

GENERIC FITTING INSTRUCTIONS FOR NUT-MOUNTED STEERING WHEEL SPACER

Warnings:

- 1) Always park the car with the straight wheels before installation, because depending on the car model, the spline may not have any marker (1 or more wider teeth) that allow the coupling in one way only.
- 2) Disconnect the battery before installation. This will avoid warning lights on after the procedure, and permanent sound of the horn during the installation.
- 3) **Be carefull while handling the harness/wires inside the steering wheel: never pull it**, and pay attention about **no pulling it accidentally**, you can damage the clockspring assembly, or hear an annoying “click” while rotating the steering wheel at the end of the job, which requires to re-do the whole procedure only for pushing back the wires towards the clockspring assembly.

INSTALLATION PROCEDURE - There are many tutorials on the internet / youtube, about how to remove the steering wheel, I resume here the steps required, but it's much easier after looking a video focused on your car model. For example, if your car is a 2004 Subaru Forester, type on google “2004 Subaru Forester steering wheel removal” or “Subaru Forester Mk3 steering wheel removal” and usually you'll find at least 3-4 video made by other owners which explain how to do. We keep updating our youtube channel everytime we have the chance to make our own video installation on your specific car model, but it's a long term job, so your specific car may not be in our video database yet.

- 1) **Pull out the airbag** unit from the steering wheel. Usually there are 2 way of mounting of the airbag unit on the steering wheel core: the airbag block can be bolt on the steering wheel via 2 or 3 little bolts, or clamped on thanks to 2 or 3 clamp springs. So, you can remove the airbag by unscrewing the 2/3 torx bolts at the sides of the steering wheel, which access is usually behind the spokes, as well as it is for the clamp springs, which must be push towards the centre of the steering wheel itself. This is the core detail which you must look for on youtube's videos. Because it's easy but tricky. When the airbag unit is in your hands, unplug the sockets in the back of it. Don't pull them out with force, they all have a secure plastic clips, unlock them first.
- 2) **Lay the airbag unit** far from working area and children.
- 3) **Unlock the central nut, without removing it yet:** the steering wheel can be hard to pull out in some case, and sudden unlock may result in hurt yourself by throwing the steering wheel on your teeth, also, pulling it out too fast may damage the pending harnesses. A puller may be necessary, but happens very rarely. Be sure that the steering wheel slides on the steering column's shaft before fully remove the nut.
- 4) When you're sure the steering wheel is easy to came out, **remove the nut** and stock both nut and steering wheel somewhere, for example, the passenger seat.
- 5) Now you can see the clockspring assembly, this is the moment to **extend the wires if required**. Depending on the car, the harness can be disconnected from both clockspring assembly and steering wheel side, or only from 1 of its ends, remaining still on the steering wheel or the clockspring assembly. Also, it may be possible that airbag wires can't be disconnected from the steering angle sensor (either clockspring assembly), while the steering wheel button harness remains attached at the steering wheel. Airbag wires are usually longer than other wires and may never require extension. About steering buttons harness, a solution to avoid the cutting and extension of the wires can be make the harness run across another way inside the steering wheel, gaining some centimeters. When there is the need to extend the steering wheel wires, normally we supply a plug-in harness, with OEM matching connectors, to make quick and simple the extension of the wires. But this is not always possible because the OEM matching connectors are not always easy to find (when not available at all) for us little aftermarket supplier. To extend the airbag wires is doable by cut and weld few centimetres of wire.
- 6) **Fit the aluminum side of the steering wheel spacer** on the steering column, respecting the orientation of the slots. The spacer replicates the shape of the steering wheel, with its slots, ribs and bores. **Tight the central OEM nut what was holding the steering wheel** on the column. The harness must go across the slot(s) in the spacer. The tightening torque, on all cars,

goes from 45 Nm to 60 Nm. If you don't have a torque wrench, you can use the empiric rule to tight AT LEAST 90° since the nut becomes hard to tight.

- 7) **Fit the male splined steel side of the spacer** on the aluminium side, tightening the bolts. Use Loctite and tight 10 Nm. It's a very low torque: empiric "wrist torque" plus Loctite is going to be fine.
- 8) **Fit the steering wheel back in place.** Fitting is the opposite of removal. The only difference is that you're going to insert the steering wheel on the extended shaft, instead of the steering column. The harnesses must go through the slots, in line with the corresponding slot in the steering wheel spacer. Use same tightening torque as per the steering wheel spacer's central nut.
- 9) **Put the airbag back in place.** Keep care when you re-push the airbag unit in place: look that it is well aligned and it's not going to press the wires, otherwise you can hear your horn permanently when switching ignition on.
There is only one orientation to push the airbag unit back in place.
Before pushing the airbag back, re-connect its own connector(s), usually they are 1 or 2, not more. They have 1 orientation possible, respect it! And if they are 2 they cannot be swapped. Plus, they have a secure lock, it may be a simple side button at the end of the connector, or an extra clip that must be free/unclamped before re-connecting the connector, and pushed back in the connector itself after it has been insert in the airbag.
Again, have a look on youtube tutorials about steering wheel installation.
- 10) **Reconnect the battery. END.**