

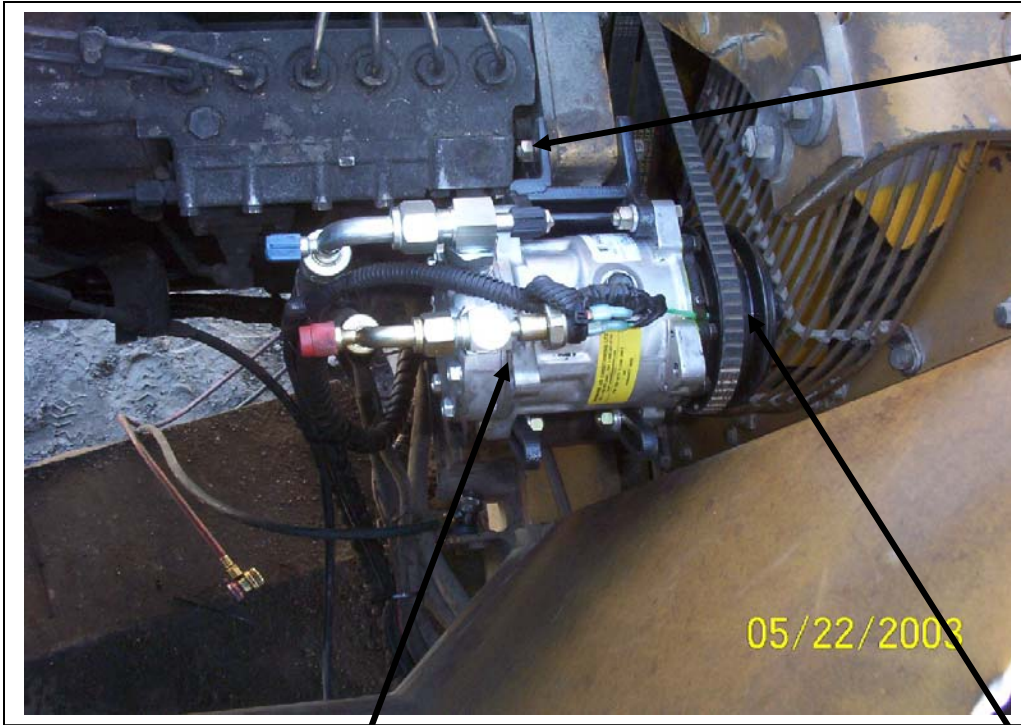
## **235 CAT EXCAVATOR INSTALLATION PICTURES**



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

FAX: (519) 485-3745 OR 1-888-267-3745

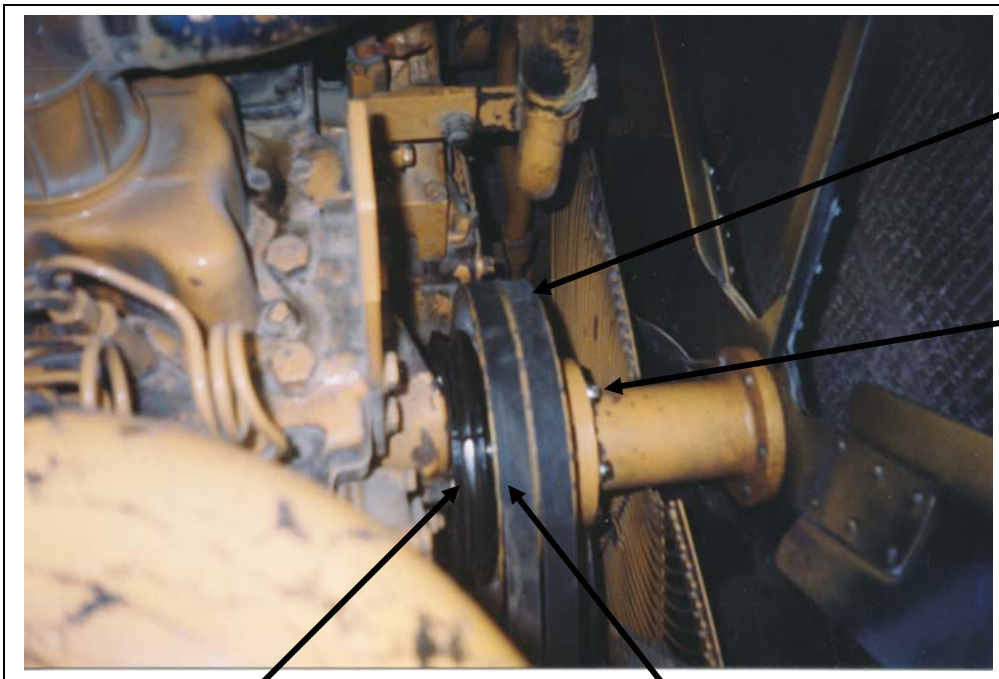
## COMPRESSOR



Compressor mount bolts onto two 3/8" bolt holes here and down lower.

Compressor. ( Not exactly as shown. New model uses a horizontal "O" ring pad mount.)

Drive belt running to split pulley.



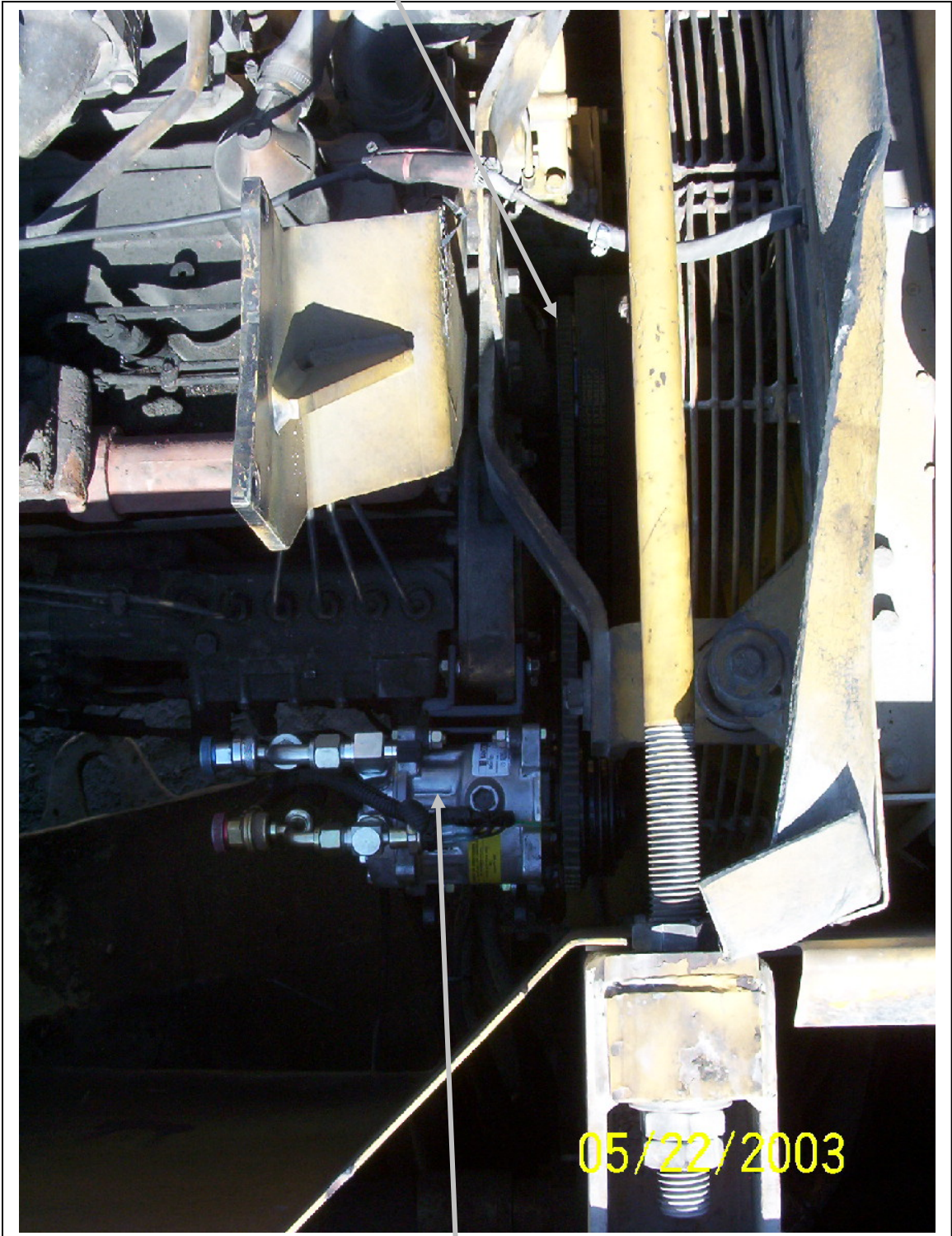
Remove pulley assembly from engine. ( four 1/2" bolts)

Unbolt fan assembly here.

Install split pulley on pulley assembly when removed. Used longer bolts provided.

Re-install split pulley and pulley assembly with split pulley in place with the longer 3/8" bolts. Install the 1/2" drive belt over the pulley assembly before rebolting the fan assembly.

Split pulley here,



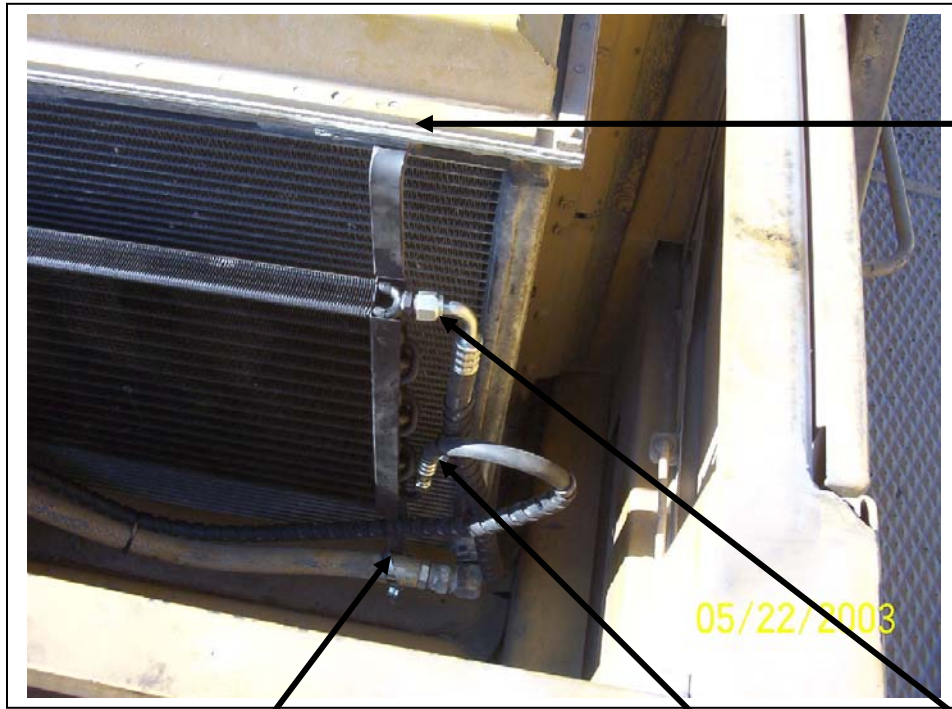
Compressor and mount.





Hoses and wiring up to compressor.

## CONDENSER



Remove existing bolt and mount condenser brackets with the 3/8" x 1 1/2" bolts provided.

Bottom end of condenser bracket bolted to existing 3/8" bolts low down on the air dam at the bottom of the radiator. Use the mixture of spacers and bolts to secure the brackets.

5/16" hose to drier

13/32" hose from compressor.



5/16" hose out  
to evaporator  
box in cab.

Drier bracket  
mounted off  
existing bolt  
stud.

Drier

5/16" hose from  
condenser outlet  
to drier inlet.

Condenser  
mount brackets.



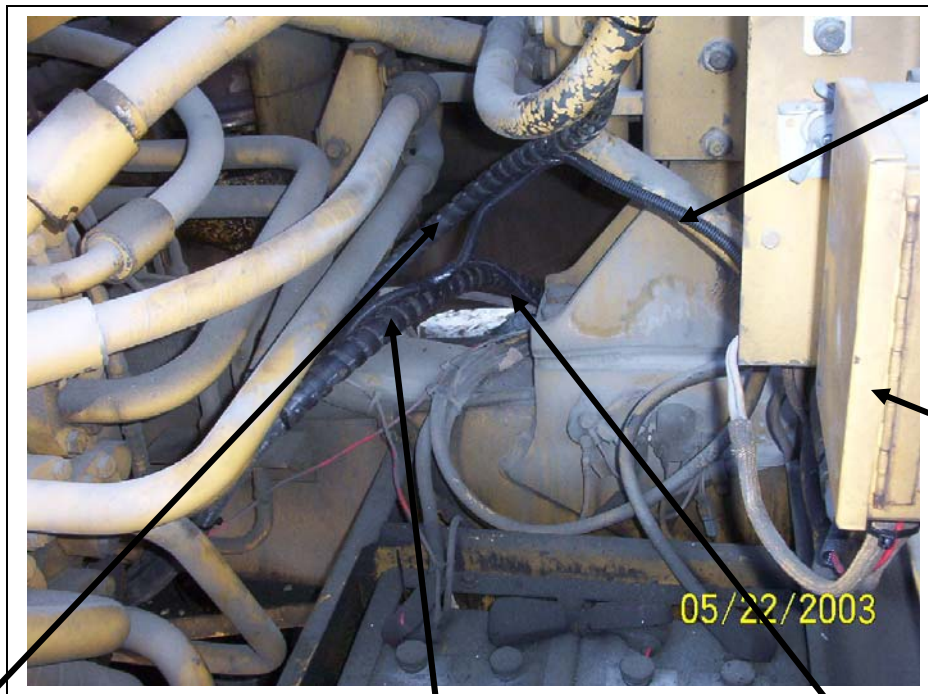
## HOSES AND WIRING



5/16" hose to evaporator in cab.

Power wire in loom.

Fuse box on cab side of radiator compartment. Bottom fuse is for A/C power wire from evaporator box.



5/16" hose from drier outlet to evaporator.

5/8" hose from compressor to evaporator box

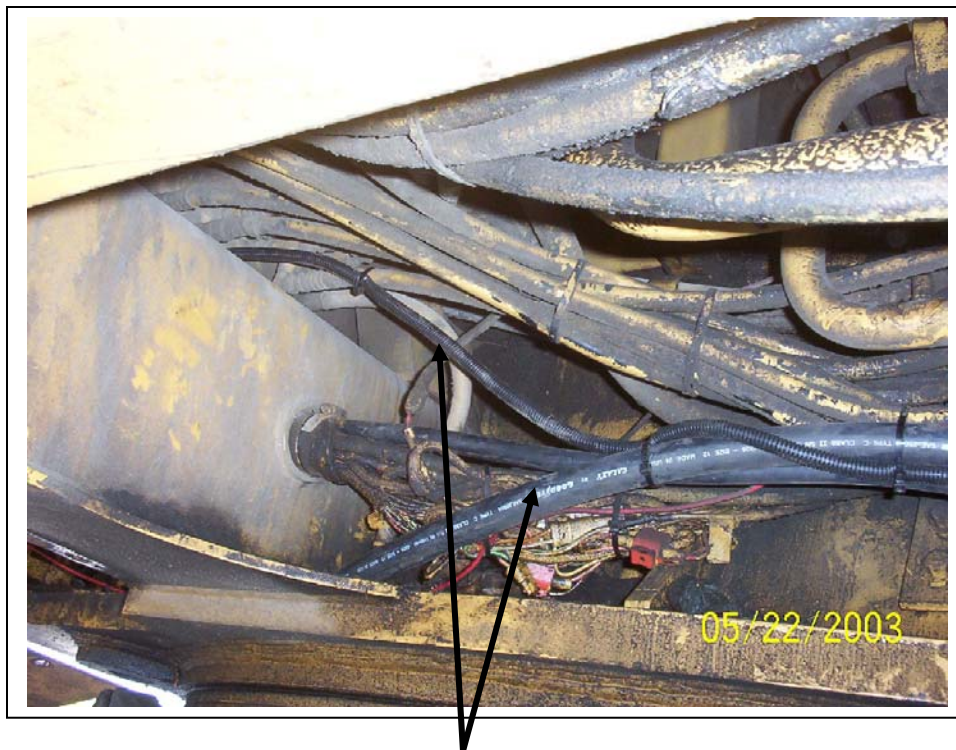
14g black wire in loom to compressor pressure switch.

12g red wire in loom.

Fuse box



Hose and wiring running up towards the cab.

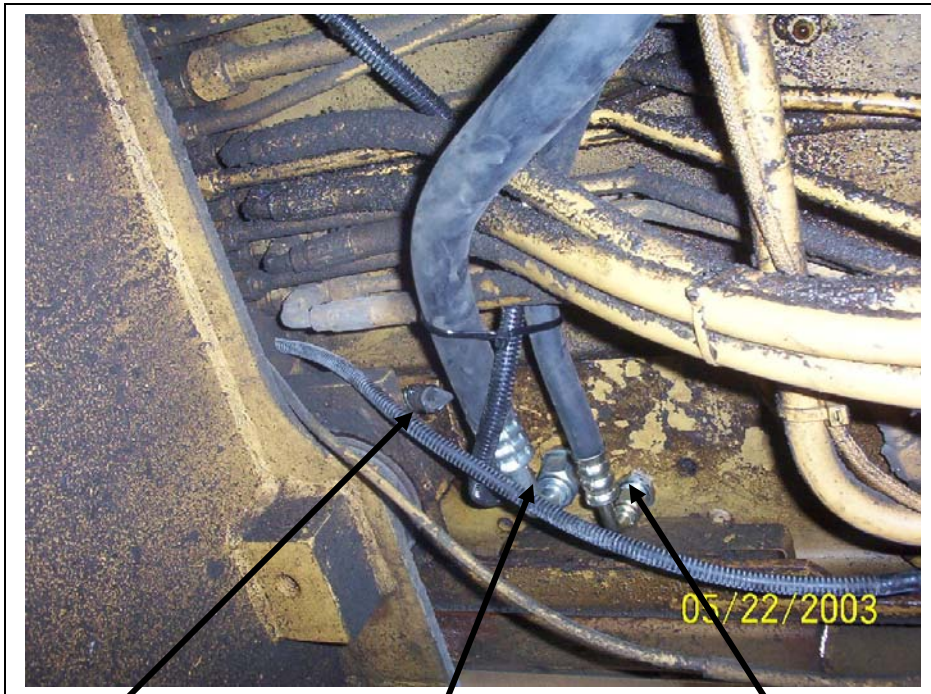


Hoses and wiring at bulkhead wall just before the cab.





Hose and wiring at cab side of bulkhead wall.



Drain tube through a hole in the floor.

1/2" bulkhead fitting through floor of cab. This hole must be cut out to fit the bulkhead fitting.

5/16" bulkhead fitting through floor of the cab. This hole exists but must be filed out slightly.



Left hand drain  
tube.

1/2" hose to  
evaporator.

5/16" hose to  
evaporator

Power and clutch  
wire.



# EVAPORATOR



Evaporator box in place.



1/4" mounting bolts.  
Drill and tap or use  
1/4" clinch nuts.

Box ground  
wire.

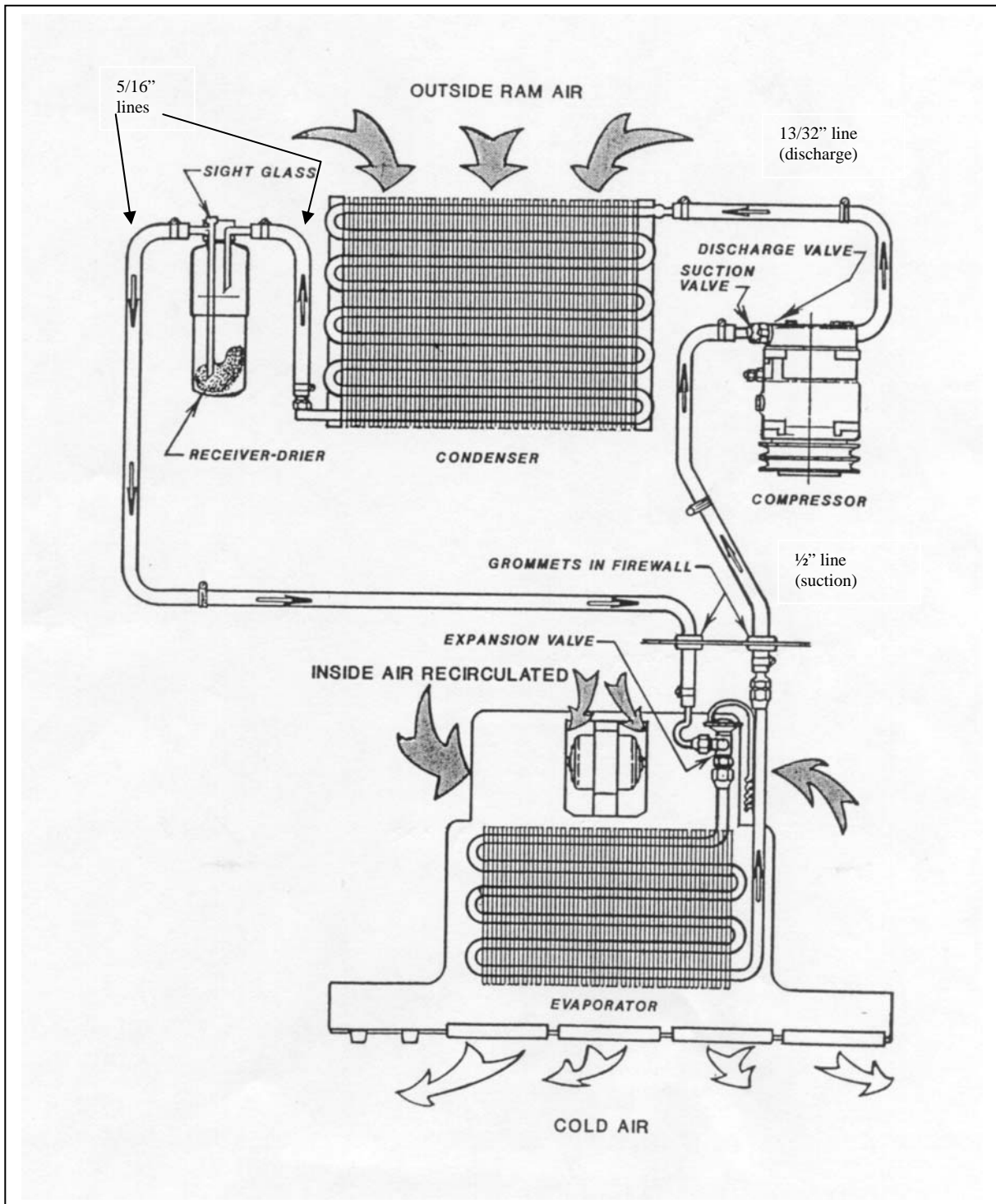
Right hand drain tube.

Hoses connected to the  
expansion valve.

Evaporator box.



## 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.

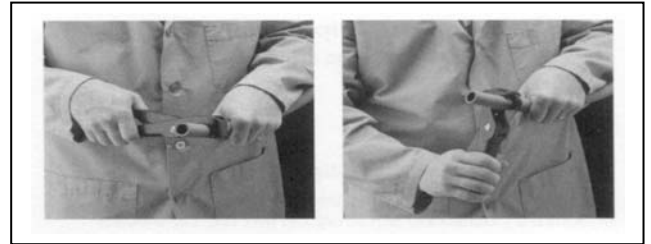
Once the probe is inserted, the A/C system needs to be tested. Run the system to ensure that the thermostat is cycling the compressor off at the appropriate temperature. A core temperature ranging between 25° and 30° F should cause the thermostat to cycle off. The air temperature at the vent outlet closest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

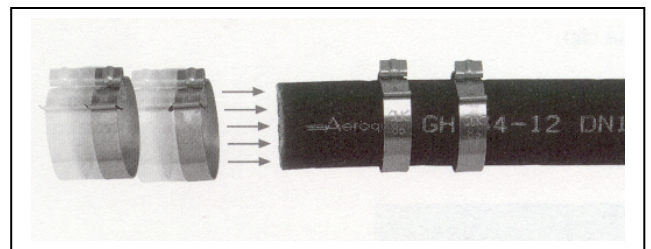


## Aeroquip E-Z Clip Assembly Instructions

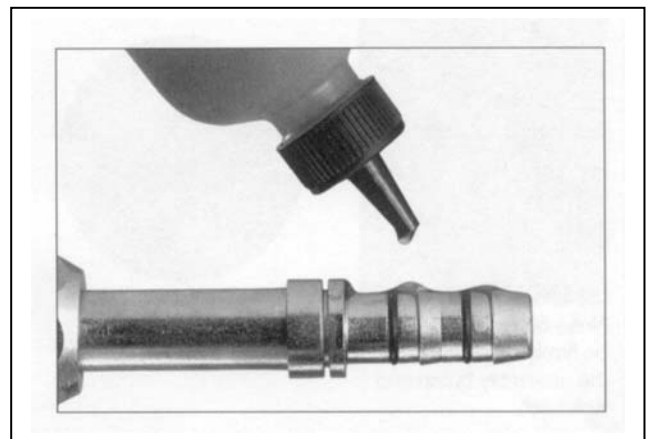
Step 1. Cut the hose to proper length with an appropriate cutting tool. Aeroquip's hand held hose cutter has been specially designed for cutting all non-wire reinforced hose, such as GH-134 Multi-Refrigerant hose. Be sure the cut is made square to the hose length.



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.



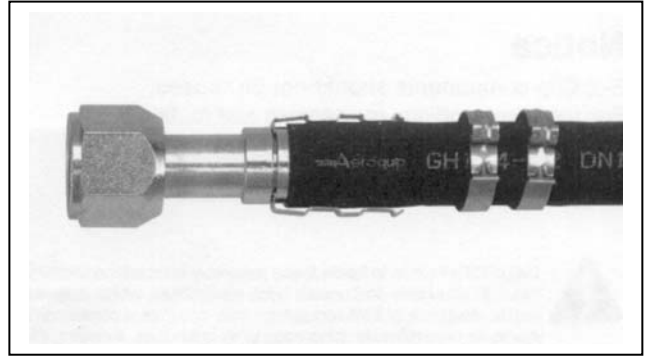
Step 4. Insert the nipple into the hose. To ensure that the nipple is fully inserted, check the gap between the cut end of the hose and the shoulder on the nipple. Care should be taken to avoid kinking or other damage to the hose during nipple insertion. NOTE: Be sure to wipe excess oil from the nipple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



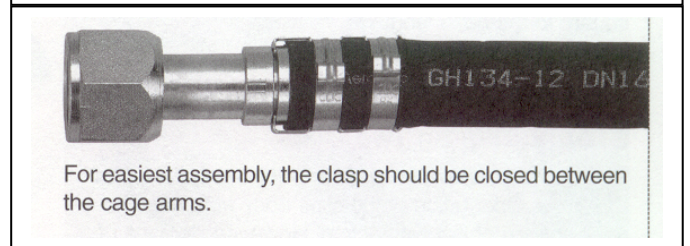
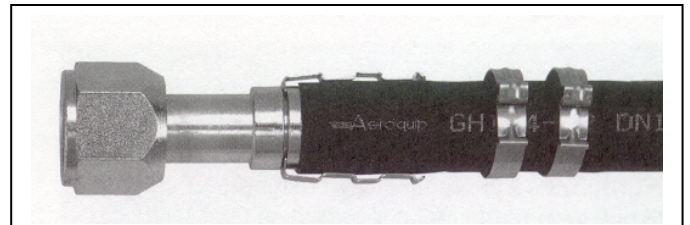
Step 5. Snap the cage into the groove on the nipple. The arms should extend over the hose length. When the cage has been correctly installed in the cage groove, the cage will be able to rotate in the groove.

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.

