

**HR 32 Terex Excavator
S/N 1501 and up
Installation Instructions**



**PHONE (519)485-5961 OR 1-800-267-2665
FAX (519)485-3745 OR 1-888-267-3745**

NOTE: When installing A/C on this machine, the following parts need to be replaced as well.

Fan # 5411661935

Pulley kit w/ belt 6209771007

These are Terex part numbers and are available through the spare parts department (662) 393-1806

For questions concerning this, please contact the TCE Service Department at (662) 393-1305

EVAPORATOR:

Evaporator/Heater Box

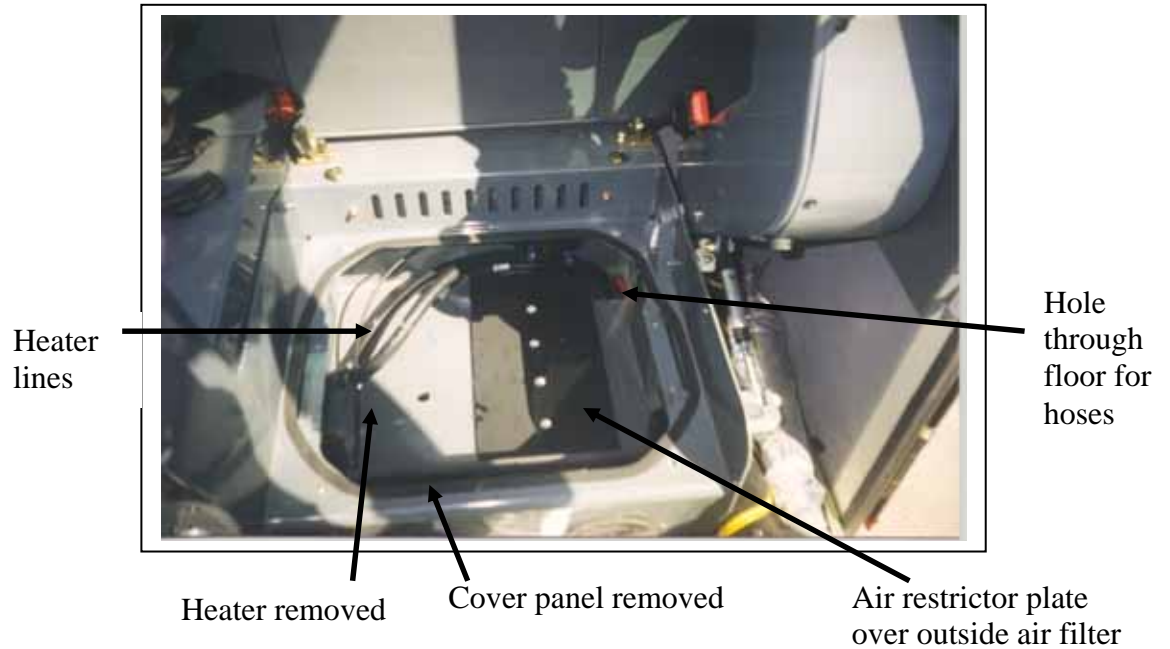
The evaporator / heater box is located under the operators seat in the same location as the original heater box. Air flow passes through the original louvers and defrost vents as well as two extra louvers mounted on either side of the operators seat.

Step: 1) Remove the operators seat from the cab by unbolting the metal plate that the seat sits on. Remove the four M8 bolts, two in front of the seat and two behind the seat. Lift the seat and plate out through the cab door. Remove the cover plate over the heater box by removing the rear two M8 bolts.



Remove seat and seat frame

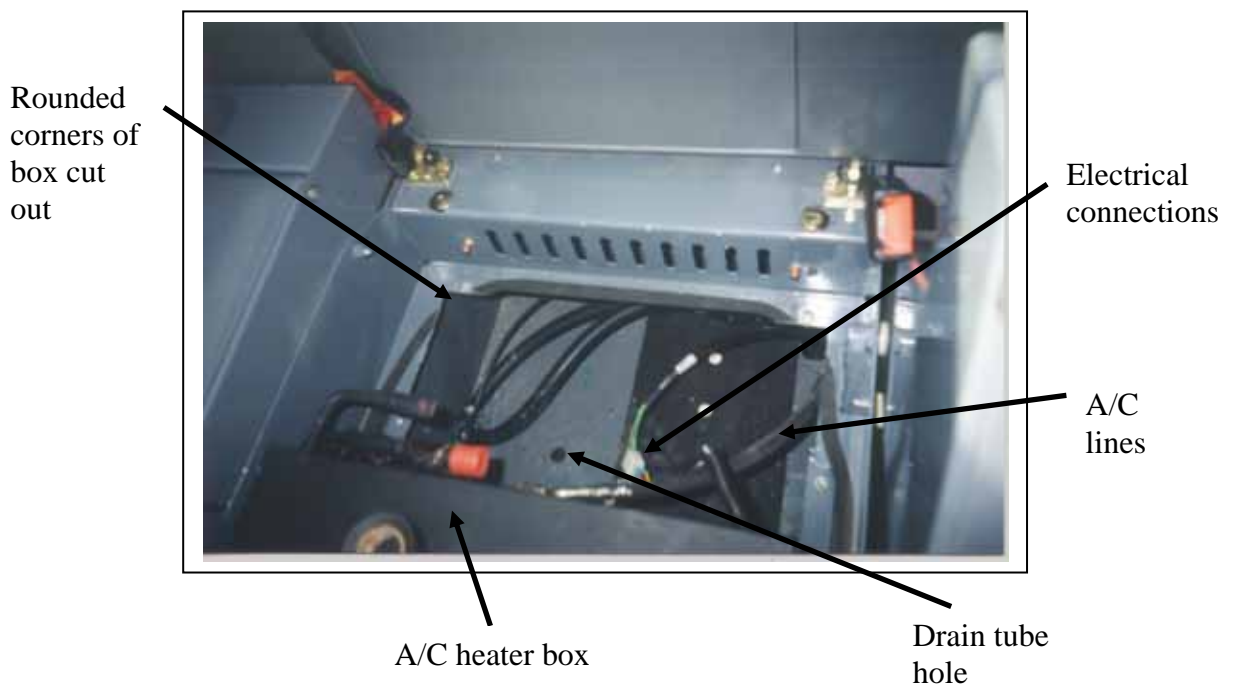
2) Unbolt the original heater box from its frame. Keep the four M6 bolts for re-use. Clamp off the heater lines from under the cab and unplug the blower motor. Disconnect the heater lines at the heater coil and remove complete heater assembly from the cab.



3) The outside air intake filter on this machine is much too large for the air conditioner to work effectively and must be restricted in size. Install the restrictor cover over the filter from inside the cab. Place the foam gasket down and secure in place using double sided tape or silicone.

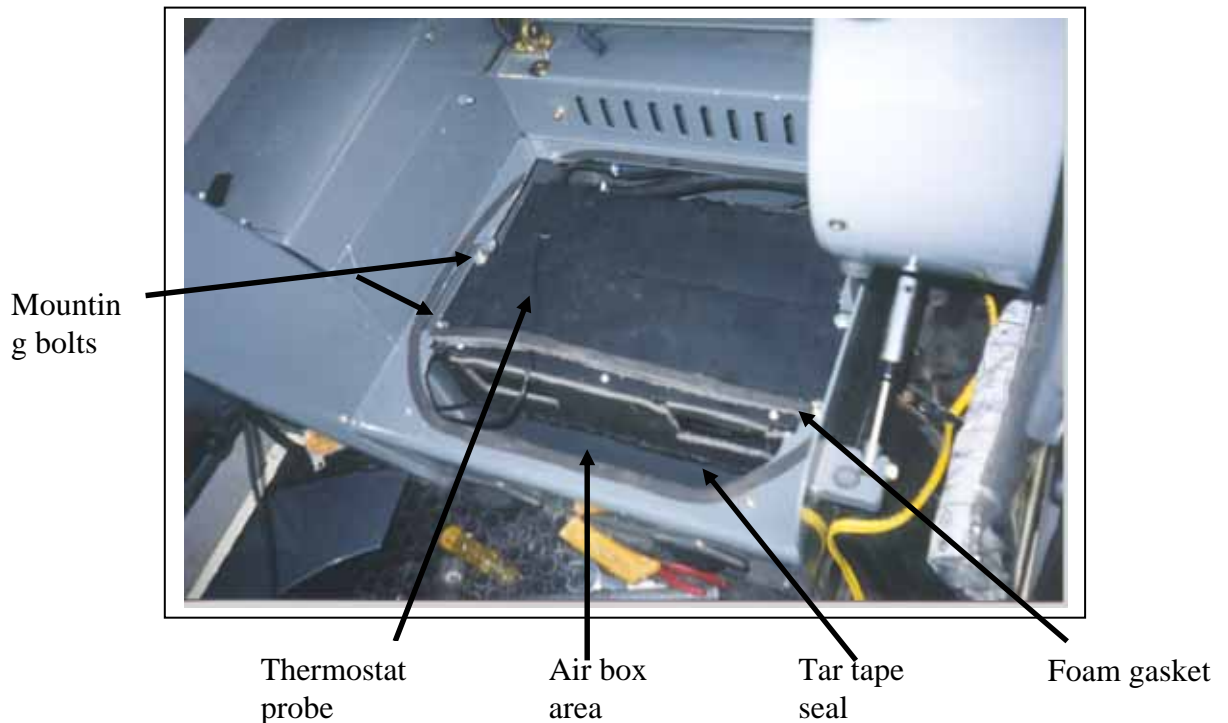
4) Square up the rounded rear corners of the heater box opening using a jigsaw or sawsall. This makes enough room for the larger A/C heater box to slide in.

5) Connect the drain tube to the drain outlet on the fitting and of the box and then set the box half in place. Reconnect the heater lines to the heater outlets on the box. Route the drain tube through the hole in the floor beside the outside air filter.



6) Once the A/C lines are run into the heater box area, the A/C lines can be connected to the fittings on the A/C heat box.

7) Plug the wiring coming out of the A/C heat box into the terminals from the original blower plug. Test the blower to ensure that the speeds are in the right order. When all the connections are done and tested on the back of the box, slide it back into place. Take care to pull any excess heater or A/C hoses down through the floor as the box is being slid into place. Place the box on the mounting bracket and bolt down in place re-using the M6 bolts.



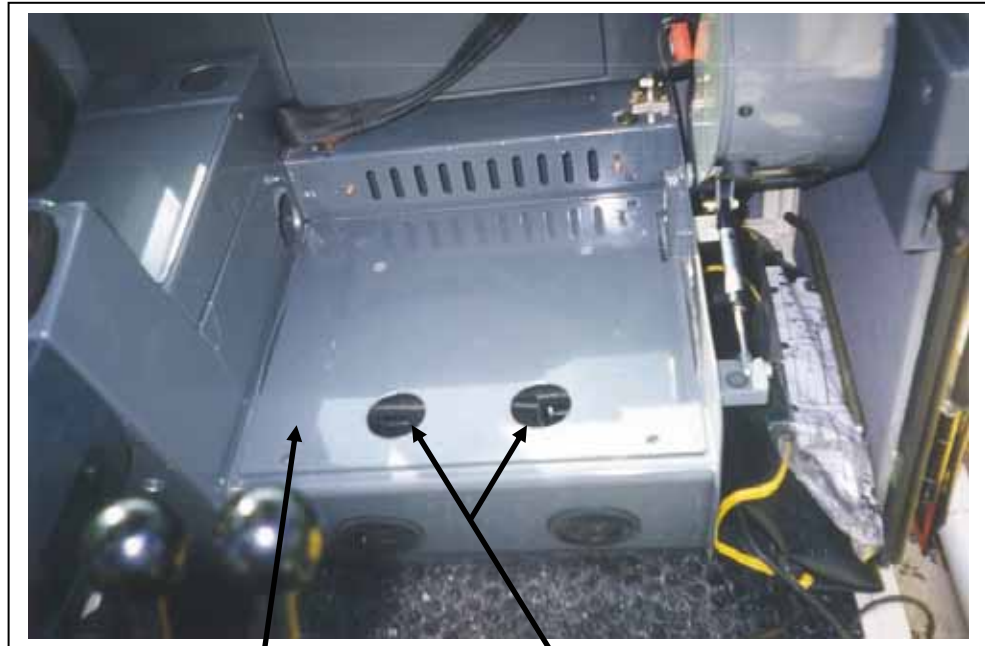
8) Use tar tape to seal the bottom and sides of the A/C heater box to its compartment so no air can escape around the bottom or sides of the box. This is done on the blower outlet of the A/C heater box.

9) Install the thermostat probe by sticking it into the predrilled hole in the top of the box about 5". Secure with a piece of tar tape.

10) Place a strip of foam across the top front edge of the A/C heater box so that when the cover plate is installed there is a sealed air box formed in front of the heater box.

11) Remove and discard the inside air re-circulation control plate. This is removed so an operator cannot accidentally block off the inside air supply.

12) Drill two 2 ½” holes in the cover plate so that the holes will be overtop of the air box area in front of the A/C heater box. Install the two 2 ½” hose adapters up from the bottom of the cover plate so that the 2 ½” flex hose can be installed on the topside of them. These hoses will supply the extra two louvers in the back corner of the cab.



Cover plate

2 ½” holes for hose adapters

13) On the right side of the cab, drill a 2 ½” hole through both layers of metal in the right side storage compartment. The hole should be positioned on the side panel just above the cover plate and just ahead of the inside air intake area.

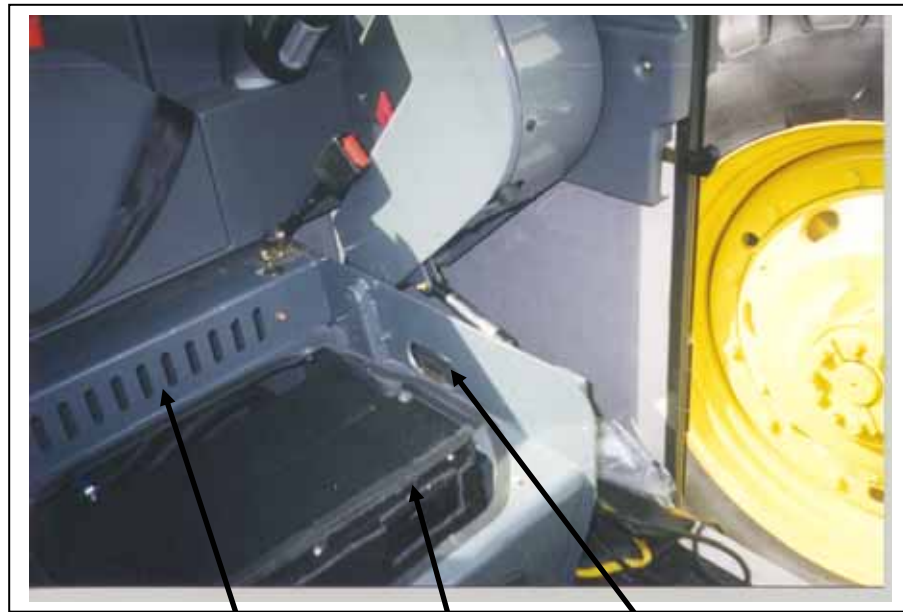
14) Drill another 2 1/5” hole just to the left of the drink holder at the back right corner of the cab. Run a 2 ½” flex hose from the right hose adapter through the 2 1/5” side hole and out the 2 ½” top hole. Cut it to length and connect it to the hose adapter on the round snap-in louvers supplied in the kit. Secure the hose with a tie wrap then snap the louver down into the hole.



2 1/5" hole for snap-in louver

2 1/2" hole for flex hose

15) On the left side of the cab, about 1" ahead of the left control arm pivot frame make a 2 1/2" hole just above the cover plate to pass the 2 1/2" flex hose through.

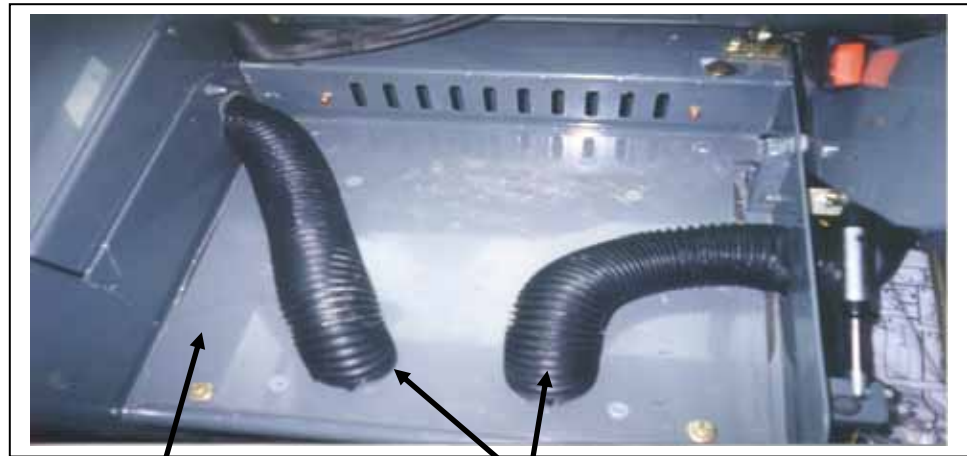


Inside air panel removed

Foam gasket

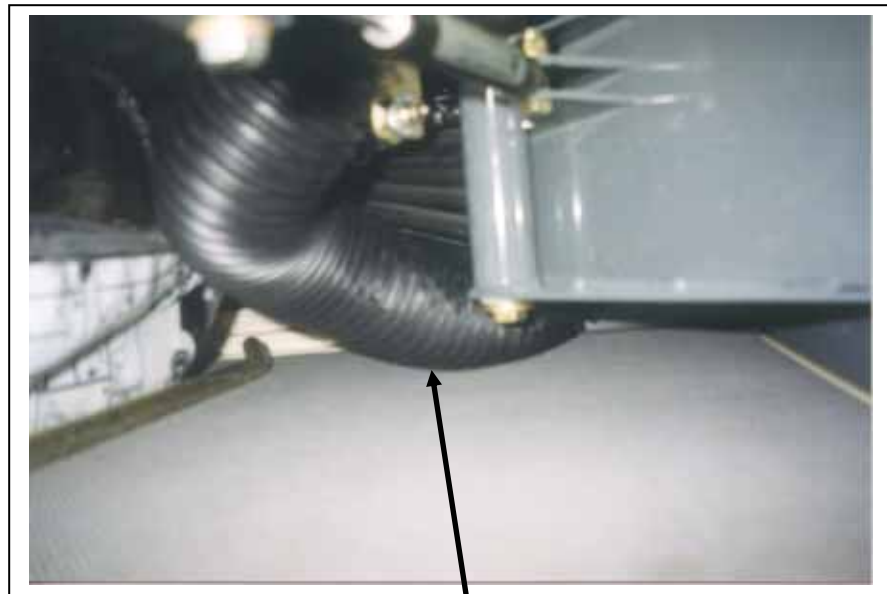
Hole for flex hose

16) Route the flex hose under and to the outside of the control arm and up behind it. Cut the flex hose to length and attach it to the hose adapter of the black ball louver. Mount the ball louver to the left cab wall using self drilling screws. Mount the louver bezzel just ahead of the windshield washer tank with the top of the bezzel about level with the top of the washer tank cover.

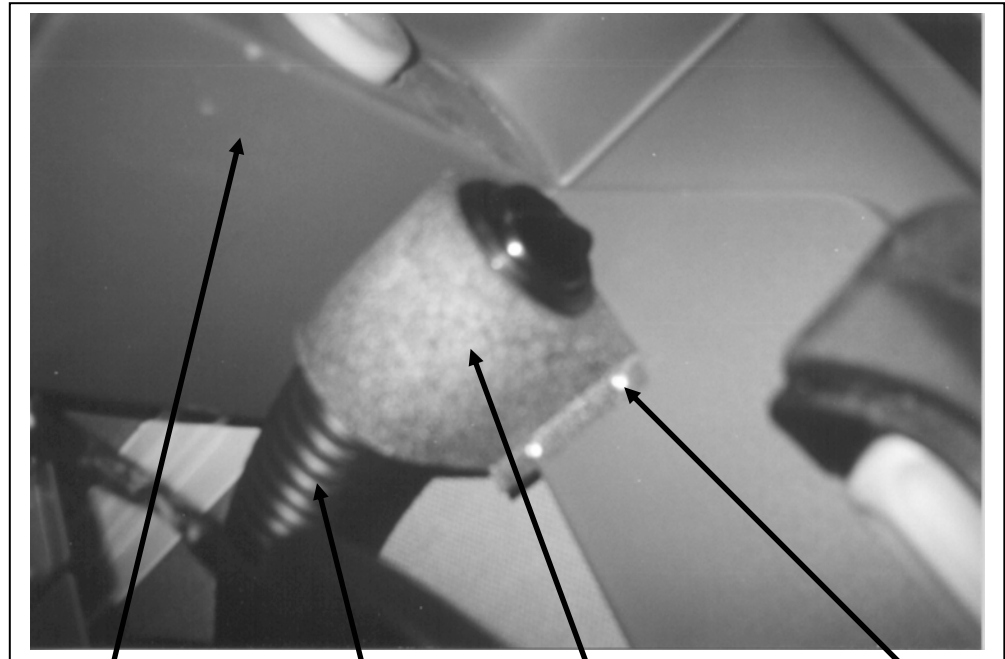


Cover plate

Flex hose attached and run



Flex hose under left control arm



Windshield
washer tank

2 1/2" flex
hose

Louver bezzel

Self drilling
screws

17) When the system is all installed and tested, the seat and mounting plate can be re-installed and all electrical access panels can be re-installed.

18) Use tar tape to seal the hole around the cab access for the heater and A/C lines. Also seal any extra space around the drain hole and install the drain tube restrictor in it.

ELECTRICAL



Bring the clutch wire up into the cab through the hole in the floor just behind this panel.

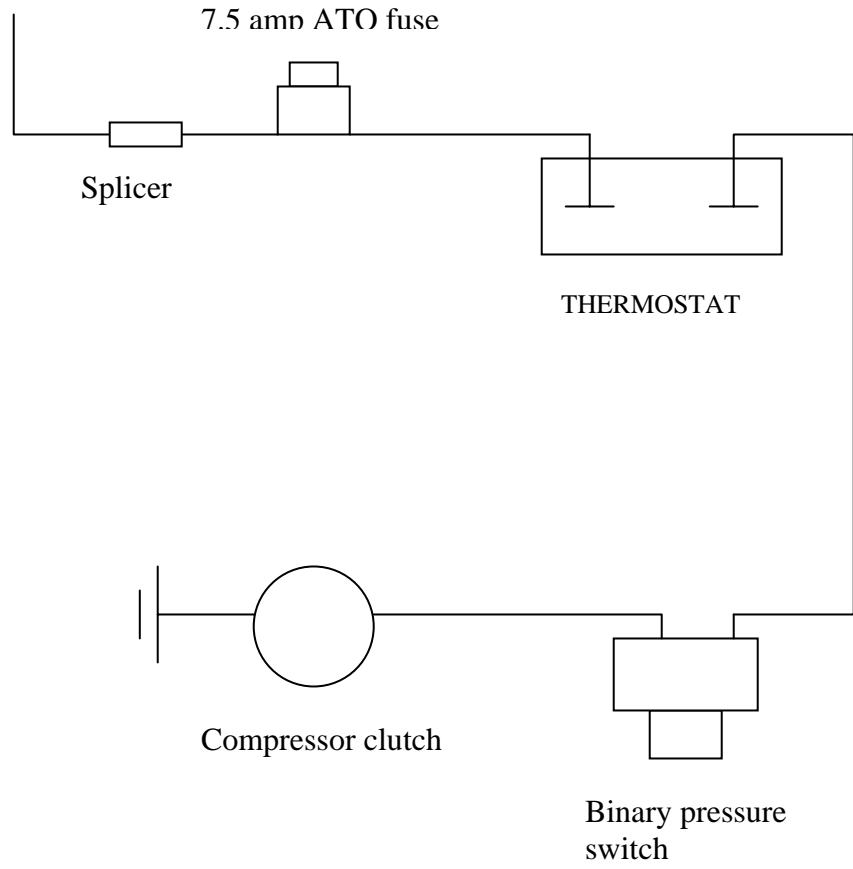


Drill a 7/16" hole and mount the thermostat here. Run the thermostat probe down towards the floor and into the heat/cool box area through the existing hole for the heater control cable.

Cut the small wire and splice the inline ATO fuse holder onto it. The correct small wire on the switch is double connected into one of the terminals on the blower switch with a heavier gauge wire. Check to ensure it has full power on all speeds.

HR 32 TIER II Wiring Diagram

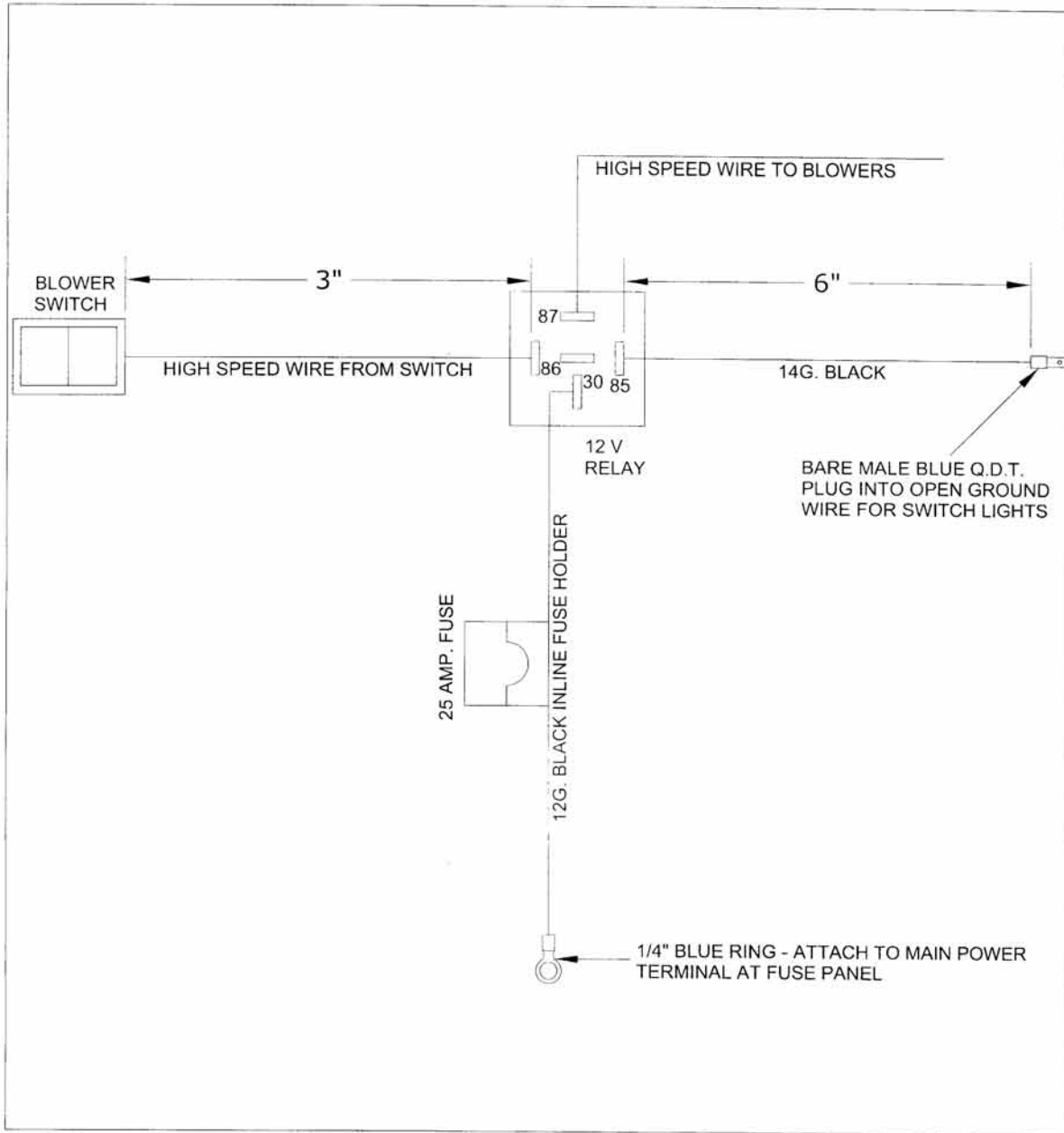
Small wire
from blower
switch



HR 20-32-42 HIGH SPEED FAN RELAY SETUP

CUT HIGH SPEED BLOWER WIRE 3" FROM SWITCH AND CRIMP
A BLUE FEMALE Q.D.T. ON BOTH SIDES OF THE CUT.
PUT 3" WIRE FROM SWITCH TO RELAY TERMINAL 86
PUT HIGH SPEED WIRE TO BLOWERS ON RELAY TERMINAL 87

FEB. 16, 2004



COMPRESSOR MOUNT

Existing pre A/C setup on the engine



Reroute this hose down lower on the engine

Angle this line in tight to the engine head.



Reroute this oil line down low on the engine.

Remove the eight bolts holding the existing pulley onto the crank.



Install the add on pulley using the longer bolts supplied.



Mount location
for tightener /
stiffener arm

Mount location for
angled stiffener
bracket.

Mount location for main
mount plate



Tightener stiffener arm in place using the longer M8 bolts supplied.

Angled stiffener bracket in place using the longer M8 bolt supplied.



Main mount plate installed. Bolt it to the engine and the angled stiffener bracket. Use the supplied M10 bolts to attaché it to the engine and the 3/8" x 1 " bolt for the angled stiffener.

Before mounting the compressor, notch out the fan shroud as shown. Loosely place the compressor on the mount and mark out the area to be cut out.



Bolt the compressor onto the mount loosely and install the belt. Tension the belt and tighten down all four compressor bolts.

Bolt the pad fitting onto the compressor if it has been shipped loose. Make sure that the two black "O" rings are in place.

CONDENSER



Remove these four bolts



Set the condenser in place with the fittings toward the back of the machine. Bolt in place using the existing hardware



The condenser frame is angled to allow for easy cleaning and maximum air flow across the radiator.



Condenser in place with the hood down

RECIEVER DRIER

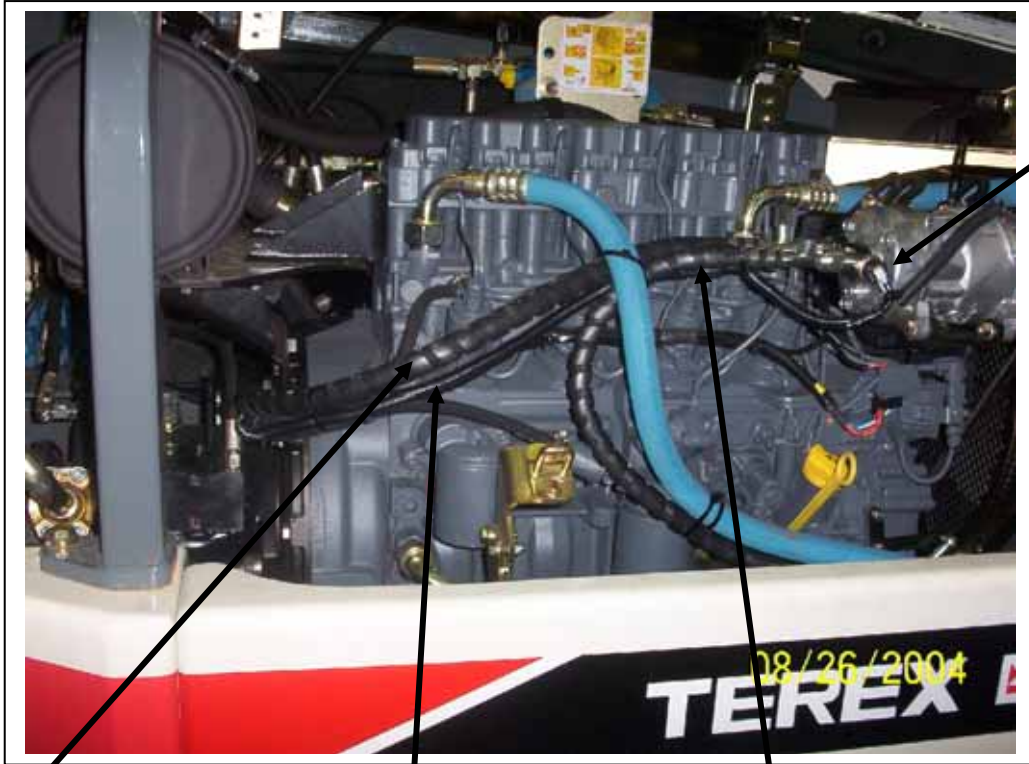


Bolt the drier mount “L” bracket onto the existing M8 hole just above the back of the air cleaner.



Install the drier onto the bracket using the two #48 gear clamps provided. Have the inlet pointing towards the front of the air cleaner.

HOSE RUNS



Electrical connections at the binary switch on the pad fitting.

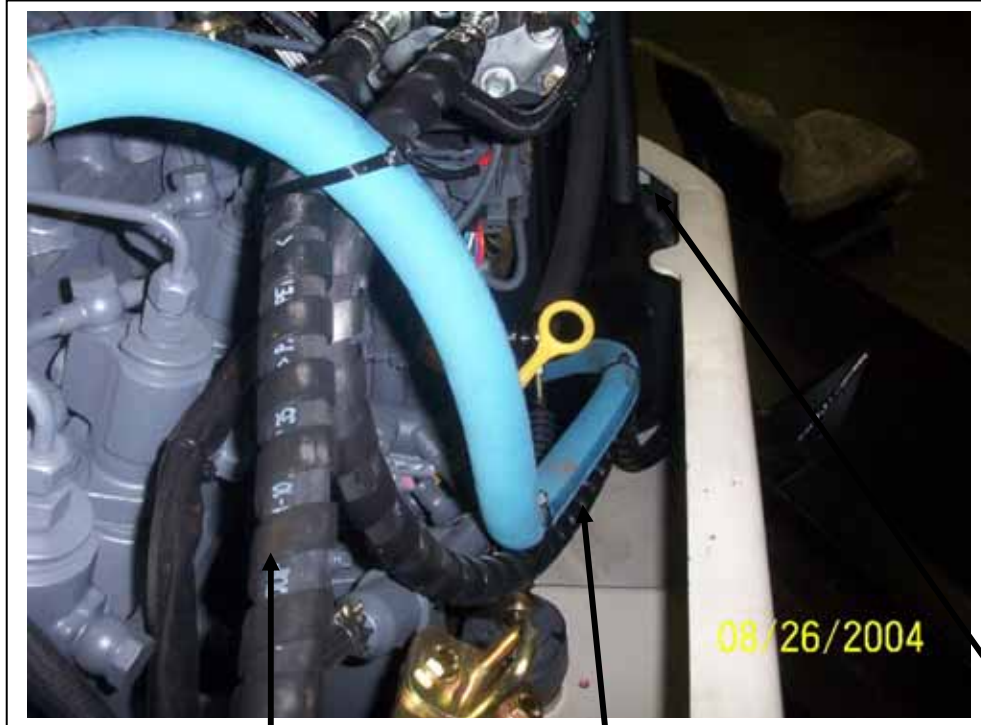
1/2" A/C line from the engine side fitting on the compressor.

14 gauge black clutch wire run with the 1/2" A./C line over to the cab wall area.

13/32" A/C line from the outside fitting on the compressor looping down and around towards the radiator area.



1/2" line and clutch wire looping around the back of the engine and running to the right again over towards the drier area.



1/2" line and clutch wire.

13/32" line running towards the radiator area and passing to the outside of the radiator on the intake side.

13/32" line running beside the radiator.



13/32" line passing beside the radiator.

13/32" 90° fitting at the condenser

5/16" 90° fitting on the bottom outlet of the condenser.



5/16" line from the lower fitting on the condenser running into the engine compartment area beside a hydraulic hose.

5/16" 90° fitting on the outlet of the drier running down under the cab.

5/16" 90° fitting on the inlet side of the drier.



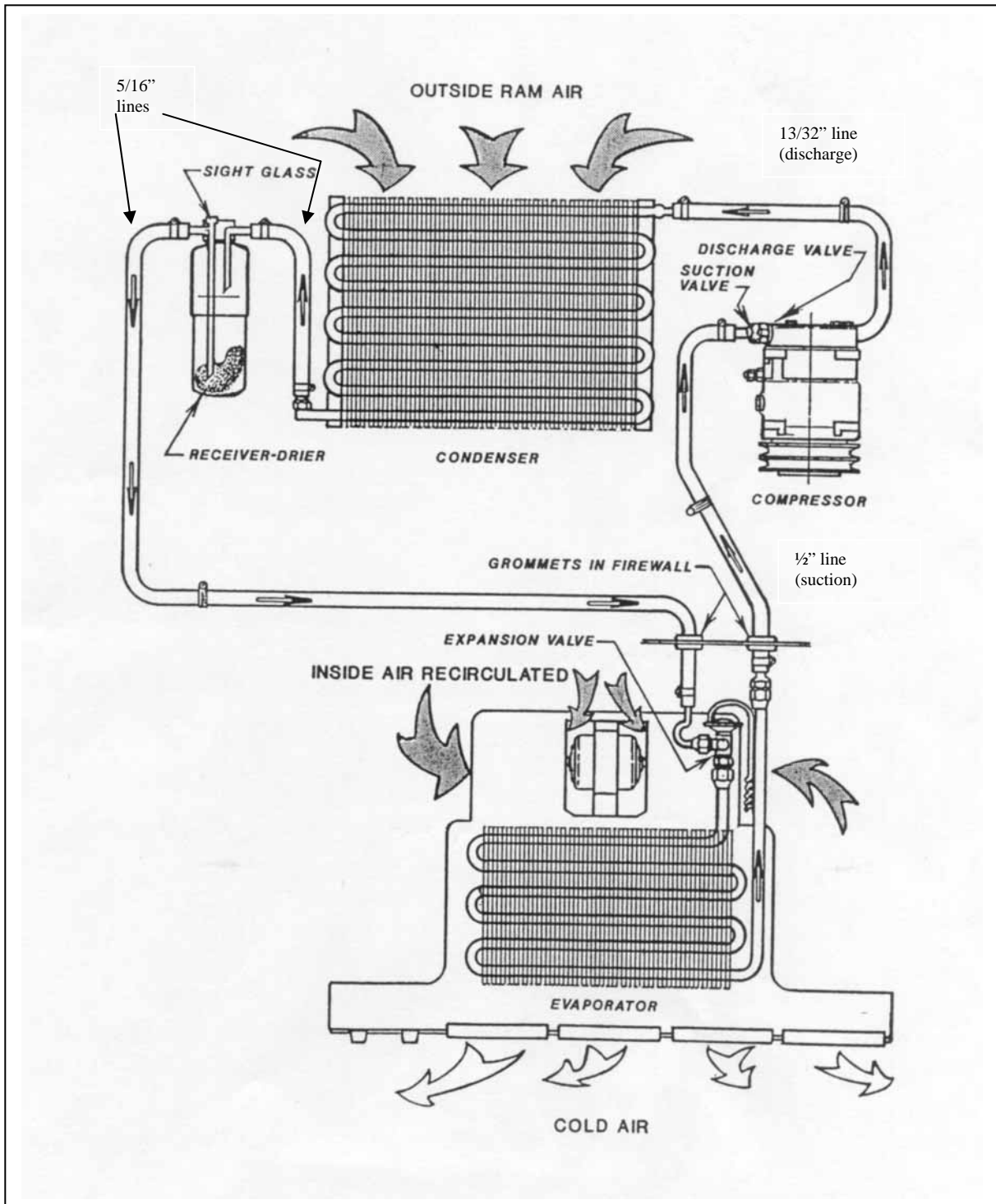
5/16" and 1/2" lines running through under the cab along with a bundle of hydraulic lines. Use a snake or wire run through from under the cab to fish the hoses through to the heat/cool box area.

5/16" line from the condenser going to the inlet side of the drier. Make sure to tie it out of the way of belts and fans.

CHARGING AND TESTING

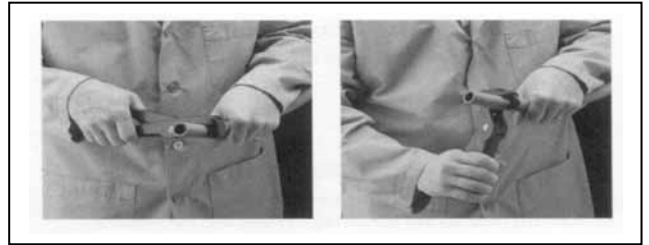
- 1) Pressure test the system using nitrogen to a pressure of 250 psi. Check for leaks.
- 2) Add 2oz of SP20 Sanden PAG oil to the system.
- 3) Vacuum the system for at least ½ hour.
- 4) Check that the vacuum holds.
- 5) Fill the system with 1.75 lbs. of R134a refrigerant. **DO NOT USE ANY OTHER TYPE 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

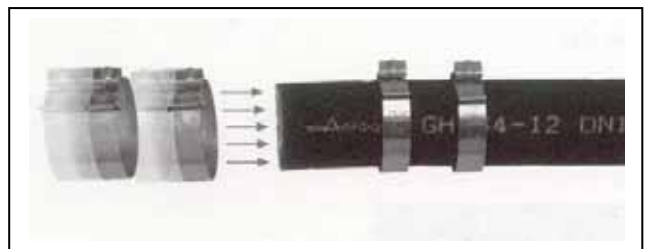


Aeroquip E-Z Clip Assembly Instructions

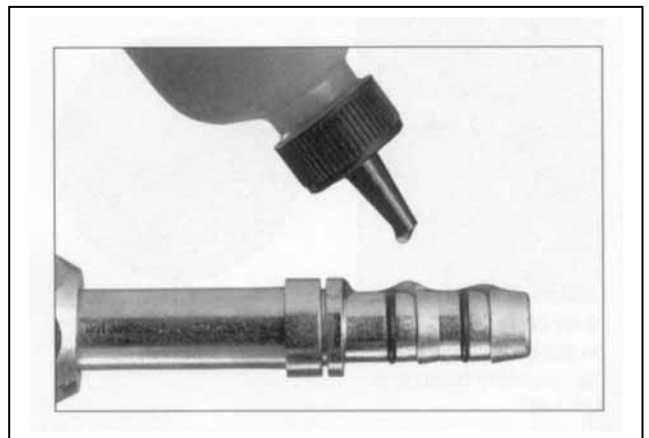
Step 1. Cut the hose to proper length with an appropriate cutting tool. Aeroquip's hand held hose cutter has been specially designed for cutting all non-wire reinforced hose, such as GH-134 Multi-Refrigerant hose. Be sure the cut is made square to the hose length.



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.

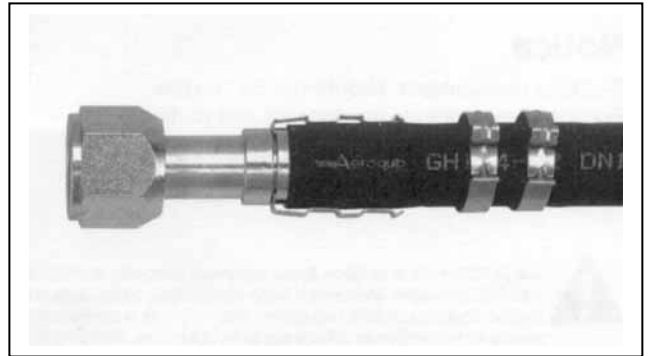


Step 4. Insert the nipple into the hose. To ensure that the nipple is fully inserted, check the gap between the cut end of the hose and the shoulder on the nipple. Care should be taken to avoid kinking or other damage to the hose during nipple insertion. NOTE: Be sure to wipe excess oil from the nipple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

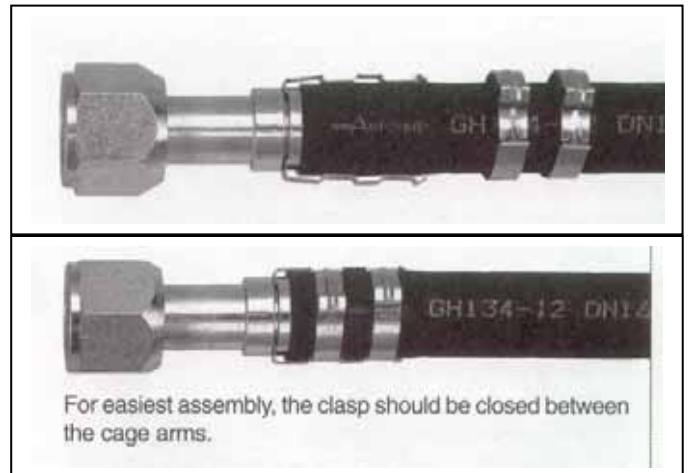


Step 5. Snap the cage into the groove on the nipple. The arms should extend over the hose length. When the cage has been correctly installed in the cage groove, the cage will be able to rotate in the groove. This step **MUST** be performed to ensure:

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.

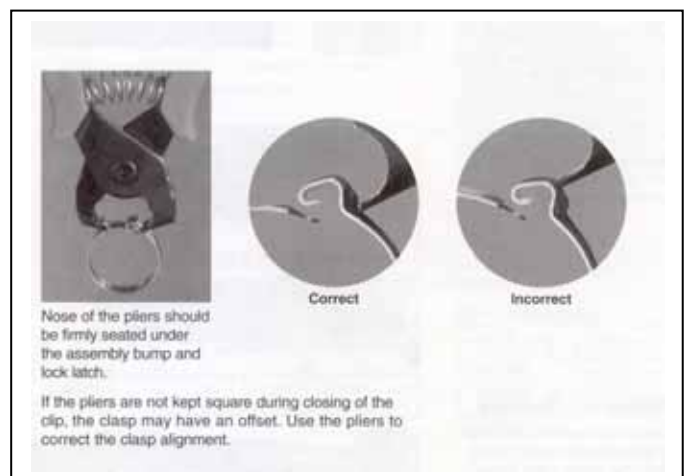


Step 6. Slide the clips over the cage arms and into the channels on each arm.



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.



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.