

INSTALLATION INSTRUCTIONS
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450H



Compressor mount area

Instructions below show the same mount and drive on a 310E machine.

Drive pulley installation:

Steps:

1. An auxiliary pulley is mounted to the fan pulley to drive the compressor. This allows the operation of the A/C compressor to be independent of all other engine functions. The machine will be operable even in the event of a compressor or clutch failure
2. Remove the four bolts holding the fan on the pulley
3. Remove the spacer from the fan pulley.
4. Install the aux. pulley over top of the original fan.
5. Replace the spacer and fan.
6. Align the four bolt holes
7. Bolt the assembly back together using the original bolts. Use medium lock tight on all threads..



Aux. Pulley for the
compressor

Compressor installation:

Steps:

1. The compressor mounts on the left side of the engine just above and ahead of the injector pump.
2. Loosely bolt the angle mount support bracket to the engine above the injector pump using the existing holes in the engine block. The bracket must be slid in behind the temp sensor from the front of the engine.
3. Remove the two front upper bolts from the injector pump gear housing and replace them with the longer M8 bolts supplied. Install a lock washer and flat washer on the bolt before threading them into place, otherwise the thread will run out before the bolt is tight.



Fan screen
cutoff

Compressor

Main mount
bracket

M8 nuts
and

Angle mount
support bracket

4. Install the main mount bracket over the two M8 bolt studs on the injector side of the gear housing and loosely fasten into place using the large OD flat washers and M8 nuts.
5. Bolt the two brackets together using the 3/8" hardware provided. Tighten these bolts and then tighten all the other mount bolts.
6. Install the compressor onto the tightener ears using the 3/8" x 1 1/2" hardware provided.
7. Install the 1/2" drive belt around the aux pulley on the fan hub and the front groove on the compressor

8. Tension the belt and secure the compressor mount bolts.

NOTE: The fan screen will have to be cut off on the left side to allow for clearance on the compressor clutch and belt.



17390 drive
belt

Compressor

1/2" hose

13/32" hose



Remove panel to run hoses

Hose cover removed



Access for hose runs to the compressor



Existing setup before installing A/C components



Condenser screen frame removed



Condenser bolted to the screen mounting frame with 1/4" hardware



Condenser mounting bolts



Condenser mounted to its screen frame and bolted back onto the cab.



Seal air gaps with foam or tar tape.

Condenser in place on its screen frame and bolted back onto the cab.

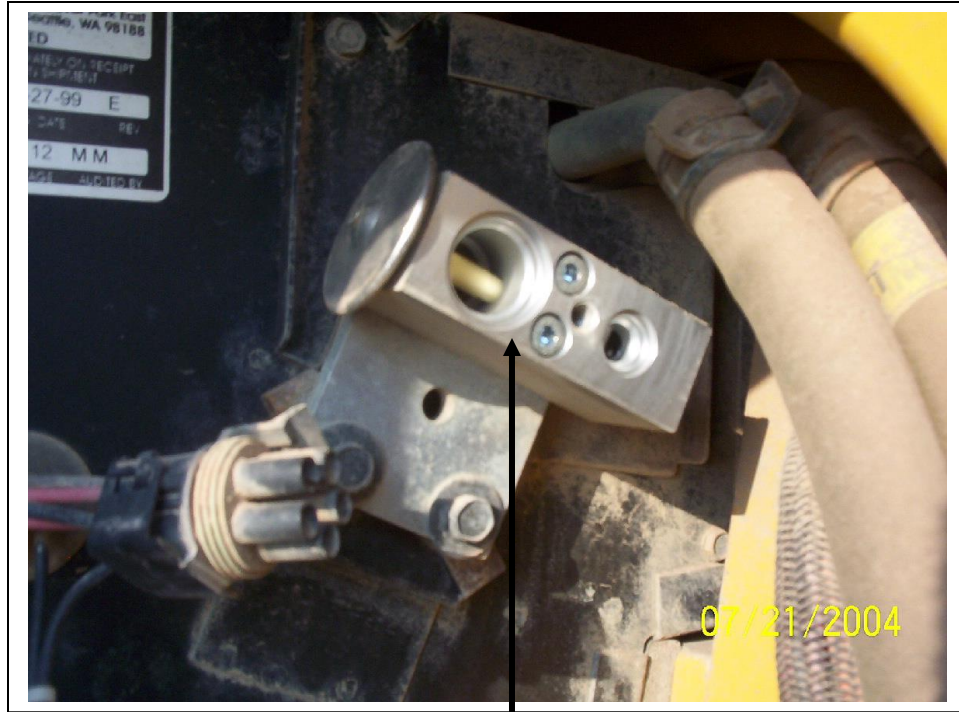


5/16" drier bracket mount bolt.



Drier

90o drier bracket



Existing expansion valve with the cover plate removed.



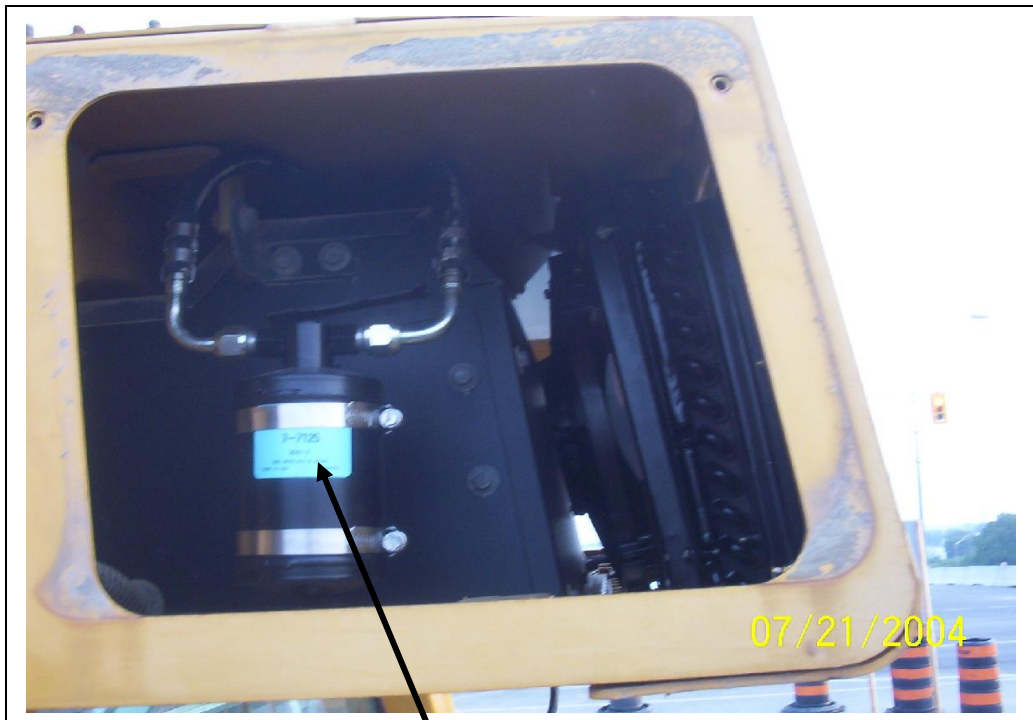
1/2" fitting attachment to expansion valve with "H" clamp

5/16" fitting attached to expansion valve with "H" clamp.



13/32" fitting on condenser

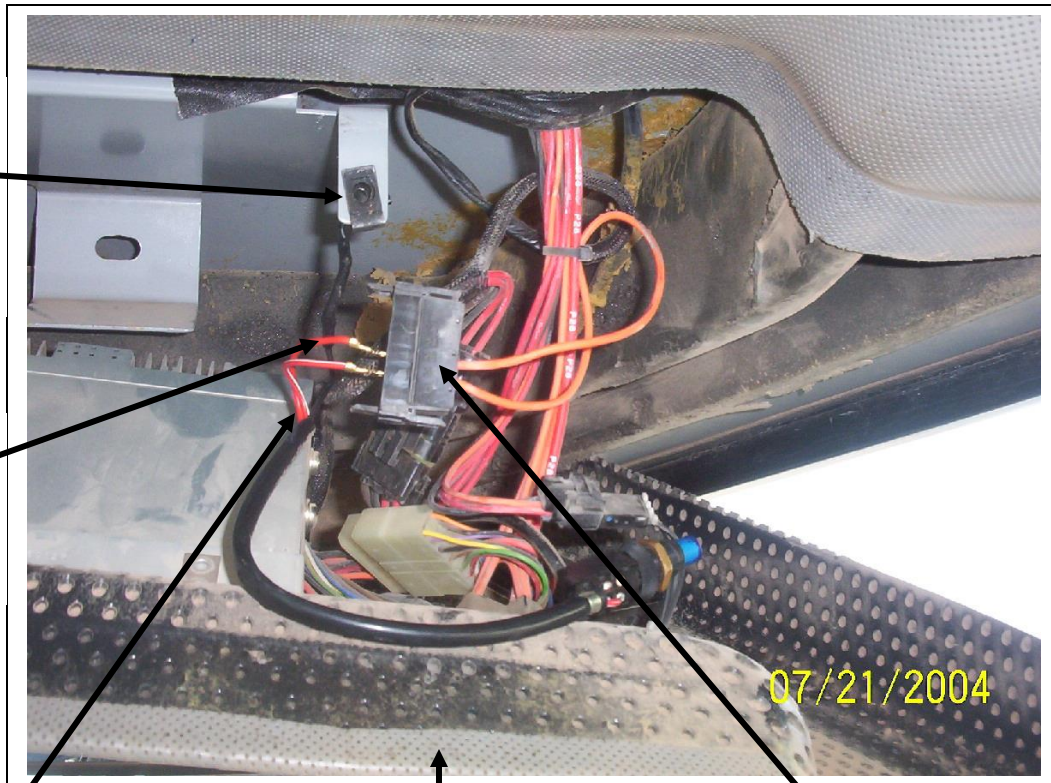
5/16" fitting on condenser



Drier in place with 5/16" hoses attached.

Ground black wire to metal of cab. Use a self drilling screw if needed.

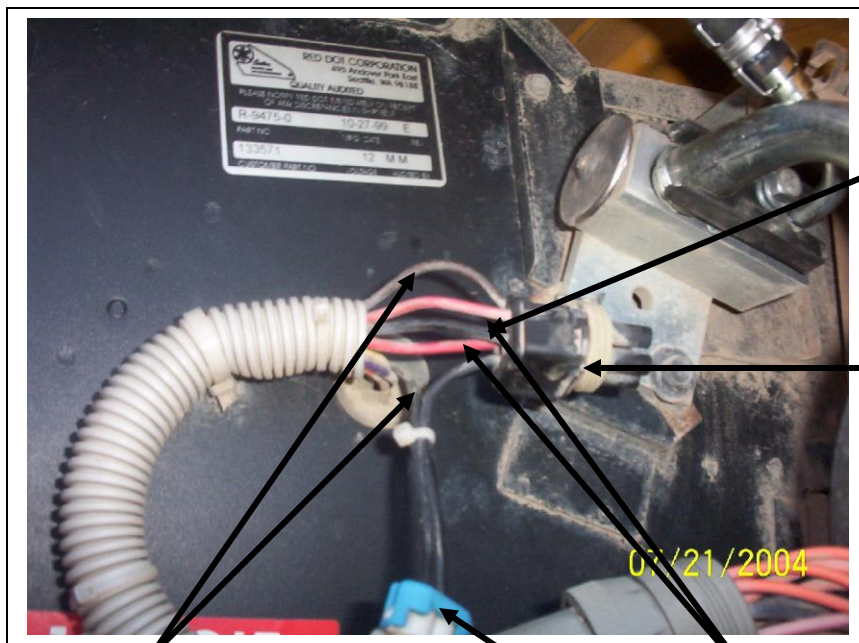
Red wire plugs into terminal from blower switch



Red/white wire plugs into terminal going to the unit on the back of the cab.

Front switch panel in cab lowered to access wiring for A/C system

Existing plug base for A/C on-off switch



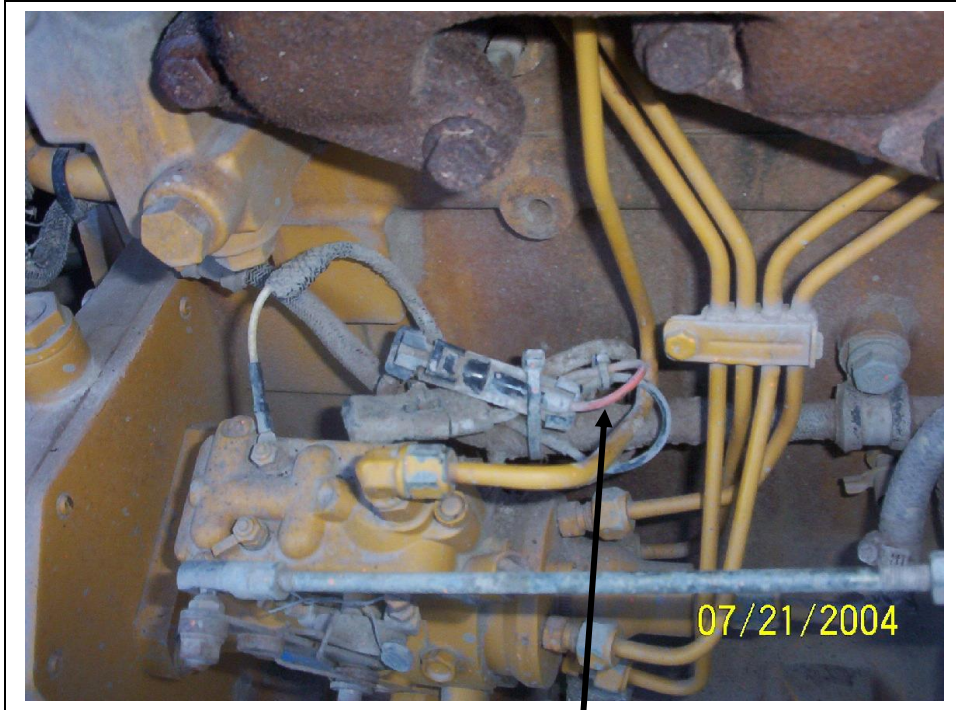
Black ground wire for condenser fans.

Cut this plug off

Connect these two wires together to energize the a/c relay on the fuse panel in the cab.

Cut this plug off

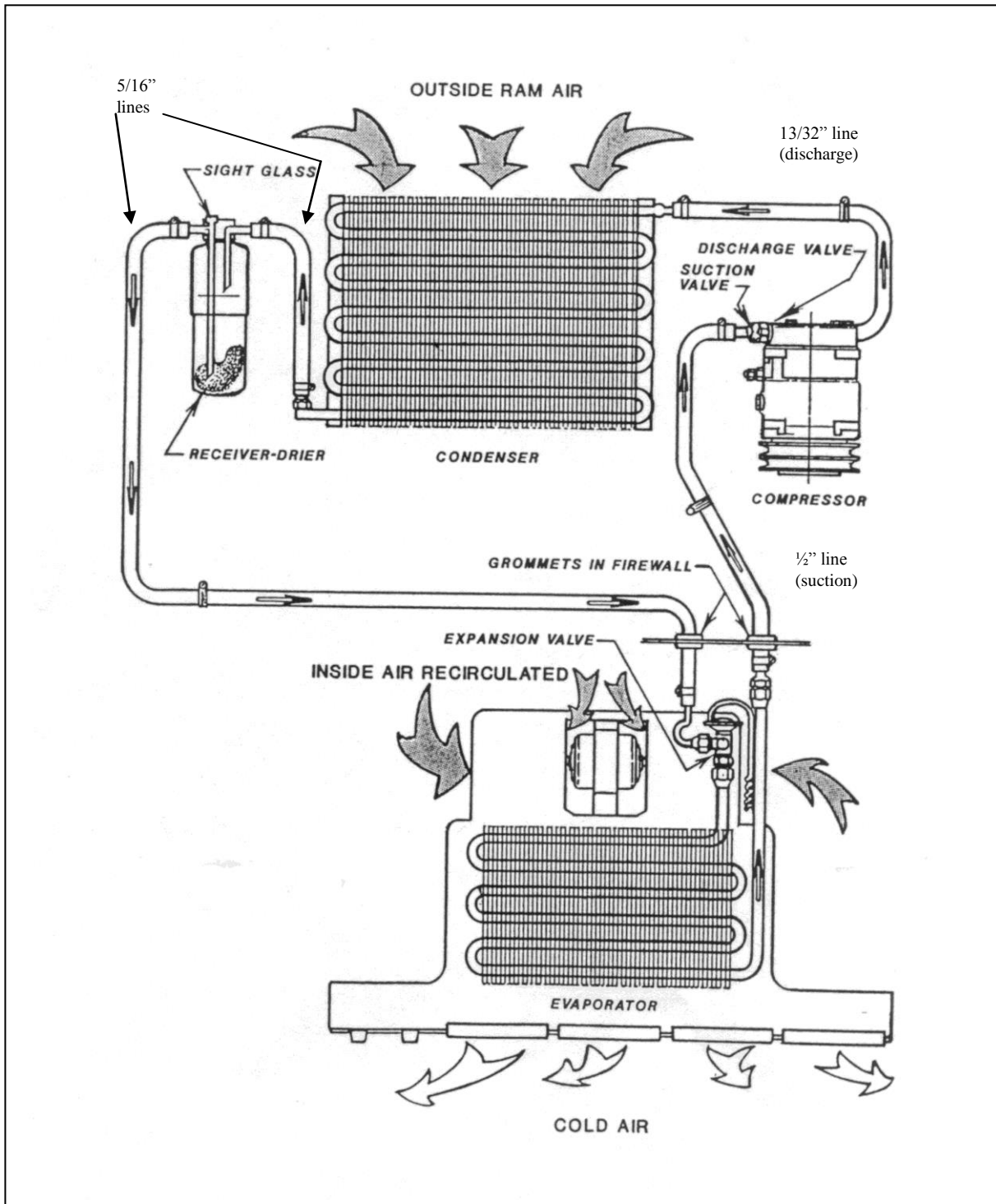
Two red wires power for each condenser fan.



This wire is energized when the A/C relay comes on.
 Cut the plug off, install a blue female QD terminal and
 plug it into the binary switch on the compressor.



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.

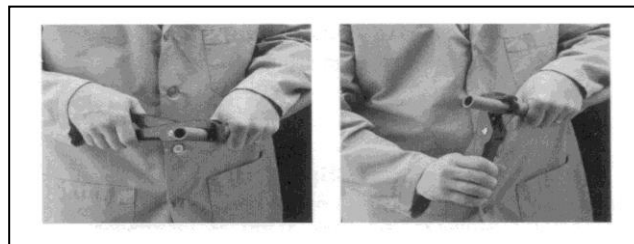
By looking at all these different factors, the area of an evaporator coil most likely to be the coldest can be determined.

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.

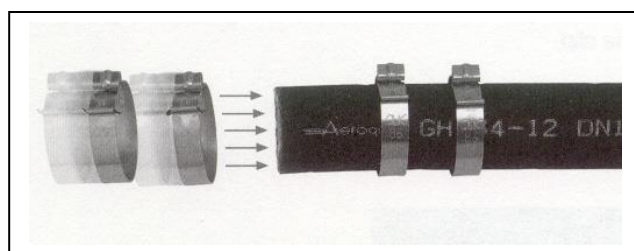
If the thermostat doesn't cycle off after a reasonable cool down period, and the air outlet temperature has dropped below 40° F, the cut in and cut out settings should be adjusted until the compressor is cycling on and off regularly. Let the system run for a decent time period (at least 15 min) and then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

Aeroquip E-Z Clip Assembly Instructions

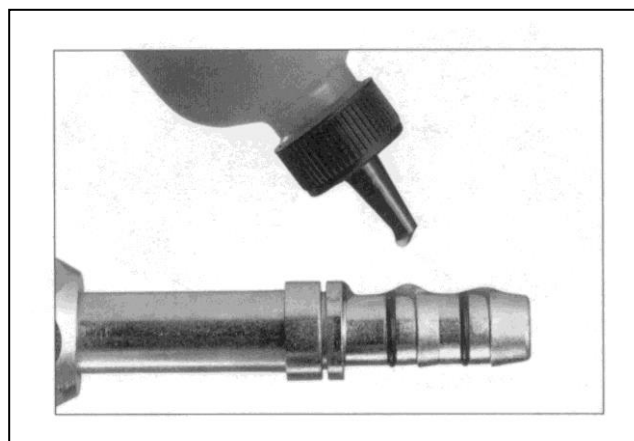
Step 1. Cut the hose to proper length with an appropriate cutting tool. Aeroquip's hand held hose cutter has been specially designed for cutting all non-wire reinforced hose, such as GH-134 Multi-Refrigerant hose. Be sure the cut is made square to the hose length.



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.



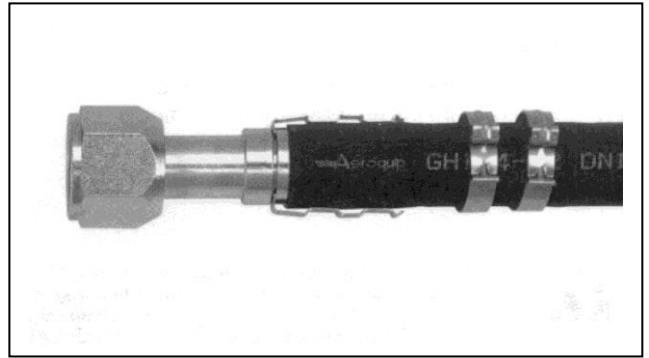
Step 4. Insert the nipple into the hose. To ensure that the nipple is fully inserted, check the gap between the cut end of the hose and the shoulder on the nipple. Care should be taken to avoid kinking or other damage to the hose during nipple insertion.

NOTE: Be sure to wipe excess oil from the nipple and hose.

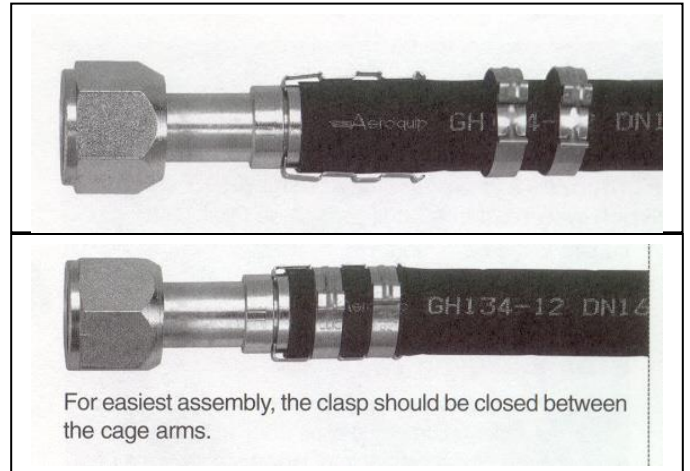


Step 5. Snap the cage into the groove on the nipple. The arms should extend over the hose length. When the cage has been correctly installed in the cage groove, the cage will be able to rotate in the groove. This step **MUST** be performed to ensure:

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.

