

Volkswagen Cabriolet DIY Guide

Removing & Repairing the HVAC Blower Motor

Removing the Blower Motor

This how-to was originally posted on VWvortex.com by "Thomas_covenant": <http://forums.vwvortex.com/zerothread?id=1843162> .

Tools needed:

- Phillips screwdriver
- Flathead screwdriver
- Metric wrenches
- Radio removal tools

So I'm tired of freezing. (Yes, freezing is relative; when it's 50 degrees outside, I'm freezing and want my heater! Yes, I'm a Southern California temperature wuss!) So I have to remove it. I looked at Moljinar's how-to and went out to the car to discover that mine is different. Not too surprising. His seems to have a neat hole with a cover held by 4 screws. Not so with mine...

Step 1



After removing the black plastic rain tray I discovered a huge monster plastic box.

(Before removing the air recirculation box, clean out the rain tray of any debris like leaves, dirt, etc.)

Step 2



I noticed that on the driver's end there's a nut. In the middle there's a screw. At the passenger end I noticed a tell-tale screw end sticking up, laughing at me and telling me that I have to crawl under the dash. *SIGH!*

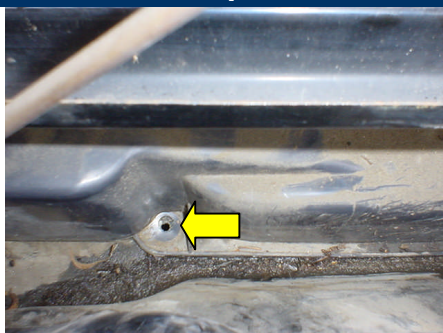
To get the screw out you crawl under the dash (passenger side), locate it and remove it. In CIS cars, it's above the Jetronic control unit. It could probably be removed without pulling the control unit, but I opted to remove it. The screw you remove is on one end of the opening. There's another one. Remove that one as long as you're there.

Step 3



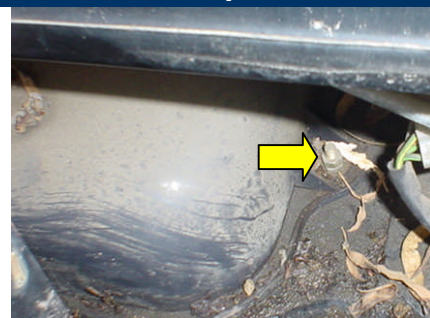
While you're there, look up and you'll see the two vacuum lines that connect to the inlet part of the big-rain-tray-housing-thing. You might as well mark the two vacuum hoses and pop those off while you're under there.

Step 4



This picture is of the hole in the middle of the housing where the screw was.

Step 5



The screw has a washer and then a grommet. Under the dash, a nut. Once you loosen the screw, the grommet will hold the screw tight enough so you can get the nut off without a friend. At the driver's end there's a nut. The nut attaches to a screw driving from under the dash. However, it has a washer and a grommet and the grommet holds the screw tight so you can easily remove the nut. Pull off the washers and leave the grommet for now, as it will hold the screw and save you time. Once you've pulled the 2 screws holding the end piece, it will separate.

Step 6



Now the end piece slides to the passenger side and lifts out of the rain tray. You can see the hole leading to the dash and the two vacuum hoses.

Step 7



Now you should be able to freely move the main piece of the housing (except that you still have the screw on the driver's side held by the grommet). So get a screwdriver and work the grommet off of the screw. If you're careful you'll be able to lift the whole plastic piece off the screw without the screw dropping down into the pass compartment. If you succeed at this, put the grommet back onto the end of the screw and the screw will stay put until you are ready to put it all back in. Move the middle piece to the passenger side of the rain tray and twist the bottom up to slide it out.

Step 8



Step 9



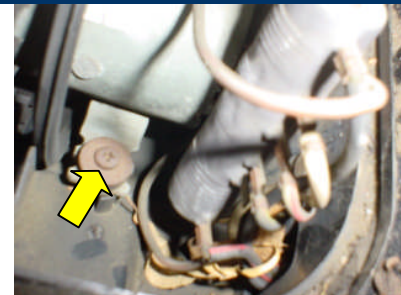
And what to my wondering eyes should appear? The fan housing and speed resistor! Almost home!

Step 10



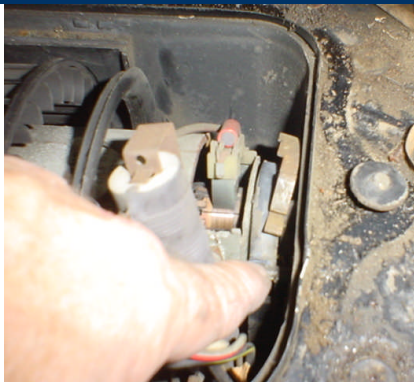
The cover just snaps into place. It lifts right out.

Step 11



Here's a close-up view. That screw has to be removed.

Step 12



Next, you have to remove the strap holding the motor on. It's sort of wedged in and has to be snapped out. In this picture you can see that I've removed it and you can also see the driver's side screw held in place by the grommet. I'm pointing at the metal motor strap.

For later cars, disconnect the wiring harness.

Step 13

Back into the car. Remove the radio, fan switch, and the slider knobs (they all pull straight out). Then use a flat blade to pry the face off where the slider knobs were. Careful! There's a light bulb at the bottom right. If it's dead you now know how to get at it! Once the face is off, you can see the switch itself. Push from the back of the switch and it will come out the front. It's held in place by a small piece of plastic sticking out on the bottom left and on the right side by a spring clip. You'll need to push the spring clip in, then the right side of the switch will pop forward and you can work the whole thing out. It might be easier if you remove the cable first. Once the switch is out, pull the cable through the hole and get under the dash (again!), but this time on the driver's side. Shine your light under the dash while pulling on the switch cable until you locate the connector that it goes to. Disconnect the connector (ironically this was the hardest part of the whole ordeal!). Leave the wires from the connector to the switch connector where they are, but follow the others. You will see that they go up to the motor. There's a rubber grommet thingy that is rectangular. I was able to feed the small end through the hole and then go under the hood and pull it all the way through. Now lift the motor assembly up and away, pulling on the wires. The connector will hang at the hole. Set the motor down, back under the dash and push the connector through the hole. Then, under the hood, pull the connector free. Slide the motor all the way to the pass side and it will come out of the rain tray! Success!

Now you are free to test the motor at will.

Installation is reverse of removal.

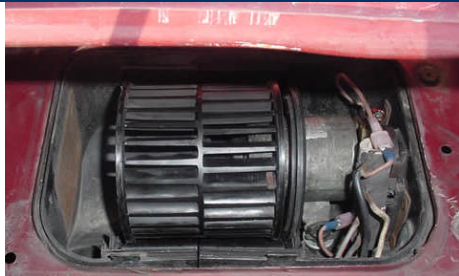
Repairing the Blower Motor

This how-to was originally posted on VWvortex.com by "Moljinar": <http://forums.vwvortex.com/zerthread?id=1817057> .

First of all let's review a second...

Your heater fan is making nasty noises; almost a grinding sound. So we all assume it's a bearing. But maybe it's something stuck in the fan? Well, it could be either and we'll try to fix both.

Step 1



First, let's look at the fan as it's installed in the car. It's held in by a clip at the right end of the motor. A couple of inches ahead of the brushes are a couple of rubber isolated mounts that snap into place. You'll see these in a later picture.

Step 2

There are two power leads from the motor to the resistor. Unclip the resistor from its clip and undo the connections to the motor.

(Follow the procedure above for removing the blower motor.)

Once the fan is loose from the car, test it for noise by hooking it up and running it. Is it running smooth? Any noise? Hold it horizontal to see if it's noisy. Odds are it sounds fine. I didn't do this step but went ahead and reworked the bushing. That's okay but I probably didn't need to do that.

The majority of the noise is the fan rubbing on the fan housing!!! After fixing my fan and reinstalling it, I had plenty of noise. The rubber grommet seen in the following pictures had shrunk and the fan was rubbing under the squirrel cage. I manipulated it (that's the same as fiddlin' with it) to see what would make it better. Eventually I put a 5/16" washer under it to raise the fan up out of the way. I mention all of this now so you don't have to disassemble the fan motor unnecessarily.

Don't get me wrong! I'm sure the fan motor could do with some lubing anyway but you don't need to take it apart to do that. Use good oil. NO WD-40 or PB Blaster!!! They're not lubes, they're solvents!

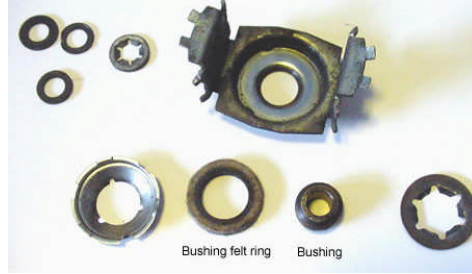
Step 3

Step 9



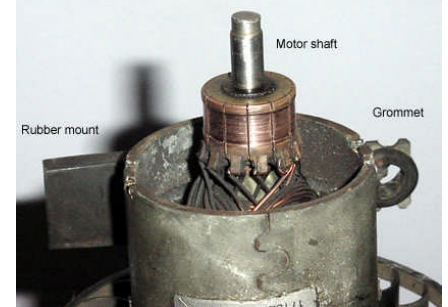
Now back to our pictures. The end on the fan motor has an end-cap that holds the brushes and has a bushing holder. That's right; BUSHING, not bearings. This is a very low tech motor. It's hard to believe that after 20 years of use it can even turn, but it does.

Step 10



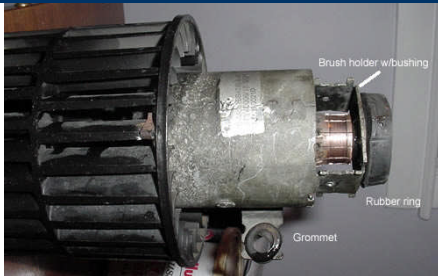
Inside the end-cap is a ring of felt that the bushing turns in.

Step 11



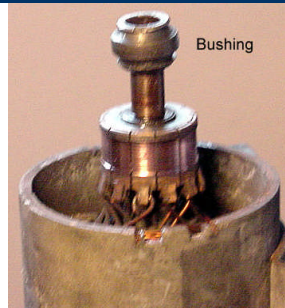
None of this is terribly difficult to take apart. A little frustrating but not difficult. The bushing on mine was almost seized to the shaft and was turning only within the felt ring. I removed the bushing with some pliers and proceeded to lube everything liberally. Then I sanded down and polished the shaft so it would turn within the bushing.

Step 9



Another look at the motor with the brushes removed.

Step 10



Bushing on the shaft (blurry picture).

Step 11



Bushing in felt ring.

Step 9

After lubing, put it all back together. The front bearing can't be disassembled without removing the fan, so don't bother. Drip some oil thru the fan onto the shaft and it'll be okay. Please keep in mind that the fan is sold as a complete unit; no parts are available from VW should you lose anything.

Step 10

Now check it while out of the car. Make sure it's running okay. If so, start putting it back in.

You press down on the back rubber square until it's locked into place. Then you tilt it forward until the grommet is over the peg that positions the front half of the fan. DO NOT CLIP the fan in yet. It is now located well enough to hook up and run it. So do so. See if it's rubbing. You've heard it run when it was free so you can be sure that any new noise is the cage rubbing on the housing. You may have to wiggle it some. Once you're satisfied clip down the end of the fan and repeat testing. Hopefully it all went well.

Step 11



Last picture. Look at the spot where it's been making a groove.

I've had my fan out and back in several times with no problem with it rubbing. Now all of a sudden I did. That's what made me realize the grommet had worn and was letting the fan drop into the housing.

If you've been letting your fan grind away for a while you won't hurt anything except to wear a groove in the housing. And that will be your tell-tell sign of what's going on. And the fan seems to be the type that once overheated it stops running. Once cooled it runs again so you're okay. Mine never even blew a fuse. Your fan should blow on all 4 speeds, but the #4 speed is the only one that does not pass any electricity through the resistor, so use it to test with. Why? So you won't burn your pinkies on the resistor, fool! 🤖

**** Remember, you are responsible for working on your car; Cabby-Info.com, "Thomas_covenant", "Moljinar", VWvortex.com, VAG, VWoA, or anyone else are not responsible if anything goes wrong while you are working on, in and under your car!**

Use this information at your own risk! **