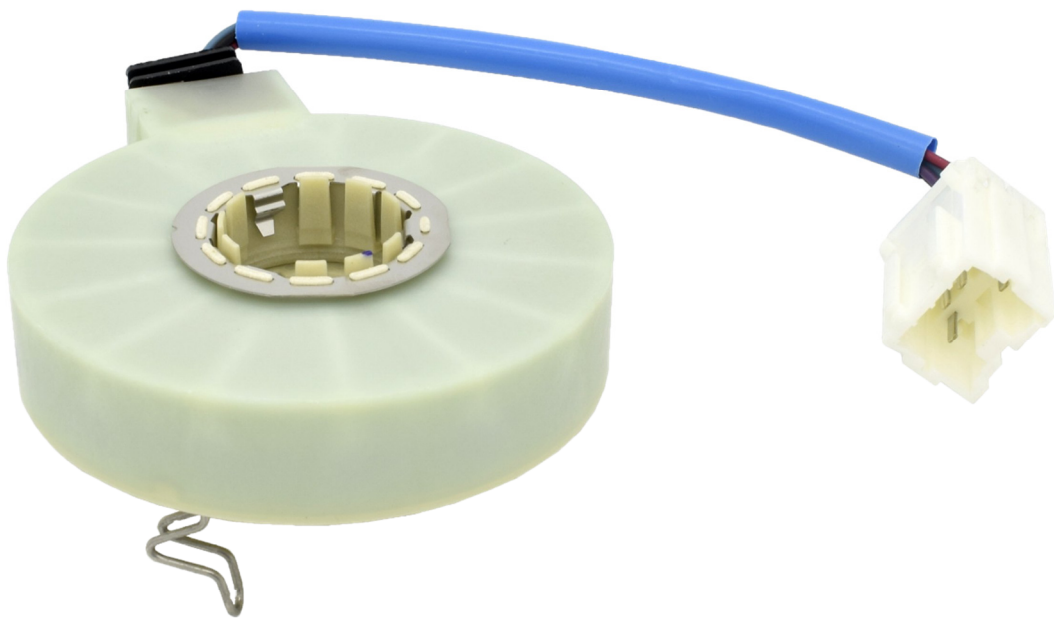




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STEERING ANGLE SENSORS WITH CABLE REPLACEMENT PROCEDURE

INTRODUCTION

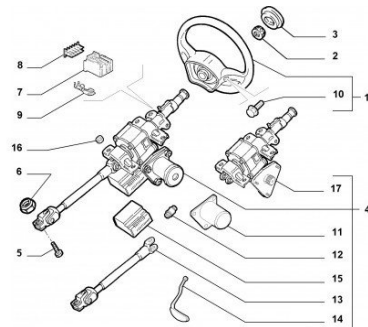
Shown below, you can find the procedure that you must follow to replace steering angle sensors with cable

INSTALLATION INSTRUCTIONS

You can replace all sensors, only if vehicle wheels are centered.

Steps:

- 1) Block the steering column shaft and then disassemble.



- 2) Disconnect sensor plug.



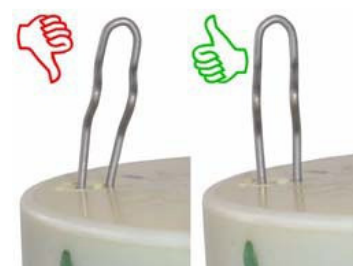
- 3) Remove elastic ring, gasket and hose.



- 4) Align the reference signs, rotating the shaft if needed. Remove the sensor from the bottom part with suitable tool.



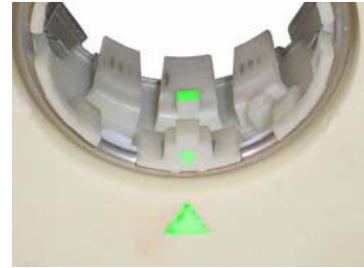
- 5) Pay attention at the new sensor: the spring clip has to be perfectly orthogonal to the plastic structure, in order to make both the sensor "disks" in-built.



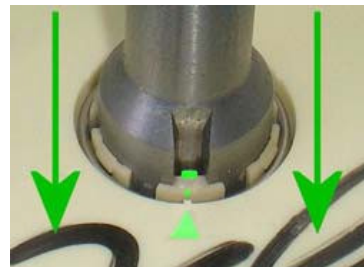
6) The shaft has two axial sleeves that get along with the two disks of the sensor.



7) Before starting fitting process, the three reference signs must be perfectly aligned.



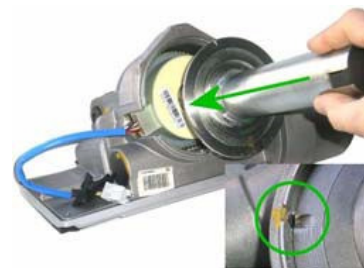
8) Fit the new sensor with uniform pressure to allow the coupling of the disks.



9) Pull out secure spring clip.



10) Reassemble hose, gasket and elastic ring.



11) Insert the plug in its housing.



12) Now the sensor is ok.

- a. Plug 6 wires: Use the diagnostic instrument to monitor the correct position of the shaft and the torque value (0.1 ÷ 0.6);
- b. Plug 7 wires: Use the diagnostic instrument to monitor the correct position of the shaft (-144) and the torque value (zero).



ANY ISSUES

If you have one or more of these problems:

- Steering wheel unbalanced on the left/right
- Dashboard lamp switched-on
- Steering wheel activate by itself

There are some problems about incorrect assembly.

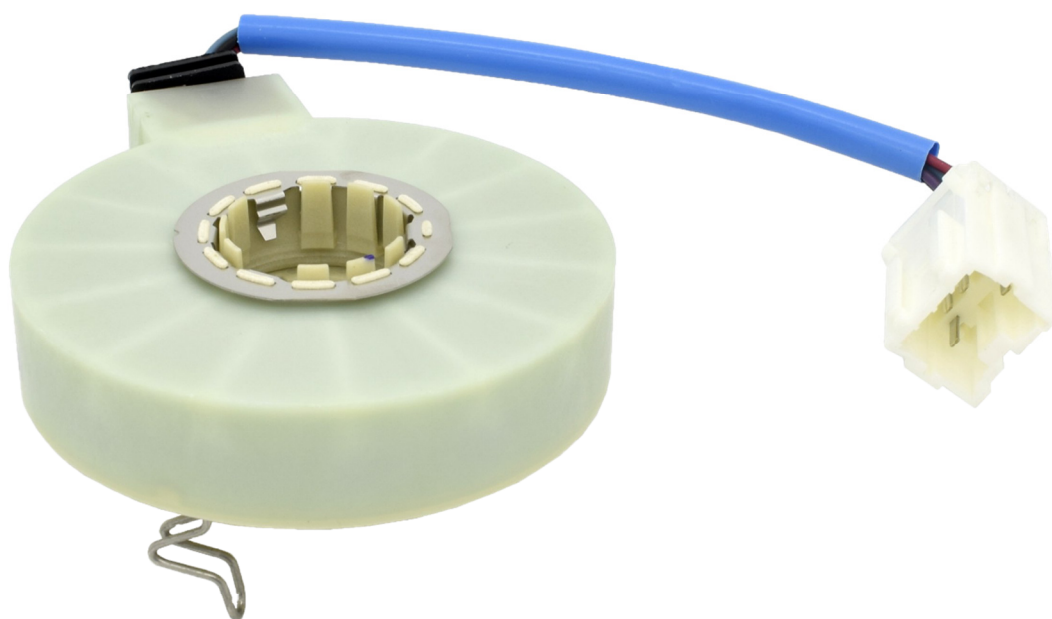
To solve these problems, you should implement again and to follow all procedure.

NOTES

For Fiat Punto 188 first series (450003), the shaft has diameter 1 mm more than the equivalent second series. In this case it is necessary to reduce the material with appropriate tools (lathe-milling machine), as indicated in the technical sheet supplied.



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STEERING ANGLE SENSORS WITH CABLE REPLACEMENT PROCEDURE - 450003

INTRODUCTION

Shown below, you can find the procedure that you must follow to replace steering angle sensors with cable for the first version of FIAT PUNTO 188

INSTALLATION INSTRUCTIONS

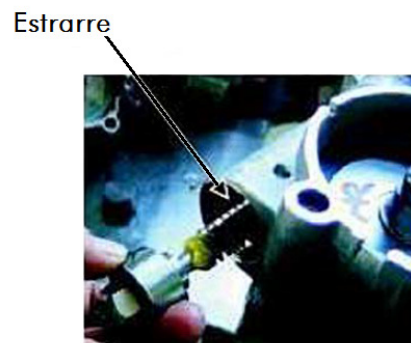
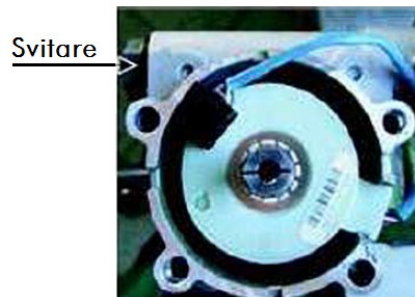
You can replace all sensors, only if vehicle wheels are centered.

Steps:

- 1) Steering angle sensors with blue sheath now is not available. Replace it with the new version. It is necessary to turn back the support shaft because they have two different diameters (25.5 mm vs 24.3 mm of the new version).

After the removal of the sensor, take apart support shaft.

Unscrew the endless screw and extract it.



- 2) Turn upside down the EPS and fix the sensor with a \varnothing 8mm nut, without deforming it.

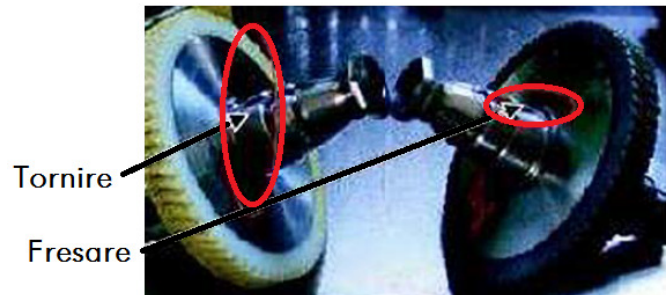
Unscrew tightening nut



3) In the next step, put upwards the self-locking part of the nut and pay attention to its enclose.



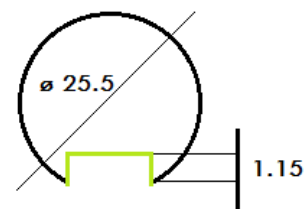
4) Turning the support shaft to 24.3 mm and then reactivate the original depth of the hollow



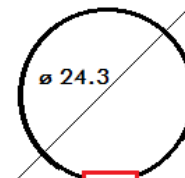
5) After the turning, the dimension of the sensori will be smaller. It is necessary to mill the groove in depth up to at least 1.15mm

Attention. You can mill more than 1.15 mm, but you can't mill less than 1.15 mm

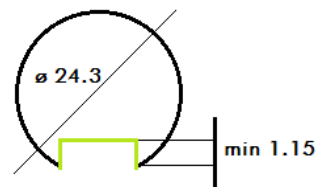
Before turning



Wrong turning



Correct turning



6) You can reassemble the product