

JEEP AIR

SPECIALIZING IN JEEP A/C COMPONENTS AND A/C KITS

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2002 Jeep Wrangler TJ 2.5 LITER

Installation instructions

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Important information about your system, and warranty

- **DO NOT ADD ANY OIL TO ANY PART OF THE SYSTEM.**
- **DO NOT OVERCHARGE THE SYSTEM**

This is a brand new a/c kit that is capable of a vent temperature of 39-47 degrees. The kit is not designed for sealer, dye, or Freon substitutes. If these substances are used we are not responsible for the performance of the a/c system.

This kit was created with the customer in mind. It is the simplest kit on the market to install, and it can be done without any special tools. The kit will fit into the Jeep just as the factory designed it too. Follow the directions and you will have cold air conditioning in less than a day. Before beginning the installation please read the directions provided, to get familiar with the kit and installation process. Upon arrival please go through the checklist on page 4. If any parts are not included contact us immediately. We are not responsible for any missing parts after 4 business days.

The Jeep Air team would like to thank you for your recent purchase of a complete a/c kit. There are a few steps that must be followed in order for your a/c system to operate properly.

- The **HIGH SIDE** gauge reading should not exceed 250 PSI. We **MUST** have the **HIGH SIDE** gauge reading if you need any assistance in correcting a potential problem.
- If you purchased the a/c compressor from **Jeep Air**, **DO NOT ADD ANY OIL, DYE, LEAK SEALANTS, OR OTHER ADDITIVES TO ANY PART OF THE SYSTEM.** If oil is required, Jeep Air will provide an additional sheet with **directions on filling the system with oil.**
- There should be adequate airflow from the radiator fan, and a sufficient amount of room between the condenser and radiator. Make sure the **CONDENSER HAS A TUNNEL EFFECT OF AIRFLOW THAT FLOWS THROUGH THE CONDENSER AND RADIATOR.** Foam can be put in between condenser and the radiator edges to achieve a proper airflow effect. There should be ¼” to 1” gap in between the radiator and condenser. **EFFECTS OF INADEQUATE AIRFLOW:** the compressor may act like it is “locking up”; warm air only from the vents, overheating of the engine, high head pressure, air blows cold at idle and blows warm while driving, and more.

→ **If a problem exists after checking all these conditions you may call or email for technical assistance. IF YOU DO NOT HAVE THE HIGH SIDE GAUGE READING WE WILL NOT BE ABLE TO ASSIST YOU IN FIXING THE PROBLEM.**

Jeep Air highly recommends the system be evacuated and charged by a professional A/C shop in your local area if you've never done this type of work before. Though evacuating and charging is not difficult, specialty tools are required to perform the job. For the person with do-it-yourself capabilities, we've provided supplemental instructions so you can charge the system yourself with access to the right tools.

If you have a problem with the system we ask you to call before diagnosing or changing any parts. We can fix problems easier if the system is not tampered with. If you have a warranty claim you need to call or email prior to shipping any parts back. **OUR POLICY IS TO GET THE OLD PART BACK PRIOR TO SHIPPING ANY NEW PARTS OUT UNLESS A REPLACEMENT IS PURCHASED FROM US.**

Warranty Returns can be handled in two ways:

1. Ship the warrantied part back to us for inspection. Once the part is approved for warranty you will be shipped a replacement part. (For further clarification on why a part would not be approved for warranty please see below)
2. If you need a replacement part immediately, you can provide us with a credit card and you will be charged for a replacement part and one will be shipped out. Once the warrantied part is shipped back to us, inspected and approved for warranty you will be issued a refund on your credit card.

Reasons why a part would not be approved for a warranty claim:

- Cracked compressors from improper installation
- Compressor with broken valves from overcharging of oil or refrigerant
- Burned up clutches from too high of head pressure

If the technical department is unable to determine any defect with the part. If no defect is found, the part will be returned to the customer and a proper diagnosis will need to be done to find the real issue. If a part is not approved for a warranty claim we will do our best to offer you a replacement product at a fair discounted price.

Jeep Air will not refund your account if you purchase another part in replacement of the defective part.

We are available for support Monday through Friday. Please note when planning the installation we do observe all major holidays and are closed the last two weeks of December.

1-800-223-7167

sales@jeepair.com

Parts Checklist

2002 Wrangler 2.5 Liter

<input type="checkbox"/> COMPRESSOR	PN: 15-5022
<input type="checkbox"/> EVAPORATOR	PN: 96-7349F
<input type="checkbox"/> CONDENSER	PN: 93-7878
<input type="checkbox"/> ACCUMULATOR DRIER	PN: 92-6904
<input type="checkbox"/> LIQUID LINE	PN: 79-5530
<input type="checkbox"/> SUCTION /DISCHARGE MANIFOLD	PN: 79-5534
<input type="checkbox"/> HIGH LOW PRESSURE SWITCH (attached to 79-5534)	PN: 915-2292
<input type="checkbox"/> CYCLING SWITCH (attached to 92-6904)	PN: 915-2293
<input type="checkbox"/> A/C CONTROL HEAD	PN: 915-2281
<input type="checkbox"/> ACCUMULATOR STRAP	PN: 915-2302
<input type="checkbox"/> ACCUMULATOR SUPPORT BRACKET	PN: 915-2303
<input type="checkbox"/> MOUNT KIT WITH BELT	PN: 8025
<input type="checkbox"/> HARDWARE BAG KIT	PN: 920-1003
<input type="checkbox"/> *EXTRA SPRING AND ORING KIT*	PN: 920-1018

920-1003 Kit includes:

915-2313 oil tube

915-2299 relay

915-2312 vacuum tube

10 amp fuse

4 X 1/4" x 1" bolts with washers flat and lock

2 X 1/4" speed nuts and 2 X 1/4" nuts

2 X M8 Condenser bolts with washers

Checked by _____

*This checklist serves as a reference of all the parts included with this kit.

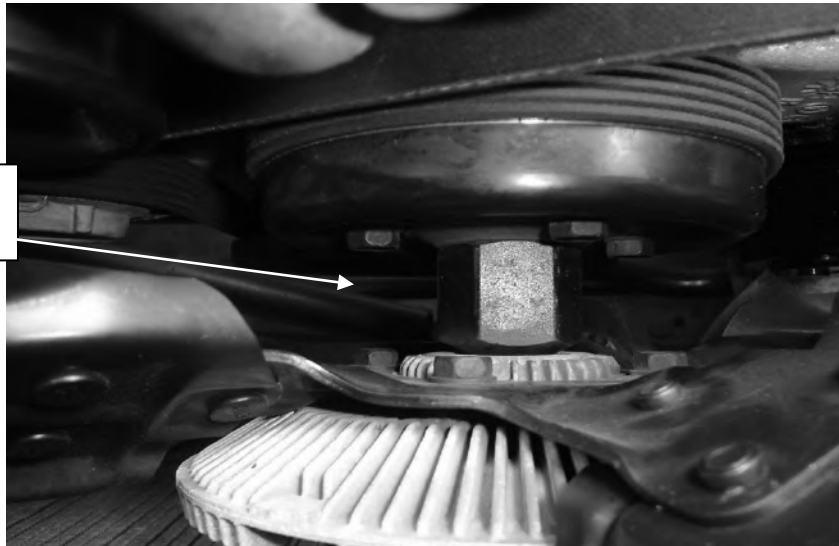
The 920-1018 includes extra springs and orings if you lose any from the springlock fittings

STEP ONE

Removing the Radiator

1. REMOVE THE POSITIVE AND NEGATIVE BATTERY CABLES and REMOVE THE BATTERY FROM THE VEHICLE
2. Drain the radiator
3. Remove the upper and lower radiator hose
4. Remove the overflow tank and power steering reservoir, located on the fan shroud
5. Remove the fan, one large nut see fig. 1.1
6. Remove the four bolts that mount the shroud to the radiator, slide the shroud back to the motor, REMEMBER TO SLIDE THE SHROUD BACK OVER THE FAN PRIOR TO INSTALLING THE RADIATOR
7. Remove the four upper bolts from the radiator core support, loosen the lower two bolts
8. Slide the radiator up and out

Remove
the fan nut



STEP TWO

Install the Compressor

1. Move all the wires off of the factory mounting bracket located on the passenger side of the engine
2. Remove the air cleaner tube
3. Make sure the four bolt holes are not dirty or corroded. You may need to tap the four holes with an M-8 1.25 Tap prior to mounting the compressor
4. Place the compressor on the mount plate, the fittings point up.
5. Attach the compressor with the included bolts, washers, and nuts.
6. **DO NOT PLUG IN THE COMPRESSOR, WAIT UNTIL THE LAST STEP**

The wire on the compressor will not match the wire on the harness. The harness wire plug will have two wires, the compressor has one. The plug on the harness must be cut off, and connected with universal connectors. The wire that is solid black is to be grounded to the Phillips screw on the compressor behind the clutch, the compressor wire and other harness wire are to be connected together. See 15.1 for photos

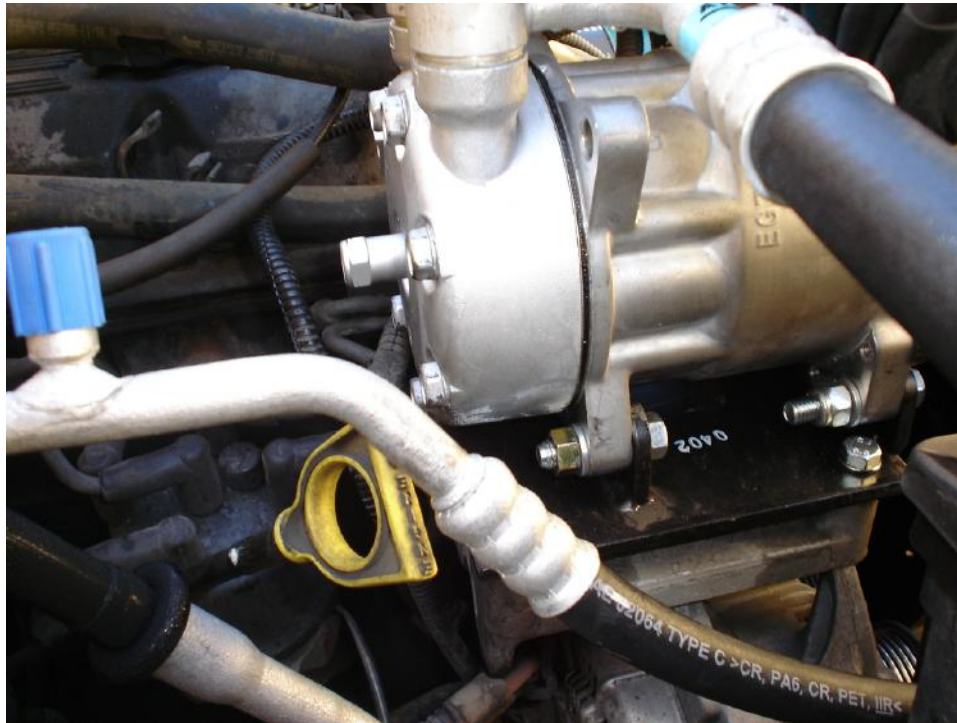


Figure 2.1

STEP THREE

Condenser Installation

1. Install J-nuts into lower core support
2. Set the condenser on the core support, hang it to the top by the tabs
3. Install the top two bolts, be sure to put washers on the bolts and lock washers on the bottom **DON'T TIGHTEN THE BOLTS**
4. Install the bottom two bolts and washers **Tighten lower bolts**
5. **Tighten Top Two bolts**
6. There are more images at the link above

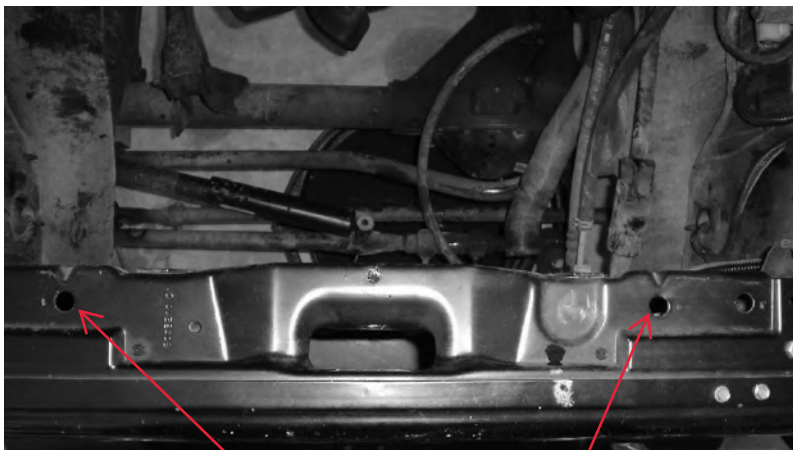


Figure 3.1

Holes for mounting
Condenser



Figure 3.3

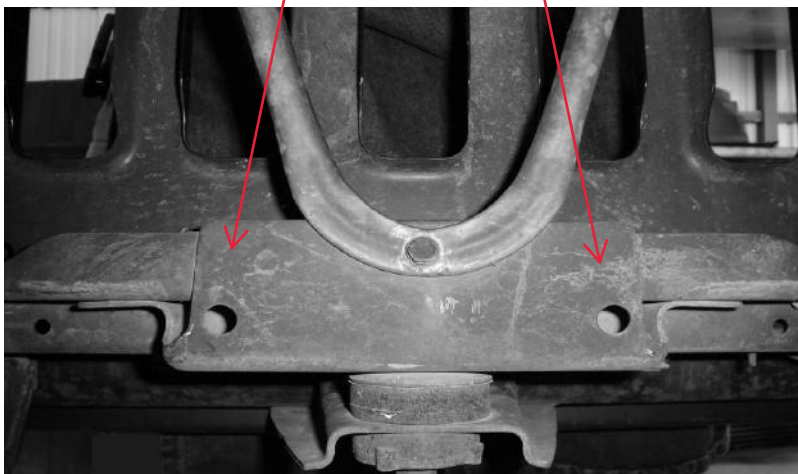


Figure 3.2



Figure 3.4

STEP FOUR

Belt Installation

1. Loosen idler pulley located under the power steering pump (loosen center pulley bolt, then loosen bolt located on top of idler pulley bracket)
2. Remove the old belt and install the new belt
3. Tighten Idler pulley bolts, top first then center pulley bolt

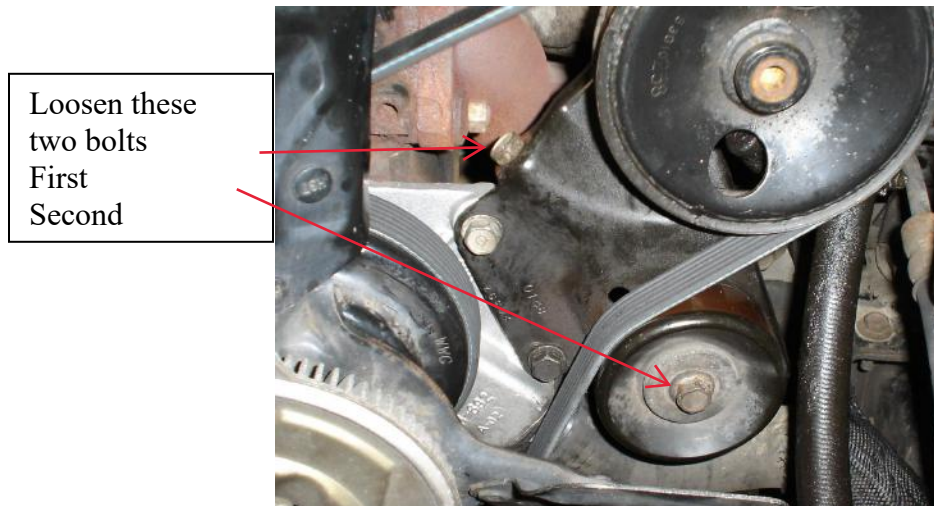


Figure 4.1



Figure 4.2

Stock Photo-Please note that the compressor mounting style is not the same as the one provided

STEP FIVE

Radiator Installation

- 1) Slide the shroud over the engine fan
- 2) Install the radiator, rest the lower brackets on the lower two bolts (loose in the core support)
- 3) Install all radiator bolts, don't tighten until all bolts are started
- 4) Place shroud up to radiator, insert the bolts, tighten all bolts after they are started
- 5) Install upper and lower radiator hoses
- 6) Install the power steering reservoir and the radiator overflow tank
- 7) Again make sure the drain, located on the bottom of the radiator, is tight
- 8) The radiator can be filled now, or you can wait until the installation is finished.

STEP SIX

REMOVING CONTROL HEAD

1. Remove the ashtray, and the Philips head screws located behind the opening
2. Remove the defrost grill (no screws) pull straight up
3. Remove the two Philips head screws holding the top center vent panel
4. Remove the center vent panel
5. Remove the four screws holding the control head
6. Remove the electrical plugs and the cable; unplug the vacuum lines at the connection located behind the dash. See fig. 6-2



Remove panel / pull up

Figure 6.1



Figure 6.2

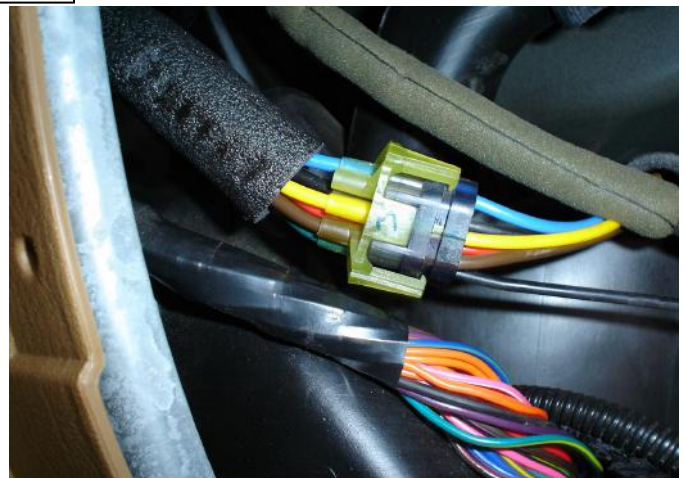


Figure 6.3

STEP SEVEN

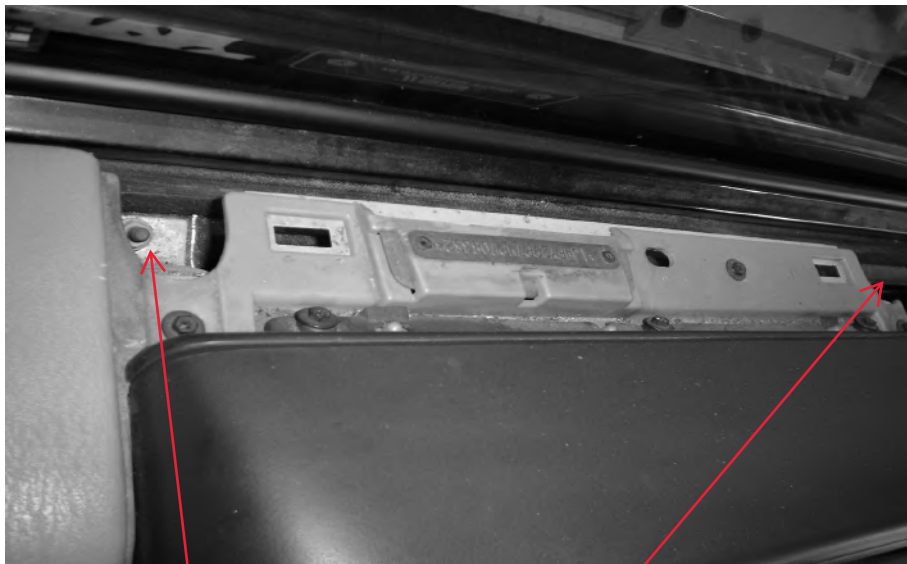
Dashboard removal

1. Remove three torx bits from each side of the dash, six total (T-30) Fig. 7-1
2. Remove four 6mm nuts from top of dash Fig.7-2
3. Remove the cover on the bottom of the plenum (over transmission tunnel, in front of console) Fig.7-3



Figure 7.1

Remove Six torx bolts



Remove all four 6mm nuts (Only one pictured) Figure 7.2



Cover on bottom
of plenum, two
screws to remove
Console

Cover
location

4. Remove the glove box by pulling the tab on passenger side of glove box toward center of vehicle. Let glove box drop, and lift off hinges.
5. Remove two nuts through glove box opening
6. Remove lower panel under steering column by removing two screws and pulling back on top of panel. Lift off hinges Fig. 7.4
7. Remove reinforcement plate behind lower panel by removing four screws Fig. 7.5

8. Remove two nuts securing steering column. Let steering column hang loose.

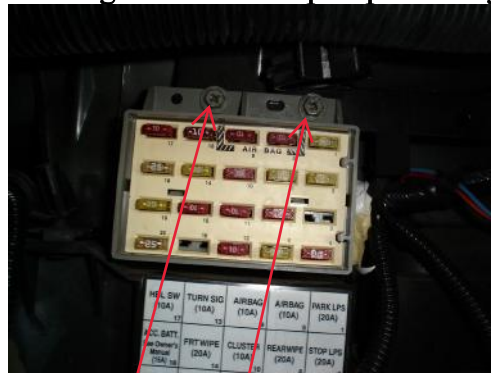


Figure 7.4



Figure 7.5

9. Disconnect blend door cable from blend door crank by removing push nut. Disconnect cable housing by pressing tabs on both sides of cable retainer lock. (May not be on all 98 and newer wranglers)
10. Disconnect wire harness from dash to heater
11. Remove fuse panel by removing to screws at top of panel. Fig. 7.6



Remove

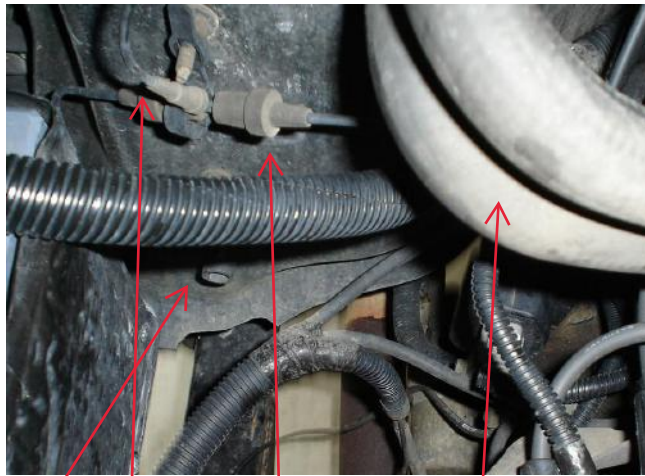
Figure 7.6

12. Remove bolt securing heater case to fuse panel bracket
13. Remove heater floor dump by removing two screws from front of dump door pulling out on the floor dump.

STEP EIGHT

Dashboard Removal Under Hood

1. Disconnect Heater hose and vacuum line
2. Remove five nuts from heater case mounting studs on firewall. One is located under the blower motor. There are two nuts on one stud above the drain.
3. On the inside of vehicle, lift up the dash to clear the studs across the top of the dash. Pull back on passenger side of dash and let it rest on the front seat.
4. Remove heater case from vehicle through passenger door.



Drain Studs Vacuum line Heater hoses

Figure 8.1



Figure 8.2

STEP NINE

Separating the Evaporator case

1. Put the case on a table or bench for easier working conditions. Remove the 20 screws holding the case halves together; remove the two clips holding the case together, and the three screws securing blower motor to the case.
2. Top right side of the box is a duct housing (opposite side of blower motor), remove duct-housing Fig. 9.1
3. Remove the two screws under the duct-housing and two beside it.
4. Remove the screw on the bottom of the case behind the vacuum actuator. Fig. 9.2



Figure 9.1

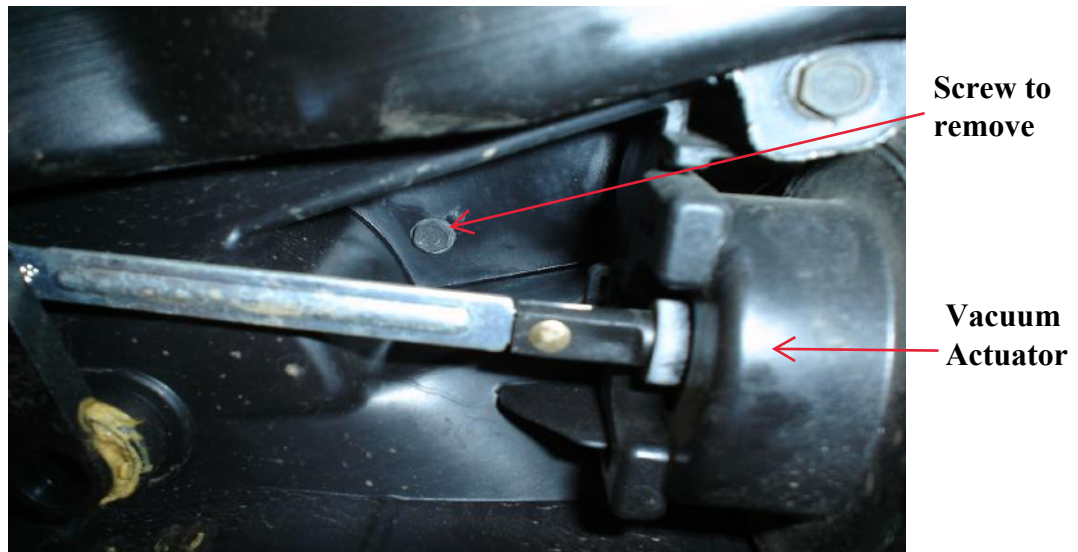


Figure 9.2

5. Remove screw holding vacuum line cluster. Fig. 9.3
6. Remove blend door dowel Fig. 9.4

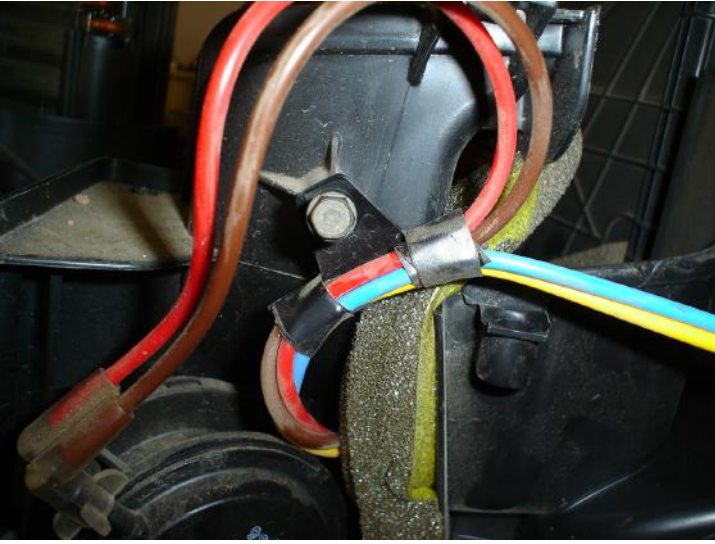


Figure 9.3



Figure 9.4



Figure 9.5

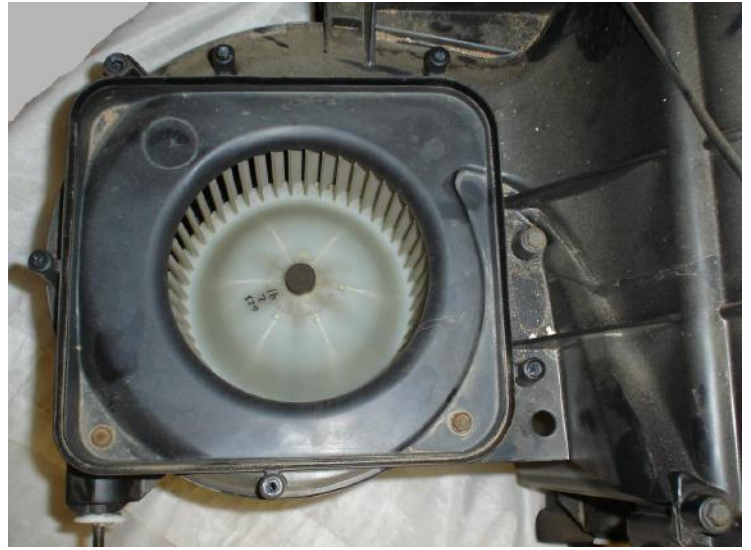


Figure 9.6



Figure 9.7

STEP TEN

1. **Place the evaporator into the case. Make sure the foam is attached.**
2. **Set the top half of the plenum back on**
3. **Insert and tighten the 20 screws, and two clips**
4. **Be sure the doors are back on, and the dowel is in place. If it is not lined up the system will not work properly.**
5. **Reattach the Vacuum actuator on bottom of case. It will come off when the case is separated.**
6. **Install the duct housing cover**
7. **MAKE SURE THE HEATER DOOR AND BLEND DOOR MOVE FREELY.**

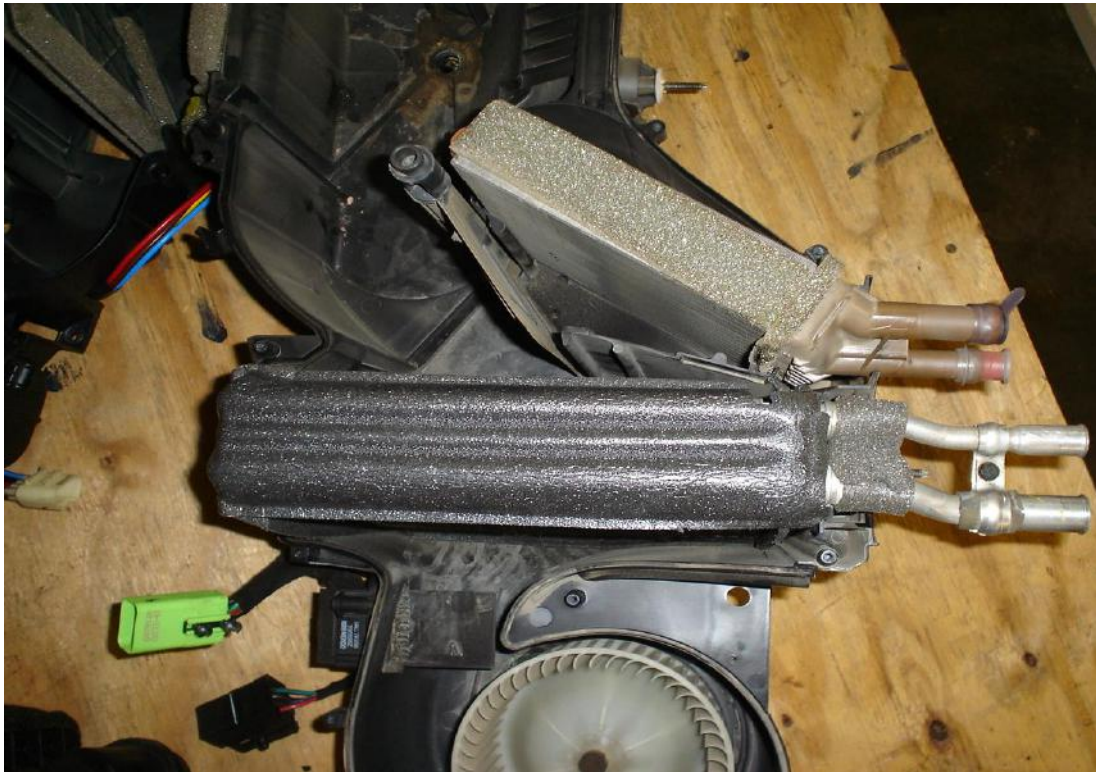


Figure 10.1

STEP ELEVEN

Attaching Rubber Grommet

1. **There is a rubber grommet that sits on the evaporator and heater hose lines. You will need to cut two holes in the grommet and place over the lines.**
2. **Remove caps over evaporator outlets**
3. **Push the rubber up against the evaporator tubes, remove and mark with a pen or marker where the lines sit.**
4. **Take a razor or a round pipe and cut out the two holes. If you use a pipe, place the grommet over a piece of wood and hit the pipe with a hammer. The holes do not need to be larger than 1/4".**
5. **Remove the support brace over the evaporator tubes, with the brace removed you can slide the grommet over the four tubes, place the caps back on the evaporator**
6. **Pull the vacuum tube through the grommet**
7. **Now you can reinstall the evaporator case into the vehicle. Follow the directions if**

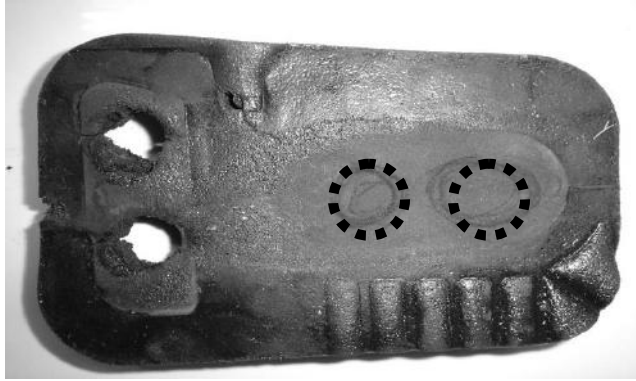


Figure 11.1



Figure 11.2



Figure 11.3

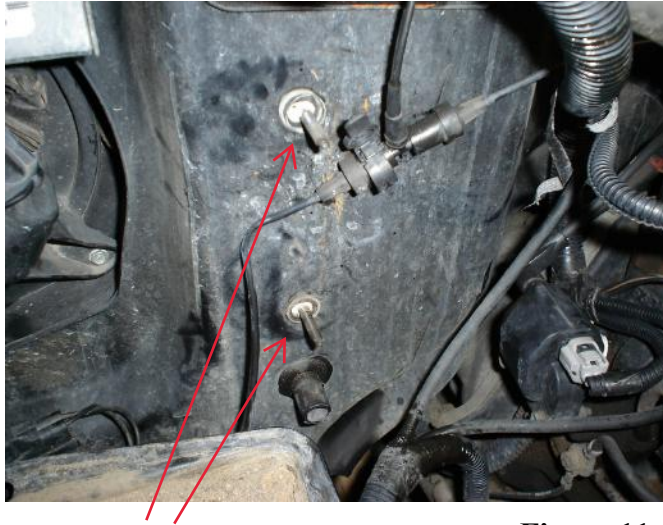


Figure 11.4

8. When reattaching the outside nuts to the studs leave two off, the two above the drain line.

STEP TWELVE

Under Hood Hook up

1. Now that the Inside is back together we can hook up the rest of the parts under the hood. Starts by making sure all the nuts are attached on the outside of the firewall, except for the two above the drain
2. Hook up the Vacuum line, and heater hoses
3. Attach the flat bracket to the two studs that do not have the nuts on them. Be sure the vacuum line does not get stuck between the bracket and firewall
4. Install the round strap for the accumulator drier. Do not tighten
5. Install the accumulator to the strap, and push the fittings from the accumulator to the fitting on the evaporator (large to large fitting) Be sure to put some oil on the fittings and to PUSH with equal pressure between the evaporator and the line to not put too much force on the evaporator. Push until you hear the fittings click. Once they are installed you will not be able to take them apart without a removal tool.
****Tech Tip: If you have difficulty with getting the fittings to lock together. Remove the oring closest to the base of the male springlock and push the fittings together with just two orings installed. You will not having any problems with leaks****
6. Tighten the screw on the strap of accumulator to secure it
7. Plug the accumulator switch to the switch located on the firewall wiring harness
**** All TJs were prewired for air conditioning from the factory. If you don't see the switch pigtailed check along the firewall; sometimes the pigtailed are tucked up****



Figure 12.1



Figure 12.2



Figure 12.3



Figure 12.4

STEP THIRTEEN

Attaching the Hoses

1. **Place the two flat gasket washers on the hose manifold that connects to the compressor (They should already be installed, metal on the outside with rubber center.**
2. **Place the hose manifold on the compressor and tighten**
3. **Make sure O-rings are put on all fittings connections, if the fittings are hard to push on , dab a little pag oil on the o-rings.**
4. **Attach smaller line from the compressor to the condenser, PUSH HARD, but be sure to support the condenser tube, DON'T BEND IT. The larger line goes to the accumulator drier.**
5. **Connect the plug to the switch located on the Manifold. The plug should be close to the compressor plug near the intake /exhaust manifolds**
6. **Connect the Liquid line to the evaporator and Condenser. BE SURE THEY CLICK, BE SURE NOT TO BEND THE TUBE ON THE CONDENSER**
7. **Tie strap the liquid line to the inner fender well, not tight just to keep it from vibrating or rubbing**
8. **Be sure the Accumulator tube is not hitting the hose manifold tube**
9. **Reinstall the Air Cleaner Tube**



Figure 13.1



Figure 13.2



Figure 13.3



Figure 13.4

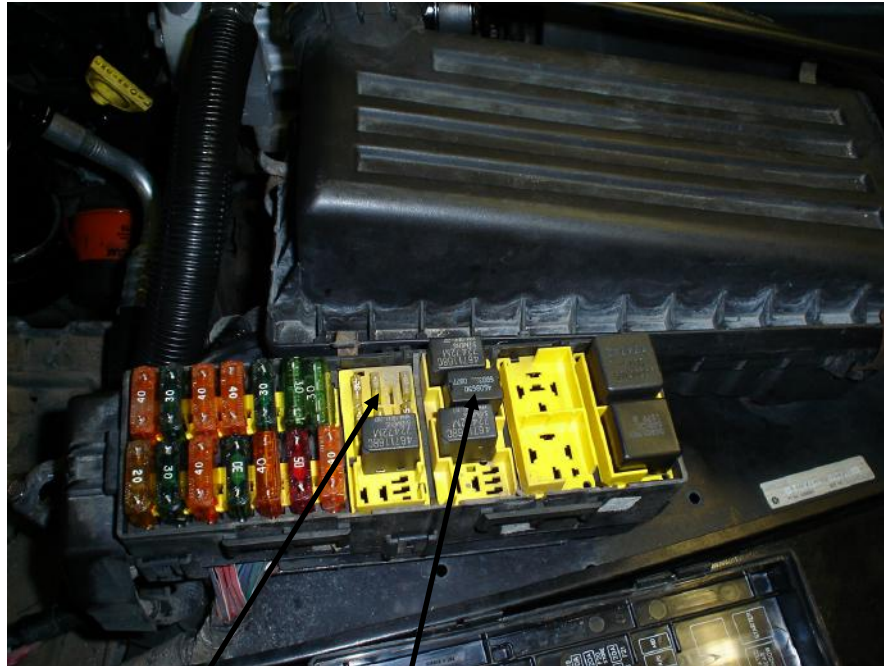


Figure 13.5

STEP FOURTEEN

Finishing Up

1. Put antifreeze back into the radiator. You may have to start the vehicle to get all the fluid back into the system.
2. Install the a/c relay into the fuse box, located under the hood on passenger side) Figure 14.1
3. Insert an ATM MINI 10 amp fuse into panel. If it is already in its place disregard, the fuse location is F-19.
4. Install the battery and hook up the cables
5. Evacuate the a/c system for at least 45 minutes
6. Hook up the Compressor plug.
7. Charge the system with 1.50 lbs of R134a Refrigerant. **DO NOT ADD OIL, DYE, SEALERS, OR ANY ALTERNATIVE REFRIGERANTS.**
8. Apply the sticker under the hood, and then write in the exact amount of freon used. The system is designed for R134a; you will get the best performance by using it.



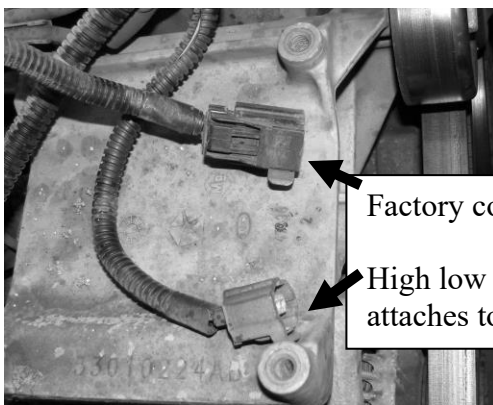
Insert Fuse Insert relay

Figure 14.1

15.1 Compressor plug wiring

The compressor that is included with our kit uses a clutch coil that is grounded through the compressor. The factory Jeep harness uses a ground in the wiring system. The compressor has a single wire (red or black) and the Jeep plug has two wires (blue or green and black).

The plug on the factory harness has to be removed and rewired to fit the compressor with the a/c kit. The blue or green wire plugs into the wire on the compressor, a new connector will need to be used. The black wire is to be grounded. There is a small phillips head screw on the compressor, the screw is holding down the wire from the coil. Use the screw and hold down to ground the black wire. Attach a round loop connector to the wire and place the wire under the phillips head screw. Reattach the screw to the compressor, be sure the wire is held down with the hold down.



Factory compressor wire plug

High low pressure switch plug, attaches to hose manifold.



BLUE WIRE BLACK WIRE