A4 Door Switch Replacement, 1.0

Notes on this guide:

The following guide is mostly a combination of two write-ups by VgRt6 on Vwvortex.com.
Specific threads located here: http://forums.vwvortex.com/showthread.php?1015107

And here: http://forums.vwvortex.com/showthread.php?961163

A very small amount of information (1 picture) was taken from myturbodiesel.com.
The rest of the information, particularly surrounding switch replacement, is found on TDIclub.com within the thread, "Stupid door Switch!! $3 Fix!!!"

The idea behind this guide was solely to consolidate information while selecting a single protocol from the multitude of opinions on switch replacement, and to provide it in a printer-friendly format.

As usual, attempt at your own risk. Nobody is responsible for fail other than yourself. I find this job does have some slightly fragile parts and the potential for creating a new problem in attempting to fix the door switch is real. I do not know how similar the Beetle's door panel and carrier is to the MKIV Golf and Jetta.

Again, there is more than one way to complete this job; this guide presents the way I found worked for me. The major change from the Vortex write-up is to simply remove the window glass rather than taping it (thanks david_594).

This write-up is subject to revision. PM me, eb2143 at tdiclub.com and I will update it if there are inaccuracies, typos, missing information, etc.

Tools and supplies you may not have:

Note that you will need an 8 mm triple square, torx bits, medium threadlocker, and a new lock module. If you replace the switch only, you will need 2-56 screws and nuts, small washers for the screws (optional), a new **SAIA-Burgess V4NS-UL** switch, a small file or Dremel, and a multimeter.

Index

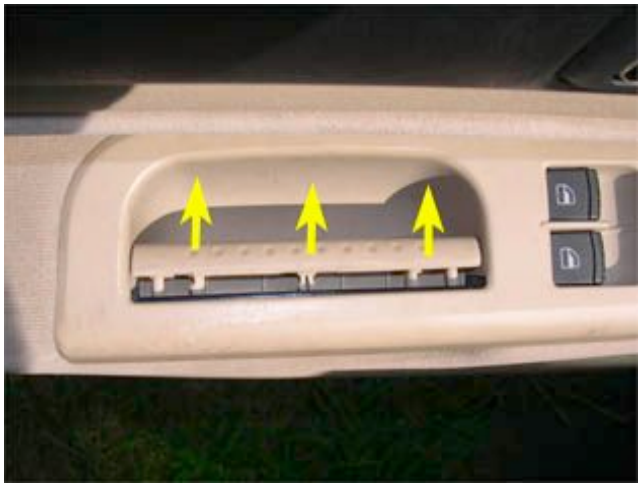
PART I: Removing FRONT DRIVER'S DOOR PANEL

1. Lower the front driver's window all the way and open the front driver's door. (you lower the window so you can put your head through it in a minute)

2. Begin by prying out the inner handle piece, indicated by the arrow in the picture below.

3. Insert a screwdriver or other strong, thin tool into the crack along the bottom edge between the inner and outer pieces, and carefully spread them apart. Be careful not to harm the soft-touch coating on the handle pieces - you may want to protect the tool with a thin rag. I prefer a tool with a wider blade, such as a putty or spackling knife - it has always been easier for me to get the handles off with one of these.

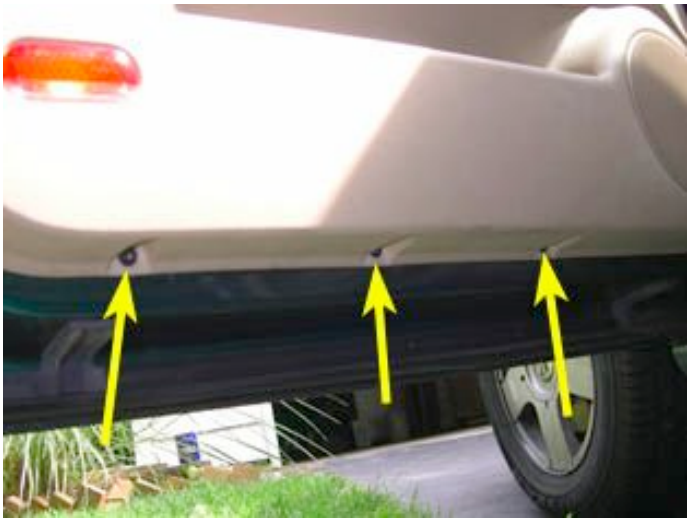
4. Once the inner handle piece has been pried out approx. 1/8", as shown below, you should be able to pull it out the rest of the way with your hands.



5. To take the main handle piece off of the driver's door panel, pull the rear of the handle upwards to unclip it. Do the same at the front edge of the handle. Disconnect the electrical harness connector for the main window and door controls in the main handle piece.

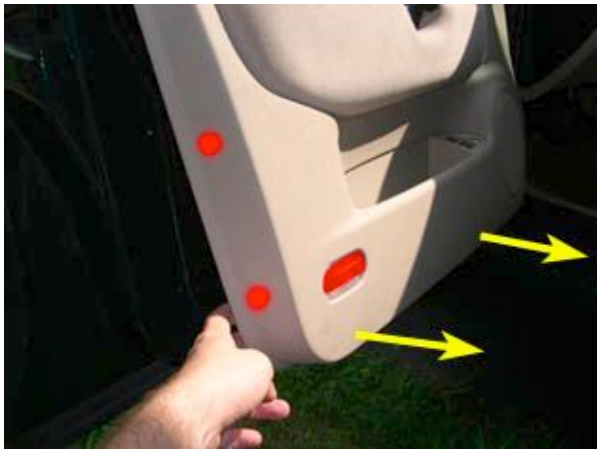
6. Remove the three large Phillips screws visible now that the door handle has been removed.

7. Remove the three T20 Torx screws along the bottom edge of the panel where it connects into the door skin, shown below.



8. Remove the small Phillips screw on the top front edge of the door panel just below the tweeter. A very small screwdriver or a screw-equipped ratchet will need to be used here.

9. Starting at the bottom of the door, pull the door panel away from the door, as shown below. There are six snaps securing the panel to the door, three near the front edge of the panel and three near the rear edge of the panel. The approximate location of the two lowermost snaps on the rear edge are indicated by the red spots. After unsnapping the six snaps, the door panel should still be attached to the top of the door near the bottom of the window.

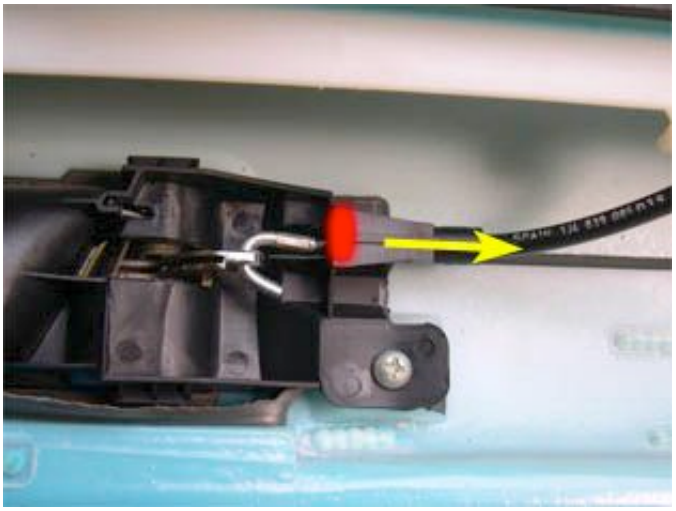


10. The picture below of the inside of the door panel shows the location of the six snaps. (This picture is for reference only and was taken later in the DIY. The door panel should not be off yet).

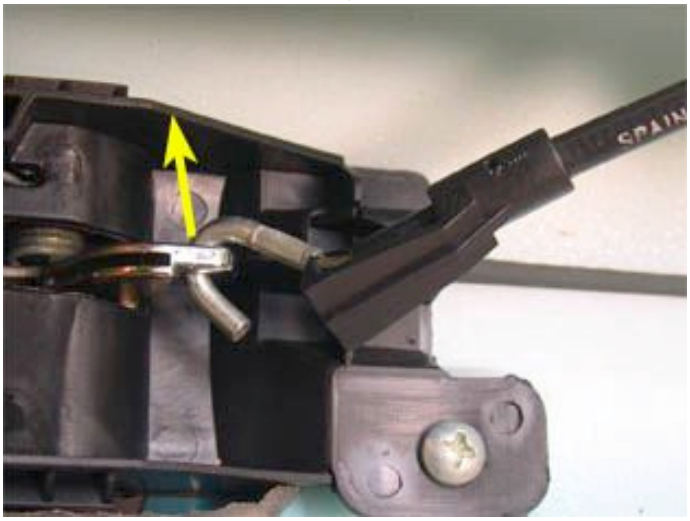
11. Starting with the top, rear corner, pull the door panel up and out of the window seal, as shown below.

12. Do the same with the top, front corner of the door panel, as shown below. The door panel should now be disconnected from the door except for numerous electrical connections as well the door handle lock connection. You can rest the door panel back into the window seal if you want to take a break or reach for a tool. Remove the door electrical plugs for the trunk, gas cap, mirror adjustment, lock indicator light, footwell light, and maybe one more that I'm forgetting.

13. Next you need to disconnect the door lock cable from the door unlock handle. I find it easiest to do if you stand on the inside of the door with the door panel in front of you and stick your head through the open window to get a better view. To remove the lock cable, you need to pull out on front edge of the cable retaining clip (red area in picture below) and then slide the clip toward the rear of the car to release it (away from the unlock handle assembly).



14. Once the clip is unhooked, remove the cable from the groove in the unlock handle assembly and then detach the hook from the unlock handle, as shown below.



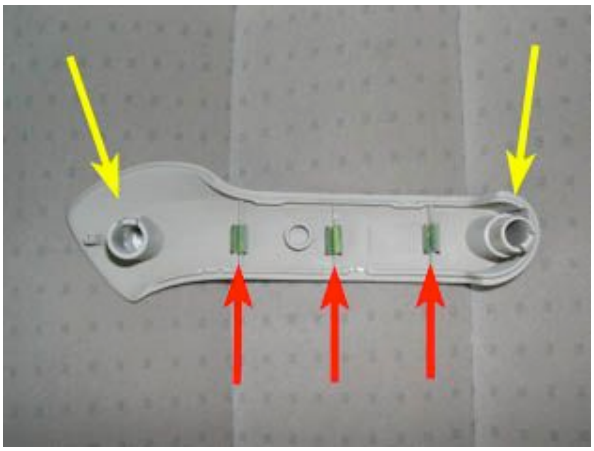
15. After the lock cable is disconnected from the unlock handle double check that all electrical connections are unclipped for the door you're working on—mirror switch, alarm LED, door light, trunk release, gas door release and the speakers for the driver's, or for the front passenger—door locks and window switch, door light and speakers. You should now be able to remove the door panel from the car.

FRONT PASSENGER DOOR PANEL:

Almost identical, first few steps are different:

1b. Lower the front passenger's window all the way and open the front passenger's door.

2b. Begin by prying off the outer handle piece, as shown below. To do this, insert a screwdriver or other strong, thin tool into the crack between the inner and outer pieces at one end and carefully spread them apart. (NOTE: The next four pictures are actually of the rear driver's side door panel and handle. The front passenger's handle is identical to those of the rear doors and I already had the pics for the rear door version of this DIY)



3b. Once one end of the outer handle piece is pried out slightly, move to the other end and pry that out slightly. Go back and forth between ends until the handle has been pried out approx. 1/8". Once it is this far out, you should be able to pull it off the rest of the way with your hands.

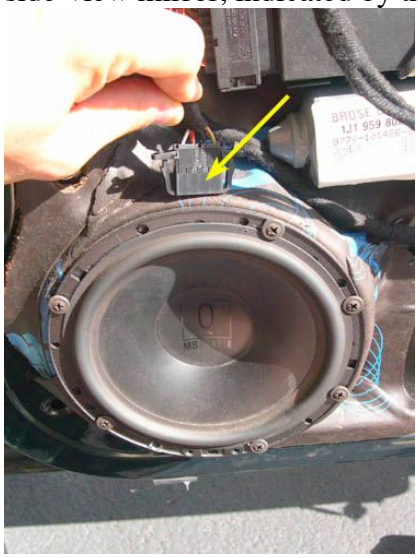
4b. The outer handle piece is connected to the inner handle piece by two posts (yellow arrows) and 3 clips (red arrows). Now you know why it is so hard to get off. Consider removing some of the clips to make future removal a bit easier.

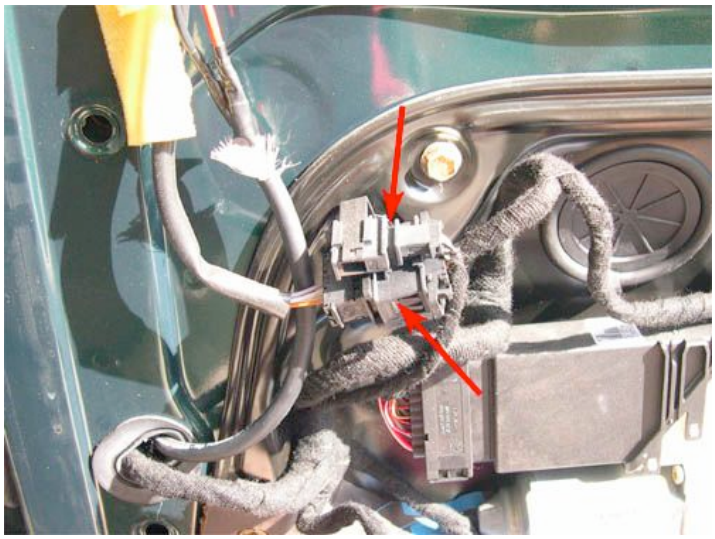
5b. The handle piece is attached to the door panel with three medium Phillips screws (red arrows) and the door panel is secured to the door with 2 **large** Phillips screws (yellow arrows). If you are just taking the door panel off, only remove the two large screws indicated by the yellow arrows.

Part II: Removing the Carrier Panel

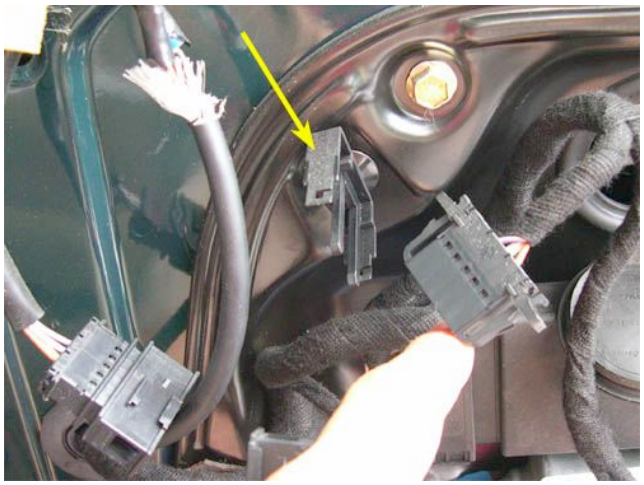
1. Using a screwdriver, unplug the two large rubber grommets in the carrier that cover the access holes for the window regulator clips. Depending on the current position of the window, raise/lower the window by reconnecting relevant connector (driver's side) or by using the driver's controls (passenger side and rear doors) so that the window regulator clips are seen through the access hole. Loosen the 10 mm bolts or Torx bit on the window regulators (don't need to be removed all the way, but feel free), and **pull the window out of the door carefully**. Set aside.

2. Disconnect the harness connector from the top of the woofer. The approximate location of the connector on a stock woofer is shown below. Disconnect the harness connectors for the tweeter and side-view mirror, indicated by the red arrows in the picture below.

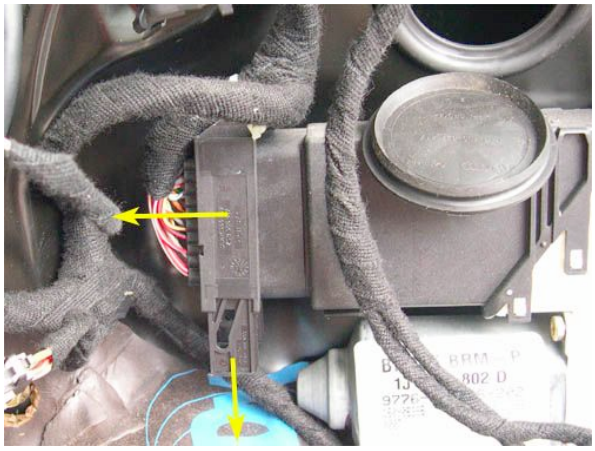




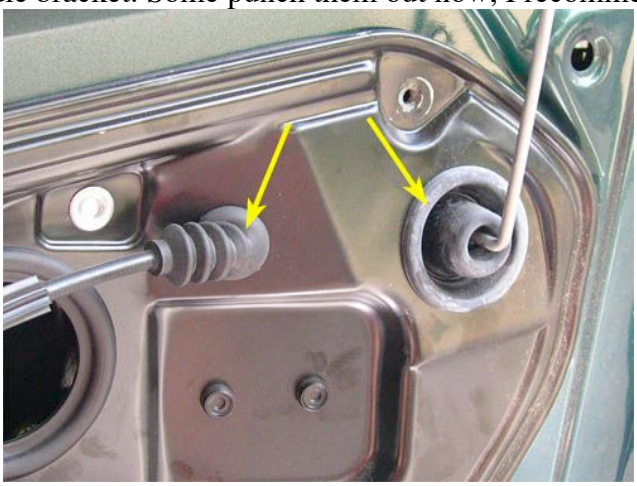
3. Remove the harnesses from the harness carrier (indicated by the yellow arrow), as shown below.



4. Disconnect the harness connector from the regulator motor by pulling down on the retaining slide, as shown below. As you pull down on the retaining slide, the harness connector will slide toward the front of the car and off of the regulator motor, as shown below.

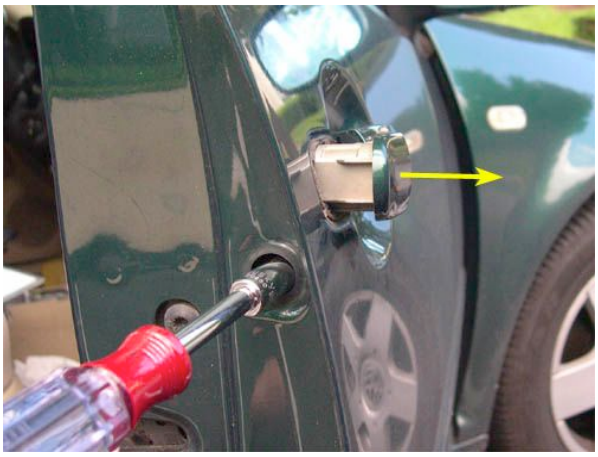


5. Pop off the rubber grommets for the inner door handle release cable and the door lock pin (indicated by the yellow arrows in the picture below) and then push the grommets through their respective holes in the carrier panel. This is so when the carrier is removed we don't yank on the lock pin rod and handle cable. By the way, the two plastic rivnuts in this picture are the ones connected to your module bracket. Some punch them out now, I recommend waiting.



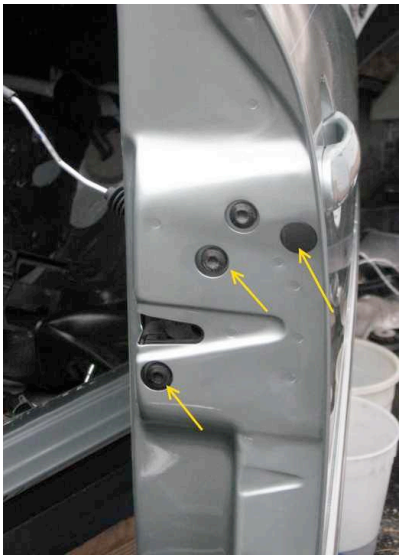
6. Remove the small plastic tab on the rear edge of the door with a screwdriver.

7. Behind the plastic tab is a retaining screw that is used to secure the lock cylinder or blank in the door handle, indicated by the yellow arrow in the picture below. Loosen (but do not completely remove) the retaining screw with a T20 Torx driver. The screw actually has a very small triple square head, but a T20 driver works perfectly. Loosen the retaining screw **just** enough so that the handle blank slides out of the door (loosen, attempt to wiggle out, repeat). On my car, the screws needed to be turned several times for the pieces to slide out. Also, you may need to pull out on the door handle slightly to allow each piece to slide completely out.

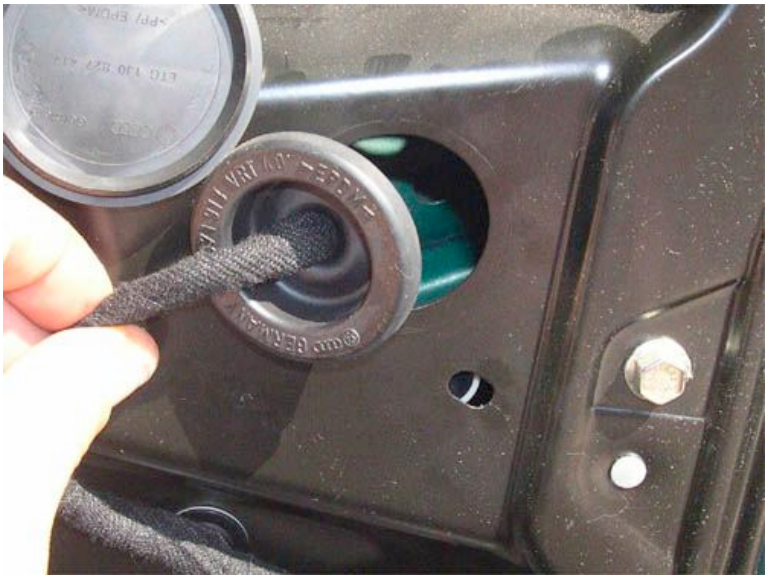


8. The outer handle is connected to the door lock module by a small cable. The end of the cable is secured to the handle by a small plastic tab (yellow arrow in picture below), which fits into a threaded groove. Pop the tab on the end of the cable out of its retaining groove using a small screwdriver, as shown below. Before doing this, **note the position of the tab in the groove** so that it can be reinstalled in the same position later.

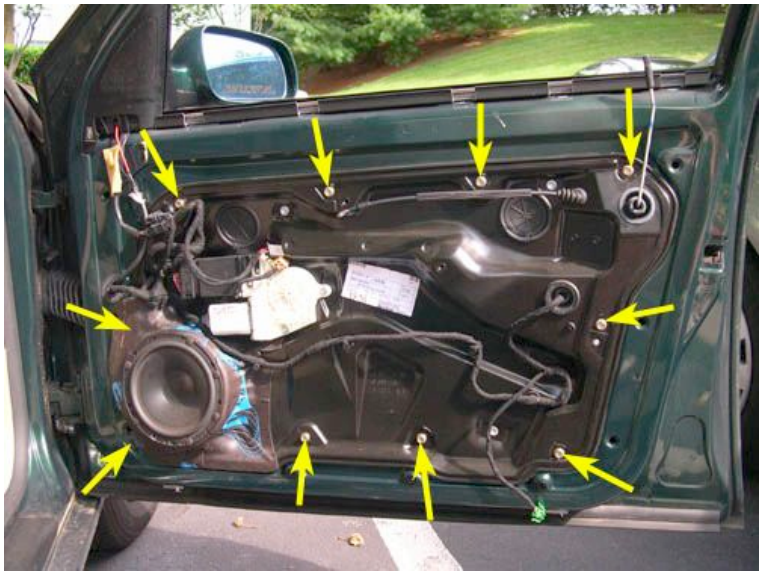
9. Remove the 2x *8mm triple square bolts* holding the door module to the door frame. They are not torx bolts, don't use a torx bit on them! The third one without an arrow (if equipped) doesn't need to be removed unless you want to remove the handle.



10. Pop off the rubber grommet and push in the wire loom retaining clip indicated in the picture below (retaining clip already pushed out, hole visible @ 5 o'clock from grommet)

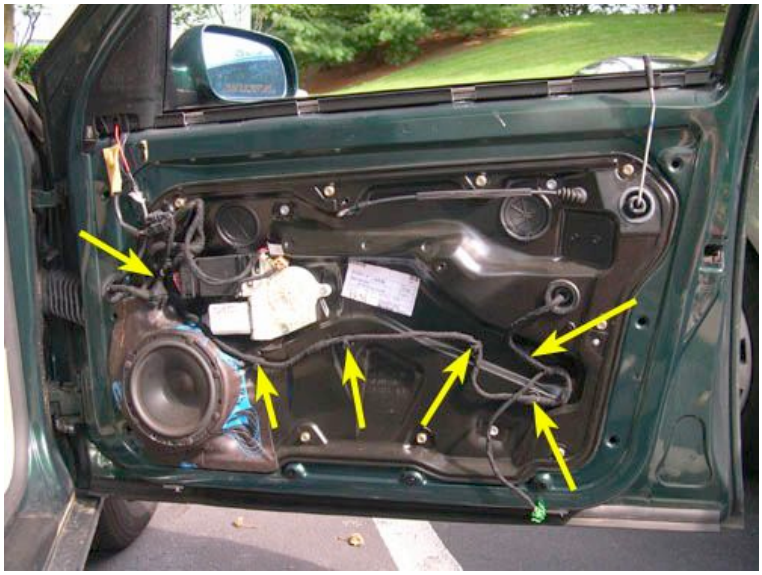


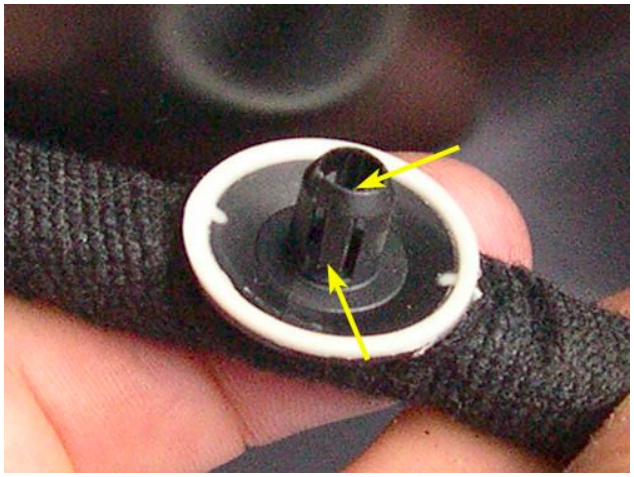
11. Put a sheet or blanket on the ground below the door and over the door sill to protect the sill and carrier panel when the panel is removed from the door. Remove the 10mm bolts holding the inner metal door skin to the door.



12. After removing the 10 mm bolts shown above, starting at the rear bottom corner of the panel, pull the bottom of the panel away from the door slightly. You may have to move the panel up or down slightly to wiggle the bottom of the panel out of the door.

13. While holding the bottom of the panel away from the door (and also supporting its weight), reach behind the panel from below and pinch the six (6) wire loom retaining clip tabs while pulling them out from the front. The locations of the clips are indicated by the yellow arrows in the picture below. You could yank on the clips from the front of the panel, but you will almost surely damage them.

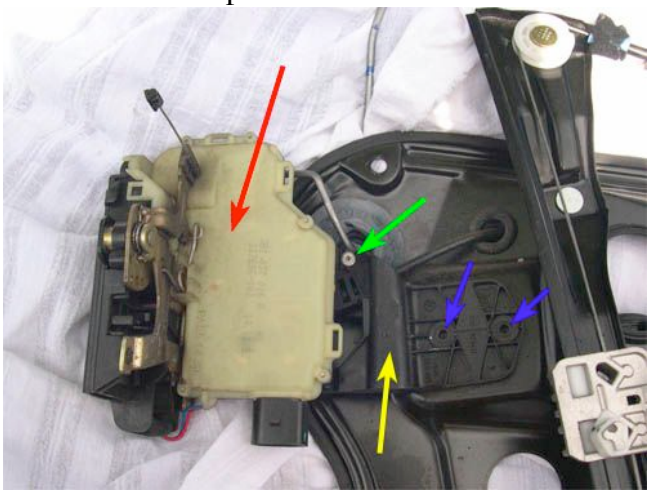




A close-up of one of the wire loom retaining clips is shown below. The clips are held in place by small tabs on opposite sides of the clip, indicated by the yellow arrows. Push in on these tabs simultaneously and push the clip out of the panel.

14. Once the tabs are out, again pull the bottom of the panel away from the door and release the connection to the door lock module (it's the only cable running into the carrier). Pull this connector out (if you skipped step 10, now you must pull rubber grommet out as well as push black tab into the carrier). *The wiring loom should now no longer be associated with the carrier; put it out of the way (into car).* Then lower the panel toward the ground and toward the front of the car. Be aware that it's necessary to do some maneuvering because the window tracks extend above the top of the carrier panel and the door lock module extends inside the door.

15. Now that you have the carrier away from the car, the door lock module can now be removed from it. The door lock module is indicated by the red arrow below. It is attached to the carrier panel by a plastic bracket (yellow arrow). The door lock module is riveted to the bracket (green arrow) and the bracket is riveted to the carrier panel (blue arrows). The door lock module is replaced by pushing out the plastic rivets (from the rear side of the carrier panel - the side shown in the picture below) that connect the plastic bracket to the carrier panel with a small punch. A swift yank on the plastic bracket will then release it from the carrier. Save these rivnuts to secure the new door lock module/bracket to the panel later.



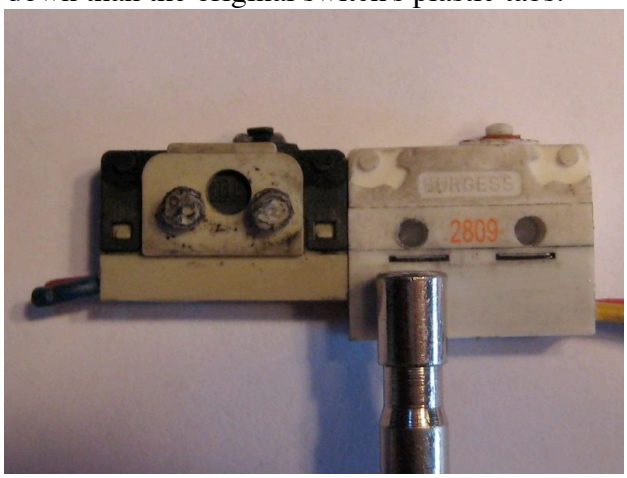
PART III Switch Replacement

1. Now that you have the module free, find the door switch in your module (it has red and blue wires running into it and is below the latch). **Study it: play with the latching mechanism to see how it works and how the latch cam should activate the switch. Note the old switch's orientation and mode of failure.** If the old switch appears functional and tests functional (see below), run a search for the solder joint issues that can occur within the lock module. When ready, remove old switch by popping out the small plastic rivnuts.

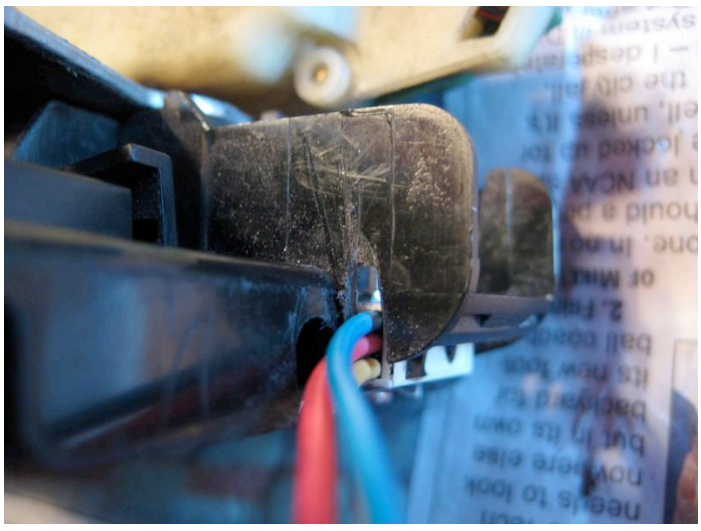
2. Burgess Replacement Switch:

SAIA-Burgess V4NS-UL, available online at Allied Electronics.

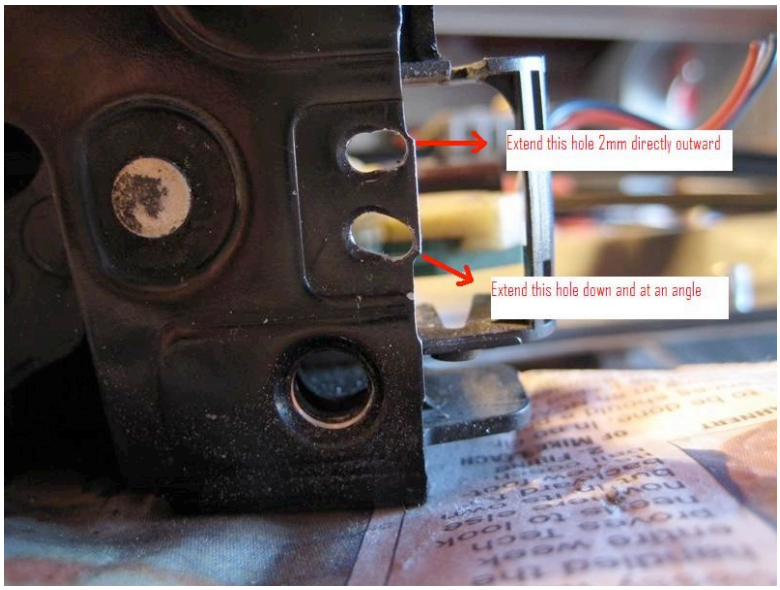
The Burgess switch is taller, has the wires on the opposite end, and the mounting holes are exactly 2mm further down than the original switch's plastic tabs:



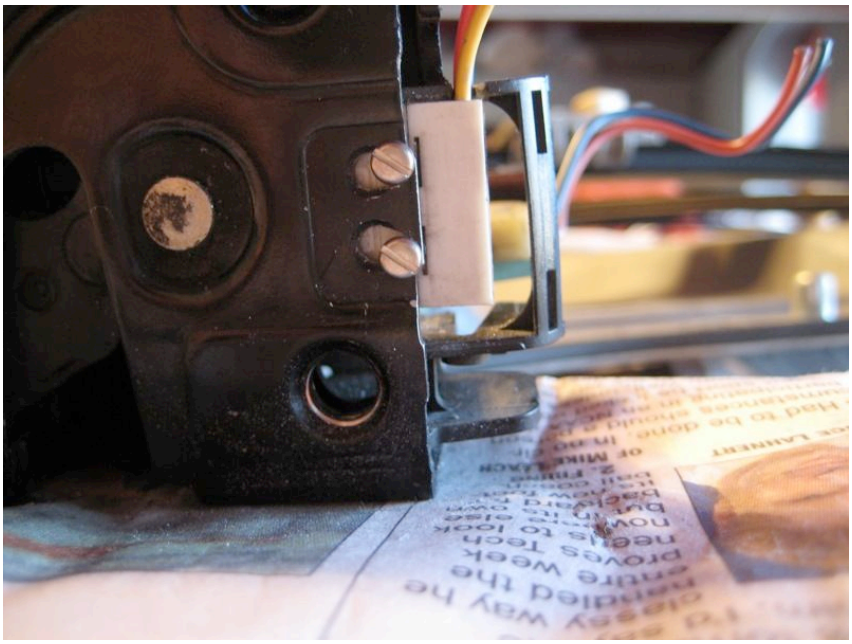
These issues are easily addressed; the height difference is not even an issue, in fact, as there is plenty of room in that direction. The different wiring end issue can be address by making a notch about 4mm deep so the wires aren't smashed against that plastic piece. The notch I made is actually more like 8mm though, as I cut before really measuring (note that this notch cut from the opposite side as the "factory" notch…you'll know what I mean when it's in front of you)

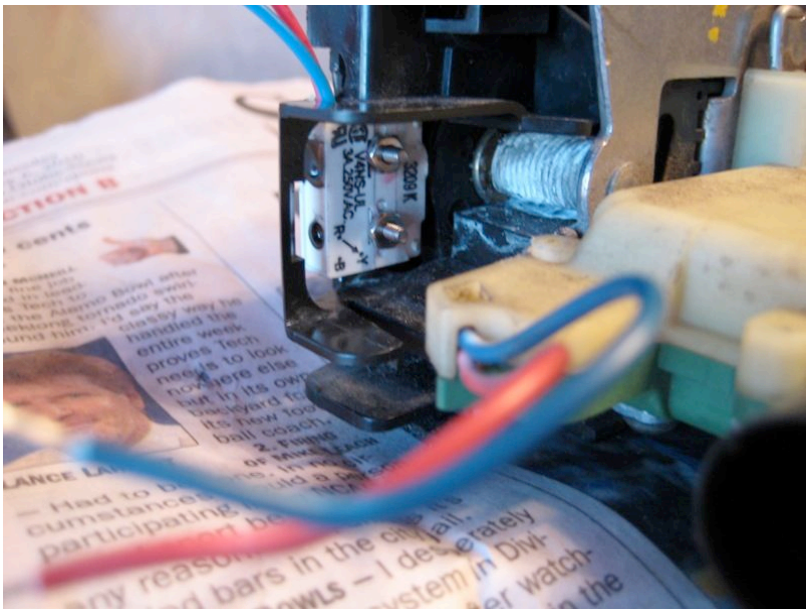


To keep the button on the switch in the same place as the original, I enlarged one hole directly downward, and the other down and at an angle (to accommodate the wider mounting holes) using a Dremel with a cutting bit:



I used some **2-56** sheet metal screws and hex nuts. I positioned the switch, and operated the latching mechanism several times while monitoring the switch with a multimeter to make sure it was working (see reference below for continuity/open states). Optional: you can put small washers on the screws to better grab what little metal is left on the expanded rivet hole edges). After positioning, use threadlocker and snug down hex nuts. Here is my finished assembly:





ESSENTIAL reference information regarding the door open/closed switch.
The switch is on terminals 7 and 8 of the 8-pin connector.

State Door Closed:

- The switch is not depressed and 8-7 is an open circuit.

State Door Open:

- The switch is depressed and 8-7 has continuity.

"So, as stated earlier, the switch is a normally open type."
" If the door is Closed, the microswitch is open, if the door is open, the microswitch is closed."

Adjusting the switch: make sure the door latch is in the OPEN position and slide the switch close enough so that the **button is depressed**. Don't position it so that it's quite fully depressed at this point, as when the cam actuates it pushes the switch furthest between OPEN and 1st LOCK. Test: with the door latch in the fully LOCKED position, the switch button is NOT DEPRESSED.

Wiring the Switch: Use a multimeter to determine the correct connections to meet the reference specs on the #8 and #7 pins (see above). For the burgess switch, it seems to be either:
a) red to existing red / blue to existing blue OR b) red to existing red / yellow to existing blue.
Connect the wires by method of your choice. Make it strong and weatherproof considering how this switch sits in the door.

What would happen if I just cut the wires and eliminate the switch forever?

I do not need the lights to come on when the door opens. I just do not want to see the "door ajar" light on my instrument panel. I've done just that, Azztek. So far I've had no problem. The car basically acts like the door is always closed for me.

Part IV: Reinstallation

This is more of a rough guide, although a few tips are noted so it's worth reading. However, a memory, working backwards from above, and common sense will be your greatest assets.

1. Reattach the door lock module to the carrier using the rivnuts you saved. Tap them through the side they were pushed out of.

2. Put the door lock module wire bunch and harness connector through the hole in the carrier. Slide the inner door handle cable and the door lock pin through their respective holes in the carrier panel.

3. Reattach the door lock module harness connector.

4. Reattach carrier to the door, carefully. Don't damage your door lock module. Check if the rubber weather seal around the edge of the carrier panel is seated correctly and that the bolt holes align.

5. Reattach the wire loom retaining clip and rubber grommet.

6. Reinstall the two (2) door lock module bolts (8 mm TripleS) on the rear edge of the door. Apply some blue/medium strength LocTite to the threads if you have any.

7. Reattach the outer door handle cable and lock cylinder/blank using Part I's directions. You may need to pull the outer handle out slightly to allow the blank to slide in completely.

8. Tighten the handle blank retaining screw shown in Part 1. Be careful, DO NOT OVERTIGHTEN the retaining screw for the lock cylinder (ask me how I know). Just turn until the resistance begins to increase.

9. Replace the small plastic cover on the rear edge of the door that covers retaining screw.

*Optional: Test for functionality of module, switch, and door handle before finishing job. Reconnect the large window motor harness connector. Reattach other relevant connectors and test operation of door lock module, but understand that some things (like the door pin or handle) aren't supposed to do their job depending on the relationship between lock cylinder, internal lock, and latch.

10. Reinstall the ten (10) 10mm bolts that secure the carrier panel to the door.

11. Reattach the six (6) wire loom retaining clips shown in Part I, step 30.

12. Reinstall window into clips. Window is inserted from outer side of the door. Forward edge of the window (towards the front of the car) goes in first. Tighten bolts or torx screws to secure

window. Medium lock tight not a bad idea here as you don't want to overtighten these (spec is 10 Nm I believe)

13. Reattach all access hole grommets.

14. Reattach the harness connector for the woofer.

15. Reattach the harness connectors for the tweeter and side-view mirror and install the harnesses back into the harness carrier shown in Part II.

16. Lower window and reinstall door panel using Part I as a guide. Double and triple check you've connected all harnesses. Don't forget the cable for the door handle.