

45 60 Steering angle sensor

Calibrating steering angle sensor

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Calibrating steering angle sensor



WARNING

Malfunctions in the PSM control range if the steering angle sensor is not calibrated or is calibrated incorrectly!

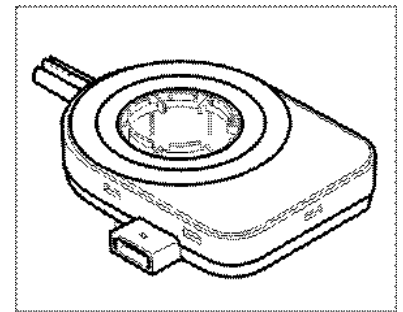
- Calibrate the steering angle sensor with the wheels in straight-ahead position!



Note

- A steering angle sensor is attached to the steering column/steering shaft for the PSM (Porsche Stability Management)! PSM is standard in the 911 Turbo (996)!
- The steering angle sensor supplies information about the slip angle of the front wheels to the PSM control module (intention of driver in relation to direction of travel)!

Steering angle sensor position



The steering angle sensor has no defined zero position when new. The position for "straight ahead" direction of travel must be programmed. This is done by calibrating with the Porsche System Tester 2 with the wheels in straight-ahead position.

The steering angle sensor must be calibrated after:

1. A new steering angle sensor has been installed,
2. The PSM control device has been exchanged,
- 3.

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The steering gear and / or components which change the zero position of the steering angle sensor have been exchanged,

4. Accident repairs,
5. Suspension alignment procedures during which the previous wheel alignment values were changed.

Calibrating steering angle sensor



WARNING

Malfunctions in the PSM control range if the steering angle sensor is not calibrated or is calibrated incorrectly!

- Calibrate the steering angle sensor with the wheels in straight-ahead position!



Note

- Check the steering angle sensor actual value with wheels in straight-ahead position before calibrating the steering angle sensor! Only recalibrate the steering angle sensor on the measuring platform if the steering angle actual value lies outside the tolerance or is doubtful!
1. Drive vehicle onto measuring platform. Affix measured-value pickups to all wheels.
 2. Check wheel alignment values and adjust if necessary. If the wheel alignment values on the front and rear axles are correct, calibrate the steering angle sensor with the front wheels in straight-ahead position. Calibration description in following text.
 3. Select the "Calibrate steering angle sensor" menu with the Porsche System Tester 2 in the PSM system. Entry to the PSM system takes place through the ABS system (automatic status change after PSM).
 4. Confirm calibration start. The procedure can also be interrupted.
 5. Vehicle wheels in straight-ahead position.



Note

- This safety code must be extracted in the Actual Values menu, Safety Code sub-menu! The safety code changes automatically each time provided that PSM is called up again!
 - The calibration procedure will be interrupted if an incorrect safety code is entered! This time-consuming procedure ensures that the steering angle sensor is not calibrated unintentionally!
 - The steering angle sensor can be calibrated several times! The value (the zero position) is stored in the steering angle sensor itself!
6. The PST 2 now requests the 4-digit safety code shown in the display.
 7. Input the 4-digit safety code with the cursor keys (4 centre keys on right). Then continue with the (>>) key.



Note

The steering angle sensor must be calibrated after:

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- The final possibility to interrupt the calibration is not to confirm the safety code input! To do this, press the appropriate function key for no!

8. Confirm safety code input. Display in the Tester display after the safety code input has been confirmed: Steering-angle sensor being calibrated.

For safety reasons, read out the current steering angle sensor actual value after calibration. To do this:

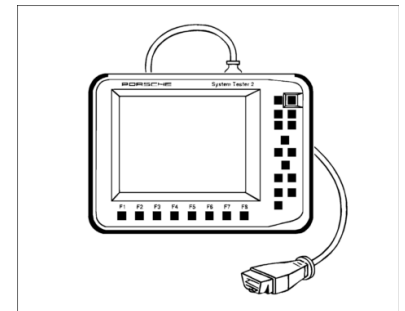
9. Leave the PSM system. Then call up PSM again and select the steering angle sensor in the Actual values menu. Required display in the Tester display: $0^\circ \pm 3^\circ$ when the wheels are in straight-ahead position.

10. Repeat the calibration if the value is not correct.

Check the steering angle sensor actual value in the following cases:

1. Suspension alignment when no change has been made to the wheel alignment values.
2. As a check after steering angle sensor calibration.

Checking the steering angle sensor actual value



1. Connect the Porsche System Tester 2 to the diagnostic socket.
2. Select vehicle type and then enter PSM system. Entry takes place through the ABS system (automatic status change after PSM).
3. Select steering angle sensor in the Actual values menu.
4. Required display in the Tester display with wheels in straight-ahead position $0^\circ \pm 3^\circ$.
5. If the steering angle sensor actual value deviates or is doubtful, recalibrate the steering angle sensor on the measuring platform.

996420, 996421, 996450, 996451, 996620, 996621, 996650, 996651