

310E JOHN DEERE
INSTRUCTIONS

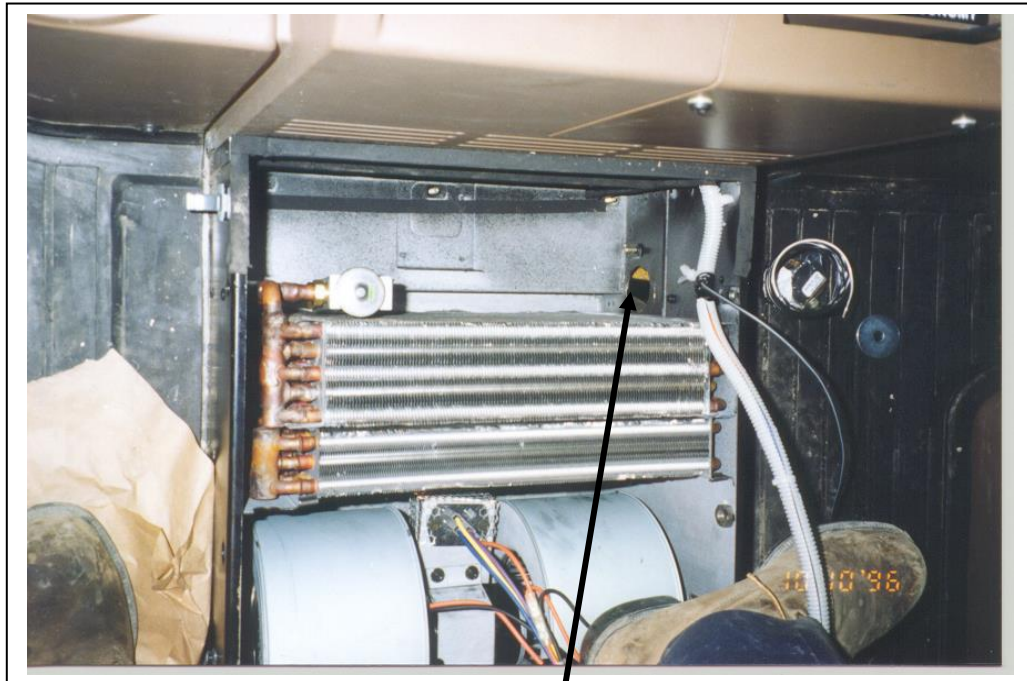


1-519-485-5961 or 1-800-267-2665
Fax 1-519-485-3745 or 1-888-267-3745

Evaporator installation:

The evaporator installs beside the heater coil under the seat.

- Steps:
- 1) Remove the air filter from the right side of the seat box.
 - 2) Remove the seat and seat mount plate from the cab
 - 3) Drill two ½” holes in the bottom of the heater box, one toward each side of the box, and dimple them down with a ball peen hammer.
 - 4) Drill a 2” diameter hole on the rear side wall of the heater box just above the filter ledge. The 2” hole should be centered over the edge of the filter ledge so the A/C hoses wont interfere with the installation of the filter.
 - 5) Use epoxy to glue the copper drain tubes into the two ½” holes drilled in the bottom of the heater box.
 - 6) Install the evaporator coil with the expansion valve on the filter side and toward the front of the cab.
 - 7) Secure the evaporator in place against the heater coil using the two L brackets and self drilling screws. The 3” x 1” L bracket goes on the expansion valve end of the coil and the 1” x 1” L bracket goes on the other end.
 - 8) Once the glue on the copper drain tubes is dry, install the short sections of plastic drain tube and the drain tube restrictors from the outside bottom of the heater box.
 - 9) Once the A/C hoses have been connected to the evaporator coil, seal around the 2” holes in the heater box with tar tape.
 - 10) Do not reinstall the heater box lid or seat until the system has been tested and charged.

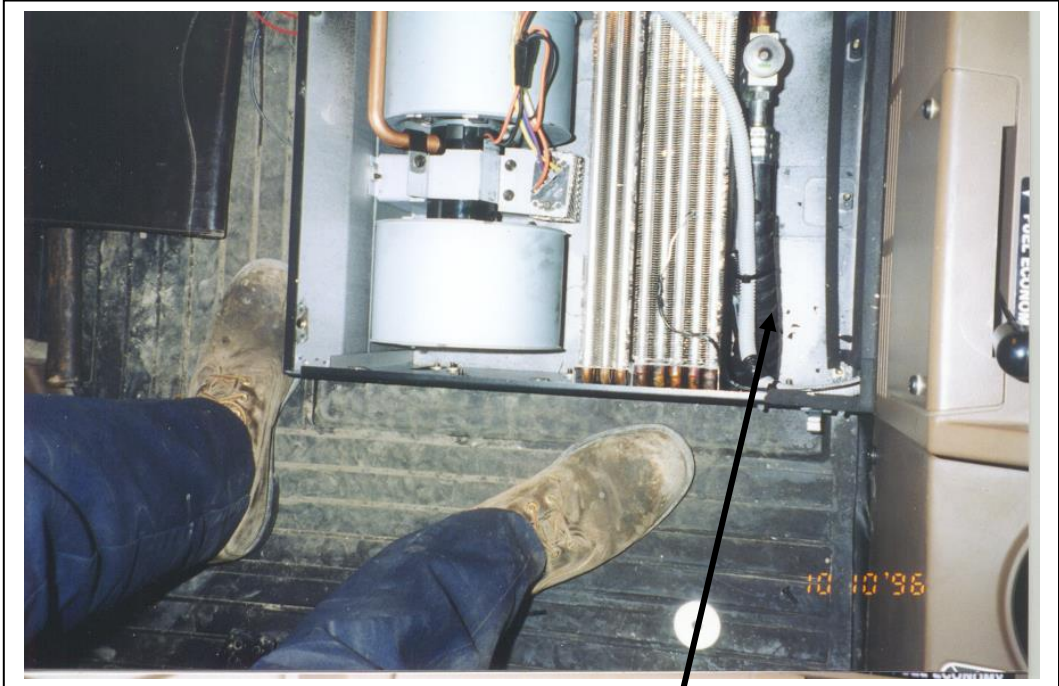


2”hole



1" x 3" L bracket here

1" x 1" L bracket here



Hoses and wiring leaving
box

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
washers

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

Drier mount

Steps:

- 1) Mount the straight drier bracket to the existing M12 bolt hole directly below the compressor mount.
- 2) Clamp the drier to the bracket using the # 48 gear clamps provided. Have the drier inlet pointing forward and parallel to the engine.



Straight bracket

Receiver drier.

CONDENSER:

The condenser is designed to attach to the top four bolts holding the front grill onto the engine cover.

Steps:

- 1) Remove the grill from in front of the radiator.
- 2) Install the M10 x 40MM bolts through the existing top four grill mounts from the backside. This will form the mounting studs for the condenser frame and grill.
- 3) Place the condenser and frame over the studs with the condenser fitting on the right side of the machine.
- 4) Connect the 13/32" 90° fitting and the 5/16" 90° fitting to the condenser.
- 5) Place the 1/4" spacers over the four studs and use some tar tape to hold them on the bottom two grill mount holes.
- 6) Reinstall the grill over the four studs. Use flats, locks and nuts to secure the grill to the studs. On the bottom two holes use the supplied M10 x 30MM bolts to secure the bottom of the grill

NOTE: Don't reinstall the grill until the system has been tested and charged.



NOTE: 310d shown. Fittings are different.



NOTE: 310D shown. 310E is similar

ELECTRICAL:

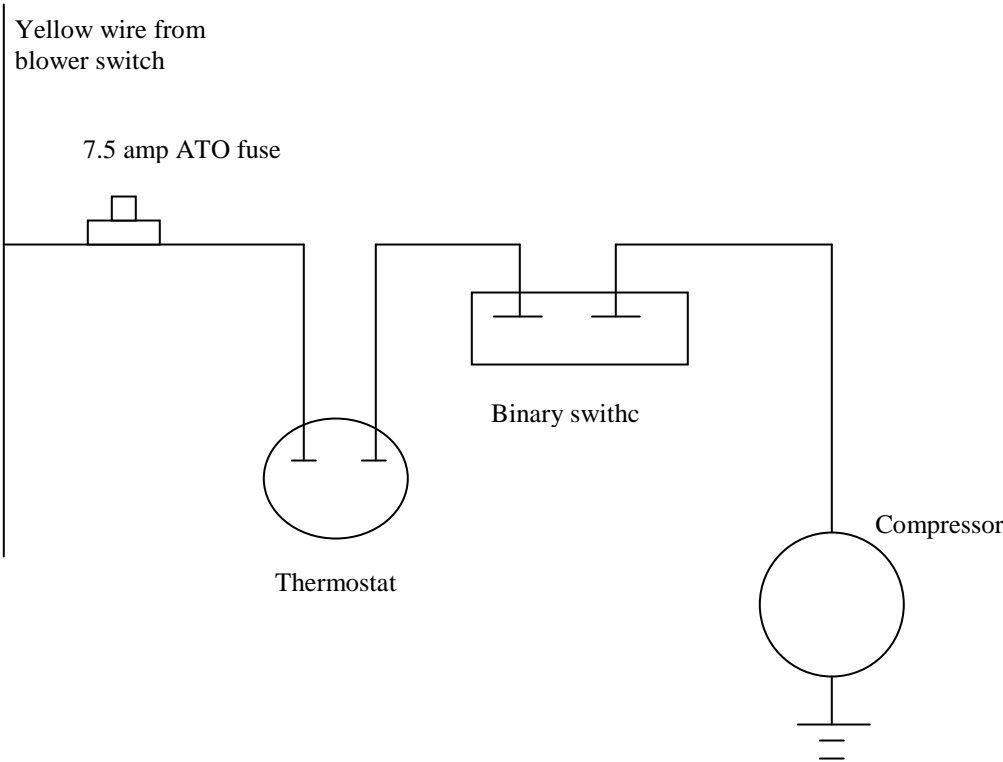
Steps:

- 1) Locate the yellow wire coming off the blower switch. Use a test light to confirm that it has full power on it when the switch is turned to any speed.
- 2) Splice into the yellow wire with one end of the ATO fuse holder. Connect the other end of the fuse holder to the thermostat.
- 3) Mount the thermostat in the control panel just to the left of the blower switch. Drill a 7/16" hole to do this.
- 4) Run the thermostat probe and the 14ga black wire from the thermostat down into the heater box. Install the probe into the coil. Run the 14ga black wire in loom out of the heater box along with the A/C hoses.
- 5) Connect the 14ga black wire in loom to one side of the binary switch. Connect the compressor clutch wire to the other side of the binary switch.
- 6) Test the electrical system once there is pressure in the system

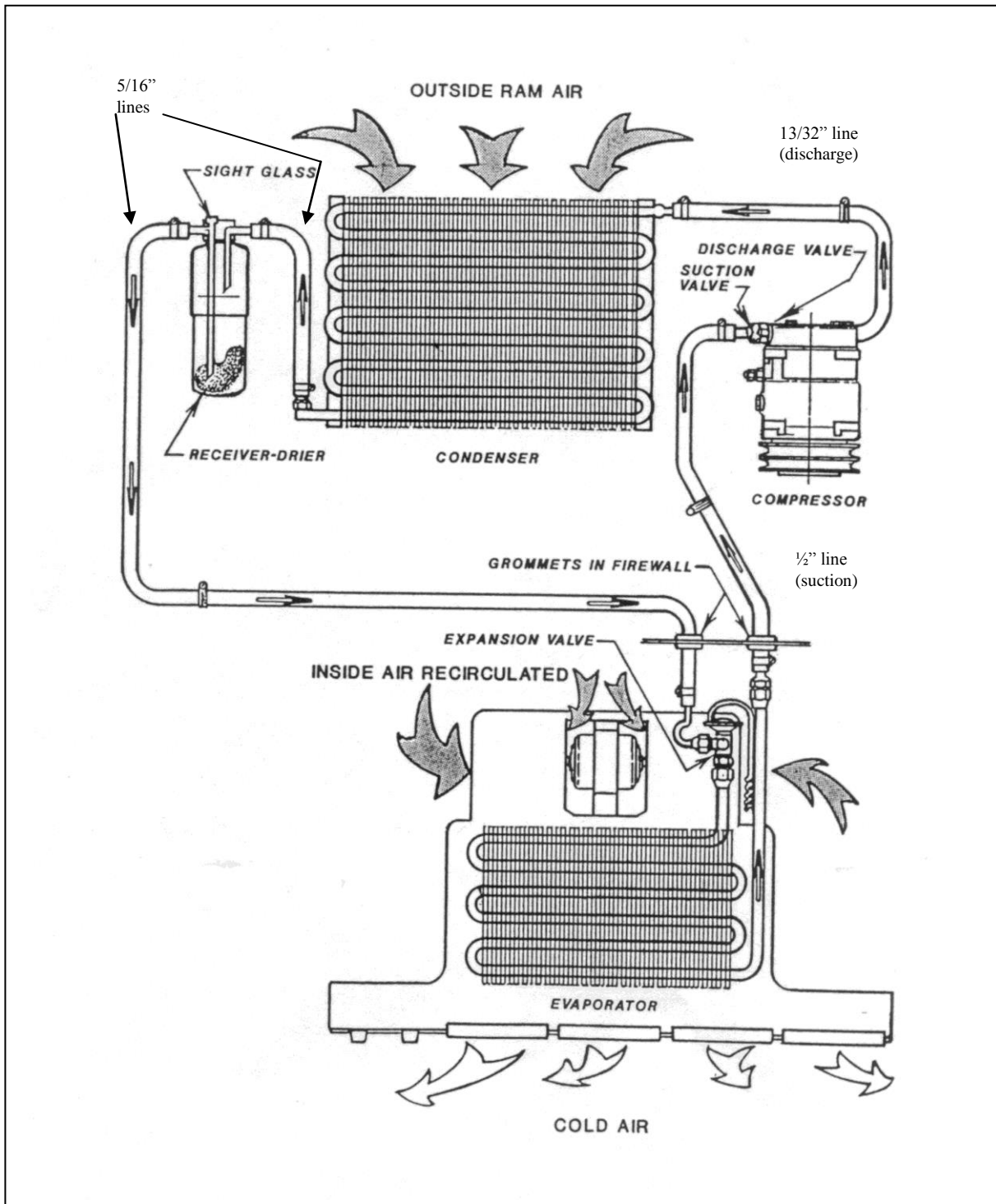


Thermostat installed in dash.

310E ELECTRICAL



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.

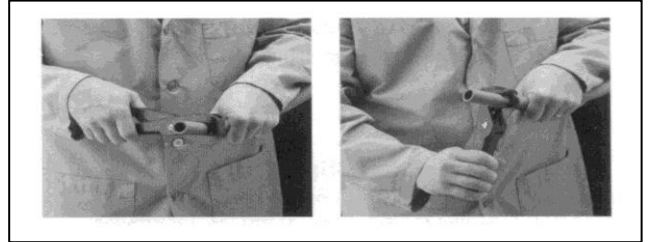
By looking at all these different factors, the area of an evaporator coil most likely to be the coldest can be determined.

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.

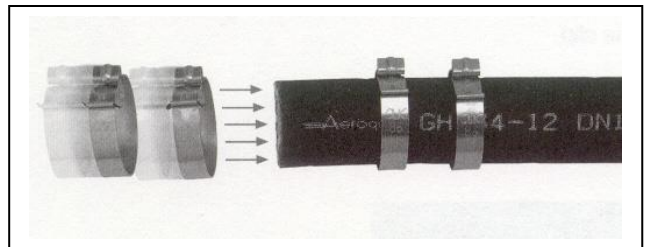
If the thermostat doesn't cycle off after a reasonable cool down period, and the air outlet temperature has dropped below 40° F, the cut in and cut out settings should be adjusted until the compressor is cycling on and off regularly. Let the system run for a decent time period (at least 15 min) and then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

Aeroquip E-Z Clip Assembly Instructions

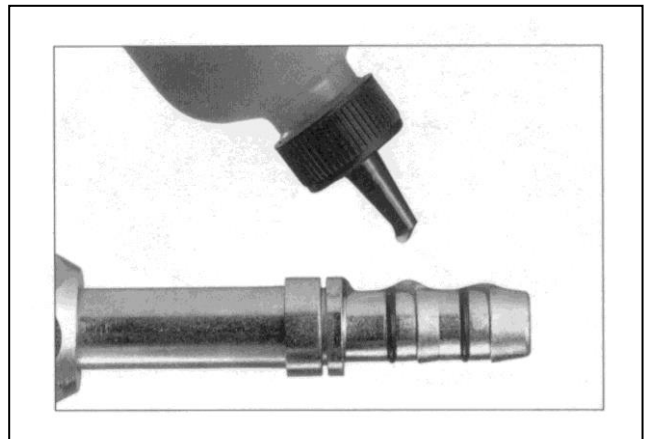
Step 1. Cut the hose to proper length with an appropriate cutting tool. Aeroquip's hand held hose cutter has been specially designed for cutting all non-wire reinforced hose, such as GH-134 Multi-Refrigerant hose. Be sure the cut is made square to the hose length.



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.



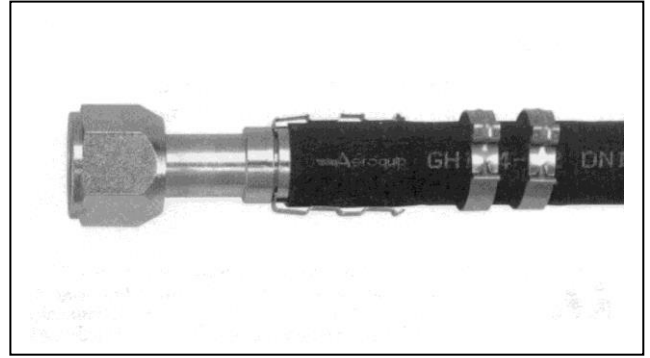
Step 4. Insert the nipple into the hose. To ensure that the nipple is fully inserted, check the gap between the cut end of the hose and the shoulder on the nipple. Care should be taken to avoid kinking or other damage to the hose during nipple insertion. NOTE: Be sure to wipe excess oil from the nipple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



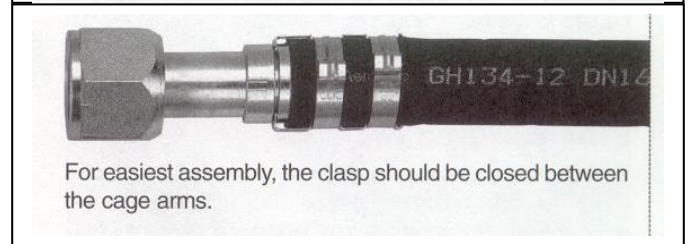
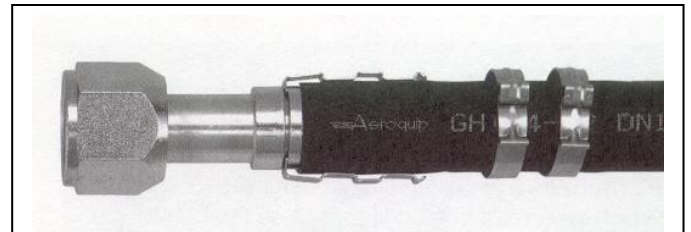
Step 5. Snap the cage into the groove on the nipple. The arms should extend over the hose length. When the cage has been correctly installed in the cage groove, the cage will be able to rotate in the groove.

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.

