Installing	135
7	Steering Column Switch Module	136
7.1	Overview - Steering Column Switch Module	136
7.2	Steering Column Switch Module, Removing and Installing	137
7.3	Steering Column Electronics Control Module J527 , Removing and Installing	139
7.4	Steering Column Combination Switch Mount, Removing and Installing	142
7.5	Turn Signal Switch E2 , Removing and Installing	143
7.6	Cruise Control Switch E45 , Removing and Installing	145
7.7	Windshield Wiper Intermittent Mode Switch E22 , Removing and Installing	145
7.8	Anti-Theft Immobilizer Reader Coil D2 , Removing and Installing	145
8	Parking Aid	146
8.1	Overview - Parking Aid	146
8.2	Parking Aid Control Module J446 , Removing and Installing	149
8.3	Front Parking Aid Warning Buzzer H22 , Removing and Installing	150
8.4	Rear Parking Aid Warning Buzzer H15 , Removing and Installing	151
8.5	Front Parking Aid Sensor, Removing and Installing	151
8.6	Rear Parking Aid Sensor, Removing and Installing	152
9	Parallel Parking Assist	154
9.1	Overview - Parallel Parking Assist	154
9.2	Parallel Parking Assistance Control Module J791 , Removing and Installing	155
9.3	Front Sensor, Removing and Installing	156



9.4	Rear Sensor, Removing and Installing	156
10	Automatic Headlamp Range Control	158
10.1	Overview - Automatic Headlamp Range Control	158
10.2	Cornering Lamp and Headlamp Range Control Module J745 , Removing and Installing	160
11	Trailer Hitch	163
11.1	Overview - Trailer Hitch Socket	163
11.2	Trailer Socket U10	163
11.3	Towing Recognition Control Module J345 , Removing and Installing	164
12	Special Tools	165
96	Interior Lights, Switches	166
1	Lamps	167
1.1	Component Location Overview - Instrument Panel Lamps	168
1.2	Component Location Overview - Front Door Lamps	169
1.3	Component Location Overview - Rear Door Lamps	170
1.4	Component Location Overview - Center Console Lamps	171
1.5	Component Location Overview - Luggage Compartment Lamps	172
1.6	Component Location Overview - Roof Trim Panel Lamps	173
1.7	Glove Compartment Lamp W6 , Removing and Installing	174
1.8	Bulb for Glove Compartment Lamp W6 , Replacing	174
1.9	Left and Right Front Footwell Lamp K268 / K269 , Removing and Installing	175
1.10	Left and Right Front Footwell Illumination Bulb L151 / L152 , Removing and Installing	175
1.11	Central Locking -Safe- Indicator Lamp K133 , Removing and Installing	176
1.12	Driver and Front Passenger Interior Door Handle Illumination Bulb L146 / L147 , Removing and Installing	176
1.13	Door Reflector, Removing and Installing	177
1.14	Left and Right Front Entry Lamp W31 / W32 , Removing and Installing	177
1.15	Driver and Front Passenger Door Warning Lamp W30 / W36 , Removing and Installing	178
1.16	Driver Side/Passenger Side Rear Interior Door Handle Illumination Bulb L221 / L222 , Removing and Installing	178
1.17	Driver Side/Passenger Side Door Ambient Lighting Lamp W86 / W87 , Removing and Installing	179
1.18	Left Rear Door Ambient Lighting Bulb 1 / Right Rear Door Ambient Lighting Bulb 1 L201 / L202 , Removing and Installing	179
1.19	Driver Side/Front Passenger Side Door Ambient Illumination Lamp 2 W97 / W98 , Removing and Installing	180
1.20	Left and Right Rear Door Ambient Lighting Bulb L166 / L167 , Removing and Installing	180
1.21	Left/Right Instrument Panel Ambient Lighting Lamp L229 / L230 , Removing and Installing	181
1.22	Selector Lever Transmission Range Position Display Unit Y26 , Removing and Installing	181
1.23	Luggage Compartment Lamps W3 / W115 , Removing and Installing	181
1.24	Driver and Front Passenger Vanity Mirror Lamp W20 / W14 , Removing and Installing	182
1.25	Bulb for Front Interior Lamp W1 , Removing and Installing	183
1.26	Bulb for Rear Interior Lamp W43 , Removing and Installing	184
1.27	Front Passenger and Driver Reading Lamp W13 / W19 , Removing and Installing	185
1.28	Left and Right Rear Reading Lamp W11 / W12 , Removing and Installing	186
2	Controls	188
2.1	Component Location Overview - Instrument Panel Controls	189
2.2	Component Location Overview - Controls in Front Doors	191
2.3	Component Location Overview - Controls in Rear Doors	192
2.4	Component Location Overview - Controls in Center Console	193
2.5	Component Location Overview - Controls in Luggage Compartment	194
2.6	Component Location Overview - Controls in Roof Trim Panel	195
2.7	Rotary Light Switch EX1 , Removing and Installing	197
2.8	Windshield Projection Head Up Display Button E736 , Removing and Installing	198
2.9	Steering Wheel Heating Button E522 , Removing and Installing	199



2.10	Driving Profile Selection Button E735 , Removing and Installing	199
2.11	Start/Stop Mode Button E693 , Removing and Installing	199
2.12	ASR/ESP Button E256 , Removing and Installing	199
2.13	Parking Aid Button E266 , Removing and Installing	199
2.14	Parallel Parking Assistance Button E581 , Removing and Installing	199
2.15	Switch Module in Instrument Panel, Center EX22 , Removing and Installing	199
2.16	Center Console Switch Module 1 and 2 EX23 / EX30 , Removing and Installing	200
2.17	Emergency Flasher Switch EX3 , Removing and Installing	201
2.18	Left and Right Seat Heating Button E653 / E654 , Removing and Installing	202
2.19	Glove Compartment Lamp Switch E26 , Removing and Installing	202
2.20	Exterior Rearview Mirror Adjuster EX11 , Removing and Installing	203
2.21	Power Window Control Head in Driver Door E512 , Removing and Installing	203
2.22	Front Passenger Power Window Button E716 , Removing and Installing	203
2.23	Driver Interior Locking Button E308 , Removing and Installing	204
2.24	Rear Lid Remote Release Button E233 , Removing and Installing	204
2.25	Interior Monitoring and Vehicle Inclination Deactivation Button E616 , Removing and Installing	205
2.26	Driver and Front Passenger Door Contact Switch F2 / F3 , Removing and Installing	206
2.27	Driver and Passenger Side Rear Power Window Button E711 / E713 , Removing and Installing	206
2.28	Left and Right Rear Door Contact Switch F10 / F11 , Removing and Installing	206
2.29	Electromechanical Parking Brake Button E538 / -AUTO HOLD- Button E540 , Removing and Installing	207
2.30	Start System Button E378 , Removing and Installing	207
2.31	Power Pivoting Trailer Hitch Button E474 , Removing and Installing	207
2.32	Rear Lid Lock Button in Luggage Compartment E406 , Removing and Installing	208
2.33	Rear Lid Warning Buzzer H32 , Removing and Installing	209
2.34	Rear Lid Contact Switch, Removing and Installing	209
2.35	Driver and Front Passenger Vanity Mirror Lamp Contact Switch F147 / F148 , Removing and Installing	210
2.36	Sunroof Button E325 , Removing and Installing	210
2.37	Front Interior Lamp/Reading Lamp, Removing and Installing	210
2.38	Rear Interior Lamp/Reading Lamp, Removing and Installing	212
2.39	Left and Right Front Reading Lamp Button E633 / E634 , Removing and Installing	213
3	Anti-Theft Alarm System	214
3.1	Overview - Interior Monitoring	214
3.2	Alarm Horn H12 , Removing and Installing	214
3.3	Anti-Theft Alarm System Sensor G578 , Removing and Installing	215
4	Lane Change Assistance	217
4.1	Overview - Lane Change Assistance	217
4.2	Lane Change Assistance Warning Lamp In Driver and Front Passenger Exterior Rearview Mirror K233 / K234 , Removing and Installing	218
4.3	Lane Change Assistance Control Module J769 / Lane Change Assistance Control Module 2 J770 , Removing and Installing	218
4.4	Lane Change Assistance, Calibrating	219
5	Driver Assistance Systems Front Camera	226
5.1	Driver Assistance Systems Front Camera, Removing and Installing	226
6	Cigarette Lighter and Socket	227
6.1	Overview - Converter with Socket, 12 V-230 V	227
6.2	Cigarette Lighter U1 , Removing and Installing	228
6.3	Socket Illumination Bulb L42 , Removing and Installing	228
6.4	Rear Cigarette Lighter Illumination Bulb L32 , Removing and Installing	228
6.5	Socket U , Removing and Installing	228
6.6	Converter with Socket, 12 V-230 V U13 , Removing and Installing	228
7	Special Tools	230



97 - Wiring	232
1 Relay Panels, Fuse Panels and E-Boxes	232
1.1 Component Location Overview - Relay Panels, Fuse Panels and E-Boxes	232
1.2 E-Box, Removing and Installing	236
1.3 Relay and Fuse Panels in E-Box, Removing and Installing	238
1.4 Relay and Fuse Panel Behind Instrument Panel, Removing and Installing	240
1.5 Main Fuse Panel, Removing and Installing	242
2 Control Modules	243
2.1 Component Location Overview - Control Modules	243
2.2 Vehicle Electrical System Control Module J519 , Removing and Installing	245
2.3 Data Bus on Board Diagnostic Interface J533 , Removing and Installing	249
2.4 Bracket for Vehicle Electrical System Control Module J519 , Removing and Installing	250
2.5 Bracket for Vehicle Electrical System Control Module J519 , Replacing	252
2.6 Parking Aid Control Module J446 / Parallel Parking Assistance Control Module J791 Bracket, Removing and Installing	253
3 Connectors	254
3.1 Wiring Harnesses and Connectors, Repairing	254
4 Connector Housings, Releasing and Disassembling	255
5 Antenna Wires, Repairing	256
6 Fiber-Optic Cable	257
7 Vehicle Diagnostic Tester	258
8 Special Tools	259
9 Revision History	260





00 – General, Technical Data

1 Safety Precautions

(Edition 07.2018)

⇒ [“1.1 Safety Precautions when Working on Vehicles with Start/Stop System”, page 1](#)

⇒ [“1.2 Safety Precautions during Road Test with Testing Equipment”, page 1](#)

1.1 Safety Precautions when Working on Vehicles with Start/Stop System

Pay attention to the following when working on vehicles with a Start/Stop System:



WARNING

There is a risk of injury if the engine starts automatically on vehicles with a Start/Stop System.

- ◆ *If necessary, the engine can be started automatically on vehicles with an activated Start/Stop System. A message will appear in the instrument cluster.*
- ◆ *Make sure that the Start/Stop System is deactivated when operating on the vehicle (turn off ignition, turn on ignition again if necessary).*

1.2 Safety Precautions during Road Test with Testing Equipment

If the use of testing equipment is required during a test drive, observe the following:



WARNING

Distraction and improperly secured testing equipment poses an accident risk.

There is a risk that the front passenger airbag may deploy during an accident.

- *Operating testing equipment while driving creates a distraction.*
- *Unsecured testing equipment poses an increased risk of personal injury.*
- ◆ *Always secure testing equipment with a strap on the rear seat and have a second technician operate it from the rear seat.*



2 Repair Information

⇒ ["2.1 Contact Corrosion", page 2](#)

⇒ ["2.2 Line Routing and Securing", page 2](#)

2.1 Contact Corrosion

Contact corrosion can occur if incorrect fasteners (bolts, nuts, washers, etc.) are used.

For this reason, only fasteners with a special surface coating are installed.

In addition, rubber or plastic parts and adhesives are made of non-conductive materials.

If there are doubts as to whether parts are suitable or not, use new parts. Refer to the Parts Catalog.

Note:

- ◆ Only use original replacement parts that have been tested and are compatible with aluminum.
- ◆ Use only Volkswagen accessories.
- ◆ Contact corrosion damage is not covered under warranty.

2.2 Line Routing and Securing

- ◆ Lines/wires should be marked before they are removed to prevent confusing them and to guarantee the installation position. This also includes fuel lines, hydraulic lines, vacuum lines, EVAP systems and electrical lines. Draw sketches or take pictures if required.
- ◆ Due to the restricted space in the engine compartment, make sure there is enough clearance to all moving or hot components to avoid damaging the lines/wires.





3 Battery

⇒ ["3.1 Battery, General Information", page 3](#)

⇒ ["3.2 Battery Types", page 3](#)

3.1 Battery, General Information

Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 27 ; Battery .

3.2 Battery Types

Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 27 ; Battery; Battery Types .



27 – Battery, Starter, Generator, Cruise Control

1 Battery

⇒ [“1.1 Overview - Battery”, page 4](#)

⇒ [“1.2 Battery, Removing and Installing”, page 7](#)

⇒ [“1.3 Battery, Disconnecting and Connecting”, page 13](#)

⇒ [“1.4 Battery Tray, Removing and Installing”, page 16](#)

⇒ [“1.5 Battery, Checking”, page 18](#)

⇒ [“1.6 Battery, Charging”, page 18](#)

⇒ [“1.7 Ground Cable with Battery Monitoring Control Module J367, Removing and Installing”, page 18](#)

⇒ [“1.8 Battery Monitoring Control Module J367, Adapting”, page 20](#)

1.1 Overview - Battery

⇒ [“1.1.1 Overview - Battery, Engine Compartment Battery”, page 4](#)

⇒ [“1.1.2 Overview - Battery, Battery in Luggage Compartment”, page 6](#)

1.1.1 Overview - Battery, Engine Compartment Battery



1 - Bracket

2 - Bolt

- ☐ 15 Nm

3 - Nut

- ☐ 6 Nm

4 - Positive Cable

- ☐ With battery terminal clamp
- ☐ Disconnecting and Connecting. Refer to
⇒ ["1.3.1 Battery, Disconnecting and Connecting, Engine Compartment Battery", page 13](#).

5 - Cap

- ☐ For positive cable

6 - Heat Shield Boot

7 - Cover

- ☐ For positive terminal

8 - Cover

- ☐ For negative terminal

9 - Connector

- ☐ For the Battery Monitoring Control Module - J367-
- ☐ Follow the sequence when connecting the ground cable. Refer to
⇒ ["1.3.1 Battery, Disconnecting and Connecting, Engine Compartment Battery", page 13](#).

10 - Nut

- ☐ 9 Nm.

11 - Ground Wire

12 - Nut

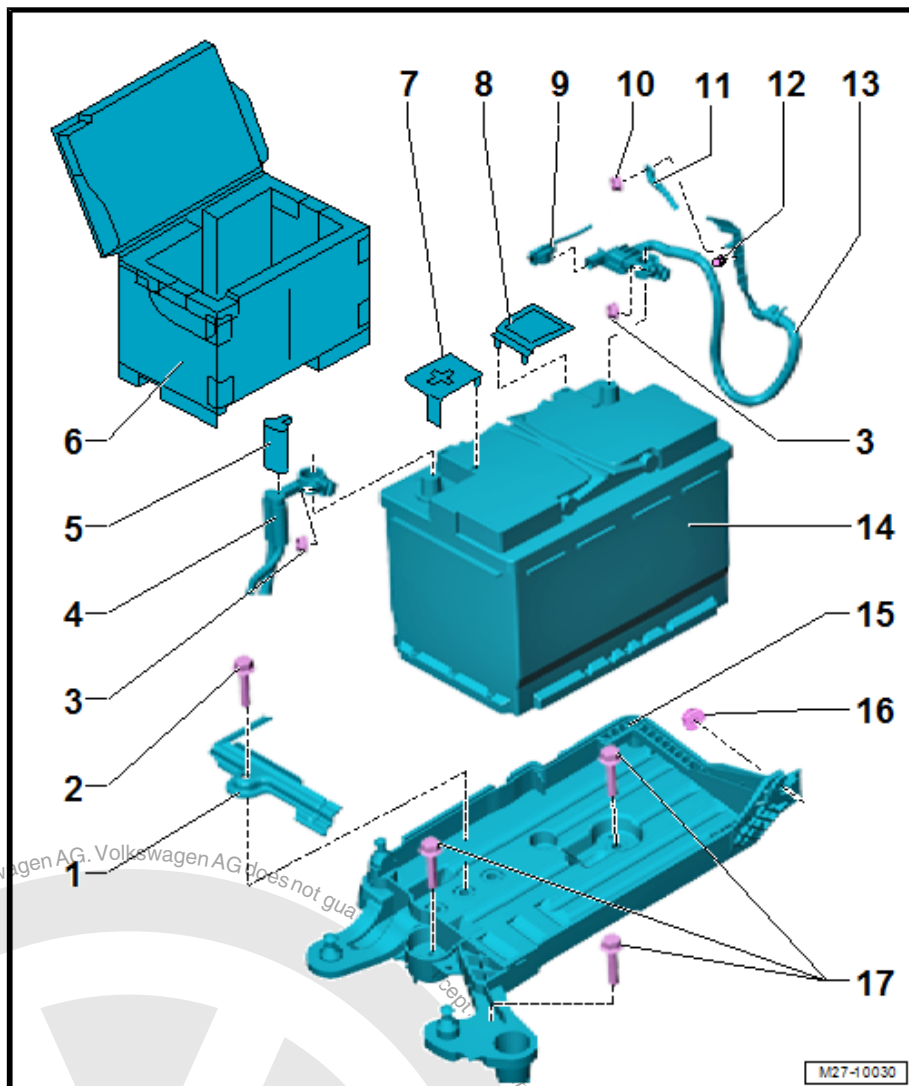
- ☐ 20 Nm

13 - Ground Wire

- ☐ With battery terminal clamp and Battery Monitoring Control Module - J367-
- ☐ Removing and installing. Refer to
⇒ ["1.7.1 Ground Cable with Battery Monitoring Control Module J367, Removing and Installing, Engine Compartment Battery", page 18](#).
- ☐ Disconnecting and Connecting. Refer to
⇒ ["1.3.1 Battery, Disconnecting and Connecting, Engine Compartment Battery", page 13](#).
- ☐ Battery Monitoring Control Module - J367-, Adapting. Refer to
⇒ ["1.8 Battery Monitoring Control Module J367, Adapting", page 20](#).

14 - Battery - A-

- ☐ Removing and installing. Refer to
⇒ ["1.2.1 Battery, Removing and Installing, Engine Compartment Battery", page 7](#).
- ☐ Disconnecting and Connecting. Refer to
⇒ ["1.3.1 Battery, Disconnecting and Connecting, Engine Compartment Battery", page 13](#).
- ☐ Replacing on vehicles with Start/Stop System. Refer to [⇒ page 9](#).



M27-10030



15 - Battery Tray

- ❑ Removing and installing. Refer to
⇒ ["1.4.1 Battery Tray, Removing and Installing, Engine Compartment Battery", page 16](#) .

16 - Nut

- ❑ 9 Nm.

17 - Bolt

- ❑ 9 Nm.
- ❑ Quantity: 3

1.1.2 Overview - Battery, Battery in Luggage Compartment

1 - Nut

- ❑ 6 Nm

2 - Connector

- ❑ For the Battery Monitoring Control Module - J367-
- ❑ Follow the sequence when connecting the ground cable. Refer to
⇒ ["1.3.2 Battery, Disconnecting and Connecting, Battery in Luggage Compartment", page 15](#) .

3 - Cover

- ❑ For negative terminal

4 - Battery - A-

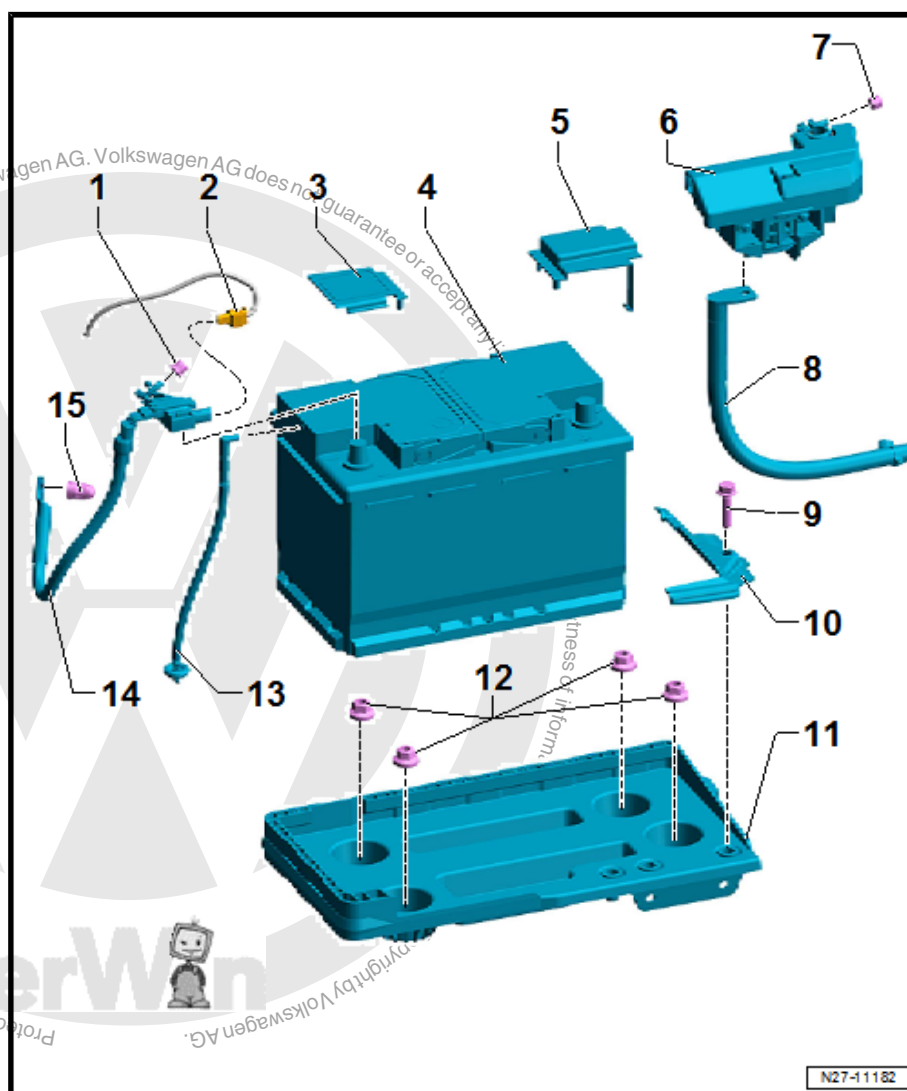
- ❑ Removing and installing. Refer to
⇒ ["1.2.2 Battery, Removing and Installing, Battery in Luggage Compartment", page 10](#) .
- ❑ Disconnecting and Connecting. Refer to
⇒ ["1.3.2 Battery, Disconnecting and Connecting, Battery in Luggage Compartment", page 15](#) .
- ❑ Replacing on vehicles with Start/Stop System. Refer to [⇒ page 12](#) .

5 - Cover

- ❑ For positive terminal
- ❑ Not always installed

6 - Main Fuse Box

- ❑ With battery terminal clamp, depending on vehicle equipment
- ❑ Overview - Main Fuse Box. Refer to
⇒ ["1.1.4 Main Fuse Box on Battery, Luggage Compartment Left Side", page 235](#) .
- ❑ Disconnecting and Connecting. Refer to
⇒ ["1.3.2 Battery, Disconnecting and Connecting, Battery in Luggage Compartment", page 15](#) .





7 - Nut

- ☐ 6 Nm

8 - Positive Cable

- ☐ To the positive terminal in the engine compartment

9 - Bolt

- ☐ 15 Nm

10 - Bracket

11 - Battery Tray

- ☐ Removing and installing. Refer to
⇒ ["1.4.2 Battery Tray, Removing and Installing, Battery in Luggage Compartment", page 17](#) .

12 - Nut

- ☐ 9 Nm.
- ☐ Quantity: 4

13 - Central Venting System

- ☐ With grommet

14 - Ground Wire

- ☐ With battery terminal clamp and Battery Monitoring Control Module - J367-
- ☐ Removing and installing. Refer to
⇒ ["1.7.2 Ground Cable with Battery Monitoring Control Module J367, Removing and Installing, Battery in Luggage Compartment", page 19](#)
- ☐ Disconnecting and Connecting. Refer to
⇒ ["1.3.2 Battery, Disconnecting and Connecting, Battery in Luggage Compartment", page 15](#) .
- ☐ Battery Monitoring Control Module - J367- , Adapting. Refer to
⇒ ["1.8 Battery Monitoring Control Module J367, Adapting", page 20](#) .

15 - Nut

- ☐ 20 Nm

1.2 Battery, Removing and Installing

⇒ ["1.2.1 Battery, Removing and Installing, Engine Compartment Battery", page 7](#)

⇒ ["1.2.2 Battery, Removing and Installing, Battery in Luggage Compartment", page 10](#)

1.2.1 Battery, Removing and Installing, Engine Compartment Battery

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Torque Wrench 1410 - VAG1410-



WARNING

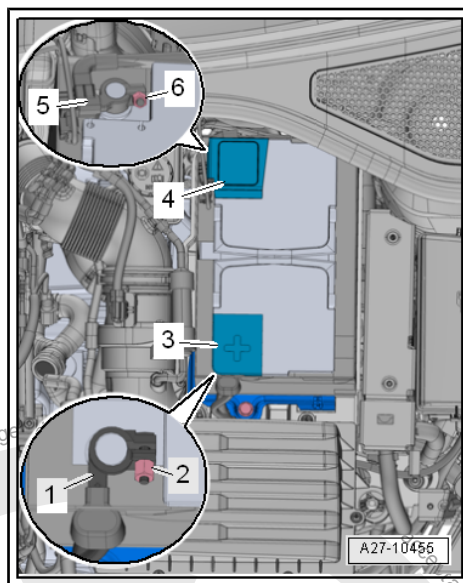
When working on the battery, always pay attention to the warning messages and safety precautions. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 27 ; Battery .

Removing

- Switch off the ignition.
- Move the ignition key outside of the vehicle to prevent the ignition from switching on unintentionally.



- Open the heat shield boot cover.
- Open the cover -4- over the battery negative terminal.
- Loosen the nut -6- several turns and disconnect the battery ground cable terminal clamp -5- from the battery negative terminal.
- Open the cover -3- over the battery positive terminal.
- Loosen the nut -2- several turns and remove the battery positive cable terminal -1- from the battery positive terminal.





- Pull the heat shield boot -4- slightly upward.
- Remove the bolt -2- from the bracket -1-.
- Remove the bracket -1-.
- Remove the Battery - A- -3- in the direction of travel from the battery tray and lift it upward out of the engine compartment.

Installing

Install in reverse order of removal and note the following:



Caution

A loosely mounted battery may cause the following hazards:

- ◆ **Shortened service life due to vibration damage (explosion hazard).**
- ◆ **If the battery is not secured properly, the plates within the battery can be damaged.**
- ◆ **Damage to the battery housing caused by the bracket (possible electrolyte leakage, high subsequent costs).**
- ◆ **Inadequate crash safety.**



Note

- ◆ Only maintenance-free batteries conforming to standards "TL82506" (from 12/1997) and "VW75073" (from 08/2001) may be installed.
- ◆ Batteries from the replacement parts program have a base strip adapter for adapting to different clamping strips.
- ◆ Information on whether and how to use the base strip adapter. Refer to the Battery Owner's Manual.

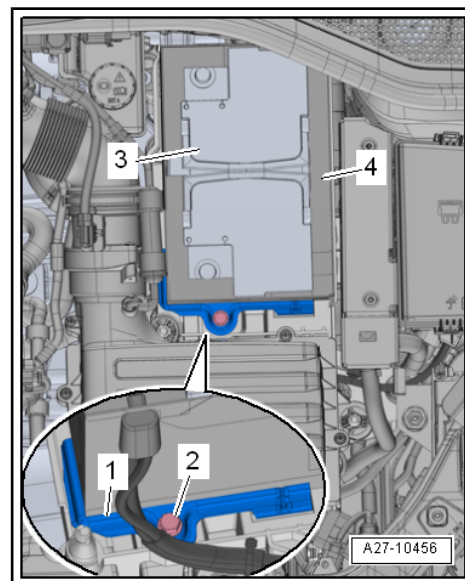
Vehicles with Start/Stop System



Note

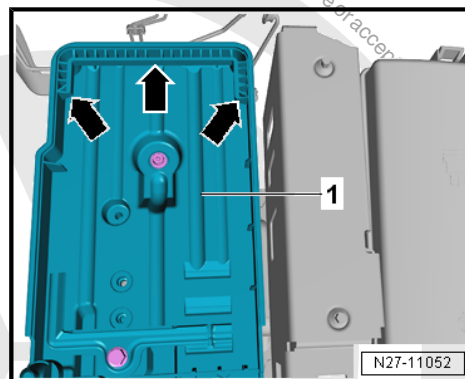
- ◆ Vehicles with the Start/Stop System have a special battery due to the increased load on the cycles.
- ◆ When replacing the battery, note the correct replacement part identification.
- ◆ Batteries for vehicles with the Start/Stop System have "AGM" (Absorbent Glass Mat) or "EFB" (Enhanced Flooded Battery) marked on them.

Continuation for All Vehicles





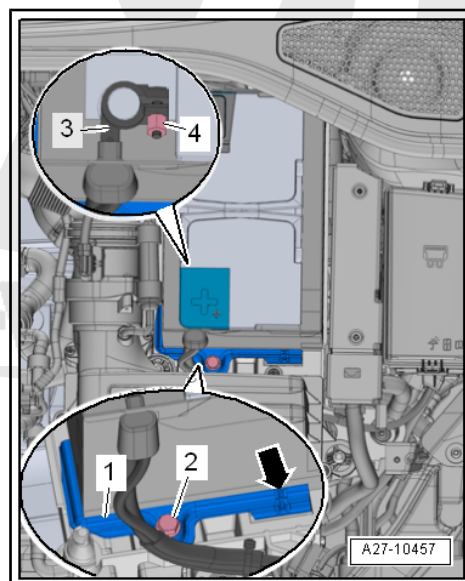
- Insert the Battery - A- into the battery tray -1- so that the battery clamping strip touches the rear and side stop -arrows-.
- It must not be possible to slide the Battery - A- rearward or to the side.



- Install the bracket -1-.
- The tab -arrow- on the bracket -1- must engage into the opening on the battery clamping strip.
- Tighten the bolt -2- for the bracket -1-.
- Check the Battery - A- for a secure fit.

Turn off the Ignition and All Electrical Consumers, and Connect the Battery - A- in the Following Sequence:

- Install the battery positive cable terminal clamp -3- on the battery positive terminal "+".
- Tighten the nut -4-.
- Connect the Battery - A- . Refer to
⇒ ["1.3.1 Battery, Disconnecting and Connecting, Engine Compartment Battery", page 13](#) ,



Note

*If the battery is replaced, the Battery Monitoring Control Module - J367- must be adapted. Refer to
⇒ ["1.8 Battery Monitoring Control Module J367, Adapting", page 20](#) .*

Tightening Specifications

- ◆ Refer to
⇒ ["1.1.1 Overview - Battery, Engine Compartment Battery", page 4](#)

1.2.2 Battery, Removing and Installing, Battery in Luggage Compartment

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Torque Wrench 1410 - VAG1410-



WARNING

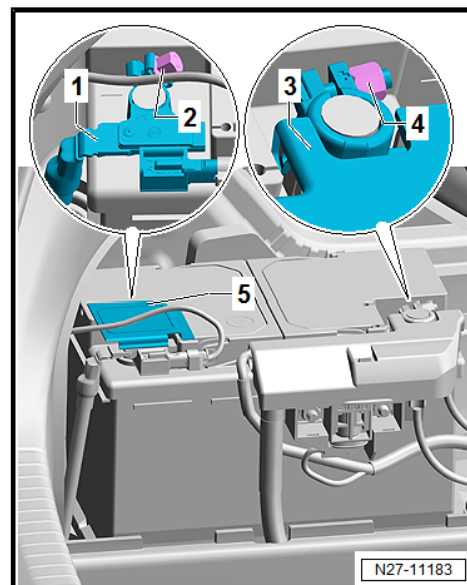
When working on the battery, always pay attention to the warning messages and safety precautions. Refer to ⇒ [Electrical Equipment General Information; Rep. Gr. 27 ; Battery](#) .

Removing

- Switch off the ignition.



- Move the ignition key outside of the vehicle to prevent the ignition from switching on unintentionally.
- Remove the access cover in the left luggage compartment side trim panel.
- Open the cover -5- over the battery negative terminal.
- Loosen the nut -2- several turns and remove the battery ground cable terminal clamp -1- from the battery negative terminal.
- If equipped, open the cover on the battery positive terminal.
- Loosen the nut -4- several turns and remove the battery terminal clamp -3- from the battery positive terminal.





- Remove the central venting system -3- from the Battery - A-4-.
- Remove the bolt -1- from the bracket -2-.
- Remove the bracket -2-.
- Remove the Battery - A-4- in the direction of travel from the battery tray and the luggage compartment.

Installing

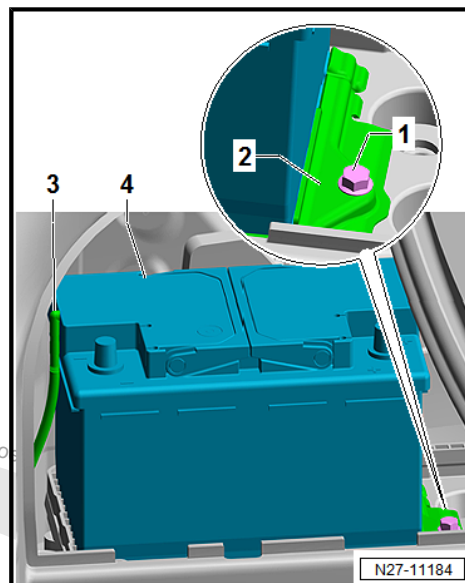
Install in reverse order of removal and note the following:



Caution

A loosely mounted battery may cause the following hazards:

- ◆ **Shortened service life due to vibration damage (explosion hazard).**
- ◆ **If the battery is not secured properly, the plates within the battery can be damaged.**
- ◆ **Damage to the battery housing caused by the bracket (possible electrolyte leakage, high subsequent costs).**
- ◆ **Inadequate crash safety.**



Note

- ◆ **Only maintenance-free batteries conforming to standards "TL82506" (from 12/1997) and "VW75073" (from 08/2001) may be installed.**
- ◆ **Batteries from the replacement parts program have a base strip adapter for adapting to different clamping strips.**
- ◆ **Information on whether and how to use the base strip adapter. Refer to the Battery Owner's Manual.**

Vehicles with Start/Stop System



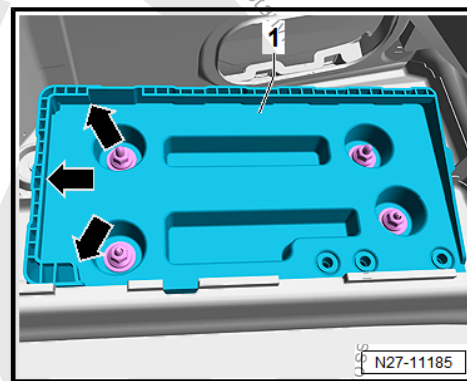
Note

- ◆ **Vehicles with the Start/Stop System have a special battery due to the increased load on the cycles.**
- ◆ **When replacing the battery, note the correct replacement part identification.**
- ◆ **Batteries for vehicles with the Start/Stop System have "AGM" (Absorbent Glass Mat) or "EFB" (Enhanced Flooded Battery) marked on them.**

Continuation for All Vehicles



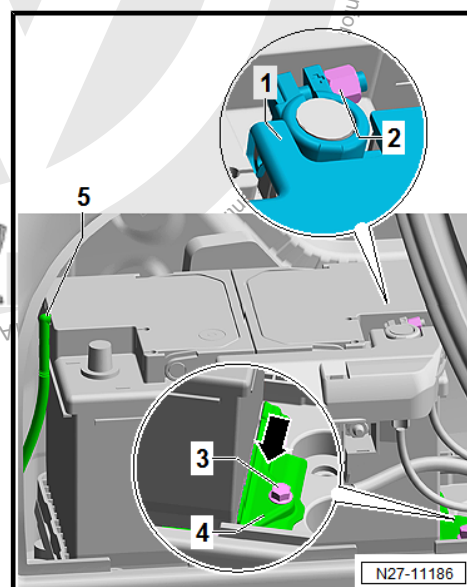
- Insert the Battery - A- into the battery tray -1- so that the battery clamping strip touches the rear and side stop -arrows-.
- It must not be possible to slide the Battery - A- rearward or to the side.



- Install the bracket -4-.
- The tab -arrow- on the bracket -4- must fit into the opening on the battery clamping strip.
- Install the bolt -3- for the bracket -4-.
- Check the Battery - A- for a secure fit.
- Place the central venting system -5- on the Battery - A-.

Turn off the Ignition and All Electrical Consumers, and Connect the Battery - A- in the Following Sequence:

- Install the battery positive cable terminal clamp -1- on the battery positive terminal "+".
- Tighten the nut -2-.
- Connect the Battery - A- . Refer to
⇒ ["1.3.2 Battery, Disconnecting and Connecting, Battery in Luggage Compartment", page 15](#) ,



Note

*If the battery is replaced, the Battery Monitoring Control Module - J367- must be adapted. Refer to
⇒ ["1.8 Battery Monitoring Control Module J367, Adapting", page 20](#) .*

Tightening Specifications

- ◆ Refer to
⇒ ["1.1.2 Overview - Battery, Battery in Luggage Compartment", page 6](#)

1.3 Battery, Disconnecting and Connecting

⇒ ["1.3.1 Battery, Disconnecting and Connecting, Engine Compartment Battery", page 13](#)

⇒ ["1.3.2 Battery, Disconnecting and Connecting, Battery in Luggage Compartment", page 15](#)

1.3.1 Battery, Disconnecting and Connecting, Engine Compartment Battery

Special tools and workshop equipment required

- ◆ Torque Wrench 1410 - VAG1410-



Caution

Pay attention to all safety precautions when working on pyrotechnic components:

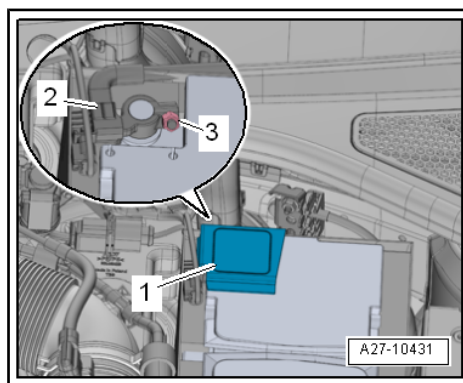
- ◆ **When working on pyrotechnic components (such as air-bags and seat belt tensioners), the battery must be disconnected with the ignition turned on, contrary to the following description. Refer to ⇒ Body Interior; Rep. Gr. 00 ; Safety Precautions; Safety Precautions when Working on Pyrotechnic Components .**

Disconnecting

- Switch off the ignition.
- Move the ignition key outside of the vehicle to prevent the ignition from switching on unintentionally.
- Open the heat shield boot cover.
- Open the cover -1- over the battery ground terminal post.
- Loosen the nut -3- several turns and remove the battery ground cable terminal clamp -2- from the battery terminal.

Connecting

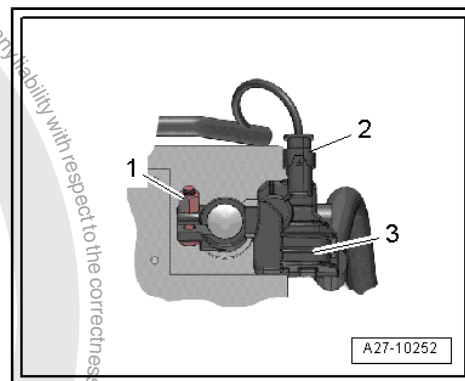
Pay attention to the following when connecting the Battery - A- :





- Disconnect the connector -2- from the Battery Monitoring Control Module - J367- -3-.
- Install the battery ground cable terminal clamp by hand on the battery negative terminal “-”.
- Tighten the nut -1-.
- Reconnect the connector -2- to the Battery Monitoring Control Module - J367- -3-.
- Switch the ignition on.
- Check time and adjust if necessary.
- Open and close the windows all the way.
- Then, with the windows closed, pull the power window switch until the relay audibly switches.
- Check the window regulator convenience switch.

While operating the convenience switch, the window must close without holding down the power window switch.



Note

After reconnecting the power supply, the ESC warning lamp may only go out after the vehicle has been driven a few meters.

Tightening Specifications

- ◆ Refer to
⇒ [“1.1.1 Overview - Battery, Engine Compartment Battery”, page 4](#)

1.3.2 Battery, Disconnecting and Connecting, Battery in Luggage Compartment

Special tools and workshop equipment required

- ◆ Torque Wrench 1410 - VAG1410-



Caution

Pay attention to all safety precautions when working on pyrotechnic components:

- ◆ **When working on pyrotechnic components (such as air-bags and seat belt tensioners), the battery must be disconnected with the ignition turned on, contrary to the following description. Refer to ⇒ Body Interior; Rep. Gr. 00 ; Safety Precautions; Safety Precautions when Working on Pyrotechnic Components .**

Disconnecting

- Switch off the ignition.
- Move the ignition key outside of the vehicle to prevent the ignition from switching on unintentionally.
- Remove the access cover in the left luggage compartment side trim panel.



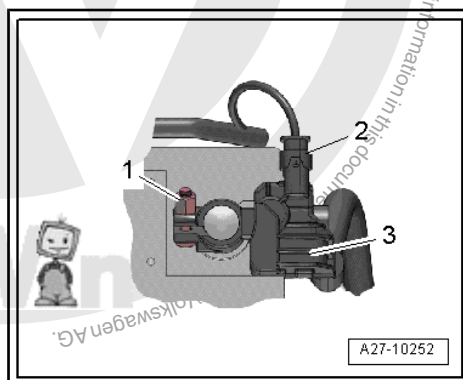
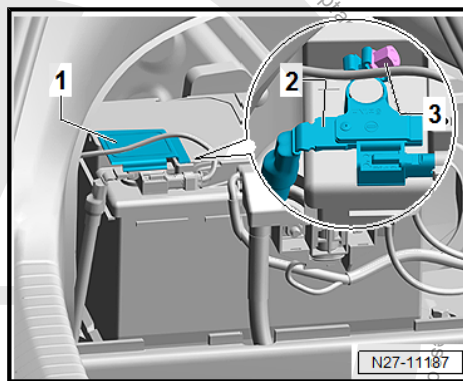
- Open the cover -1- over the battery ground terminal post.
- Loosen the nut -3- several turns and remove the battery ground cable terminal clamp -2- from the battery terminal.

Connecting

Pay attention to the following when connecting the Battery - A- :

- Disconnect the connector -2- from the Battery Monitoring Control Module - J367- -3-.
- Install the battery ground cable terminal clamp by hand on the battery negative terminal “-”.
- Tighten the nut -1-.
- Reconnect the connector -2- to the Battery Monitoring Control Module - J367- -3-.
- Switch the ignition on.
- Check time and adjust if necessary.
- Open and close the windows all the way.
- Then, with the windows closed, pull the power window switch until the relay audibly switches.
- Check the window regulator convenience switch.

While operating the convenience switch, the window must close without holding down the power window switch.



Note

After reconnecting the power supply, the ESC warning lamp may only go out after the vehicle has been driven a few meters.

Tightening Specifications

- ◆ Refer to
⇒ [“1.1.2 Overview - Battery, Battery in Luggage Compartment”, page 6](#)

1.4 Battery Tray, Removing and Installing

⇒ [“1.4.1 Battery Tray, Removing and Installing, Engine Compartment Battery”, page 16](#)

⇒ [“1.4.2 Battery Tray, Removing and Installing, Battery in Luggage Compartment”, page 17](#)

1.4.1 Battery Tray, Removing and Installing, Engine Compartment Battery

Special tools and workshop equipment required

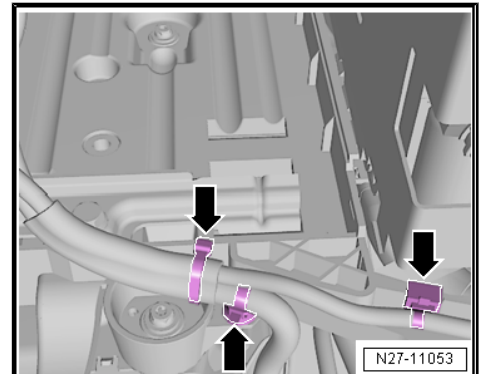
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

Removing

- Remove the Battery - A- . Refer to
⇒ [“1.2.1 Battery, Removing and Installing, Engine Compartment Battery”, page 7](#) .



- If necessary, remove the air filter housing Refer to ⇒ Rep. Gr. 23 ; Air Filter; Air Filter Housing, Removing and Installing or ⇒ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing
- Free up the wiring harness from the battery tray -arrows-.



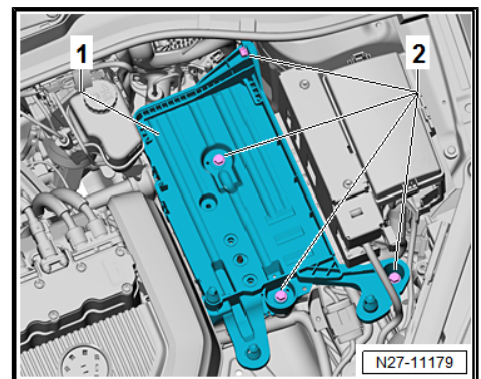
- Remove the nuts and bolts -2-.
- Remove the battery tray -1-.

Installing

Install in reverse order of removal and note the following:

Tightening Specifications

- ◆ Refer to
⇒ ["1.1.1 Overview - Battery, Engine Compartment Battery", page 4](#)



1.4.2 Battery Tray, Removing and Installing, Battery in Luggage Compartment

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

Removing

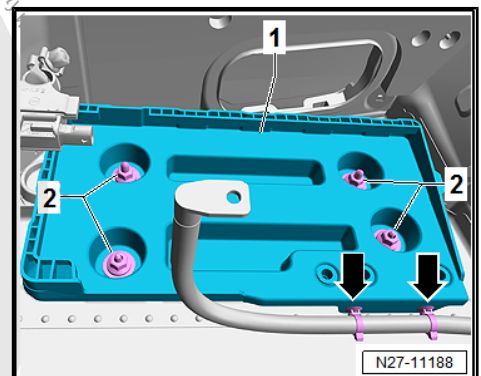
- Remove the Battery - A- . Refer to
⇒ ["1.2.2 Battery, Removing and Installing, Battery in Luggage Compartment", page 10](#) .
- Free up the positive cable on the battery tray -arrows-.
- Remove the nuts -2-.
- Remove the battery tray -1-.

Installing

Install in reverse order of removal and note the following:

Tightening Specifications

- ◆ Refer to
⇒ ["1.1.2 Overview - Battery, Battery in Luggage Compartment", page 6](#)





1.5 Battery, Checking

Refer to ➔ **Electrical Equipment General Information; Rep. Gr. 27 ; Battery, Checking .**

The Battery - A- is checked by the Data Bus On Board Diagnostic Interface - J533- OBD in the "Guided Fault Finding" mode. Refer to Vehicle Diagnostic Tester .

1.6 Battery, Charging

Refer to ➔ **Electrical Equipment General Information; Rep. Gr. 27 ; Battery, Charging .**

1.7 Ground Cable with Battery Monitoring Control Module - J367- , Removing and Installing

⇒ **"1.7.1 Ground Cable with Battery Monitoring Control Module J367 , Removing and Installing, Engine Compartment Battery", page 18**

⇒ **"1.7.2 Ground Cable with Battery Monitoring Control Module J367 , Removing and Installing, Battery in Luggage Compartment", page 19**

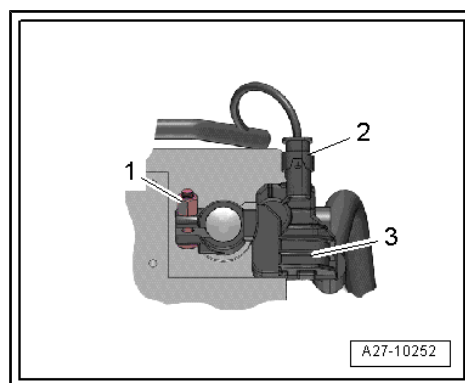
1.7.1 Ground Cable with Battery Monitoring Control Module - J367- , Removing and Installing, Engine Compartment Battery

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

Removing

- Remove the Battery - A- . Refer to
⇒ **"1.2.1 Battery, Removing and Installing, Engine Compartment Battery", page 7 .**
- Disconnect the connector -2- from the Battery Monitoring Control Module - J367- -3-.





- Remove the nut -1- for the ground cable -2-.
- Remove the nut -3- and remove the ground cable with Battery Monitoring Control Module - J367- -4-.

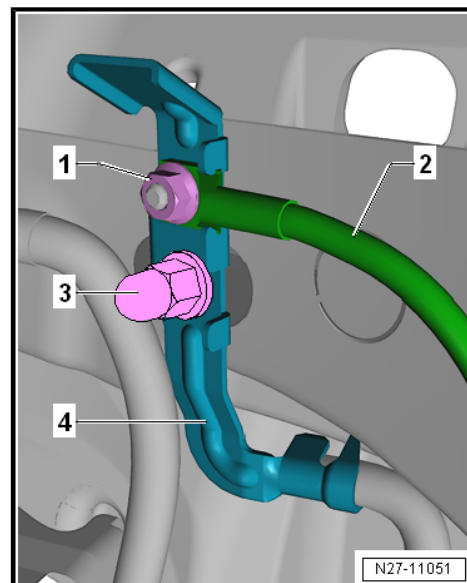
Installing

Install in reverse order of removal and note the following:

- Adapt the Battery Monitoring Control Module - J367- . Refer to
⇒ [“1.8 Battery Monitoring Control Module J367, Adapting”, page 20](#) .

Tightening Specifications

- ◆ Refer to
⇒ [“1.1.1 Overview - Battery, Engine Compartment Battery”, page 4](#)



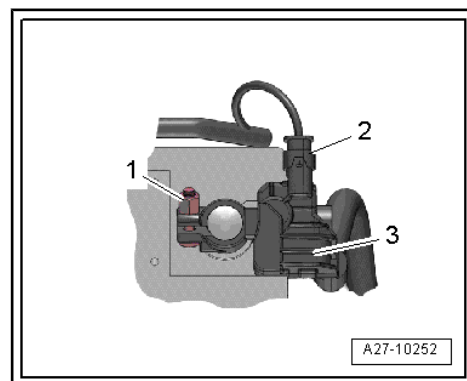
1.7.2 Ground Cable with Battery Monitoring Control Module - J367- , Removing and Installing, Battery in Luggage Compartment

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

Removing

- Remove the Battery - A- . Refer to
⇒ [“1.2.2 Battery, Removing and Installing, Battery in Luggage Compartment”, page 10](#) .
- Disconnect the connector -2- from the Battery Monitoring Control Module - J367- -3-.





- Remove the nut -1- for the ground cable -2-.
- Remove the ground cable -2- with the Battery Monitoring Control Module - J367- .

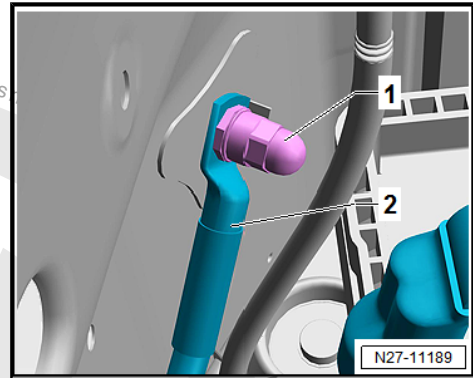
Installing

Install in reverse order of removal and note the following:

- Adapt the Battery Monitoring Control Module - J367- . Refer to
⇒ [“1.8 Battery Monitoring Control Module J367 , Adapting”, page 20](#) .

Tightening Specifications

- ◆ Refer to
⇒ [“1.1.2 Overview - Battery, Battery in Luggage Compartment”, page 6](#)



1.8 Battery Monitoring Control Module - J367- , Adapting

After installing a new battery or a new Battery Monitoring Control Module - J367- , the Battery Monitoring Control Module - J367- must be adapted.

- Connect the Vehicle Diagnostic Tester . Refer to
⇒ [“7 Vehicle Diagnostic Tester”, page 258](#) .
- Adapt the Battery Monitoring Control Module - J367- . Refer to Vehicle Diagnostic Tester .

2 Generator

⇒ [“2.1 Overview - Generator”, page 21](#)

⇒ [“2.2 Generator, Removing and Installing”, page 23](#)

⇒ [“2.3 Generator, Checking”, page 26](#)

⇒ [“2.4 Ribbed Belt Pulley, Removing and Installing”, page 27](#)

⇒ [“2.5 Voltage Regulator, Removing and Installing”, page 32](#)

2.1 Overview - Generator

⇒ [“2.1.1 Overview - Generator, without Bushings”, page 21](#)

⇒ [“2.1.2 Overview - Generator, with Bushings”, page 22](#)

2.1.1 Overview - Generator, without Bushings

1 - Bolt

- ☐ 23 Nm
- ☐ Quantity: 4

2 - Generator - C-

- ☐ Removing and installing. Refer to
⇒ [“2.2 Generator, Removing and Installing”, page 23](#).
- ☐ Checking. Refer to
⇒ [“2.3 Generator, Checking”, page 26](#).
- ☐ Ribbed Belt Pulley, Removing and installing. Refer to
⇒ [“2.4 Ribbed Belt Pulley, Removing and Installing”, page 27](#).
- ☐ Voltage Regulator - C1-, Removing and installing. Refer to
⇒ [“2.5 Voltage Regulator, Removing and Installing”, page 32](#).

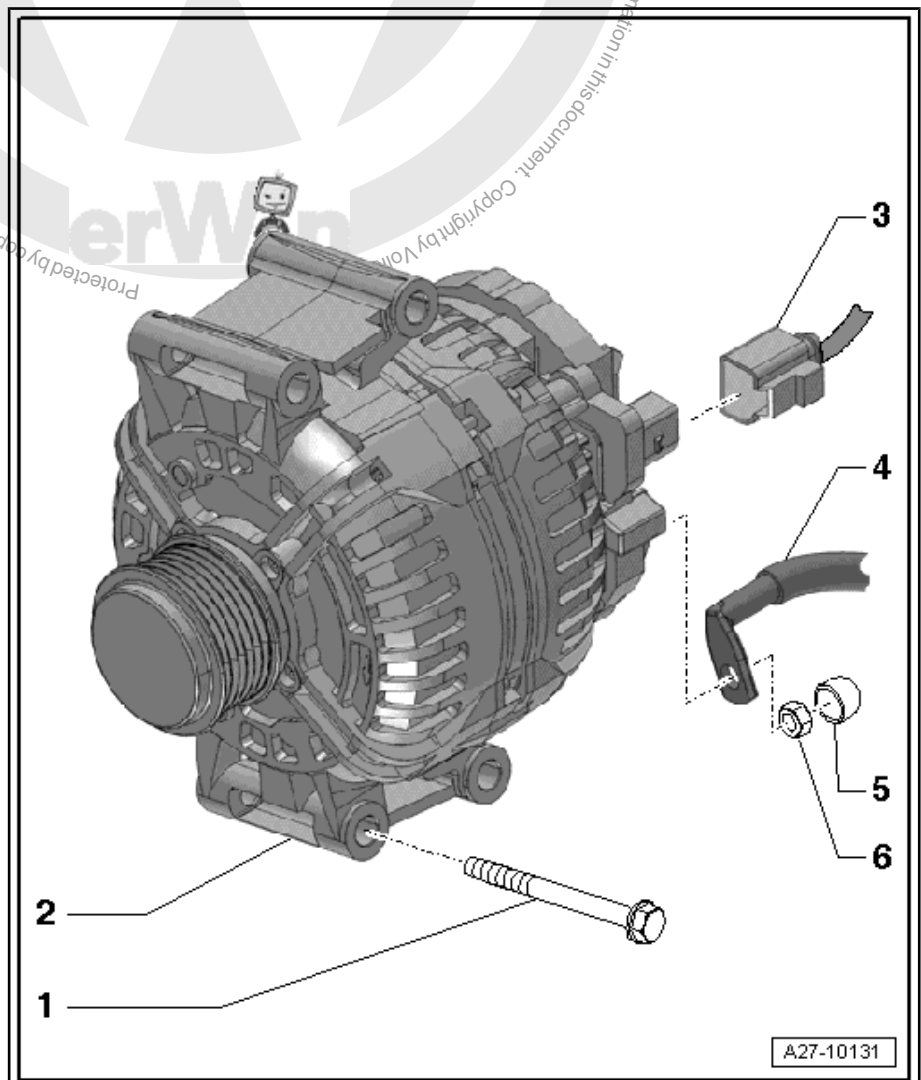
3 - Connector

4 - 30/B+ Terminal

5 - Cap

6 - Nut

- ☐ 20 Nm





2.1.2 Overview - Generator, with Bushings

1 - Generator - C-

- ☐ Removing and installing. Refer to
⇒ [“2.2 Generator, Removing and Installing”, page 23](#).
- ☐ Checking. Refer to
⇒ [“2.3 Generator, Checking”, page 26](#).
- ☐ Ribbed Belt Pulley, Removing and installing. Refer to
⇒ [“2.4 Ribbed Belt Pulley, Removing and Installing”, page 27](#).
- ☐ Voltage Regulator - C1-, Removing and installing. Refer to
⇒ [“2.5 Voltage Regulator, Removing and Installing”, page 32](#).

2 - Bolt

- ☐ 23 Nm
- ☐ Quantity: 2

3 - Bushing

- ☐ Because the clamping force of a tight bushing is too low despite the correct tightening specification, loosen the bushings
- ☐ Quantity: 2

4 - Connector

5 - Cap

6 - Nut

- ☐ 20 Nm

7 - 30/B+ Terminal

8 - Nut

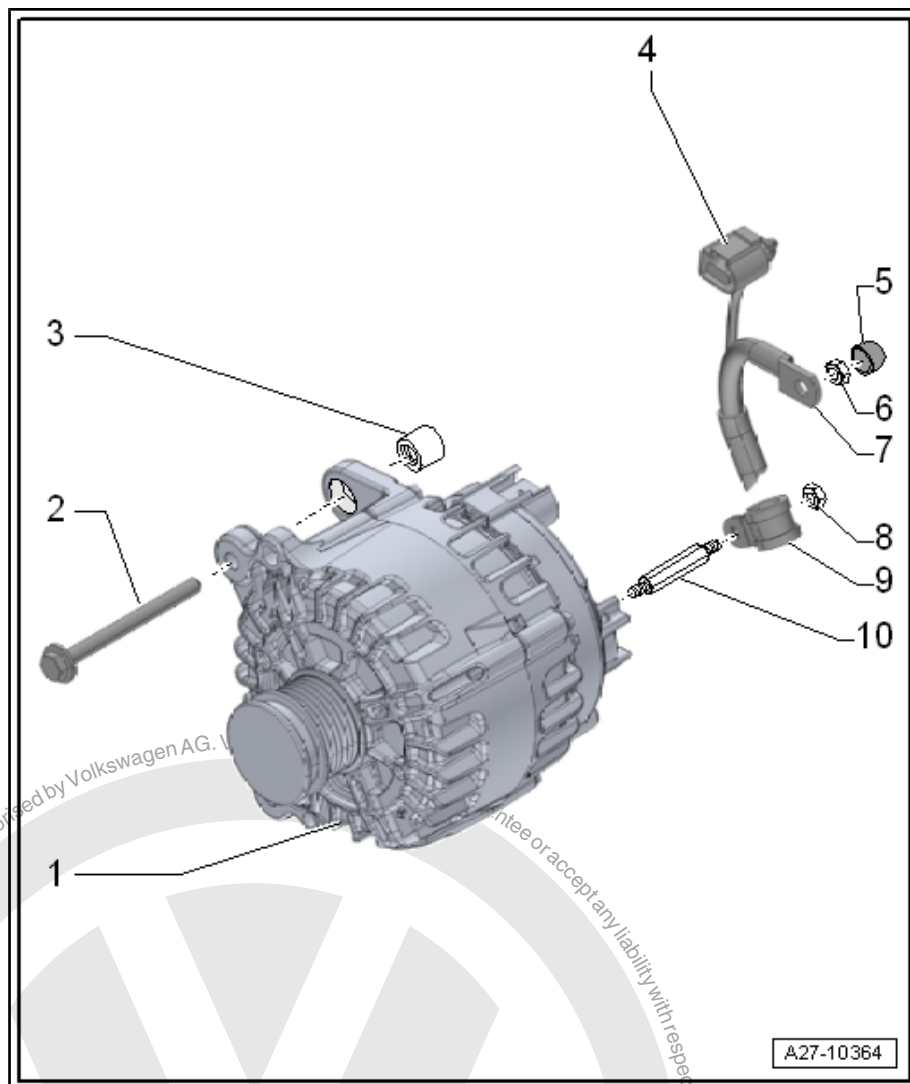
- ☐ 3.2 Nm
- ☐ Not installed on all vehicles

9 - Wire Clamp

- ☐ Not installed on all vehicles

10 - Threaded Pin

- ☐ 3.2 Nm
- ☐ Not installed on all vehicles





2.2 Generator, Removing and Installing

⇒ ["2.2.1 Generator, Removing and Installing, Vehicles with TSI Engine", page 23](#)

⇒ ["2.2.2 Generator, Removing and Installing, Vehicles with TDI Engine", page 24](#)

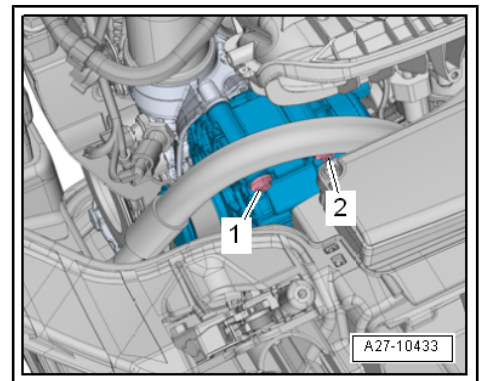
2.2.1 Generator, Removing and Installing, Vehicles with TSI Engine

Special tools and workshop equipment required

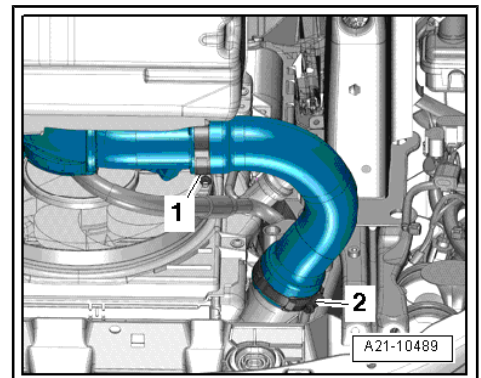
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Engine Bung Set - VAS6122-

Removing

- Disconnect the ground cable to the Battery - A- when the ignition is switched off. Refer to ["1.3 Battery, Disconnecting and Connecting", page 13](#).
- Remove the fan shroud. Refer to ⇒ Rep. Gr. 19 ; Radiator/ Radiator Fan; Fan Shroud, Removing and Installing .
- Remove the ribbed belt. Refer to ⇒ Rep. Gr. 13 ; Cylinder Block, Belt Pulley Side; Ribbed Belt, Removing and Installing .
- Remove the bolts -1 and 2-



- Loosen the hose clamps -1 and 2- and remove the air duct hose.
- Seal the open lines and connections with clean plugs from the -VAS6122- .





- Free up the coolant hose -3-.
- Loosen the hose clamp -2-.
- Remove the screws -arrows-.
- Disconnect the connector -1-.
- Remove the right air duct pipe.

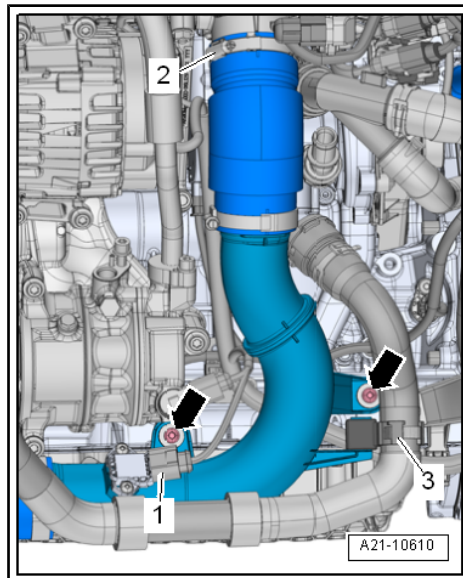
Vehicles with A/C System



Caution

Risk of damaging the A/C compressor, refrigerant lines and hoses:

- ◆ **Do not bend, twist or stretch the refrigerant lines and hoses.**



- Remove the A/C compressor from the bracket. Refer to ➤ Heating, Ventilation and Air Conditioning; Rep. Gr. 87 ; A/C Compressor; A/C Compressor, Removing and Installing from Bracket .
- Secure the A/C compressor on the lock carrier so that the refrigerant lines are not under tension.

Continuation for All Vehicles

- Free up the wiring harness -arrow-.
- Remove the bolts -5 and 6- and bring the Generator - C- -4- forward.
- Disconnect the connector -3-.
- Pry off the cap -2-.
- Remove the nut and remove the terminal 30/B+ -1-.
- Remove the Generator - C- -4- downward to the center of the vehicle.

Installing

Install in reverse order of removal and note the following:

- Connect the Battery - A- . Refer to ➤ ["1.3 Battery, Disconnecting and Connecting", page 13](#) ,
- After completed work always start the engine and check the belt routing.

Tightening Specifications

- ◆ Refer to ➤ ["2.1.1 Overview - Generator, without Bushings", page 21](#)

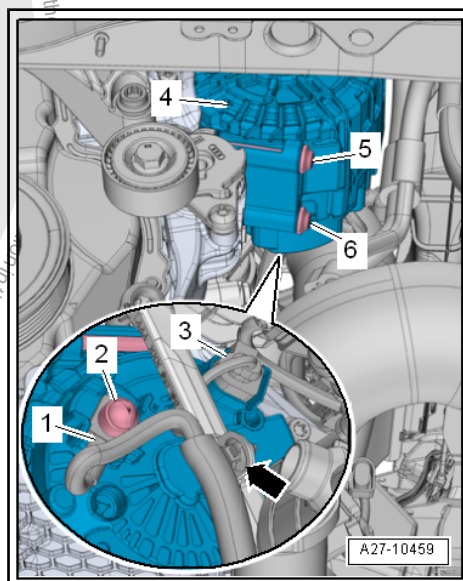
2.2.2 Generator, Removing and Installing, Vehicles with TDI Engine

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Torque Wrench 1783 - 2-10Nm - VAG1783-

Removing

- Disconnect the ground cable to the Battery - A- when the ignition is switched off. Refer to ➤ ["1.3 Battery, Disconnecting and Connecting", page 13](#) .





- Remove the ribbed belt. Refer to ⇒ Rep. Gr. 13 ; Cylinder Block, Belt Pulley Side; Ribbed Belt, Removing and Installing .
- Remove the ribbed belt tensioner. Refer to ⇒ Rep. Gr. 13 ; Cylinder Block, Belt Pulley Side; Ribbed Belt Tensioner, Removing and Installing .

Vehicles without Biturbo Engine

- Remove the fan shroud. Refer to ⇒ Rep. Gr. 19 ; Radiator/Radiator Fan; Fan Shroud, Removing and Installing .

Vehicles with Biturbo Engine

- Remove the radiator. Refer to ⇒ Rep. Gr. 19 ; Radiator/Radiator Fan; Radiator, Removing and Installing .
- Remove the Mixing Valve - NZ996- . Refer to ⇒ Rep. Gr. 19 ; Coolant Pump/Coolant Regulation .
- Remove the Charge Air Cooling Pump - V188- . Refer to ⇒ Rep. Gr. 19 ; Coolant Pump/Coolant Regulation; Electric Coolant Pump, Removing and Installing .

Vehicles with A/C System



Caution

Risk of damaging the A/C compressor, refrigerant lines and hoses:

- ◆ ***Do not bend, twist or stretch the refrigerant lines and hoses.***

- Remove the A/C compressor from the bracket. Refer to ⇒ Heating, Ventilation and Air Conditioning; Rep. Gr. 87 ; A/C Compressor; A/C Compressor, Removing and Installing from Bracket
- Secure the A/C compressor on the lock carrier so that the refrigerant lines are not under tension.



Continuation for All Vehicles

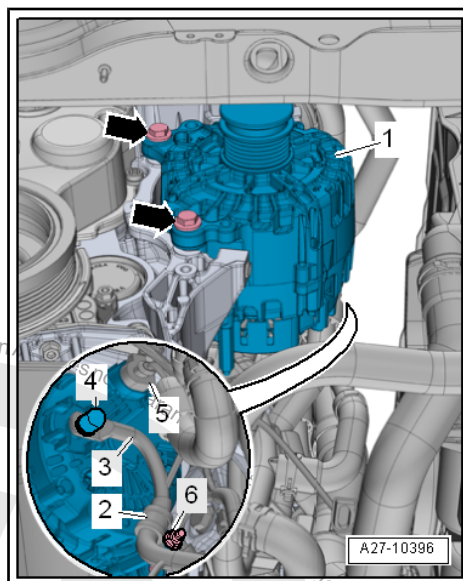
- Remove the screws -arrows-.



Note

- ◆ If the Generator - C- -1- is stuck in its bracket, install the bolts again except for two turns.
- ◆ Carefully strike the bolt heads using the flat side of the hammer - doing this loosens the generator mount bushings.

- Remove the Generator - C- -1- with the wires still attached from the bracket.
- Disconnect the connector -5-.
- Pry off the cap -4-.
- Remove the nut and remove the terminal 30/B+ -3-.
- Remove the nut -6- and remove the wire clamp -2-.
- Remove the Generator - C- -1- downward and to the right.



Installing

Install in reverse order of removal and note the following:

- Push the generator mount bushings back slightly to make it easier to install the Generator - C- .



Note

Make sure that the generator mount bushings slide freely and are not too tight (loosen them if necessary). Otherwise the clamping force of the bushings will be too low even if the correct tightening specification is used.

- Connect the Battery - A- . Refer to [⇒ "1.3 Battery, Disconnecting and Connecting", page 13](#) ,
- After completed work always start the engine and check the belt routing.

Tightening Specifications

- ◆ Refer to [⇒ "2.1.2 Overview - Generator, with Bushings", page 22](#)

2.3 Generator, Checking

- Check the Generator - C- . Refer to Vehicle Diagnostic Tester .



2.4 Ribbed Belt Pulley, Removing and Installing

⇒ ["2.4.1 Ribbed Belt Pulley without Freewheel, Removing and Installing", page 27](#)

⇒ ["2.4.2 Ribbed Belt Pulley with Freewheel, Removing and Installing, Bosch", page 27](#)

⇒ ["2.4.3 Ribbed Belt Pulley with Freewheel, Removing and Installing, Valeo", page 29](#)

⇒ ["2.4.4 Decoupling Belt Pulley with Freewheel, Removing and Installing", page 30](#)

2.4.1 Ribbed Belt Pulley without Freewheel, Removing and Installing

Special tools and workshop equipment required

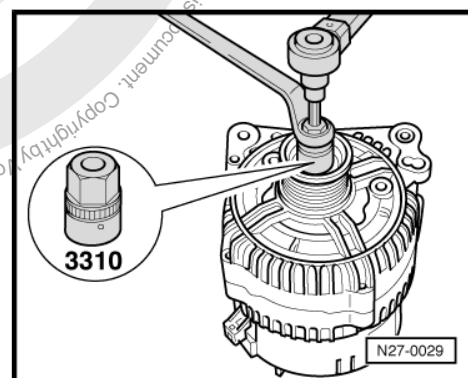
- ◆ Generator Belt Socket - 3310-
- ◆ Torque Wrench 1332 40-200Nm - VAG1332-

Removing

- Remove the Generator - C- . Refer to [⇒ "2.2 Generator, Removing and Installing", page 23](#) .
- Secure the Generator - C- in a vise by the mounting points.
- Remove the ribbed belt pulley nut from the generator shaft using the -3310- .
- Remove the ribbed belt pulley from the generator shaft.

Installing

Install in reverse order of removal and note the following:



Tightening Specifications

Component	Tightening Specification
Ribbed belt pulley nut	65 Nm

2.4.2 Ribbed Belt Pulley with Freewheel, Removing and Installing, Bosch

Special tools and workshop equipment required

- ◆ Multi-Tooth Adapter - 3400-
- ◆ Torque Wrench 1332 40-200Nm - VAG1332-

Removing

- Remove the Generator - C- . Refer to [⇒ "2.2 Generator, Removing and Installing", page 23](#) .
- Secure the Generator - C- in a vise by the mounting points.
- Pry up the cap from the ribbed belt pulley.



- Insert the -3400- with the wrench (17 mm) into the ribbed belt pulley.
- Insert an M10 multi-point socket -1- into the generator shaft.
- Hold the generator shaft securely and loosen the ribbed belt pulley with the wrench by turning left.
- Hold the ribbed belt pulley securely by hand.
- Turn the generator shaft until the ribbed belt pulley can be removed.

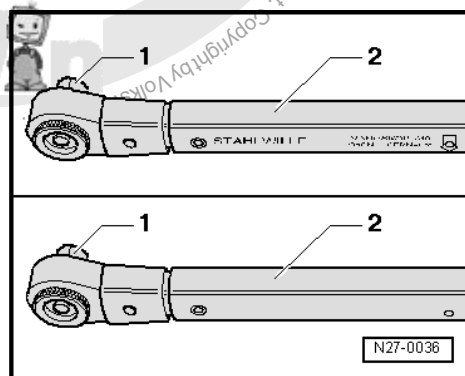
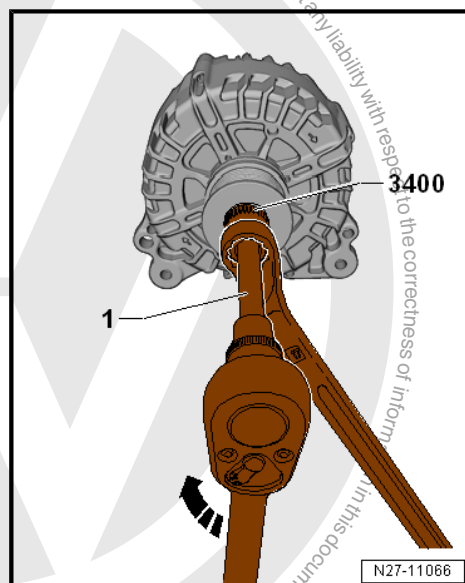
Installing

Install in reverse order of removal and note the following:

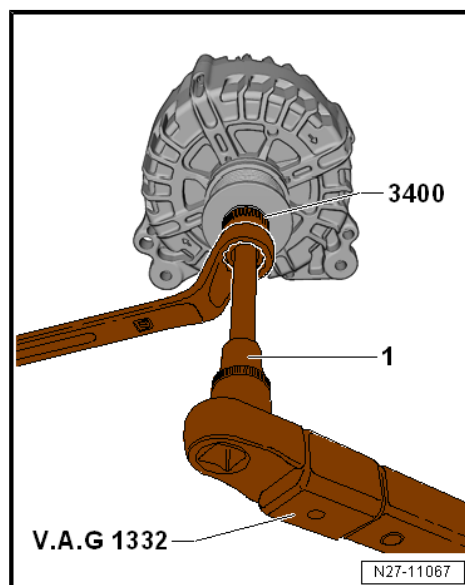
- Install the ribbed belt pulley all the way onto the generator shaft by hand.

The -VAG1332- must be rearranged as follows to install the ribbed belt pulley:

- Release the insert -1- and remove it from the handle part -2-.
- Turn the handle part -2- 180° and install the socket -1- again.
- Set the rotation direction of the -VAG1332- socket to the left.



- Insert an M10 multi-point socket -1- into the generator shaft.
- Counterhold the -3400- with the wrench (17 mm).
- Tighten the ribbed belt pulley by turning the generator shaft to the left using the -VAG1332-.



Tightening Specifications

Component	Tightening Specification
Ribbed belt pulley nut	80 Nm



2.4.3 Ribbed Belt Pulley with Freewheel, Removing and Installing, Valeo

Special tools and workshop equipment required

- ◆ Multi-Tooth Adapter - 3400-
- ◆ Torque Wrench 1332 40-200Nm - VAG1332-
- ◆ Torx Key Socket Set - 1 Screwdriver Bit T45 - VAG1603A/1-

Removing

- Remove the Generator - C- . Refer to
⇒ ["2.2 Generator, Removing and Installing", page 23](#) .
- Secure the Generator - C- in a vise by the mounting points.
- Pry up the cap from the ribbed belt pulley.
- Insert the -3400- with the wrench (17 mm) into the ribbed belt pulley.
- Install the -VAG1603A/1- in the generator shaft.
- Hold the generator shaft securely and loosen the ribbed belt pulley with the wrench by turning left.
- Hold the ribbed belt pulley securely by hand.
- Turn the generator shaft until the ribbed belt pulley can be removed.

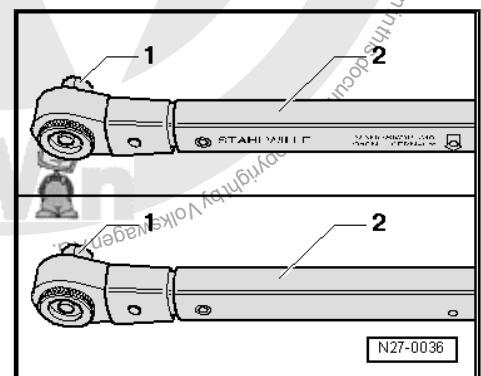
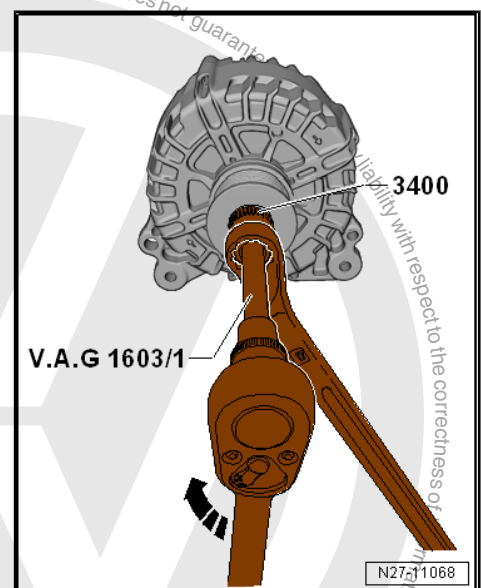
Installing

Install in reverse order of removal and note the following:

- Install the ribbed belt pulley all the way onto the generator shaft by hand.

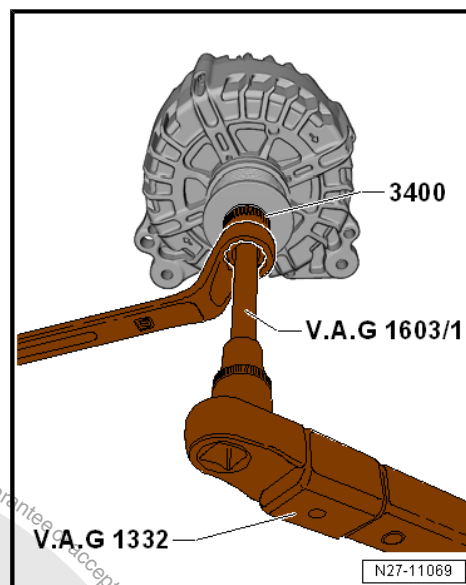
The -VAG1332- must be rearranged as follows to install the ribbed belt pulley:

- Release the insert -1- and remove it from the handle part -2-.
- Turn the handle part -2- 180° and install the socket -1- again.
- Set the rotation direction of the -VAG1332- socket to the left.





- Install the -VAG1603A/1- in the generator shaft.
- Counterhold the -3400- with the wrench (17 mm).
- Tighten the ribbed belt pulley by turning the generator shaft to the left using the -VAG1332- .



Tightening Specifications

Component	Tightening Specification
Ribbed belt pulley nut	80 Nm

2.4.4 Decoupling Belt Pulley with Freewheel, Removing and Installing

Special tools and workshop equipment required

- ◆ Adapter - T10474-
- ◆ Multi-Tooth Adapter - 3400-
- ◆ Torque Wrench 1332 40-200Nm - VAG1332-
- ◆ 8 mm Inner Hex Socket or TORX T50

General Description

There are different versions of the decoupling belt pulley with freewheel.

Before removing, check which special tool must be used to remove the installed decoupling belt pulley with freewheel.



Caution

The length of the ribbed belt varies depending on the installed decoupling belt pulley with freewheel.

Check which decoupling belt pulley with freewheel is installed and make sure that the correct ribbed belt will be installed. For the ribbed belt allocation. Refer to the Electronic Parts Catalog (ETKA).

Decoupler differentiation:

-A- Small decoupling belt pulley with freewheel, use Adapter T10474



-B- Large decoupling belt pulley with freewheel, use Multi-Tooth Adapter 3400

i Note

The ribbed belt for the large decoupling belt pulley with freewheel must be longer, because the decoupling belt pulley with freewheel has a larger diameter and it is different for vehicles with and without an A/C system.

Removing

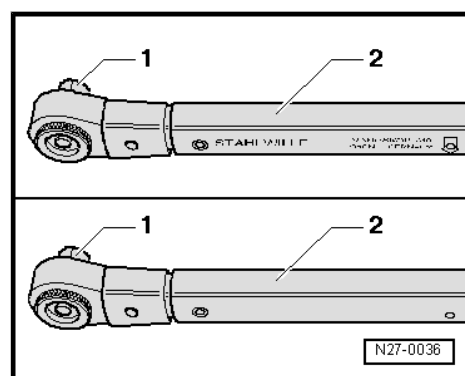
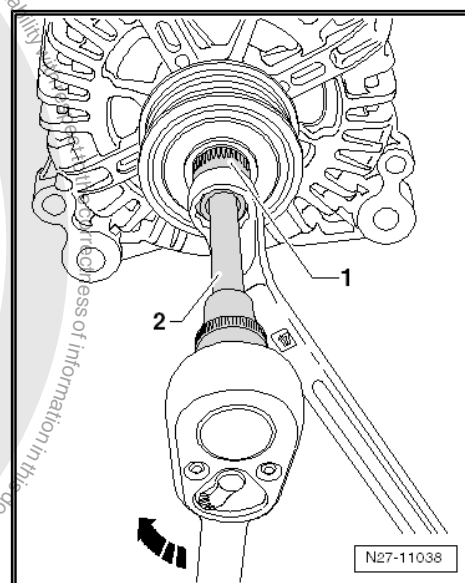
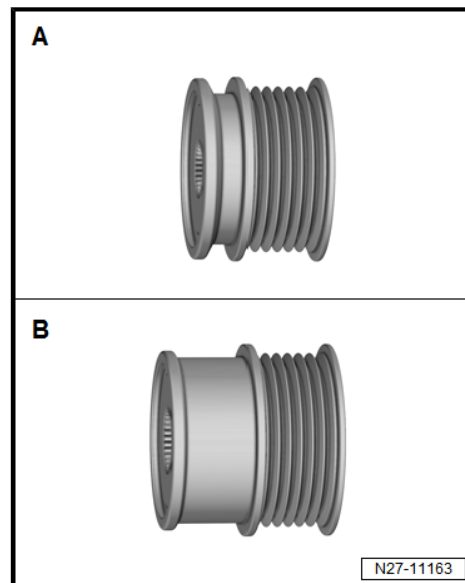
- Remove the generator. Refer to
⇒ ["2.2 Generator, Removing and Installing", page 23](#).
- Clamp the generator in a vise at the mounting points.
- If equipped, remove the protective cap from the decoupling belt pulley with freewheel.
- Install the -T10474- or -3400- -1- in the belt pulley and attach a wrench.
- Place a suitable tool -2- in the generator shaft.
- Turn the generator shaft clockwise to loosen and counterhold with the wrench while doing so.
- Hold the decoupling belt pulley with freewheel in place by hand and turn it at the generator shaft until the decoupling belt pulley with freewheel can be removed.

Installing:

Install in reverse order of removal. Note the following:

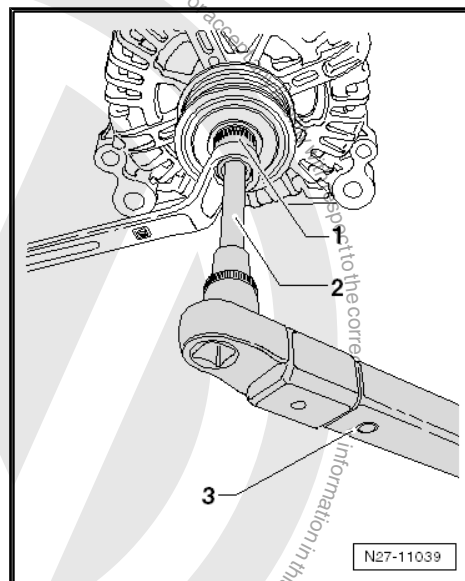
The -VAG1332- must be rearranged as follows to install the decoupling belt pulley with freewheel:

- Release the insert -1- and remove it from the handle, part -2-.
- Turn the handle part -2- of the torque wrench 180° and reinsert the socket.
- Set the rotation direction of the torque wrench socket to "left".
- Next, screw the ribbed belt pulley with freewheel by hand all the way onto the generator.
- Install the -T10474- -1- in the decoupling belt pulley with freewheel and attach the wrench.





- Place a suitable tool -2- in the generator shaft.
- Turn the generator shaft counter-clockwise using the - VAG1332- -3- to tighten the decoupling belt pulley with free-wheel.
- Tighten the threaded connection to 80 Nm.



2.5 Voltage Regulator, Removing and Installing

⇒ [“2.5.1 Voltage Regulator, Removing and Installing, Bosch”, page 32](#)

⇒ [“2.5.2 Voltage Regulator, Removing and Installing, Valeo”, page 33](#)

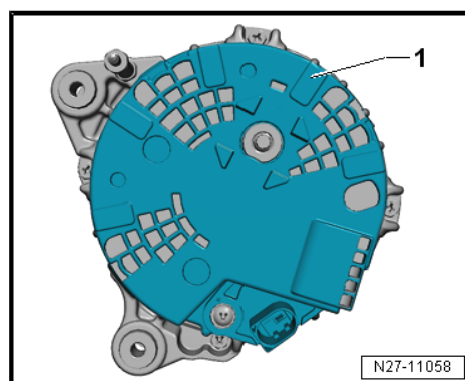
2.5.1 Voltage Regulator, Removing and Installing, Bosch

Special tools and workshop equipment required

- ◆ Torque Screwdriver - VAG1624-

Removing

- Remove the Generator - C- . Refer to [⇒ “2.2 Generator, Removing and Installing”, page 23](#) .
- Carefully pry the cap -1- off of the Generator - C- .

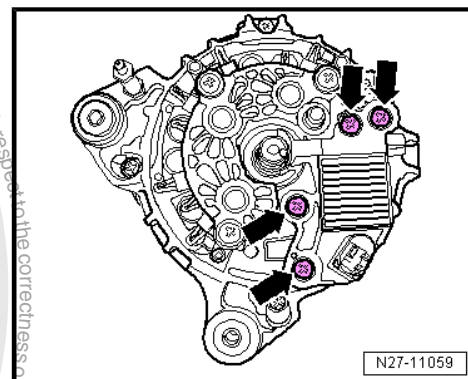




- Remove the bolts -arrows- for the Voltage Regulator - C1-
- Remove the Voltage Regulator - C1- from the Generator - C- .

Installing

Install in reverse order of removal and note the following:



Tightening Specifications

Component	Tightening Specification
Voltage Regulator - C1- Bolts	2 Nm

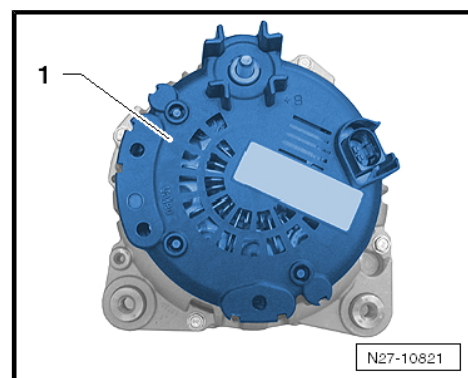
2.5.2 Voltage Regulator, Removing and Installing, Valeo

Special tools and workshop equipment required

- ◆ Torque Wrench 1783 - 2-10Nm - VAG1783-

Removing

- Remove the Generator - C- . Refer to ["2.2 Generator, Removing and Installing", page 23](#) .
- Carefully pry the cap -1- off of the Generator - C- .

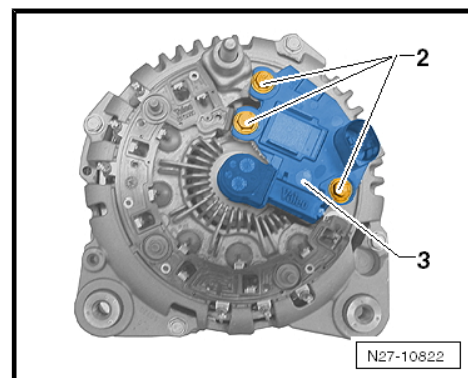


- Remove the Voltage Regulator - C1- -3- bolts -2-.
- Remove the Voltage Regulator - C1- -3- from the Generator - C- .

Installing

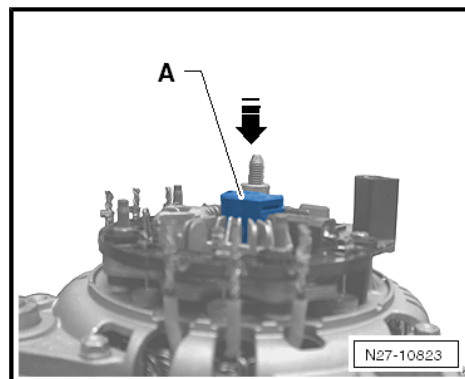
Install in reverse order of removal and note the following:

- Install the Voltage Regulator - C1- .

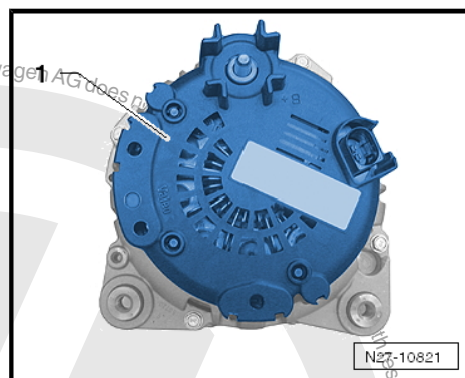




- Press the cap on the carbon brushes -A- down in direction of -arrow- until it is flush with the voltage regulator housing.



- Install the new cap -1- on the Generator - C- .



Tightening Specifications

Component	Tightening Specification
Voltage Regulator - C1- Bolts	4 Nm



3 Starter

⇒ [“3.1 Overview - Starter”, page 35](#)

⇒ [“3.2 Starter, Removing and Installing”, page 36](#)

3.1 Overview - Starter

⇒ [“3.1.1 Overview - Starter, Vehicles with Manual Transmission”, page 35](#)

⇒ [“3.1.2 Overview - Starter, Vehicles with Dual Clutch Transmission”, page 36](#)

3.1.1 Overview - Starter, Vehicles with Manual Transmission

1 - Starter - B-

- ☐ Removing and installing. Refer to
⇒ [“3.2.1 Starter, Removing and Installing, Vehicles with Manual Transmission”, page 36](#).

2 - Double Bolt

- ☐ 80 Nm

3 - Ground Wire

- ☐ Depending on the vehicle equipment

4 - Nut

- ☐ 20 Nm
- ☐ Depending on the vehicle equipment

5 - Connector

6 - Nut

- ☐ 20 Nm

7 - Cap

8 - 30/B+ Terminal

9 - Nut

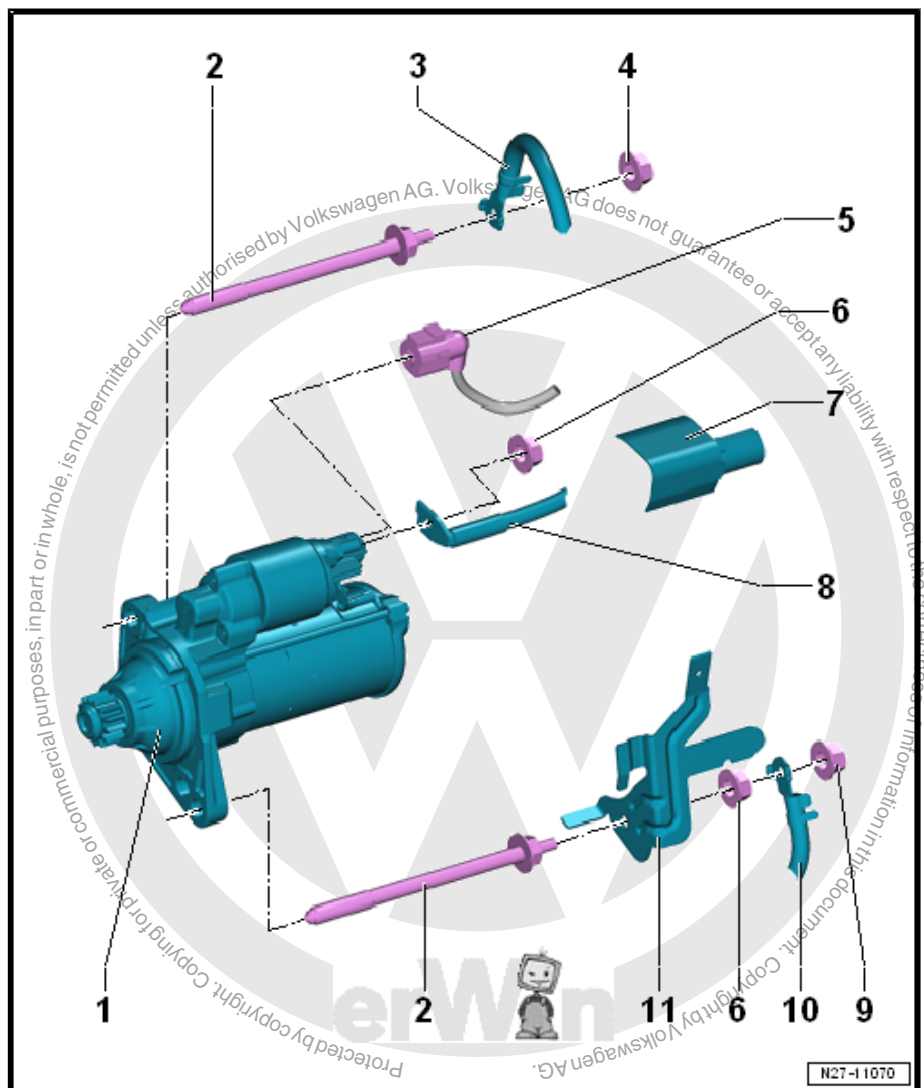
- ☐ 20 Nm
- ☐ Depending on the vehicle equipment

10 - Ground Wire

- ☐ Depending on the vehicle equipment

11 - Bracket

- ☐ For the wiring harness





3.1.2 Overview - Starter, Vehicles with Dual Clutch Transmission

1 - Starter - B-

- ❑ Removing and installing. Refer to
⇒ [“3.2.2 Starter, Removing and Installing, Vehicles with DSG® Transmission”, page 38](#).

2 - Bolt

- ❑ 40 Nm

3 - Connector

4 - Nut

- ❑ 20 Nm

5 - Cap

6 - 30/B+ Terminal

7 - Nut

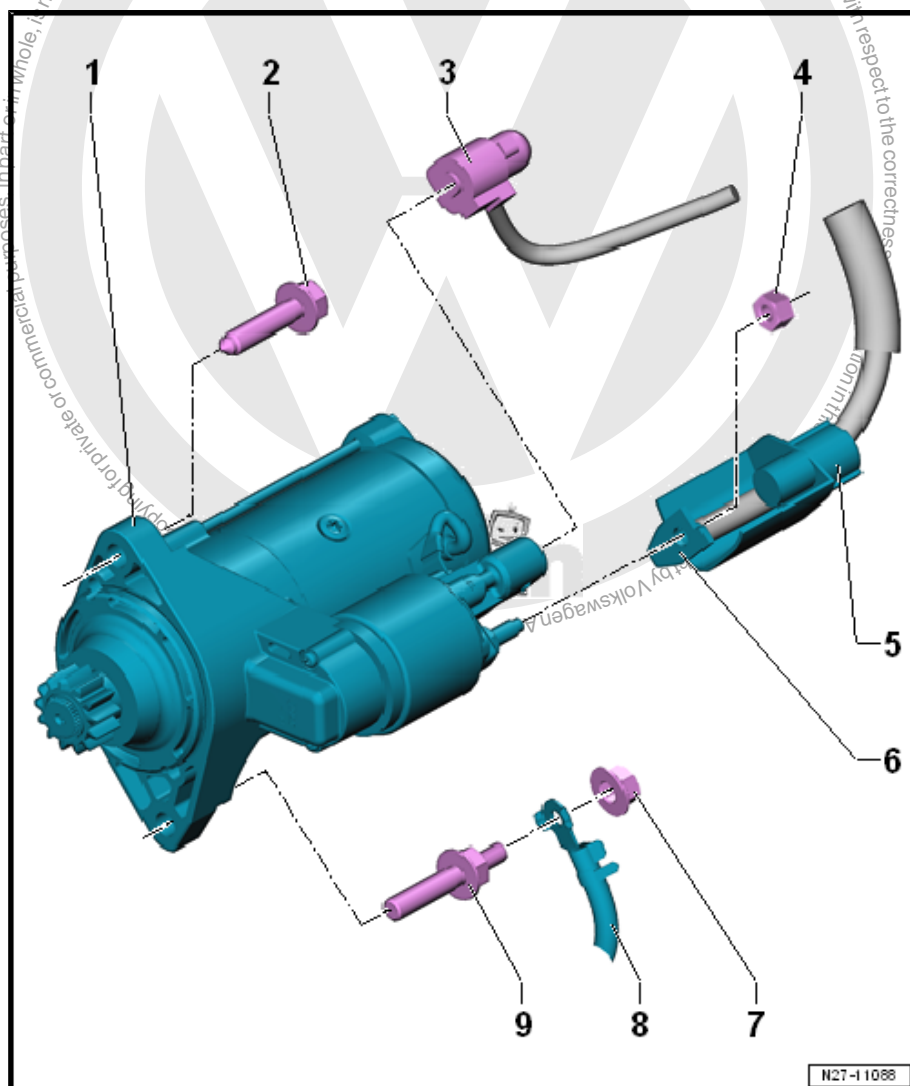
- ❑ 20 Nm
- ❑ Depending on the vehicle equipment

8 - Ground Wire

- ❑ Depending on the vehicle equipment

9 - Bolt

- ❑ 40 Nm



3.2 Starter, Removing and Installing

⇒ [“3.2.1 Starter, Removing and Installing, Vehicles with Manual Transmission”, page 36](#)

⇒ [“3.2.2 Starter, Removing and Installing, Vehicles with DSG® Transmission”, page 38](#)

3.2.1 Starter, Removing and Installing, Vehicles with Manual Transmission

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Torque Wrench 1332 40-200Nm - VAG1332-
- ◆ Valve Guide - Lower Control Arm Drift - 10-14-

Removing

- Disconnect the ground cable to the Battery - A- when the ignition is switched off. Refer to
⇒ [“1.3 Battery, Disconnecting and Connecting”, page 13](#).



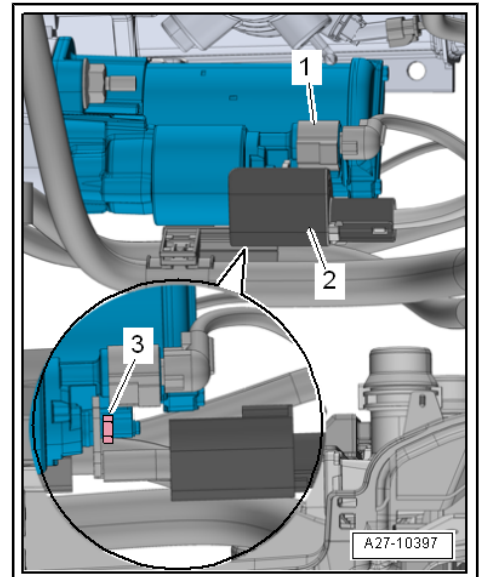
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Noise Insulation; Overview - Noise Insulation .

Vehicles with Air Filter Housing above Starter - B-

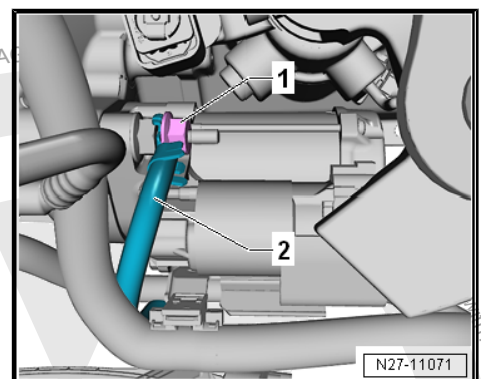
- Remove the air filter housing. Refer to ⇒ Rep. Gr. 23 ; Air Filter; Air Filter Housing, Removing and Installing or ⇒ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .

Continuation for All Vehicles

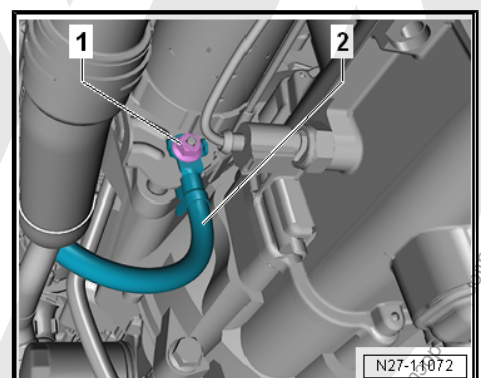
- Disconnect the connector -1-.
- Pry up the cap -2-.
- Remove the nut -3- and terminal 30/B+.



- If equipped, remove the nut -1- on the upper starter bolt.
- Remove the ground cable -2-.



- If equipped, remove the nut -1- on the lower starter bolt.
- Remove the ground cable -2-.





- Remove the nut -4- and remove the wiring harness bracket -1-.



Note

The wires remain connected.

- Remove the bolts -2 and 5- for the Starter - B- -3-.
- Remove the Starter - B- -3- downward.

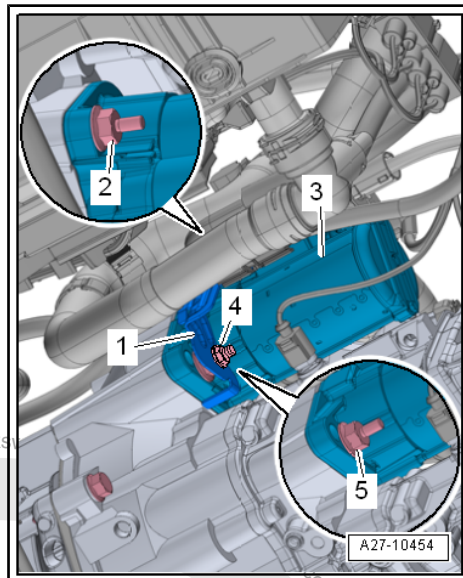
Installing

Install in reverse order of removal and note the following:

- Connect the Battery - A- . Refer to
⇒ [“1.3 Battery, Disconnecting and Connecting”, page 13](#),

Tightening Specifications

- ◆ Refer to
⇒ [“3.1.1 Overview - Starter, Vehicles with Manual Transmission”, page 35](#)



3.2.2 Starter, Removing and Installing, Vehicles with DSG® Transmission

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Torque Wrench 1332 40-200Nm - VAG1332-

Removing

- Disconnect the ground cable to the Battery - A- when the ignition is switched off. Refer to
⇒ [“1.3 Battery, Disconnecting and Connecting”, page 13](#) .

Vehicles with Air Filter Housing above Starter - B-

- Remove the air filter housing. Refer to ⇒ Rep. Gr. 23 ; Air Filter; Air Filter Housing, Removing and Installing or ⇒ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .

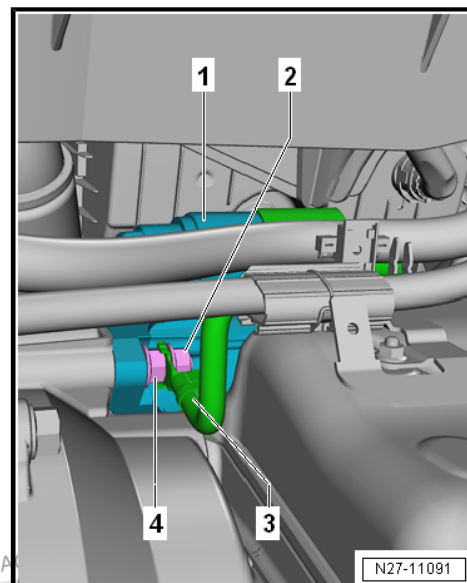
Continuation for All Vehicles

- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Noise Insulation; Overview - Noise Insulation .





- Remove the nut -2- on the lower starter bolt -4-.
- Remove the ground wire -3-.
- Remove the bolt -4- for the Starter - B- -1-.



- Disconnect the connector -3-.
- Remove the cap -4-.
- Remove the nut -5- and terminal 30/B+.
- Remove the bolt -1- for the Starter - B- -2-.
- Remove the Starter - B- -2- upward.

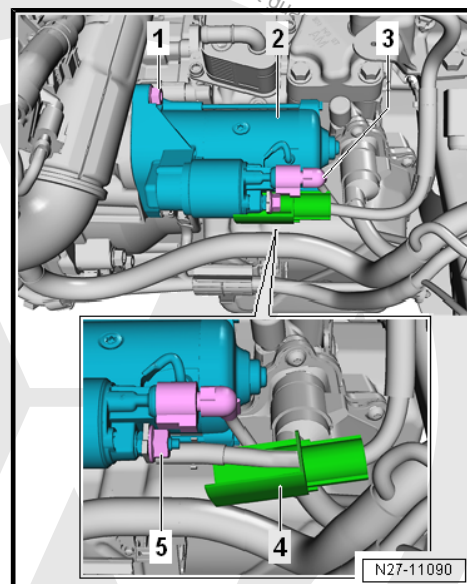
Installing

Install in reverse order of removal and note the following:

- Connect the Battery - A- . Refer to [⇒ "1.3 Battery, Disconnecting and Connecting", page 13](#) ,

Tightening Specifications

- ◆ Refer to [⇒ "3.1.2 Overview - Starter, Vehicles with Dual Clutch Transmission", page 36](#)





4 Cruise Control System

Refer to ⇒ Electrical Equipment General Information; Rep. Gr.
27 ; Cruise Control System .





5 Start/Stop System

⇒ ["5.1 General Description - Start/Stop System", page 41](#)

5.1 General Description - Start/Stop System

The Start/Stop System reduces fuel consumption by turning off the engine when the vehicle is at a standstill and turning the engine back on when the driver starts to drive. The Stop/Start System activation occurs automatically. It occurs as soon as the vehicle starts to drive for approximately 4 seconds at speeds of at least 3 km/h.



6 Adaptive Cruise Control (ACC)

⇒ [“6.1 Component Location Overview - Adaptive Cruise Control \(ACC\)”, page 42](#)

⇒ [“6.2 Control Module for Adaptive Cruise Control, Removing and Installing”, page 43](#)

⇒ [“6.3 Adaptive Cruise Control \(ACC\), Calibrating”, page 43](#)

6.1 Component Location Overview - Adaptive Cruise Control (ACC)

1 - Instrument Cluster - KX2-

- ❑ With Instrument Cluster Control Module - J285-
- ❑ Removing and installing. Refer to ⇒ [“1.3 Instrument Cluster KX2, Removing and Installing”, page 50](#).

2 - Adaptive Cruise Control Button - E357-

- ❑ Is integrated in the multifunction steering wheel.
- ❑ Removing and installing. Refer to ⇒ Communication; Rep. Gr. 91 ; Multifunction Steering Wheel; Right and Left Multifunction Buttons on Steering Wheel -E441- / -E440- , Removing and Installing .

3 - Connector

4 - Radiator Grille

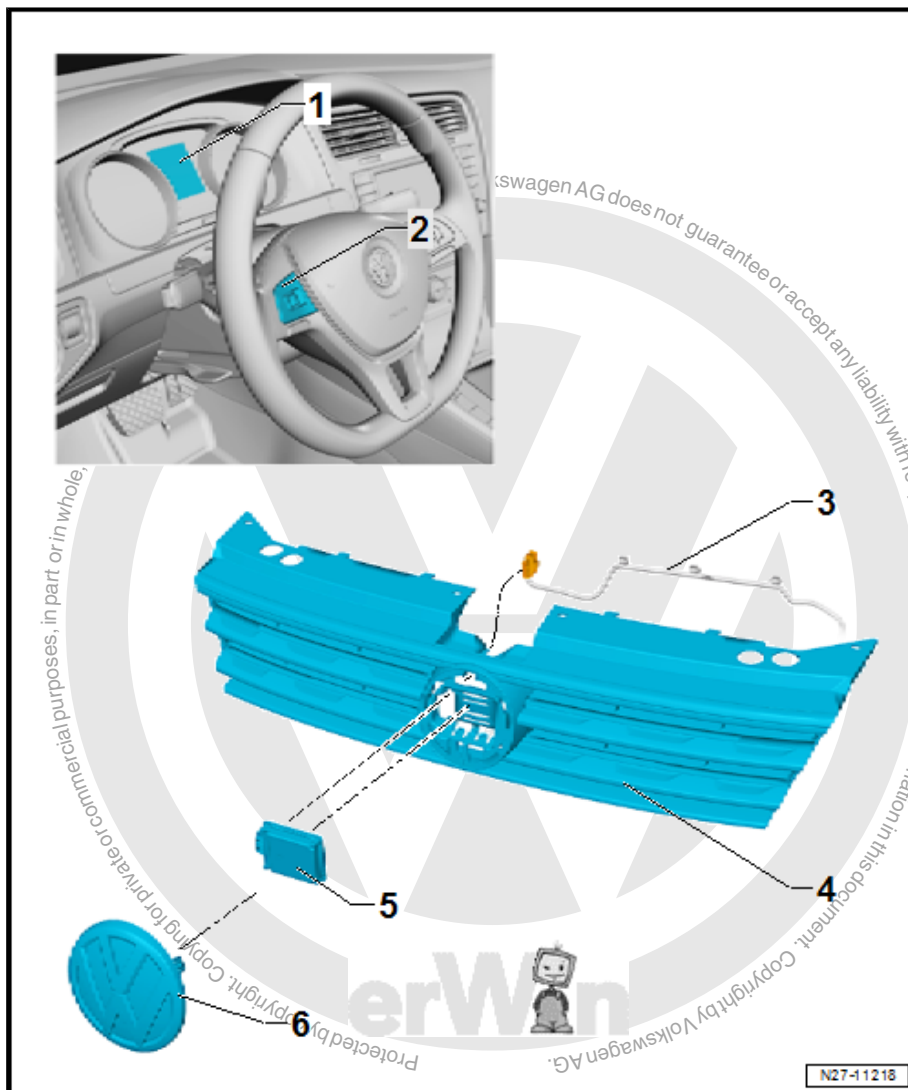
- ❑ Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Radiator Grille/Front Trim; Radiator Grille, Removing and Installing .

5 - Control Module for Adaptive Cruise Control - J428-

- ❑ Calibrating. Refer to ⇒ [“6.3 Adaptive Cruise Control \(ACC\), Calibrating”, page 43](#).
- ❑ Removing and installing. Refer to ⇒ [“6.2 Control Module for Adaptive Cruise Control, Removing and Installing”, page 43](#).

6 - VW Emblem

- ❑ Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Name Badges and Emblems; Front Emblems, Removing and Installing .





6.2 Control Module for Adaptive Cruise Control, Removing and Installing



Note

If the Control Module for Adaptive Cruise Control - J428- is replaced, start the respective function. Refer to Vehicle Diagnostic Tester .

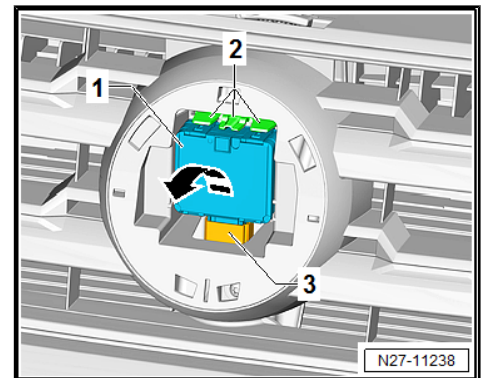
Removing

- Remove the VW emblem from the radiator grille. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Name Badges and Emblems; Front Emblems, Removing and Installing .
- Release the tabs -2-.
- At the same time, pivot the Control Module for Adaptive Cruise Control - J428- -1- out of the radiator grille in the direction of -arrow-.
- Release and disconnect the connector -3-.

Installing

Install in reverse order of removal and note the following:

- The Control Module for Adaptive Cruise Control - J428- must engage audibly and securely in the radiator grille.
- If necessary, calibrate the adaptive cruise control (ACC). Refer to
⇒ ["6.3 Adaptive Cruise Control \(ACC\), Calibrating", page 43](#) .



6.3 Adaptive Cruise Control (ACC), Calibrating

Conditions

- The Control Module for Adaptive Cruise Control - J428- must be calibrated under the following conditions:
 - ◆ Control Module for Adaptive Cruise Control - J428- was replaced.
 - ◆ Lock carrier service position was performed
 - ◆ Lock carrier was removed and installed
 - ◆ Lock carrier was replaced
 - ◆ Rear axle toe was adjusted



Note

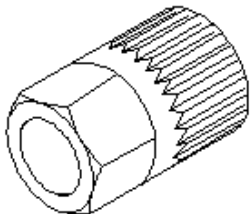


- ◆ *Too great of a horizontal adjustment of the Control Module for Adaptive Cruise Control - J428- causes the ACC/Front Assist functions to remain switched off. This is indicated by the following message in the Instrument Cluster - KX2- : ACC/Front Assist not available.*
- ◆ *A limited sensor view due to a dirty sensor or inclement weather conditions (for example, heavy rain, snowfall, iced over sensor etc.) causes the ACC/Front Assist functions to be temporarily unavailable. This is indicated by the following message in the Instrument Cluster - KX2- : ACC/Front Assist: No sensor view.*
- Calibrate the adaptive cruise control. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 44 ; Adaptive Cruise Control; Adaptive Cruise Control, Calibrating .



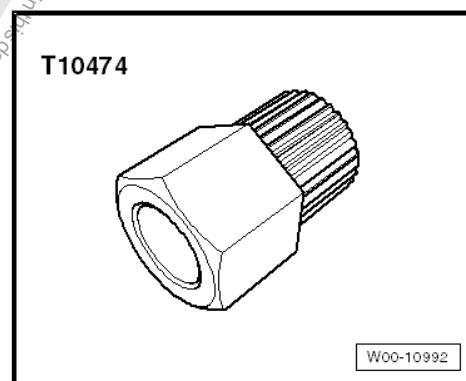


7 Special Tools

Special tools and workshop equipment required

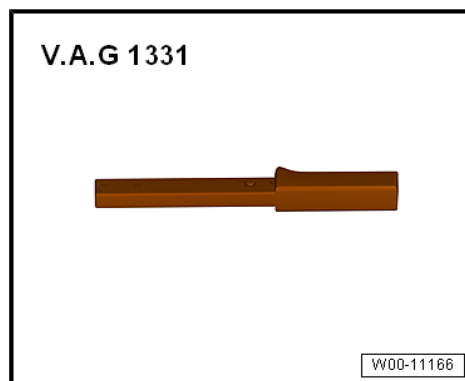
<p>3400</p> 	<p>V.A.G 1332</p> 
<p>V.A.G 1603/1</p> 	
	<p>WV27-10006</p>

- ◆ Multi-Tooth Adapter - 3400-
- ◆ Torque Wrench 1332 40-200Nm - VAG1332-
- ◆ Torx Key Socket Set - 1 Screwdriver Bit T45 - VAG1603A/1-
- ◆ Adapter - T10474-

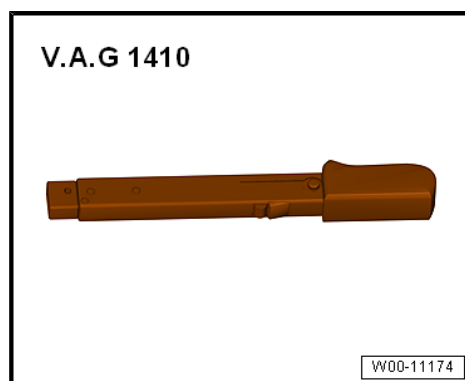




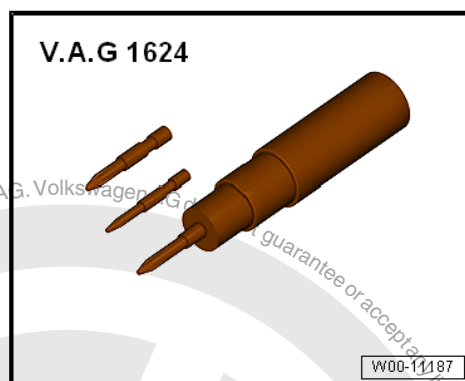
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-



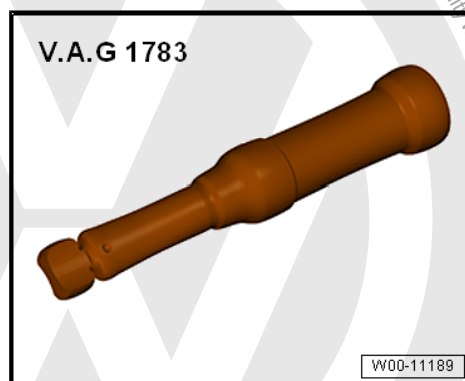
- ◆ Torque Wrench 1410 - VAG1410-



- ◆ Torque Screwdriver - VAG1624-

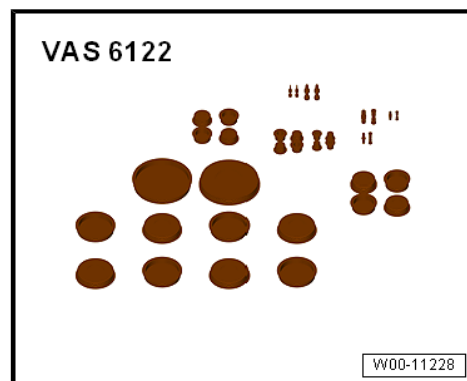


- ◆ Torque Wrench 1783 - 2-10Nm - VAG1783-

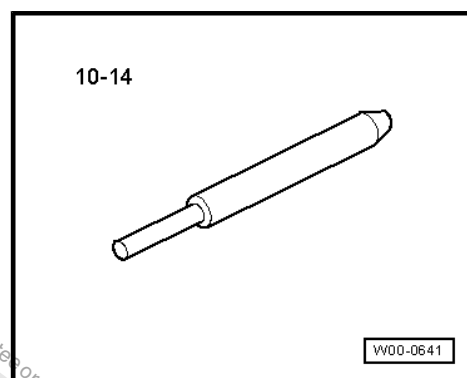




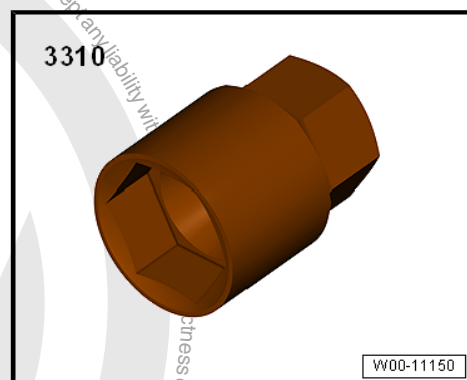
◆ Engine Bung Set - VAS6122-



◆ Valve Guide - Lower Control Arm Drift - 10-14-



◆ Generator Belt Socket - 3310-





90 – Instruments

1 Instrument Cluster

⇒ [“1.1 Overview - Instrument Cluster”, page 48](#)

⇒ [“1.2 Overview - Windshield Projection \(Head-Up Display\)”, page 50](#)

⇒ [“1.3 Instrument Cluster KX2, Removing and Installing”, page 50](#)

⇒ [“1.4 Windshield Projection Head Up Display Control Module, Removing and Installing”, page 54](#)

1.1 Overview - Instrument Cluster

⇒ [“1.1.1 Overview - Instrument Cluster, Instrument Cluster with Analog Instruments”, page 48](#)

⇒ [“1.1.2 Overview - Instrument Cluster, Fully Digital Instrument Cluster”, page 49](#)

1.1.1 Overview - Instrument Cluster, Instrument Cluster with Analog Instruments

1 - Connector

- ❑ For the instrument cluster

2 - Instrument Cluster - KX2-

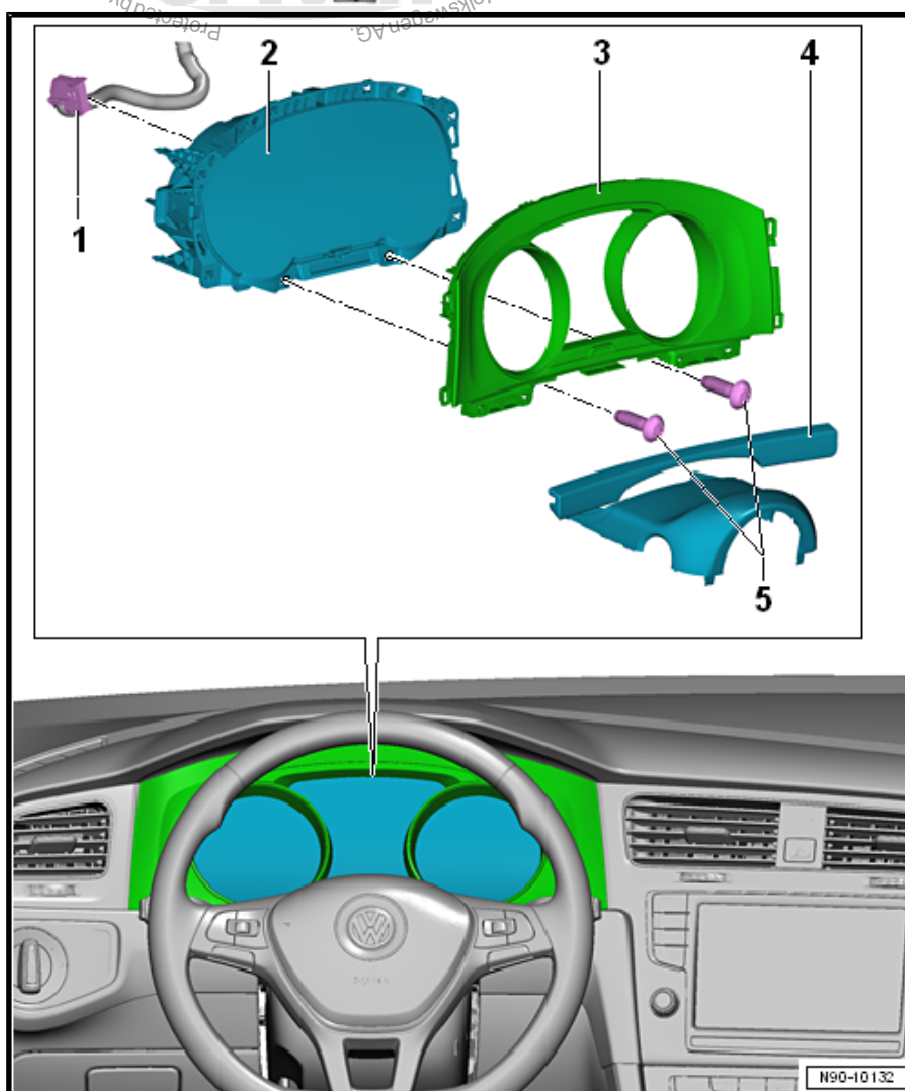
- ❑ With Instrument Cluster Control Module - J285-
- ❑ If an LED for the indicator lamps or instrument cluster illumination is faulty, the instrument cluster must be replaced
- ❑ Removing and installing. Refer to ⇒ [“1.3.1 Instrument Cluster KX2, Removing and Installing, Instrument Cluster with Analog Instruments”, page 50](#).

3 - Instrument Cluster Trim Molding

- ❑ Removing and installing. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel; Instrument Panel Decorative Trim, Removing and Installing.

4 - Upper Steering Column Trim Panel

- ❑ Overview. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Overview - Steering Column Trim Panel.





5 - Bolt

- ☐ 1.5 Nm
- ☐ Quantity: 2

1.1.2 Overview - Instrument Cluster, Fully Digital Instrument Cluster

1 - Connector

- ☐ For the instrument cluster

2 - Instrument Cluster - KX2-

- ☐ With Instrument Cluster Control Module - J285-
- ☐ Removing and installing. Refer to [⇒ "1.3.2 Instrument Cluster KX2, Removing and Installing, All-Digital Instrument Cluster", page 52](#).

3 - MOST Bus Connector

- ☐ For the instrument cluster

4 - Instrument Cluster Trim Molding

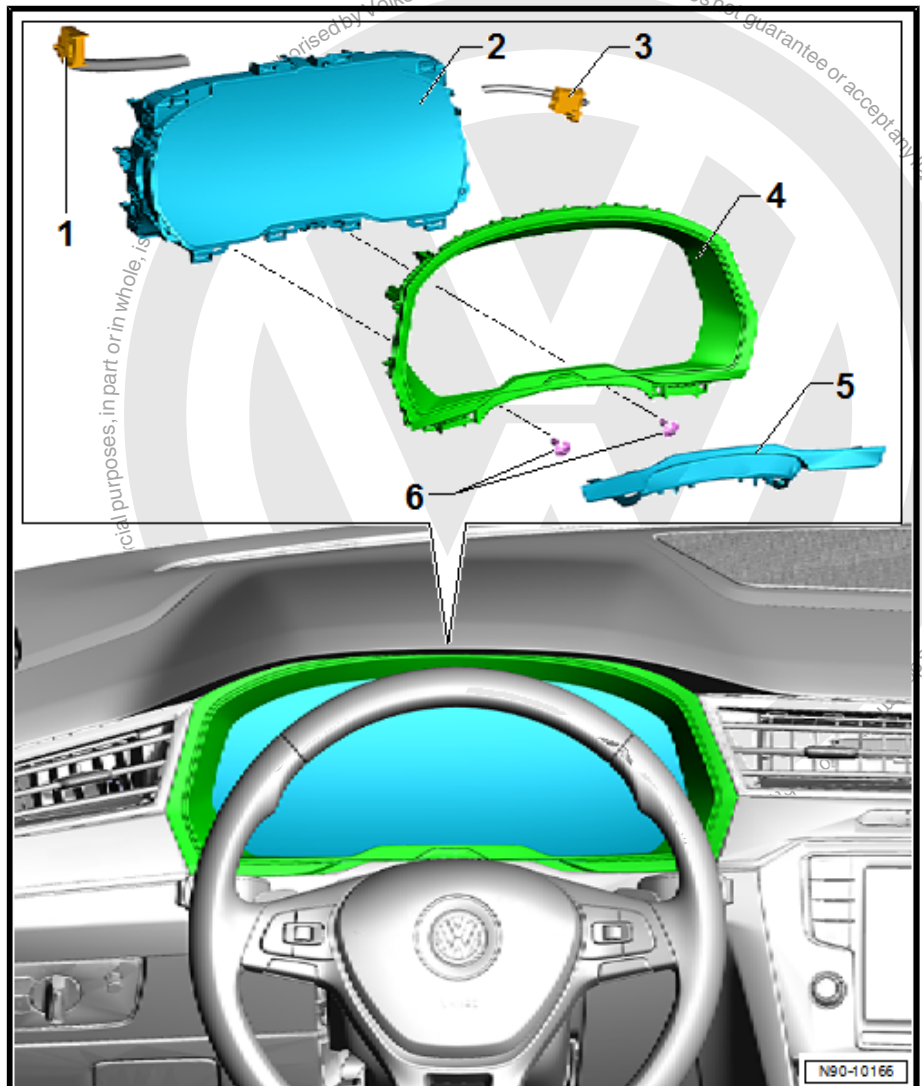
- ☐ Removing and installing. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel; Instrument Panel Decorative Trim, Removing and Installing .

5 - Upper Steering Column Trim Panel

- ☐ Overview. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Overview - Steering Column Trim Panel .

6 - Bolt

- ☐ 1.5 Nm
- ☐ Quantity: 2





1.2 Overview - Windshield Projection (Head-Up Display)



Note

For reasons of clarity, the instrument panel is not illustrated.

1 - Windshield Projection Head Up Display Control Module - J898-

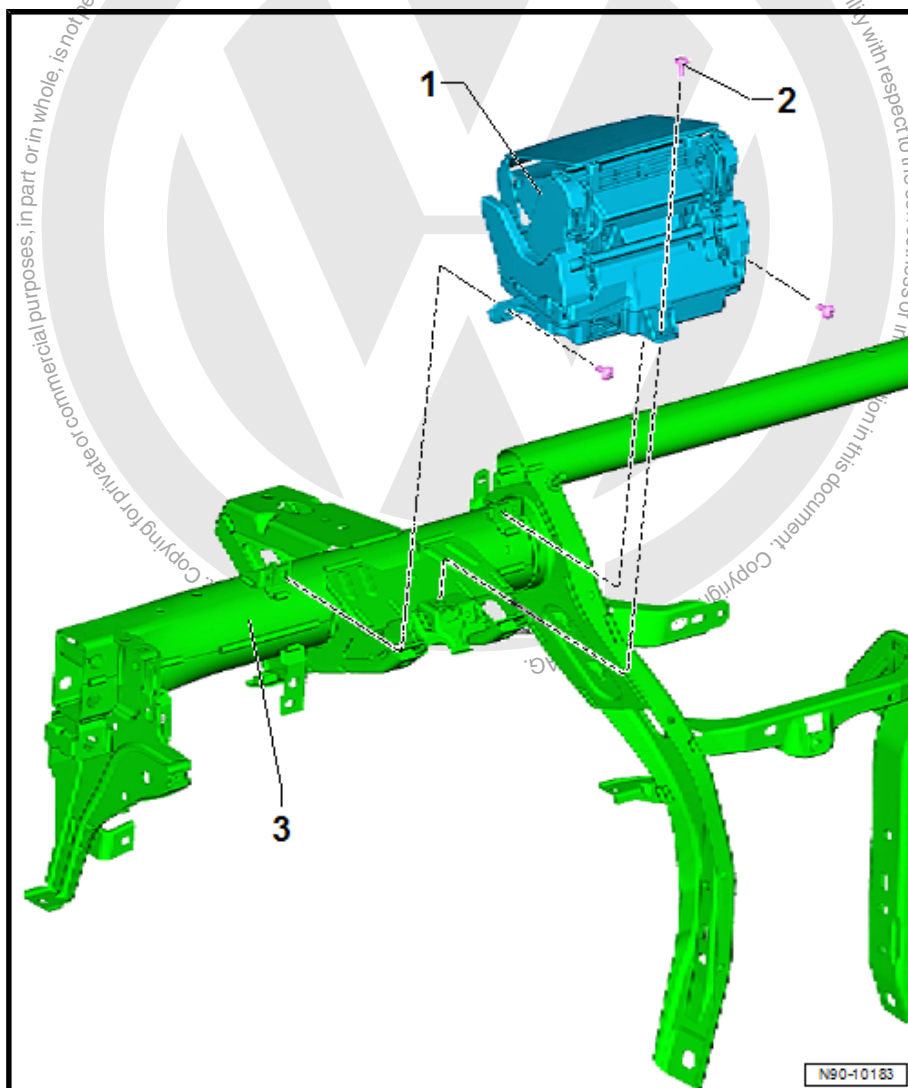
- ❑ Removing and installing. Refer to
⇒ ["1.4 Windshield Projection Head Up Display Control Module, Removing and Installing", page 54](#).

2 - Bolt

- ❑ 1.5 Nm
- ❑ Quantity: 3

3 - Crossmember

- ❑ Overview. Refer to ⇒
Body Interior; Rep. Gr. 70 ; Instrument Panel Crossmember; Overview - Instrument Panel Crossmember.



1.3 Instrument Cluster - KX2- , Removing and Installing

⇒ ["1.3.1 Instrument Cluster KX2 , Removing and Installing, Instrument Cluster with Analog Instruments", page 50](#)

⇒ ["1.3.2 Instrument Cluster KX2 , Removing and Installing, All-Digital Instrument Cluster", page 52](#)

1.3.1 Instrument Cluster - KX2- , Removing and Installing, Instrument Cluster with Analog Instruments

Special tools and workshop equipment required

- ◆ Torque Screwdriver - VAG1624-



Note

- ◆ All indicator lamps in the Instrument Cluster - KX2- have LEDs. LEDs cannot be replaced separately if faulty. The instrument cluster must be replaced.
- ◆ Do not disassemble the Instrument Cluster - KX2- .
- ◆ It is not necessary to remove the steering wheel in order to remove the Instrument Cluster - KX2- .
- ◆ If the Instrument Cluster - KX2- is replaced with the Instrument Cluster Control Module - J285- , select the "Replace" function for the corresponding control module in "Guided Fault Finding" or "Guided Functions" mode. Refer to Vehicle Diagnostic Tester .

General Description:

The following components are integrated in the Instrument Cluster - KX2- :

- ◆ Instrument Cluster Control Module - J285-
- ◆ Fuel Gauge - G1-
- ◆ Speedometer - G21-
- ◆ Engine Coolant Temperature Gauge - G3-
- ◆ Tachometer - G5-
- ◆ Indicator lamps

Removing

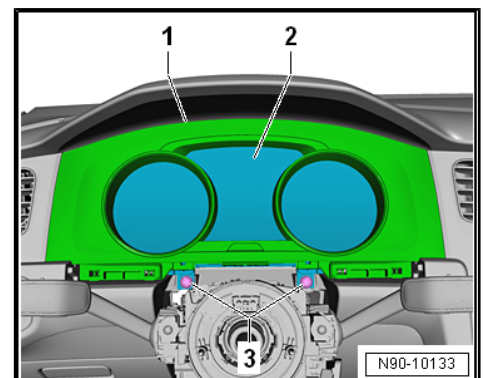
- Position the steering wheel as far back and down as possible. Use the entire adjustment range of the steering column adjustment for this.
- Switch off the ignition.
- Move the ignition key outside of the vehicle to prevent the ignition from switching on unintentionally.
- Unclip the upper steering column trim panel gap cover carefully from the mount on the instrument cluster, but do not remove completely. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments/Covers; Upper Steering Column Trim Panel, Removing and Installing .
- Remove the bolts -3-.



Note

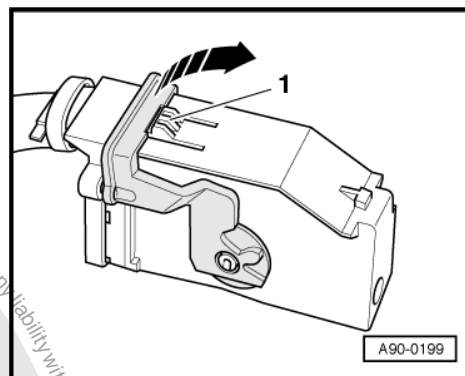
The Instrument Cluster - KX2- is engaged in the instrument panel. A greater amount of force is necessary for removal.

- Remove the Instrument Cluster - KX2- -2- with instrument cluster trim -1- until it contacts the steering wheel.
- Disconnect the connector.





- To disconnect the connector, press the catch -1-.
- Pivot the retaining bracket in the direction of -arrow- and disconnect the connector.
- Remove the Instrument Cluster - KX2- between the steering wheel and the instrument panel.
- If the Instrument Cluster - KX2- is replaced, then remove the instrument cluster trim from the Instrument Cluster - KX2- .
Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel; Instrument Cluster Trim, Removing and Installing .



Installing

Install in reverse order of removal.

Tightening Specifications

- ◆ Refer to
⇒ ["1.1.1 Overview - Instrument Cluster, Instrument Cluster with Analog Instruments", page 48](#)

13.2 Instrument Cluster - KX2- , Removing and Installing, All-Digital Instrument Cluster

Special tools and workshop equipment required

- ◆ Lock Cylinder Housing Assembly Tool - T10389-
- ◆ Torque Screwdriver - VAG1624-
- ◆ Fiber-Optic Repair Set - Connector Protective Caps - VAS6223/9-



Note

- ◆ *Do not disassemble the Instrument Cluster - KX2- .*
- ◆ *It is not necessary to remove the steering wheel in order to remove the Instrument Cluster - KX2- .*
- ◆ *If the Instrument Cluster - KX2- is replaced with the Instrument Cluster Control Module - J285- , select the "Replace" function for the corresponding control module in "Guided Fault Finding" or "Guided Functions" mode. Refer to Vehicle Diagnostic Tester .*



Removing

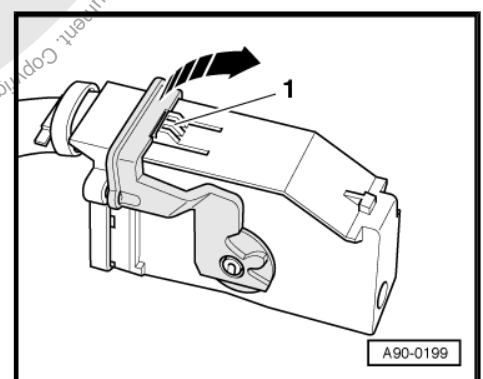
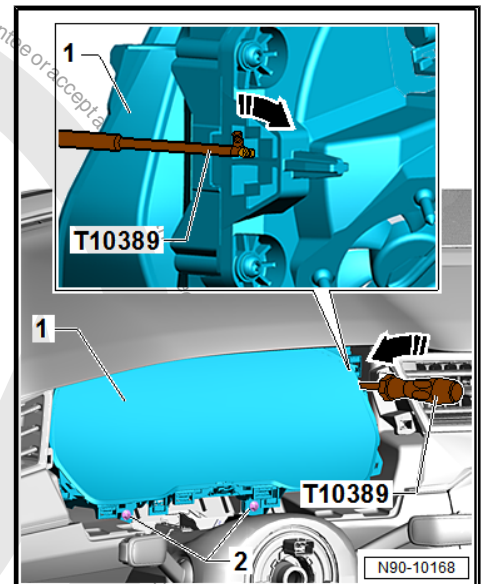
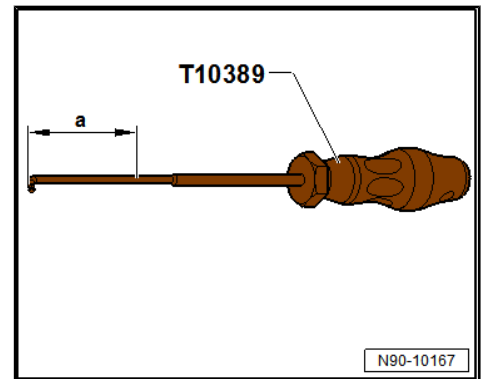
- Make a mark on the -T10389- with the dimension -a- using fabric-reinforced adhesive tape, for example.
- ◆ Dimension -a-: 46.5 mm
- Position the steering wheel as far back and down as possible. Use the entire adjustment range of the steering column adjustment for this.
- Switch off the ignition.
- Move the ignition key outside of the vehicle to prevent the ignition from switching on unintentionally.
- Unclip the upper steering column trim panel gap cover carefully from the mount on the instrument cluster, but do not remove completely. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments/Covers; Upper Steering Column Trim Panel, Removing and Installing .
- Remove the instrument cluster trim. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel; Instrument Cluster Trim, Removing and Installing .
- Remove the bolts -2-.
- Carefully insert the -T10389- between the Instrument Cluster - KX2- -1- and the instrument panel until the marking on the assembly tool is flush with the instrument cluster.
- Turn the -T10389- 90° so that the »hook« on the assembly tool engages into the recess on the Instrument Cluster - KX2- -1-.



Note

The Instrument Cluster - KX2- is engaged in the instrument panel. A greater amount of force is necessary for removal.

- Loosen the Instrument Cluster - KX2- -1- from the instrument cluster catches using the -T10389- .
- Repeat the procedure on the other side of the Instrument Cluster - KX2- .
- Pull the Instrument Cluster - KX2- out until the connectors are accessible.
- Disconnect the connector.
- To disconnect the connector, press the catch -1-.
- Pivot the retaining bracket in the direction of -arrow- and disconnect the connector.
- Release and disconnect the connector for the MOST bus.





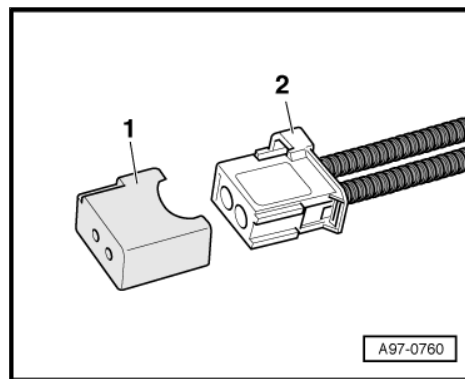
- Insert the -VAS6223/9- -1- onto the MOST bus connector -2-.
- Remove the Instrument Cluster - KX2- between the steering wheel and the instrument panel.

Installing

Install in reverse order of removal.

Tightening Specifications

- ◆ Refer to
⇒ ["1.1.2 Overview - Instrument Cluster, Fully Digital Instrument Cluster", page 49](#)



1.4 Windshield Projection Head Up Display Control Module, Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Screwdriver - VAG1624-

Removing



Note

For reasons of clarity, the steering wheel is not illustrated.

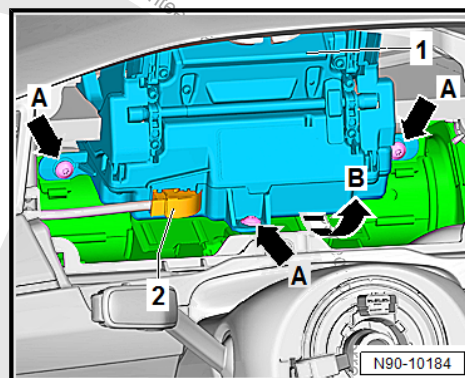
- Remove the Instrument Cluster - KX2- . Refer to
⇒ ["1.3 Instrument Cluster KX2 , Removing and Installing", page 50](#) .
- Release and disconnect the connector -2-.
- Remove the bolts -A arrows-
- Pivot the windshield projection control module out of the instrument panel in the direction of the -arrow B-.

Installing

Install in reverse order of removal.

Tightening Specifications

- ◆ Refer to
⇒ ["1.2 Overview - Windshield Projection \(Head-Up Display\)", page 50](#)





2 Clock

⇒ **"2.1 Clock, Removing and Installing", page 55**

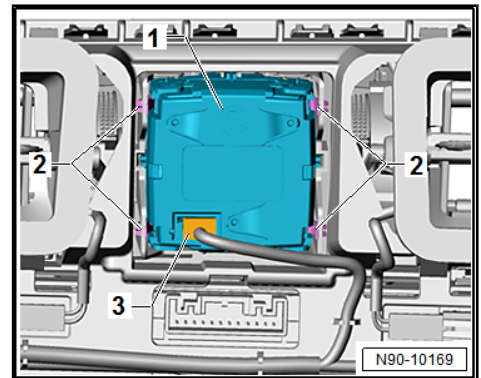
2.1 Clock, Removing and Installing

Removing

- Remove the front passenger side instrument panel vent. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel; Outer Instrument Panel Vent, Removing and Installing .
- Release and disconnect the connector -3-.
- Release the catches -2- on the Analog Clock - Y- -1-.
- Remove the Analog Clock - Y- -1- toward the rear from the front passenger side instrument panel vent.

Installing

Install in reverse order of removal.





3 Horn

⇒ [“3.1 Overview - Horn”, page 56](#)

⇒ [“3.2 High Tone Horn H2 / Low Tone Horn H7 , Removing and Installing”, page 56](#)

3.1 Overview - Horn

1 - Bracket

- ☐ For the horn
- ☐ Removing and installing. Refer to
⇒ [“3.2 High Tone Horn H2 / Low Tone Horn H7 , Removing and Installing”, page 56](#) .

2 - Bolt

- ☐ 18 Nm.

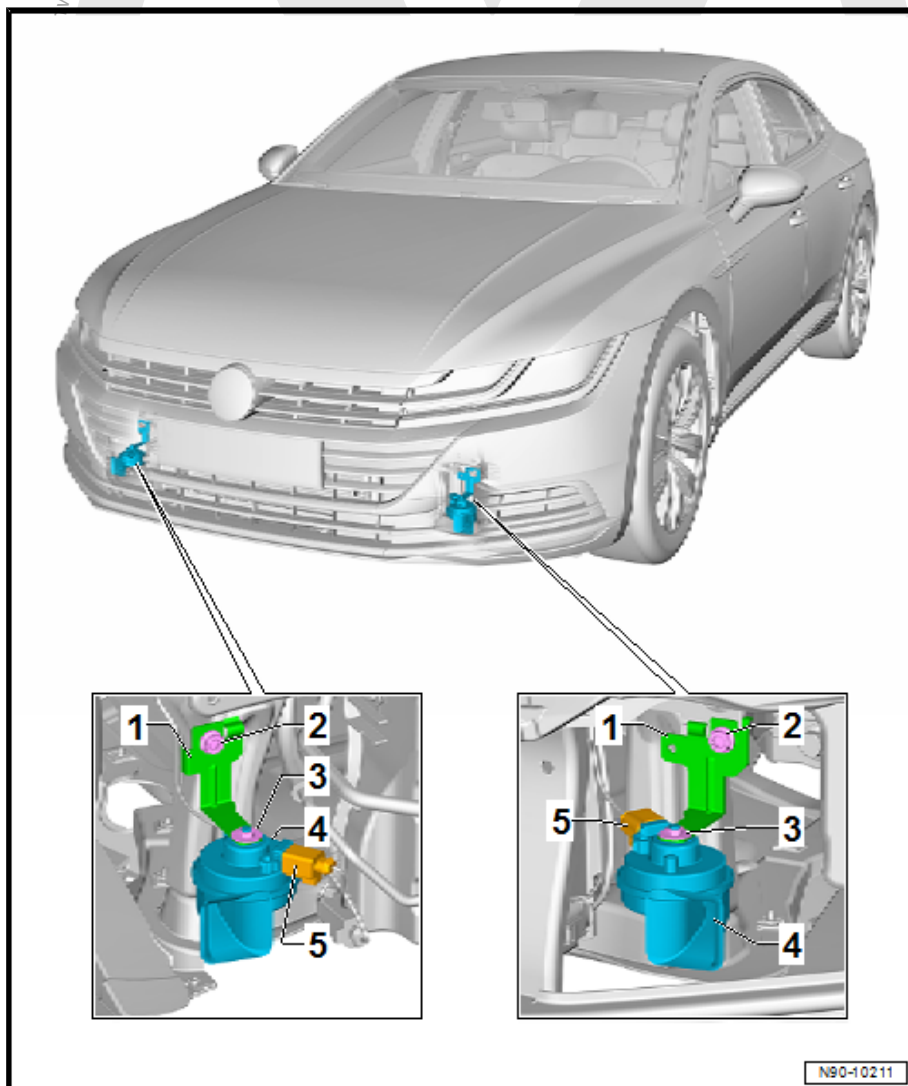
3 - Nut

- ☐ 9 Nm.

4 - Horn

- ☐ High Tone Horn - H2- is installed on the left
- ☐ Low Tone Horn - H7- in installed on the right
- ☐ Removing and installing. Refer to
⇒ [“3.2 High Tone Horn H2 / Low Tone Horn H7 , Removing and Installing”, page 56](#) .

5 - Connector



3.2 High Tone Horn - H2- / Low Tone Horn - H7- , Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

Removing

Vehicles without Auxiliary Radiator

- Remove the front section of the front wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Front Wheel Housing Liner, Removing and Installing .



Vehicles with Auxiliary Radiator

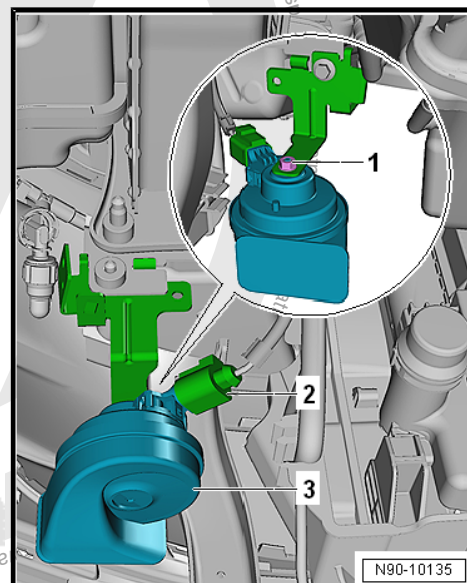
- Remove the front bumper cover. Refer to ⇒ Body Exterior; Rep. Gr. 63 ; Front Bumper; Bumper Cover, Removing and Installing .
- Remove the nut -1-.
- Remove the horn -3- from the bracket.
- Disconnect the connector -2-.

Install the Horn

Install in reverse order of removal.

Tightening Specifications

- ◆ Refer to ⇒ [“3.1 Overview - Horn”, page 56](#)



Bracket with Horn, Removing

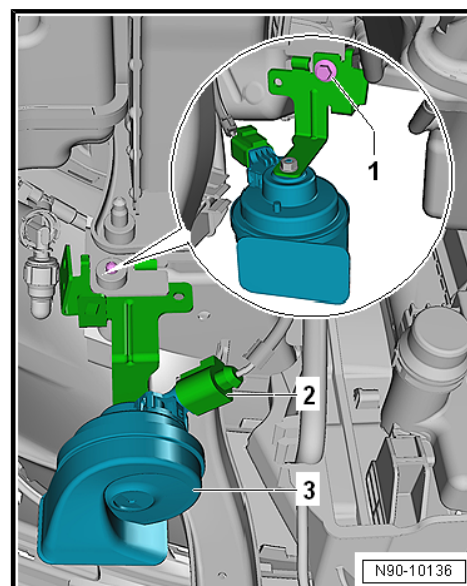
- Remove the bolt -1-.
- Remove the bracket with the horn -3-.
- Disconnect the connector -2-.

Install the Bracket and Horn.

Install in reverse order of removal.

Tightening Specifications

- ◆ Refer to ⇒ [“3.1 Overview - Horn”, page 56](#)

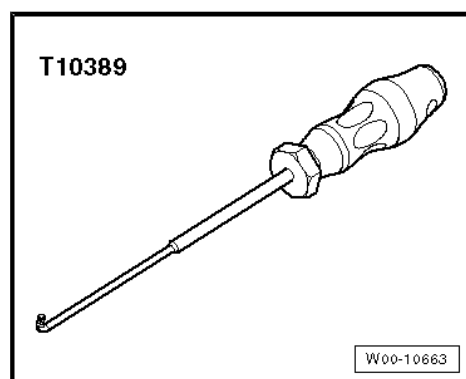




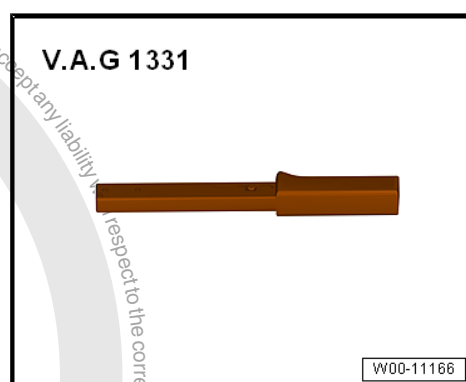
4 Special Tools

Special tools and workshop equipment required

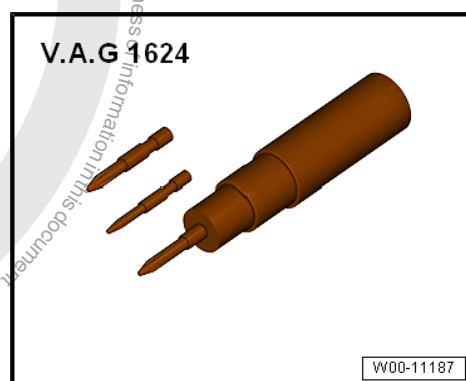
- ◆ Lock Cylinder Housing Assembly Tool - T10389-



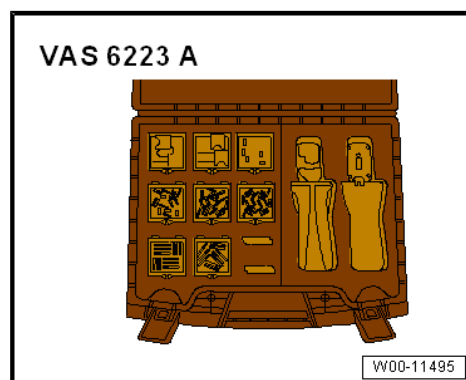
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-



- ◆ Torque Screwdriver - VAG1624-



- ◆ Fiber-Optic Repair Set - Connector Protective Caps - VAS6223/9- .





92 – Wiper/Washer Systems

1 Windshield Wiper System

⇒ [“1.1 Overview - Windshield Wiper System”, page 59](#)

⇒ [“1.2 Windshield Wiper, Bringing into Service Position”, page 61](#)

⇒ [“1.3 Wiper Blade, Removing and Installing”, page 61](#)

⇒ [“1.4 Windshield Wiper Arms, Removing and Installing”, page 62](#)

⇒ [“1.5 Windshield Wiper Arms, Adjusting”, page 63](#)

⇒ [“1.6 Windshield Wiper Motor V , Removing and Installing”, page 64](#)

⇒ [“1.7 Windshield Wiper Motor, Deactivating Alternating Park Position Function”, page 65](#)

⇒ [“1.8 Rain/Light Recognition Sensor, Removing and Installing”, page 66](#)

⇒ [“1.9 Rain/Light Recognition Sensor, Servicing”, page 68](#)

1.1 Overview - Windshield Wiper System





1 - Front Passenger Side Wiper Blade

- ❑ There are different lengths. Refer to the Parts Catalog.
- ❑ Removing and installing. Refer to
⇒ ["1.3 Wiper Blade, Removing and Installing", page 61](#).

2 - Driver Side Wiper Blade

- ❑ There are different lengths. Refer to the Parts Catalog.
- ❑ Removing and installing. Refer to
⇒ ["1.3 Wiper Blade, Removing and Installing", page 61](#).

3 - Driver Side Windshield Wiper Arm

- ❑ There are different lengths. Refer to the Parts Catalog.
- ❑ Removing and installing. Refer to
⇒ ["1.4 Windshield Wiper Arms, Removing and Installing", page 62](#).
- ❑ Adjusting. Refer to
⇒ ["1.5 Windshield Wiper Arms, Adjusting", page 63](#).

4 - Cap

5 - Nut

- ❑ 20 Nm

6 - Bolt

- ❑ Tightening specification and sequence. Refer to
⇒ [Fig. "Windshield Wiper Frame - Tightening Specification and Sequence", page 61](#).

7 - Windshield Wiper Frame

- ❑ With Windshield Wiper Motor - V-
- ❑ With the Wiper Motor Control Module - J400-
- ❑ Removing and installing. Refer to
⇒ ["1.6 Windshield Wiper Motor V, Removing and Installing", page 64](#).

8 - Bolt

- ❑ Tightening specification and sequence. Refer to
⇒ [Fig. "Windshield Wiper Frame - Tightening Specification and Sequence", page 61](#).

9 - Bolt

- ❑ Tightening specification and sequence. Refer to
⇒ [Fig. "Windshield Wiper Frame - Tightening Specification and Sequence", page 61](#).

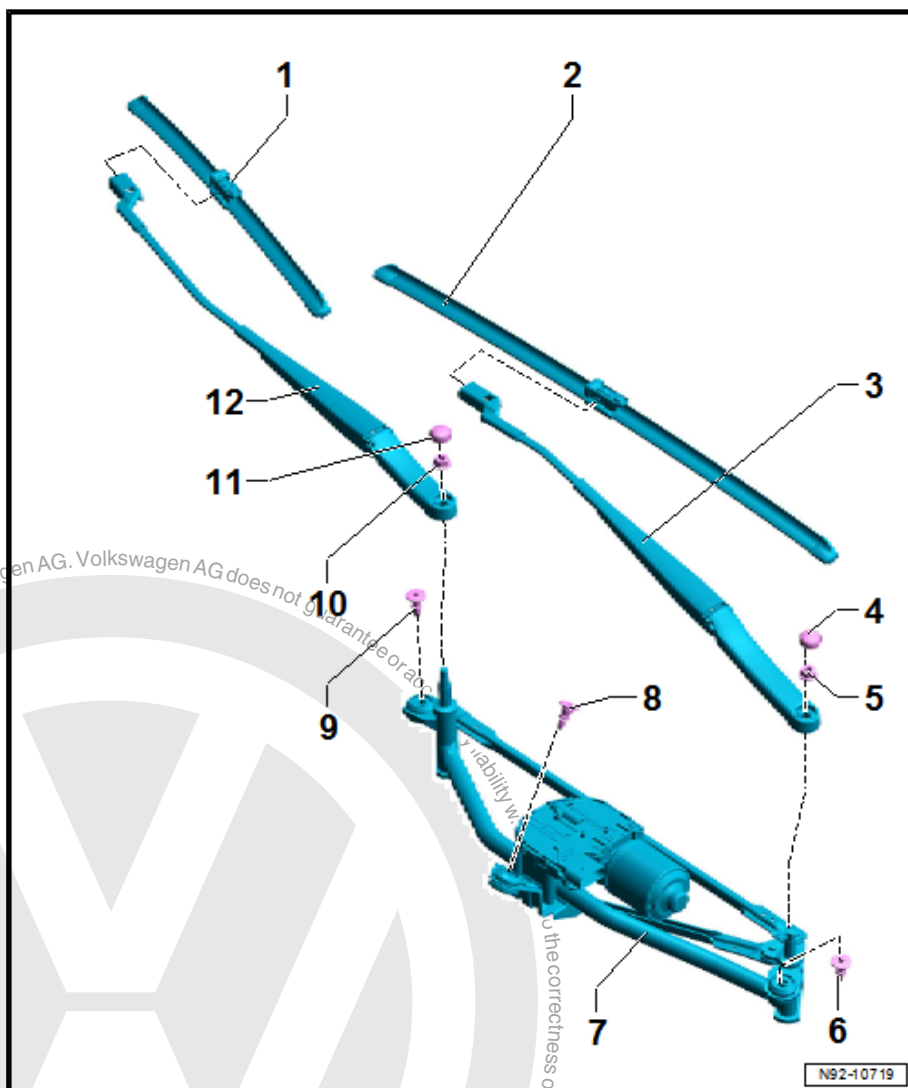
10 - Nut

- ❑ 20 Nm

11 - Cap

12 - Front Passenger Side Windshield Wiper Arm

- ❑ There are different lengths. Refer to the Parts Catalog.



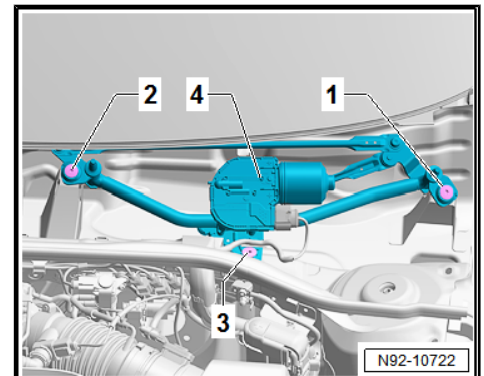


- ❑ Removing and installing. Refer to ⇒ [“1.4 Windshield Wiper Arms, Removing and Installing”, page 62](#).
- ❑ Adjusting. Refer to ⇒ [“1.5 Windshield Wiper Arms, Adjusting”, page 63](#).

Windshield Wiper Frame - Tightening Specification and Sequence

- Tighten the bolts for the windshield wiper frame -4- in steps in the sequence shown.

Step	Bolts	Tightening Specification
1.	-1 through 3-	Install by hand all the way
2.	-1 through 3-	8 Nm



1.2 Windshield Wiper, Bringing into Service Position



Caution

Risk of damaging the front lid by moving the windshield wipers back to the basic setting.

- ◆ Do not drive a vehicle with windshield wiper arms folded up.
- ◆ The windshield wipers automatically retract to their rest position when the windshield wiper switch is activated or when driving faster than 6 km/h.



Caution

Risk of damaging the wiper blades due to freezing.

- ◆ If frost is present, check to see if the wiper blades are frozen.



Note

If the windshield wiper motor is to be run during the procedure, the front lid must be completely closed, otherwise the power supply to the wiper motor will be interrupted.

- Briefly turn the ignition on and then off again.
- Operate the “one-touch wiping” within 10 seconds.
- The windshield wipers run in the “service position”.

1.3 Wiper Blade, Removing and Installing

Removing

- Bring the windshield wiper into the service position. Refer to ⇒ [“1.2 Windshield Wiper, Bringing into Service Position”, page 61](#).



Caution

Risk of damaging the wiper blade.

- ◆ **Joint-free windshield wipers are very flexible. Only grasp the wiper blades in the wiper blade mount area to lift them away from the windshield.**

- Lift the windshield wiper arm off the windshield.
- Press the clip in direction of -arrow A- and slide the wiper blade -1- off of the windshield wiper arm -2- in direction of -arrow B-.
- Remove the wiper blade -1-.

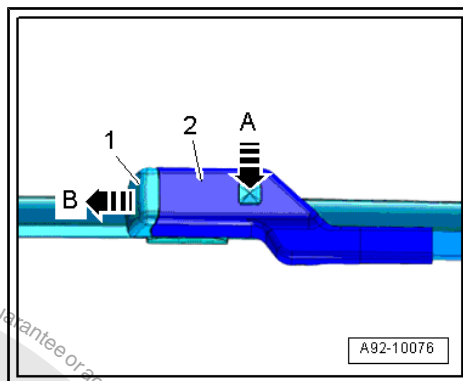
Installing



Caution

There is a risk of damaging the body.

- ◆ **The driver and front passenger side wiper blades are different lengths.**

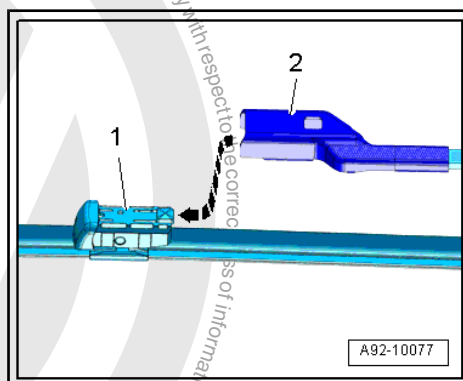


Install in reverse order of removal and note the following:

- Guide the wiper blade -1- parallel into the windshield wiper arm -2- in direction of -arrow-. Make sure that the wiper blade -1- is slid into the windshield wiper arm -2- until the clip audibly engages.

To leave the "service position":

- Operate the windshield wiper switch. or
- Drive the vehicle faster than 6 km/h.



1.4 Windshield Wiper Arms, Removing and Installing

Special tools and workshop equipment required

- ◆ Puller - Wiper Arm Kit - T10369-
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-



Removing



Caution

Risk of damaging the wiper arm shafts.

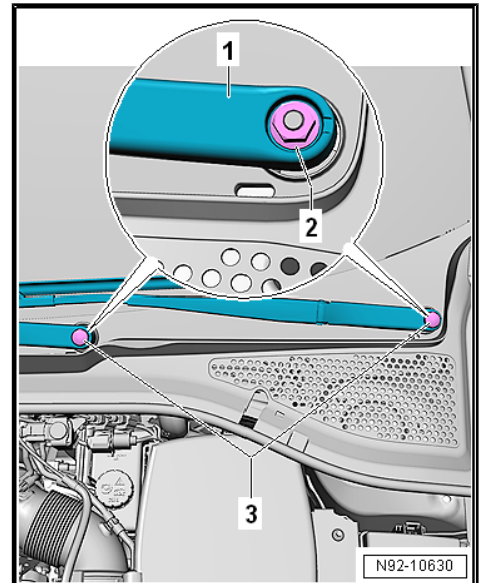
- ◆ **The wiper arm shafts can get damaged when removing the windshield wiper arms without using the -T10369/1-.**



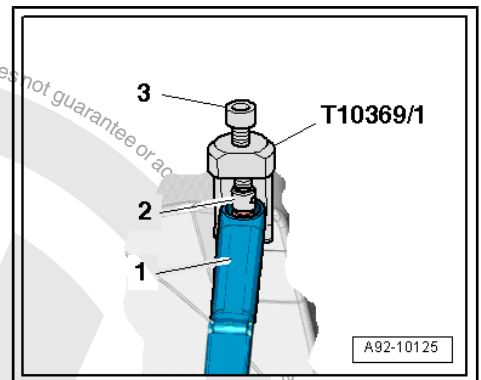
Note

If the windshield wiper motor is to be run during the work procedure, the front lid must be closed. Otherwise, the power supply to the wiper motor will be interrupted.

- Bring the windshield wiper into the service position. Refer to ["1.2 Windshield Wiper, Bringing into Service Position", page 61](#).
- Pry the caps -3- off the windshield wiper arms -1- with a screwdriver.
- Loosen the nuts -2- several turns.



- Position the -T10369/1- on the windshield wiper arm -1- as shown.
- Position the thrust piece -2- on the wiper arm shaft.
- Turn the bolt -3- clockwise until the windshield wiper arm -1- is removed from the wiper arm shaft.
- Remove the nut completely and remove the windshield wiper arm -1-.



Installing

Install in reverse order of removal and note the following:



Caution

There is a risk of damaging the body.

- ♦ *The windshield wiper arms on the driver and front passenger sides are different lengths.*

- Adjust the windshield wiper arms. Refer to ["1.5 Windshield Wiper Arms, Adjusting", page 63](#).

1.5 Windshield Wiper Arms, Adjusting

Special tools and workshop equipment required

- ♦ Torque Wrench 1331 5-50Nm - VAG1331-



Note

If the windshield wiper motor is to be run during the work procedure, the front lid must be closed. Otherwise, the power supply to the wiper motor will be interrupted.

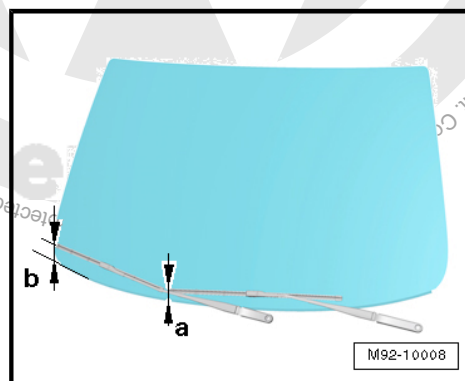
- Deactivate the APP function. Refer to
⇒ [“1.7 Windshield Wiper Motor, Deactivating Alternating Park Position Function”, page 65](#).
- Remove the windshield wiper arms. Refer to
⇒ [“1.4 Windshield Wiper Arms, Removing and Installing”, page 62](#).
- Switch the ignition on.
- Activate “one-touch wiping” and let the windshield wiper motor run into its end position.
- Switch off the ignition.
- Position the windshield wiper arm with wiper blade installed on the wiper arm shaft.
- Align the wiper blade as follows on the windshield.



Note

The dimensions give the distance of the wiper blade tip to the plenum chamber cover at the lower edge of the windshield.

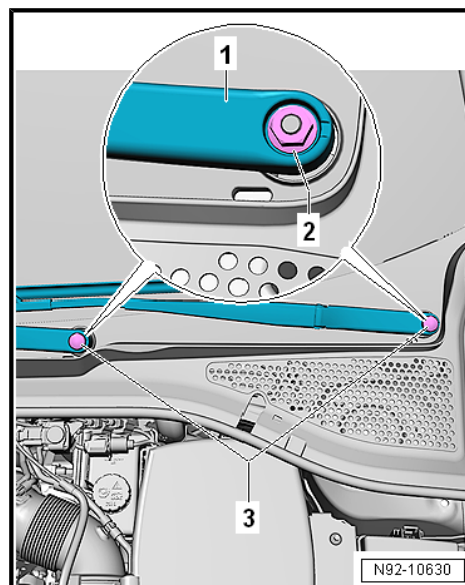
- ◆ Dimension -a- = 10 mm + 10 mm.
- ◆ Dimension -b- = 10 mm + 10 mm.



- Tighten the nuts -2- for the windshield wiper arms -1-.
- Switch the ignition on.
- Activate “one-touch wiping” and let the windshield wiper arms run into their end position.
- Switch off the ignition.
- Check the wiper arm adjustment one more time and adjust if necessary.
- Press the caps -3- onto the windshield wiper arms.

Tightening Specifications

- ◆ Refer to
⇒ [“1.1 Overview - Windshield Wiper System”, page 59](#)



1.6 Windshield Wiper Motor - V- , Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Wrench 1410 - VAG1410-

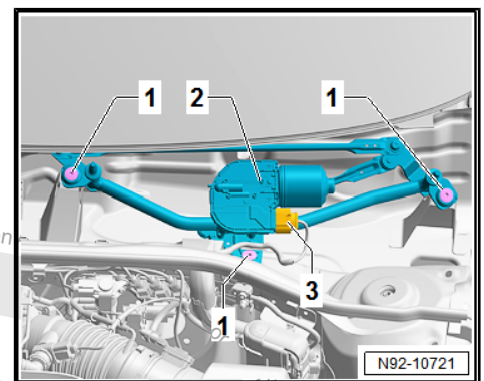


Note

If the Windshield Wiper Motor - V- is replaced with the Wiper Motor Control Module - J400- , select the **Replace** function for the corresponding control module in **Guided Fault Finding** or **Guided Functions** mode. Refer to Vehicle Diagnostic Tester .

Removing

- Remove the windshield wiper arms. Refer to [⇒ "1.4 Windshield Wiper Arms, Removing and Installing", page 62](#) .
- Remove the left plenum chamber cover. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Bulkhead; Plenum Chamber Cover, Removing and Installing .
- Remove the bolts -1-.
- Release and disconnect the connector -3-.
- If necessary, remove the wires from the windshield wiper frame -2-.
- Remove the windshield wiper frame -2- with the linkage and remove the windshield wiper motor from the plenum chamber.



Installing

Install in reverse order of removal and note the following:

- Adjust the windshield wiper arms. Refer to [⇒ "1.5 Windshield Wiper Arms, Adjusting", page 63](#) .

Tightening Specifications

- ◆ Refer to [⇒ Fig. "Windshield Wiper Frame - Tightening Specification and Sequence" , page 61](#)

1.7 Windshield Wiper Motor, Deactivating Alternating Park Position Function

Windshield wiper system is equipped with APP function (alternating park position).

The APP function causes the wiper at every second wiper shut off to move upward slightly after reaching the lowest position.

To install the motor crank on the windshield wiper motor, it is necessary to shut off the motor in the lowest park position. APP function must be deactivated to ensure this.



Note

- ◆ An activation of APP function is not possible.
- ◆ APP function is automatically activated after 100 wiping cycles. This applies to wiper motors in which the APP function was deactivated as well as for new wiper motors.
- Connect the Vehicle Diagnostic Tester . Refer to [⇒ "7 Vehicle Diagnostic Tester", page 258](#) .
- Deactivate the wiper motor APP function. Refer to Vehicle Diagnostic Tester .



Note

After successfully completing coding / deactivating of the APP function, the windshield wiper motor is located in the lower park position after the next wiper cycle.

1.8 Rain/Light Recognition Sensor, Removing and Installing



Note

- ♦ *The rain/light recognition sensor has a silicone layer (connecting pad) as a contact surface to the windshield.*
- ♦ *The rain/light recognition sensor is designed so that it can be used again. The only requirement to use it again is that the connecting pad must not be damaged or dirty (check the connecting pad).*
- ♦ *If the rain sensor was replaced by another rain sensor having a different part number, it is necessary to code the new rain sensor. Refer to ⇒ [page 68](#).*
- ♦ *Rain sensors cannot be installed selectively. The correct rain sensor is to be allocated according to the Parts Catalog.*

Removing

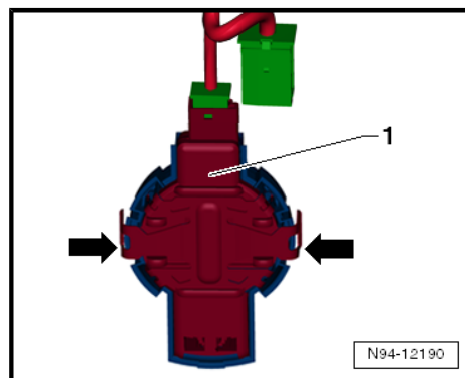
- Turn off the ignition and all electrical equipment.
- Move the ignition key outside of the vehicle to prevent the ignition from switching on unintentionally.
- Remove the interior rearview mirror. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Interior Rearview Mirror; Interior Rearview Mirror, Removing and Installing .



Note

After loosening the retainer, wait at least one minute. This allows the silicone layer to release tension and is not damaged while removing.

- Release the left and right retainer -arrows-.
- Carefully pry off the Rain/Light Recognition Sensor - G397-1- starting at the top from the frame on the windshield.



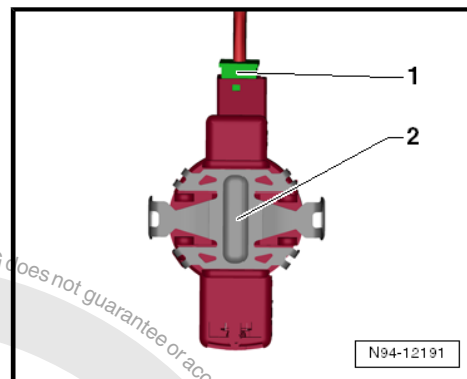


- Release and remove the connection -1- and remove the Rain/Light Recognition Sensor - G397- -2-.



Caution

Until it is reinstalled, store the removed Rain/Light Recognition Sensor - G397- so that the connecting pad is not contaminated with dust or other deposits.



Installing

Install in reverse order of removal. Note the following:



Caution

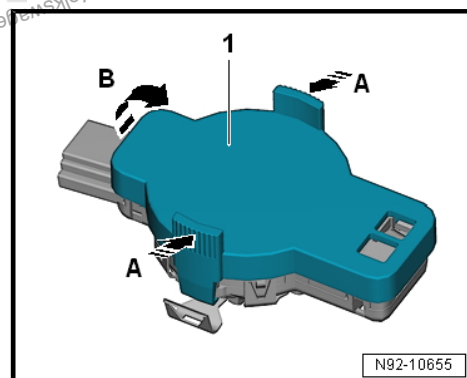
- ◆ *Thoroughly clean the windshield surface inside the frame for the Rain/Light Recognition Sensor - G397- before installing. Remove any traces of the connecting pad that may still be on the windshield.*
- ◆ *The surface (connecting pad) of the Rain/Light Recognition Sensor - G397- must not be contaminated or damaged when installing. A sensor with a damaged connecting pad must be replaced. Refer to ["1.9 Rain/Light Recognition Sensor, Servicing", page 68](#).*



Note

If the connecting pad surface on the Rain/Light Recognition Sensor - G397- is dirty, it may be cleaned by "applying" and then "pulling off" one or more adhesive strips.

- Clean the windshield thoroughly inside the retaining plate.
- If necessary, remove the protective cap -1- on the new Rain/Light Recognition Sensor - G397- .
- Push the grip tab in the direction of the -arrows A-.
- Remove the protective cap -1- in the direction of the -arrow B-.



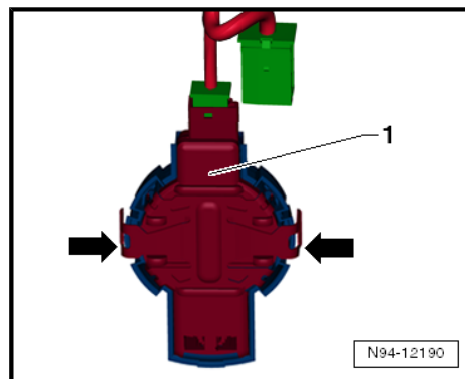


- Connect the connector.
- Install the Rain/Light Recognition Sensor - G397- -1- in the frame on the windshield.
- Engage the wire retainer audibly on both sides -arrow-.



Note

- ◆ Also when the Rain/Light Recognition Sensor - G397- is installed correctly, there are small air bubbles between the windshield and the connecting pad. The contact surface must be free of bubbles after approximately 10 minutes.
 - ◆ If the contact surface is not free of bubbles after 10 minutes, the Rain/Light Recognition Sensor - G397- must be removed and installed again.
 - ◆ Air bubbles between the windshield and the connecting pad cause Rain/Light Recognition Sensor - G397- malfunctions.
- Read out the DTC memory and delete the sporadic rain sensor faults. Refer to Vehicle Diagnostic Tester .



Note

With the rain sensor disconnected the CAN-Bus can be activated by opening the door for example. Sporadic DTC memory entries in the vehicle electrical system control module must be erased after the repair.

- If the Rain/Light Recognition Sensor - G397- was replaced, it must be coded using the Vehicle Diagnostic Tester . Refer to [⇒ page 68](#) .

Coding the Rain/Light Recognition Sensor - G397-

- Connect the Vehicle Diagnostic Tester . Refer to [⇒ "7 Vehicle Diagnostic Tester", page 258](#) .
- Code the Rain/Light Recognition Sensor - G397- . Refer to Vehicle Diagnostic Tester .

1.9 Rain/Light Recognition Sensor, Servicing

⇒ ["1.9.1 Rain/Light Recognition Sensor, Servicing, TRW", page 68](#)

⇒ ["1.9.2 Rain/Light Recognition Sensor, Servicing, Valeo", page 69](#)

1.9.1 Rain/Light Recognition Sensor, Servicing, TRW

There are different housings for the rain sensors because there are multiple manufacturers.

A replacement rain sensor housing and optical unit are always delivered with mounting clips. Remove these clips if they are not needed.

Perform the following:

- Remove the rain sensor. Refer to [⇒ "1.8 Rain/Light Recognition Sensor, Removing and Installing", page 66](#) .

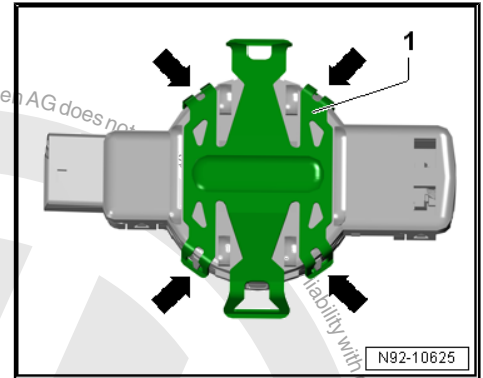


Caution

The rain sensor electronics may be damaged.

- ◆ *Be careful not to insert the screwdriver all the way through the housing up to the rain sensor electronics.*
- ◆ *Do not touch the rain sensor electronics.*

- Loosen the clip -1- at the four tabs -arrows- using a suitable screwdriver and remove it.



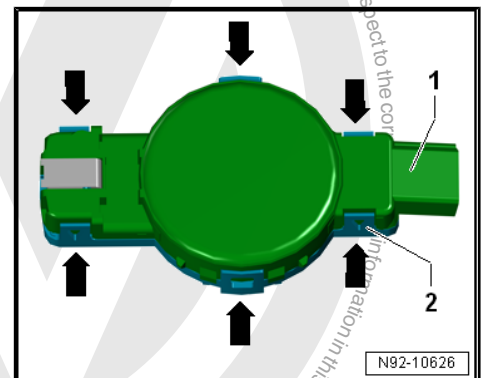
- Release the retaining tabs -arrows- on both sides and separate the housing upper section -1- with optical unit from the housing lower section -2-.



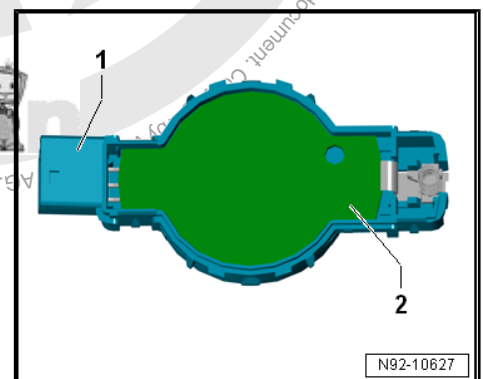
Caution

The rain sensor optical unit may be damaged.

- ◆ *Do not touch the optical unit.*



- Remove the rain sensor electronics -2- from the upper section -1- and install the new electronics the exact same way.
- Assemble the new housing upper section with optical unit and protective cover with the housing lower section.
- Install the Rain/Light Recognition Sensor - G397- . Refer to ["1.8 Rain/Light Recognition Sensor, Removing and Installing", page 66](#) .



1.9.2 Rain/Light Recognition Sensor, Servicing, Valeo

- Remove the Rain/Light Recognition Sensor - G397- . Refer to ["1.8 Rain/Light Recognition Sensor, Removing and Installing", page 66](#) .



- Carefully remove the sensor film -2- or remaining sensor film carefully from the Rain/Light Recognition Sensor - G397- -1-.



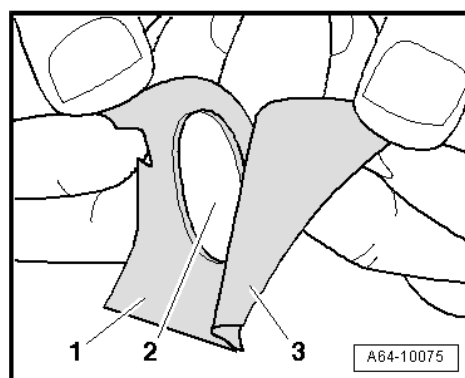
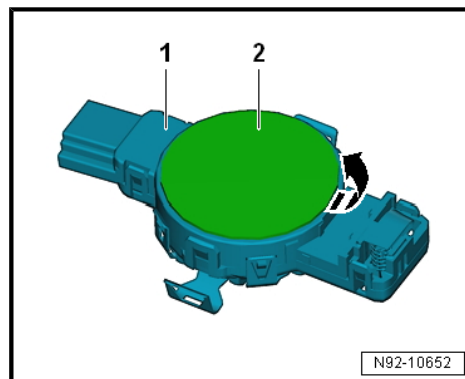
Caution

The surface on the sensor must be completely free of any remaining film.

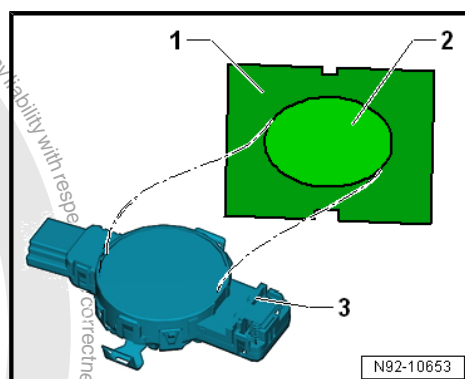
- Clean the sensor surfaces with cleaning solution D 009 401 04.

- Remove the silicone paper -3- from the sensor film -2-.

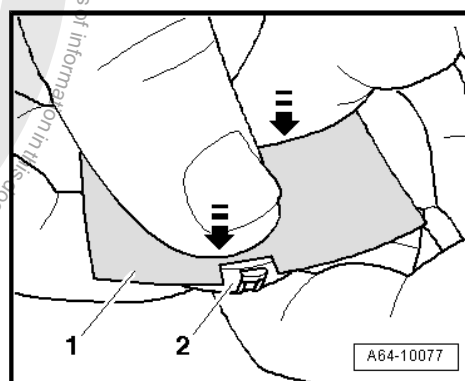
The transparent protective film -1- serves as an assembly aid and remains on the sensor film.



- Place the sensor film -2- on the Rain/Light Recognition Sensor - G397- -3- using the transparent protective film -1-.

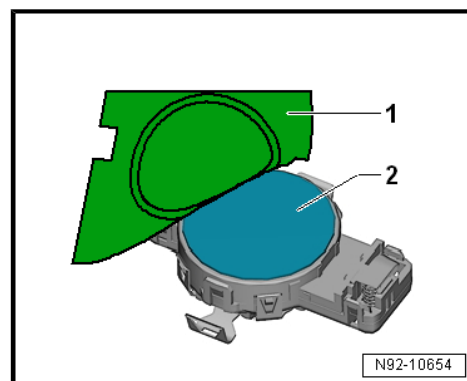


- Press the sensor film through the protective film -1- free of bubbles on the Rain/Light Recognition Sensor - G397- -2-.





- Remove the clear protective film -1- from the sensor film -2-.
- Install the Rain/Light Recognition Sensor - G397- . Refer to [⇒ "1.8 Rain/Light Recognition Sensor, Removing and Installing", page 66](#) .





2 Windshield Washer System

⇒ [“2.1 Overview - Windshield Washer System”, page 72](#)

⇒ [“2.2 Washer Fluid Reservoir, Removing and Installing”, page 75](#)

⇒ [“2.3 Windshield Washer Fluid Level Sensor, Removing and Installing”, page 78](#)

⇒ [“2.4 Windshield Washer Pump, Removing and Installing”, page 80](#)

⇒ [“2.5 Washer Nozzles, Removing and Installing”, page 81](#)

⇒ [“2.6 Washer Nozzles, Adjusting”, page 82](#)

2.1 Overview - Windshield Washer System

⇒ [“2.1.1 Overview - Windshield Washer System, Washer Fluid Reservoir in Left Front Wheel Housing”, page 72](#)

⇒ [“2.1.2 Overview - Windshield Washer System, Washer Fluid Reservoir in Front Right Wheel Housing”, page 74](#)

2.1.1 Overview - Windshield Washer System, Washer Fluid Reservoir in Left Front Wheel Housing

1 - Right Washer Nozzle

- ☐ Versions with Right Washer Nozzle Heater - Z21-
- ☐ Removing and installing. Refer to
⇒ [“2.5 Washer Nozzles, Removing and Installing”, page 81](#).
- ☐ Adjusting. Refer to
⇒ [“2.6 Washer Nozzles, Adjusting”, page 82](#).

2 - Washer Fluid Hose

- ☐ For the windshield washer system
- ☐ Black color coding

3 - Left Washer Nozzle

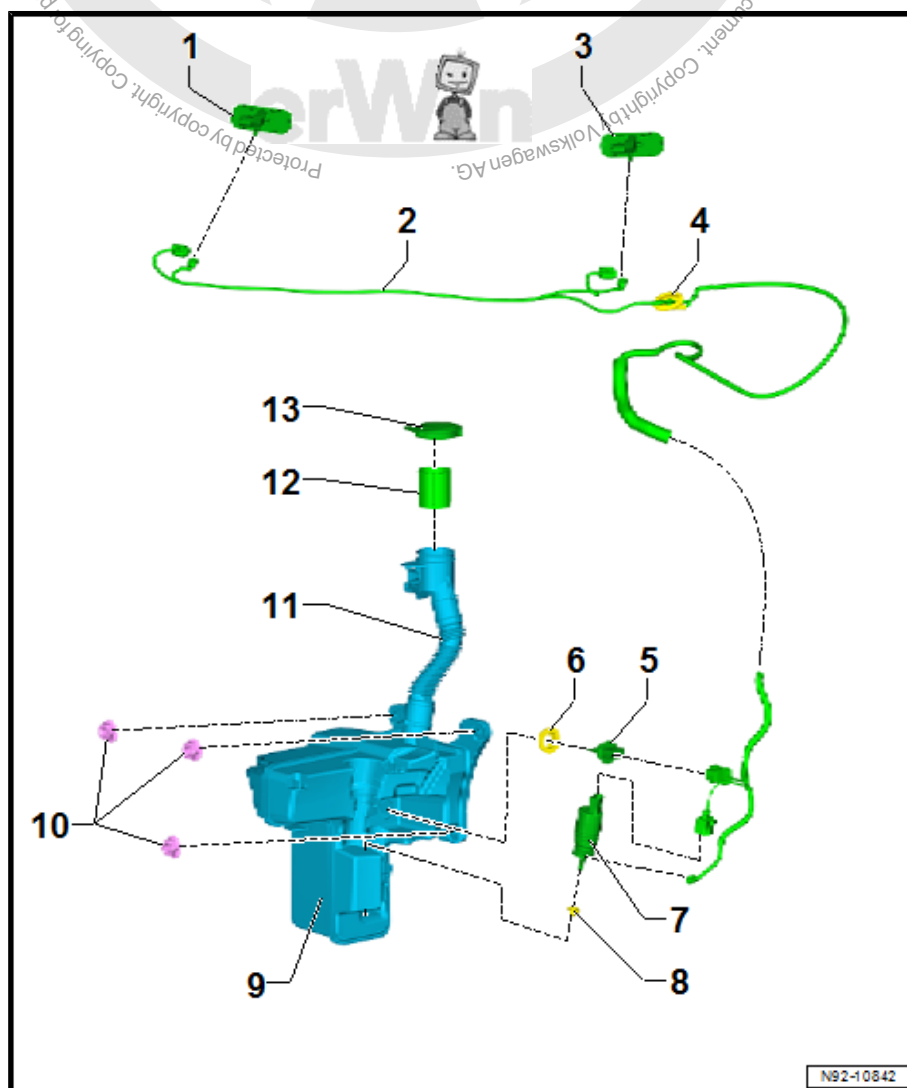
- ☐ Versions with Left Washer Nozzle Heater - Z20-
- ☐ Removing and installing. Refer to
⇒ [“2.5 Washer Nozzles, Removing and Installing”, page 81](#).
- ☐ Adjusting. Refer to
⇒ [“2.6 Washer Nozzles, Adjusting”, page 82](#).

4 - Grommet

- ☐ For the washer fluid hose in the front lid

5 - Windshield Washer Fluid Level Sensor - G33-

- ☐ Removing and installing. Refer to





⇒ [“2.3.1 Windshield Washer Fluid Level Sensor, Removing and Installing, Washer Fluid Reservoir in Front Left Wheel Housing”, page 78](#) .

6 - Seal

7 - Windshield Washer Pump - V589-

- ☐ Removing and installing. Refer to
⇒ [“2.4.1 Windshield Washer Pump, Removing and Installing, Washer Fluid Reservoir in Front Left Wheel Housing”, page 80](#) .

8 - Grommet

- ☐ Replace if damaged.

9 - Washer Fluid Reservoir

- ☐ Removing and installing. Refer to
⇒ [“2.2.1 Washer Fluid Reservoir, Removing and Installing, Washer Fluid Reservoir in Front Left Wheel Housing”, page 75](#) .

10 - Nut

- ☐ 8 Nm.
- ☐ Quantity: 3

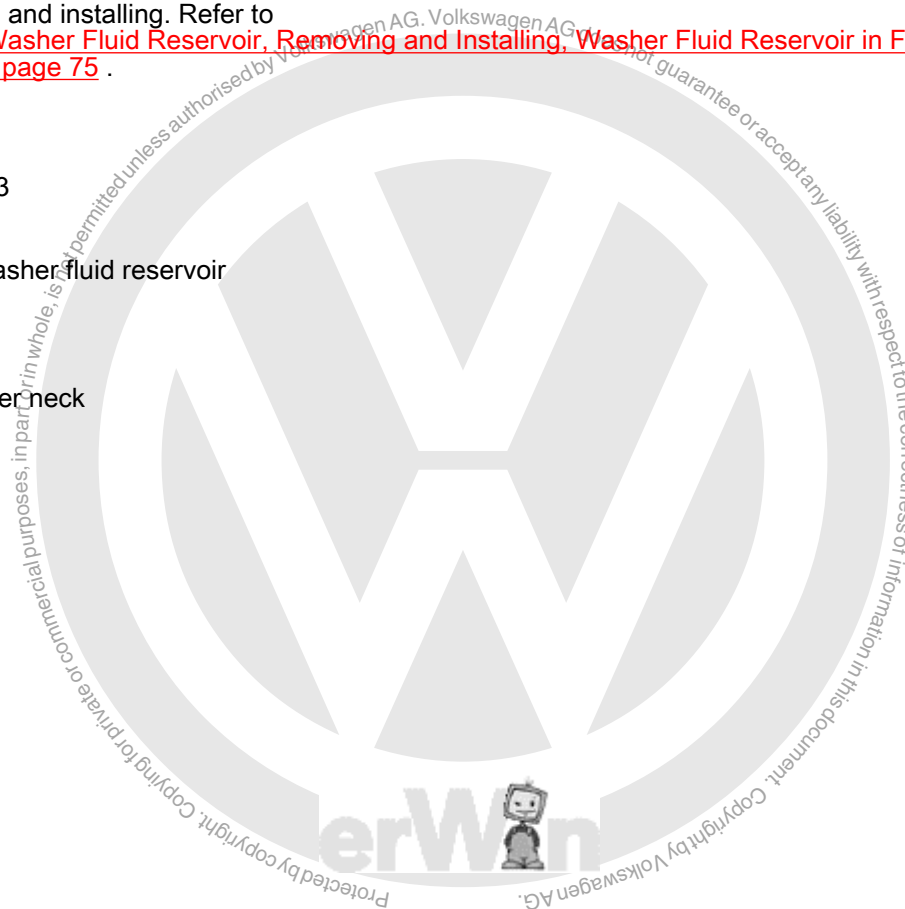
11 - Filler Tube

- ☐ For the washer fluid reservoir

12 - Screen

13 - Cap

- ☐ For the filler neck





2.1.2 Overview - Windshield Washer System, Washer Fluid Reservoir in Front Right Wheel Housing

1 - Right Washer Nozzle

- ☐ Versions with Right Washer Nozzle Heater - Z21-
- ☐ Removing and installing. Refer to
⇒ ["2.5 Washer Nozzles, Removing and Installing", page 81](#) .
- ☐ Adjusting. Refer to
⇒ ["2.6 Washer Nozzles, Adjusting", page 82](#) .

2 - Left Washer Nozzle

- ☐ Versions with Left Washer Nozzle Heater - Z20-
- ☐ Removing and installing. Refer to
⇒ ["2.5 Washer Nozzles, Removing and Installing", page 81](#) .
- ☐ Adjusting. Refer to
⇒ ["2.6 Washer Nozzles, Adjusting", page 82](#) .

3 - Grommet

- ☐ For the washer fluid hose in the front lid

4 - Washer Fluid Hose

- ☐ For the windshield washer system
- ☐ In the engine compartment

5 - Cap

- ☐ For the filler neck

6 - Screen

7 - Nut

- ☐ 8 Nm.
- ☐ Quantity: 2

8 - Nut

- ☐ 8 Nm.
- ☐ Quantity: 3

9 - Bolt

- ☐ 8 Nm.

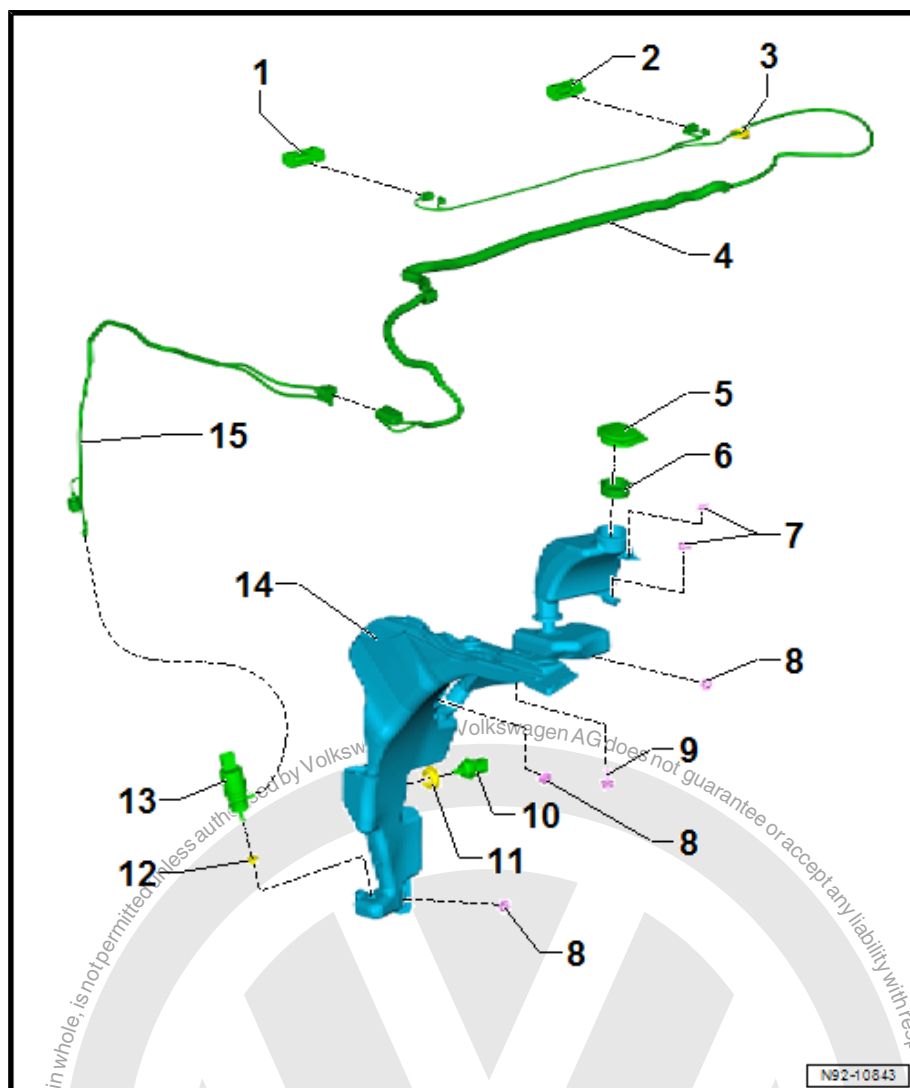
10 - Windshield Washer Fluid Level Sensor - G33-

- ☐ Removing and installing. Refer to
⇒ ["2.3.2 Windshield Washer Fluid Level Sensor, Removing and Installing, Washer Fluid Reservoir in Front Right Wheel Housing", page 79](#) .

11 - Seal

12 - Grommet

- ☐ Replace if damaged.





13 - Windshield Washer Pump - V589-

- ❑ Removing and installing. Refer to
⇒ [“2.4.1 Windshield Washer Pump, Removing and Installing, Washer Fluid Reservoir in Front Left Wheel Housing”, page 80](#) .

14 - Washer Fluid Reservoir

- ❑ With filler neck
- ❑ Removing and installing. Refer to
⇒ [“2.2.2 Washer Fluid Reservoir, Removing and Installing, Washer Fluid Reservoir in Front Right Wheel Housing”, page 76](#) .

15 - Washer Fluid Hose

- ❑ For the windshield washer system
- ❑ On washer fluid reservoir

2.2 Washer Fluid Reservoir, Removing and Installing

⇒ [“2.2.1 Washer Fluid Reservoir, Removing and Installing, Washer Fluid Reservoir in Front Left Wheel Housing”, page 75](#)

⇒ [“2.2.2 Washer Fluid Reservoir, Removing and Installing, Washer Fluid Reservoir in Front Right Wheel Housing”, page 76](#)

2.2.1 Washer Fluid Reservoir, Removing and Installing, Washer Fluid Reservoir in Front Left Wheel Housing

Special tools and workshop equipment required

- ◆ Torque Wrench 1410 - VAG1410-
- ◆ Drip Tray



Note

The removal or installation of the washer fluid reservoir with headlamp washer system is described. Removing or installing a washer fluid reservoir without a headlamp washer system is the same.

Removing

- Remove the front bumper cover. Refer to ⇒ Body Exterior; Rep. Gr. 63 ; Front Bumper; Bumper Cover, Removing and Installing .
- Remove the left headlamp. Refer to
⇒ [“1.2 Headlamp, Removing and Installing”, page 96](#) .
- Place a drip tray under the washer fluid reservoir.



- Release the locking tab -3-.

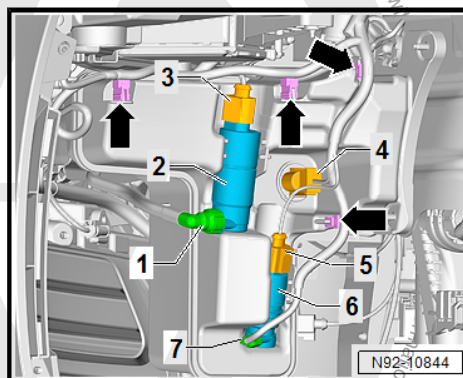
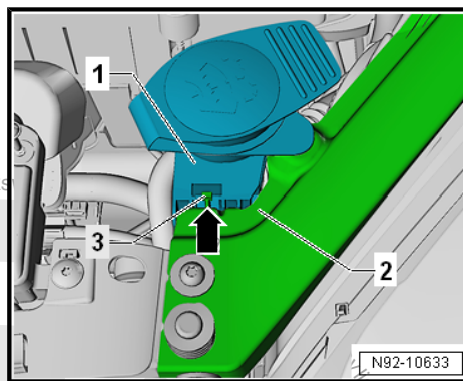


Caution

Risk of leaks.

- ◆ *The washer fluid reservoir is one part. The washer fluid reservoir, filler tube and filler neck are not designed to be separated. However, if the components are separated, the connection can leak.*

- Remove the filler neck -1- upward from the lock carrier holder -2-.
- Disconnect the connectors -3-, 4-, and 5-.
- Loosen the connections for the washer fluid hoses -1 and 7- from the washer fluid pumps.
- Loosen the wiring harness from the washer fluid reservoir -arrows-.



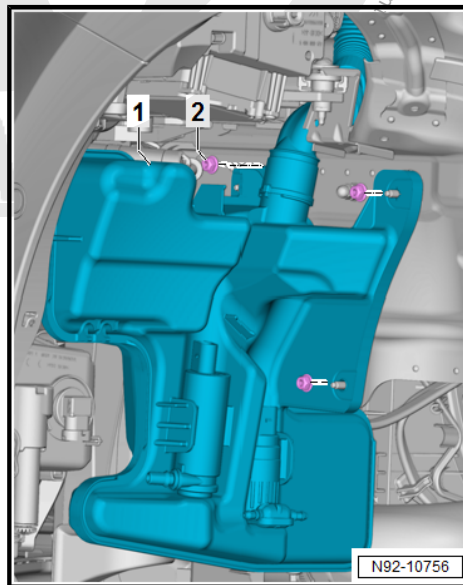
- Remove the nuts -2-.
- Remove the washer fluid reservoir -1- from the threaded pins.

Installing

Install in reverse order of removal and note the following:

Tightening Specifications

- ◆ Refer to
⇒ [“2.1.1 Overview - Windshield Washer System, Washer Fluid Reservoir in Left Front Wheel Housing”, page 72](#)



2.2.2 Washer Fluid Reservoir, Removing and Installing, Washer Fluid Reservoir in Front Right Wheel Housing

Special tools and workshop equipment required

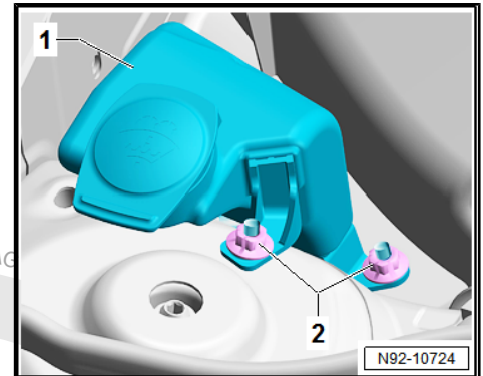
- ◆ Torque Wrench 1410 - VAG1410-
- ◆ Drip Tray

Removing

- Place a drip tray under the washer fluid reservoir.

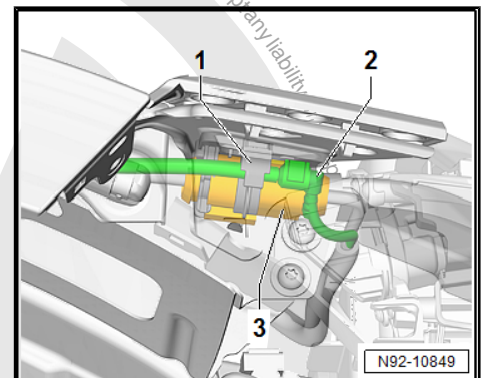


- Remove the plenum chamber cover. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Bulkhead; Plenum Chamber Cover, Removing and Installing .
- Remove the nuts -2-.
- Remove the filler neck -1- upward from the washer fluid reservoir.
- Remove the right front wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Front Wheel Housing Liner, Removing and Installing .
- Remove the front bumper cover. Refer to ⇒ Body Exterior; Rep. Gr. 63 ; Front Bumper; Bumper Cover, Removing and Installing .



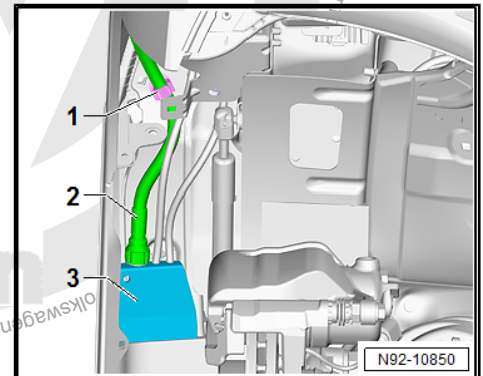
- Release and disconnect the connectors -3-.
- Disconnect the windshield washer system washer fluid hose at the connection point -2-.
- Loosen the bracket -1- from the longitudinal member.

Equipment Versions with Headlamp Washer System



- Loosen the clip -1-.
- Disconnect the washer fluid hose for the headlamp washer system -2- from the washer fluid reservoir -3-.

Continuation for All Vehicles





- Remove the bolt -2- for the washer fluid reservoir -1-.
- Remove the nuts -3- for the washer fluid reservoir -1-.
- Remove the washer fluid reservoir -1- from the threaded pins and guide out of the fender with the noise insulation.

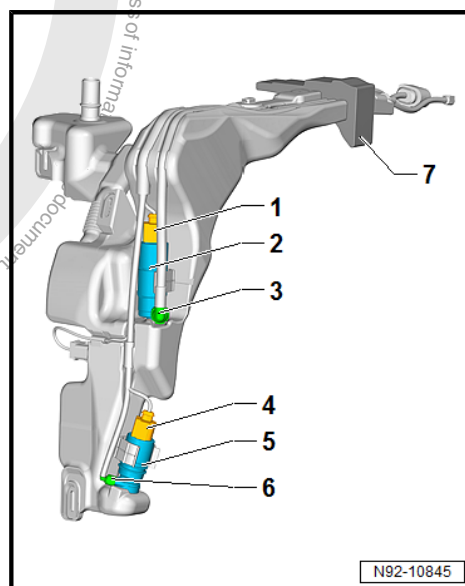
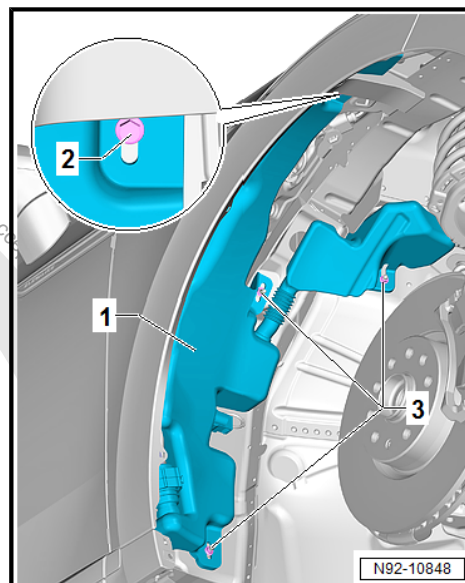
Installing

Install in reverse order of removal and note the following:

- Attach the noise insulation -7- before installing the washer fluid reservoir.
- When mounting the filler neck on the washer fluid reservoir, make sure the seal is seated correctly on the filler neck.

Tightening Specifications

- ◆ Refer to
⇒ [“2.1.2 Overview - Windshield Washer System, Washer Fluid Reservoir in Front Right Wheel Housing”, page 74](#)



2.3 Windshield Washer Fluid Level Sensor, Removing and Installing

⇒ [“2.3.1 Windshield Washer Fluid Level Sensor, Removing and Installing, Washer Fluid Reservoir in Front Left Wheel Housing”, page 78](#)

⇒ [“2.3.2 Windshield Washer Fluid Level Sensor, Removing and Installing, Washer Fluid Reservoir in Front Right Wheel Housing”, page 79](#)

2.3.1 Windshield Washer Fluid Level Sensor, Removing and Installing, Washer Fluid Reservoir in Front Left Wheel Housing

Special tools and workshop equipment required

- ◆ Drip Tray



Note

The Windshield Washer Fluid Level Sensor - G33- can depending on version be replaced individually or only with the entire container.

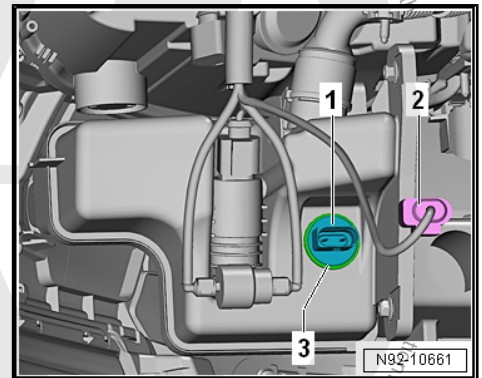
Removing

- Remove the left front wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Front Wheel Housing Liner, Removing and Installing .
- Place a drip tray under the washer fluid reservoir.
- Disconnect the connector -2-.
- Remove the Windshield Washer Fluid Level Sensor - G33- -1- from the washer fluid reservoir.
- If necessary, remove the seal -3- from the washer fluid reservoir.

Installing

Install in reverse order of removal and note the following:

- Install the seal correctly in the opening in the washer fluid reservoir.
- Coat the seal with washer fluid, so that the Windshield Washer Fluid Level Sensor - G33- can be easily pushed in.



2.3.2 Windshield Washer Fluid Level Sensor, Removing and Installing, Washer Fluid Reservoir in Front Right Wheel Housing

Special tools and workshop equipment required

- ◆ Drip Tray

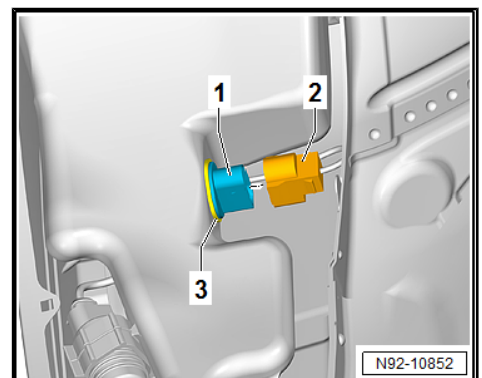
Removing

- Remove the right front wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Front Wheel Housing Liner, Removing and Installing .
- Place a drip tray under the washer fluid reservoir.
- Disconnect the connector -2-.
- Remove the Windshield Washer Fluid Level Sensor - G33- -1- from the washer fluid reservoir.
- If necessary, remove the seal for the Windshield Washer Fluid Level Sensor - G33- from the washer fluid reservoir -3-.

Installing

Install in reverse order of removal and note the following:

- Install the seal correctly in the opening in the washer fluid reservoir.
- Coat the seal with washer fluid, so that the Windshield Washer Fluid Level Sensor - G33- can be easily pushed in.





2.4 Windshield Washer Pump, Removing and Installing

⇒ [“2.4.1 Windshield Washer Pump, Removing and Installing, Washer Fluid Reservoir in Front Left Wheel Housing”, page 80](#)

⇒ [“2.4.2 Windshield Washer Pump, Removing and Installing, Washer Fluid Reservoir in Front Right Wheel Housing”, page 80](#)

2.4.1 Windshield Washer Pump, Removing and Installing, Washer Fluid Reservoir in Front Left Wheel Housing

Special tools and workshop equipment required

- ◆ Drip Tray

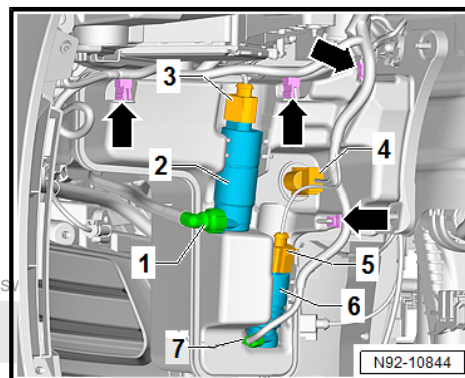
Removing

- Remove the front section of the left front wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Front Wheel Housing Liner, Removing and Installing .
- Disconnect the connector -5-.
- Place a drip tray under the washer fluid reservoir.
- Remove the washer fluid hose connection -7- from the Windshield Washer Pump - V589- -6-.
- Remove the Windshield Washer Pump - V589- -5- upward from the washer fluid reservoir.

Installing

Install in reverse order of removal and note the following:

- Check the grommet for damage.



2.4.2 Windshield Washer Pump, Removing and Installing, Washer Fluid Reservoir in Front Right Wheel Housing

Special tools and workshop equipment required

- ◆ Drip Tray

Removing

- Remove the washer fluid reservoir. Refer to ⇒ [“2.2.2 Washer Fluid Reservoir, Removing and Installing, Washer Fluid Reservoir in Front Right Wheel Housing”, page 76](#) .

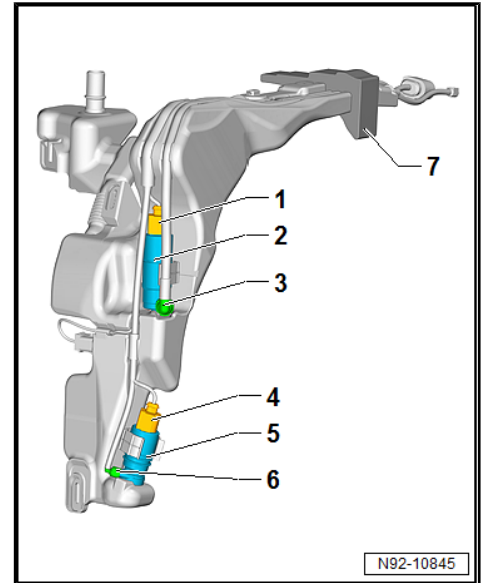


- Disconnect the connector -4-.
- Place a drip tray under the washer fluid reservoir.
- Remove the washer fluid hose connection -6- from the Windshield Washer Pump - V589- -5-.
- Remove the Windshield Washer Pump - V589- -5- upward from the washer fluid reservoir.

Installing

Install in reverse order of removal and note the following:

- Check the grommet for damage.



2.5 Washer Nozzles, Removing and Installing

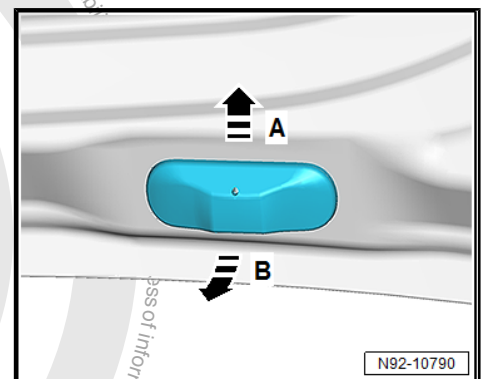
Removing



Note

The removal and installation is described for the left side. The removal and installation on the right side is similar.

- Open the hood.
- Push the washer nozzle upward in direction of -arrow A- and tilt it out from under the flap in direction of -arrow B-.





- Release the hose clip -1- in the direction of -arrow- and remove the hose connection -2- from the spray nozzle -4-.
- Release and disconnect the connector -3- and remove the spray nozzle -4-.

Installing

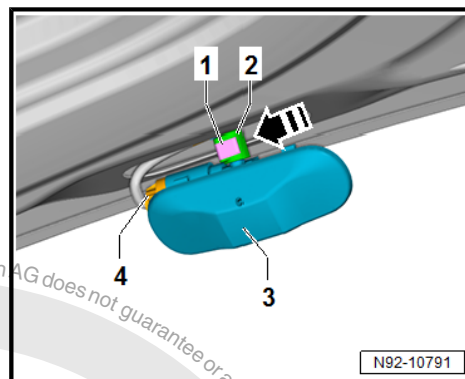
Install in reverse order of removal and note the following:



Note

When connecting the washer fluid hose, make sure that the clip engages audibly into the connection.

- Starting at the top, slide the washer nozzle into the installation opening until it engages audibly.
- Adjust the washer nozzles. Refer to [⇒ "2.6 Washer Nozzles, Adjusting", page 82](#).



2.6 Washer Nozzles, Adjusting



Caution

There is a risk of damage.

- ◆ *Do not use any objects to clean the washer nozzles!*



Note

Remove the washer nozzle if the spraying field is uneven due to dirt in the nozzle, and flush it out with water in the opposite direction of the spray. It is then permitted to blow compressed air opposite the spray direction. Do not use any objects to clean the washer nozzles!

- Adjust the windshield washer system washer nozzles. Refer to ⇒ Maintenance ; Booklet 44.1 ; Procedure Description .



3 Headlamp Washer System

⇒ [“3.1 Overview - Headlamp Washer System”, page 83](#)

⇒ [“3.2 Washer Fluid Reservoir, Removing and Installing”, page 85](#)

⇒ [“3.4 Washer Nozzles, Adjusting”, page 86](#)

⇒ [“3.3 Headlamp Washer System Pump V11 , Removing and Installing”, page 85](#)

⇒ [“3.5 Lift Cylinder, Removing and Installing”, page 86](#)

⇒ [“3.6 Headlamp Washer System Guide Frame, Replacing”, page 88](#)

3.1 Overview - Headlamp Washer System

⇒ [“3.1.1 Overview - Headlamp Washer System, Washer Fluid Reservoir in Front Left Wheel Housing”, page 83](#)

⇒ [“3.1.2 Overview - Headlamp Washer System, Washer Fluid Reservoir in Front Right Wheel Housing”, page 84](#)

3.1.1 Overview - Headlamp Washer System, Washer Fluid Reservoir in Front Left Wheel Housing

1 - Washer Fluid Reservoir

- ☐ Removing and installing. Refer to
⇒ [“3.2 Washer Fluid Reservoir, Removing and Installing”, page 85](#).

2 - Headlamp Washer System Pump - V11-

- ☐ Removing and installing. Refer to
⇒ [“3.3.1 Headlamp Washer System Pump V11 , Removing and Installing, Washer Fluid Reservoir in Left Front Wheel Housing”, page 85](#).

3 - Grommet

- ☐ Replace if damaged.

4 - Nut

- ☐ 8 Nm.
- ☐ Quantity: 3

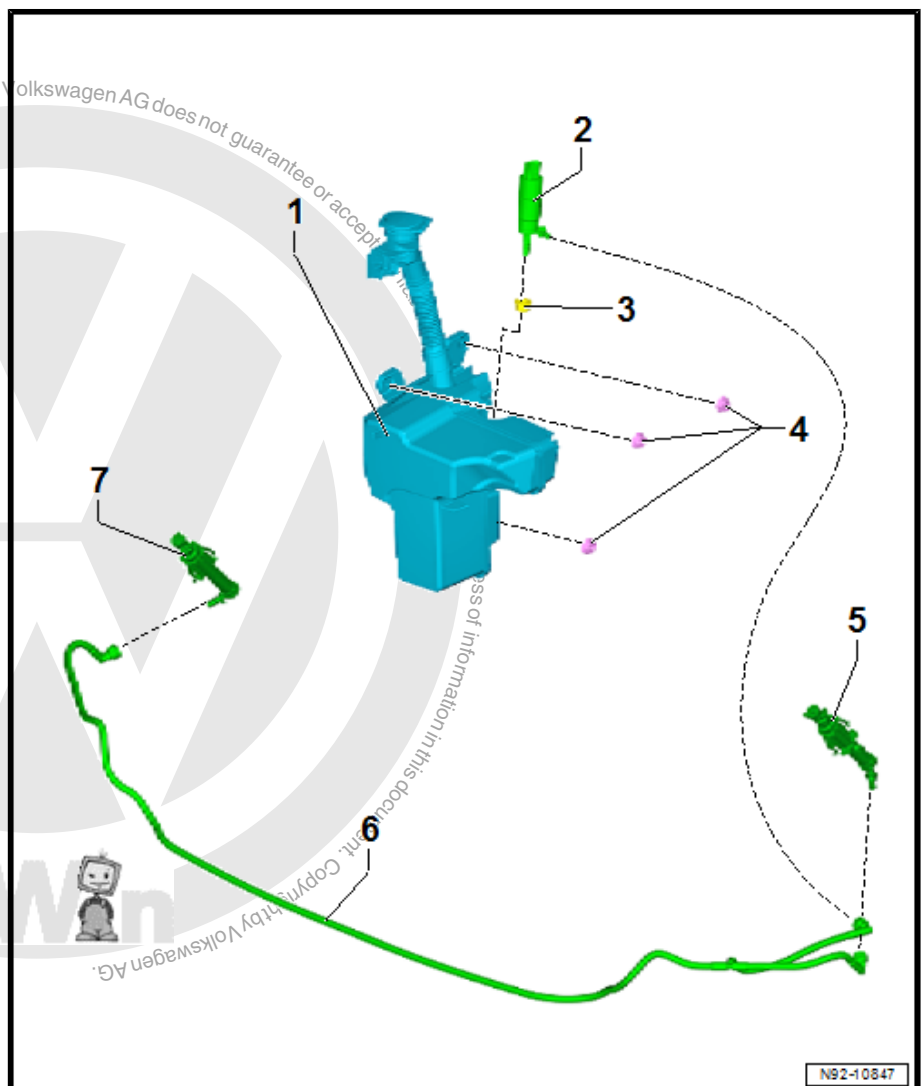
5 - Left Washer Nozzle

- ☐ Removing and installing. Refer to
⇒ [“3.5 Lift Cylinder, Removing and Installing”, page 86](#).

6 - Washer Fluid Hose

7 - Right Washer Nozzle

- ☐ Removing and installing. Refer to



⇒ [“3.5 Lift Cylinder, Removing and Installing”, page 86](#) .

3.1.2 Overview - Headlamp Washer System, Washer Fluid Reservoir in Front Right Wheel Housing

1 - Washer Fluid Reservoir

- ☐ With filler neck
- ☐ Removing and installing. Refer to
⇒ [“3.2 Washer Fluid Reservoir, Removing and Installing”, page 85](#) .

2 - Grommet

- ☐ Replace if damaged.

3 - Headlamp Washer System Pump - V11-

- ☐ Removing and installing. Refer to
⇒ [“3.3.2 Headlamp Washer System Pump V11, Removing and Installing, Washer Fluid Reservoir in Right Front Wheel Housing”, page 85](#) .

4 - Washer Fluid Hose

- ☐ On washer fluid reservoir

5 - Nut

- ☐ 8 Nm.
- ☐ Quantity: 2

6 - Nut

- ☐ 8 Nm.
- ☐ Quantity: 3

7 - Bolt

- ☐ 8 Nm.

8 - Left Washer Nozzle

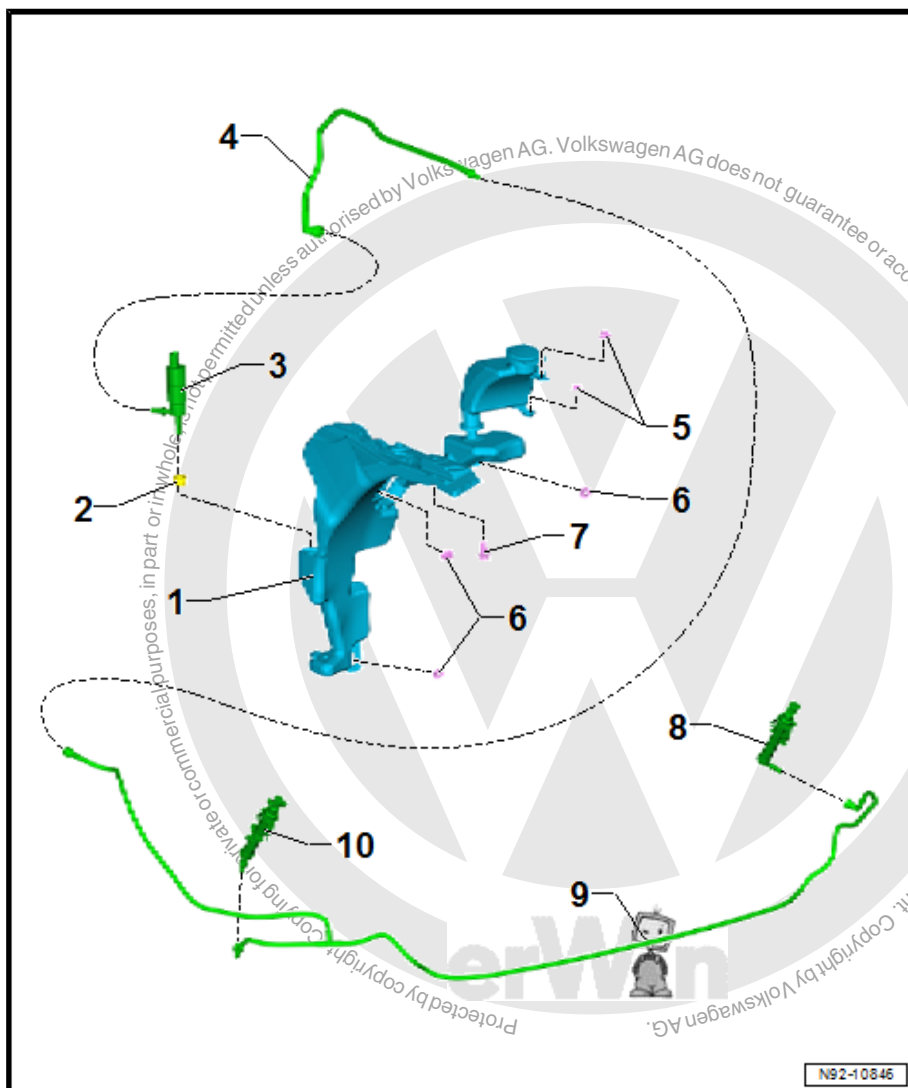
- ☐ Removing and installing. Refer to ⇒ [“3.5 Lift Cylinder, Removing and Installing”, page 86](#) .

9 - Washer Fluid Hose

- ☐ In the front bumper cover

10 - Right Washer Nozzle

- ☐ Removing and installing. Refer to ⇒ [“3.5 Lift Cylinder, Removing and Installing”, page 86](#) .





3.2 Washer Fluid Reservoir, Removing and Installing



Note

Depending on vehicle equipment, the shared washer fluid reservoir for the windshield and headlamp washer system is located either in the front left or right wheel housing.

- Washer Fluid Reservoir in Front Left Wheel Housing, Removing and installing. Refer to
⇒ [“2.2.1 Washer Fluid Reservoir, Removing and Installing, Washer Fluid Reservoir in Front Left Wheel Housing”, page 75](#).
- Washer Fluid Reservoir in Front Right Wheel Housing, Removing and installing. Refer to
⇒ [“2.2.2 Washer Fluid Reservoir, Removing and Installing, Washer Fluid Reservoir in Front Right Wheel Housing”, page 76](#).

3.3 Headlamp Washer System Pump - V11- , Removing and Installing

⇒ [“3.3.1 Headlamp Washer System Pump V11 , Removing and Installing, Washer Fluid Reservoir in Left Front Wheel Housing”, page 85](#)

⇒ [“3.3.2 Headlamp Washer System Pump V11 , Removing and Installing, Washer Fluid Reservoir in Right Front Wheel Housing”, page 85](#)

3.3.1 Headlamp Washer System Pump - V11- , Removing and Installing, Washer Fluid Reservoir in Left Front Wheel Housing

Special tools and workshop equipment required

- ◆ Drip Tray

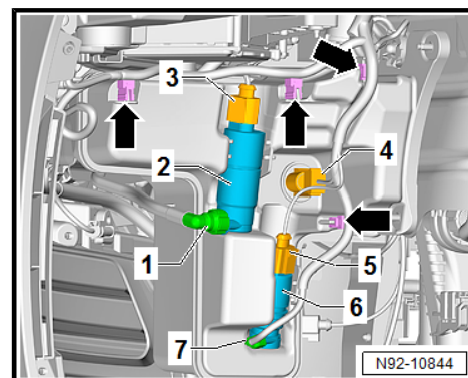
Removing

- Remove the front section of the left front wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Front Wheel Housing Liner, Removing and Installing .
- Disconnect the connector -3-.
- Place a drip tray under the washer fluid reservoir.
- Remove the washer fluid hose connection -1- from the Headlamp Washer System Pump - V11- -2-.
- Remove the Headlamp Washer System Pump - V11- -2- upward out of the washer fluid reservoir.

Installing

Install in reverse order of removal and note the following:

- Check the grommet for damage.



3.3.2 Headlamp Washer System Pump - V11- , Removing and Installing, Washer



Fluid Reservoir in Right Front Wheel Housing

Special tools and workshop equipment required

- ◆ Drip Tray

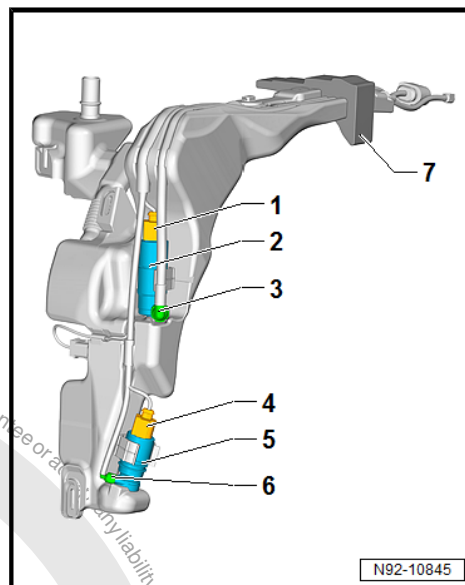
Removing

- Remove the washer fluid reservoir. Refer to ⇒ [“2.2.2 Washer Fluid Reservoir, Removing and Installing, Washer Fluid Reservoir in Front Right Wheel Housing”, page 76](#).
- Disconnect the connector -1-.
- Place a drip tray under the washer fluid reservoir.
- Remove the washer fluid hose connection -3- from the Headlamp Washer System Pump - V11- -2-.
- Remove the Headlamp Washer System Pump - V11- -2- upward out of the washer fluid reservoir.

Installing

Install in reverse order of removal and note the following:

- Check the grommet for damage.



3.4 Washer Nozzles, Adjusting



Note

The washer nozzles supplied are already adjusted at the factory and must not be adjusted following installation.

- Check the washer nozzle adjustment. Refer to ⇒ Maintenance ; Booklet 44.1 ; Work Description .

3.5 Lift Cylinder, Removing and Installing

Special tools and workshop equipment required

- ◆ Drip Tray

Removing



Note

The removal and installation is described for the left side. The removal and installation on the right side is similar.

- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Noise Insulation; Overview - Noise Insulation .
- Remove the front section of the front wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Front Wheel Housing Liner, Removing and Installing .

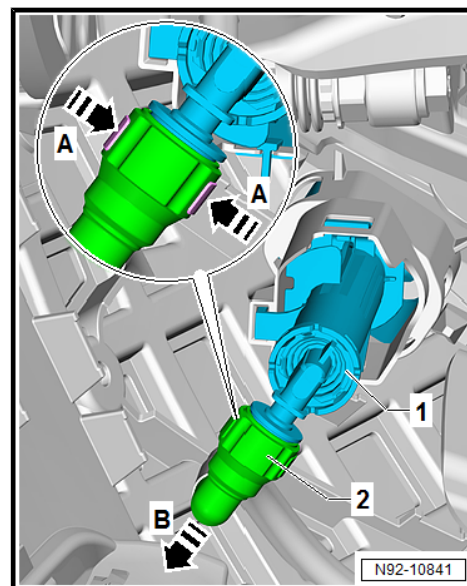


- Place a drip tray under the lift cylinder.
- Press the release buttons for the connection -2- in the direction of the -arrows A-.
- Remove the washer fluid hose connection -2- in the direction of the -arrows B- from the lift cylinder -1-.

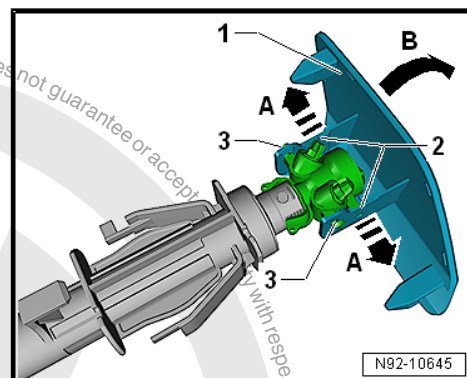


Note

A second technician is required for removing the cap.



- Move the lift cylinder with the cap -1- out of the bumper cover using pressurized air and hold.
- Push both sides of the cap -1- out of the upper mountings -2- in the direction of -arrow A-.
- Pivot the cap -1- in the direction of -arrow B- and unclip it from the lower mounts -3-.



- Push the release buttons in the direction of the -arrow A-.
- Pull the lift cylinder -1- downward out of the retainer -2- in direction of -arrow B-.

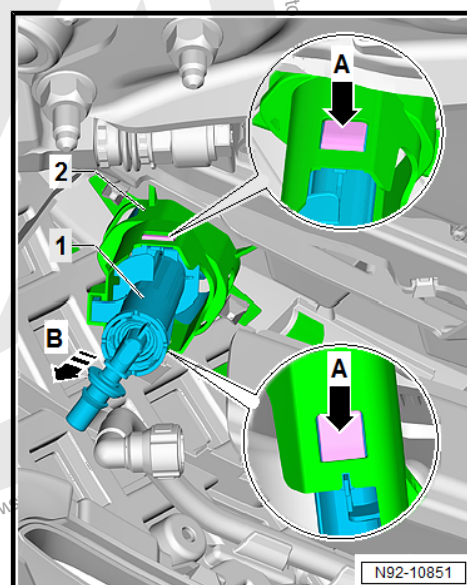
Installing

Install in reverse order of removal and note the following:



Note

- ♦ Pay attention to the markings on the lift cylinder for the left and right.
- ♦ The lift cylinder must engage audibly when inserted into the mount.
- ♦ When connecting the washer fluid hose, make sure that the clip engages audibly into the connection.





3.6 Headlamp Washer System Guide Frame, Replacing



Note

If the brackets for the headlamp washer system have loosened, they can be replaced separately. It is not necessary to replace the entire bumper. Use replacement parts according to Parts Catalog.

Assembly Information

- ◆ If necessary, only use the Adhesive Remover - D 002 000 10- to remove any adhesive residue
- ◆ Remove any adhesive residue left by the tape using Adhesive Remover - VAS6349- .
- ◆ Use Cleaning Solution - D 009 401 04- to clean the adhesive surface.
- ◆ Make sure the adhesive surfaces are free of dust and grease.
- ◆ The brackets must be bonded immediately after cleaning.
- ◆ Only remove the protective film right before assembly.
- ◆ The temperature must be approximately 21 °C (69.8 °F).
- Remove the front bumper cover. Refer to ➤ Body Exterior; Rep. Gr. 63 ; Front Bumper; Bumper Cover, Removing and Installing .
- Remove the washer nozzle from the bracket. Refer to ➤ ["3.5 Lift Cylinder, Removing and Installing", page 86](#) .
- Clean the adhesive surface. Refer to ➤ [page 88](#) .
- Remove the protective film on the new bracket.
- Align the bracket and attach to the bumper.
- Insert the washer nozzle in the bracket.
- Install the bumper.



4 Washer Fluid Hoses

⇒ ["4.1 Washer Fluid Hoses, Servicing", page 89](#)

4.1 Washer Fluid Hoses, Servicing

Refer to ⇒ Electrical Equipment General Information; Rep. Gr.
92 ; Hose Repair .

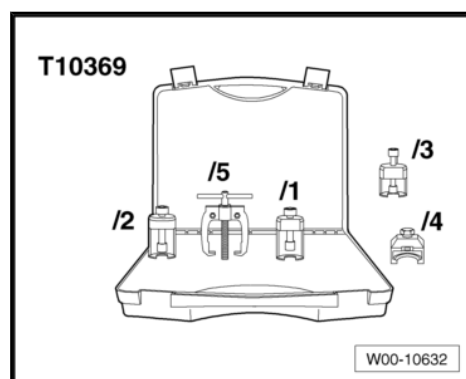




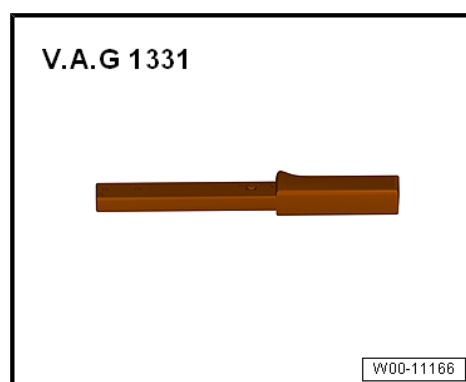
5 Special Tools

Special tools and workshop equipment required

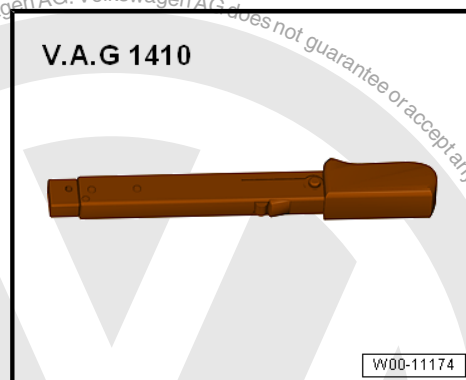
- ◆ Puller - Wiper Arm Kit - T10369-



- ◆ Torque Wrench 1331 5-50Nm - VAG1331-



- ◆ Torque Wrench 1410 - VAG1410-





94 – Exterior Lights, Switches

1 Headlamps

- ⇒ [“1.1 Overview - Headlamps”, page 91](#)
- ⇒ [“1.2 Headlamp, Removing and Installing”, page 96](#)
- ⇒ [“1.3 Headlamp, Adjusting”, page 97](#)
- ⇒ [“1.4 Headlamp Installation Position, Correcting”, page 97](#)
- ⇒ [“1.5 Left and Right Front Turn Signal Bulb M5 / M7 , Removing and Installing”, page 99](#)
- ⇒ [“1.6 Headlamps, Changing from RHD to LHD”, page 101](#)
- ⇒ [“1.7 Headlamps, Changing from LHD to RHD”, page 101](#)
- ⇒ [“1.8 Left and Right Headlamp Beam Adjustment Motor V48 / V49 , Removing and Installing”, page 102](#)
- ⇒ [“1.9 Low Beam Headlamp Bulb, Removing and Installing”, page 103](#)
- ⇒ [“1.10 Left and Right High Beam Headlamp Bulb M30 / M32 , Removing and Installing”, page 104](#)
- ⇒ [“1.11 Left and Right Daytime Running Lamp and Position Lamp LED Module L176 / L177 , Removing and Installing”, page 104](#)
- ⇒ [“1.12 Right and Left LED Headlamp Power Output Module 1 A27 / A31 , Removing and Installing”, page 105](#)
- ⇒ [“1.13 LED Headlamp Cover Trim, Removing and Installing”, page 106](#)
- ⇒ [“1.14 LED Headlamp Frame, Removing and Installing”, page 107](#)
- ⇒ [“1.15 LED Headlamp Trim Molding, Removing and Installing”, page 108](#)
- ⇒ [“1.16 Left and Right Adaptive Cornering Lamp Motor V318 / V319 , Removing and Installing”, page 109](#)
- ⇒ [“1.17 Left and Right Cornering Lamp Bulb L148 / L149 , Removing and Installing”, page 109](#)
- ⇒ [“1.18 Left and Right Headlamp Power Output Module J667 / J668 , Removing and Installing”, page 110](#)

1.1 Overview - Headlamps

- ⇒ [“1.1.1 Overview - LED Headlamps without Variable Light Distribution”, page 91](#)
- ⇒ [“1.1.2 Overview - LED Headlamps with Variable Light Distribution”, page 94](#)
- ⇒ [“1.1.3 Overview - Headlamp Attachments”, page 96](#)

1.1.1 Overview - LED Headlamps without Variable Light Distribution



1 - Headlamps

- ☐ Left Front Headlamp - MX1-
- ☐ Right Front Headlamp - MX2-
- ☐ Removing and Installing. Refer to
⇒ ["1.2 Headlamp, Removing and Installing", page 96](#).
- ☐ Adjusting. Refer to
⇒ ["1.3 Headlamp, Adjusting", page 97](#).

2 - Horizontal Adjustment Plug

- ☐ Market-specific

3 - Adjusting Element

4 - Bolt

- ☐ 4 Nm

5 - Lifter

6 - Bolt

- ☐ 8 Nm

7 - Front Turn Signal Bulb

- ☐ Left Front Turn Signal Bulb - M5-
- ☐ Right Front Turn Signal Bulb - M7-
- ☐ Removing and Installing. Refer to
⇒ ["1.5.1 Left/Right Front Turn Signal Bulb M5 / M7, Removing and Installing, LED Headlamps Without Variable Light Distribution", page 99](#).

8 - Housing Cover

9 - Daytime Running Lamp and Position Lamp LED Module

- ☐ Left Daytime Running Lamp and Position Lamp LED Module - L176-
- ☐ Right Daytime Running Lamp and Position Lamp LED Module - L177-
- ☐ Removing and Installing. Refer to
⇒ ["1.11 Left and Right Daytime Running Lamp and Position Lamp LED Module L176 / L177, Removing and Installing", page 104](#).

10 - Bolt

- ☐ 1.5 Nm
- ☐ Quantity: 4

11 - Bolt

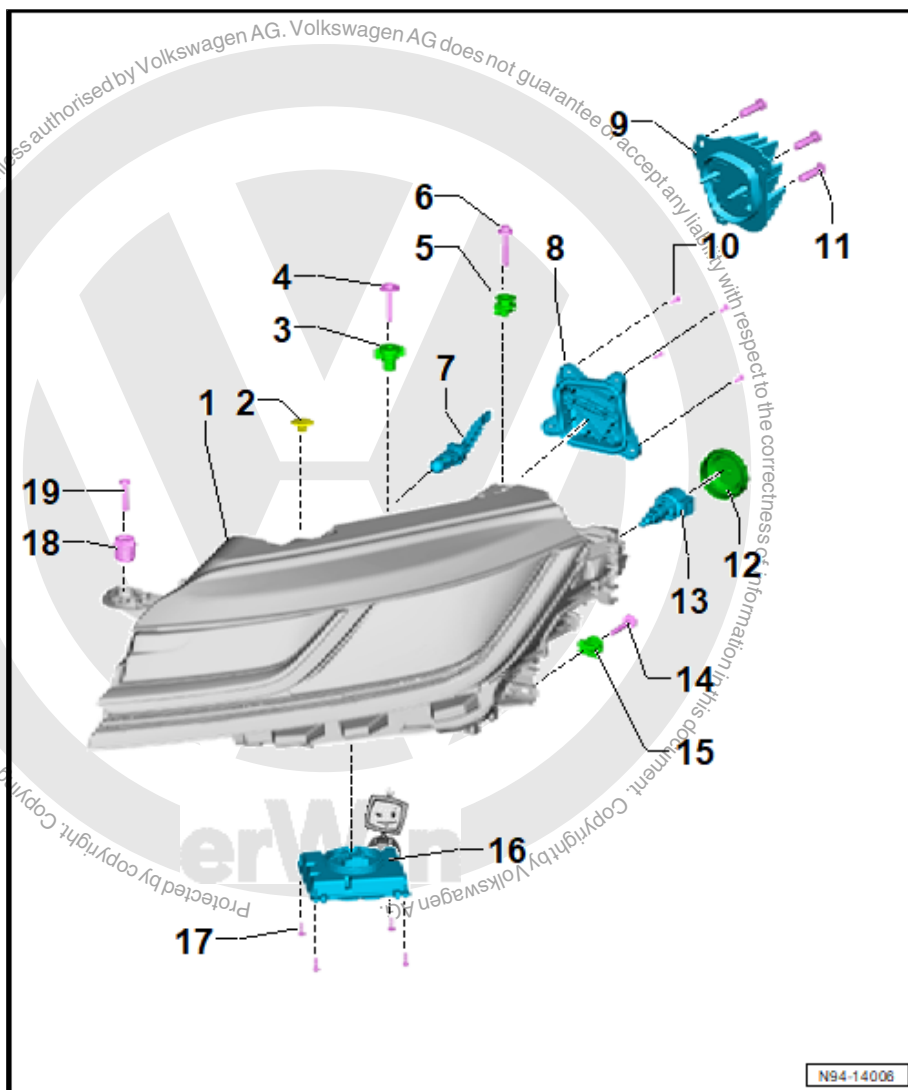
- ☐ 1.5 Nm
- ☐ Quantity: 3

12 - Housing Cover

- ☐ For headlamp beam adjustment motor

13 - Headlamp Beam Adjustment Motor

- ☐ Left Headlamp Beam Adjustment Motor - V48-
- ☐ Right Headlamp Beam Adjustment Motor - V49-





- ☐ Removing and Installing. Refer to
⇒ [“1.8 Left and Right Headlamp Beam Adjustment Motor V48 / V49 , Removing and Installing”,
page 102](#) .

14 - Bolt

- ☐ 4 Nm

15 - Lifter

16 - LED Headlamp Power Output Module 1

- ☐ Right LED Headlamp Power Output Module 1 - A27-
- ☐ Left LED Headlamp Power Output Module 1 - A31-
- ☐ Removing and Installing. Refer to
⇒ [“1.12 Right and Left LED Headlamp Power Output Module 1 A27 / A31 , Removing and Installing”,
page 105](#) .

17 - Bolt

- ☐ 1.5 Nm
- ☐ Quantity: 4

18 - Banjo Bolt

- ☐ For the headlamp height adjustment

19 - Bolt

- ☐ 4 Nm



1.1.2 Overview - LED Headlamps with Variable Light Distribution

1 - Headlamp Power Output Module

- ☐ Left Headlamp Power Output Module - J667-
- ☐ Right Headlamp Power Output Module - J668-
- ☐ Removing and Installing. Refer to
⇒ ["1.18 Left and Right Headlamp Power Output Module J667 / J668, Removing and Installing", page 110](#).

2 - Bolt

- ☐ 1.5 Nm
- ☐ Quantity: 3

3 - Bolt

- ☐ 1.5 Nm
- ☐ Quantity: 2

4 - Turn Signal Bulb

- ☐ Left Front Turn Signal Bulb - M5-
- ☐ Right Front Turn Signal Bulb - M7-
- ☐ Version as LED module
- ☐ Removing and Installing. Refer to
⇒ ["1.5.2 Left/Right Front Turn Signal Bulb M5 / M7, Removing and Installing, LED Headlamps With Variable Light Distribution", page 100](#).

5 - Horizontal Adjustment Plug

- ☐ Market-specific

6 - Adjusting Element

7 - Bolt

- ☐ 4 Nm

8 - Lifter

9 - Bolt

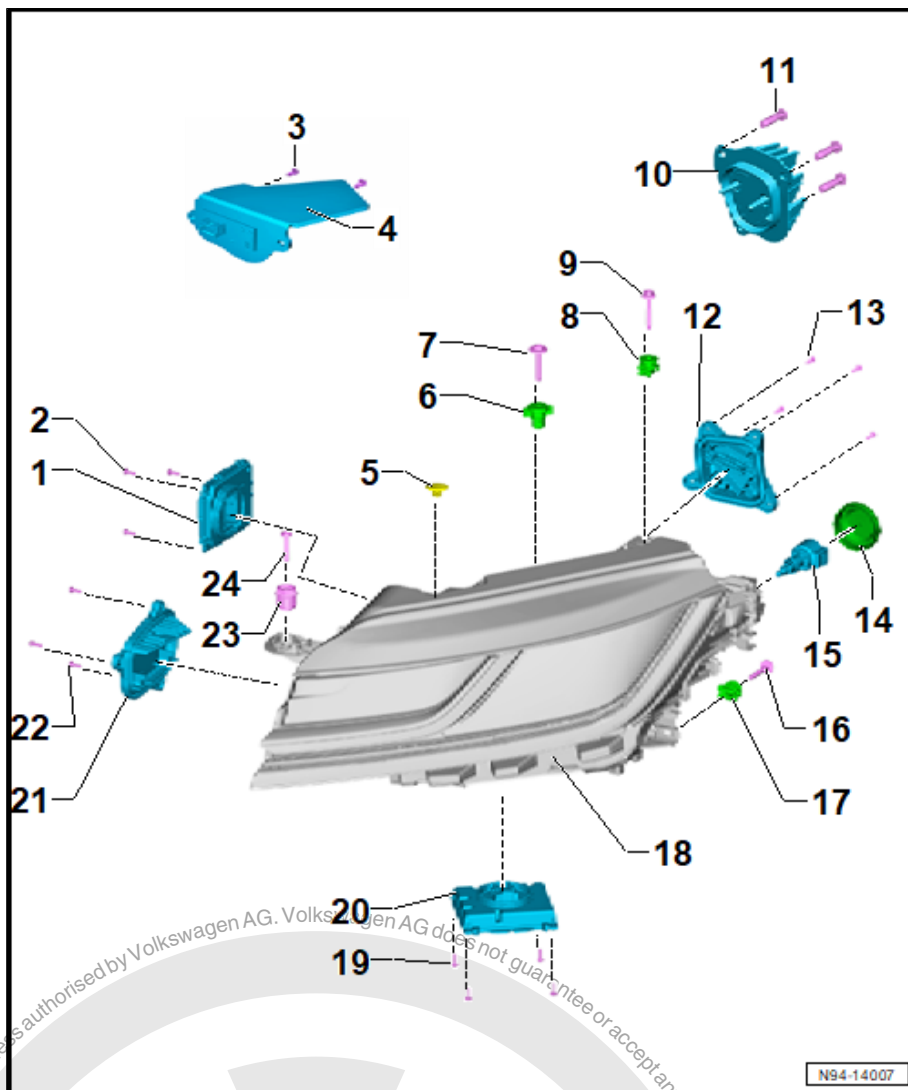
- ☐ 8 Nm

10 - Daytime Running Lamp and Position Lamp LED Module

- ☐ Left Daytime Running Lamp and Position Lamp LED Module - L176-
- ☐ Right Daytime Running Lamp and Position Lamp LED Module - L177-
- ☐ Removing and Installing. Refer to
⇒ ["1.11 Left and Right Daytime Running Lamp and Position Lamp LED Module L176 / L177, Removing and Installing", page 104](#).

11 - Bolt

- ☐ 1.5 Nm
- ☐ Quantity: 3





12 - Housing Cover

13 - Bolt

- ☐ 1.5 Nm
- ☐ Quantity: 4

14 - Housing Cover

- ☐ For headlamp beam adjustment motor

15 - Headlamp Beam Adjustment Motor

- ☐ Left Headlamp Beam Adjustment Motor - V48-
- ☐ Right Headlamp Beam Adjustment Motor - V49-
- ☐ Removing and Installing. Refer to
⇒ ["1.8 Left and Right Headlamp Beam Adjustment Motor V48 / V49 , Removing and Installing", page 102](#) .

16 - Bolt

- ☐ 4 Nm

17 - Lifter

18 - Headlamps

- ☐ Left Front Headlamp - MX1-
- ☐ Right Front Headlamp - MX2-
- ☐ Removing and Installing. Refer to ⇒ ["1.2 Headlamp, Removing and Installing", page 96](#) .
- ☐ Adjusting. Refer to ⇒ ["1.3 Headlamp, Adjusting", page 97](#) .

19 - Bolt

- ☐ 1.5 Nm
- ☐ Quantity: 4

20 - LED Headlamp Power Output Module 1

- ☐ Right LED Headlamp Power Output Module 1 - A27-
- ☐ Left LED Headlamp Power Output Module 1 - A31-
- ☐ Removing and Installing. Refer to
⇒ ["1.12 Right and Left LED Headlamp Power Output Module 1 A27 / A31 , Removing and Installing", page 105](#) .

21 - Cornering Lamp Bulb

- ☐ Left Cornering Lamp Bulb - L148-
- ☐ Right Cornering Lamp Bulb - L149-
- ☐ Removing and Installing. Refer to
⇒ ["1.17 Left and Right Cornering Lamp Bulb L148 / L149 , Removing and Installing", page 109](#) .

22 - Bolt

- ☐ 1.5 Nm
- ☐ Quantity: 3

23 - Banjo Bolt

- ☐ For the headlamp height adjustment

24 - Bolt

- ☐ 4 Nm



1.1.3 Overview - Headlamp Attachments

1 - Cover Plate

- ❑ Removing and Installing. Refer to
⇒ ["1.13 LED Headlamp Cover Trim, Removing and Installing", page 106](#).

2 - Bolt

- ❑ 1.5 Nm
- ❑ Quantity: 6

3 - Frame

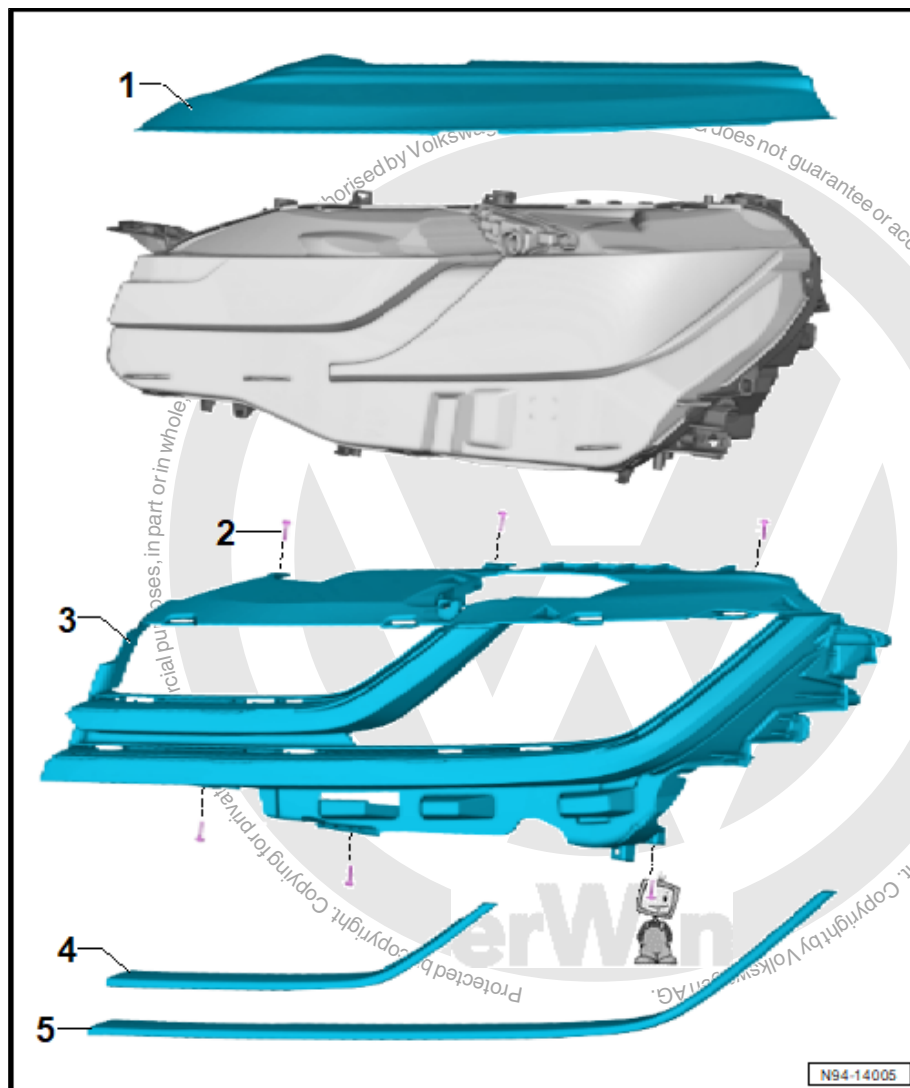
- ❑ Removing and Installing. Refer to
⇒ ["1.14 LED Headlamp Frame, Removing and Installing", page 107](#).

4 - Trim Molding

- ❑ Removing and Installing. Refer to
⇒ ["1.15 LED Headlamp Trim Molding, Removing and Installing", page 108](#).

5 - Trim Molding

- ❑ Removing and Installing. Refer to
⇒ ["1.15 LED Headlamp Trim Molding, Removing and Installing", page 108](#).



1.2 Headlamp, Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Wrench 1410 - VAG1410-



Note

The removal and installation is described for the left side. The removal and installation on the right side is similar.

Removing

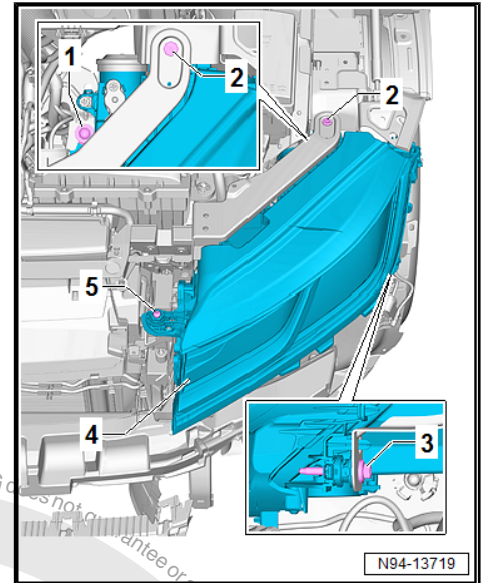
- Remove the front bumper cover. Refer to ⇒ Body Exterior; Rep. Gr. 63 ; Front Bumper; Bumper Cover, Removing and Installing .



- Loosen the bolt -1- several turns.
- Remove the bolts -2, 3, and 5-.
- Release and disconnect the connector on the headlamp -4-.
- Guide out the headlamp -4- forward.

Installing

- Install the headlamp and position the bolts.
- Install the front bumper cover. Refer to ⇒ Body Exterior; Rep. Gr. 63 ; Front Bumper; Bumper Cover, Removing and Installing .
- Adjust the headlamp installation position. Refer to ⇒ ["1.4 Headlamp Installation Position, Correcting", page 97](#) .
- Check the headlamp adjustment and adjust the headlamp if necessary. Refer to ⇒ Maintenance ; Booklet 44.1 ; Procedure Descriptions .



Tightening Specifications

- ◆ Refer to ⇒ ["1.1 Overview - Headlamps", page 91](#)

1.3 Headlamp, Adjusting

Refer to ⇒ Maintenance ; Booklet 44.1 ; Procedure Descriptions .

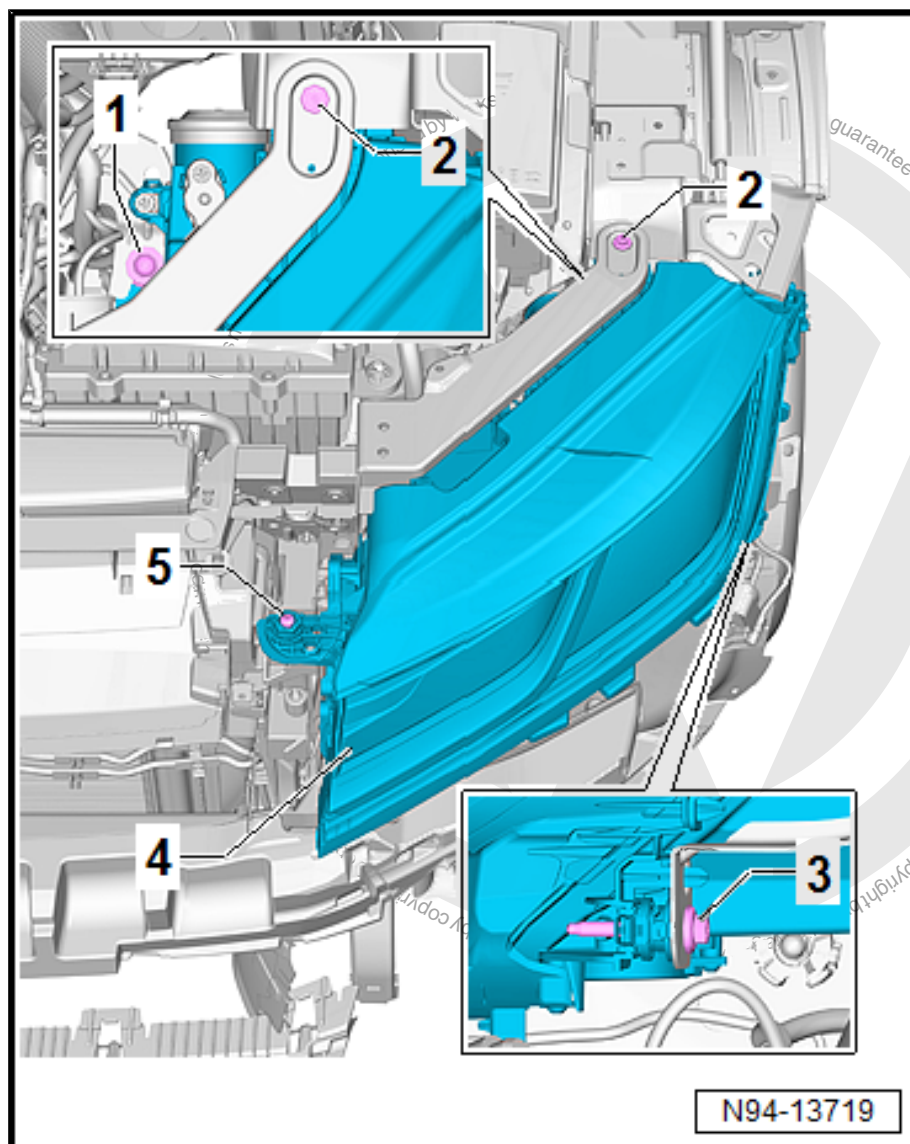
1.4 Headlamp Installation Position, Correcting

Special tools and workshop equipment required

- ◆ Torque Wrench 1410 - VAG1410-

Procedure

- Remove the front section of the front wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Front Wheel Housing Liner, Removing and Installing .
- Loosen the bolts -1, 2, 3 and 5-.



- Uniformly adjust the headlamp gap distribution -4-.
- Tighten the bolts -2 and 3-.
- Close the hood.
- For a uniform gap distribution, adjust the banjo bolt at the bolt -5-.
- Open the hood.
- Tighten the bolt -5- in the banjo bolt.
- Tighten the bolt -1-.
- Perform a function test.
- Check the headlamp adjustment and adjust the headlamp if necessary. Refer to ⇒ Maintenance ; Booklet 44.1 ; Procedure Descriptions .

Tightening Specifications

- ◆ Refer to ⇒ ["1.1 Overview - Headlamps", page 91](#)



1.5 Left and Right Front Turn Signal Bulb - M5- / -M7- , Removing and Installing

⇒ [“1.5.1 Left/Right Front Turn Signal Bulb M5 / M7 , Removing and Installing, LED Headlamps Without Variable Light Distribution”, page 99](#)

⇒ [“1.5.2 Left/Right Front Turn Signal Bulb M5 / M7 , Removing and Installing, LED Headlamps With Variable Light Distribution”, page 100](#)

1.5.1 Left/Right Front Turn Signal Bulb -M5- / -M7- , Removing and Installing, LED Headlamps Without Variable Light Distribution

Special tools and workshop equipment required

- ◆ Torque Screwdriver - VAG1624-

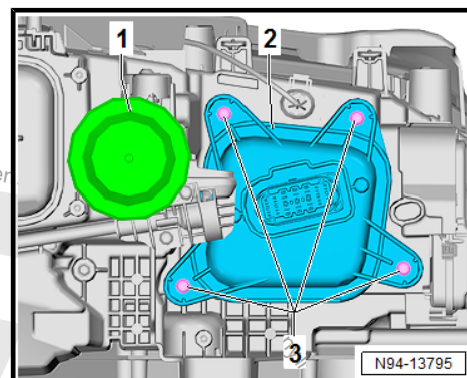


Note

The removal and installation is described for the left side. The removal and installation on the right side is similar.

Removing

- Remove the bolts -3-.
- Remove the housing cover -2- with the connector installed from the headlamp and tilt to the side.





- Remove the socket with the bulb holder -1- from the reflector in direction of -arrow A-.
- Remove the Left Front Turn Signal Bulb - M5- -2- from the bulb holder -1- in direction of -arrow B-.

Installing

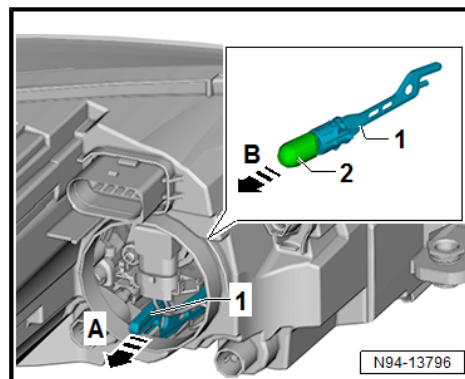
Install in reverse order of removal and note the following:



Caution

There is a risk of damaging the headlamp.

- ◆ *Do not touch the lamp bulb glass with bare fingers. Fingers leave traces of grease on the bulb glass that will evaporate and cloud the bulb glass when the lamp is switched on.*
- ◆ *Use clean gloves, for example, to insert the bulbs.*
- ◆ *During installation, ensure proper seating of the housing cover. Water getting in the headlamp will cause damage.*



- Perform a function test.
- Check the headlamp adjustment and adjust the headlamp if necessary. Refer to ➔ Maintenance ; Booklet 44.1 ; Procedure Descriptions .

1.5.2 Left/Right Front Turn Signal Bulb -M5- / -M7- , Removing and Installing, LED Headlamps With Variable Light Distribution

Special tools and workshop equipment required

- ◆ Torque Screwdriver - VAG1624-
- ◆ ESD Work Surface - VAS6613-



Note

- ◆ *The Left and Right Front Turn Signal Bulb -M5- / -M7- are designed as LED modules.*
- ◆ *The removal and installation is described for the left side. Removing and installing on the right side is similar.*



Caution

Only perform work on the LED module on an electro-static discharge work surface.



ESD Work Surface - VAS6613- Layout

- 1 - Connector adapter for ground
- 2 - Ground
- 3 - ESD work surface
- 4 - Wrist strap

Removing

- Remove the frame for the LED headlamp. Refer to [⇒ “1.14 LED Headlamp Frame, Removing and Installing”, page 107](#).
- Remove the bolts -2- for the bracket -1-.
- Guide the bracket -3- with the LED module out of the frame until the connector is accessible.
- Release and disconnect the connector -4-.
- Remove the LED module with the bracket.

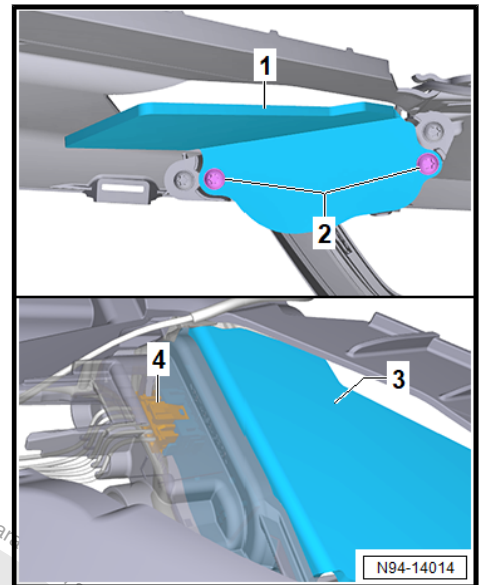
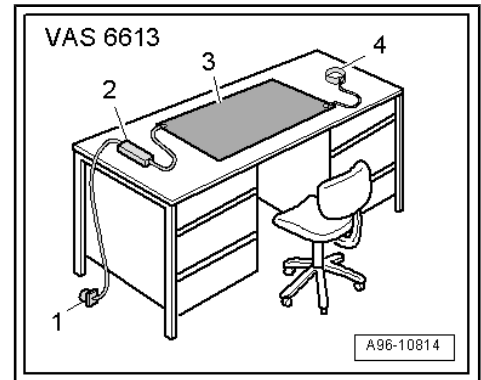
Installing

Install in reverse order of removal and note the following:

- Check the seal between the LED module and the headlamp for damage.
- Perform a function test.
- Check the headlamp adjustment and adjust if necessary. Refer to [⇒ “1.3 Headlamp, Adjusting”, page 97](#).

Tightening Specifications

- ◆ Refer to [⇒ “1.1 Overview - Headlamps”, page 91](#)



1.6 Headlamps, Changing from RHD to LHD

If the vehicle is driven in countries where the traffic drives on the other side of the road than where it is normally driven, both headlamps must be adjusted. This prevents the asymmetrical low beam headlamp from blinding.



Note

- ◆ *Converting from RHD to LHD traffic or vice-versa takes place via the Infotainment system.*
- ◆ *The usage of travel mode is only permitted when it is used short period of time. When permanently staying in the country, country-specific headlamps must be installed.*
- Push the button **CAR** on the Front Information Display Control Head - J685-.
- Press **Setup** and **Lamp**.
- Make the adjustments in the “Lamp Settings” menu.

1.7 Headlamps, Changing from LHD to RHD

If the vehicle is driven in countries where the traffic drives on the other side of the road than where it is normally driven, both head-



lamps must be adjusted. This prevents the asymmetrical low beam headlamp from blinding.



Note

- ◆ *Converting from LHD to RHD traffic or vice-versa takes place via the Infotainment system.*
- ◆ *The usage of travel mode is only permitted when it is used short period of time. When permanently staying in the country, country-specific headlamps must be installed.*
- Push the button **CAR** on the Front Information Display Control Head - J685- .
- Press **Setup** and **Lamp**.
- Make the adjustments in the “Lamp Settings” menu.

1.8 Left and Right Headlamp Beam Adjustment Motor -V48- / -V49- , Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Screwdriver - VAG1624-

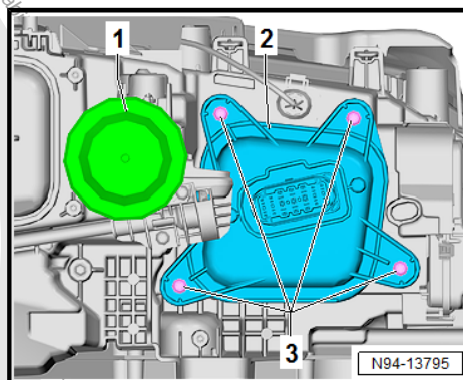


Note

The removal and installation is described for the left side. The removal and installation on the right side is similar.

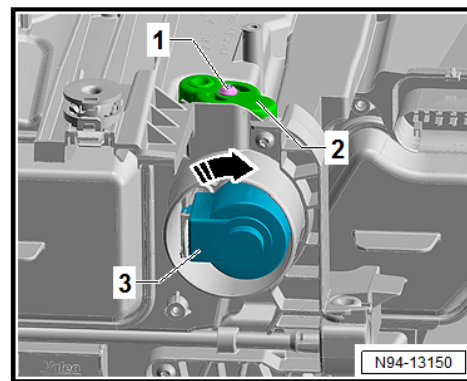
Removing

- Remove the headlamp. Refer to [⇒ “1.2 Headlamp, Removing and Installing”, page 96](#) .
- Turn the adjusting screw for the height adjustment on the top of the headlamp to the right until it stops (clockwise).
- Remove the housing cover -1- from the headlamp.





- Remove the bolt -1-.
- Remove the adjusting mechanism for height adjustment -2- upward.
- Remove the adjusting shaft fitted underneath upward out of the headlamp.
- Release the Left Headlamp Beam Adjustment Motor - V48- -3-:
- ◆ Turn in the opposite direction of -arrow- on the left headlamp.
- ◆ Turn in the direction of -arrow- on the right headlamp.
- Tilt the Left Headlamp Beam Adjustment Motor - V48- -3- to the left so that the ball head is pushed to the right and out of the ball head mount in the headlamp.
- Remove the Left Headlamp Beam Adjustment Motor - V48- -3- toward the rear out of the headlamp until the connector is accessible.
- Release and disconnect the connector.
- Remove the Left Headlamp Beam Adjustment Motor - V48- -3-.



Installing

Install in reverse order of removal and note the following:

- Pull the reflector on the ball head mount toward the rear.
- Engage the ball head on the Left Headlamp Beam Adjustment Motor - V48- into the ball head mount in the headlamp.
- Lock the Left Headlamp Beam Adjustment Motor - V48- -3-:
- ◆ Turn in the direction of -arrow- on the left headlamp.
- ◆ Turn in the opposite direction of -arrow- on the right headlamp.
- Perform a function test.
- Check the headlamp adjustment and adjust the headlamp if necessary. Refer to ⇒ Maintenance ; Booklet 44.1 ; Procedure Descriptions .

Tightening Specifications

- ◆ Refer to ⇒ ["1.1 Overview - Headlamps", page 91](#)

1.9 Low Beam Headlamp Bulb, Removing and Installing



Note

The low beam headlamp bulb are LED lamps and are integrated in the headlamp. Changing the LED module is not possible. The entire headlamp must be replaced.

- Headlamps, Removing and installing. Refer to ⇒ ["1.2 Headlamp, Removing and Installing", page 96](#) .



1.10 Left and Right High Beam Headlamp Bulb -M30- / -M32- , Removing and Installing



Note

The high beam headlamp bulb are LED lamps and are integrated in the headlamp. Changing the LED module is not possible. The entire headlamp must be replaced.

- Headlamps, Removing and installing. Refer to
⇒ [“1.2 Headlamp, Removing and Installing”, page 96](#) .

1.11 Left and Right Daytime Running Lamp and Position Lamp LED Module -L176- / -L177- , Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Screwdriver - VAG1624-
- ◆ ESD Work Surface - VAS6613-



Note

The removal and installation is described for the left side. Removing and installing on the right side is similar.



Caution

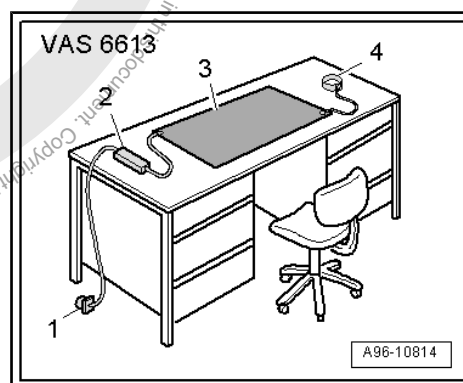
Only perform work on the LED module on an electro-static discharge work surface.

ESD Work Surface - VAS6613- Layout

- 1 - Connector adapter for ground
- 2 - Ground
- 3 - ESD work surface
- 4 - Wrist strap

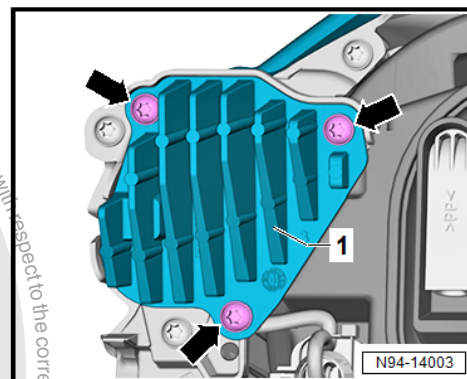
Removing

- Remove the headlamp. Refer to
⇒ [“1.2 Headlamp, Removing and Installing”, page 96](#) .





- Remove the screws -arrows-.
- Guide the Left Daytime Running Lamp and Position Lamp LED Module - L176- -1- out of the headlamp housing until the connector is accessible.

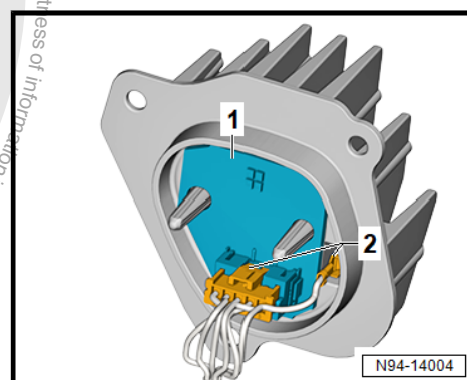


- Release and disconnect the connectors -2- from the Left Daytime Running Lamp and Position Lamp LED Module - L176- -1-.
- Remove the Left Daytime Running Lamp and Position Lamp LED Module - L176- -1-.

Installing

Install in reverse order of removal and note the following:

- Check the seal between the Left Daytime Running Lamp and Position Lamp LED Module - L176- and the headlamp for damage.
- Perform a function test.
- Check the headlamp adjustment and adjust if necessary. Refer to ➔ ["1.3 Headlamp, Adjusting", page 97](#).



Tightening Specifications

- ◆ Refer to ➔ ["1.1 Overview - Headlamps", page 91](#)

1.12 Right and Left LED Headlamp Power Output Module 1 -A27- / -A31- , Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Screwdriver - VAG1624-



Note

The removal and installation is described for the left side. The removal and installation on the right side is similar.

Removing

- Remove the headlamp. Refer to ➔ ["1.2 Headlamp, Removing and Installing", page 96](#).



- Remove the bolts -2-.
- Remove the Left LED Headlamp Power Output Module 1 - A31- -1- from the headlamp housing until the connector is accessible.
- Release and disconnect the connector on the Left LED Headlamp Power Output Module 1 - A31- -1-.
- Remove the Left LED Headlamp Power Output Module 1 - A31- -1-.

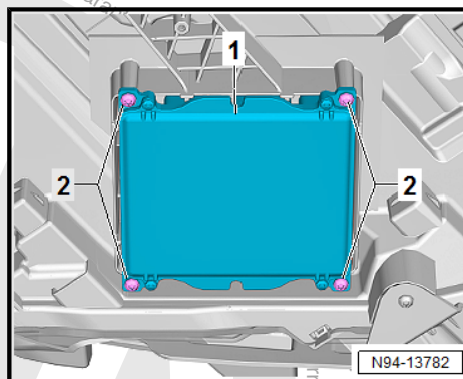
Installing

Install in reverse order of removal and note the following:



Caution

Make sure the seal fits correctly when installing the Left LED Headlamp Power Output Module 1 - A31- . Water getting in the headlamp will cause damage.



- Check the seal between the Left LED Headlamp Power Output Module 1 - A31- and the headlamp for damage.
- Perform a function test.
- Check the headlamp adjustment and adjust if necessary. Refer to ⇒ [“1.3 Headlamp, Adjusting”, page 97](#) .

Tightening Specifications

- ◆ Refer to ⇒ [“1.1 Overview - Headlamps”, page 91](#)

1.13 LED Headlamp Cover Trim, Removing and Installing

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-



Note

The removal and installation is described for the left side. Removing and installing on the right side is similar.

Removing

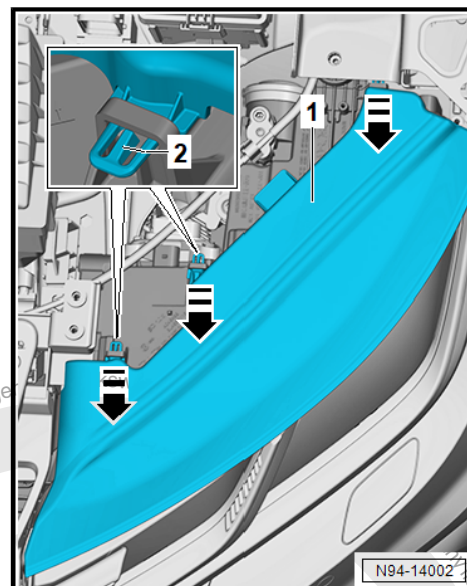
- Remove the support. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Lock Carrier; Overview - Lock Carrier .



- Release the retaining tabs -2- on the cover trim for the LED headlamp -1-.
- Remove the cover trim -1- from the headlamp in the direction of -arrow-.

Installing

Install in reverse order of removal.



1.14 LED Headlamp Frame, Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Screwdriver - VAG1624-

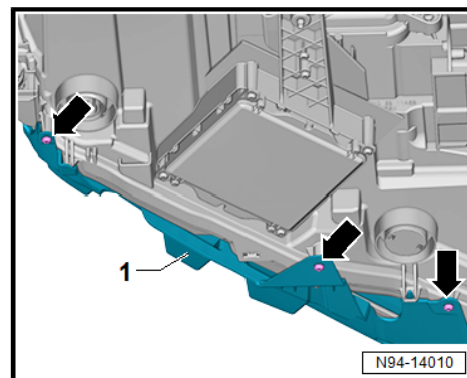


Note

The removal and installation of the LED headlamp frame on the left side is described. Removing and installing on the right side is similar.

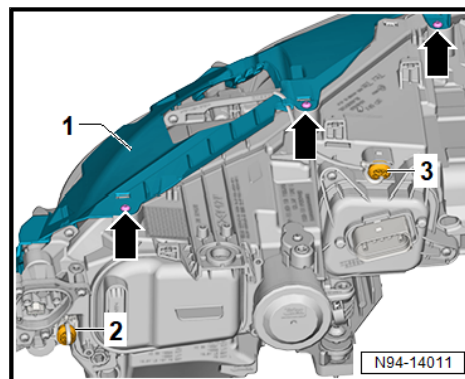
Removing

- Remove the headlamp. Refer to ["1.2 Headlamp, Removing and Installing", page 96](#).
- Remove the cover trim. Refer to ["1.13 LED Headlamp Cover Trim, Removing and Installing", page 106](#).
- Remove the daytime running lamp and position lamp LED module. Refer to ["1.11 Left and Right Daytime Running Lamp and Position Lamp LED Module L176 / L177, Removing and Installing", page 104](#).
- Remove the bolts -arrows- from the headlamp frame -1-.

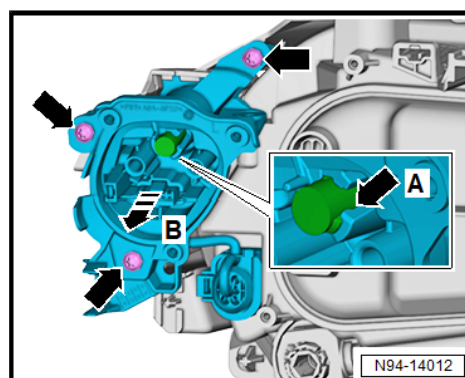




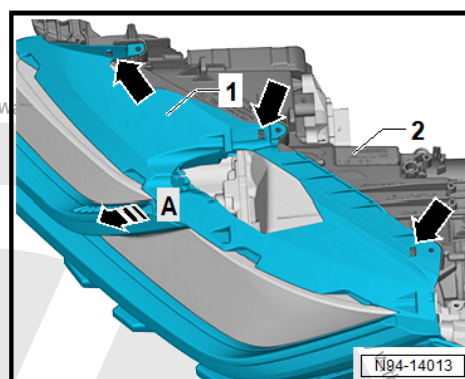
- Release and disconnect the connector -2-.
- For versions with variable light distribution, release and disconnect the connector -3-.



- Remove the bolts -arrows- from the LED module housing.
- Release the retaining tab -arrow A- using a small screwdriver.
- Remove the LED module housing in the direction of -arrow B-.



- Release the frame retaining tabs -arrows- using the Trim Removal Wedge - 3409- .
- Remove the frame -1- from the headlamp housing -2- in the direction of -arrow A-.



Installing

Install in reverse order of removal and note the following:

- Perform a function test.
- Check the headlamp adjustment and adjust if necessary. Refer to ⇒ ["1.3 Headlamp, Adjusting", page 97](#) .

Tightening Specifications

- ◆ Refer to ⇒ ["1.1 Overview - Headlamps", page 91](#)

1.15 LED Headlamp Trim Molding, Removing and Installing

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-

Removing

- Remove the frame for the LED headlamp. Refer to ⇒ ["1.14 LED Headlamp Frame, Removing and Installing", page 107](#) .

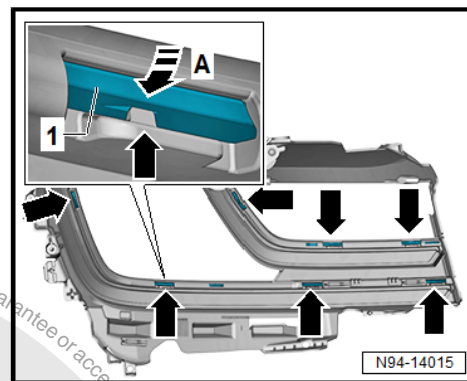


- Using the Trim Removal Wedge - 3409- , release the retaining tabs -arrows- on the respective trim molding direction of -arrow A-.
- Remove the trim molding -1- from the support.

Installing

Install in reverse order of removal and note the following:

- Perform a function test.
- Check the headlamp adjustment and adjust if necessary. Refer to ⇒ [“1.3 Headlamp Adjusting”, page 97](#) .



1.16 Left and Right Adaptive Cornering Lamp Motor -V318- / -V319- , Removing and Installing



Note

- ◆ *The Left Adaptive Cornering Lamp Motor - V318- / Right Adaptive Cornering Lamp Motor - V319- is only installed on LED headlamps with cornering lamp.*
- ◆ *The adaptive cornering lamp motor sits in the headlamp housing and cannot be replaced separately if it is faulty.*
- Headlamps, Removing and installing. Refer to ⇒ [“1.2 Headlamp, Removing and Installing”, page 96](#) .

1.17 Left and Right Cornering Lamp Bulb - L148- / -L149- , Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Screwdriver - VAG1624-
- ◆ ESD Work Surface - VAS6613-



Note

The removal and installation is described for the left side. The removal and installation on the right side is similar.



Caution

Only perform procedures for a Left/Right Cornering Lamp Bulb -L148- / -L149- on an electro-static discharge work surface.



ESD Work Surface - VAS6613- Layout

- 1 - Connector adapter for ground
- 2 - Ground
- 3 - ESD work surface
- 4 - Wrist strap

Removing

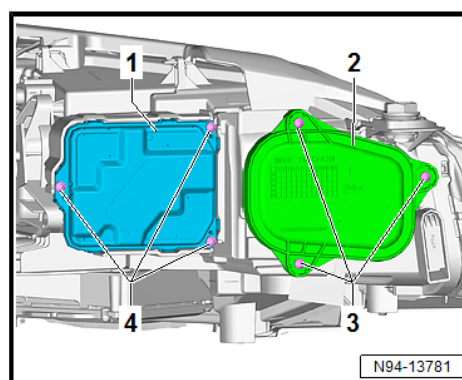
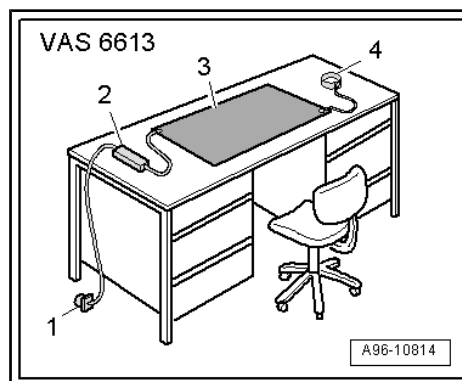
- Remove the headlamp. Refer to
⇒ [“1.2 Headlamp, Removing and Installing”, page 96](#) .

- Remove the bolts -3-.
- Guide the Left Cornering Lamp Bulb - L148- -2- out of the headlamp housing until the connector is accessible.
- Release and disconnect the connector on the Left Cornering Lamp Bulb - L148- .
- Remove the Left Cornering Lamp Bulb - L148- -2-.

Installing

Install in reverse order of removal and note the following:

- Check the seal between the Left Cornering Lamp Bulb - L148- and the headlamp housing for damage.



Caution

There is a risk of damaging the headlamp.

- ◆ *Make sure the Left Cornering Lamp Bulb - L148- is positioned correctly when installing. Water getting in the headlamp will cause damage.*

- Perform a function test.
- Check the headlamp adjustment and adjust the headlamp if necessary. Refer to ⇒ Maintenance ; Booklet 44.1 ; Procedure Descriptions .

Tightening Specifications

- ◆ Refer to
⇒ [“1.1.2 Overview - LED Headlamps with Variable Light Distribution”, page 94](#)

1.18 Left and Right Headlamp Power Output Module -J667- / -J668- , Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Screwdriver - VAG1624-



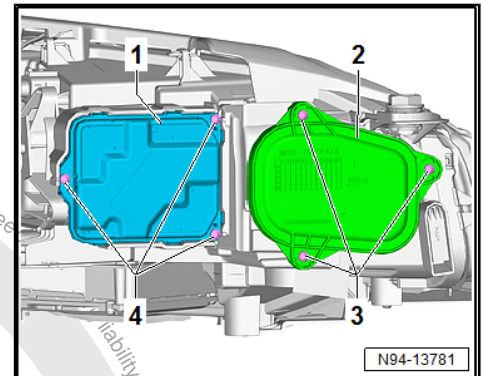
Note

The removal and installation is described for the left side. The removal and installation on the right side is similar.



Removing

- Remove the headlamp. Refer to
⇒ [“1.2 Headlamp, Removing and Installing”, page 96](#) .
- Remove the bolts -4-.
- Remove the Left Headlamp Power Output Module - J667-
-4- from the headlamp housing until the connector is accessi-
ble.
- Release and disconnect the connector from the Left Head-
lamp Power Output Module - J667- -4-.
- Remove the Left Headlamp Power Output Module - J667-
-4-.



Installing

Install in reverse order of removal and note the following:

- Check the seal between the Left Headlamp Power Output
Module - J667- and the headlamp housing for damage.



Caution

There is a risk of damaging the headlamp.

- ◆ *Make sure the seal fits correctly when installing the Left
Headlamp Power Output Module - J667- . Water getting
in the headlamp will cause damage.*

- Perform a function test.
- Check the headlamp adjustment and adjust the headlamp if
necessary. Refer to ⇒ Maintenance ; Booklet 44.1 ; Procedure
Descriptions

Tightening Specifications

- ◆ Refer to
⇒ [“1.1.2 Overview - LED Headlamps with Variable Light Dis-
tribution”, page 94](#)

2 Lamps in Exterior Rearview Mirror

⇒ **“2.1 Overview - Lamps in Exterior Rearview Mirror”,**
page 112

⇒ “2.2 Turn Signal, Removing and Installing”, page 113

⇒ **“2.3 Exterior Rearview Mirror Entry Lamp, Removing and Installing”, page 115**

2.1 Overview - Lamps in Exterior Rearview Mirror



Note

The illustration shows the left side. The right side is done the same.

1 - Mirror Base

- ❑ Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Exterior Rearview Mirror, Removing and Installing .

2 - Turn Signal

- Removing and installing. Refer to ⇒ “2.2 Turn Signal, Removing and Installing”, page 113.

3 - Bolt

- 1 Nm
- Quantity: 2

4 - Peripheral Camera

- ❑ Removing and installing. Refer to ⇒ Communication; Rep. Gr. 91 ; Peripheral Camera; Component Location Overview - Peripheral Camera .

5 - Bracket

- ❑ For the peripheral camera

6 - Bolt

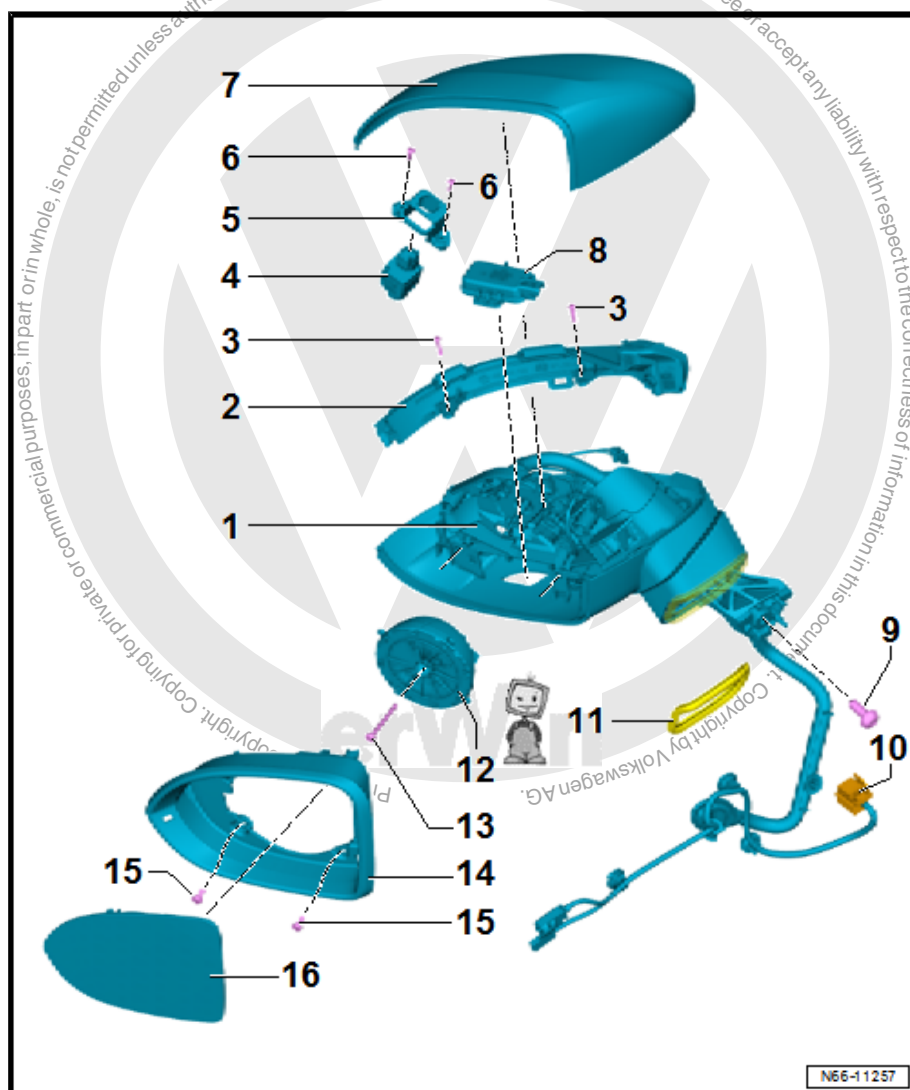
- ❑ Tightening specification. Refer to ⇒ Communication; Rep. Gr. 91 ; Peripheral Camera .
- ❑ Quantity: 2

7 - Mirror Cap

- ❑ Material: ABS
- ❑ Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Mirror Cap, Removing and Installing .

8 - Exterior Rearview Mirror Entry Lamp

- ☐ Driver Entry Lamp in Exterior Rearview Mirror - W52-





- ☐ Front Passenger Entry Lamp in Exterior Rearview Mirror - W53-
- ☐ Removing and installing. Refer to
⇒ ["2.3 Exterior Rearview Mirror Entry Lamp, Removing and Installing", page 115](#).

9 - Bolt

- ☐ Tightening specification. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Overview - Exterior Rearview Mirror .
- ☐ Quantity: 1

10 - Connector

11 - Seal

- ☐ Between the cover and the outer door trim

12 - Adjusting Unit

- ☐ Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Mirror Adjustment Unit, Removing and Installing .

13 - Bolt

- ☐ Tightening specification. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Overview - Exterior Rearview Mirror .
- ☐ Quantity: 1

14 - Mirror Frame

- ☐ Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Mirror Trim, Removing and Installing .

15 - Bolt

- ☐ Tightening specification. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Overview - Exterior Rearview Mirror .
- ☐ Quantity: 2

16 - Mirror Glass

- ☐ Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Mirror Glass, Removing and Installing .

2.2 Turn Signal, Removing and Installing

Special tools and workshop equipment required

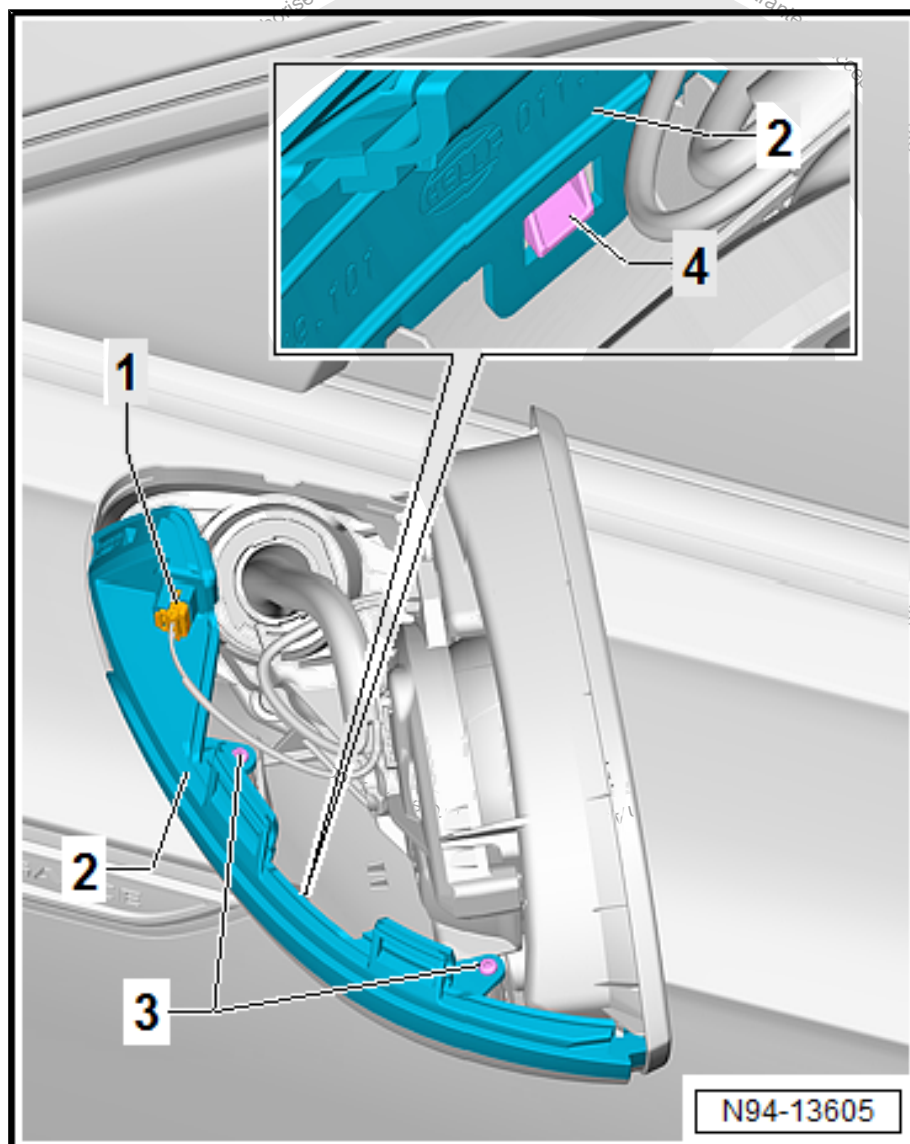
- ◆ Torque Screwdriver - VAG1624-



Note

- ◆ *The removal and installation is described for the left side. The removal and installation on the right side is similar.*
- ◆ *The entire exterior rearview mirror turn signal must be replaced if an LED is faulty.*

Removing



- Remove the mirror cap. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Mirror Cap, Removing and Installing .
- Disconnect the connector -1-.
- Remove the bolts -3-.
- Loosen the turn signal -2- from the retaining tab -4-.
- Remove the turn signal -2- upward from the mirror base -1-.

Installing

Install in reverse order of removal. Note the following.

- Perform a function test.

Tightening Specifications

- ◆ Refer to
⇒ [“2.1 Overview - Lamps in Exterior Rearview Mirror”](#),
[page 112](#)



2.3 Exterior Rearview Mirror Entry Lamp, Removing and Installing



Note

- ◆ The removal and installation is described for the left side. The removal and installation on the right side is similar.
- ◆ The entire exterior rearview mirror entry lamp must be replaced if an LED is faulty.

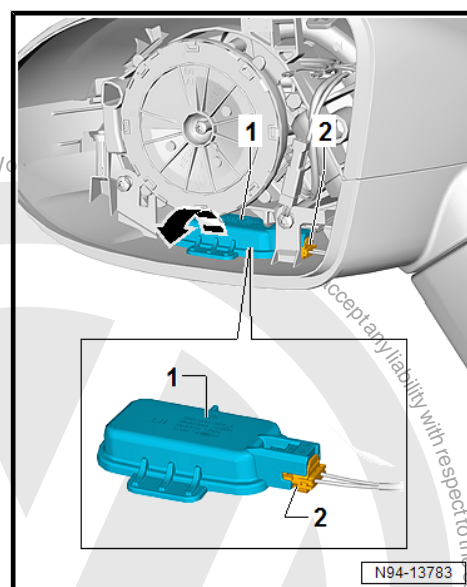
Removing

- Removing and installing the mirror frame. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror, Mirror Trim, Removing and Installing .
- Lift the Driver Entry Lamp in Exterior Rearview Mirror - W52-1- in the direction of the -arrow- out of the mirror housing.
- Disconnect the connector -2-.

Installing

Install in reverse order of removal. Note the following.

- Perform a function test.





3 Tail Lamps

- ⇒ [“3.1 Overview - Body Tail Lamps”, page 116](#)
- ⇒ [“3.2 Overview - Rear Lid Tail Lamps”, page 117](#)
- ⇒ [“3.3 Rear Lid Tail Lamp, Removing and Installing”, page 117](#)
- ⇒ [“3.4 Tail Lamp, Correcting Installation Position”, page 118](#)
- ⇒ [“3.5 Lower Tail Lamp, Removing and Installing”, page 119](#)
- ⇒ [“3.6 Right and Left Tail Lamp Bulb M2 / M4 , Removing and Installing”, page 120](#)
- ⇒ [“3.7 Left and Right Rear Fog Lamp Bulb L46 / L47 , Removing and Installing”, page 120](#)
- ⇒ [“3.8 Left and Right Brake/Tail Lamp Bulb M21 / M22 , Removing and Installing”, page 120](#)
- ⇒ [“3.9 Back-Up Lamp Bulb, Removing and Installing”, page 121](#)
- ⇒ [“3.10 Turn Signal Bulb, Removing and Installing”, page 121](#)

3.1 Overview - Body Tail Lamps

1 - Fastening Element

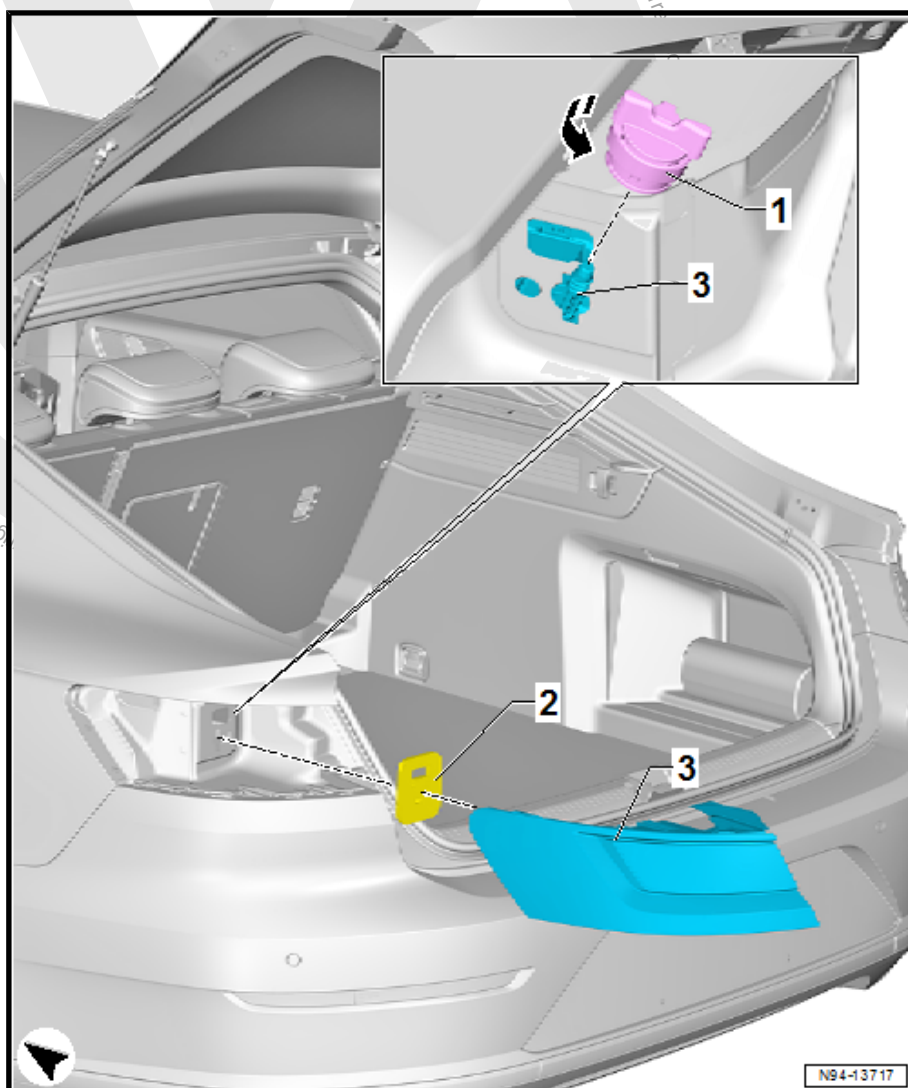
- ☐ To remove turn 90° (1/4 turn) and remove
- ☐ As a quick release

2 - Seal

- ☐ Replace if damaged.

3 - Tail Lamp

- ☐ Left Tail Lamp - MX3-
- ☐ Right Tail Lamp - MX4-
- ☐ Removing and installing. Refer to
⇒ [“3.5 Lower Tail Lamp, Removing and Installing”, page 119](#).





3.2 Overview - Rear Lid Tail Lamps

1 - Nut

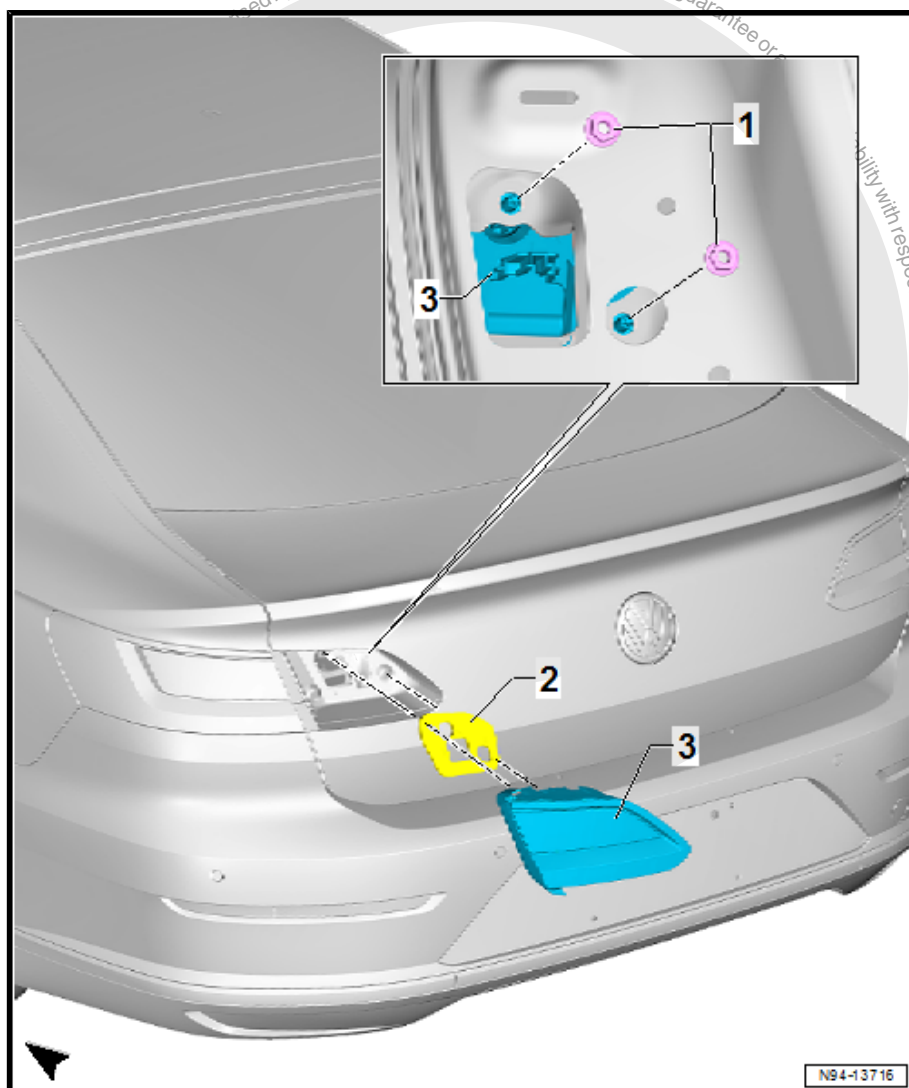
- ☐ 3 Nm
- ☐ Quantity: 2

2 - Seal

- ☐ Replace if damaged.

3 - Tail Lamp

- ☐ Left Tail Lamp 2 - MX5-
- ☐ Right Tail Lamp 2 - MX6-
- ☐ Removing and installing. Refer to
⇒ ["3.3 Rear Lid Tail Lamp, Removing and Installing", page 117](#).



3.3 Rear Lid Tail Lamp, Removing and Installing



Note

The removal and installation is described for the left side. The removal and installation on the right side is similar.

Removing

- Turn the light switch to position “0”.
- Remove the rear lid lower trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Luggage Compartment Trim Panels; Rear Lid Lower Trim Panel, Removing and Installing .



- Remove the nuts -1-.
- Release and disconnect the connector -2-.
- Remove the Left Tail Lamp 2 - MX5- -3- outward.

Installing

Install in reverse order of removal and note the following:



Note

- ◆ *Make sure that the seal between the body and tail lamp housing seals properly.*
- ◆ *The connector must lock into place.*
- Pivot the Left Tail Lamp 2 - MX5- into the rear lid opening from the outside.
- Align at the top and center.
- Starting at the top and then the bottom install the nuts on the Left Tail Lamp 2 - MX5- and tighten.
- Perform a function test.

Tightening Specifications

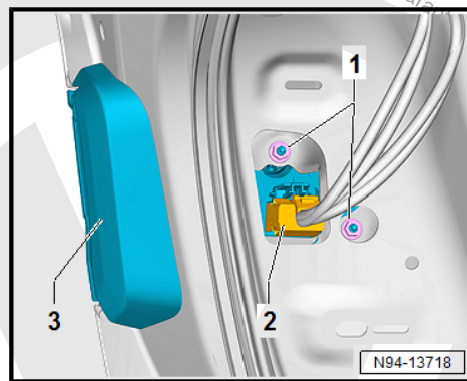
- ◆ Refer to ⇒ [“3.2 Overview - Rear Lid Tail Lamps”, page 117](#)

3.4 Tail Lamp, Correcting Installation Position



Note

- ◆ *The installation position can only be corrected at the body tail lamp.*
- ◆ *Correcting the installation position on the left side is described. Correcting the installation position on the right side is the same procedure.*
- Turn the light switch to position “0”.
- Remove the access cover in the left luggage compartment side trim panel.



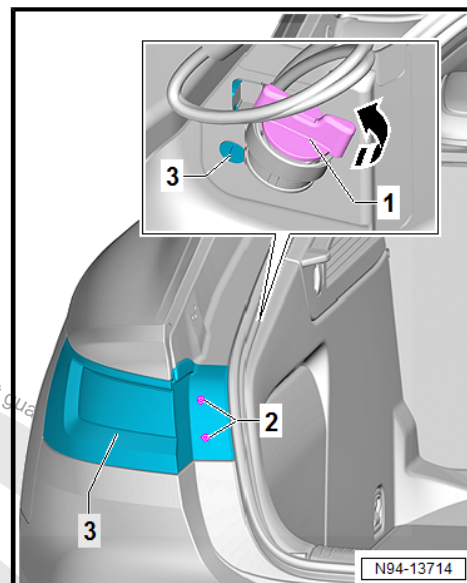


- Loosen the quick release -1- $1\frac{1}{2}$ turns in the direction of -arrow-.
- Adjust the tail lamp installation position by tightening or loosening the adjusters -2-.

i Note

The tail lamp -3- must be flush with the neighboring components.

- Turn the quick release -1- in the direction of -arrow- all the way and lock.
- Install the access cover in the left luggage compartment side trim panel.



3.5 Lower Tail Lamp, Removing and Installing

i Note

The removal and installation is described for the left side. The removal and installation on the right side is similar.

Removing

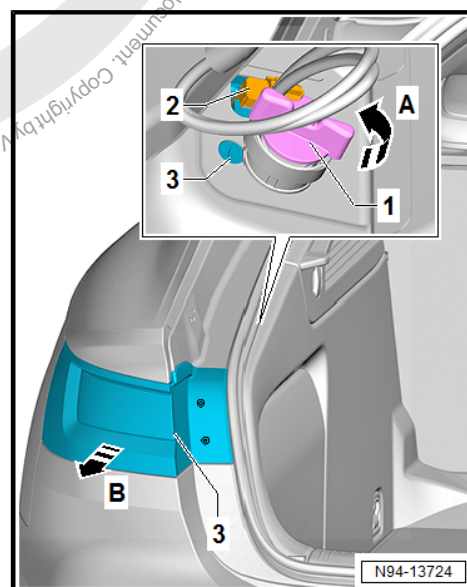
- Turn the light switch to position "0".
- Open the access cover in the left luggage compartment side trim panel.
- Release and disconnect the connector -2-.
- Remove the quick release -1- all the way in the direction of -arrow A-.
- Remove the tail lamp -3- in the direction of -arrow B-.

Installing

Install in reverse order of removal and note the following:

i Note

- ♦ *Make sure that the seal between the body and tail lamp housing seals properly.*
- ♦ *The connector must lock into place.*
- Turn the quick release -1- in the direction of -arrow A- all the way and lock.
- Perform a function test.





3.6 Right and Left Tail Lamp Bulb -M2- / -M4- , Removing and Installing



Note

The tail lamp bulbs are LEDs and are integrated inside the tail lamps. Replacing the LEDs is not possible. The tail lamp must be completely replaced.

- Left Tail Lamp - MX3- / Right Tail Lamp - MX4- , Removing and installing. Refer to [⇒ "3.5 Lower Tail Lamp, Removing and Installing", page 119](#) .
- Left Tail Lamp 2 - MX5- / Right Tail Lamp 2 - MX6- , Removing and installing. Refer to [⇒ "3.3 Rear Lid Tail Lamp, Removing and Installing", page 117](#) .

3.7 Left and Right Rear Fog Lamp Bulb - L46- / -L47- , Removing and Installing



Note

The rear fog lamp bulbs are LEDs and are integrated inside the tail lamps. Replacing the LEDs is not possible. The tail lamp must be completely replaced.

- Left Tail Lamp 2 - MX5- / Right Tail Lamp 2 - MX6- , Removing and installing. Refer to [⇒ "3.3 Rear Lid Tail Lamp, Removing and Installing", page 117](#) .

3.8 Left and Right Brake/Tail Lamp Bulb - M21- / -M22- , Removing and Installing



Note

The brake and tail lamp bulbs are LEDs and are integrated inside the tail lamps. Replacing the LEDs is not possible. The tail lamp must be completely replaced.

- Left Tail Lamp - MX3- / Right Tail Lamp - MX4- , Removing and installing. Refer to [⇒ "3.5 Lower Tail Lamp, Removing and Installing", page 119](#) .
- Left Tail Lamp 2 - MX5- / Right Tail Lamp 2 - MX6- , Removing and installing. Refer to [⇒ "3.3 Rear Lid Tail Lamp, Removing and Installing", page 117](#) .



3.9 Back-Up Lamp Bulb, Removing and Installing



Note

The back-up lamp bulbs are LEDs and are integrated inside the tail lamps. Replacing the LEDs is not possible. The tail lamp must be completely replaced.

- Left Tail Lamp 2 - MX5- / Right Tail Lamp 2 - MX6- , Removing and installing. Refer to [⇒ "3.3 Rear Lid Tail Lamp, Removing and Installing", page 117](#) .

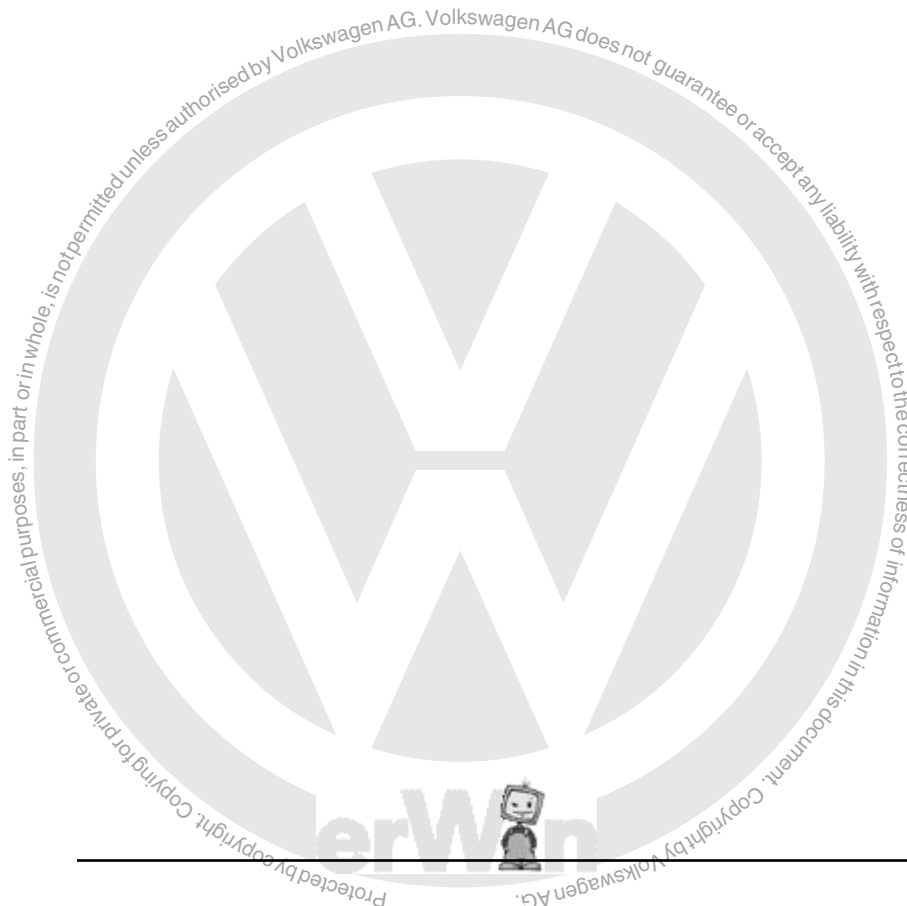
3.10 Turn Signal Bulb, Removing and Installing



Note

The turn signal bulbs are LEDs and are integrated inside the tail lamps. Replacing the LEDs is not possible. The tail lamp must be completely replaced.

- Left Tail Lamp - MX3- / Right Tail Lamp - MX4- , Removing and installing. Refer to [⇒ "3.5 Lower Tail Lamp, Removing and Installing", page 119](#) .





4 High-Mounted Brake Lamp

⇒ "4.1 Overview - High-Mounted Brake Lamp", page 122

⇒ "4.2 High-Mounted Brake Lamp, Removing and Installing", page 123

4.1 Overview - High-Mounted Brake Lamp

1 - High-Mounted Brake Lamp

- ☐ High-Mounted Brake Lamp Bulb - M25-
- ☐ Removing and installing. Refer to ⇒ "4.2 High-Mounted Brake Lamp, Removing and Installing", page 123 .

2 - Seal

- ☐ Replace after removing
- ☐ Quantity: 5

3 - Rear Lid

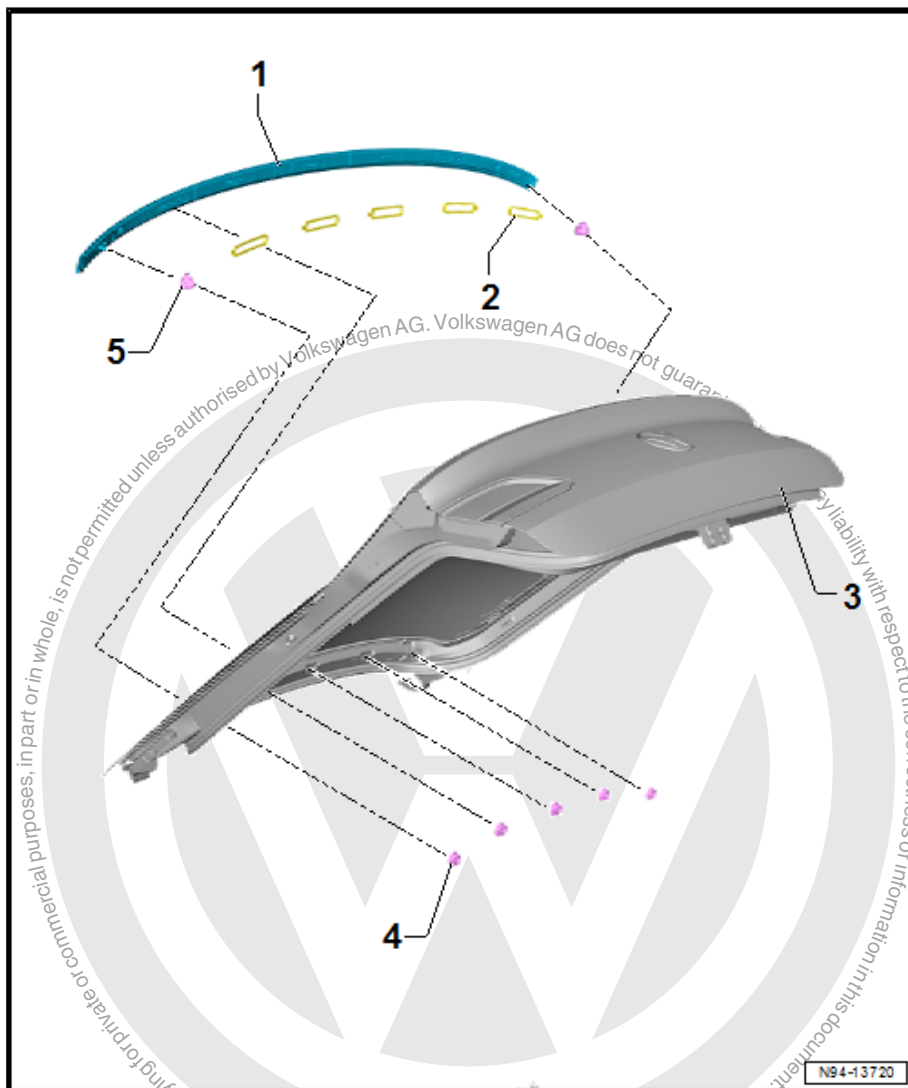
4 - Nut

- ☐ Tightening specification and sequence. Refer to ⇒ Fig. "High-Mounted Brake Lamp Bulb - Tightening Specification and Sequence", page 122 .

- ☐ Quantity: 5

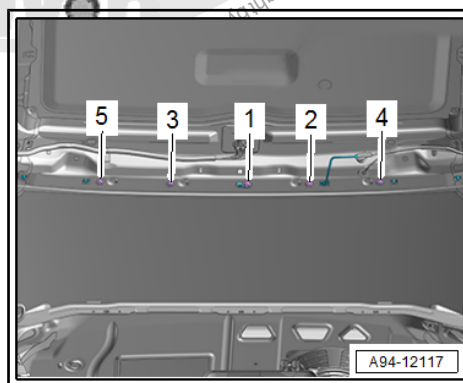
5 - Clip Nut

- ☐ Quantity: 2



High-Mounted Brake Lamp Bulb - Tightening Specification and Sequence

- Tighten the nuts to 3 Nm in the following sequence: -1 to 5-





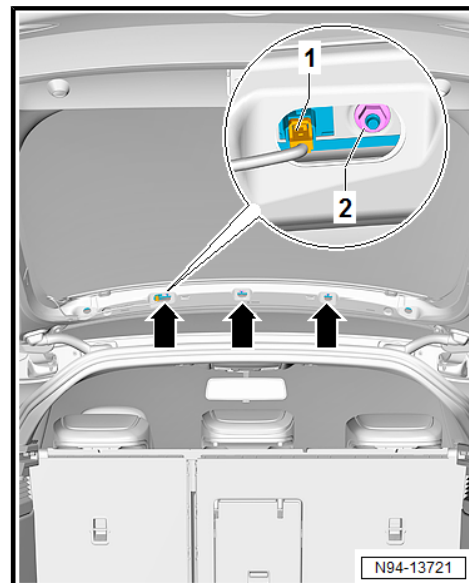
4.2 High-Mounted Brake Lamp, Removing and Installing

Special tools and workshop equipment required

- ◆ Wedge Set - T10383-
- ◆ Cleaning Solution - D 009 401 04-

Removing

- Remove the rear lid upper trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Luggage Compartment Trim Panels; Rear Lid Upper Trim Panel, Removing and Installing .
- Release and disconnect the connector -1-.
- Tighten the five nuts -2-.

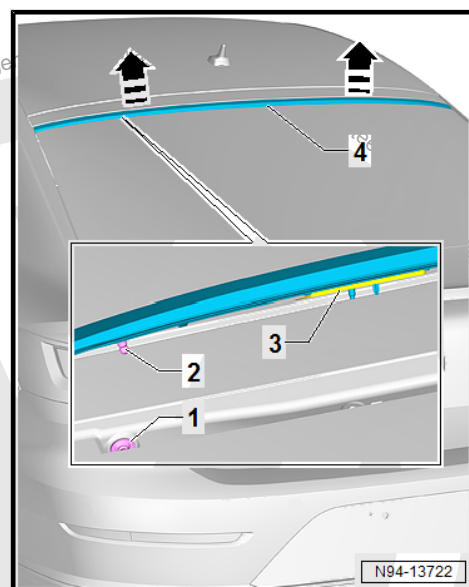


- Pry out the retaining pin -2- on the outside using the - T10383/1- from the clip nuts -1-.
- Pry up the lamp -4- for the high-mounted brake lamp using the -T10383/1- from the body at the same time the seals -3- are loosened from the bonding.

Installing

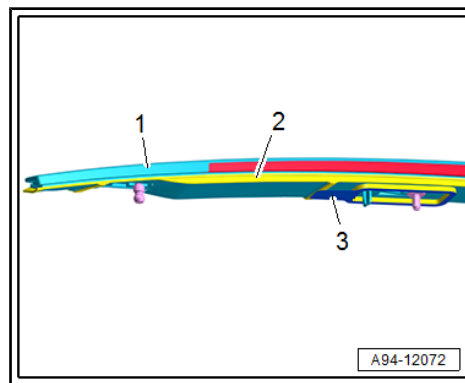
Install in reverse order of removal and note the following:

- The entire high-mounted brake lamp must be replaced if an LED is faulty.
- Replace seals.
- The vehicle and the high-mounted brake lamp must be room temperature.
- The adhesive surfaces must not have any dirt or great on them.





- Completely remove the adhesive residue.
- Clean the adhesive surfaces with Cleaning Solution - D 009 401 04- .
- Remove the protective films from the seals and press on the high-mounted brake lamp -1-.
- Assistance from a second technician is necessary for the following step.
- Insert the high-mounted brake lamp with a second technician.
- Remove the protective films -3- from the seals.
- Insert the high-mounted brake lamp bulb into the outer clip nuts.
- Push the rubber lip -2- using the -T10383/1- under the rear window.



Tightening Specifications

- ◆ Refer to
⇒ [Fig. "High-Mounted Brake Lamp Bulb - Tightening Specification and Sequence", page 122](#)



Note

If an LED is faulty, the entire high-mounted brake lamp must be replaced.

- Perform a function test.



5 License Plate Lamp

⇒ "5.1 Left License Plate Lamp X4 / Right License Plate Lamp X5 , Removing and Installing", page 125

⇒ "5.2 Bulb for Left and Right License Plate Lamp X4 / X5 , Removing and Installing", page 125

5.1 Left License Plate Lamp - X4- / Right License Plate Lamp - X5- , Removing and Installing

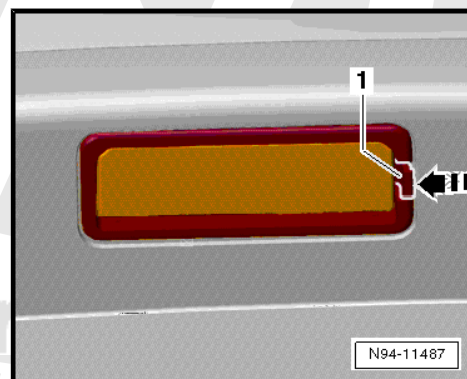


Note

- ◆ *The removal and installation is described for the left side. The removal and installation on the right side is similar.*
- ◆ *Since the license plate lamp is equipped with LEDs, it must be completely replaced if faulty.*

Removing

- Switch off the ignition.
- Move the ignition key outside of the vehicle to prevent the ignition from switching on unintentionally.
- Press the tab -1- in the direction of arrow- and remove the Left License Plate Lamp - X4- downward from the bumper cover.



- Release and disconnect the connector -arrow-.
- Remove the Left License Plate Lamp - X4- .

Installing

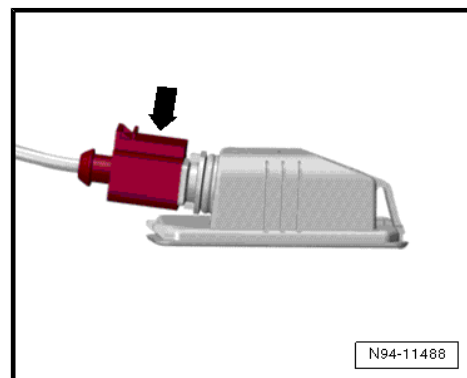
Install in reverse order of removal and note the following:



Note

Insert the Left License Plate Lamp - X4- into the bumper cover so that the connector is facing toward the left side of the vehicle.

- Perform a function test.



5.2 Bulb for Left and Right License Plate Lamp - X4- / - X5- , Removing and Installing

Since the license plate lamp is equipped with LEDs, it must be completely replaced if faulty.



Left License Plate Lamp - X4- / Right License Plate Lamp - X5- ,
Removing and installing. Refer to

⇒ [“5.1 Left License Plate Lamp X4 / Right License Plate Lamp X5 , Removing and Installing”](#), page 125 .





6 Access/Start Authorization

⇒ [“6.1 Component Location Overview - Access/Start Authorization System”, page 127](#)

⇒ [“6.2 Component Location Overview - Keyless Access Authorization System”, page 130](#)

⇒ [“6.3 Access/Start System Interface J965 , Removing and Installing”, page 131](#)

⇒ [“6.4 Driver Exterior and Front Passenger Exterior Door Handle Touch Sensor G415 / G416 , Removing and Installing”, page 132](#)

⇒ [“6.5 Left and Right Rear Exterior Door Handle Touch Sensor G417 / G418 , Removing and Installing”, page 132](#)

⇒ [“6.6 Access/Start System Antenna 1 in Vehicle Interior R138 , Removing and Installing”, page 132](#)

⇒ [“6.7 Access/Start System Antenna 2 in Vehicle Interior R139 , Removing and Installing”, page 133](#)

⇒ [“6.8 Driver Access/Start System Antenna R134 , Removing and Installing”, page 133](#)

⇒ [“6.9 Front Passenger Access/Start System Antenna R135 , Removing and Installing”, page 134](#)

⇒ [“6.10 Left and Right Rear Access/Start Authorization Antenna R165 / R166 , Removing and Installing”, page 134](#)

⇒ [“6.11 Access/Start System Antenna in Luggage Compartment R137 , Removing and Installing”, page 134](#)

⇒ [“6.12 Access/Start System Antenna in Rear Bumper R136 , Removing and Installing”, page 135](#)

6.1 Component Location Overview - Access/Start Authorization System

⇒ [“6.1.1 Component Location Overview - Access/Start Authorization System”, page 127](#)

⇒ [“6.1.2 Component Location Overview - Access/Start Authorization System, RHD”, page 129](#)

6.1.1 Component Location Overview - Access/Start Authorization System



1 - Access/Start System Interface - J965-

- ❑ Removing and installing. Refer to
⇒ [“6.3 Access/Start System Interface J965, Removing and Installing”, page 131](#).

2 - Start System Button - E378-

- ❑ Removing and installing. Refer to
⇒ [“2.30 Start System Button E378, Removing and Installing”, page 207](#).

3 - Anti-Theft Immobilizer Reader Coil - D2-

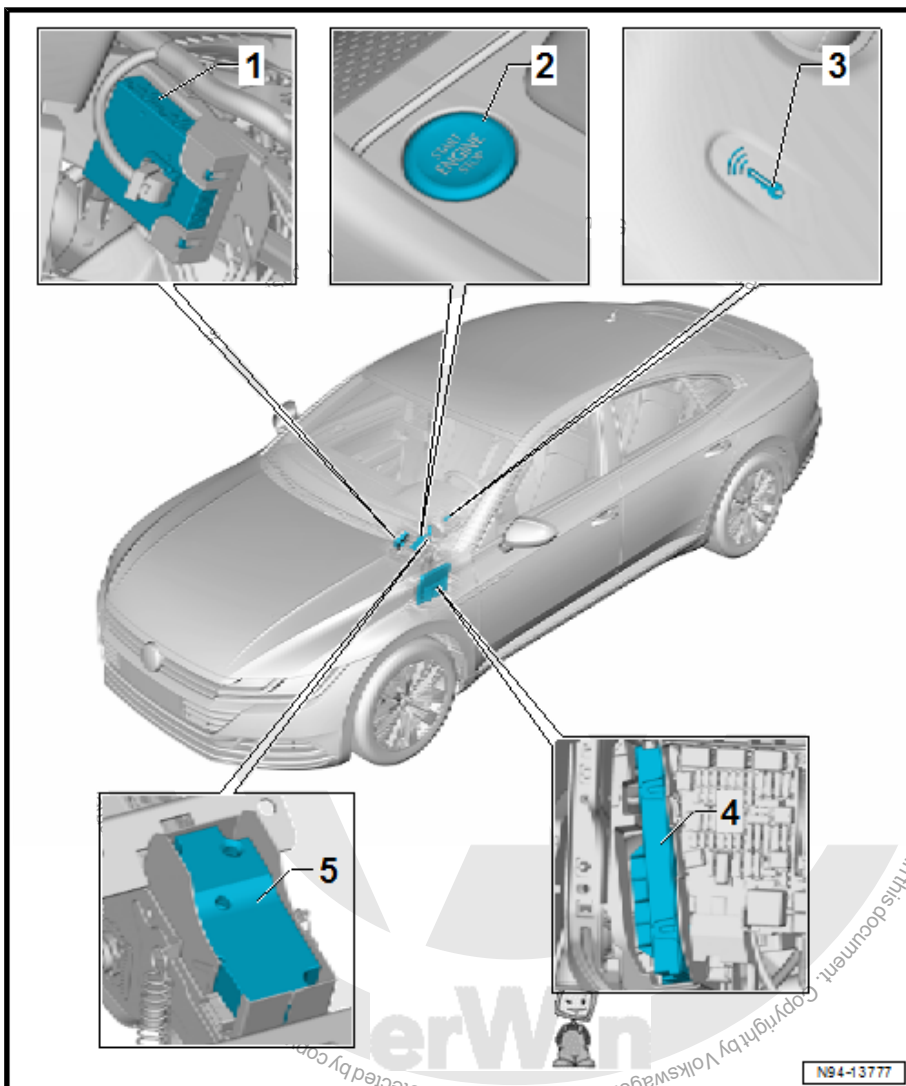
- ❑ Removing and installing. Refer to
⇒ [“7.8 Anti-Theft Immobilizer Reader Coil D2, Removing and Installing”, page 145](#).

4 - Vehicle Electrical System Control Module - J519-

- ❑ With Central Locking and Anti-Theft Alarm System Antenna - R47-
- ❑ Removing and installing. Refer to
⇒ [“2.2.1 Vehicle Electrical System Control Module J519, Removing and Installing”, page 245](#).

5 - Electronic Steering Column Lock Control Module - J764-

- ❑ Removing and installing. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 48 ; Steering Column; Overview - Steering Column .





6.1.2 Component Location Overview - Access/Start Authorization System, RHD

1 - Anti-Theft Immobilizer Reader Coil - D2-

- ❑ Removing and installing. Refer to ➔ ["7.8 Anti-Theft Immobilizer Reader Coil D2, Removing and Installing", page 145](#).

2 - Start System Button - E378-

- ❑ Removing and installing. Refer to ➔ ["2.30 Start System Button E378, Removing and Installing", page 207](#).

3 - Vehicle Electrical System Control Module - J519-

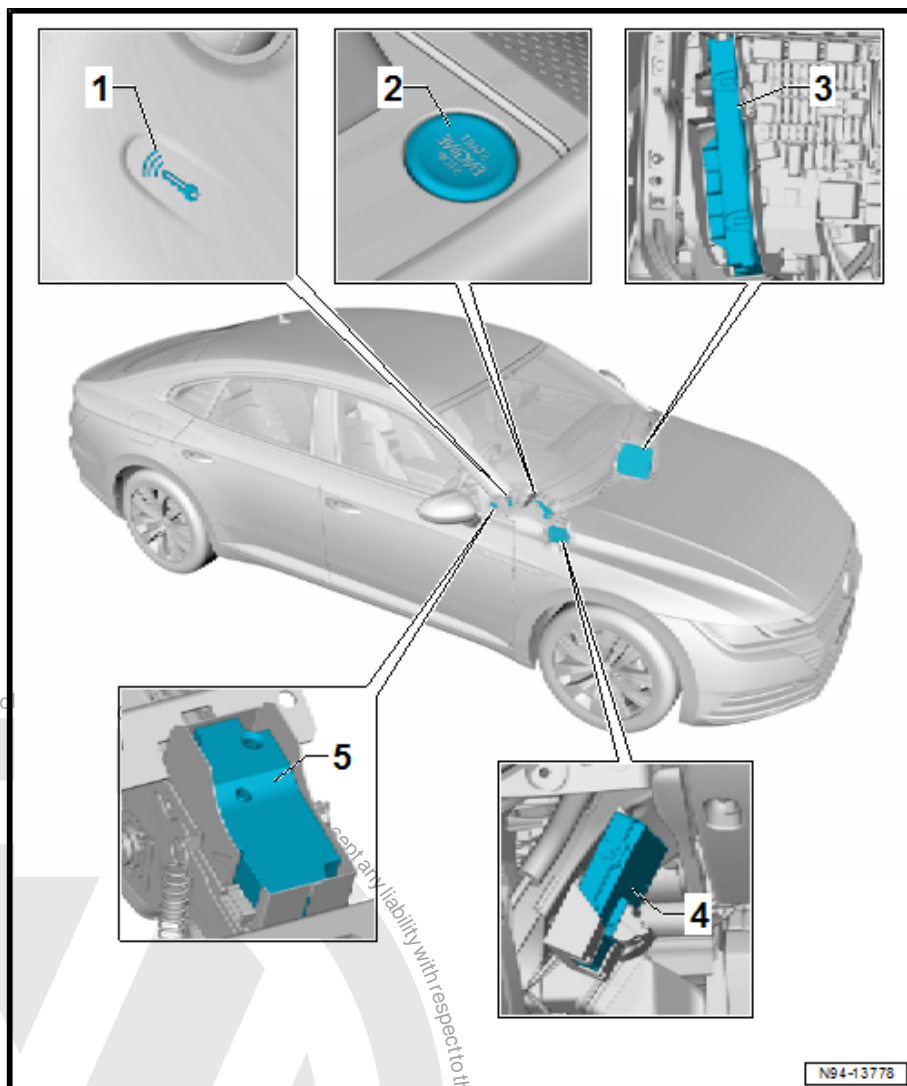
- ❑ With Central Locking and Anti-Theft Alarm System Antenna - R47-
- ❑ Removing and installing. Refer to ➔ ["2.2.1 Vehicle Electrical System Control Module J519, Removing and Installing", page 245](#).

4 - Access/Start System Interface - J965-

- ❑ Removing and installing. Refer to ➔ ["6.3 Access/Start System Interface J965, Removing and Installing", page 131](#).

5 - Electronic Steering Column Lock Control Module - J764-

- ❑ Removing and installing. Refer to ➔ Suspension, Wheels, Steering; Rep. Gr. 48 ; Steering Column; Overview - Steering Column.



N94-13778



6.2 Component Location Overview - Keyless Access Authorization System

1 - Front Passenger Side Exterior Door Handle

- ❑ With the Front Passenger Exterior Door Handle Touch Sensor - G416- and Front Passenger Access/Start System Antenna - R135-
- ❑ Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 57 ; Door Components; Door Handle, Removing and Installing .

2 - Right Rear Exterior Door Handle

- ❑ With the Right Rear Exterior Door Handle Touch Sensor - G418- and Right Rear Access/Start Authorization Antenna - R166-
- ❑ Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 58 ; Door Components; Door Handle, Removing and Installing .

3 - Access/Start System Antenna in Rear Bumper - R136-

- ❑ Removing and installing. Refer to ⇒ ["6.12 Access/Start System Antenna in Rear Bumper R136, Removing and Installing", page 135](#) .

4 - Left Rear Exterior Door Handle

- ❑ With the Left Rear Exterior Door Handle Touch Sensor - G417- and Left Rear Access/Start Authorization Antenna - R165-
- ❑ Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 58 ; Door Components; Door Handle, Removing and Installing .

5 - Access/Start System Antenna In Luggage Compartment - R137-

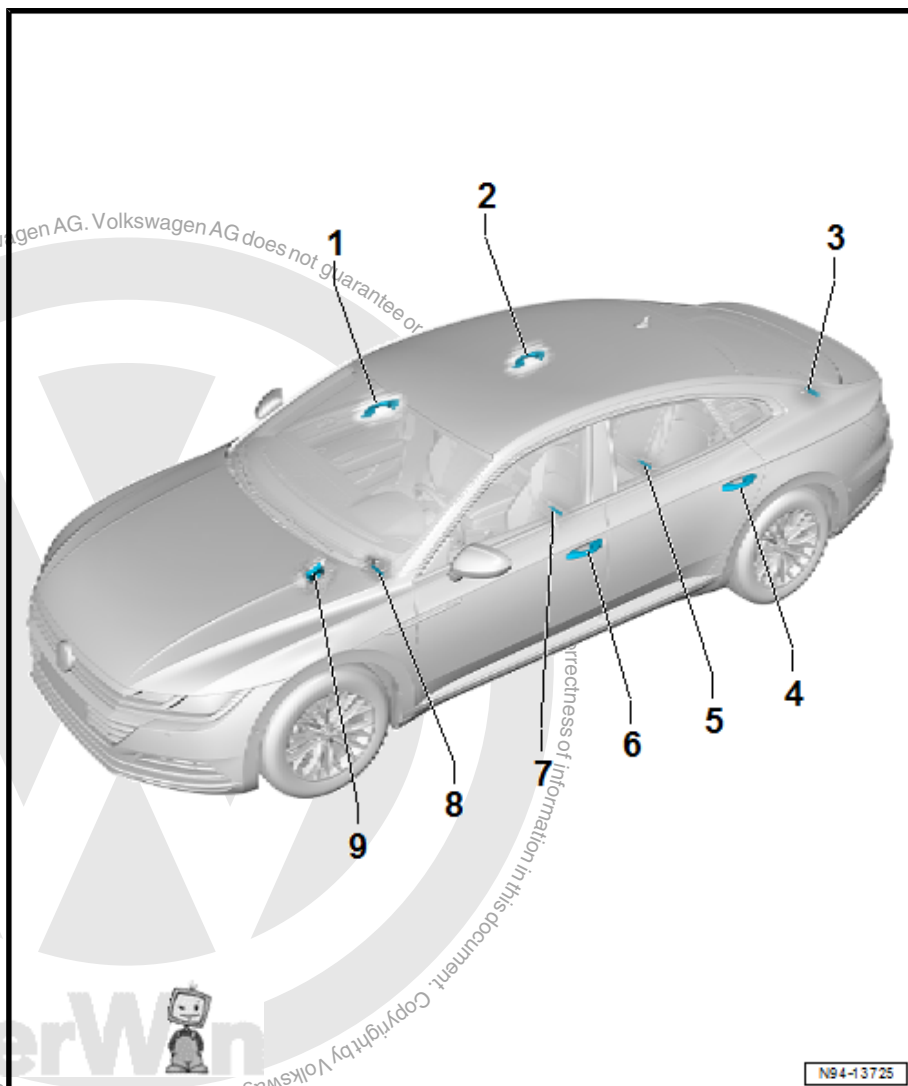
- ❑ Removing and installing. Refer to ⇒ ["6.11 Access/Start System Antenna in Luggage Compartment R137, Removing and Installing", page 134](#) .

6 - Driver Side Exterior Door Handle

- ❑ With the Driver Exterior Door Handle Touch Sensor - G415- and Driver Access/Start System Antenna - R134- .
- ❑ Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 57 ; Door Components; Door Handle, Removing and Installing .

7 - Access/Start System Antenna 2 in Vehicle Interior - R139-

- ❑ Removing and installing. Refer to ⇒ ["6.7 Access/Start System Antenna 2 in Vehicle Interior R139, Removing and Installing", page 133](#) .





8 - Access/Start System Antenna 1 in Vehicle Interior - R138-

- ❑ Removing and installing. Refer to
⇒ [“6.6 Access/Start System Antenna 1 in Vehicle Interior R138 , Removing and Installing”, page 132](#) .

9 - Access/Start System Interface - J965-

- ❑ Removing and installing. Refer to
⇒ [“6.3 Access/Start System Interface J965 , Removing and Installing”, page 131](#) .

6.3 Access/Start System Interface - J965- , Removing and Installing

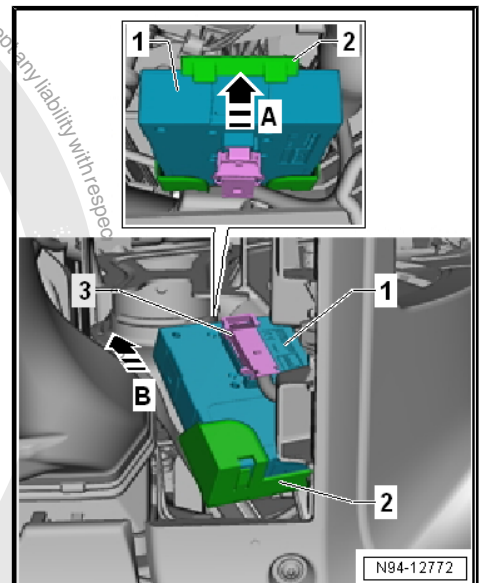


Note

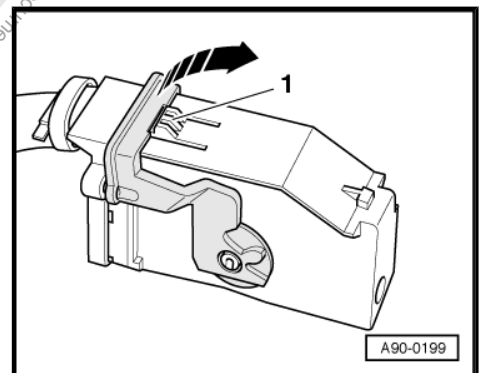
If the control module is replaced, perform the adaptation. Refer to Vehicle Diagnostic Tester .

Removing

- Remove the driver side instrument panel cover. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Driver Side Instrument Panel Cover, Removing and Installing .
- Remove the knee airbag with igniter. Refer to ⇒ Body Interior; Rep. Gr. 69 ; Knee Airbags; Overview - Knee Airbag .
- Push the bracket -2- upward in the direction of the -arrow A- from the Access/Start System Interface - J965- -1-.
- Remove the Access/Start System Interface - J965- -1- in the direction of the -arrow B- from the bracket -2-.
- Disconnect the connector -3-.



- To disconnect the connector, press the catch -1-.
- Pivot the retaining bracket in the direction of -arrow- and disconnect the connector.



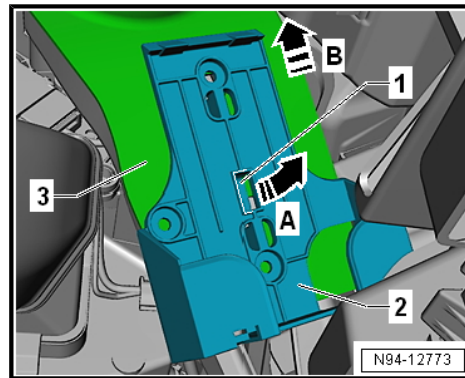


- Pry up the catches -1- if necessary using a small screwdriver in the direction of the -arrow A-.
- Remove the bracket -2- in the direction of the -arrow B- from the brace -3-.

Installing

Install in reverse order of removal and note the following:

- The bracket for the Access/Start System Interface - J965- must engage audibly.
- The Access/Start System Interface - J965- must engage audibly in the bracket.



6.4 Driver Exterior and Front Passenger Exterior Door Handle Touch Sensor - G415- / -G416- , Removing and Installing



Note

The Driver Exterior Door Handle Touch Sensor - G415- or the Front Passenger Exterior Door Handle Touch Sensor - G416- is integrated in the respective exterior door handle and cannot be replaced separately if faulty.

- Door Handle, Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 57 ; Door Components; Door Handle, Removing and Installing .

6.5 Left and Right Rear Exterior Door Handle Touch Sensor -G417- / -G418- , Removing and Installing



Note

The Left Rear Exterior Door Handle Touch Sensor - G417- or the Right Rear Exterior Door Handle Touch Sensor - G418- is integrated in the respective rear exterior door handle and cannot be replaced individually if faulty.

- Removing and installing the door handle. Refer to ⇒ Body Exterior; Rep. Gr. 58 ; Door Components; Door Handle, Removing and Installing .

6.6 Access/Start System Antenna 1 in Vehicle Interior - R138- , Removing and Installing

Special tools and workshop equipment required

- ◆ Pry Lever - 80-200-

Removing

- Remove the center console. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Center Console; Center Console, Removing and Installing .
- Remove the air duct for the rear center console vent. Refer to ⇒ Heating, Ventilation, Air Conditioning; Rep. Gr. 87 ; Air

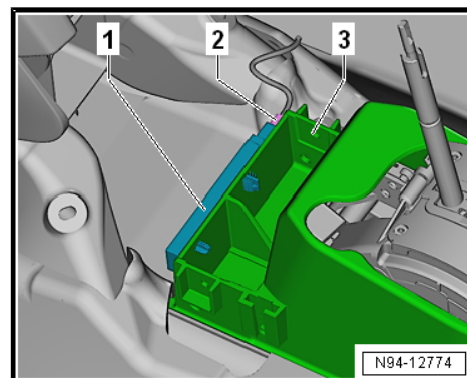


Routing; Overview - Air Routing and Air Distribution in Vehicle Interior .

- Pry up the antenna -1- with the -80-200- from the bracket -3-.
- Release and disconnect the connector -2-.

Installing

Install in reverse order of removal.



6.7 Access/Start System Antenna 2 in Vehicle Interior - R139- , Removing and Installing

Special tools and workshop equipment required

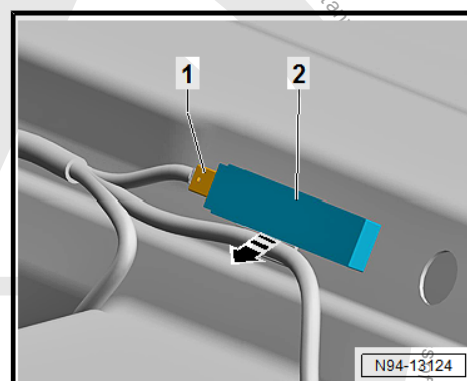
- ◆ Pry Lever - 80-200-

Removing

- Remove the bench seat. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Rear Seats; Bench Seat / Single Seats; Removing and Installing .
- Fold the rear carpet near the center tunnel forward.
- Pry the antenna -2- off the body using the -80-200- in direction of -arrow-.
- Release and disconnect the connector -1-.

Installing

Install in reverse order of removal.



6.8 Driver Access/Start System Antenna - R134- , Removing and Installing



Note

The Driver Access/Start System Antenna - R134- is integrated in the exterior door handle and cannot be replaced separately if faulty.

- Door Handle, Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 57 ; Door Components; Door Handle, Removing and Installing .



6.9 Front Passenger Access/Start System Antenna - R135- , Removing and Installing



Note

The Front Passenger Access/Start System Antenna - R135- is integrated in the exterior door handle and cannot be replaced separately if faulty.

- Door Handle, Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 57 ; Door Components; Door Handle, Removing and Installing .

6.10 Left and Right Rear Access/Start Authorization Antenna -R165- / -R166- , Removing and Installing



Note

The Left Rear Access/Start Authorization Antenna - R165- or the Right Rear Access/Start Authorization Antenna - R166- is integrated in the respective rear exterior door handle and cannot be replaced separately if faulty.

- Removing and installing the door handle. Refer to ⇒ Body Exterior; Rep. Gr. 58 ; Door Components; Door Handle, Removing and Installing .

6.11 Access/Start System Antenna in Luggage Compartment - R137- , Removing and Installing

Special tools and workshop equipment required

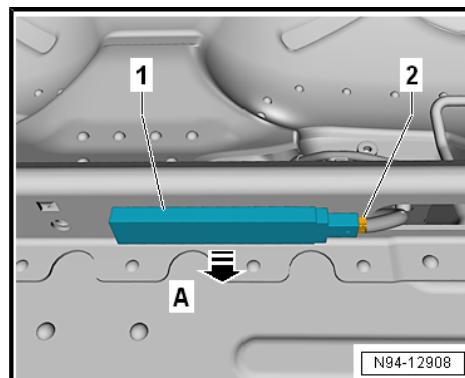
- ◆ Pry Lever - 80-200-

Removing

- Remove the luggage compartment floor. Refer to ⇒ Rep. Gr. 70 ; Luggage Compartment Trim Panels; Overview - Luggage Compartment Floor .
- Pry the antenna -1- out of the body in the direction of the -arrow A- using the -80-200- .
- Release and disconnect the connector -2-.

Installing

Install in reverse order of removal.





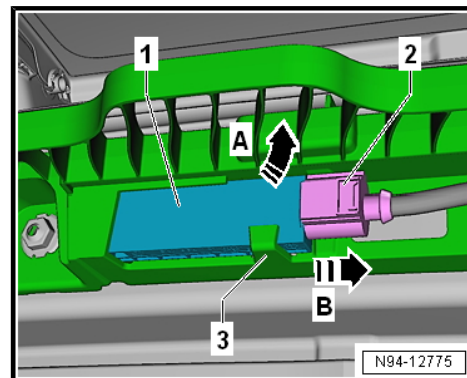
6.12 Access/Start System Antenna in Rear Bumper - R136- , Removing and Installing

Removing

- Remove the bumper cover. Refer to ⇒ Body Exterior; Rep. Gr. 63 ; Rear Bumper; Bumper Cover, Removing and Installing .
- Pry out the antenna -1- slightly in the direction of the -arrow A-.
- Remove the antenna -1- in the direction of the -arrow B- from the mount -3-.
- Disconnect the connector -2-.

Installing

Install in reverse order of removal.



7 Steering Column Switch Module

⇒ "7.1 Overview - Steering Column Switch Module", page 136

⇒ **“7.2 Steering Column Switch Module, Removing and Installing”,**
page 137

⇒ **“7.3 Steering Column Electronics Control Module J527 , Removing and Installing”, page 139**

⇒ “7.4 Steering Column Combination Switch Mount, Removing and Installing”, page 142

⇒ **“7.5 Turn Signal Switch E2, Removing and Installing”**
page 143

⇒ “7.6 Cruise Control Switch E45 , Removing and Installing”, page 145

⇒ “7.7 Windshield Wiper Intermittent Mode Switch E22 , Removing and Installing”, page 145

⇒ **"7.8 Anti-Theft Immobilizer Reader Coil D2 , Removing and Installing", page 145**

7.1 Overview - Steering Column Switch Module

1 - Start System Button - E378-

- Component Location Overview. Refer to ⇒ “2.4 Component Location Overview - Controls in Center Console”, page 193.

2 - Steering Column Electronics Control Module - J527-

- ❑ With Airbag Spiral Spring/Return Spring with Slip Ring - F138-
- ❑ Removing and installing. Refer to
⇒ [“7.3 Steering Column Electronics Control Module J527, Removing and Installing”, page 139.](#)



Caution

**Risk of damaging the re-
turn ring.**
**The return spring with
slip ring must not be
turned after removing.**

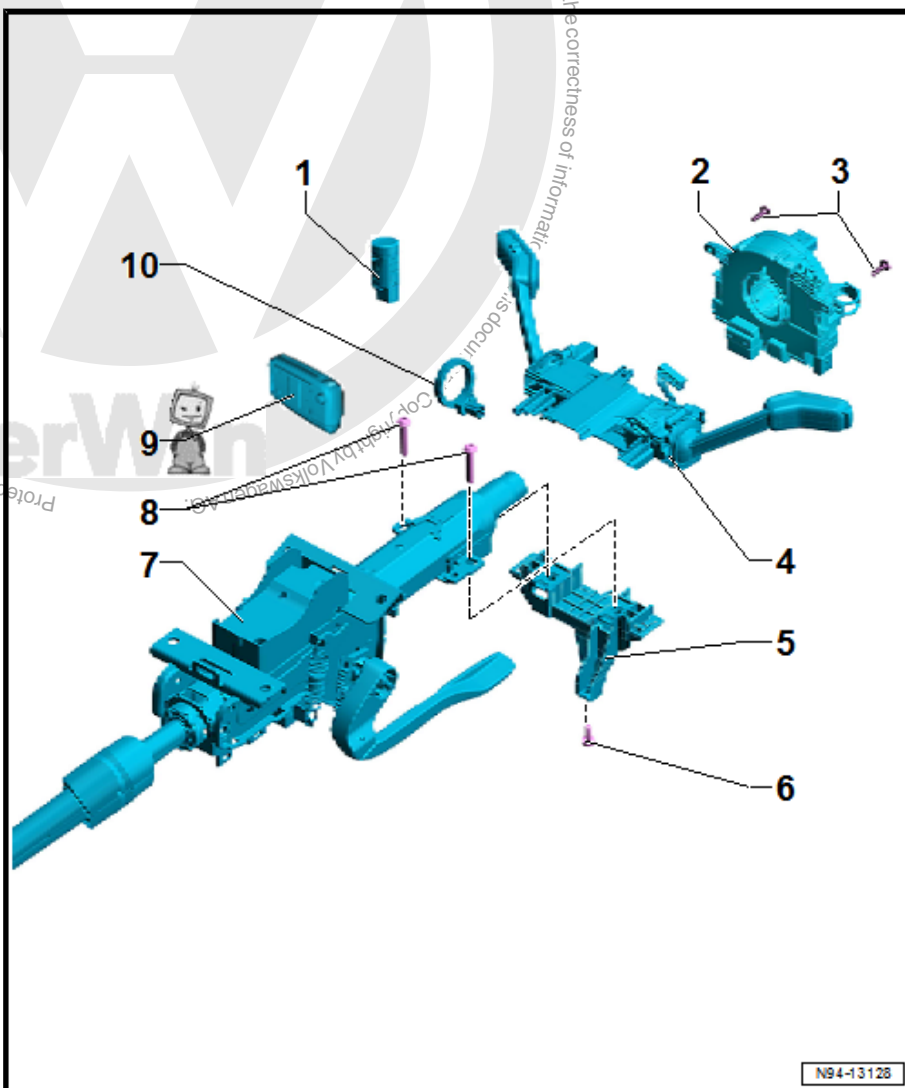
3 - Bolt

- ☐ 1.1 Nm
- ☐ Quantity: 3

4 - Mount

- ❑ With Turn Signal Switch
 - E2- , Windshield Wiper Intermittent Mode Switch - E22-

- ❑ Removing and installing. Refer to ⇒ “7.5 Turn Signal Switch E2 , Removing and Installing”, page 143 .





5 - Steering Column Combination Switch Base Carrier

- ❑ Removing and installing. Refer to
⇒ ["7.4 Steering Column Combination Switch Mount, Removing and Installing", page 142](#) .

6 - Bolt

- ❑ 1.1 Nm

7 - Electronic Steering Column Lock Control Module - J764-

- ❑ Removing and installing. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 48 ; Steering Column; Electronic Steering Column Lock Control Module - J764- , Removing and Installing

8 - Bolt

- ❑ 9 Nm
- ❑ For the base carrier for the steering column combination switch
- ❑ Quantity: 2

9 - Ignition Key

10 - Anti-Theft Immobilizer Reader Coil - D2-

- ❑ Removing and installing. Refer to
⇒ ["7.8 Anti-Theft Immobilizer Reader Coil D2 , Removing and Installing", page 145](#) .

7.2 Steering Column Switch Module, Removing and Installing

Removing

- Place the front wheels in a straight-ahead position - steering wheel in neutral position.
- Position the steering wheel as far back and down as possible. Use the entire adjustment range of the steering column adjustment for this.
- Remove the steering wheel. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 48 ; Steering Wheel; Steering Wheel, Removing and Installing .
- Remove the lower steering column trim panel. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments/Covers; Lower Steering Column Trim Panel, Removing and Installing .



WARNING

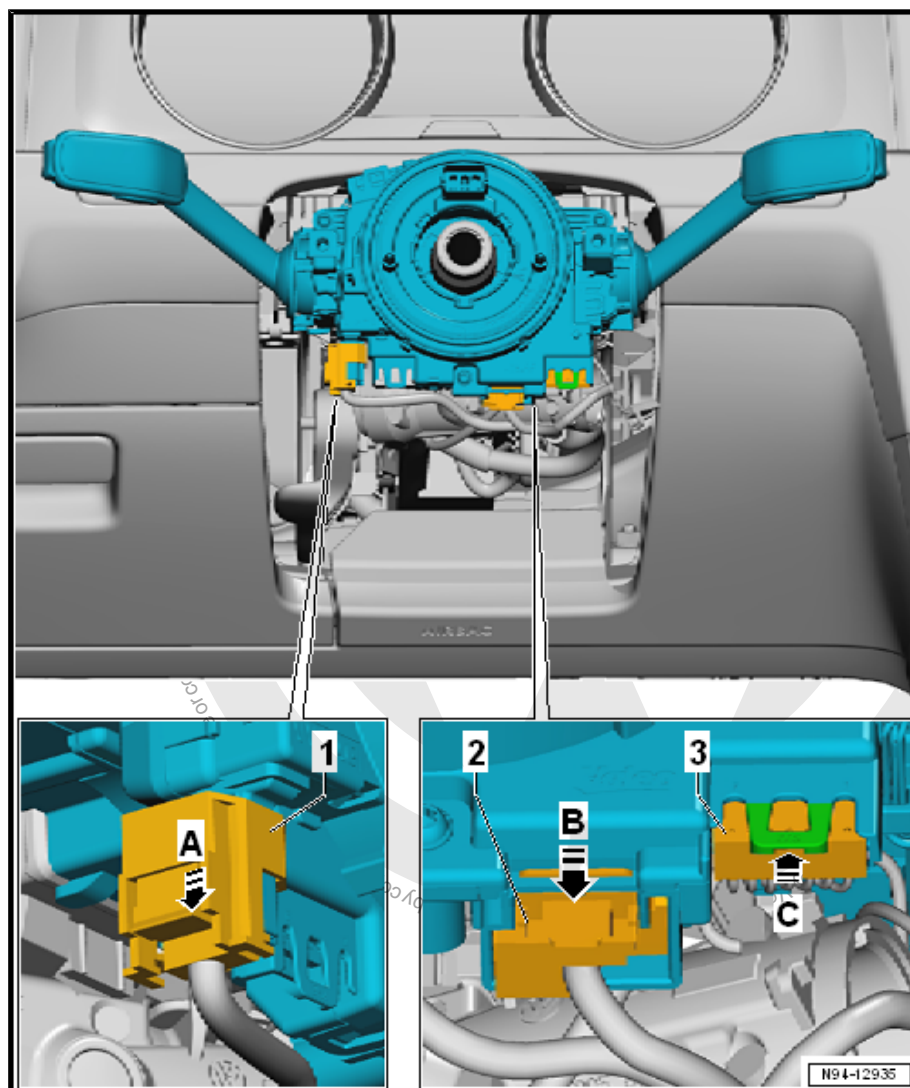
Risk of destroying electronic components with static discharge.

- ◆ ***Before disconnecting the connector, discharge static electricity from the body by touching a grounded vehicle component such as the door striker.***

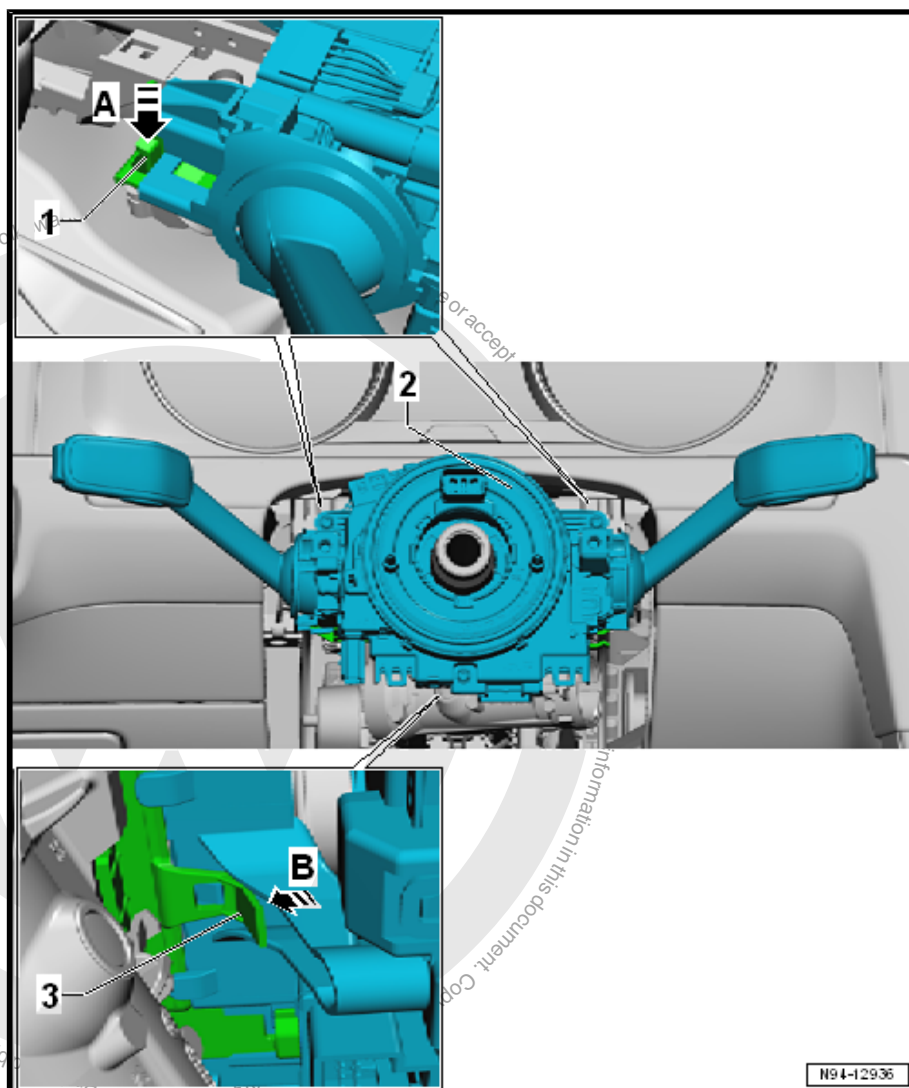


Note

Depending on vehicle equipment the number of connectors on the Steering Column Electronics Control Module - J527- can vary.



- Pull out the connector lock in the direction of the -arrow A- and press down.
- Disconnect the connector -1-.
- Pull out the connector lock in the direction of the -arrow B- and press down.
- Disconnect the connector -2-.
- Push the connector lock in the direction of the -arrow C- and disconnect the connector -3-.



- Push the release -1- on both sides in the direction of the -arrow A-.
- Pull the steering column switch module -2- out slightly.
- Push the release -3- in the direction of the -arrow B-.
- Remove the steering column switch module -2-.

Installing

Install in reverse order of removal and note the following:

- Pay attention that the steering column switch module is correctly engaged.
- If a new Steering Column Electronics Control Module - J527- is installed, remove the transportation safeguard just before installing the steering wheel.

7.3 Steering Column Electronics Control Module - J527- , Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Screwdriver - VAG1624-



Note

- ◆ *The Airbag Spiral Spring/Return Spring with Slip Ring - F138- is integrated into the Steering Column Electronics Control Module - J527- .*
- ◆ *If the control module is replaced, select the "Replace" function for the respective control module in "Guided Fault Finding" or "Guided Functions". Refer to Vehicle Diagnostic Tester .*

Removing

- Place the front wheels in a straight-ahead position - steering wheel in neutral position.
- Position the steering wheel as far back and down as possible. Use the entire adjustment range of the steering column adjustment for this.
- Remove the steering wheel. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 48 ; Steering Wheel; Steering Wheel, Removing and Installing .
- Remove the lower steering column trim panel. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments/Covers; Lower Steering Column Trim Panel, Removing and Installing .



WARNING

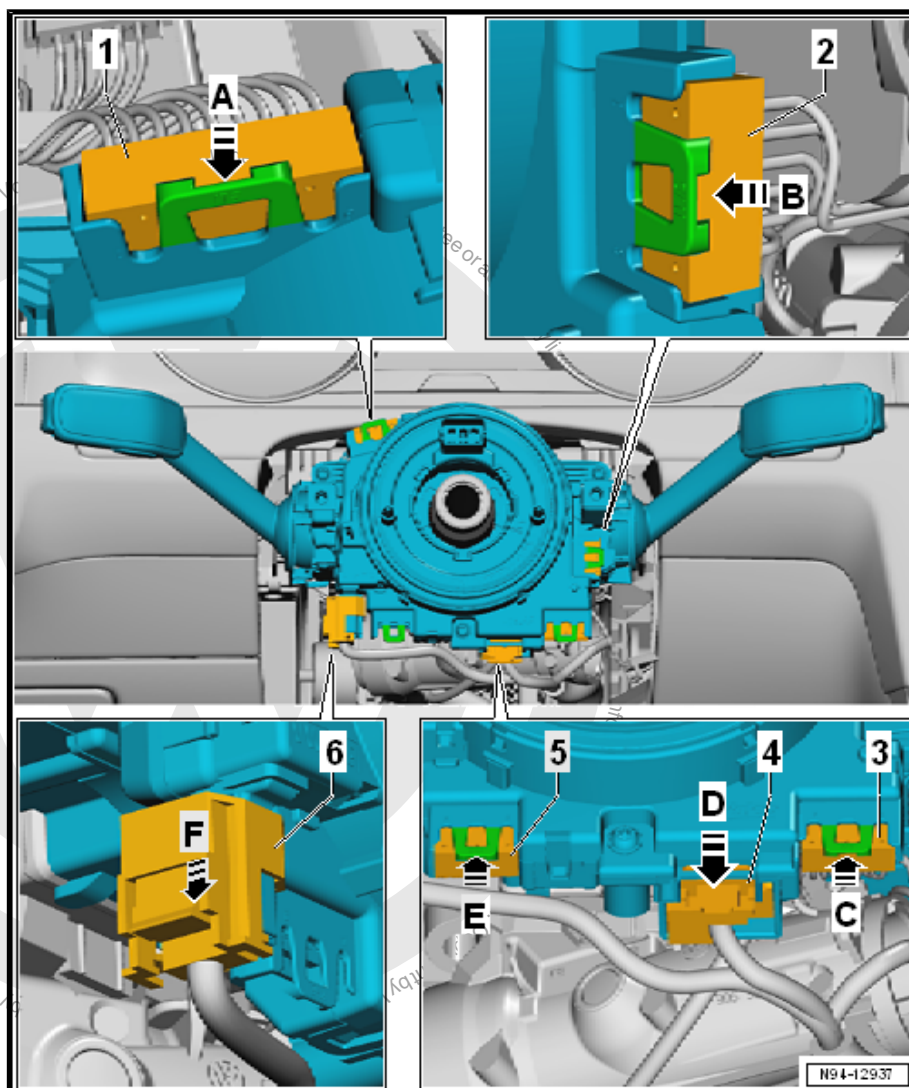
Risk of destroying electronic components with static discharge.

- ◆ ***Before disconnecting the connector, discharge static electricity from the body by touching a grounded vehicle component such as the door striker.***

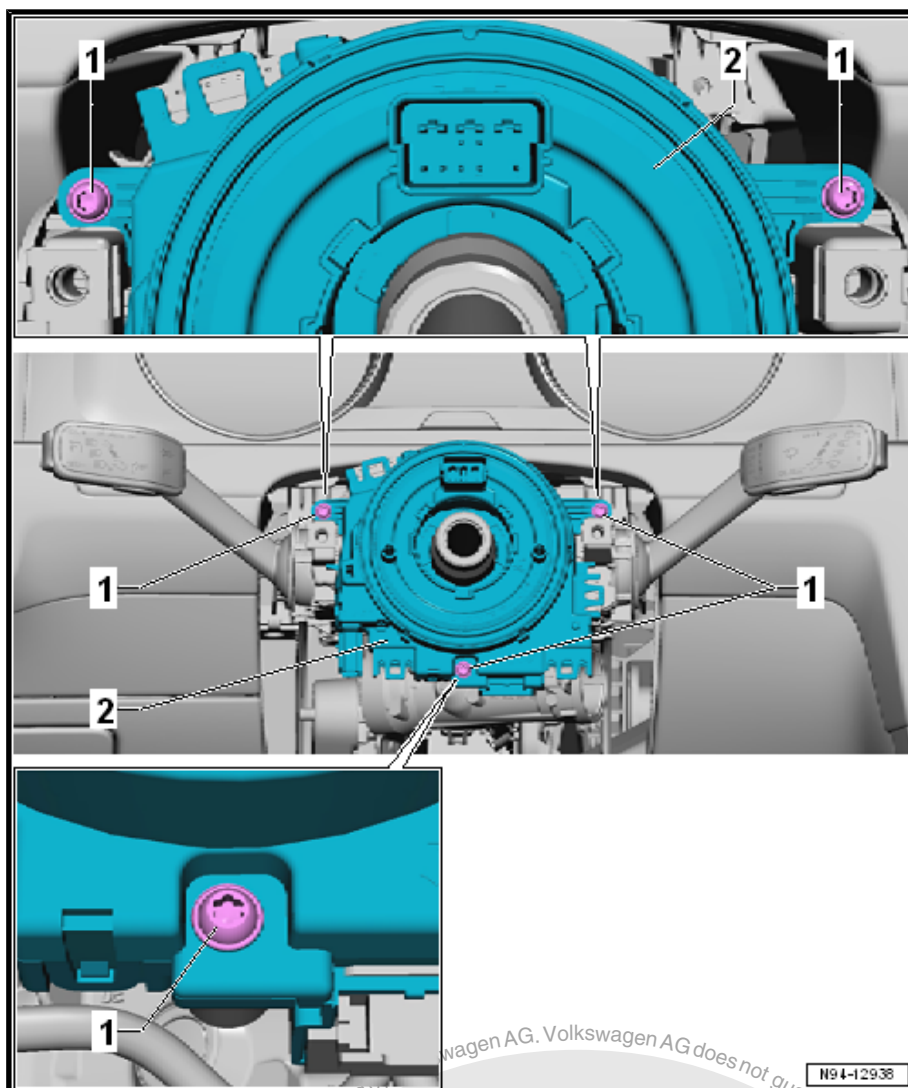


Note

Depending on vehicle equipment the number of connectors on the Steering Column Electronics Control Module - J527- can vary.



- Push the connector lock in the direction of the -arrow A- and disconnect the connector -1-.
- Push the connector lock in the direction of the -arrow B- and disconnect the connector -2-.
- Push the connector lock in the direction of the -arrow C- and disconnect the connector -3-.
- Pull out the connector lock in the direction of the -arrow D- and press down.
- Disconnect the connector -4-.
- Push the connector lock in the direction of the -arrow E- and disconnect the connector -5-.
- Pull out the connector lock in the direction of the -arrow F- and press down.
- Disconnect the connector -6-.



- Remove the bolts -1-.
- Remove the Steering Column Electronics Control Module - J527- -2- from the Steering Column Combination Switch - E595- .

Installing

Install in reverse order of removal and note the following:

- If a new Steering Column Electronics Control Module - J527- is installed, remove the transportation safeguard just before installing the steering wheel.
- Make sure that all connectors are installed securely.

Tightening Specifications

- ◆ Refer to
⇒ [“7.1 Overview - Steering Column Switch Module”, page 136](#)

7.4 Steering Column Combination Switch Mount, Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Wrench 1410 - VAG1410-



Removing

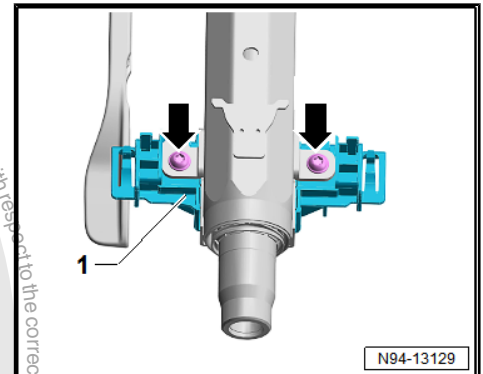
- Remove the steering column switch module. Refer to [⇒ "7.2 Steering Column Switch Module, Removing and Installing", page 137](#).
- Remove the screws -arrows-.
- Remove the base carrier for the steering column combination switch -1-.

Installing

Install in reverse order of removal.

Tightening Specifications

- ◆ Refer to [⇒ "7.1 Overview - Steering Column Switch Module", page 136](#)



7.5 Turn Signal Switch - E2- , Removing and Installing

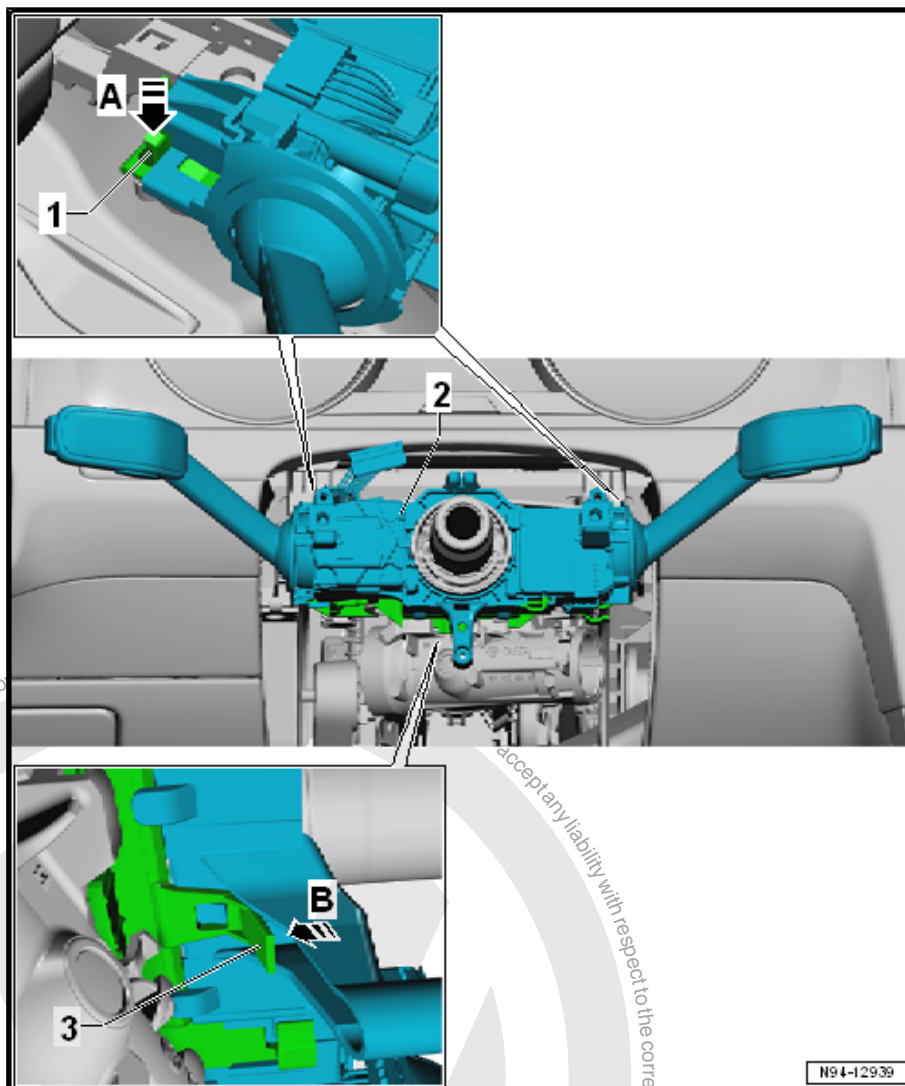


Note

- ◆ *Turn Signal Switch - E2- , Cruise Control Switch - E45- and the Windshield Wiper Intermittent Mode Switch - E22- together make up the Steering Column Combination Switch - E595- .*
- ◆ *The switches cannot be separated.*
- ◆ *If an individual switch is faulty, the Steering Column Combination Switch - E595- must be replaced.*

Removing

- Remove the Steering Column Electronics Control Module - J527- . Refer to [⇒ "7.3 Steering Column Electronics Control Module J527 , Removing and Installing", page 139](#) .



- Push the release -1- on both sides in the direction of the -arrow A-.
- Slightly remove the Steering Column Combination Switch - E595- -2-.
- Push the release -3- in the direction of the -arrow B-.
- Remove the Steering Column Combination Switch - E595- -2-.

Installing

Install in reverse order of removal and note the following:

- Pay attention that the Steering Column Combination Switch - E595- is correctly engaged.



7.6 Cruise Control Switch - E45- , Removing and Installing



Note

- ◆ *Turn Signal Switch - E2- , Cruise Control Switch - E45- and the Windshield Wiper Intermittent Mode Switch - E22- together make up the Steering Column Combination Switch - E595- .*
- ◆ *The switches cannot be separated.*
- ◆ *If an individual switch is faulty, the Steering Column Combination Switch - E595- must be replaced.*
- Cruise Control Switch - E45- , removing and installing. Refer to ["7.5 Turn Signal Switch E2 , Removing and Installing", page 143](#) .

7.7 Windshield Wiper Intermittent Mode Switch - E22- , Removing and Installing



Note

- ◆ *Turn Signal Switch - E2- , Cruise Control Switch - E45- and the Windshield Wiper Intermittent Mode Switch - E22- together make up the Steering Column Combination Switch - E595- .*
- ◆ *The switches cannot be separated.*
- ◆ *If an individual switch is faulty, the Steering Column Combination Switch - E595- must be replaced.*
- Windshield Wiper Intermittent Mode Switch - E22- , removing and installing. Refer to ["7.5 Turn Signal Switch E2 , Removing and Installing", page 143](#) .

7.8 Anti-Theft Immobilizer Reader Coil - D2- , Removing and Installing

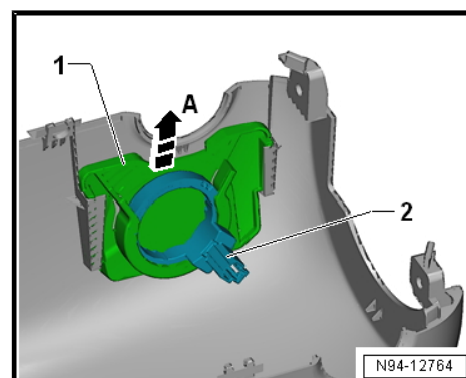
Removing

- Position the steering wheel as far back and down as possible. Use the entire adjustment range of the steering column adjustment for this.
- Remove the lower steering column trim panel. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments/Covers; Lower Steering Column Trim Panel, Removing and Installing .
- Push the reader coil -2- out of the mount -1- in the direction of the -arrow A-.

Installing

Install in reverse order of removal and note the following:

- Press the reader coil into the mount until it engages audibly.



8 Parking Aid

⇒ ["8.1 Overview - Parking Aid", page 146](#)

⇒ ["8.2 Parking Aid Control Module J446 , Removing and Installing", page 149](#)

⇒ ["8.3 Front Parking Aid Warning Buzzer H22 , Removing and Installing", page 150](#)

⇒ ["8.4 Rear Parking Aid Warning Buzzer H15 , Removing and Installing", page 151](#)

⇒ ["8.5 Front Parking Aid Sensor, Removing and Installing", page 151](#)

⇒ ["8.6 Rear Parking Aid Sensor, Removing and Installing", page 152](#)

8.1 Overview - Parking Aid

⇒ ["8.1.1 Overview - Parking Aid", page 146](#)

⇒ ["8.1.2 Overview - Parking Aid, RHD", page 148](#)

8.1.1 Overview - Parking Aid

1 - Parking Aid Button - E266-

- ❑ Removing and installing. Refer to
⇒ ["2.13 Parking Aid Button E266 , Removing and Installing", page 199](#) .

2 - Rear Parking Aid Warning Buzzer - H15-

- ❑ Removing and installing. Refer to
⇒ ["8.4 Rear Parking Aid Warning Buzzer H15 , Removing and Installing", page 151](#) .

3 - Right Rear Parking Aid Sensor - G206-

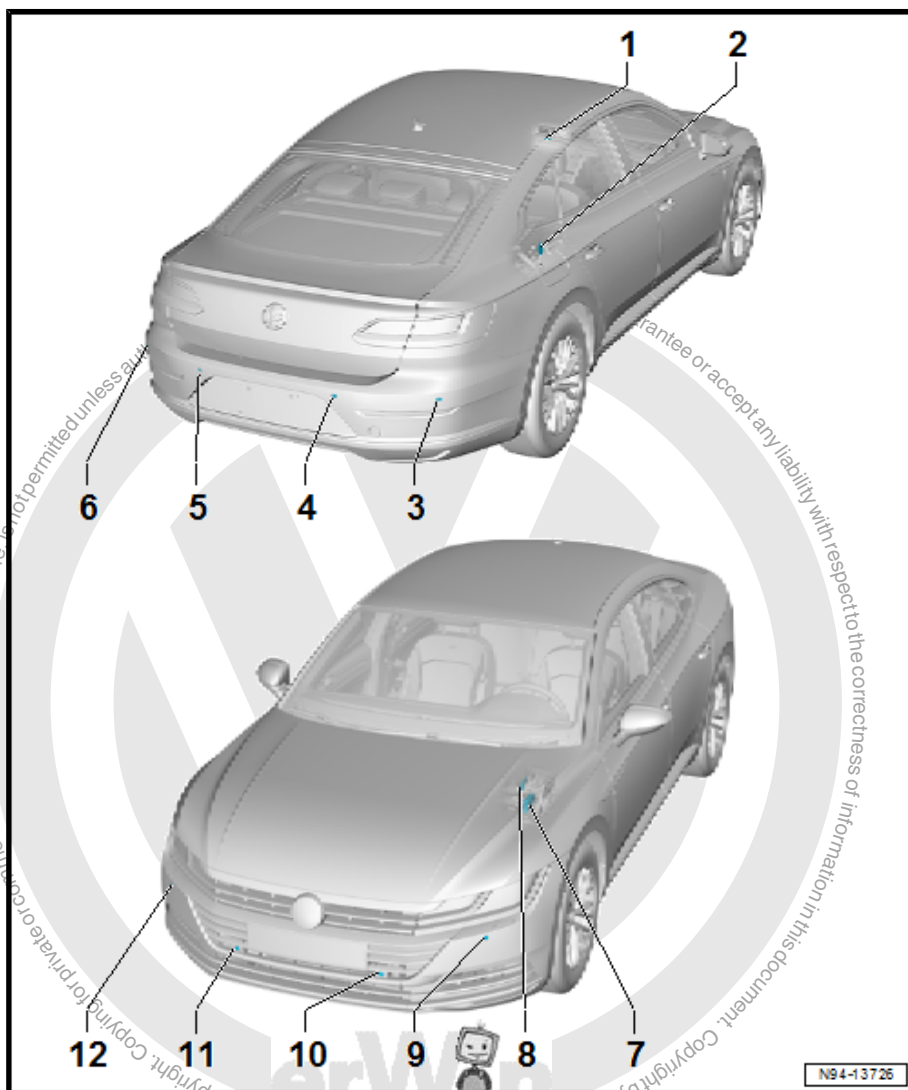
- ❑ Removing and installing. Refer to
⇒ ["8.6 Rear Parking Aid Sensor, Removing and Installing", page 152](#) .

4 - Right Rear Center Parking Aid Sensor - G205-

- ❑ Removing and installing. Refer to
⇒ ["8.6 Rear Parking Aid Sensor, Removing and Installing", page 152](#) .

5 - Left Rear Center Parking Aid Sensor - G204-

- ❑ Removing and installing. Refer to
⇒ ["8.6 Rear Parking Aid Sensor, Removing and Installing", page 152](#) .





6 - Left Rear Parking Aid Sensor - G203-

- ❑ Removing and installing. Refer to
⇒ [“8.6 Rear Parking Aid Sensor, Removing and Installing”, page 152](#) .

7 - Parking Aid Control Module - J446-

- ❑ Removing and installing. Refer to
⇒ [“8.2.1 Parking Aid Control Module J446 Removing and Installing”, page 149](#) .
- ❑ Bracket for Parking Aid Control Module - J446- , Removing and installing. Refer to
⇒ [“2.6 Parking Aid Control Module J446 / Parallel Parking Assistance Control Module J791 Bracket, Removing and Installing”, page 253](#) .

8 - Front Parking Aid Warning Buzzer - H22-

- ❑ Removing and installing. Refer to
⇒ [“8.3 Front Parking Aid Warning Buzzer H22 , Removing and Installing”, page 150](#) .

9 - Left Front Parking Aid Sensor - G255-

- ❑ Removing and installing. Refer to
⇒ [“8.5 Front Parking Aid Sensor, Removing and Installing”, page 151](#) .

10 - Left Front Center Parking Aid Sensor - G254-

- ❑ Removing and installing. Refer to
⇒ [“8.5 Front Parking Aid Sensor, Removing and Installing”, page 151](#) .

11 - Right Front Center Parking Aid Sensor - G253-

- ❑ Removing and installing. Refer to
⇒ [“8.5 Front Parking Aid Sensor, Removing and Installing”, page 151](#) .

12 - Right Front Parking Aid Sensor - G252-

- ❑ Removing and installing. Refer to
⇒ [“8.5 Front Parking Aid Sensor, Removing and Installing”, page 151](#) .



8.1.2 Overview - Parking Aid, RHD

1 - Parking Aid Button - E266-

- ❑ Removing and installing. Refer to
⇒ ["2.13 Parking Aid Button E266, Removing and Installing", page 199](#).

2 - Rear Parking Aid Warning Buzzer - H15-

- ❑ Removing and installing. Refer to
⇒ ["8.4 Rear Parking Aid Warning Buzzer H15, Removing and Installing", page 151](#).

3 - Right Rear Parking Aid Sensor - G206-

- ❑ Removing and installing. Refer to
⇒ ["8.6 Rear Parking Aid Sensor, Removing and Installing", page 152](#).

4 - Right Rear Center Parking Aid Sensor - G205-

- ❑ Removing and installing. Refer to
⇒ ["8.6 Rear Parking Aid Sensor, Removing and Installing", page 152](#).

5 - Left Rear Center Parking Aid Sensor - G204-

- ❑ Removing and installing. Refer to
⇒ ["8.6 Rear Parking Aid Sensor, Removing and Installing", page 152](#).

6 - Left Rear Parking Aid Sensor - G203-

- ❑ Removing and installing. Refer to
⇒ ["8.6 Rear Parking Aid Sensor, Removing and Installing", page 152](#).

7 - Parking Aid Control Module - J446-

- ❑ Removing and installing. Refer to
⇒ ["8.2.2 Parking Aid Control Module J446, Removing and Installing, RHD", page 149](#).

8 - Front Parking Aid Warning Buzzer - H22-

- ❑ Removing and installing. Refer to
⇒ ["8.3 Front Parking Aid Warning Buzzer H22, Removing and Installing", page 150](#).

9 - Left Front Parking Aid Sensor - G255-

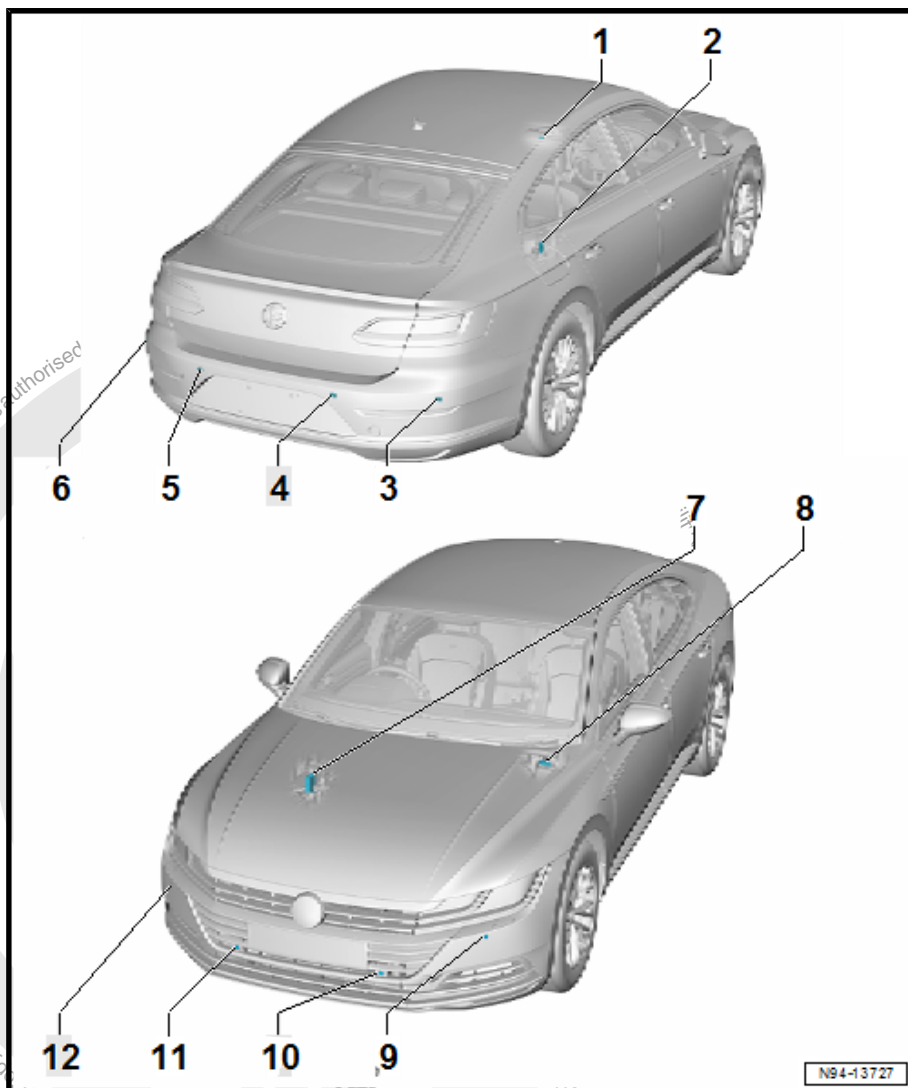
- ❑ Removing and installing. Refer to
⇒ ["8.5 Front Parking Aid Sensor, Removing and Installing", page 151](#).

10 - Left Front Center Parking Aid Sensor - G254-

- ❑ Removing and installing. Refer to
⇒ ["8.5 Front Parking Aid Sensor, Removing and Installing", page 151](#).

11 - Right Front Center Parking Aid Sensor - G253-

- ❑ Removing and installing. Refer to
⇒ ["8.5 Front Parking Aid Sensor, Removing and Installing", page 151](#).





12 - Right Front Parking Aid Sensor - G252-

- ❑ Removing and installing. Refer to
⇒ ["8.5 Front Parking Aid Sensor, Removing and Installing", page 151](#) .

8.2 Parking Aid Control Module - J446- , Removing and Installing

⇒ ["8.2.1 Parking Aid Control Module J446 Removing and Installing", page 149](#)

⇒ ["8.2.2 Parking Aid Control Module J446 , Removing and Installing, RHD", page 149](#)

8.2.1 Parking Aid Control Module - J446- Removing and Installing



Note

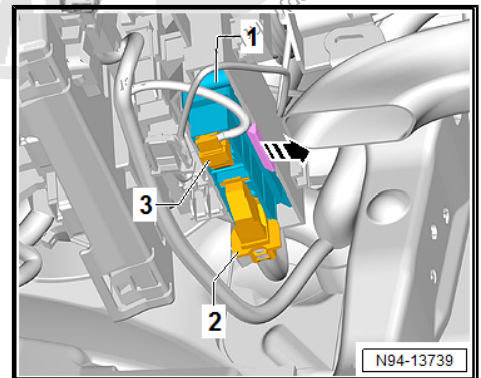
If the control module is replaced, perform the adaptation. Refer to Vehicle Diagnostic Tester .

Removing

- Remove the footwell cover on the driver side. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartment/Covers .
- Release and disconnect the connectors -2 and 3-.
- Release the retaining tab in the direction of -arrow-.
- Remove the Parking Aid Control Module - J446- -1- downward from the bracket.

Installing

Install in reverse order of removal.



8.2.2 Parking Aid Control Module - J446- , Removing and Installing, RHD



Note

If the control module is replaced, perform the adaptation. Refer to Vehicle Diagnostic Tester .

Removing

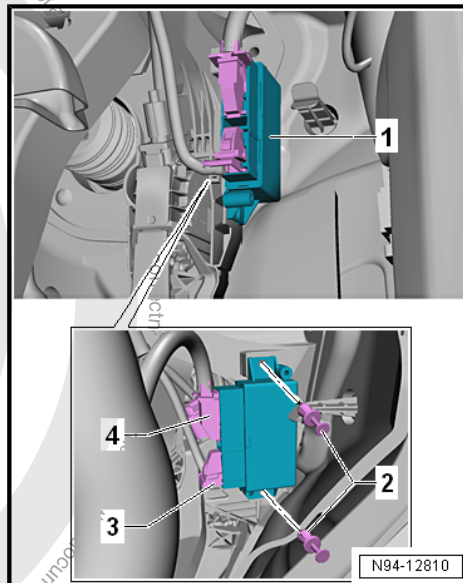
- Remove the footwell cover on the driver side. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartment/Covers .



- Loosen the expanding rivets -2- and remove.
- Remove the Parking Aid Control Module - J446- -1-.
- Release and disconnect the connectors -3- and -4-.

Installing

Install in reverse order of removal.



8.3 Front Parking Aid Warning Buzzer - H22- , Removing and Installing

⇒ ["8.3.1 Front Parking Aid Warning Buzzer H22 , Removing and Installing", page 150](#)

⇒ ["8.3.2 Front Parking Aid Warning Buzzer H22 , Removing and Installing, RHD", page 151](#)

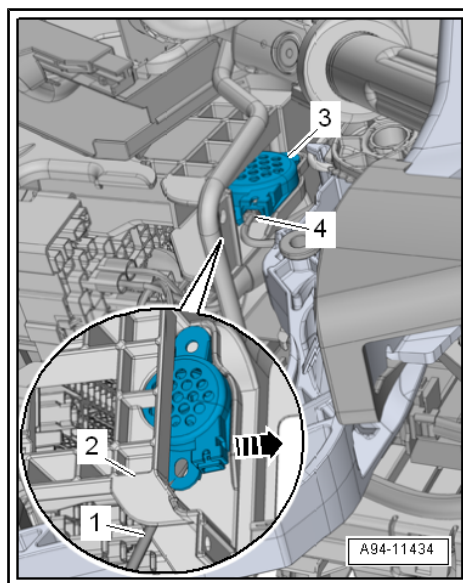
8.3.1 Front Parking Aid Warning Buzzer - H22- , Removing and Installing

Removing

- Remove the driver side instrument panel cover. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Driver Side Instrument Panel Cover, Removing and Installing .
- Remove the Front Parking Aid Warning Buzzer - H22- -3- with a narrow screwdriver -1- from the mount -2- in direction of -arrows-.
- Remove the Front Parking Aid Warning Buzzer - H22- .
- Release and disconnect the connector -4-.

Installing

Install in reverse order of removal.





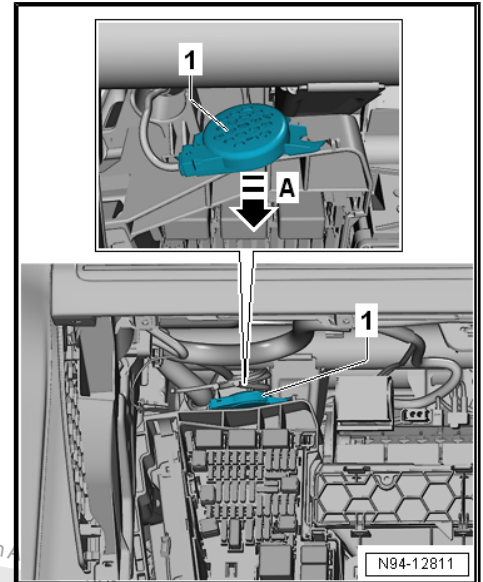
8.3.2 Front Parking Aid Warning Buzzer - H22- , Removing and Installing, RHD

Removing

- Remove the glove compartment. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Glove Compartment, Removing and Installing .
- Using a narrow screwdriver, remove the Front Parking Aid Warning Buzzer - H22- -1- from the mount in the direction of the arrow -A-.
- Remove the Front Parking Aid Warning Buzzer - H22- -1-.
- Release and disconnect the connector.

Installing

Install in reverse order of removal.



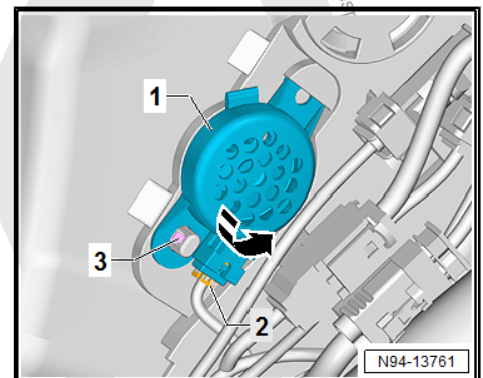
8.4 Rear Parking Aid Warning Buzzer - H15- , Removing and Installing

Removing

- Remove the right rear wheel housing trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Vehicle Interior Trim Panels; Component Location Overview - Vehicle Interior Trim Panels .
- Release and disconnect the connector -2-.
- Release the locking tabs -3-.
- Remove the Rear Parking Aid Warning Buzzer - H15- -1- in the direction of the -arrow-.

Installing

Install in reverse order of removal.



8.5 Front Parking Aid Sensor, Removing and Installing

Removing

- Remove the front bumper cover. Refer to ⇒ Body Exterior; Rep. Gr. 63 ; Front Bumper; Bumper Cover, Removing and Installing .



- Release and disconnect the connector -2-.
- Remove the connector -2- straight from the parking aid sensor -1-.
- Press both catches in the direction of -arrow- and press the sensor -1- inward from outside.

Installing

Install in reverse order of removal and note the following:

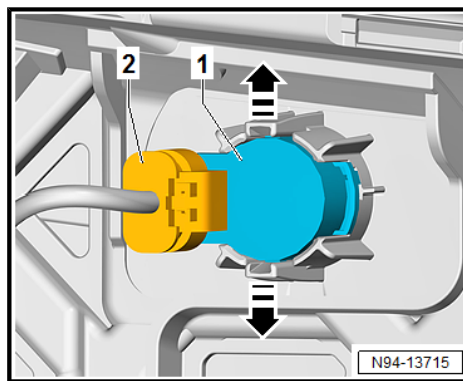


Caution

An incorrect or damaged decoupling ring can lead to malfunctions.

Do not stretch the decoupling ring.

Replace any damaged decoupling rings and make sure the correct decoupling ring is installed.

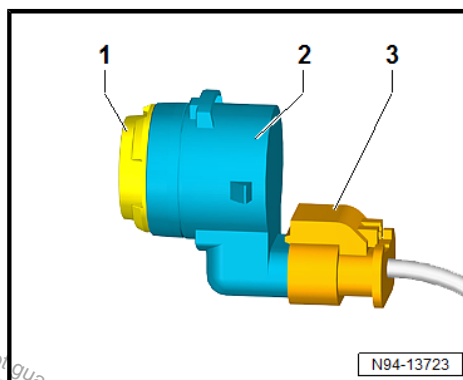


- Check the decoupling spring -1- for the sensor -2- for damage and replace if necessary.
- First install the parking aid sensor in the bracket and engage securely.



Note

- ◆ *When inserting the sensor into the sensor mount, make sure that the decoupling ring (black silicone ring) is seated correctly on the sensor head.*
- ◆ *Both sensor mount retaining brackets must engage audibly when installing the sensor.*
- Then push the connector -3- straight on the parking aid sensor and engage.



8.6 Rear Parking Aid Sensor, Removing and Installing

Removing

- Remove the rear bumper cover. Refer to ⇒ Body Exterior; Rep. Gr. 63: Rear Bumper; Bumper Cover, Removing and Installing.



- Press both catches in the direction of -arrow A- and at the same time press sensor -1- inward from outside.
- Release and disconnect the connector -2-.

Installing

Install in reverse order of removal and note the following:



Caution

An incorrect or damaged decoupling ring can lead to malfunctions.

Do not stretch the decoupling ring.

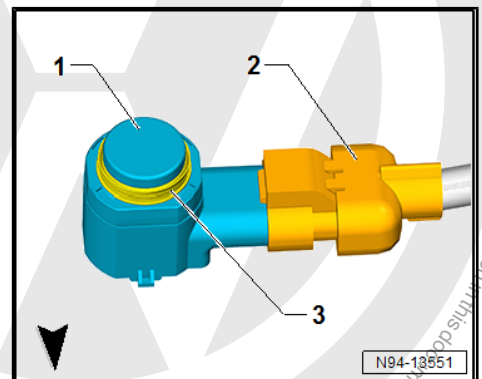
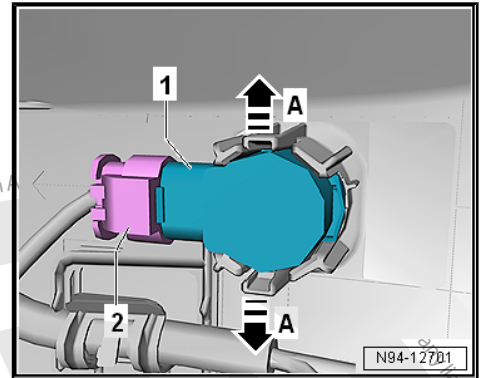
Replace any damaged decoupling rings and make sure the correct decoupling ring is installed.

- Check the sensor decoupling ring -3- for damage and replace it if necessary.



Note

Both sensor mount retaining brackets must engage audibly when installing the sensor.





9 Parallel Parking Assist

⇒ [“9.1 Overview - Parallel Parking Assist”, page 154](#)

⇒ [“9.2 Parallel Parking Assistance Control Module J791, Removing and Installing”, page 155](#)

⇒ [“9.3 Front Sensor, Removing and Installing”, page 156](#)

⇒ [“9.4 Rear Sensor, Removing and Installing”, page 156](#)

9.1 Overview - Parallel Parking Assist

⇒ [“9.1.1 Overview - Parallel Parking Assist”, page 154](#)

⇒ [“9.1.2 Overview - Parallel Parking Assist, RHD”, page 155](#)

9.1.1 Overview - Parallel Parking Assist

1 - Parallel Parking Assistance Button - E581-

- ☐ Removing and installing. Refer to
⇒ [“2.14 Parallel Parking Assistance Button E581, Removing and Installing”, page 199](#).

2 - Rear Parallel Parking Assist Sensors

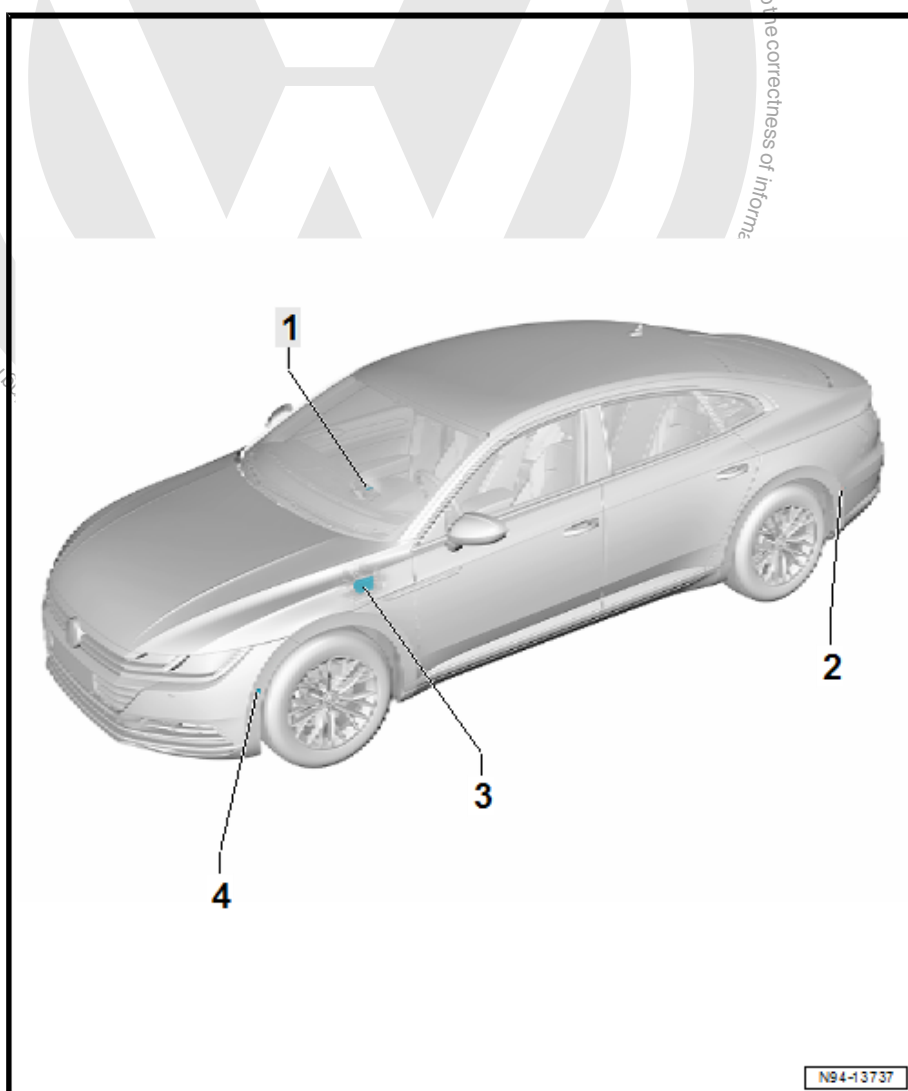
- ☐ Left Rear Parallel Parking Assistance Sensor - G716-
- ☐ Right Rear Parallel Parking Assistance Sensor - G717-
- ☐ Removing and installing. Refer to
⇒ [“9.4 Rear Sensor, Removing and Installing”, page 156](#).

3 - Parallel Parking Assistance Control Module - J791-

- ☐ Removing and installing. Refer to
⇒ [“8.2.1 Parking Aid Control Module J446 Removing and Installing”, page 149](#).
- ☐ Parallel Parking Assistance Control Module - J791- Bracket, Removing and installing. Refer to
⇒ [“2.6 Parking Aid Control Module J446 / Parallel Parking Assistance Control Module J791 Bracket, Removing and Installing”, page 253](#).

4 - Parallel Parking Assist Front Sensor

- ☐ Left Front Parallel Parking Assistance Sensor - G568-
- ☐ Right Front Parallel Parking Assistance Sensor - G569-
- ☐ Removing and installing. Refer to ⇒ [“9.3 Front Sensor, Removing and Installing”, page 156](#).





9.1.2 Overview - Parallel Parking Assist, RHD

1 - Parallel Parking Assistance Button - E581-

- ☐ Removing and installing. Refer to
⇒ ["2.14 Parallel Parking Assistance Button E581, Removing and Installing", page 199](#).

2 - Parallel Parking Assist Front Sensor

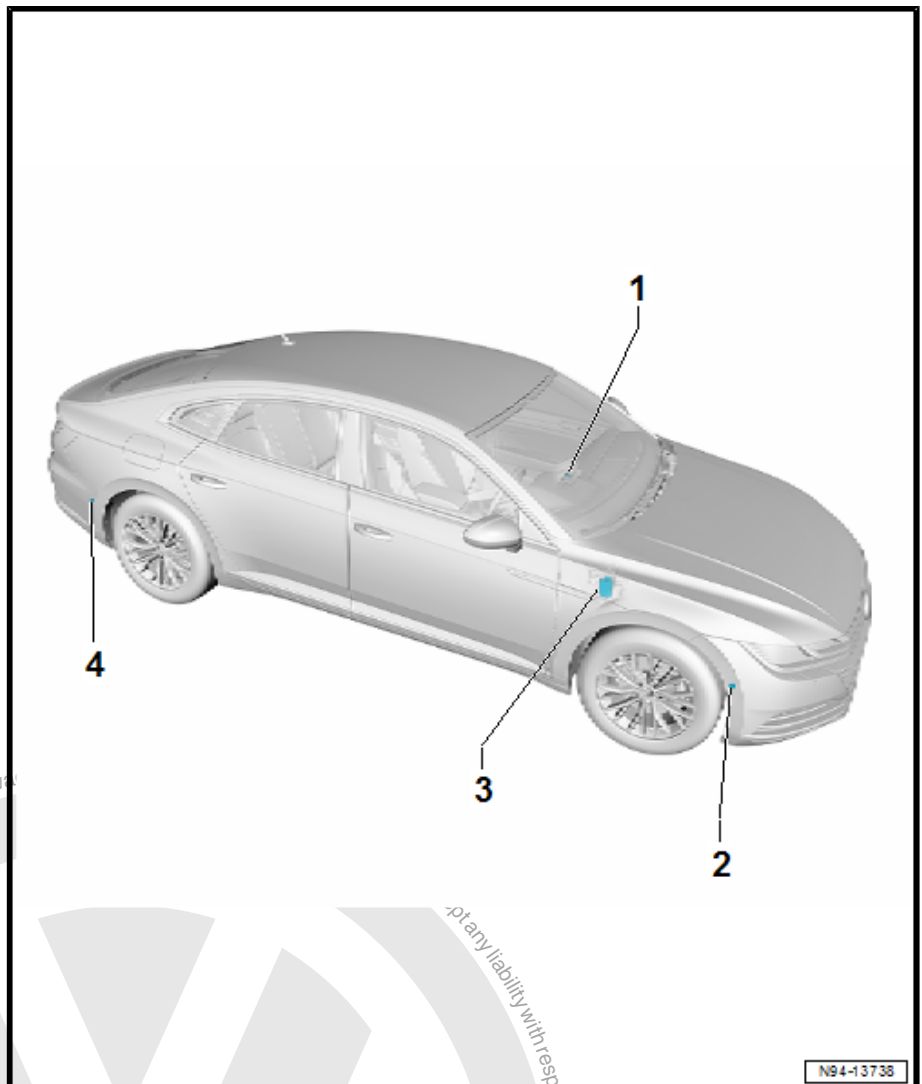
- ☐ Left Front Parallel Parking Assistance Sensor - G568-
- ☐ Right Front Parallel Parking Assistance Sensor - G569-
- ☐ Removing and installing. Refer to
⇒ ["9.3 Front Sensor, Removing and Installing", page 156](#).

3 - Parallel Parking Assistance Control Module - J791-

- ☐ Removing and installing. Refer to
⇒ ["8.2.2 Parking Aid Control Module J446, Removing and Installing, RHD", page 149](#).

4 - Rear Parallel Parking Assist Sensors

- ☐ Left Rear Parallel Parking Assistance Sensor - G716-
- ☐ Right Rear Parallel Parking Assistance Sensor - G717-
- ☐ Removing and installing. Refer to ⇒ ["9.4 Rear Sensor, Removing and Installing", page 156](#).



9.2 Parallel Parking Assistance Control Module - J791- , Removing and Installing



Note

The removal and installation of the Parallel Parking Assistance Control Module - J791- is identical to the removal and installation of the Parking Aid Control Module - J446-.

- Parallel Parking Assistance Control Module - J791- , removing and installing. Refer to
⇒ ["8.2 Parking Aid Control Module J446, Removing and Installing", page 149](#).



9.3 Front Sensor, Removing and Installing

Removing

- Remove the front section of the front wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Front Wheel Housing Liner, Removing and Installing .
- Press both locking tabs in the direction of the -arrow A- and, at the same time, push the sensor -1- inward from the outside.
- Release and disconnect the connector -2-.

Install in reverse order of removal and note the following:

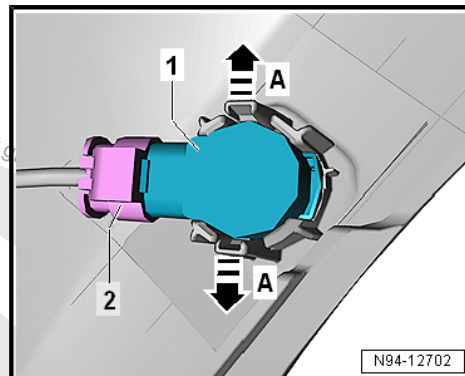


Caution

An incorrect or damaged decoupling ring can lead to malfunctions.

Do not stretch the decoupling ring.

Replace any damaged decoupling rings and make sure the correct decoupling ring is installed.

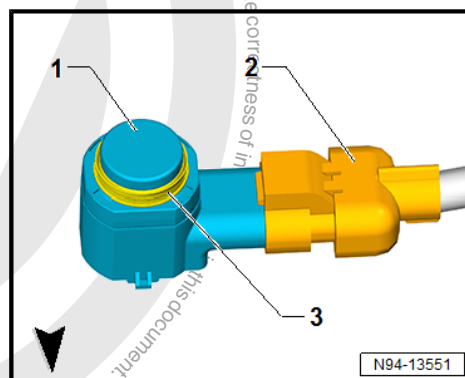


- Check the sensor -1- decoupling ring -3- for damage and replace it, if necessary.



Note

Both sensor mount retaining brackets must engage audibly when installing the sensor.



9.4 Rear Sensor, Removing and Installing

Removing

- Remove the rear bumper cover. Refer to ⇒ Body Exterior; Rep. Gr. 63 ; Rear Bumper; Bumper Cover, Removing and Installing .
- Press both locking tabs in the direction of the -arrow A- and, at the same time, push the sensor -1- inward from the outside.
- Release and disconnect the connector -2-.

Installing

Install in reverse order of removal and note the following:

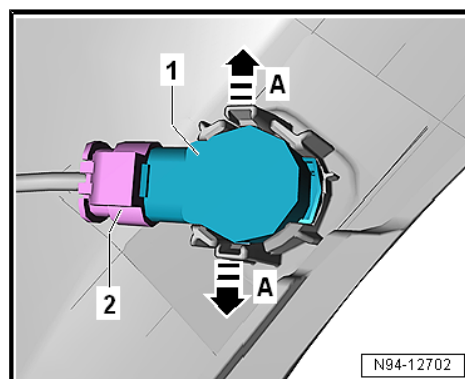


Caution

An incorrect or damaged decoupling ring can lead to malfunctions.

Do not stretch the decoupling ring.

Replace any damaged decoupling rings and make sure the correct decoupling ring is installed.



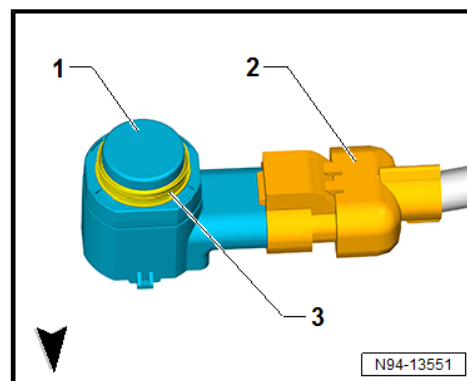


- Check the sensor decoupling ring -3- for damage and replace it if necessary.



Note

Both sensor mount retaining brackets must engage audibly when installing the sensor.



10 Automatic Headlamp Range Control

⇒ ["10.1 Overview - Automatic Headlamp Range Control", page 158](#)

⇒ ["10.2 Cornering Lamp and Headlamp Range Control Module J745, Removing and Installing", page 160](#)

10.1 Overview - Automatic Headlamp Range Control

⇒ ["10.1.1 Overview - Automatic Headlamp Range Control", page 158](#)

⇒ ["10.1.2 Overview - Automatic Headlamp Range Control, RHD", page 159](#)

10.1.1 Overview - Automatic Headlamp Range Control

1 - Cornering Lamp and Headlamp Range Control Module - J745-

- ❑ On the mounting bracket pedal assembly
- ❑ Removing and installing: Refer to
⇒ ["10.2.1 Cornering Lamp and Headlamp Range Control Module J745, Removing and Installing", page 160](#).

2 - Left Rear Level Control System Sensor - G76-

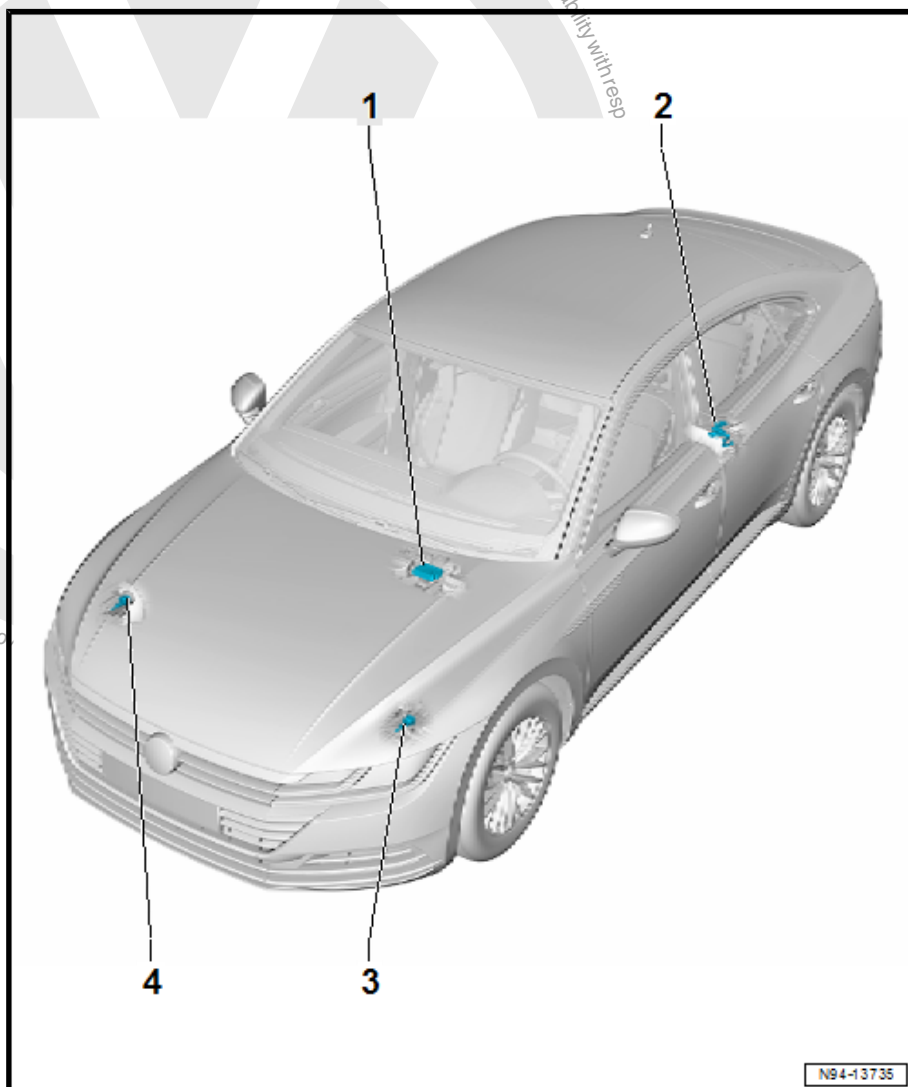
- ❑ Component location: on the rear control arm
- ❑ Overview: Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 43 ; Level Control System Sensor: Overview - Rear Level Control System Sensor.

3 - Left Headlamp Beam Adjustment Motor - V48-

- ❑ Removing and installing: Refer to
⇒ ["1.8 Left and Right Headlamp Beam Adjustment Motor V48 / V49, Removing and Installing", page 102](#).

4 - Right Headlamp Beam Adjustment Motor - V49-

- ❑ Removing and installing: Refer to
⇒ ["1.8 Left and Right Headlamp Beam Adjustment Motor V48 / V49, Removing and Installing", page 102](#).





10.1.2 Overview - Automatic Headlamp Range Control, RHD

1 - Left Rear Level Control System Sensor - G76-

- ❑ Component location: on the rear control arm
- ❑ Overview. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 43 ; Level Control System Sensor: Overview - Rear Level Control System Sensor .

2 - Left Headlamp Beam Adjustment Motor - V48-

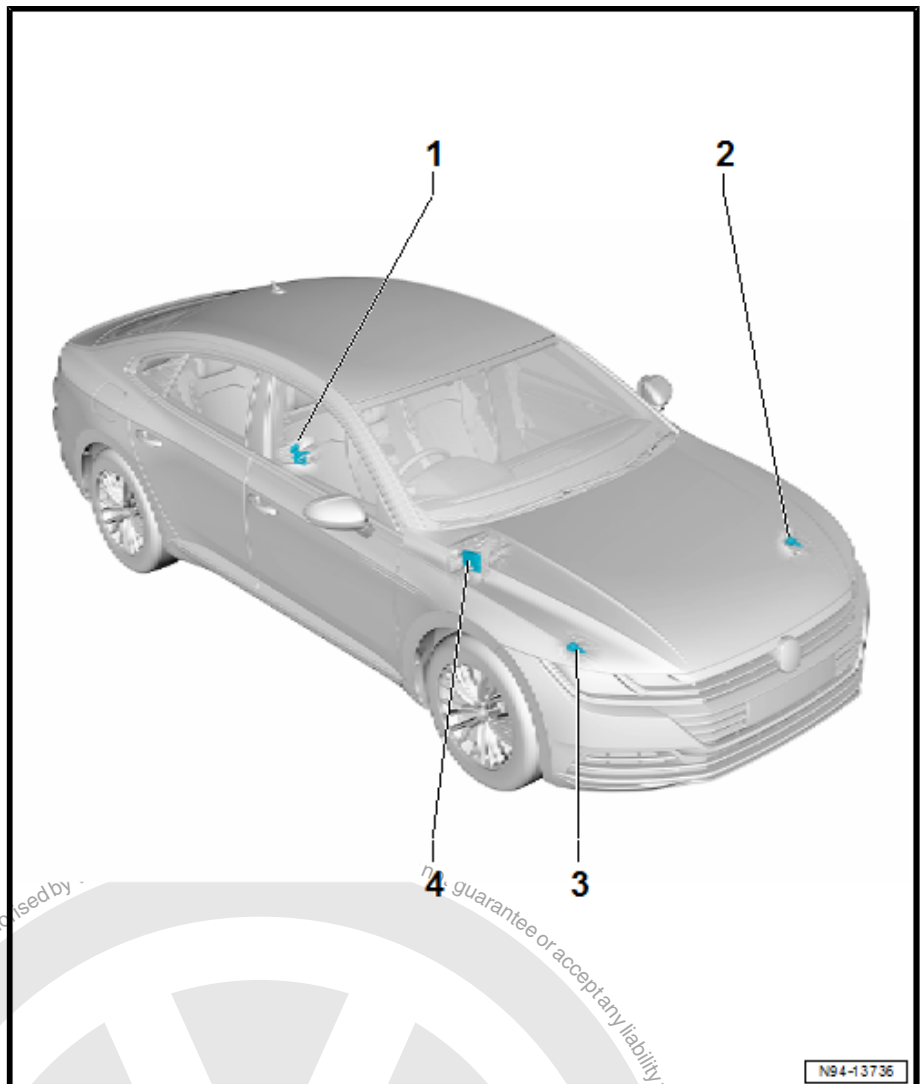
- ❑ Removing and installing. Refer to ⇒ ["1.8 Left and Right Headlamp Beam Adjustment Motor V48 / V49 , Removing and Installing", page 102](#) .

3 - Right Headlamp Beam Adjustment Motor - V49-

- ❑ Removing and installing. Refer to ⇒ ["1.8 Left and Right Headlamp Beam Adjustment Motor V48 / V49 , Removing and Installing", page 102](#) .

4 - Cornering Lamp and Headlamp Range Control Module - J745-

- ❑ Outside at the top on the pedal assembly mounting bracket
- ❑ Removing and installing. Refer to ⇒ ["10.2.2 Cornering Lamp and Headlamp Range Control Module J745 , Removing and Installing, RHD", page 161](#)



N94-13736



10.2 Cornering Lamp and Headlamp Range Control Module - J745- , Removing and Installing

⇒ ["10.2.1 Cornering Lamp and Headlamp Range Control Module J745 , Removing and Installing", page 160](#)

⇒ ["10.2.2 Cornering Lamp and Headlamp Range Control Module J745 , Removing and Installing, RHD", page 161](#)

10.2.1 Cornering Lamp and Headlamp Range Control Module - J745- , Removing and Installing

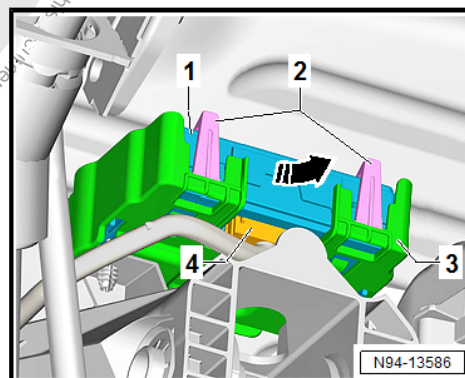


Note

If the control module is replaced, perform the adaptation. Refer to Vehicle Diagnostic Tester .

Removing

- Turn off the ignition and all electrical equipment.
- Move the ignition key outside of the vehicle to prevent the ignition from switching on unintentionally.
- If equipped, remove the driver side knee airbag. Refer to ⇒ Body Interior; Rep. Gr. 69 ; Knee Airbags; Knee Airbag with Igniter, Removing and Installing .
- Remove the driver side footwell vent. Refer to ⇒ Heating, Ventilation and Air Conditioning; Rep. Gr. 87 ; Air Guide; Driver Side Footwell Vent, Removing and Installing .
- Release the retaining tabs -2- from the bracket -3-.
- At the same time remove the Cornering Lamp and Headlamp Range Control Module - J745- -1- in the direction of -arrow- from the bracket -3-.
- Release and disconnect the connector -4-.

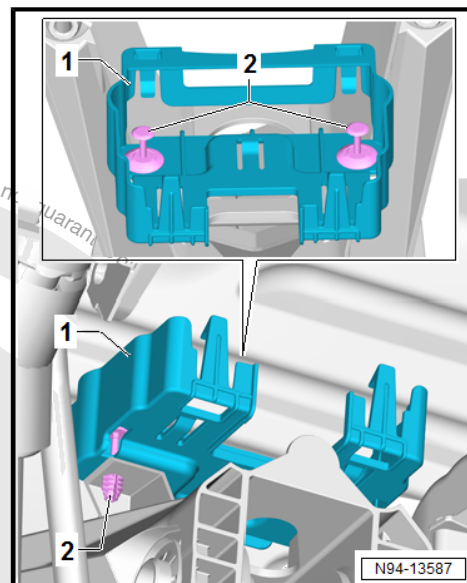




- Remove the expanding rivets -2-.
- Remove the bracket -1- from the pedal assembly mounting bracket.

Installing

Install in reverse order of removal.



10.2.2 Cornering Lamp and Headlamp Range Control Module - J745- , Removing and Installing, RHD

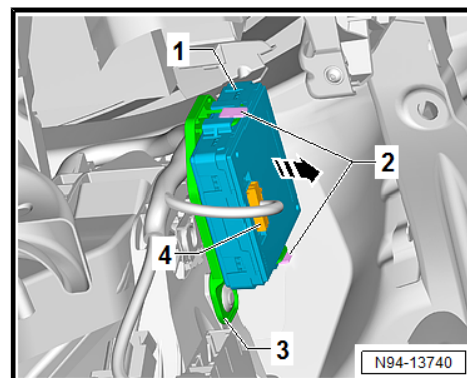


Note

If the control module is replaced, perform the adaptation. Refer to Vehicle Diagnostic Tester.

Removing

- Turn off the ignition and all electrical equipment.
- Move the ignition key outside of the vehicle to prevent the ignition from switching on unintentionally.
- Remove the driver side instrument panel cover. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Driver Side Instrument Panel Cover, Removing and Installing .
- Release the retaining tabs -2- from the bracket -3-.
- At the same time remove the Cornering Lamp and Headlamp Range Control Module - J745- -1- in the -direction of the arrow- from the bracket -3-.
- Release and disconnect the connector -4-.

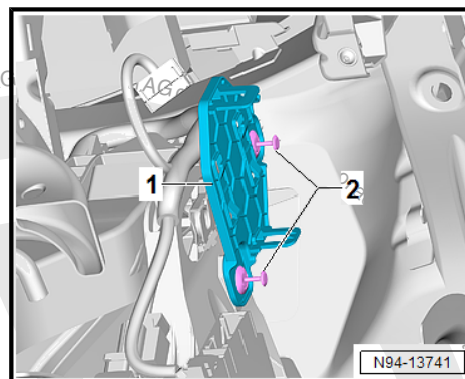




- Remove the expanding rivets -2-.
- Remove the bracket -1- from the pedal assembly mounting bracket.

Installing

Install in reverse order of removal.





11 Trailer Hitch

⇒ [“11.1 Overview - Trailer Hitch Socket”, page 163](#)

⇒ [“11.2 Trailer Socket U10”, page 163](#)

⇒ [“11.3 Towing Recognition Control Module J345, Removing and Installing”, page 164](#)

11.1 Overview - Trailer Hitch Socket

1 - Trailer Socket - U10-

- ❑ Connector assignment. Refer to
⇒ [“11.2 Trailer Socket U10”, page 163](#).

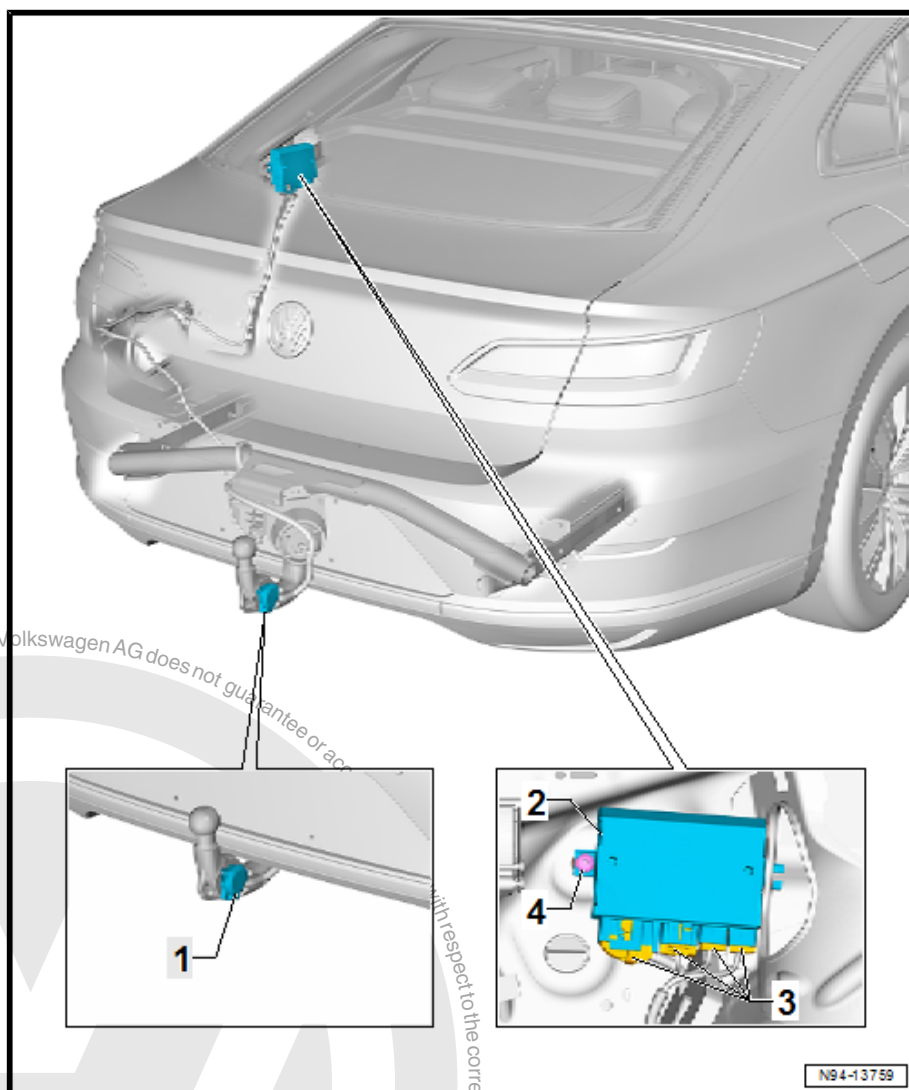
2 - Towing Recognition Control Module - J345-

- ❑ Removing and installing. Refer to
⇒ [“11.3 Towing Recognition Control Module J345, Removing and Installing”, page 164](#).

3 - Connectors

4 - Bolt

- ❑ 2.5 Nm



11.2 Trailer Socket - U10-

Pin 9 Characteristics:

- ◆ Pin 9, continuous positive, constantly supplies the trailer with positive charge from the vehicle battery.
- ◆ The continuous positive is always connected directly to the battery.
- ◆ Only low voltage is permitted, approximately 7.5 - 10 A.



Connector Assignment at the Trailer Socket - U10- :

The exact connector assignment can be found in the applicable wiring diagram. Refer to ⇒ Wiring diagrams, Troubleshooting & Component locations.

11.3 Towing Recognition Control Module - J345- , Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Screwdriver - VAG1624-



Note

If the control module is replaced, perform the adaptation. Refer to Vehicle Diagnostic Tester .

Removing

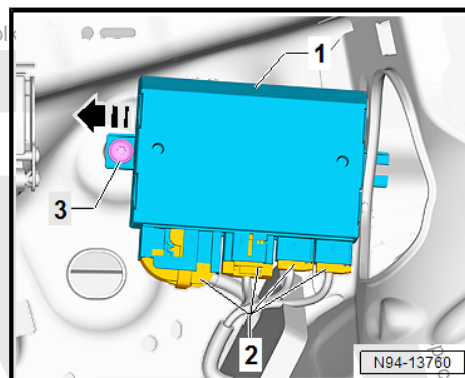
- Turn off the ignition and all electrical equipment.
- Move the ignition key outside of the vehicle to prevent the ignition from switching on unintentionally.
- Remove the luggage compartment left trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Luggage Compartment Trim Panels; Luggage Compartment Side Trim Panel, Removing and Installing .
- Release and disconnect the connectors -2-.
- Remove the bolt -3-.
- Pull the Towing Recognition Control Module -J345- -1- in the direction of -arrow- out of the mount in the body and remove.

Installing

Install in reverse order of removal.

Tightening Specifications

- ◆ Refer to ⇒ [“11.1 Overview - Trailer Hitch Socket”, page 163](#)

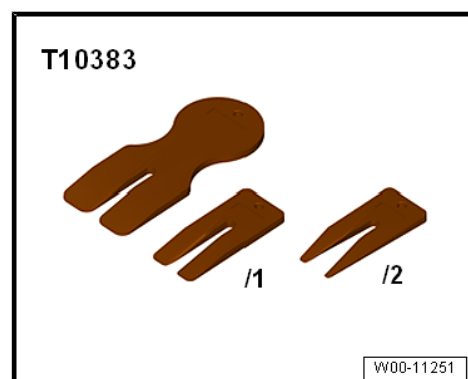




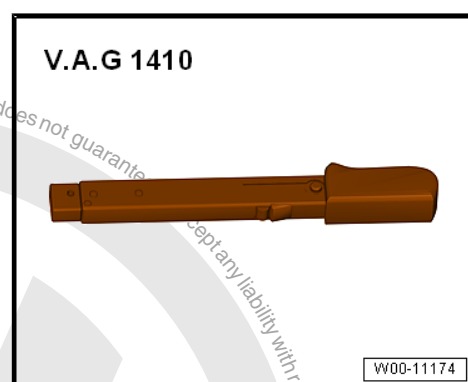
12 Special Tools

Special tools and workshop equipment required

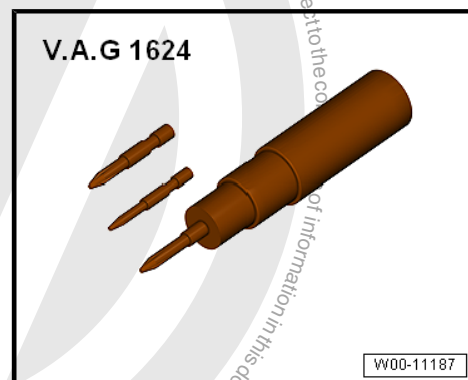
- ◆ Wedge Set - T10383-



- ◆ Torque Wrench 1410 - VAG1410-



- ◆ Torque Screwdriver - VAG1624-



- ◆ Pry Lever - 80-200-



- ◆ ESD Work Surface - VAS6613-



96 – Interior Lights, Switches



1 Lamps

⇒ ["1.1 Component Location Overview - Instrument Panel Lamps", page 168](#)

⇒ ["1.2 Component Location Overview - Front Door Lamps", page 169](#)

⇒ ["1.3 Component Location Overview - Rear Door Lamps", page 170](#)

⇒ ["1.4 Component Location Overview - Center Console Lamps", page 171](#)

⇒ ["1.5 Component Location Overview - Luggage Compartment Lamps", page 172](#)

⇒ ["1.6 Component Location Overview - Roof Trim Panel Lamps", page 173](#)

⇒ ["1.7 Glove Compartment Lamp W6 , Removing and Installing", page 174](#)

⇒ ["1.8 Bulb for Glove Compartment Lamp W6 , Replacing", page 174](#)

⇒ ["1.9 Left and Right Front Footwell Lamp K268 / K269 , Removing and Installing", page 175](#)

⇒ ["1.10 Left and Right Front Footwell Illumination Bulb L151 / L152 , Removing and Installing", page 175](#)

⇒ ["1.11 Central Locking -Safe- Indicator Lamp K133 , Removing and Installing", page 176](#)

⇒ ["1.12 Driver and Front Passenger Interior Door Handle Illumination Bulb L146 / L147 , Removing and Installing", page 176](#)

⇒ ["1.13 Door Reflector, Removing and Installing", page 177](#)

⇒ ["1.14 Left and Right Front Entry Lamp W31 / W32 , Removing and Installing", page 177](#)

⇒ ["1.15 Driver and Front Passenger Door Warning Lamp W30 / W36 , Removing and Installing", page 178](#)

⇒ ["1.16 Driver Side/Passenger Side Rear Interior Door Handle Illumination Bulb L221 / L222 , Removing and Installing", page 178](#)

⇒ ["1.17 Driver Side/Passenger Side Door Ambient Lighting Lamp W86 / W87 , Removing and Installing", page 179](#)

⇒ ["1.18 Left Rear Door Ambient Lighting Bulb 1 / Right Rear Door Ambient Lighting Bulb 1 L201 / L202 , Removing and Installing", page 179](#)

⇒ ["1.19 Driver Side/Front Passenger Side Door Ambient Illumination Lamp 2 W97 / W98 , Removing and Installing", page 180](#)

⇒ ["1.20 Left and Right Rear Door Ambient Lighting Bulb L166 / L167 , Removing and Installing", page 180](#)

⇒ ["1.21 Left/Right Instrument Panel Ambient Lighting Lamp L229 / L230 , Removing and Installing", page 181](#)

⇒ ["1.22 Selector Lever Transmission Range Position Display Unit Y26 , Removing and Installing", page 181](#)

⇒ ["1.23 Luggage Compartment Lamps W3 / W115 , Removing and Installing", page 181](#)

⇒ ["1.24 Driver and Front Passenger Vanity Mirror Lamp W20 / W14 , Removing and Installing", page 182](#)



⇒ [“1.25 Bulb for Front Interior Lamp W1 , Removing and Installing”, page 183](#)

⇒ [“1.26 Bulb for Rear Interior Lamp W43 , Removing and Installing”, page 184](#)

⇒ [“1.27 Front Passenger and Driver Reading Lamp W13 / W19 , Removing and Installing”, page 185](#)

⇒ [“1.28 Left and Right Rear Reading Lamp W11 / W12 , Removing and Installing”, page 186](#)

1.1 Component Location Overview - Instrument Panel Lamps

1 - Left Instrument Panel Ambient Lighting Lamp - L229-

- ❑ Removing and installing. Refer to
⇒ [“1.21 Left/Right Instrument Panel Ambient Lighting Lamp L229 / L230 , Removing and Installing”, page 181](#) .

2 - Right Instrument Panel Ambient Lighting Lamp - L230-

- ❑ Removing and installing. Refer to
⇒ [“1.21 Left/Right Instrument Panel Ambient Lighting Lamp L229 / L230 , Removing and Installing”, page 181](#) .

3 - Front Passenger Airbag - Disabled- Indicator Lamp - K145-

- ❑ The Front Passenger Airbag Indicator Lamp - K145- is installed in the Switch Module in Instrument Panel, Center - EX22- and cannot be removed separately. Refer to
⇒ [“2.15 Switch Module in Instrument Panel, Center EX22 , Removing and Installing”, page 199](#)

4 - Glove Compartment Lamp - W6-

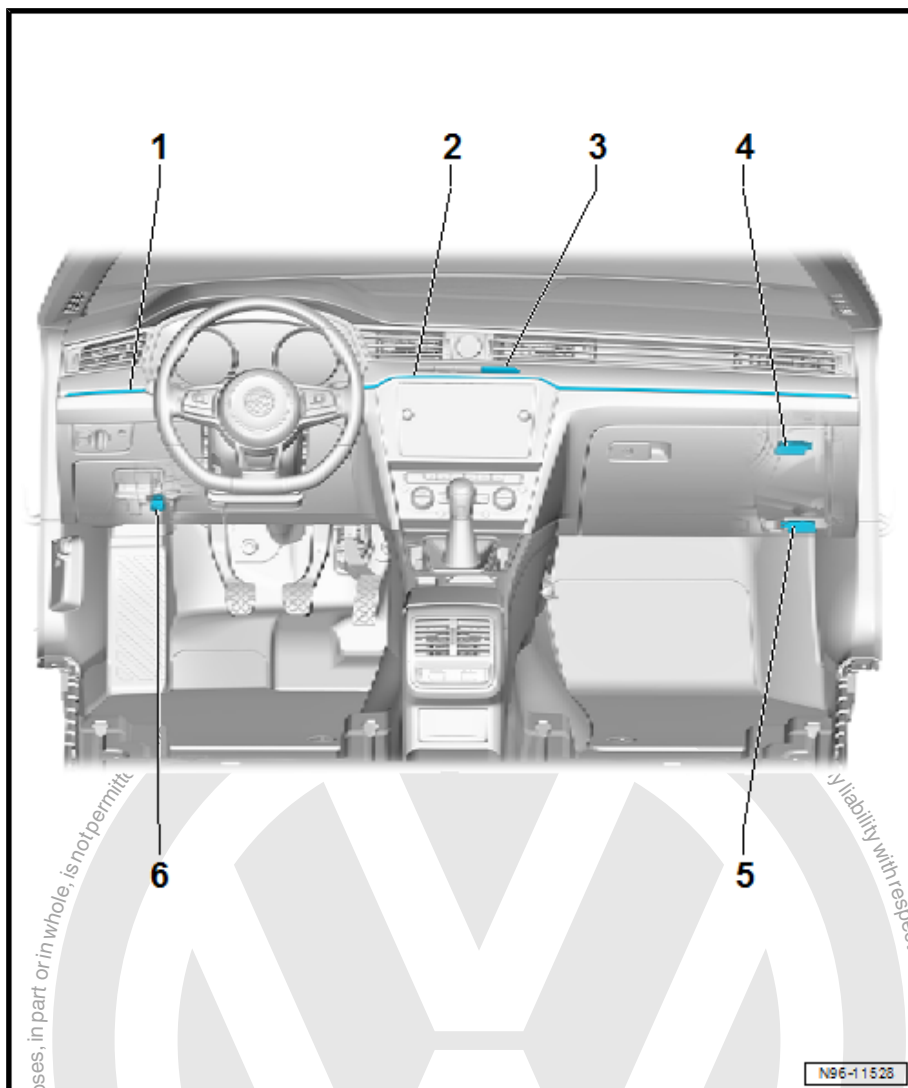
- ❑ Removing and installing. Refer to
⇒ [“1.7 Glove Compartment Lamp W6 , Removing and Installing”, page 174](#) .

5 - Right Front Footwell Lamp - K269-

- ❑ Removing and installing. Refer to
⇒ [“1.9 Left and Right Front Footwell Lamp K268 / K269 , Removing and Installing”, page 175](#) .

6 - Left Front Footwell Lamp - K268-

- ❑ Removing and installing. Refer to
⇒ [“1.9 Left and Right Front Footwell Lamp K268 / K269 , Removing and Installing”, page 175](#) .





1.2 Component Location Overview - Front Door Lamps

1 - Driver Interior Door Handle Illumination Bulb - L146-

- ❑ Removing and installing. Refer to
⇒ ["1.12 Driver and Front Passenger Interior Door Handle Illumination Bulb L146 / L147, Removing and Installing", page 176](#).

2 - Central Locking -Safe- Indicator Lamp - K133-

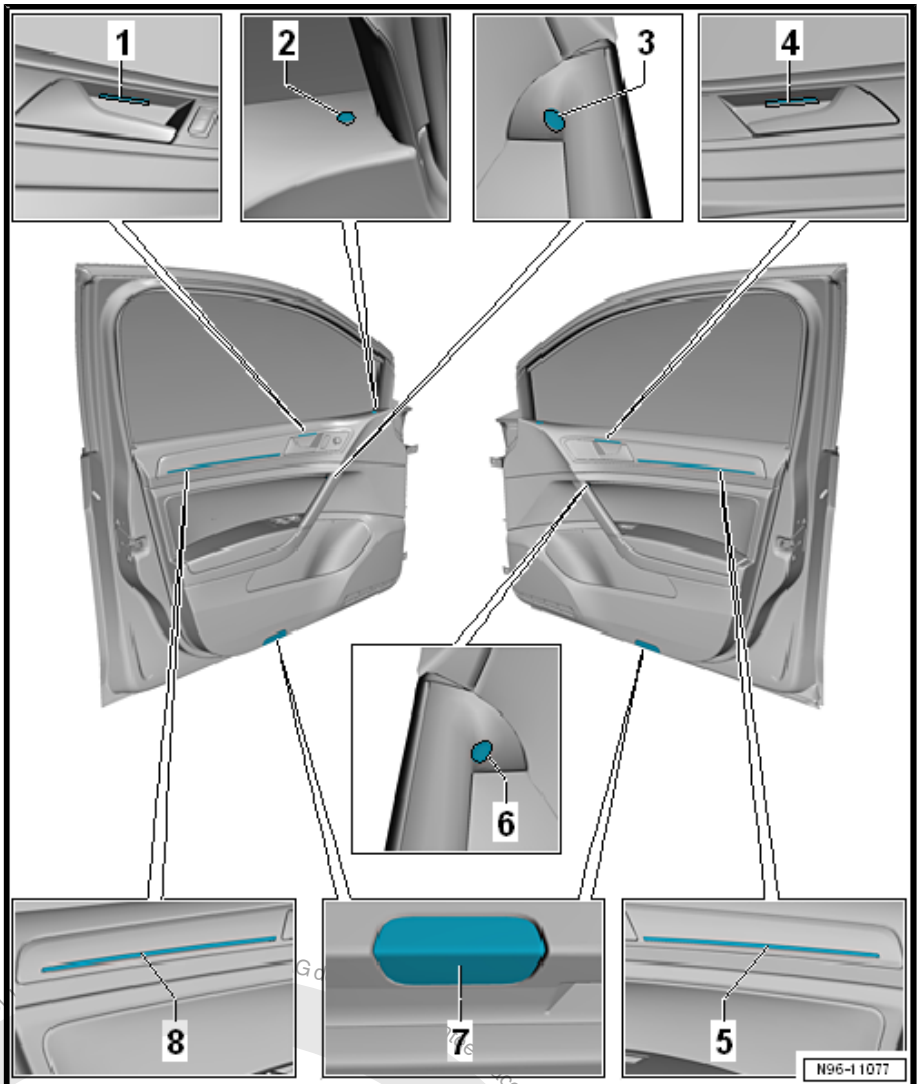
- ❑ Removing and installing. Refer to
⇒ ["1.11 Central Locking -Safe- Indicator Lamp K133, Removing and Installing", page 176](#).

3 - Driver Side Door Ambient Illumination Lamp 2 - W97-

- ❑ Removing and installing. Refer to
⇒ ["1.19 Driver Side/ Front Passenger Side Door Ambient Illumination Lamp 2 W97 / W98, Removing and Installing", page 180](#).

4 - Front Passenger Interior Door Handle Illumination Bulb - L147-

- ❑ Removing and installing. Refer to
⇒ ["1.12 Driver and Front Passenger Interior Door Handle Illumination Bulb L146 / L147, Removing and Installing", page 176](#).



5 - Passenger Side Door Ambient Lighting Lamp - W87-

- ❑ Removing and installing. Refer to
⇒ ["1.17 Driver Side/Passenger Side Door Ambient Lighting Lamp W86 / W87, Removing and Installing", page 179](#).

6 - Front Passenger Side Door Ambient Illumination Lamp 2 - W98-

- ❑ Removing and installing. Refer to
⇒ ["1.19 Driver Side/ Front Passenger Side Door Ambient Illumination Lamp 2 W97 / W98, Removing and Installing", page 180](#).

7 - Door Warning Lamp and Entry Lamp

- ❑ Driver Door Warning Lamp - W30- and Driver Side Entry Lamp - W92-
- ❑ Front Passenger Door Warning Lamp - W36- and Passenger Side Entry Lamp - W93-
- ❑ Removing and installing. Refer to
⇒ ["1.14 Left and Right Front Entry Lamp W31 / W32, Removing and Installing", page 177](#).

8 - Driver Side Door Ambient Lighting Lamp - W86-

- ❑ Removing and installing. Refer to
⇒ ["1.17 Driver Side/Passenger Side Door Ambient Lighting Lamp W86 / W87, Removing and Installing", page 179](#).

1.3 Component Location Overview - Rear Door Lamps

1 - Driver Side Rear Interior Door Handle Illumination Bulb - L221-

- ❑ Removing and installing. Refer to
⇒ ["1.16 Driver Side/Passenger Side Rear Interior Door Handle Illumination Bulb L221 / L222 , Removing and Installing", page 178](#) .

2 - Left Rear Door Ambient Lighting Bulb - L166-

- ❑ Removing and installing. Refer to
⇒ ["1.20 Left and Right Rear Door Ambient Lighting Bulb L166 / L167 , Removing and Installing", page 180](#) .

3 - Right Rear Door Ambient Lighting Bulb - L167-

- ❑ Removing and installing. Refer to
⇒ ["1.16 Driver Side/Passenger Side Rear Interior Door Handle Illumination Bulb L221 / L222 , Removing and Installing", page 178](#) .

4 - Passenger Side Rear Interior Door Handle Illumination Bulb - L222-

- ❑ Removing and installing. Refer to
⇒ ["1.16 Driver Side/Passenger Side Rear Interior Door Handle Illumination Bulb L221 / L222 , Removing and Installing", page 178](#) .

5 - Right Rear Door Ambient Lighting Bulb 1 - L202-

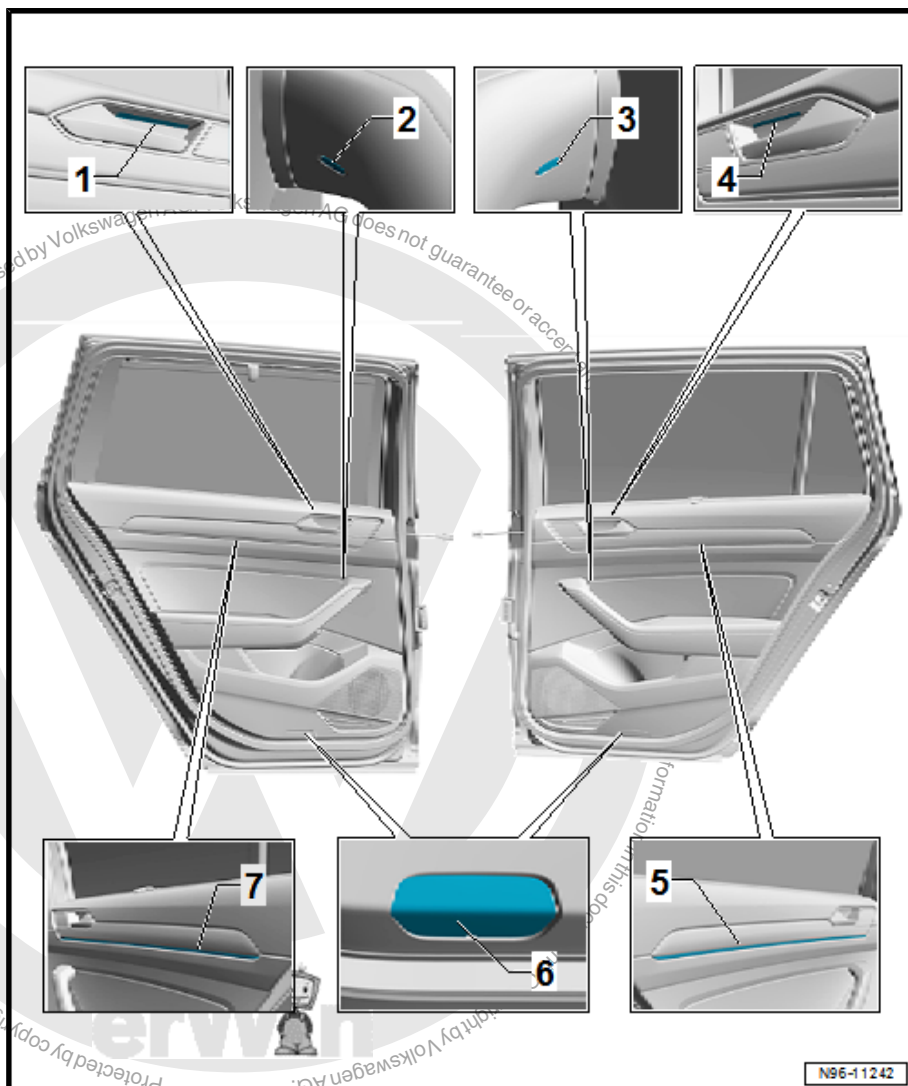
- ❑ Removing and installing. Refer to
⇒ ["1.18 Left Rear Door Ambient Lighting Bulb 1 / Right Rear Door Ambient Lighting Bulb 1 L201 / L202 , Removing and Installing", page 179](#) .

6 - Door Reflector

- ❑ Removing and installing. Refer to ⇒ ["1.13 Door Reflector, Removing and Installing", page 177](#) .

7 - Left Rear Door Ambient Lighting Bulb 1 - L201-

- ❑ Removing and installing. Refer to
⇒ ["1.18 Left Rear Door Ambient Lighting Bulb 1 / Right Rear Door Ambient Lighting Bulb 1 L201 / L202 , Removing and Installing", page 179](#) .

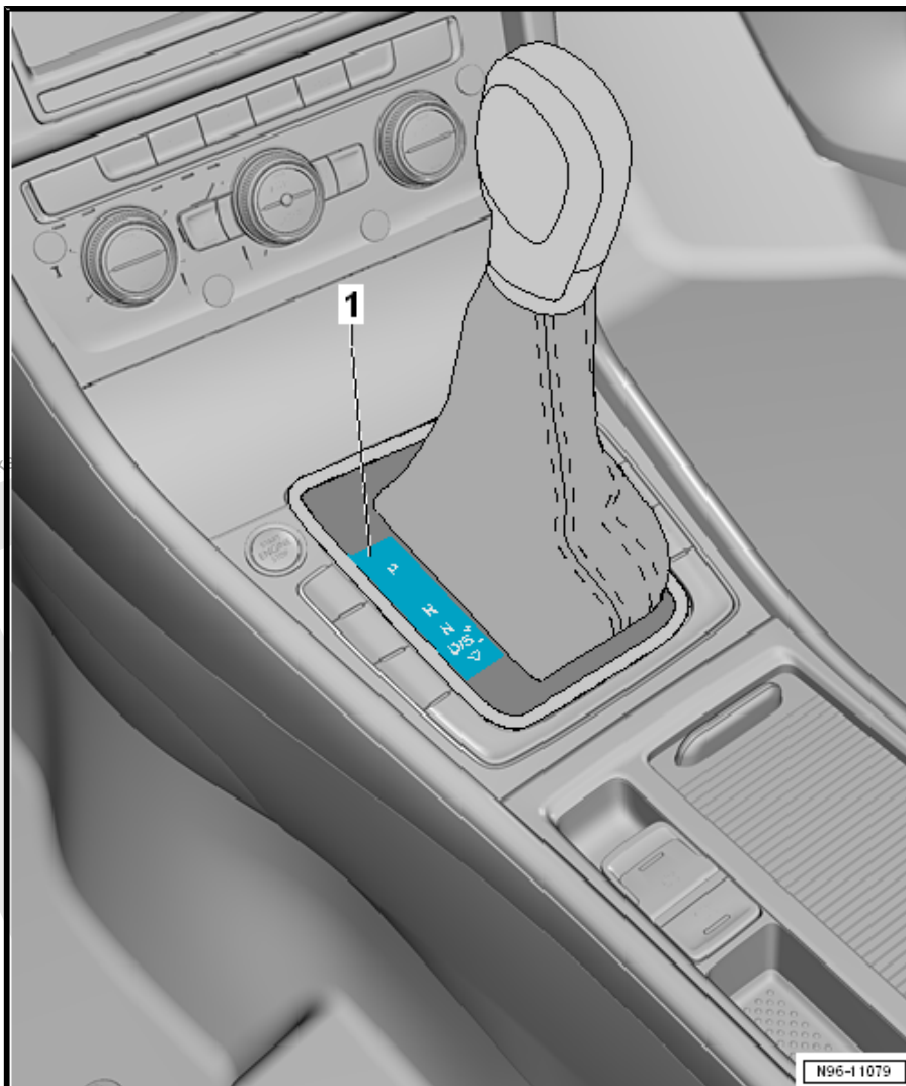




1.4 Component Location Overview - Center Console Lamps

1 - Selector Lever Transmission Range Position Display Unit - Y26-

- ❑ Removing and installing. Refer to
⇒ ["1.22 Selector Lever Transmission Range Position Display Unit Y26 , Removing and Installing", page 181](#) .





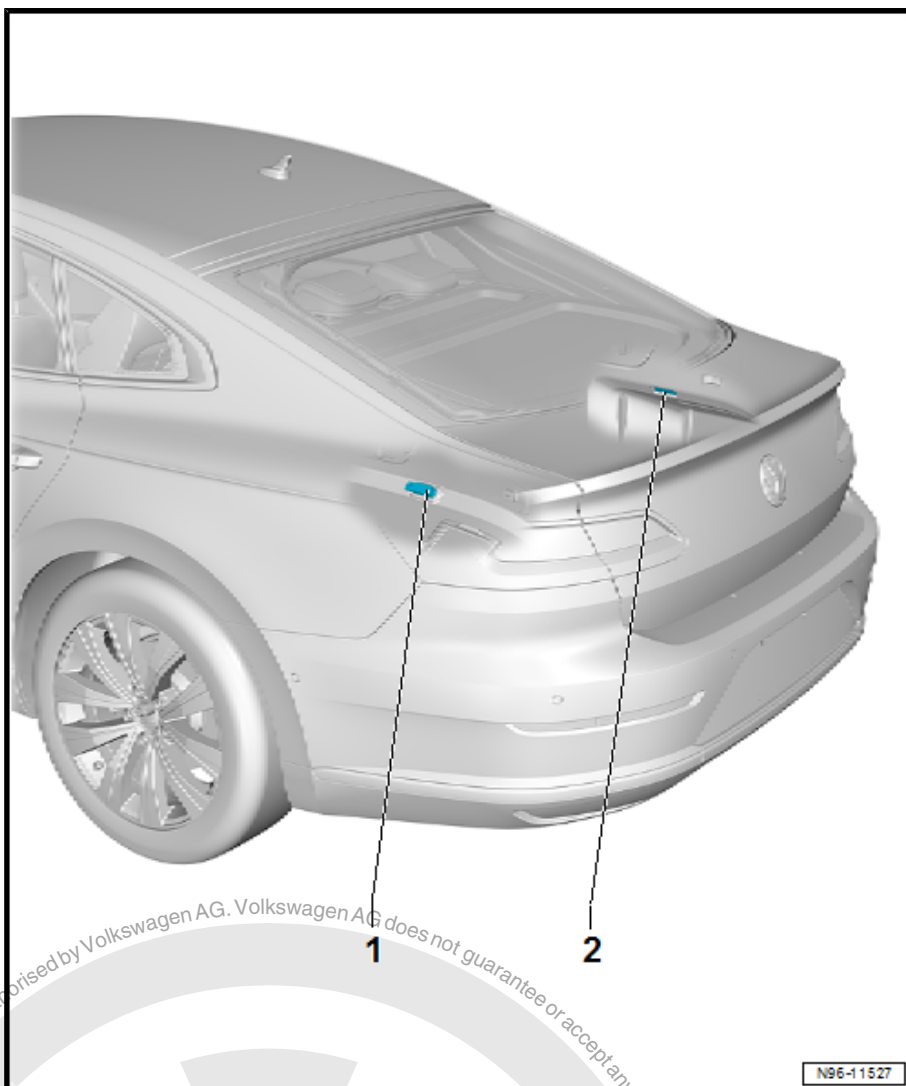
1.5 Component Location Overview - Luggage Compartment Lamps

1 - Luggage Compartment Lamp - W3-

- ❑ Removing and installing. Refer to
⇒ ["1.23 Luggage Compartment Lamps W3 / W115, Removing and Installing", page 181](#).

2 - Luggage Compartment Lamp 2 - W115-

- ❑ Removing and installing. Refer to
⇒ ["1.23 Luggage Compartment Lamps W3 / W115, Removing and Installing", page 181](#).





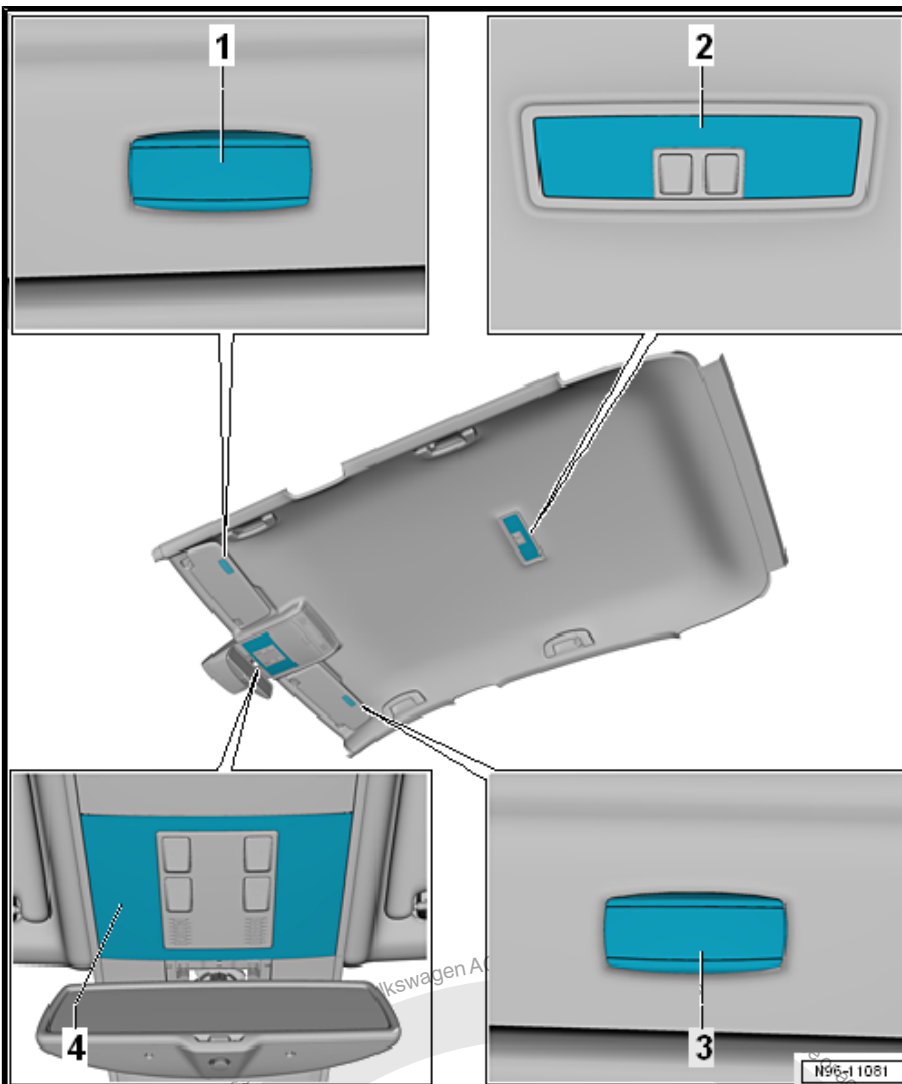
1.6 Component Location Overview - Roof Trim Panel Lamps

1 - Driver Vanity Mirror Lamp - W20-

- ❑ If the vanity mirror lamp is equipped with LEDs, the lamp must be replaced if faulty.
- ❑ Removing and installing. Refer to [⇒ "1.24 Driver and Front Passenger Vanity Mirror Lamp W20 / W14 , Removing and Installing", page 182](#) .

2 - Rear Interior Lamp - WX2-

- ❑ With Left Rear Reading Lamp - W11- / Right Rear Reading Lamp - W12-
- ❑ Removing and installing. Refer to [⇒ "2.38 Rear Interior Lamp/Reading Lamp, Removing and Installing", page 212](#) .
- ❑ Bulb for Rear Interior Lamp - W43- , Removing and installing. Refer to [⇒ "1.26 Bulb for Rear Interior Lamp W43 , Removing and Installing", page 184](#) .
- ❑ Bulb for Left Rear Reading Lamp - W11- / Right Rear Reading Lamp - W12- , Removing and installing. Refer to [⇒ "1.28 Left and Right Rear Reading Lamp W11 / W12 , Removing and Installing", page 186](#) .



3 - Front Passenger Vanity Mirror Lamp - W14-

- ❑ If the vanity mirror lamp is equipped with LEDs, the lamp must be replaced if faulty.
- ❑ Removing and installing. Refer to [⇒ "1.24 Driver and Front Passenger Vanity Mirror Lamp W20 / W14 , Removing and Installing", page 182](#) .

4 - Front Interior Lamp - WX1-

- ❑ With Driver Reading Lamp - W19- and Front Passenger Reading Lamp - W13-
- ❑ Removing and installing. Refer to [⇒ "2.37 Front Interior Lamp/Reading Lamp, Removing and Installing", page 210](#) .
- ❑ Bulb for Front Interior Lamp - WX1- , Removing and installing. Refer to [⇒ "1.25 Bulb for Front Interior Lamp W1 , Removing and Installing", page 183](#) .
- ❑ Bulb for Front Passenger Reading Lamp - W13- / Driver Reading Lamp - W19- , Removing and installing. Refer to [⇒ "1.25 Bulb for Front Interior Lamp W1 , Removing and Installing", page 183](#) .



1.7 Glove Compartment Lamp - W6- , Removing and Installing



Note

Depending on vehicle equipment, the installation position of the Glove Compartment Lamp - W6- may vary. The removal and installation is identical on all equipment versions.

Removing

- Turn the light switch to position “0”.
- Push in the locking tab -1- using a flat-head screwdriver and pry out the glove compartment lamp -2-.
- Disconnect the connector -3-.

Installing

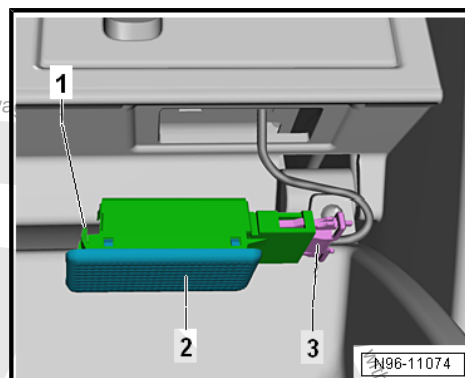
Install in reverse order of removal and note the following:



Note

If the Glove Compartment Lamp - W6- is equipped with LEDs, it must be replaced if faulty.

- Insert the glove compartment lamp into the opening and engage on the opposite side.
- Perform a function test.



1.8 Bulb for Glove Compartment Lamp - W6- , Replacing

Since the glove compartment lamp is equipped with LEDs, the lamp must be completely replaced if faulty.

Glove Compartment Lamp - W6- Removing and installing. Refer to

⇒ [“5.1 Left License Plate Lamp X4 / Right License Plate Lamp X5 , Removing and Installing”, page 125](#) .



1.9 Left and Right Front Footwell Lamp - K268- / -K269- , Removing and Installing

⇒ ["1.9.1 Left Front Footwell Lamp K268 , Removing and Installing, Driver Side", page 175](#)

⇒ ["1.9.2 Right Front Footwell Lamp K269 , Removing and Installing, Front Passenger Side", page 175](#)

1.9.1 Left Front Footwell Lamp - K268- , Removing and Installing, Driver Side

Removing

- Press the retaining tab -1- in the area of the -arrow A- with a flat-head screwdriver.
- Pry out the footwell lamp -2-.
- Disconnect the connector.

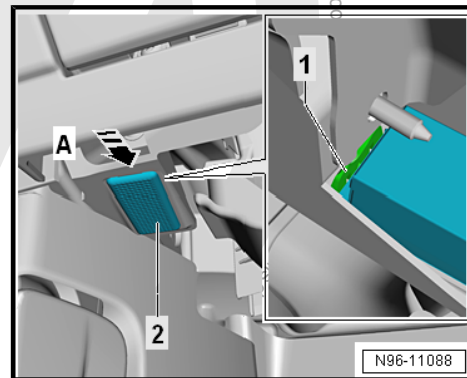
Installing

Install in reverse order of removal.



Note

Since the footwell lamp is equipped with LEDs, the lamp must be replaced if faulty.



1.9.2 Right Front Footwell Lamp - K269- , Removing and Installing, Front Passenger Side

Removing

- Press in the locking tab -2- with a flat-head screwdriver.
- Loosen the footwell lamp -1- in the direction of the -arrow A- and remove downward.
- Disconnect the connector.

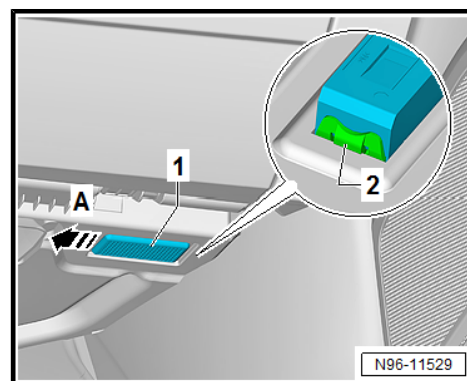
Installing

Install in reverse order of removal.



Note

Since the footwell lamp is equipped with LEDs, the lamp must be replaced if faulty.



1.10 Left and Right Front Footwell Illumination Bulb -L151- / -L152- , Removing and Installing

Since the front footwell lamp is equipped with LEDs, the entire lamp must be replaced.

- Left Front Footwell Lamp - K268- / Right Front Footwell Lamp - K269- , Removing and installing. Refer to
⇒ ["1.9 Left and Right Front Footwell Lamp K268 / K269 , Removing and Installing", page 175](#) .



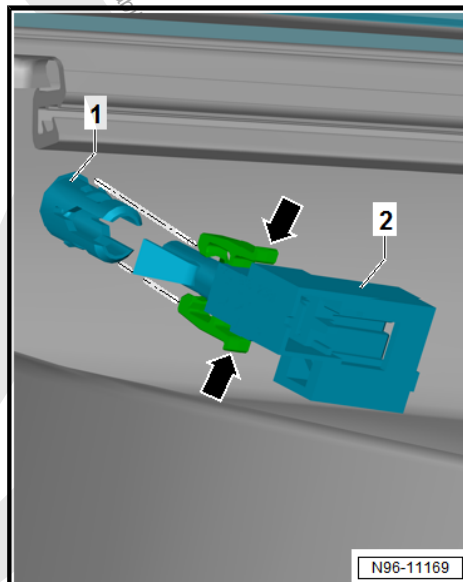
1.11 Central Locking -Safe- Indicator Lamp - K133- , Removing and Installing

Removing

- Remove the front door trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Front Door Trim Panels; Front Door Trim Panel, Removing and Installing .
- Disconnect the connector.
- Release the Central Locking -Safe- Indicator Lamp - K133- -2- by pressing -arrows-.
- Remove the Central Locking -Safe- Indicator Lamp - K133- -2- from the mount -1-.

Installing

Install in reverse order of removal.



1.12 Driver and Front Passenger Interior Door Handle Illumination Bulb -L146- / - L147- , Removing and Installing



Note

The removal and installation is described for the left side. The removal and installation on the right side is similar.

Removing

- Remove the front interior door mechanism. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Front Door Trim Panels; Interior Door Mechanism, Removing and Installing .



Caution

There is a risk of damaging the fiber-optic cable.

- ◆ *Only touch the fiber-optic cable on the light fittings in the area of the interior door mechanism.*

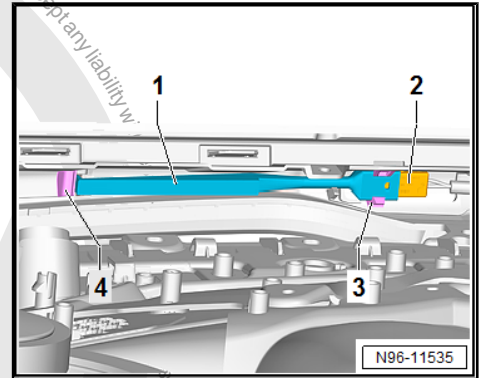
- Disconnect the connector -2-.



- Disengage the fiber-optic cable -1- from the rear bracket -3-.
- Remove the fiber-optic cable -1- carefully from the mount -4- in the door trim panel.

Installing

Install in reverse order of removal.



1.13 Door Reflector, Removing and Installing

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-



Note

Removal and installation is the same for all door reflectors and is described here for only one reflector.



Caution

Risk of damaging the component surfaces.

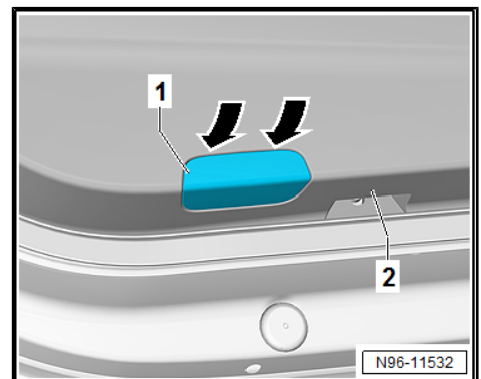
- ◆ *When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.*

Removing

- Pry the reflector -1- out of the door trim panel -2- using the -3409- -arrows-.

Installing

Install in reverse order of removal.



1.14 Left and Right Front Entry Lamp -W31- / -W32- , Removing and Installing

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-



Caution

Risk of damaging the component surfaces.

- ◆ *When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.*



Note

- ◆ Removal and installation for all entry lamps is performed in the same way and is only described for one lamp.
- ◆ Check the entry lamps using the output diagnostic test mode on each door control module.

Removing

- Turn off the ignition and all electrical equipment.
- Pry the lamp -1- carefully out of the door trim panel -2- using the -3409- .
- Disconnect the connector and remove the lamp.

Installing

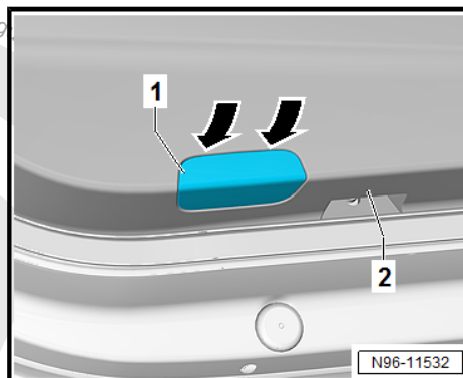
Install in reverse order of removal and note the following:



Note

Since the entry lamp is equipped with LEDs, the lamp must be replaced if faulty.

- Perform a function test.



1.15 Driver and Front Passenger Door Warning Lamp -W30- / -W36- , Removing and Installing



Note

The door warning lamp and the entry lamp make up one component. They can be removed and installed together.

- Door warning lights, removing and installing. Refer to ⇒ ["1.14 Left and Right Front Entry Lamp W31 / W32 , Removing and Installing", page 177](#) .

1.16 Driver Side/Passenger Side Rear Interior Door Handle Illumination Bulb - L221- / -L222- , Removing and Installing



Note

The removal and installation is described for the left side. The removal and installation on the right side is similar.

Removing

- Remove the rear door trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Rear Door Trim Panels; Rear Door Trim Panel, Removing and Installing .



Caution

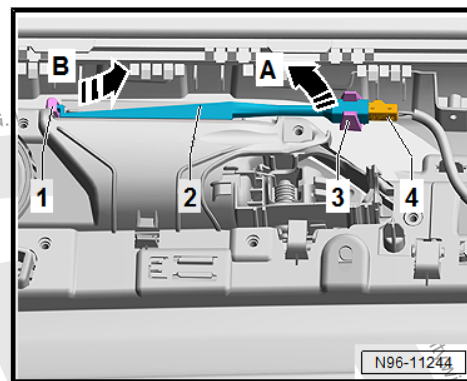
There is a risk of damaging the fiber-optic cable.

- ◆ *Only touch the fiber-optic cable on the light fittings in the area of the interior door mechanism.*

- Disconnect the connector -4-.
- Disengage the fiber-optic cable -2- on the rear bracket -3- in the direction of the -arrow A-.
- Remove the fiber-optic cable -2- carefully in the direction of the -arrow B- from the mount -1- in the direction of the -arrow-.

Installing

Install in reverse order of removal.



1.17 Driver Side/Passenger Side Door Ambient Lighting Lamp -W86- / -W87- , Removing and Installing



Note

The Driver Side Door Ambient Lighting Lamp - W86- and Passenger Side Door Ambient Lighting Lamp - W87- are integrated in the decorative trim of the front door trim panels and cannot be replaced separately.

- Remove the decorative trim on the front door trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Front Door Trim Panels; Decorative Trim, Removing and Installing

1.18 Left Rear Door Ambient Lighting Bulb 1 / Right Rear Door Ambient Lighting Bulb 1 -L201- / -L202- , Removing and Installing



Note

The Left Rear Door Ambient Lighting Bulb 1 - L201- and the Right Rear Door Ambient Lighting Bulb 1 - L202- are integrated in the decorative trim for the door trim panels and cannot be replaced separately.

- Remove the decorative trim on the rear door trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Rear Door Trim Panels; Decorative Trim, Removing and Installing .



1.19 Driver Side/Front Passenger Side Door Ambient Illumination Lamp 2 -W97- / -W98- , Removing and Installing



Note

Removal and installation for all pull handle lamps is performed in the same way and is only described for one lamp.

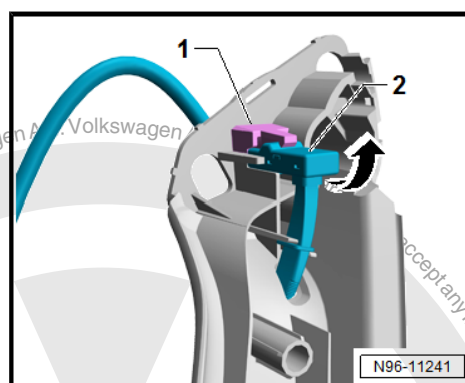
- ◆ Driver Side Door Ambient Illumination Lamp 2 - W97-
- ◆ Front Passenger Side Door Ambient Illumination Lamp 2 - W98-
- ◆ Left Rear Door Ambient Lighting Bulb - L166-
- ◆ Right Rear Door Ambient Lighting Bulb - L167-

Removing

- Remove the front pull handle. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Front Door Trim Panels; Front Armrest, Removing and Installing .
- Remove the rear pull handle. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Rear Door Trim Panels; Rear Armrest, Removing and Installing .
- Release the retainer -2-.
- Remove the interior door handle illumination bulb -1- carefully from the pull handle -arrow-.
- Guide the wire on the interior door handle illumination bulb and remove the lamp.

Installing

Install in reverse order of removal.



1.20 Left and Right Rear Door Ambient Lighting Bulb -L166- / -L167- , Removing and Installing

The removal and installation procedure for the Left Rear Door Ambient Lighting Bulb - L166- / Right Rear Door Ambient Lighting Bulb - L167- is the same as Driver Side Door Ambient Illumination Lamp 2 - W97- / Front Passenger Side Door Ambient Illumination Lamp 2 - W98- .

Driver Side Door Ambient Illumination Lamp 2 - W97- / Front Passenger Side Door Ambient Illumination Lamp 2 - W98- , Removing and installing. Refer to
⇒ ["1.19 Driver Side/Front Passenger Side Door Ambient Illumination Lamp 2 W97 / W98 , Removing and Installing", page 180](#) .



1.21 Left/Right Instrument Panel Ambient Lighting Lamp -L229- / -L230- , Removing and Installing



Note

Die Left Instrument Panel Ambient Lighting Lamp - L229- / Right Instrument Panel Ambient Lighting Lamp - L230- is integrated in the corresponding instrument panel decorative trim and cannot be replace individually.

- Removing and Installing the corresponding instrument panel decorative trim. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel; Instrument Panel Decorative Trim, Removing and Installing .

1.22 Selector Lever Transmission Range Position Display Unit - Y26- , Removing and Installing

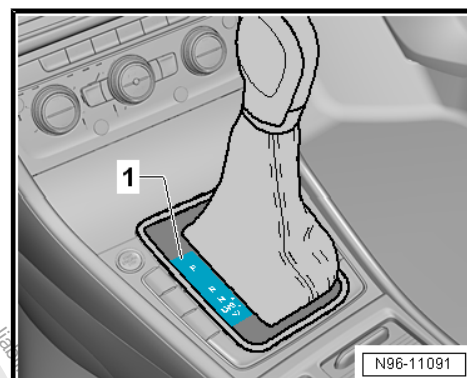
Removing



Note

The Selector Lever Transmission Range Position Display Unit - Y26- -1- is integrated in the selector lever boot and cannot be replaced individually.

- Remove the selector lever boot. Refer to ⇒ Rep. Gr. 34 ; Selector Mechanism; Selector Lever Handle, Removing and Installing .



Installing

Install in reverse order of removal.

1.23 Luggage Compartment Lamps -W3- / -W115- , Removing and Installing



Note

The removal and installation of the Luggage Compartment Lamp -W3- is described. The removal and installation procedure for Luggage Compartment Lamp 2 - W115- is the same.

Removing



Caution

Risk of damaging the component surfaces.

- ◆ **When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.**

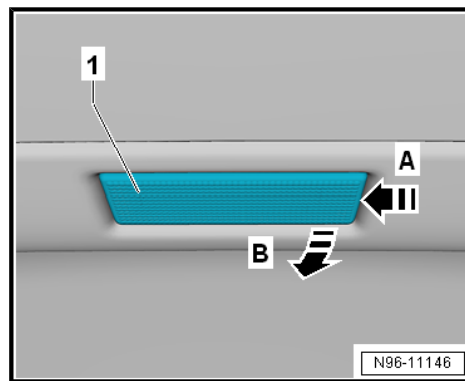


- Push the Luggage Compartment Lamp - W3- -1- in the direction of the -arrow A- with a flat-head screwdriver.
- Fold the Luggage Compartment Lamp - W3- in the direction of the -arrow B- out of the luggage compartment side trim panel.
- Disconnect the connector and remove the Luggage Compartment Lamp - W3- .

Installing

Install in reverse order of removal and note the following:

- Insert the luggage compartment lamp into the opening and engage on the opposite side.



1.24 Driver and Front Passenger Vanity Mirror Lamp -W20- / -W14- , Removing and Installing



Note

- ◆ *Since the vanity mirror illumination is equipped with LEDs, the lamp must be completely replaced if faulty.*
- ◆ *The removal and installation is described for the left side. The removal and installation on the right side is similar.*

Removing

- Pivot the sun visor forward.



Caution

Risk of damaging the component surfaces.

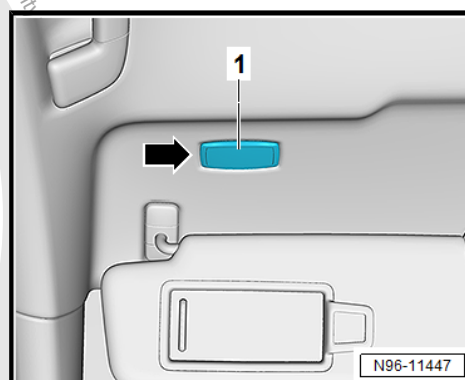
- ◆ **When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.**

- Carefully pry out the vanity mirror lighting -1- at the opening -arrow- using a flat-head screwdriver.
- Disconnect the connector and remove the vanity mirror lighting.

Installing

Install in reverse order of removal and note the following:

Insert the vanity mirror lighting into the opening and engage it on the opposite side.





1.25 Bulb for Front Interior Lamp - W1- , Removing and Installing

⇒ "1.25.1 Bulb for Front Interior Lamp W1 , Removing and Installing, with Bulbs", page 183

⇒ "1.25.2 Bulb for Front Interior Lamp W1 , Removing and Installing, LED", page 184

1.25.1 Bulb for Front Interior Lamp - W1- , Removing and Installing, with Bulbs

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-



Note

The Front Interior Lamp - WX1- bulb and the Front Passenger Reading Lamp - W13- bulb are one component.

Removing



Caution

Risk of damaging the component surfaces.

- ◆ When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.

- Using the -3409- , pry the diffusion lens from the Front Interior Lamp - W1- in the areas marked by -arrows-.

- Remove the bulb -1- from the bulb holder in the direction of the -arrow A-.

Installing

Install in reverse order of removal and note the following:

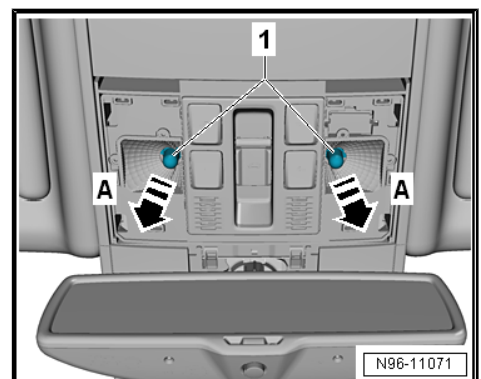
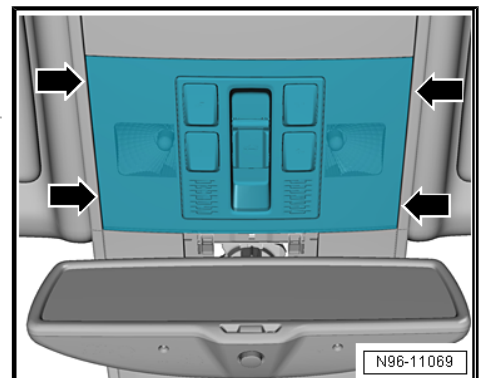


Caution

There is a risk of damaging the bulb.

- ◆ Do not touch the lamp bulb glass with bare fingers. Fingers leave traces of grease on the bulb glass that will evaporate and cloud the bulb glass when the lamp is switched on.
- ◆ Use clean gloves, for example, to insert the bulbs.

- Perform a function test.





1.25.2 Bulb for Front Interior Lamp - W1- , Removing and Installing, LED

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-



Note

- ◆ *The Front Interior Lamp - WX1- bulb and the Front Passenger Reading Lamp - W13- bulb are one component.*
- ◆ *For a faulty Front Interior Lamp - WX1- or Front Passenger Reading Lamp - W13- the diffusion lens must be replaced.*

Removing



Caution

Risk of damaging the component surfaces.

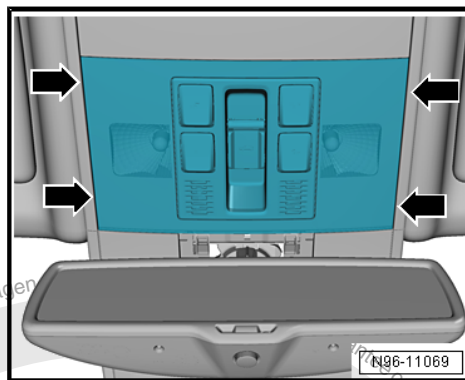
- ◆ *When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.*

- Using the -3409- , pry the diffusion lens from the Front Interior Lamp - W1- in the areas marked by -arrows-.
- Disconnect the connectors.

Installing

Install in reverse order of removal.

- Perform a function test.



1.26 Bulb for Rear Interior Lamp - W43- , Removing and Installing

⇒ ["1.26.1 Bulb for Rear Interior Lamp W43 , Removing and Installing, with Bulbs", page 184](#)

⇒ ["1.26.2 Bulb for Rear Interior Lamp W43, Removing and Installing, LED", page 185](#)

1.26.1 Bulb for Rear Interior Lamp - W43- , Removing and Installing, with Bulbs

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-



Note

The Rear Interior Lamp - W43- bulb and the Left Rear Reading Lamp - W11- and Right Rear Reading Lamp - W12- bulb are one component.



Removing

- Pry out the diffusion lens -3- for the Rear Interior Lamp - W43- using the -3409- .
- Remove the bulb -1- in the direction of the -arrow A- from the bulb socket -2-.

Installing

Install in reverse order of removal and note the following:

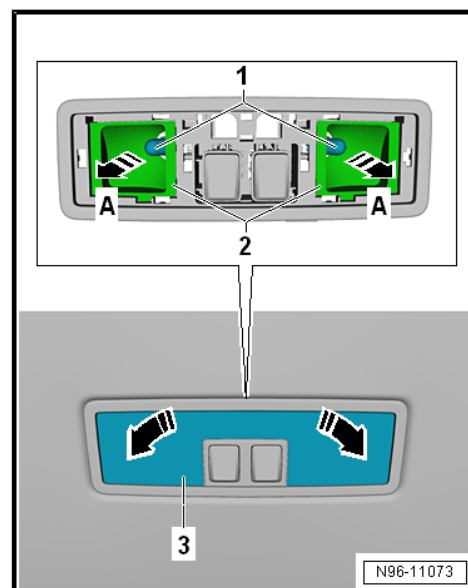


Caution

There is a risk of damaging the bulb.

- ◆ *Do not touch the lamp bulb glass with bare fingers. Fingers leave traces of grease on the bulb glass that will evaporate and cloud the bulb glass when the lamp is switched on.*
- ◆ *Use clean gloves, for example, to insert the bulbs.*

- Perform a function test.



1.26.2 Bulb for Rear Interior Lamp - W43- , Removing and Installing, LED



Note

- ◆ *The Rear Interior Lamp - W43- bulb and the Left Rear Reading Lamp - W11- and Right Rear Reading Lamp - W12- bulb are one component.*
- ◆ *The entire interior lamp must be replaced if the Rear Interior Lamp - W43- is faulty.*
- Rear Interior Lamp - W43- , Removing and installing. Refer to ["2.38 Rear Interior Lamp/Reading Lamp, Removing and Installing", page 212](#) .

1.27 Front Passenger and Driver Reading Lamp -W13- / -W19-, Removing and Installing



Note

The bulb for the Front Passenger Reading Lamp - W13- / Driver Reading Lamp - W19- and the bulb for the Front Interior Lamp - W1- are a single component.

- Bulb for Front Interior Lamp - W1- , Removing and installing. Refer to ["1.25 Bulb for Front Interior Lamp W1 , Removing and Installing", page 183](#) .



1.28 Left and Right Rear Reading Lamp - W11- / -W12- , Removing and Installing



Note

The bulb for the Left Rear Reading Lamp - W11- / Right Rear Reading Lamp - W12- and the bulb for the Rear Interior Lamp - W43- are a single component.

- Bulb for Rear Interior Lamp - W43- , Removing and installing.
Refer to
[⇒ "1.26 Bulb for Rear Interior Lamp W43 , Removing and Installing", page 184 .](#)







2 Controls

- ⇒ "2.1 Component Location Overview - Instrument Panel Controls", page 189
- ⇒ "2.2 Component Location Overview - Controls in Front Doors", page 191
- ⇒ "2.3 Component Location Overview - Controls in Rear Doors", page 192
- ⇒ "2.4 Component Location Overview - Controls in Center Console", page 193
- ⇒ "2.5 Component Location Overview - Controls in Luggage Compartment", page 194
- ⇒ "2.6 Component Location Overview - Controls in Roof Trim Panel", page 195
- ⇒ "2.7 Rotary Light Switch EX1 , Removing and Installing", page 197
- ⇒ "2.8 Windshield Projection Head Up Display Button E736 , Removing and Installing", page 198
- ⇒ "2.9 Steering Wheel Heating Button E522 , Removing and Installing", page 199
- ⇒ "2.10 Driving Profile Selection Button E735 , Removing and Installing", page 199
- ⇒ "2.11 Start/Stop Mode Button E693 , Removing and Installing", page 199
- ⇒ "2.12 ASR/ESP Button E256 , Removing and Installing", page 199
- ⇒ "2.13 Parking Aid Button E266 , Removing and Installing", page 199
- ⇒ "2.14 Parallel Parking Assistance Button E581 , Removing and Installing", page 199
- ⇒ "2.15 Switch Module in Instrument Panel, Center EX22 , Removing and Installing", page 199
- ⇒ "2.16 Center Console Switch Module 1 and 2 EX23 / EX30 , Removing and Installing", page 200
- ⇒ "2.17 Emergency Flasher Switch EX3 , Removing and Installing", page 201
- ⇒ "2.18 Left and Right Seat Heating Button E653 / E654 , Removing and Installing", page 202
- ⇒ "2.19 Glove Compartment Lamp Switch E26 , Removing and Installing", page 202
- ⇒ "2.20 Exterior Rearview Mirror Adjuster EX11 , Removing and Installing", page 203
- ⇒ "2.21 Power Window Control Head in Driver Door E512 , Removing and Installing", page 203
- ⇒ "2.22 Front Passenger Power Window Button E716 , Removing and Installing", page 203
- ⇒ "2.23 Driver Interior Locking Button E308 , Removing and Installing", page 204
- ⇒ "2.24 Rear Lid Remote Release Button E233 , Removing and Installing", page 204
- ⇒ "2.25 Interior Monitoring and Vehicle Inclination Deactivation Button E616 , Removing and Installing", page 205



⇒ "2.26 Driver and Front Passenger Door Contact Switch F2 / F3 , Removing and Installing", page 206

⇒ "2.27 Driver and Passenger Side Rear Power Window Button E711 / E713 , Removing and Installing", page 206

⇒ "2.28 Left and Right Rear Door Contact Switch F10 / F11 , Removing and Installing", page 206

⇒ "2.29 Electromechanical Parking Brake Button E538 / -AUTO HOLD- Button E540 , Removing and Installing", page 207

⇒ "2.30 Start System Button E378 , Removing and Installing", page 207

⇒ "2.31 Power Pivoting Trailer Hitch Button E474 , Removing and Installing", page 207

⇒ "2.32 Rear Lid Lock Button in Luggage Compartment E406 , Removing and Installing", page 208

⇒ "2.33 Rear Lid Warning Buzzer H32 , Removing and Installing", page 209

⇒ "2.34 Rear Lid Contact Switch, Removing and Installing", page 209

⇒ "2.35 Driver and Front Passenger Vanity Mirror Lamp Contact Switch F147 / F148 , Removing and Installing", page 210

⇒ "2.36 Sunroof Button E325 , Removing and Installing", page 210

⇒ "2.37 Front Interior Lamp/Reading Lamp, Removing and Installing", page 210

⇒ "2.38 Rear Interior Lamp/Reading Lamp, Removing and Installing", page 212

⇒ "2.39 Left and Right Front Reading Lamp Button E633 / E634 , Removing and Installing", page 213

2.1 Component Location Overview - Instrument Panel Controls



1 - Switch Module in Instrument Panel, Center - EX22-

- ◆ Parking Aid Button - E266-
- ◆ Parallel Parking Assistance Button - E581- / Peripheral Camera
- ◆ Emergency Flasher Switch - EX3-

- ❑ The individual buttons are installed in the switch strip and cannot be replaced separately.
- ❑ Removing and installing. Refer to
⇒ ["2.15 Switch Module in Instrument Panel, Center EX22, Removing and Installing", page 199](#).

2 - Glove Compartment Lamp Switch - E26-

- ❑ Removing and installing. Refer to
⇒ ["2.19 Glove Compartment Lamp Switch E26, Removing and Installing", page 202](#).

3 - Front Passenger Airbag Deactivation Key Switch - E224-

- ❑ Overview. Refer to ⇒ Body Interior; Rep. Gr. 69 ; Front Passenger Side Airbag; Overview - Front Passenger Side Airbag .

4 - Right Seat Heating Button - E654-

- ❑ Integrated in the display control head:

- ◆ Heater Control Module - J65- OR
- ◆ A/C Control Module - J301- OR
- ◆ Climatronic Control Module - J255-

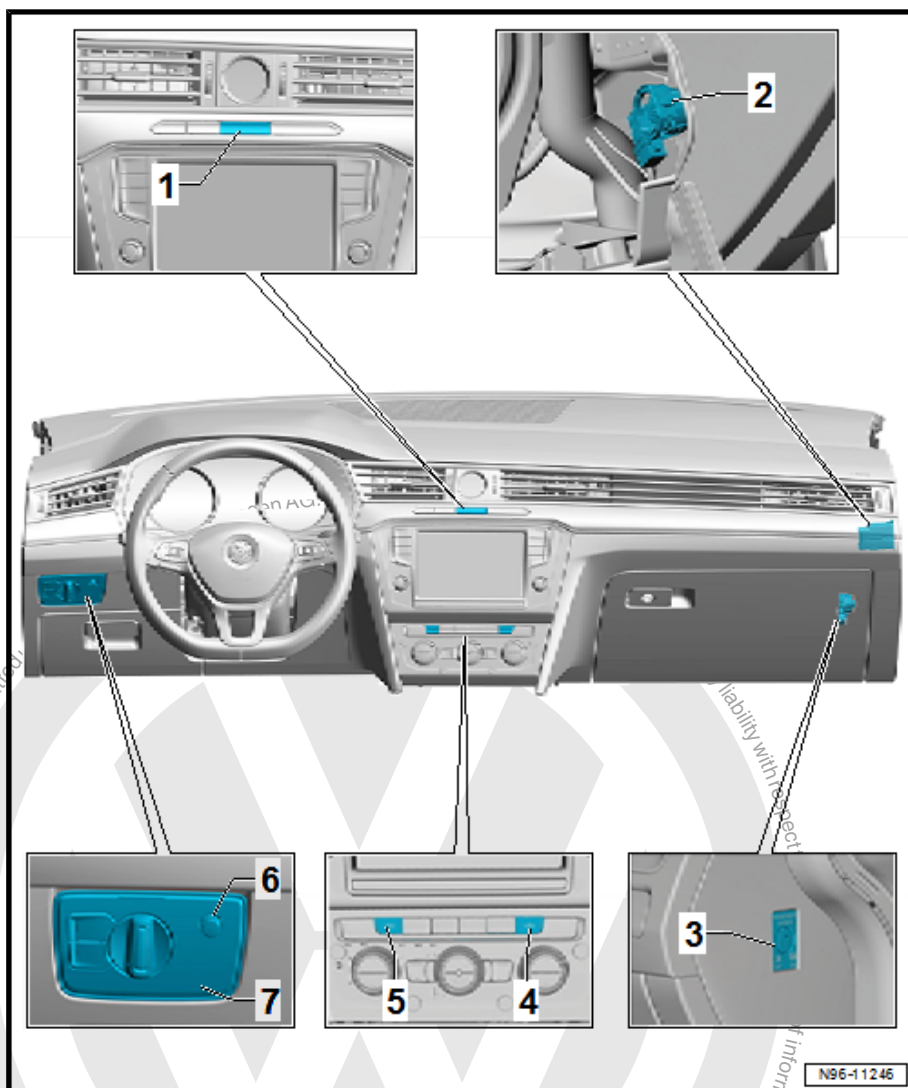
- ❑ Cannot be replaced separately if faulty.
- ❑ Heater Control Module - J65- / A/C Control Module - J301- / Climatronic Control Module - J255- removing and installing. Refer to ⇒ Heating, Ventilation, and Air Conditioning; Rep. Gr. 87 ; Display Control Head; Component Location Overview - Display Control Head .

5 - Left Seat Heating Button - E653-

- ❑ Integrated in the display control head:

- ◆ Heater Control Module - J65- OR
- ◆ A/C Control Module - J301- OR
- ◆ Climatronic Control Module - J255-

- ❑ Cannot be replaced separately if faulty.
- ❑ Heater Control Module - J65- / A/C Control Module - J301- / Climatronic Control Module - J255- removing and installing. Refer to ⇒ Heating, Ventilation, and Air Conditioning; Rep. Gr. 87 ; Display Control Head; Component Location Overview - Display Control Head .





6 - Windshield Projection Head Up Display Button - E736-

- ❑ Depending on the vehicle equipment
- ❑ Removing and installing. Refer to
⇒ [“2.8 Windshield Projection Head Up Display Button E736 , Removing and Installing”, page 198 .](#)

7 - Rotary Light Switch - EX1-

- ❑ Removing and installing. Refer to
⇒ [“2.7 Rotary Light Switch EX1 , Removing and Installing”, page 197 .](#)

2.2 Component Location Overview - Controls in Front Doors

1 - Driver Interior Locking Button - E308-

- ❑ Removing and installing. Refer to
⇒ [“2.23 Driver Interior Locking Button E308 , Removing and Installing”, page 204 .](#)

2 - Rear Lid Remote Release Button - E233-

- ❑ Removing and installing. Refer to
⇒ [“2.24 Rear Lid Remote Release Button E233 , Removing and Installing”, page 204 .](#)

3 - Front Passenger Power Window Button - E716-

- ❑ Removing and installing. Refer to
⇒ [“2.22 Front Passenger Power Window Button E716 , Removing and Installing”, page 203 .](#)

4 - Exterior Rearview Mirror Adjuster - EX11-

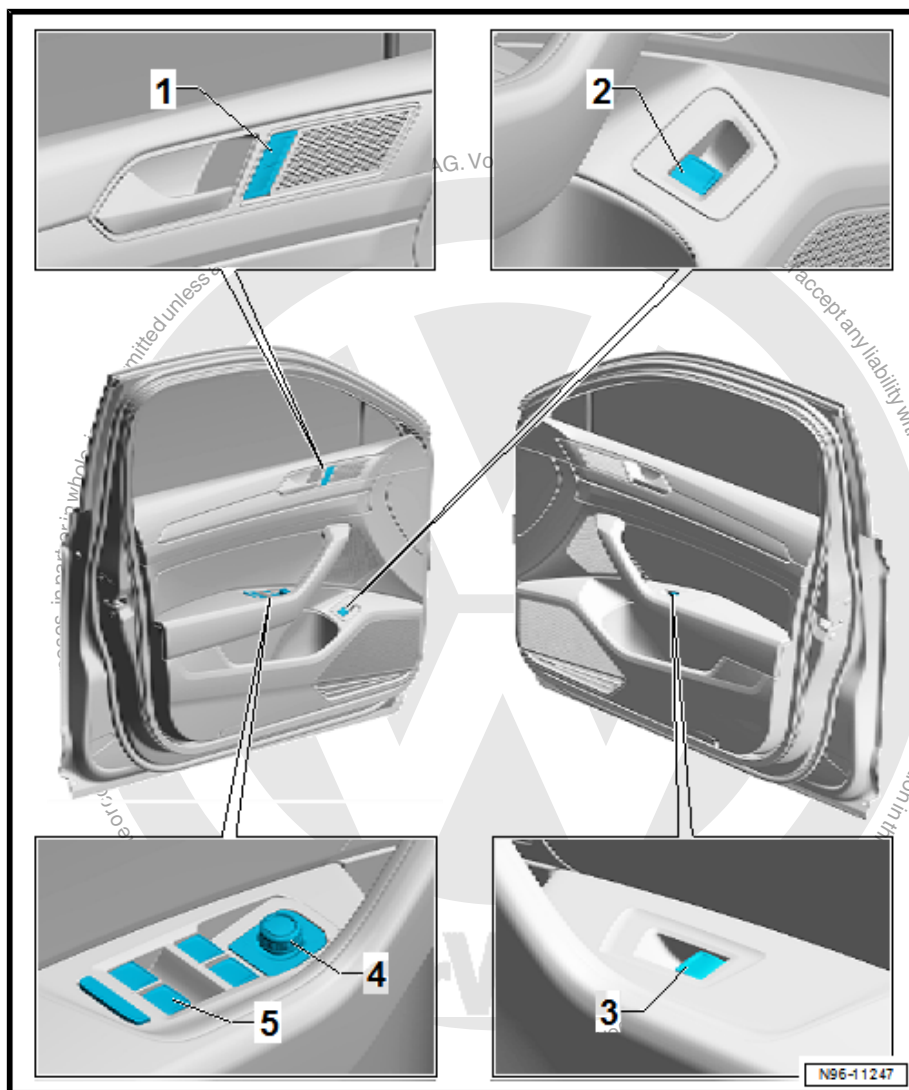
- ❑ Removing and installing. Refer to
⇒ [“2.20 Exterior Rearview Mirror Adjuster EX11 , Removing and Installing”, page 203 .](#)

5 - Power Window Control Head in Driver Door - E512-

- ❑ with:

- ◆ Driver Power Window Button - E710-
- ◆ Front Passenger Power Window Button - E716-
- ◆ Driver Side Rear Power Window Button - E711-
- ◆ Passenger Side Rear Power Window Button - E713-
- ◆ Central Window Regulator Switch in Driver Door - E189-

- ❑ Removing and installing. Refer to
⇒ [“2.21 Power Window Control Head in Driver Door E512 , Removing and Installing”, page 203 .](#)





Not Illustrated:

- ◆ Interior Monitoring and Vehicle Inclination Deactivation Button - E616- . Refer to
⇒ [“3.1 Overview - Interior Monitoring”, page 214](#) .
- ◆ Driver Door Contact Switch - F2- and Front Passenger Door Contact Switch - F3- . Refer to
⇒ [“2.26 Driver and Front Passenger Door Contact Switch F2 / F3 , Removing and Installing”, page 206](#) .

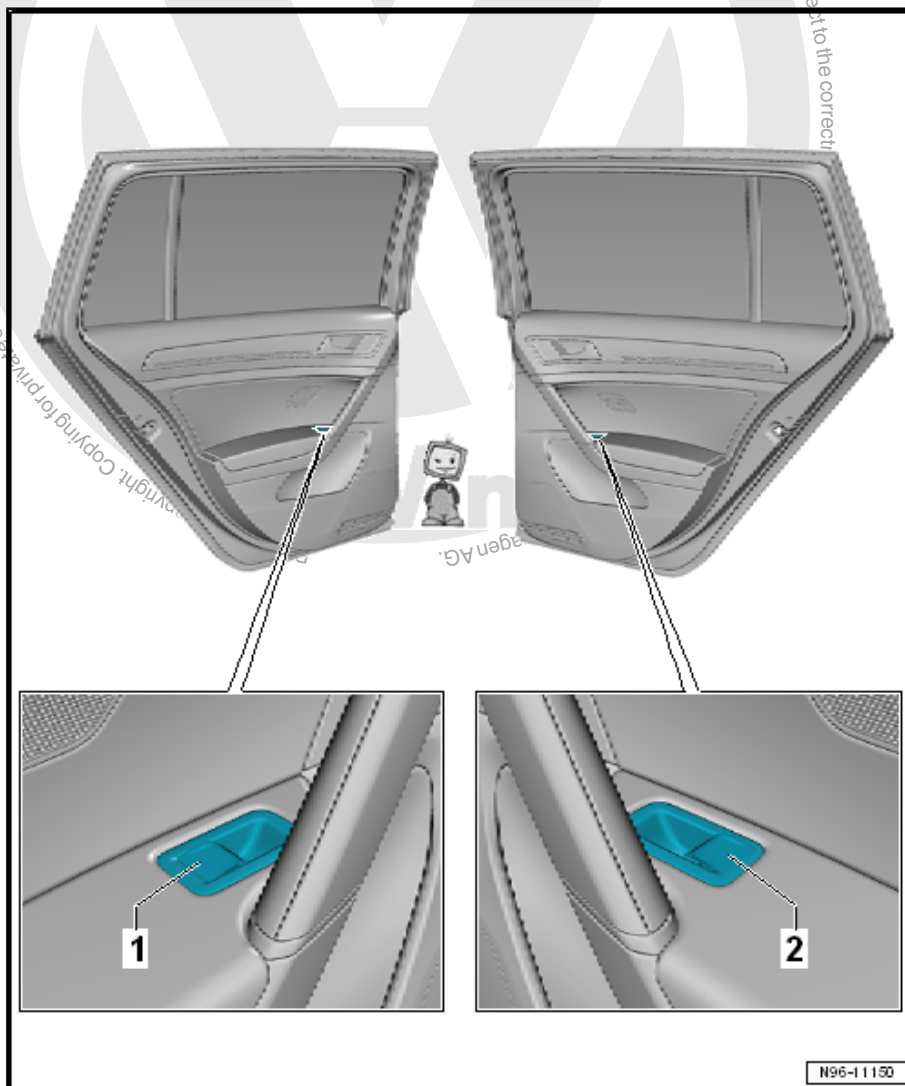
2.3 Component Location Overview - Controls in Rear Doors

1 - Driver Side Rear Power Window Button - E711-

- Removing and installing. Refer to
⇒ [“2.27 Driver and Passenger Side Rear Power Window Button E711 / E713 , Removing and Installing”, page 206](#) .

2 - Passenger Side Rear Power Window Button - E713-

- Removing and installing. Refer to
⇒ [“2.27 Driver and Passenger Side Rear Power Window Button E711 / E713 , Removing and Installing”, page 206](#) .



Not Illustrated:

- ◆ Left Rear Door Contact Switch - F10- and Right Rear Door Contact Switch - F11- . Refer to
⇒ [“2.28 Left and Right Rear Door Contact Switch F10 / F11 , Removing and Installing”, page 206](#) .



2.4 Component Location Overview - Controls in Center Console

1 - Start System Button - E378-

- ❑ Removing and installing. Refer to
⇒ ["2.30 Start System Button E378, Removing and Installing", page 207](#).

2 - Center Console Switch Module 2 - EX30-

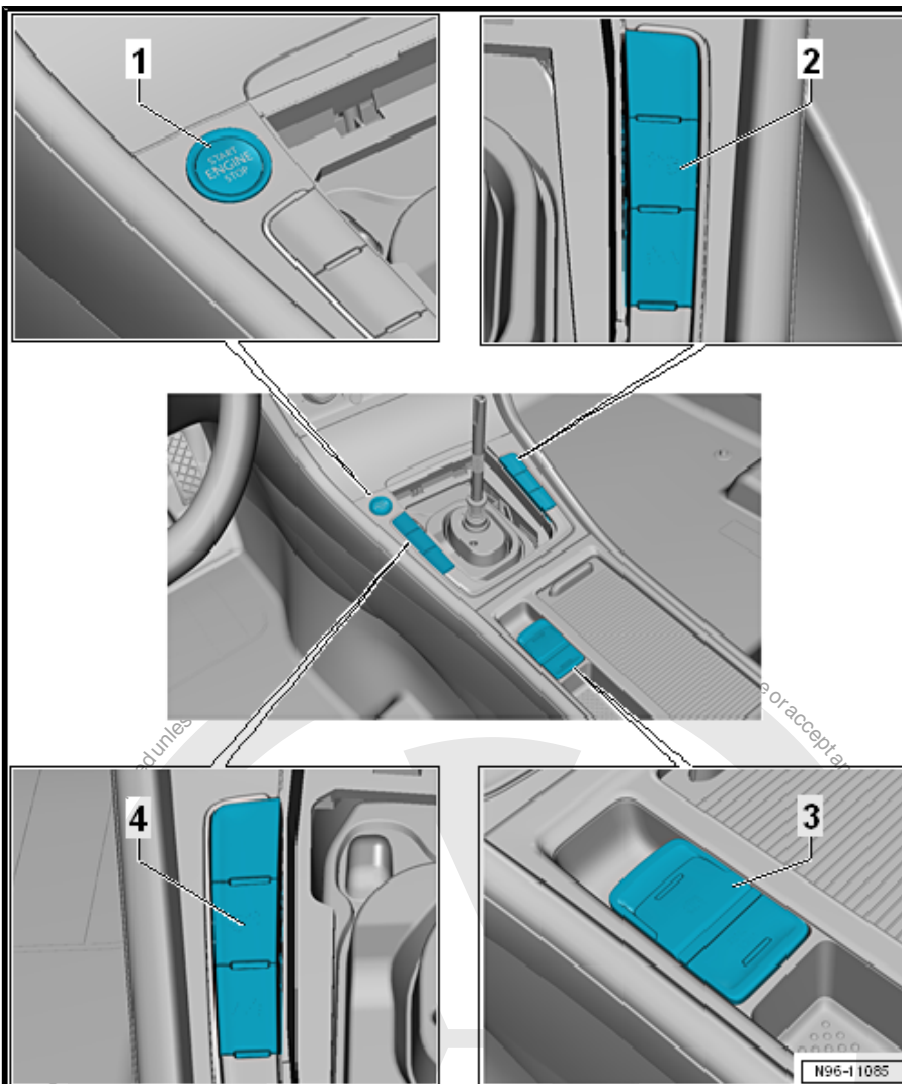
- ◆ Steering Wheel Heating Button - E522-
 - ❑ The individual buttons are installed in the switch module and cannot be replaced separately.
 - ❑ Removing and installing. Refer to
⇒ ["2.16 Center Console Switch Module 1 and 2 EX23 / EX30, Removing and Installing", page 200](#).

3 - Electromechanical Parking Brake Button - E538- and -AUTO HOLD- Button - E540-

- ❑ Removing and installing. Refer to
⇒ ["2.29 Electromechanical Parking Brake Button E538 / -AUTO HOLD- Button E540, Removing and Installing", page 207](#).

4 - Center Console Switch Module 1 - EX23-

- ◆ ASR/ESP Button - E256-
- ◆ Start/Stop Mode Button - E693-
- ◆ Driving Profile Selection Button - E735-
 - ❑ The individual buttons are installed in the switch module and cannot be replaced separately.
 - ❑ Removing and installing. Refer to
⇒ ["2.16 Center Console Switch Module 1 and 2 EX23 / EX30, Removing and Installing", page 200](#).





2.5 Component Location Overview - Controls in Luggage Compartment

1 - Rear Lid Warning Buzzer - H32-

- ❑ Removing and installing. Refer to
⇒ ["2.33 Rear Lid Warning Buzzer H32, Removing and Installing", page 209](#).

2 - Power Pivoting Trailer Hitch Button - E474-

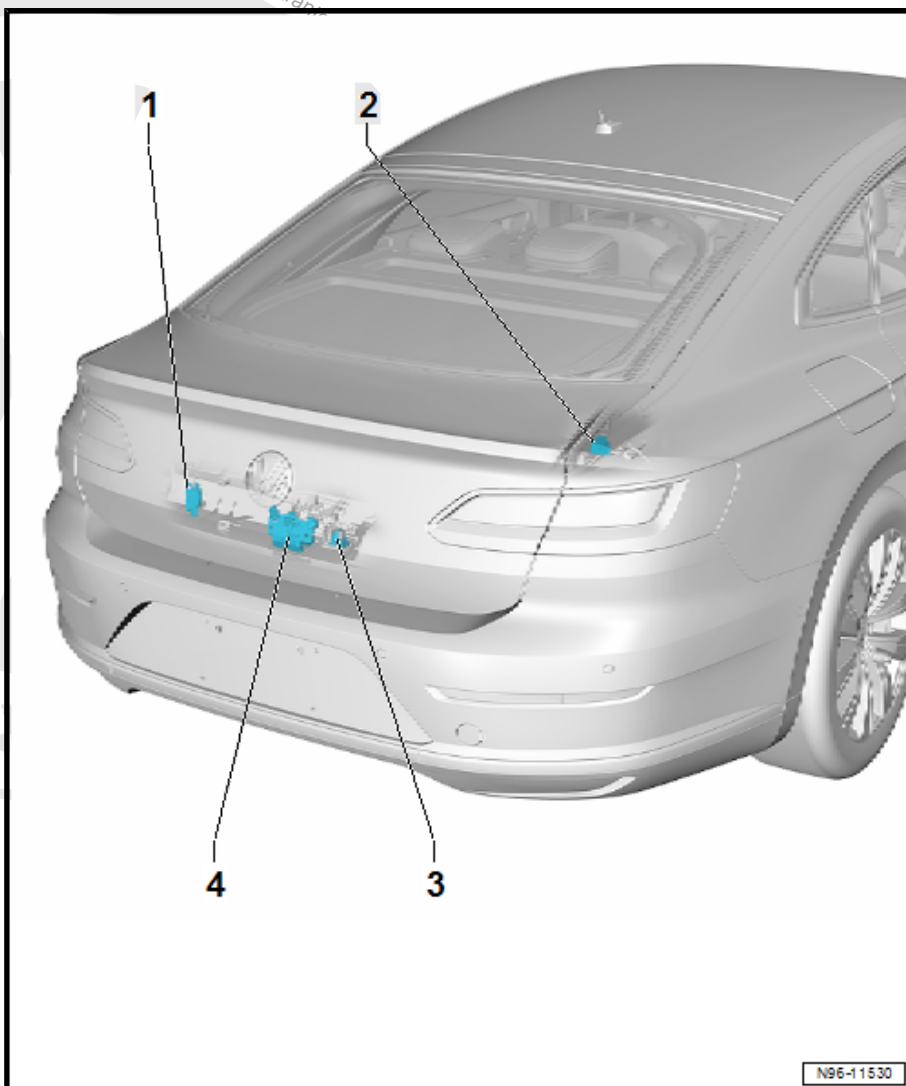
- ❑ Removing and installing. Refer to
⇒ ["2.31 Power Pivoting Trailer Hitch Button E474, Removing and Installing", page 207](#).

3 - Rear Lid Lock Button in Luggage Compartment - E406-

- ❑ Depending on vehicle equipment with Locking Mechanism Button in the Rear Lid - E806-.
- ❑ Removing and installing. Refer to
⇒ ["2.32 Rear Lid Lock Button in Luggage Compartment E406, Removing and Installing", page 208](#).

4 - Rear Lid Contact Switch

- ❑ Rear Lid Alarm Switch - F123-
- ❑ Removing and installing. Refer to
⇒ ["2.34 Rear Lid Contact Switch, Removing and Installing", page 209](#).





2.6 Component Location Overview - Controls in Roof Trim Panel

⇒ [“2.6.1 Component Location Overview - Controls in Roof Trim Panel, Excluding Panel Lighting”, page 195](#)

⇒ [“2.6.2 Component Location Overview - Controls in Roof Trim Panel, Panel Lighting Only”, page 196](#)

2.6.1 Component Location Overview - Controls in Roof Trim Panel, Excluding Panel Lighting

1 - Driver Vanity Mirror Lamp Contact Switch - F147-

- ❑ The vanity mirror contact switch is located in the sun visor mount and cannot be replaced separately if faulty.
- ❑ Removing and installing. Refer to
⇒ [“2.35 Driver and Front Passenger Vanity Mirror Lamp Contact Switch F147 / F148 , Removing and Installing”, page 210](#) .

2 - Button for Rear Interior Lamp - W43-

- ❑ Installed in the Rear Interior Lamp - WX2-
- ❑ Removing and installing. Refer to
⇒ [“2.38 Rear Interior Lamp/Reading Lamp, Removing and Installing”, page 212](#) .

3 - Front Passenger Vanity Mirror Lamp Contact Switch - F148-

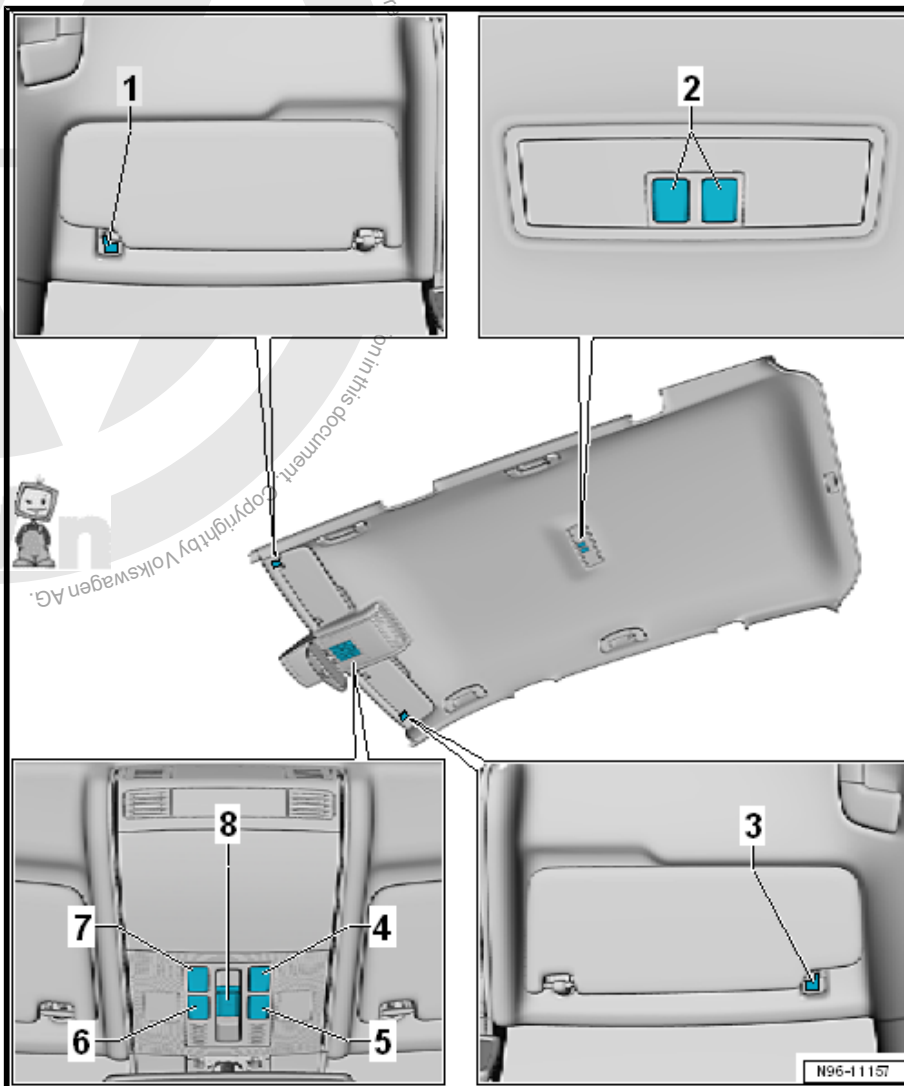
- ❑ The vanity mirror contact switch is located in the sun visor mount and cannot be replaced separately if faulty.
- ❑ Removing and installing. Refer to
⇒ [“2.35 Driver and Front Passenger Vanity Mirror Lamp Contact Switch F147 / F148 , Removing and Installing”, page 210](#) .

4 - Rear Interior Lamp Button - E327-

- ❑ Installed in the Front Interior Lamp - WX1-
- ❑ Removing and installing. Refer to
⇒ [“2.38 Rear Interior Lamp/Reading Lamp, Removing and Installing”, page 212](#) .

5 - Right Front Reading Lamp Button - E634-

- ❑ Installed in the Front Interior Lamp - WX1-
- ❑ Removing and installing. Refer to
⇒ [“2.39 Left and Right Front Reading Lamp Button E633 / E634 , Removing and Installing”, page 213](#) .



6 - Right Front Reading Lamp Button - E634-

- ❑ Installed in the Front Interior Lamp - WX1-
- ❑ Removing and installing. Refer to
⇒ ["2.37 Front Interior Lamp/Reading Lamp, Removing and Installing", page 210](#) .

7 - Button for Door Opener Illumination

- ❑ Installed in the Front Interior Lamp - WX1-
- ❑ Removing and installing. Refer to
⇒ ["2.37 Front Interior Lamp/Reading Lamp, Removing and Installing", page 210](#) .

8 - Sunroof Button - E325-

- ❑ Screw tightening specification: 1 Nm.
- ❑ Installed in the Front Interior Lamp - WX1-
- ❑ Removing and installing. Refer to ⇒ ["2.36 Sunroof Button E325, Removing and Installing", page 210](#) .

2.6.2 Component Location Overview - Controls in Roof Trim Panel, Panel Lighting Only

1 - Driver Vanity Mirror Lamp Contact Switch - F147-

- ❑ The vanity mirror contact switch is located in the sun visor mount and cannot be replaced separately if faulty.
- ❑ Removing and installing. Refer to
⇒ ["2.35 Driver and Front Passenger Vanity Mirror Lamp Contact Switch F147 / F148, Removing and Installing", page 210](#) .

2 - Button for Rear Interior Lamp - W43-

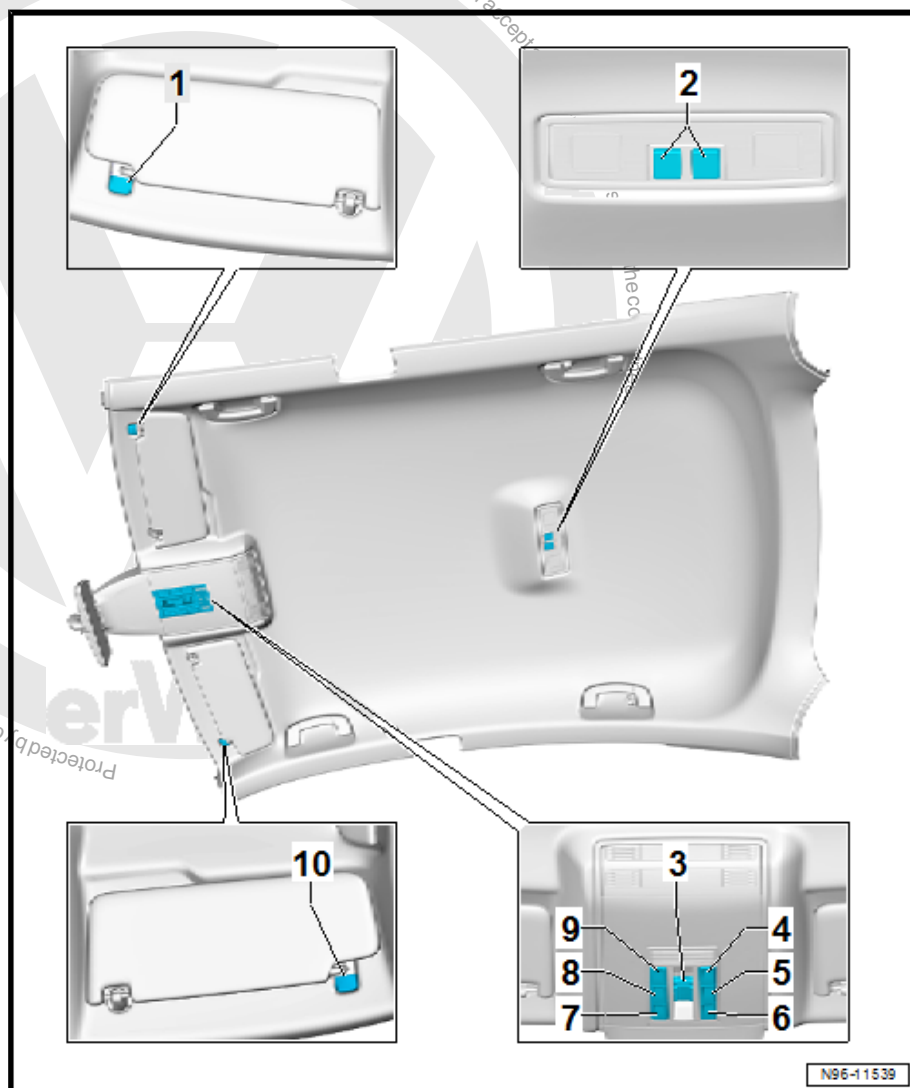
- ❑ Installed in the Rear Interior Lamp - WX2-
- ❑ Removing and installing. Refer to
⇒ ["2.38 Rear Interior Lamp/Reading Lamp, Removing and Installing", page 212](#) .

3 - Sunroof Button - E325-

- ❑ Installed in the Front Interior Lamp - WX1-
- ❑ Removing and installing. Refer to
⇒ ["2.36 Sunroof Button E325, Removing and Installing", page 210](#) .
- ❑ Screw tightening specification: 0.65 Nm.

4 - Front Interior Lamp - W1-Button

- ❑ To switch the Front Interior Lamp - W1- on and off
- ❑ Installed in the Front Interior Lamp - WX1-





- ☐ Removing and installing. Refer to
⇒ [“2.37 Front Interior Lamp/Reading Lamp, Removing and Installing”, page 210](#) .

5 - Right Front Reading Lamp Button - E634-

- ☐ Installed in the Front Interior Lamp - WX1-
- ☐ Removing and installing. Refer to
⇒ [“2.39 Left and Right Front Reading Lamp Button E633 / E634 , Removing and Installing”, page 213](#) .

6 - Panel Lighting Button

- ☐ Installed in the Front Interior Lamp - WX1-
- ☐ Removing and installing. Refer to
⇒ [“2.37 Front Interior Lamp/Reading Lamp, Removing and Installing”, page 210](#) .

7 - Button for Door Opener Illumination

- ☐ Installed in the Front Interior Lamp - WX1-
- ☐ Removing and installing. Refer to
⇒ [“2.37.2 Front Interior Lamp/Reading Lamp, Removing and Installing, Panel Lighting Only”, page 211](#) .

8 - Left Front Reading Lamp Button - E633-

- ☐ To switch the Front Interior Lamp - W1- on and off
- ☐ Removing and installing. Refer to
⇒ [“2.39 Left and Right Front Reading Lamp Button E633 / E634 , Removing and Installing”, page 213](#) .

9 - Rear Interior Lamp Button - E327-

- ☐ Installed in the Front Interior Lamp - WX1-
- ☐ Removing and installing. Refer to
⇒ [“2.38 Rear Interior Lamp/Reading Lamp, Removing and Installing”, page 212](#) .

10 - Front Passenger Vanity Mirror Lamp Contact Switch - F148-

- ☐ The vanity mirror contact switch is located in the sun visor mount and cannot be replaced separately if faulty.
- ☐ Removing and installing. Refer to
⇒ [“2.35 Driver and Front Passenger Vanity Mirror Lamp Contact Switch F147 / F148 , Removing and Installing”, page 210](#) .

2.7 Rotary Light Switch - EX1- , Removing and Installing

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-



Caution

Risk of damaging the component surfaces.

- ◆ *When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.*

Removing

- Turn the light switch to position “0”.



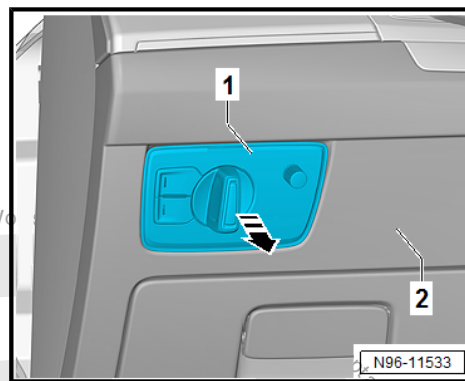
- Unclip the Rotary Light Switch - EX1- -1- toward the rear out of the instrument panel -2- -arrow-.

If the rotary light switch cannot be removed as described, then:

- Remove the driver side storage compartment. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers .
- Push the Rotary Light Switch - EX1- -1- toward the rear in direction of -arrow- through the opening in the instrument panel.
- Disconnect the connectors and remove the Rotary Light Switch - EX1- -1-.

Installing

Install in reverse order of removal.



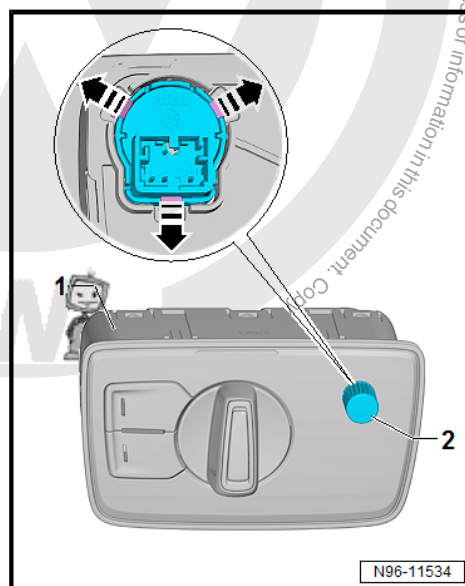
2.8 Windshield Projection Head Up Display Button - E736- , Removing and Installing

Removing

- Remove the Rotary Light Switch - EX1- . Refer to ⇒ ["2.7 Rotary Light Switch EX1 , Removing and Installing", page 197](#) .
- Release the retainers in direction of -arrows-.
- Push the Windshield Projection Head Up Display Button - E736- -2- toward the rear out of the Rotary Light Switch - EX1- -1-.

Installing

Install in reverse order of removal.





2.9 Steering Wheel Heating Button - E522- , Removing and Installing

Refer to

⇒ "2.16 Center Console Switch Module 1 and 2 EX23 / EX30 ,
Removing and Installing", page 200 .

2.10 Driving Profile Selection Button - E735- , Removing and Installing

Refer to

⇒ "2.16 Center Console Switch Module 1 and 2 EX23 / EX30 ,
Removing and Installing", page 200 .

2.11 Start/Stop Mode Button - E693- , Re- moving and Installing

Refer to

⇒ "2.16 Center Console Switch Module 1 and 2 EX23 / EX30 ,
Removing and Installing", page 200 .

2.12 ASR/ESP Button - E256- , Removing and Installing

Refer to

⇒ "2.16 Center Console Switch Module 1 and 2 EX23 / EX30 ,
Removing and Installing", page 200 .

2.13 Parking Aid Button - E266- , Removing and Installing

Refer to

⇒ "2.15 Switch Module in Instrument Panel, Center EX22 , Re-
moving and Installing", page 199 .

2.14 Parallel Parking Assistance Button - E581- , Removing and Installing

Refer to

⇒ "2.15 Switch Module in Instrument Panel, Center EX22 , Re-
moving and Installing", page 199 .

2.15 Switch Module in Instrument Panel, Center - EX22- , Removing and Instal- ling

Special tools and workshop equipment required

- ◆ Torque Screwdriver - VAG1624-

Removing

- Removing and Installing the instrument panel decorative trim.
Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel;
Instrument Panel Decorative Trim, Removing and Installing .



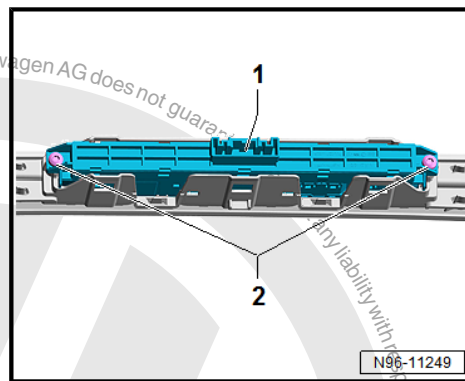
- Remove the bolts -2- on the back of the decorative trim.
- Remove the Switch Module in Instrument Panel, Center-EX22- -1- from the decorative trim.

Installing

Install in reverse order of removal.

Tightening Specifications

Component	Tightening Specification
Bolt to instrument panel decorative trim	2 Nm



2.16 Center Console Switch Module 1 and 2 -EX23- / -EX30- , Removing and Installing

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-



Caution

Risk of damaging the component surfaces.

- ◆ *When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.*



Note

- ◆ Depending on vehicle equipment, the following buttons are combined into two button modules and are installed next to the selector lever on the left and right sides. The same procedure is used to remove and install the button modules. The procedure is only described for one button module. Removed button modules cannot be disassembled further.
- ◆ The removal and installation is described for the left side. The removal and installation on the right side is similar.

Center Console Switch Module 1 - EX23-

- ◆ ASR/ESP Button - E256-
- ◆ Start/Stop Mode Button - E693-
- ◆ Driving Profile Selection Button - E735-

Center Console Switch Module 2 - EX30-

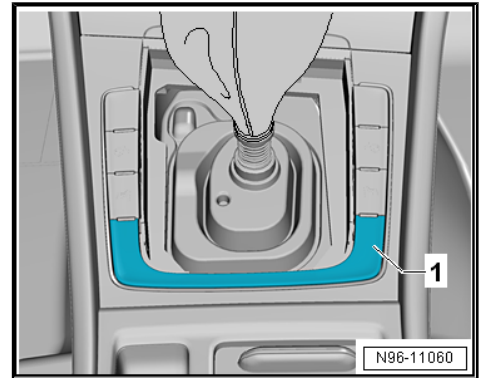
- ◆ Steering Wheel Heating Button - E522-

Removing

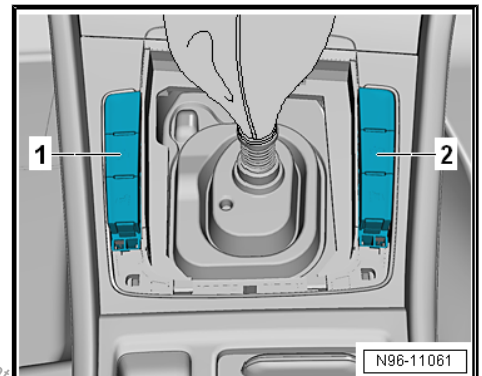
- Turn off the ignition and all electrical equipment.
- Unclip the shift lever boot upward from the center console. Refer to ⇒ Rep. Gr. 34 ; Selector Mechanism; Gearshift Knob, Removing and Installing .



- Pry the trim -1- up using the -3409- .



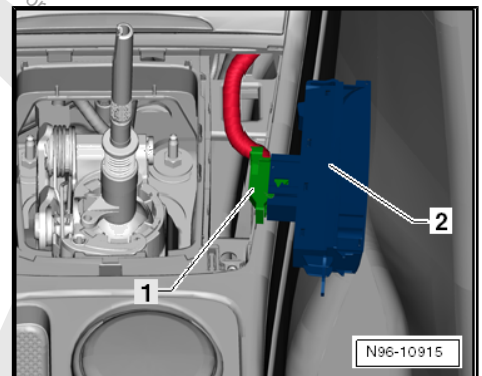
- Lift the driver side button module -1- or the front passenger side button module -2- upward from the center console.



- Disconnect the connector -1- and remove the button module -2-.

If the driver side button module cannot be removed as described, then:

- Remove the center console insert. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Center Console; Center Console Insert, Removing and Installing .
- Unclip the driver side button module from the bottom of the center console insert.



Installing

Install in reverse order of removal.

2.17 Emergency Flasher Switch - EX3- , Removing and Installing

The Emergency Flasher Switch - EX3- is integrated in the Switch Module in Instrument Panel, Center - EX22- and cannot be replaced separately.

Switch Module in Instrument Panel, Center - EX22- , Removing and installing. Refer to

⇒ ["2.15 Switch Module in Instrument Panel, Center EX22 , Removing and Installing", page 199](#) .



2.18 Left and Right Seat Heating Button - E653- / -E654- , Removing and Installing



Note

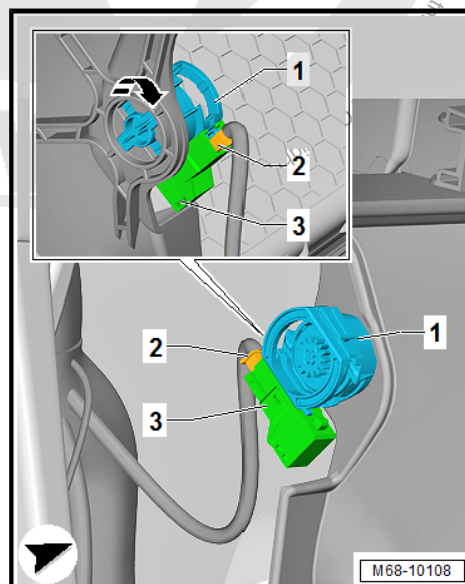
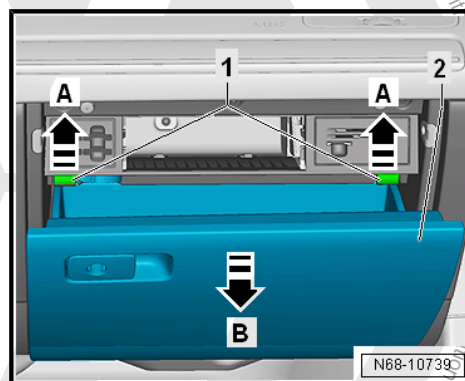
The seat heating buttons are integrated in the Heater Control Module - J65- / A/C Control Module - J301- / Climatronic Control Module - J255- display control head. Components cannot be replaced separately if faulty.

- Heater Control Module - J65- / A/C Control Module - J301- / Climatronic Control Module - J255- removing and installing. Refer to ⇒ Heating, Ventilation, and Air Conditioning; Rep. Gr. 87 ; Display Control Head; Component Location Overview - Display Control Head .

2.19 Glove Compartment Lamp Switch - E26- , Removing and Installing

Removing

- Open the glove compartment lid -2-.
- Push the stop -1- for the glove compartment lid -2- upward in direction of -A arrows-.
- At the same time, open the glove compartment lid -2- further in direction of -arrow B-. While doing so, carefully remove the damping element shaft from the damper.
- Release and disconnect the connector -2- from the Glove Compartment Lamp Switch - E26- -3-.
- Turn the damper -1- with the Glove Compartment Lamp Switch - E26- -3- 90° (1/4 turn) in the direction of -arrow- and remove from the glove compartment.



Installing

Install in reverse order of removal and note the following:



Note

If the damping element falls out of the damper, then place the damping element in the correct installation position in the damper.



Caution

Carefully install the shaft in the damper in the correct installation position.

- Perform a function test.



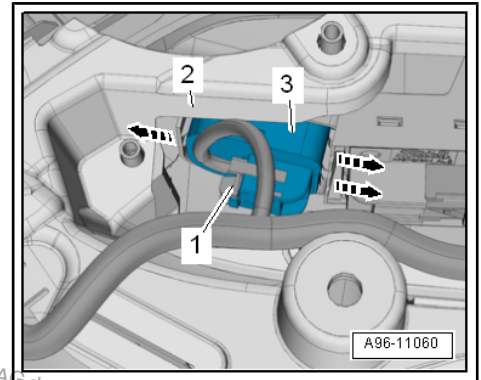
2.20 Exterior Rearview Mirror Adjuster - EX11- , Removing and Installing

Removing

- Remove the front armrest. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Front Door Trim Panels; Front Armrest, Removing and Installing .
- Release and disconnect the connector -1-.
- Carefully release the retainers using a small screwdriver in direction of -arrows-.
- Remove the Exterior Rearview Mirror Adjuster - EX11- -3- from the switch mount -2-.

Installing

Install in reverse order of removal.



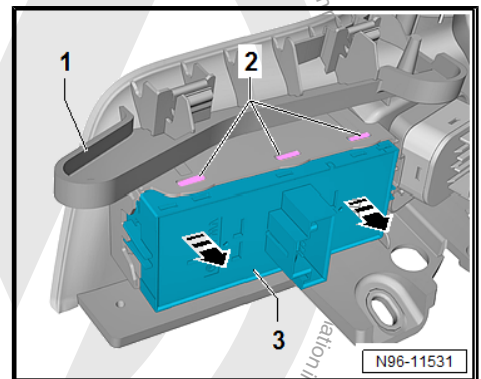
2.21 Power Window Control Head in Driver Door - E512- , Removing and Installing

Removing

- Remove the front armrest. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Front Door Trim Panels; Front Armrest, Removing and Installing .
- Release the retainers -2- on both sides using a small screwdriver.
- Remove the Power Window Control Head in Driver Door - E512- -3- from the switch mount -1-.
- Release and disconnect the connector on the Power Window Control Head in Driver Door - E512- -3-.

Installing

Install in reverse order of removal.



2.22 Front Passenger Power Window Button - E716- , Removing and Installing

Removing

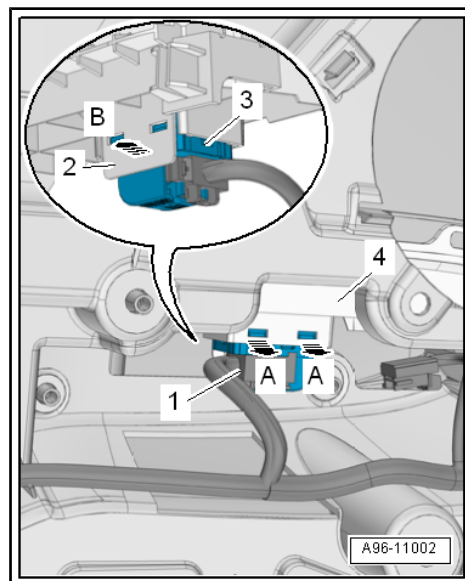
- Remove the front armrest. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Front Door Trim Panels; Front Armrest, Removing and Installing .



- Release the hook in the direction of the -arrow A- with a small screwdriver.
- Release the mounting tab -2- in the direction of the -arrow B-.
- Take the Front Passenger Power Window Button - E716- -3- out of the switch mount and remove it toward the rear.
- Release and disconnect the connector -1-.

Installing

Install in reverse order of removal.



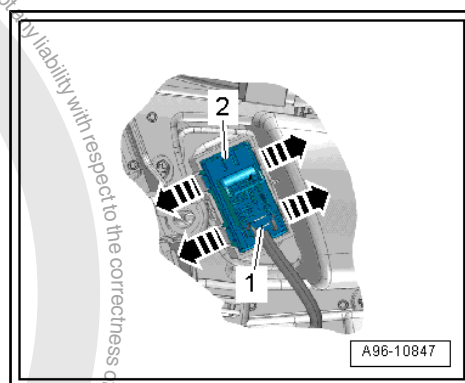
2.23 Driver Interior Locking Button - E308- , Removing and Installing

Removing

- Remove the decorative trim on the front door trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Front Door Trim Panels; Decorative Trim, Removing and Installing .
- Release and disconnect the connector -1-.
- Open the clips in direction of -arrows- and remove the Driver Interior Locking Button - E308- outward.

Installing

Install in reverse order of removal.



2.24 Rear Lid Remote Release Button - E233- , Removing and Installing

Removing

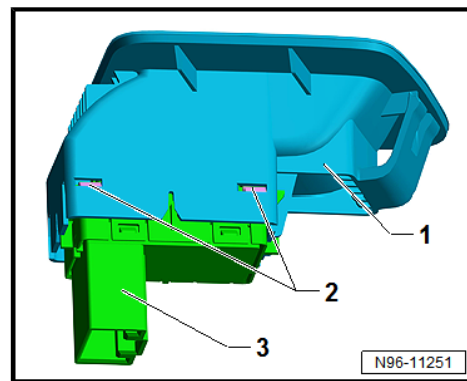
- Remove the front door trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Front Door Trim Panels; Front Door Trim Panel, Removing and Installing .



Note

For reasons of clarity, the front door trim panel is not illustrated.

- Release the catches -2- on both sides using a small screwdriver.
- Remove the Rear Lid Remote Release Button - E233- -3- from the trim -1-.
- Release and disconnect the connector on the Rear Lid Remote Release Button - E233- -3-.



Installing

Install in reverse order of removal and note the following:

- Perform a function test.

2.25 Interior Monitoring and Vehicle Inclination Deactivation Button - E616- , Removing and Installing

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-

Removing



Caution

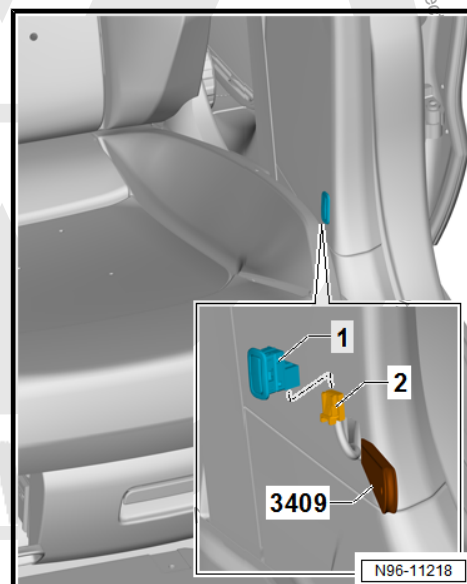
Risk of damaging the component surfaces.

- ◆ ***When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.***

- Pry out the Interior Monitoring and Vehicle Inclination Deactivation Button - E616- -1- using the -3409- or a screwdriver at the lower edge.
- Remove the button from the B-pillar trim panel.
- Release and disconnect the connector -2-.

Installing

Install in reverse order of removal.





2.26 Driver and Front Passenger Door Contact Switch -F2- / -F3- , Removing and Installing



Note

The door contact switch is installed in the door lock and cannot be replaced individually when faulty.

- Front Door Lock, Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 57 ; Door Components; Door Lock, Removing and Installing .

2.27 Driver and Passenger Side Rear Power Window Button -E711- / -E713- , Removing and Installing



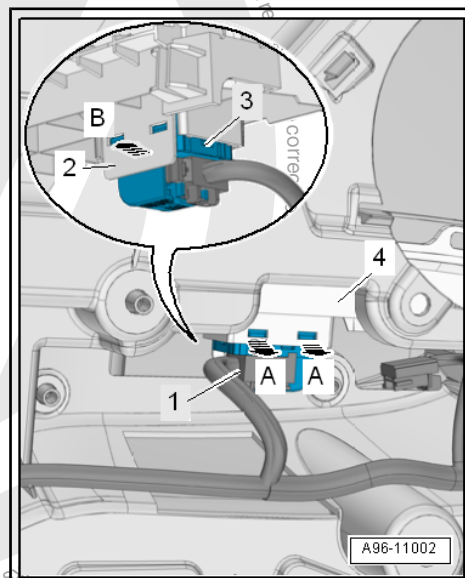
Note

The removal and installation is described for the left side. The removal and installation on the right side is similar.

- Remove the rear armrest. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Rear Door Trim Panels; Rear Armrest, Removing and Installing .
- Release the hook in the direction of the -arrow A- with a small screwdriver.
- Release the mounting tab -2- in the direction of the -arrow B-.
- Take the power window switch -3- out of the switch mount and remove it to the rear.
- Release and disconnect the connector -1-.

Installing

Install in reverse order of removal.



2.28 Left and Right Rear Door Contact Switch -F10- / -F11- , Removing and Installing



Note

The door contact switch is installed in the door lock and cannot be replaced individually when faulty.



- Rear Door Lock, Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 58 ; Door Components; Door Lock, Removing and Installing .

2.29 Electromechanical Parking Brake Button - E538- / -AUTO HOLD- Button - E540- , Removing and Installing



Note

The Electromechanical Parking Brake Button - E538- and the - AUTO HOLD- Button - E540- are one component and cannot be separated.

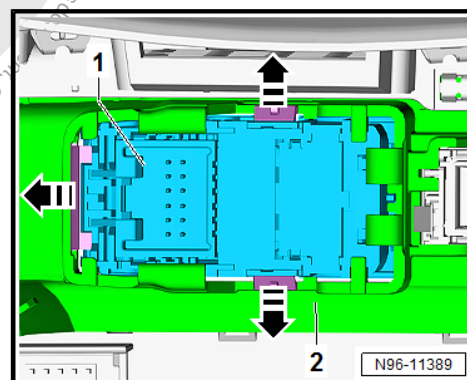
Removing

- Remove the center console. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Center Console; Center Console, Removing and Installing
- Release the retaining tab from the shift cover -2- in the direction of -arrow-.
- Remove the Electromechanical Parking Brake Button - E538- -1- upward from the center console insert -2-.

Installing

Install in reverse order of removal and note the following:

- Perform a function test.



2.30 Start System Button - E378- , Removing and Installing

Removing

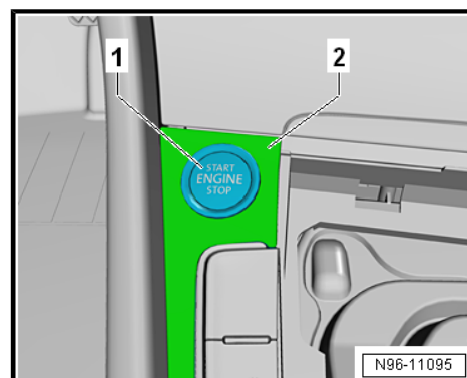
- Unclip the shift lever boot upward from the center console. Refer to ⇒ Rep. Gr. 34 ; Selector Mechanism; Gearshift Knob, Removing and Installing .
- Remove the Start System Button - E378- -1- from below out of the center console -2-. The clips are opened at the same time.
- Disconnect the connectors.

If the Start System Button - E378- cannot be removed as described, then:

- Remove the center console insert. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Center Console; Center Console Insert, Removing and Installing .
- Push the Start System Button - E378- out of the center console insert from the bottom.

Installing

Install in reverse order of removal.



2.31 Power Pivoting Trailer Hitch Button - E474- , Removing and Installing

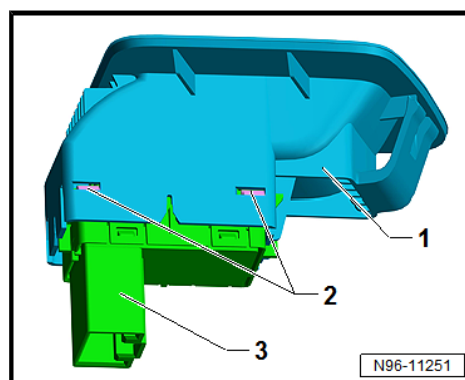
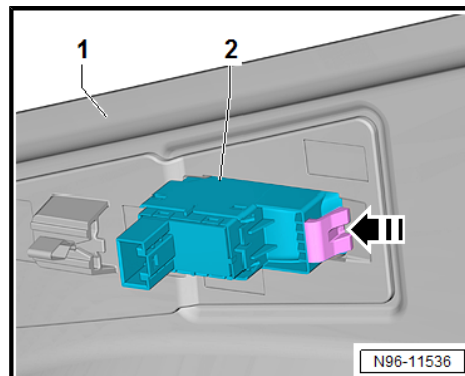
Special tools and workshop equipment required



◆ Trim Removal Wedge - 3409-

Removing

- Loosen the luggage compartment side trim panel -1- until the trim with the Power Pivoting Trailer Hitch Button - E474- -2- is accessible. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Luggage Compartment Trim Panels; Luggage Compartment Side Trim Panel, Removing and Installing .
- Release and disconnect the connector from the Power Pivoting Trailer Hitch Button - E474- .
- Release the trim retaining tabs -2- on the back of the luggage compartment side trim panel -1- in the direction of -arrow-.
- Pivot the trim -2- with the Power Pivoting Trailer Hitch Button - E474- inward and out of the luggage compartment side trim panel -1-.
- Release the retainers -2- on both sides using a small screwdriver.
- Remove the Power Pivoting Trailer Hitch Button - E474- -3- from the trim -1-.



Installing

Install in reverse order of removal and note the following:

- Perform a function test.

2.32 Rear Lid Lock Button in Luggage Compartment - E406- , Removing and Installing

Special tools and workshop equipment required

◆ Wedge Set - T10383-

Depending on vehicle equipment the Locking Mechanism Button in The Rear Lid - E806- can be additionally installed. If this is the case the Rear Lid Lock Button in Luggage Compartment - E406- and the Locking Mechanism Button in The Rear Lid - E806- are combined in a shared component.

Removing



Caution

Risk of damaging the component surfaces.

- ◆ ***When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.***



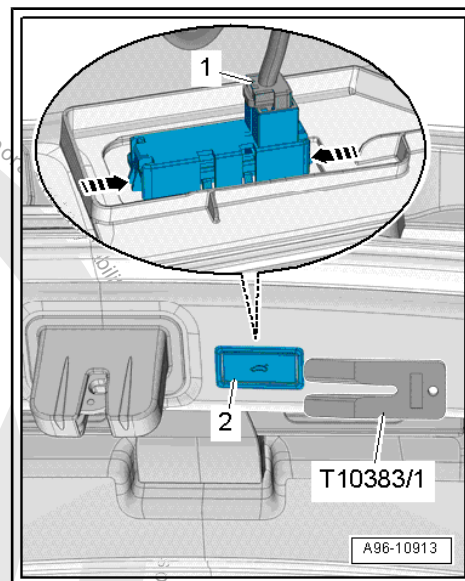
- Release the catches in direction of -arrows- on the Rear Lid Lock Button in Luggage Compartment - E406- -2- using the - T10383/1- .
- Remove the Rear Lid Lock Button in Luggage Compartment - E406- -2- from the rear lid lower trim panel.
- Release and disconnect the connector -1-.

If the Rear Lid Lock Button in Luggage Compartment - E406- cannot be removed as described, then:

- Remove the rear lid lower trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Luggage Compartment Trim Panels; Rear Lid Lower Trim Panel, Removing and Installing .
- Unclip the Rear Lid Lock Button in Luggage Compartment - E406- from the rear lid lower trim panel from the inside.

Installing

Install in reverse order of removal.



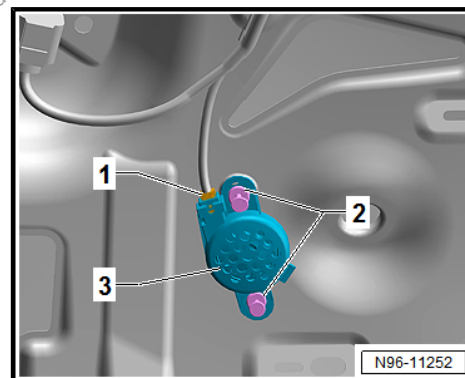
2.33 Rear Lid Warning Buzzer - H32- , Removing and Installing

Removing

- Remove the rear lid lower trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Luggage Compartment Trim Panels; Rear Lid Lower Trim Panel, Removing and Installing .
- Release and disconnect the connector -1-.
- Pry out the expanding clip -2-.
- Remove the Rear Lid Warning Buzzer - H32- -3-.

Installing

Install in reverse order of removal.



2.34 Rear Lid Contact Switch, Removing and Installing



Note

The rear lid contact switch is installed in the rear lid latch and cannot be replaced separately.

- Rear Lid Latch, Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 55 ; Rear Lid; Latch, Removing and Installing .



2.35 Driver and Front Passenger Vanity Mirror Lamp Contact Switch -F147- / -F148- , Removing and Installing



Note

The vanity mirror contact switch is installed in the sun visor mount and cannot be replaced separately if faulty.

- Sun Visor, Removing and installing. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Vehicle Equipment; Sun Visor, Removing and Installing .

2.36 Sunroof Button - E325- , Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Screwdriver - VAG1624-

Removing

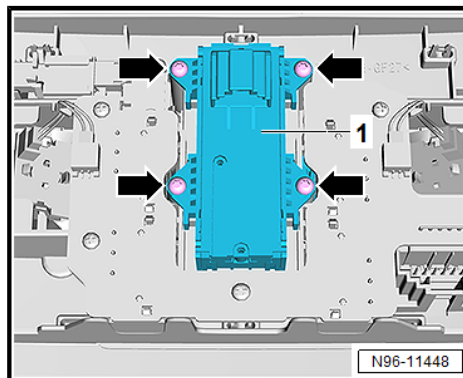
- Remove the Front Interior Lamp - WX1- . Refer to ⇒ ["2.37 Front Interior Lamp/Reading Lamp, Removing and Installing", page 210](#) .
- Remove the screws -arrows-.
- Remove the Sunroof Button - E325- -1- from the Front Interior Lamp - WX1- .

Installing

Install in reverse order of removal.

Tightening Specifications

- ◆ Refer to ⇒ ["2.6 Component Location Overview - Controls in Roof Trim Panel", page 195](#)



2.37 Front Interior Lamp/Reading Lamp, Removing and Installing

⇒ ["2.37.1 Front Interior Lamp/Reading Lamp, Removing and Installing, Excluding Panel Lighting", page 210](#)

⇒ ["2.37.2 Front Interior Lamp/Reading Lamp, Removing and Installing, Panel Lighting Only", page 211](#)

2.37.1 Front Interior Lamp/Reading Lamp, Removing and Installing, Excluding Panel Lighting

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-



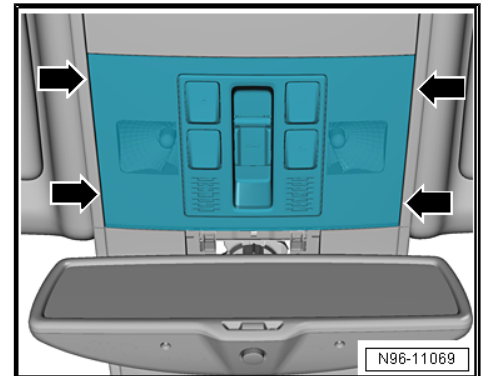
Note

The switch module is a component of the Front Interior Lamp - WX1- and cannot be removed separately.



Removing

- Remove the mirror base cover. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Interior Rearview Mirror; Overview - Interior Rearview Mirror .
- Using the -3409- , pry the diffusion lens off the Front Interior Lamp - WX1- in the areas marked by -arrows-.
- Disconnect the connectors.

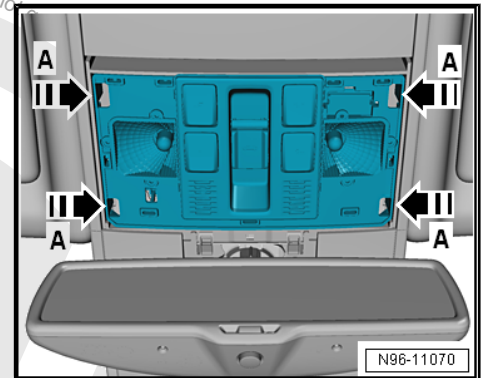


- Push the catches in the direction of the -arrow A- and remove the Front Interior Lamp - WX1- .
- Disconnect the connectors.

Installing

Install in reverse order of removal and note the following:

- Install the Front Interior Lamp - WX1- in the roof opening.
- Install the diffusion lens in the Front Interior Lamp - WX1- .



2.37.2 Front Interior Lamp/Reading Lamp, Removing and Installing, Panel Lighting Only

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-
- ◆ Torque Screwdriver - VAG1624-

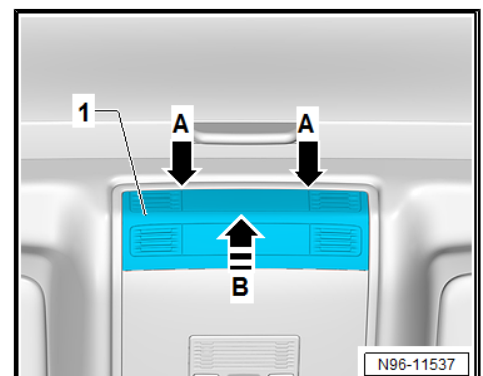


Note

The switch module is a component of the Front Interior Lamp - WX1- and cannot be removed separately.

Removing

- Loosen the cover -1- using the -3409- out of the headliner storage compartment -arrow A-.
- Remove the cover -1- from the headliner storage compartment in direction of -arrow B-.

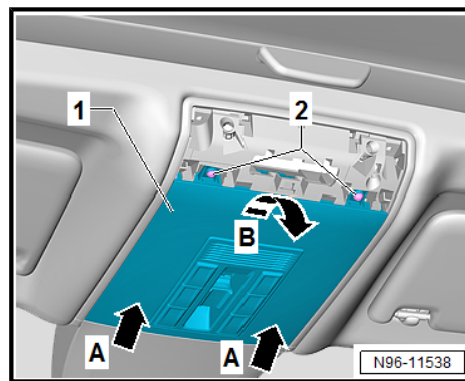




- Remove the bolts -2-.
- Tilt the Front Interior Lamp - WX1- -1- downward in direction of -arrow B- and remove it from the frame toward the rear -arrow A-.
- Disconnect the connectors.

Installing

Install in reverse order of removal.



2.38 Rear Interior Lamp/Reading Lamp, Removing and Installing

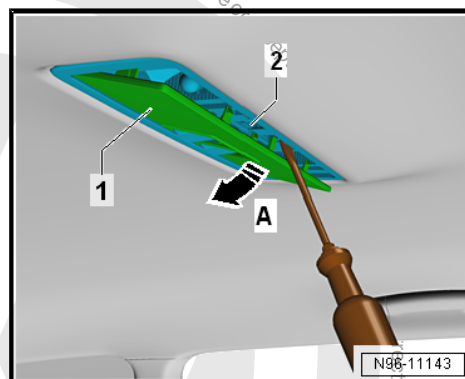
Removing



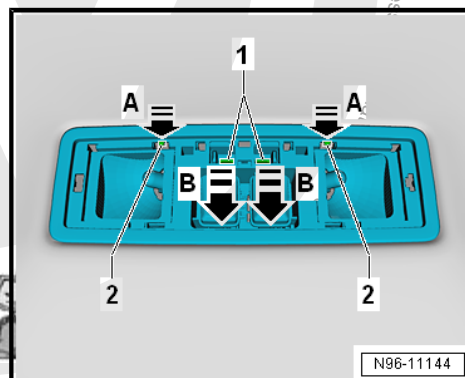
Note

- ♦ The buttons are a permanent component of the Rear Interior Lamp - WX2- and cannot be removed separately.
- ♦ The Rear Interior Lamp - WX2- is held in place by a dual-stage locking mechanism.

- Pry out the diffusion lens -1- in the direction of the -arrow A- using a narrow screwdriver, for example.
- Remove the diffusion lens -1- from the Rear Interior Lamp - WX2- -2-.



- Release the catches -2- for example with a narrow screwdriver in the direction of the -arrow A-.
- Push the locking mechanism -1- in the direction of the -arrow B-.





- Remove the Rear Interior Lamp - WX2- -1- out of the roof opening in the direction of the -arrow A-.
- Release the connector lock in the direction of the -arrow B- and disconnect the connector in the direction of the -arrow C-.

Installing

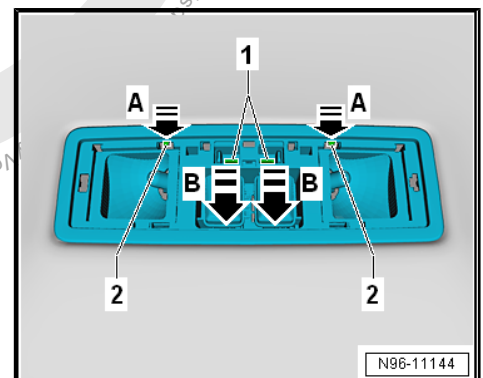
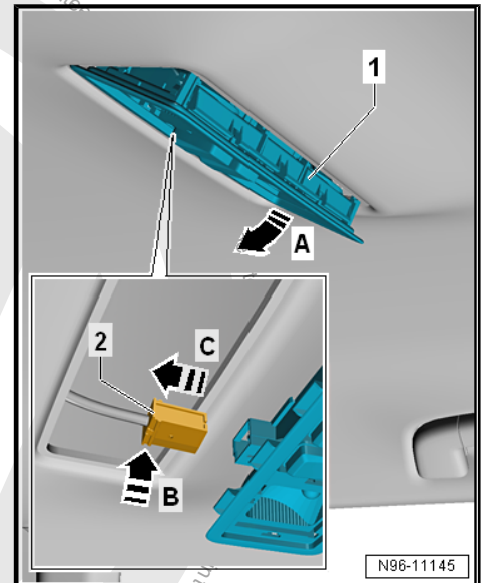
Install in reverse order of removal and note the following:



Note

The connector must point in the direction of travel.

- Push the locking mechanism -1- opposite the direction of the -arrow B-. The catches -2- must engage securely.



2.39 Left and Right Front Reading Lamp Button -E633- / -E634- , Removing and Installing



Note

The Left Front Reading Lamp Button - E633- / Right Front Reading Lamp Button - E634- is a component of the interior lamp/reading lamp and cannot be replaced separately.

Removing

- Front interior lamp/reading lamp, removing and installing. Refer to
⇒ ["2.37 Front Interior Lamp/Reading Lamp, Removing and Installing", page 210](#) .

Installing

Install in reverse order of removal.



3 Anti-Theft Alarm System

⇒ [“3.1 Overview - Interior Monitoring”, page 214](#)

⇒ [“3.2 Alarm Horn H12, Removing and Installing”, page 214](#)

⇒ [“3.3 Anti-Theft Alarm System Sensor G578, Removing and Installing”, page 215](#)

3.1 Overview - Interior Monitoring

1 - Alarm Horn - H12-

- ☐ Nut tightening specification: 6 Nm
- ☐ Removing and installing. Refer to
⇒ [“3.2 Alarm Horn H12, Removing and Installing”, page 214](#).

2 - Anti-Theft Alarm System Sensor - G578-

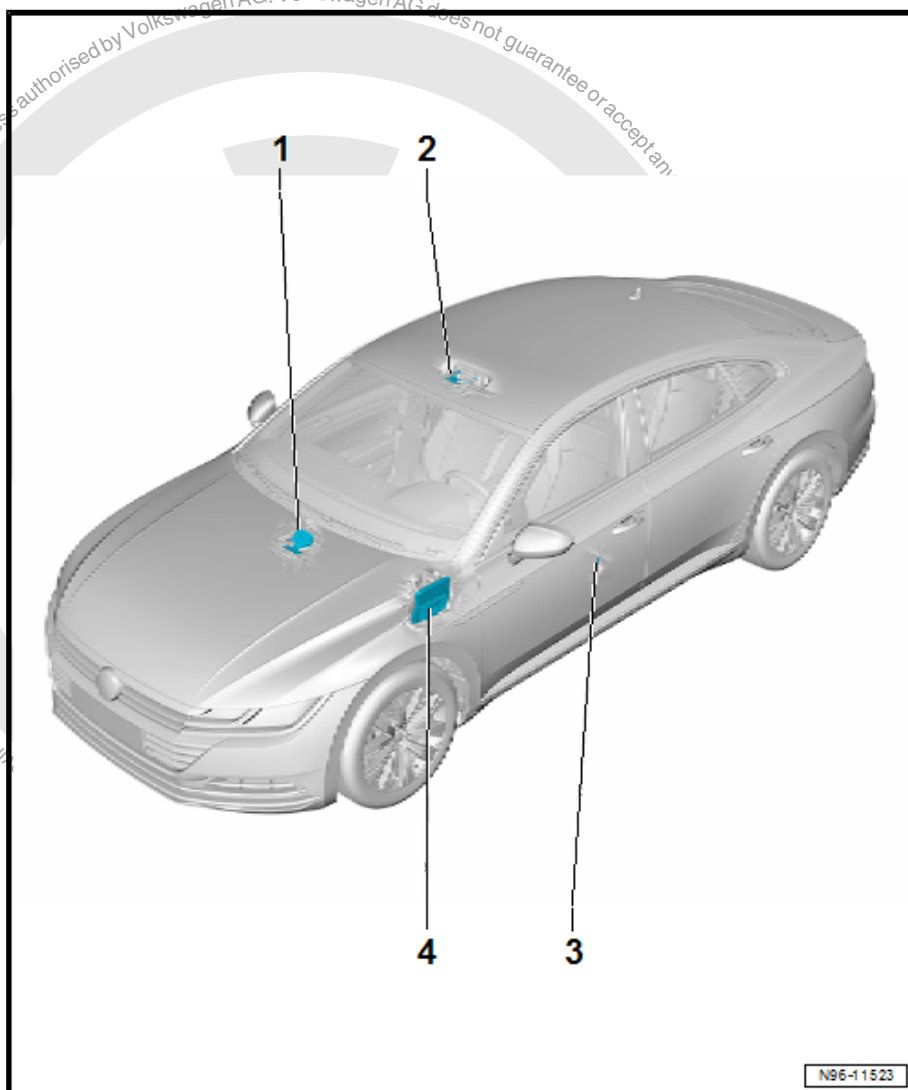
- ☐ Removing and installing. Refer to
⇒ [“3.3 Anti-Theft Alarm System Sensor G578, Removing and Installing”, page 215](#).
- ☐ Must be parameterized after replacing. Refer to
⇒ [“3.3 Anti-Theft Alarm System Sensor G578, Removing and Installing”, page 215](#).

3 - Interior Monitoring and Vehicle Inclination Deactivation Button - E616-

- ☐ Removing and installing. Refer to
⇒ [“2.25 Interior Monitoring and Vehicle Inclination Deactivation Button E616, Removing and Installing”, page 205](#).

4 - Vehicle Electrical System Control Module - J519-

- ☐ With Central Locking and Anti-Theft Alarm System Antenna - R47-
- ☐ Component Location Overview. Refer to
⇒ [“2.1 Component Location Overview - Control Modules”, page 243](#).



3.2 Alarm Horn - H12-, Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Wrench 1410 - VAG1410-



Removing

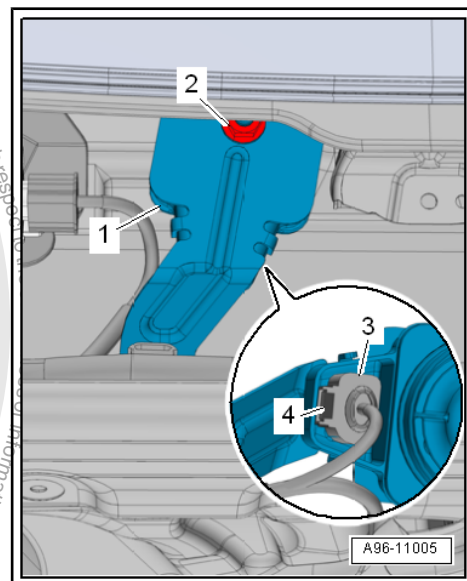
- Remove the plenum chamber cover. Refer to ➤ Body Exterior; Rep. Gr. 50 ; Bulkhead; Plenum Chamber Cover, Removing and Installing .
- Remove the nut -2-.
- Remove the alarm horn -1- from the bracket.
- Pull the retainer -4- and press the release to disconnect the connector -3-.
- Remove the alarm horn.

Installing

Install in reverse order of removal and note the following:

Tightening Specifications

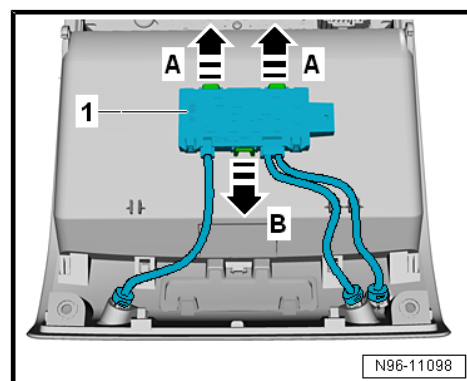
- ◆ Refer to ➤ [“3.1 Overview - Interior Monitoring”, page 214](#)



3.3 Anti-Theft Alarm System Sensor - G578- , Removing and Installing

Removing

- Remove the Front Interior Lamp - WX1- . Refer to ➤ [“2.37 Front Interior Lamp/Reading Lamp, Removing and Installing”, page 210](#) .
- Remove the headliner storage compartment. Refer to ➤ Body Interior; Rep. Gr. 68 ; Storage Compartments/Covers; Headliner Storage Compartment, Removing and Installing .
- Release the mounting tabs in the direction of the -arrows A and B-.
- Remove the Anti-Theft Alarm System Sensor - G578- -1- from the roof module.





- Release the mounting tabs in the direction of the -arrows A and B-.
- Remove the individual sensor -1- from the roof module.

Installing

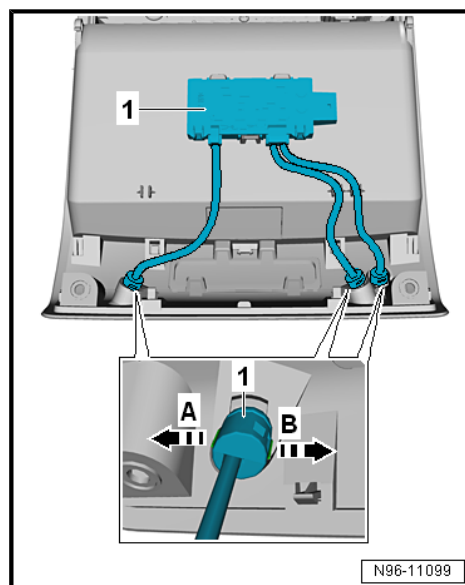
Install in reverse order of removal and note the following:



Note

If the Anti-Theft Alarm System Sensor - G578- is being replaced, then it must be parameterized.

- Parameterize the Anti-Theft Alarm System Sensor - G578- . Refer to Vehicle Diagnostic Tester .





4 Lane Change Assistance

⇒ [“4.1 Overview - Lane Change Assistance”, page 217](#)

⇒ [“4.2 Lane Change Assistance Warning Lamp In Driver and Front Passenger Exterior Rearview Mirror K233 / K234 , Removing and Installing”, page 218](#)

⇒ [“4.3 Lane Change Assistance Control Module J769 / Lane Change Assistance Control Module 2 J770 , Removing and Installing”, page 218](#)

⇒ [“4.4 Lane Change Assistance, Calibrating”, page 219](#)

4.1 Overview - Lane Change Assistance

1 - Lane Change Assistance Warning Lamp in Driver Exterior Rearview Mirror - K233- / Lane Change Assistance Warning Lamp in Front Passenger Exterior Rearview Mirror - K234-

- ☐ Lane Change Assistance Warning Lamp in Driver Exterior Rearview Mirror - K233-
- ☐ Lane Change Assistance Warning Lamp in Front Passenger Exterior Rearview Mirror - K234-
- ☐ Removing and installing. Refer to
⇒ [“4.2 Lane Change Assistance Warning Lamp In Driver and Front Passenger Exterior Rearview Mirror K233 / K234 , Removing and Installing”, page 218](#) .

2 - Bracket

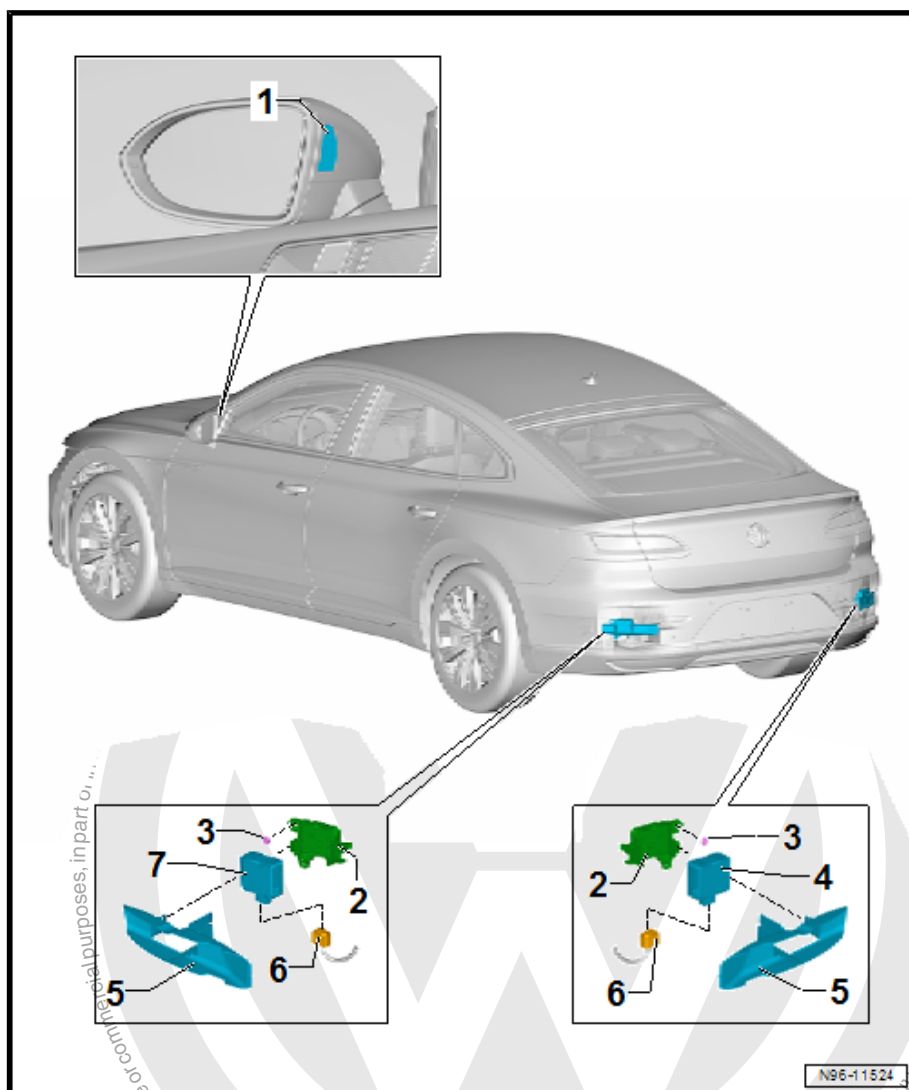
- ☐ Removing and installing. Refer to
⇒ [“4.3 Lane Change Assistance Control Module J769 / Lane Change Assistance Control Module 2 J770 , Removing and Installing”, page 218](#) .

3 - Nut

- ☐ 3.5 Nm

4 - Lane Change Assistance Control Module - J769-

- ☐ Master
- ☐ Removing and installing. Refer to
⇒ [“4.3 Lane Change Assistance Control Module J769 / Lane Change Assistance Control Module 2 J770 , Removing and Installing”, page 218](#) .
- ☐ Calibrating. Refer to ⇒ [“4.4 Lane Change Assistance, Calibrating”, page 219](#)





5 - Shield

- ❑ Removing and installing. Refer to
⇒ [“4.3 Lane Change Assistance Control Module J769 / Lane Change Assistance Control Module 2 J770, Removing and Installing”, page 218](#) .

6 - Connector

7 - Lane Change Assistance Control Module 2 - J770-

- ❑ Slave
- ❑ Removing and installing. Refer to
⇒ [“4.3 Lane Change Assistance Control Module J769 / Lane Change Assistance Control Module 2 J770, Removing and Installing”, page 218](#) .
- ❑ Calibrating. Refer to ⇒ [“4.4 Lane Change Assistance, Calibrating”, page 219](#) .

4.2 Lane Change Assistance Warning Lamp In Driver and Front Passenger Exterior Rearview Mirror -K233- / -K234- , Removing and Installing



Note

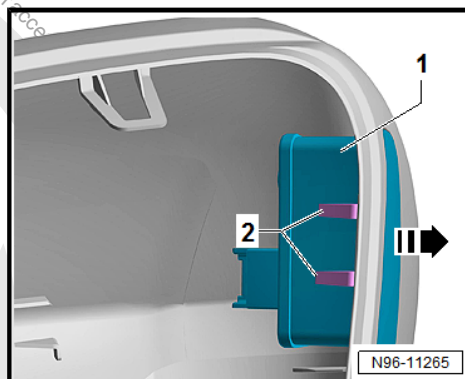
The removal and installation is described for the left side. The removal and installation on the right side is similar.

Removing

- Remove the mirror cap. Refer to ⇒ Body Exterior; Rep./Gr. 66 ; Exterior Rearview Mirror; Mirror Cap, Removing and Installing .
- Release the retainers -2- on the Lane Change Assistance Warning Lamp in Driver Exterior Rearview Mirror - K233- -1-.
- Slide the Lane Change Assistance Warning Lamp in Driver Exterior Rearview Mirror - K233- -1- outward out of the mirror cap in direction of -arrow-.

Installing

Install in reverse order of removal.



4.3 Lane Change Assistance Control Module - J769- / Lane Change Assistance Control Module 2 - J770- , Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Screwdriver - VAG1624-



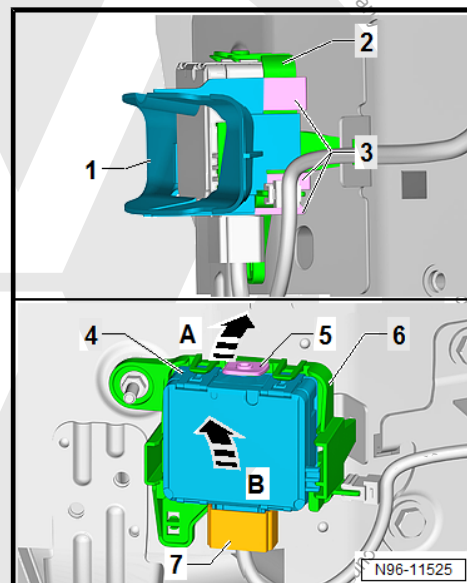
Note

The removal and installation is described for the left side. The removal and installation on the right side is similar.

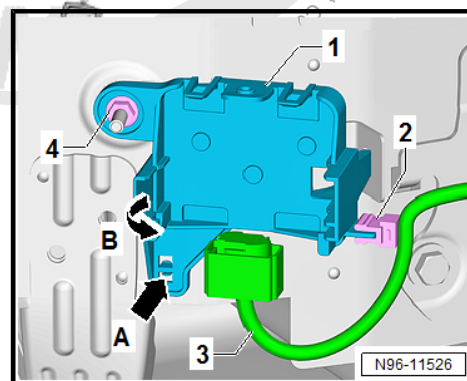


Removing

- Remove the rear bumper cover. Refer to ⇒ **Body Exterior; Rep. Gr. 63 ; Rear Bumper; Bumper Cover, Removing and Installing** .
- Release the retaining tabs -3- on the shield -1-.
- Remove the shield -1- from the bracket -2- toward the rear.
- Release and disconnect the connector -7-.
- Release the retainer -5- from the bracket in the direction of -arrow A-.
- Pivot the lane change assistance control module -4- in direction of -arrow B- out of the bracket -6- and remove.



- Remove the bracket -2- for the wire -3- from the bracket -1-.
- Remove the nut -4-.
- Release the retainer -arrow A- from the bracket -1-.
- Pivot the bracket -1- in the direction of -arrow B- out of the retainer on the body and remove.



Installing

Install in reverse order of removal and note the following:

- Calibrate the Lane Change Assistance Control Modules - J769- / Lane Change Assistance Control Module 2 - J770- . Refer to
⇒ **"4.4 Lane Change Assistance, Calibrating", page 219** .

Tightening Specifications

- ◆ Refer to
⇒ **"4.1 Overview - Lane Change Assistance", page 217**

4.4 Lane Change Assistance, Calibrating

4.4.1 Preparing for Calibration

Conditions

The lane change assistance must be calibrated under the following conditions:

- ◆ Lane Change Assistance Control Module - J769- and/or Lane Change Assistance Control Module 2 - J770- was/were replaced
- ◆ Lane Change Assistance Control Module - J769- and/or Lane Change Assistance Control Module 2 - J770- was/were removed and installed
- ◆ Installation position of the Lane Change Assistance Control Module - J769- / Lane Change Assistance Control Module 2 - J770- was changed



- ◆ The rear bumper cover was removed and installed.
- ◆ Corresponding DTC stored in the DTC memory for the Lane Change Assistance Control Module - J769- / Lane Change Assistance Control Module 2 - J770- . Refer to Vehicle Diagnostic Tester .



Note

The vehicle in the illustration is only a basic outline.

1 - VW Emblem

- ❑ The laser pointer is aligned on the center of the Volkswagen emblem

2 - Calibration Tool - Wheel Center Mountings - VAS6350/1-

- ❑ With 17 mm wheel bolt adapter and measure paddle

3 - Catch Bracket

- ❑ To mount the Calibration Tool - Spacing Laser - VAS6350/2- for the distance measurement
- ❑ Distance to the Calibration Tool - Wheel Center Mountings - VAS6350/1- on the rear wheels: dimension -a- = 1700 ± 10 mm

4 - Measuring Scale

- ❑ For positioning the Calibration Tool - Lane Change Calibration Tool - VAS6350/4-
- ❑ Dimension to be adjusted measuring point on steel ruler = 675 mm

5 - Calibration Tool - Spacing Laser - VAS6350/2-

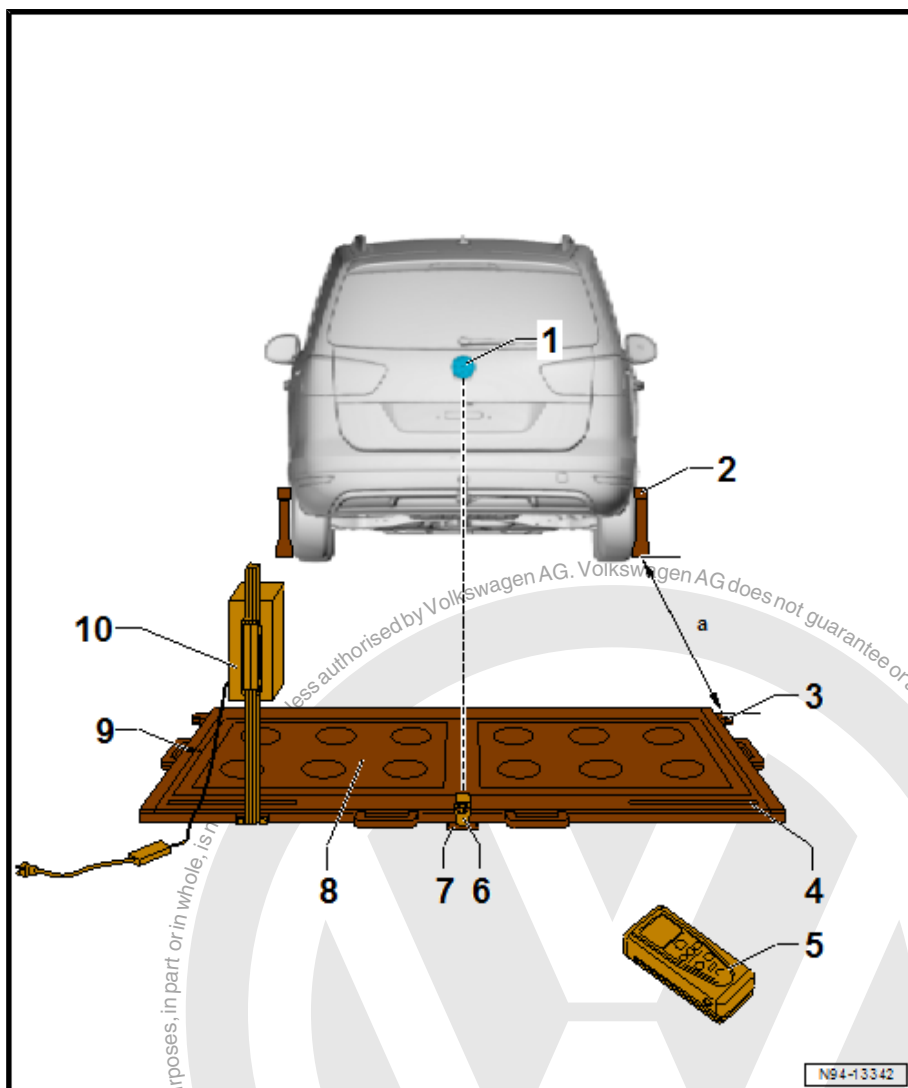
- ❑ For distance measurement
- ❑ Usage information. Refer to the Operating Instructions.

6 - Calibration Tool - Linear Laser - VAS6350/3A-

- ❑ With "laser protective eyewear"
- ❑ On the Calibration Tool - VAS6350A-
- ❑ Usage information. Refer to the Operating Instructions.

7 - Plastic Foot

- ❑ Can be adjusted when setting the horizontal position of the Calibration Tool - VAS6350A-
- ❑ Quantity: 3





8 - Calibration Tool - VAS6350A-

9 - Level

- ☐ On the Calibration Tool - VAS6350A-
- ☐ To check the horizontal position of the Calibration Tool - VAS6350A-

10 - Calibration Tool - Lane Change Calibration Tool - VAS6350/4-

- ☒ Is moved from the left to the right side of measuring field during calibration
- ☐ When installed correctly, the vehicle electrical system voltage line must be connected at lower left of the calibration device (as seen in direction of travel)
- ☐ Height of the upper edge of the calibration device to the floor: 650 mm

4.4.2 Calibration Preparation Work

Special tools and workshop equipment required

- ◆ Calibration Unit - VAS6350A-
- ◆ Calibration Tool - Wheel Center Mounting - VAS6350/1A-
- ◆ Vehicle Diagnostic Tester

There is much preparation work that must be performed before calibrating using the Vehicle Diagnostic Tester .

Requirements:

- Move the vehicle onto a secure flat surface.
- Apply the parking brake - the vehicle must not move during the measurement.
- Place the front wheels in a straight-ahead position - steering wheel neutral position.
- No persons may be in the vehicle interior during the measurement.
- Do not open and close the vehicle doors during calibration.

Procedure

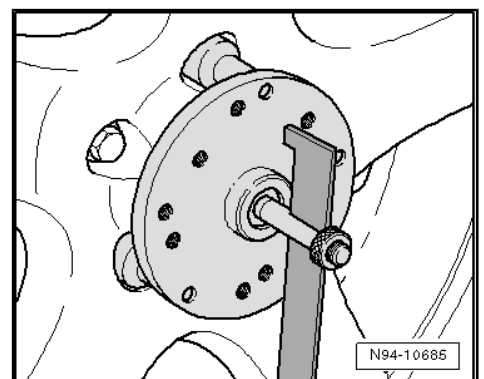
- Connect the Vehicle Diagnostic Tester .
- Switch the ignition on.
- Tighten three wheel bolt adapters (17 mm) for the wheel bolts on each -VAS6350/1A- .
- Insert the measuring paddle on both -VAS6350/1A- and secure it with the locking nut.
- Place the -VAS6350/1A- onto the wheel bolts on both rear wheels.
- The wheel center mounting rotation center must be in the wheel rotation center.



Note

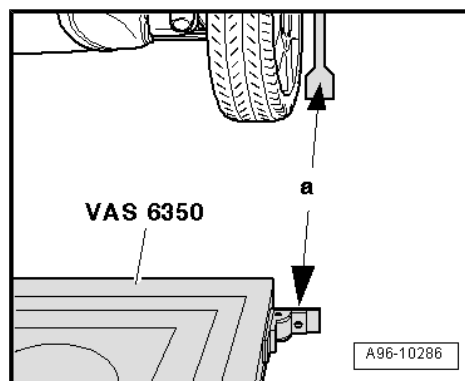
Place the -VAS6350/1A- on the wheels so that the "anti-theft wheel bolts" are not connected with wheel center mounting.

- Adjust the measuring paddles using the lock nuts so that they move freely just above the floor.
- The measuring paddles must move easily.
- The measuring paddles must be vertical.





- Position the -VAS6350A- at distance -a- to the rear wheels.
- Dimension -a- = $1,700 \pm 10$ mm



- Switch on the -VAS6350/2A- with the **ON** button.

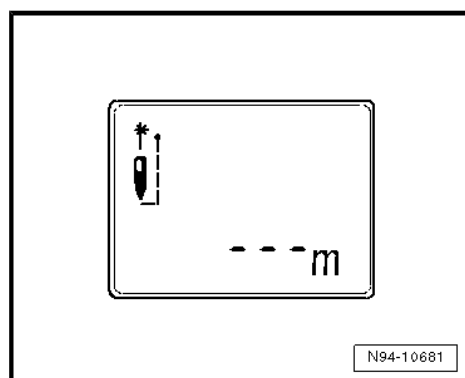
Display on the -VAS6350/2A- :

- “- - - m”



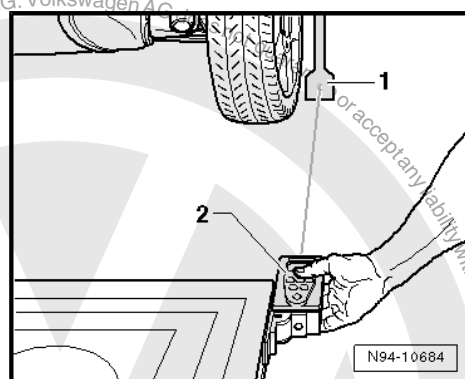
Note

The laser is switched on at same time.



- Hold the -VAS6350/2- -2- flush against the catch bracket, as shown, for the distance measurement.
- The -VAS6350/2A- must lie firmly against the catch bracket.
- Make sure the “laser beam” for the distance measurement contacts the lower enlarged part of the measuring paddle -1-.

If that is not the case, correct the measuring paddle height using the locking nuts on the -VAS6350/1A-.

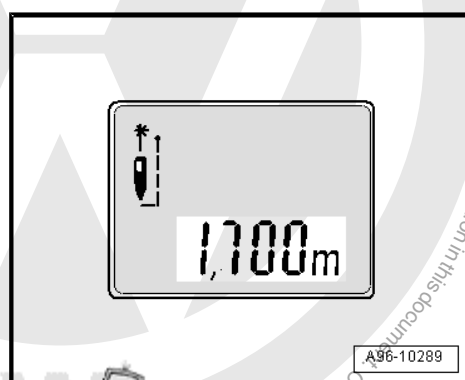


- Briefly press the **ON** button for distance measurement.

Display on the -VAS6350/2A- :

- “1,700 m” (specified value: 1700 ± 10 mm).
- Repeat the measurement procedure from the left catch bracket to the measuring paddle on left rear wheel.
- The distance value must be the same on both sides.

If both measured values are not the same, adjust the -VAS6350A- accordingly.

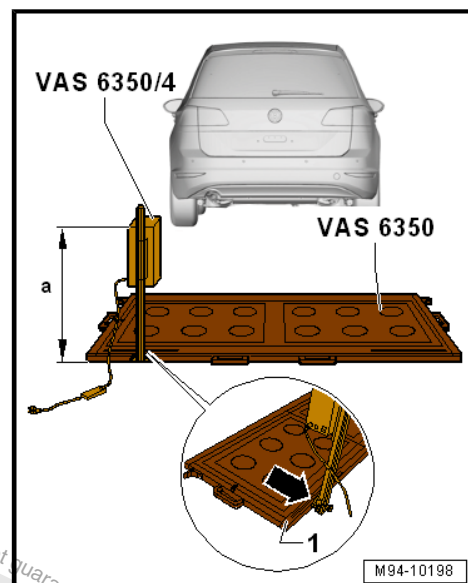




i Note

The vehicle in the illustration is only a basic outline.

- Secure the -VAS6350/4- to the -VAS6350A- mount on the rear left.
- When installed correctly, the vehicle electrical system voltage wire must be connected at the bottom left of the calibration device (as seen in direction of travel).
- Dimension -a- = 650 mm (measured from upper edge of calibration device to workshop floor).
- The adjustment dimension is set with the test probe -arrow- on the base of the calibration device on the scale of the steel ruler -1-.
- Left adjustment dimension = 675 mm (read on measuring scale -1-).
- Connect the -VAS6350/4- to the vehicle electrical system voltage.
- Using the bubble level (level indicator) -arrow-, bring the -VAS6350A- into a horizontal position by turning the plastic bases.
- Wear "laser protective eyewear".

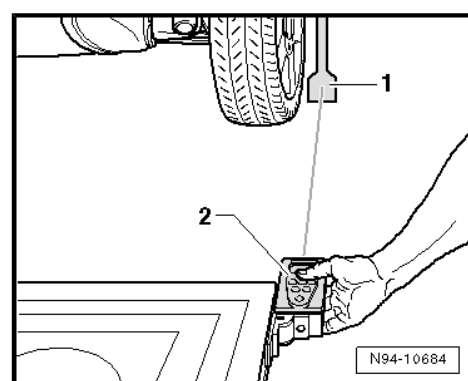
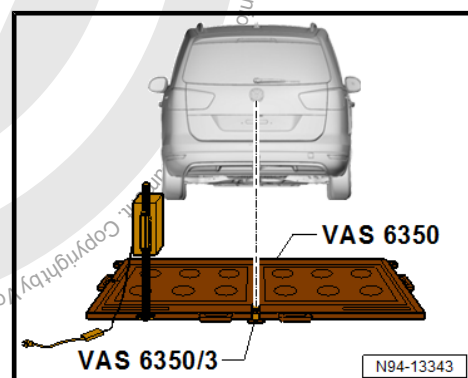
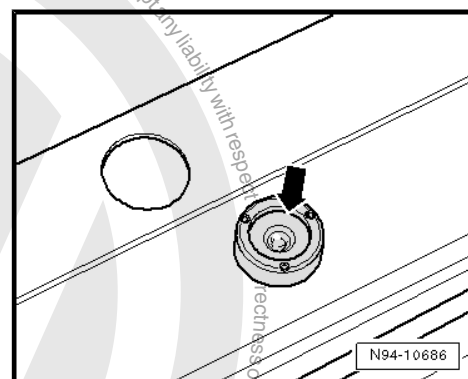


i Note

The vehicle in the illustration is only a basic outline.

- Turn on the -VAS6350/3A- on the -VAS6350A-.
- Align the entire -VAS6350A- so that the laser beam shines on the center of the vehicle rear above the VW emblem.
- Check the distance on the left and right sides between the catch brackets of the -VAS6350A- and the measuring paddles -1- on wheel mountings again.
- Specified value: 1700 ± 10 mm

Lane Change Assistance Control Module, Calibrating. Refer to
⇒ ["4.4.3 Lane Change Assistance Control Module J769 / Lane Change Assistance Control Module 2 J770 , Calibrating"](#),
[page 224](#) .





4.4.3 Lane Change Assistance Control Module - J769- / Lane Change Assistance Control Module 2 - J770- , Calibrating

Special tools and workshop equipment required

- ◆ Calibration Unit - VAS6350A-
- ◆ Vehicle Diagnostic Tester



Note

Before starting the actual calibration procedure for the control modules, the -VAS6350A- must be set up as described in the chapter.

The following should not occur during the calibration procedure:

- Vehicle doors must not be opened or closed.
- People must not sit in the vehicle.
- People must not go between the vehicle and the -VAS6350/4- .

Procedure:

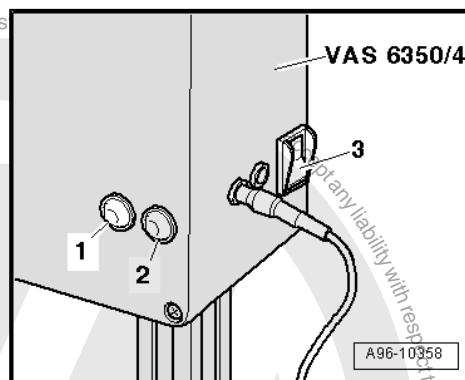
- Turn on the -VAS6350/4- at the power switch -3-.
- The green LED -1- must turn on.



Note

If the red LED -2- turns on: check the -VAS6350/4- .

- Connect the Vehicle Diagnostic Tester .
- Select calibration in the "Guided Fault Finding" mode. Refer to Vehicle Diagnostic Tester .
- Follow the instructions in the Vehicle Diagnostic Tester display.



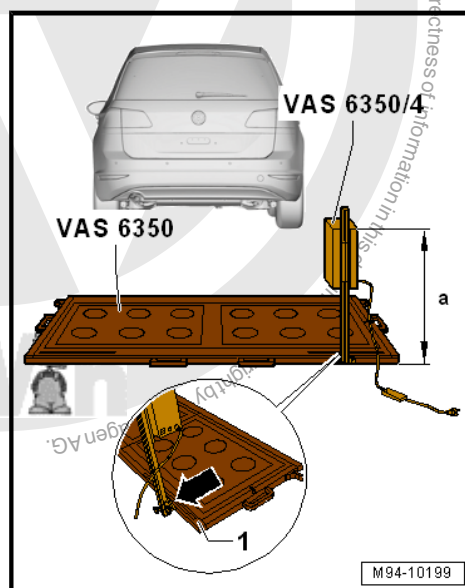
Note

The vehicle in the illustration is only a basic outline.

- Turn off the -VAS6350/4- and reposition the calibration tool.

During the program sequence, there is a prompt to switch the -VAS6350/4- from the left to the right side of the -VAS6350- .

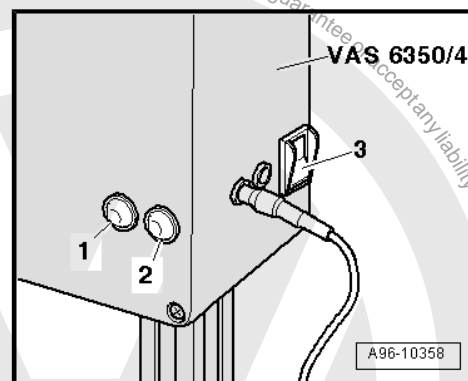
- When installed correctly, the vehicle electrical system voltage wire must be connected at the bottom left of the calibration device (as seen in direction of travel).
- Dimension -a- = 650 mm (measured from upper edge of calibration device to floor).
- Right adjustment dimension = 675 mm (read on measurement scale -1-).





- Turn on the -VAS6350/4- at the power switch -3-.
- The green LED -1- must turn on.
- Follow the instructions in the Vehicle Diagnostic Tester display.

After successfully calibrating the lane change assistance, switch off the ignition and disconnect the diagnostic connector.



5 Driver Assistance Systems Front Camera

⇒ ["5.1 Driver Assistance Systems Front Camera, Removing and Installing", page 226](#)

5.1 Driver Assistance Systems Front Camera, Removing and Installing

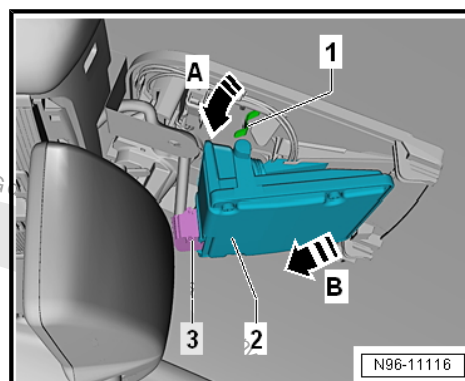
Removing

- Switch off the ignition.
- Move the ignition key outside of the vehicle to prevent the ignition from switching on unintentionally.
- Remove the mirror base cover. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Interior Rearview Mirror; Overview - Interior Rearview Mirror .
- Unclip the Driver Assistance Systems Front Camera - R242-2- from the retainers -1- in the direction of the -arrow A-.
- Remove the Driver Assistance Systems Front Camera - R242-1- in the direction of the -arrow B- from the holder.
- Disconnect the connector -3-.

Installing

Install in reverse order of removal and note the following:

- Calibrate the Driver Assistance Systems Front Camera - R242- . Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 44 ; Driver Assistance Systems Front Camera; Driver Assistance Systems Front Camera, Calibrating .



6 Cigarette Lighter and Socket

⇒ ["6.1 Overview - Converter with Socket, 12 V-230 V", page 227](#)

⇒ ["6.2 Cigarette Lighter U1 , Removing and Installing", page 228](#)

⇒ ["6.3 Socket Illumination Bulb L42 , Removing and Installing", page 228](#)

⇒ ["6.4 Rear Cigarette Lighter Illumination Bulb L32 , Removing and Installing", page 228](#)

⇒ ["6.5 Socket U , Removing and Installing", page 228](#)

⇒ ["6.6 Converter with Socket, 12 V-230 V U13 , Removing and Installing", page 228](#)

6.1 Overview - Converter with Socket, 12 V-230 V

1 - Center Console

2 - Bolt

- ☐ 1.5 Nm
- ☐ For attaching the bracket to the center console
- ☐ Quantity: 2

3 - Bracket

- ☐ To mount the Converter with Socket, 12 V-230 V - U13-
- ☐ Removing and installing. Refer to
⇒ ["6.6 Converter with Socket, 12 V-230 V U13 , Removing and Installing", page 228](#) .

4 - Bolt

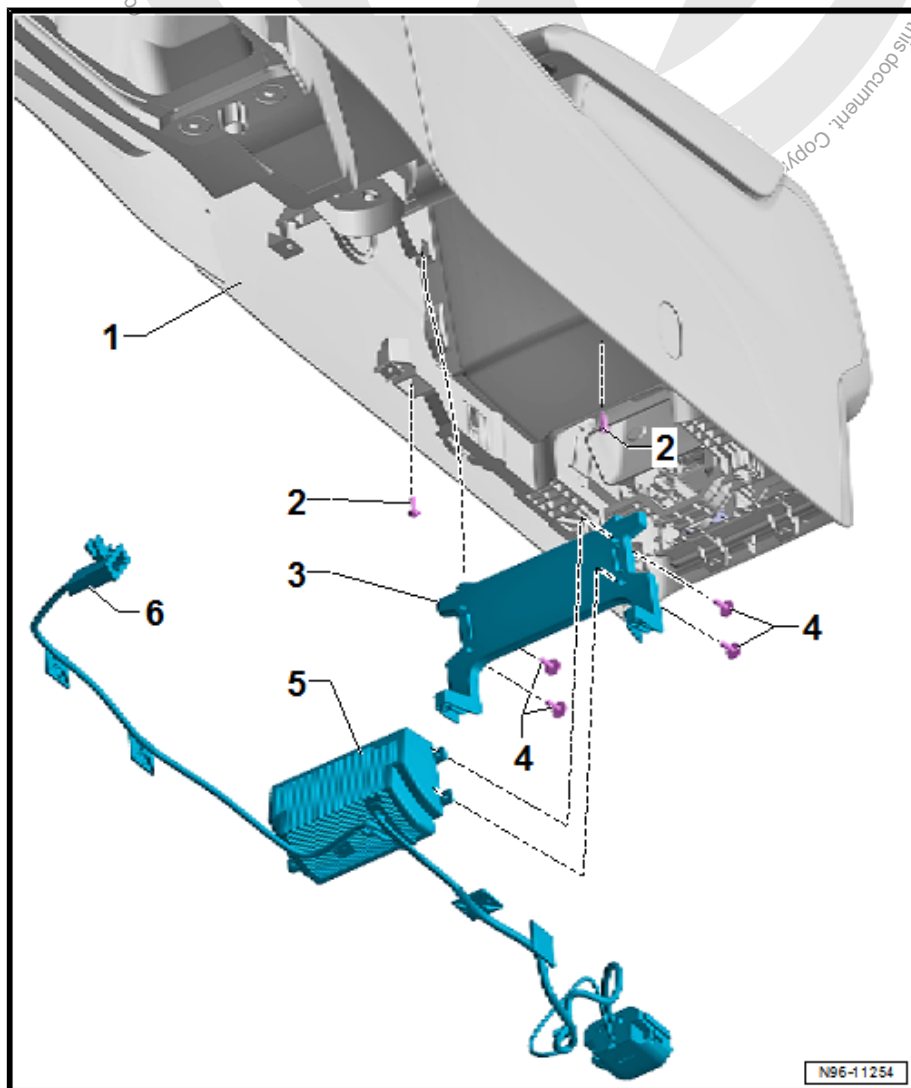
- ☐ 1.5 Nm
- ☐ To secure the Converter with Socket, 12 V-230 V - U13- to the bracket
- ☐ Quantity: 4

5 - Converter with Socket, 12 V-230 V - U13-

- ☐ Must not be opened.
- ☐ No repairs on the connector, on the lines and on the 230 V socket
- ☐ Removing and installing. Refer to
⇒ ["6.6 Converter with Socket, 12 V-230 V U13 , Removing and Installing", page 228](#) .

6 - Connector

- ☐ 12-V input voltage



N96-11254



6.2 Cigarette Lighter - U1- , Removing and Installing

Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 96 ; Cigarette Lighter - U1- .

6.3 Socket Illumination Bulb - L42- , Removing and Installing

Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 96 ; 12-V-Socket .

6.4 Rear Cigarette Lighter Illumination Bulb - L32- , Removing and Installing

Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 96 ; Cigarette Lighter - U1- .

6.5 Socket - U- , Removing and Installing

Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 96 ; 12 V Socket ; 12 V Socket , Removing and Installing .

6.6 Converter with Socket, 12 V-230 V - U13- , Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Screwdriver - VAG1624



WARNING

There is a danger of electric shock.

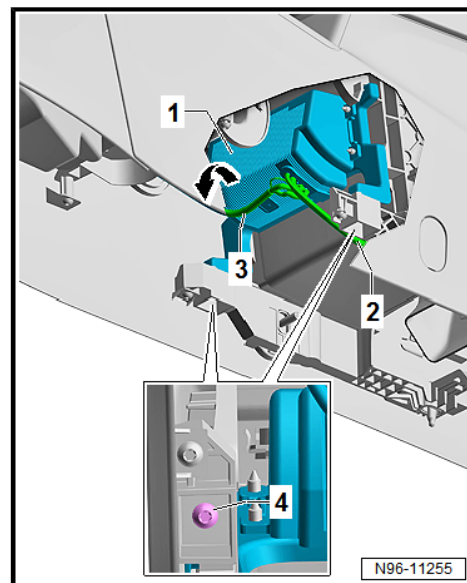
- ◆ *The Converter with Socket, 12 V-230 V - U13- housing contains capacitors that can be charged with residual voltage.*
- ◆ *The Converter with Socket, 12 V-230 V - U13- housing must not be opened under any circumstances.*
- ◆ *No repairs may be performed on the connector, on the wires and the 230 V socket.*
- ◆ *If there is a connector, wire, 230 V socket or converter malfunction, always replace the entire unit.*

Removing

- Switch off the ignition.
- Move the ignition key outside of the vehicle to prevent the ignition from switching on unintentionally.
- Remove the center console. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Center Console; Center Console, Removing and Installing .
- Release and disconnect the connector for the 12V input voltage.



- Free up the wire -2 and 3-.
- Remove the bolts -4-.
- Remove the Converter with Socket, 12 V-230 V - U13- -1- with the bracket in the direction of -arrow- from the center console.



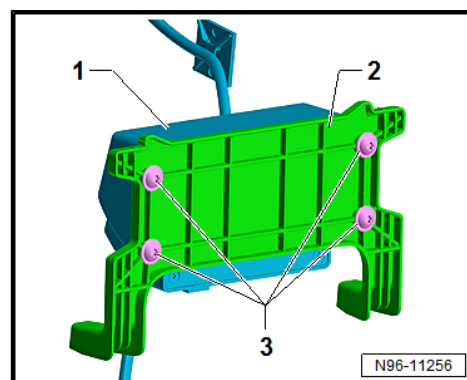
- Remove the bolts -3-.
- Remove the Converter with Socket, 12 V-230 V - U13- -1- from the bracket -2-.

Installing:

Install in reverse order of removal and note the following:

Tightening Specifications

- ◆ Refer to
⇒ ["6.1 Overview - Converter with Socket, 12 V-230 V", page 227](#)

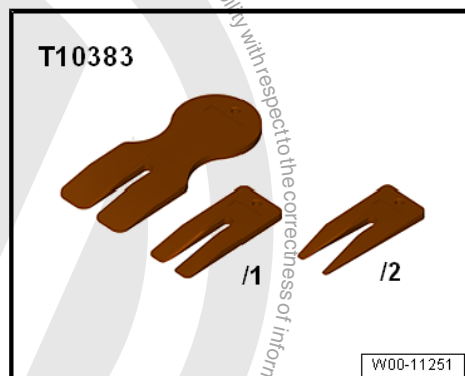




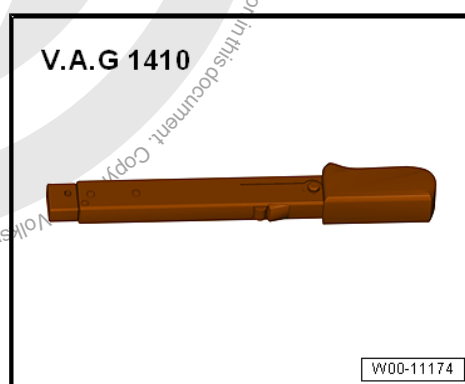
7 Special Tools

Special tools and workshop equipment required

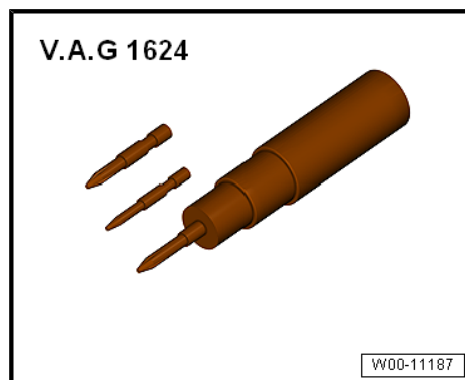
- ◆ Wedge Set - T10383-



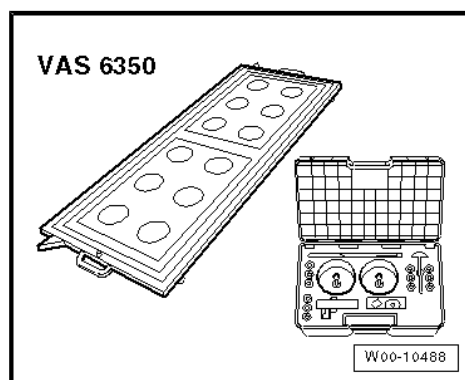
- ◆ Torque Wrench 1410 - VAG1410-



- ◆ Torque Screwdriver - VAG1624-



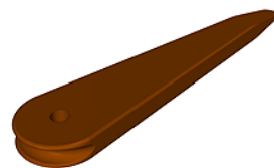
- ◆ Calibration Unit - VAS6350A-





◆ Trim Removal Wedge - 3409-

3409



W00-11118





97 – Wiring

1 Relay Panels, Fuse Panels and E-Boxes

⇒ [“1.1 Component Location Overview - Relay Panels, Fuse Panels and E-Boxes”, page 232](#)

⇒ [“1.2 E-Box, Removing and Installing”, page 236](#)

⇒ [“1.3 Relay and Fuse Panels in E-Box, Removing and Installing”, page 238](#)

⇒ [“1.4 Relay and Fuse Panel Behind Instrument Panel, Removing and Installing”, page 240](#)

⇒ [“1.5 Main Fuse Panel, Removing and Installing”, page 242](#)

1.1 Component Location Overview - Relay Panels, Fuse Panels and E-Boxes

⇒ [“1.1.1 Relay Panels, Fuse Panels and Engine Compartment E-Box”, page 232](#)

⇒ [“1.1.2 Relay Panel, Instrument Panel/A-Pillar Fuse Panel”, page 234](#)

⇒ [“1.1.3 Relay Panel, Instrument Panel/A-Pillar Fuse Panel, RHD”, page 235](#)

⇒ [“1.1.4 Main Fuse Box on Battery, Luggage Compartment Left Side”, page 235](#)

1.1.1 Relay Panels, Fuse Panels and Engine Compartment E-Box



1 - Front Cover

- ☐ For engine compartment E-box

2 - Nut

- ☐ 9 Nm.

3 - Nut

- ☐ 9 Nm.

4 - Wire

- ☐ 4.5 Nm.
- ☐ For radiator fan

5 - Wire

- ☐ 4.5 Nm.
- ☐ For terminal 30

6 - Wire

- ☐ 4.5 Nm.
- ☐ For electromechanical power steering

7 - Wire

- ☐ 6 Nm
- ☐ For battery B+

8 - Wire

- ☐ 4.5 Nm.
- ☐ For terminal 30

9 - Wire

- ☐ 6 Nm
- ☐ For the generator

10 - Fuse Panel A - SA-

- ☐ Removing and installing. Refer to
⇒ ["1.3.2 Fuse Panel A SA , Removing and Installing", page 239](#) .

11 - Mounting Bracket

- ☐ Removing and installing. Refer to ⇒ ["1.3.2 Fuse Panel A SA , Removing and Installing", page 239](#) .

12 - Cover

- ☐ For engine compartment E-box

13 - Relay and Fuse Panel B - SB-

- ☐ With connecting bracket for fuse panel A
- ☐ Removing and installing. Refer to
⇒ ["1.3 Relay and Fuse Panels in E-Box, Removing and Installing", page 238](#) .

14 - Wire

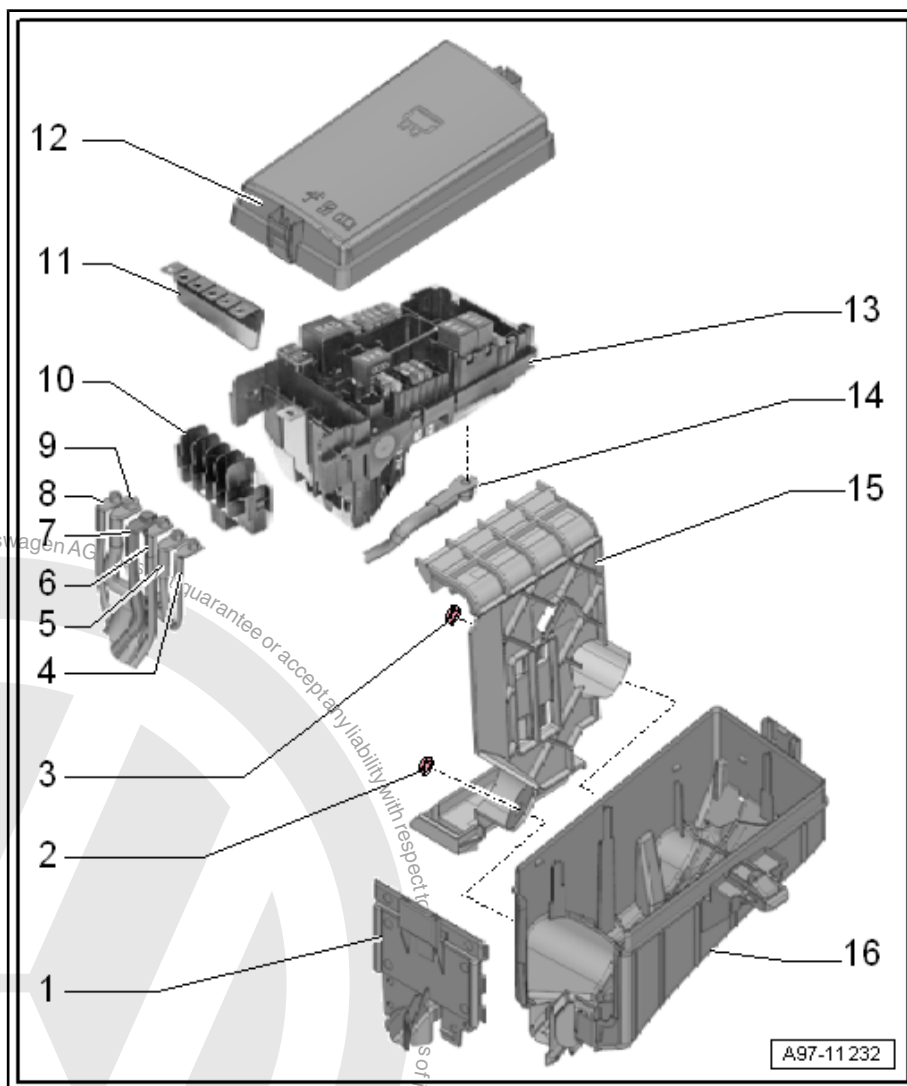
- ☐ 6 Nm

15 - Bracket

- ☐ For the engine control module

16 - Engine Compartment E-box

- ☐ Removing and installing. Refer to ⇒ ["1.2 E-Box, Removing and Installing", page 236](#) .





1.1.2 Relay Panel, Instrument Panel/A-Pillar Fuse Panel

1 - Bracket

- ❑ For Parking Aid Control Module - J446- / Parallel Parking Assistance Control Module - J791-
- ❑ Removing and installing. Refer to
⇒ ["2.6 Parking Aid Control Module J446 / Parallel Parking Assistance Control Module J791 Bracket, Removing and Installing", page 253](#) .

2 - Bracket

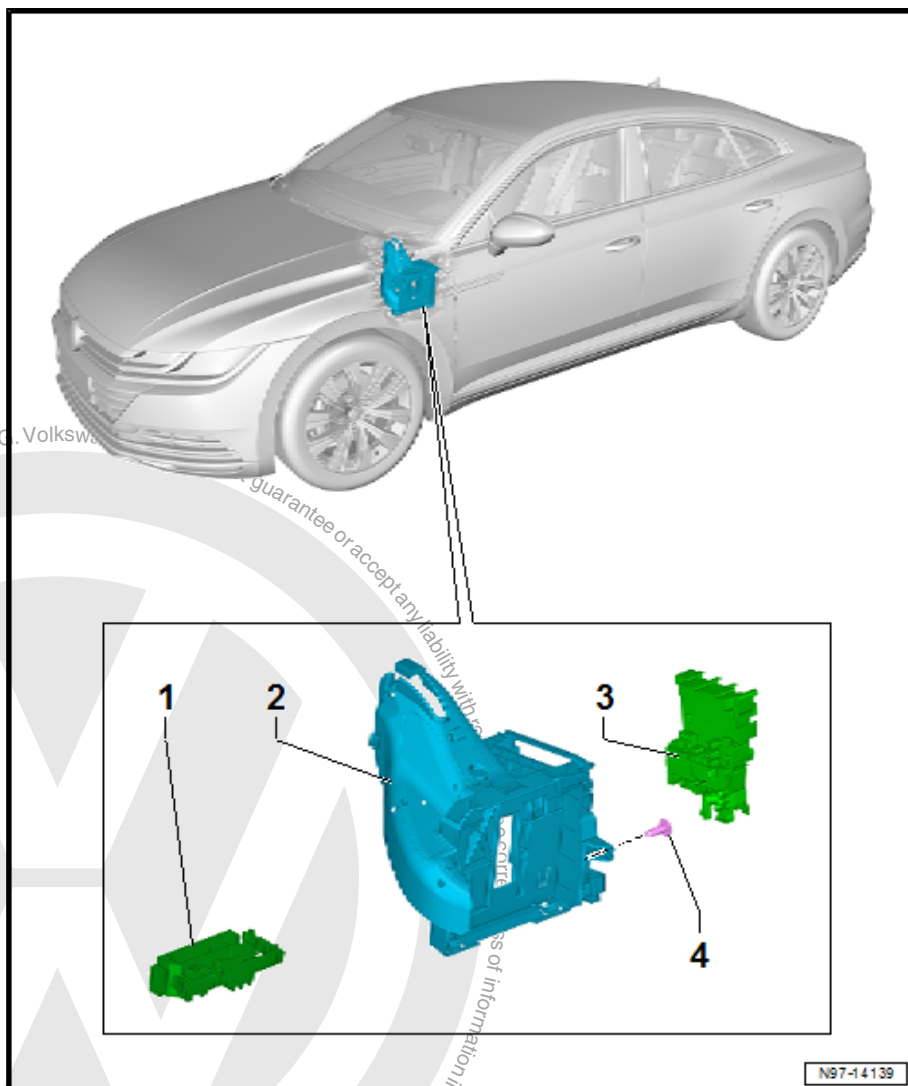
- ❑ For the Vehicle Electrical System Control Module - J519-
- ❑ Removing and installing. Refer to
⇒ ["2.4.1 Bracket for Vehicle Electrical System Control Module J519, Removing and Installing", page 250](#) .

3 - Fuse Panel C - SC-

- ❑ Removing and installing. Refer to
⇒ ["1.4.1 Relay and Fuse Panel Behind Instrument Panel, Removing and Installing", page 240](#) .

4 - Bolt

- ❑ 3 Nm
- ❑ Quantity: 3





1.1.3 Relay Panel, Instrument Panel/A-Pillar Fuse Panel, RHD

1 - Bracket

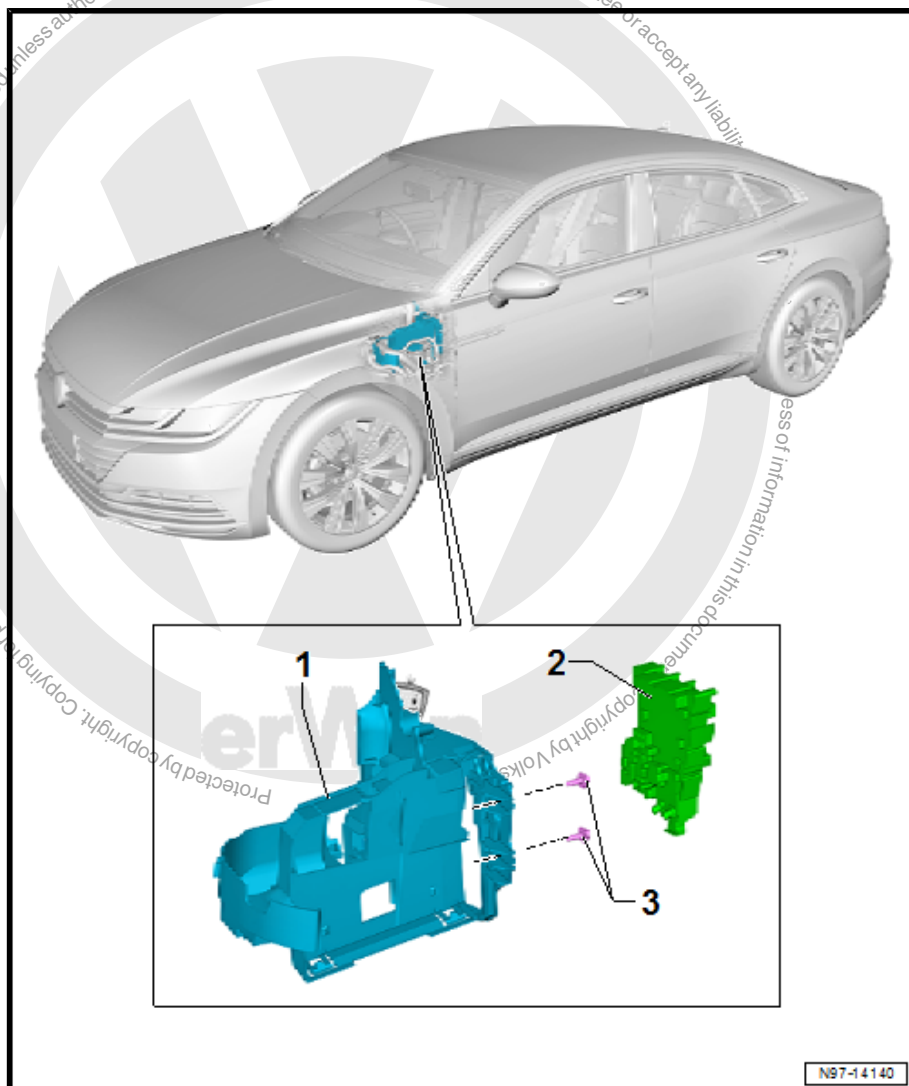
- ☐ For the Vehicle Electrical System Control Module - J519-
- ☐ Removing and installing. Refer to
⇒ ["2.4.2 Bracket for Vehicle Electrical System Control Module J519, Removing and Installing, RHD", page 251](#).

2 - Fuse Panel C - SC-

- ☐ Removing and installing. Refer to
⇒ ["1.4.2 Relay and Fuse Panel Behind Instrument Panel, Removing and Installing, RHD", page 240](#).

3 - Bolt

- ☐ Quantity: 3
- ☐ Tightening specification: 3 Nm



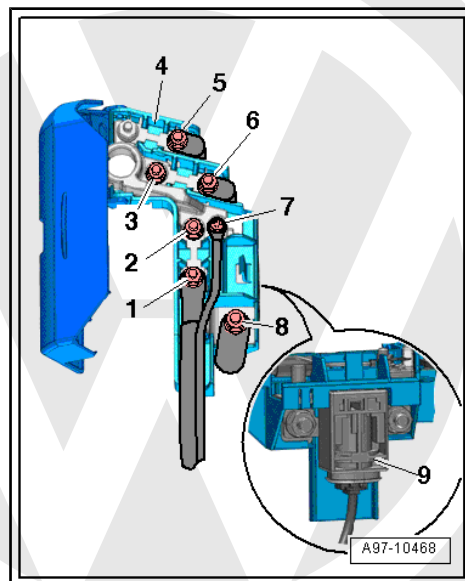
1.1.4 Main Fuse Box on Battery, Luggage Compartment Left Side

The main fuse box is located in the luggage compartment on the left side on the battery.



The Fuse Panel D - SD- and the positive terminal clamp are integrated in the main fuse box.

- 1 - Wire - 7.5 Nm
- 2 - Nut, 9 Nm
- 3 - Nut, 9 Nm
- 4 - Fuse Panel D - SD- , Removing and installing. Refer to ⇒ ["1.5 Main Fuse Panel, Removing and Installing", page 242](#) .
- 5 - Wire - 7.5 Nm
- 6 - Wire - 7.5 Nm
- 7 - Screw, 3.5 Nm
- 8 - Positive cable to positive terminal in engine compartment - 15 Nm
- 9 - Battery Interrupt Igniter - N253- . Refer to ⇒ [Body Interior; Rep. Gr. 69 ; Battery Interrupt Igniter; Overview - Battery Interrupt Igniter](#) .



1.2 E-Box, Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Wrench 1410 - VAG1410-

Removing

- Disconnect the ground cable from the battery when the ignition is switched off. Refer to ⇒ ["1.3 Battery, Disconnecting and Connecting", page 13](#) .

Diesel Engine

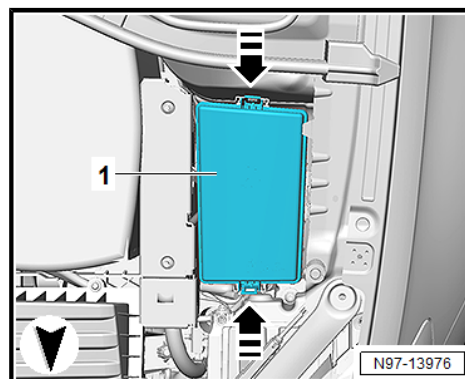
- Remove the engine control module and set aside with the connectors still attached. Refer to ⇒ [Rep. Gr. 23 ; Engine Control Module; Engine/Motor Control Module - J623- , Removing and Installing](#) .

Gasoline Engine

- Remove the engine control module and set aside with the connectors still attached. Refer to ⇒ [Rep. Gr. 24 ; Engine Control Module; Engine/Motor Control Module - J623- , Removing and Installing](#) .

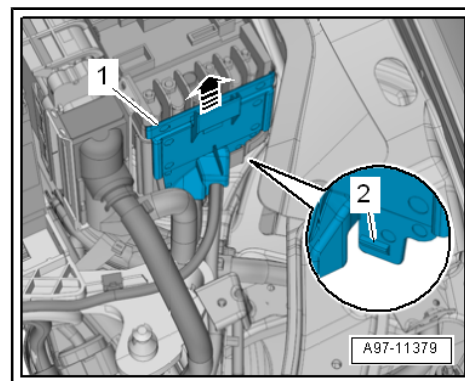
Continuation for All Vehicles

- Push the release button in direction of -arrows-.
- Remove the engine compartment E-box cover -1-.

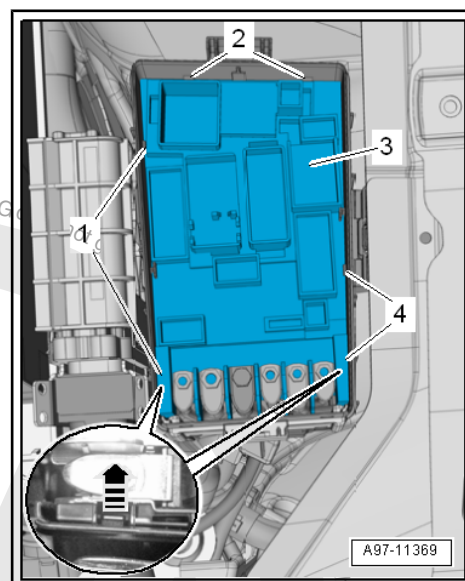




- Release the mounting tab -2- with a screwdriver, and remove the front cover -1- upward in direction of -arrow-.



- Cut the lower cable ties on the wiring harness.
- Release the retainers -1, 2 and 4- in direction of -arrow- and remove the fuse panel B -3- and set it aside.



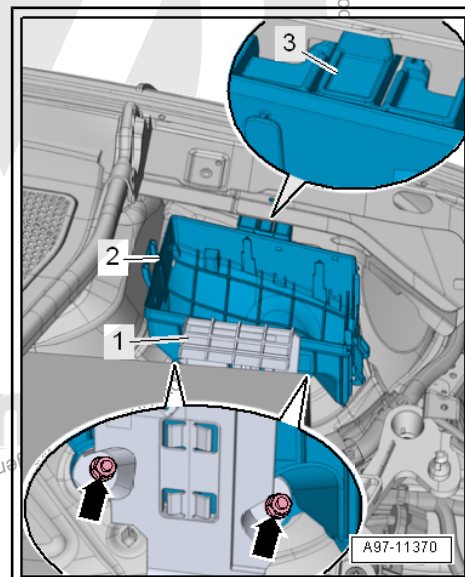
- Remove the nuts -arrows-, and remove the engine control module bracket -1-.
- Release the mounting tab -3- and disengage the engine compartment E-box -2- from the threaded pin.
- Remove the engine compartment E-box upward.

Installing

Install in reverse order of removal and note the following:

Tightening Specifications

- ◆ Refer to
⇒ [“1.1 Component Location Overview - Relay Panels, Fuse Panels and E-Boxes”, page 232](#)
- Connect the battery. Refer to
⇒ [“1.3 Battery, Disconnecting and Connecting”, page 13](#).





1.3 Relay and Fuse Panels in E-Box, Removing and Installing

⇒ ["1.3.1 Fuse Panel B SB , Removing and Installing", page 238](#)

⇒ ["1.3.2 Fuse Panel A SA , Removing and Installing", page 239](#)

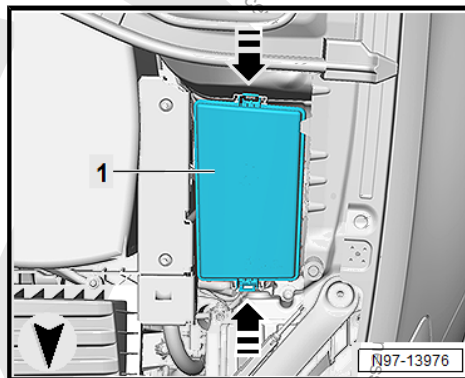
1.3.1 Fuse Panel B - SB- , Removing and Installing

Special tools and workshop equipment required

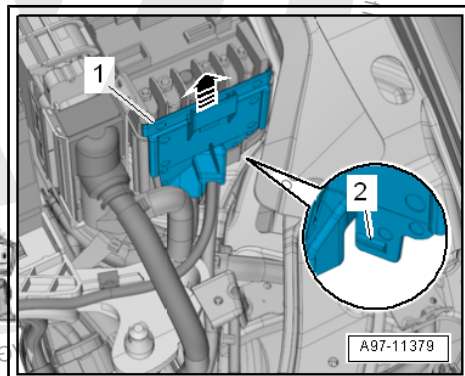
- ◆ Torque Wrench 1410 - VAG1410-

Removing

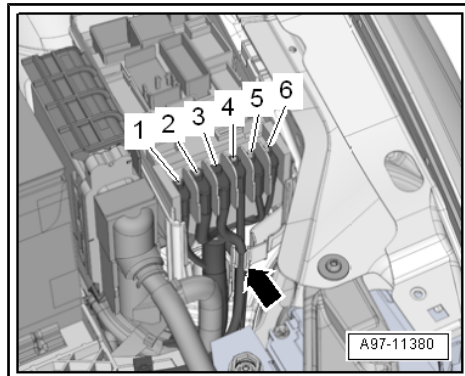
- Disconnect the ground cable from the battery when the ignition is switched off. Refer to ["1.3 Battery, Disconnecting and Connecting", page 13](#).
- Press the release buttons in direction of -arrow- and remove the cover -1- for the engine compartment E-box.



- Release the mounting tab -2- with a screwdriver, and remove the front cover -1- upward in direction of -arrow-.



- Mark the wires at the threaded connections for reinstallation.
- Remove the nuts -1, 2, 4, 5 and 6-.
- Remove the bolt -3-.
- Free up the wire -arrow-.





- Cut the lower cable ties on the wiring harness.
- Release the retainers -1, 2 and 4--arrow- and remove the fuse panel B -3- and set it aside.

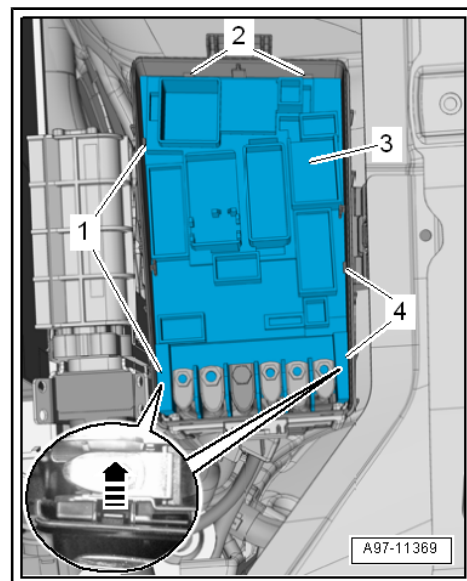
Installing

Install in reverse order of removal and note the following:

- Attach and tighten the wires according to the markings on fuse panel A.
- Connect the battery. Refer to
⇒ [“1.3 Battery, Disconnecting and Connecting”, page 13](#) .

Tightening Specifications

- ◆ Refer to
⇒ [“1.1 Component Location Overview - Relay Panels, Fuse Panels and E-Boxes”, page 232](#)



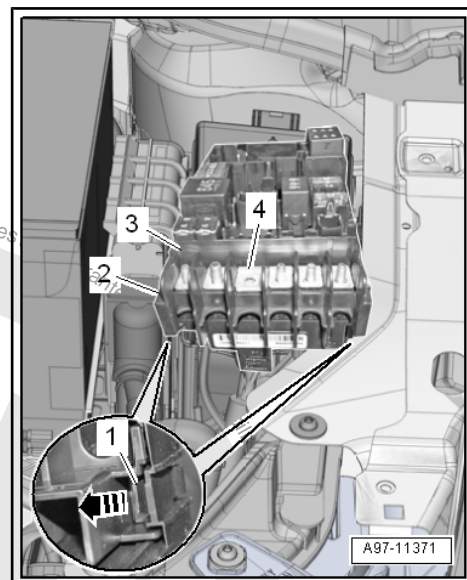
1.3.2 Fuse Panel A - SA-, Removing and Installing

Removing

- Remove the fuse panel B. Refer to
⇒ [“1.3 Relay and Fuse Panels in E-Box, Removing and Installing”, page 238](#) .
- Remove the mounting bracket -4- upward from the fuse panel B.
- Release the mounting tab -1- in direction of -arrow- and fuse panel A -2- downward from the fuse panel B -3-.

Installing

Install in reverse order of removal.





1.4 Relay and Fuse Panel Behind Instrument Panel, Removing and Installing

⇒ [“1.4.1 Relay and Fuse Panel Behind Instrument Panel, Removing and Installing”, page 240](#)

⇒ [“1.4.2 Relay and Fuse Panel Behind Instrument Panel, Removing and Installing, RHD”, page 240](#)

1.4.1 Relay and Fuse Panel Behind Instrument Panel, Removing and Installing

Removing

- Disconnect the ground cable from the battery when the ignition is switched off. Refer to [⇒ “1.3 Battery, Disconnecting and Connecting”, page 13](#).
- Remove the instrument panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel; Instrument Panel, Removing and Installing .
- Release the mounting tab -2 and 4- in direction of -A arrows-.
- Remove fuse panel C -3- to the rear from the bracket -1- in direction of -arrow B-.
- Remove the wires.

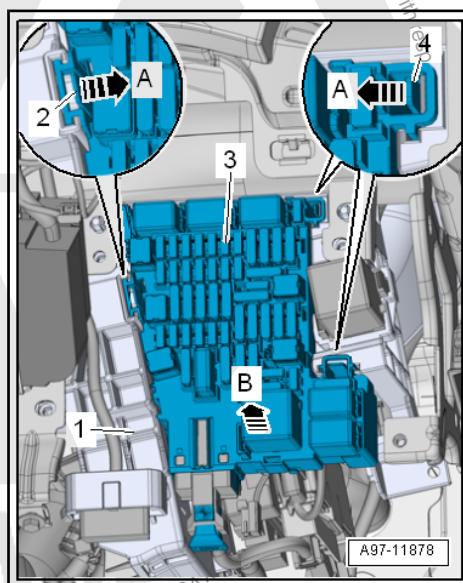


Note

- ◆ The exact assignment can be found the applicable wiring diagram. Refer to ⇒ Wiring diagrams, Troubleshooting & Component locations.
- ◆ If necessary, take photos of the assignment.

Installing

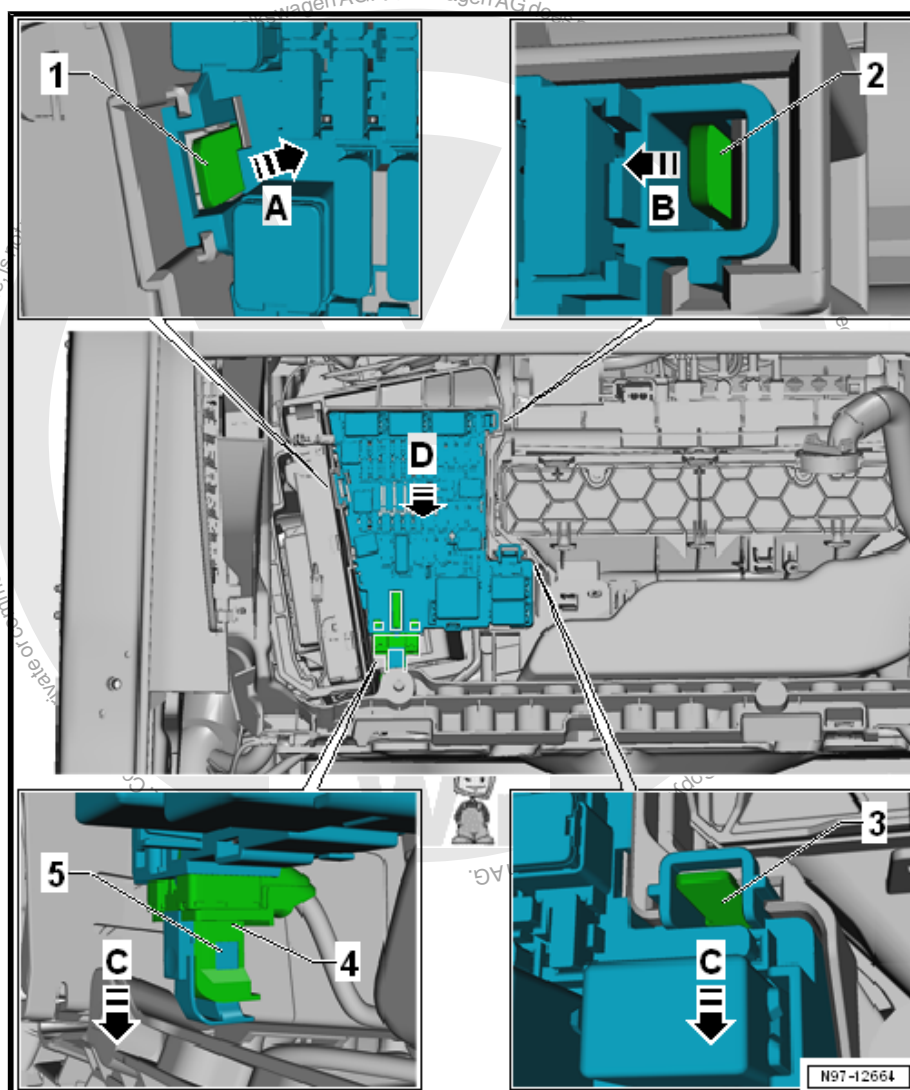
Install in reverse order of removal.



1.4.2 Relay and Fuse Panel Behind Instrument Panel, Removing and Installing, RHD

Removing

- Disconnect the ground cable from the battery when the ignition is switched off. Refer to [⇒ “1.3 Battery, Disconnecting and Connecting”, page 13](#).
- Remove the instrument panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel; Instrument Panel, Removing and Installing .



Note

- ◆ The exact assignment can be found the applicable wiring diagram. Refer to ⇒ Wiring diagrams, Trouble-shooting & Component locations.
- ◆ If necessary, take photos of the assignment.
- Push the locking mechanism on both sides -5- and pull in the direction of the -arrow C-.
- Remove the connector -4- in the direction of the -arrow C-.
- Release the mounting tab -1- in the direction of the -arrow A-.
- Release the mounting tab -2- in the direction of the -arrow B-.
- Release the mounting tab -3- in the direction of the -arrow C-.
- Remove the Fuse Panel C - SC- from the bracket toward the rear in the direction of the -arrow D-.
- Remove the wires.



Installing

Install in reverse order of removal.

1.5 Main Fuse Panel, Removing and Installing

Special tools and workshop equipment required

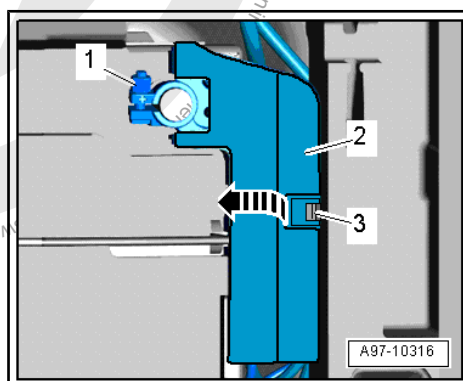
- ◆ Torque Wrench 1410 - VAG1410-
- ◆ Torque Screwdriver - VAG1624-

The main fuse box is located in the luggage compartment on the left side on the battery.

The Fuse Panel D - SD- and the battery positive terminal are integrated in the main fuse box.

Removing

- Remove the access cover in the left luggage compartment side trim panel.
- Disconnect the ground cable from the battery when the ignition is switched off. Refer to [⇒ "1.3 Battery, Disconnecting and Connecting", page 13](#).
- Loosen the battery terminal clamp nut -1- on the battery positive terminal several turns.
- Release the spring -3- and open the flap -2- above the main fuse box in direction of -arrow-.



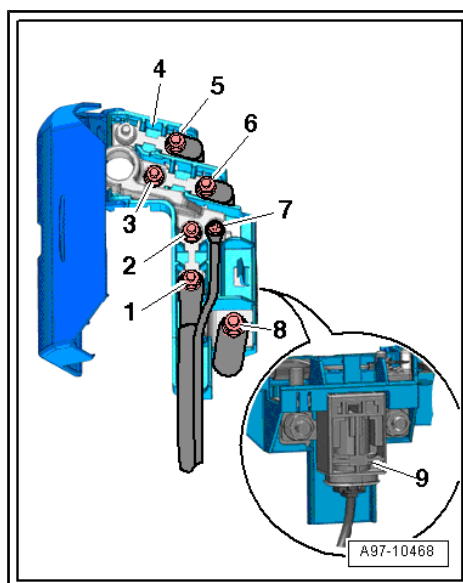
- Disconnect the wires -1, 5, 6, 7 and 8-.
- Remove the Battery Interrupt Igniter - N253- -9-. Refer to ⇒ Body Interior; Rep. Gr. 69 ; Battery Interrupt Igniter; Battery Interrupt Igniter, Removing and Installing .
- Remove the battery terminal clamp with the main fuse box -4- from the battery positive terminal.

Installing

Install in reverse order of removal.

Tightening Specifications

- ◆ Refer to [⇒ "1.1.4 Main Fuse Box on Battery, Luggage Compartment Left Side", page 235](#)





2 Control Modules

⇒ [“2.1 Component Location Overview - Control Modules”, page 243](#)

⇒ [“2.2 Vehicle Electrical System Control Module J519 , Removing and Installing”, page 245](#)

⇒ [“2.3 Data Bus on Board Diagnostic Interface J533 , Removing and Installing”, page 249](#)

⇒ [“2.4 Bracket for Vehicle Electrical System Control Module J519 , Removing and Installing”, page 250](#)

⇒ [“2.5 Bracket for Vehicle Electrical System Control Module J519 , Replacing”, page 252](#)

⇒ [“2.6 Parking Aid Control Module J446 / Parallel Parking Assistance Control Module J791 Bracket, Removing and Installing”, page 253](#)

2.1 Component Location Overview - Control Modules

⇒ [“2.1.1 Component Location Overview - Control Modules”, page 243](#)

⇒ [“2.1.2 Component Location Overview - Control Modules, RHD”, page 245](#)

2.1.1 Component Location Overview - Control Modules





1 - Data Bus on Board Diagnostic Interface - J533-

- ❑ Removing and installing. Refer to
⇒ [“2.3 Data Bus on Board Diagnostic Interface J533, Removing and Installing”, page 249](#).

2 - Bracket

- ❑ For the Vehicle Electrical System Control Module - J519-
- ❑ Removing and installing. Refer to
⇒ [“2.4.1 Bracket for Vehicle Electrical System Control Module J519, Removing and Installing”, page 250](#).

3 - Vehicle Electrical System Control Module - J519-

- ❑ Removing and installing. Refer to
⇒ [“2.2.1 Vehicle Electrical System Control Module J519, Removing and Installing”, page 245](#).

4 - Guide

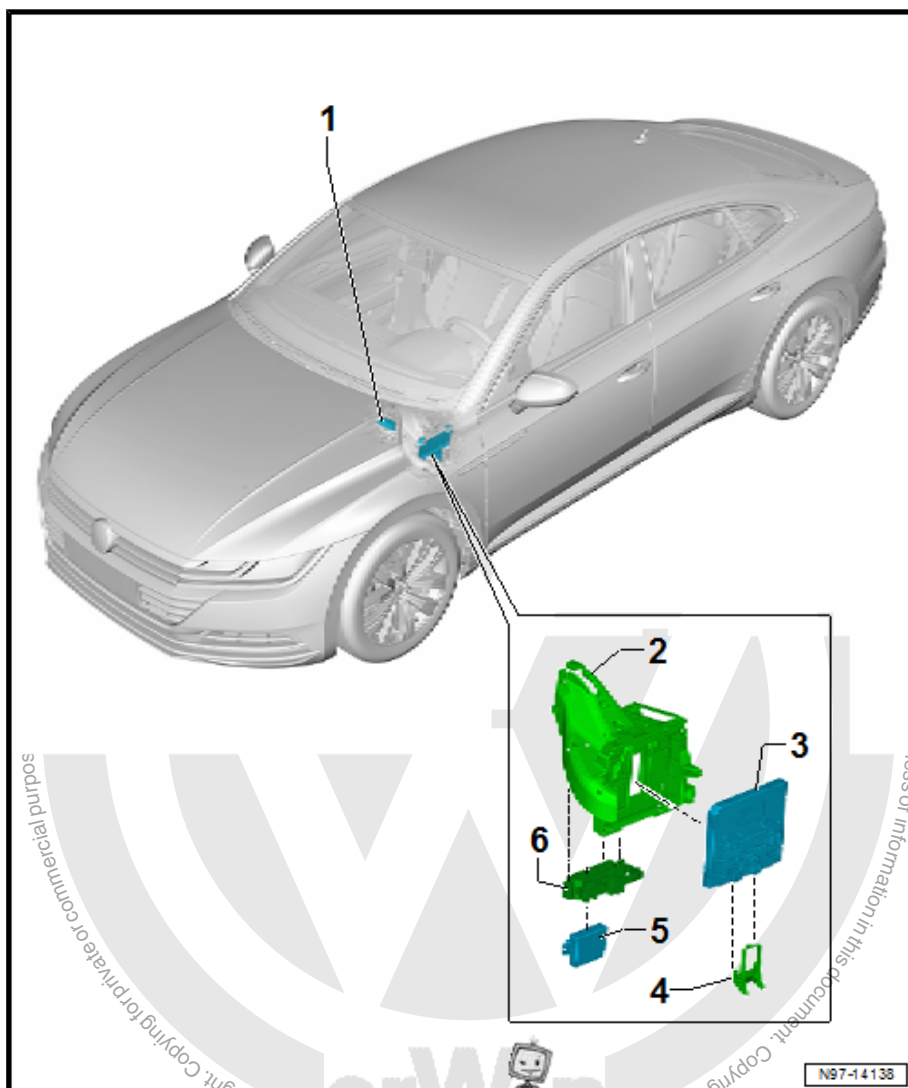
- ❑ For the center connector

5 - Parking Aid Control Module - J446- / Parallel Parking Assistance Control Module - J791-

- ❑ Parking Aid Control Module - J446- overview. Refer to ⇒ [“8.1.1 Overview - Parking Aid”, page 146](#).
- ❑ Parallel Parking Assistance Control Module - J791- overview. Refer to ⇒ [“9.1.1 Overview - Parallel Parking Assist”, page 154](#).

6 - Bracket

- ❑ For Parking Aid Control Module - J446- / Parallel Parking Assistance Control Module - J791-
- ❑ Removing and installing. Refer to
⇒ [“2.6 Parking Aid Control Module J446 / Parallel Parking Assistance Control Module J791 Bracket, Removing and Installing”, page 253](#).





2.1.2 Component Location Overview - Control Modules, RHD

1 - Data Bus on Board Diagnostic Interface - J533-

- ❑ Removing and installing. Refer to
⇒ ["2.3 Data Bus on Board Diagnostic Interface J533, Removing and Installing", page 249](#).

2 - Bracket

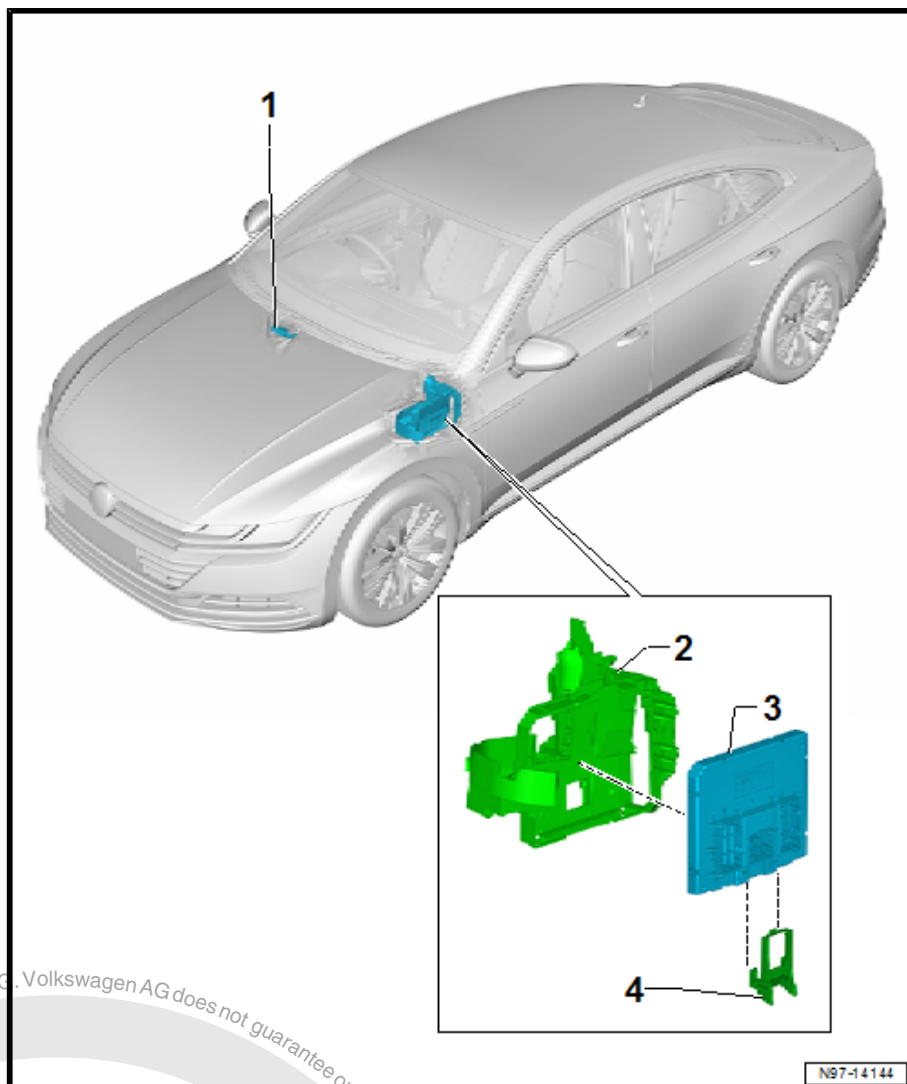
- ❑ For the Vehicle Electrical System Control Module - J519-
- ❑ Removing and installing. Refer to
⇒ ["2.4.2 Bracket for Vehicle Electrical System Control Module J519, Removing and Installing, RHD", page 251](#).

3 - Vehicle Electrical System Control Module - J519-

- ❑ Bracket, Removing and installing. Refer to
⇒ ["2.2.2 Vehicle Electrical System Control Module J519, Removing and Installing, RHD", page 247](#).

4 - Guide

- ❑ For the center connector



2.2 Vehicle Electrical System Control Module - J519-, Removing and Installing

⇒ ["2.2.1 Vehicle Electrical System Control Module J519, Removing and Installing", page 245](#)

⇒ ["2.2.2 Vehicle Electrical System Control Module J519, Removing and Installing, RHD", page 247](#)

2.2.1 Vehicle Electrical System Control Module - J519-, Removing and Installing



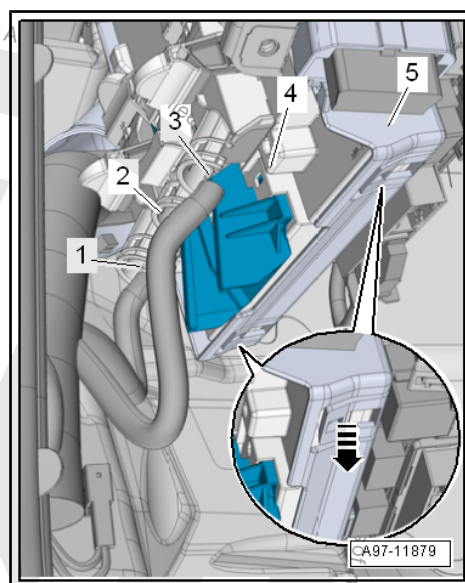
Note

If the control module is replaced, select the **Replace** function for the respective control module in **Guided Fault Finding** or **Guided Functions**. Refer to **Vehicle Diagnostic Tester**.



Removing

- Switch off the ignition.
- Move the ignition key outside of the vehicle to prevent the ignition from switching on unintentionally.
- Remove the driver side instrument panel cover. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Driver Side Instrument Panel Cover, Removing and Installing .
- Remove the A-pillar lower trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Vehicle Interior Trim Panels; A-Pillar Trim Panel, Removing and Installing .
- Remove the footrest. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Vehicle Interior Trim Panels; Footrest, Removing and Installing .
- Unclip the data link connector from the bracket.
- Disconnect the connectors -1, 2 and 3-.

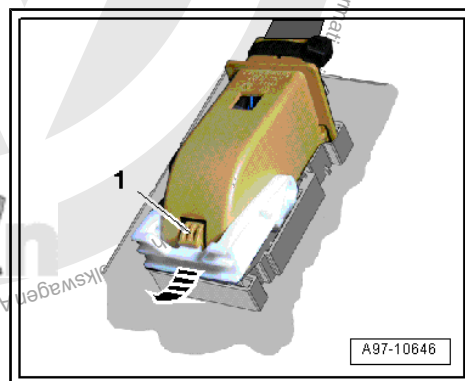


- To disconnect the connector, press the catch -1-.
- Pivot the retaining bracket in direction of -arrow- and remove the connector.



Note

To pivot the retaining bracket at the center connector, the red locking mechanism must also be pulled all the way out of the retaining bracket.

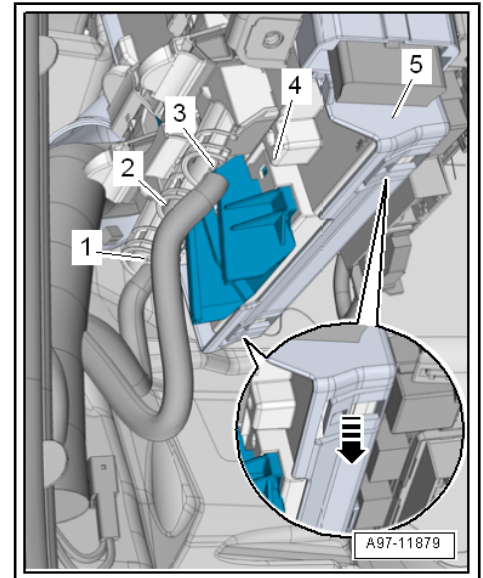




- Remove the connector -2- downward from the guide.
- Release the springs -arrow-, pivot the vehicle electrical system control module -4- out of the bracket -5- and remove it downward.

Installing

Install in reverse order of removal.



2.2.2 Vehicle Electrical System Control Module - J519- , Removing and Installing, RHD

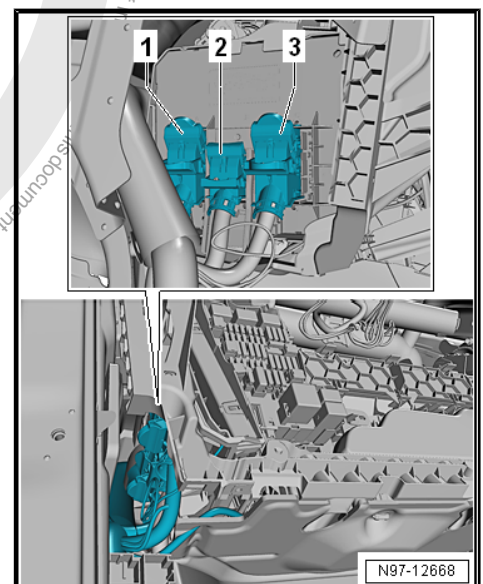


Note

*If the control module is replaced, select the **Replace** function for the respective control module in **Guided Fault Finding** or **Guided Functions**. Refer to **Vehicle Diagnostic Tester**.*

Removing

- Switch off the ignition.
- Move the ignition key outside of the vehicle to prevent the ignition from switching on unintentionally.
- Remove the instrument panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel; Instrument Panel, Removing and Installing .
- Disconnect the connectors -1, 2 and 3-.





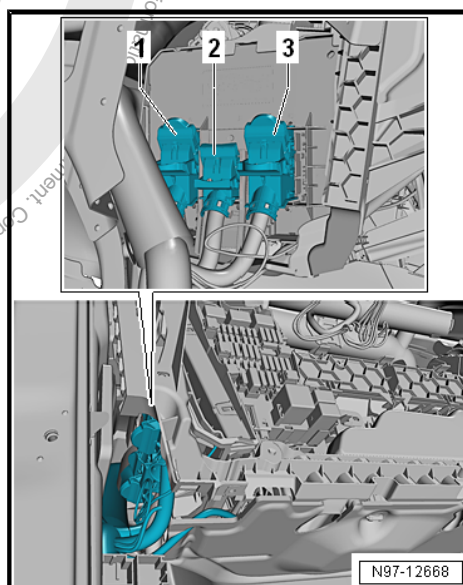
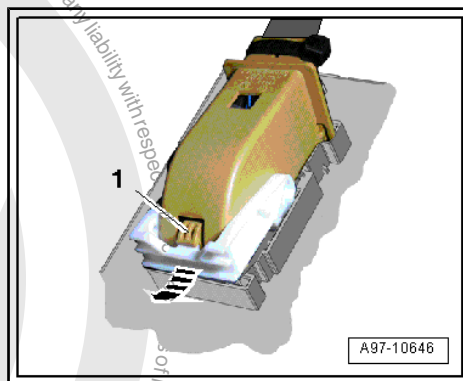
- To disconnect the connector, press the catch -1-.
- Pivot the retaining bracket -arrow- and remove the connector.



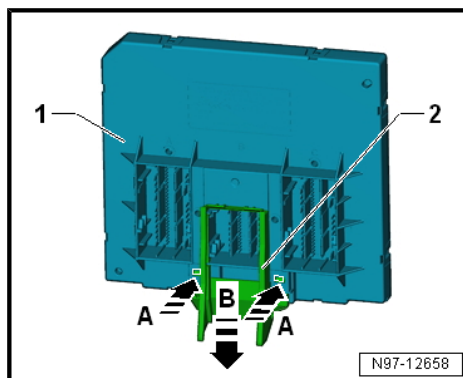
Note

To pivot the retaining bracket at the center connector, the red locking mechanism must also be pulled all the way out of the retaining bracket.

- Remove the connector -2- downward from the guide.



- Remove the guide -2-. To do so, release the retainers on the guide in the -direction of the arrow A-.
- Remove the guide -2- from the Vehicle Electrical System Control Module - J519- -1- in the -direction of arrow B-.

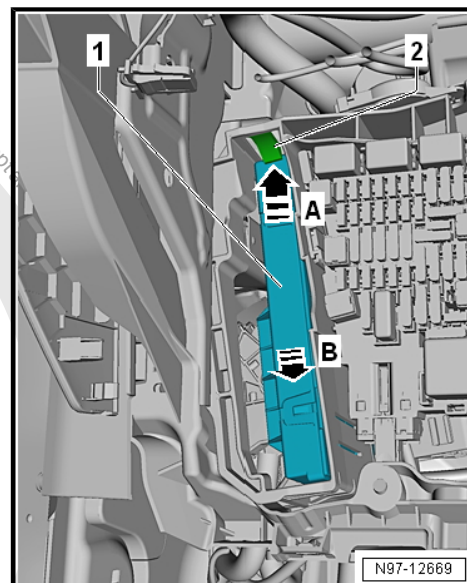




- Release the upper spring -2- in the -direction of the arrow A-.
- Remove the Vehicle Electrical System Control Module -J519-
-1- rearward in the -direction of arrow B- from the bracket.

Installing

Install in reverse order of removal.



2.3 Data Bus on Board Diagnostic Interface - J533- , Removing and Installing



Note

If the control module is replaced, select the **Replace** function for the respective control module in **Guided Fault Finding** or **Guided Functions**. Refer to **Vehicle Diagnostic Tester**.

Removing

Vehicles without Knee Airbag

- Remove the driver side instrument panel cover. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Driver Side Instrument Panel Cover, Removing and Installing .

Vehicles with Knee Airbag

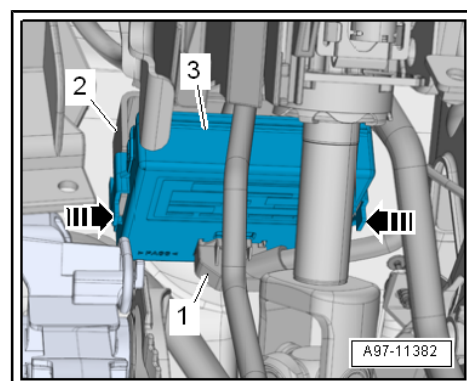
- Remove the knee airbag with igniter. Refer to ⇒ Body Interior; Rep. Gr. 69 ; Knee Airbags; Knee Airbag with Igniter, Removing and Installing .

Continuation for All Vehicles

- Remove the driver side footwell vent. Refer to ⇒ Heating, Ventilation and Air Conditioning; Rep. Gr. 87 ; Air Routing; Overview - Air Routing and Air Distribution in Vehicle Interior .
- Reach upward behind the pedal bracket to disconnect the connector -1-.
- To disconnect the connector press the circlip and remove the connector.
- Release the retainers in direction of -arrows-.
- Remove the Data Bus On Board Diagnostic Interface - J533-
-3- downward from the bracket -2-.

Installing

Install in reverse order of removal.





2.4 Bracket for Vehicle Electrical System Control Module - J519- , Removing and Installing

⇒ [“2.4.1 Bracket for Vehicle Electrical System Control Module J519 , Removing and Installing”, page 250](#)

⇒ [“2.4.2 Bracket for Vehicle Electrical System Control Module J519 , Removing and Installing, RHD”, page 251](#)

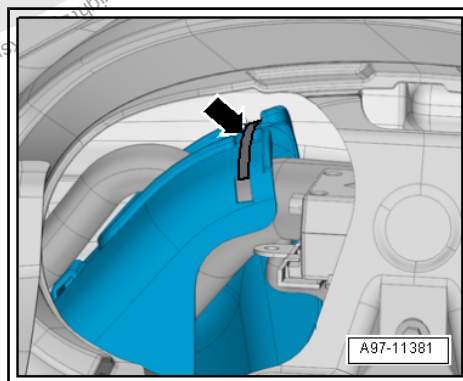
2.4.1 Bracket for Vehicle Electrical System Control Module - J519- , Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Screwdriver - VAG1624-

Removing

- Disconnect the ground cable from the battery when the ignition is switched off. Refer to [⇒ “1.3 Battery, Disconnecting and Connecting”, page 13](#) .
- Remove the instrument panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel; Instrument Panel, Removing and Installing .
- Cut the cable tie -arrow-.
- Disengage fuse panel C and push it aside. Refer to [⇒ “1.4 Relay and Fuse Panel Behind Instrument Panel, Removing and Installing”, page 240](#) .
- Disconnect the connector for the Front Parking Aid Warning Buzzer - H22- . Refer to [⇒ “8.3 Front Parking Aid Warning Buzzer H22 , Removing and Installing”, page 150](#) .
- Disconnect the Vehicle Electrical System Control Module - J519- connector. Refer to [⇒ “2.2 Vehicle Electrical System Control Module J519 , Removing and Installing”, page 245](#) .
- Disconnect the connector for the Parking Aid Control Module - J446- / Parallel Parking Assistance Control Module - J791- . Refer to [⇒ “8.2 Parking Aid Control Module J446 , Removing and Installing”, page 149](#) .
- Remove the diagnostic connector by releasing the locking mechanism on the bracket and removing the bracket outward.





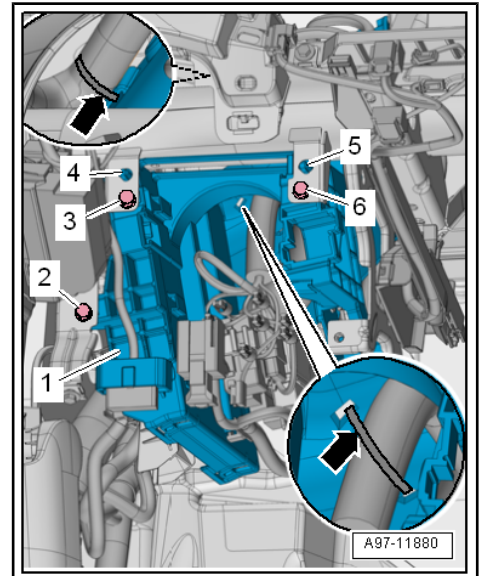
- Remove the bolts -2, 3 and 6-.
- Push the bracket -1- far enough forward from the central tube until the alignment pins -4 and 5- are disengaged.
- Cut the cable ties -arrows-.
- Free up the wiring harness on the mount.
- Remove the bracket to the vehicle interior.

Installing

Install in reverse order of removal.

Tightening Specifications

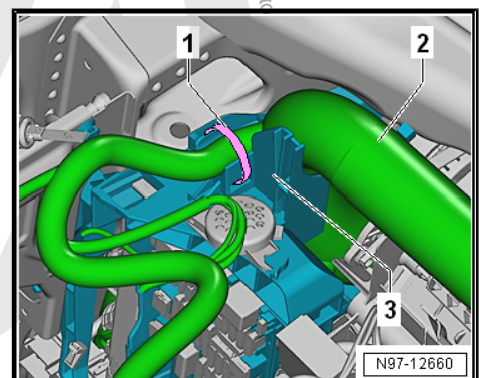
- ◆ Refer to
⇒ ["1.1.2 Relay Panel, Instrument Panel/A-Pillar Fuse Panel", page 234](#)



2.4.2 Bracket for Vehicle Electrical System Control Module - J519- , Removing and Installing, RHD

Removing

- Disconnect the ground cable from the battery when the ignition is switched off. Refer to
⇒ ["1.3 Battery, Disconnecting and Connecting", page 13](#) .
- Remove the instrument panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel; Instrument Panel, Removing and Installing .
- Remove the instrument panel crossmember. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel Crossmember; Instrument Panel Crossmember, Removing and Installing .
- Cut the cable tie -1-.
- Remove the wiring harness -2- from the vehicle electrical system control module bracket -3-.
- Remove fuse panel C. Refer to
⇒ ["1.4 Relay and Fuse Panel Behind Instrument Panel, Removing and Installing", page 240](#) .
- Disconnect the connector for the Front Parking Aid Warning Buzzer - H22- . Refer to
⇒ ["8.3 Front Parking Aid Warning Buzzer H22 , Removing and Installing", page 150](#) .
- Disconnect the Vehicle Electrical System Control Module - J519- connector. Refer to
⇒ ["2.2 Vehicle Electrical System Control Module J519, Removing and Installing", page 245](#) .

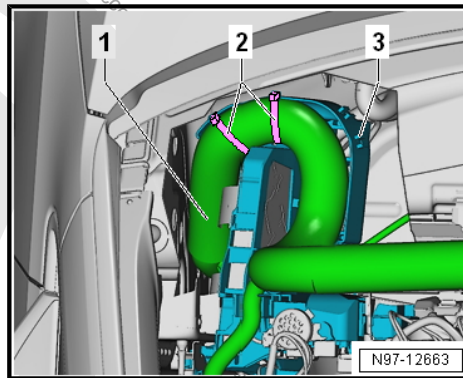




- Cut the cable tie -2-
- Remove the wiring harness -1- from the vehicle electrical system control module bracket -3-.
- Free up the wiring harness on the mount.
- Remove the bracket to the vehicle interior.

Installing

Install in reverse order of removal.



2.5 Bracket for Vehicle Electrical System Control Module - J519- , Replacing

⇒ [“2.5.1 Bracket for Vehicle Electrical System Control Module J519 , Replacing”, page 252](#)

⇒ [“2.5.2 Bracket for Vehicle Electrical System Control Module J519 , Replacing, RHD”, page 252](#)

2.5.1 Bracket for Vehicle Electrical System Control Module - J519- , Replacing

Removing

- Remove the Vehicle Electrical System Control Module - J519- bracket. Refer to
⇒ [“2.4 Bracket for Vehicle Electrical System Control Module J519 , Removing and Installing”, page 250](#) .
- Remove the Vehicle Electrical System Control Module - J519- . Refer to
⇒ [“2.2 Vehicle Electrical System Control Module J519 , Removing and Installing”, page 245](#) .
- Remove the Parking Aid Control Module - J446- / Parallel Parking Assistance Control Module - J791- . Refer to
⇒ [“8.2 Parking Aid Control Module J446 , Removing and Installing”, page 149](#) .
- Remove the Front Parking Aid Warning Buzzer - H22- . Refer to
⇒ [“8.3 Front Parking Aid Warning Buzzer H22 , Removing and Installing”, page 150](#) .

Installing

Install in reverse order of removal.

2.5.2 Bracket for Vehicle Electrical System Control Module - J519- , Replacing, RHD

Removing

- Remove the Vehicle Electrical System Control Module - J519- bracket. Refer to
⇒ [“2.4 Bracket for Vehicle Electrical System Control Module J519 , Removing and Installing”, page 250](#) .03.869.
- Remove the Vehicle Electrical System Control Module - J519- . Refer to
⇒ [“2.2 Vehicle Electrical System Control Module J519 , Removing and Installing”, page 245](#) .
- Remove the Front Parking Aid Warning Buzzer - H22- . Refer to



⇒ "8.3 Front Parking Aid Warning Buzzer H22 , Removing and Installing", page 150 .

Installing

Install in reverse order of removal.

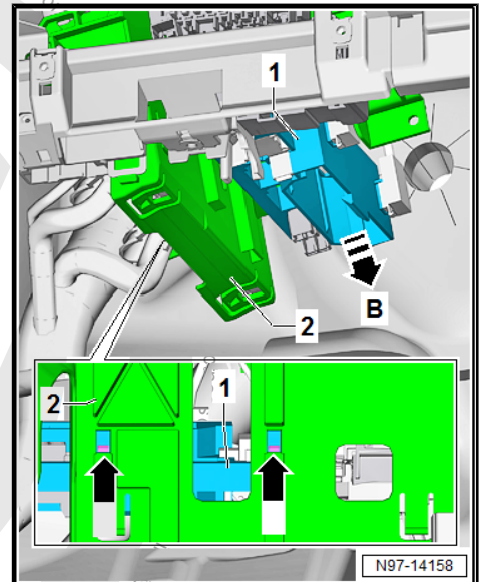
2.6 Parking Aid Control Module - J446- / Parallel Parking Assistance Control Module - J791- Bracket, Removing and Installing

Removing

- Remove the Vehicle Electrical System Control Module - J519- . Refer to
⇒ "2.2 Vehicle Electrical System Control Module J519 , Removing and Installing", page 245 .
- If installed: remove the control module for Parking Aid Control Module - J446- / Parallel Parking Assistance Control Module - J791- . Refer to
⇒ "8.2 Parking Aid Control Module J446 , Removing and Installing", page 149 .
- Depending on vehicle equipment remove the fuse and relay panel present from the bracket -1-.
- Release the retainers -arrows- on the bracket for the vehicle electrical system control module -2-.
- Remove the bracket -1- downward in the direction of -arrow B- from the bracket for the vehicle electrical system control module -2-.

Installing

Install in reverse order of removal.





3 Connectors

⇒ ["3.1 Wiring Harnesses and Connectors, Repairing",
page 254](#)

3.1 Wiring Harnesses and Connectors, Repairing

⇒ ["3.1.1 Wiring Harnesses and Connectors, Repairing",
page 254](#)

⇒ ["3.1.2 Connector Housings and Connectors, Repairing",
page 254](#)

3.1.1 Wiring Harnesses and Connectors, Repairing

Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 97 ; Wiring Harness and Connector Repairs; Wiring Harnesses, Repairing .

3.1.2 Connector Housings and Connectors, Repairing

Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 97 ; Wiring Harness and Connector Repairs; Contact Housings and Connectors, Repairing .





4 Connector Housings, Releasing and Disassembling

Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 97 ; Wiring Harness and Connector Repairs; Contact Housings, Releasing and Disassembling .





5 Antenna Wires, Repairing

Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 97 ; Wiring Harness and Connector Repairs; Antenna Wires, Repairing .





6 Fiber-Optic Cable

Refer to ⇒ Electrical Equipment General Information; Rep. Gr.
97 ; Wiring Harness and Connector Repairs; Fiber-Optic Cables,
Repairing .





7 Vehicle Diagnostic Tester

Refer to ⇒ Electrical Equipment General Information; Rep. Gr.
97 ; Vehicle Diagnostic Tester





8 Special Tools

Special tools and workshop equipment required

- ◆ Torque Wrench 1410 - VAG1410-

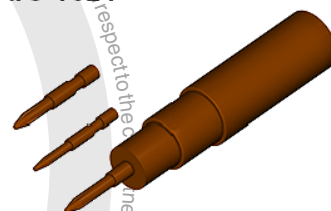
V.A.G 1410



W00-11174

- ◆ Torque Screwdriver - VAG1624-

V.A.G 1624



W00-11187



9 Revision History

DRUCK NUMBER: K0059330821

Fac- tory Edi- tion	Edit Edi- tion	Job Type	Fee dba ck	Notes	Quality Checke d By
07.2 018	07/2 6/20 18	Fac- tory Up- date	N/A		Eric P.
04.2 017	06/0 6/20 18	Fac- tory New	N/A		Eric P.



Cautions & Warnings

Please read these WARNINGS and CAUTIONS before proceeding with maintenance and repair work. You must answer that you have read and you understand these WARNINGS and CAUTIONS before you will be allowed to view this information.

- If you lack the skills, tools and equipment, or a suitable workshop for any procedure described in this manual, we suggest you leave such repairs to an authorized Volkswagen retailer or other qualified shop. We especially urge you to consult an authorized Volkswagen retailer before beginning repairs on any vehicle that may still be covered wholly or in part by any of the extensive warranties issued by Volkswagen.
- Disconnect the battery negative terminal (ground strap) whenever you work on the fuel system or the electrical system. Do not smoke or work near heaters or other fire hazards. Keep an approved fire extinguisher handy.
- Volkswagen is constantly improving its vehicles and sometimes these changes, both in parts and specifications, are made applicable to earlier models. Therefore, part numbers listed in this manual are for reference only. Always check with your authorized Volkswagen retailer parts department for the latest information.
- Any time the battery has been disconnected on an automatic transmission vehicle, it will be necessary to reestablish Transmission Control Module (TCM) basic settings using the VAG 1551 Scan Tool (ST).
- Never work under a lifted vehicle unless it is solidly supported on stands designed for the purpose. Do not support a vehicle on cinder blocks, hollow tiles or other props that may crumble under continuous load. Never work under a vehicle that is supported solely by a jack. Never work under the vehicle while the engine is running.
- For vehicles equipped with an anti-theft radio, be sure of the correct radio activation code before disconnecting the battery or removing the radio. If the wrong code is entered when the power is restored, the radio may lock up and become inoperable, even if the correct code is used in a later attempt.
- If you are going to work under a vehicle on the ground, make sure that the ground is level. Block the wheels to keep the vehicle from rolling. Disconnect the battery negative terminal (ground strap) to prevent others from starting the vehicle while you are under it.
- Do not attempt to work on your vehicle if you do not feel well. You increase the danger of injury to yourself and others if you are tired, upset or have taken medicine or any other substances that may impair you or keep you from being fully alert.
- Never run the engine unless the work area is well ventilated. Carbon monoxide (CO) kills.
- Always observe good workshop practices. Wear goggles when you operate machine tools or work with acid. Wear goggles, gloves and other protective clothing whenever the job requires working with harmful substances.
- Tie long hair behind your head. Do not wear a necktie, a scarf, loose clothing, or a necklace when you work near machine tools or running engines. If your hair, clothing, or jewelry were to get caught in the machinery, severe injury could result.
- Do not re-use any fasteners that are worn or deformed in normal use. Some fasteners are designed to be used only once and are unreliable and may fail if used a second time. This includes, but is not limited to, nuts, bolts, washers, circlips and cotter pins. Always follow the recommendations in this manual - replace these fasteners with new parts where indicated, and any other time it is deemed necessary by inspection.

Cautions & Warnings

- Illuminate the work area adequately but safely. Use a portable safety light for working inside or under the vehicle. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.
- Friction materials such as brake pads and clutch discs may contain asbestos fibers. Do not create dust by grinding, sanding, or by cleaning with compressed air. Avoid breathing asbestos fibers and asbestos dust. Breathing asbestos can cause serious diseases such as asbestosis or cancer, and may result in death.
- Finger rings should be removed so that they cannot cause electrical shorts, get caught in running machinery, or be crushed by heavy parts.
- Before starting a job, make certain that you have all the necessary tools and parts on hand. Read all the instructions thoroughly; do not attempt shortcuts. Use tools that are appropriate to the work and use only replacement parts meeting Volkswagen specifications. Makeshift tools, parts and procedures will not make good repairs.
- Catch draining fuel, oil or brake fluid in suitable containers. Do not use empty food or beverage containers that might mislead someone into drinking from them. Store flammable fluids away from fire hazards. Wipe up spills at once, but do not store the oily rags, which can ignite and burn spontaneously.
- Use pneumatic and electric tools only to loosen threaded parts and fasteners. Never use these tools to tighten fasteners, especially on light alloy parts. Always use a torque wrench to tighten fasteners to the tightening torque listed.
- Keep sparks, lighted matches, and open flame away from the top of the battery. If escaping hydrogen gas is ignited, it will ignite gas trapped in the cells and cause the battery to explode.
- Be mindful of the environment and ecology. Before you drain the crankcase, find out the proper way to dispose of the oil. Do not pour oil onto the ground, down a drain, or into a stream, pond, or lake. Consult local ordinances that govern the disposal of wastes.
- The air-conditioning (A/C) system is filled with a chemical refrigerant that is hazardous. The A/C system should be serviced only by trained automotive service technicians using approved refrigerant recovery/recycling equipment, trained in related safety precautions, and familiar with regulations governing the discharging and disposal of automotive chemical refrigerants.
- Before doing any electrical welding on vehicles equipped with anti-lock brakes (ABS), disconnect the battery negative terminal (ground strap) and the ABS control module connector.
- Do not expose any part of the A/C system to high temperatures such as open flame. Excessive heat will increase system pressure and may cause the system to burst.
- When boost-charging the battery, first remove the fuses for the Engine Control Module (ECM), the Transmission Control Module (TCM), the ABS control module, and the trip computer. In cases where one or more of these components is not separately fused, disconnect the control module connector(s).
- Some of the vehicles covered by this manual are equipped with a supplemental restraint system (SRS), that automatically deploys an airbag in the event of a frontal impact. The airbag is operated by an explosive device. Handled improperly or without adequate safeguards, it can be accidentally activated and cause serious personal injury. To guard against personal injury or airbag system failure, only trained Volkswagen Service technicians should test, disassemble or service the airbag system.

Cautions & Warnings

- Do not quick-charge the battery (for boost starting) for longer than one minute, and do not exceed 16.5 volts at the battery with the boosting cables attached. Wait at least one minute before boosting the battery a second time.
- Never use a test light to conduct electrical tests of the airbag system. The system must only be tested by trained Volkswagen Service technicians using the VAG 1551 Scan Tool (ST) or an approved equivalent. The airbag unit must never be electrically tested while it is not installed in the vehicle.
- Some aerosol tire inflators are highly flammable. Be extremely cautious when repairing a tire that may have been inflated using an aerosol tire inflator. Keep sparks, open flame or other sources of ignition away from the tire repair area. Inflate and deflate the tire at least four times before breaking the bead from the rim. Completely remove the tire from the rim before attempting any repair.
- When driving or riding in an airbag-equipped vehicle, never hold test equipment in your hands or lap while the vehicle is in motion. Objects between you and the airbag can increase the risk of injury in an accident.

I have read and I understand these Cautions and Warnings.