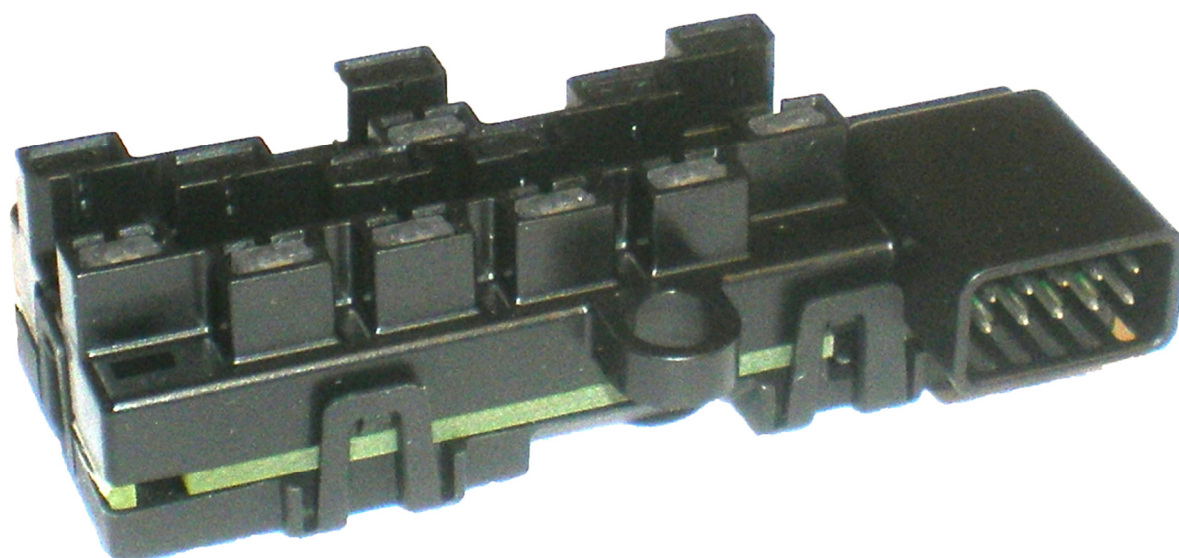




 **automotive  
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# **STEERING ANGLE SENSORS WITHOUT CABLE REPLACEMENT PROCEDURE**

## 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. Before removing the sensor, it is important to set the torque value with diagnostic instrument.



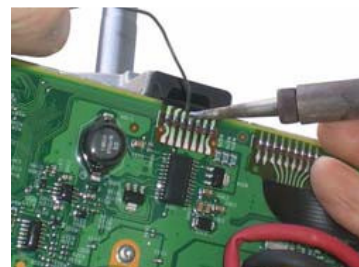
- 2) Remove unit cover, plastic ring and hose.



- 3) Cable connection is circled in the picture.



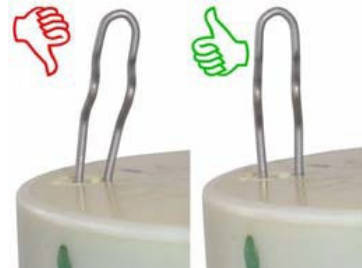
- 4) Use the appropriate welder to remove the "flat" connector.



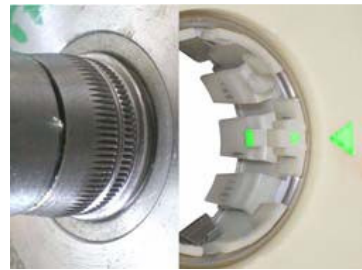
- 5) Align the reference signs, rotating the shaft if needed.  
Remove the sensor acting in the bottom part with suitable tool.



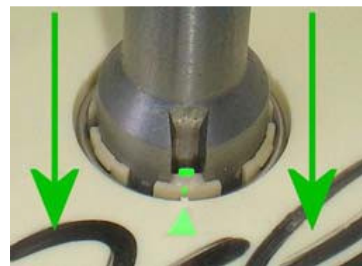
- 6) Pay attention at the new sensor. Spring clip has to be perfectly orthogonal at plastic structure, in order to make the sensor "disks" in-built.



- 7) The shaft has two axial sleeves that get along with the two disks of the sensor. The three reference signs must be perfectly aligned, before starting the fitting process.



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



- 9) Pull out the secure spring clip.



- 10) Assemble hose and elastic ring.



11) Use the diagnostic instrument to reactivate the torque value with the position of the shaft.



12) Weld carefully the new flat connector and close the cover. Now the unit is functioning.



## 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 1mm 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.