



Important information about your new A/C system.

***Please read the following directions prior to installing this
A/C system.***

PN's: CK-7586258, CK-758642,
CK-7586304, CK-7586SBC, CK-7486NC

**Jeep CJ Series
Aftermarket Air Conditioning**

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Thanks for purchasing your new Jeep Air A/C kit. This A/C kit is designed exclusively for Jeep CJ5, CJ6, CJ7, and CJ8 Jeeps between model years 76-86.

We at Jeep Air engineered this kit to closely replicate OEM style air conditioner systems with significant functional improvements. The most notable improvement is angling the evaporator unit vents upward so the cold air blows towards the chest and face area of the front seat occupants. OEM evaporator unit vents are not angled upwards, which is a common cooling complaint within the CJ community.

Prior to installation, start by readying SYSTEM ORIENTATION AND CHECKS . We recommend you **read the entire instructions thoroughly prior** to installation to gain an overall understanding of the installation process. To ensure a successful installation, we have very carefully broken down each step of the installation process with detailed photos and procedures. It is very important to follow our instructions as closely as possible to ensure a successful installation of your new Jeep Air A/C kit.

The installation process has been broken down into 6 steps as follows:

- 1. System orientation and checks**
- 2. Preparing engine compartment area for system installation**
- 3. Preparing under dash area for system installation**
- 4. Installation of “engine side” air conditioner components**
- 5. Installation of “cabin side” air conditioner components**
- 6. System charging procedures**

STEP 1: SYSTEM ORIENTATION AND CHECKS

Jeep Air makes every effort to ensure your new A/C kit arrives to you in perfect working condition. However, we cannot always control what happens during the shipping process. Please perform the following checks immediately upon receiving your A/C kit and contact us should there be any issues you cannot resolve.

Inventory: Please immediately inventory your new A/C kit and notify us if you're missing any components. You have four business days to notify us of missing parts. Please refer to supplied parts list on page 6.

Evaporator / Blower Unit: During the shipping process, it is possible (though unlikely) the motor slipped in the housing due to rough handling. Ensure that the blower wheel spins freely without any rubbing. If you can hear or feel rubbing, simply loosen the clamp and re-center the blower motor.

Wiring Information: It is important to be familiar with wiring requirements prior to starting the installation process. Jeep Air A/C kits utilize just 3 wires; power wire with an inline fuse, a ground wire, and a pressure switch wire. You'll learn more about the hook up requirements within the installation instructions.

Refrigerant Requirements: The Jeep Air CJ kit is designed to work with **R134A refrigerant only**. R12 and other variants of refrigerant will destroy the system. With R134A refrigerant, the system is engineered to produce vent temperatures between 37-45 F degrees with a high side pressure reading between 200-220psi. ***At no time should the high side exceed 250 PSI of stabilized pressure.*** If the installation is performed correctly, the low side pressure will stabilize after a brief drop in pressure immediately after charging. The system requires approximately 1.5 lbs of refrigerant, which could slightly vary depending on pressure readings.

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 incorporated complete instructions so you can charge the system yourself.

IMPORTANT SYSTEM NOTES:

- Your system comes pre-oiled. **DO NOT ADD** any oil, dyes, leak solutions, etc. to your system as it may result in system failure and void your warranty. ****If you purchased a no compressor kit you will have to contact the compressor manufacturer for the oil charge****
- **DO NOT** use the sight glass to charge the system.
- **DO NOT** overcharge the system.

Should you run into any problems, Jeep Air is here to help! We're available Monday through Friday for support. 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 or sales@JeepAir.com.

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 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 warranted 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 warranted 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.

Please verify you have the following items included with your Jeep Air A/C kit.

- | | | |
|---|------------------------------------|------------------------------|
| <input type="checkbox"/> Compressor with Oil | PN: 91-4001 | PN: 91-4000 *CK-7586SERP* |
| <input type="checkbox"/> Compressor adapter CK-7486NC | PN: _____ | |
| <input type="checkbox"/> Evaporator Unit | PN: 96-7351 | |
| <input type="checkbox"/> Drier | PN: 192-8254 | |
| <input type="checkbox"/> High Low Pressure switch | PN: 119-9900 | |
| <input type="checkbox"/> Condenser | PN: 44-1418 | |
| <input type="checkbox"/> Engine Mount kit with belt | | |
| | CK-7586258 | PN:8005 |
| | CK-758642 | PN:8011 |
| | CK-7586304 | PN: 8000 & 2400 |
| | CK-7586SBC | PN: 100L |
| | | PN: 100R |
| | | PN: 101L |
| | | PN: 101R |
| | CK-7486 NC | No compressor bracket |
| | CK-7486SERP | PN: 80012 (No belt provided) |
| <input type="checkbox"/> Hardware bag kit | PN: 920-1008 | |
| | - Two grommets | |
| | - 12 self tapping screws | |
| | - #6,8,10 orings Cork tape | |
| | - Evap. Support Bracket Drain Tube | |
| | - Hose strap Wire straps | |
| <input type="checkbox"/> Condenser Brackets | PN:CS1000 | |
| <input type="checkbox"/> Drier Bracket | PN: DC0002 | |
| <input type="checkbox"/> Hose Kit | PN:HK-920 | |
| <input type="checkbox"/> R-134a Sticker | PN: SZ100 | |
| <input type="checkbox"/> Directions | | |

STEP 2: PREPARING THE ENGINE COMPARTMENT AREA FOR SYSTEM INSTALLATION

1. Disconnect negative battery lead from the battery
2. Drain coolant from bottom of the radiator. Once drained, disconnect all hoses/lines to the radiator and remove the radiator. If your Jeep is equipped with a transmission cooler, be sure to plug the lines to keep transmission fluid from leaking out.
3. Remove alternator and OEM alternator mounting brackets
4. Though not required, Jeep Air recommends removing the radiator fan. This only takes a couple of minutes and allows the installer more wiggle room to install components such as the condenser and the compressor/alternator mounting bracket.

STEP 3: PREPARING UNDER DASH AREA FOR INSTALLATION

1. Remove the following items from the underside flange of your CJs dash
 - a. OEM cigarette lighter, OEM ash tray (if equipped), Fresh air direction duct, and any aftermarket under dash accessory mounted to the flange.
 - b. Depending on location of your under dash courtesy lights, you may have to remove and relocate them if they interfere with the mounting flange of the evaporator unit.
 - c. Drill a ½” hole in the center of the transmission tunnel approximately 4 inches from the firewall. Once the evaporator unit is installed under the dash, this hole is where the condensation drain hole will be routed through to ensure any condensation drains outside of your Jeep’s tub. Be cautious when drilling and inspect under the transmission tunnel to ensure no damage to your Jeep’s transmission and/or miscellaneous Jeep components will occur.
 - d. Mount supplied blower motor support bracket to OEM mounting location just right of the gas pedal. The holes should be plugged on your firewall if your Jeep did not come with factory A/C. Please note if the top of your gas pedal is higher than the blower motor support bracket, you will have to trim off the excess so that the gas pedal sits approximately ½” below the top of the support bracket (See **photo 1**)
 - e. Inspect your firewall on the passenger side of the Jeep for a suitable location to drill your hose pass-through holes. This requires the use of a 1.25” hole saw (be sure to use a pilot bit) with minimal spacing of 2” between the holes (center to center).
 - i. **NOTE:** The installer of this kit used the OEM A/C hose routing blank plate to route the Jeep Air hoses through. This allows for a cleaner (and reversible since you’re not drilling the actual tub) installation and OEM hose routing. However, since this installation requires the holes to be closer than the recommended 2” firewall spacing, the installer had to trim the sides of the grommets to make them fit. (See **photo 2** and **3**)

Photo 1



Photo 2



Photo 3



STEP 4: INSTALLATION OF “ENGINE SIDE” A/C COMPONENTS

1. Installation of the condenser unit.

- Test fit the condenser by centering it on the inside of the grille. The condenser fittings should face the passenger side with the larger fitting (high side) on the top. If aftermarket accessories are installed within the void area of the grille where the condenser will be mounted, these items will have to be removed or relocated.
- On two of the mounting brackets, make 90° bends approximately 1” from the end. These two brackets will serve to mount the condenser to the top of your Jeep’s grille. Jeep Air recommends using a vice to hold the brackets firmly so you can bend them into shape by hand or with a small mallet. The brackets are very flexible and the bends should come out very clean. Once bent, hold the condenser vertically centered inside the grille void and measure/cut the bent brackets so that the condenser sits centered vertically inside the grille. Using self-tapping screws, screw brackets into pre-manufactured holes on the top of the condenser. (See **photo 4**)
- With the bent brackets installed on top side of the condenser, you’ll now want to install the straight mounting brackets on the bottom side of the condenser. Once installed, carefully place the condenser assembly into the grille void. The bent brackets will support the radiator while you check the length of the bottom straight brackets. Mark a cut line on the bottom brackets so that it is even with the bottom flange of the grille. Remove radiator cut the excess bracket length off with a pair of tin snips. (See **photo 5**)
- Place the condenser assembly back in to the grille void. Utilizing two self-tapping screws for each bracket, secure the mounting brackets to the top flange and bottom lip of your Jeep’s grille. Your condenser is now correctly installed. (See **photo 6**)

2. Installation of the receiver drier

- The receiver drier gets mounted on the passenger side inner fender between the OEM starter solenoid location and the grille. Jeep Air recommends finding a flat mounting location on the upper side of the passenger fender so that the top fitting of the drier is in line with the opening in the grille in which the hoses will come out of. Once positioned by hand, utilize 2 supplied self-tapping screws and secure the dryer bracket into place. Ensure the “In” fitting on the dryer is facing the front of the vehicle. The pressure switch will need to be installed into the drier. Remove the hex nut from the side of the drier. Use the supplied oring and install the switch hand tight until it is snug. (See **photo 7**)

3. Installation of the compressor / alternator mounting assembly bracket.
 - Refer the exploded parts diagram for proper mounting of your compressor / alternator mounting bracket. Depending on the engine you're installing your Jeep Air A/C kit on, some of the spacers may not be utilized. The installer of this kit had the 258 6-cylinder on his CJ7, so please refer to the exploded parts diagram in your mount kit box. (see **photo 8**)
 - You can mount the compressor so that the fittings are on the top or the side, whichever is easiest for your system's hose routing.
 - Per the exploded parts diagram, install alternator on top of compressor.
 - Loosely install system belts and mount tensioning bracket. Final tightening of system belts will be performed after system installation is completed and before the vacuuming and charging process. (see **photo 9**)
4. Engine side hose installation

NOTE: If you do not have your own hose crimper, you'll want to perform a "mocked up hose installation" prior to final assembly. Basically, you'll cut all hoses to length during this process and insert the hose ends into the hose fittings so that you can bring your hoses to a reputable A/C shop for professional crimping. Be careful to not cut the hoses too small as you do not want to put any strain on the hoses. Also, when installing the hose fittings, make sure you install the green o-rings to the nipple end of the fittings prior to permanent installation. These o-rings are necessary for a leak-free system seal. No oil is necessary on the o-rings. *We have crimp specs attached at the back of the instructions

 - On the bottom fitting (liquid) of the condenser is where the 90* hose fitting will attach. Direct this hose fitting upwards so that you can route the #6 hose up through the passenger side grille opening and to the "In" port of the receiver drier. The fitting to the drier should be a straight. Cut hose to appropriate length and crimp fitting ends. (See **photo 10** and **11**)
 - The upper fitting on the condenser is the discharge fitting. The #8 hose will route from the upper fitting to the high-side (smaller fitting) of the compressor. Route the hose through the passenger side grille opening and cut the hose to the appropriate length so that it reaches the low-side of the compressor and crimp fitting ends. (See **photo 10** and **11**)

Photo 8



Photo 9



Photo 10

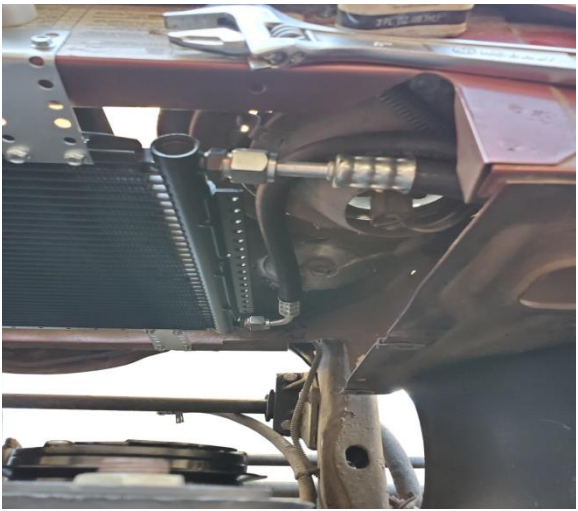


Photo 11



STEP 5: INSTALLATION OF “CABIN SIDE” A/C COMPONENTS

Due to the amount of instruments, cables, etc. located behind the compact dash of your Jeep, the installation of the evaporator assembly (under dash unit) is sometimes tricky. There are a lot of items under the dash that could hinder clearance. Be sure to pre-arrange most of your existing under dash wiring so that there is as much of a void as possible behind the area where your factory heater control cables are positioned on your dash. Helpful hints include zip tying factory wires together and positioning them as close to the front of the dash as you can without putting strain on the wires/components. This will help with clearance requirements for the A/C blower motor. If the evaporator is having difficulty positioning into place it is because there are under dash wires, relays, etc. getting in the way. Simply remove the evaporator and reassess your under dash void area.

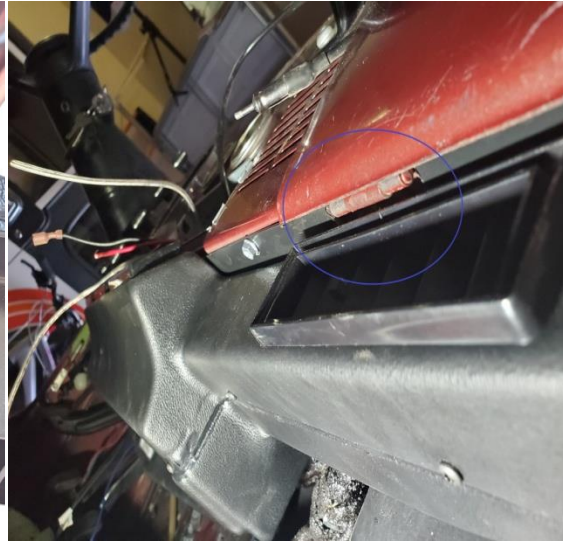
- There are two refrigerant lines that connect to the evaporator assembly. The thinner line, which is the liquid pressure side, (# 6) connects from the small fitting behind the evaporator to the outlet side of the receiver drier. The thicker line, which is the low pressure side, (# 10) connects from the larger backside fitting to the low-pressure side of the compressor. Jeep Air strongly recommends having these hoses cut to proper length and professionally crimped prior to installation of the evaporator assembly. If done this way, you'll have to install the grommet on the # 10 hose prior to crimping the fittings on because once the fittings are installed it is very difficult to slide the grommet over the low pressure hose.
- Connect refrigerant lines (ensure o-rings are installed) to the back side of the evaporator assembly. You'll want the fittings facing the downward direction during final torque so the hoses will have a natural routing direction to the pre-drilled firewall holes
- Mount evaporator to the bottom of the dash through the four pre-slotted flange holes on the unit. **NOTE:** You may have to carefully cut a notch on the metal mounting flange so that your evaporator assembly flange does not interfere with the glove box hinge. The cut out measures approximately 2” long x .75” deep and starts 3.5” from the end of the passenger side. (See **photos 12 and 13**)
- Route hoses through the firewall holes utilizing supplied grommets. The # 6 hose will go to the receiver/dryer outlet and the # 10 hose will go to the compressor.
- The long blue wire on the back of the evaporator assembly routes to the pressure switch on the engine side. Instead of drilling an additional hole in the firewall for this wire, Jeep Air recommends simply wrapping (or zip tying) the wire to the # 6 hose and routing it through the firewall grommet. This will eliminate unnecessary additional drill holes.

- Wire connections:
 - The **yellow** wire on the evaporator assembly blower motor is the ground. Be sure to find a good, suitable ground under the dash or on the firewall and make your connection.
 - The **blue** wire is your blower motor power wire. Using a test light, find a power source under the dash that is hot only in the run position. This will ensure your blower motor can only run while your Jeep is running.
 - With the blue wire through the firewall, route it to the pressure switch connector that connects to the switch on top of receiver/dryer. This switch ensures that the compressor will only run where there is adequate system refrigerant pressure. The pressure switch connector will then route to your compressor's electrical connection.
- Utilizing the supplied ½" drain hose, connect the hose from the back side drain condensation drain fitting and route the hose to the pre-drilled hole you made in the transmission tunnel. Cut drain hose so that the hose is long enough to go approximately 2" through the drain hole.
- Mount your OEM cigarette lighter and ash tray to the bottom of the evaporator unit utilizing self-tapping screws. The ash tray mounts underneath the blower motor controls and the cigarette lighter mounts anywhere on the bottom of the evaporator (centered is best). ***Ensure the both the cigarette lighter and ash tray mounting screws are clear from any obvious system components to avoid damage.***
- Your Jeep Air A/C kit installation is now complete. At this point you'll want to ensure the compressor belt is nice and tight to prevent belt noise and to ensure proper system function during the initial system evacuation, charging and routine operating.
- Your Jeep Air A/C kit is now ready for evacuation and charging. Jeep Air recommends bringing your Jeep to a reputable A/C shop for this procedure.

Photo 12



Photo 13



STEP 6: SYSTEM CHARGING PROCEDURES

Though charging the system yourself might initially seem overwhelming, it really is not that difficult if you have the correct tools. Several auto parts stores will rent you the required gauges and vacuum pump so that you can charge the system yourself. Follow these simple steps to charge the system yourself. **However, please note that charging errors, such as overcharging your system, will void the warranty.**

1. Assemble your gauges and hang them on the inside of your hood in a position that makes them easy to read. Ensure the blue line is connected to the low-pressure fitting on the left side of the gauge cluster. The yellow line connects to the middle of the gauge cluster as serves as your vacuum and charging line. The red line connects to the high pressure fitting on the right side of the gauge assembly. (See **photo 14** and **15**)
2. The first step of charging your system is vacuuming out air and contaminants from the system. Connect the red (high pressure) and blue (low pressure) vacuum lines and fittings to the ports on the high and low pressure side of the compressor line fittings. The fittings are different sizes so this process is error proof. See photo 16
3. Connect the yellow hose from your gauge assembly to your vacuum pump.
4. Ensure both the high and low pressure Schrader valves are fully open by turning the knob on the valve to the “open” position. This depresses the Schrader valve and the

system is now considered open. You'll also want to ensure that both the low pressure and high pressure knobs on the gauges are open. With this configuration, your A/C system is full open and ready for vacuum.

5. Turn your vacuum pump and vacuum the system for approximately 45 minutes. This ensures your system is free from contaminants prior to charging. The low pressure reading should read 29 Hg or lower in vacuum. The high pressure gauge should read negative and will likely be "pegged" out. Before turning off the vacuum pump after the 45 minutes of vacuuming, close the high and low pressure knobs on the gauges (NOT on the compressor hose fittings, you need to leave these open).
6. Your system is now done with the vacuuming process. Before charging, make sure you have a fully sealed system by verifying gauge readings have not shifted. The low pressure reading should still be between 20-29 Hg vacuum. The high pressure should still be reading negative pressure. If any of these gauge readings have shifted after an hour of holding a vacuum, you have a leak and need to determine where it is coming from. The most likely culprit is loose fittings, so check the entire system thoroughly to determine where the leak is coming from. Once you have diagnosed and repaired the source of the leak, perform steps 3 and 4 again.
7. You are now ready to charge your system. The system requires approximately 1.5 lbs (two 12 oz cans) of **R-134A** refrigerant (**any other type of refrigerant WILL damage the system and void your warranty**). Remove the yellow line from the vacuum pump and connect it to a can of refrigerant. You will need to purchase an adapter that screws to the can which depresses the plunger so you can charge the system. (See **photo 18**)
8. Once the can of refrigerant is open, open the cap and depress the yellow line Schrader valve on the gauge for a second or two so that air in the yellow line purges out. This ensures there will be no air in your system while charging.
9. Start your Jeep and turn the air conditioner fan on the highest speed setting. Open the low-pressure valve on the gauge. During charging, you will not open the high-pressure valve at any time. At this time, your system should be filling with refrigerant. Gently shake the can as the system is filling.
10. While charging the system, the pressure switch on the dryer/receiver will start reading pressure and when minimum pressure requirements are met will turn on the compressor. While charging the system, you should feel the can of refrigerant getting very cold to the touch. The can will also become lighter as the system continues to charge. The air out of the vents should start getting colder as pressure builds.
11. Once the first can is empty, you'll have to close the low pressure valve on the gauge assembly prior to changing out refrigerant cans. This ensures no air will be introduced to the system. Connect and open (depress the adapter plunger to open the can) the second can of refrigerant, depress the yellow line Schrader valve again

to purge any air out of the yellow line prior to opening the low-side pressure valve. Open the low-side pressure valve and your system will now be charging again.

12. The most important part of charging your system is the high-side pressure reading. Though the Jeep Air A/C kit is designed to use approximately 1.5 lbs of refrigerant, this can fluctuate slightly. You'll want to charge the system until the high-side pressure gauge reads and stabilizes between **200-220 lbs** of pressure. **Ensure that at no time the stabilized high-side pressure reading exceeds 250 psi.** Once the high-side is stabilized between this pressure reading, you'll feel very cold air coming out of the vents and your charge is complete. The air temperature reading from the vents should read between **37-45** degrees if the system is functioning properly. **NOTE:** Generally the pressure will drop and stabilize approximately 20-30 psi once the valves are closed.
13. Remove the high-side and low-side fittings from the Schrader valve ports on your A/C lines. Your system charge is now complete.

Photo 14



Photo 15

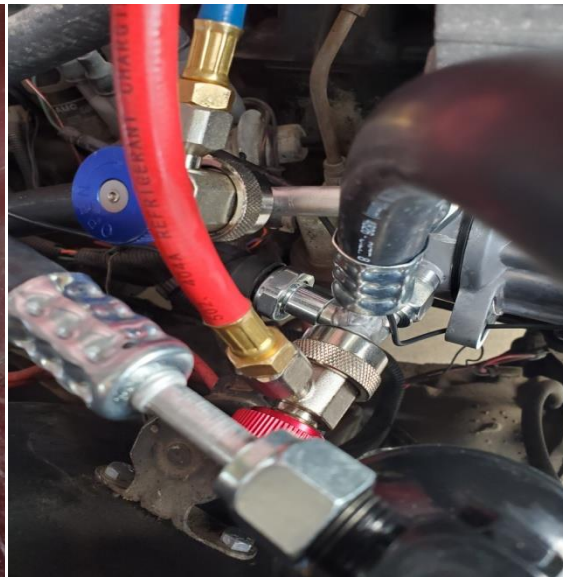


Photo 16



Photo 17

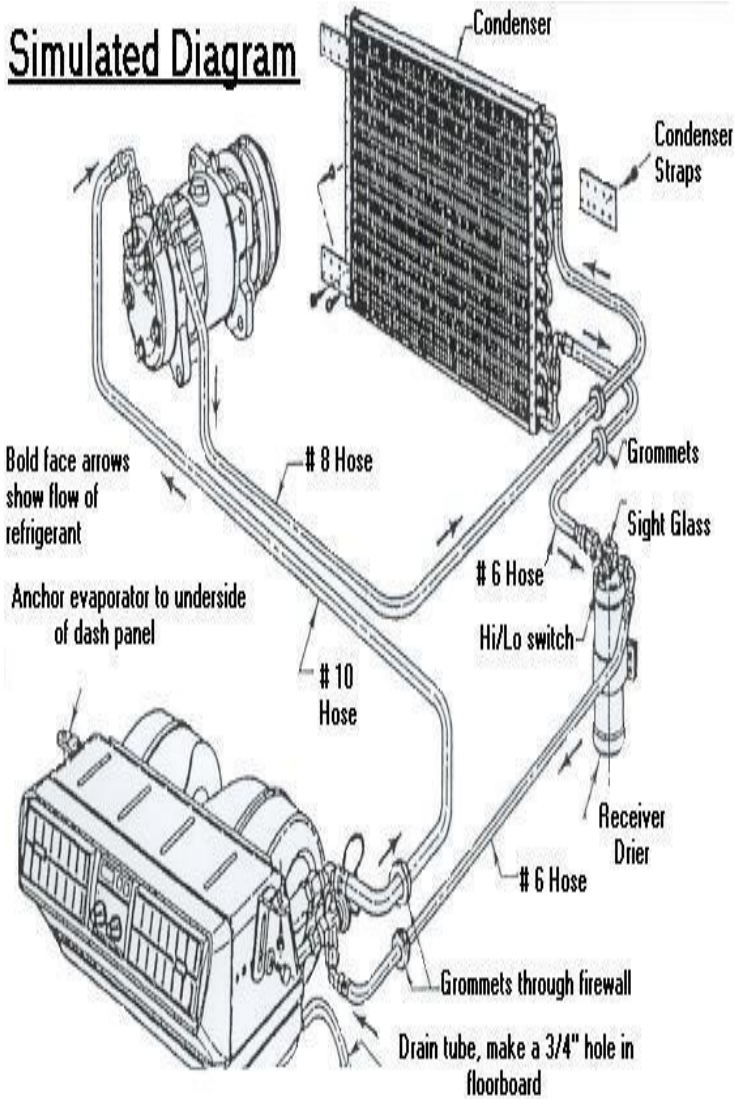


Photo 18

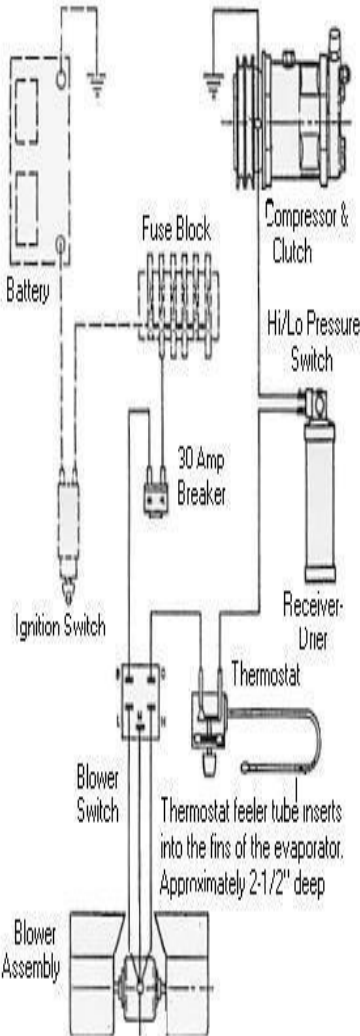


SIMULATED HOSE ROUTING AND WIRING DIAGRAM

Simulated Diagram



Wiring Diagram



CRIMP SPECIFICATIONS

CRIMP INSPECTION GUIDE

Always inspect crimps visually and dimensionally.



Visual Inspection

Visually inspect the first crimp to make sure that the correct dies were used, crimp location is correct, crimp is uniform, and there is no internal deformation of the fitting. A good crimp will be properly centered on the ferrule, meet the target depth dimension, and be symmetrical in shape.

What to look for:

- 1) The first visual criteria for a good crimp is the location of the crimp rings on the ferrule. The instructions provided should produce a crimp that is well centered on the ferrule. The first crimp ring will be approximately 1/4" from the open end of the ferrule.
- 2) The second visual characteristic is symmetry. When the Crimper is properly setup, used, and maintained, it will produce a crimp which is evenly shaped with respect to the crimp depths and the pinched ears in between. Many conditions in the process could cause an irregular crimp including: worn guide blocks, dies not seated, missing woodruff key, or deterioration in the plastic die carriers. These faults will produce crimps that are noticeably irregular with varying depth of crimp, or several prominent "ears" between crimp segments.

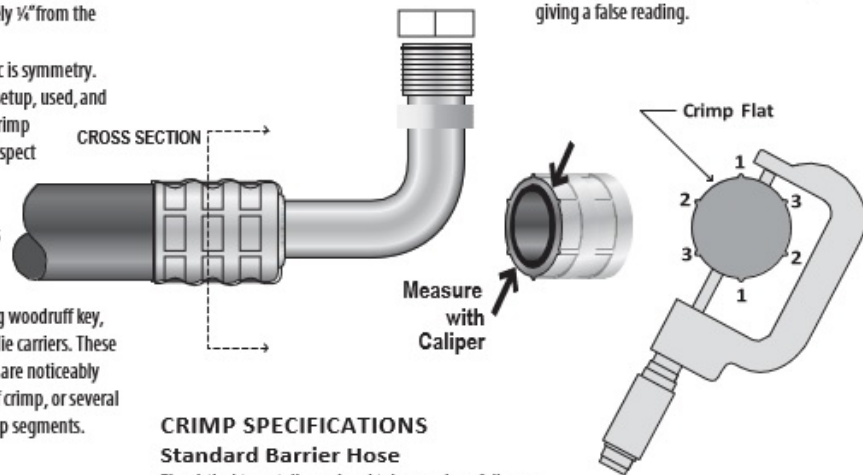
Dimensional Inspection

If the crimp is properly centered and regular, the crimp depth is the only remaining characteristic to check. The target dimensions can be measured with a set of blade or pin micrometers. The dimensional gauging should be used to verify the proper setup or when the tool is disassembled for maintenance. Gauges also should be used periodically during operation to verify continued acceptable crimps.

What to Measure

With the use of a micrometer measure across the diameter at the center of the crimp. The tooling manufacturer recommends checking in three locations: one reading on each of the three crimp bands, rotating the part to the next facet each time to assure checking each opposing die segment. In this manner each band and facet are checked.

NOTE: Using a Vernier Caliper may be an acceptable alternate gauge for the larger size fittings but not the smaller ones. Depending on ferrule size, the crimped "ears" may extend higher than the crimp diameter giving a false reading.



CRIMP SPECIFICATIONS

Standard Barrier Hose

The critical target dimensional tolerance is as follows:

Die Size	Target Diameter	Tolerance Range
#6	.660"	.650" to .675"
#8	.830"	.820" to .845"
#10	.936"	.926" to .951"
#12	1.035"	1.025" to 1.050"