

INSTALLATION INSTRUCTIONS

CASE 580K BACKHOE LOADER



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CASE 580K INSTRUCTIONS

EVAPORATOR COIL:

The evaporator coil goes inside the headliner beside the existing heater assembly.

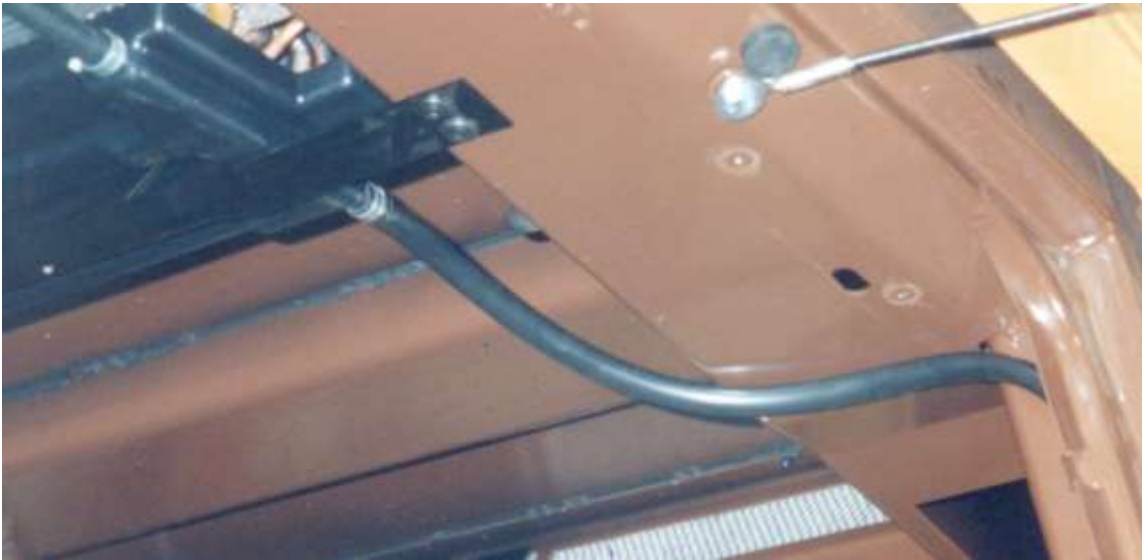
1. Remove both headliner sections and the two side column covers from the cab. Set aside and keep clean.
2. The evaporator and drain pan assembly sits beside the heater coil and on the existing cross bracket.
3. The tab ends on the evaporator may need to be trimmed to fit the existing location beside the heater.
4. When in place, secure with self drilling screws provided in the kit. The foam on the top of the coil must be in contact with the foam on the inside of the roof.
5. The drain tubes run down the front columns on either side of the cab and down the two side columns. Use the drain elbows, 1/2" drain hose, #4 gear clamps, and the restrictors supplied in the kit to ensure the hoses are routed without pinching. The restrictors are installed at the outlet end of the drain tubes to prevent air from being pulled up the drain lines.



Evaporator in place beside heater coil.



Evaporator and drain pan in place with hoses and drain tubes.



Drain tubes from drain pan (older style) running to side column.



Drain tube to front column.



Hose routing in cab from evaporator.

COMPRESSOR:

The compressor mounts on the engine located at the top left corner where the three existing bolt holes are located.

1. Open the engine area and access the radiator fan and compressor mount area. At this time it may be easier to remove the hood assembly completely.
2. Remove the engine fan and spacer assembly from the hub. Install the supplied add-on pulley and re-mount the fan and spacer with the original hardware.

Depending on the style of muffler, there are two different procedures for installing the compressor mount. If the muffler is mounted vertically (as in the pictures), follow steps 3) through 6). If the muffler is oriented horizontally with a support bracket on the left end, follow steps 7) through 11).

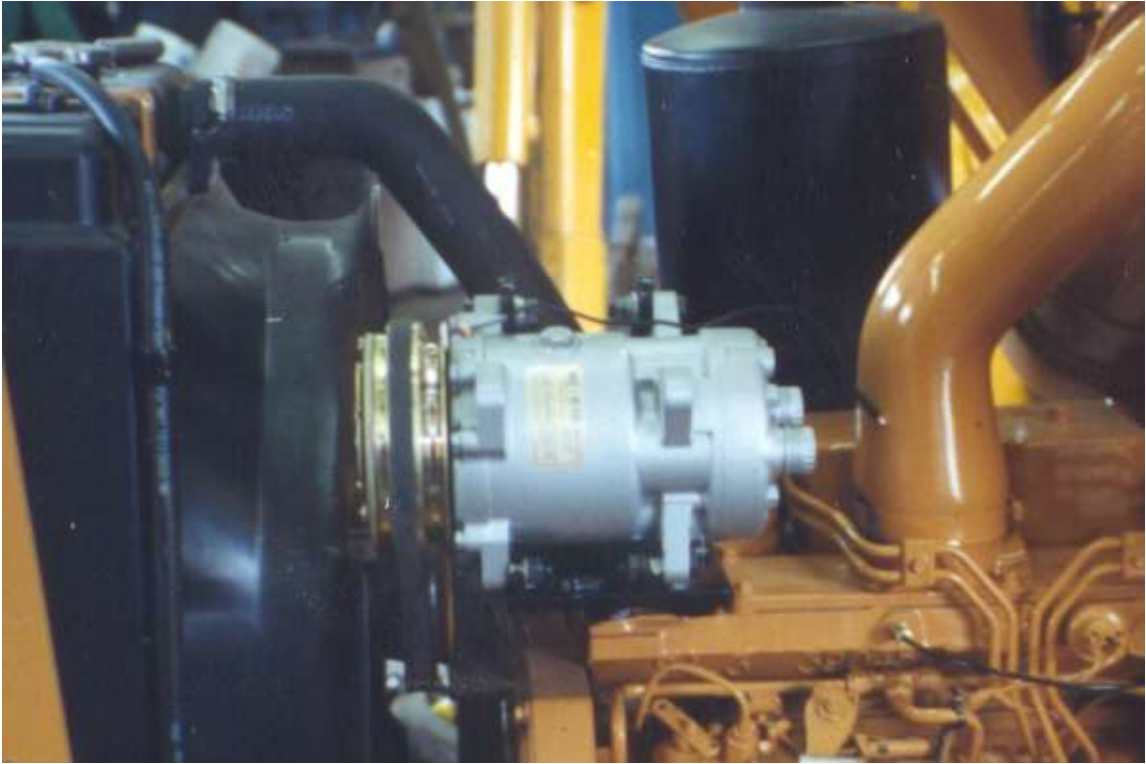
3. Place the mount spacer and the mount in position on the engine over the three mounting holes. It may be necessary to clean out the threads with an M10 tap.
4. Secure using the metric hardware supplied in the kit.
5. Set the compressor in place with the oil port oriented "UP".
6. Install the V-belt over the pulley added onto the fan hub and over the front groove on the compressor. A selection of V-belts is included in the kit so that the best fit can be selected. Adjust to the desired tension and secure with the compressor mounting hardware.
7. Remove the bracket supporting the left end of the muffler. Keep the bracket for modification and re-installation later.
8. Set the compressor mount in place and install as described above. Do not install the compressor at this time.
9. Modify the muffler support bracket so that it can be welded or bolted to the compressor mount.
10. Secure the bracket in place.
11. Mount the compressor as outlined above.
12. Install the white nylon seals in the square cut groove on the compressor fittings and install the appropriate rotolock fittings (with attached pressure switch) to each. The rotolock with the pressure switch with the blue leads is for the suction fitting. The assembly with the black leads is for the discharge fitting.
13. Orient the pressure switches to the top. Do not tighten until the hoses are attached.



Compressor mount location on engine.



Compressor mount with stand-offs on engine.



Compressor mounted in place. Note vertically oriented muffler.

CONDENSER:

The condenser mounts in front of the radiator on the pre-formed brackets supplied.

1. Remove the front grill assembly and the casing over the radiator.
2. Set the condenser into place as shown, and mark the locations of the mounting bolt on the radiator housing.
3. Drill and tap for the 1/4" hardware supplied.
4. Mount the condenser and bracket assembly to the tapped bolt points with the brackets and hardware provided in the kit. Place the brackets in the locations shown below. The angled brackets are on the right and the straight brackets are on the left.
5. Secure tightly.



Condenser mounted with hoses in place showing right side brackets.

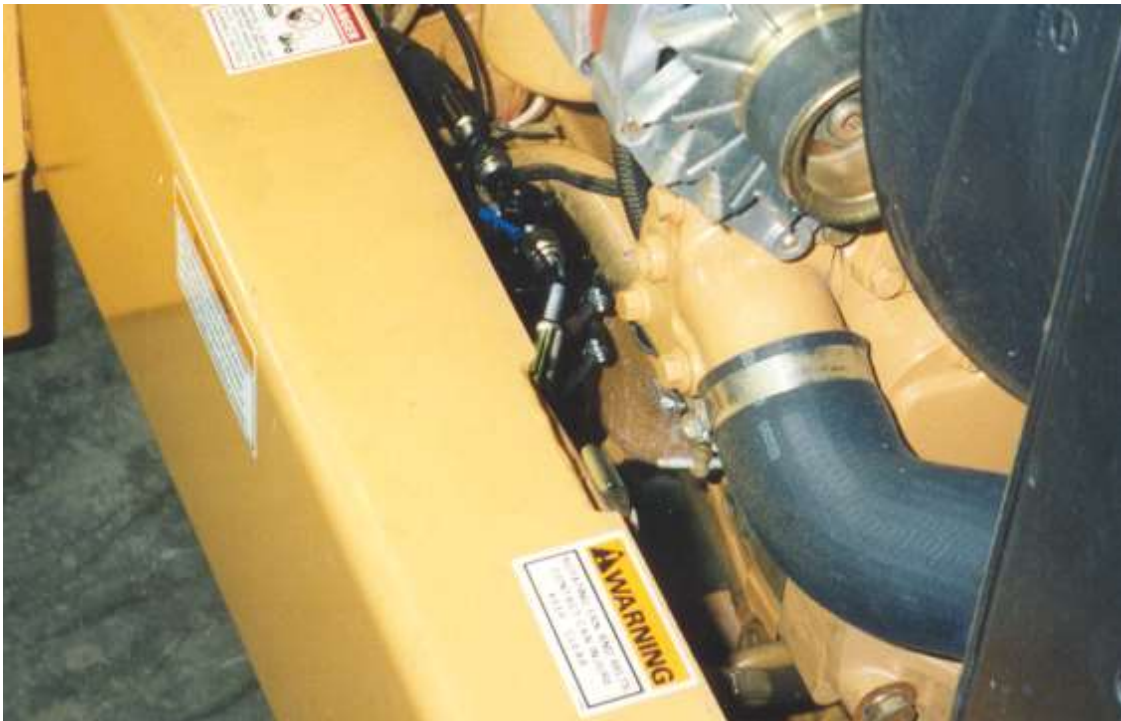


Condenser in place with left side brackets and hose routing shown.

DRIER:

The receiver drier is mounted on a straight drier bracket along the frame on the right side of the engine.

1. Locate the existing bolt to be used to mount the drier bracket and remove. (see picture for location)
2. Mount the drier bracket, reinstall bolt and tighten.
3. Mount drier to bracket using the two #48 gear clamps provided. Ensure the 'INLET' fitting of the drier is oriented toward the front of the machine.



Drier on right hand frame.

HOSE RUNS:

The hoses are all pre-crimped and pressure tested for leaks.

13/32" Hose Compressor to Condenser:

The hose runs from the compressor fitting (the 45o at the end of the hose close to the 134a access tee) to the top fitting on the condenser. The hose is routed back toward the cab from the compressor down, around and forward along the side of the radiator and across the front of the condenser and up to the top fitting on the coil. The 90o fitting connects to the top fitting with the seal in place. See the pictures for the condenser installation above.

5/16" Hose Condenser to Drier:

The hose runs from the condenser outlet fitting (bottom) to the drier along the right hand side of the engine. Connect the straight fitting to the condenser and loop the hose up and around along the side of the condenser and out along the frame on the right side of the machine. Connect the other fitting to the 'INLET' fitting on the drier.

5/16" Hose Drier to Evaporator:

The hose runs from the drier along the side of the frame and up into the cab on the right side of the operator. The hose is run into the cab with the 1/2" suction line from the compressor. Run both the lines up the right side column (behind the cover and brackets) and across the back of the cab (see pictures). Loop the hoses around and connect to the evaporator. The 90o fitting on the cab end of the hose is connected to the expansion valve.

1/2" Hose Evaporator to Compressor:

The 1/2" hose is first connected at the compressor using the 45o fitting close to the access tee for charging. Connect this fitting to the compressor fitting and run the hose back as shown. The hose will cross over to the right side of the machine under the cab and behind the engine. It then follows the 5/16" hose into the cab and up to the evaporator. Connect the straight fitting at this end to the evaporator outlet fitting.



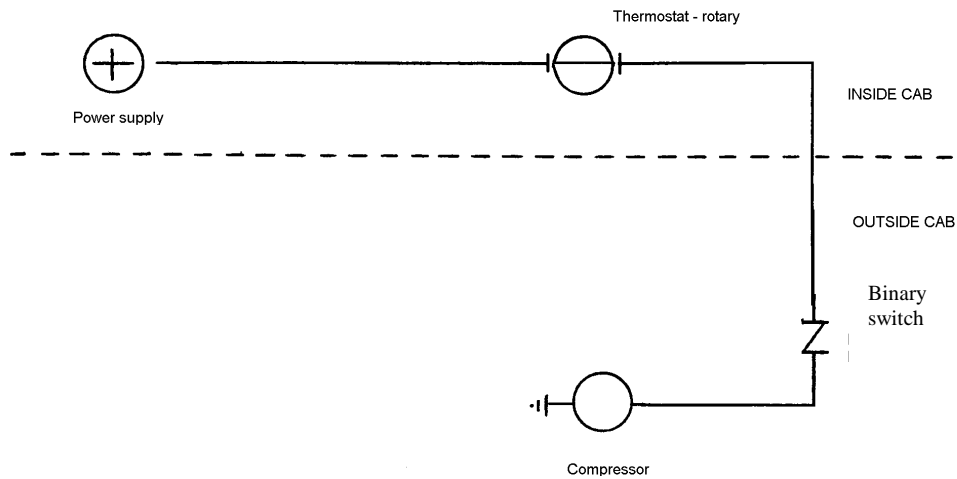
Hoses routed through floor of cab.



Hoses running up column on right side of cab.

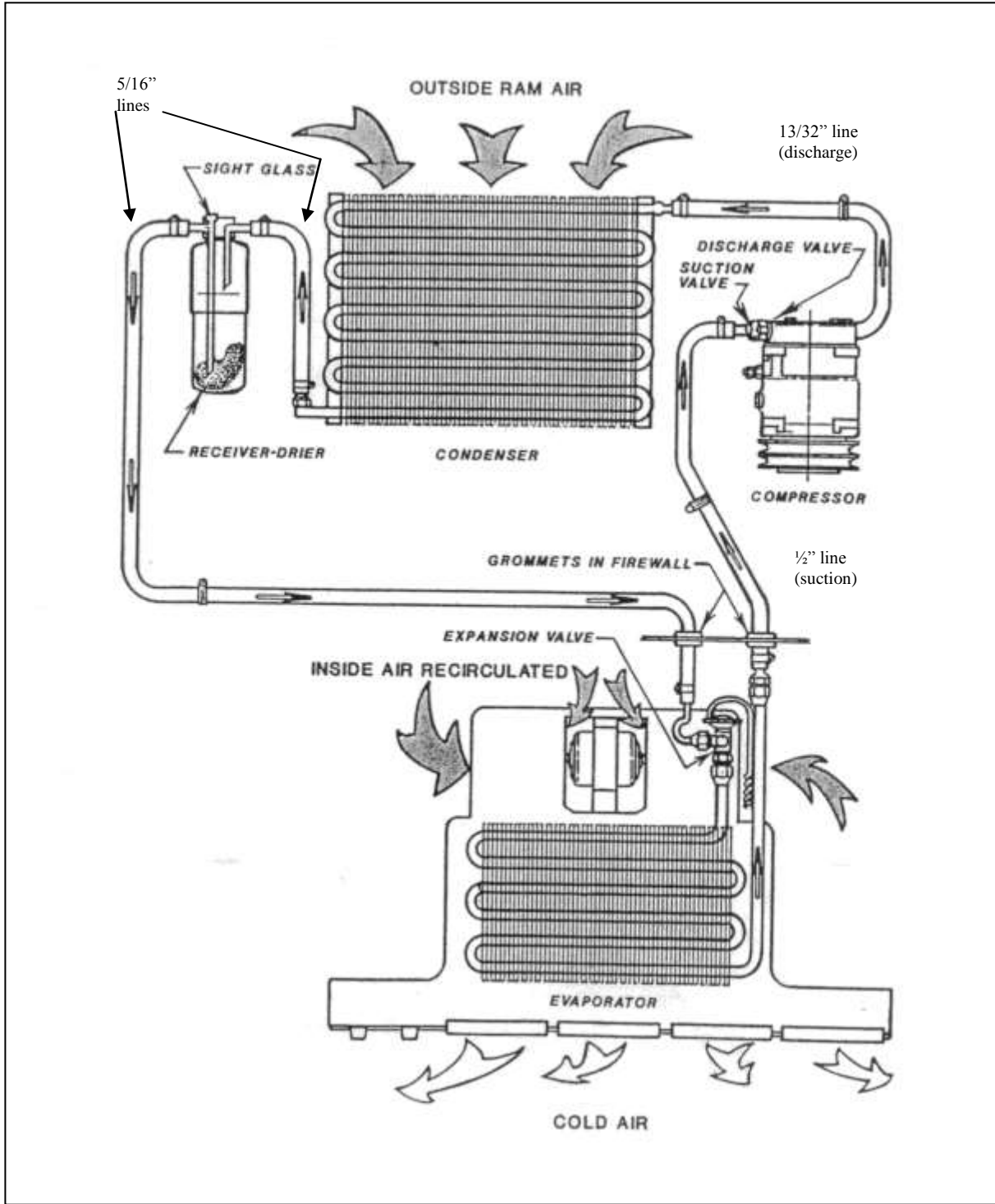
ELECTRICAL:

The electrical system for the Air Conditioning takes power off the clutch terminal of the blower switch. This is the terminal that is live when the blower fans are running. Take power from this terminal and run to the thermostat. The thermostat is mounted in the same console as the blower switch and other controls, and is in the factory location. From the thermostat run the black 14ga clutch wire in the split loom out of the cab with the hoses. Run forward with the 1/2" hose to the compressor and connect to the pressure switches. Connect to the clutch wire running out of the compressor.



Thermostat in position on lower right of panel.

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.

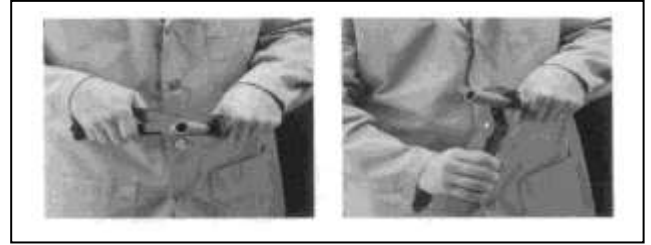
By looking at all these different factors, the area of an evaporator coil most likely to be the coldest can be determined.

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.

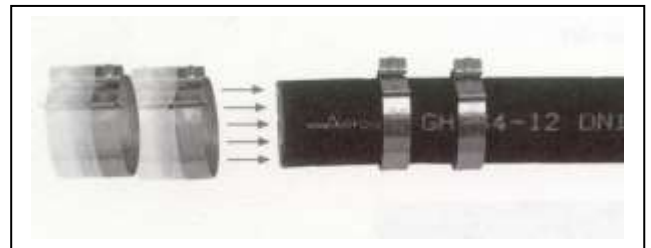
If the thermostat doesn't cycle off after a reasonable cool down period, and the air outlet temperature has dropped below 40° F, the cut in and cut out settings should be adjusted until the compressor is cycling on and off regularly. Let the system run for a decent time period (at least 15 min) and then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

Aeroquip E-Z Clip Assembly Instructions

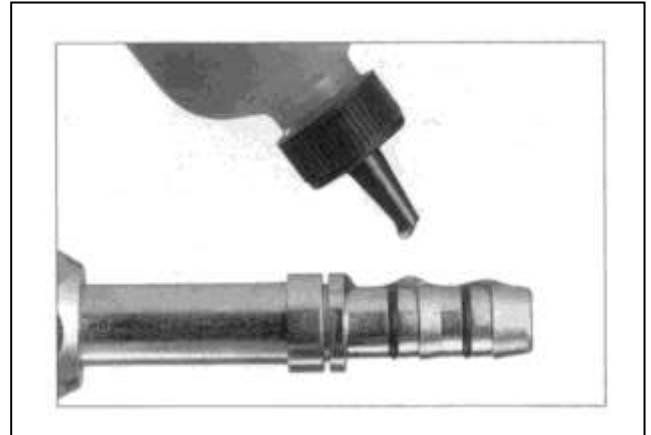
Step 1. Cut the hose to proper length with an appropriate cutting tool. Aeroquip's hand held hose cutter has been specially designed for cutting all non-wire reinforced hose, such as GH-134 Multi-Refrigerant hose. Be sure the cut is made square to the hose length.



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.

