

### Disclaimer:

These steps are not by any means certified or guaranteed--they're simply based on what I could piece together about five months after I did the work based on what I remembered, what I wrote down, and what pictures I took. Also, the pictures here were actually taken while I was putting the car back together rather than as I performed the steps to take the car apart. I claim no responsibility for any inaccuracies, any damages to your vehicle sustained in performing these steps, or any injury any person sustains in the process.

## SUGGESTIONS

### Suggestion 1:

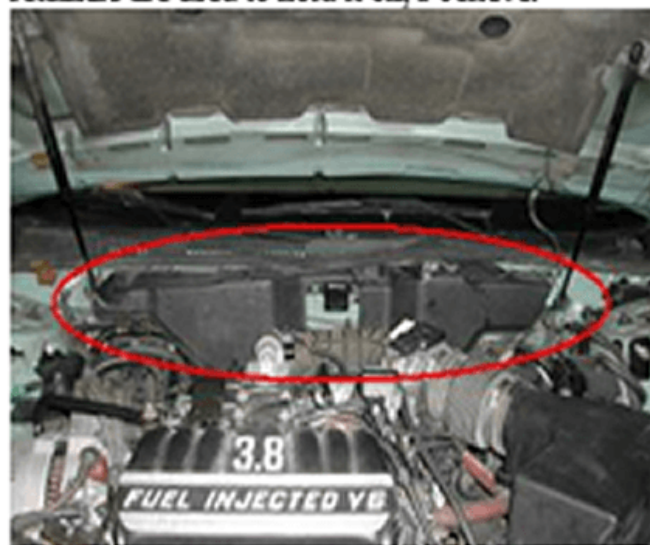
As I did this work, I took the time to put the screws and some parts I removed in plastic bags with notes indicating where they came from. It was a bit of a pain to do so, but, when it came time to put them back in their places, it proved to be very worthwhile.

### Suggestion 2:

As you unplug the various electrical connections as described below, label each connection with a note concerning where it goes. In fact, label the ones that do not go anywhere as well, since they can actually be the most confusing as you put the car back together. (This is something I did not do that I wished I had done.)

## STEPS, INSTRUCTIONS, AND PICTURES

1) Remove the cover found under the hood at the firewall. Three or four special push-pin retainers are used to hold it on, I believe.



2) Remove the two hoses (one is a supply hose, and the other is the drain hose) from the heater core.



If you suspect your heater core is bad, you probably smell hot antifreeze when you run your heater. However, knowing that could possibly be caused by antifreeze leaking elsewhere and knowing how much of a project I was in for in changing the heater core, I bought a short piece of PVC pipe with an outside diameter the same as the above-mentioned hoses' inside diameter and connected the two hoses together, thus bypassing the heater core. I then used the car for a week or two to make sure the burning-antifreeze smell was eliminated. In my case, it was, so I proceeded with the removal of the dash. In your case, if it doesn't eliminate that smell, you likely have an antifreeze leak elsewhere.



**Before you proceed, have your air-conditioning system drained by someone certified to handle the refrigerant your system uses--the heater core is located inside the same assembly in which the air-conditioner core is located, so you'll wind up opening the air-conditioning system (and losing all of the refrigerant) as you remove that assembly.**

**Also, be sure to disconnect the negative cable from the battery.**

3) Drain the antifreeze/water from cooling system's. The drain is as pictured below and is located on, if I remember right, the driver's side just above the front bumper.



4) Remove the lower floor panel on the left side. I believe this requires only the removal of the one screw you see in the picture and lifting the panel up and out.





5) Pull away the door seal to allow you to remove the left window trim.



6) Pry the left window trim away from the body. (They are held only by the three clips shown in the second picture below...well...there should be three--mine only has two because one was broken off.)



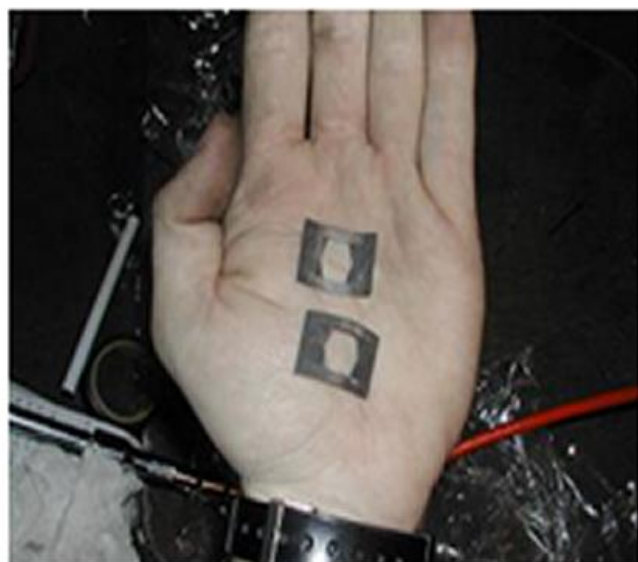


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7) Repeat steps 4 through 6 for the right side.

8) Remove the ~~pushnuts~~ (two or three) that hold the sound insulator in place. (If I remember right, there are either two or three ~~pushnuts~~. Based on the pictures I took, there might only be two.





9) Remove the sound insulator.



10) Pry up the center bolt cover on the top of the dash. (Mine was simply tacked on with some weak glue--no clips or anything.)



11) Pry up the left bolt cover on the top of the dash.



12) Perform step 11 for the right side.

13) Remove the bolts exposed in steps 10 through 12.



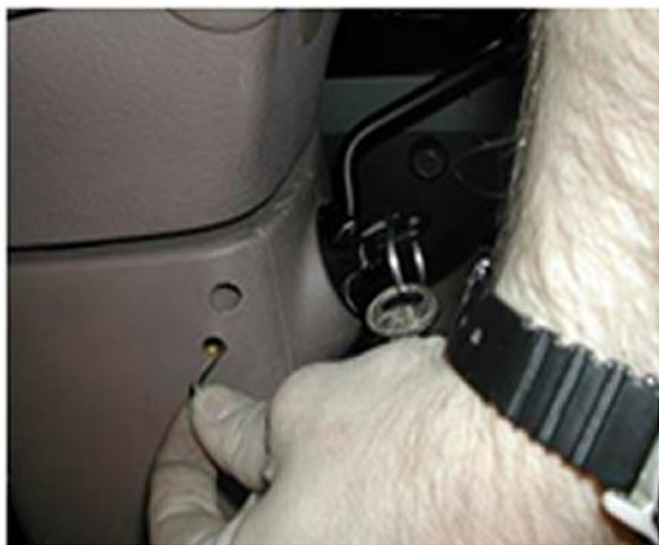




14) Remove the panel that covers the middle of the steering column. According to my notes, that panel is held in place by four T30 ~~torx~~ screws.



15) Insert some sort of stiff metal (here, I used a small ~~allen~~ wrench) into the steering column hole under the ignition to push in the retaining knob/pin that holds the ignition in place, then slide the ignition out of the steering column. (That knob/pin is held in place by a fairly strong spring, so this will take a decent push. However, when that knob/pin has been pushed out of its place, the ignition should come out very easily.)



16) Remove the plastic pin that holds the bottom end of the column shrouds in place.



17) Remove the screws (3 phillips screws) that hold the column shroud halves together and remove the column shrouds.

18) Remove the windshield-wiper/turn-signal switch assembly. (2 T20 torx screws.)

19) Remove the member that crosses under the steering column. (1 bolt on each end, based on the picture and on my memory.)



20) Remove the black guard from under the steering column. (4 nuts if I remember right, but I don't remember the size.)



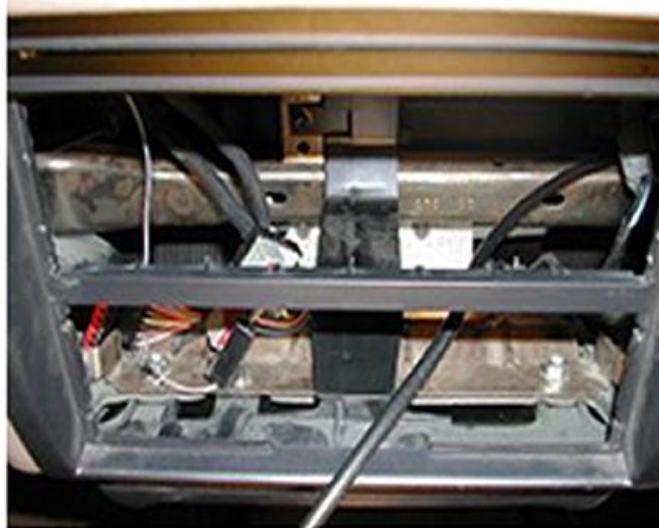
21) Remove the cup holder. Apparently a special tool exists for this purpose, but I just used a small allen wrench. The cup holder has four small square holes in it, one at each corner of the face of the cup holder. On each side is a retaining clip (with each side having two actual retention points as shown in the first picture below). I used an allen wrench to reach through and push the clip away on each side, as shown in the second and third picture below. (The tricky part turned out to be keeping the one side's clip out of its place while I worked on the other side's clip--something the special tool probably takes care of quite nicely.)



22) Remove the stereo in the same manner as you removed the cup holder.



23) Something I did but that, if I remember right, might not have been necessary: Remove the ash tray. (My notes indicate this involved the removal of 2 phillips screws and two nuts with 10mm heads.)



24) Something I did but that, if I remember right, turned out to not be necessary: Remove the trim from the area where the radio and cup holder were.



25) Remove the two upper screws above the instrument panel.



26) Remove the lower-right bolt for the instrument panel. My notes indicate this bolt has a 9/32" head.



27) Remove the lower-left bolt (the bolt opposite to the bolt shown in the above picture)

for the instrument panel.

28) Remove the left-side bolt that was uncovered in Step 4.



29) Perform Step 28 for the right side.

30) Remove the shift lever pin and remove the shift lever.



31) Disconnect the flasher unit. (Note: I don't remember how the below pictures show the flasher unit, but they are the pictures I had associated with the note concerning the flasher unit. So, don't put 100% faith in these pictures. I believe the black plug in the third picture shown below is the plug that goes to the flasher unit.)







32) Remove the mounting bolt that is just above and to the left of the steering column.  
(10mm head.)

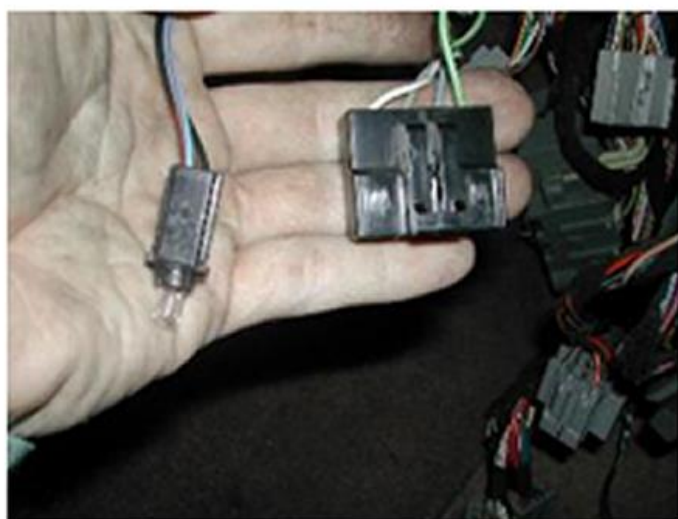


33) Remove what my repair manual calls the "Center IP Brace", which, according to my notes, is located on the driver's side of where the radio was and is a bolt with a 5/16" head.

34) Remove the black box shown (I don't remember what that box actually is) by removing the two bolts with 9/32" heads, disconnect the ground wire located nearby (I don't remember where--my notes simply indicate I disconnected it at this point). I'm not sure, but you may need to remove the other black box shown in the picture as well. Also, disconnect the small black plug (if I remember right). (I don't remember if it goes into one of the boxes or elsewhere, nor do I know which plug pictured later in this document it actually is--my notes simply indicate such a plug in this step and refers to some sort of a cross-under item...the wires cross under something?? Sorry for the lack of detail here.)



35) Pry out the panel holding the dimmer switch, removing the plug and the nearby bulb.



36) Remove the light bulb that illuminates the floor on the driver's side. I don't have a picture of its location, but I imagine the light bulb itself is the bulb shown below.

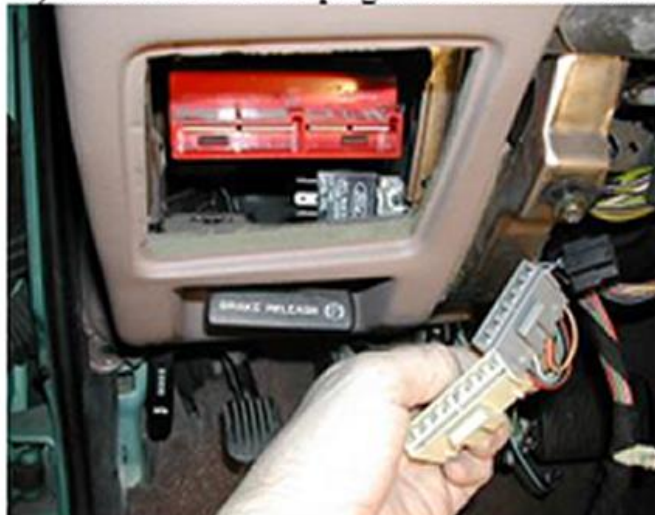


37) Remove the plug that goes to the brake-light switch. (My notes indicate this is a small black plug and another plug a lot like this one is nearby but is not used.) I suspect

the plug might be the one shown below, but I'm not sure.



38) Disconnect the two plugs from the red box on the left end of the dash.



39) Disconnect the PRNDL (Park, Reverse, Neutral, Drive, Low) indicator cable. (My notes indicate this involves either loosening the cable's adjustment enough to remove the cable or removing a nut (or was it a bolt?) that has a 7/32" head.)



40) Disconnect the brake release. (I don't remember what this entails--I don't have any specific notes or pictures on it. Hopefully, the fact that I didn't take any notes or pictures of that indicates that it is quite easy.)

41) Disconnect the fuse box--two bolts with 9/32" heads.

42) Disconnect the ignition/horn system. (My notes indicate this involved removing some sort of a metal clip.) I believe the plugs that you'll disconnect for this step are the ones shown below.



43) Disconnect the "momma-of-em-all" plug (involves loosening the bolt with a 9/32" head).





44) Disconnect the steering u-joint. (1 bolt with a 1/2" head.)



45) Disconnect the shifter pushrod on the steering column--two T30 torx screws. (Sorry--I don't have any details on that...no picture or detailed instructions; hopefully, it's fairly obvious and simple when you get in there.)

46) Remove the four nuts (1/2") that hold the steering column in place and remove the steering column.



47) Unbolt the climate control board (but I don't think you have to actually remove it)--four bolts with 9/32" heads. (Note: The picture of the back of the control board shown below is not representative of the situation--the picture shows it on the floor, but that picture was taken after the dash was removed from the car.)



48) Disconnect the blue box, the light bulb, and the round grey plug on the passenger's side.



49) In the glove-box area, disconnect the white plug shown below, the ground, and the oval-shaped black plug shown below.







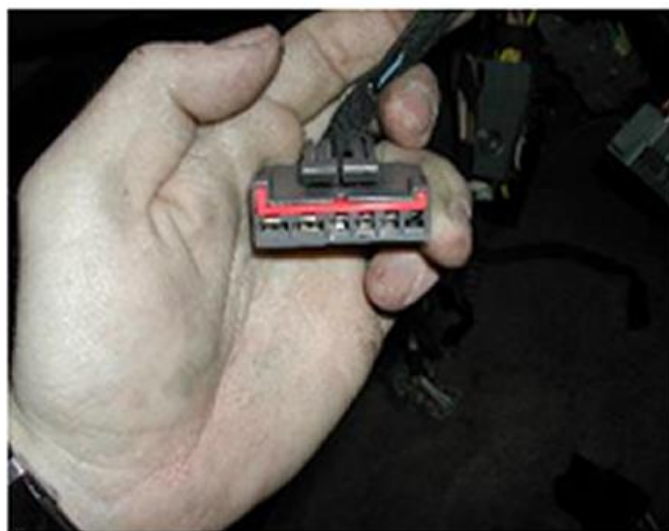
50) Swing down the guard that goes over the vacuum-actuated servo and short pushrod. (Remove the top bolt, loosen the lower bolt, and swing the guard down as shown in the last of the three pictures shown below.) (Note: I'm not sure why this is necessary or even if it is necessary. For some reason, I must have thought getting that guard out of the way a bit was necessary, but I don't remember why.)



51) Disconnect the plug from the ashtray. (I'm not 100% sure about this one--it doesn't sound highly familiar, but, according to my notes, it probably involves the grey plug (possibly the black one as well) shown below.)



Rear defrost button

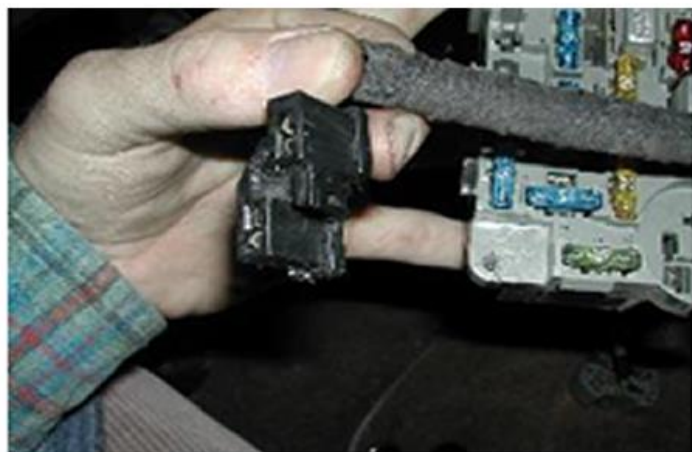


Headlight control knob



(Note: My notes say removing the above two plugs required removal of the outer (outboard) bolt for the heating duct. I don't remember for sure what exactly that was, but I do vaguely remember having to get something out of the way.)

Lights for the headlights control switch (I think)



**Clock**



**Defroster (the black/red one)**



**Climate control:**  
Switch to control location of air outflow (the red plug)

Climate control backlights (the black plug next to the red one)

Fan speed (the square black plug next to the above-mentioned black plug)

Temperature control (one of the white ones next to the square black plug--probably the lower one that is quite hidden)



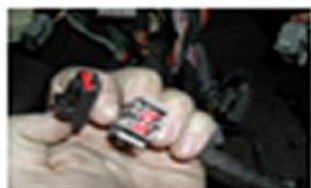
Heater/Air-conditioning fan motor control?

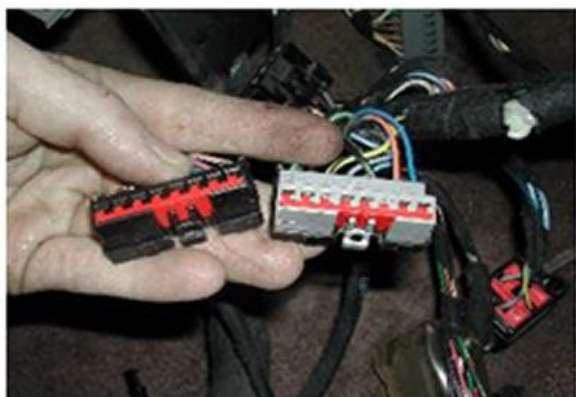


The blue plug: Door controller--the temperature is controlled by opening or closing a door that, when partially open, mixes warm and cool air. This plug goes near the heater unit (rather than up in the dash).

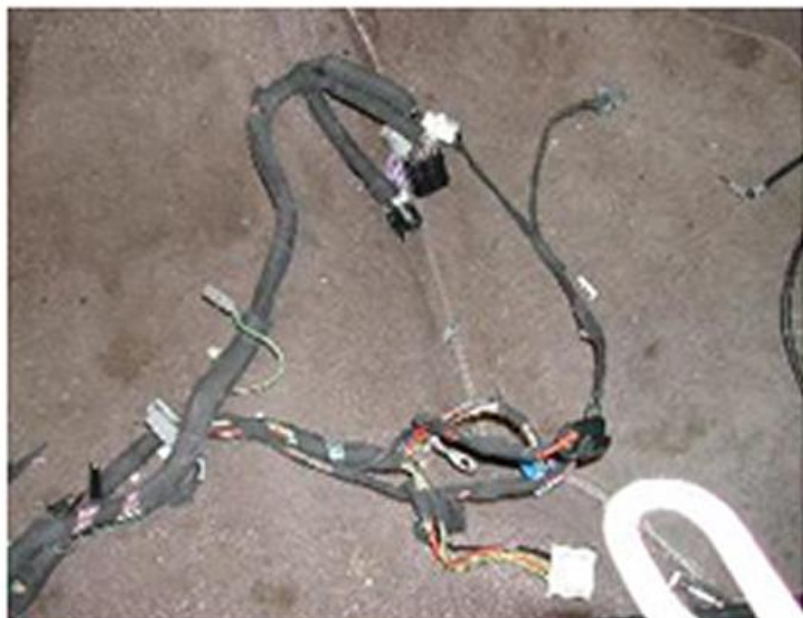
The black plug: Plugs in close to the above-mentioned blue plug, but I'm not 100% sure what its purpose is.















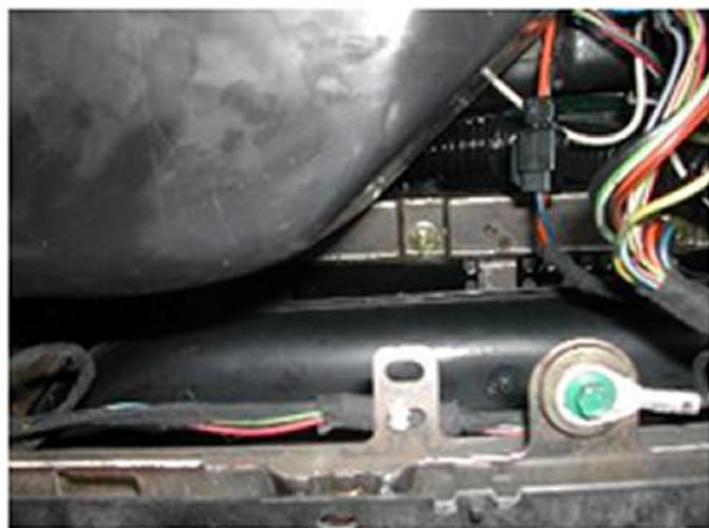
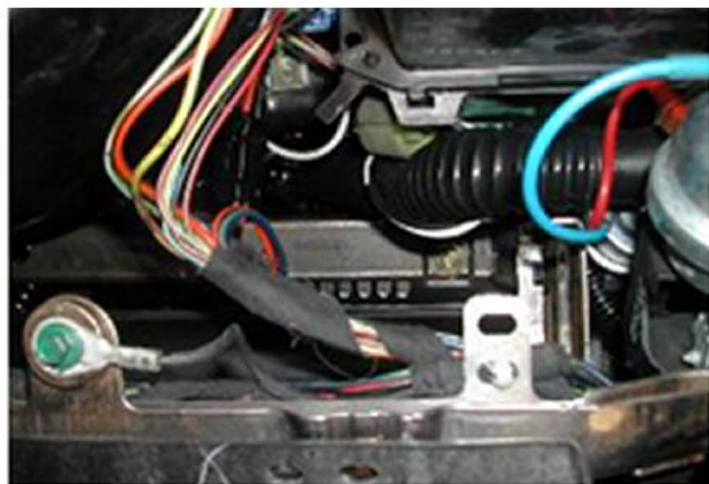
53) I found it extremely difficult to unhook what I believe is the plug that goes up to the airbag unit. (I believe that plug is the one shown in the first picture below.) After fighting it for quite a while, I finally decided to cut the wires and krimp them back together when I put the car back together. (Second picture below.) I don't regret that decision--I don't know how I could possibly have gotten the plug itself disconnected. But, perhaps you'll have an idea that works and that allows you to disconnect it without cutting the wires, especially given the fact that, with the picture below, you will be able to see how the plug itself is designed to stay in place and to be released.





54) Remove the wire tree from the places in which it is mounted to the dash's frame. Below are general pictures that should show most of the attachment points.





55) (Probably done already as part of step 52.) Remove the dash panel that surrounds the instrument panel. Below is a picture of the panel from the back, indicating the attachment points.

The two red circles mark the vertical bolts that are mentioned and removed in one of the early steps of this process.

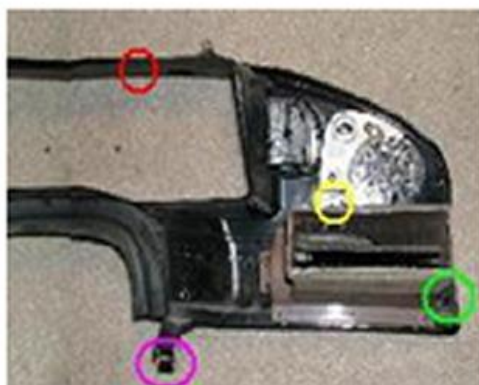
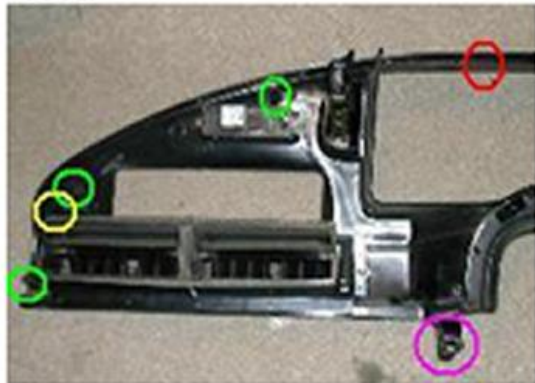
The two yellow circles mark locations in which there might be some sort of screw coming from the back.



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The four green circles mark locations in which retaining clips are found. If I remember correctly, you don't have to do anything special to remove these clips--rather, you simply pull the panel out until the clips release.

The two purple circles mark locations in which two bolts were removed in the steps above.



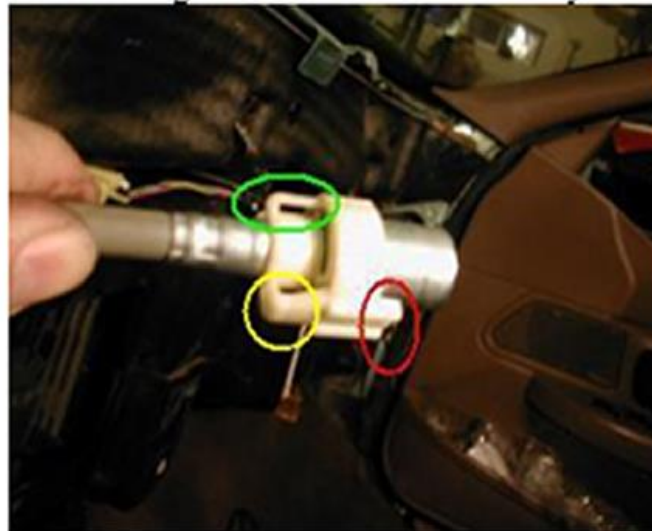
56) I'm not sure what I may have forgotten here, but I believe this is the point at which you'll begin to pull the dash out place. You'll have to lift it and pull it back, and you'll get maybe 4 to 6 inches or so. The remaining item should be the speedometer cable. After fighting through many attempts to reach up behind the dash and to remove the speedometer cable through turning it, pulling it, and whatever else I could think of, I finally had a bright idea--go to the dealership and ask to see a new cable so I could study the connector and see how it works. Then, knowing how the clip worked, I was able to disconnect the cable quickly and easily. So, if you have troubles with this step, go see the dealership to see the cable's clip in person. Below is a description and some pictures to try first.

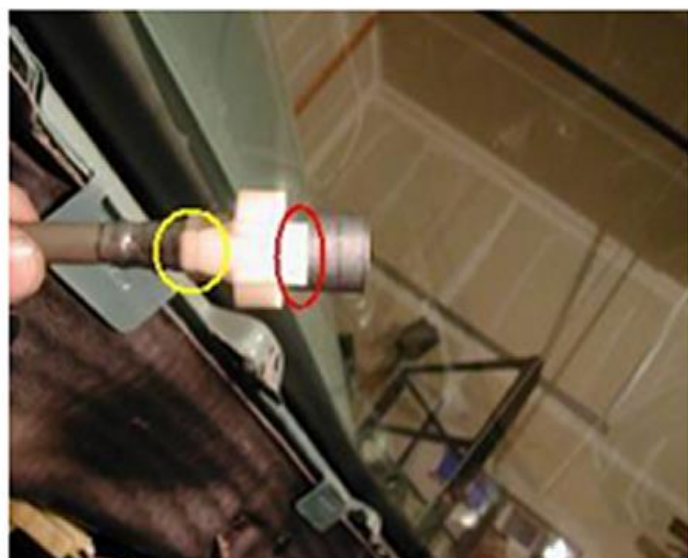
Imagine yourself looking right up the speedometer cable from behind the dash. (So, you're between the dash and the engine, looking into the back of the instrument cluster.) At the speedometer's connection to the instrument cluster, there is a white plastic retainer that goes around the entire circumference of the cable and is probably an inch or an inch and a half long. At one point in the circumference of the cable, you see two tab-like portions of the retainer, running parallel to each other pointing straight at you. I'd guess they are somewhere around 1/4 inch long. (Those portions are circled in green in two of the three pictures appearing below.) On the opposite side of the circumference of the cable, you see a similar tab-like portion extending toward you. (This portion is circled in

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yellow in two of the three pictures appearing below.) However, this portion is only one tab, and is significantly wider (it covers about as much of the cable's circumference as the two other tabs and the space between the two other tabs do). If you reach in there and feel along that bigger tab, you'll notice that it actually extends beyond the rest of that white plastic retainer, toward the instrument cluster. Press on the portion that extends beyond the rest (as near to the instrument cluster as you can), thus pushing that portion of the tab so it touches the cable itself, and pull the cable out. (The portion on which to push toward the cable is marked with a red circle in two of the three pictures appearing below.) The plastic connector will come out with the cable. I found (after I had pulled, pushed, and twisted for at least an hour before I figured this out) that it disconnected very easily when I pressed in the right place.

Note: Perhaps the speedometer cable itself will not have enough slack in it to allow you to pull the dash out enough to disconnect the speedometer cable as described above. If such is the case, I wonder if you'll have to disconnect the speedometer cable from the transmission in order to allow you to pull the dash out a few more inches before you can disconnect the cable from the speedometer, as suggested by Neal on autofan.com-- [http://autofan.com/forum\\_reply.asp?message=5707&replyid=22057&level=1&all=](http://autofan.com/forum_reply.asp?message=5707&replyid=22057&level=1&all=). In my case, it was a tight squeeze, but I was able to reach up there and get it done without disconnecting it from the transmission. Maybe I was just lucky.





57) That should be it--get someone to help you to lift and manage the dash, and lift it out of the car. Below are pictures of the dash, out of the car. Take a moment to bask in the glory of having finally removed the dash. :-)

(Note: In one of the pictures I have but that I did not post on this page, it appears I removed the vent hose (marked with a red arrow) at the far driver's-side end along with the plastic adapter on the far driver's-side end of the hose, the air duct (marked with a green arrow), and the plastic cover/guard (marked with a yellow arrow). I don't remember why I felt I had to do that; perhaps it was to access some of the potential screws marked by yellow circles mentioned above in Step 55, but I'm not sure.



58) Loosen the mounts for the accumulator so it can be moved as needed to disconnect the air-conditioning lines. My notes indicate this involves two nuts that are 7/16" in size.





59) Remove the clips that cover the air-conditioning-line connections.



60) Ok...here comes another tough part...you'll need a tool, like the one shown in the below picture. (I got this one from AutoZone.) The second and third pictures show the application on that tool on a fuel line. What you'll need to do is place the tool on the line as shown and then push it firmly into the connection. The connection should then come apart. (If I remember right, the connections come apart quite easily--no force is needed once the tool successfully releases the connection. However, getting the tool to release the connection isn't all that easy. I practiced on the fuel lines to get the hang of it.) Release both air-conditioner line connections circled in the fourth picture.



61) Disconnect the vacuum line.



62) Remove the nuts (7/16" deep socket) that hold the heater assembly in place. (My notes indicate there are three nuts; however, only two appear in the photos.)



63) (I'm not sure if this step is necessary.) Unplug the electrical plug that goes into the accumulator and the plug that goes into the firewall near the accumulator.





64) Remove the heater assembly from inside the car. If I remember right, this involves doing something with the floor recirculation duct, but I don't remember what--all I remember is I worked it and fought it for a while (tearing the carpet a bit, unfortunately) and eventually found it was quite simple and required very little or no force or extra work.



65) Remove the temperature-control-door motor (the cream-colored box in the picture) and the mounting bracket for that motor.



66) Remove the plastic cap that covers the heater core.



67) Lift off the rubber cap that covers the heater core, and lift out the heater core. At this point, with the help of another person, I decided to test the core again to be sure I was going to replace the correct part. I submerged the core in a bucket of water, plugged off the end of one of the core's lines, and pressurized the core through the other line. (I don't remember if I blew in it with my own mouth or if I used an air compressor.) At first, we thought the core was fine--no bubbles came up through the water. However, pretty soon, I noticed a very small, very periodic bubble appear. Turns out the leak was very, very minimal--kind of interesting, given the fact that the burning-antifreeze smell was quite intense before I began this project. I can't imagine what it might be like if you run the heater and you have a bad leak.

At this point, please refer again to the "Requests" section at the top of this page and respond with any information you now have.