

# JEEP AIR

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

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2002-2004 Jeep Wrangler TJ 4.0 LITER

Installation instructions

# Important information about your system, and warranty

- ➔ **DO NOT ADD ANY OIL TO ANY PART OF THE SYSTEM.**
- ➔ **DO NOT USE THE SIGHT GLASS TO CHARGE THE SYSTEM.**
- ➔ **DO NOT OVERCHARGE THE SYSTEM**

After 1994 every vehicle was designed for R134a refrigerant. The Jeep kit you are about to install is not any different. 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, and view the enclosed CD to get familiar with the kit and installation process. Before beginning the installation go through the checklist on page 4. If any parts are not included contact us immediately.

The Jeep Air team would like to thank you for your recent purchase of a complete a/c kit for your car or truck. 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 220 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.
- ➔ Be sure you have the correct pulleys for the engine prior to installing the kit. Pulleys are not included unless specified when the kit is ordered.
- ➔ Insulation is very important. Be sure to insulate the firewall and floorboard prior to installing the evaporator unit. It is very important to insulate the floor and firewall behind the evaporator unit.

- 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.
- **DO NOT USE THE SIGHT GLASS!** The system should be charged with R-134a ONLY. If you do not follow this instruction your warranty may be void and you may not be eligible for technical assistance. **EFFECTS OF OVERCHARGING:** Compressor is “noisy”, engine overheating, warm air only from the vents, 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.**

**If you have a problem with the system we ask 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 prior to shipping any parts back. OUR POLICY IS TO GET THE OLD PART BACK PRIOR TO SHIPPING ANY NEW PARTS OUT.**

**We are not responsible for the following:**

**Clogged expansion valve from too much oil, or dye**

**Cracked compressors from improper installation**

**Compressor with broken valves from overcharging of oil or refrigerant**

**Burned up clutches from too high of head pressure**

**We will be here to serve you five days a week by phone and / or email**

**Please contact us if you need assistance.**

**800-223-7167**

**sales@jeepair.com**

# Checklist

2002-2004 Wrangler 4.0 liter

- |   |              |
|---|--------------|
| <input type="checkbox"/> COMPRESSOR                                     | PN: 91-4000  |
| <input type="checkbox"/> EVAPORATOR                                     | PN: 96-7349F |
| <input type="checkbox"/> CONDENSER                                      | PN: 93-7879  |
| <input type="checkbox"/> ACCUMULATOR DRIER W/ SUCTION Lines Connected   | PN: 62-8270T |
| <input type="checkbox"/> LIQUID LINE                                    | PN: 79-5536  |
| <input type="checkbox"/> DISCHARGE LINE                                 | PN: 79-5537  |
| <input type="checkbox"/> SUCTION LINE                                   | PN: 79-5535  |
| <input type="checkbox"/> HIGH LOW PRESSURE SWITCH (attached to 79-5537) | PN: 915-2292 |
| <input type="checkbox"/> CYCLING SWITCH (attached to 62-8270T)          | 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: 8028     |
| <input type="checkbox"/> INSTALLATION CD                                | PN: CD16     |
| <input type="checkbox"/> HARDWARE BAG KIT                               | PN: 920-1005 |

Kit includes:

915-2313 oil tube

915-2305 hose hold down

915-2299 relay

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

# 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



Figure 1.1

# STEP TWO

## Install the Compressor

1. Remove the belt and Power steering pump.
2. The compressor mount kit will have a new belt to install as well as directions for mounting the compressor. Please refer to mount kit directions for compressor installation.
3. After the compressor is mounted, do not install the belt or power-steering pump. You will have to connect the hoses and wire the compressor first.
4. 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.
5. The fittings on the compressor will point straight up.

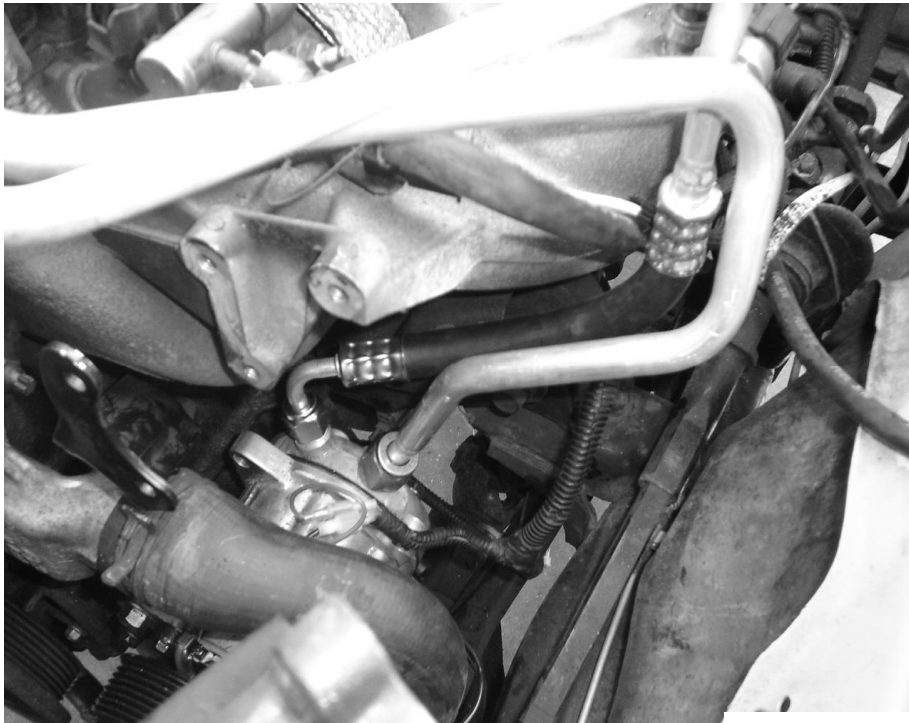


Figure 2.1

# 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. See CD for more images

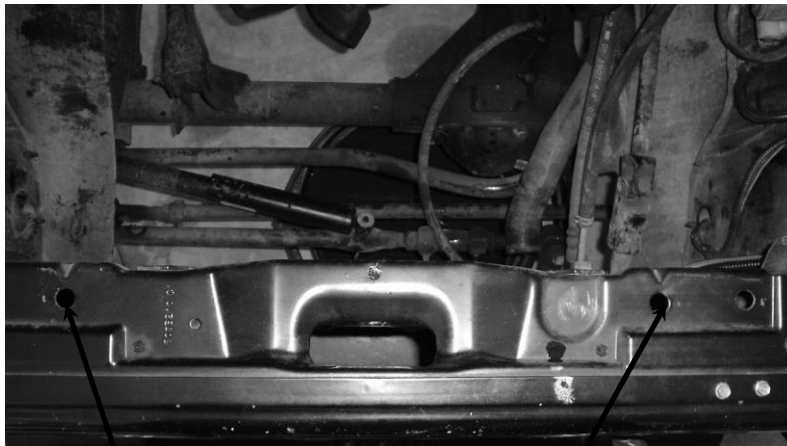


Figure 3.1

Holes for mounting  
Condenser

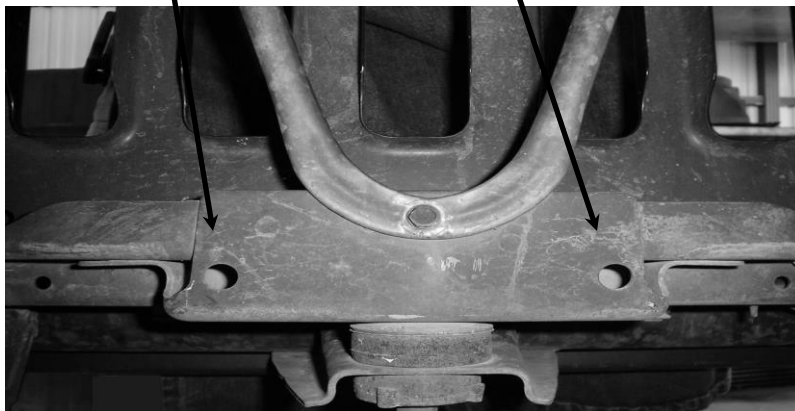


Figure 3.2

# **STEP FOUR**

## **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.
- 9) **BE SURE TO ONLY USE PINK OR OE JEEP ANTIFREEZE, MIXING ANTIFREEZE MAY LEAD TO A FUTURE LEAK.**

# **STEP FIVE**

## **REMOVING CONTROL HEAD**

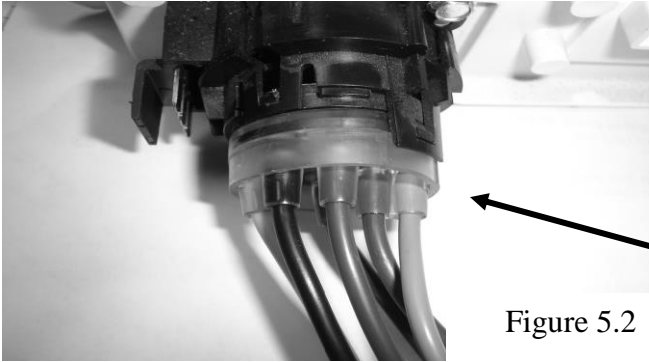
1. Remove the ashtray, and the Philips head screws located behind the opening
2. Remove the defrost grill (no screws) pull straight up
3. Remove the two Philips head screws holding the top center vent panel
4. Remove the center vent panel
5. Remove the four screws holding the control head
6. Remove the electrical plugs and the cable; unplug the vacuum lines at the connection on the control head. You will not use the Vacuum line on the OE Control Head if it is too short. See fig. 5-2





Remove panel / pull up

Figure 5.1



Control Head Plug to remove.

Figure 5.2

# STEP SIX

## Dashboard removal

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



Remove Six torx bolts

Figure 6.1



Remove all four  
6mm nuts  
(Only one pictured)

Figure 6.2

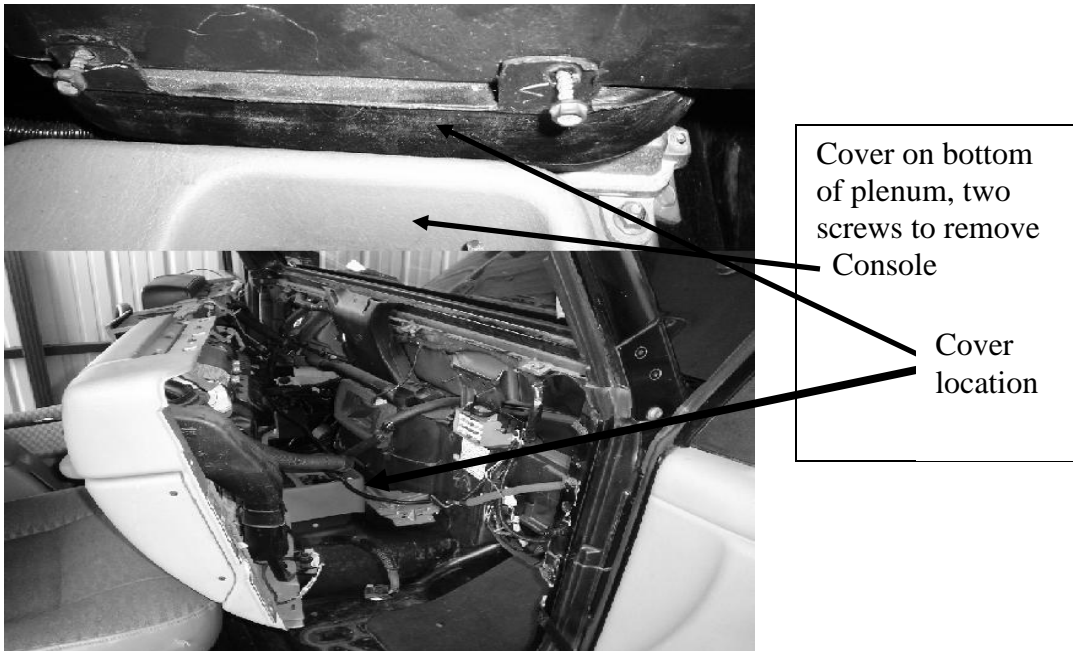


Figure 6.3

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. 6.4
7. Remove reinforcement plate behind lower panel by removing four screws Fig. 6.5
8. Remove two nuts securing steering column. Let steering column hang loose.



Figure 6.4



Figure 6.5

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. 6.6

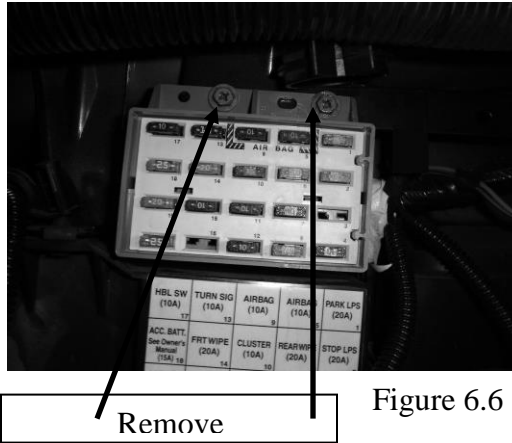


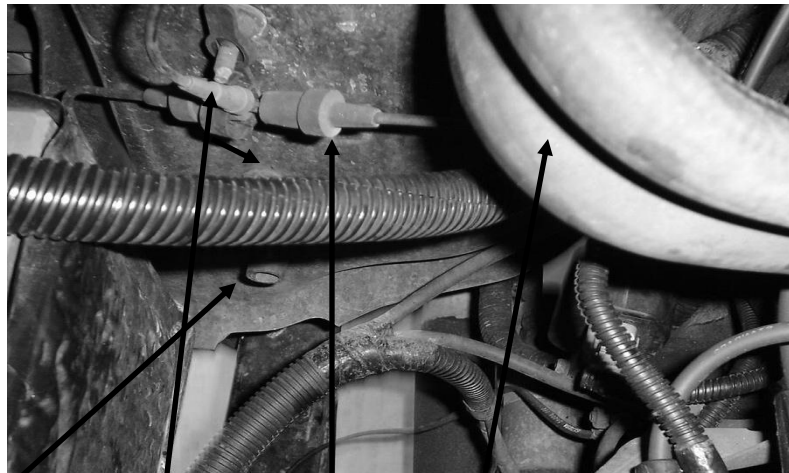
Figure 6.6

12. Remove bolt securing heater case to fuse panel bracket

# STEP SEVEN

## 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 7.1



Figure 7.2

# STEP EIGHT

## 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. 8.1
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. 8.2

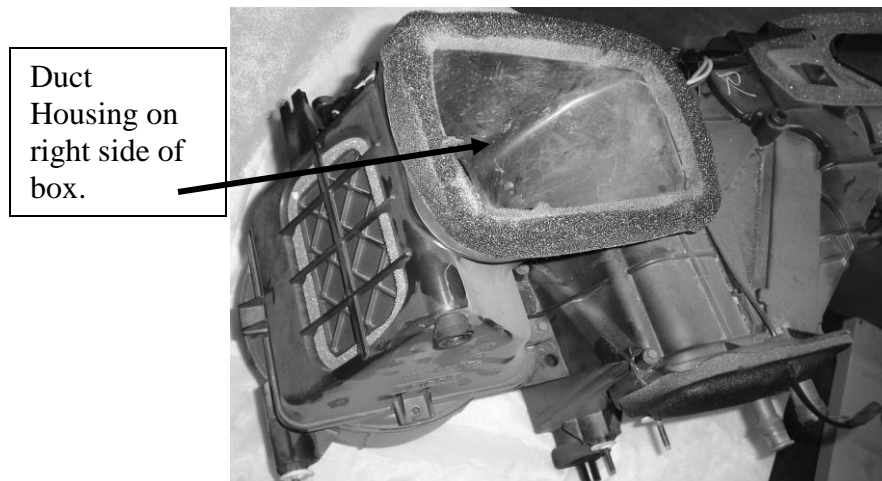


Figure 8.1



Figure 8.2

5. Remove screw holding vacuum line cluster. Fig. 8.3
6. Remove blend door dowel Fig. 8.4
7. See CD for more images.



Figure 8.3



Figure 8-4

# STEP NINE

## Installing Evaporator

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 9.1



# STEP TEN

## 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  $\frac{1}{4}$ ".
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 needed.

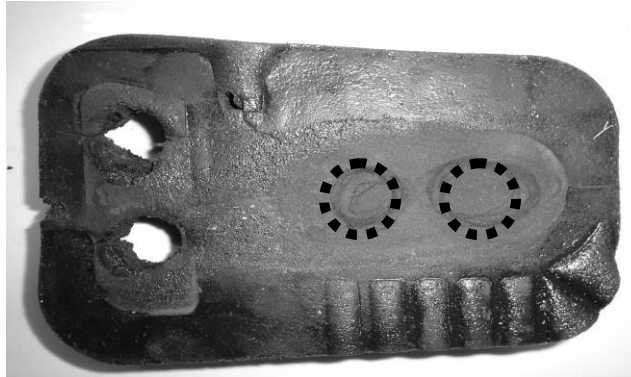


Figure 10.1



Figure 10.2



Figure 10.3

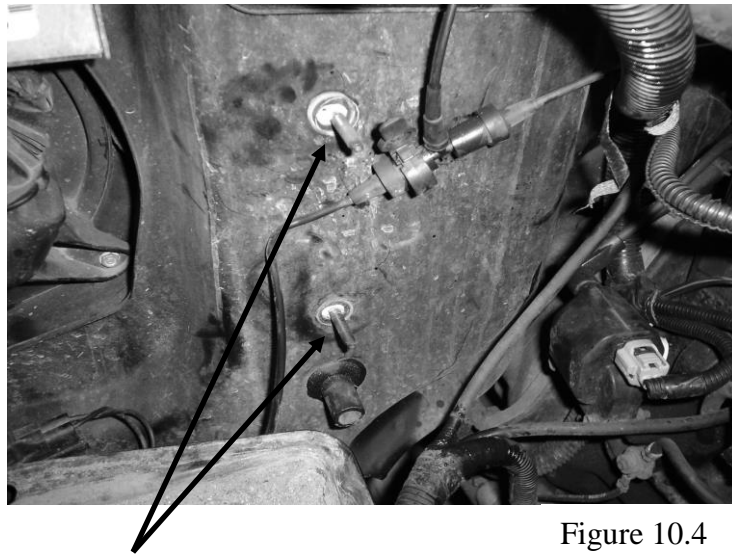


Figure 10.4

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

# **STEP ELEVEN**

## **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 **PUSH HARD**, they need to click
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

8.



Figure 11.1



Figure 11.2



Figure 11.3

9. Figure 11.1 and 11.2 are for the bracket setup only; the accumulator may not match the one with your kit.

## STEP TWELVE

### Attaching the Hoses

1. Place the two O-rings (# 8 and 10) on the hoses that connect to the compressor
2. Place the fittings on the compressor, but do not tighten until the other two sides are connected.
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, use the supplied M-8 1.25 x 25mm bolt with washers, and tighten the bolt.

5. **Connect the plug to the switch located on the Manifold. The plug should be close to the switches location on the hose.**
6. **Connect the Liquid line to the evaporator. BE SURE THEY CLICK, BE SURE NOT TO BEND THE TUBE**
7. **Connect the hose from the compressor to the accumulator then tighten the nut. (see figure 11.3)**
8. **Tighten the compressor fittings**
9. **Reinstall the power steering pump and put the belt on. Refer to the mount kit directions for the instructions.**



Figure 12.1



Figure 12.2



Figure 12.3

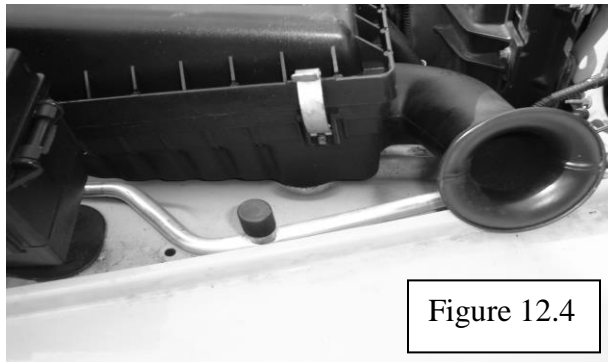


Figure 12.4

## **STEP THIRTEEN**

### **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. **DO NOT MIX PINK AND GREEN ANTIFREEZE.** If the system has pink use OE JEEP ANTIFREEZE.
2. Install the a/c relay into the fuse box, located under the hood on passenger side Figure 13.1
3. Place the hose holder on the two hoses connecting to the compressor. Fig. 13.2

4. Insert an ATM MINI 20 amp fuse into panel. If it is already in its place disregard.
5. Install the battery and hook up the cables
6. Evacuate the a/c system for at least 45 minutes
7. Hook up the Compressor plug
8. Charge the system with 1.50 lbs or two Cans of R134a Refrigerant. **DO NOT ADD OIL, DYE, SEALERS, OR ANY ALTERNATIVE REFRIGERANTS.**
9. 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 13.1



Hose  
Clamp  
Installed

Figure 13.2