

**Symptom on Chassis – Cannot Adjust Electric Steering Column Upwards or Downwards:
Observe Specified Procedure (SY 02/21)**

Model Line: **911 (992)**

Model Year: **As of 2019**

Equipment: **Safety steering column with electrical axial and tilt angle adjustment (M-no. 2C7)**

Concerns: **Servo motor for electric steering column and front-end electronics control unit (BCM)**

Symptom: The electric steering column cannot be adjusted up or down.
The entry 'B14BF01 – Vertical steering column adjustment, electrical fault (010261)' is stored in the fault memory of the front-end electronics control unit (BCM).

Cause: This may be due to particle deposits in the servo motor for the electric steering column. This produces increased resistance by forming a non-conductive oxidation layer.
This oxidation is due to the diagnostic current, low processing current and the oiled carbon brushes.

Remedial Action: In the event of a customer complaint, the function of the servo motor for the electric steering column must be restored and the front-end electronics control unit (BCM) re-programmed using the campaign code.



Information

The total time required for control unit programming is **approx. 6 minutes**.

Required tools



Information

Lithium starter batteries must only be charged using a **suitable battery charger** that has a current and voltage-controlled charge map.

For further information about the battery chargers to be used, see ⇒ *Workshop Manual '270689 Charging battery/vehicle electrical system'*.

- Tools:
- Battery charger with a current rating of **at least 90 A** and, if required, **also with a current and voltage-controlled charge map** for lithium starter batteries, e.g. **VAS 5908 battery charger, 90A**
 - **9900 - PIWIS Tester 3** with PIWIS Tester test software version **40.150.050** (or higher) installed

Parts required if necessary

**Information**

The parts listed are only required if the steering column needs to be replaced.

Parts Info:	Part No.	Designation – Location	Qty.
	992419506M	⇒ Steering column – with locking system (M-no.: ORC)	1 ea.
		or	
	992419506N	⇒ Steering column – without ignition starter lock system, without steering wheel lock (M-no.: ORZ)	1 ea.
		and	
	WHT004955A	⇒ Internal hexagon round cheese head bolt, M8 x 30 – Steering spindle	1 ea.
	N 90799102	⇒ Countersunk screw with internal serration, self-locking M18 x 1.5 18 – Steering wheel	1 ea.
		Only for vehicles with knee airbag (M-no.: A8C or A8F):	
	N 91188301	⇒ Internal hexagon round cheese head bolt, M6 x 20 – Knee airbag on driver side	4 ea.

Preparatory work



Electrically moved side windows and rear spoiler

- Danger of limbs being trapped or severed
 - Risk of damage to components
- ⇒ Do not reach into the danger area.
- ⇒ Keep third parties away from the danger area.
- ⇒ Do not move components or tools into the danger area.
- ⇒ Retract roll-up sun blinds on the rear side windows before starting programming or coding.

NOTICE

Fault entry in the fault memory and control unit programming aborted due to undervoltage.

- Increased current draw during diagnosis or control unit programming can cause a drop in voltage, which can result in one or more fault entries and the abnormal termination of the programming process.
- ⇒ Before getting started, connect a suitable battery charger with a current rating of at least 90 A to the jump-start terminals.

NOTICE

Control unit programming will be aborted if the WiFi connection is unstable.

- An unstable WiFi connection can interrupt communication between the PIWIS Tester and the vehicle communication module (VCI). As a result, programming may be aborted.
- ⇒ During control unit programming, always connect the PIWIS Tester to the vehicle communication module (VCI) via the USB cable.

NOTICE

Control unit programming will be aborted if the driver's key is not recognized

- If the driver's key is not recognized in the vehicle, programming cannot be started or will be interrupted.
- ⇒ Place the driver's key with the back facing down in front of the lock opening for the center console cover to guarantee a permanent radio link between the vehicle and driver's key.

Work Procedure: 1 Connect a battery charger with a current rating of **at least 90 A**, e.g. **battery charger, 90A**, to the jump-start terminals in the luggage compartment and switch it on. ⇒ *Workshop Manual '270689 Charging battery/vehicle electrical system'*

2 Place remote control (hand-held transmitter) in the emergency start tray.



Emergency start tray

- 3 Connect **9900 - PIWIS Tester 3** to the vehicle communication module (VCI) via the **USB cable**. Then connect the communication module to the vehicle and switch on the PIWIS Tester.
- 4 Switch on the ignition.

Re-establishing function of servo motor for electric steering column

CAUTION

Electrically moved components

- **Danger of limbs being trapped**
- ⇒ **Switch off electric power to drive motor.**
- ⇒ **Make sure it does not switch on again.**
- ⇒ **Check that there is no electric charge.**

Work Procedure: 1 Establish function of servo motor for electric steering column

- 1.1 Sit in the vehicle and position the knees under the steering wheel. ⇒ *Electric steering column (shown on Macan)*



Information

The amount of force required should be about **40 kg**.

- 1.2 Press the steering wheel in ⇒ *Electric steering column (shown on Macan)*

-direction of arrow- using a lot of force and at the same time actuate the switch for steering column height adjustment in the corresponding direction of adjustment.



Electric steering column (shown on Macan)



Information

If this method cannot be used to re-establish function in the electric steering column, it must be replaced **before** programming. ⇒ *Workshop Manual '481555 Replacing steering column'*

After replacing the electric steering column, programming must always be performed to prevent any need for subsequent repairs.

Programming front-end electronics control unit

NOTICE

Use of a PIWIS Tester test software version that is older than the prescribed version

- Measure is ineffective
- ⇒ Always use the prescribed version or a higher version of the PIWIS Tester test software for control unit programming and coding.

- 1 The basic procedure for programming a control unit is described in the Workshop Manual ⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming - section on "Programming"*.

Specific information on control unit programming in the context of this Technical Information:

Required PIWIS Tester test software version:	40.150.050 (or higher)
Type of control unit programming:	Control unit programming using the 'Campaign' function in the Additional menu on the PIWIS Tester by entering a programming code.
Programming code:	W5N3E
Programming sequence:	Read and follow the information and instructions on the PIWIS Tester during the guided programming sequence. During the programming sequence, the front-end electronics control unit is re-programmed and then re-coded automatically. Do not interrupt programming.
Programming time (approx.):	6 minutes
Software version programmed during this campaign: The software part number and software version of the programmed data record are based on the specified PIWIS Tester test software version. Please note that these may have changed in a higher version.	0210 Following control unit programming, the software version can be read out of the gateway control unit in the ⇒ 'Extended identifications' menu using the PIWIS Tester.

Procedure in the event of error messages appearing during the programming sequence:	⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming - section on "Fault finding"</i>
Procedure in the event of abnormal termination of control unit programming:	Repeat control unit programming by restarting programming.

Concluding work

Work Procedure: 1 Carry out general subsequent work for control unit programming as described in ⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Subsequent work"*.

Invoicing

Invoicing: For documentation and warranty invoicing, enter the labor operations, PQIS coding and part numbers specified below in the warranty claim:

APOS	Labour operation	I No.
48154940	Reworking steering column center	
48155540	Replacing steering column center	

PQIS coding:

Location (FES5)	48150	Steering column center
Damage type (SA4)	1611	does not work



Information

The parts listed are only required if the steering column needs to be replaced.

Parts Info:	Part No.	Designation	Qty.
	992419506M	Steering column with locking system	1 ea.
		or	
	992419506N	Steering column without locking system	1 ea.
		and	
	WHT004955A	Internal hexagon round cheese head bolt, M8 x 30	1 ea.

N 90799102 Countersunk screw with internal serration, self-locking 1 ea.
M18 x 1.5 x 18

Only for vehicles with knee airbag:

N 91188301 Internal hexagon round cheese head bolt, M6 x 20 4 ea.

References: ⇒ *Workshop Manual '270689 Charging battery/vehicle electrical system'*
⇒ *Workshop Manual '481555 Replacing steering column'*
⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming - section on "Programming"*.

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