

**SKL 823/33/633 Terex Mini Loaders**  
**Installation Instructions**

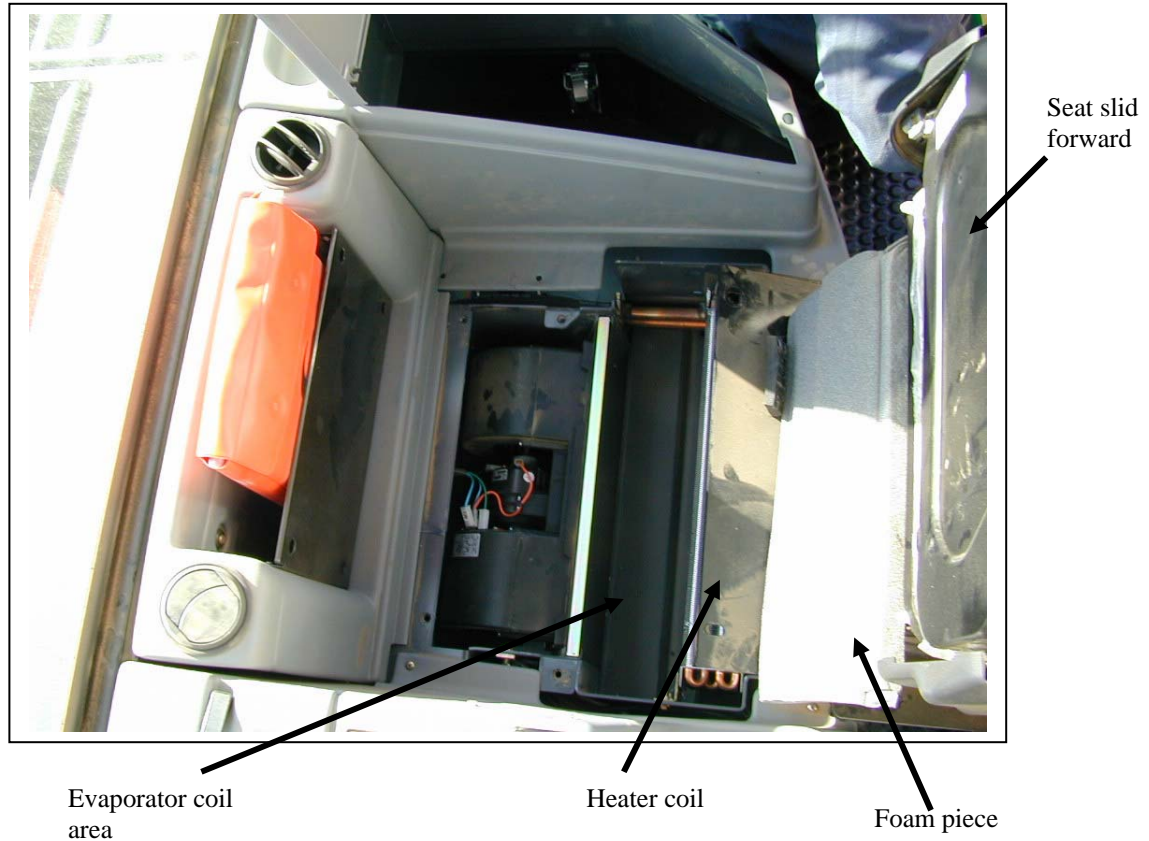


**TEREX**  
**1-877-907-8300**

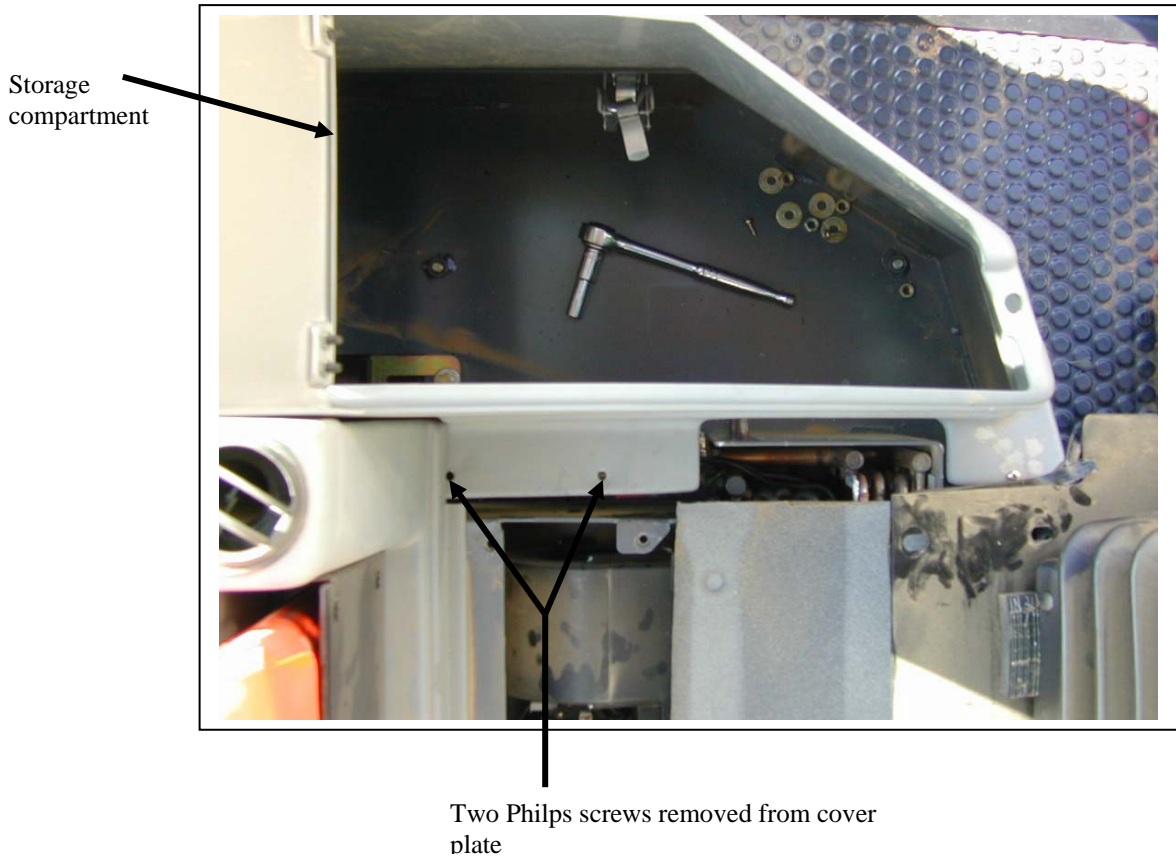
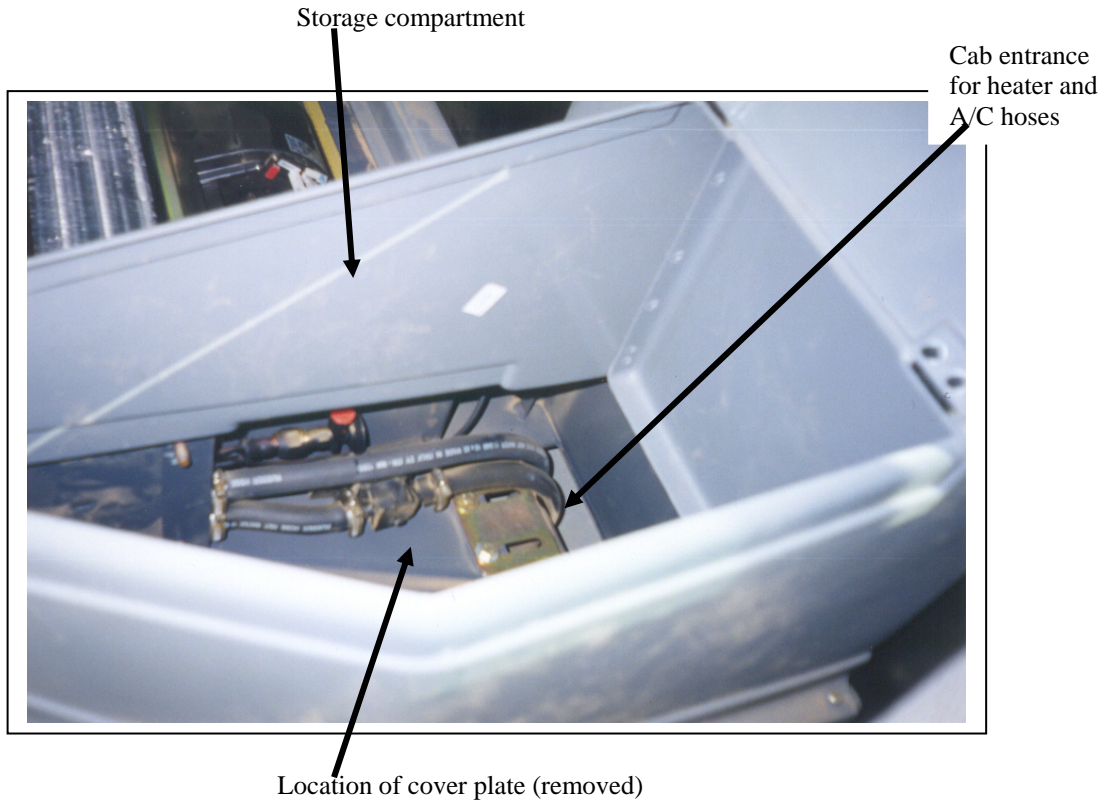
**Evaporator:** The evaporator setup for the Terex loader is a “drop in” design that goes in under the operators seat. It uses the original heater blowers, air ducts, louvers, blower controls and air filters with some minor modifications to reduce the outside air intake.

Steps:

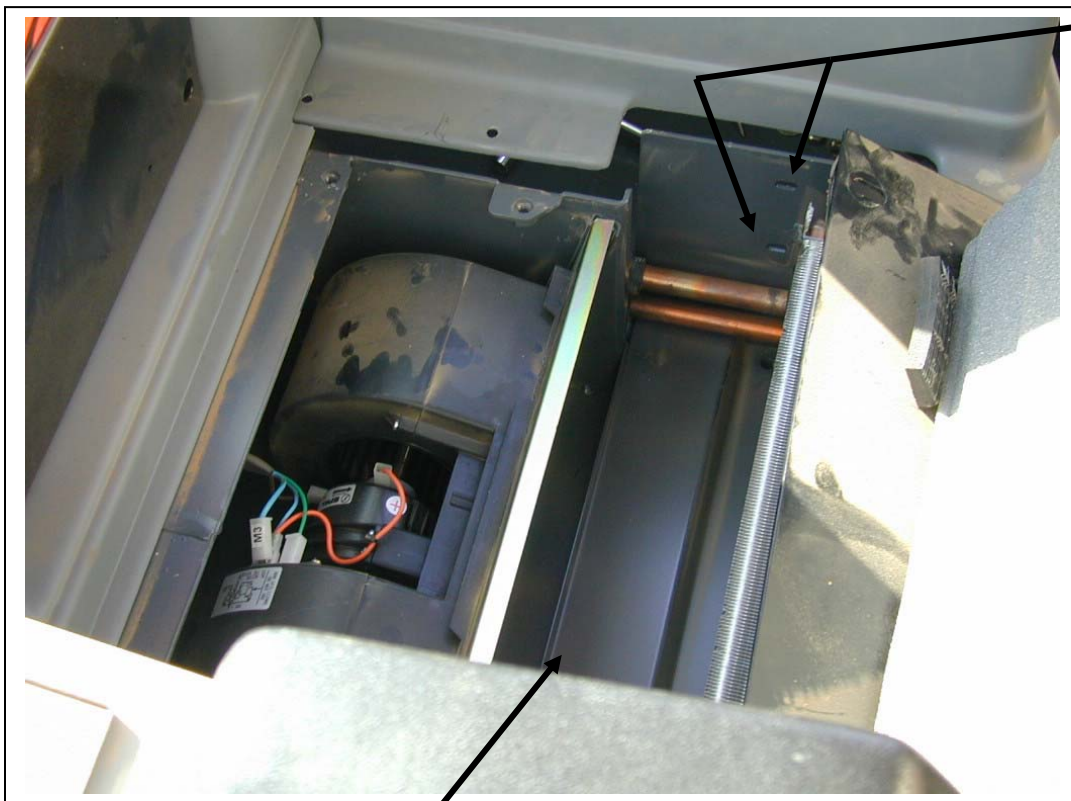
1. Unbolt the seat plate from the seat platform. Leave the seat attached to the plate. Slide the seat plate forward towards the steering wheel to expose the blowers and foam piece that covers the top of the heater box. Remove the foam piece and put aside for later re-installation.



2. Open the storage compartment to the right of the operators seat. Remove the contents of the compartment. Remove the rubber mat on the bottom of the compartment.
3. Remove the triangular shaped cover plate from the right hand wall of the storage compartment. Remove the four M8 nuts that hold the cover plate to the right wall and rear wall of the compartment. Remove the two Philips screws from the plastic storage compartment cover that screw into the cover plate on the heater box side of the storage compartment. Slide the cover plate out to the right and remove it from the storage compartment.



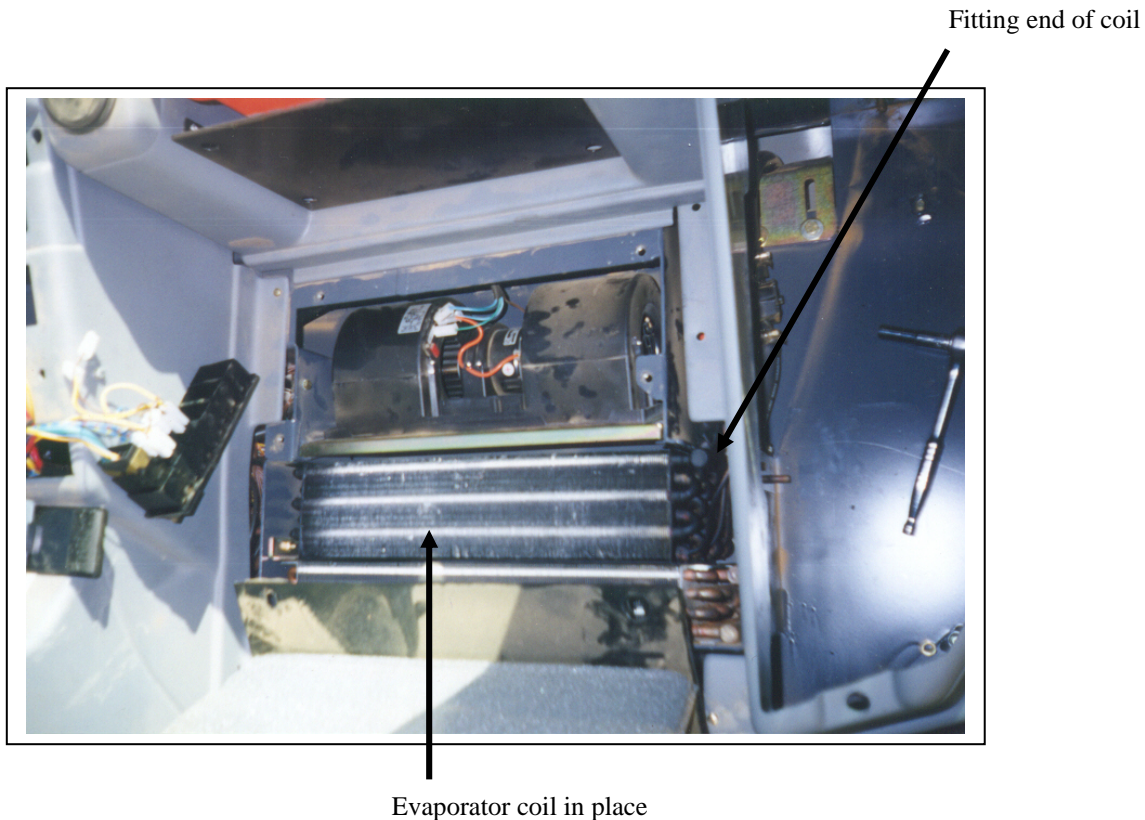
4. Remove the heater coil retaining bracket from the right hand side of the heater box. It sits between the heater coil and blowers and is held in place with two M6 bolts and nuts. Discard the bracket and hardware, it will not be reused.



Holes from bolts holding the heater coil retaining bracket

Evaporator area

5. Slide the evaporator coil into place with the fittings on the left side pointing towards the back of the cab. On the right end of the evaporator coil, the front flange on the evaporator coil should be in between the heater coil flange and the coil retaining bracket.



6. The evaporator coil should sit flush with the heater coil at the top.



7. The thermostat probe is run from the thermostats location on the right hand control console towards the back of the console and through the existing grommet for the blower wires. This grommet can be easily accessed by temporarily removing the blower assembly. This is done by pulling up on the blower assembly frame and sliding it out of its hole. Run the thermostat probe along the top of the evaporator and insert it five inches deep into the coil between the second and third rows of tubes from the front, about half way along the length of the coil.



Thermostat probe

Blower assembly removed from its spot

8. Using tar tape, seal the area all around the heater and A/C lines as they exit the heater box area. Also plug the two small holes left from the removal of the M6 bolts holding the right heater coil retaining bracket.
9. When the system has been all assembled and tested the foam pieces can be placed back on top of the heater and evaporator coils and the seat plate can be re-assembled. Also use tar tape to seat the hose inlet area into the cab and then re-install the triangular cover plate. Replace all the other items into the storage compartment.

Seal the heater and A/C lines to eliminate air leakage out of the box

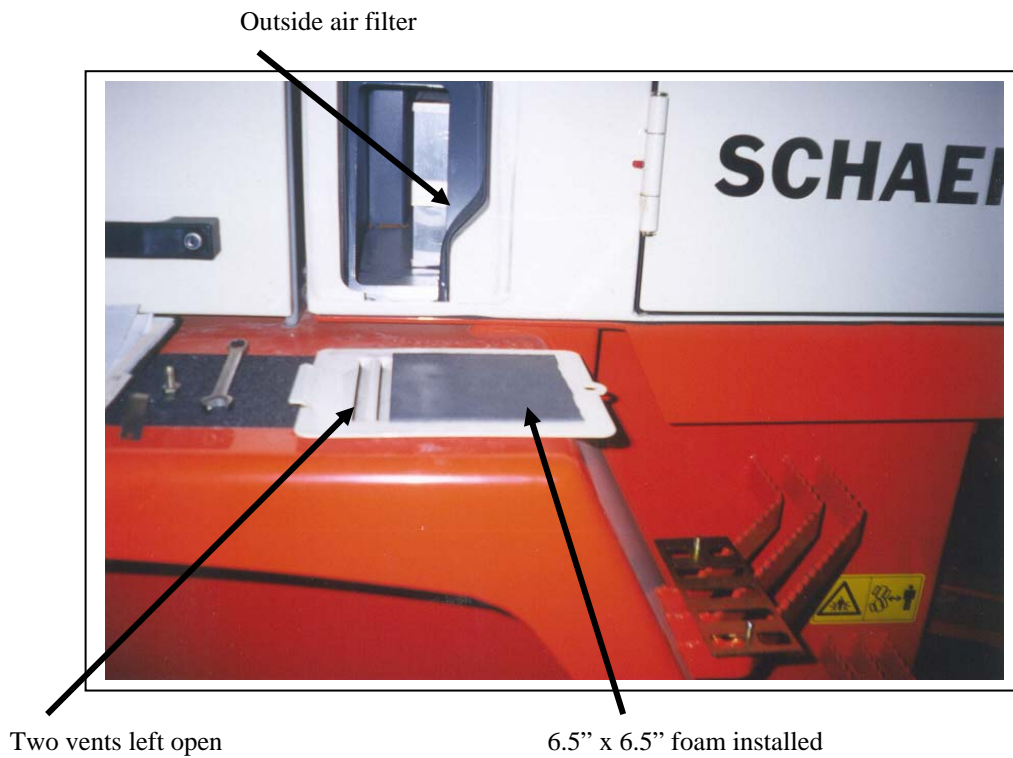
Foam piece back in place



10. The outside filtered air intake for the cab is not designed for extreme climates and needs to be restricted to achieve the maximum cooling potential. This is done by removing the outside air intake panel on the right side of the cab, just behind the right door. On the back side of the air intake panel install the 6.5" X 6.5" piece of self adhesive foam so that it covers all but the bottom two louvered vents.



Air intake panel removed



11. While the outside air intake panel is off, the slider plate to control this inside air re-circulation louvers can be removed. This slider plate is located on the lower right side of the right control console, just inside the right side door. Remove the two fasteners holding the slider plate on and let the plate fall down inside the air passage. Remove the slider plate from inside the cab by removing the filter and reach in behind it. By removing the slider plate, the inside air re-circulation cannot be accidentally shut off.



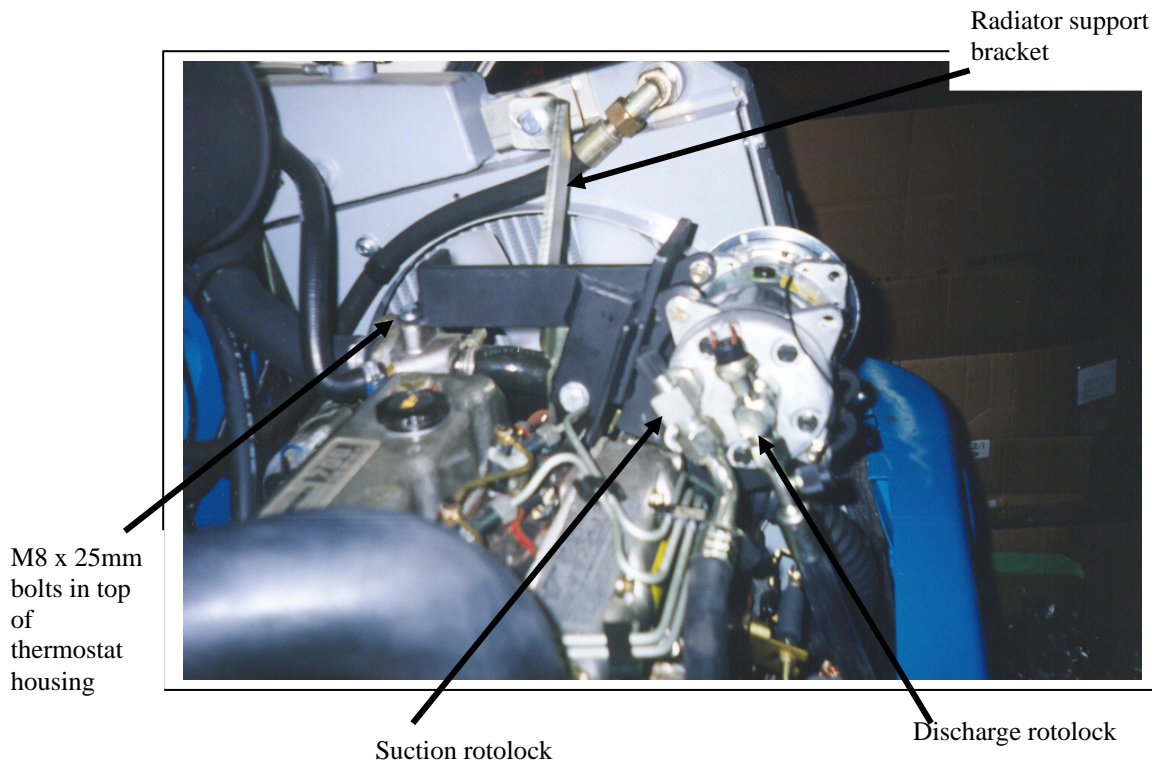
12. Replace the filter and outside air intake panel.



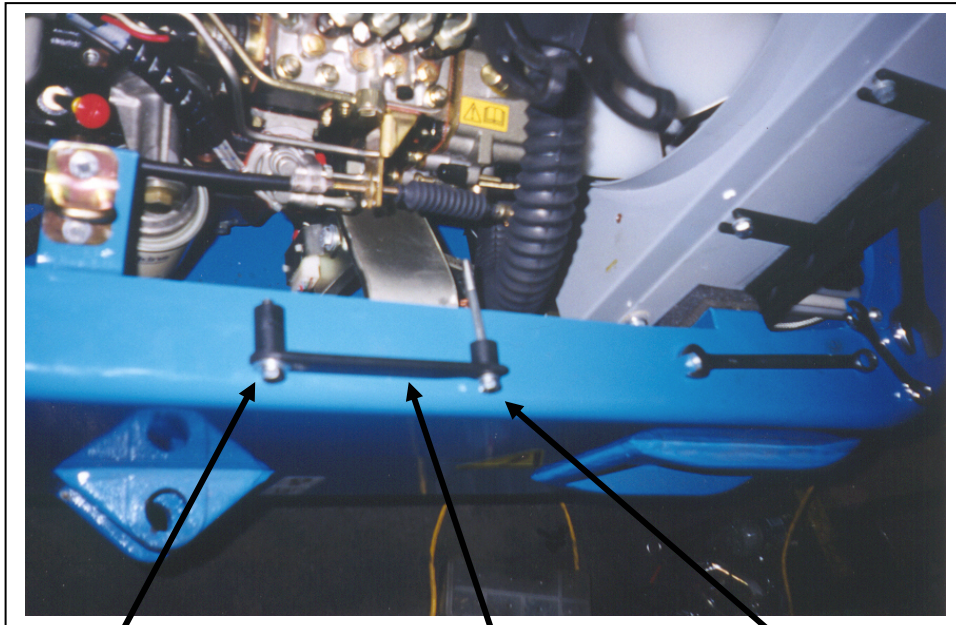
**Compressor mount:** The compressor mounts on the right, rear end of the engine and drives off an add on pulley on the crank.

Steps:

1. Unbolt the fan blades from the fan pulley. Leave the fan off until the add on pulley has been installed on the crank.
2. Install the add on pulley onto the crank pulley using the three M10 x 30mm bolts provided. Use blue lock tight on the threads.
3. Install the 17530 drive belt around the add on pulley.
4. Put the 1/8" thick aluminum fan spacer ring onto the fan pulley and re-install the fan blades. Use the four M6 x 55mm bolts supplied in the kit.
5. Remove the radiator support bracket from the engine and radiator. Keep all the hardware and the brackets handy.
6. Set the compressor mount bracket onto the engine and loosely bolt the long brace onto the two M8 threaded holes on top of the thermostat housing. Use the M8 x 25mm bolts provided in the kit.



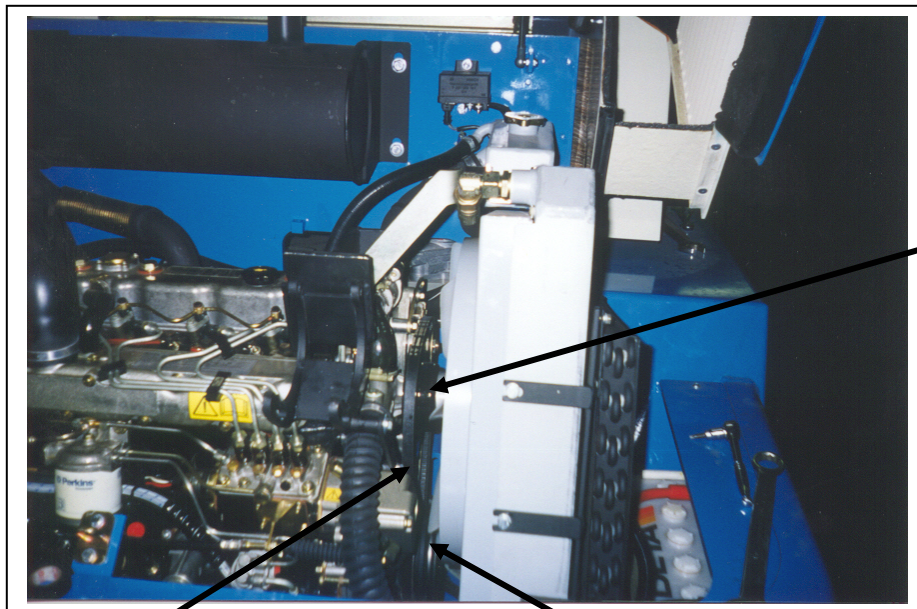
7. Remove the M8 bolt from the top inside hole of the fuel shutoff solenoid cover. Bolt the stiffener bracket onto the same location using the M8 x 100mm bolt and 3/4" spacer. Bolt the slotted end of the stiffener bracket to the threaded M8 hole on the bottom of the compressor tightener ear. Use the M8 x 50mm bolt and 1 1/4" spacer provided.



M8 x 50mm bolt and  
1 1/4" spacer

Stiffener bracket

M8 x 100mm bolt and  
3/4" spacer

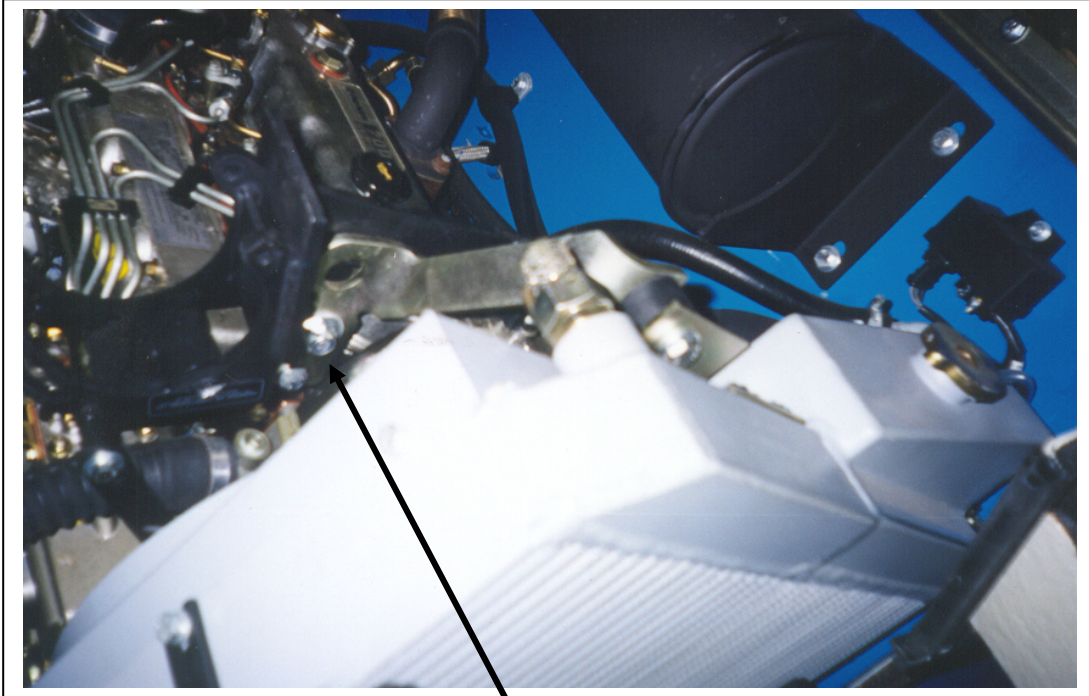


1/8" Thick fan  
spacer

Stiffener bracket

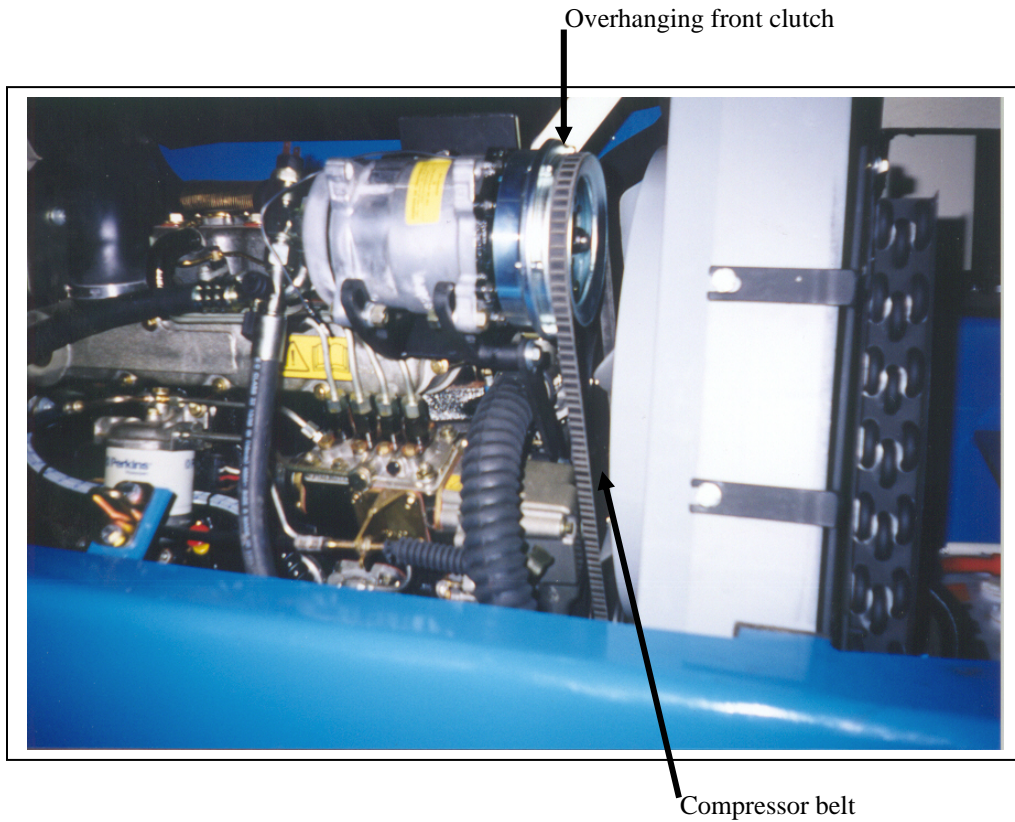
Add on crank pulley

8. Using the original bolt, fasten the central mount hole of the compressor mount to the engine bracket and the top mounting hole of the radiator support bracket. Use the large 1/8" thick flat washer to space out the bottom mounting hole of the radiator support bracket. Re-install the bolt in the radiator end of the radiator support bracket.

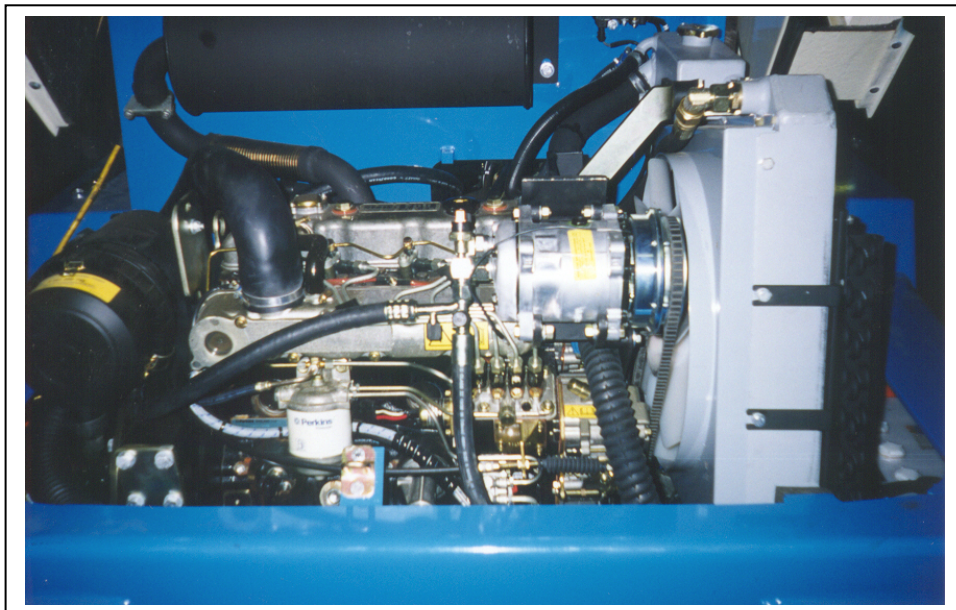


Original radiator support bracket

9. When all the bolts for the compressor mount are in place loosely, tighten them all down to secure the mount in place. Check to make sure the mount is not resting on the intake manifold.
10. Place the compressor onto the tightener ears of the mount. The ears will be loose on the compressor to allow for front to back adjustment for correct belt alignment. Use the supplied flat washers as shims to achieve the correct belt alignment.



11. Install the drive belt around the add on crank pulley and the compressor pulley. Bolt the compressor in place and double check the belt alignment with a straight edge across the pulley face. Once the alignment is correct, tighten the compressor fully and secure the bolts.

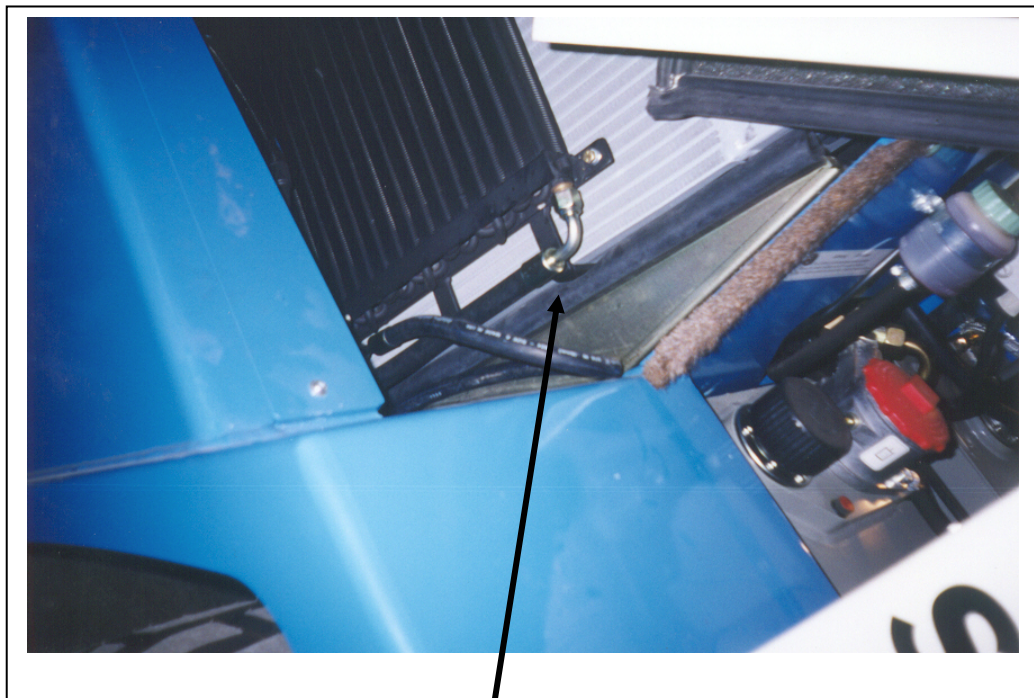


12. Install the rotolock fittings onto the fitting ports on the back of the compressor. Remove the caps from the compressor ports. Install the white nylon gaskets into the grooves in the ends of the fitting ports. Attach the 13/32" rotolock fitting onto the discharge port (closest to back of machine), marked "dis" or "D". Have the binary switch on the 13/32" rotolock pointing up and in towards the engine about 10° from vertical. Attach the 1/2" rotolock fitting (large one) onto the suction port, marked "suc" or "S". Have the 134a access port on the same angle as the 13/32" rotolock. Oil all contact surfaces on the rotolocks with PAG refrigerant oil before installing them.

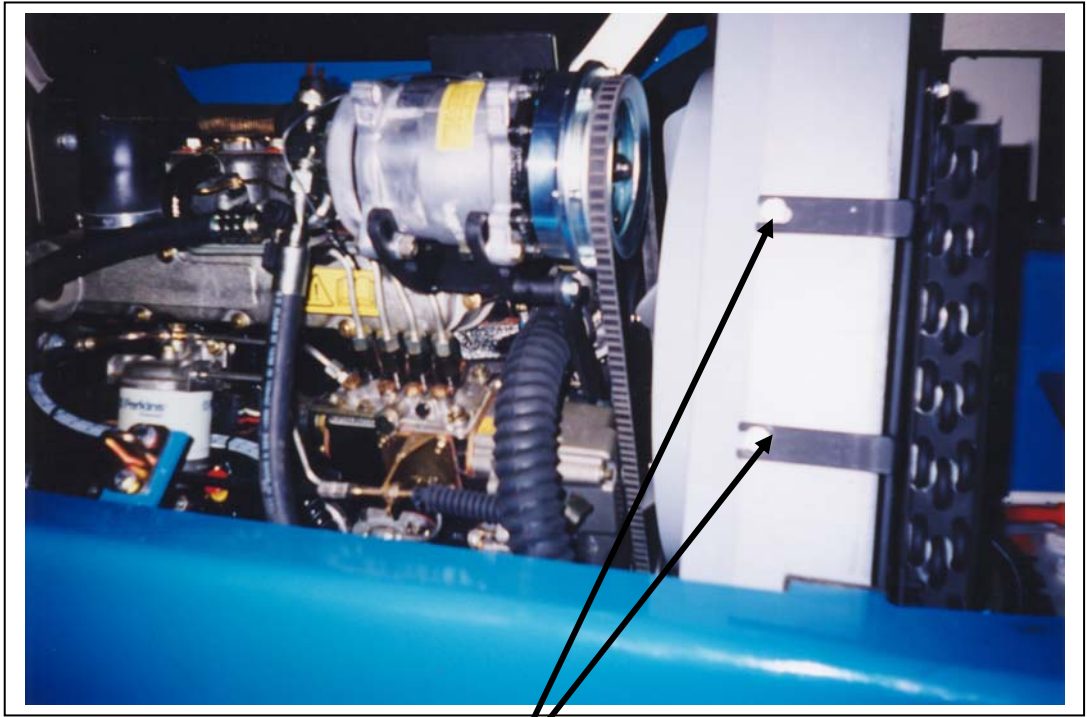
**Condenser installation:** The hinged condenser is mounted to the intake side of the radiator using the existing bolts.

Steps:

1. Remove the 2<sup>nd</sup> and 3<sup>rd</sup> bolts from the top on both sides of the radiator frame. The cab sides of the radiator frame. The cab side bolts can be easily accessed by reaching overtop of the engine.
2. Install the supplied large O.D. flatwasher onto the bolts and restart them in the original holes.
3. Slide the condenser down in front of the radiator until the slotted holes of the condenser mounting brackets slide underneath the flatwashers on the bolts. Tighten both sides down to secure the condenser in place.



Cab side brackets passing under rubber seal.

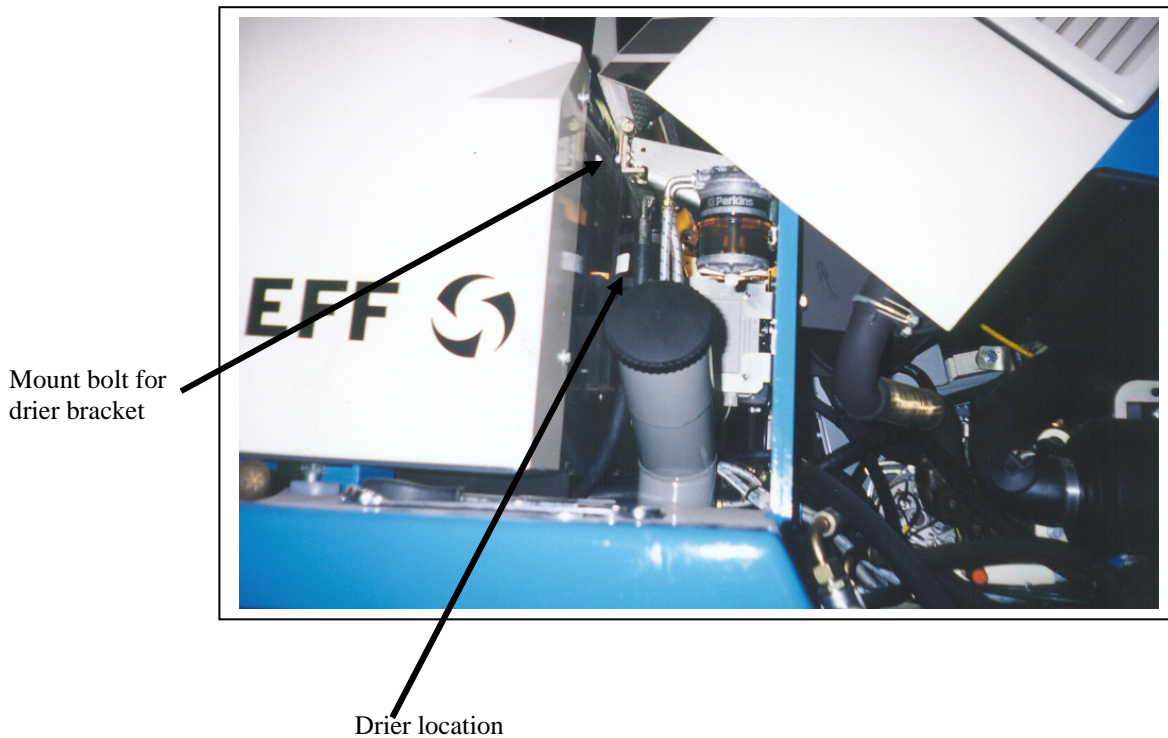


2<sup>nd</sup> and 3<sup>rd</sup> bolts on radiator frame.

**Drier installation:** The drier mounts right behind the cab off of one of the existing engine hood hinge bolts. It is just behind the fuel fill spout and the fuel filter on the left hand side of the machine.

Steps:

1. Remove the hinge bolt closest to the left side of the machine.
2. Using the same hardware, bolt the straight drier bracket to the cab side of the hinge.
3. Mount the drier to the straight bracket using the two #48 gear clamps provided. The inlet fitting for the drier should point to the right side of the machine and the outlet to the left. The drier should be clamped to the engine side of the bracket.

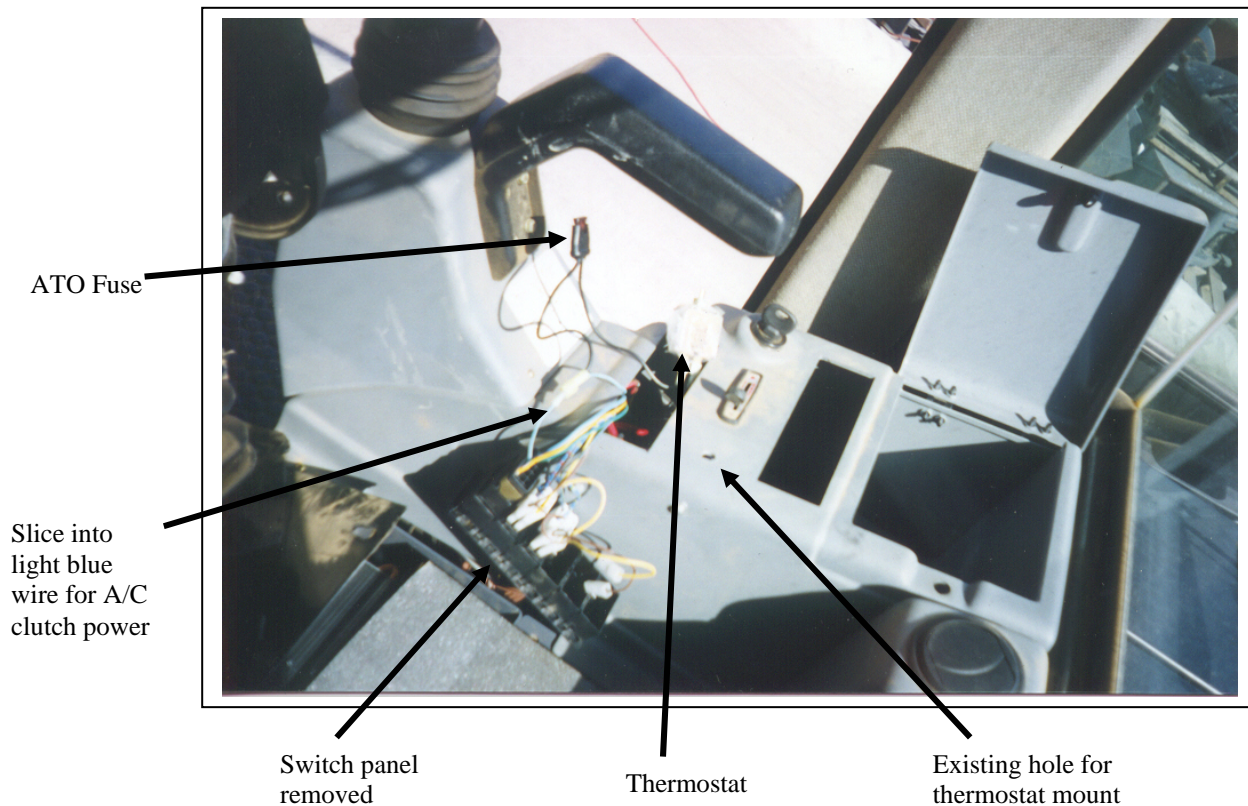




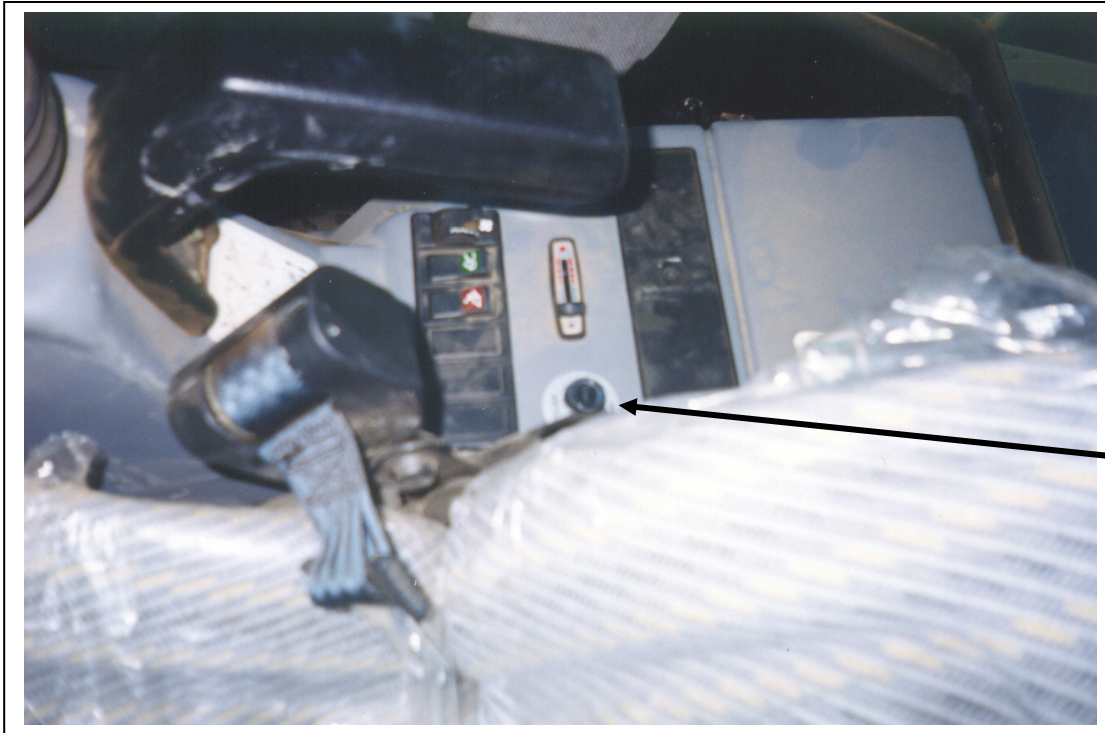
**Electrical:** The electrical system for the A/C is very straight forward. Power is taken from the blower switch wiring, over to the thermostat and then out of the cab through a hole in the bottom of the right hand console. From there it is routed over to the A/C hoses and back to the compressor.

Steps:

1. Remove the rubber plug just to the left of the heater control lever. File the hole out enough to allow the threaded stem on the thermostat to fit through.
2. Remove the switch panel containing the blower switch from the console.
3. Splice into the wire coming off the blower switch that has full 12 volt power when the switch is set on any of its speeds. This should be the light blue wire. Splice into the wire using the in line ATO fuse holder. Connect the other end of the fuse holder to the thermostat. Install the 7.5 amp ATO fuse into its holder.



4. From under the cab, run the 14 gauge black wire in loom up into the right hand console and connect it to the other terminal on the thermostat. Run the thermostat probe as explained in the evaporator installation instructions.
5. Once the system has been tested and any adjustments made, the thermostat can be installed in the enlarged hole to the left of the heater control lever. Install the thermostat decal and knob as well.

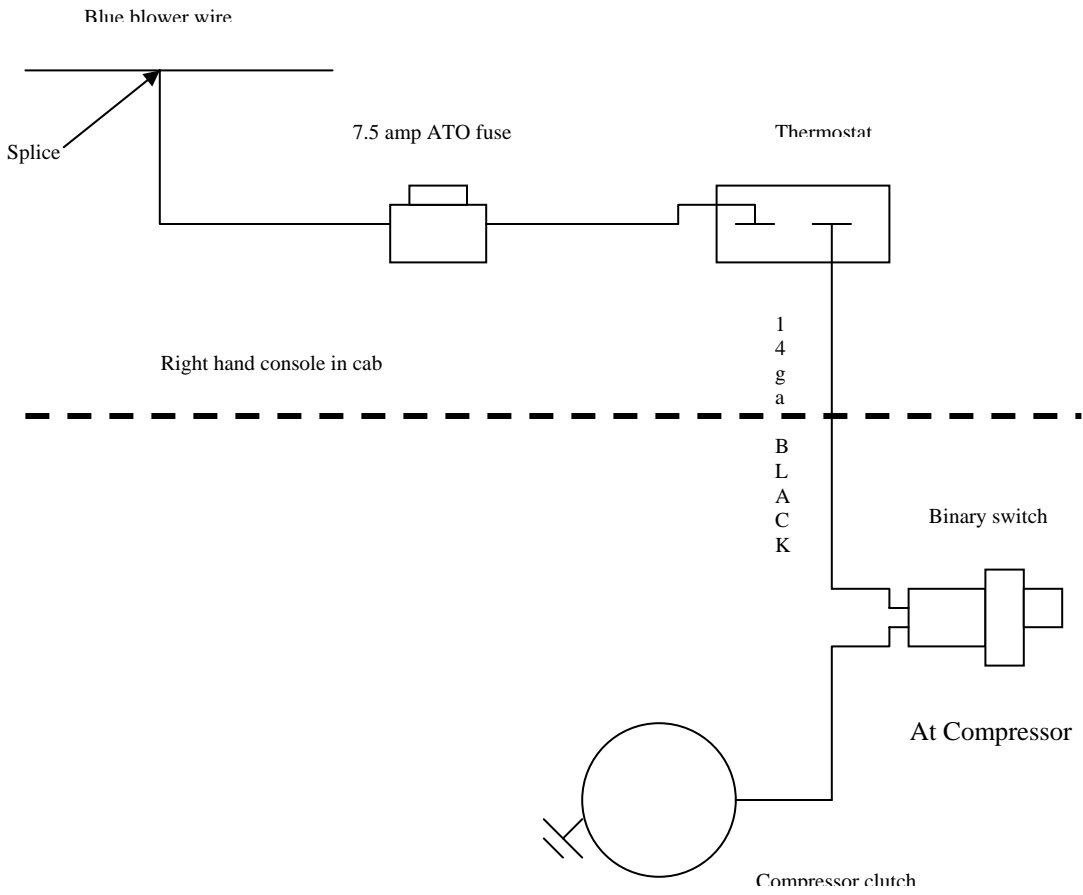


Thermostat  
installed

6. Complete the running of the 14 gauge black wire from underneath the cab to the compressor by routing it along with the A/C hoses. At the compressor, plug the wire into one side of the binary switch. Connect the clutch wire coming off the compressor to the other side of the binary switch. Secure the wiring as required. In extreme environments all connections should be covered in a protective film ie: grease or silicone.

**SKL 823/33/633 Electrical**

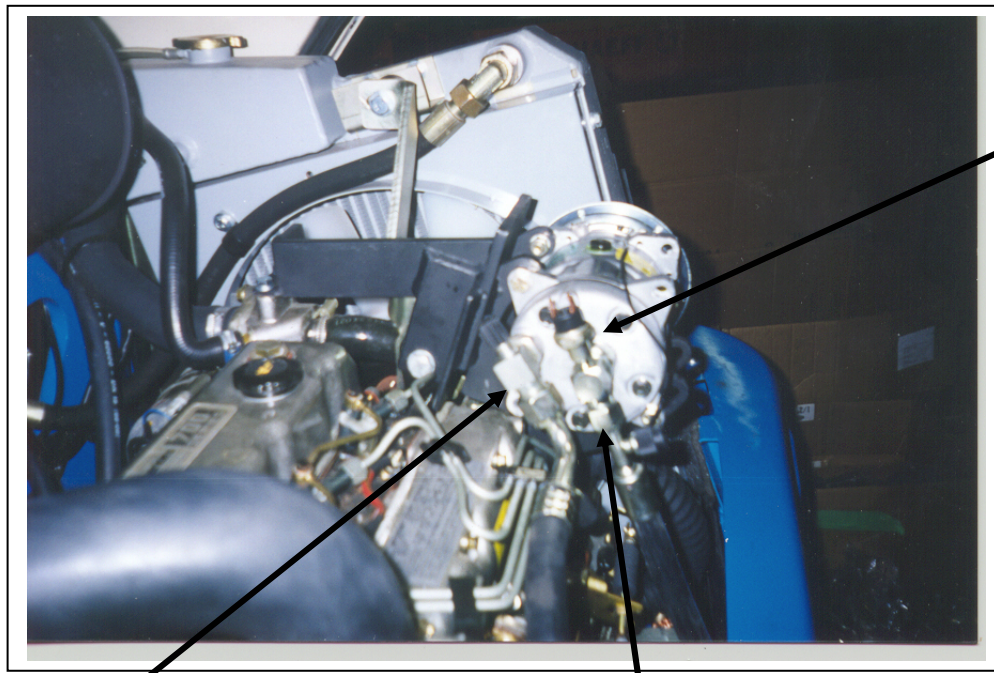
**12 Volt System**



**Hose runs:** The A/C hoses connect all the major components of the system together. They are all pre-cut and crimped. All the fittings require the proper sized “o” ring to be installed on them and all contact surfaces to be lightly oiled with refrigerant oil before final assembly on the machine.

Steps:

1. Starting at the compressor, the ½” hose connects to the ½” rotolock fitting on the compressor. Connect the ½” 90° female fitting with the 134a access on it to the ½” rotolock fitting (closest to engine). Run the hose from the compressor to the left side of the engine compartment, around the air cleaner and forward towards the cab. Cross over the top of the fuel tank and under the cab and into the cab along with the heater hoses. Connect the straight ½” female fitting to the outlet pipe on the evaporator coil.

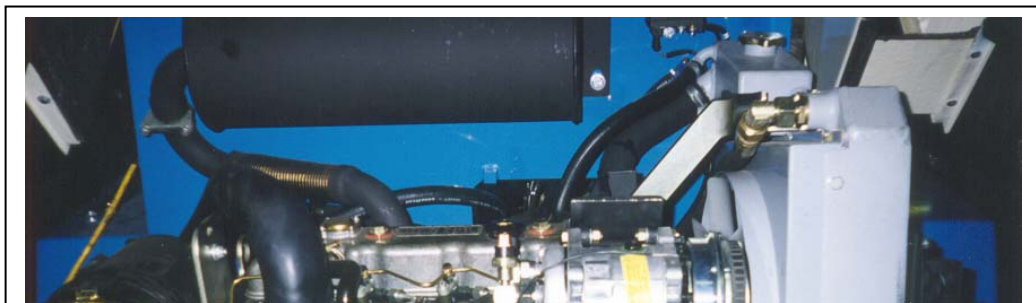


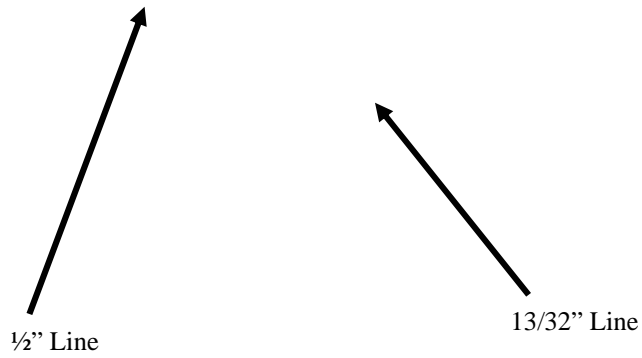
Binary switch

½” Rotolock fitting  
and hose

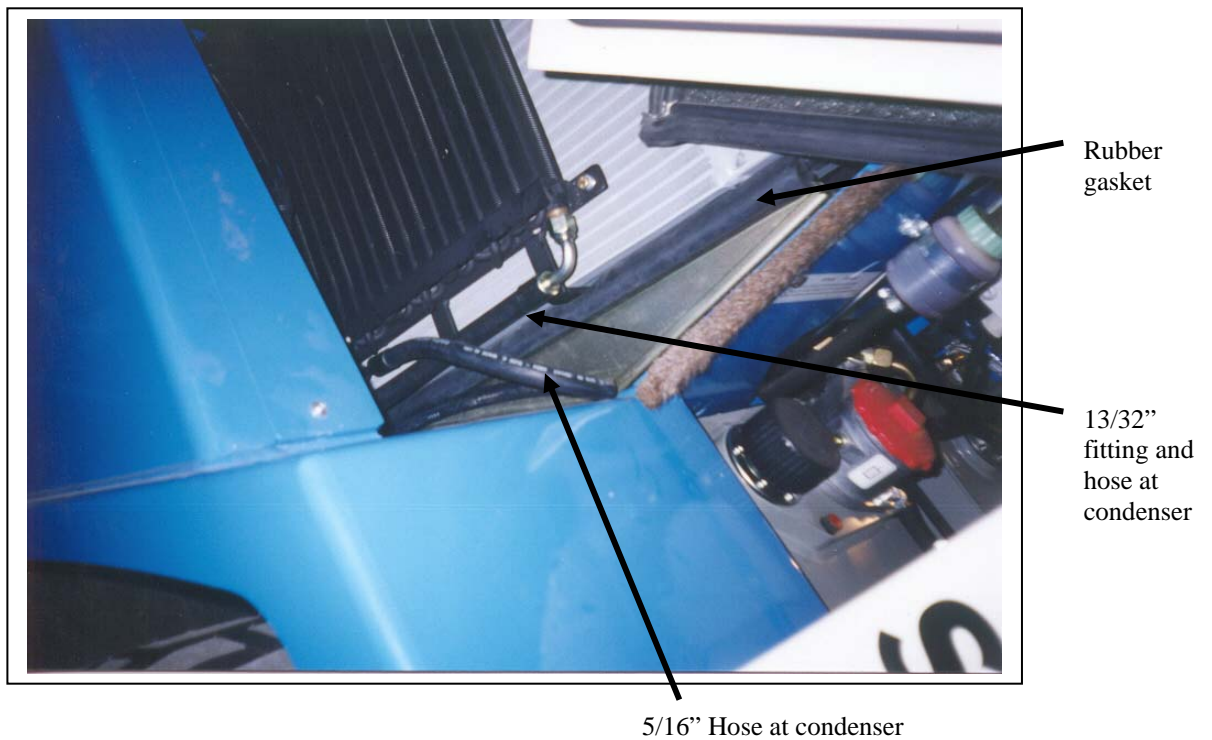
13/32” Rotolock, fitting and  
hose

2. Starting at the compressor, the 13/32” hose connects to the 13/32” rotolock fitting on the compressor (closest to back of machine with binary switch). The straight 13/32” female fitting with the 134a access on it attaches to the rotolock fitting and runs straight down under the engine and forward to the right side of the radiator. Squeeze the 13/32” fitting and hose between the radiator side and the rubber gasket down low on the radiator and pull it through into the condenser area. Connect the 90° 13/32” female fitting to the top fitting on the condenser coil.

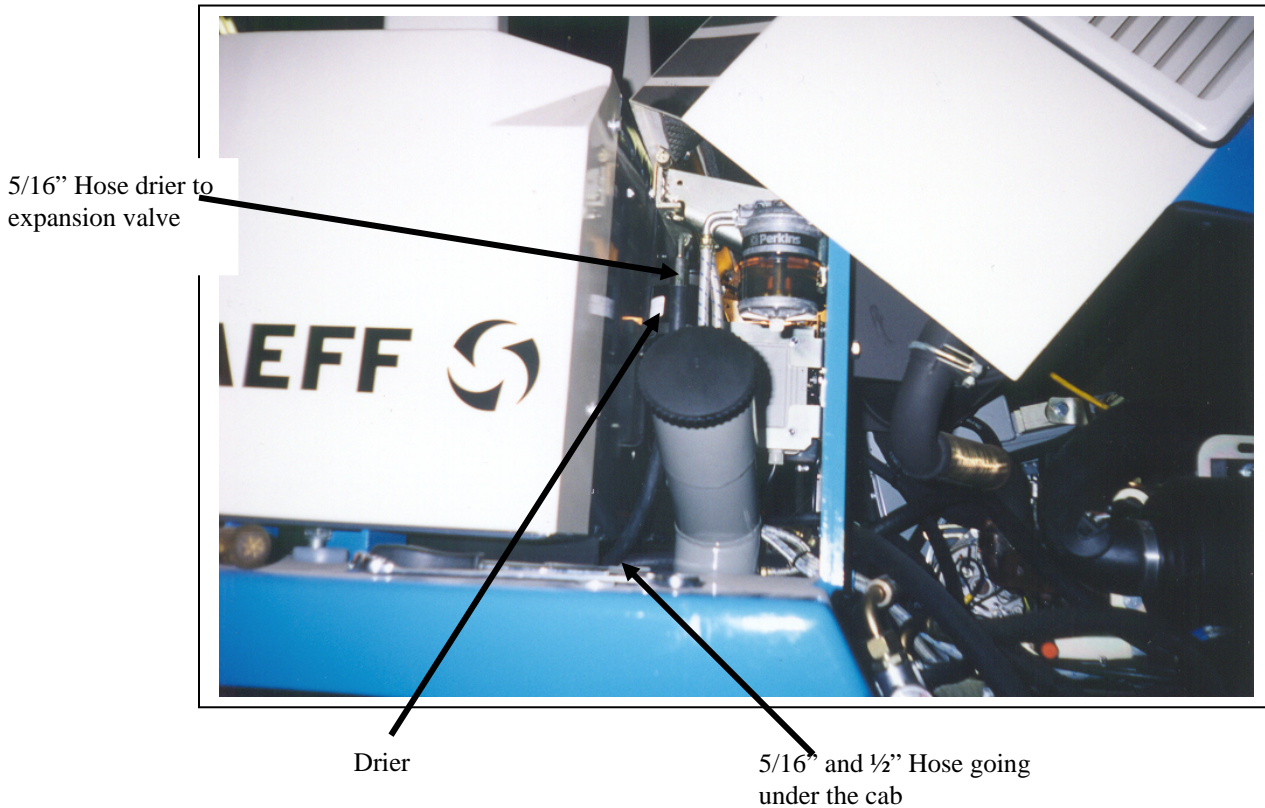




- At the lower fitting in the condenser connect the female straight 5/16" fitting on the 97" long 5/16" hose. Loop the hose up, around, back down and through beside the radiator right above the 13/32" hose. Run the hose to the left ahead of the engine. Meet up with the 1/2" hose and run it up on top of the fuel tank. Connect it to the inlet side of the drier. Connect the 90° 5/16" female fitting to the side of the drier marked "in". This should be pointing towards the right side of the machine.

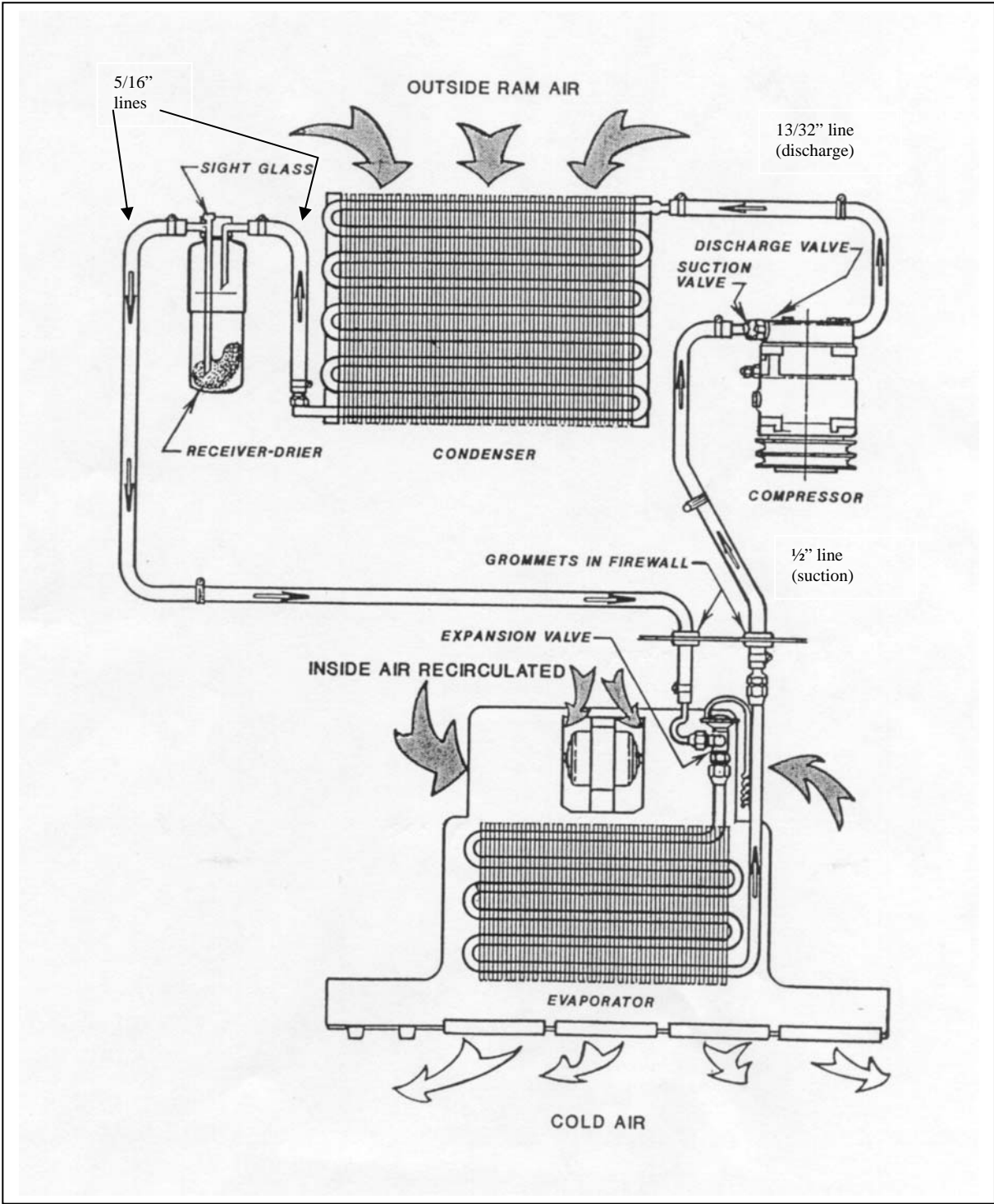


4. Connect the 90° 5/16" female fitting to the outlet of the drier and run it straight down and then forward under the cab along with the 1/2" hose. Bring the hose up into the cab and connect the 90° 5/16" female fitting to the expansion valve on the evaporator coil.



5. Using tar tape, seal all the air gaps around the evaporator line into the evaporator/heater area and around all the lines exiting the cab. Secure all hoses and wiring using the tie wraps provided. Protect hoses from chaffing and rubbing using the hose wrap provided. Make sure the hoses are well secured close to all the fittings to reduce stress on the connections.
6. On many machines, the factory heater control valve does not close very tight and will leak a small amount of radiator fluid past the valve. This can greatly reduce the cooling performance of the A/C system. To solve this problem a heater line shut-off tap has been included on the kit. It should be installed in an easily accessible area of one of the heater lines.

## 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.

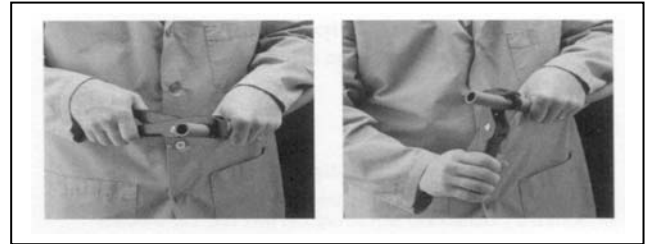


Once the probe is inserted, the A/C system needs to be tested. Run the system to ensure that the thermostat is cycling the compressor off at the appropriate temperature. A core temperature ranging between 25° and 30° F should cause the thermostat to cycle off. The air temperature at the vent outlet closest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

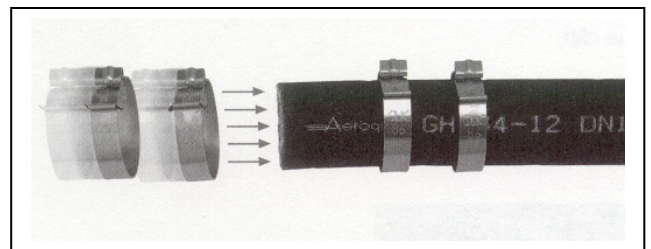
If the thermostat doesn't cycle off after a reasonable cool down period, and the air outlet temperature has dropped below 40° F, the cut in and cut out settings should be adjusted until the compressor is cycling on and off regularly. Let the system run for a decent time period (at least 15 min) and then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

## Aeroquip E-Z Clip Assembly Instructions

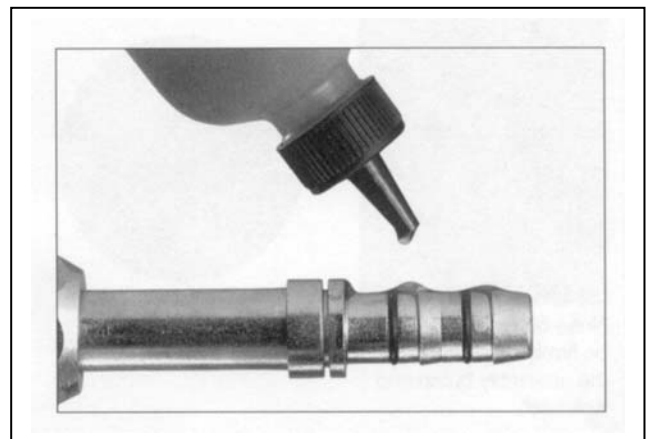
Step 1. Cut the hose to proper length with an appropriate cutting tool. Aeroquip's hand held hose cutter has been specially designed for cutting all non-wire reinforced hose, such as GH-134 Multi-Refrigerant hose. Be sure the cut is made square to the hose length.



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.



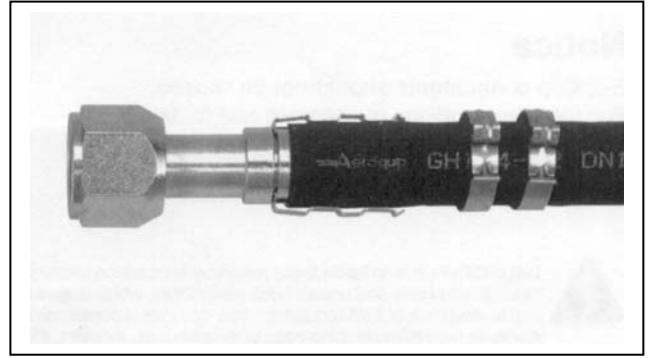
Step 4. Insert the nipple into the hose. To ensure that the nipple is fully inserted, check the gap between the cut end of the hose and the shoulder on the nipple. Care should be taken to avoid kinking or other damage to the hose during nipple insertion. NOTE: Be sure to wipe excess oil from the nipple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



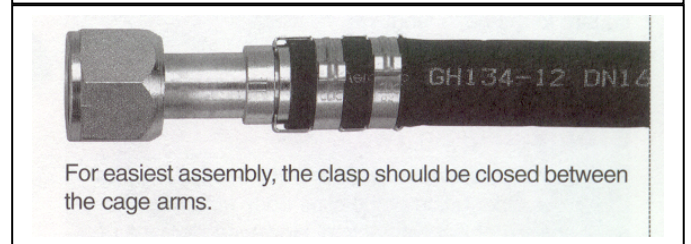
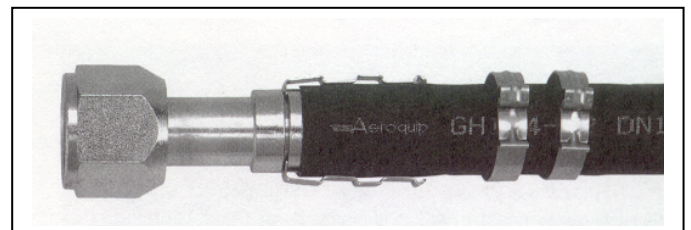
Step 5. Snap the cage into the groove on the nipple. The arms should extend over the hose length. When the cage has been correctly installed in the cage groove, the cage will be able to rotate in the groove.

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.

