

# CAT 777 B/C ROCK TRUCK INSTALLATION INSTRUCTIONS



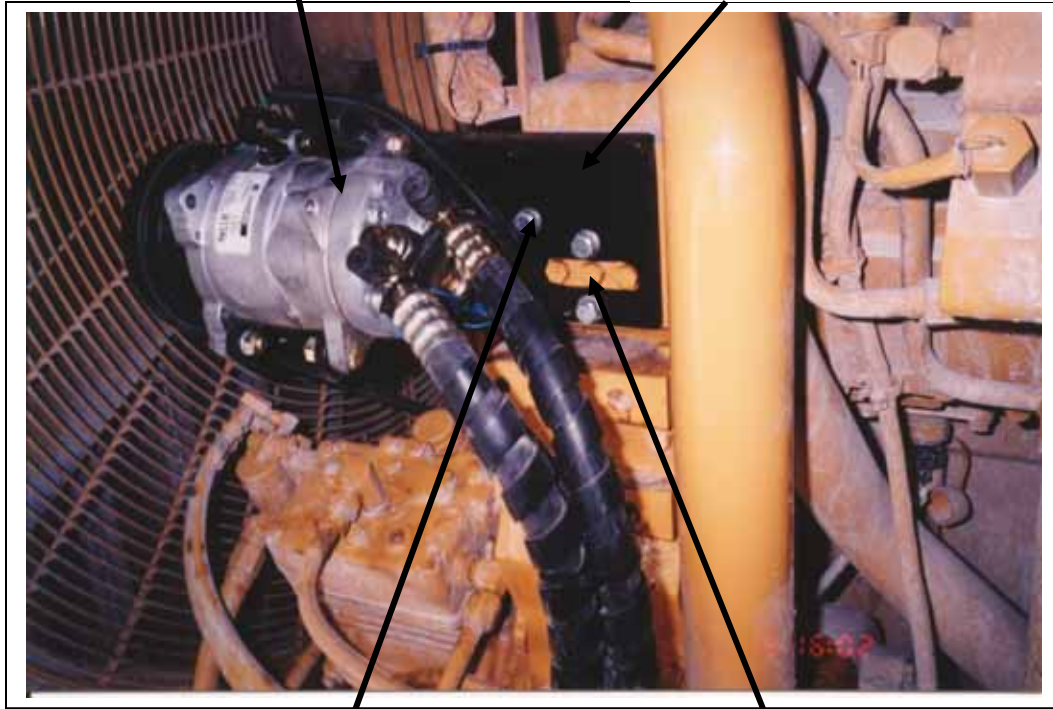
PHONE: (519)-485-5961 OR 1-800-267-2665

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# COMPRESSOR

Compressor

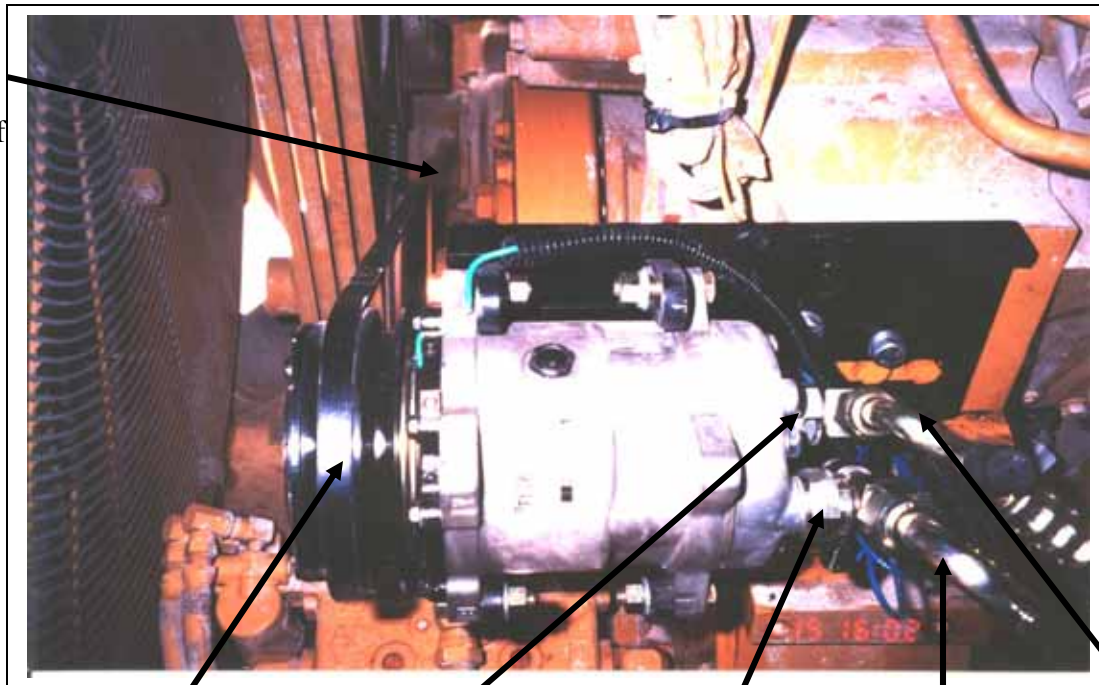
Compressor mount bracket



M10 mounting bolts X 3

Oil passage bolt

Belt runs off rear groove of crank



17770 belt

13/32 rotolock fitting

1/2" rotolock fitting

1/2" 90° fitting

13/32 90° fitting



Hose runs and clutch wire running to condenser and cab.

## CONDENSER

The 16" x 24" condenser is attached to brackets designed to mount directly to the frame members in front of the radiator area. The dryer has also been mounted on this bracket.



Condenser frame shipped in pieces because of length. Bolt brackets together before installing.

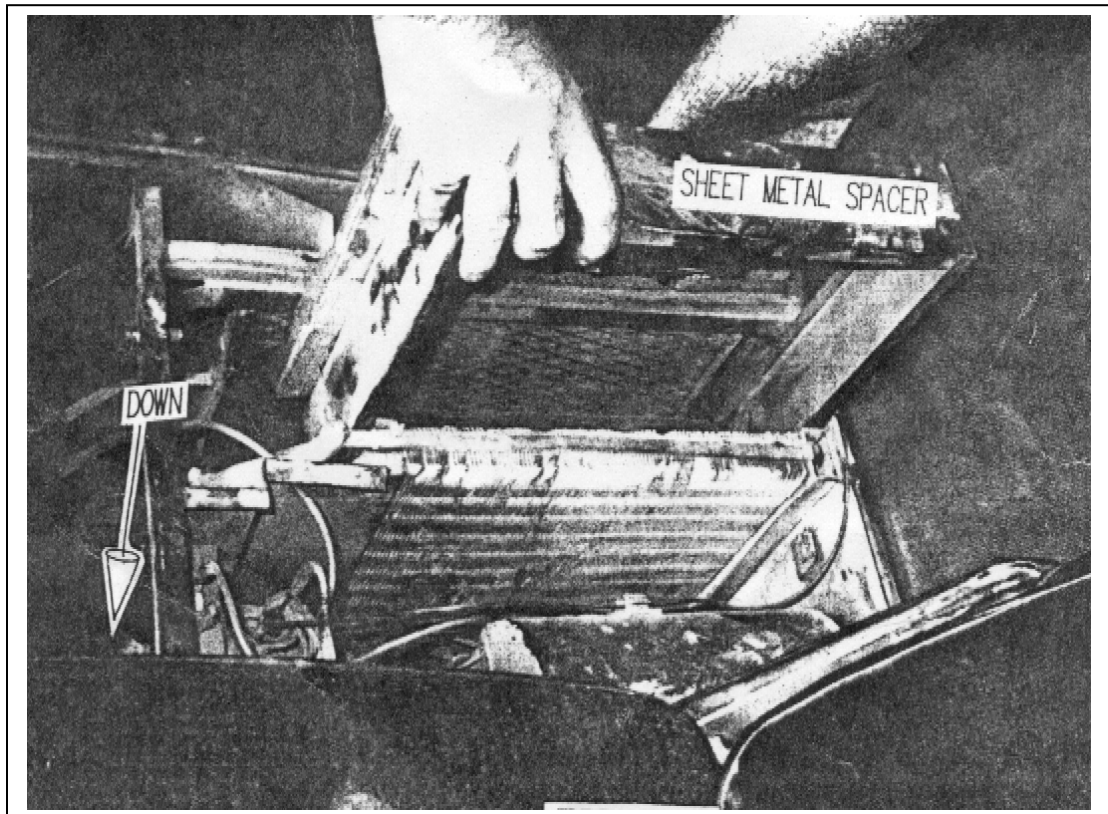


Receiver drier  
pre-mounted  
on frame.

Drill and tap holes for condenser  
brackets.

## EVAPORATOR

- 1) Remove the heater box cover (jump seat) by removing two bolts on the front side of the heater box.
- 2) Open front access panel of heater box.
- 3) Remove sheet metal spacer between the heater core and the recirculation filter.
- 4) If the vehicle is not new, and has already been in use, it may be necessary to remove and clean the recirculation filter. Any loose dirt should also be cleaned out of the heater box. Clear the drain hole in floor of heater box. The fresh air intake filter behind the seat on the left side should be checked also.
- 5) Slide the evaporator coil and expansion valve down into place.



## HOSE ROUTING

- 1) Route long #6 and #10 through bottom of heater box and continue along existing heater hoses. NOTE: route black wire from thermostat through floor with # 6 hose.
- 2) Lubricate all "O" rings with refrigerant oil prior to connecting fittings.
- 3) Connect fittings on long #6 and #10 hoses to expansion valve on the evaporator assembly. Install evaporator where sheet metal spacer was removed. Pull slack of #6 and #10 hoses into left front wheel well. Route the long #6 to out port of receiver drier. Route the #10 hose to the compressor.
- 4) Connect the #8 hose to the compressor.
- 5) Route #8 hose to condenser. NOTE: It may be necessary to cut holes in the vertical baffle forward of the radiator to facilitate condenser hose routing. If necessary drill two (2) 1- 1/4" holes where desired and install rubber grommets in the holes.
- 6) Use tie wraps to secure hose to avoid excess vibration.
- 7) Cut hose to correct length and install fittings. Connect respective hoses to compressor, condenser and receiver drier.



Hoses from cab running over to left side of engine.



Hoses running out under the cab and down towards the engine.



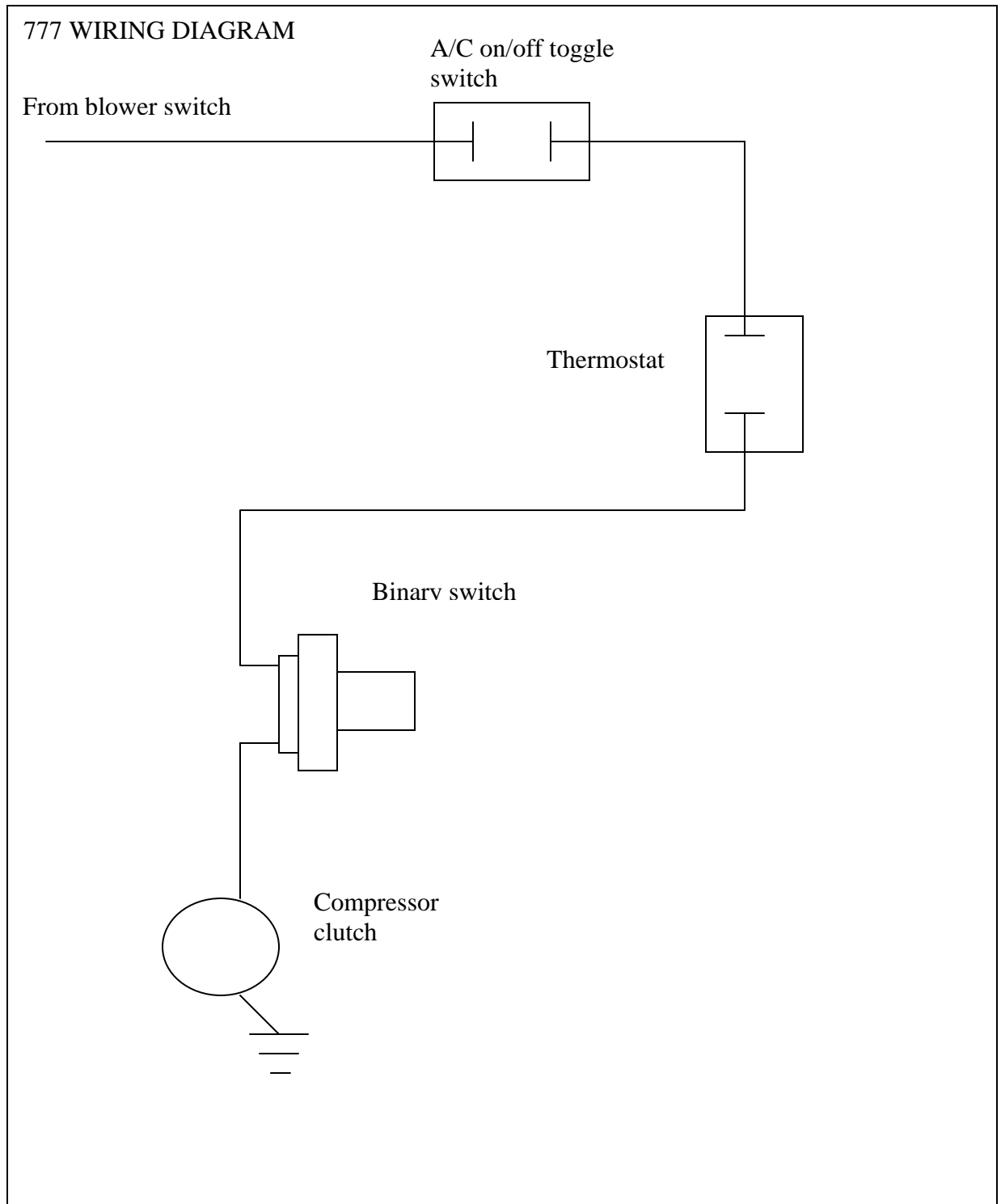


Hose coming up through floor. Run clutch wire here as well.

Factory evaporator and hose location.

## ELECTRICAL

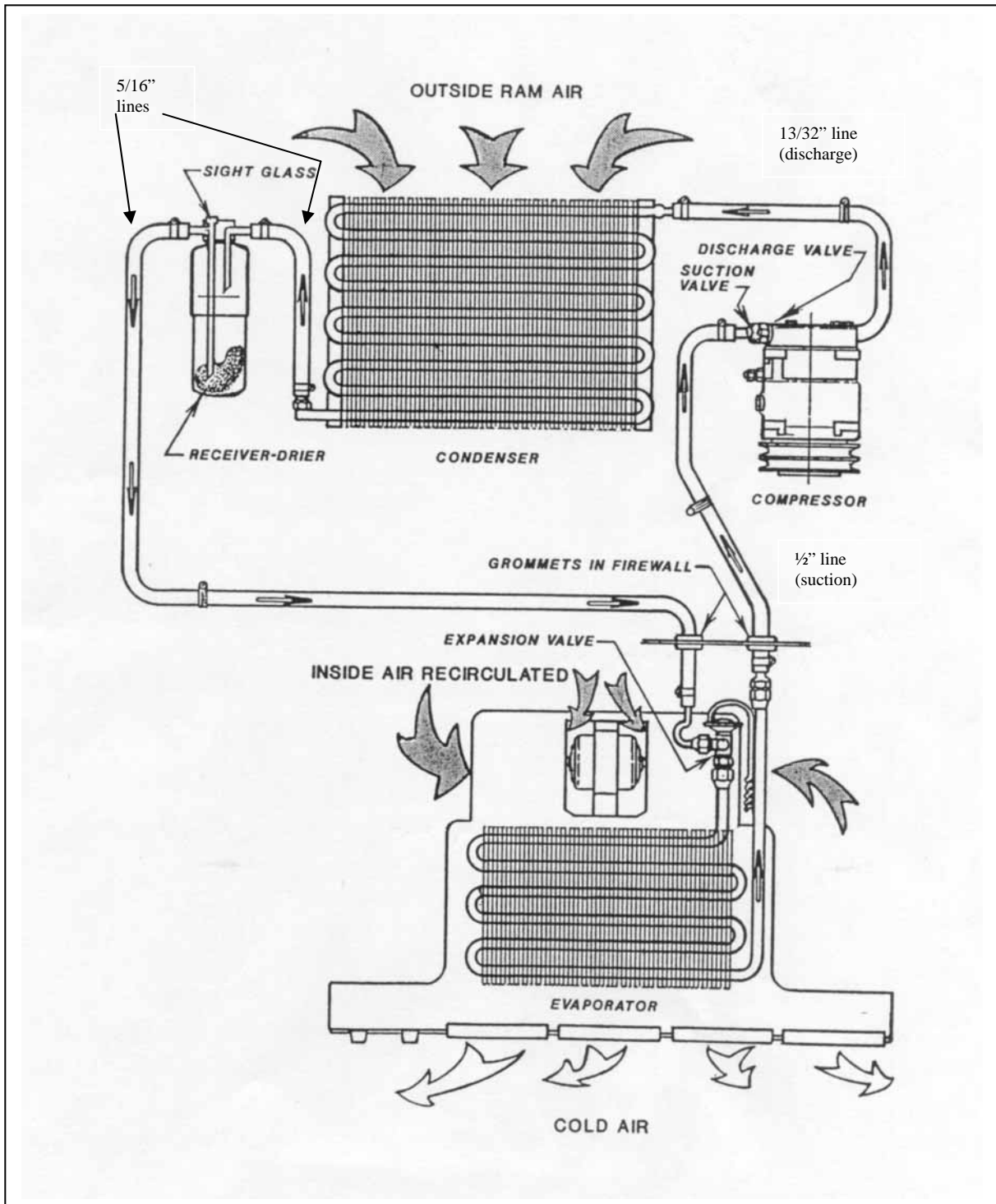
- 1) Mount on-off switch and thermostat in or near existing control panel. Be sure there is enough room for switch label. Drill a 7/16" hole for the switch and the thermostat.
- 2) Insert thermostat probe into evaporator down 12" in center between second and third rows of tubes closest to the heater core.
- 3) Connect wires as shown in diagram.



## **CHARGING AND TESTING**

- 1) Pressure test the system using nitrogen to a pressure of 250 psi. Check for leaks.
- 2) Add 2oz of SP20 Sanden PAG oil to the system.
- 3) Vacuum the system for at least ½ hour.
- 4) Check that the vacuum holds.
- 5) Fill the system with 3 lbs of R134a refrigerant. **DO NOT USE ANY OTHER TYPE OF REFRIGERANT OR IT WILL VOID THE WARRANTY.**
- 6) Test the system. Check the cycling temperature of the thermostat. Adjust the thermostat settings if required to avoid coil freeze up problems. See the thermostat setting procedures at the end of these instructions.

## Refrigerant Flow Pattern in a Standard Air Conditioning System



## Thermostat Setting Procedures

- 1) Thermostat types
  - a) preset
  - b) adjustable
    - a) A preset thermostat is adjusted to its specific cut in and cut out temperatures when manufactured and does not have a rotary adjustment for the operator.
    - b) An adjustable or rotary thermostat has been manufactured to a predetermined cut in and cut out temperatures, but it is also operator adjustable to achieve the desired comfort level.

Both types of thermostats can have their factory settings adjusted by turning the setting screws on the body of the thermostat. One body type has the setting screws mounted externally and labeled for direction of rotation. The other body type requires the removal of the plastic end plate to expose the set screw.

- 2) Thermostat probe location: The location of the thermostat probe in an evaporator coil can be very important to achieve the maximum cooling potential of the coil while also preventing coil freeze-up. There is no set location for the thermostat probe to be put that will be optimum for all systems, but several rules of thumb may be followed:
  - a) Insert the probe in the coldest area of the evaporator coil.
  - b) Insert the probe from the top of the coil down, if possible.
  - c) Make sure that at least the last 3" of the thermostat probe are in the coil.

To find the most likely area where the coil is the coldest, consider these factors:

- 1) Direction of air flow through the coil.
  - 2) The coil area likely to have the lowest air flow.
  - 3) The inlet locations of the refrigerant into the coil.
  - 4) The inlet of the hotter outside air into the coil area.
- 
- 1) Usually the coldest side of the evaporator coil will be the air outlet side. Often the thermostat probe can be inserted between the last and second last row of tubes.
  - 2) The lower air flow area of the evaporator coil in most systems tends to be near either end of the coil. These areas will be colder
  - 3) The area of the coil that the refrigerant inlet tube(s) occupy should be the coldest part of the coil.
  - 4) If the system is equipped with an outside air intake, where and how that air is brought into the evaporator area can have a large effect on the coil temperature. If all the outside air is piped into the evaporator in one area, that area will be considerably warmer in hot weather.

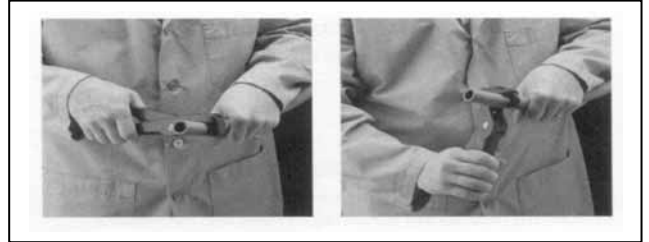
By looking at all these different factors, the area of an evaporator coil most likely to be the coldest can be determined.

Once the probe is inserted, the A/C system needs to be tested. Run the system to ensure that the thermostat is cycling the compressor off at the appropriate temperature. A core temperature ranging between 25° and 30° F should cause the thermostat to cycle off. The air temperature at the vent outlet closest to the evaporator coil should be between 38° F and 45° F when the compressor cycles off.

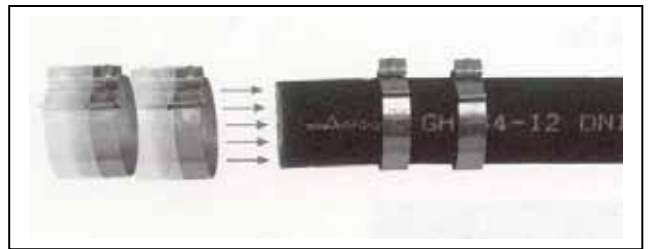
If the thermostat doesn't cycle off after a reasonable cool down period, and the air outlet temperature has dropped below 40° F, the cut in and cut out settings should be adjusted until the compressor is cycling on and off regularly. Let the system run for a decent time period (at least 15 min) and then check the evaporator coil for any signs of freezing.

## Aeroquip E-Z Clip Assembly Instructions

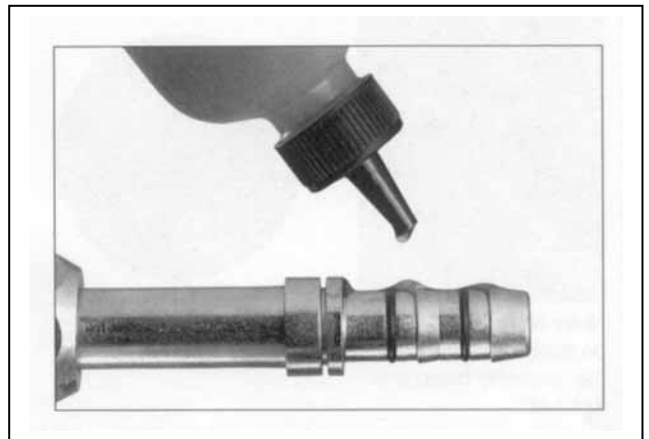
Step 1. Cut the hose to proper length with an appropriate cutting tool. Aeroquip's hand held hose cutter has been specially designed for cutting all non-wire reinforced hose, such as GH-134 Multi-Refrigerant hose. Be sure the cut is made square to the hose length.



Step 2. Install two proper-sized clips onto the cut end of the hose. Orientation of the clips does not affect the performance of the connection. However, for ease of assembly, both clips should have the same orientation. NOTE: Failure to slide the clips over the hose at this time will require the clips to be stretched over the hose or fitting later. This may permanently damage the clip.



Step 3. Lubricate the nipple with a generous amount of the refrigeration or A/C system's compressor lubricating oil. This MUST be done to lower the force of nipple insertion.

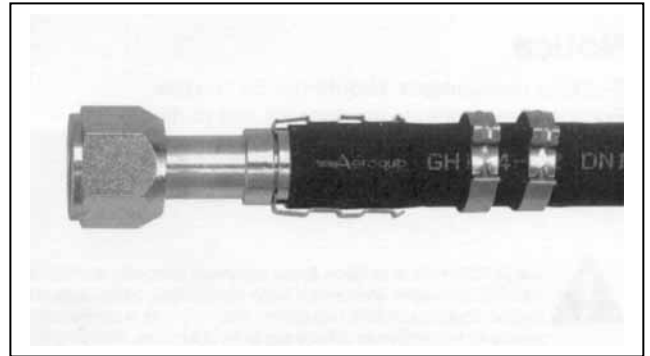


Step 4. Insert the nipple into the hose. To ensure that the nipple is fully inserted, check the gap between the cut end of the hose and the shoulder on the nipple. Care should be taken to avoid kinking or other damage to the hose during nipple insertion. NOTE: Be sure to wipe excess oil from the nipple and hose.

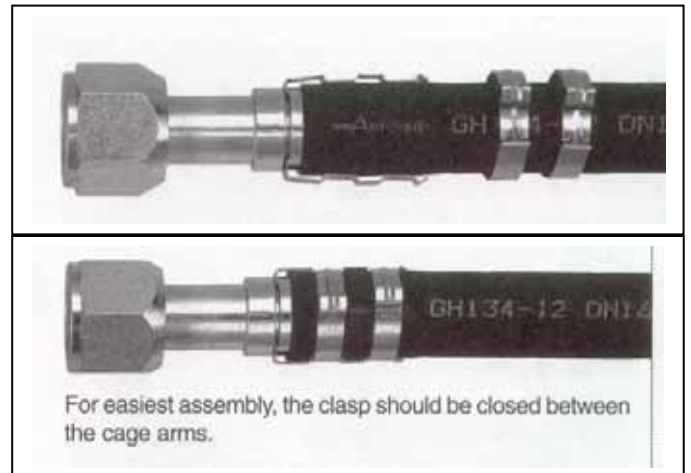


Step 5. Snap the cage into the groove on the nipple. The arms should extend over the hose length. When the cage has been correctly installed in the cage groove, the cage will be able to rotate in the groove. This step **MUST** be performed to ensure:

1. The clips will be located over the O-rings on the nipple.
2. The connection will be compatible with the connection's pressure rating.



Step 6. Slide the clips over the cage arms and into the channels on each arm.



Step 7. Use the pliers to close the clips. The pliers should be positioned squarely on the clip connection points and should remain square during the closing of the clip.

**NOTICE:** E-Z Clip components should not be reused.

