

JEEP AIR

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

www.Jeepair.com

TM

1999 Jeep Wrangler 4.0 Liter TJ
1999-2001 Jeep Wrangler 2.5 Liter TJ

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

Parts Checklist

1999 4.0 Liter & 1999-2001 2.5 Liter Wrangler

<input type="checkbox"/> COMPRESSOR	PN: 15-5022
<input type="checkbox"/> EVAPORATOR	PN: 96-7345F
<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 2.5 Liter	PN: 79-5534
<input type="checkbox"/> SUCTION /DISCHARGE MANIFOLD 4.0 Liter	PN: 79-5533
<input type="checkbox"/> HIGH LOW PRESSURE SWITCH (attached to MANIFOLD)	PN: 915-2292
<input type="checkbox"/> CYCLING SWITCH (attached to 92-6904)	PN: 915-2293
<input type="checkbox"/> RECIRCULATION DOOR	PN: 915-2300
<input type="checkbox"/> RECIRCULATION DOOR ACTUATOR	PN: 915-2301
<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"/> INSTALLATION CD	PN: CD12
<input type="checkbox"/> HARDWARE BAG KIT	PN: 920-1002

Kit includes:

915-2312 Pre-made vacuum tube

915-2313 oil tube 1/8 ounce

915-2305 hose hold down

915-2299 relay

10 amp fuse

M8 hose manifold bolt w / washer

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

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

Wire connectors x 3

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 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**
- 6. Remove the four upper bolts from the radiator core support, loosen the lower two bolts**
- 7. Slide the radiator up and out**

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 mount plate on the factory-mounting bracket.
5. Use the four bolts and washers to attach the plate to the factory mount
6. Place the compressor on the mount plate, the fittings point up.
7. Attach the compressor with the included bolts, washers, and nuts.
8. **DO NOT PLUG THE COIL WIRE INTO THE PLUG. The plugs on the compressor will not match the original plug , see STEP 15.6**

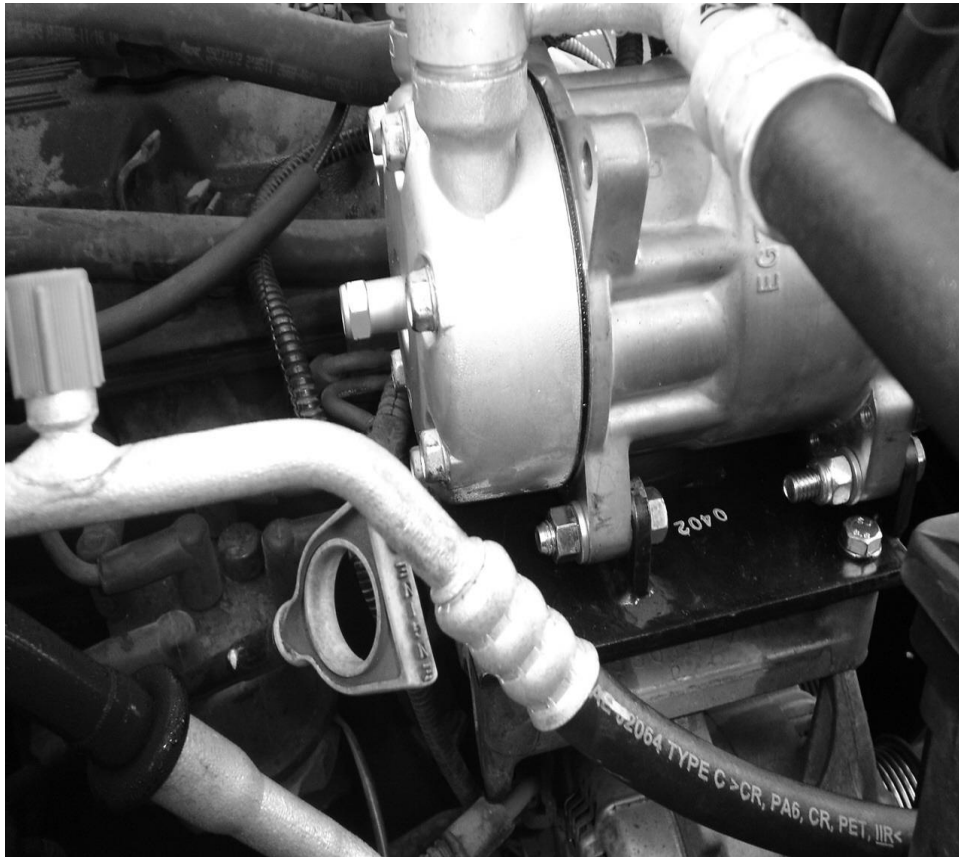


Figure 2.1

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

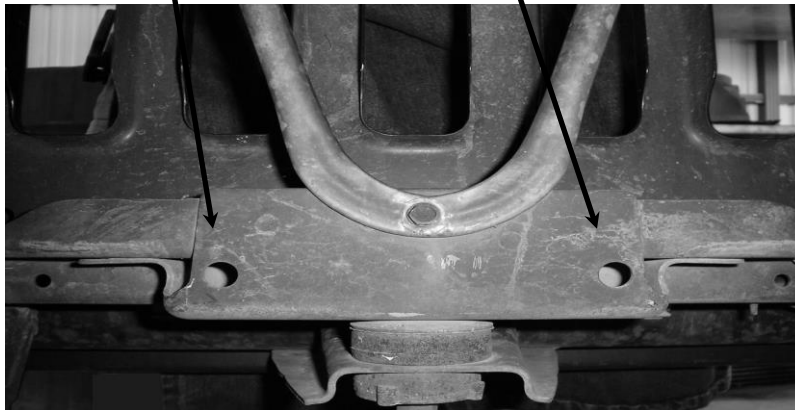


Figure 3.2

STEP FOUR

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

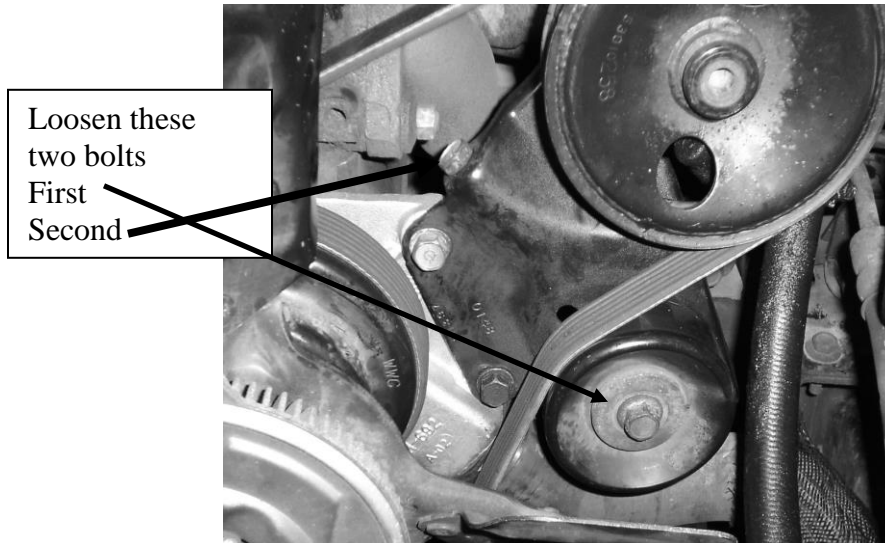


Figure 4.1



Figure 4.2

STEP FIVE

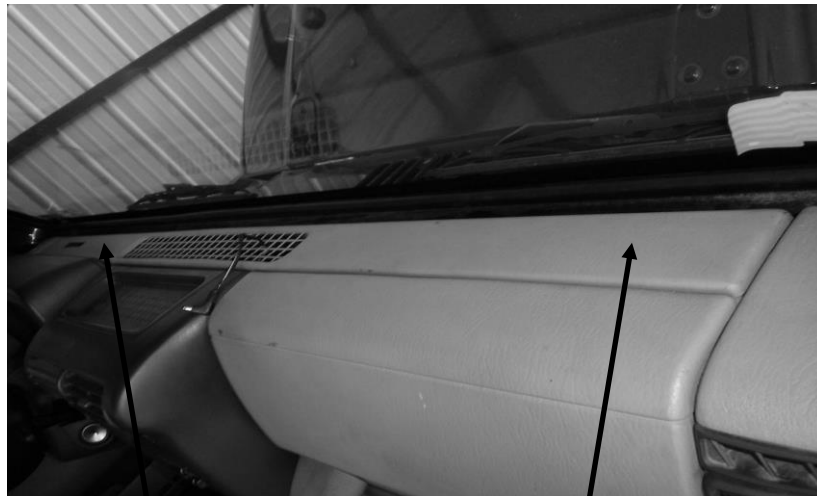
Radiator Installation

- 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

STEP SEVEN

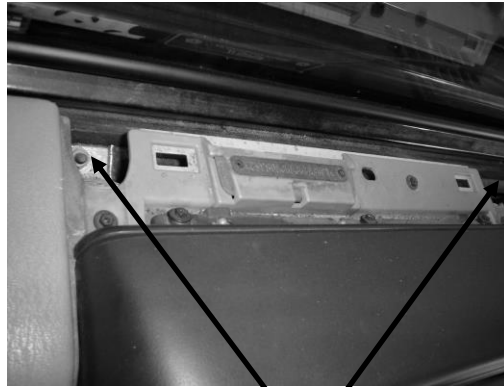
Dashboard removal

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 (Pictured on cd)
3. Remove the cover on the bottom of the plenum (over transmission tunnel, in front of console) Fig.7-3



Remove Six torx bolts

Figure 7.1



Remove all four
6mm nuts
(Only one pictured)

Figure 7.2



Cover on bottom
of plenum, two
screws to remove
Console

Cover
location

Figure 7.3

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. 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

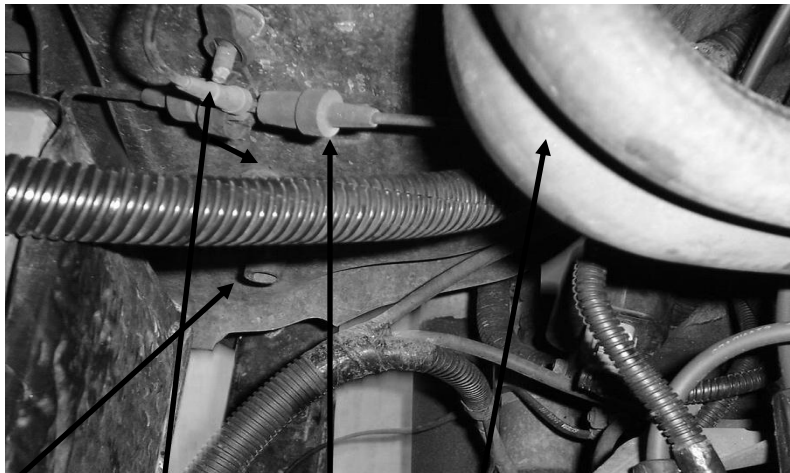
Figure 7.6

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 15 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. Remove the firewall gasket at the blower motor and heater core tubes.
Remove the blower motor
3. Separate the evaporator halves.
4. Remove the air inlet cover on the bottom of case, four screws



Figure 9.1



Figure 9.2

STEP TEN

Installing the Fresh Air door

1. Cut the opening in the case for the door. This can be done with a sharp razor knife by making four passes, or by a cut of wheel or plastic saw.
2. Install the door into the opening
3. Install the vacuum actuator
4. Hook the actuator to the door
5. Mount the actuator on the mounting clamp



Figure 10.1



Figure 10.2



Figure 10.3



Figure 10.4

STEP ELEVEN

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 fifteen screws, and two clips
4. Install the blower motor, make sure the foam is in place
5. Install the green vacuum line from plug to actuator, use the vacuum line included to make the connection
6. Install the air inlet cover (four screws, see figure 9.2)
7. **MAKE SURE THE HEATER DOOR AND BLEND DOOR MOVE FREELY.**



Figure 11.1

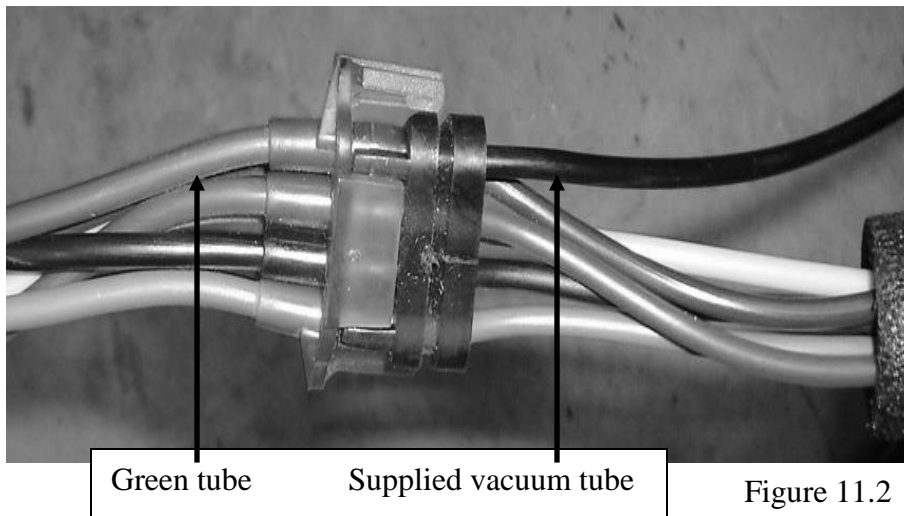


Figure 11.2

8. See CD for color picture

STEP TWELVE

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.

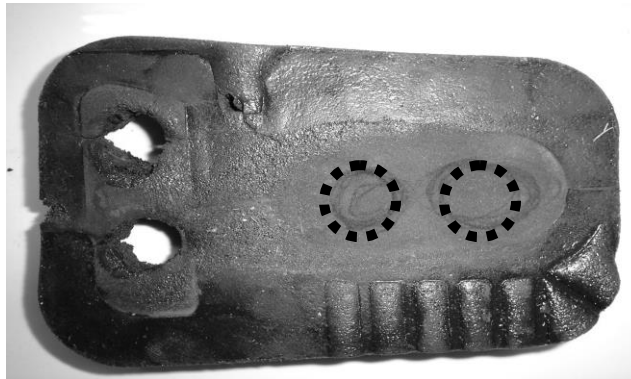


Figure 12.1



Figure 12.2



Figure 12.3

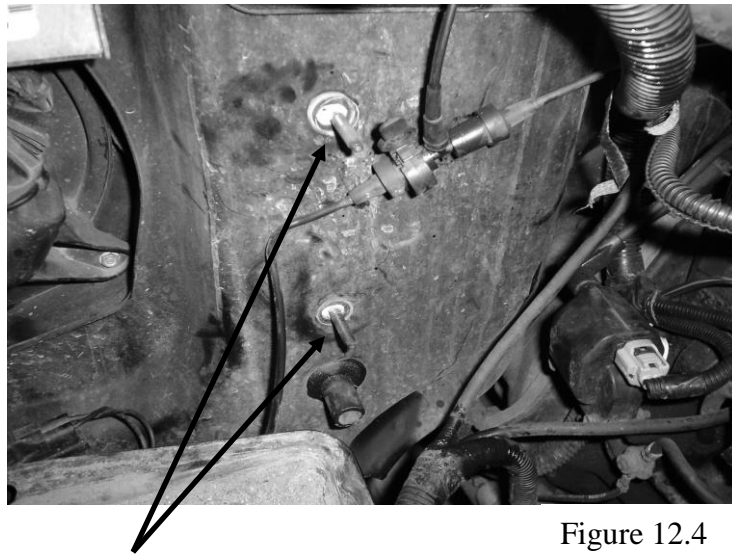


Figure 12.4

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

STEP THIRTEEN

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



Figure 13.1



Figure 13.2



Figure 13.3



Figure 13.4

8. For more color pictures please see the CD

STEP FOURTEEN

Attaching the Hoses

1. Place the two flat gasket washers on the hose manifold that connects to the compressor
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**
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 (fig. 14.8 9901 on cd)



Figure 14.1



Figure 14.2



Figure 14.3



Figure 14.4

10. More color pictures on the CD

STEP FIFTEEN

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 15.1
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. The following page is a supplement to explain the compressor wire hookup.
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 15.1

15.6 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.

