963C

Cat Crawler Loader

Installation Instructions

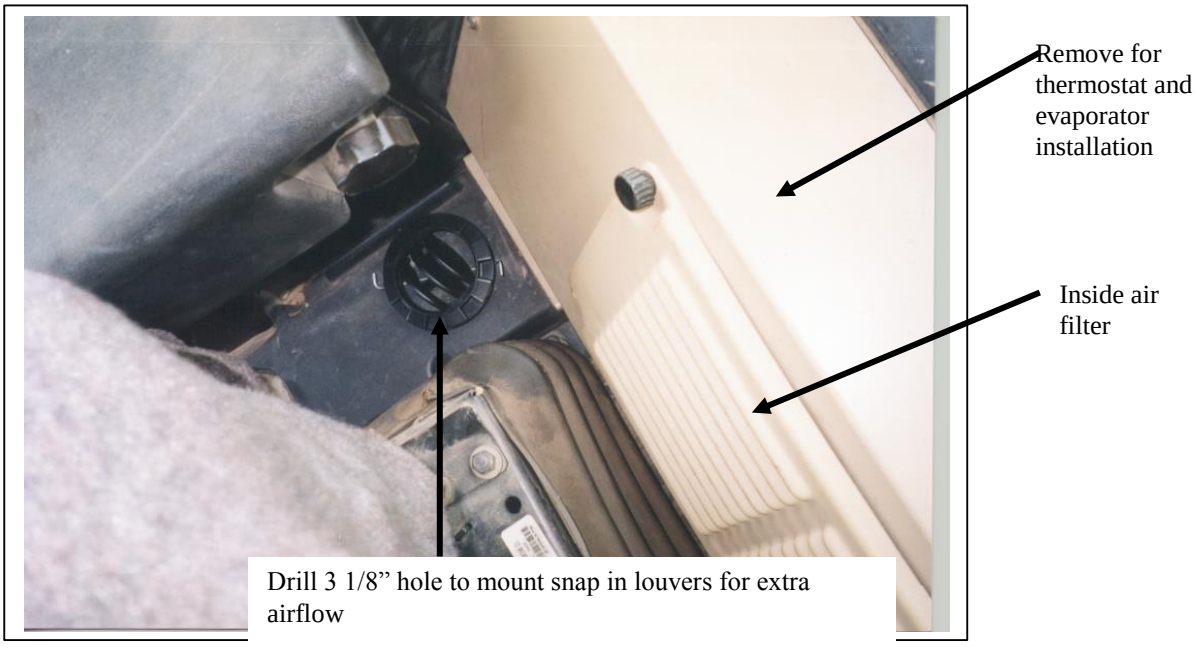
Hammond Air Conditioning Ltd.
PHONE: (519) 485-5961 OR 1-800-267-2665
FAX: (519) 485-3745 OR 1-888-267-3745

Evaporator: The evaporator mounts against the heater coil using the same retaining bolts as the heater coil.

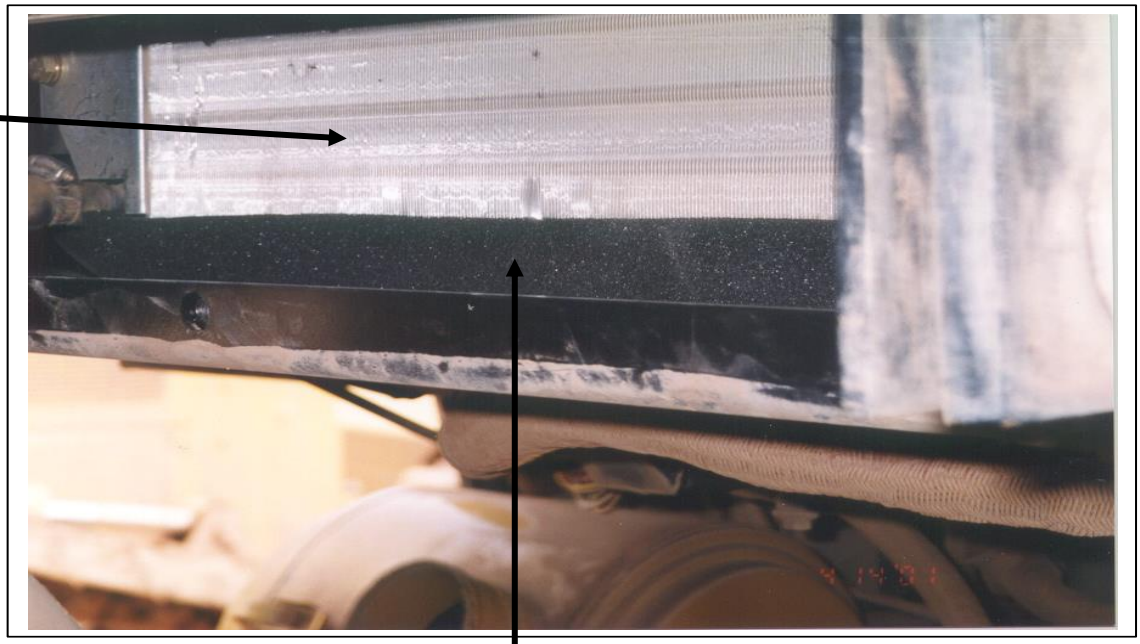
Steps:

1. Remove the cover plate from the heater area at the back outside end of the cab. Remove the air intake pipe and engine cover support bracket to gain better access to this area.

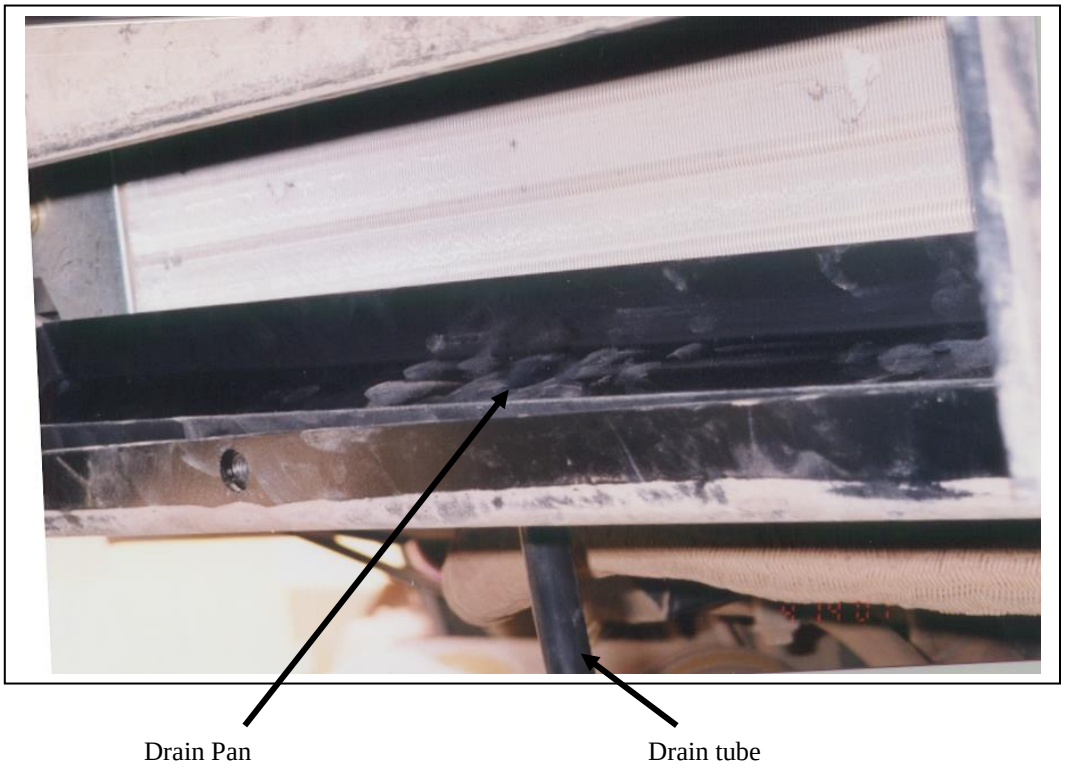
2. Remove the inside air filter and the complete panel its mounted in from behind the seat, inside the cab.



3. Once the heater is exposed, stuff one piece of 2” x 2” foam under the heater coil to stop air from by passing the face of the coil.



4. Remove the plastic knock out in the bottom rear center of the heater box, just behind the heater coil, to accommodate the drain tube.



5. Set the drain pan in place behind the heater coil with the drain tube "T" pushed down through the notched out hole. Connect the ½" drain tube to the "T" and route it down to the right side of the engine.

Drain Tube

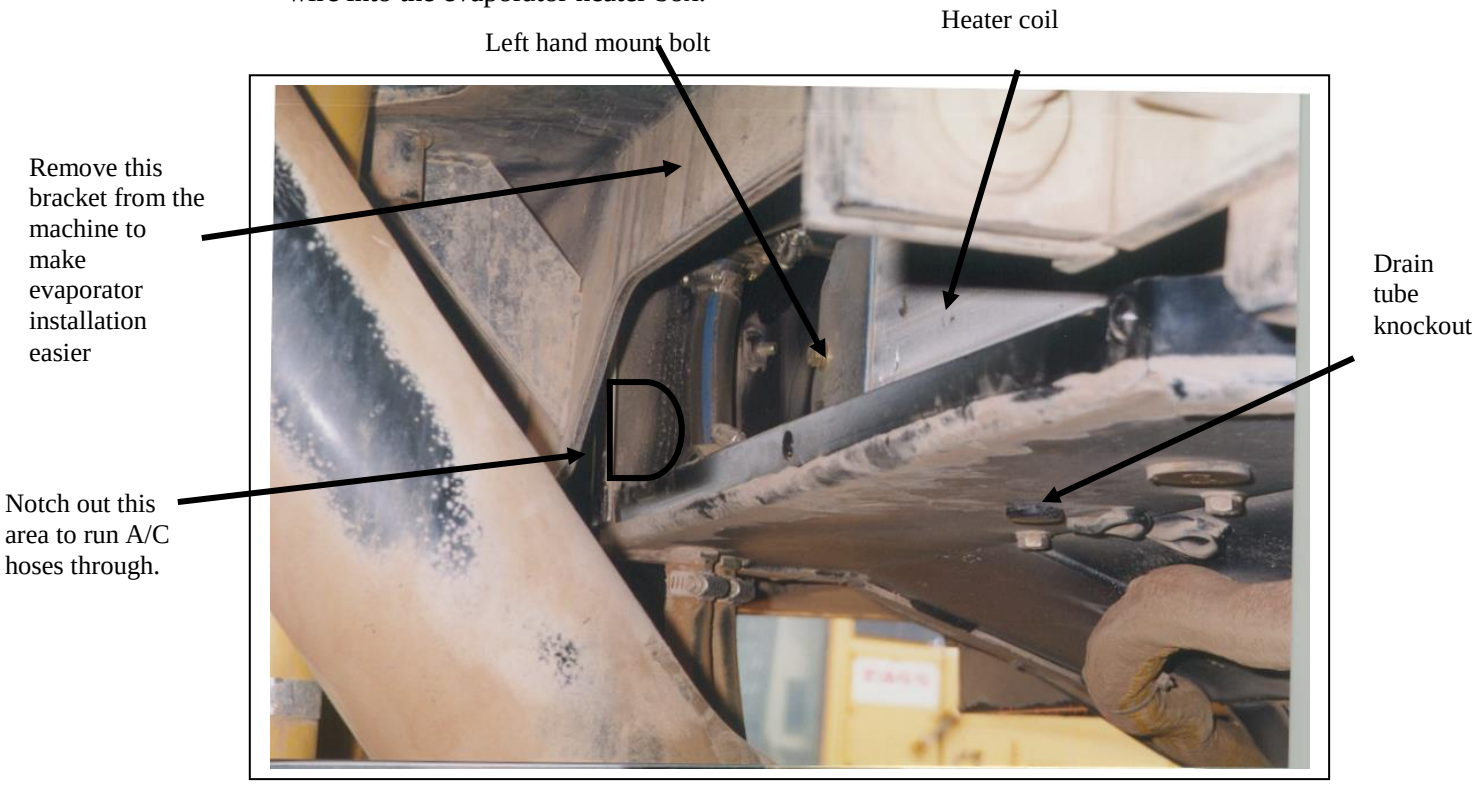
This plate can be removed to notch out for A/C hoses.

6. Position the evaporator into place and bolt to the heater coil using the longer M8 bolts with the large OD flat washers. Insert the thermostat probe down into the coil close to the fitting end, between the first and second row of tubes. Push the probe down from the top of the coil about 4". Hole the drain pan up tight to the bottom of the evaporator coil as the coil is being tightened into place.

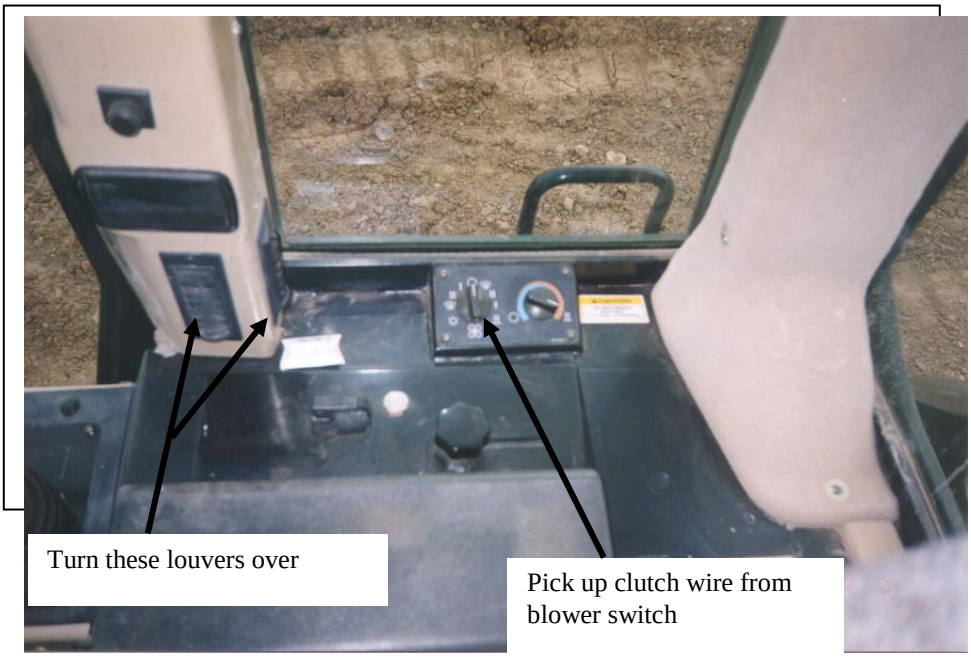
Heater coil

Right hand mount bolt

7. Stuff the second piece of 2” x 2” foam underneath the drain pan to help hold it in place.
8. Notch out the left hand small section of cover plate to allow the A/C hoses and clutch wire into the evaporator heater box.



9. Mount the thermostat in the factory location on top of the heaterbox. Splice into the clutch wire coming off the blower switch, usually # 521 yellow, with 14 gauge black wire and run it to one side of the thermostat. Connect the 14 gauge black wire to the other side of the thermostat and run it along with the A/C hoses to the compressor.

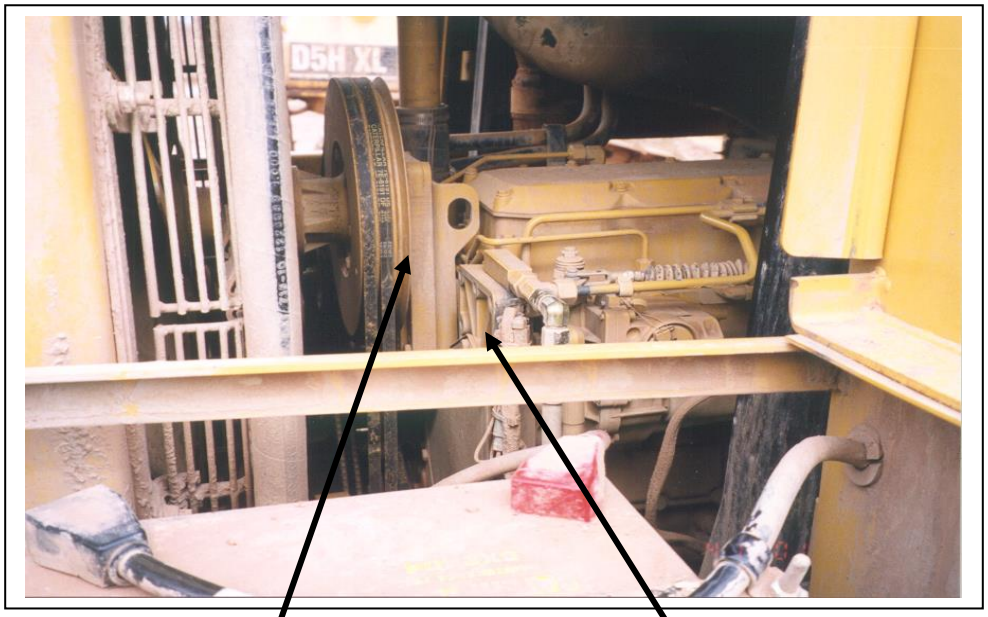


10. Drill a 3 ¼”hole in the black plastic air channels running across the seat mount plate on either side of the seat. Put the hole close to the back wall behind the seat. Install the round snap in louvers into the holes.
11. Make sure that any air gaps that might allow air to bypass the evaporator are plugged. Ensure that any holes around the A/C hoses are sealed where they enter the box. Use tar tape or silicon.

Compressor: The compressor mounts on the top right side of the engine and drives off of the open groove on the fan pulley.

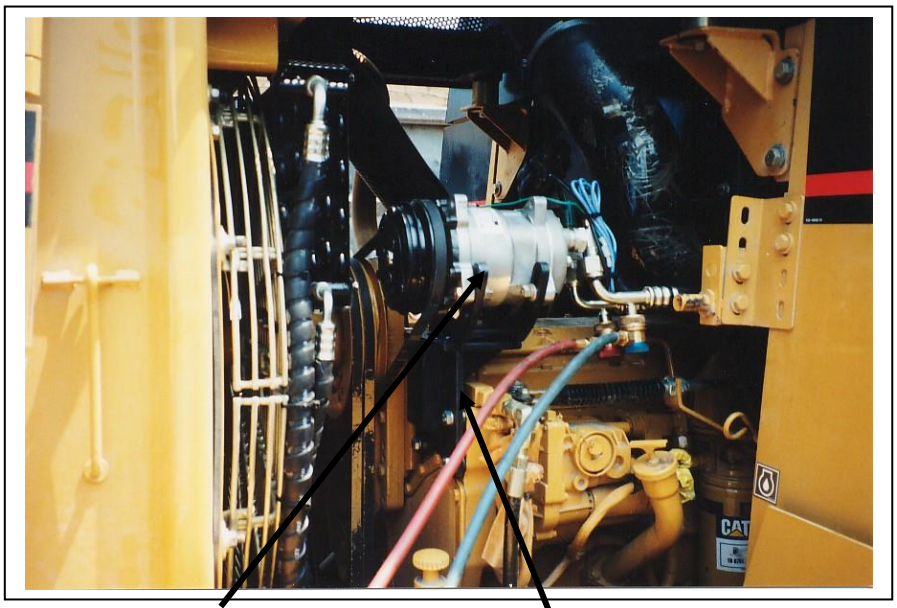
Steps:

1. Bolt the mount bracket in place to the five mount holes on the top right of the engine, just above the fuel injection pump.



2. Install the 6L7954 cat belt around the fan and pulley.

3. Set the compressor onto the mount and loosely bolt in place.
4. Install the belt around the fan pulley and rear groove of the compressor clutch. Tension the belt and secure the compressor in place.



Compressor in place on the mount

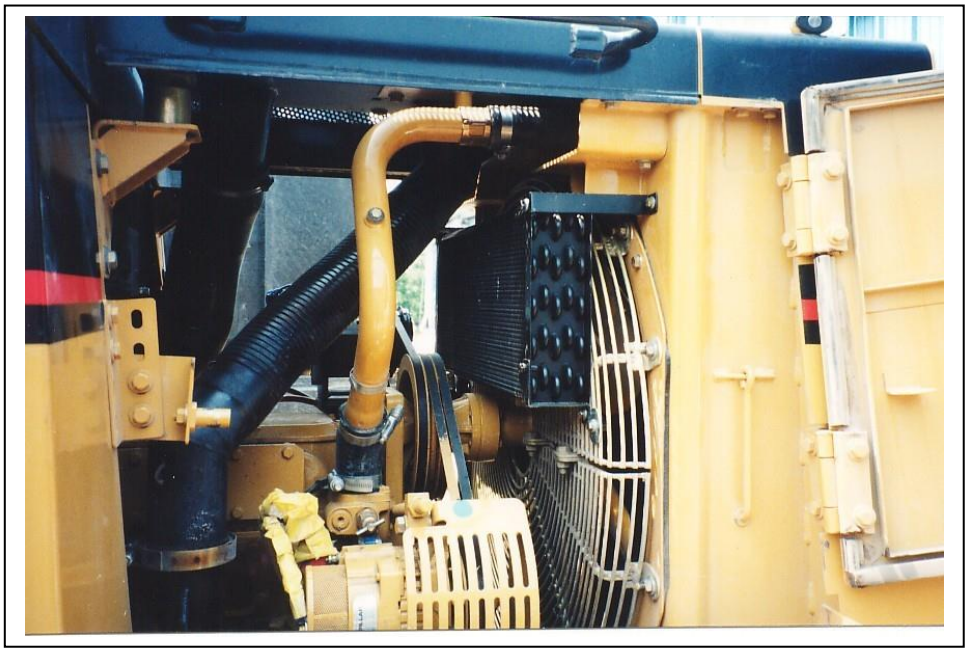
Compressor mount

5. Install the rotolock fitting onto the fitting ports on the back of the compressor. Remove the caps from the compressor ports. Install the white nylon gaskets into the grooves in the ends of the fitting ports. Attach the 13/32" rotolock fitting onto the discharge port (closest to engine), marked "dis" ro "D". Have the binary seithc on the 13/32" rotolock pointing up. Attach the ½" rotolock fitting (large one) onto the suction port, marked "suc" or "S". Have the 134A access port pointing up. Oil all contact surfaces on the rotolock with PAG refrigerant oil before installing them.

Condenser: The condenser mounts directly to the fan screen with the condenser fittings on the right hand side of the machine.

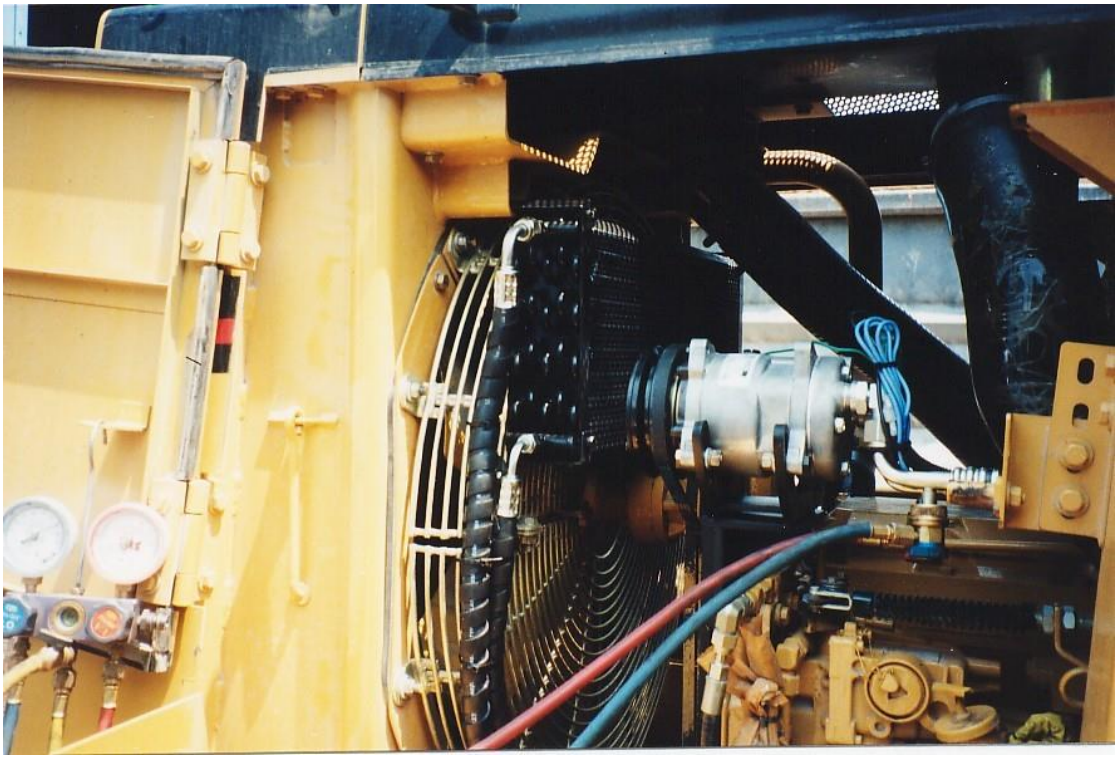
Steps:

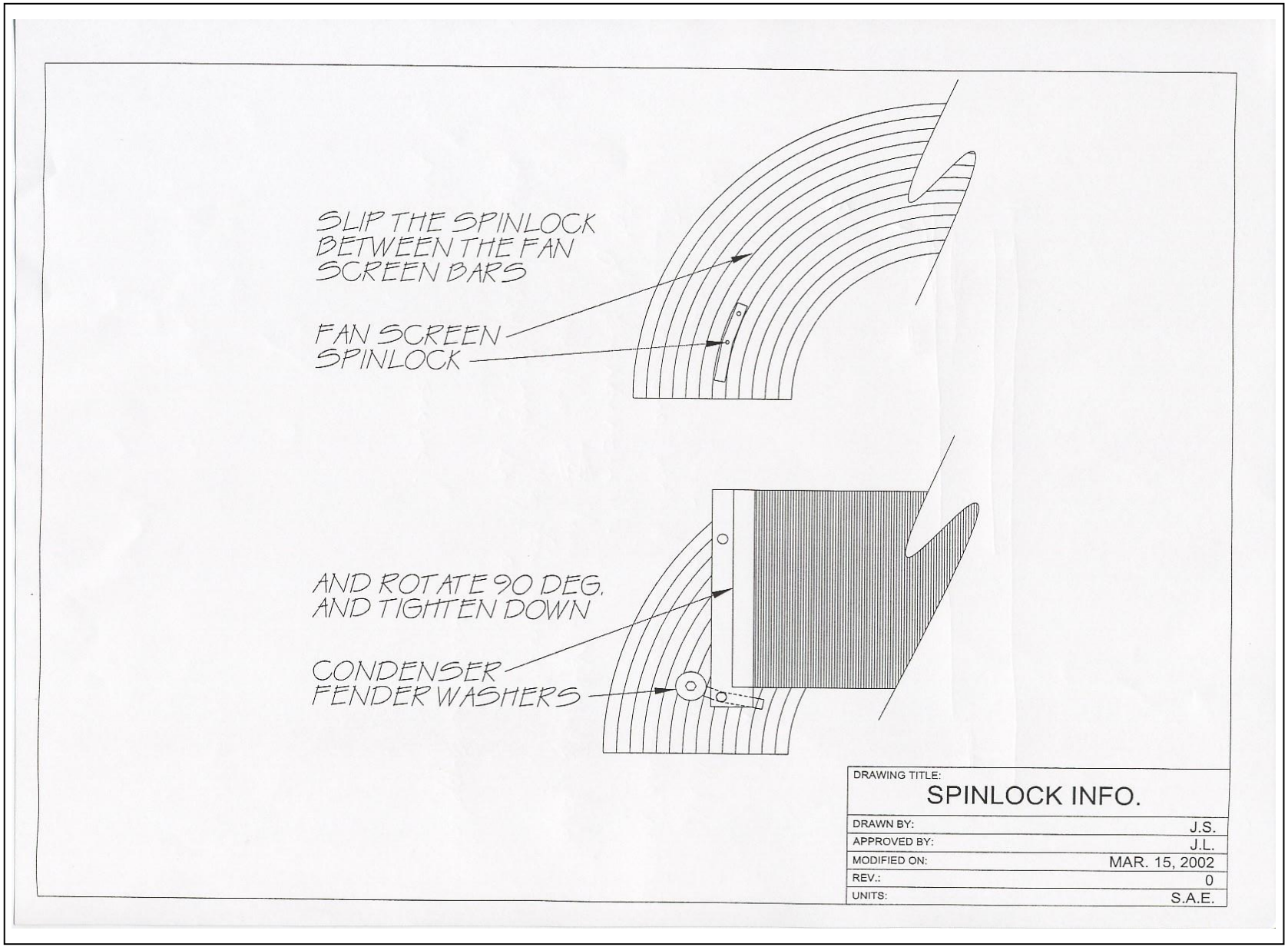
1. Put the condenser across the fan screen above the fan hub.
2. If the joints for the two halves of the fan screen are vertical, they need to be rotated 90o to the horizontal.
3. Position the condenser so that it will be about one inch above the fan hub.



4. Install the two 3/8" x 3/8" threaded condenser mounting bars onto the condenser brackets. Slide them between the screen wires and then turn them 90° to the wires. Install the fender washer and ¼" bolt into the outside hole of the threaded bar and tighten both bolts into place, so the condenser can be easily removed without removing the threaded bars.
5. When all the threaded bars are loosely in place, tighten all the bolts to secure the condenser to the fan screen.
6. Install the two long top bracket extending back toward the fan shroud. Drill and tap the shroud for ¼" bolts and use the supplied hardware to secure.

7. Once the hoses are connected to the condenser they need to be secured to the fan screen close to the condenser to limit vibration and stress on the condenser fittings.




SLIP THE SPINLOCK BETWEEN THE FAN SCREEN BARS
FAN SCREEN SPINLOCK
AND ROTATE 90 DEG. AND TIGHTEN DOWN
CONDENSER FENDER WASHERS
DRAWING TITLE:
SPINLOCK INFO.
DRAWN BY: J.S.
APPROVED BY: J.L.
MODIFIED ON: MAR. 15, 2002
REV.: 0
UNITS: S.A.E.

Drier: The drier is mounted on the left side of the machine inside the access door just below the cab door.

Steps:

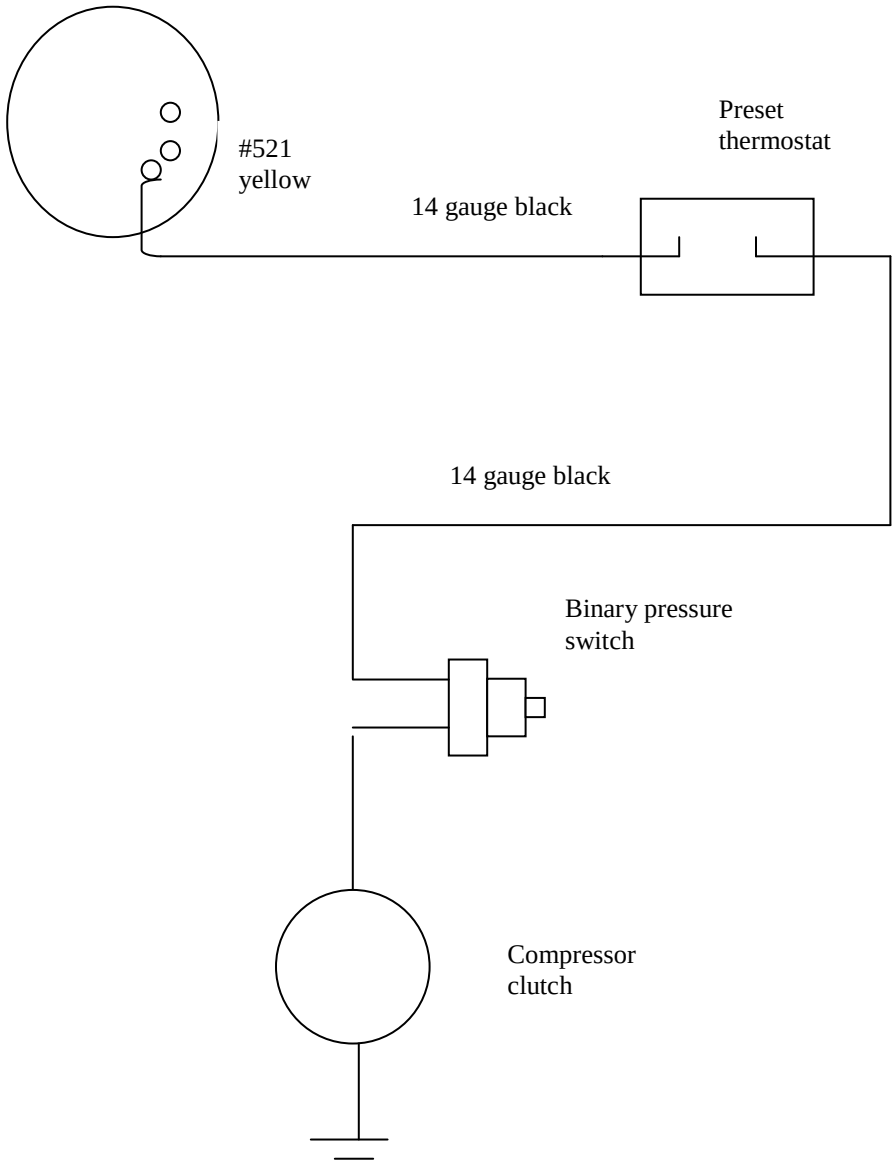
1. Remove the front outside nut and flat washer of the four studs at the front of the left access door.

2. Place the 90° drier bracket onto the open stud and secure if in place pointing back at about 45° angle.

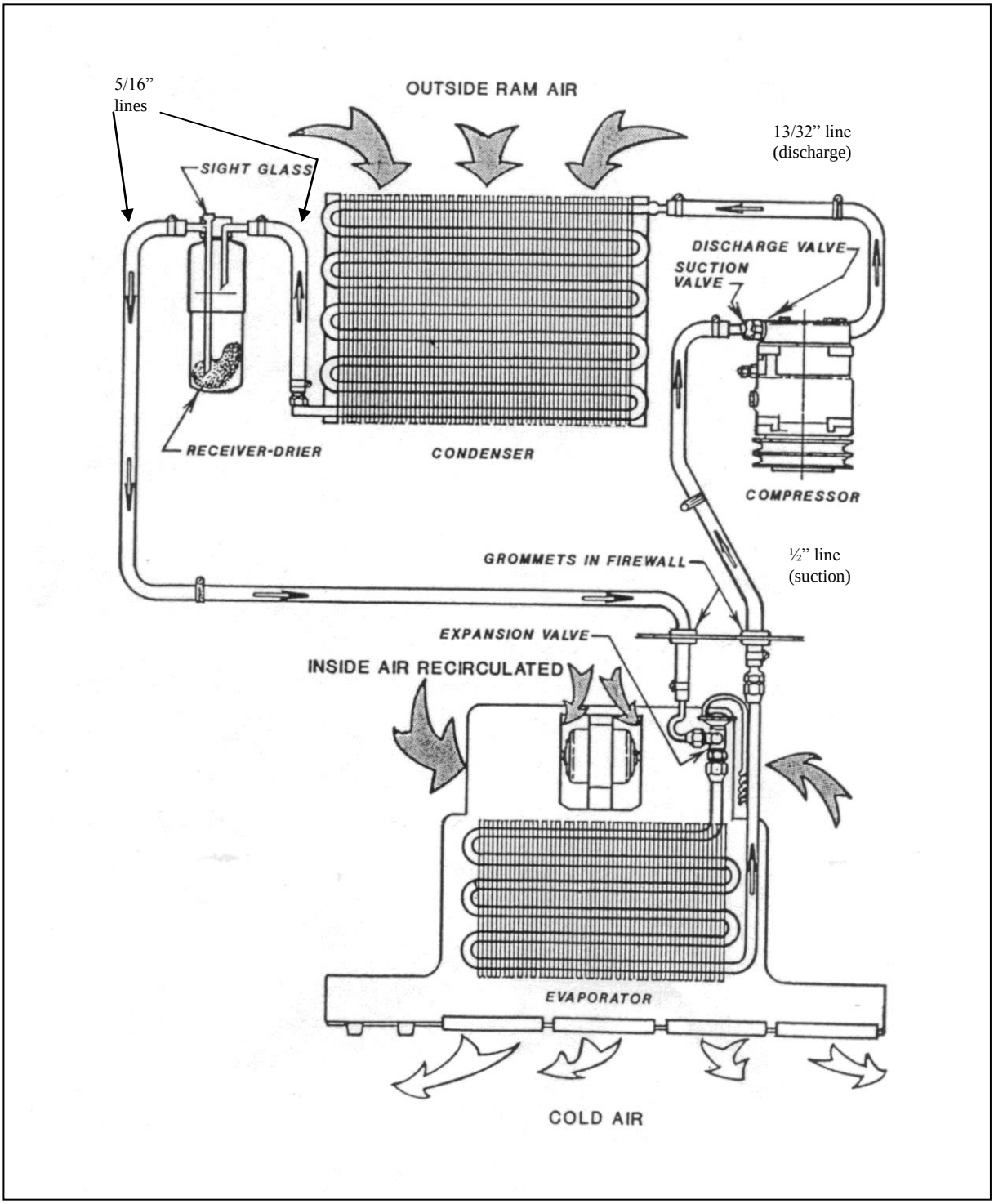
3. Mount the drier to the 90° bracket using the two #48 gear clamps. Have the drier inlet (marked IN) pointing towards the back of the machine.

Electrical Diagram

963C



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.

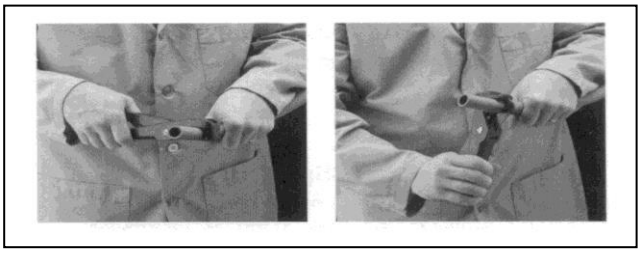
By looking at all these different factors, the area of an evaporator coil most likely to be the coldest can be determined.

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.

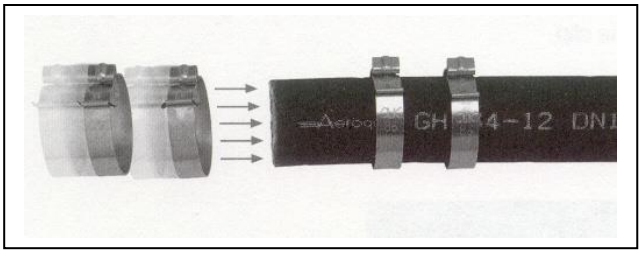
If the thermostat doesn't cycle off after a reasonable cool down period, and the air outlet temperature has dropped below 40° F, the cut in and cut out settings should be adjusted until the compressor is cycling on and off regularly. Let the system run for a decent time period (at least 15 min) and then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

Aeroquip E-Z Clip
Assembly Instructions

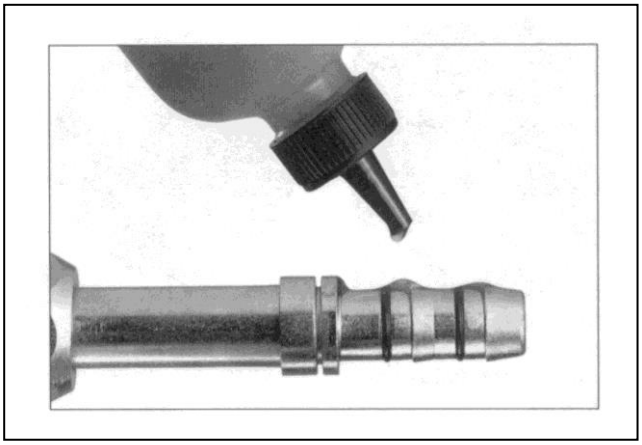
Step 1. Cut the hose to proper length with an appropriate cutting tool. Aeroquip's hand held hose cutter has been specially designed for cutting all non-wire reinforced hose, such as GH-134 Multi-Refrigerant hose. Be sure the cut is made square to the hose length.



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.



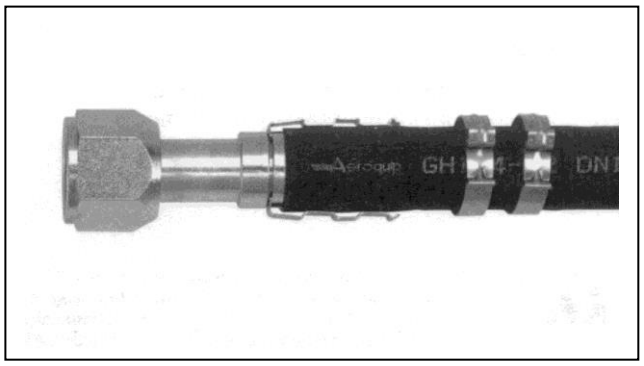
Step 3. Lubricate the nipple with a generous amount of the refrigeration or A/C system's compressor lubricating oil. This MUST be done to lower the force of nipple insertion.



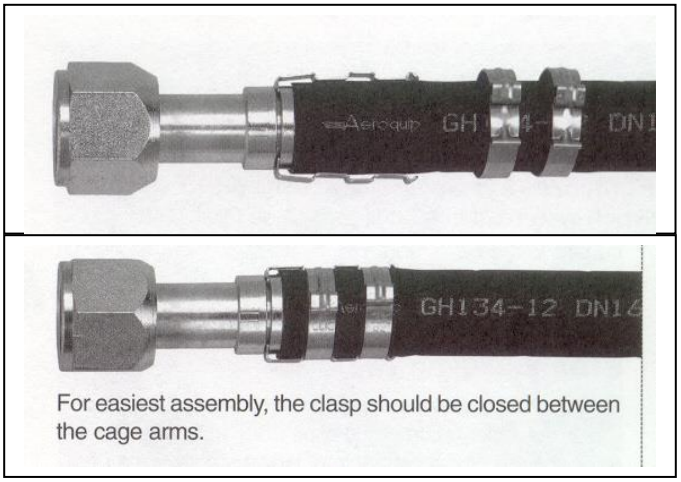
Step 4. Insert the nipple into the hose. To ensure that the nipple is fully inserted, check the gap between the cut end of the hose and the shoulder on the nipple. Care should be taken to avoid kinking or other damage to the hose during nipple insertion.
NOTE: Be sure to wipe excess oil from the nipple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



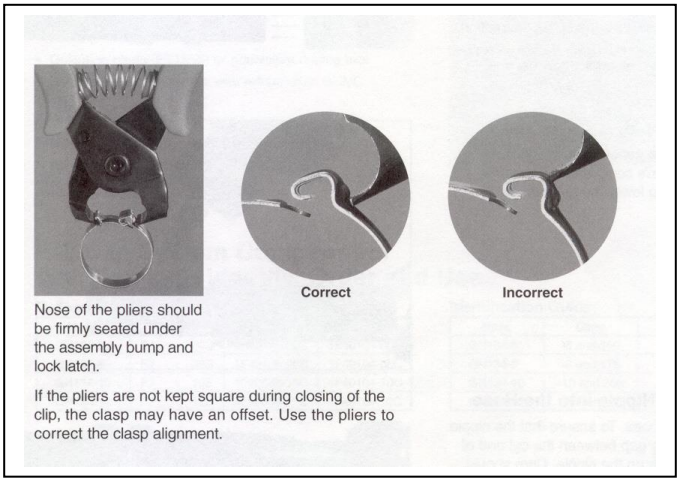
Step 6. Slide the clips over the cage arms and into the channels on each arm.



For easiest assembly, the clasp should be closed between the cage arms.

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.



Nose of the pliers should be firmly seated under the assembly bump and lock latch.

If the pliers are not kept square during closing of the clip, the clasp may have an offset. Use the pliers to correct the clasp alignment.