

310D JOHN DEERE

INSTRUCTIONS

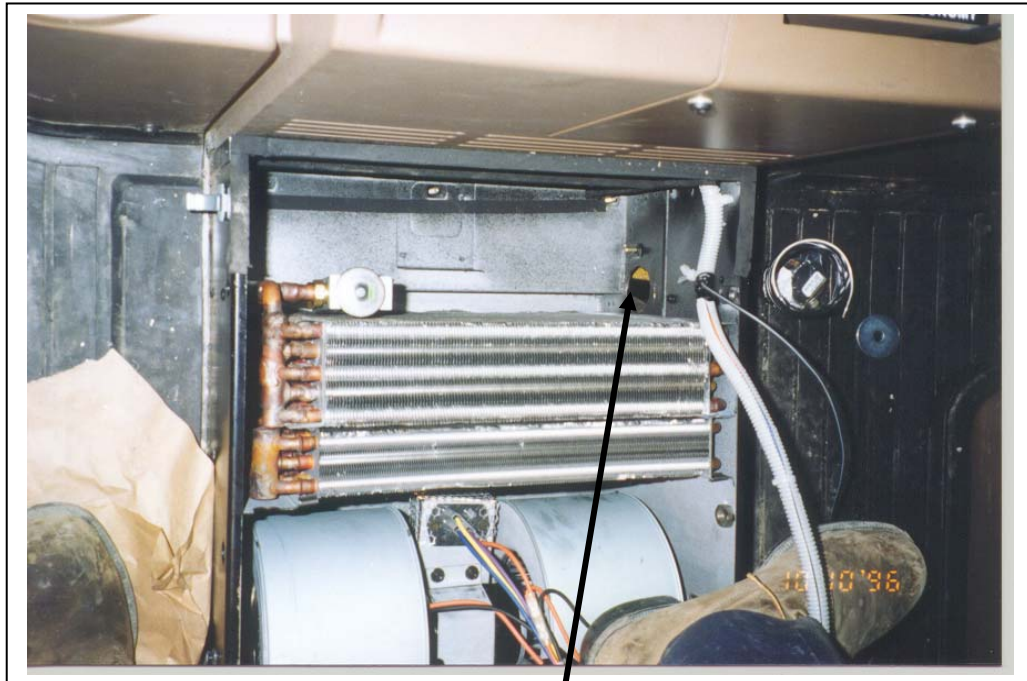


1-519-485-5961 or 1-800-267-2665
Fax 1-519-485-3745 or 1-888-267-3745

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.

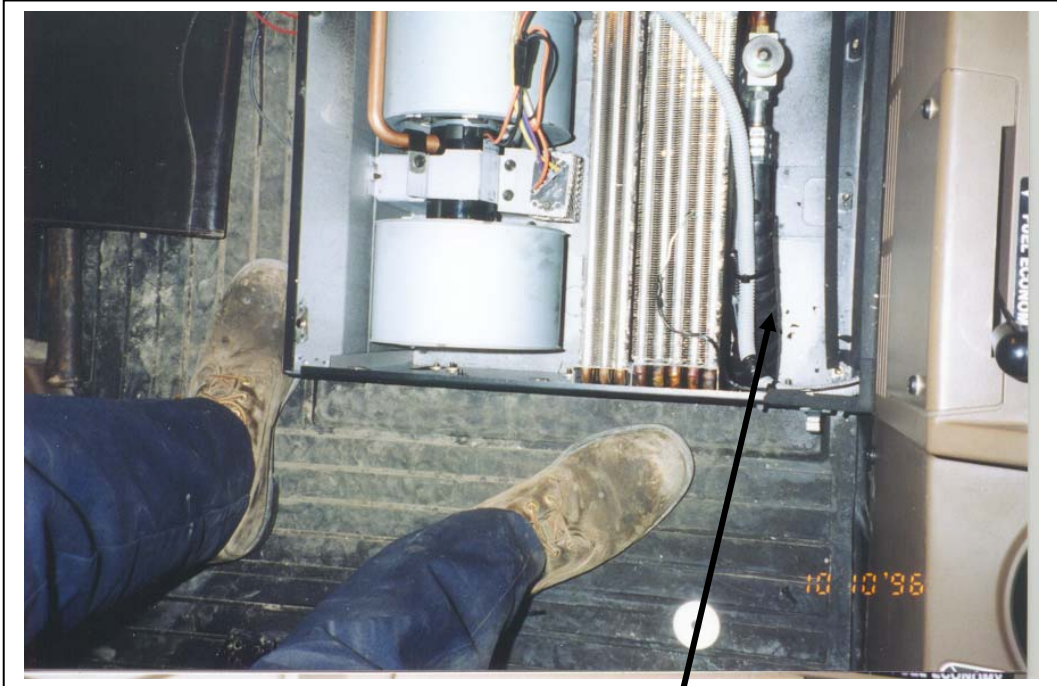


2”hole



1" x 3" L bracket here

1" x 1" L bracket here

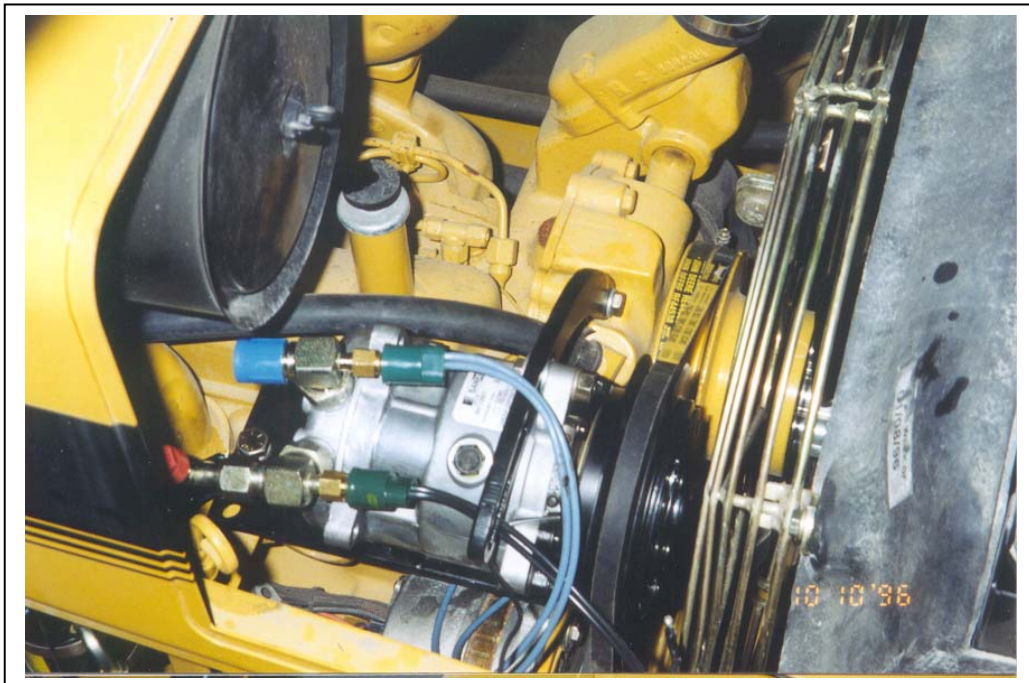
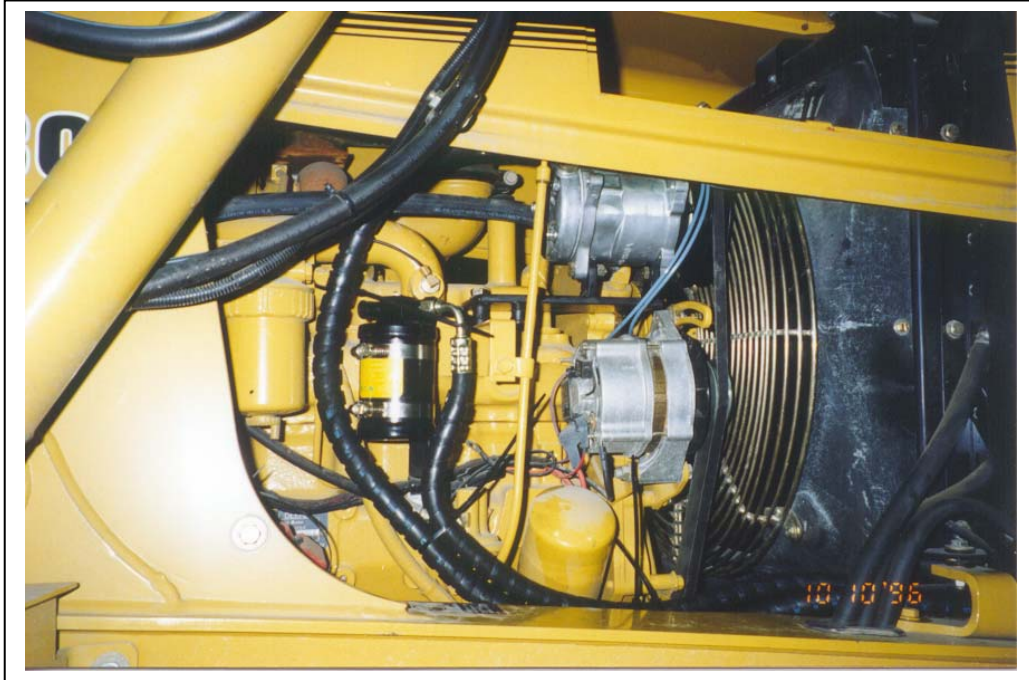


Hoses and wiring leaving box

Compressor mount:

Steps:

- 1) Disconnect battery
- 2) Open right side engine cover.
- 3) remove right half of fan guard, and disconnect hydraulic pump coupler.
- 4) Loosen alternator belts and remove front belt only.
- 5) Remove bolt attaching alternator adjusting arm and spacer to water pump. Discard spacer.
- 6) On "D" models, remove bolt attaching engine oil dip stick to cylinder head.
- 7) Determine if threaded mounting holes in cylinder head are standard or metric thread. Place 1.00" spacer over holes in cylinder head. Attach compressor mount to cylinder head with bolts and lockwashers provided. Do not tighten NOTE Trim alternator guard if necessary
- 8) Attach compressor mount lower tab and alternator adjusting arm to water pump with original bolt. Tighten all compressor mount bolts.
- 9) Properly tension remaining alternator belt.
- 10) Remove water pump bolt just above heater hose port and determine if it is standard or metric thread.
- 11) Attach compressor adjusting arm with appropriate bolt (standard or metric) and lockwashers provided.
- 12) Attach compressor lower tabs to mount using (2) 3/8" x 1 1/2" bolts lockwashers and nuts. DO NOT TIGHTEN
- 13) Attach compressor upper tab to adjusting arm using 3/8" x 2" bolt, lockwasher, (2) 1/4" thick washers and compressor adjuster.
- 14) Install and tension belt provided in kit. Tighten all compressor mounting bolts.
- 15) In "D" models attach dip stick to open hole in rear of compressor mount with 1/2" X 1 1/4" bolt, 1/2" lockwasher and 1/2" nut. Reattach fan guard, hydraulic pump coupler and re-connect battery. Secure heater hoses away from sharp edges.
- 16) CAUTION: Check all engine compartment vacuum hoses and electrical wiring that might have been disturbed or rerouted during mount installation to be sure that they do not touch any high temperature item such as EGR valve, manifold, carburetor spacer etc., and that they do not interfere with any linkage components.

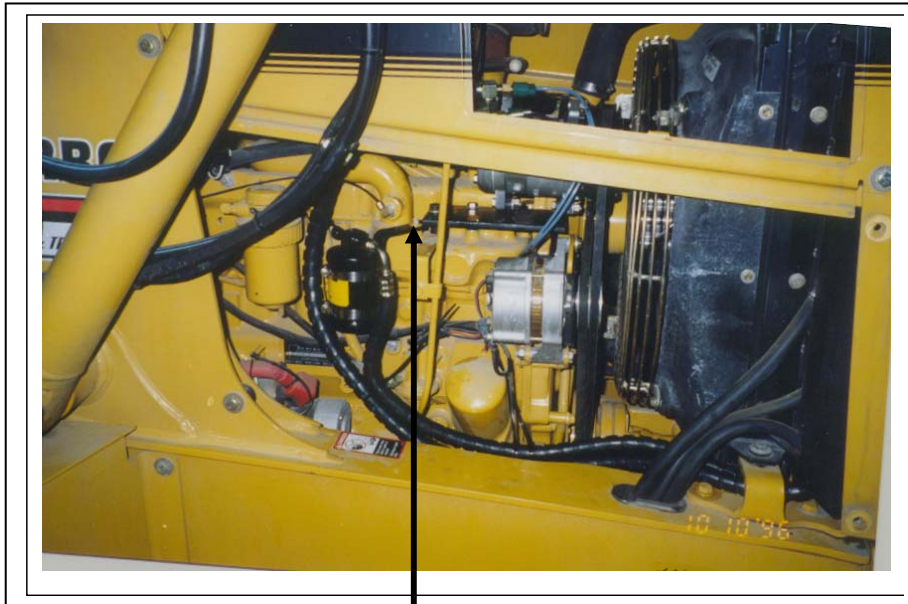




Drier mount

Steps:

- 1) Mount the 90° drier bracket to the existing bolt directly behind the compressor mount plate.
- 2) Clamp the drier to the bracket using the #48 gear clamps provided. Have the drier inlet pointing forward and out about 45° to the engine.



Mount bolt for 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" straight fitting and the 5/16" 45° 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.





ELECTRICAL:

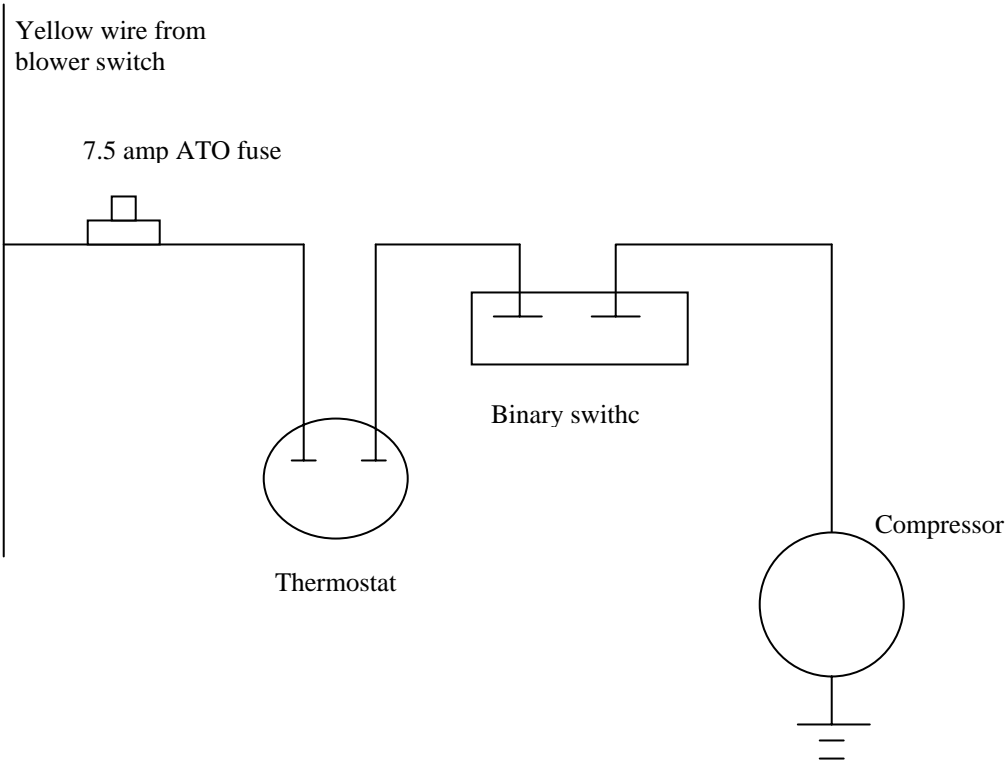
Steps:

- 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

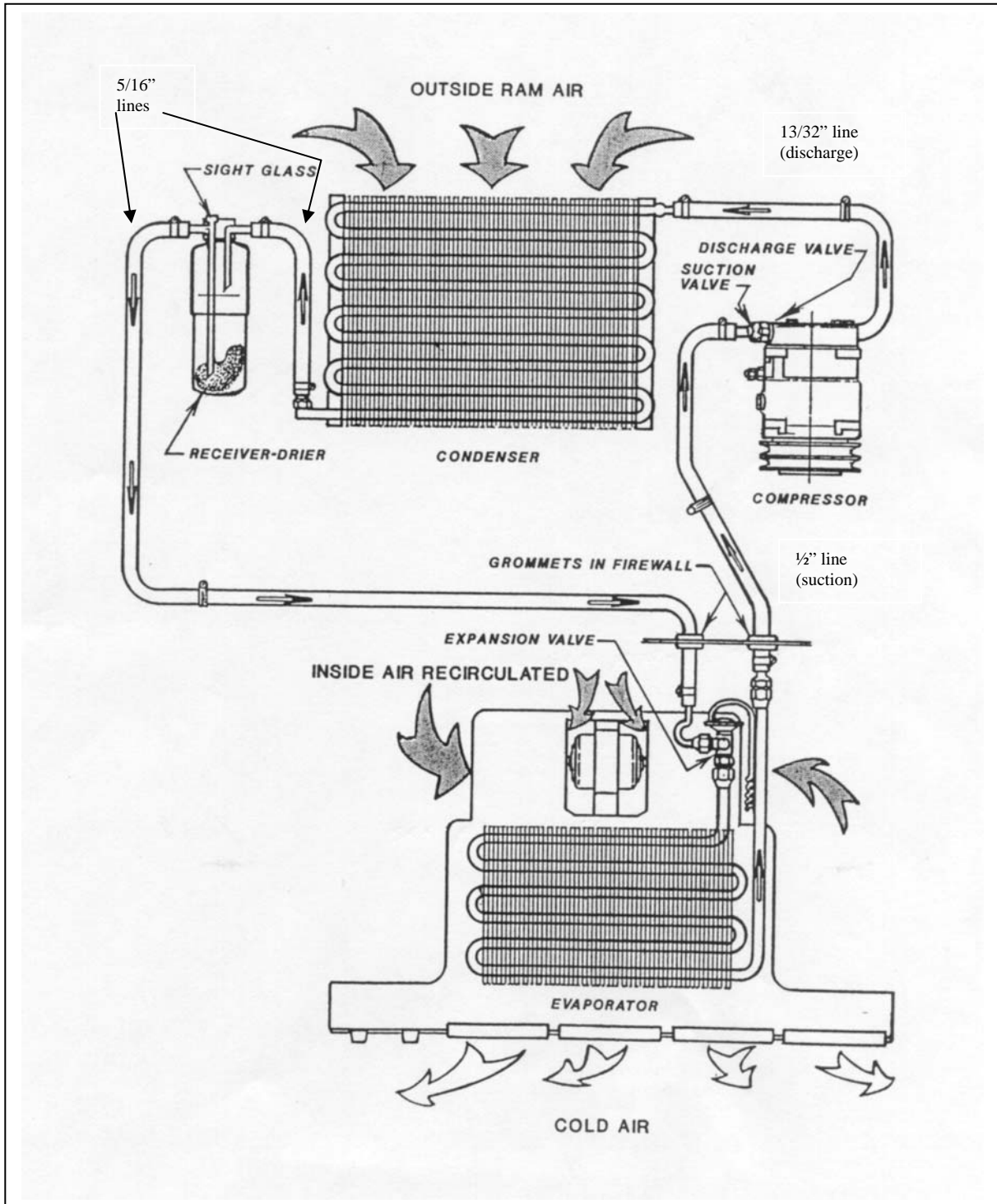


Thermostat installed in dash.

310D 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.

