

ABS Unit Replacement Audi/VW's

1st Part by "DRMUD" and 2nd part by "Mike5"

I performed this process for my dead ABS unit on a 1998 Passat 1.8T Automatic. No ASR, EPS, No 4 motion, No navigation system. The unit would not communicate at all with the VAG-COM. My ABS light came on and had a blinking brake light. This happened soon after I replaced my front brake pads. A year later, I decided to try and fix the unit.

Step1: Identify your problem: There are many problems that can cause an ABS light to turn on. A bad wheel sensor could be the culprit, but this seems to be less common. The more common problem is the ABS unit itself goes bad. In my case, the ABS unit went bad, and would not even communicate with the VAG-COM (a computer program that hooks up to your car's computer systems) If you are interested in buying a VAG-COM for diagnostics, you can buy one for around \$229, visit www.ross-tech.com. If you don't want to spend the money, search for someone in your area that has one using this website: <http://www.steve-hall.com/cgi-bin/VAG-Locator.pl> Email them and ask for their help. Usually they will be willing to help for free, or if not for a small fee. If this fails you, you can bring the car to the dealer to pull the codes which will run you about \$80. If your unit doesn't communicate with the computer, or has some sort of fault with the actual unit, follow the following steps.

Step 2: Identify the part number of your unit: This is very easy to find. Open the hood, and stamped on the ABS unit (driver's side, next to the windshield washer reservoir, is the unit) On the top will be most likely an 8E0 614 111 and a letter. These letters range from A-Z and sometimes have 2 or 3 letter combinations. Write this number down verbatim.

Step 3: Find a salvaged ABS unit: This involves lots of phone calls to various junkyards across the US. Use www.car-part.com they have a huge list of cars by make and model. Search for your exact car first, searching for ABS pump, and call around to the cheaper and closer places first. If this fails you, search for different options, then different year cars, and then lastly your Audi/VW sister vehicle (these cars share parts quite often). You should expect to pay between \$100 and \$350 for the unit. If you find one in the upper price range, write it down, and keep looking for a cheaper one. Be sure to get at least a 30 day warranty. Most will give you a 90 day warranty. DO NOT buy unit "as is". You will find these guys, but other people will give you a warranty. Once you find your exact unit, have them verify the part number twice and have it shipped out.

Step 4: Test the unit (if you can) Before taking you car apart, the wiring harness that goes to the ABS unit can be undone and plugged into the salvaged unit un-installed. There is just enough wire to plug it in. The connector that holds the harness down has a pull-slot lock. At the very front of the connector, pull on

the tab straight forward. This will pop off the connector. To plug it into the salvaged unit, you have put the sliding plastic piece about $\frac{3}{4}$'s of the way in, push the connector nearly all the way on, then slide the connector to lock it in position. Run the VAG-COM on the ABS unit. If it communicates you are in business. Remove all fault codes at this point. They are from the previous car it was installed on.

Step 5: Replacing the unit What you will need to replace the unit, will depend on your plans. There are two ways to fix this unit: Most of the time, just the electronics go bad on these ABS units. Hence, you can just change out the electronics portion of the unit.

1. Remove the front left tire. Proceed to take off the fender well liner. This will gain you access to the screws that hold in the windshield washer reservoir. Pull out the reservoir and you should have access to all 6 screws on the side of the ABS unit. You are almost done! Take out the 6 screws and the bottom connector. The unit is completely sealed so you will not let air into the system when doing this. Remove the electronics and put the salvaged ones on.

Reverse the order and you are done, no bleeding necessary!

2. If you want to change out the whole unit, because you know that you have a bad ABS pump, follow the rest of this post. I took out the my entire unit because I didn't know it was so easy to get the windshield washer reservoir out of the way. When you take out the entire unit, you must first release the pressure in the system, by bleeding out the front left caliper. Put a cinder-block on the brake pedal so your fluid doesn't run out. You will need a star-head screw driver, and some wrenches for the job. Buy a large can of DOT 4 brake fluid for later. Start off by labeling the locations of the 6 brake lines that enter the ABS unit. Get a bunch of shop towels ready for the fluid to start flowing. Not much came out on our re-install. Remove all 6 brake lines carefully. Undo the two nuts that bolt the unit to its bracket. Have a second person help pull the lines out of the way and pull the unit out. Remove the 6 screws that hold the electronics to the pump. The electronics are sealed so no fluid will come out. Replace the electronics with the salvaged ones. If you trust the pump is clean from the salvage yard, and/or you know you have a faulty pump, then replace the whole unit (pump and electronics). Again have your buddy pull the brake lines out of the way (be careful) and seat the unit back in. The two bolts on the sides must line up perfectly (they are slotted to the bracket). Reattach the 6 lines and tighten the brake lines pretty hard (be careful again)

Turn on the ignition and see if your ABS light is out. Mine was out at this point. If it isn't out, there may be other problems. You may have to reset the unit that you got from the salvage yard with a VAG-COM before getting the light to go out. These fault codes are from the previous car it was installed on

Step 6: Bleeding the system (This does not have to be done if you didn't take out the pump)

This is where things get a little complicated. Depending on what letter unit you have, you may have to bleed the pump first. This is done using the VAG-COM or similar unit. Use these posts to determine if your unit is "codable" for the ABS pump bleed. <http://1.8t.org/~quattroman/Audi%20B5%2097-2001/Suspension%20Wheel%20and%20Brakes/Brakes/Brake%20System%200BD/01-128%20Check%20control%20module%2001.pdf>

And <http://1.8t.org/~quattroman/Audi%20B5%2097-2001/Suspension%20Wheel%20and%20Brakes/Brakes/Brake%20System%200BD/01-135%20Check%20control%20module%2007.pdf>

If your unit is not "codable" then all you have to do is do a standard bleed.

If your unit is codable, then you may have to get a VAG-COM to run these codes according to your vehicle. Use this post - <http://www.ross-tech.com/vag-com/cars/absbleeding.html>

There is a chance that you don't have to do this step whether or not your unit is codable. I just don't know

Once you are done coding or not coding proceed to these steps.

Now you must bleed the rest of the system. This is done with 2 people, a wrench, and an oil catch pan. You can choose to have the car's 4 wheels off at one time or do one wheel at a time. One person will be in the driver's seat, and one at a wheel.

Start at the passenger side rear wheel. Be sure your brake fluid reservoir is full. Start by opening up the bleeder valve and have the person start pumping the brake pedal slowly. Fluid should be spurting out the bleeder valve. At some point, you will see air coming out for a short bit. If you have dirty brake fluid, you will start to see clean fluid after the air. Pump through a good amount of fluid so that you know all air is out. At this point close the bleeder valve. Have the person pump up the brakes until the pedal is firm. Once firm, have the person hold the brake pedal down, while one person opens up the bleeder valve. BE SURE to have the person hold the brake pedal down to the floor and not let the pedal up before you close the bleeder valve. Do this 3 or 4 times to make sure all air is out.

Proceed to the driver's side rear wheel, then passenger side front, then the driver's side front. The order is important. Be sure between each wheel that your reservoir is not going empty. If it does, you must start all over.

At this point you are done! Put all the wheels back on. Do a drive test carefully.

Additional info from mike5

I referred to the exact same instructions as above. Along the way, I made some notes in my research and repair as well and thought I would share it with the community.

ABS Module Info

Generally speaking, it appears that you can swap out like units (like in my case I had P after the part number and replaced it with another that had P). The key is to match up the part number/letter you have with one from the junkyard. In some cases, if it is not an exact match-up, you will need to recode the new ABS module once you connect it to your car. Refer to [here](#) and scroll down to sections 52 and 56 for more info. There should be a chart there with the coding values, depending on the type of features your car has.

Also, dealers only sell the ABS Module with the ABS Pump (since they both come as one piece). That is why the price is so expensive from the dealer. Also note that the part number that I had on my unit (8E0 614 111P) did not exist in the dealers computer. The dealer came up with the part number 8E0-614-111AN. So keep this in mind if you can't find what you're looking for. Ultimately, you have to look at the top of the ABS Pump to get the part number. I think the number will be etched in the metal housing of the pump.

My Installation

My Car: 99 Passat 1.8T 5 speed (Engine Code: AEB) with ABS and EDL (where the brakes kick in under 20MPH or so when it detects wheel spin)

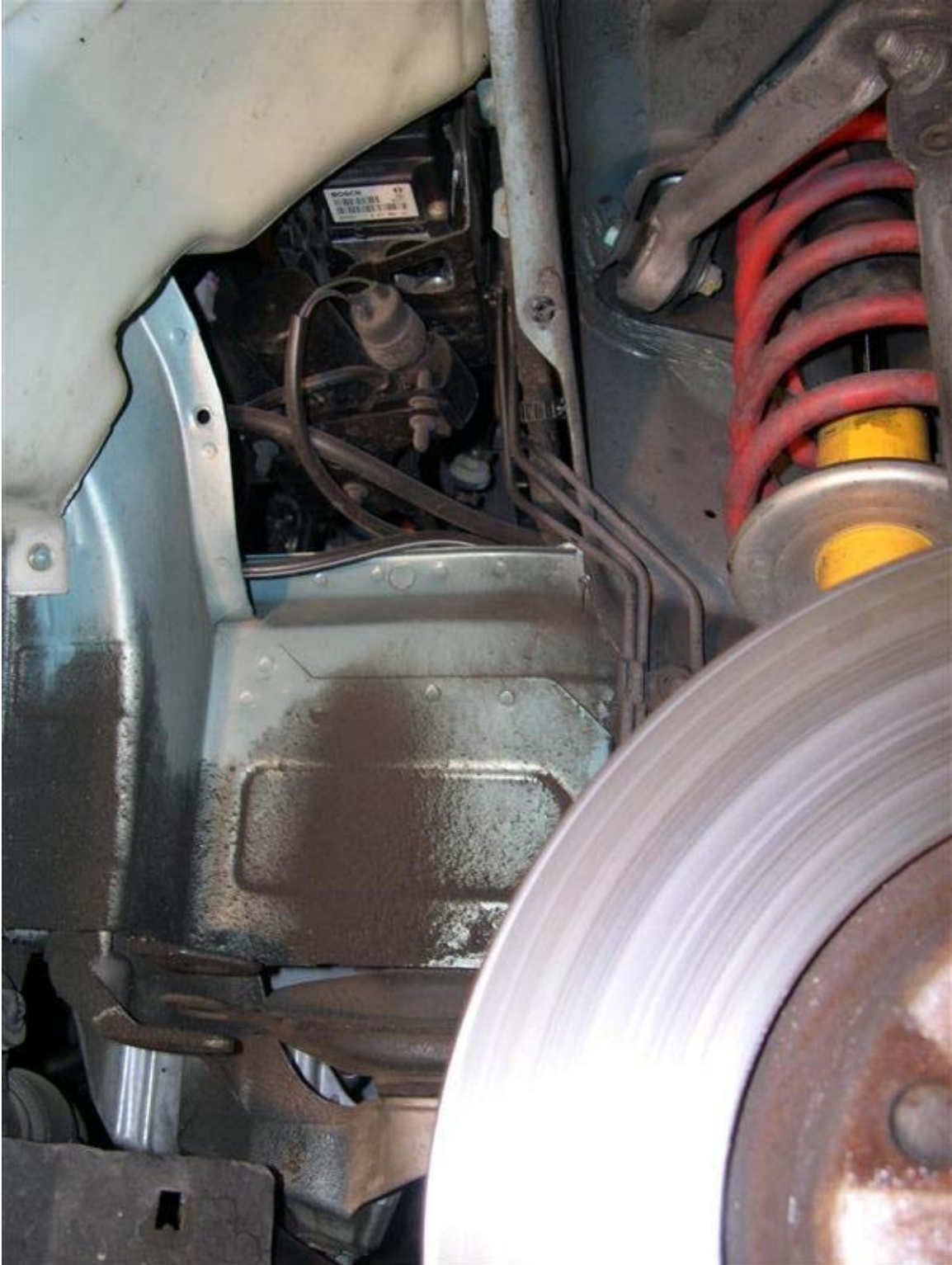
I was able to perform the install without removing the entire unit from the car and without bleeding the system. As mentioned above, it can be done from the driver's side wheel well.

- Step 1: Remove the front left wheel. Obviously jack up the car and support it with something else while you work in the area. (*see picture below*)



- Step 2: Remove the wheel well liner. I believe that the screws were all Torx and there was about 8 or 10 in various spots. It should be obvious as you stick your head in the wheel well and look inside. Once the screws have been removed, you can pry off the liner. In my case, since I'd rolled my fenders, it took a little bit more effort. (*1st picture shows the Torx set I bought from Fry's Electronics along with the ABS Module and Pump disassembled from each other and the second picture shows the wheel liner removed*)
 - Note 1: The ABS Module / Pump is held together by six Torx screws (I believe). It is very easy to take apart. I took the replacement unit apart first before starting the job. Also, once separated, you don't have to worry about leaking fluids or anything...it's very easy and clean to separate.
 - Note 2: In the second picture, you can see the ABS Module's black plastic part in the upper left of the picture.





- Step 3: Remove the windshield washer fluid reservoir. I believe it was held together by two or three screws. You will have to pull on it a little and twist a little to get it off. Be careful though since the sensor for fluid level and the water pump nozzle are there as well. As you remove it, those sensors will separate. Actually, you may be able to disconnect them first from under the

hood. I don't remember anymore. Either way, it's not hard, just take a little time and look from various angles and you'll get the idea. If you have fluid in the tank, it will spill some on the ground, so be prepared. *(Picture below shows the pump nozzle and sensor in the left of the picture)*



- Step 4: From the wheel well area, unscrew the Torx screws that are holding the pump and module together. You may be able to unscrew a couple of

them from under the hood as well. Before you can remove the unit, you have to unplug two harnesses from it. One is visible from under the hood (big harness) and a second is visible from the wheel well (it is a small harness on the bottom of the unit I believe, it's has an orange piece to it in the picture below). The second harness I think unclips. Either way, again it is not a difficult task. *(Picture below shows the water tank removed and the module separated from the pump)*



The picture below shows the disassembly from the top.



- Step 5: Just follow the steps above in reverse order to put it all back together.

Couple of Notes:

- I think I placed the nozzle for the windshield washer tank back on through the hood area. Again, just look around from various angles and you'll get the idea.
- To remove the large wiring harness from the ABS Module, it has a sliding piece that needs to be slid. Once you slide it, the harness will come look from the unit. It is NOT clipped into the module, so don't just pull on it.
- Remember to fill up the windshield washer fluid. Also, you will not need to bleed/flush the brake system if following Mike5's procedure.

Once you have everything back together, you should be able to start the car right up and have everything work. In my case, I did not need to recode the module since it was the same as what I had before.