

# Replacing Your C5 Corvette's Steering Wheel

## A How-To Guide

### DISCLAIMER

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The instructions presented herein are accurate as far as the knowledge of the author extends. Alternative instructions might exist and might prove more accurate. If you are unsure on how to use these instructions, you should contact a qualified service center to have this procedure performed for you. **USE AT YOUR OWN RISK. UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL THE AUTHOR BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGE CAUSED BY THE USE OF THESE INSTRUCTIONS.**

### INTRODUCTION

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These instructions will walk you through the process of replacing your steering wheel in your 1997 through 2004 model year Corvette, as described in the GM Service Manual.

**Before you begin**, you should *strongly* consider having your qualified service facility or GM dealer perform this work for you. Changing a steering wheel is straight-forward with the proper tools, but you are dealing with a critical system of your car. You do not want the steering wheel to come off while driving; the air-bag system to deploy while you are working on the wheel; or the air-bag system to not deploy during an accident. Finally, the cost of having a service facility replace your steering wheel will likely be less than the price of the custom tools you must purchase.

**If you do follow these instructions**, then *please* read the entire set of instructions before beginning work. Some of the re-installation procedures are *not* the exact opposite of the removable procedure. In addition, there are several tools and replacement parts that *you must have* before you begin work.

Tools and items you will need:

1. A GM Service Manual for your year Corvette. All references to pages within these instructions are for a model year 2001 service manual.
2. A Steering Wheel Puller (Kent-Moore tool # J1859-A, or KD Tools tool # 2291)
3. A set of Steering Wheel Puller Legs (Kent-Moore tool # J42120, or KD Tools # 3510)
4. *Optional*: Steering Column Lock Pin (Kent-Moore tool # J42640)
5. A replacement steering wheel nut **DO NOT RE-USE THE ORIGINAL NUT!** Your dealer's part department will probably have this nut in stock since it is used for many different vehicles. It only costs around \$8 list, so there is no excuse not to buy one. The GM Part # is 26056108.
6. A 1/4" socket wrench, with an extension of at least 3" long.
7. A 1/2" socket wrench
8. A Torx T-27 socket bit for a 1/4" socket wrench
9. A Torx T-15 screwdriver
10. A small flat-blade screwdriver
11. A torque wrench
12. A 7/8 socket to fit the steering wheel puller bolt (your steering wheel puller bolt size may differ).

13. *Optional:* a 7mm socket

## INSTRUCTIONS

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1. Disable the SIR system (air-bag), *reference GM Service Manual, Vol. 3, Pg. 9-66*
  1. Turn the steering wheel so that the vehicle's wheels are pointing straight ahead
  2. Turn the ignition to the OFF position and remove the key
  3. Open the hood and main fuse box in-front of the battery. Remove the white fuse-puller from its storage location in the fuse box.
  4. Remove the front floor kick-up panel. This is found at the head of the passenger's foot-well. It is easily removed by flipping the two latches and pulling from the top. *Reference GM Service Manual, Vol. 3, Pg. 8-1227*



5. Remove the cover to the IP Fuse Box. Remove the SDM Fuse from the IP Fuse Box using the fuse puller you removed from the engine compartment fuse box. **Refer to the diagram on the rear of the IP Fuse Box cover for the exact location.**



6. Once the fuse is pulled, the air-bag system will not receive power from the battery. However, the system maintains a charge in a capacitor so that it can still deploy in the event the battery is disconnected during a wreck. The following steps will disconnect the air-bag itself from the rest of the system, but for the cautious, it is a good idea to go ahead and wait between 5 and 15 minutes to give the capacitor time to drain. **A little extra caution is never a bad thing when it comes to air-bags!**
7. Lower the *Closeout/Insulator Panel* at the head of the driver's foot-well. This panel is held on by a push-on retraining nut and two gray plastic push-on retainers. If you pull straight down on the two push-on retainers they will pop up and the front part of the panel will be free. The rear of the panel is held on with the push-on retaining nut. These are a real pain in the rear to remove and replace, but luckily you can leave it be. *Reference GM Service Manual, Vol. 3, Pg. 8-584.*



8. Remove the *Knee Bolster panel* just above the *closeout/insulator panel* you just removed. This will give you access to beneath the steering column. *Reference GM Service Manual, Vol. 3, Pg. 8-587.*
  1. Remove the *IP accessory trim plate*. I skipped this step, but this is a bad idea. It's a little bit of a hassle to take this plate off, but it really makes removing the *knee*

*bolster panel* a piece of cake. Reference *GM Service Manual, Vol 3., Pg. 8-589*. Instructions for removing your center console/*IP accessory trim plate* are readily available on the Internet, so I will not repeat them here to save space. You can refer to the following link for an example.

<http://www.corvetteforum.com/techtips/viewsubtopic.php?SubTopicID=87&TopicID=1>

2. Remove the fog lamp and rear compartment lid release switch by prying carefully with a small flat blade screwdriver. You may wish to use a towel or other soft cloth to keep from scratching your trim. Once the switch pops out (it will be very easy), disconnect the electrical connector.



3. Remove the T-15 retraining screw from behind the switch you just removed.



4. Remove the two T-15 retraining screws from the bottom of the knee bolster panel. These will be near the ODB-II diagnostic port.
5. Grasp the trim panel at the side edges and pull firmly rearward to release the locking tabs.
6. Disconnect the electrical connector from the inside air temperature sensor, if your vehicle is so equipped.



7. Remove the trim panel and set aside in a safe location.
9. It's time to locate and disconnect the two air-bag connectors in the area you have just opened up. All air-bag connections are yellow, so they are easy to identify. You'll have to lie upside-down to easily access both of these connections.

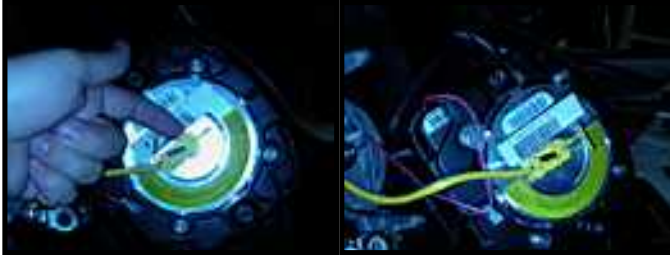
1. The first air-bag connection is behind the steering column. Disconnect the orange connector position assurance (CPA) first, and then the actual connection.



2. The second air-bag connection is just above the brake pedal. Disconnect the blue CPA first, then the actual connection.



3. The driver's side air-bag system *should* be completely disabled at this point.
10. Now the two screws retaining the inflatable restraint steering wheel module to the steering wheel must be removed. These two screws are located on the rear of the steering wheel in a deep screw channel. Be careful and remember you're working backwards. You will find it much easier to remove each screw if you turn the wheel so that the screw in question is at the 6 o'clock position and the tilt is raised all the way up. If you have a telescoping steering wheel, extend it as far as possible. You will need to use your T-27 socket bit and your 1/4" socket extension with your socket wrench in order to reach these screws. I recommend using the socket extension and bit alone to find the screw before you attach the wrench. And **be careful not to strip the screw head!** I imagine these would be a nightmare to get out if you stripped them.
11. Once the two screws are removed, the inflatable restraint steering wheel module can be removed from the steering wheel by gently pulling on it. There will be two electrical connections remaining, so don't let it drop or pull too hard.
12. Remove the yellow CPA from the air-bag connection.



13. Remove the air-bag connection itself by gently pulling straight back from the air-bag.



14. Disconnect the horn wiring harness from the steering column by gently turning the connector until it pops out.



15. Disconnect the ground wire from the steering wheel. You can either slide the electrical terminals apart, or simply remove the bolt it is mounted to with a 7mm socket.
2. Remove the steering wheel from the steering column. *Reference GM Service Manual, Vol. 1, Pg. 2-80.*
    1. *Optional:* install the steering column lock pin (tool J42640) onto the steer column. This is to keep the wheel from moving when you apply pressure to it, and to keep pressure off the column lock mechanism. Given the tendency for the column lock system to fail, this probably is not really an optional step. If you choose not to do it, do the best you can to

- keep the wheel from turning with your hands.
2. Remove the steering wheel nut and *discard it*. **DO NOT** reuse the steering wheel nut you just removed when you re-install a new steering wheel.



3. Install the steering wheel puller and puller legs. Each puller leg will go into the appropriate hole in the steering wheel and then must be turned 90 degrees to lock in position. Be sure the main steering wheel bolt is as near to the center of the steering column as possible, otherwise it can pop off when you are tightening it.



4. Tighten the main bolt of the steering wheel puller slowly until the steering wheel pops off the steering column. The puller legs have a tendency to break, so don't be surprised if they do. *Hint: have an alternative vehicle to drive in case this happens!*
5. Remove the steering wheel puller assembly from the wheel.



6. Remove the plastic rear cover of the steering wheel by gently popping the tabs off from the interior of the wheel. The cover should come off easily,
3. Install the new steering wheel.
    1. Place the rear plastic steering wheel cover onto the new steering wheel, ensuring all of the plastic clips have grabbed on.
    2. Install the steering wheel to the steering column, observing the alignment marks (splines). If properly aligned, the steering wheel will slide right on to the marks. After a few millimeters it will seem stuck, but tightening the steering wheel nut in the next step will push it on further.
    3. Tighten the new steering wheel set nut to 41 N-m (30 lb ft). **DO NOT SKIP THIS STEP.** If you do not own a torque wrench, go buy one.
    4. *Optional:* remove the steering column lock pin (tool J42640) if you installed it previously.
  4. Re-install the air-bag, *Reference GM Service Manual, Vol. 3, Pg. 9-73*
    1. Install the two retaining screws to the rear of the inflatable restraint steering wheel module *while it is not yet placed back into the steering wheel assembly*.
    2. Tighten the retaining screws to 6 N-m (54 lb in). **PLEASE NOTE THAT THIS IS POUND-INCHES NOT POUND-FEET!**
    3. Re-connect the ground wire to the steering wheel.
    4. Re-connect the horn wiring harness to the steering wheel. Pushing the spring and clip in and then turning it should secure it.
    5. Re-connect the air-bag wiring harness to the rear of the inflatable restraint steering wheel module.

6. Install the connector position assurance (CPA) by pressing it closed onto the wiring harness connector.
  7. Install the inflatable restraint steering wheel module by pushing on both the right and left sides of the module until the retaining screws snap into place.
5. Enable the air-bag system, *Reference GM Service Manual, Vol. 3, Pg. 9-68*
1. Re-connect the two air-bag electrical connectors previously disconnected. Ensure that the CPA clips are installed for both connectors.
  2. Re-install the *knee bolster, closeout/insulator panel, IP accessory trim plate, and center console.*
  3. Install the SDM fuse to the IP fuse block.
  4. Install the IP fuse block cover and front floor kick-up panel.
  5. Replace the fuse puller in the engine fuse block and close the engine fuse block cover.
  6. Staying well away from both air bags, turn the ignition switch to the ON position. The air-bag indicator should flash seven times and then turn off.
6. THE END.

Instructions compiled by David C. Gibbons. Please send an [email to c5-wheel AT nuclearbunny.org](mailto:c5-wheel@nuclearbunny.org) any comments, suggestions, or questions.

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