

# INSTALLATION INSTRUCTIONS

## CAT D7G



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## **EVAPORATOR COIL:**

The evaporator coil goes alongside the heater core in the heater blower assembly above the operator's position.

1. Remove the rooftop cover, then remove the inner cover over the heater box.
2. The evaporator coil is supplied assembled with the end brackets in place. The complete assembly is set into place beside the heater coil and bolted into place with the 1/4" hardware supplied. The two bolt points on the left of the coil are accessed from the return air filter area and the right hand ones are accessed from the right hand side of the air handling box in the roofline.
3. To fit the assembly into place it will be necessary to cut out a 1" wide by 6" deep section of the left side of the heater box to allow the evaporator hose fittings to fit through the side of the box. When the coil is in place the end cove plate (with the two grommets) can be screwed into place using the self-drilling screws provided.
4. The expansion valve can now be installed on the inlet side of the coil. The expansion bulb should be fastened to the suction fitting tube behind the equalization port and then tar taped.
5. Do not reassemble the blowers and filter assemblies until the system has been tested for leaks.
6. Note\* refrigeration oil must be used on all o-rings prior to connecting all hoses.





Two bolts on each side to be removed, then lower box.



Lower ceiling panel with ratchet on right side as shown.



Bolts removed to lower heater box.



Removed these 5 bolts

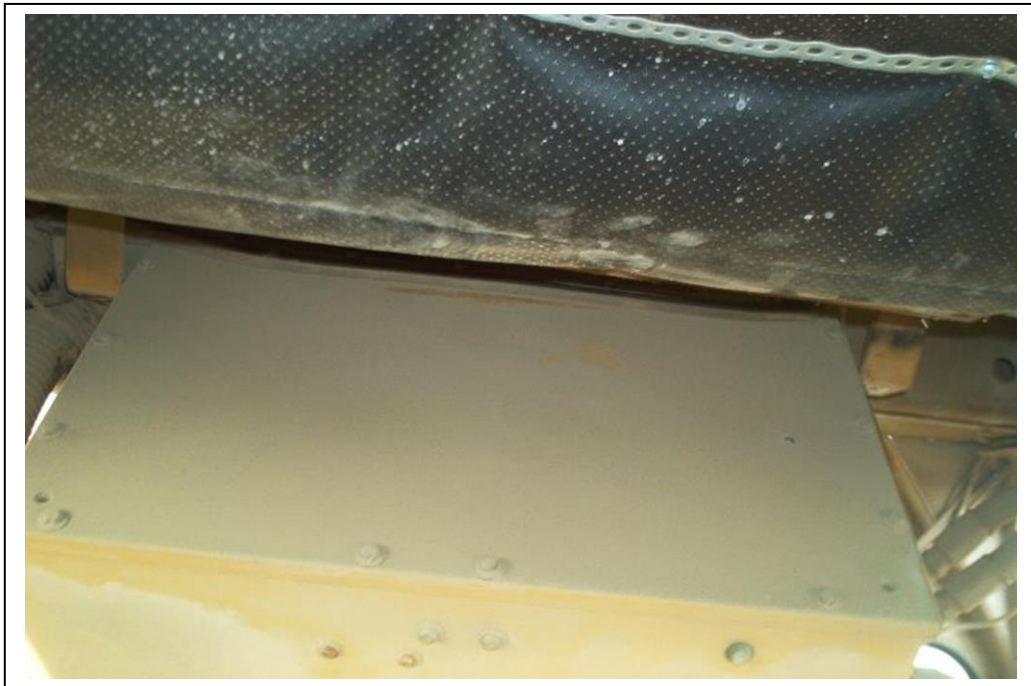
Ceiling panels removed and plastic cover removed

Remove these 4 bolts



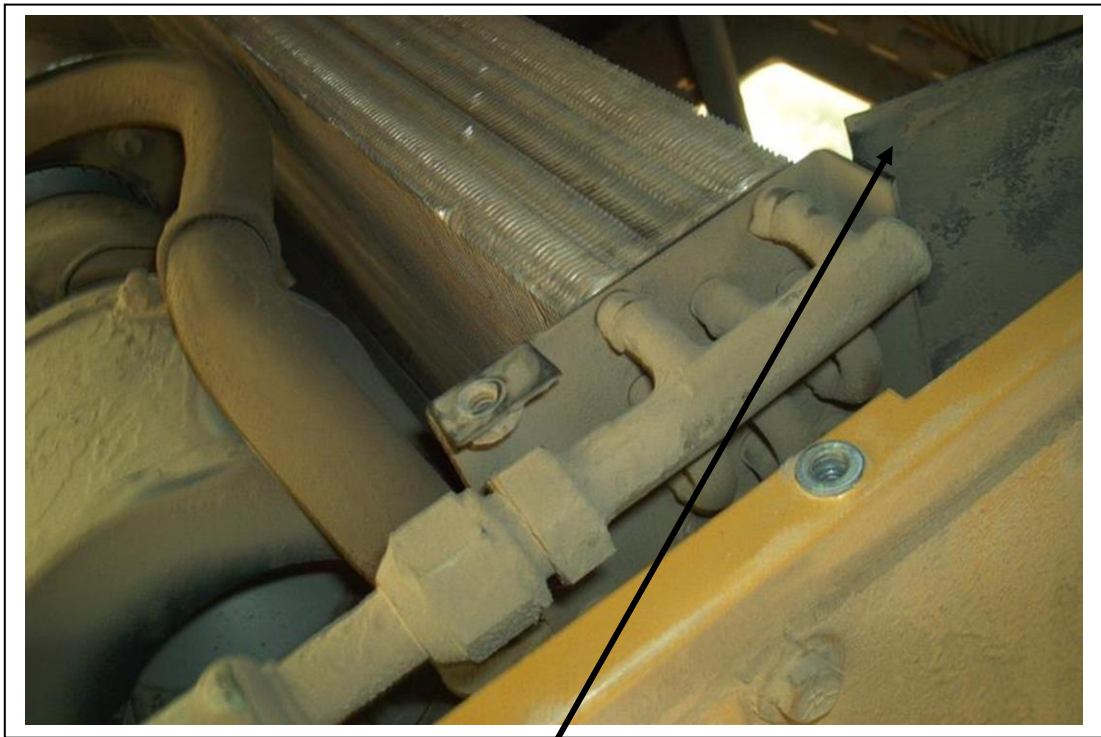


Ceiling panel and heater box lowered. Remove lid bolts and lid.





Install evap coil in front of heater coil.



Remove this plate



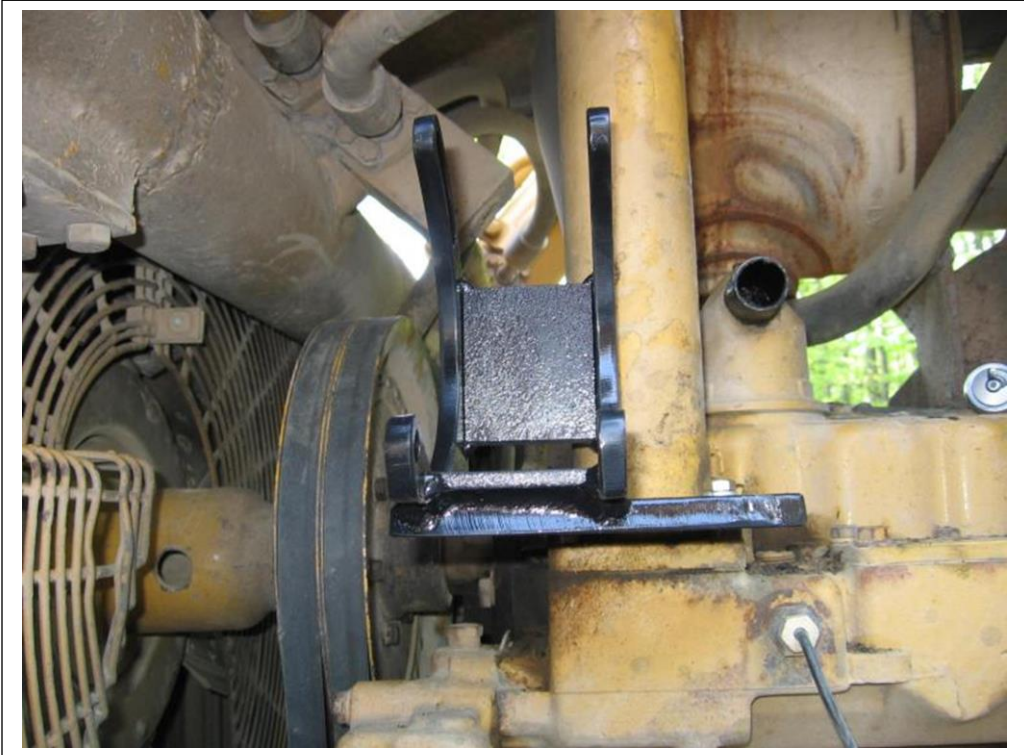
PULLEY



COMPRESSOR



Compressor mount







CONDENSER ASSEMBLY: The severe duty condenser is mounted off the back of the cab as shown in the pictures. The mounting frame uses some of the same bolt locations as the factory arrangement would.

1. Remove the condenser frame from the assembly and make sure there are two mounting frame components. One will be a 'Z' type bracket of 2" angle iron and the other will be a long 'U' shaped bracket.
2. The bottom bracket is the 'U' shaped bracket and bolts onto the upper mounting bosses on the ROPS uprights. The 'Z' brackets are centered on the roof and bolted down to the roof and to the lower bracket. The roof holes must be marked and drilled. When bolting the 'Z' brackets down on the roof it is important to seal the bolt holes with silicon, or another sealer, to prevent water leaking into the cab.
3. Bolt the condenser arrangement to the mounting brackets with the hardware provided and ensure that the arrangement is secure.



Left side of condenser assembly.(D5M SHOWN)



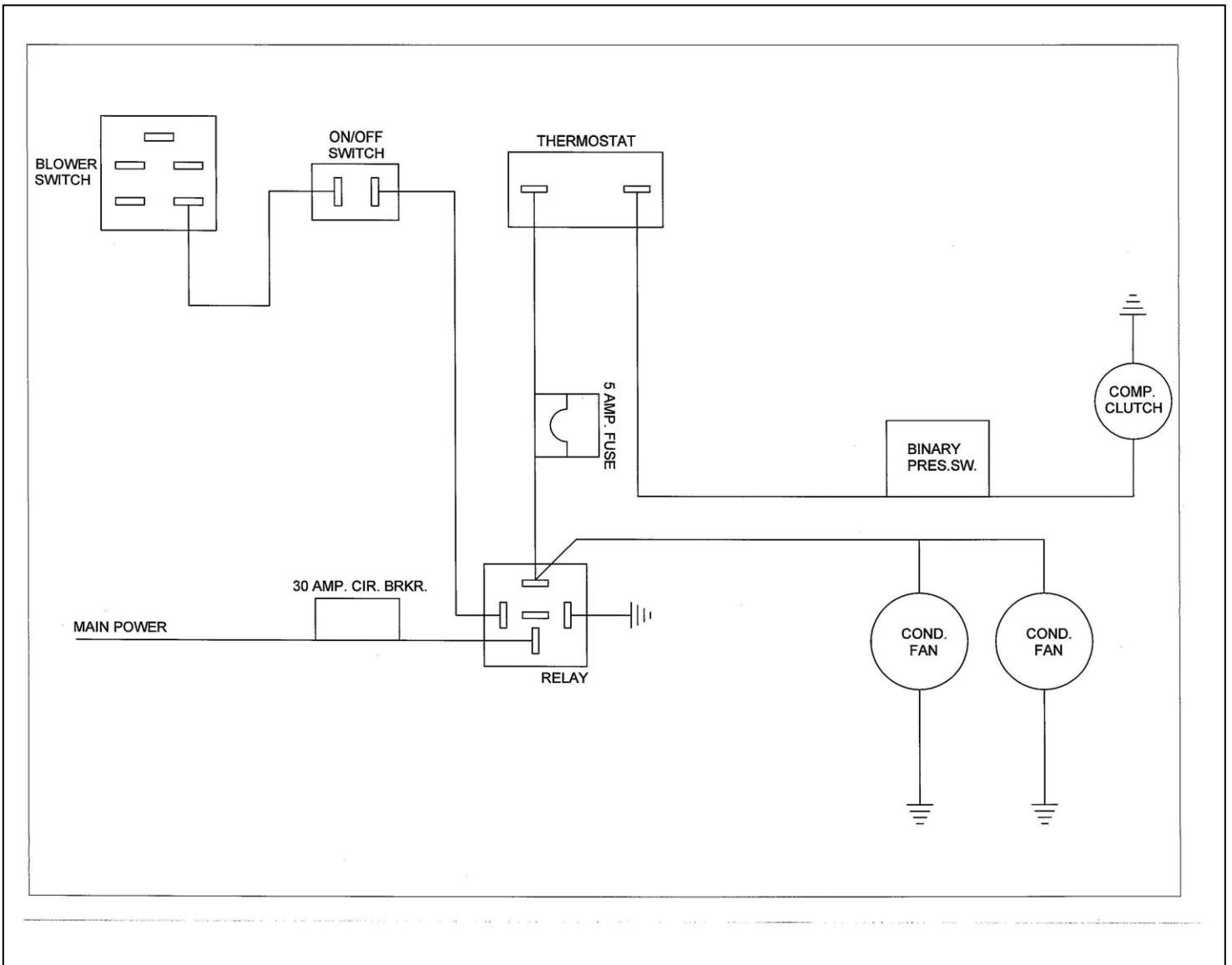
Right side of condenser assembly.(D5M SHOWN)



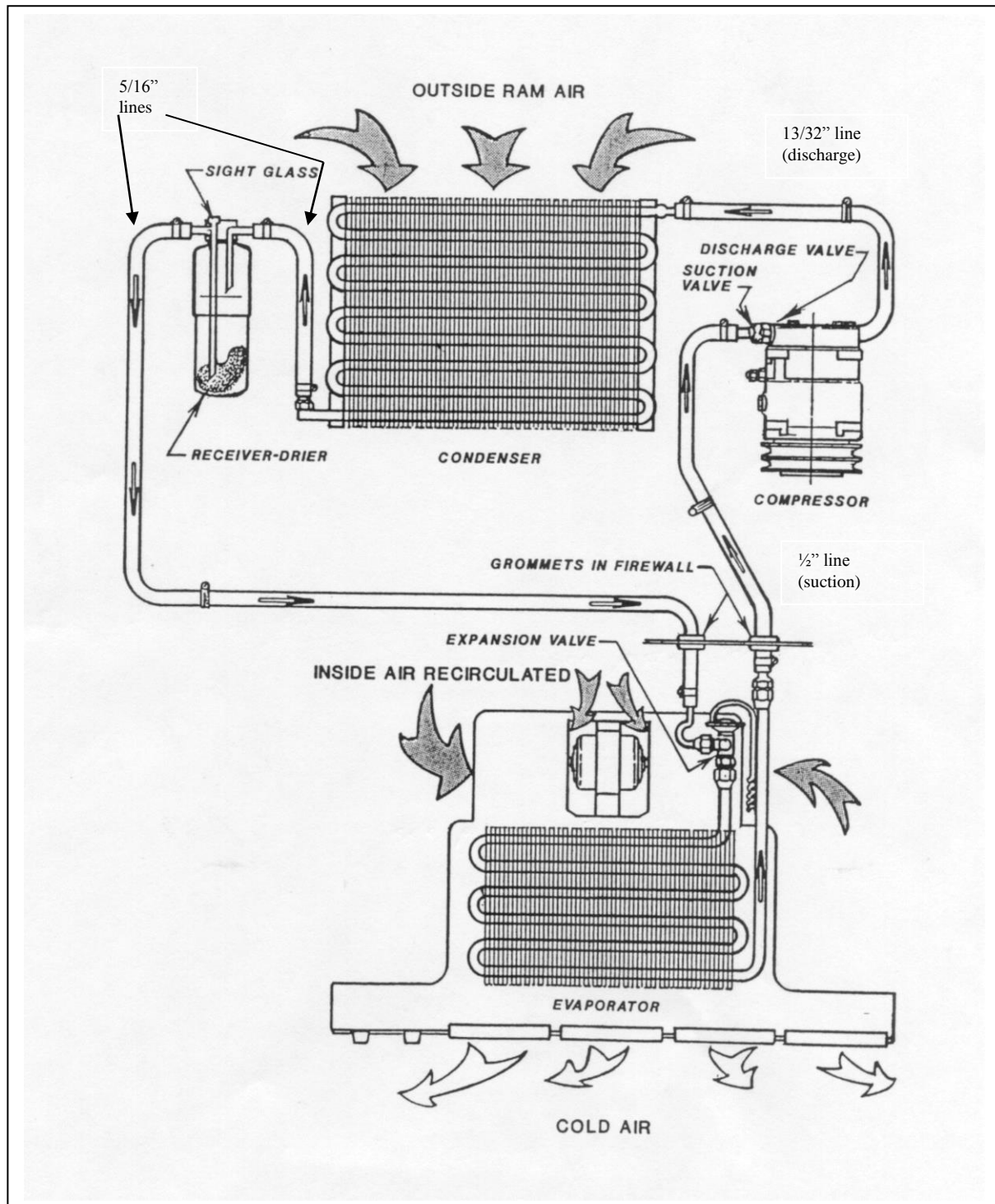
ELECTRICAL



Install thermostat here. Probe goes into evaporator coil.



## 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.
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- 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.

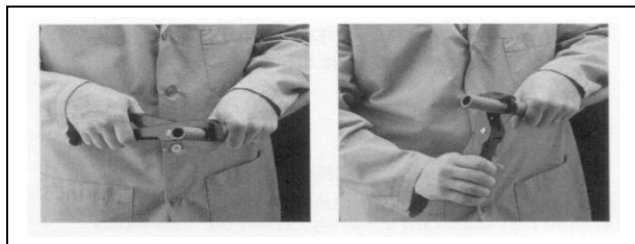
By looking at all these different factors, the area of an evaporator coil most likely to be the coldest can be determined.

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.

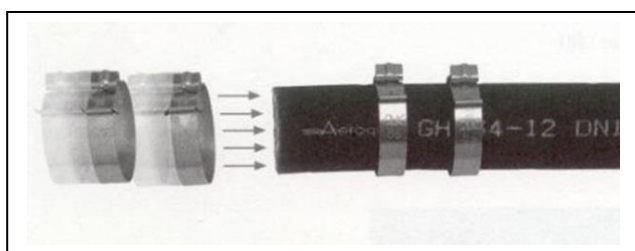
If the thermostat doesn't cycle off after a reasonable cool down period, and the air outlet temperature has dropped below 40° F, the cut in and cut out settings should be adjusted until the compressor is cycling on and off regularly. Let the system run for a decent time period (at least 15 min) and then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

## Aeroquip E-Z Clip Assembly Instructions

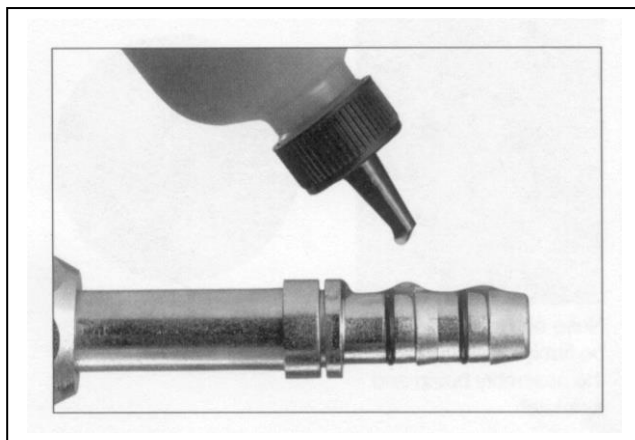
Step 1. Cut the hose to proper length with an appropriate cutting tool. Aeroquip's hand held hose cutter has been specially designed for cutting all non-wire reinforced hose, such as GH-134 Multi-Refrigerant hose. Be sure the cut is made square to the hose length.



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.

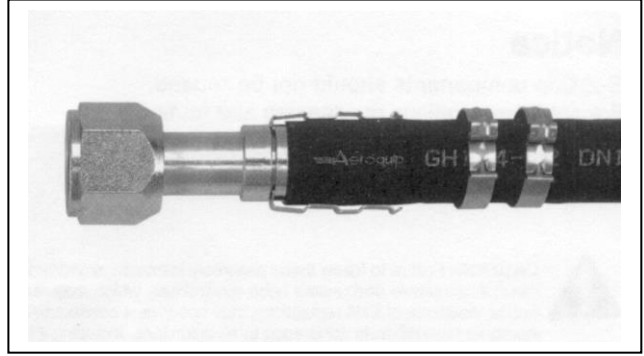
NOTE: Be sure to wipe excess oil from the nipple and hose.



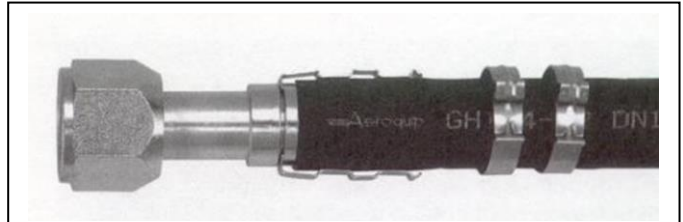


Step 5. Snap the cage into the groove on the nipple. The arms should extend over the hose length. When the cage has been correctly installed in the cage groove, the cage will be able to rotate in the groove. This step **MUST** be performed to ensure:

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.

