



00 – Technical data

1 Safety information

(VRL013829; Edition 01.2020)

⇒ [“1.1 Safety measures when working on vehicles with a start/stop system”, page 1](#)

⇒ [“1.2 Safety precautions when using testers and measuring instruments during a road test”, page 1](#)

1.1 Safety measures when working on vehicles with a start/stop system

Risk of injury from engine starting unexpectedly

If the vehicle's start/stop system is activated, the engine can start without warning. A message in the dash panel insert indicates whether the start/stop system is activated.

- Deactivate start/stop system by switching off the ignition.

1.2 Safety precautions when using testers and measuring instruments during a road test

Risk of injury caused by unsecured testing and measuring instruments

When the front passenger airbag is triggered in an accident, insufficiently secured testing and measuring instruments become dangerous projectiles.

- Secure testing and measuring instruments on the rear seat.

or

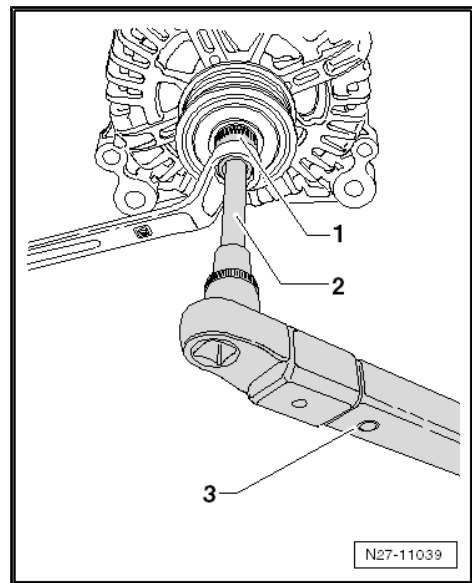
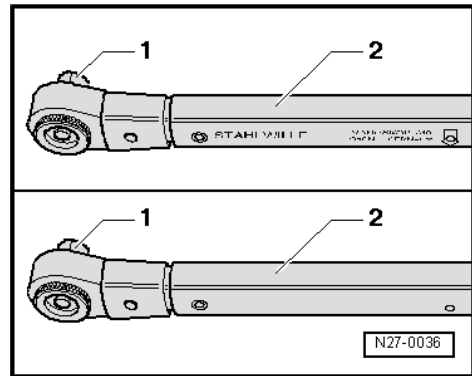
- Have a second person operate the test and measuring equipment on the rear seat.



- Release socket drive -1- and pull off grip -2-.
- Turn torque wrench grip -2- 180° and reinsert socket drive.
- Set turning direction of torque wrench to anti-clockwise at socket drive.
- First screw poly V-belt pulley with freewheel onto alternator shaft by hand as far as possible.
- Insert multipoint adapter - T10474- or multipoint adapter - 3400- -1- into decoupler pulley with freewheel, and fit a ring spanner.
- Insert suitable tool -2- into alternator shaft.
- Turn alternator shaft anti-clockwise using torque wrench - V.A.G 1332- -3- in order to tighten decoupled pulley with freewheel.

Specified torques

Component	Specified torque
Securing nut for decoupler pulley	80 Nm



2.5 Removing and installing voltage regulator

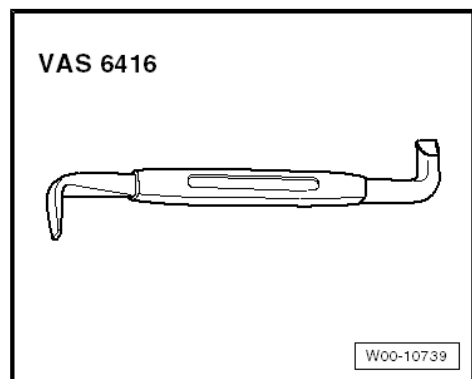
⇒ ["2.5.1 Removing and installing voltage regulator \(Bosch\)", page 28](#)

⇒ ["2.5.2 Removing and installing voltage regulator \(Valeo\)", page 29](#)

2.5.1 Removing and installing voltage regulator (Bosch)

Special tools and workshop equipment required

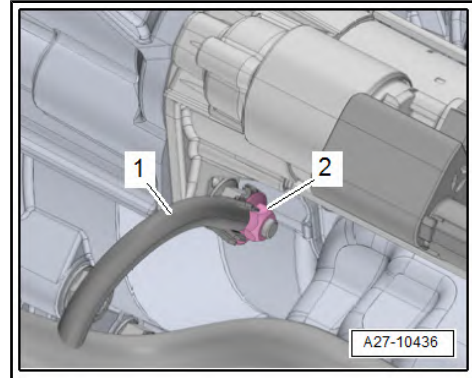
- ◆ Offset screwdriver for slotted screws - VAS 6416-



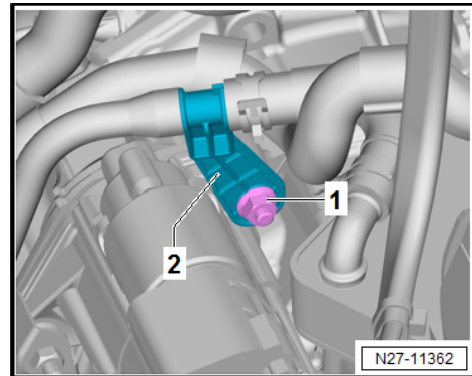


Removing

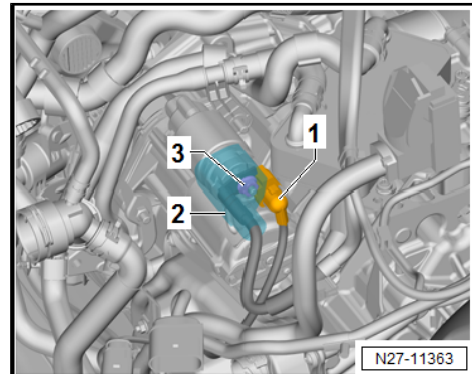
- With ignition switched off, disconnect earth cable from battery ➔ [page 8](#) .
- Remove air filter housing ➔ Rep. gr. 24 ; Air filter; Removing and installing air filter housing .
- Unscrew nut -2-.
- Detach electrical wire -1-.



- Unscrew nut -1-.
- Remove retainer -2-.



- Disconnect connector -1-.
- Press off cap -2-.
- Unscrew nut -3-.



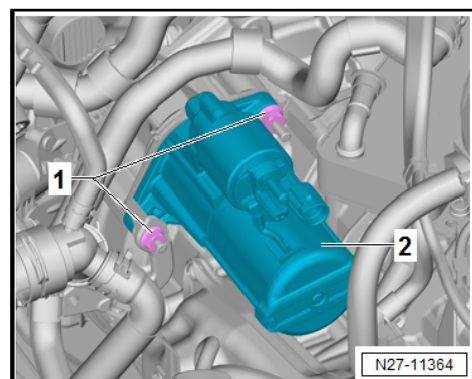
- Unscrew bolts -1-.
- Remove starter - B- -2-.

Installing

Install in the reverse order of removal, observing the following:

Specified torques

- ◆ ➔ [“3.1.3 Assembly overview – starter, vehicles with dual clutch gearbox, R model”, page 33](#)



3.3 Checking starter

- Check starter - B- ➔ Vehicle diagnostic tester.



92 – Windscreen wash/wipe system

1 Windscreen wiper system

⇒ [“1.1 Assembly overview - windscreen wiper system”, page 50](#)

⇒ [“1.2 Moving wipers to service position”, page 51](#)

⇒ [“1.3 Removing and installing wiper blade”, page 51](#)

⇒ [“1.4 Removing and installing wiper arms”, page 52](#)

⇒ [“1.5 Adjusting wiper arms”, page 53](#)

⇒ [“1.6 Removing and installing wiper motor V”, page 54](#)

⇒ [“1.7 Removing and installing rain and light sensor”, page 55](#)

1.1 Assembly overview - windscreen wiper system

1 - Rubber mounting

- Qty. 3

2 - Bolt

- Qty. 3
- Specified torque and tightening sequence
⇒ [page 51](#)

3 - Wiper frame

- With windscreen wiper motor - V-
- Removing and installing
⇒ [page 54](#)

4 - Wiper arm on front passenger side

- Different length ⇒ Electronic parts catalogue “ETKA”
- Removing and installing
⇒ [page 52](#)
- Adjusting ⇒ [page 53](#)

5 - Wiper blade on front passenger side

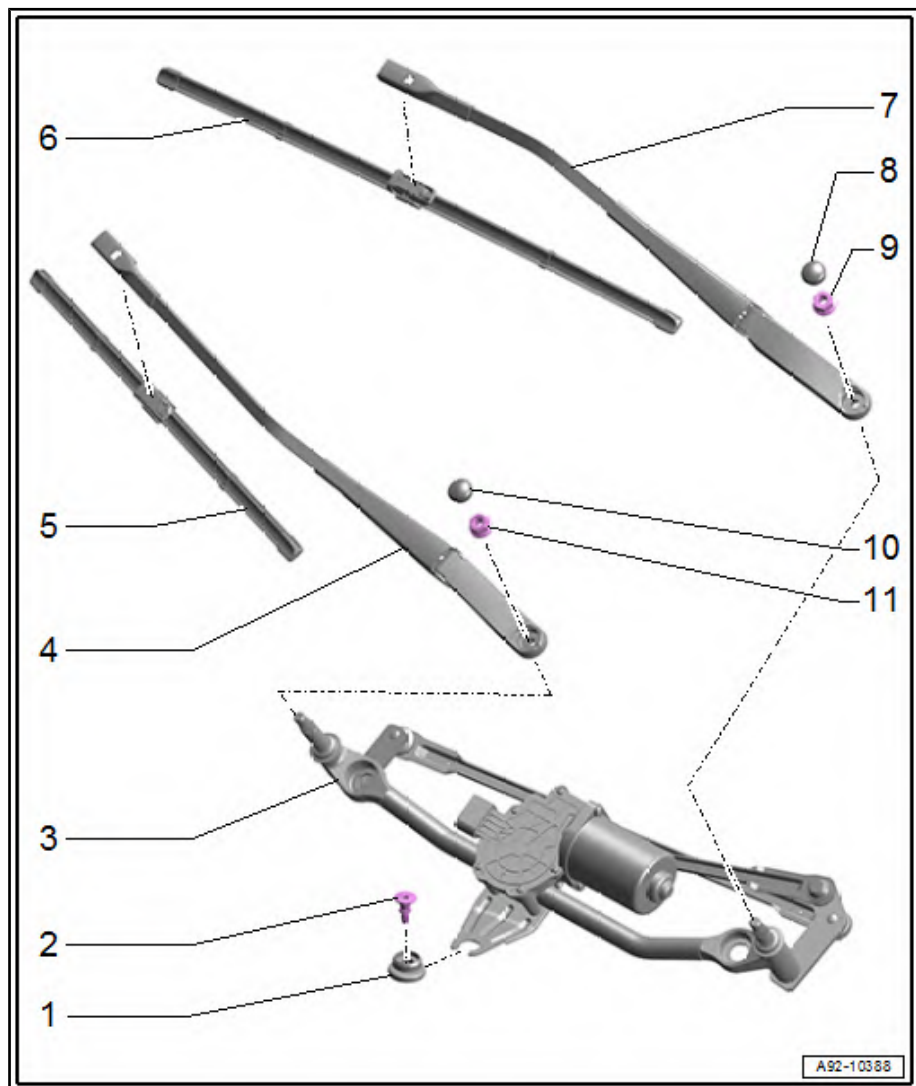
- Different length ⇒ Electronic parts catalogue “ETKA”
- Removing and installing
⇒ [page 51](#)

6 - Wiper blade on driver side

- Different length ⇒ Electronic parts catalogue “ETKA”
- Removing and installing
⇒ [page 51](#)

7 - Wiper arm on driver side

- Different length ⇒ Electronic parts catalogue “ETKA”
- Removing and installing ⇒ [page 52](#)





- Disconnect connector -1-.
- Release and pull off washer fluid hoses -2-.
- Pull out washer pump - V5- -3- from washer fluid reservoir.

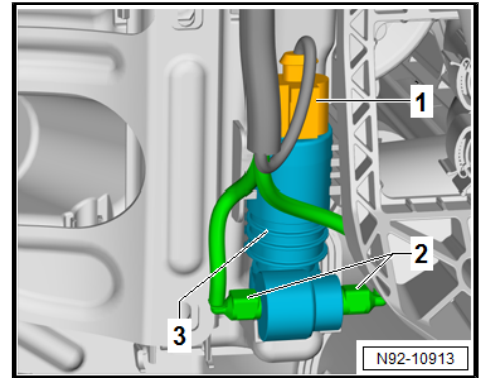
Installing

Install in the reverse order of removal, observing the following:

Note

The connections on the pump and hoses are colour coded to prevent interchanging the washer fluid hoses on the windscreen and rear window washer pump - V5- . The hose fittings must be connected to the correct colour-coded pump connections during installation.

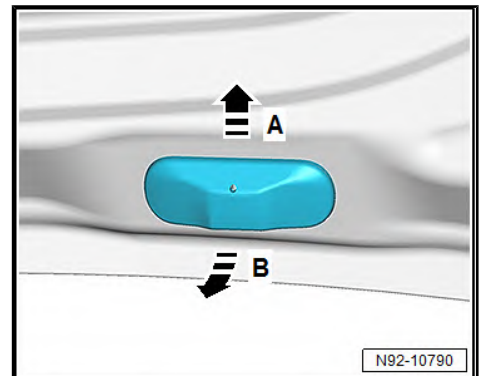
- Check seal of washer pump - V5- for damage and correct seating.



2.5 Removing and installing washer jets

Removing

- Switch off ignition and all electrical consumers.
- Store the ignition key outside the vehicle to prevent the ignition from being switched on unintentionally.
- Open bonnet.
- Push spray jet upwards -arrow A-, and swing it out downwards out of bonnet -arrow B-.





1.2 Assembly overview - daytime running lights

⇒ [“1.2.1 Assembly overview - daytime running lights, dual halogen headlight”, page 84](#)

⇒ [“1.2.2 Assembly overview - daytime running lights, LED headlight”, page 85](#)

1.2.1 Assembly overview - daytime running lights, dual halogen headlight

1 - Light module

- Left light module - MX7-
- Right light module - MX8-
- Removing and installing
⇒ [page 100](#)

2 - Bolt

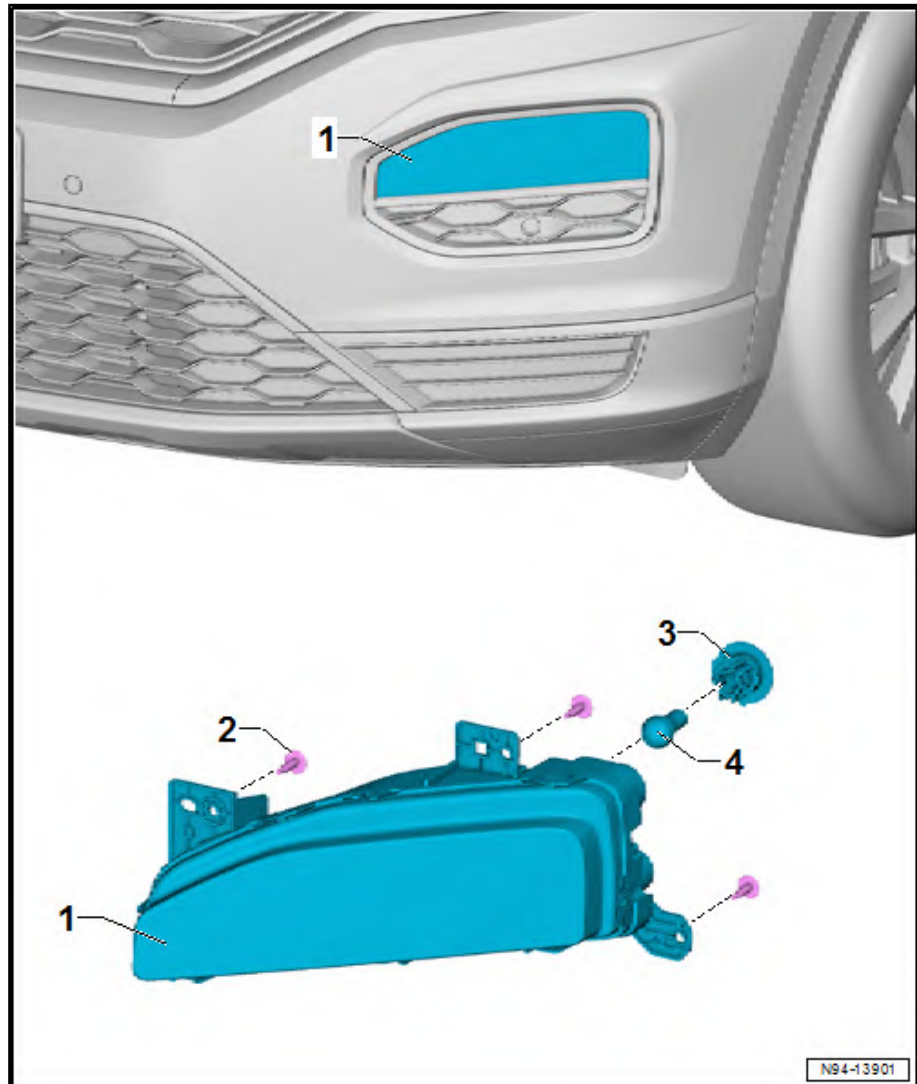
- Qty. 3
- 2 Nm

3 - Handle

- Front turn signal bulb 2

4 - Front turn signal bulb 2

- Front left turn signal bulb 2 - M92-
- Front right turn signal bulb 2 - M93-
- Removing and installing
⇒ [page 88](#)



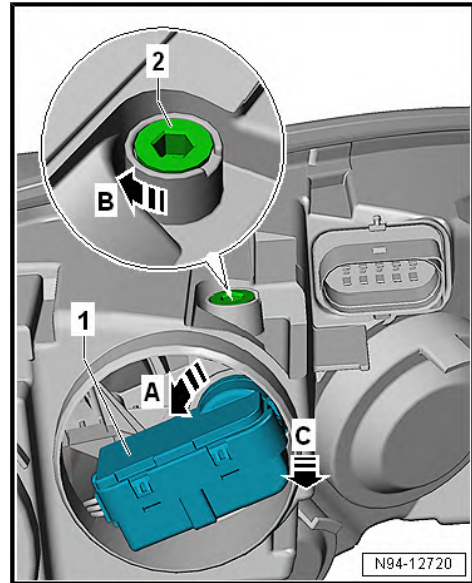


- Turn adjuster screw -2- onto stop in direction of -arrow B-.
- Release left headlight range control motor - V48- -1- in direction of -arrow A-.
- Swing left headlight range control motor - V48- -1- towards left so that the ball head is pushed towards right out of ball head mounting in headlight.
- Carefully pull left headlight range control motor - V48- -1- towards rear out of headlight until connector is accessible.
- Release and disconnect connector on left headlight range control motor - V48- -1-.
- Remove left headlight range control motor - V48- -1-.

Installing

Install in the reverse order of removal, observing the following:

- Pull reflector on ball head mounting towards rear.
- Attach ball head on left headlight range control motor - V48- in ball head mounting in headlight.



Caution

Risk of damage to the headlight.

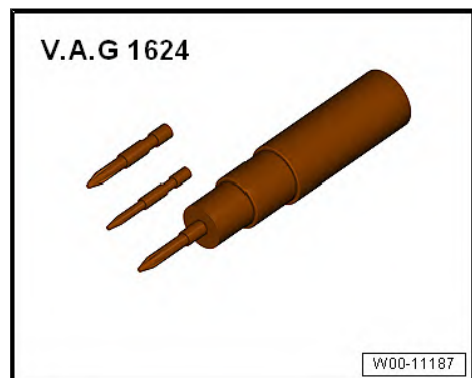
- ◆ *Make sure cover cap is correctly seated when installing. The ingress of water will cause permanent damage to the headlight.*

- Perform functional check.
- Check headlight setting and adjust headlight as necessary
⇒ [page 87](#) .

1.9.2 Removing and installing headlight range control motor -V48- / -V49- , LED headlights

Special tools and workshop equipment required

- ◆ Torque screwdriver - V.A.G 1624-



Note

Removal and installation are described for the left side. The removal and installation procedure for the right-hand side is basically the same.



3 Lights in exterior mirror

⇒ [“3.1 Assembly overview - lights in exterior mirror”, page 109](#)

⇒ [“3.2 Removing and installing turn signal”, page 110](#)

⇒ [“3.3 Removing and installing entry light in exterior mirror”, page 110](#)

3.1 Assembly overview - lights in exterior mirror

1 - Mirror mounting

- Removing and installing
⇒ General body repairs, exterior; Rep. gr. 66 ; Exterior mirror; Removing and installing exterior mirror .

2 - Electrical connector

3 - Mirror trim

- Removing and installing
⇒ General body repairs, exterior; Rep. gr. 66 ; Exterior mirror; Removing and installing mirror trim .

4 - Bolt

- Qty. 2
- Specified torque ⇒
General body repairs, exterior; Rep. gr. 66 ; Exterior mirror; Assembly overview - exterior mirror

5 - Mirror glass

- Removing and installing
⇒ General body repairs, exterior; Rep. gr. 66 ; Exterior mirror; Removing and installing mirror glass .

6 - Lower cap

- Removing and installing
⇒ General body repairs, exterior; Rep. gr. 66 ; Exterior mirror; Removing and installing mirror cover .

7 - Bolt

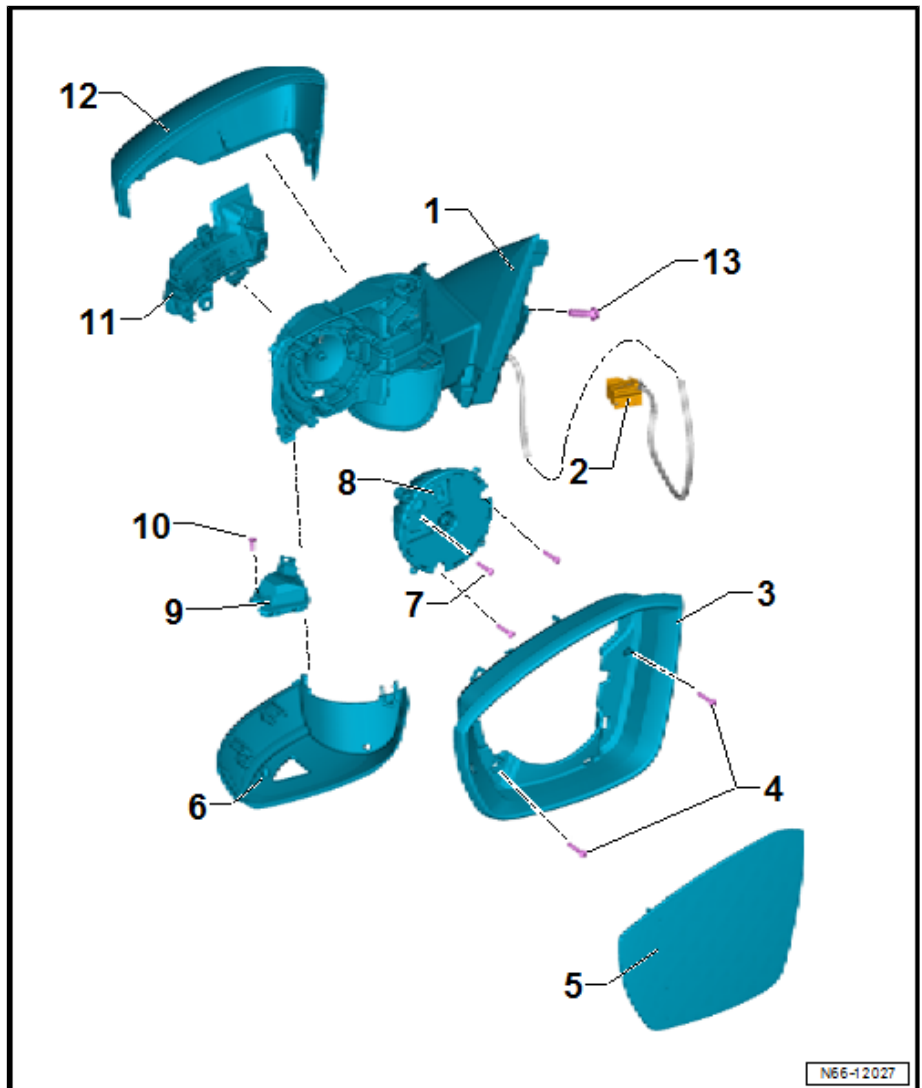
- Qty. 3
- Specified torque ⇒ General body repairs, exterior; Rep. gr. 66 ; Exterior mirror; Assembly overview - exterior mirror

8 - Adjuster unit

- Removing and installing ⇒ General body repairs, exterior; Rep. gr. 66 ; Exterior mirror; Removing and installing mirror adjustment unit .

9 - Entry light

- Removing and installing ⇒ [page 110](#)





7.2 Overview of fitting locations - keyless entry system

1 - Front passenger side door exterior handle

- ❑ with front passenger door exterior handle contact sensor - G416- and passenger side aerial for entry and start system - R135-
- ❑ Removing and installing
⇒ General body repairs, exterior; Rep. gr. 57 ; Door components; Removing and installing door handle

2 - Interior aerial 2 for entry and start system - R139-

- ❑ Removing and installing
⇒ [page 124](#)

3 - Rear bumper aerial for entry and start system - R136-

- ❑ Removing and installing
⇒ [page 125](#)

4 - Driver side door exterior handle

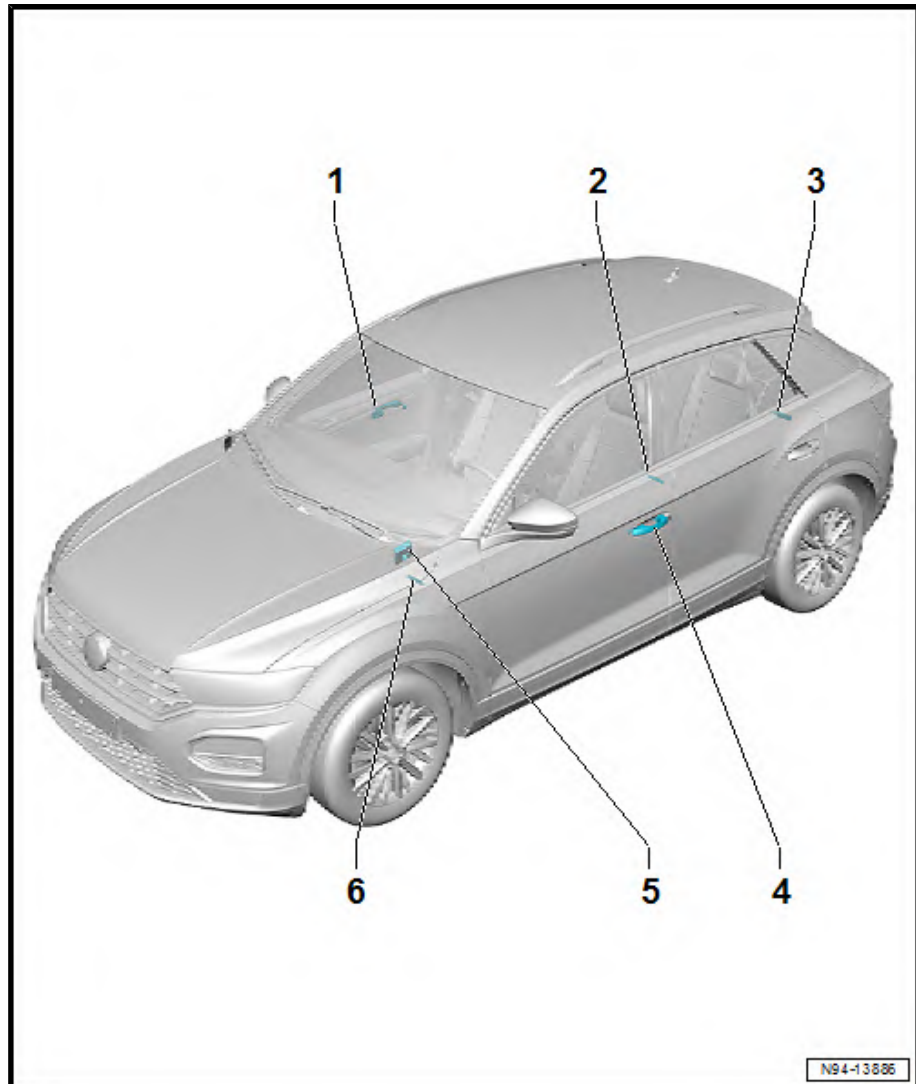
- ❑ with driver door exterior handle contact sensor - G415- and driver side aerial for entry and start system - R134-
- ❑ Removing and installing
⇒ General body repairs, exterior; Rep. gr. 57 ; Door components; Removing and installing door handle

5 - Interface for entry and start system - J965-

- ❑ Removing and installing ⇒ [page 122](#)

6 - Interior aerial 1 for entry and start system - R138-

- ❑ Removing and installing ⇒ [page 123](#)

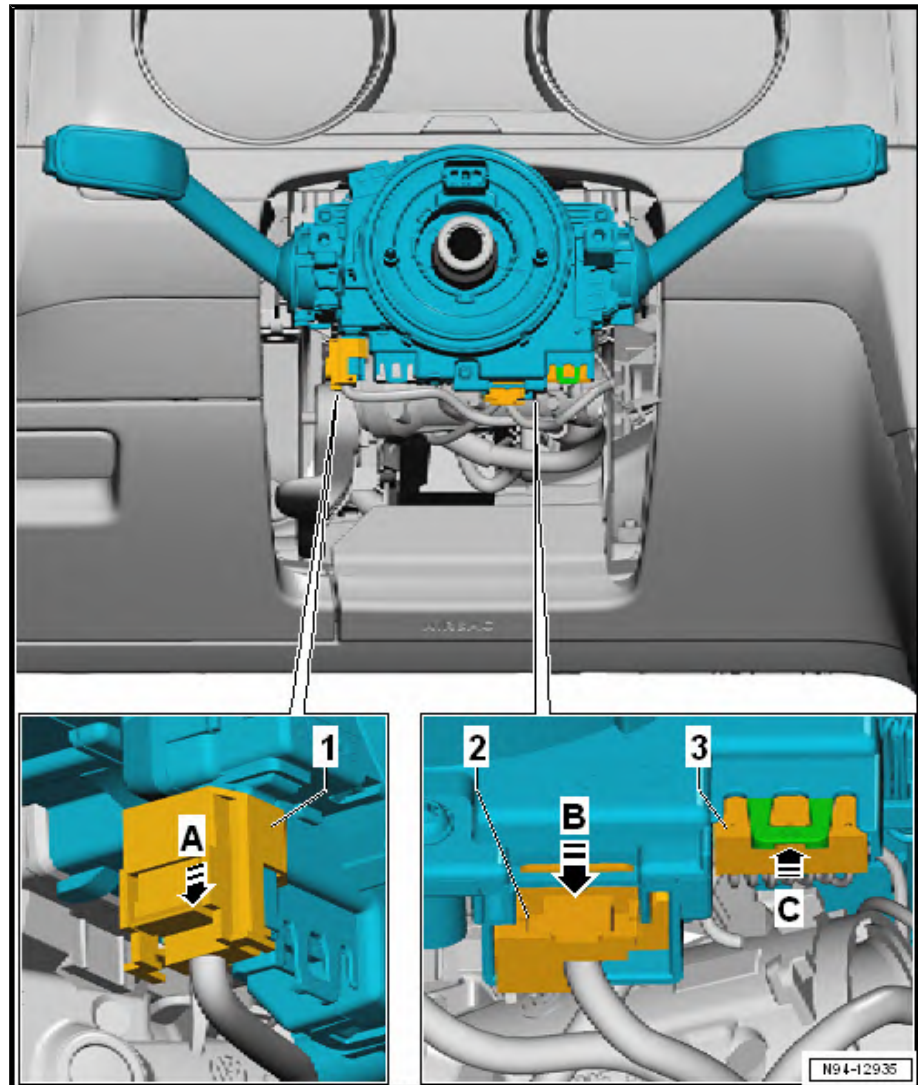


7.3 Removing and installing interface for entry and start system - J965-



Note

- ◆ If the interface for entry and start system - J965- is renewed, start the respective function ⇒ Vehicle diagnostic tester.
- ◆ Removal and installation are described for left-hand drive vehicles. Removal and installation for right-hand drive vehicles are similar.



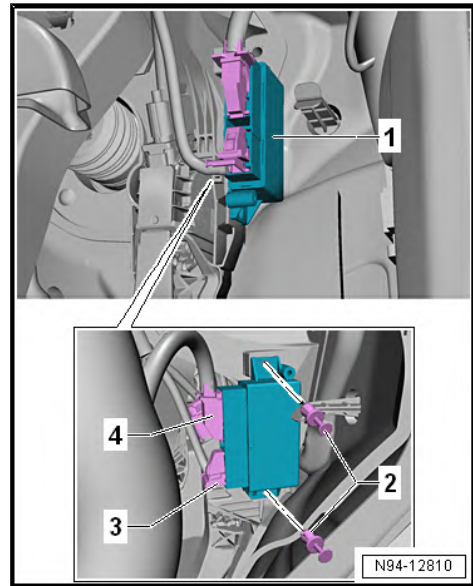
- Pull out connector lock in direction of arrow -A- and press it down.
- Separate connector -1-.
- Pull out connector lock in direction of arrow -B- and press it down.
- Separate connector -2-.
- Press connector lock in direction of arrow -C- and disconnect electrical connector -3-.



- Store the ignition key outside the vehicle to prevent the ignition from being switched on unintentionally.
- Release and pull out spreader rivets -2-.
- Remove parking aid control unit - J446- -1-.
- Release and separate electrical connectors -3- and -4-.

Installing

Install in reverse order of removal.



9.3 Removing and installing front parking aid warning buzzer - H22-

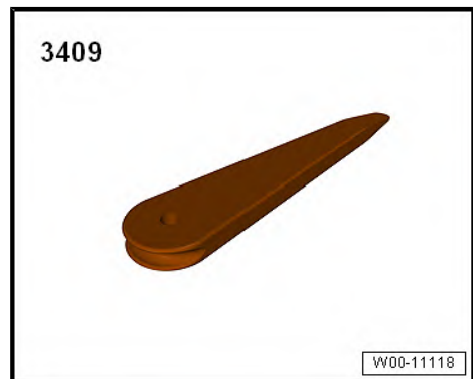
⇒ [“9.3.1 Removing and installing front parking aid warning buzzer H22 , LHD vehicles”](#), page 146

⇒ [“9.3.2 Removing and installing front parking aid warning buzzer H22 , RHD vehicles”](#), page 147

9.3.1 Removing and installing front parking aid warning buzzer - H22- , LHD vehicles

Special tools and workshop equipment required

- ◆ Removal wedge - 3409-



Removing

- Switch off ignition and all electrical consumers.
- Store the ignition key outside the vehicle to prevent the ignition from being switched on unintentionally.



- Use a flat screwdriver to push in locking lug -1- at point indicated by -arrow A-.
- Lever off footwell light -2-.
- Release and separate electrical connector.

Installing

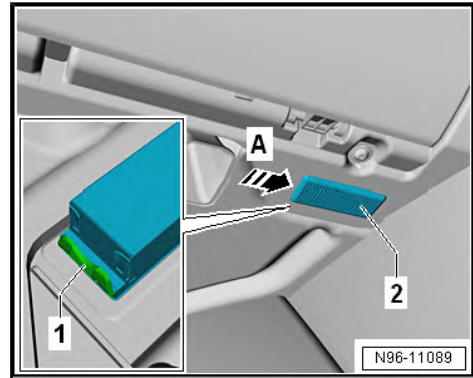
Install in the reverse order of removal, observing the following:



Note

Since the footwell light is equipped with LEDs, the entire light must be renewed in the event of a fault.

- Perform functional check.



1.9 Removing and installing front footwell illumination bulb -L151- / -L152-

Since the front footwell light is equipped with LEDs, the entire light must be renewed.

- Removing and installing front footwell light -K268- / -K269- => [page 169](#) .

1.10 Removing and installing centre console illumination bulb - L150-

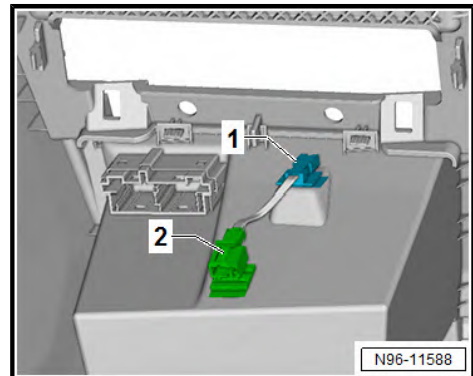
Removing

- Remove centre console insert => General body repairs, interior; Rep. gr. 68 ; Centre console; Removing and installing centre console insert .
- Mark installation position of centre console illumination bulb - L150- -1- and of electrical connector -2- on storage compartment.
- Carefully detach bonded joint of centre console illumination bulb - L150- -1- and electrical connector -2-.
- Remove centre console illumination bulb - L150- -1- and electrical connector -2- from front storage compartment in centre console.
- Remove any adhesive remains from storage compartment in centre console.

Installing

Install in the reverse order of removal, observing the following:

- Align new centre console illumination bulb - L150- -1- with electrical connector -2- in the position marked before removal, and bond it on.
- Perform functional check.



1.11 Removing and installing Central locking SAFELOCK function warning lamp - K133-

Removing

- Remove front door trim panel => General body repairs, interior; Rep. gr. 70 ; Front door trim panels; Removing and installing front door trim panel .



2.4 Overview of fitting locations - controls in centre console

Note

The illustration shows fitting locations for left-hand drive vehicles. Fitting locations for right-hand drive vehicles are similar.

1 - Switch module 1 in centre console - EX23-

- Each of the buttons in the switch module is installed in the switch module and cannot be removed individually.
- The following switches may be installed depending on the equipment level:
 - ◆ TCS and ESP button - E256-
 - ◆ Start/stop operation switch - E693-
 - ◆ Button for driver profile selection - E735-
- Removing and installing ⇒ [page 190](#)

2 - Hazard warning light switch - EX3-

- Removing and installing ⇒ [page 192](#)

3 - Switch module 2 in centre console - EX30-

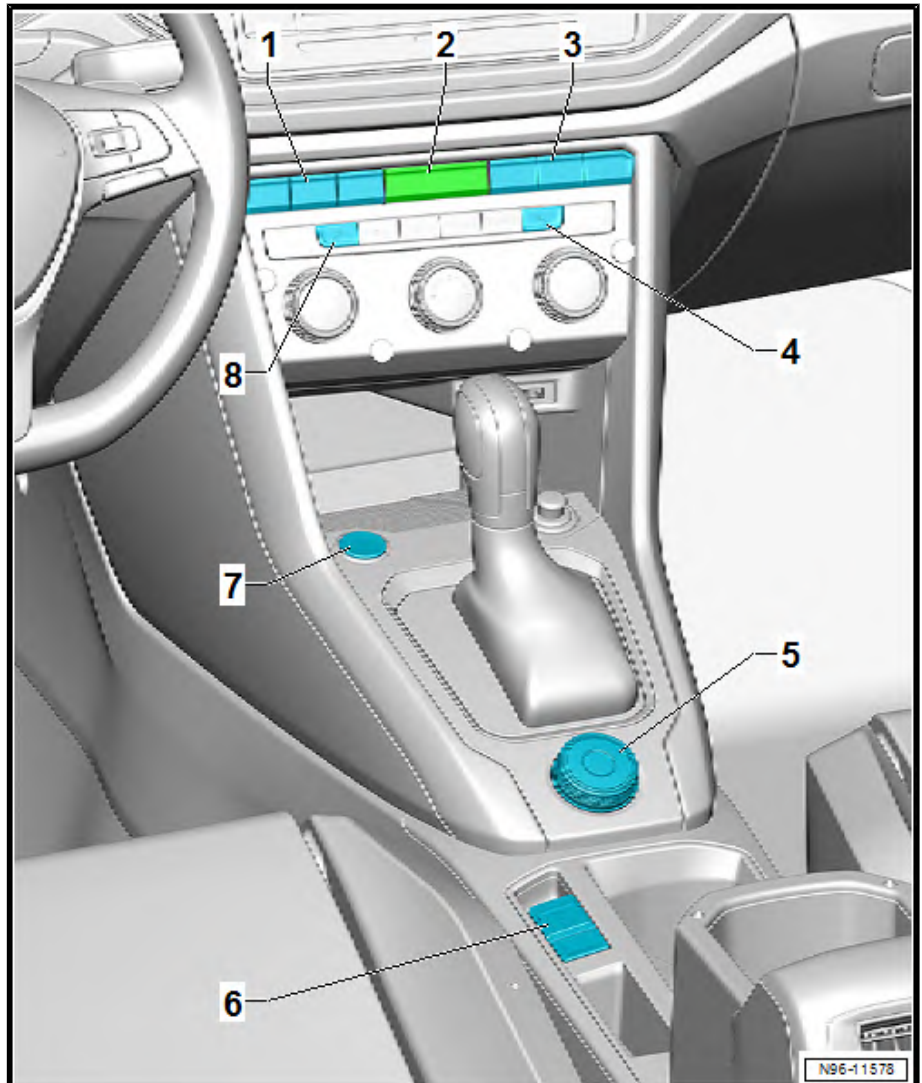
- Each of the buttons is installed in the switch module and cannot be removed individually.
- The following switches may be installed depending on the equipment level:
 - ◆ Parking aid button - E266-
 - ◆ Park assist steering button - E581-
- Removing and installing ⇒ [page 190](#)

4 - Button for right seat heating - E654-

- Integrated in operating and display unit:
 - ◆ Heater control unit - J65- OR
 - ◆ air conditioning system control unit - J301- OR
 - ◆ Climatronic control unit - J255-
 - Cannot be renewed separately if defective.
 - Removing and installing -J65- / -J301- / -J255- ⇒ Heating, air conditioning; Rep. gr. 87 ; Overview of fitting locations - operating and display unit .

5 - Operating unit for driving mode selection - E881-

- Removing and installing ⇒ [page 204](#)





2.20 Removing and installing front passenger side window regulator button - E716-



Removal and installation are described for left-hand drive vehicles. Removal and installation for right-hand drive vehicles are similar.

Removing

- Remove trim for button ⇒ General body repairs, interior; Rep. gr. 70 ; Front door trims; Removing and installing trim for button .



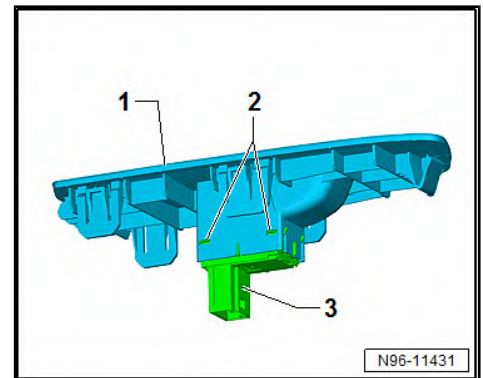
The trim for the button -1- may differ from the illustration in terms of shape and appearance. Removal and installation of the front passenger side window regulator button - E716- -3- are the same for all versions.

- Using a small screwdriver, release fasteners -2- on both sides.
- Pull out front passenger side window regulator button - E716- -3- from button trim -1-.

Installing

Install in the reverse order of removal, observing the following:

- Perform functional check.



2.21 Removing and installing driver side interior locking button for central locking system - E308-



Removal and installation are described for left-hand drive vehicles. Removal and installation for right-hand drive vehicles are similar.

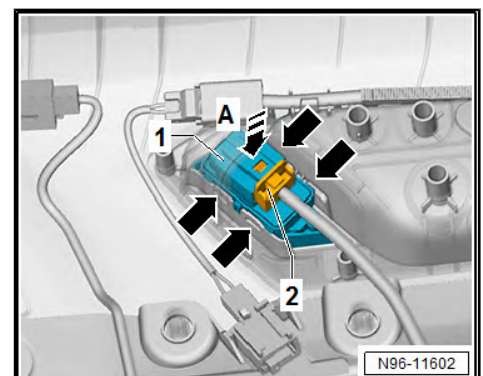
Removing

- Remove front door trim panel ⇒ General body repairs, interior; Rep. gr. 70 ; Front door trim panels; Removing and installing front door trim panel .
- Release and disconnect electrical connector -2-.
- Use a small screwdriver to release fasteners -arrows- on both sides.
- Push out driver side interior locking button for central locking system - E308- -1- outwards in direction of -arrow A-.

Installing

Install in the reverse order of removal, observing the following:

- Perform functional check.

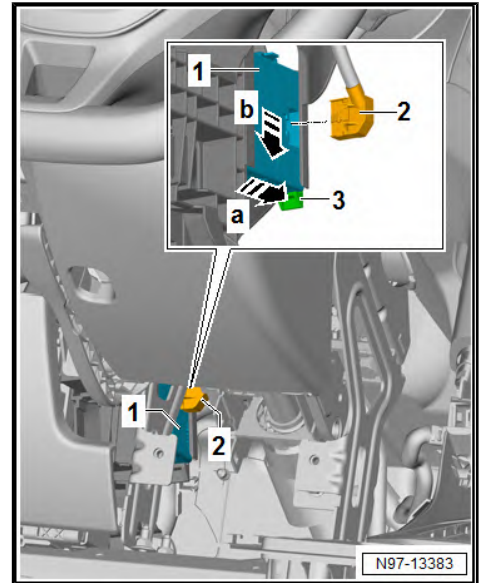




- Unplug electrical connector -2- by reaching upwards behind pedal bracket.
- Release fasteners -3- in -direction of arrow a-.
- Pull data bus diagnostic interface - J533- -1- downwards in -direction of arrow b- out of bracket.

Installing

Install in reverse order of removal.



2.3.2 Removing and installing data bus diagnostic interface - J533- , right-hand drive

i Note

If the data bus diagnostic interface - J533- is renewed, perform the adaptation routines using ⇒ Vehicle diagnostic tester.

Removing

- Working from front passenger footwell, release and disconnect electrical connector -3-.
- Press together catches -arrows-.
- Pull off data bus diagnostic interface - J533- -2- downwards from bracket -1-.

If bracket for data bus diagnostic interface - J533- has to be removed:

- If present, remove emergency call module control unit and communication unit - J949- ⇒ Communication; Rep. gr. 91 ; Mobile online services; Overview of fitting locations - mobile online services .

- Unscrew nuts -2-.
- Remove bracket -1-.

Installing

Install in the reverse order of removal, observing the following:

Specified torques

Component	Specified torque
Bracket on dash panel cross member	2.5 Nm

