

4th Gen Firebird and Camaro Window Motor Replacement

Part 1 – The Removal

Written by Robert Forney, Copyright FirebirdNation.com

I am writing this article after realizing how poorly the instructions are in the shop manual and other manuals. I am going to show you a lot of photos and explanations on how to make this as easy as possible. Without further ado, let's get moving.

Needed Tools:

1. Three rubber door stops, the bigger sized ones work better.
2. Socket Set
3. Center Punch (or screwdriver)
4. Drill
5. Screwdrivers
6. Riveter capable of riveting ¼ inch rivets.

First of all, raise the window to half way position if possible. If you are unable to, you will need to place something under the window so that it does not fall when you get to removing the rivets.:

Next, disconnect the battery:



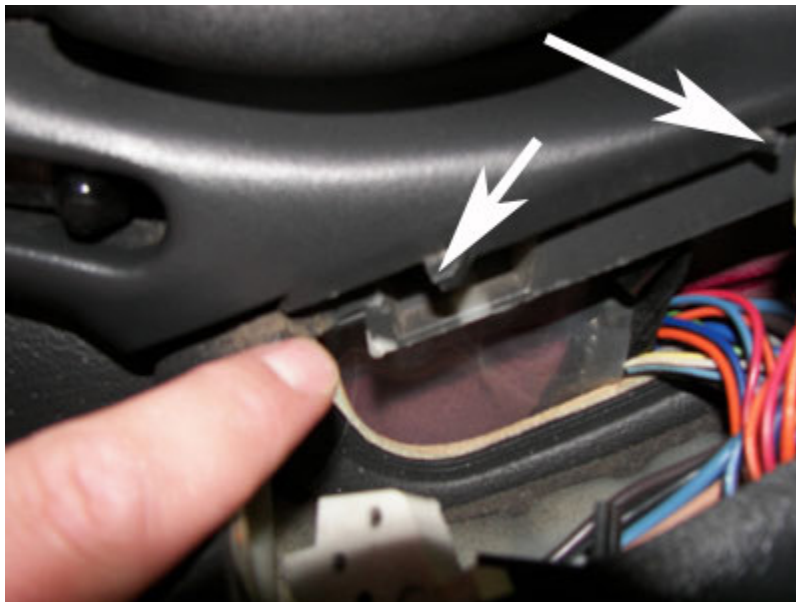
Remove the window/lock switch by getting your fingers under the top and bottom and lifting straight up. You can use a flat head screwdriver, but make sure you are careful to not break the window/lock switch assembly or the slots.



Lift straight out:



Don't break off the slots as seen in this photo below (No, I didn't break them, they were already broken):



Next pull off the two connectors, and use a screwdriver for the center one. Use one hand to move the clip lock and the other to pull the plug off:



Now it's time to remove the lever cover. Remove the screw:



Now slightly lift the cover, get your fingers behind the cover and the door lock cover, and pop off the door lock cover:



Remove the door lock over:





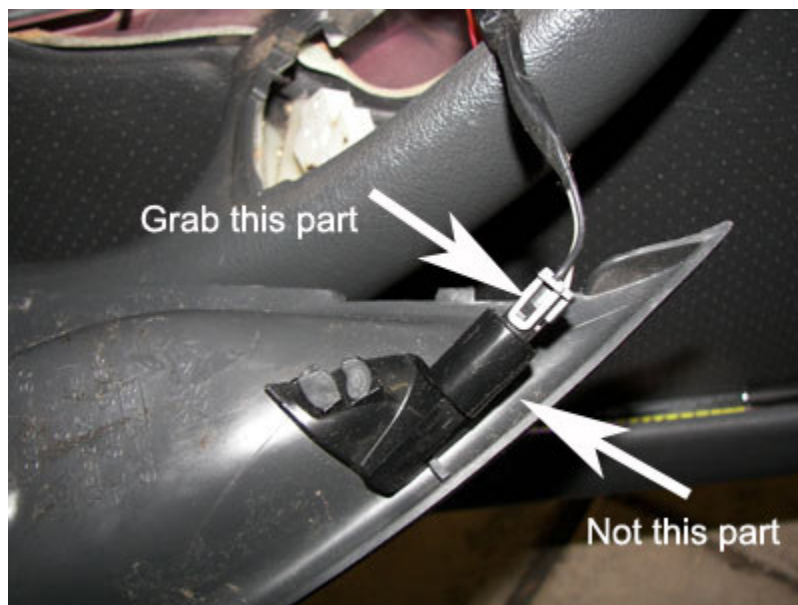
With one hand raise door handle and with the other move the cover in the direction of the arrow to release the light in the cover:



With the cover loose, raise the handle and maneuver the cover off the door handle:



Now you will have to disconnect the light. To remove the light, grab the connector and twist it. It should come off with ease:





Now it's time to move the side mirror cover. Remove the single screw:



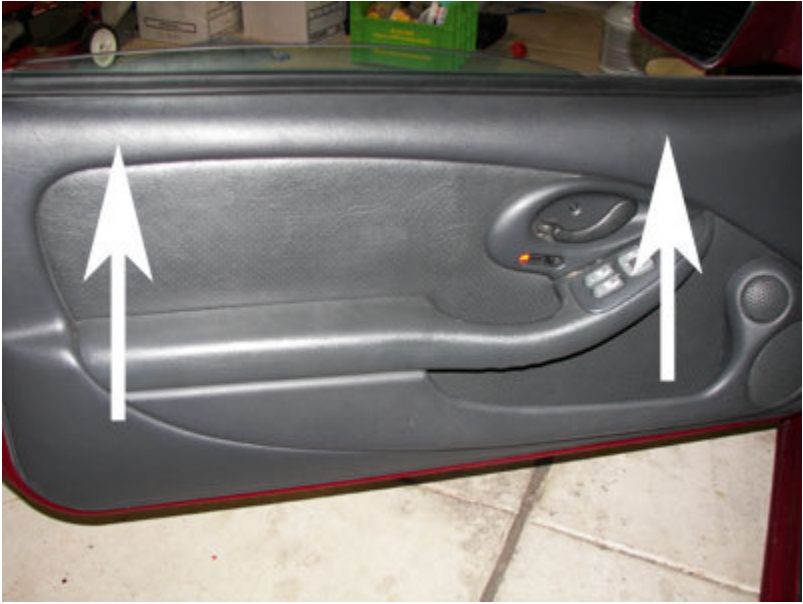
Pull it straight out from the door, being careful to not break the small retainers:



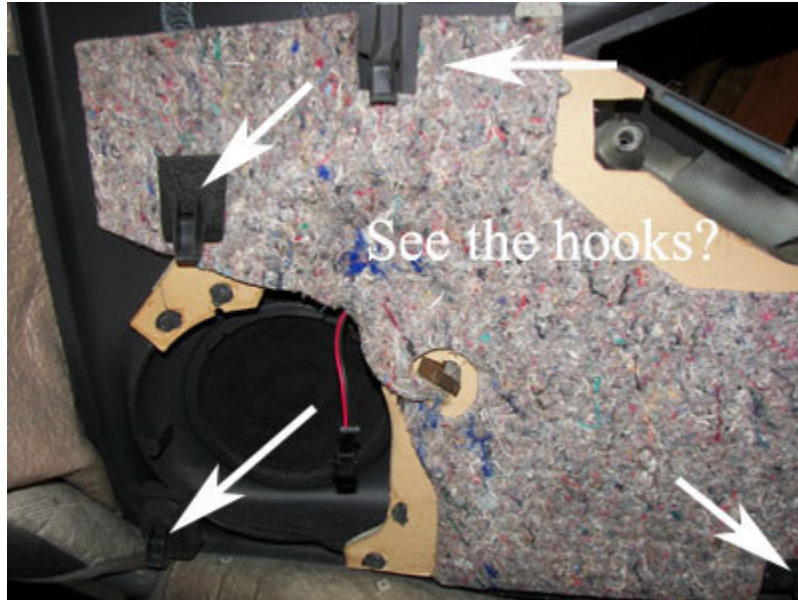
Next, remove the 4 screws holding the door panel to the door with a LARGE Phillips screw driver:



Lift the panel up and then away from the door. See both photos:



Here is a shot of the back of the panel and the hooks:



Now use three rubber door stops to wedge into the door to prevent the window from falling. I only show two, but use three:

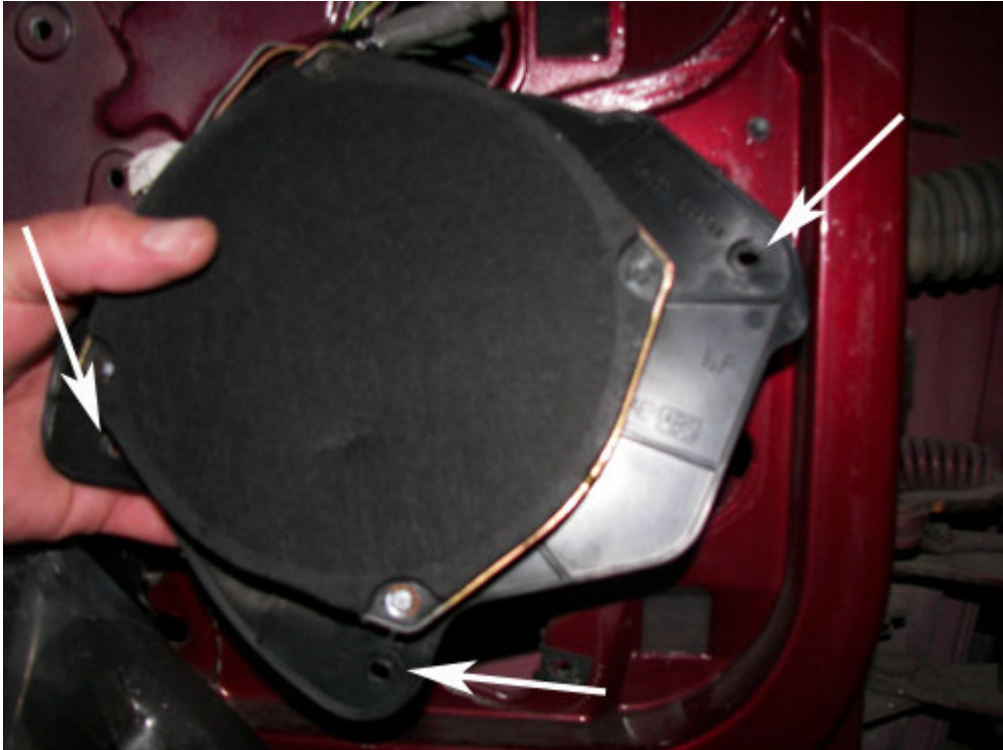


You will have to remove the plastic water protector, not shown. Mine was already coming off, but if yours is stuck, try to use a hair dryer to heat the glue to remove and install it back properly.

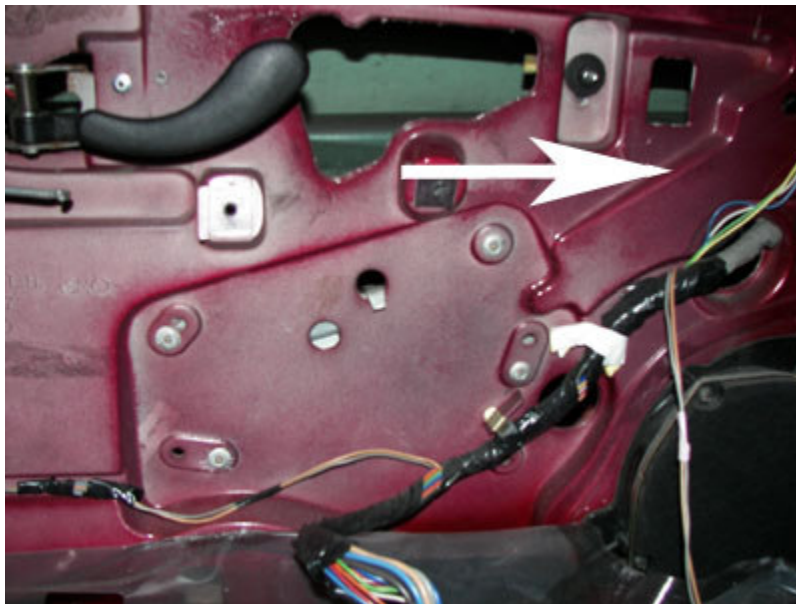
Remove the three front side door window rear guide channel nuts. You will need to move the guide later, although the manual doesn't tell you how or where, but I will. They also like to leave you guessing which nuts to remove and do not print the photos to scale as you will see later:



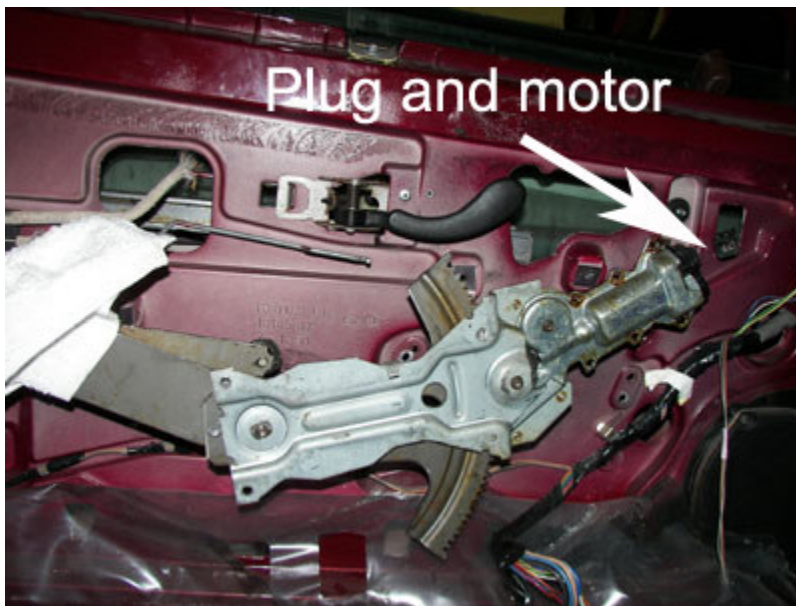
Remove the speaker in order to gain more access to the inside of the door and to give you a LOT more room to work with.



Reach up through the speaker hole and remove the plug. The following photos will show you where the plug is. If you are unable to get the plug off at this stage, remove the rivets and lay the motor on the bottom of the door and remove the plug.



Here is a photo of how the motor is arranged in the door:



Here is a photo of the plug and a photo of where it connects to the motor. I pulled it out of the door so you can see it and how it connects to the motor. You cannot see in this area, so you have to go by feel and it's quite a clumsy process. I also think the plug is different on the 97.



You can easily remove the plug by going through the speaker hole:



Now it's time to find the four rivets you will need to punch out and remove.



You need to use a punch, or if you are like me and cannot find your punches, a small Philips screwdriver will work. The rivets will not go all the way through the back; at least they didn't for me, but just get them through enough to get a drill in there:



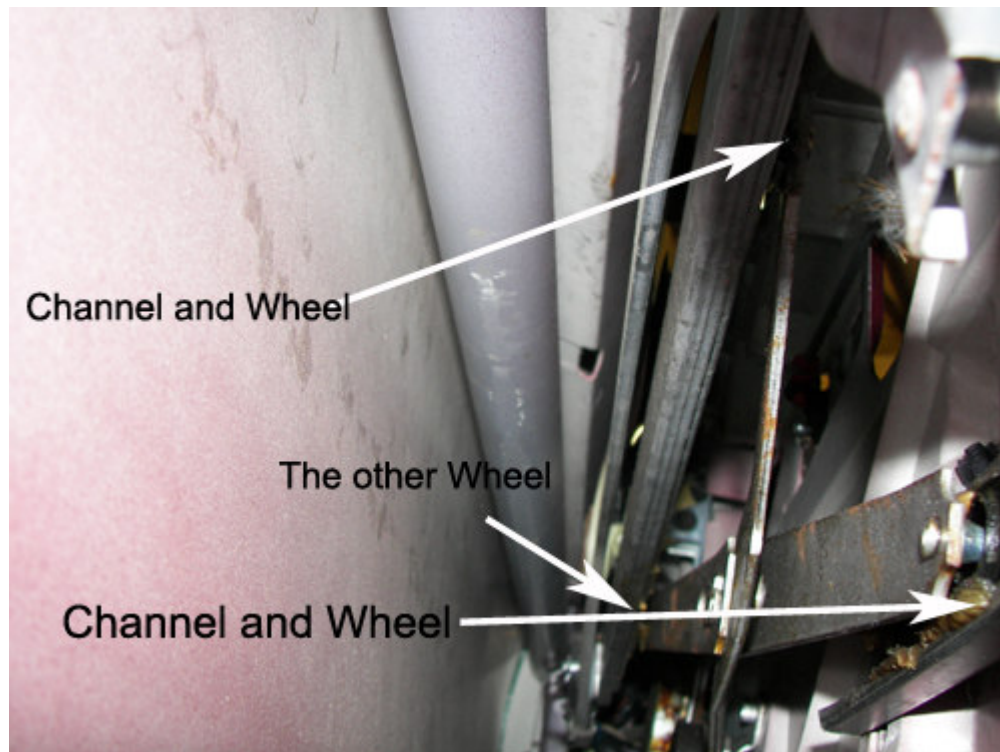
Drill the rivet heads completely off. You don't need to go all the way through the door.

Pay special attention to the hook in the photo below. You will know when you have completely drilled out the rivets because that hook will become very loose. Remove the hook from the door and lay the motor on the bottom of the door.



Move front door rear window guide channel out of the way of the motor assembly wheels and channels. Try and pull the entire motor and assembly towards the rear access hole.

You will need to get the assembly wheels out of the guide channels. Once you do, you will be able to remove the assembly out of the rear access hole. The big hole is the access hole, but trusts me; the whole is not nearly big enough. You will have to pull them out of their channel guides.

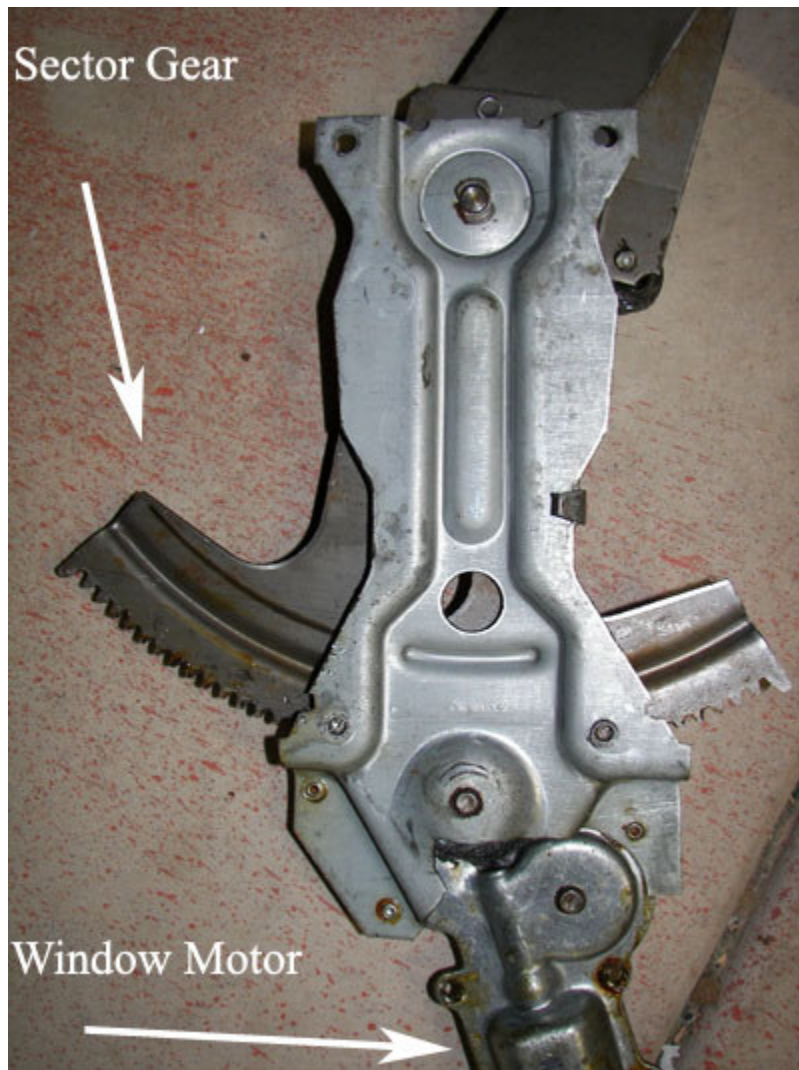


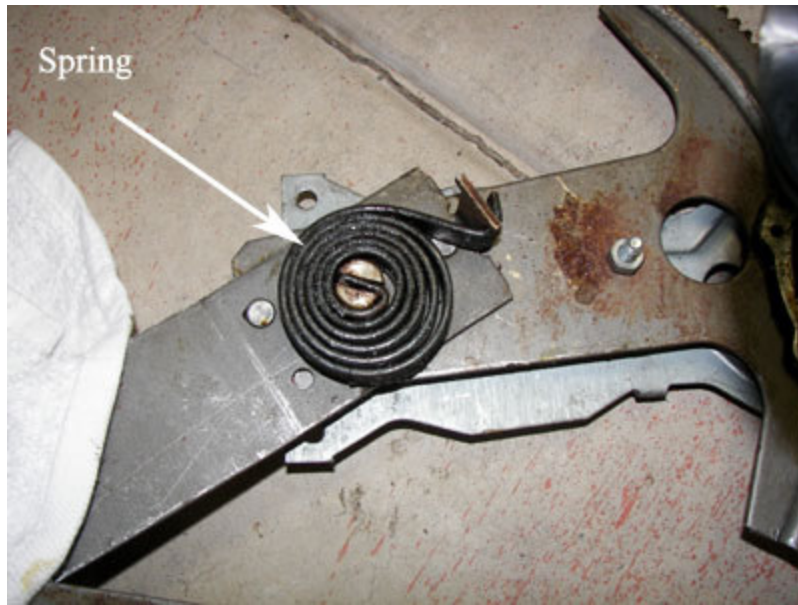
Now you will have to remove this from the rear access hole. The manual shows it as a small assembly, but here is what will emerge:



It's not difficult to remove, but you do have to move it around and mess with it to get it out. You have to pull it towards the access hole. And, the motor (the silver part) is towards the door hinges or front of the car, so you won't see that right away. You have to get the little wheels out of the guides. That takes a little time, but 20 minutes for me on the first time.

Another area the manual seems to only briefly cover is the drilling of the hole to keep the sector gear in place and from preventing the assembly from ripping off your hands. Look at the following photos to get familiar with the parts:





As you can see in the photo above, the assembly is under tension, so you must now drill a hole and place a bolt in that hole to keep it secured and from spinning around and causing injury. Drill the hole:



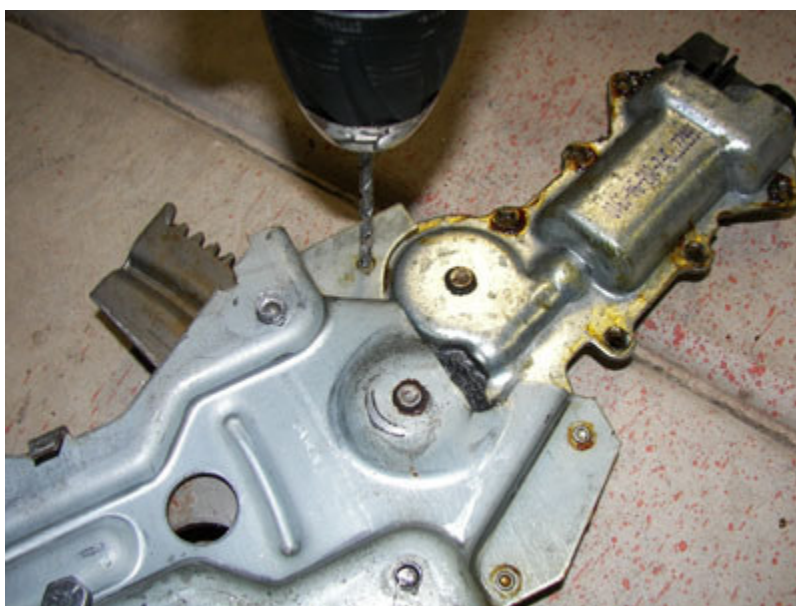
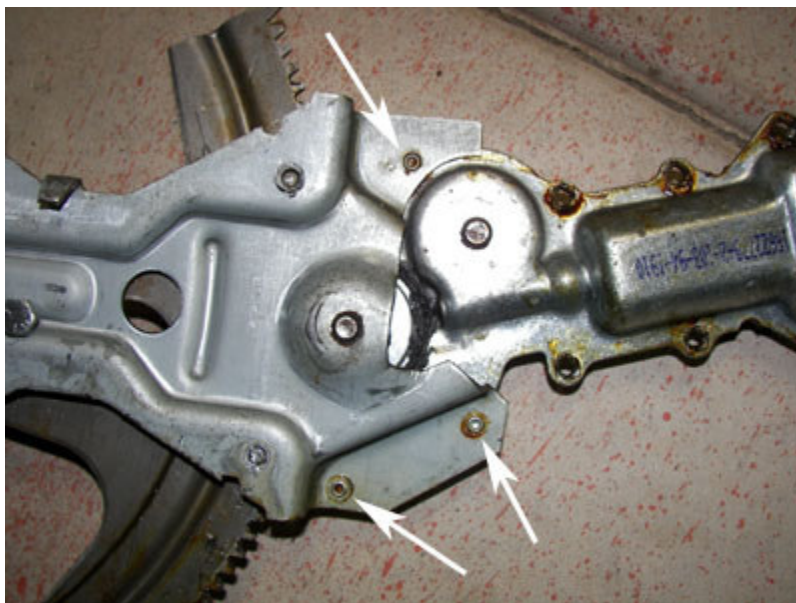
Install the bolt and nut:



And the other side:



With the assembly secured, you can now safely remove the motor. You have to drill out the three rivets:



Once you are done with the three rivets, the motor will fall off:



Here are some shots of the inside of the door taken from the rear access hole:







Congratulations, you are finished with the motor removal. Now it's time to move on to part 2.