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**DIY Blower Motor - 1G 3.2 TL**

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#1

M-TL

Wish it was manual

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**DIY Blower Motor - 1G 3.2 TL**

**Blower Motor Replacement**

Warning: Do not attempt this DIY unless you have to (i.e. no money to pay someone else) AND have lots of patience. The instructions are valid for this model. Other models or trim levels may differ.

Car Background: 1997 Acura 3.2 TL (Canadian version FWIW with heated seats & heated mirror)

Diagnosis: Blower motor was erratic last year, normally weak except on left turns when it would belt out a hurricane. Acurazine threads stated that this was a symptom of the bushings in the blower motor that were dying. This car is not driven in winter (only run every 2-3 weeks) for preservation as the winter salt kills. This spring, the blower motor would not start no matter the whacks or left turns. Self diagnosis (Manual page 22-10) confirmed faulty blower motor.

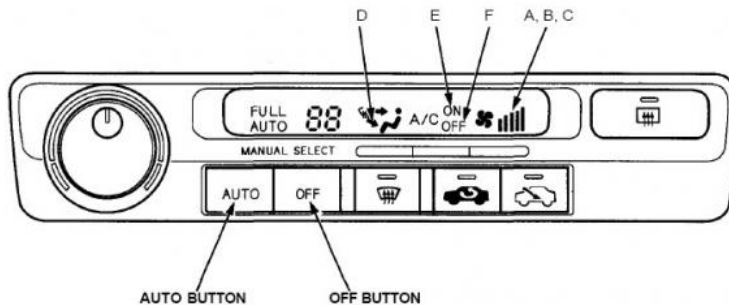
## Troubleshooting





### Self-diagnosis Function

The climate control unit has a self-diagnosis function.

**Running the Self-diagnosis Function**

Turn the ignition switch ON (II), then press both the AUTO and OFF buttons at the same time. While the buttons are pressed, indicator lights A, B, C, D, E and F respectively will come on to indicate a faulty component.



	Indicator	Component with problem	Possible cause	See page
A		In-car temperature sensor	Faulty sensor, open or short circuit	22-12
B		Outside air temperature sensor	Faulty sensor, open or short circuit	22-14
C		Sunlight sensor	Faulty sensor, open or short circuit	22-16
D		Evaporator temperature sensor	Faulty sensor, open or short circuit	22-18
E	ON	Air mix control motor	Open or short circuit, obstructed door, faulty motor	22-20
F	OFF	Blower motor	Open or short circuit, faulty motor	22-22 or 22-24 (2.5L), 22-6a (3.2L)

NOTE: In case of multiple problems, the respective indicator lights will come on. If indicator lights A, B, C, D, and E come on at the same time, there may be an open in the common ground wire of the sensors.

#### Resetting the Self-diagnosis Function

Turning the ignition switch OFF will cancel the self-diagnosis function. After service work, run the self-diagnosis function once again to check that there is no other problem.

This repair took me approx 20 hours. Perhaps a pro with lots of experience could do it in one day (6-8 hrs?) as quoted by dealerships. Now that I've done it once I think I could do it next time in about 12-15 hrs depending on the problems faced. As any DIY'er knows, the first time takes so much longer, especially as I was extra careful not to make a mistake and screw up or damage any of the electrical components that need to be removed.

Tools used: Standard Metric socket ratchet set, wrenches, screwdrivers, [electric](#) screwdriver (when screw/bolt is accessible). No pneumatic tools necessary. Most bolts are either 8mm or 10mm

TIP: use gloves to prevent cuts and a [headlamp](#) to help see, and a telescoping mirror will be helpful. I also recommend you look at the official manual, though at times I felt it was too vague. Read each set of instructions completely before attempting each step. You may even want to read two steps before attempting one to make sure you have read any warnings.

Major Tip: some wire clips are really, really, really, Really hard to remove. The one on the condenser cover under the dash on the [driver's](#) side probably took 2 hours to remove. It was so hard that I wanted to cut the wires that the clip was holding, but I stopped at that point and took a break. My solution - I wish I could be paid for this one - was to tape a hex socket to my middle finger so I can reach up and push so that the socket would squeeze the wings of the clip to remove it. This was the only solution I could find. I couldn't even cut the clip due to its remote and cramped location. (The clip is barely visible when you put your head where the foot goes when braking!) I believe I used a 6mm socket for that particular clip.



Step 0: Make sure it's the blower motor that needs replacing and not a simple fuse somewhere. Given the past symptoms and self-diagnosis, I was sure it was the blower motor.

Step 1: Acquire (legally) a replacement blower motor. I got a used OEM off ebay for less than 50\$ shipped. I'm sure there are enough TLs in the scrap yards but I wouldn't get one from a junk yard if I had to extract it from the car myself. It's a real pain, as you will see.

Step 2: Test the blower motor as you don't want to install one only to find out it doesn't work either. I connected mine to 12V 2A and the motor started strong. (The replacement I got had a few broken fan blades so I tried to reuse the ones from my motor but they wouldn't come off. Oh well, no biggie.)



Step 3: Get your AC system discharged as it contains R-134a which is corrosive to the ozone layer and hence a controlled substance (here in Canada). I went to Canadian Tire which does this for 80\$ (includes discharge & recharge but not extra refrigerant cost). The manual says the refrigerant capacity for this model is 750g +/- 50g (26.5 Oz +/- 1.8) (Manual pages 22-71, 28-82)

Step 4: Begin surgery. "Remove the dashboard lower cover, the knee bolster and the glove box":



4-1 Dashboard lower cover: two screws at the bottom, one on each side of the steering column plus 3 clips: 2 on the left, 1 on the right.  
 4-2Knee Bolster: 2 hex nuts on left, 1 on right, 10mm I believe. Remove wire clips at the bottom of the bolster.



4-3 Glove box: Unclip the damper connector and close the glove box. Remove the two screws holding the hinges under the glove box, one on each side. Stick your head upside-down and you'll see them. Then open the glove box (while supporting the bottom) to remove.

Now you need to remove pretty much everything you see behind the glove box in order to get at and remove the evaporator which is behind the center console. I wish the engineers had designed the lower bracket of the glove box to be removable, but alas it's fixed and so (unnecessarily) makes everything so much harder. I think this was a poor design oversight.

Manual says at this point:

Remove the ECM (see section 11).

Remove the ABS control unit and the radiator fan control module together with the bracket, then remove the TCM (see section 14). Remove the security control unit.

Step 5: It's not easy to identify all the different control modules so to make it simple, there are essentially two brackets on which control modules are attached. LEAVE the control modules on the brackets, just remove the brackets themselves with the modules attached. So disconnect the connectors going into the modules (take photos before if you are not sure - this helped me to put them back when I was unsure).

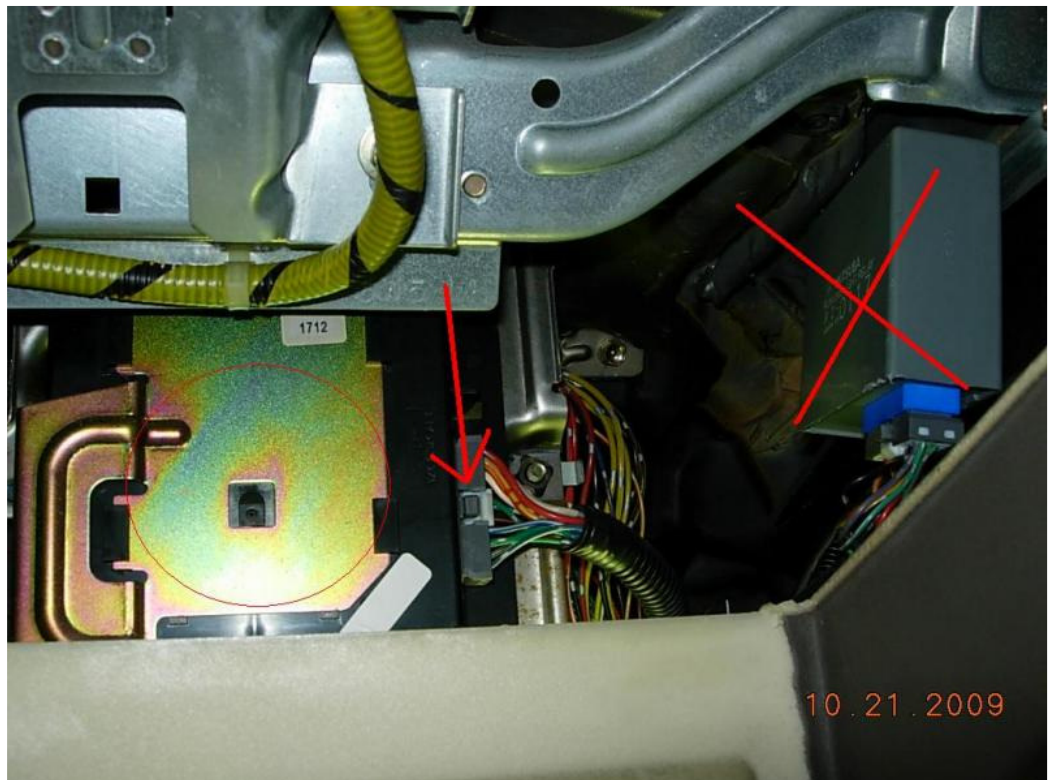
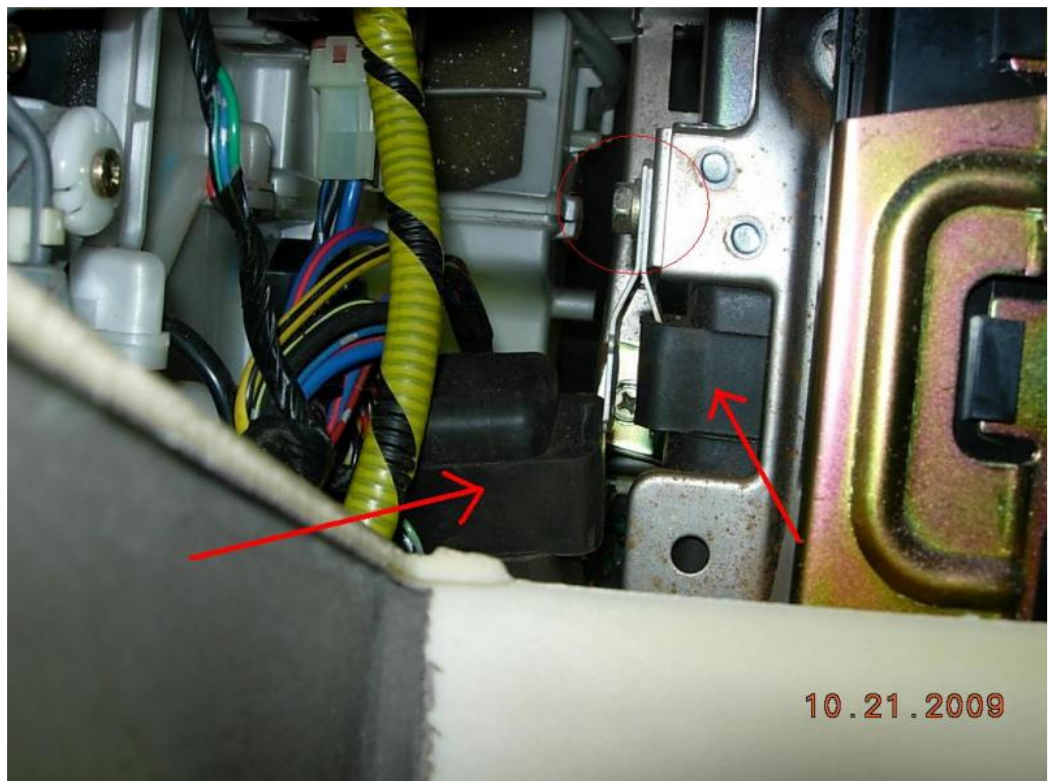


Photo of the first bracket, right side. Arrow shows connectors to be disconnected. Leave the module on the right wall. No need to touch it.



Left side of the same bracket. As you can see in the photo, there are two small square modules attached to clips which are held by a bolt on the main bracket. You can wiggle the individual modules off the clips, or unscrew the bolt.

The main bracket has three bolts: 2 in the car body (at the top) and one against the glove box bracket which you only have to loosen, not completely remove. 10mm bolts.



Photo of wires to be disconnected off of module on first bracket that has been unbolted.

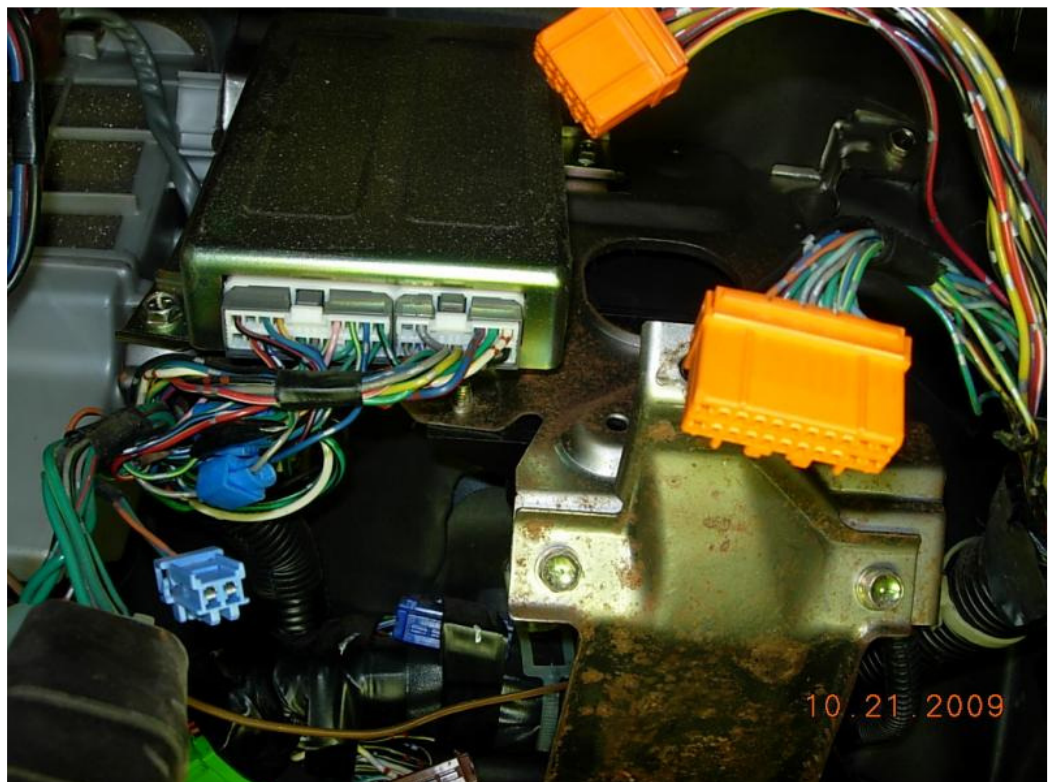


Photo of second bracket, from the bottom looking up.

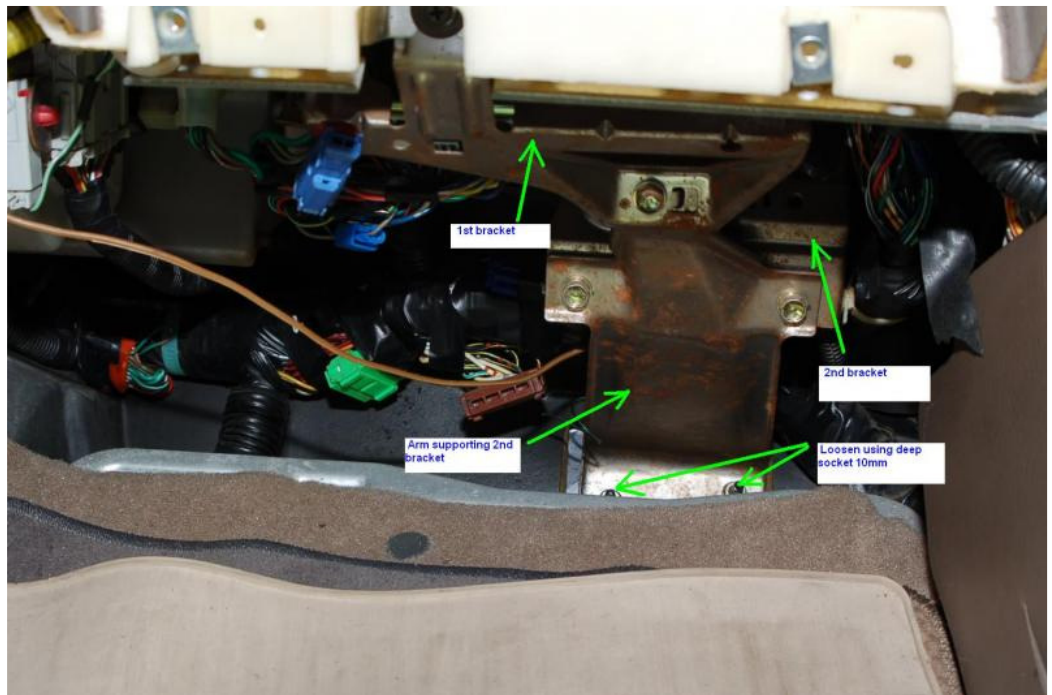
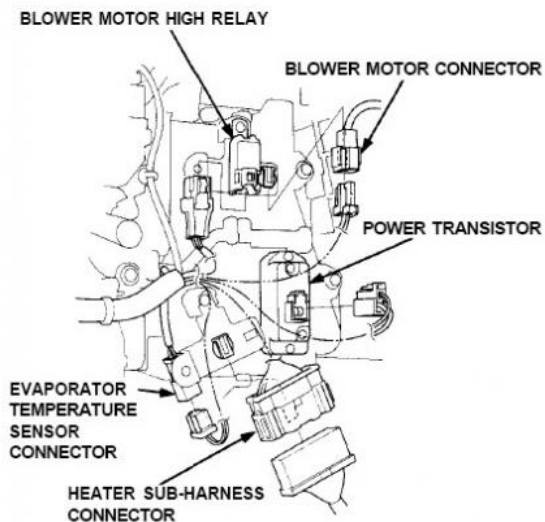


Photo of both brackets in place, looking at the bottom.

The second bracket has control modules in front and on the back. Disconnect wires where possible. (Ones in the back may be easier to remove once the bracket is removed). This bracket has 2 bolts at the top and 2 at the bottom. The bottom ones attach to an arm which is held in place by 2 hex bolts which require a deep socket. You only need to loosen these to remove arm. All are 10mm bolts.

Step 6: Now begins the tough part. Removing the evaporator.

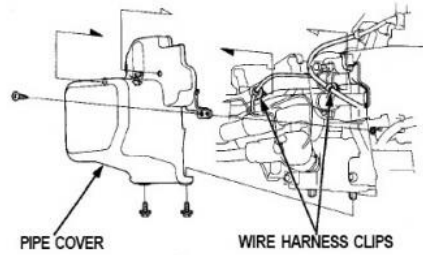
5. Disconnect the connectors from the power transistor, blower motor high relay, evaporator temperature sensor, blower motor and the heater sub-harness, then remove the blower motor and heater sub-harness connectors from the brackets. Disconnect the passenger's airbag harness clip.



6-1 On the passenger's side: begin by disconnecting the 5 connectors going into the evaporator.

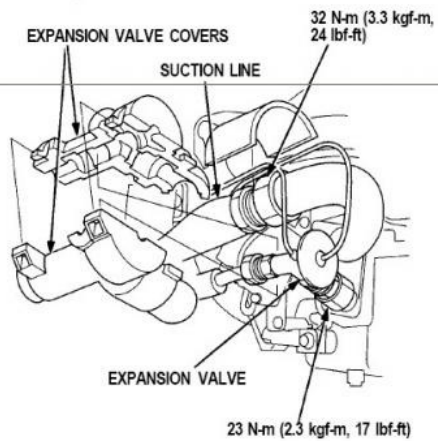


6. Remove the wire harness clips, the three self-tapping screws and the pipe cover.



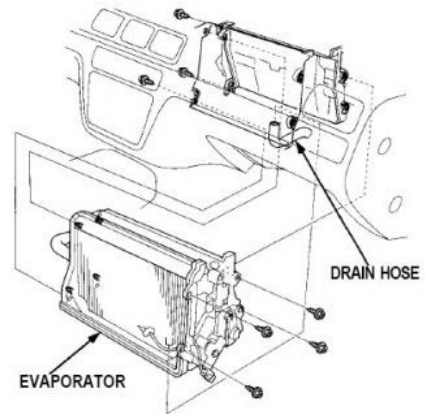
7. Remove the expansion valve covers, then disconnect the suction line and unbolt the expansion valve from the evaporator.

NOTE: Plug or cap the lines immediately after disconnecting them to avoid moisture and dust contamination.



8. Disconnect the drain hose, and remove the seven self-tapping screws. Then pull the evaporator out of the front passengers side to remove it.

NOTE: Be careful not to damage the evaporator fins when removing the evaporator.



9. Install in the reverse order of removal. Make note of the following items.

- If you're installing a new evaporator, add refrigerant oil (ND-OIL 8) (see page 22-66).
- Replace the O-rings with new ones at each fitting, and apply a thin coat of refrigerant oil (ND-OIL 8) before installing them.

NOTE: Be sure to use the right O-rings for HFC-134a (R-134a) to avoid leakage.

- Be careful not to damage the evaporator fins when installing the evaporator.
- Install the expansion valve capillary tube with the capillary tube in contact with the suction line directly, and wrap it with tape.

NOTE: Make sure there is no foreign matter stuck between the capillary tube and the suction line.

- Make sure that there is no air leakage.
- Charge the system (see page 22-82), and test its performance (see page 22-68).

6-2 On the driver's side: remove the beige pipe cover. There are two hex bolts at the bottom (8mm I believe) that need to be loosened (if you have enough room to completely unscrew them now, go ahead, if not you'll have to do it later). There is also a screw near the middle toward the back of the car. There is a cable clip at the top, towards the front of the car that must be removed (otherwise the cover cannot be removed). It's barely visible (use a mirror or snake your way to put your head near the brake pedal looking up). Use the solution I mentioned at the top of this DIY under Major Tip to remove this wire clip. (If you can cut the clip, go ahead, but I couldn't use my cutter up there safely - BE CAREFUL NOT TO CUT ANY WIRES - TRY AT YOUR OWN RISK. )

The manual mentions two clips, but I only had that one difficult one to remove.

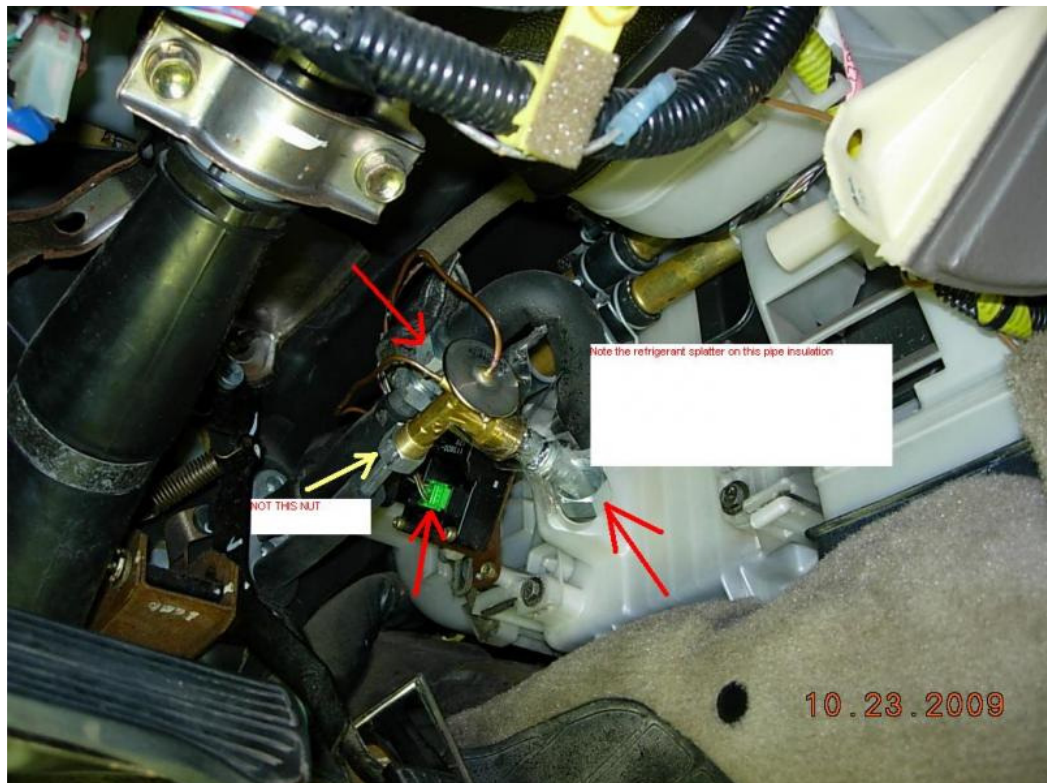


Photo showing the 2 nuts and 1 wire to be disconnected (red arrows)

6-3 Remove the expansion valve covers – held in place by two zip ties (and some glue?) and unscrew the expansion valve – the nut that is near the beige evaporator, NOT the one connecting to the pipe coming from the engine bay. (Manual page 22-59 shows arrow saying 23 N-m). You may wish to use a marker to outline the current position of the nut to show how tight it originally was. (I didn't think of this before and wish I did. Manual gives a torque spec but how do you use a torque wrench here? Can't fit a socket. No room anyway.)

6-4 Remove the suction line cover (glued-on foam paper – be careful not to completely destroy as you need to reinstall after) and unscrew the suction line nut, again near the evaporator.

Once these nuts are unscrewed, the pipes are still in their place and need to be pulled apart but...

WARNING: there may be remaining refrigerant that may blow out as the system may still be under pressure. I suggest you cover the pipe with paper towel and hold your breath when pulling the pipes apart and ventilate area thoroughly before continuing. Manual warns that refrigerant can irritate eyes, nose and throat.

6-5 Still on driver's side, unscrew the three (black) hex screws (10mm I believe) holding the evaporator in place. One near the top and two near the bottom.

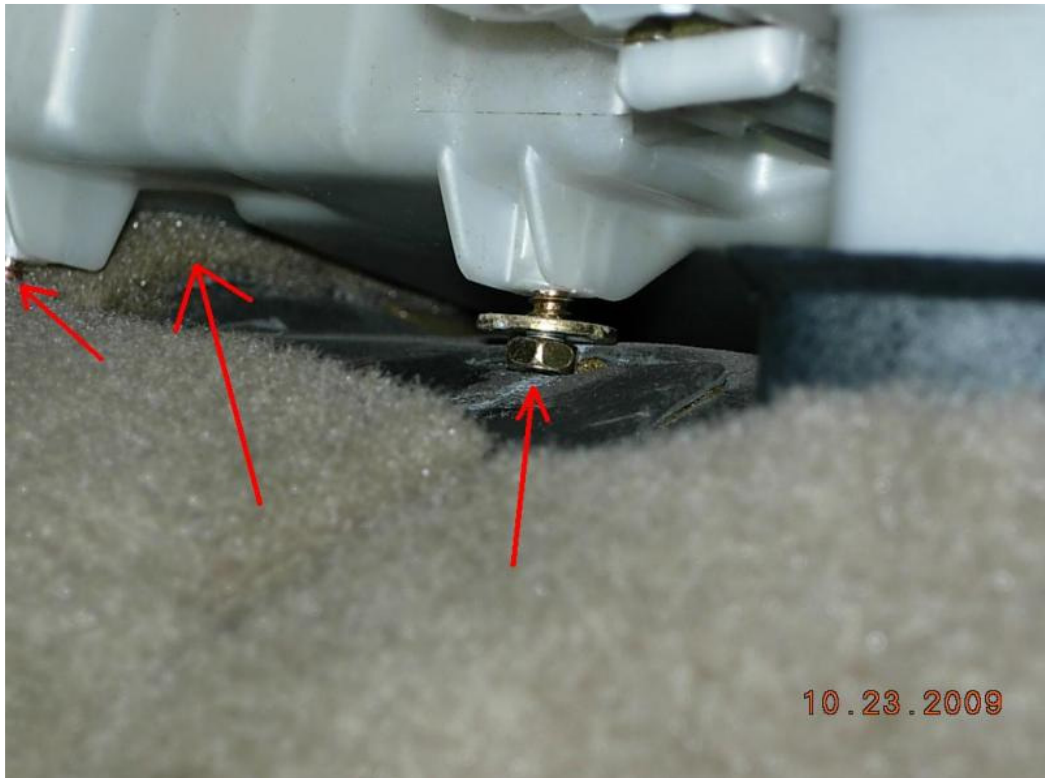


Photo showing the two bolts that held the pipe cover in place (in small arrows). The big arrow shows the continuous strip of carpet that runs between the driver and passenger side.

There is a strip of carpet that runs under the evaporator connecting the driver and passenger sides. I cut this on the driver's side and pulled it out on the passenger's side. This allowed enough room for the hex bolts holding the bottom of the pipe cover to come out. I could not remove the evaporator without removing those bolts as they jut out and catch on the floor (see photo).

6-6 Now on passenger's side, remove the drain hose at the bottom of evaporator (pull on the carpet to expose the black rubber hose connected. Just wiggle it downwards to remove.

6-7 Remove the four black hex screws holding the evaporator in place (on its right side).

6-8 Now push/pull the evaporator towards the passenger side to remove. (Obviously easier if you had two persons, one on each side for this, making sure nothing is catching.) Try to do this slowly and figure out what is catching. Make sure the two pipes on the driver's side are disconnected and free.

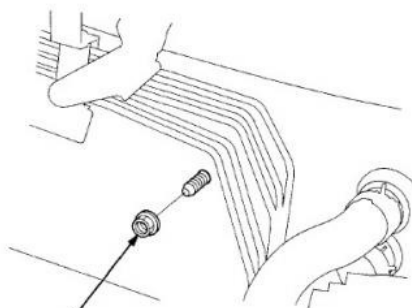
**WARNING:** Avoid damaging the evaporator fins as they are very sensitive.

Step 7: Removing the blower unit.

## Replacement

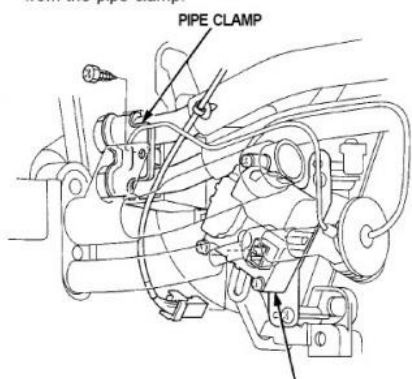
1. Remove the evaporator (see page 22-58).
2. Remove the mounting nut from the blower unit.

NOTE: When removing the mounting nut, take care not to damage or bend the fuel pipes, brake pipes, etc.



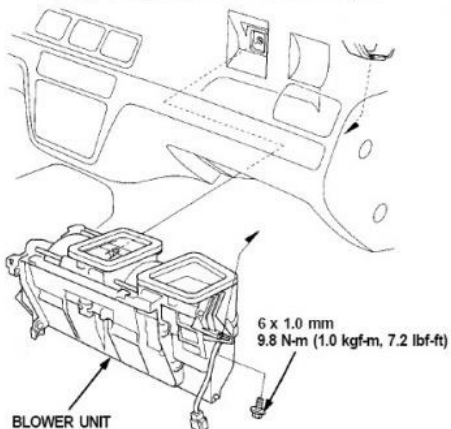
8 x 1.25 mm  
12 N-m (1.2 kgf-m, 8.7 lbf-ft)

3. Disconnect the connector from the recirculation control motor, and remove the self-tapping screw from the pipe clamp.

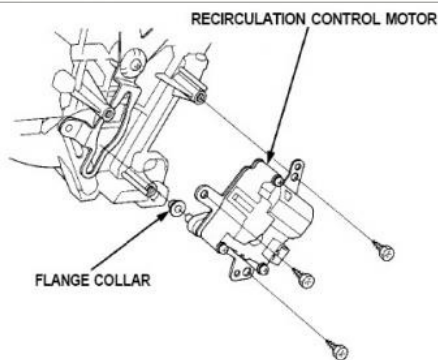


RECIRCULATION CONTROL MOTOR

4. Remove the mounting bolt, then remove the blower unit by moving it back and toward the right.



5. If necessary, remove the three self-tapping screws, the recirculation control motor and the flange collar.



6. Install in the reverse order of removal. Make note of the following items.

- Make sure that the recirculation control doors and linkage move smoothly without binding.
- After reinstalling the recirculation control motor, make sure the recirculation control motor runs smoothly (see page 22-52).
- Make sure that there is no air leakage.

7-1 begin by removing the mounting nut in the engine bay at the back wall. (12mm nut I believe)

7-2 Under the driver's dash, disconnect the recirculation control motor wires and remove the screw from the pipe clamp near the engine bay wall. Try to see the screw (with a mirror if necessary) as it's way up there.

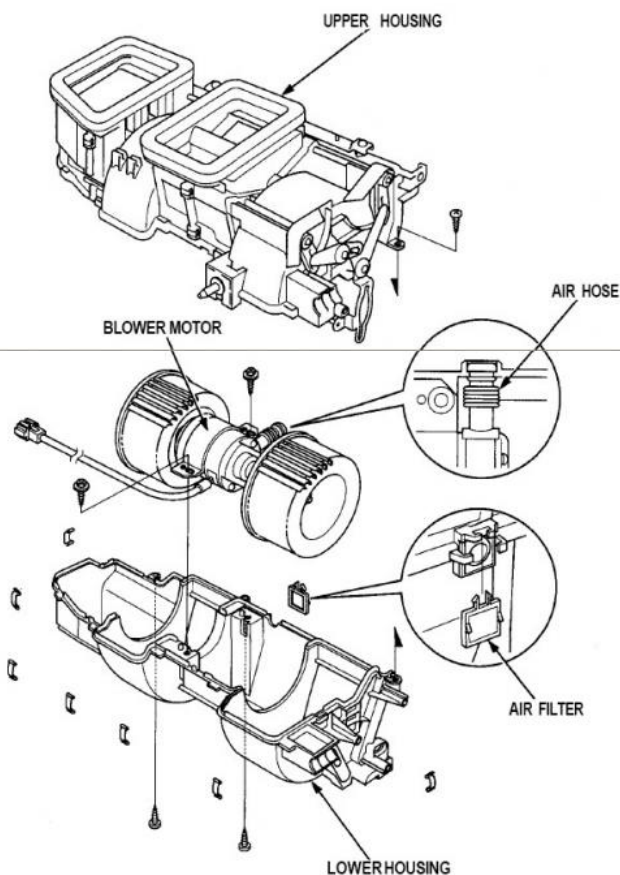
7-3 On the passenger side, remove the mounting nut.

7-4 Wiggle the blower unit straight towards the back to move the front mounting bolt clear of the engine bay wall. Then move it towards the passenger side to remove. Again, having two persons, one on each side would be helpful. Be careful not to damage the AC pipes on the driver side.

Step 8: Replacing the blower motor

## Overhaul

1. Remove the air filter.
2. Remove the three self-tapping screws and the seven clamps from the housings.
3. Carefully separate the housings.
4. Remove the two self-tapping screws and the blower motor.
5. Assemble in the reverse order of disassembly. Make note of following items.
  - Make sure that the recirculation control doors and linkage move smoothly without binding.
  - When assembling, be sure to install the air hose of the blower motor to the housings as shown.



Follow the manual instructions. Before you begin:

- note the power cord routing along the housing.
  - be careful when removing the air filter as it is fragile. Remember to clean it before re-assembly.
  - The recirculation motor is held in place by 3 screws/nuts. Note its mechanism and setup before disassembly. I only had to remove the top two and loosen the bottom one to clear the arms to open the upper housing off the lower housing.
- The lower housing will have crud and debris at the bottom. Clean it out before reassembly and I took the time to grease the recirculation rods so they were free to rotate.

### Step 9: Installation

Follow the instructions above in reverse order. Go nice and easy to avoid any damage that may occur when forcing things back in place. Take the time to clean out the evaporator of the crud at the bottom. I used a toothbrush to lightly sweep the fins of debris.

I haven't yet replaced the pipe cover and don't know if it's necessary. It was a pain to remove and am hoping it isn't necessary.

Finally, if all goes well, the AC system will be tight and can take the recharge of refrigerant (and hold it). I will be going back for the recharge shortly so here's hoping the AC will work. (Needed for the defrosting, not just for cold air in the summer). For the moment, I can turn on the heat and feel the blower turn and pump out warm air. Wow, what a great feeling.

*Last edited by M-TL; Today at 3:13 AM.*

quote

Today, 10:15 AM

#2

Mandy

98 3.2 Nighthawk Black



Trader Rating: (0)  
Join Date: Aug 2001  
Location: Marietta  
Posts: 1,073



Awesome write up! The best I have seen around...and I have been around! Great job!

98 3.2 89k miles...

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TexasHonda

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