John Deere 344H Loader

Installation Instructions

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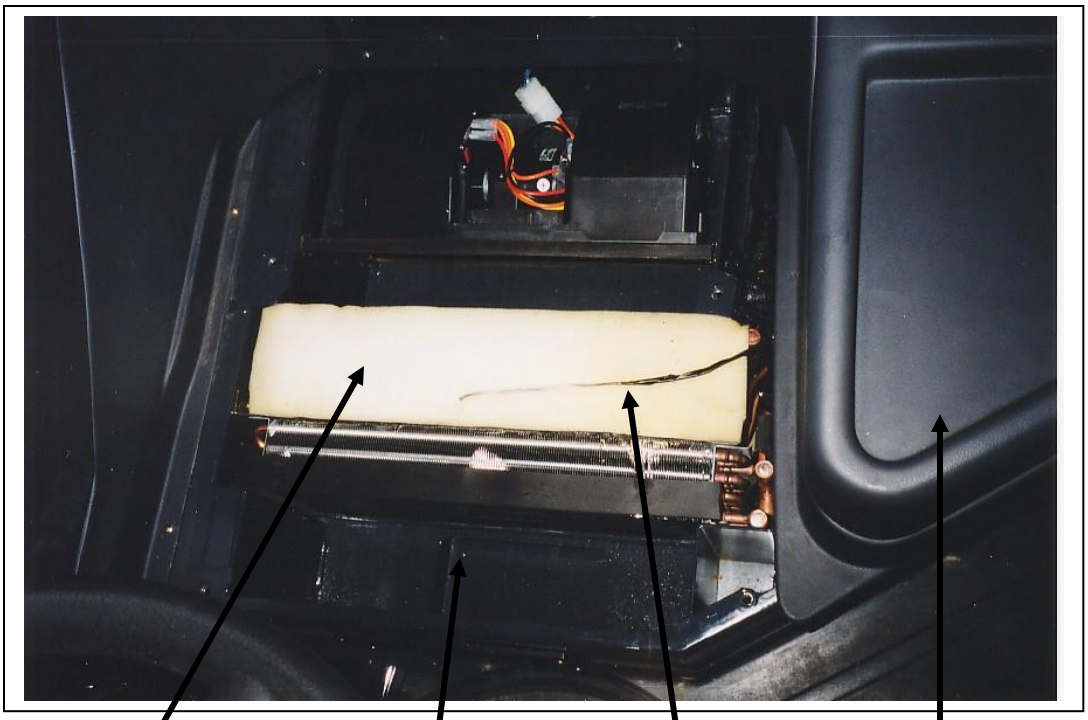
Evaporator: The evaporator setup for the 344H loader is a "drop in" design that goes in under the operators seat. It uses the original heater blowers, air ducts, louvers, blower controls and air filters with some minor modifications to reduce the outside air intake.

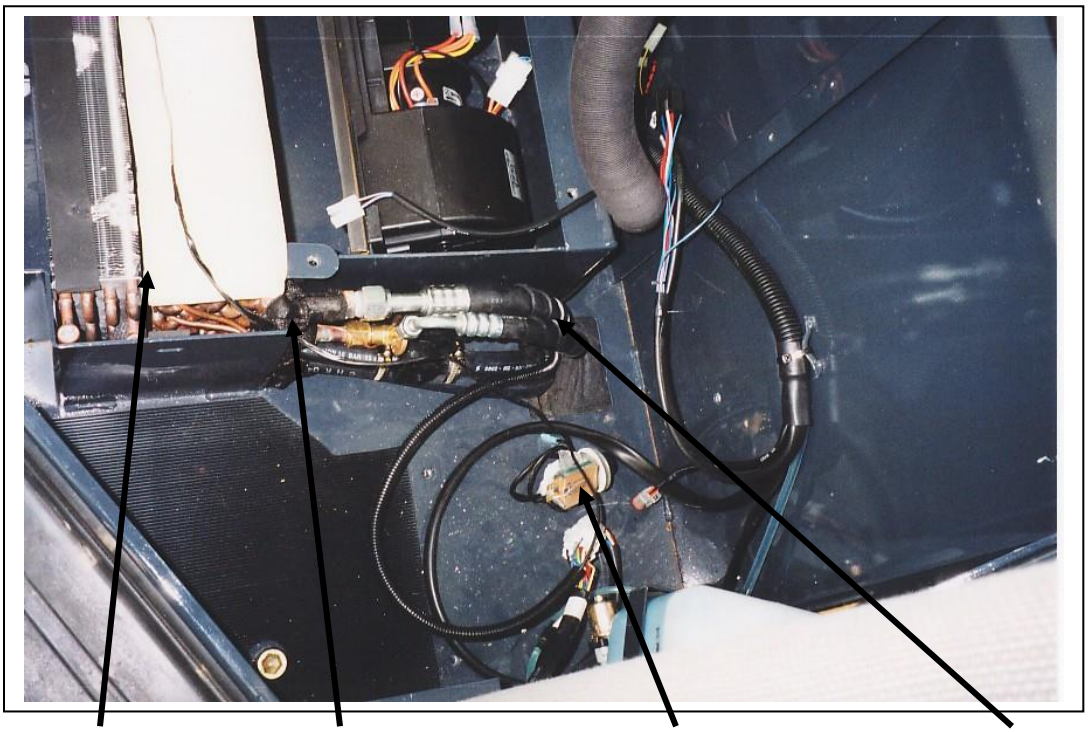
Steps:

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 and then remove it from the cab.



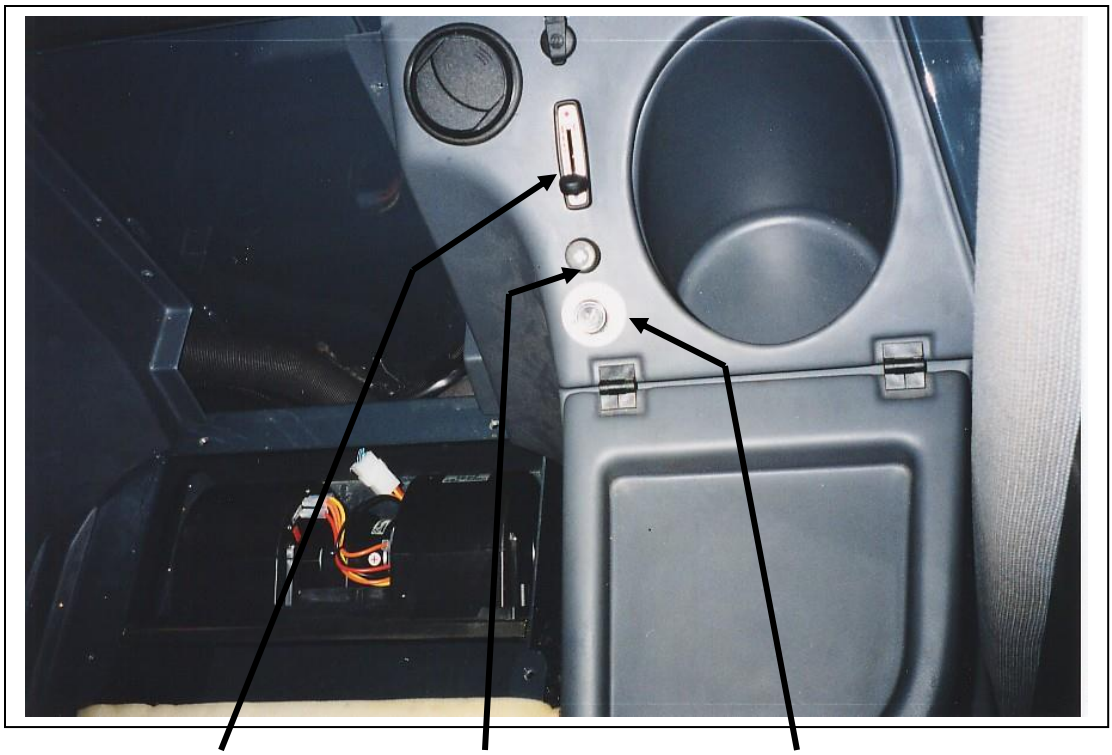
2. Open the storage compartment to the right of the operators seat. Remove the contents of the compartment. Remove the rubber mat on the bottom of the compartment.
3. Remove the plastic pieces from behind the seat and to the left of the seat. This section contains the heater/blower controls. They must be disconnected to remove this section. This will expose the side of the heater A/C box that houses the heater and A/C hoses.
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.

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.



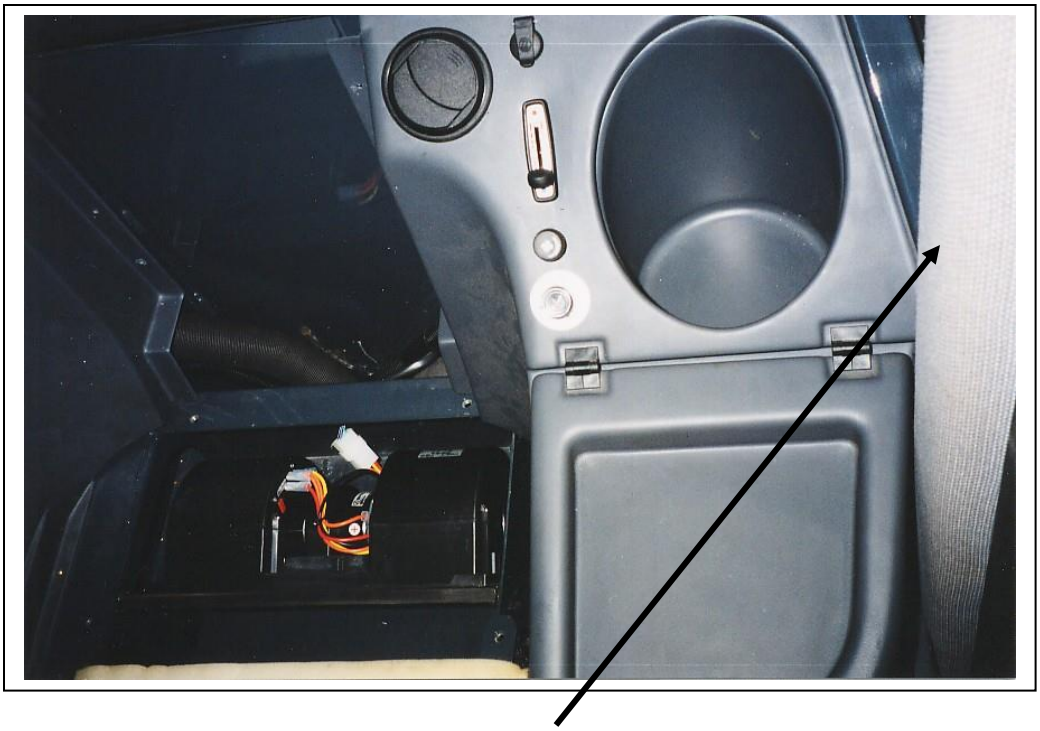
6. The evaporator coil should sit flush with the heater coil at the top

7. The thermostat probe is run from the thermostats location on the left hand control console towards the back of the console and through the existing slot for the heater and A/C hoses. Run the thermostat probe along the top of the evaporator and insert it five inches deep into the coil between the second and third row of tubes from the front, about half way along the length of the coil

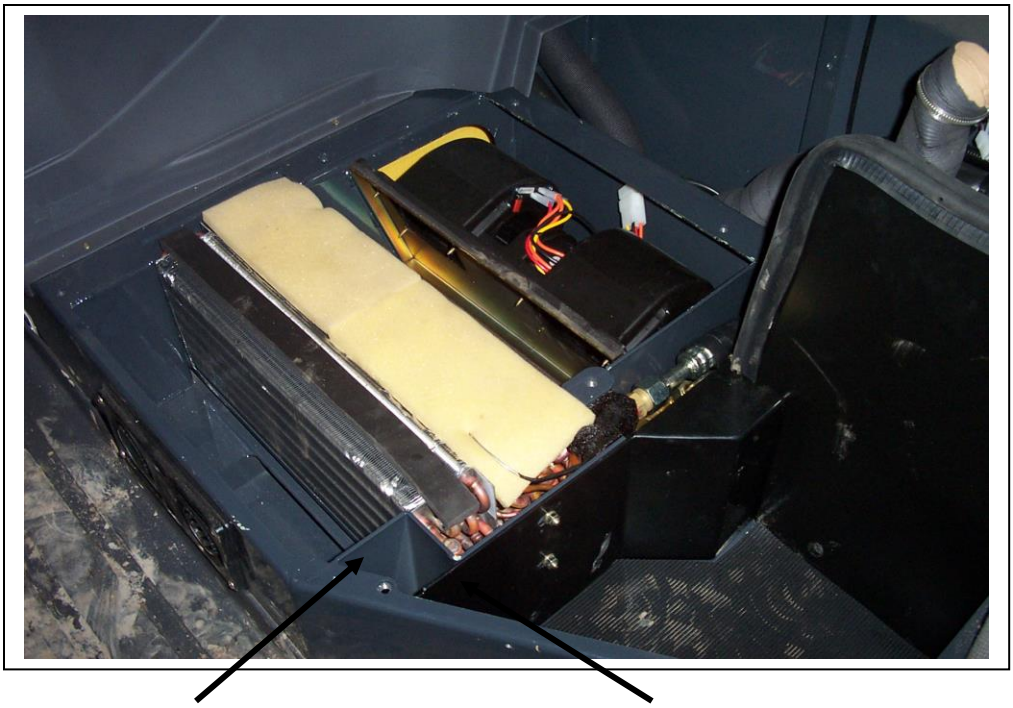


Heater control Blower control Thermostat in place once panel replaced

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. In extreme environments, it may be necessary to increase the airflow to the top of the cab. This can be done by installing a louver in the left hand column just behind the door. A ball louver with flex hose installed on it is supplied in the kit. Cut out a 2 ½" round hole in the column cover at or near head level. Install the ball louver and flex hose in the hole. Run the flex hose down the column and into the storage box area. This may require drilling a 3" hole in the side of the storage box. Run the flex hose across the bottom front of the storage box to the side wall of the heater box ahead of the coils. Drill a 2 ½" hole in the side of the box and install the supplied hose adaptor. Connect the flex duct to the hose adapter. The cover plate for the heater A/C hoses can be notched out to fit around the flex duct.



This cover is hollow and could accommodate a flex hose and louver mounted at head level.



Add hose adaptor in here

Notch this plate to fit around the flex duct.

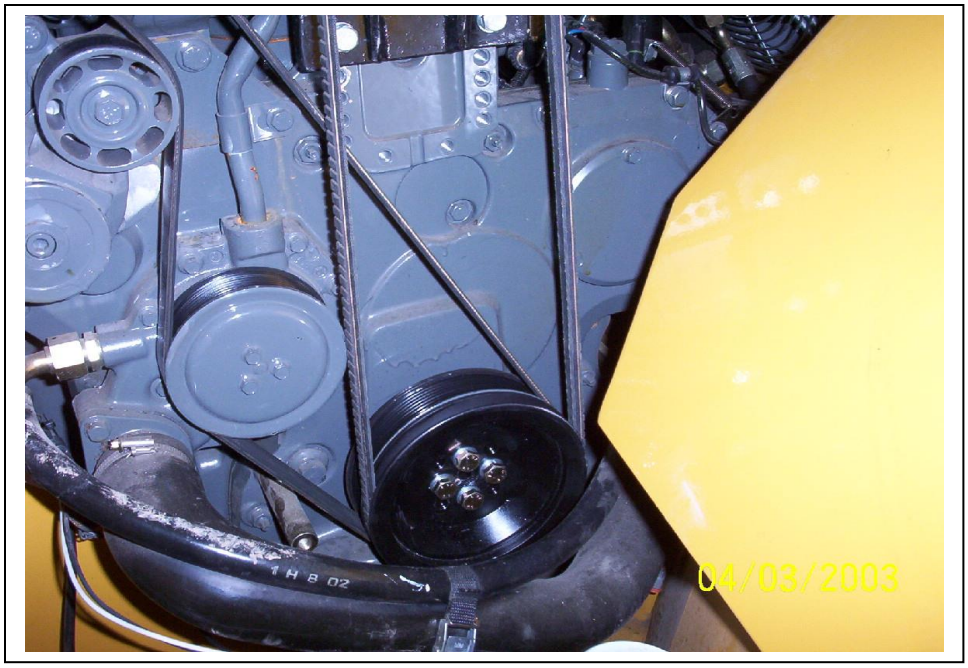
10) This machine draws too much outside air to cool well in very hot conditions. A self adhesive foam panel is supplied to restrict the opening on the outside air intake plate. Install the foam on the inside of the plate so that it blocks all but one or two vents.

Outside air intake louvered door off.

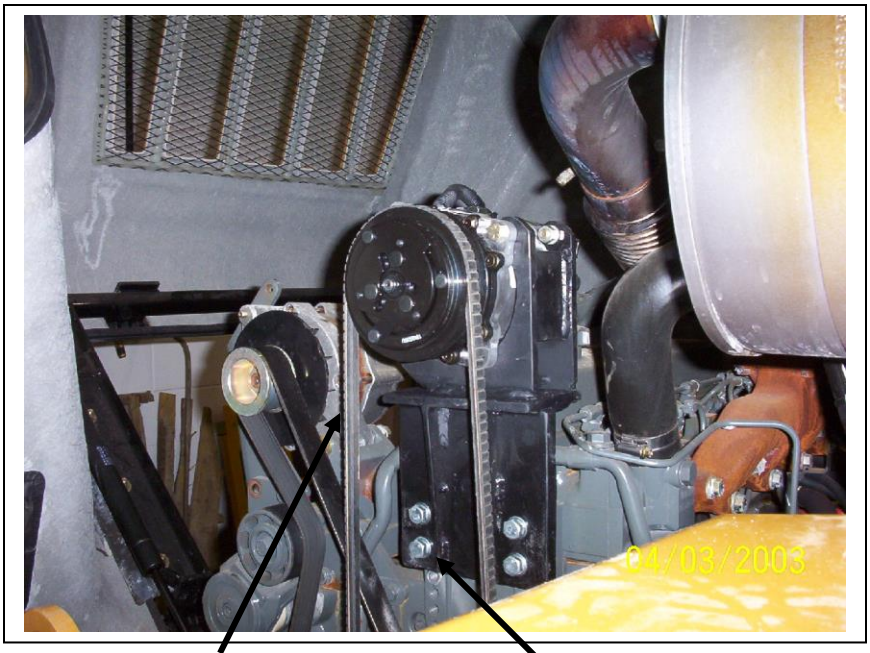
Outside air intake with louvers on door restricted by self adhesive foam panel

Compressor

Compressor in place on the mount bracket

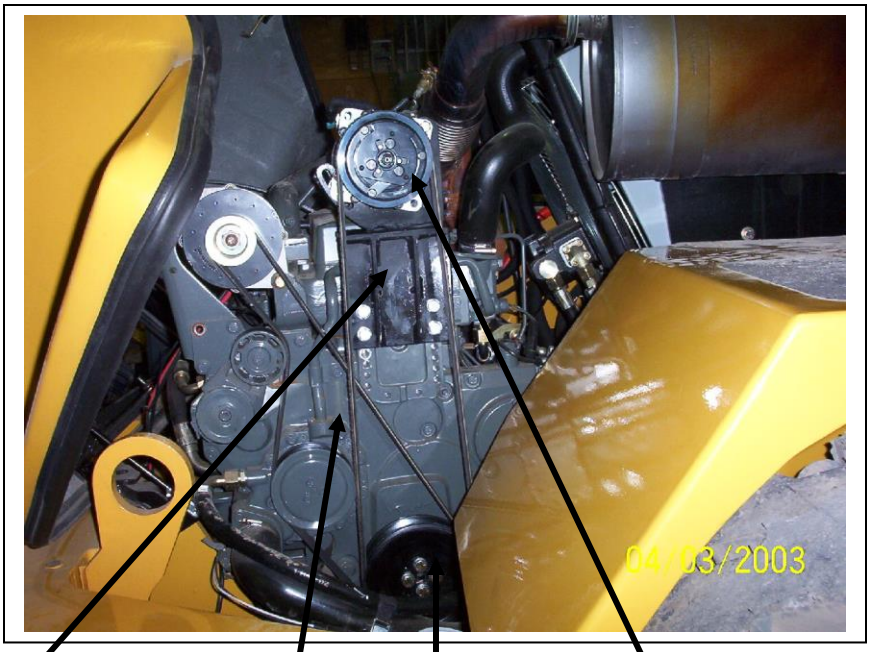


Pulley bolted in place on crank. Remove existing bolts. Place the spacer and pulley over the existing round plate and use the supplied bolts to re-attach.



17650 belt

Compressor mount bolted in place using the supplied M10 bolts



Mount

17650 belt

Pulley

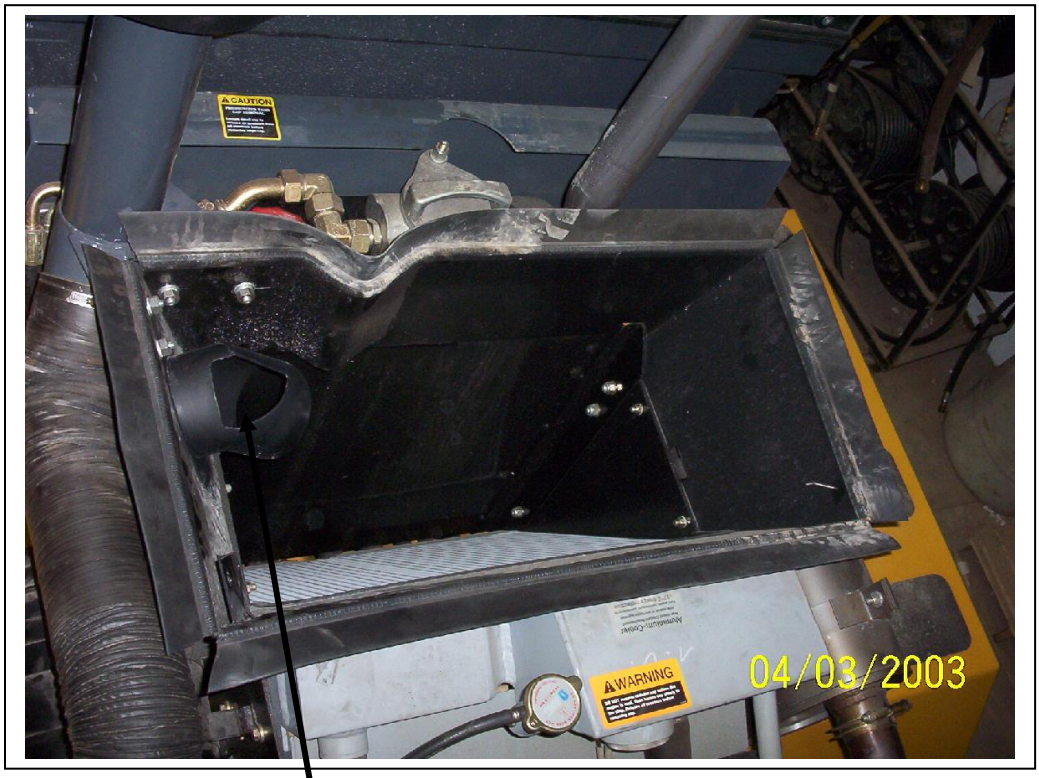
Compressor

Receiver Drier:

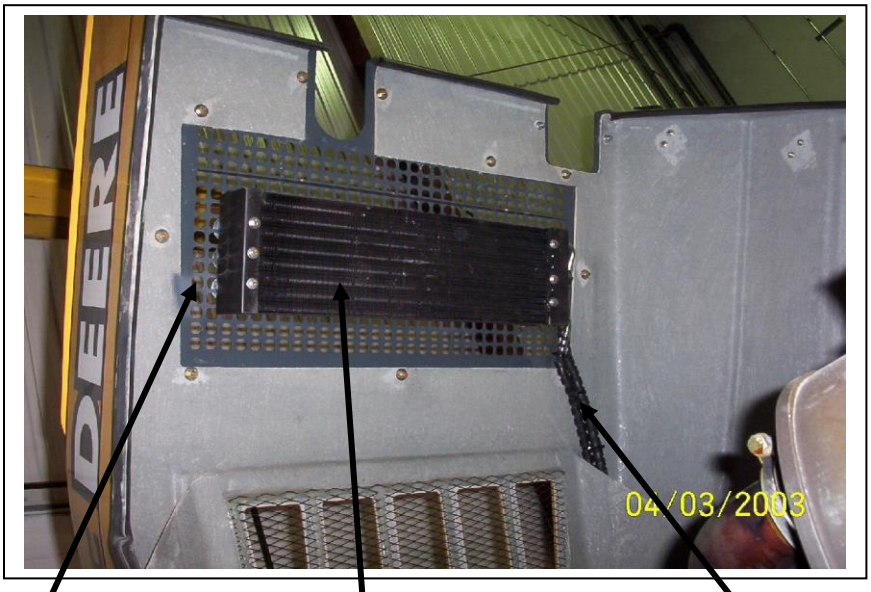
Receiver Drier

Trinary switch for compressor and hydraulic fan override for the condenser.

Condenser Installation:



Notch out the engine air intake pipe to accommodate the fitting on the condenser



Existing stiffener bracket removed from the screen to make room for the condenser.

Condenser in place

5/16” and 13/32” hoses running to the condenser

Condenser in place and bolted down through the radiator air intake screen. Use the ¼" hardware and fender washers.

Hose runs

½” hose on compressor

13/32” hose on compressor

½” hose from compressor to evaporator

13/32” hose from compressor to condenser

5/16” hose from condenser to drier

Clutch wire from trinary switch to compressor clutch

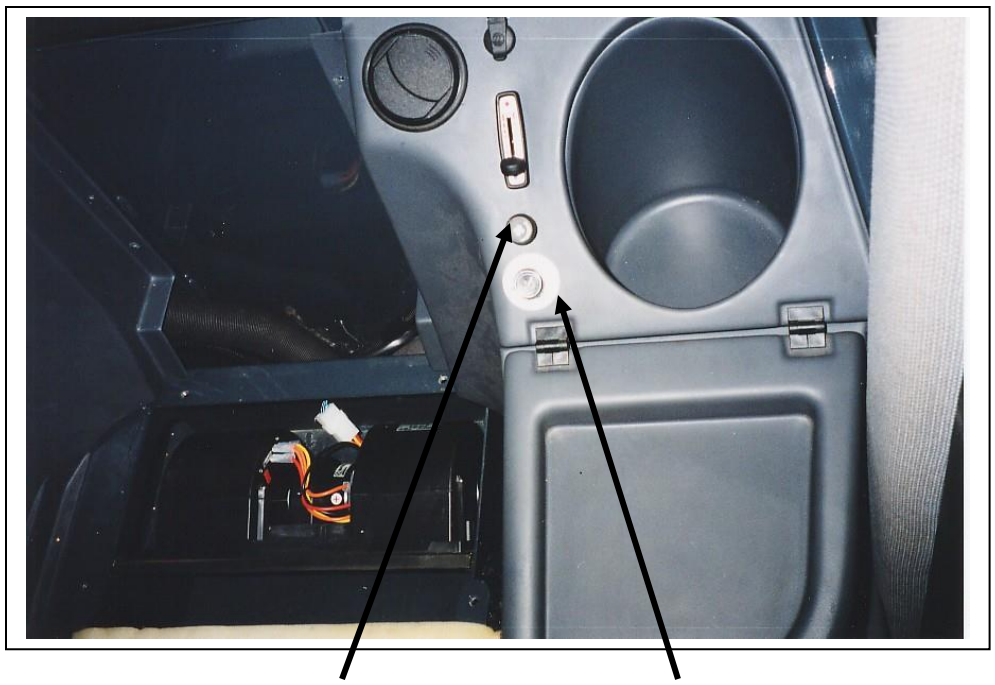
5/16” hose and 13/32” hose at the engine hood pivot point

5/16” hose and 13/32” hose running down the inside of the engine hood to the pivot point of the hood.

Electrical: The electrical system ties into the factory blower switch and supplies power to the compressor. It also contains a trinary switch that engages the hydraulic radiator fan when the A/C system needs it.

Steps:

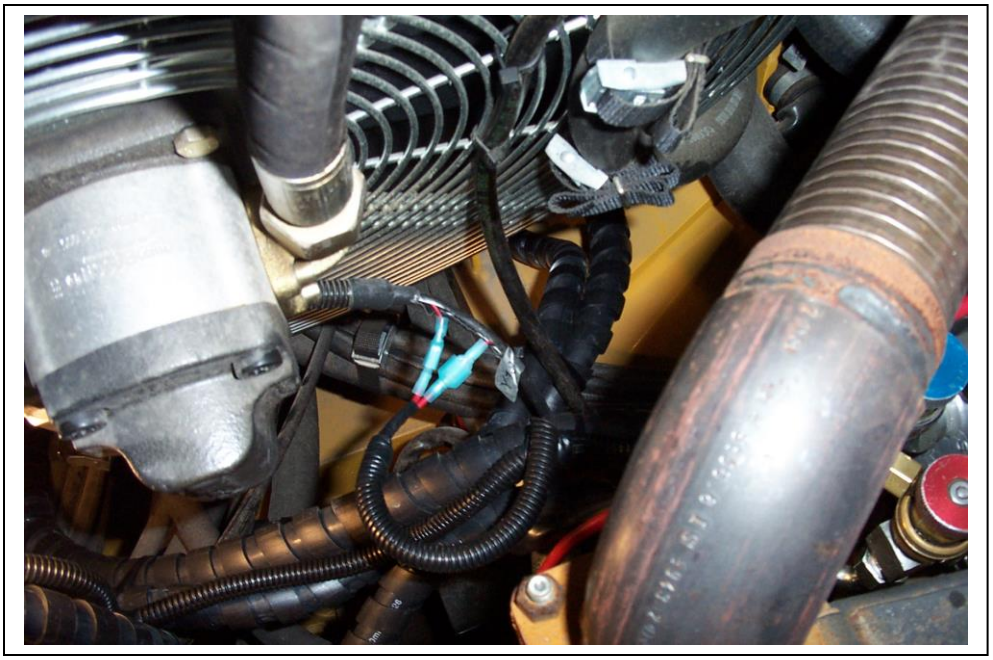
1) Mount the thermostat switch below the blower switch.



Blower control

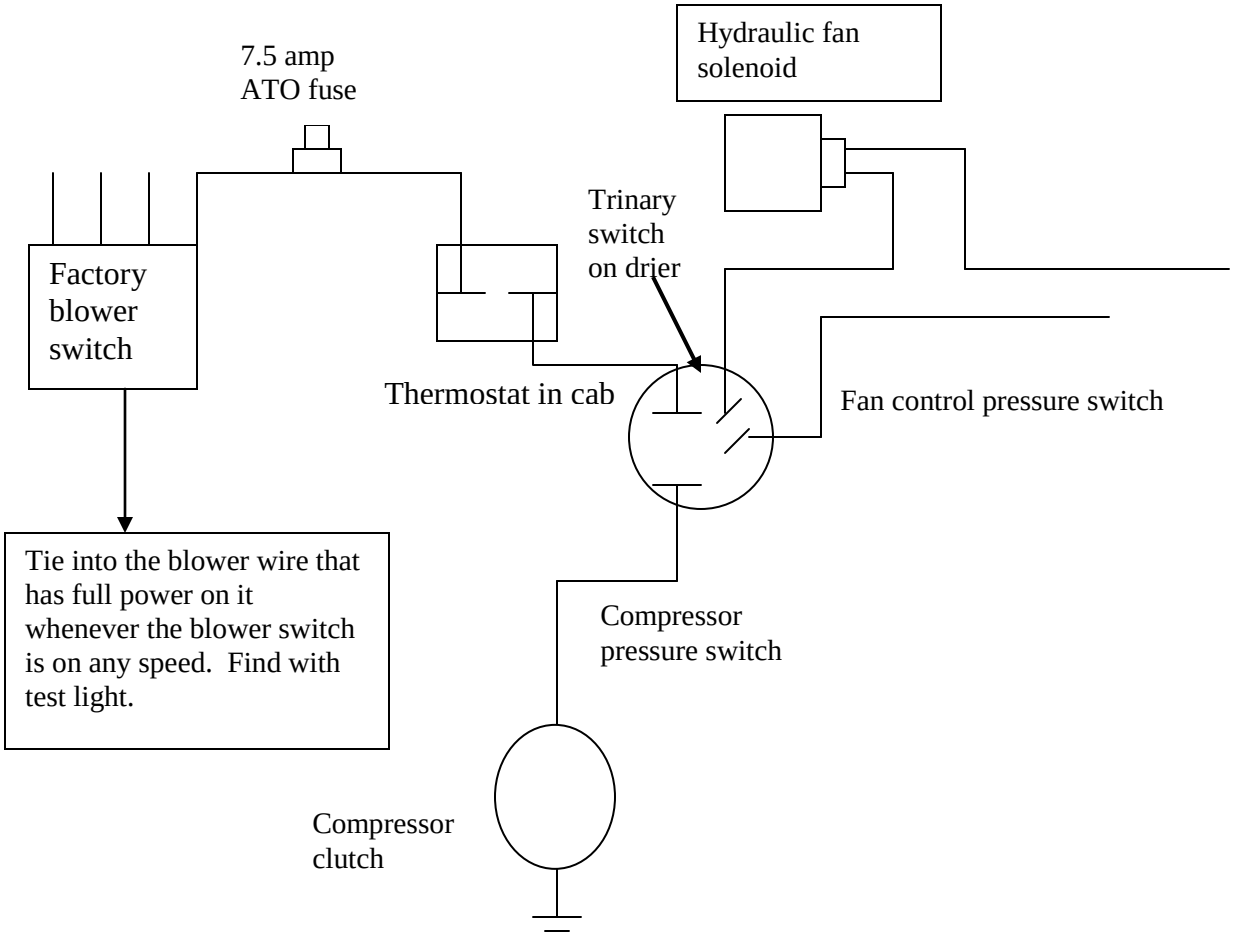
Thermostat in place once the panel is replaced.

2) Find the wire on the blower switch that has full power to it when the switch is turned to any speed. Splice into this wire with one end of the ATO fuse holder. Connect the other end to one terminal on the thermostat.
3) Connect the other terminal on the thermostat to the black 14g clutch wire, and run the wire out of the cab with the A/C hoses.
4) Run the clutch wire up to the pressure switch on the drier. Cut to length and connect each wire to the terminals marked for the compressor circuit. Run the remaining wire down to the compressor and connect it to the clutch wire on the compressor.
5) Find the wires going to the radiator fan hydraulic solenoid. Cut back some of the bundle cover and expose one of the wires. Cut this wire. Extend each end of the cut wire and run them to the trinary switch on the drier. Connect the wires to the fan control terminals. They are marked “DC Power” and “Override”



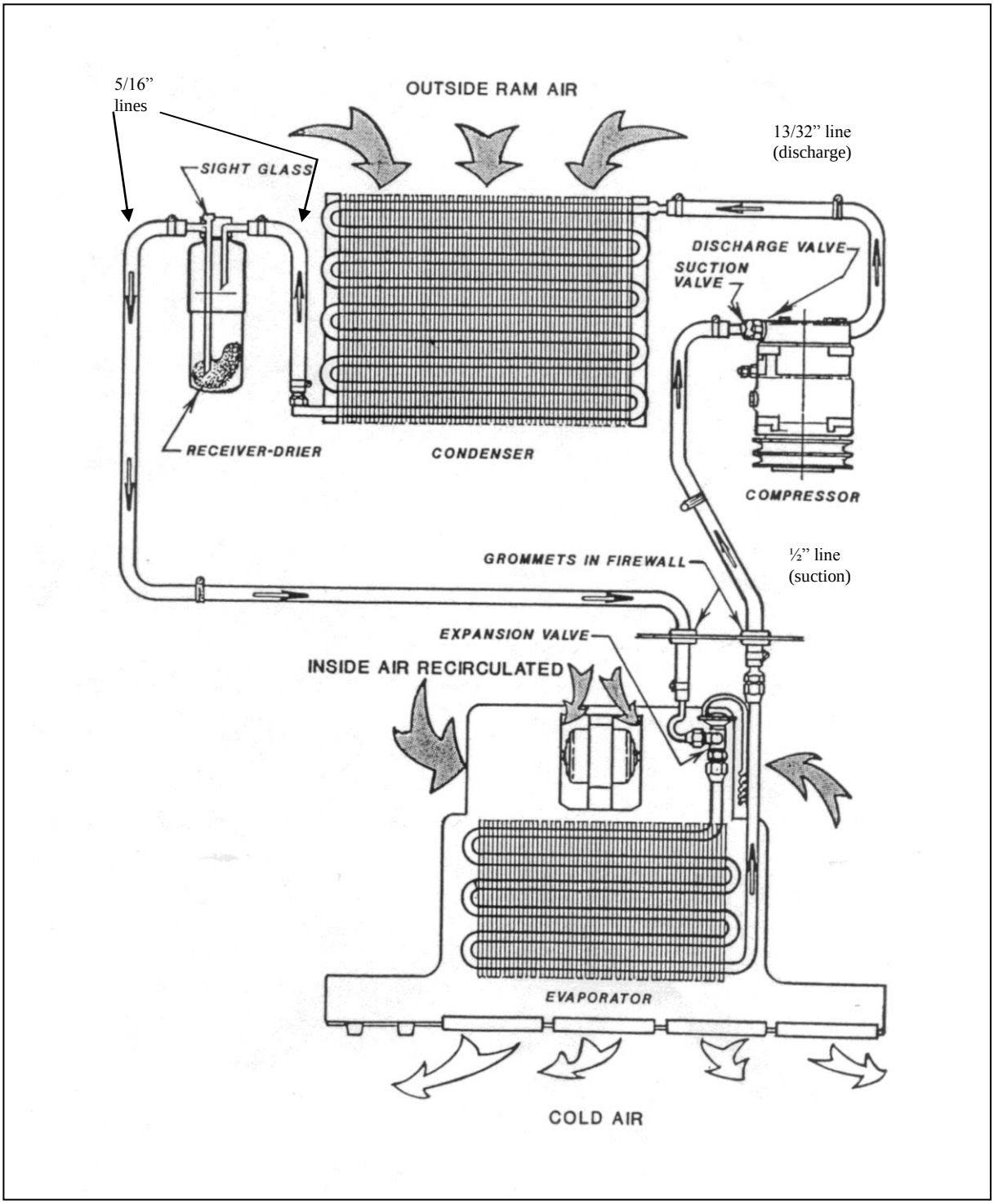
Wiring tie-in for hydraulic fan assembly to turn on the trinary switch

344H JD Wiring



The hydraulic fan runs when the power supply to the hydraulic solenoid is interrupted. This is a failsafe system. The fan control pressure switch on the trinary switch is normally closed. This means that the power supply to the hydraulic solenoid is interrupted when the pressure switch activates. The tie into the fan control pressure switch can be made on either the power or ground side of the solenoid wires.

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.

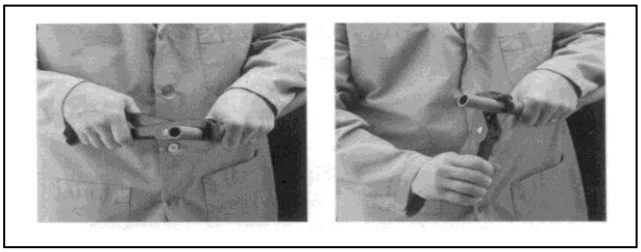
By looking at all these different factors, the area of an evaporator coil most likely to be the coldest can be determined.

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.

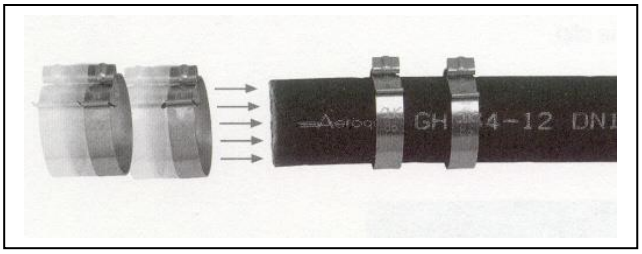
If the thermostat doesn't cycle off after a reasonable cool down period, and the air outlet temperature has dropped below 40° F, the cut in and cut out settings should be adjusted until the compressor is cycling on and off regularly. Let the system run for a decent time period (at least 15 min) and then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

Aeroquip E-Z Clip
Assembly Instructions

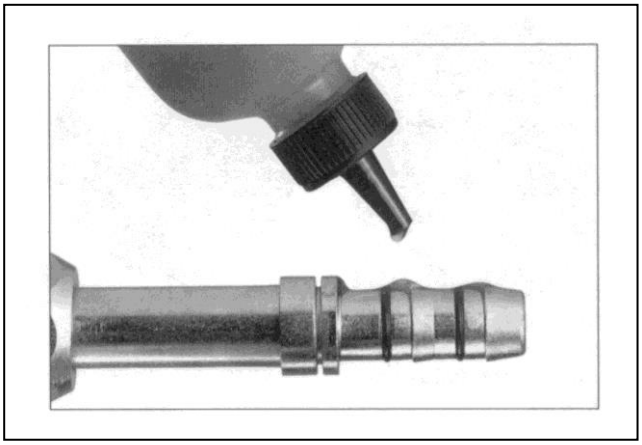
Step 1. Cut the hose to proper length with an appropriate cutting tool. Aeroquip's hand held hose cutter has been specially designed for cutting all non-wire reinforced hose, such as GH-134 Multi-Refrigerant hose. Be sure the cut is made square to the hose length.



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.



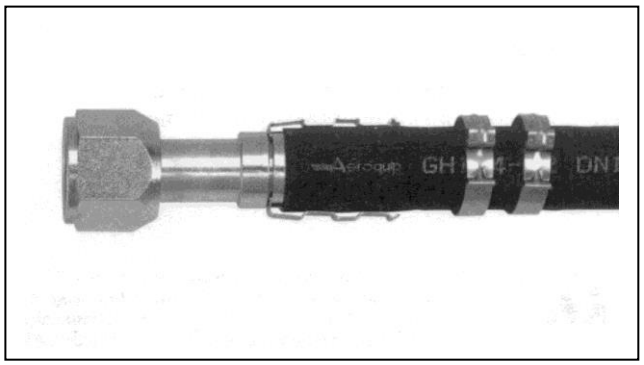
Step 3. Lubricate the nipple with a generous amount of the refrigeration or A/C system's compressor lubricating oil. This MUST be done to lower the force of nipple insertion.



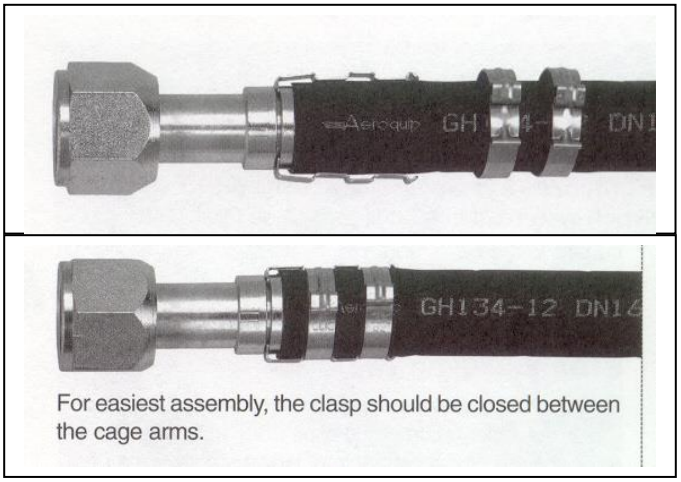
Step 4. Insert the nipple into the hose. To ensure that the nipple is fully inserted, check the gap between the cut end of the hose and the shoulder on the nipple. Care should be taken to avoid kinking or other damage to the hose during nipple insertion.
NOTE: Be sure to wipe excess oil from the nipple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



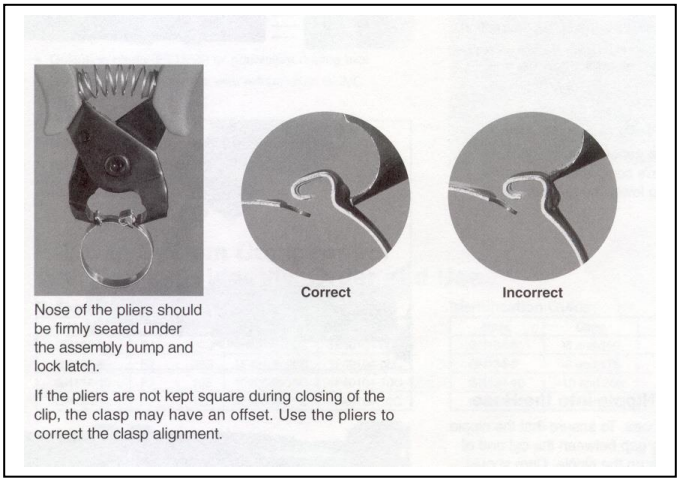
Step 6. Slide the clips over the cage arms and into the channels on each arm.



For easiest assembly, the clasp should be closed between the cage arms.

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.



Nose of the pliers should be firmly seated under the assembly bump and lock latch.

If the pliers are not kept square during closing of the clip, the clasp may have an offset. Use the pliers to correct the clasp alignment.