Readout on V.A.G 1552	Possible cause of fault	Rectifying fault
01346 Cable to ignition module ♦ signal out of tolerance	♦ Electrical fault at ECU output when preparing ignition of gas discharge bulb	- Test main wiring loom between ECU and ignition/high voltage unit - Replace ignition/high voltage unit - Replace control unit
01533 Tml. 56 (headlight) ♦ voltage supply too large	♦ Undervoltage switch-off of gas discharge bulb	- If fault 01344 is stored, replace gas discharge bulb - Otherwise, replace ignition/high voltage unit
♦ resistance too large	♦ Undervoltage switch-off of headlight because resistance of lead excessive	- Test main wiring loom and contacts
01537 Vehicle level sensor supply volt. ♦ signal out of tolerance	♦ Sensor main wiring loom faulty	- Test main wiring loom and sensor cable ⇒ Current Flow Diagrams, Fault Finding and Fitting Locations - Replace control unit
01538 Headlight beam control motors -V48/V49 ♦ electr. fault in circuit	♦ Electrical fault detected when operating stepping motor (e.g. motor not connected)	- Test stepping motor cable - Replace stepping motor - Replace ECU
01539 Headlights not adjusted	♦ As-delivered condition ♦ Headlight setting - interrupted, or not successful	- Carry out headlight setting (initiate basic setting) ⇒ page 94-39
01771 AHBC control unit ♦ incorrectly connected	♦ Master control unit is recognised as slave, or vice versa (e.g. if interchanged)	If master recognised: - Test main wiring harness of sensors, and sensors ⇒ Current Flow Diagrams, Fault Finding and Fitting Locations - Replace control unit If slave recognised: - Test main wiring harness ⇒ Current Flow Diagrams, Fault Finding and Fitting Locations - Replace control unit

[1)] Index indicating type of fault.

Final control diagnosis

Conditions

- Vehicle stationary
- Ignition switched on

Note:

If the engine is run or the vehicle moved, the final control diagnosis cannot be initiated, or it is interrupted.

Conducting self-diagnosis:

In this operating mode test both headlight parabolas only with the address word Master 29.

- Connect vehicle system tester V.A.G 1552 and select address word 29 „Xenon headlights“; ignition is switched on for this step ⇒ page 94-33.

Test of vehicle systems HELP Select function XX	◄ Readout in display:
	- Enter function 03. Confirm the entry with the key Q.
Final control diagnosis → Headlights are lowered	◄ Readout in display:
	Both headlight parabolas are moved down as far as the stop.
	- Press → key.
Final control diagnosis → Headlights are raised	◄ Readout in display:
	Both headlight parabolas are raised as far as the stop.
	- Press → key.
	Headlights are tilted into the set position „0“.
Final control diagnosis → END	◄ Readout in display:
	- Press → key.
Test of vehicle systems HELP Select function XX	◄ Readout in display:

Initiating basic setting

Basic setting is carried out only at the master; address word 29.

Conditions

- Vehicle after mechanically setting the parts (after driving off the lift platform or straightening bench)
- Pay attention to zero positions (vehicle without driver, only unladen weight)
- Ignition switched on
- Low beam switched on

Test of vehicle systems HELP Select function XX	◄ Readout in display: - Enter function 04. Confirm the entry with the key Q.
Basic setting Q Enter display group number XXX	◄ Readout in display: - Enter 001 and confirm the entry with the key Q.
System in basic setting 1 → Set headlights	◄ Readout in display: - Set headlights mechanically. ⇒ Inspection and Maintenance - Press → key.
Test of vehicle systems HELP Select function XX	◄ Readout in display: - Enter function 04 and confirm the entry with the key Q.
Basic setting Q Enter display group number XXX	◄ Readout in display: - Enter 002 and confirm the entry with the key Q.
System in basic setting 2 → Control pos. learned	◄ Readout in display: - Press → key.
Test of vehicle systems HELP Select function XX	◄ Readout in display:

Erasing fault memory

Note:

If it is not possible to erase the fault memory, interrogate fault memory once again and rectify any faults.

Requirements:

- Fault memory has been interrogated ⇒ page 94-35.
- All faults have been rectified.

After interrogating fault memory:

Test of vehicle systems HELP Select function XX	◄ Readout in display:
	- Enter function 05 and confirm the entry with the key Q.
Test of vehicle systems → Fault memory is erased	◄ Readout in display:
	The fault memory is now erased.
	- Press → key.
Test of vehicle systems HELP Select function XX	◄ Readout in display:
	Note:
Attention! Fault memory was not interrogated	◄ ♦ *If this message appears in the display, the test sequence is then faulty.*
	♦ *Follow the test sequence exactly, first of all interrogate fault memory, rectify any faults, and then erase fault memory.*
	- End output (function 06) ⇒ page 94-40.

Ending output

- Enter 06 for „End output“.

Test of vehicle systems Q 06 - End output	◄ Readout in display:
	- Confirm entry with the key Q.
Test of vehicle systems HELP Enter address word XX	◄ Readout in display:
	- Switch ignition off.
	- Separate vehicle system tester.

Coding control unit

The parameter coding must be carried out individually for master (left headlight - address word 29) and for slave (right headlight - address word 39).

Coding

- Connect vehicle system tester V.A.G 1552 with cable V.A.G 1551/3.
- Switch ignition on.

Test of vehicle systems HELP Enter address word XX	◄ Readout in display:
	- Enter address word 29 for left headlight and confirm the entry with the key Q.
1U041651 EVG GDL + Auto HBC 0001 → Coding 00005 WSC 00123	◄ Readout in display:
	- Press → key.
	- Select function 07.

- Confirm the entry with the key Q.

Code control unit Q Enter code number XXXXX (0-32000)

◄ Readout in display:

- Enter code number on the basis of the table of codes and confirm the entry with the key Q.

Table of codes:

00005	Front-wheel drive
00006	4x4

1U041651 EVG GDL + Auto HBC 0001 → Coding 00005 WSC 00123

◄ The control unit coding appears in the display (example 00005).

- Press → key.

Test of vehicle systems HELP Select function XX

◄ Readout in display:

- End output (function 06) ⇒ page 94-40.

After this, enter address word 39 and code right headlight - coding is identical as for address word 29.

Reading measured value block

Test of vehicle systems HELP Select function XX

◄ Readout in display:

- Enter function 08 and confirm the entry with the key Q.

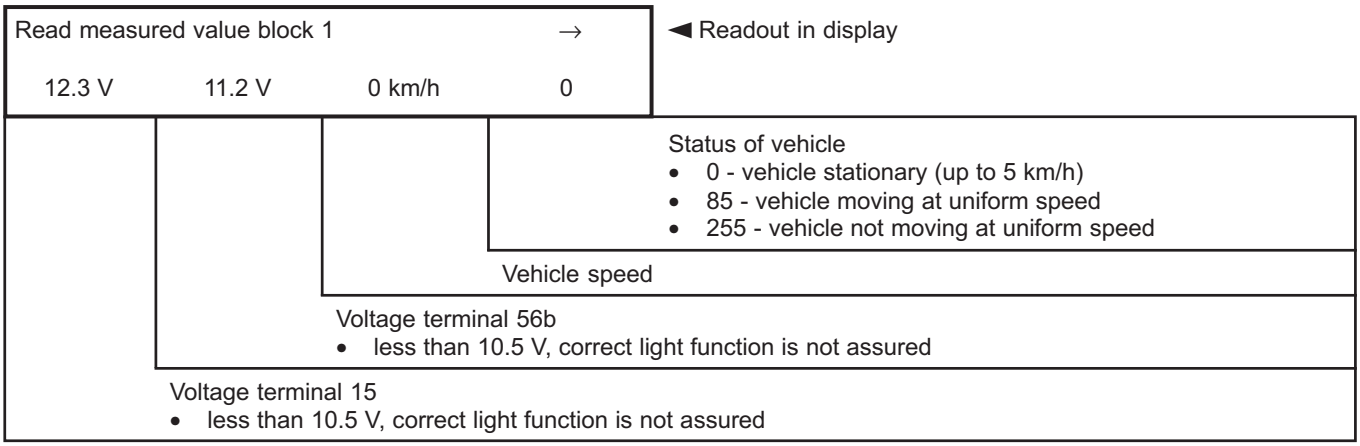
Read measured value block HELP Enter display group number XXX

◄ Readout in display:

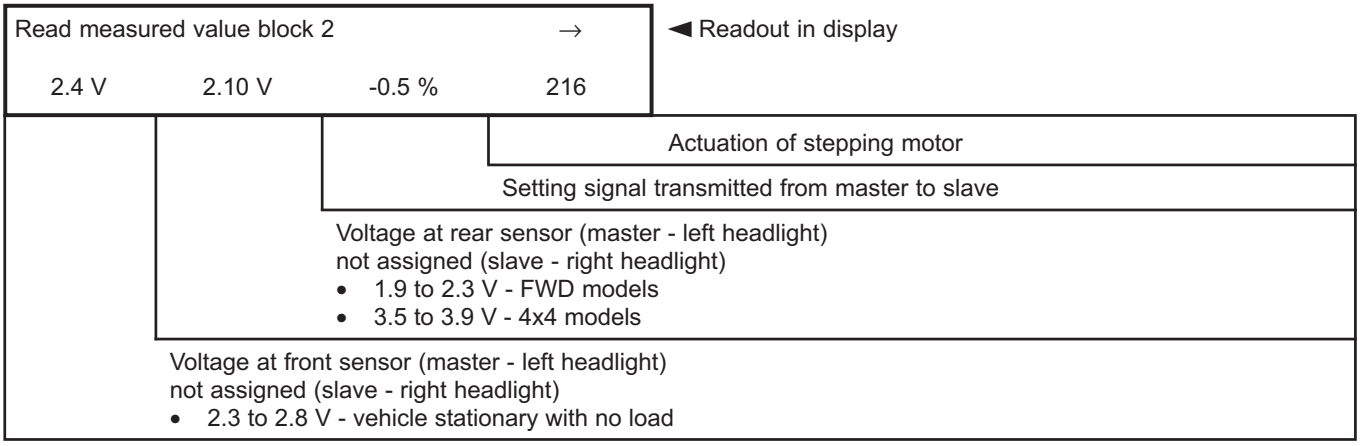
- Enter display group number of the desired display group and confirm the entry with the key Q.

What is now displayed is the selected measured value block.

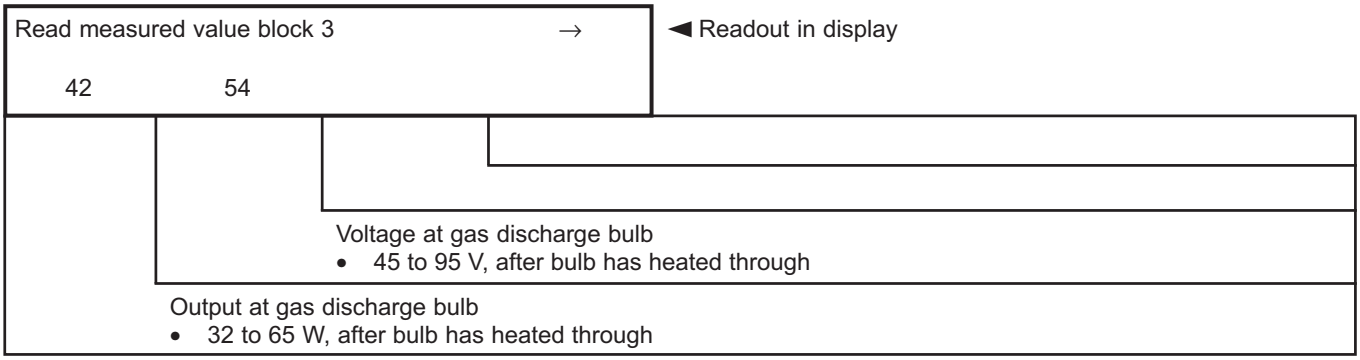
Measured value block 001



Measured value block 002



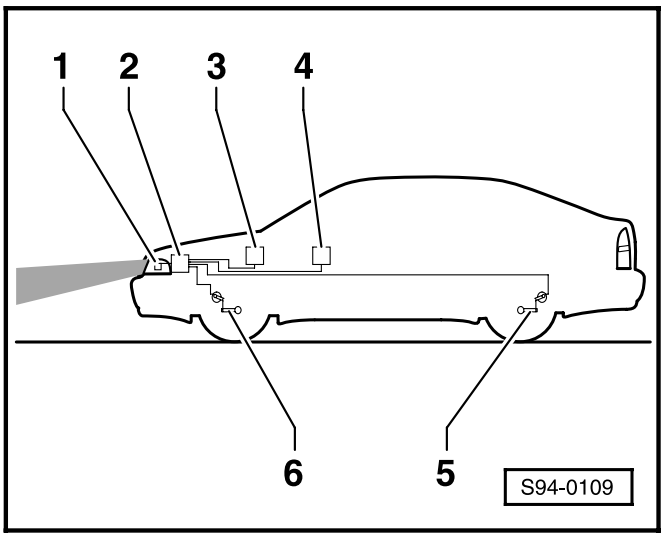
Measured value block 003



Xenon headlights with automatic control (Litronic 4.1 system) - complete overview

Warning!

Disconnect earth strap of the battery before commencing work on the electrical system.



1 - Headlight with stepping motor and ignition of gas discharge bulb
- Removing and installing ⇒ page 94-44

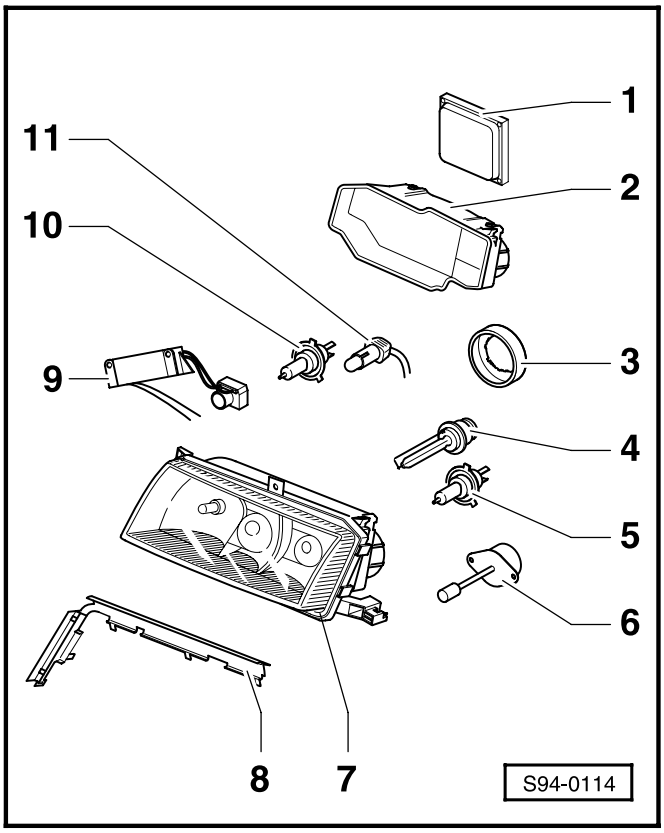
2 - Xenon headlight control unit
- Removing and installing ⇒ page 94-47

3 - ABS control unit
- Removing and installing ⇒ Running Gear; Repair Group 45

4 - Dash panel insert - fault indication
- Orange warning light with illuminated bulb symbol

5 - Rear sensor
- At rear axle
- Removing and installing ⇒ page 94-47
- Setting ⇒ page 94-48

6 - Front sensor
- At front axle
- Removing and installing ⇒ page 94-47
- Setting ⇒ page 94-48



Headlight with control unit

Note:

After carrying out work which may affect the setting of the headlights (e.g. Removing headlight), it is then necessary to re-set the headlights.

1 - Bosch Litronic 4.1 control unit
- Removing and installing ⇒ page 94-47

2 - Scuttle panel

3 - Holder of gas discharge bulb (locking plate of gas discharge bulb)

4 - D2S gas discharge bulb
- Removing and installing ⇒ page 94-46

5 - H1 fog light bulb
- Replacing bulb ⇒ page 94-45

6 - Stepping motor
- Removing and installing ⇒ page 94-46

7 - Headlight housing

8 - Optical seal

9 - BOSCH 2.3 ignition/high voltage unit
- Removing and installing ⇒ page 94-46

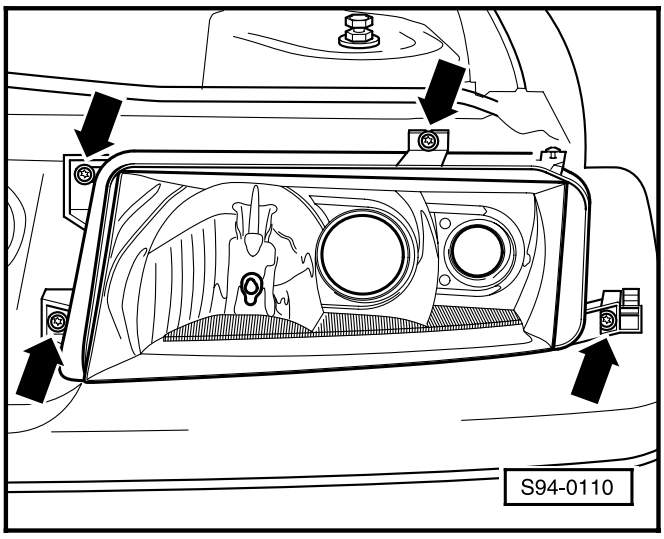
10 - H3 main beam bulb
- Replacing bulb ⇒ page 94-45

11 - H-W5W side light bulb
- Replacing bulb ⇒ page 94-45

Removing and installing xenon headlight

Warning!

Disconnect earth strap of the battery before commencing work on the electrical system.



Note:

Mask over bumper in the area of the headlight with adhesive tape in order to avoid damaging the paintwork.

- Remove turn signal lights ⇒ page 94-6.

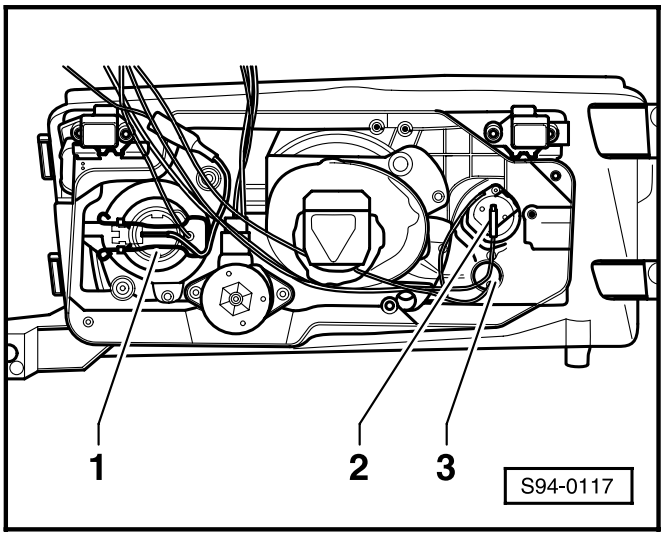
◄ - Take out screws -arrows- (2 Nm).

- Pull headlight forward out of the body.

- Separate headlight plug connections.

Installing

- Installation is carried out in the reverse order.
- Match up headlight to the contours of the body and attach.
- After installing, carry out basic setting ⇒ page 94-39.



Replacing bulbs in headlight

Replacing bulbs for fog light and main beam

Removing

- Remove headlight ⇒ page 94-44.
- Remove scuttle panel.
- Remove Bosch 2.3 ignition unit (only for replacing main beam bulb) ⇒ page 94-46.

◄ - Separate plug connection at bulb for fog light -1- or at bulb for main beam -2-, respectively.

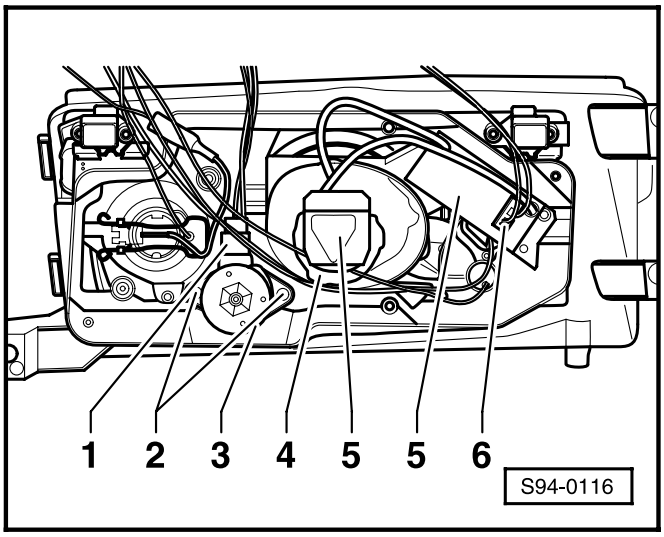
- Release the relevant spring and take the bulb out of the headlight housing.

Installing

- Fit together the plug connection.
- Insert bulb into the bulb base. Do not touch the glass surface of the bulb with your bare hand!
- Secure bulb with the spring.
- Install the scuttle panel.
- Install headlight ⇒ page 94-44.

Removing and installing bulb for side light

- Remove headlight ⇒ page 94-44.
- Remove scuttle panel.
- Pull bulb together with base -3- out of reflector.
- Take bulb out of its base.
- Replace bulb and push bulb with base in fully.



Removing and installing D2S gas discharge bulb

Removing

- Remove headlight ⇒ page 94-44.
- Remove scuttle panel.

◄ - Detach ignition unit from gas discharge bulb -5-.

- Remove holder for gas discharge bulb -4- and take out bulb. Do not touch the glass surface of the bulb with your bare hand!

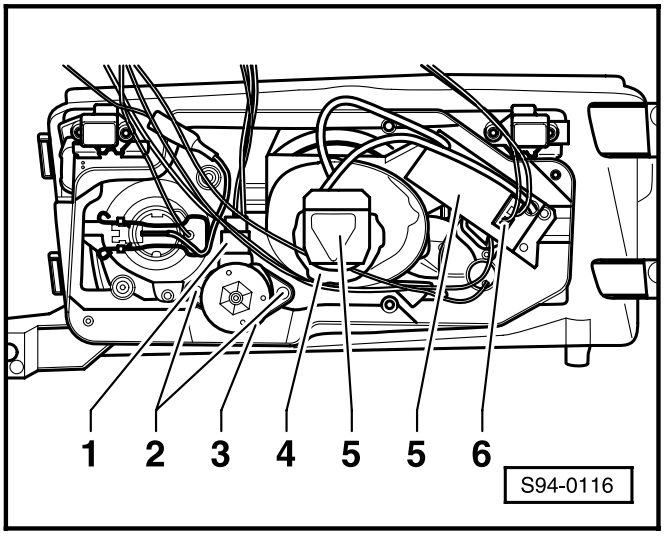
Installing

- Installation is carried out in the reverse order.

Removing and installing Bosch 2.3 ignition/high voltage unit

Removing

- Remove headlight ⇒ page 94-44.
- Remove scuttle panel.



◄ - Separate plug connection from unit -6-.

- Detach ignition unit -5- from the gas discharge bulb.
- Remove the screws attaching the unit.
- Take out ignition unit -5-.

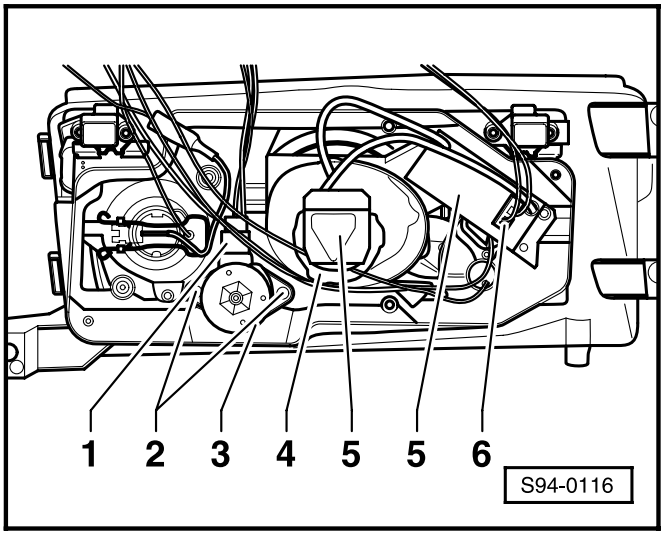
Installing

- Installation is carried out in the reverse order.

Removing and installing stepping motor

Removing

- Remove headlight ⇒ page 94-44.
- Remove scuttle panel.

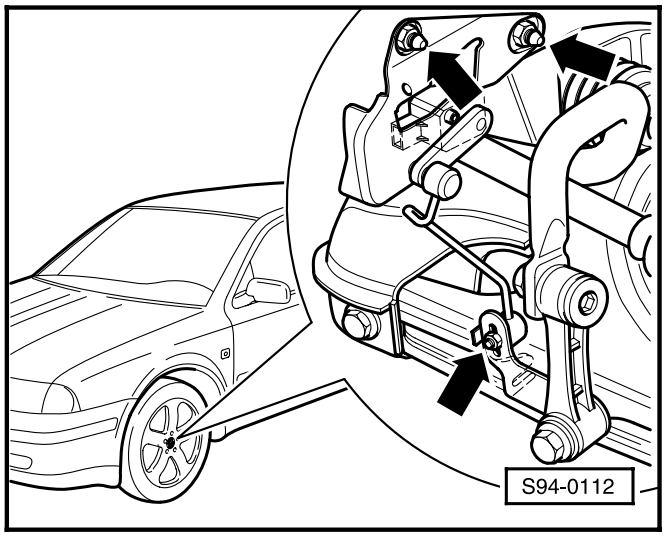


◄ - Separate plug connection for stepping motor -1-.

- Take out the screws attaching the motor -2-.
- Take out stepping motor -3-.

Installing

- Installation is carried out in the reverse order.



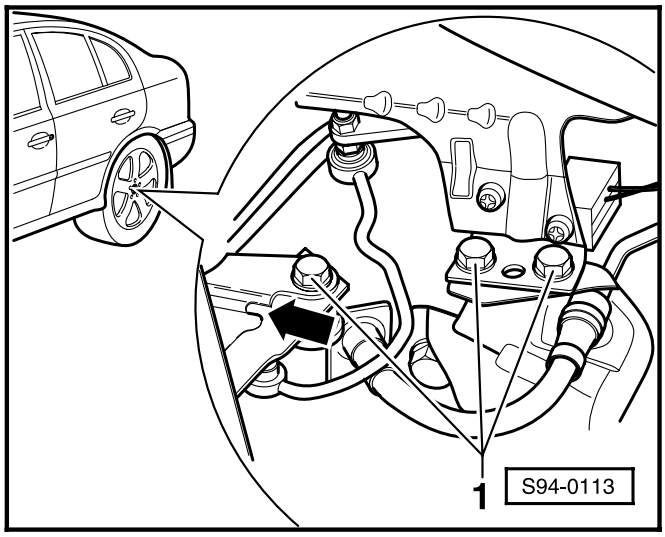
Removing and installing front sensor

Removing

- Raise vehicle.
- Separate the plug connection of the sensor.
- Mark the installation position of the sensor pull rod (only in the case of old sensor).
- ◄ - Remove the bolts attaching the sensor and pull rod -arrows-.

Installing

- Installation is carried out in the reverse order.
- Adjust pull rod ⇒ page 94-48 (only in the case of new sensor).



Removing and installing rear sensor

Removing

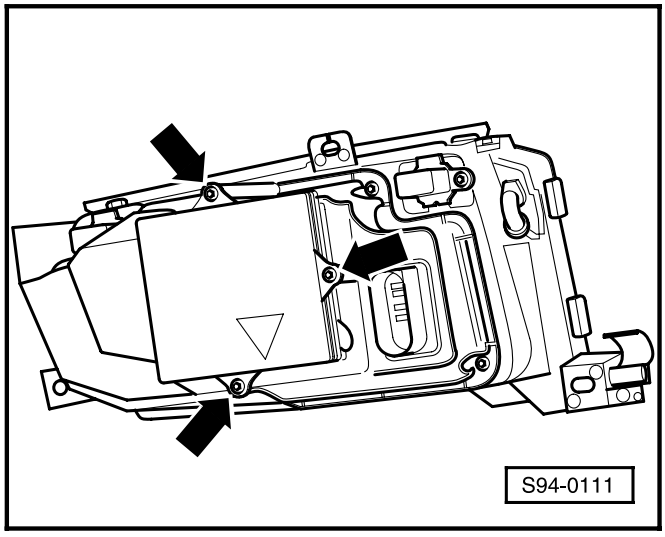
- Raise vehicle.
- Separate the plug connection of the sensor.
- ◄ - Remove the bolts attaching the sensor and pull rod -1-.

Installing

Note:

When installing, align sensor against the stop of the opening -arrows-.

- Installation is carried out in the reverse order.
- Align pull rod ⇒ page 94-48.



Removing and installing control unit

Removing

- Remove headlight ⇒ page 94-44.
- ◄ - Remove the bolts attaching the control unit -arrows-.
- Take off control unit and separate plug connection at the same time.

Installing

- Installation is carried out in the reverse order.

Adjusting facilities for sensors

Adjusting front sensor:

Models 08.01 ➤
(only with 1.8-ltr/110 and 132 kW, 1.9-ltr/74 and 81 kW engines)

- No adjustment.

Other models

This involves adjusting a pull rod which is part of the sensor.

- Raise vehicle.

FWD models

Front-wheel drive with anti-roll bar attached to steering link.

- Adjust pull rod to plastic device which is a part of the new sensor.

- After installing, remove the device.

Front-wheel drive with anti-roll bar attached to suspension strut.

- Adjust pull rod to middle of recess.

4x4 models

4x4 drive with anti-roll bar attached to suspension strut.

- Adjust pull rod up to stop of top recess.

4x4 drive with anti-roll bar attached to steering link.

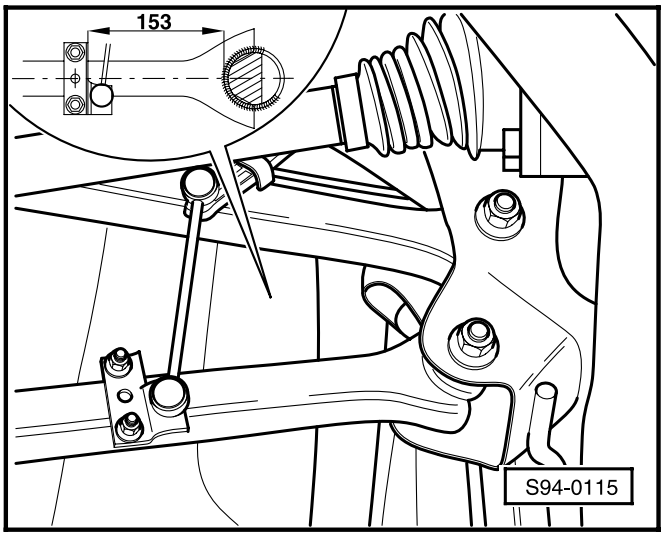
- Adjust pull rod to plastic device which is part of the new sensor.

- After installing, remove the device.

Adjusting rear sensor:

FWD models

- No adjustment.



4x4 models

◄ - Adjust to a distance of 153 mm between pull rod bar of sensor and steering link eye.

Specifications for sensors

Voltage at front sensor when vehicle stationary with no load: 2.3 - 2.8 V.

Voltage at rear sensor when vehicle stationary with no load for FWD models: 1.9 - 2.3 V.

Voltage at rear sensor when vehicle stationary with no load for 4x4 models: 3.5 - 3.9 V.

Contact assignment on xenon headlights

Contact assignment of 20-pin control unit

1 - Igniter - H
2 - Igniter - negative
3 - Igniter - positive
4 - Terminal 56b
5 - Terminal 31
6 - Rear sensor signal
7 - Sensor GND
8 - Front sensor signal
9 - Connection to SLAVE
10 - Warning light
11 - Sensor voltage supply
12 - Terminal 15
13 - Diagnosis
14 - not assigned
15 - not assigned
16 - Vehicle speed signal
17 - Stepping motor
18 - Stepping motor
19 - Stepping motor
20 - Stepping motor

Contact assignment of left headlight

12-pin plug connection for connecting to main wiring loom of electrical system.

1 - Terminal 15 from fuse 2 of inner fuse holder

2 - Diagnosis

3 - Terminal 58L, side light

4 - Fog light

5 - Terminal 56A main beam

6 - Terminal 56B dipped beam

7 - Terminal 31 GND for side light, main beam, fog light

8 - Terminal 31 GND for dipped beam, control unit and stepping motor

9 - Vehicle speed signal of ABS

10 - not assigned

11 - From dash panel insert pin 21 green connector

12 - Left - right headlight bridge

4-pin plug connection for sensor connection of vehicle (only for master - left headlight)

1 - Sensor voltage supply

2 - Rear sensor signal

3 - Front sensor signal

4 - Sensor GND

Contact assignment of right headlight

12-pin plug connection for connecting to main wiring loom of electrical system.

1 - Terminal 15 from fuse 2 of inner fuse holder

2 - Diagnosis

3 - Terminal 58L, side light

4 - Fog light

5 - Terminal 56A main beam

6 - Terminal 56B dipped beam

7 - Terminal 31 GND for side light, main beam, fog light

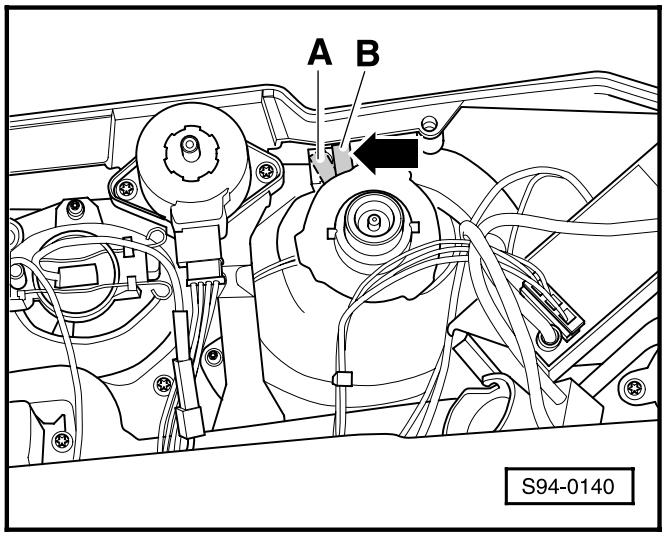
8 - Terminal 31 GND for dipped beam, control unit and stepping motor

9 - not assigned

10 - not assigned

11 - From dash panel insert pin 21 green connector

12 - Left - right headlight bridge



Switching over xenon headlight interior screen

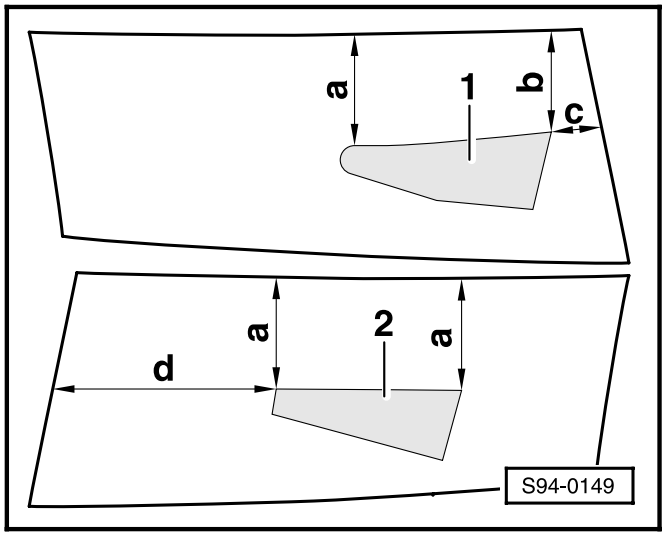
The xenon headlight interior screen should be switched over appropriately when driving in countries in which the traffic drives on the right, or left, in order to avoid dazzling oncoming road users.

- Remove headlight ⇒ page 94-44.

- Remove plastic cover ⇒ page 94-44.

◄- Use a blunt object to switch over the lever -arrow- into position A (for countries in which the traffic drives on the right), or into position B (for countries in which the traffic drives on the left).

The situation of the left-hand headlight is a mirror image.



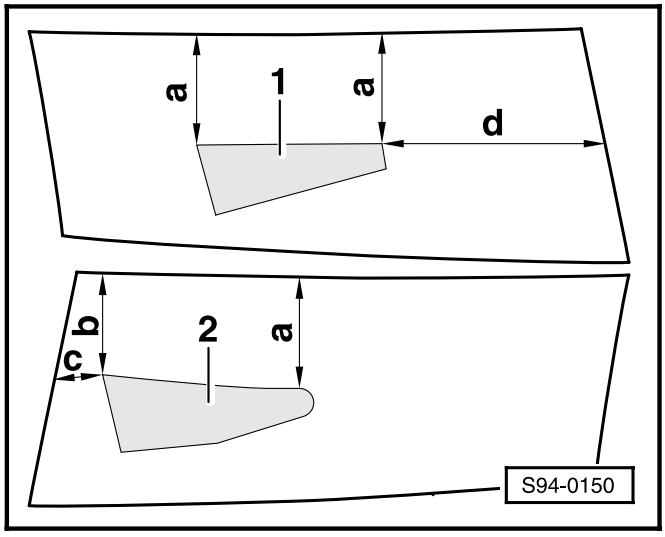
Masking over halogen headlights

When driving in countries in which the traffic drives on the right or left, respectively, the halogen headlights should be masked over with self-adhesive strips in order to avoid dazzling oncoming road users.

LHD models when motoring in countries which drive on the left

◄- Stick the self-adhesive masking tape -1- onto the right headlight lens, as shown in the illustration.

- Stick the self-adhesive masking tape -2- onto the left headlight lens, as shown in the illustration.



RHD models when motoring in countries which drive on the right

◄- Stick the self-adhesive masking tape -1- onto the right headlight lens, as shown in the illustration.

- Stick the self-adhesive masking tape -2- onto the left headlight lens, as shown in the illustration.

Continued for all models

- Pay attention to the dimensions:
  -a- = 69 mm
  -b- = 63 mm
  -c- = 31 mm
  -d- = 138 mm

Diagnosis of electronic immobiliser

Self-diagnosis of immobiliser 1st generation

General information:

Function

The electronic immobiliser consists of

- an immobiliser control unit
- an adapted engine control unit
- a warning light in the dash panel insert
- a reader coil at the ignition lock
- adapted ignition keys with electronics (transponder)

The control unit for the electronic immobiliser is integrated in the dash panel insert, i. e. if the control unit is faulty it is also necessary to replace the dash panel insert.

The immobiliser intervenes in the engine management system through an adapted engine control unit.

The reader coil of the immobiliser reads the response code of the transponder each time the ignition is switched on.

If an authorised car key is used, the warning light comes on for a short time.

If a non-authorised car key is used, or if there is a fault in the system, the warning light flashes constantly when ignition „On“.

The electronic immobiliser features a comprehensive self-diagnosis. If faults occur in system components, fault codes are stored in the fault memory of the control unit. It is possible to read these faults using the vehicle system tester V.A.G 1552, V.A.G 1551 or V.A.S 5051.

Note:

The description which follows relates only to the vehicle system tester V.A.G 1552. Use of the fault reader V.A.G 1551 with integrated printer is similar. There may, however, be slight differences in the readouts on the display.

Notes regarding use and adaptation of the car keys

The engine will start only if an authorised car key is used, in other words a key which has been adapted to the immobiliser control unit.

When adapting the car keys ⇒ page 96-11, it is always necessary to adapt all the keys of the car, in other words also the replacement keys to the immobiliser control unit.

If new or additional car keys are required, carry out adaptation of the car keys.

If it is not possible to carry out adaptation of all the car keys for particular reasons, e.g. if a key is lost during a trip, the customer should be advised that adaptation has to be carried out subsequently for all the keys of the car.

Initiating self-diagnosis of the immobiliser

Test requirements:

- Test fuse on the basis of the current flow diagram to ensure o.k.
- Connect vehicle system tester V.A.G 1552 ⇒ page 90-3.
- Switch off ignition for about 30 seconds and then switch on again.

Notes:

- *If no readout appears on the display, test voltage supply for V.A.G 1552 on the basis of the current flow diagram.*
- *Additional operator information can be displayed by pressing the HELP key of the fault reader.*

- ♦ *Move forward in the programme by pressing the → key.*
- ♦ *An incorrect entry can be ended by pressing the key C.*

Test of vehicle systems HELP Enter address word XX	◄ Readout in display:

Note:

As the immobiliser control unit is integrated in the dash panel insert, it is necessary to use the common address word for the dash panel insert.

- Press keys 1 and 7 and confirm entry with the key Q.

Note:

If the address word "25" (immobiliser) is entered, reference is made in the display to the common address word "17" for dash panel insert and immobiliser.

Please enter address 17 →	◄ Readout in display:

- Wait about 5 seconds.

1U1919033C A+-KOMBIINSTR VDO V06 → Coding 02142 WSC xxxxx	◄ The following readout appears after about 5 seconds:

- ♦ 1U1919033C: number of dash panel insert
- ♦ A+-COMBIINSTR: component designation
- ♦ VDO: manufacturer's identification (UN4 = Nippon Seiki, VD0 = VDO)
- ♦ V06: software version of dash panel insert (readout V07 also possible)
- ♦ Coding 02142: coding of dash panel insert
- ♦ WSC xxxxx: workshop code

- Press → key.

IMMO-IDENTNO: SKZ7Z062000222 →	◄ Readout in display:

- ♦ SKZ7Z062000222: 14-position identification number of immobiliser control unit

- Press → key.

Test of vehicle systems HELP Control unit does not answer!

◄ *If one of the following messages appears in the display, carry out fault finding according to Fault Finding Programme Diagnostic Wiring.*

Test of vehicle systems HELP Fault in communication build-up

⇒ Current Flow Diagrams, Electrical Fault Finding and Fitting Locations binder

Test of vehicle systems HELP K wire not switching to earth

Test of vehicle systems HELP K wire not switching to positive

Test of vehicle systems HELP Select function XX

◄ Readout in display:

- A list of the possible functions is displayed after pressing the HELP key.

The following functions are possible:

01 - Interrogating control unit version ⇒ page 96-4.

02 - Interrogating fault memory ⇒ page 96-5.

05 - Erasing fault memory ⇒ page 96-7.

06 - Ending output ⇒ page 96-8.

08 - Reading measured value block ⇒ page 96-8.

10 - Adaptation ⇒ page 96-10.

Interrogating control unit version

Test of vehicle systems HELP Select function XX

◄ Readout in display:

- Press keys 0 and 1 (the function “Interrogate control unit version” is selected with 01) and confirm entry with the key Q.

1U1919033C A+-KOMBIINSTR VDO V06 → Coding 02142 WSC xxxxx

◄ The following readout appears after about 5 seconds:

- ♦ 1U1919033C: number of dash panel insert
- ♦ A+-COMBIINSTR: component designation
- ♦ VDO: manufacturer’s identification (UN4 = Nippon Seiki, VD0 = VDO)

- ♦ V06: software version of dash panel insert (readout V01 also possible)
- ♦ Coding 02142: coding of dash panel insert
- ♦ WSC xxxxx: workshop code

- Press → key.

IMMO-IDENTNO: SKZ7Z062000222 →	◄ Readout in display:

- ♦ SKZ7Z062000222: 14-position identification number of immobiliser control unit

Interrogating fault memory

Note:

The fault information displayed is not updated constantly but only with initiating self-diagnosis or with the function 05 "Erase fault memory".

Test of vehicle systems HELP Select function XX	◄ Readout in display:

- Press keys 0 and 2 (the function "Interrogate fault memory" is selected with 02) and confirm entry with the key Q.

X faults recognized!	◄ The number of stored faults appears in the display.

The stored faults are displayed one after the other.

- Take the fault printed out and refer to the fault table and rectify fault ⇒ page 96-6.

No fault recognized! →	◄ If "No fault recognized" is displayed, the programme returns to the initial position after the → key is pressed.

Test of vehicle systems HELP Select function XX	◄ Readout in display:

If a different readout appears in the display:
⇒ Operating instructions of fault reader

- End output (function 06) ⇒ page 96-8

Fault table for immobiliser

Notes:

- *All the possible faults which can be recognised by the immobiliser control unit and displayed on V.A.G 1552, are listed below according to the 5-digit fault code.*
- *Before replacing components which are indicated as faulty, first of all test the wiring and plug connections to these components and also the earth connections on the basis of the current flow diagram.*
- *After carrying out repairs, always once again interrogate the fault memory with the vehicle system tester V.A.G 1552 and erase the memory.*
- *All the static and sporadic faults are stored in the fault memory:*
  A fault is recognised as static if it exists for at least 2 seconds. If the fault no longer occurs after this, it is stored as a sporadic fault. In this case "/SP" appears in the right of the display.
- *After switching on the ignition, all the faults which are stored are set to sporadic faults and they are only stored as static faults if they continue to exist after the check.*
- *If a sporadic fault no longer occurs during the next 50 drive cycles (ignition on for at least 5 minutes, vehicle speed >30 km/h), the fault is erased.*

Readout on V.A.G 1552	Possible cause of fault	Rectifying faults
01128 Reader coil for immobiliser -D2	Connector not plugged in at control unit or reader coil and cable faulty.	- Inspect plug connection and reader coil and cable (visual inspection); replace reader coil if necessary ⇒ Replacing reader coil.
	Immobiliser control unit faulty.	- Erase fault memory and interrogate once again ⇒ page 96-5 and page 96-7; replace dash panel insert if necessary ⇒ page 90-29.
01176 Key Signal too small	Reader coil or cable faulty (contact resistance/loose contact).	- Inspect reader coil and cable and plug connection (visual inspection); replace reader coil if necessary ⇒ Replacing reader coil.
	Electronics in ignition key (transponder) missing or not operating.	- Replace ignition key and re-adapt all ignition keys and check operation ⇒ page 96-11.
01176 Key not authorised	Mechanically matched ignition key not adapted.	- Re-adapt all ignition keys and check operation ⇒ page 96-11.

Readout on V.A.G 1552	Possible cause of fault	Rectifying fault
01177 Engine control unit not authorised	Engine control unit or fuel shut-off valve control unit not adapted. W wire between the control units is o.k. Open circuit or short circuit at W wire.	- Adapt engine control unit ⇒ page 96-16. - Test W wire according to current flow diagram.
01179 Key programming incorrect	Adaptation of the ignition keys is faulty.	- Re-adapt all ignition keys by entering the PIN code and check operation ⇒ page 96-11.
01312 Drive databus defective	Fault in the datalines.	- Test databus lines ⇒ page 90-68. - Replace control unit. - Check coding of control unit.
65535 Control unit defective	Immobiliser control unit faulty.	- Replace dash panel insert ⇒ page 90-29.

Erasing fault memory

Note:

After the fault memory is erased, the contents of the memory are automatically output. If it is not possible to erase the fault memory, once again interrogate the fault memory and rectify any fault.

Requirements:

- Fault memory interrogated ⇒ page 96-5
- All the faults rectified.

After interrogating the fault memory:

Test of vehicle systems HELP Select function XX

◄ Readout in display:

- Enter function 05 and confirm entry with the key Q.

Test of vehicle systems → Fault memory is erased!

◄ Readout in display:

The fault memory is now erased.

- Press → key.

Test of vehicle systems HELP Select function XX	◄ Readout on display:
	Notes:
Attention! Fault memory was not interrogated	◄ ♦ *If this message appears on the display, the test sequence was not carried out properly.*
Test of vehicle systems → Fault memory was not interrogated	◄ ♦ *If this message appears on the display, the test sequence was not carried out properly.* ♦ *Adhere exactly to the test sequence: first of all interrogate fault memory, rectify any faults which are stored, and then erase memory.*

Ending output

- Press keys 0 and 6. (The function “End output” is selected with 06.)

Test of vehicle systems Q 06 End output	◄ Readout on display:
	- Confirm entry with the key Q.
Test of vehicle systems HELP Enter address word XX	◄ Readout on display:
	- Switch off ignition. - Unplug connectors to the vehicle system tester V.A.G 1552.

Reading measured value block

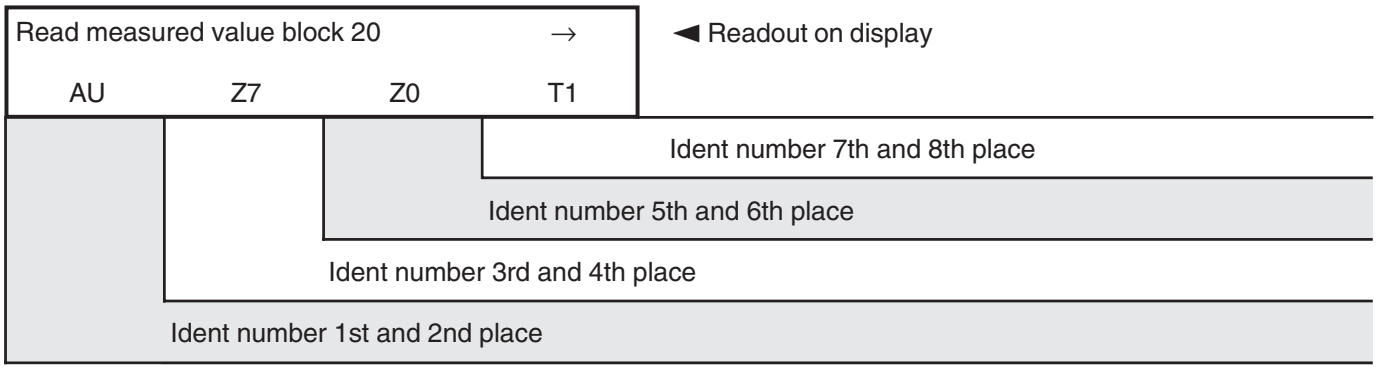
Test of vehicle systems HELP Select function XX	◄ Readout on display:
	- Press keys 0 and 8 and confirm entry with the key Q.
Read measured value block HELP Enter display group number XXX	◄ Readout on display:
	- Enter display group number (from table ⇒ page 96-9) and confirm entry with the key Q.

What is now displayed is the measured value block selected in a standardised form.

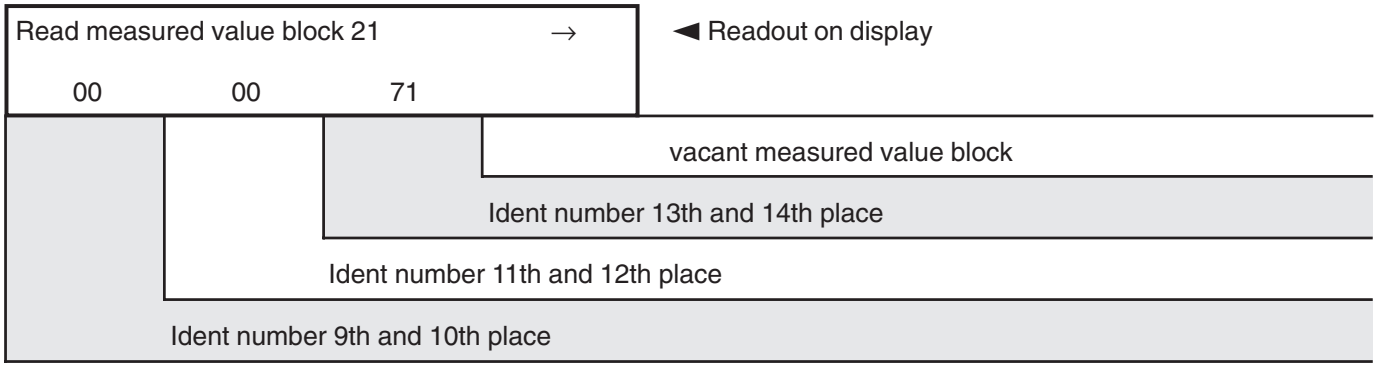
List of display groups

Display group number	Readout on display
020	1 = Ident number 1st and 2nd place 2 = Ident number 3rd and 4th place 3 = Ident number 5th and 6th place 4 = Ident number 7th and 8th place
021	1 = Ident number 9th and 10th place 2 = Ident number 11th and 12th place 3 = Ident number 13th and 14th place 4 = vacant measured value block
022	1 = Starting authorised 2 = Engine control unit answers 3 = Key status o.k. 4 = vacant measured value block

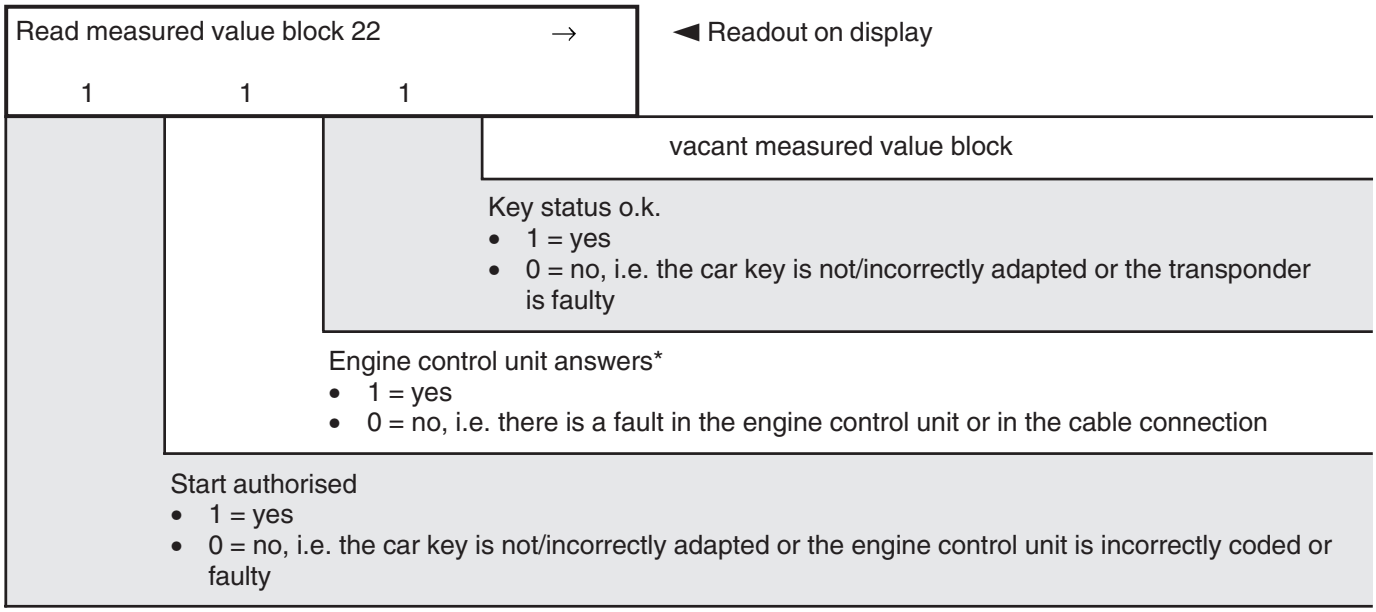
Measured value block 020



Measured value block 021



Measured value block 022



*) Depending on the engine control unit, the measured value block is in the position “0 = Engine control unit answers no” for 10 ... 30 seconds after engine and ignition off, in other words the engine control unit is not activated and no fault exists. As a security measure, once again start self-diagnosis ⇒ page 96-2.

Adaptation

The function adaptation makes it possible to carry out and store the following changes:

- Adaptation of car keys ⇒ page 96-11.
- Adaptation after replacing the engine control unit ⇒ page 96-16.
- Adaptation after replacing the immobiliser control unit ⇒ page 96-18.

Adaptation of car keys

Notes:

- *If new or additional ignition keys are required, these have to be adapted to the immobiliser control unit.*
- *Pay attention to the procedure when replacing the lock set, the reader coil and the immobiliser control unit ⇒ Procedure when replacing lock set or immobiliser control unit.*
- *It is always necessary to re-adapt all the ignition keys, in other words including the existing ones.*
- *If it is not possible to adapt all the keys, e.g. during a holiday trip, the customer has to be advised to have this done subsequently at his ŠKODA dealer in his home country.*
- *The number of already adapted keys is displayed after selecting the function Adaptation.*
- *Adaptation can be interrupted by pressing the key "C" on V.A.G 1552.*

Requirements

- All ignition keys are available. If no old ignition key is available ⇒ "Procedure in the event of loss of a key" page 96-16
- Key fob with concealed secret number is available; if not, ⇒ "Determining secret number", page 96-16

- Insert old (authorised) ignition key into the ignition lock.

- Connect vehicle system tester V.A.G 1552 and initiate self-diagnosis of immobiliser by selecting the address word "17" ⇒ page 96-2.

After the control unit identification is displayed:

- Press the → key.

Test of vehicle systems Select function XX	HELP

◄ - Readout on display:

- Press key 1 twice (the function "Login procedure" is selected with 11) and confirm entry with the key Q.

Login - Procedure Enter code number XXXXX

◄ Readout in display:

- Enter the code and insert a 0 before the 4 digit number (e.g. 01915).

The code can be found on the keyring pendant and can be made visible after carefully scratching the protective coating (e.g. with a coin).

Note:

If the keyring pendant only has a 2 or 3 digit code complete the entry with noughts, e.g. 344 = 00344.

- Confirm entry with key Q.

Test of vehicle systems Select function XX	HELP

◄ Readout in display:

Note:

Tester sends address word 17

◄ *Briefly appears on display:*

- *Code is not accepted. Repeat entry.*
- *2 attempts at correct entry of code are immediately possible, for the 3rd attempt you must wait 35 minutes, if the ignition remains on and you quit self-diagnosis via function 06 'End Output'.*

Warning!

Function unknown or unable to execute function	→

◄ Readout in display:

If this is displayed during the login procedure the code was repeatedly entered erroneously (e.g. incorrect code).

Note:

- *After three incorrect entries the control unit is locked. The readout on the odometer in the dash panel insert is 'FAIL'.*
- *The next attempt can only be made after at least 10 minutes, if the ignition remains on and you quit self-diagnosis via function 06 'End Output'. This delay is doubled for three further false attempts.*

- Press keys 1 and 0 (the function “Adaptation” is selected with 10) and confirm entry with the key Q.

Adaptation Enter channel number XX

◄ Readout on display:

- Press keys 2 and 1. (“Channel 21” is selected with 21.)
- Confirm entry with the key Q.

Function is unknown or cannot be carried out at the moment →

◄ If the following readout appears on the display:

- Repeat adaptation by entering the secret number.

Channel 21 Adaptation 2 → ⟨– ↑ ↓–⟩

◄ Readout on display:

The readout in the top line indicates that 2 ignition keys have been adapted to the system.

- Press the → key.

Channel 21 Adaptation 2 → Enter adaptation value XXXXX

◄ Readout on display:

- Press key 0 four times and then enter the number of all ignition keys to be adapted, including the existing keys (e.g. 00003); max. 8 keys are possible.
- Confirm entry with the key Q.

Channel 21 Adaptation 3 Q ⟨– ↑ ↓–⟩

◄ Readout on display if 3 ignition keys to be adapted:

- Confirm entry with the key Q.

Channel 21 Adaptation 3 Q Store changed value?

◄ Readout on display:

- Confirm entry with the key Q.

Channel 21 Adaptation 3 → Changed value is stored

◄ Readout on display:

- Press the → key.
- Press keys 0 and 6. (The function “End output” is selected with 06.)

The key in the ignition lock is now adapted.

- Insert the next key into the ignition lock and switch on ignition for at least 1 second.

- Repeat the procedure until all the keys have been adapted.

Note:

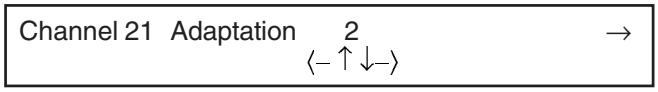
- *Do not exceed a time of 30 seconds for adapting all the keys; the time is not registered when ignition is switched off.*

- Select function 02 “Interrogate fault memory”. If no fault is stored, the function “Key adaptation” has been successfully completed.

After each successful login function, the immobiliser is not activated for 10 minutes, in other words it is not practical to carry out a system or operational check during this time.

Note:

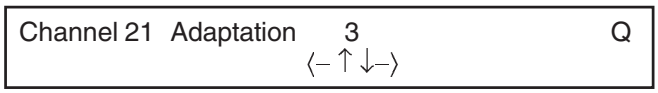
It is also possible to enter the number of keys to be adapted by using the ↑ key (to reduce number of keys) and the ↓ key (to increase number of keys).



◄ Readout on display:

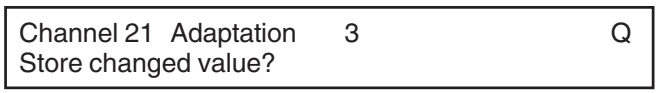
The readout in the top line indicates that 2 ignition keys have been adapted to the system.

- Reduce the number of keys by pressing the ↑ key or increase the number by pressing the ↓ key, e.g. to 3.



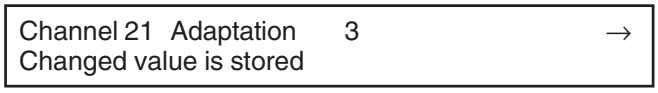
◄ Readout on display if 3 ignition keys to be adapted:

- Confirm entry with the key Q.



◄ Readout on display:

- Confirm entry with the key Q.



◄ Readout on display:

- Press the → key.

- Press keys 0 and 6. (The function “End output” is selected with 06.)

The key in the ignition lock is now adapted.

- Insert the next key into the ignition lock and switch on ignition for at least 1 second.

- Repeat procedure until all the keys have been adapted.

Note:

- *Do not exceed a time of 30 seconds when adapting all the keys; the time is not registered when the ignition is switched off.*

- Select function 02 “Interrogate fault memory”. If not fault is stored, the function “Key adaptation” has then been successfully completed.

The following fault messages are the result of the adaptation procedure and should be ignored:

Data transfer error	◄ Readout on display (ignore readout).
Rapid data transfer Q Tester sends address word 25	◄ Readout on display (ignore readout).
Key not authorised	◄ Readout on display (ignore readout).

The fault “Key not authorised” is displayed during the entire adaptation operation as starting of the engine is not authorised during adaptation.

Adaptation of the ignition keys is automatically ended if:

- the number of adapted keys is reached,
- the ignition is again switched on with a key already adapted and remains switched on for longer than 1 second (fault is stored),
- the permissible adaptation time of 30 seconds, counting from the moment the ignition is switched on with the 2nd key, is exceeded (fault is stored),
- a fault is stored during adaptation of the ignition keys.

Procedure to follow when losing the ignition key

- Order a replacement ignition key on the basis of the closing number.

- Adapt all vehicle keys ⇒ page 96-11.

- For vehicles with radio control, adapt all the keys for the radio control unit

⇒ Body Work; Repair Group 01, Self-diagnosis.

Determine PIN code

If the 4-digit PIN code is not known or the key fob with the PIN code is not available, the PIN code must be obtained via the responsible sales department (domestic) or via the importer (export countries) using the 14-digit identification number of the immobilizer control unit.

The identification number of the immobilizer control unit is available:

- as a sticker on the customer's key fob
- readable via the self-diagnosis, refer to "Interrogate control unit version" ⇒ page 96-4
- as a sticker on the dash panel insert

Adaptation after replacing the engine control unit

Notes:

- *The engine control unit or the control unit for fuel shut-off valve has to be adapted to the immobilizer control unit. When replacing the components, an adaptation must be performed again.*
- *If no authorised ignition key is present, however the PIN code is available, new ignition keys must be manufactured and adapted.*
- *The adaptation can be interrupted with the key "C" of the V.A.G 1552 or V.A.G 1551.*

- Insert old (authorised) ignition key into the ignition lock.

- Connect vehicle system tester V.A.G 1552 and initiate self-diagnosis of immobiliser by selecting the address word “17” ⇒ page 96-2.

After the control unit identification is displayed:

- Press the → key.

Test of vehicle systems HELP Select function XX	◄ Readout on display:

- Press keys 1 and 0 (the function “Adaptation” is selected with 10) and confirm entry with the key Q.

Adaptation Enter channel number XX	◄ Readout on display:

- Press key 0 twice. (“Channel 0” is selected with 00.)

- Confirm entry with the key Q.

Adaptation Q Erase learned value?	◄ Readout on display:

- Confirm entry with the key Q.

Adaptation → Learned values are erased	◄ Readout on display:

- Press the → key.

Test of vehicle systems HELP Select function XX	◄ Readout on display:

- End output (function 06) ⇒ page 96-8.

Note:

The identifier of the engine control unit is stored in the immobiliser control unit and the engine can be started.

Adaptation after replacing immobiliser control unit

Notes:

- *The immobiliser control unit is integrated in the dash panel insert, in other words when replacing the dash panel insert the immobiliser control unit is also replaced.*
- *After replacing the dash panel insert, carry out the following steps:*

- Carry out adaptation after replacing engine control unit ⇒ page 96-16.

- Carry out adaptation of car keys ⇒ page 96-11.

Emergency start function with V.A.G 1552

The emergency start function makes it possible to disconnect the locked immobiliser of a car which has broken down and to drive the car to the nearest Škoda dealer under its own power.

Note:

This emergency start function can be used to immediately cancel any lockout time which may have been activated as a result of faulty or incorrect use of the emergency start function without V.A.G 1552.

Requirements

- The customer should provide proof of ownership or use of the vehicle by presenting the vehicle registration papers and an ID.
- Vehicle system tester V.A.G 1552.
- Key fob with concealed secret number is available; if not, refer to „Determining the secret number“ ⇒ page 96-16.

- Connect vehicle system tester V.A.G 1552 and initiate self-diagnosis of immobiliser with the address word „17“ ⇒ page 96-2.

After display of the control unit identification.

- → Press key.

Test of vehicle systems HELP Select function XX	◄ Readout in display:

- Press key 1 twice ('Login - Procedure' function is selected with 11) and confirm entry with key Q.

Login - Procedure Enter code number XXXXX	◄ Readout in display:

- Enter the code and insert a 0 before the 4 digit number (e.g. 01915).

The code can be found on the keyring pendant and can be made visible after carefully scratching the protective coating (e.g. with a coin).

Note:

If the keyring pendant only has a 2 or 3 digit code complete the entry with noughts, e.g. 344 = 00344.

- Confirm entry with key Q.

Test of vehicle systems HELP Select function XX	◄ Readout in display:

Note:

Tester sends address word 25	◄ *Briefly appears on display:*

- *Code is not accepted. Repeat entry.*
- *2 attempts at correct entry of code are immediately possible, for the 3rd attempt you must wait 10 minutes, if the ignition remains on and you quit self-diagnosis via function 06 'End Output'.*

- End output (Function 06) ⇒ Page 90-10

- Start engine again.

Notes:

- *If the emergency start attempt is successful it is possible to restart the engine at all times during a period of 45 minutes given a closed S contact.*
- *If the S contact is opened, i.e. when the ignition key is removed, it is only possible to start the engine after 10 minutes.*

Emergency start function without V.A.G 1552

The emergency start function enables a car which cannot be started because the immobiliser is blocked, to be deactivated and to drive the car under its own power to its nearest ŠKODA dealer.

Note:

This emergency start function makes it possible to immediately cancel any possible blocking time which has been activated as a result of faulty or incorrect use of the emergency start function with V.A.G 1552.

Requirements

- ♦ The customer has to present the vehicle registration papers or ID to show that he is the authorised user or owner of the vehicle.
- ♦ Key fob with concealed secret number is available; if not ⇒ “Determining secret number”, page 96-16.
- Switch on ignition.
- At the same time turn the knob for setting the time on the dash panel insert and press the reset button of the trip counter.

The following readout appears on the display of the trip counter:
“0 0 0 0” and the first digit flashes.

It is now possible to change the first digit from 0 to 9 using the reset button of the trip counter.

- Press the reset button of the trip counter as often as necessary until the valid first digit of the secret number is displayed, e.g. 5.

The following readout appears on the display of the trip counter:
“5 0 0 0”

- Turn the knob for setting the time.

The following readout appears on the display of the trip counter:
“5 0 0 0’” and the second digit flashes.

- Press the rest button of the trip counter as often as necessary until the valid second digit of the secret number is displayed, e.g. 3.

The following readout appears on the display of the trip counter:
“5 3 0 0”

- Turn the knob for setting the time.

The following readout appears on the display of the trip counter:
“5 3 0 0” and the third digit flashes.

- Press the reset button of the trip counter as often as necessary until the valid third digit of the secret number is displayed, e.g. 4.

The following readout appears on the display of the trip counter:
“5 3 4 0”

- Turn the knob for setting the time.

The following readout appears on the display of the trip counter:
“5 3 4 0” and the forth digit flashes.

- Press the reset button of the trip counter as often as necessary until the valid forth digit of the secret number is displayed, e.g. 9.

The following readout appears on the display of the trip counter:
“5 3 4 9”

- Turn the knob for setting the time on the dash panel insert and at the same time press the reset button of the trip counter.

The trip counter readout again appears on the display of the trip counter.

The immobiliser warning light goes out once the valid secret number has been entered.

- Switch off the ignition and then start the engine.

Notes:

- *If the secret number is incorrectly entered three times, the control unit is blocked. “FAIL” appears on the display of the trip counter in the dash panel insert.*
- *It is then necessary to wait at least 10 minutes before the next attempt if the ignition remains switched on constantly during this time. This time is doubled for each additional three incorrect attempts.*

- *If no button/knob is operated for longer than 30 seconds during the entry procedure, the emergency start attempt is aborted.*
- *If the emergency start attempt has been successfully carried out, the engine can always be started again during 45 minutes with the S contact closed.*
- *If the S contact is opened, i.e. the ignition key is withdrawn, the engine can only be started within 10 minutes.*

Faulty transponder and/or loss of key

- The transponder is integrated in the car key.
- If the transponder is faulty or if a key has been lost, it is then necessary to replace the complete set of car keys.

- Make or order replacement key with integrated transponder on the basis of the lock number.

- Carry out adaptation of all the car keys ⇒ page 96-11.

Replacing reader coil

- The reader coil is an integral part of the lock cylinder and cannot be replaced separately.
- The reader coil should be replaced together with the lock cylinder.
- In order to restore mobility as rapidly as possible, carry out the following procedure:

- Remove lock cylinder for steering/starter lock ⇒ page 94-13.

- Install replacement lock cylinder with any lock number and do not adapt door locks.

Note:

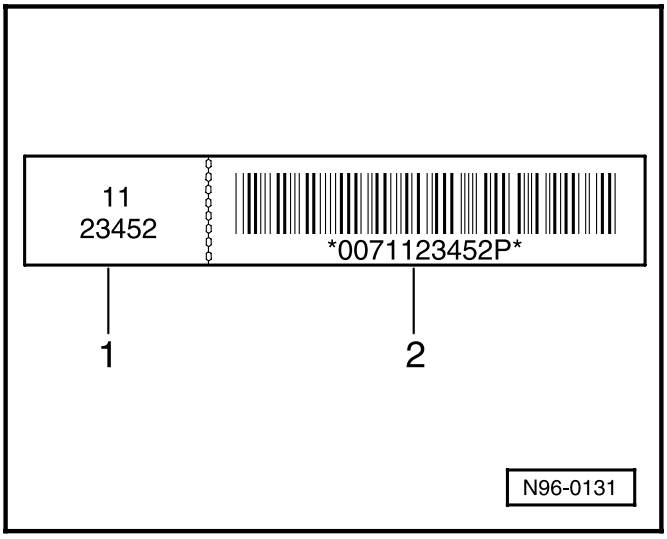
The customer has to operate the car with two car keys during the delivery period.

- After the lock cylinder has been received, replace the substitute lock cylinder with the ordered lock cylinder for the specific car model.

Procedure if replacing set of locks or immobiliser control unit

Note:

To ensure subsequent identification of the immobiliser, it is essential to carry out the following steps when replacing the set of locks or the immobiliser control unit.



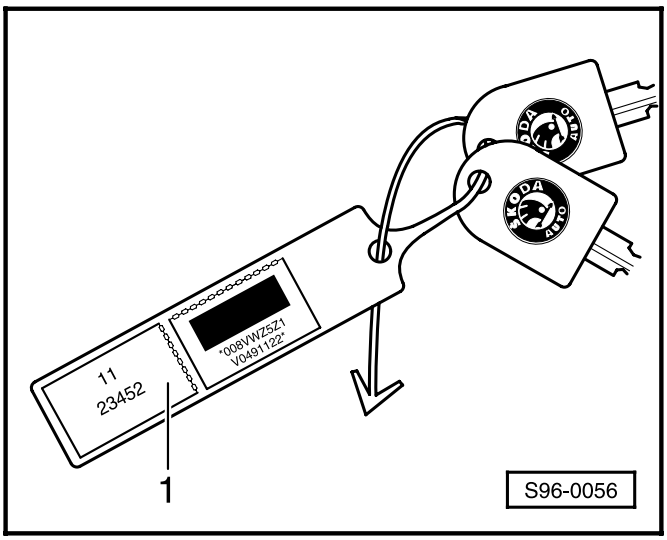
◄ **1. 2-part sticker of lock set**

Note:

The stickers on the key fob of the new lock set are used for identifying the mechanical locking system.

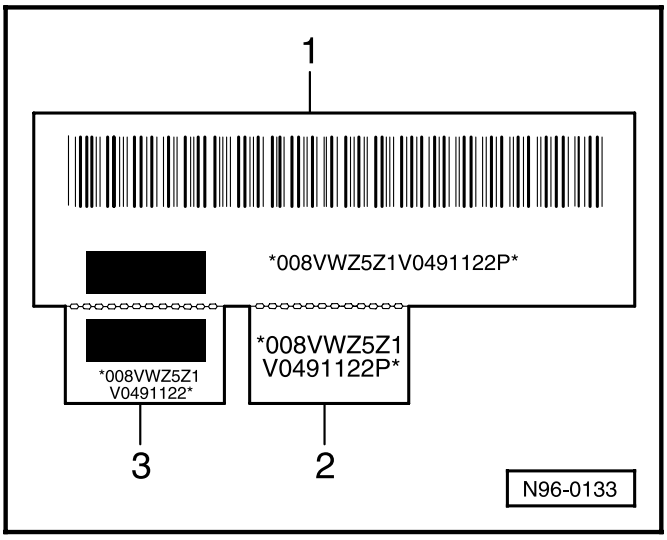
- Separate right-hand sticker -2- (with bar code), detach from key fob of the new lock set and destroy.

- Pull the remaining left-hand sticker -1- (without bar code) of the new key fob and stick it onto the customer's key fob in place of the previous left-hand sticker.



◄ The identification on the customer's key fob is therefore updated:

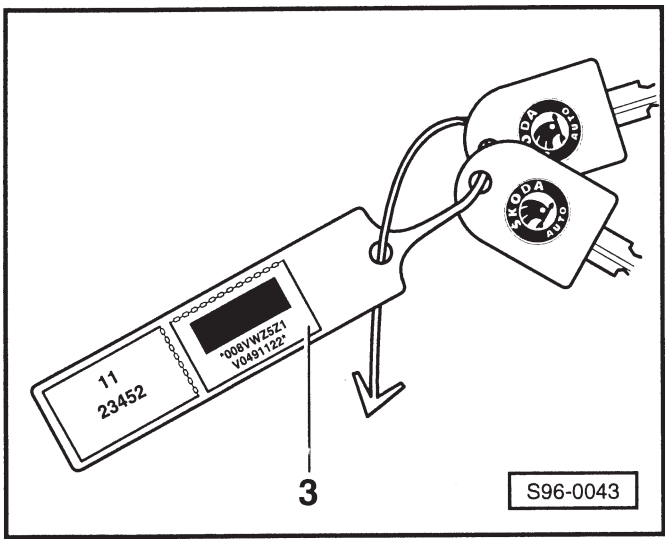
- ♦ Left-hand sticker -1- (new) - mechanical lock system
- ♦ Right-hand sticker - immobiliser control unit



◄ **2. 3-part sticker of immobiliser control unit in dash panel insert**

- Pull off large sticker -1- (with bar code) and small sticker at bottom left -3- (black concealed panel) off the new dash panel insert and separate. Destroy large sticker -1- (with bar code).

- Affix small sticker -3- (black concealed panel) onto the customer's key fob and place on the previous right-hand sticker.



◄ The identification on the customer's key fob is thus updated:

- Left sticker - mechanical lock system
- Right sticker -3- (new) - immobiliser control unit

System test

Note:

After each successful login function, the immobiliser is disabled for 10 minutes, i.e. it is not sensible to carry out a system of operational test during this time.

- Ignition should be "Off" for at least 30 seconds.

- Cover over reader coil with a metal plate with slot, e.g. place a suitable washer onto the ignition lock and insert ignition key through the hole into the ignition lock.

  or

  Separate electric cable of reader coil at connector between ignition/starter switch and immobiliser control unit.

- Start engine.

The engine must not run and the indicator lamp should flash.

- Initiate self-diagnosis of immobiliser ⇒ page 96-2.

- Interrogate fault memory ⇒ page 96-5:

One of the two following fault messages appears in the display:

Key Signal too small	◄ Readout in display:
	or
Immobiliser reader coil -D2	◄ Readout i-n display:

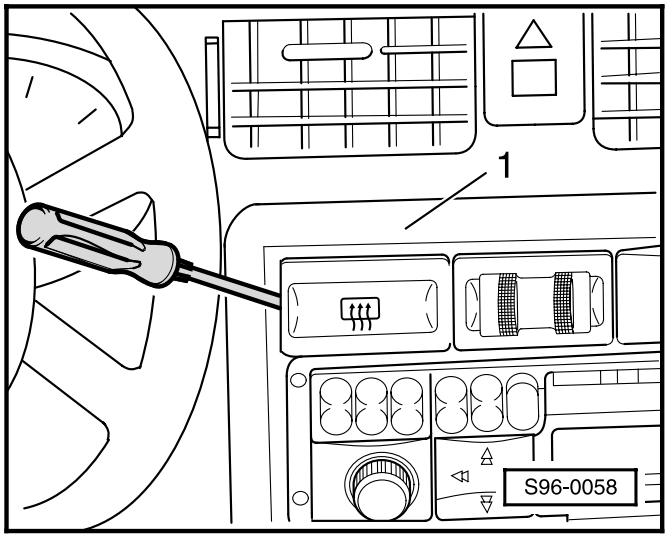
- Erase fault memory ⇒ page 96-7.

Servicing switches

Important!

Before carrying out any work on the electrical system, disconnect earth strap of the battery.

Removing and installing switches in centre console



Removing:

- Unclip trim panel -1- around the centre console.

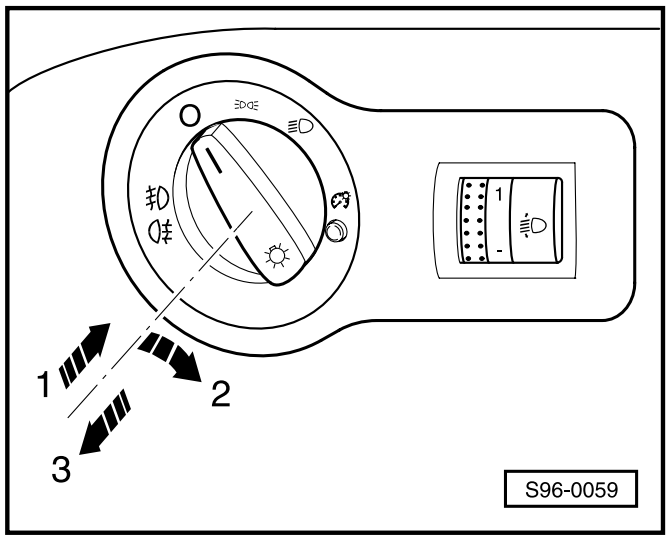
◄ - Use a small screwdriver to carefully lever the relevant switch from the left out of the centre console.

- Then, pull the switch out fully and unplug the connector.

Installing:

- Plug in connector.
- Press switch into mount in the centre console and lock in position.
- Clip trim panel in place.

Removing and installing light switch



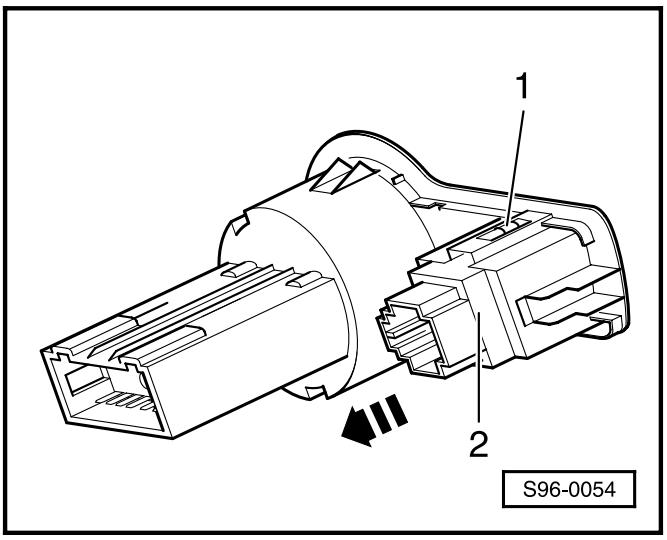
Removing:

◄ - Press the light switch -1- and turn at the same time to the right -2-.

- Hold the switch in this position and pull the light switch housing out to the front -3-.
- Separate the electric connector at the switch.

Installing:

- Plug in connector.
- Carefully push light switch into the opening until the switch is heard to lock in place.



Removing and installing adjuster for headlamp range control

Removing:

- Remove light switch from the cover.
- Unclip cover with adjuster for headlamp range control.
- Separate plug connection.

◄ - Press together the two metal clips -1- and pull adjuster -2- out in direction of arrow.

Installing:

- Fit together plug connection.
- Insert adjuster for headlamp range control into guide ridges in cover and press in as far as the stop.
- Press in light switch with cover and lock in place.

Removing and installing door contact switch

The door contact switch is located in the door lock and cannot be replaced separately if faulty.

- Removing door lock and replacing

⇒ Body Fitting Work; Repair Group 57; Front Door; Repair Group 58; Rear Door.

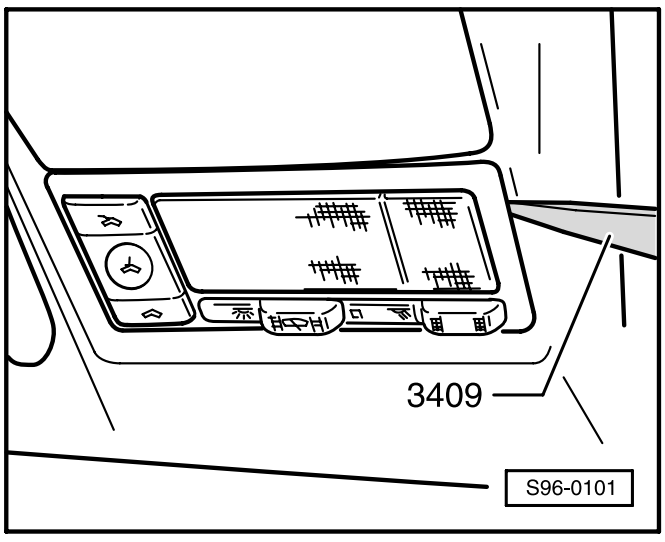
Removing and installing sliding roof switch and interior light

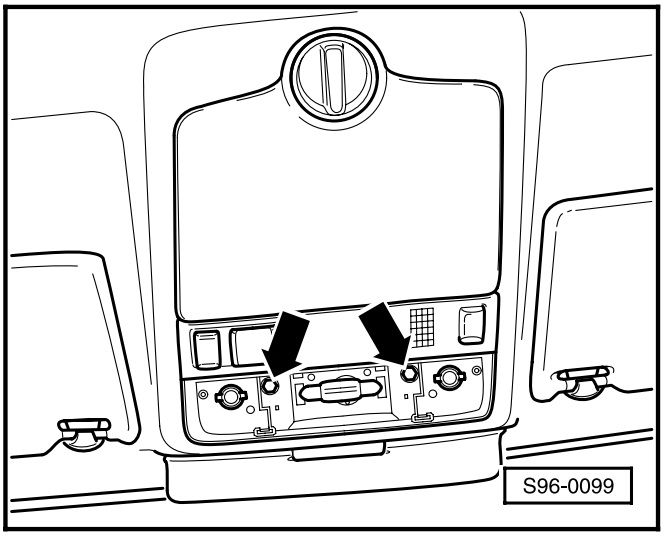
Models up to 7.99

Removing

◄ - Use special tool 3409 to lever off interior light.

- Separate the two electrical plug connections.





Installing

- Fit together plug connections.
- Press in interior light together with switch for sliding roof and lock in place.

Models from 8.99

Removing

- Remove lens of light.

◄ - Take out the two securing screws -arrows-.

- Take out the interior light and sliding roof switch.
- Separate the two electrical plug connections.

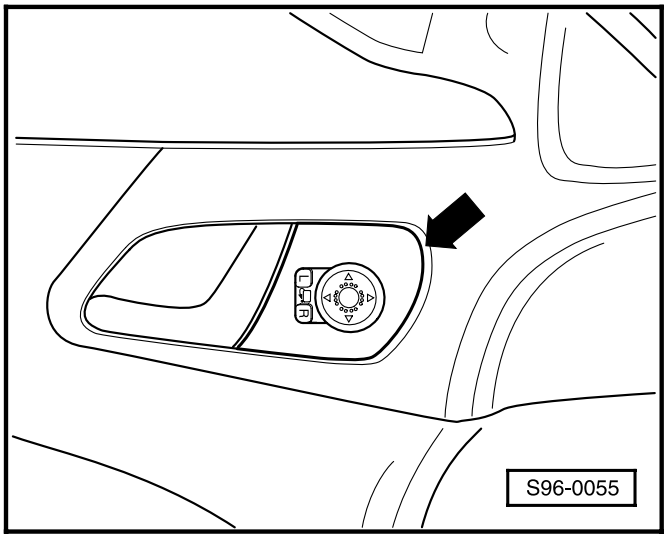
Installing

- Installation is carried out in the reverse order.

Removing and installing mirror adjustment switch

◄ **Up to MY 98**

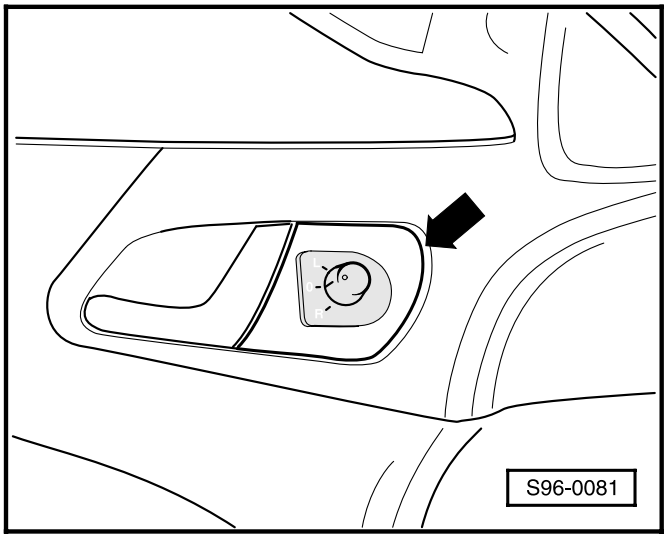
Removing



- Carefully unclip mirror adjustment switch together with trim cover -arrow-.
- Separate electrical plug connection at the mirror adjustment switch.
- Unclip mirror adjustment switch from the trim cover.

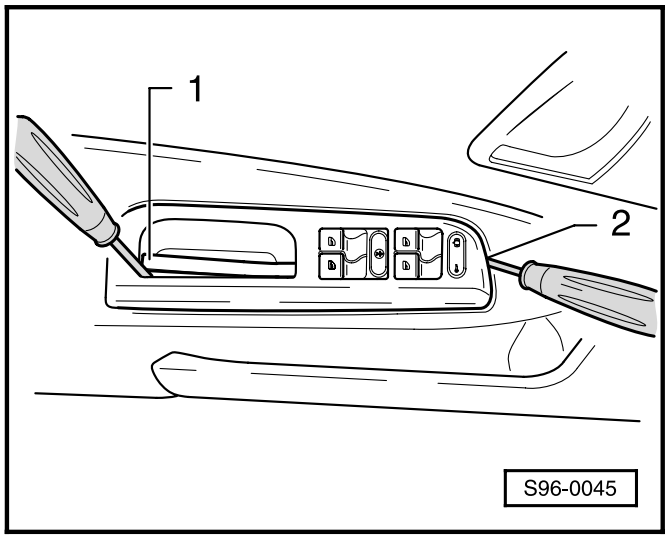
Installing

- Installation is carried out in the reverse order.



◄ **From MY 99**

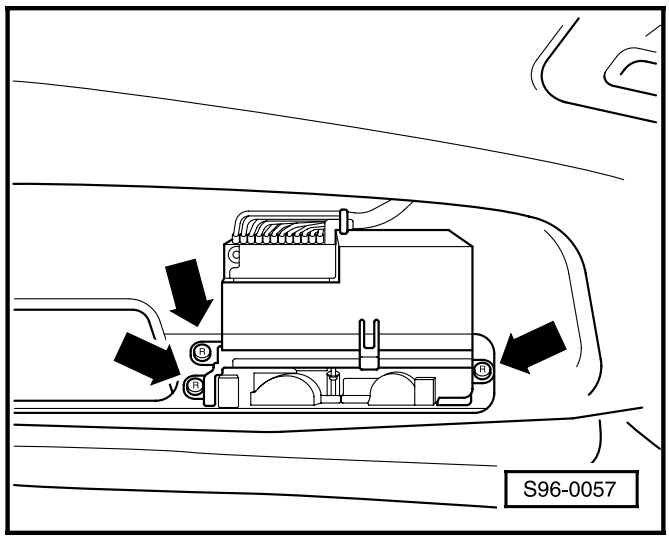
Removal and installation is the same as described for model year 98.



Removing and installing switches for power windows

Removing

◄- Unclip the plastic cover (handle) -1- and switch cover -2-.



◄- Unscrew the 3 cross-recessed screws -arrow-.

- Carefully lift out the switch combination with cover and at the rear unlock the plug and remove.

- Remove the switch combination.

Installing

- Carry our installation in the same way in reverse order.

Servicing interior lights

Removing and installing glove box light

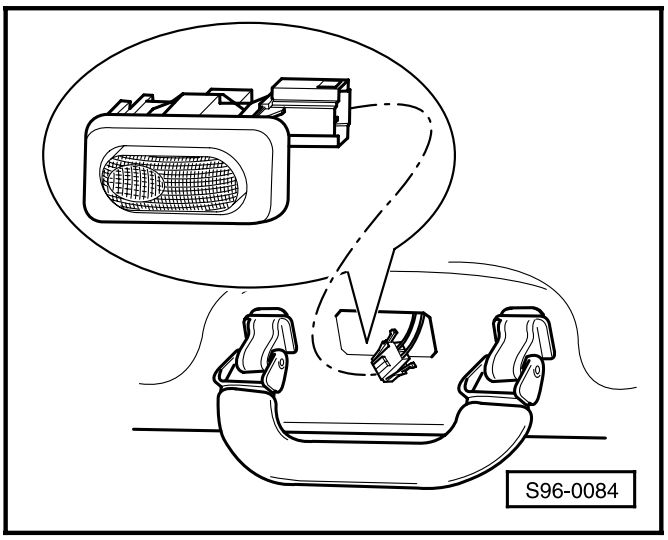
Removing

- With a slotted-head screwdriver reach behind the scattering glass and carefully lift the light out.
- Draw out the scattering glass with bulb holder.
- Replace the 12 V, 5 W bulb.

Installing

- Insert the scattering glass with bulb holder in the glove box and lock into place.

Removing and installing the rear reading lights



Removing

- With a slotted-head screwdriver reach behind the light and carefully lift the light out.

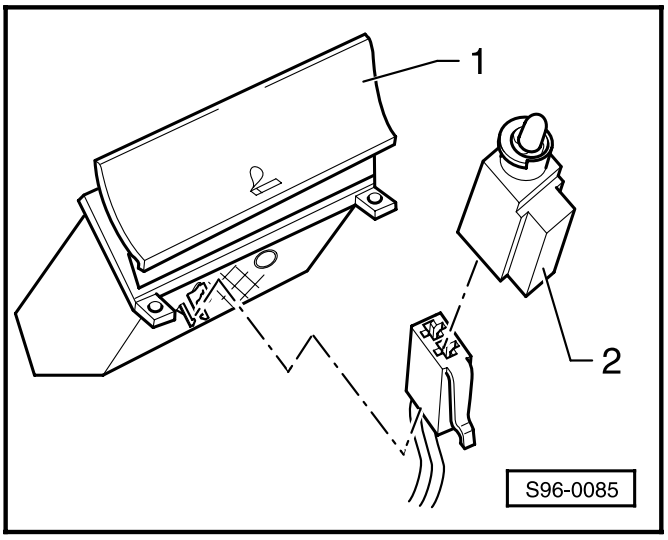
◄ - Unplug the connector.

- Replace the 12 V, 5 W bulb.

Installing

- Carry out installation in the same way in reverse order.

Removing and installing front ashtray light



Removing

- Remove the ashtray and its housing.

⇒ Body Fitting Work; Repair Group 68; Trays, trim panels and screens.

◄ - Carefully unclip bulb holder -2- from the ashtray housing -1-.

- Unplug the connector.

Installing

- Carry out installation in the same way in reverse order.

Removing and installing lighting for the make-up mirror

Removing

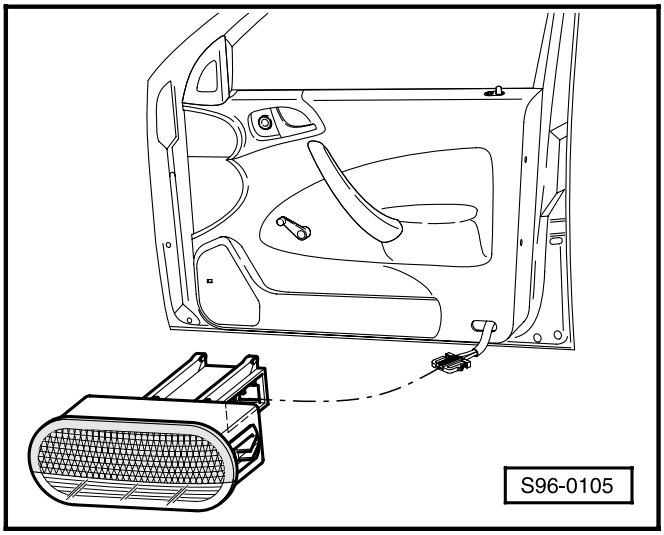
- Lever off the cover of the mirror carefully using a flat screwdriver (the cover is fitted with tabs on the side).
- Replace the 12 volt, 3 watt light bulb

Installing

- Push on the cover until it clicks into place.
- Check the function of the make-up mirror after installing a new light bulb.

Removing and installing the door warning light

Removing



- Lever off the cover carefully together with the lamp using a flat screwdriver.

◄ - Disconnect the plug connector.

- Remove the cover of the lamp.
- Replace the 12 volt, 5 watt light bulb

Installing

- Installation is carried out in the same way in reverse order.
- Check the function of the door warning light after installing a new light bulb.

Removing and installing the warning light for a switched-off airbag

Comment:

On vehicles from MJ 03 the interior lighting has been supplemented by addition of the warning light for a switched-off airbag. This warning light is an integral part of the body of the light and must therefore be replaced completely.

Removing

- Remove the interior lighting ⇒ Page 96-27.
- Pull out the plug.

Installing

- Installation is carried out in the same way in reverse order.

Comment:

After installing the light body for the interior lighting check the function of the warning light for a switched off airbag.

Repairing the horn

Warning!

Disconnect earth strap from the battery before commencing work on the electrical system.

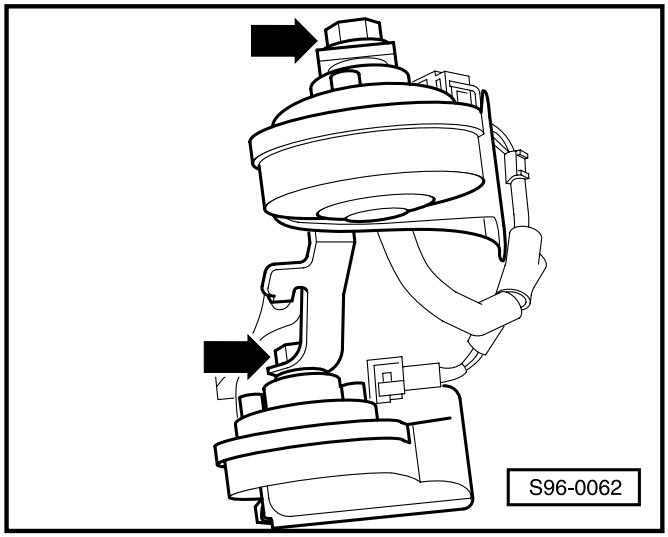
Notes:

- *Before disconnecting the battery determine the code of radio units equipped with anti-theft coding.*
- *If the battery earth strap is disconnected and re-connected, carry out additional operations ⇒ page 27-1.*

Removing and installing horn

Removing:

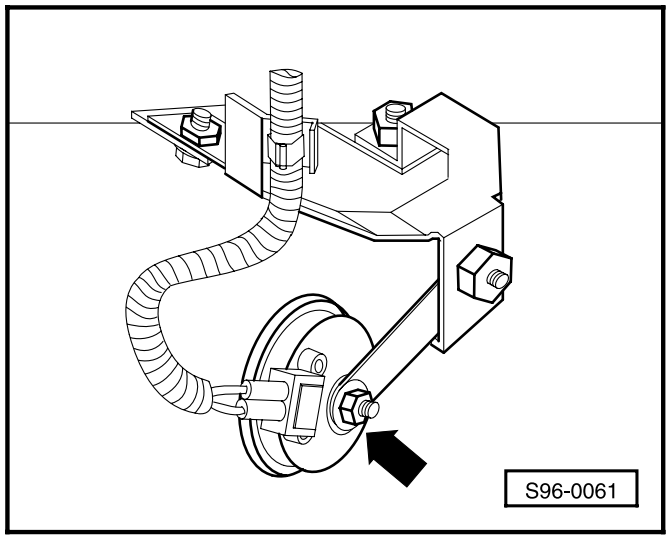
- Remove the plastic cover on the left front underbody of the vehicle.



Vehicles with dual tone horn:

◄ - Unscrew the two fixing nuts -arrows- and take off the horns from the holder.

- Disconnect plug connections.



Vehicles with single horn:

◄ - Release the fixing screw -arrow- and take off the horn.

- Disconnect plug connection.

Installing:

- Perform the installation in the reverse order.

Removing and installing luggage compartment lights

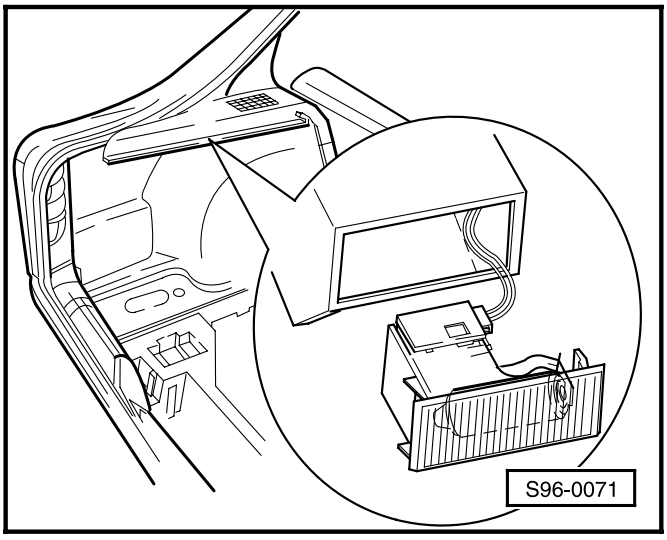
Warning!

Disconnect earth strap of battery before performing any work on the electrical system.

Notes:

- *Before disconnecting the battery, determine the code number of a radio set fitted with anti-theft coding.*
- *When the battery is re-connected, check the vehicle equipment:*
  - Carry out coding of radio,
  - Reset time of clock,
  - Initialise power windows.

⇒ Inspection and Maintenance



Removing

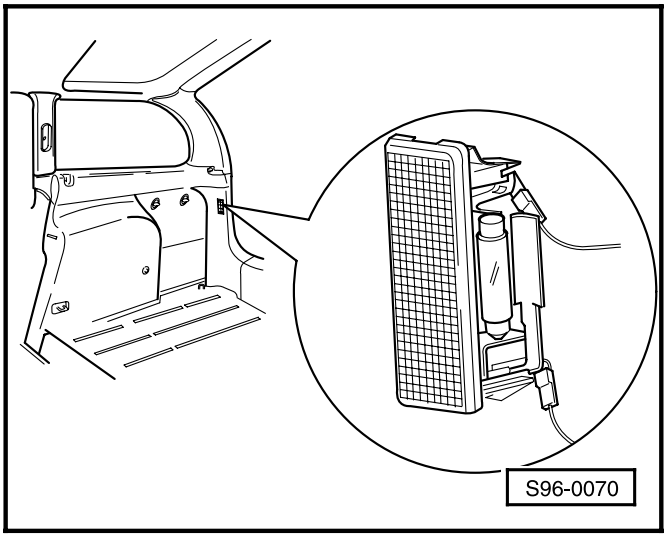
- Open boot lid/tailgate.

Only OCTAVIA:

◄- Carefully unclip luggage compartment light from the side trim panel.

- Separate electrical plug connection.

- Take off luggage compartment light.



Only OCTAVIA Estate:

◄- Carefully unclip luggage compartment light from the bottom D pillar trim panel.

- Separate electrical plug connection.

All models:

Installing

- Carry out installation in the same way in the reverse order.

Removing and installing switch for remote release of fuel filler flap

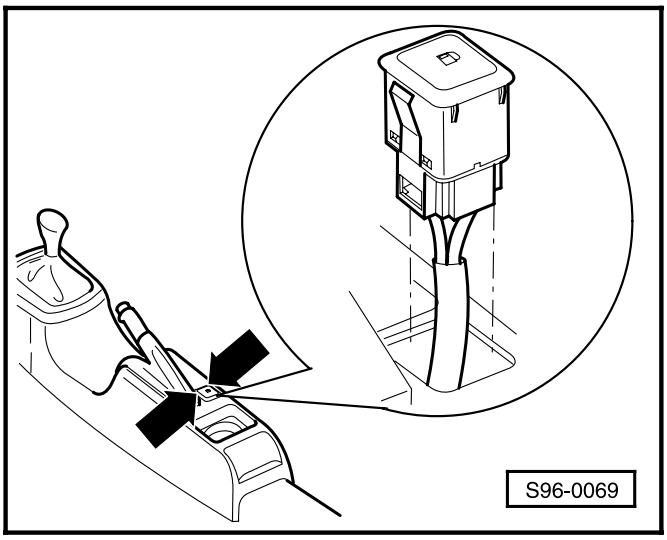
Warning!

Disconnect earth strap of battery before performing any work on the electrical system.

Notes:

- *Before disconnecting the battery, determine the code number of a radio set fitted with anti-theft coding.*
- *When the battery is re-connected, check the vehicle equipment:*
  - Carry out coding of radio
  - Reset time of clock
  - Initialise power windows.

⇒ Inspection and Maintenance



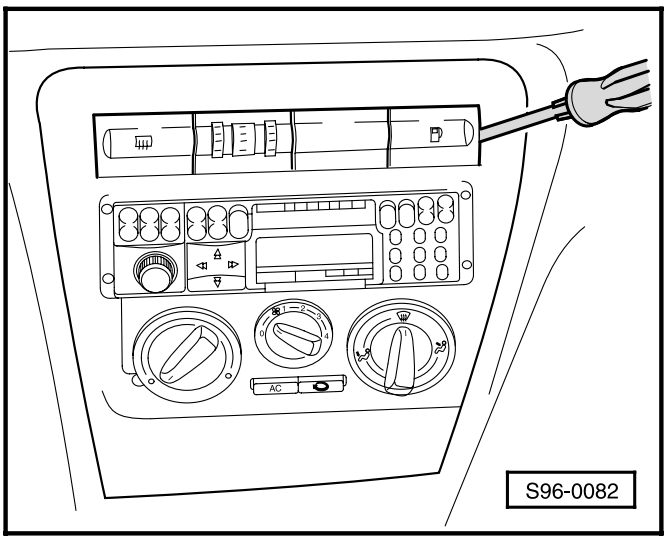
Removing Version 1:

◄ - Carefully unclip switch for remote release of fuel filler flap -arrows- and lift up.

- Separate electrical plug connection at the switch.

Installing

- Carry out installation in the same way in reverse order.



Removing Version 2:

◄ - Carefully lift the switch for remote release of fuel filler flap with a small screwdriver from the dash panel centre part.

- Separate electrical plug connection at the switch.

Installing

- Carry out installation in the same way in reverse order.

Removing and installing luggage compartment socket

Warning!

Disconnect earth strap of battery before performing any work on the electrical system.

Notes:

- *Before disconnecting the battery, determine the code number of a radio set fitted with anti-theft coding.*
- *When the battery is re-connected, check the vehicle equipment:*
  - Carry out coding of radio,
  - Reset time of clock,
  - Initialise power windows.

⇒ Inspection and Maintenance

Removing

- Open boot lid/tailgate.

- Remove the left D pillar trim panel at the bottom.

⇒ Body Fitting Work; Repair Group 70; Trim panels cargo area/luggage compartment

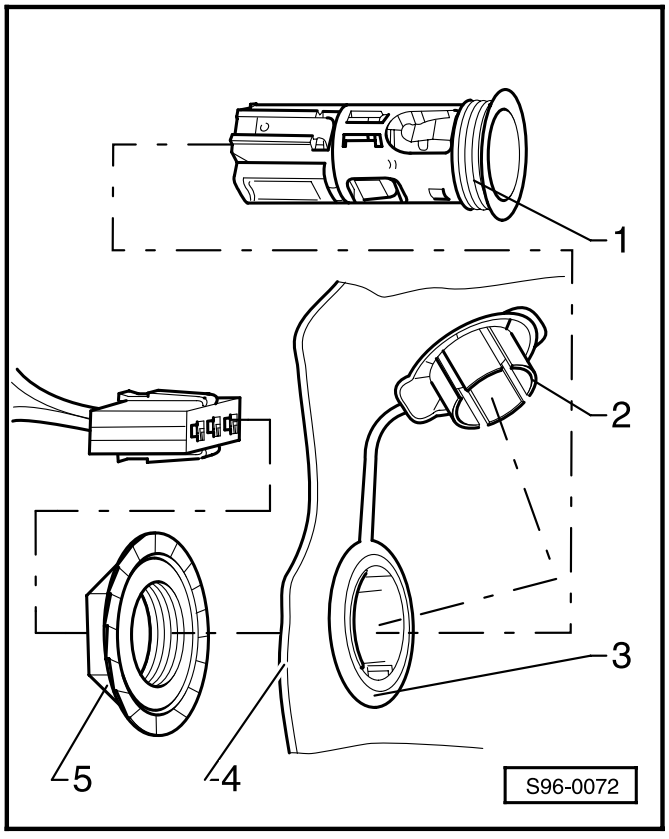
- Separate electrical plug connection.

◄- Unscrew the nut -5- from the socket sleeve -3- together with cover -2-.

- Pull the socket -1- together with sleeve -3- out of the D pillar trim panel.

Installing

- Carry out installation in the same way in the reverse order.



Sensor for interior monitoring -G273-

Removing and installing

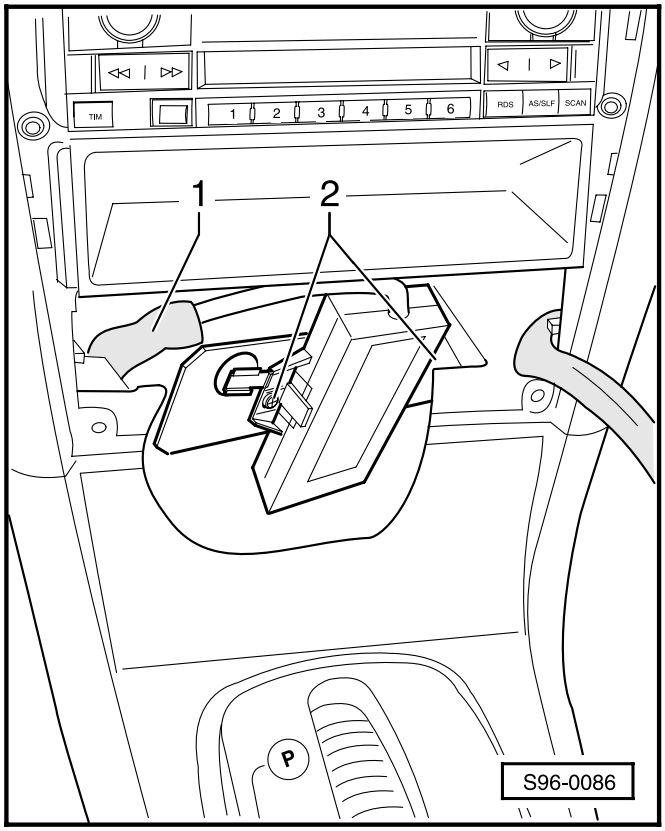
Warning!

Disconnect earth strap of battery before performing any work on the electrical system.

Notes:

- *Before disconnecting the battery, determine the code number of a radio set fitted with anti-theft coding.*
- *When the battery is re-connected, check the vehicle equipment:*
  - Carry out coding of radio
  - Reset time of clock
  - Initialise power windows.

⇒ Inspection and Maintenance



Removing

- Remove the trim panel of the dash panel insert.
- Remove the front ashtray.
- Remove the Climatronic control unit -E87- and separate the plug connections.

◄ - Separate the plug connection of the sensor -1-.

- Take out the two screws -2- and remove the sensor.

Installing

- Installation is carried out in the same way in the reverse order.

Testing

The operation of the sensor for interior monitoring can be tested by the service sector and by the customer.

- Open the window of the driver's door slightly to enable you to insert your arm.

- Lock the vehicle with the key or remote control.

- Wait about 2 minutes until the alarm system has been armed (recognizable from the slow flashing of the red warning light in the driver's door).

- Now insert your arm through the opened window of the driver's door into the interior.
  The alarm system must be activated immediately (hazard warning lights and alarm horn).

- Switch off the alarm by unlocking the vehicle.

Regulating the sensitivity

The sensor for interior monitoring is equipped with a regulator for altering the response sensitivity.

The sensor is factory-set to an average sensitivity. The sensitivity can be altered by the service sector at the customer's request:

- Carry out the first 3 steps of removing the sensor ⇒ page 96-35.

- Use a suitable screwdriver to now alter the setting of the trimming potentiometer „sens." in the direction + (increases sensitivity) or in the direction - (delays sensitivity).

- Carry out an operational check.

Alarm system

Warning!

Disconnect the earth strap of the battery before commencing work on the electrical system.

Notes:

- Before disconnecting the battery, determine the code of radio sets fitted with anti-theft coding.
- *When re-connecting the battery, carry out the following steps:*
  - Encode the radio on vehicles fitted with radio security code,
  - set the clock,
  - initialise the power windows on vehicles fitted with power windows.

⇒ Inspection and Maintenance

Removing and installing foot switch for alarm system

Removing

- Remove entry plate

⇒ Body Fitting Work; Repair Group 68.

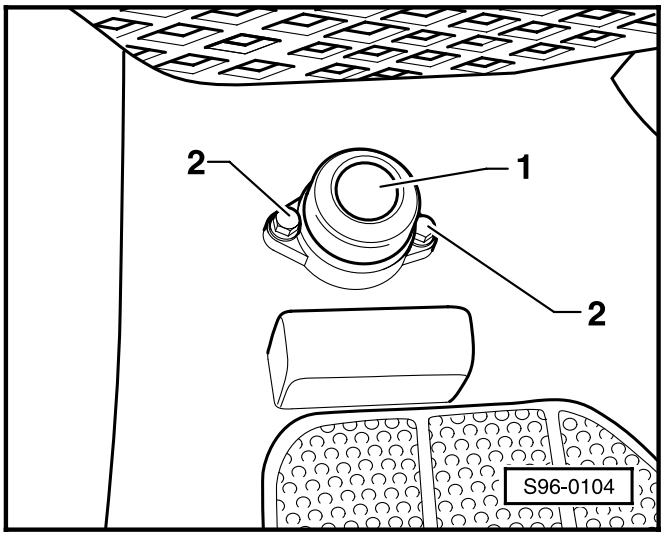
- Remove bottom part of dash panel

⇒ Body Fitting Work; Repair Group 68.

- Remove trim panel at bottom of A pillar

⇒ Body Fitting Work; Repair Group 70.

- Take off carpeting in area of bottom of A pillar.



◄ - Remove bolts -2-.

- Separate sender -1- from electrical installation and take off.

Installing

- Installation is carried out in the reverse order by adopting the same procedure.

Self-diagnosis of immobiliser generation 2 MY 01 ➤

Applies to 1.6-ltr./74 kW; 2.0-ltr/85 kW (APK, AEG, AQY); 1.8-ltr./110 kW EU3D (AGU) engines.

Procedure for self-diagnosis identical for generation 1 ⇒ page 96-1 - except function 08.

Function 08 „Read measured value block“ is identical to that of generation 3 ⇒ page 96-40.

Self-diagnosis of immobiliser generation 3 MY 01 ➤

Applies to 1.4-ltr./55 kW; 1.6-ltr./75 kW; 2.0-ltr/ 85 kW (AZH, AZJ); 1.8-ltr./110 kW EU3 and EU4 (ARX, AUM); 1.8-ltr./132 kW engines.

The electronic immobiliser consists of:

- a control unit integrated in the dash panel insert
- an adapted engine control unit
- a reader coil at the ignition lock
- adapted ignition keys with electronics
- a warning light in the dash panel insert

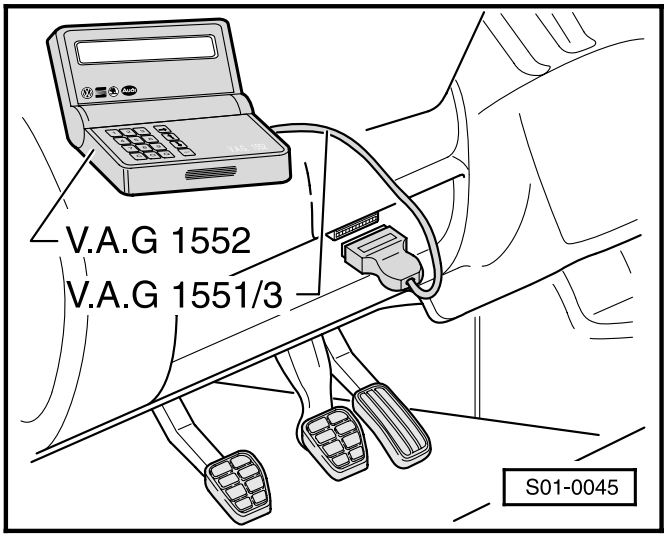
Conducting self-diagnosis of immobiliser

Special tools, testers and aids required

- Vehicle system tester V.A.G 1552
- Diagnostic cable V.A.G 1551/3, 3A, 3B or 3C

Test requirements

- Fuses o.k. according to CFD
- Battery voltage at least 11.5 V
- All electrical components switched off



Connecting vehicle system tester V.A.G 1552

The diagnostic connection is located in the stowage compartment on the driver side.

◄ - Connect vehicle system tester V.A.G 1552 with the appropriate cable.

- Switch ignition on.

Test of vehicle systems HELP Enter address word XX

◄ Readout in display:

Note:

If no readout appears in the display:
⇒ Operating instructions of fault reader

- Enter address word 17 „Dash panel insert“ and confirm entry with the key Q.

1U0920810A COMBI+IMMOB VDO V03 → Coding 05112 WSC 00123

◄ A readout appears after about 5 seconds (example):

- ♦ 1U0920810A: Part No.
- ♦ COMBI+IMMOB: component designation
- ♦ VDO: identification of manufacturer
- ♦ V03: software version of dash panel insert (other readouts are also possible)
- ♦ Coding 05112: coding of dash panel insert
- ♦ WSC 00123: workshop code

- Press → key.

TMBCC11U012430077 SKZ720Y0531556 →

◄ Readout in display:

- ♦ TMBCC11U012430077: vehicle number
- ♦ SKZ720Y0531556: 14-digit identification number of immobiliser control unit

- Press → key.

Test of vehicle systems HELP Control unit does not answer!

◄ *If one of the following messages appears in the display, carry out fault finding according to „Fault Finding Programme“ in the diagnostic cable:*
⇒ Current Flow Diagrams, Fault Finding and Fitting Locations binder.

Test of vehicle systems HELP Fault in communication build-up

Test of vehicle systems HELP K wire not switching to earth

Test of vehicle systems HELP K wire not switching to positive

- A list of the possible functions is displayed after pressing the HELP key.

- Press → key.

List of available functions

The following functions are possible:

02 - Interrogating fault memory ⇒ page 96-40.

05 - Erasing fault memory ⇒ page 96-40.

06 - Ending output ⇒ page 96-40

08 - Reading measured value block ⇒ page 96-40

10 - Adaptation ⇒ page 96-42

11 - Log-in procedure ⇒ page 96-42.

Interrogating fault memory

Description ⇒ page 96-5.

Fault table

Description ⇒ page 96-6.

Erasing fault memory

Description ⇒ page 96-7.

End output

Description ⇒ page 96-8.

Vehicle system test Select function XX	HELP

◄ Read-out on display:

- Enter 08 and confirm entry with key Q.

Reading measured value block Display group number XXX	HELP

◄ Read-out on display:

- Enter code number of desired display group number and confirm entry with key Q.

Measured value block 022

Reading measured value block 22 →

1 1 1 2

◄ Read-out on display:

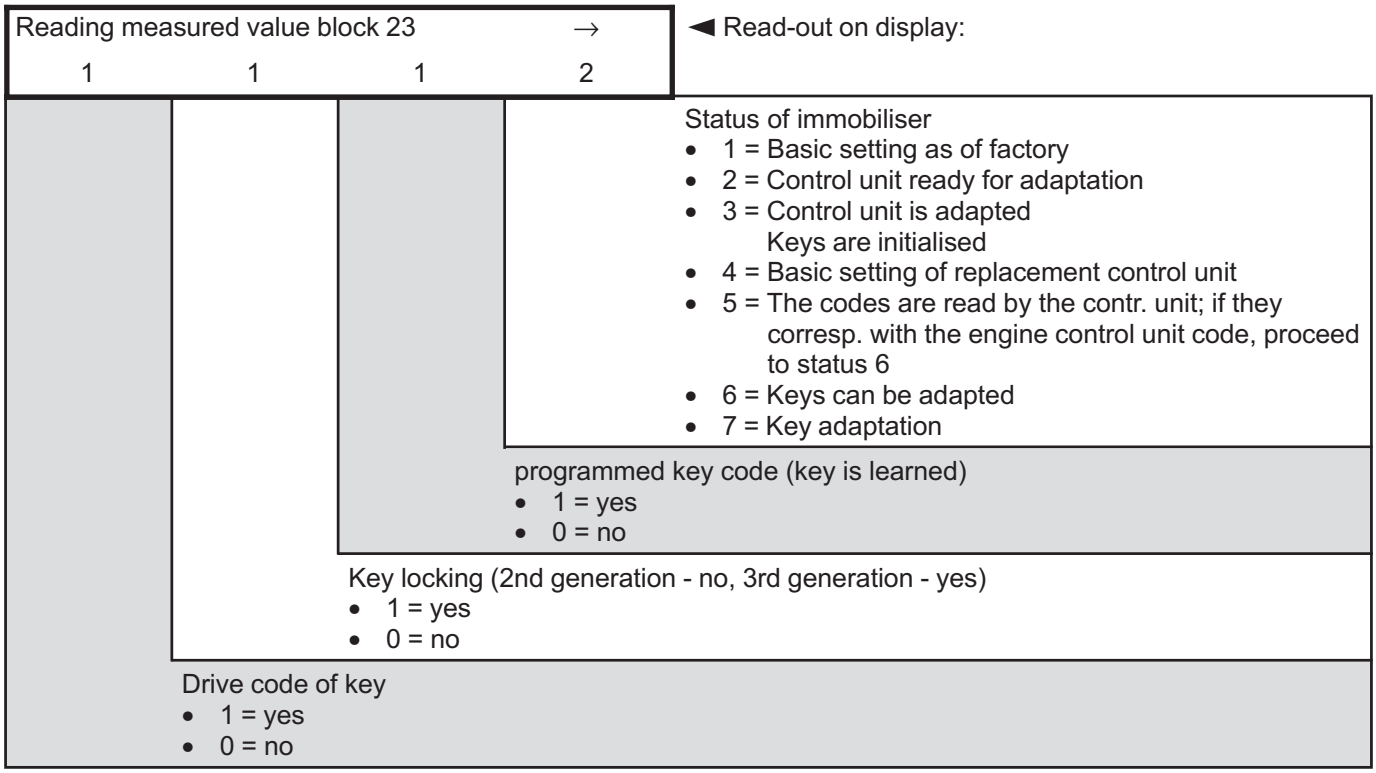
Number of initialised keys
- 1 to 8 keys

Key code read
- 1 = yes
- 0 = no

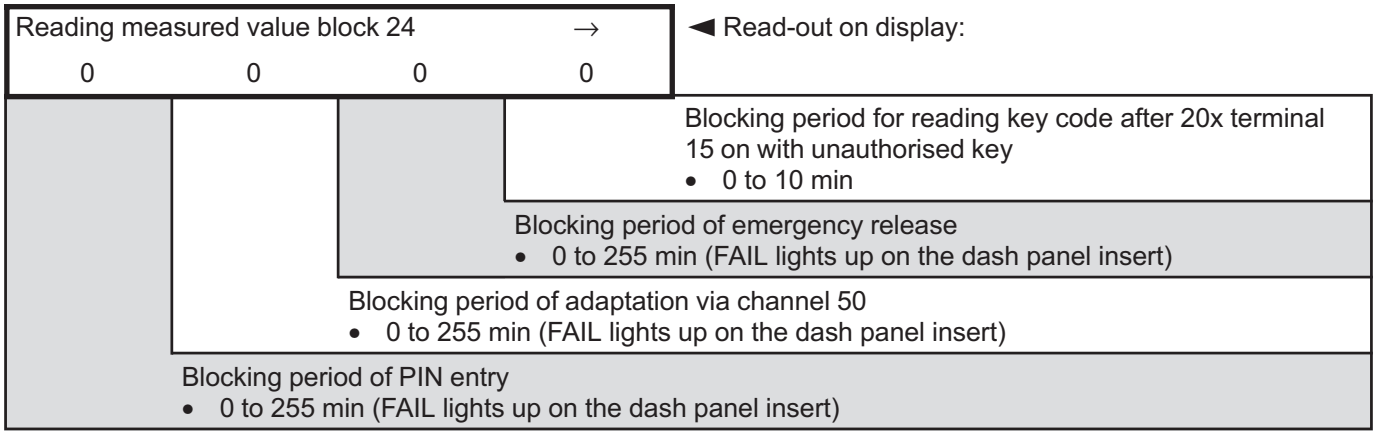
Engine control communicates
- 1 = yes
- 0 = no

Start authorised
- 1 = yes
- 0 = no

Measured value block 023



Measured value block 024



Performing Login procedure

The Login function is performed in the following possible cases:

- when installing an already used dash panel insert ⇒ page 96-45
- prior to the function of adaptation of new ignition keys ⇒ page 96-42
- when adapting the engine control unit ⇒ page 96-42
- for emergency unlocking of the vehicle ⇒ page 96-18

Adaptation

The function „Adaptation“ can be used to perform and store the following changes:

- Adapting vehicle ignition keys ⇒ page 96-42.
- Adaptation after replacing engine control unit ⇒ page 96-42.
- Adaptation after replacing immobiliser control unit ⇒ page 96-44.

Adaptation table:

Adaptation channel	Adaptation purpose
21	Programming keys
50	Adaptation of the immobiliser

Adaptation of the ignition keys

Adaptation process ⇒ page 96-11.

Adaptation after replacing engine control unit

Requirement:

- PIN code of the immobiliser control unit is available.

Test of vehicle systems HELP Enter address word XX	◄ Readout in display:

- Enter address word 01 „Engine electronics“ and confirm entry with the key Q.

Test of vehicle systems HELP Select function XX	◄ Readout in display:

- Enter function 11 and confirm entry with the key Q.

Login procedure Enter code number XXXXX

◄ Readout in display:

- Enter code number as specified in the table and confirm entry with the key Q.

Table of code numbers:

Fuel injection system	Code number
SIMOS 3	00000
Bosch, Diesel	12233

Test of vehicle systems HELP Select function XX

◄ Readout in display:

- Enter function 10 and confirm entry with the key Q.

Adaptation Enter channel number XX

◄ Readout in display:

- Enter channel number 50 and confirm entry with the key Q.

Channel 50 Adaptation 32000 → PIN? (-↑ ↓-)

◄ Readout in display:

- Press → key.

Channel 50 Adaptation 32000 Q Enter adaptation value XXXXX

◄ Readout in display:

- Enter the PIN code of the immobiliser control unit (e.g. 04038) and confirm entry with the key Q.

Channel 50 Adaptation 32000 → Wait (-↑ ↓-)

◄ Readout in display:

The vehicle number appears after about 4 to 5 seconds.

Channel 50 Adaptation 32000 Q TMBMC46Y0Y7000001 (-↑ ↓-)

◄ Readout in display:

- Confirm entry with the key Q.

Channel 50 Adaptation 32000 Q Store changed value?

◄ Readout in display:

- Confirm entry with the key Q.

Channel 50 Adaptation 32000 → Changed value is stored

◄ Readout in display:

- Press → key.

TMBMC46Y0Y7000001 SKZ7Z0W0204038 →

◄ Readout in display:

- Press → key.

The immobiliser warning light goes out.

Test of vehicle systems HELP Select function XX

◄ Readout in display:

- End output (function 06) ⇒ page 90-10.

- Switch ignition off.

Adaptation after installing a used engine control unit

Requirements

- PIN code of immobiliser control unit of the vehicle for which the engine control unit was removed, is available.

- PIN code of immobiliser control unit of the vehicle in which the engine control unit is installed, is available.

Note:

The adaptation process for a used engine control unit is identical to the adaptation process for a new engine control unit. In function 11 enter the PIN code of the immobiliser control unit from the original vehicle as the code number.

Adaptation process ⇒ page 96-42

Adaptation after replacing the new immobiliser control unit

Notes:

- *The immobiliser control unit is installed in the dash panel insert, i.e. the immobiliser control unit is replaced at the same time as the dash panel insert.*
- *After replacing the dash panel insert, perform the following steps:*

- Insert authorised ignition key into the ignition lock.

- Switch ignition on.

- Connect vehicle system tester -V.A.G 1552- and select address word 17 „Dash panel insert“ ⇒ page 96-38.

After the control unit identification is displayed:

- Press → key.

Test of vehicle systems HELP Select function XX	◄ Readout in display:

- Enter function 10 and confirm entry with the key Q.

Adaptation Enter channel number XX	◄ Readout in display:

- Enter channel number 50 and confirm entry with the key Q.

Channel 50 Adaptation 32000 → PIN? (-↑ ↓-)	◄ Read-out on display:
	- → Press key.
Channel 50 Adaptation 32000 Q Enter adaptation value XXXXX	◄ Read-out on display:
	- Enter the PIN code of the corresponding vehicle (immobilizer control unit) and confirm entry with key Q.
Channel 50 Adaptation 32000 → Wait (-↑ ↓-)	◄ Read-out on display:
	After approx. 4 to 5 seconds the vehicle number is displayed and the immobilizer warning lamp lights up.
Channel 50 Adaptation 32000 Q TMBMC46Y0Y7000001 (-↑ ↓-)	◄ Read-out on display:
	- Confirm entry with key Q.
Channel 50 Adaptation 32000 Q Store changed value	◄ Read-out on display:
	- Confirm entry with key Q.
	The immobilizer warning lamp goes out.
Channel 50 Adaptation 32000 → Changed value stored	◄ Read-out on display:
	- → Press key.
	The dash panel insert has taken over the original vehicle secret number.
	The dash panel insert is now set in the address word 17 and displays the vehicle number and the immobilizer identification number after about 2 seconds.
TMBMC46Y0Y7000001 SKZ7Z0W0202038 →	◄ Read-out on display:
	- → Press key.
Vehicle system test HELP Select function XX	◄ Read-out on display:
	- Ending output (function 06) ⇒ page 90-10
	- Switching off ignition.
	- Adapting ignition key ⇒ page 96-42
	- Coding Gateway control unit ⇒ page 90-60.
	- Enter 00 for the address word “Automatic test sequence” and confirm entry with key Q.
	- Erasing fault memory ⇒ page 90-9.

Adaptation after insertion of a used dash panel insert

Prerequisites

The original code number of the immobilizer control unit is available.

After ending the adaptation, the original code number is cancelled and only the new code number for the vehicle is used.

Notes:

- *The immobilizer control unit is installed in the dash panel insert, i.e. when replacing the dash panel insert the immobilizer control unit is also replaced.*
- *After replacing the dash panel insert, perform the following steps:*

- Switch on ignition.

- Connect vehicle system tester -V.A.G 1552- and select the address word 17 “dash panel insert ” ⇒ page 96-38.

After display of the control unit identification:

- → Press.

Vehicle system test HELP Enter address word XX

◄ Read-out on display:

- Enter function 11 and confirm entry with key Q.

Login Procedure Enter code number XXXXX

◄ Read-out on display:

- Enter the PIN code of the installed immobilizer control unit and confirm entry with key Q.

Vehicle system test HELP Enter address word XX

◄ Read-out on display:

- Enter function 10 and confirm entry with key Q.

Adaptation Enter channel number XX

◄ Read-out on display:

- Enter channel number 50 and confirm entry with key Q.

Channel 50 Adaptation 32000 → PIN? (-↑ ↓-)

◄ Read-out on display:

- → Press key.

Channel 50 Adaptation 32000 Q Enter adaptation value XXXXX

◄ Read-out on display:

- Enter the PIN code for the corresponding vehicle (of the removed immobilizer control unit) and confirm entry with key Q.

Channel 50 Adaptation 32000 → Wait (-↑ ↓-)

◄ Read-out on display:

- After approx. 4 to 5 seconds the vehicle number is displayed and the immobilizer warning lamp lights up.

Channel 50 Adaptation 32000 Q TMBMC46Y0Y7000001 (-↑ ↓-)

◄ Read-out on display:

- Confirm entry with key Q.

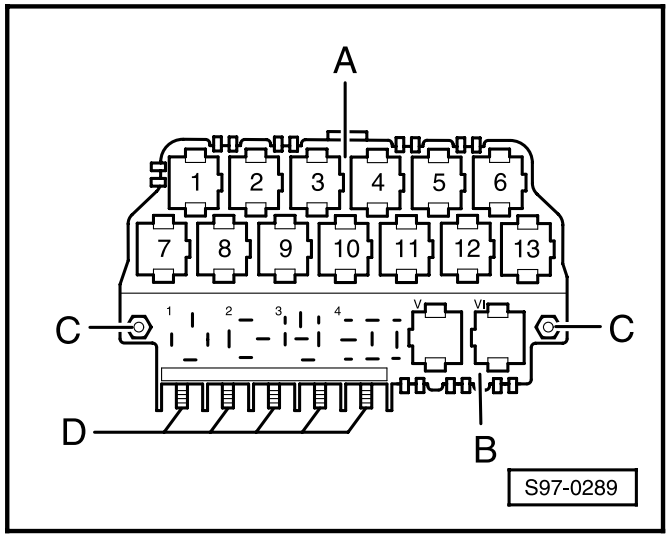
Channel 50 Adaptation 32000 Q Store changed value	◄ Read-out on display: - Confirm entry with key Q. The immobilizer warning lamp goes out.
Channel 50 Adaptation 32000 → Changed value stored	◄ Read-out on display: - → Press key. The dash panel insert has taken over the original vehicle secret number. The dash panel insert is now set in the address word 17 and displays the vehicle number and the immobilizer identification number after about 2 seconds.
TMBMC46Y0Y7000001 SKZ7Z0W0204038 →	◄ Read-out on display: - → Press key.
Vehicle system test HELP Select function XX	◄ Read-out on display: - Adapting ignition key ⇒ page 96-42 - Coding Gateway control unit ⇒ page 90-60. - Enter 00 for the address word “Automatic test sequence” and confirm entry with key Q. - Erasing fault memory ⇒ page 90-9.

Relay holder, fuse holder

Important!

Disconnect battery earth strap before carrying out any work on the electrical system.

Removing and installing relay holder and auxiliary relay holder



Removing:

Note:

The auxiliary relay holder -A- is not fitted as general equipment, but only if the corresponding optional equipment is installed.

- Remove cover at bottom left

⇒ General Body Repairs, repair group 70

◄ - Slacken both securing screws -C- (2 Nm) and, as appropriate, slacken all screw connections -D-.

- Pull out relays and control units and then unclip the appropriate relay carrier.

- Take off relay holder -B- and auxiliary relay holder -A- downward.

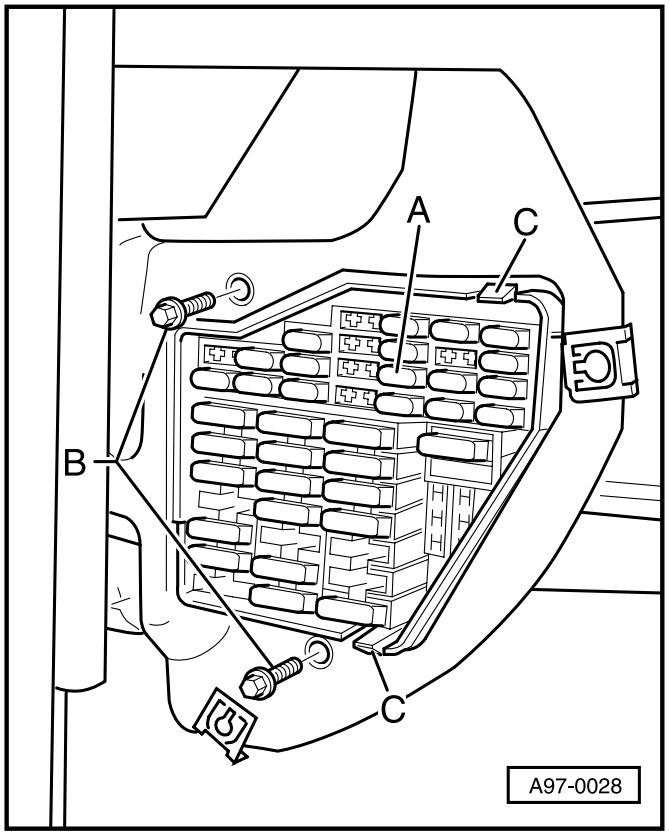
Installing:

- Carry out installation by adopting the same procedure in the reverse order.

Note:

Always refer to the valid current flow diagram for the assignment of the relay holder and of the auxiliary relay holder.

⇒ Current Flow Diagrams, Electrical Fault Finding and Fitting Locations



Removing and installing fuse holder

Removing:

- Carefully lever off the side cover on the left-hand side of the dash panel.

◄ - Unscrew both securing bolts -B- (2 Nm) and then press catch -C- and pull out fuse holder -A- to the rear.

Installing:

- Carry out installation by adopting the same procedure in the reverse order.

Note:

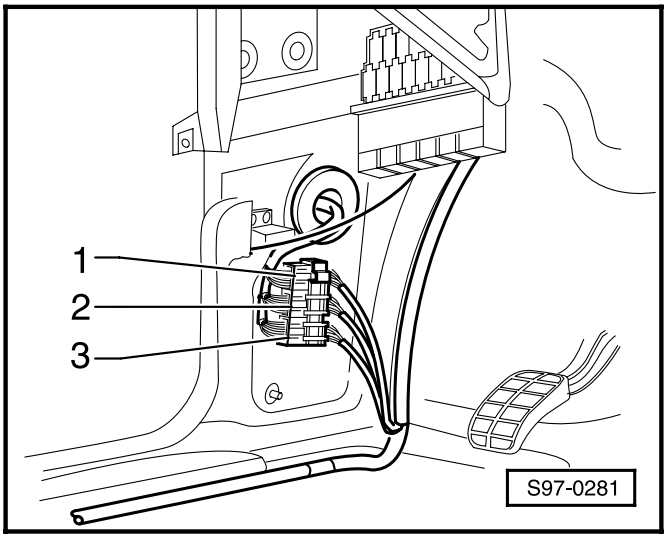
Always refer to the valid current flow diagram for the assignment of the fuse holder.

⇒ Current Flow Diagrams, Electrical Fault Finding and Fitting Locations.

Important electrical contact assignments and plug connections

Important!

Before carrying out any work on the electrical system, disconnect earth strap of the battery.



Connector station A pillar

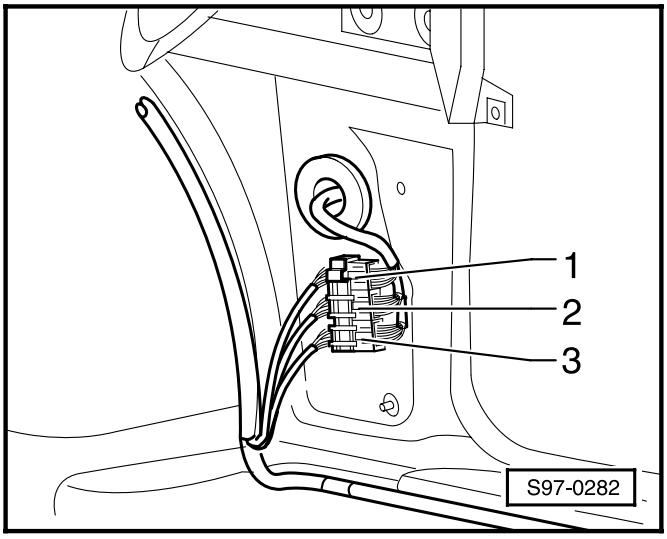
Connector station A pillar - driver side

◄ The connector station is located in the left footwell below the footwell trim panel.

1 - Central locking, brown

2 - Electric mirror adjustment, blue

3 - Radio and power windows, central locking, black



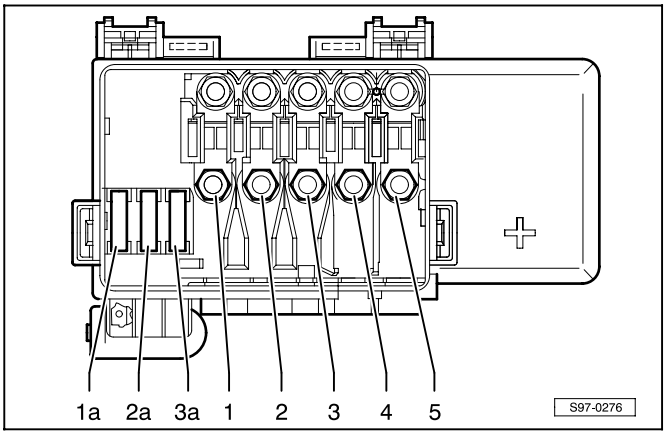
Connector station A pillar - passenger side

◄ The connector station is located in the right footwell below the footwell trim panel.

1 - Central locking, brown

2 - Electric mirror adjustment, blue

3 - Radio and power windows, central locking, black



Main fuse box

◄ The main fuse box is positioned on the battery in the engine compartment.

- Removing and installing ⇒ page 27-4.

Note:

Refer to the relevant current flow diagram for the contact assignment

⇒ Current Flow Diagrams, Electrical Fault Finding and Fitting Locations