

**CATERPILLAR
“B” SERIES
SKID STEER
INSTALLATION INSTRUCTIONS**



PHONE (519) 485-5961 OR 1-800-267-2665
FAX (519) 485-3745 OR 1-888-267-3745

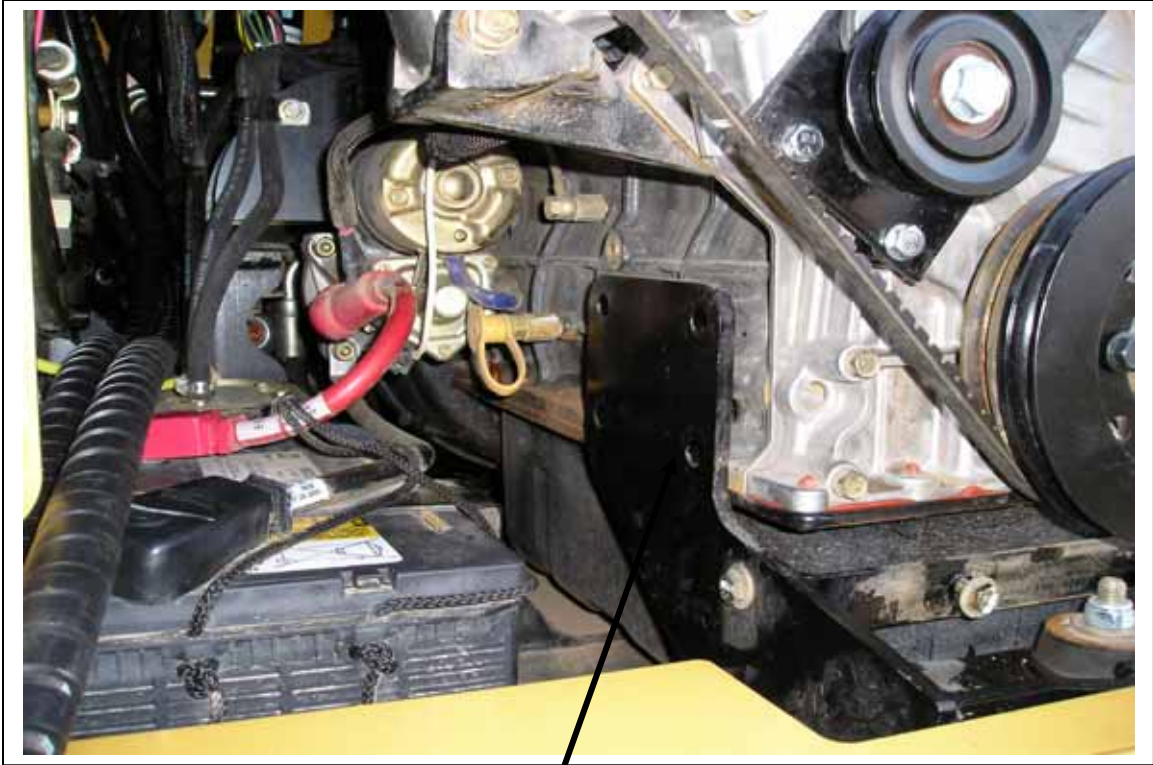
COMPRESSOR



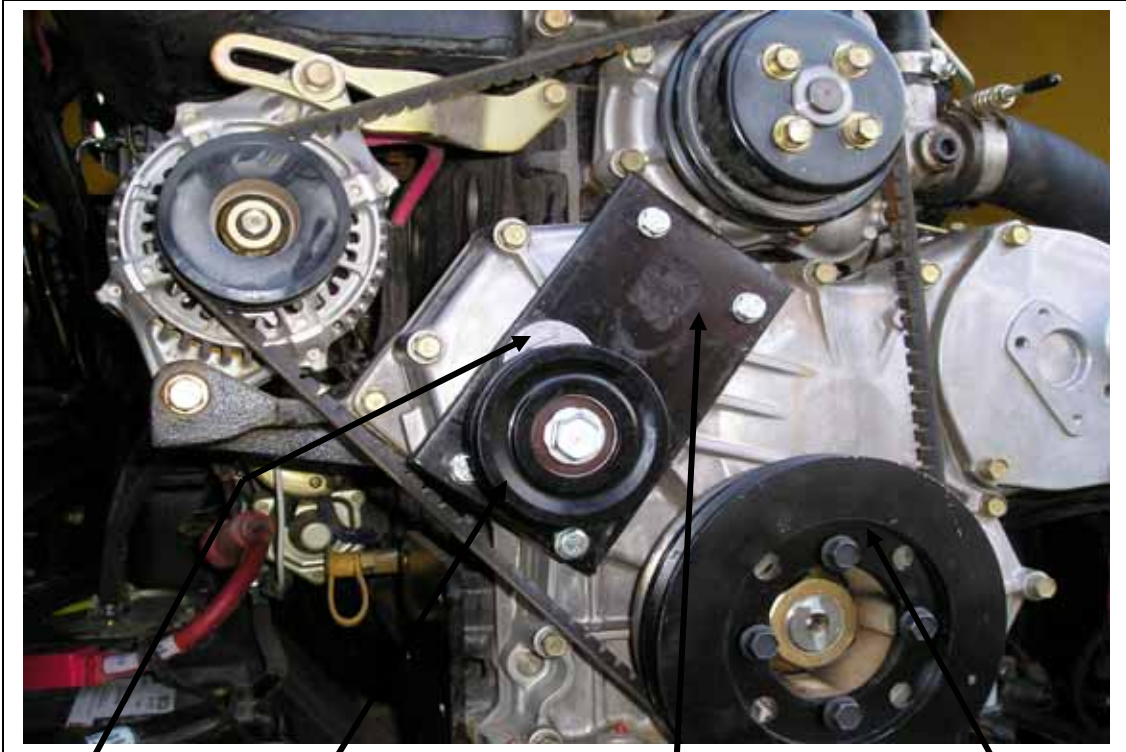
Remove plastic belt cover



Compressor mounts bolts on in this area



Existing mount bolts removed.



Idler pulley eccentric mount

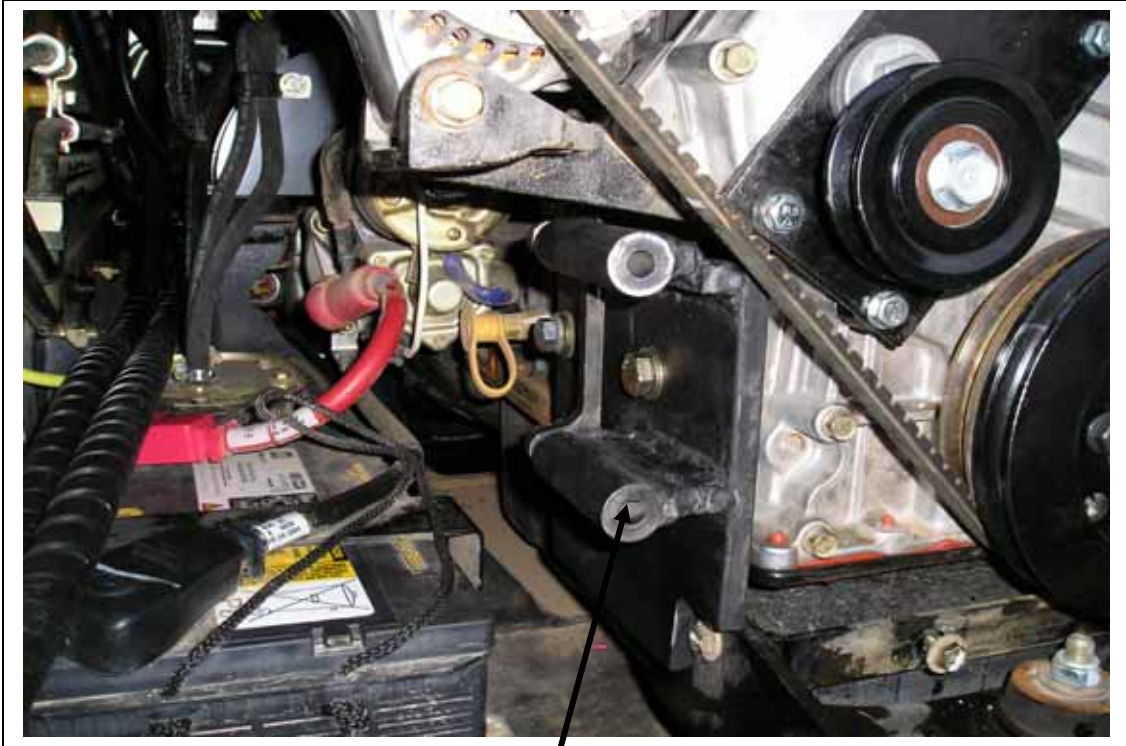
Front side idler pulley

Belt tensioner mount plate.

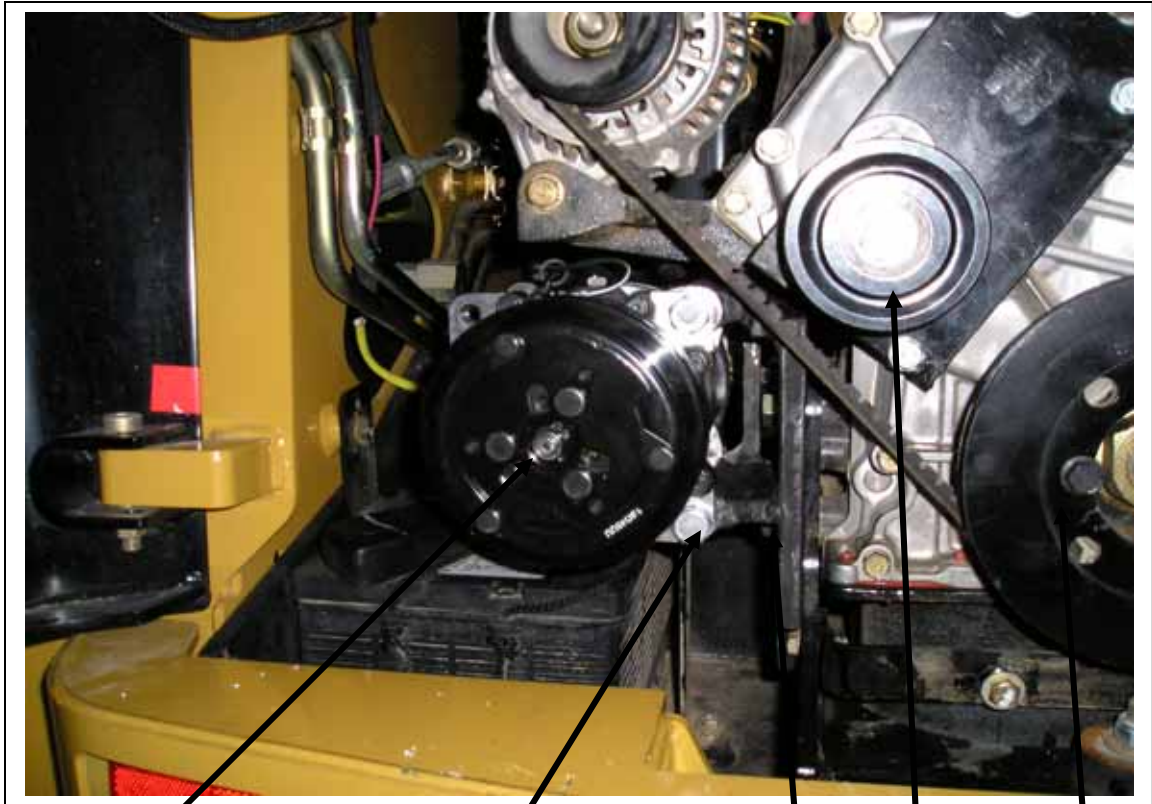
Bolt on pulley.



Standoff spacers for belt tensioner mount plate.



Compressor mount plate bolted in place.



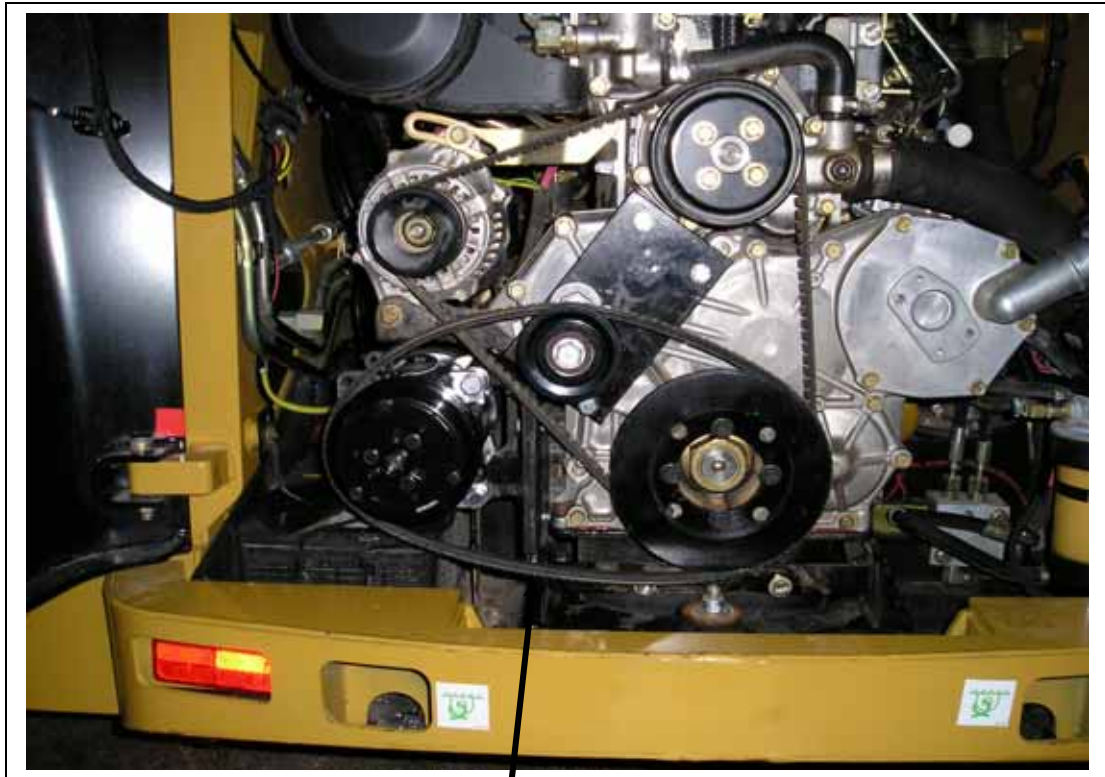
Compressor

Compressor mount bolts

Compressor mount plate.

Idler pulley

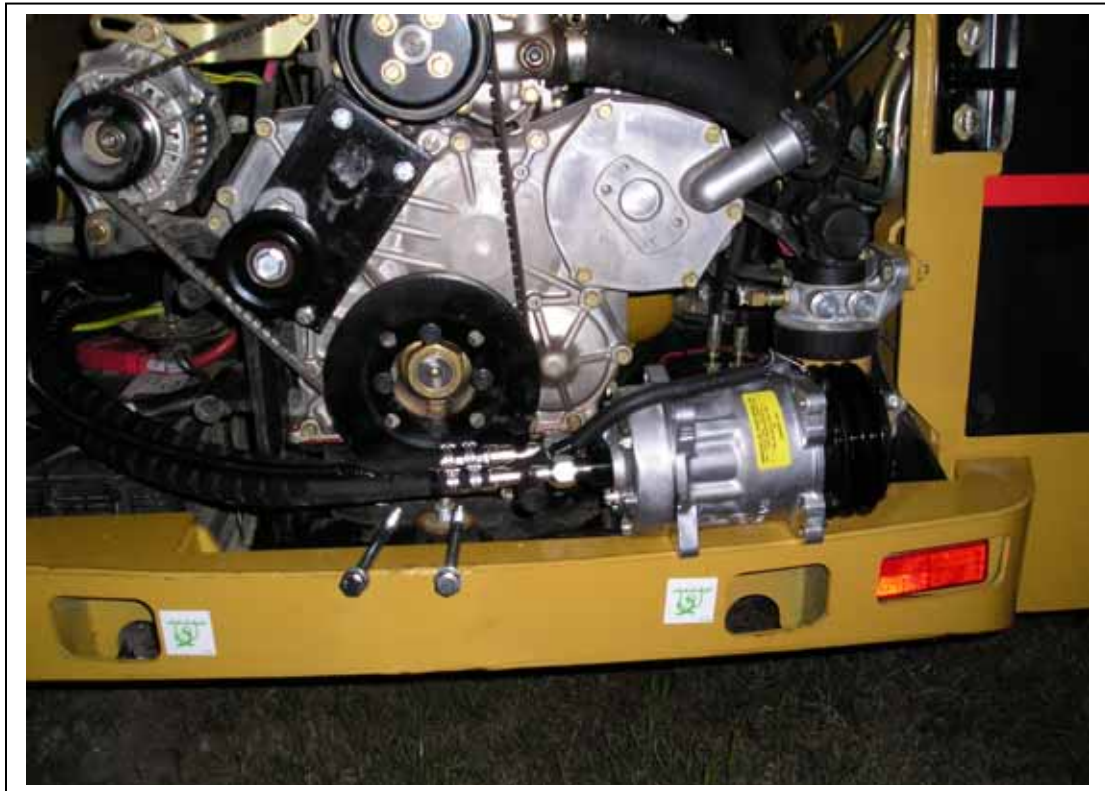
Pulley



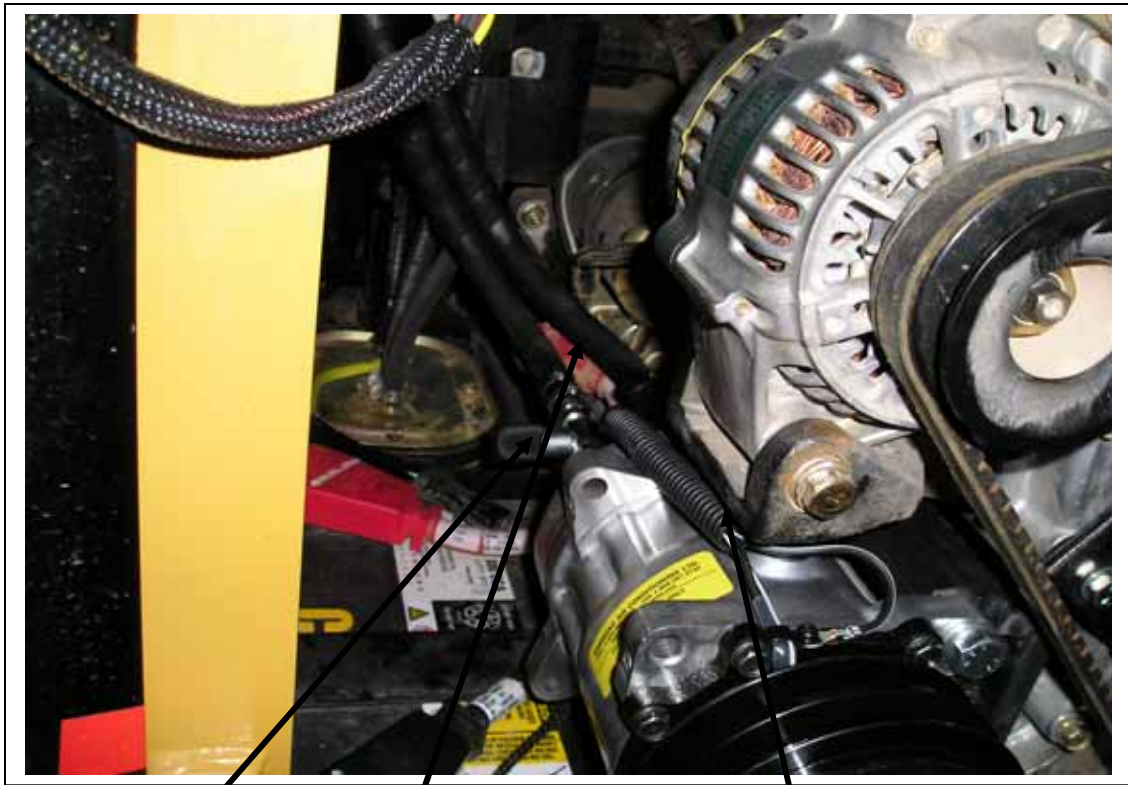
Belt installed ready to be tightened



Belt tightened.



The compressor mount and hose lengths are designed so that the compressor can be easily removed and pulled out of the engine compartment by removing only 2 long M10 bolts. This allows for the replacement of the battery without disconnecting any air conditioning lines.



13/32" AC hose

1/2" AC hose

Clutch wire from ATO fuse on relay.



Make mounting slots for bottom of belt cover longer to give extra room for the add on pulley.



Belt cover needs to sit lower.

Put $\frac{1}{4}$ " spacers behind cover.



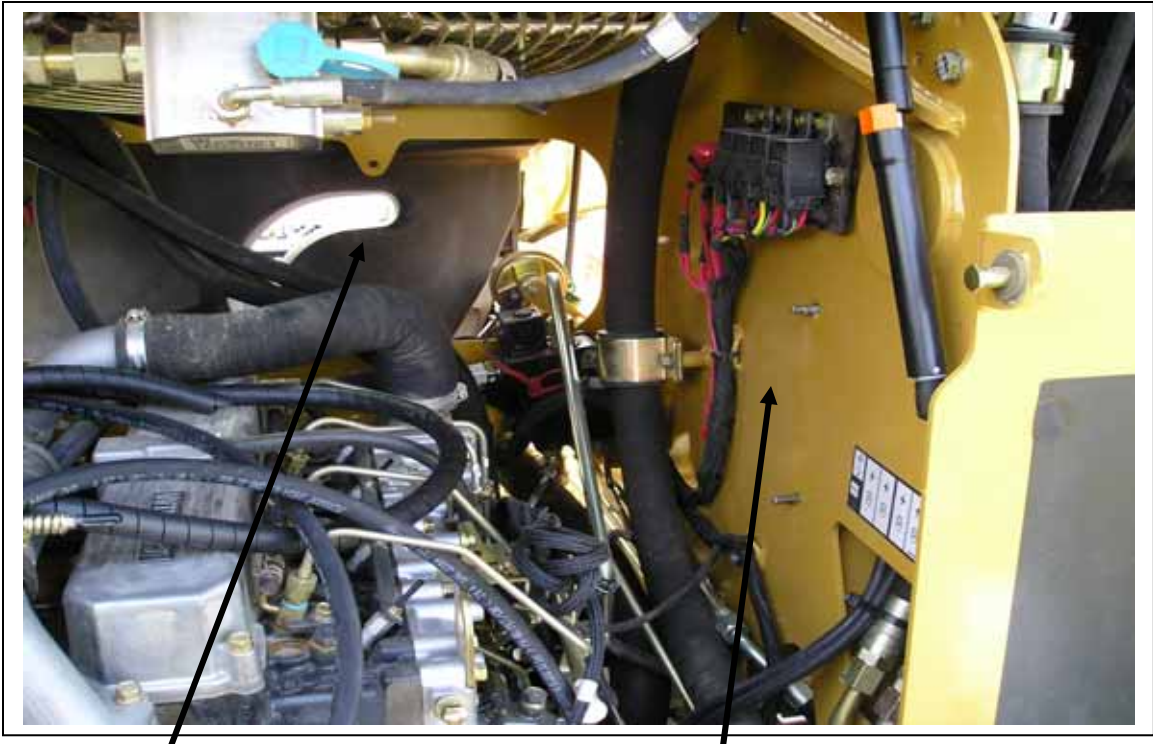
$\frac{1}{4}$ " spacers added to belt cover mount bracket.



Drill a hole here in the cover and tie wrap to alternator mount to stop the belt cover from vibrating.

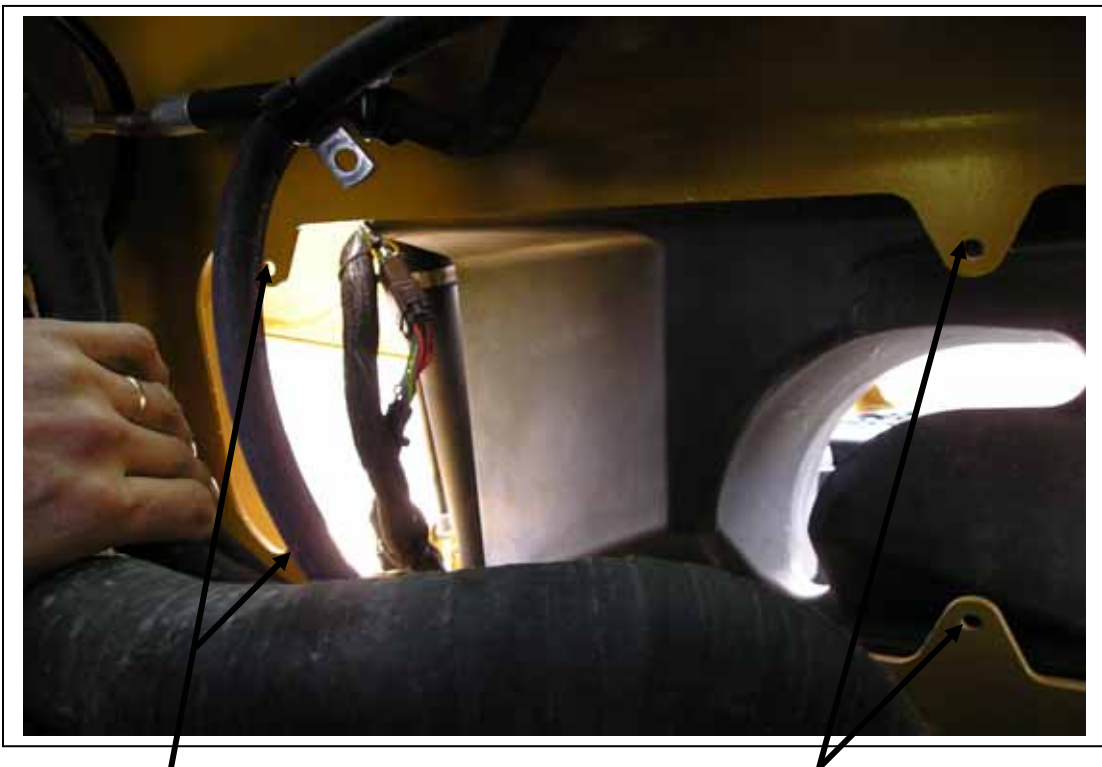
Cut plastic belt cover to accommodate compressor and belt.

CONDENSER



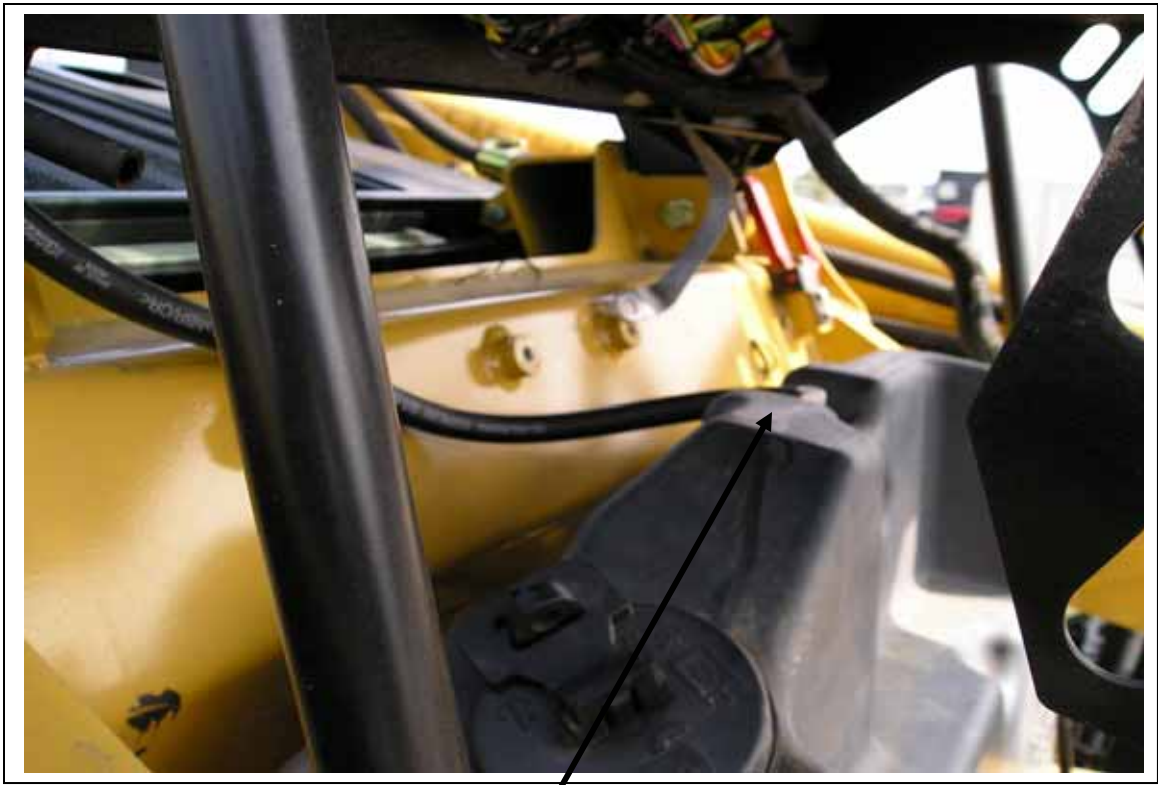
Condenser mounting area.

Remove air cleaner and pipe for easier access to condenser mounting area.



Left hand condenser mounting points

Right hand condenser mounting points.



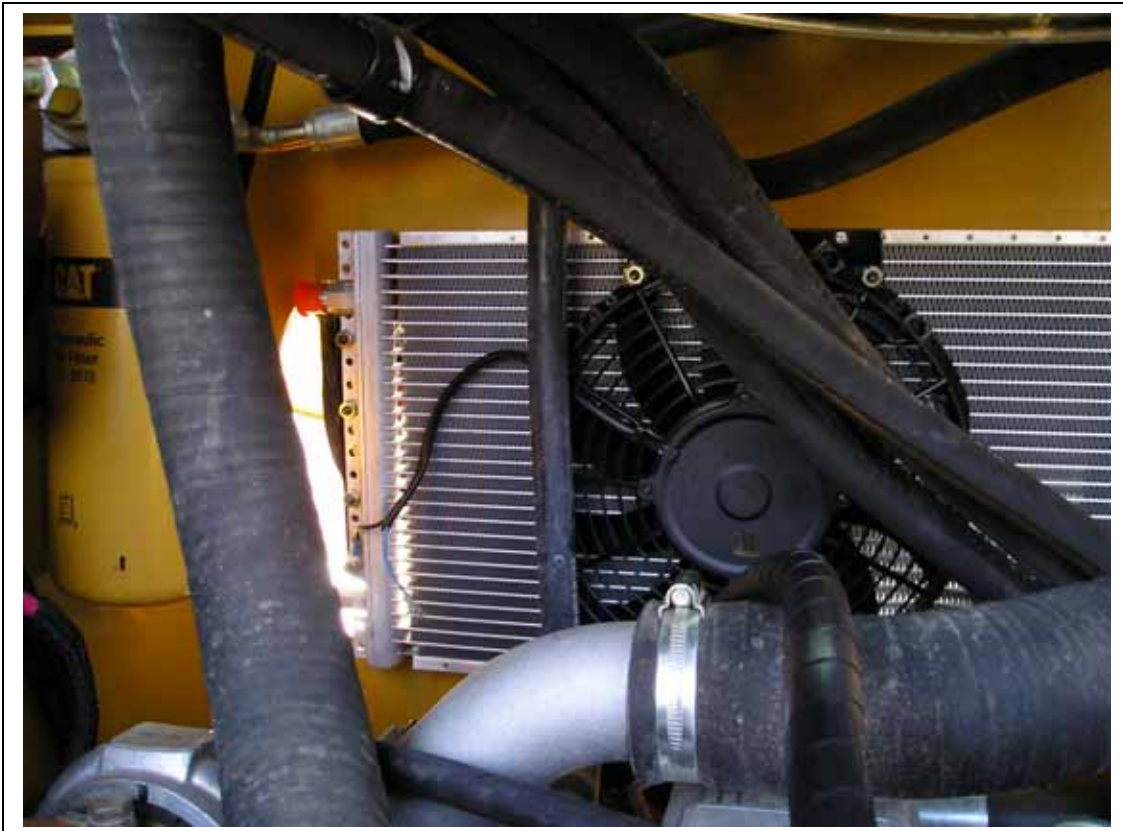
Remove fuel tank mount bracket and pull tank towards the front of the machine. This needs to be done when the heater box is already unbolted from the machine.



Condenser in place on mount points seen from fuel tank side.



Fitting side of condenser as seen from fuel tank side.

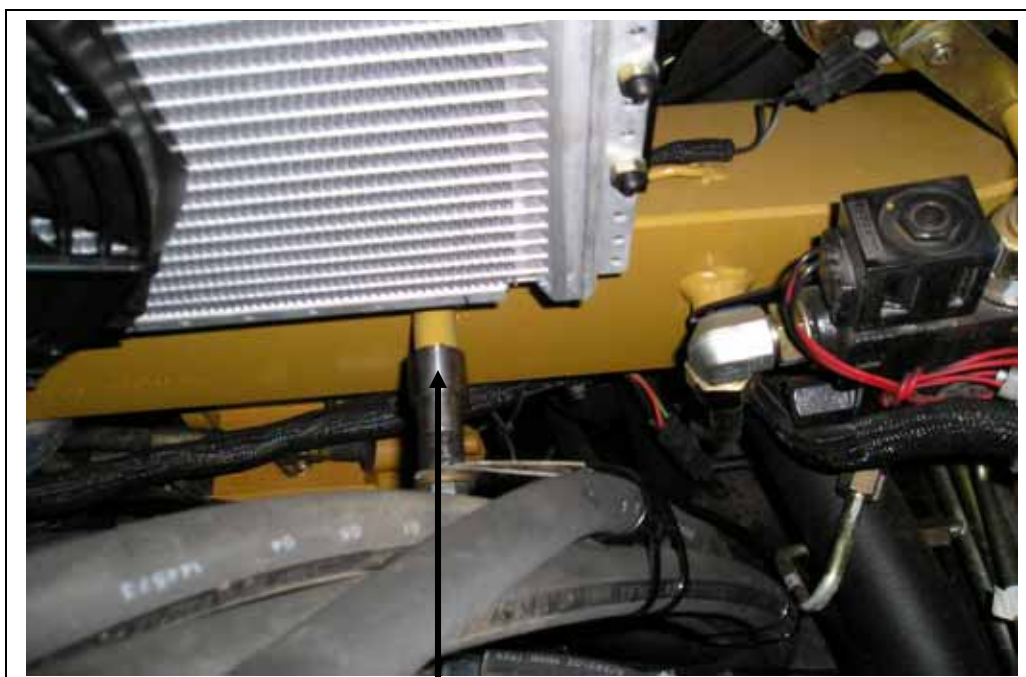


Left end of condenser in position from engine side.

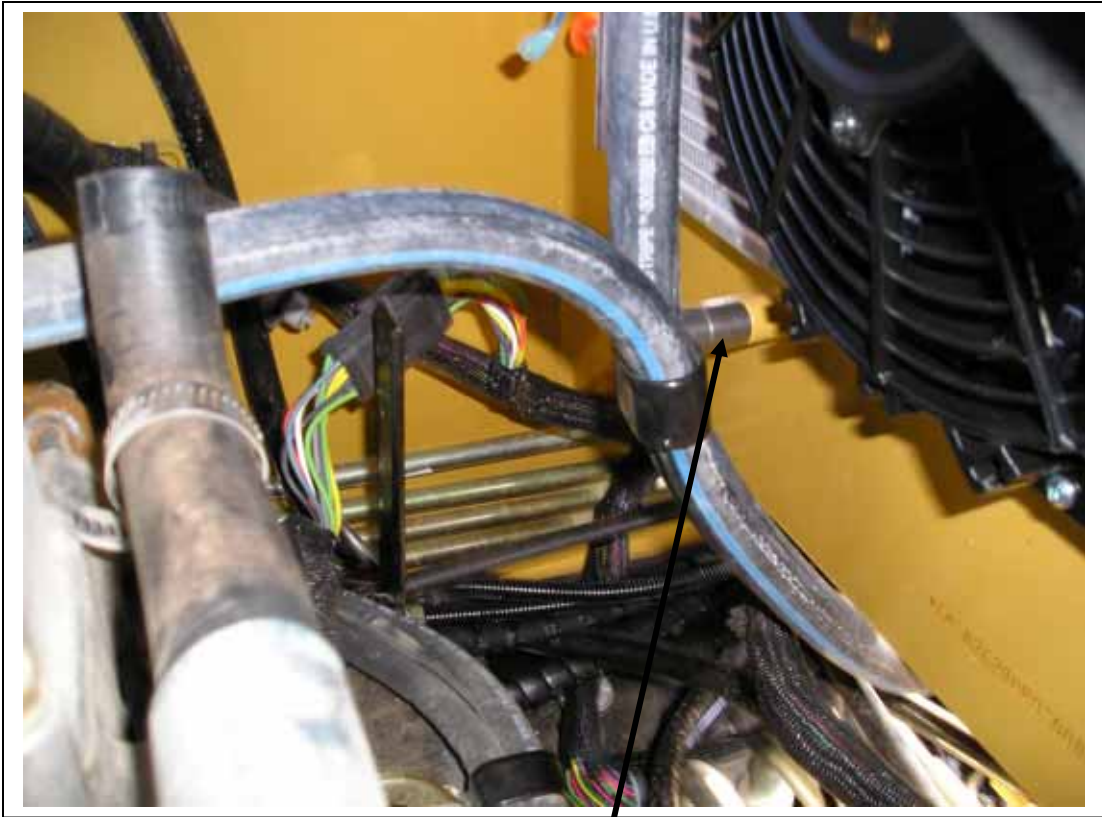


Right end of condenser.

Hoses tied back off of power fan.



Spacer and longer bolt to hold hoses off of the condenser assembly on right end.



Spacer to hold hoses off of condenser assembly on left end.

EVAPORATOR



Raise cab to remove heater box and install condenser and hoses.



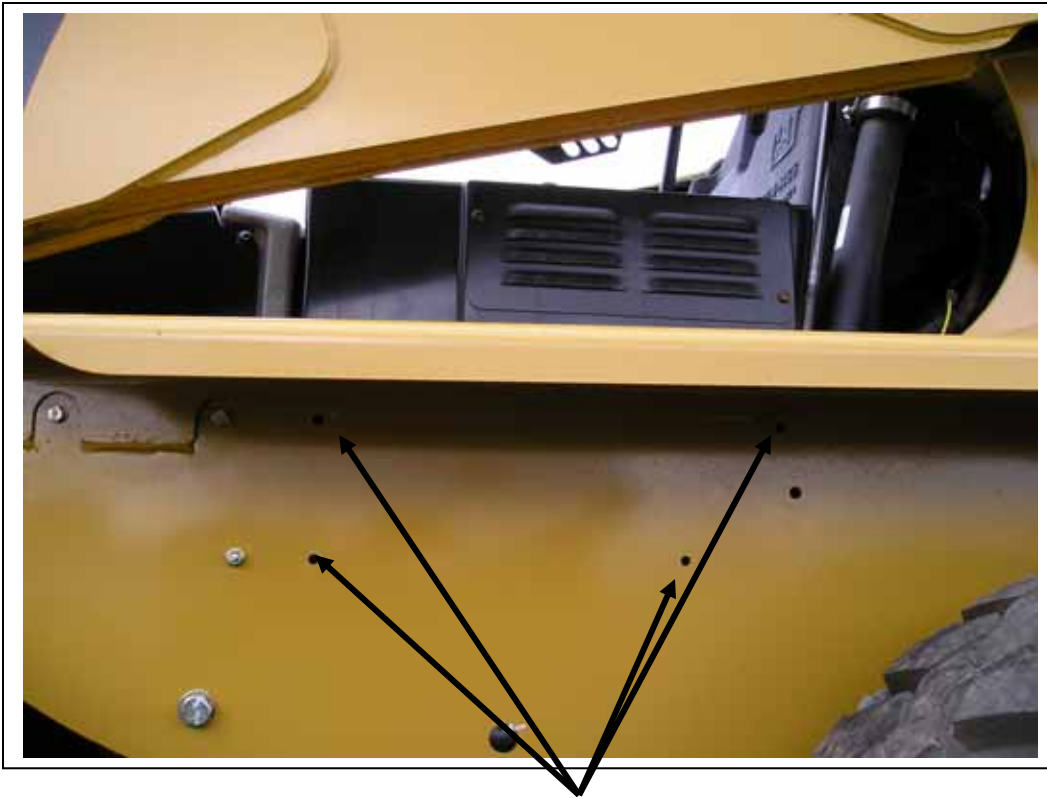
Existing heater box.



Remove air channel



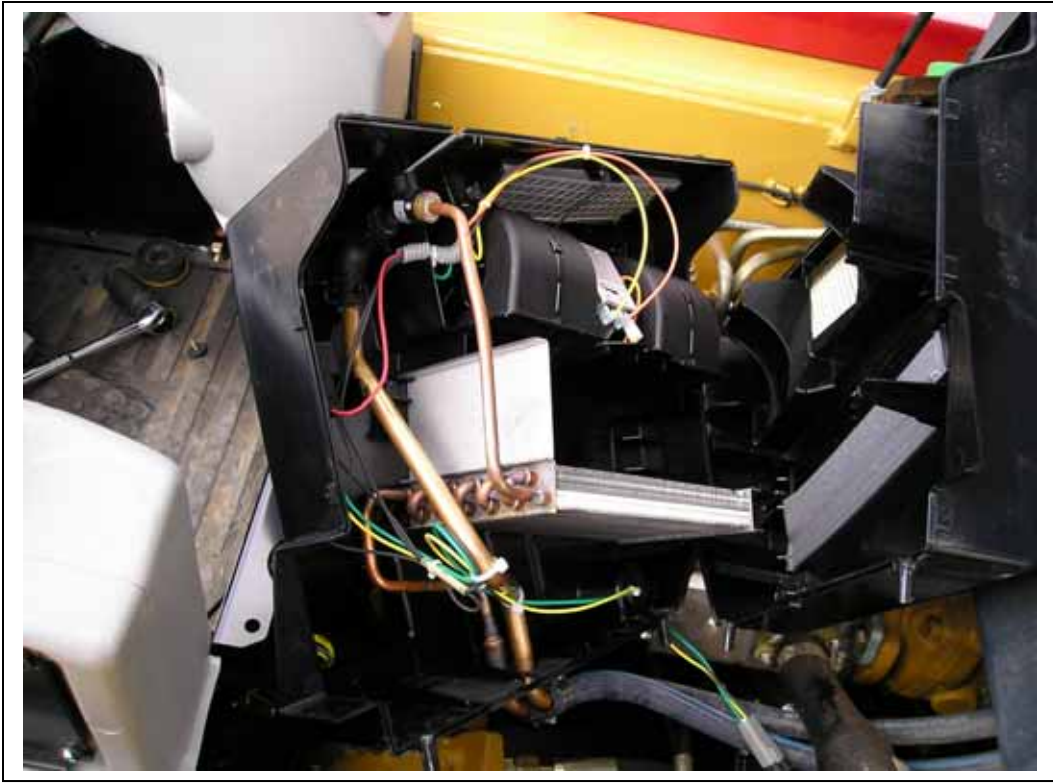
Heater box with cab up



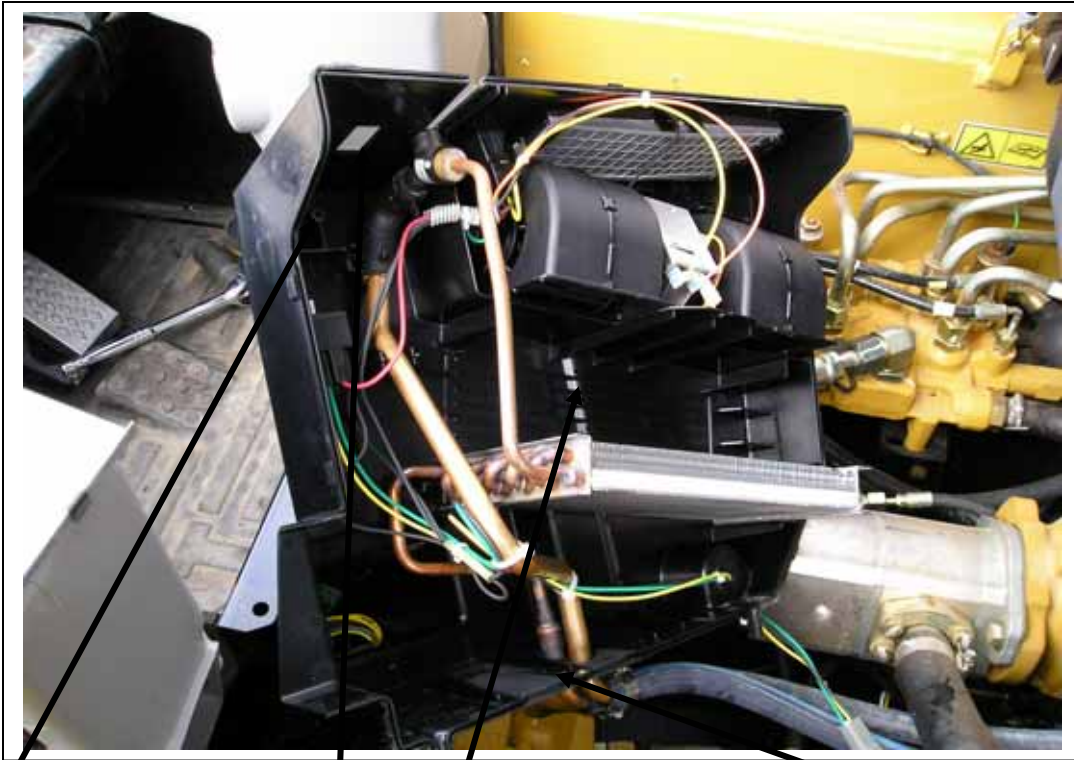
Remove four mounting bolts



Remove retaining clips from two part box.



Back cover off box.

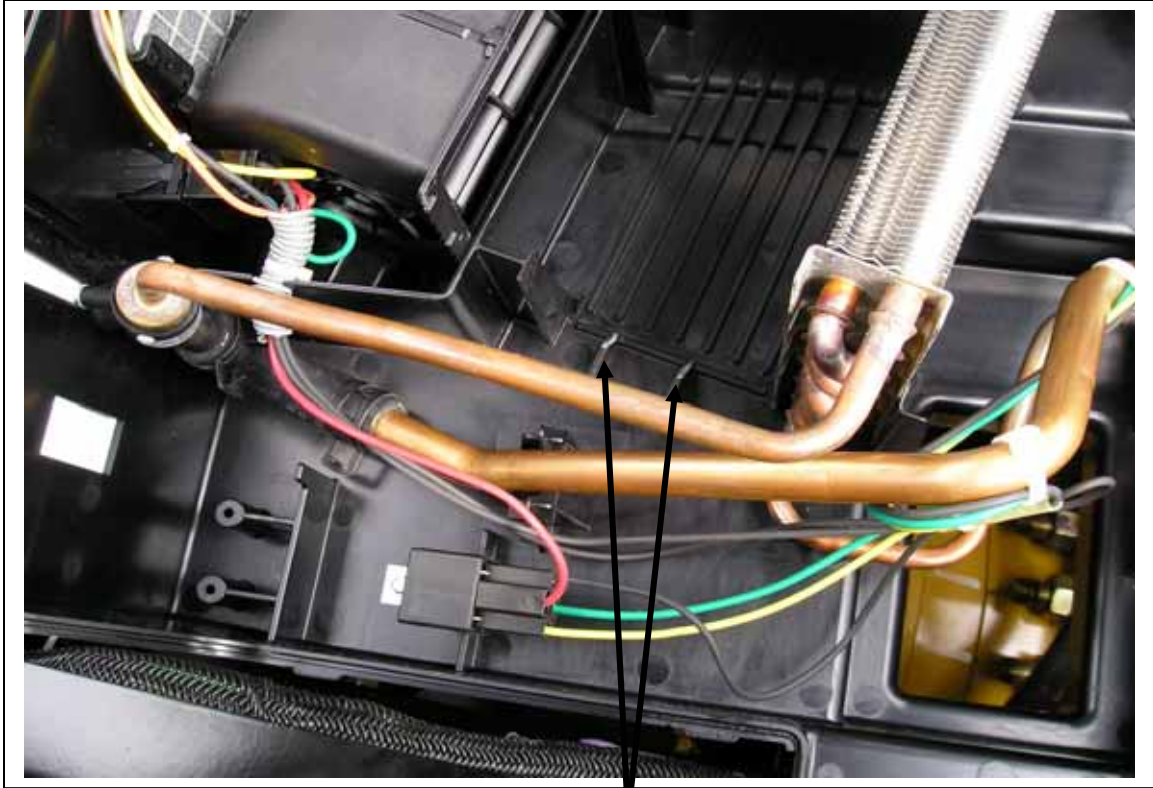


Area for thermostat.

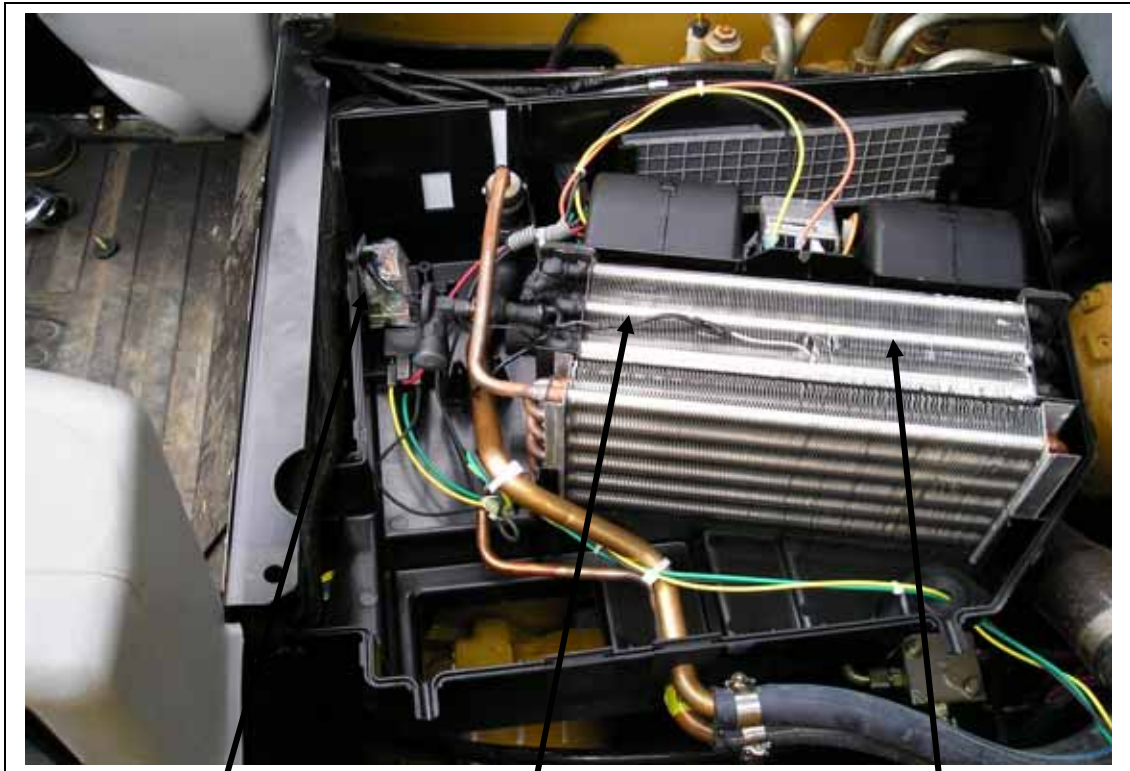
A/C on off switch location.

Area for A/C coil.

Rubber grommet for A/C hoses.



Cut corners off these plastic tabs



Thermostat installed.

Thermostat probe installed.

Evaporator coil installed.



5/16" 45° fitting at expansion valve.

1/2" 90° fitting on evaporator outlet

14g black wire to relay control

A/C on-off rocker switch



Relay control wire exists with other wiring

Hoses exiting the box through rubber grommets.



Drain tubes and restrictors

Seal with tar tape

A/C lines tied to heater lines.

Relay control wire out with other wiring.



A/c lines and relay control wire.

Heater-A/C box back in place.



Heater - A/C box in place with cab back down.

RECEIVER DRIER



Relay mounts up on left side of engine compartment.

5/16" hose to expansion valve

Binary switch

Straight drier bracket

Receiver drier c/w binary switch.

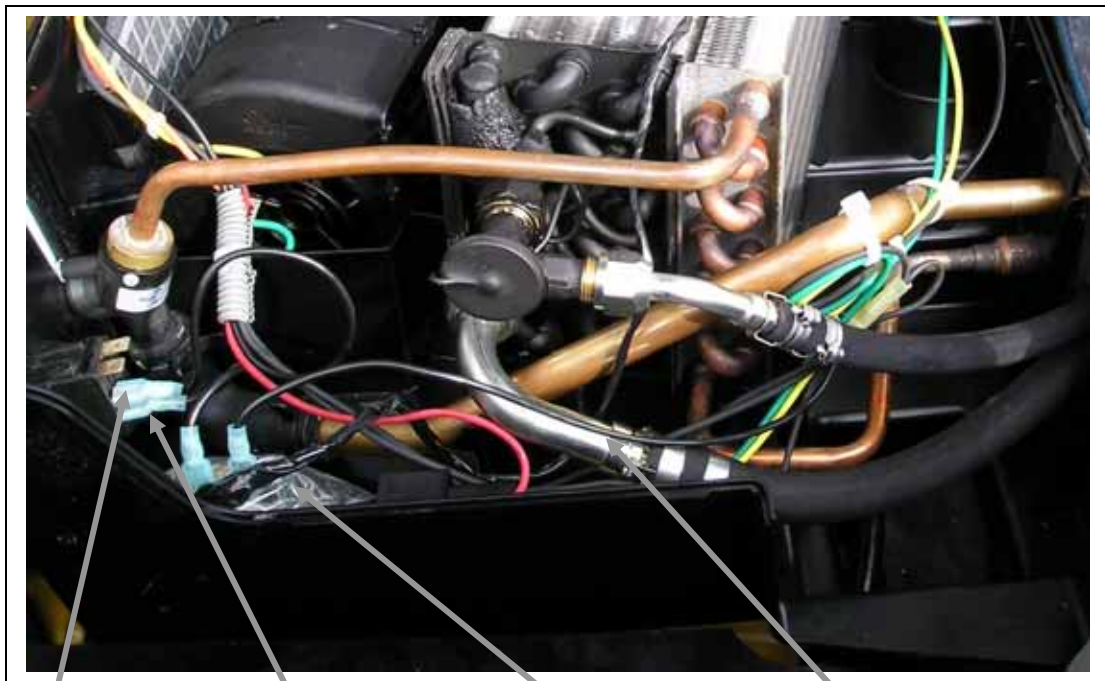
5/16" hose to condenser outlet.

ELECTRICAL



To blower switch

Double spade adapter



From low speed wire

To thermostat

Thermostat

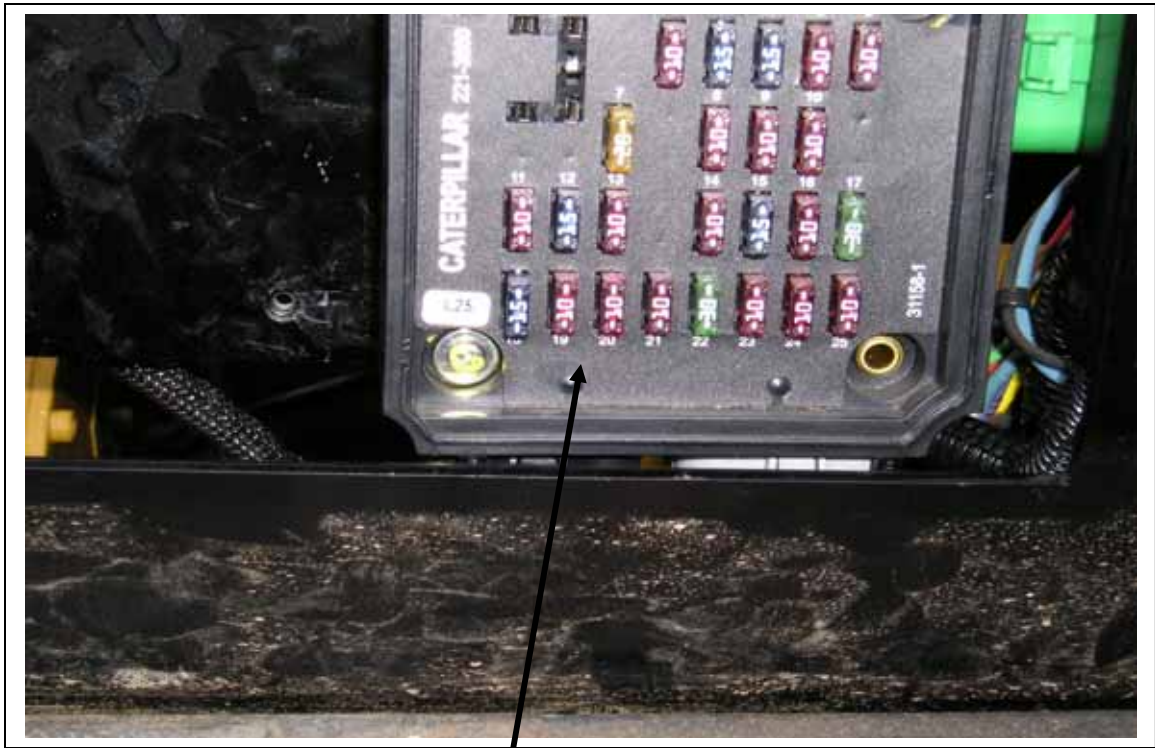
Relay control wire



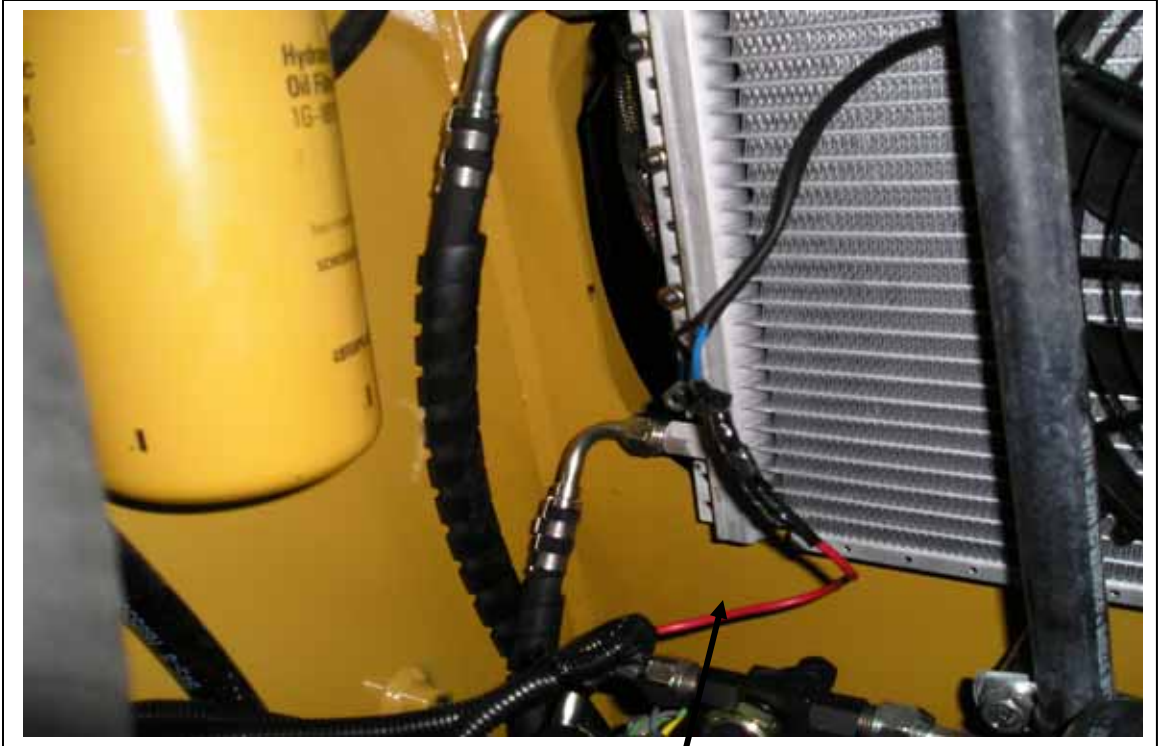
Fuse panel

Power supply for relay.

Wire # 125-A108
Cut wire out of bundle and splice on supplied 12g red wire.

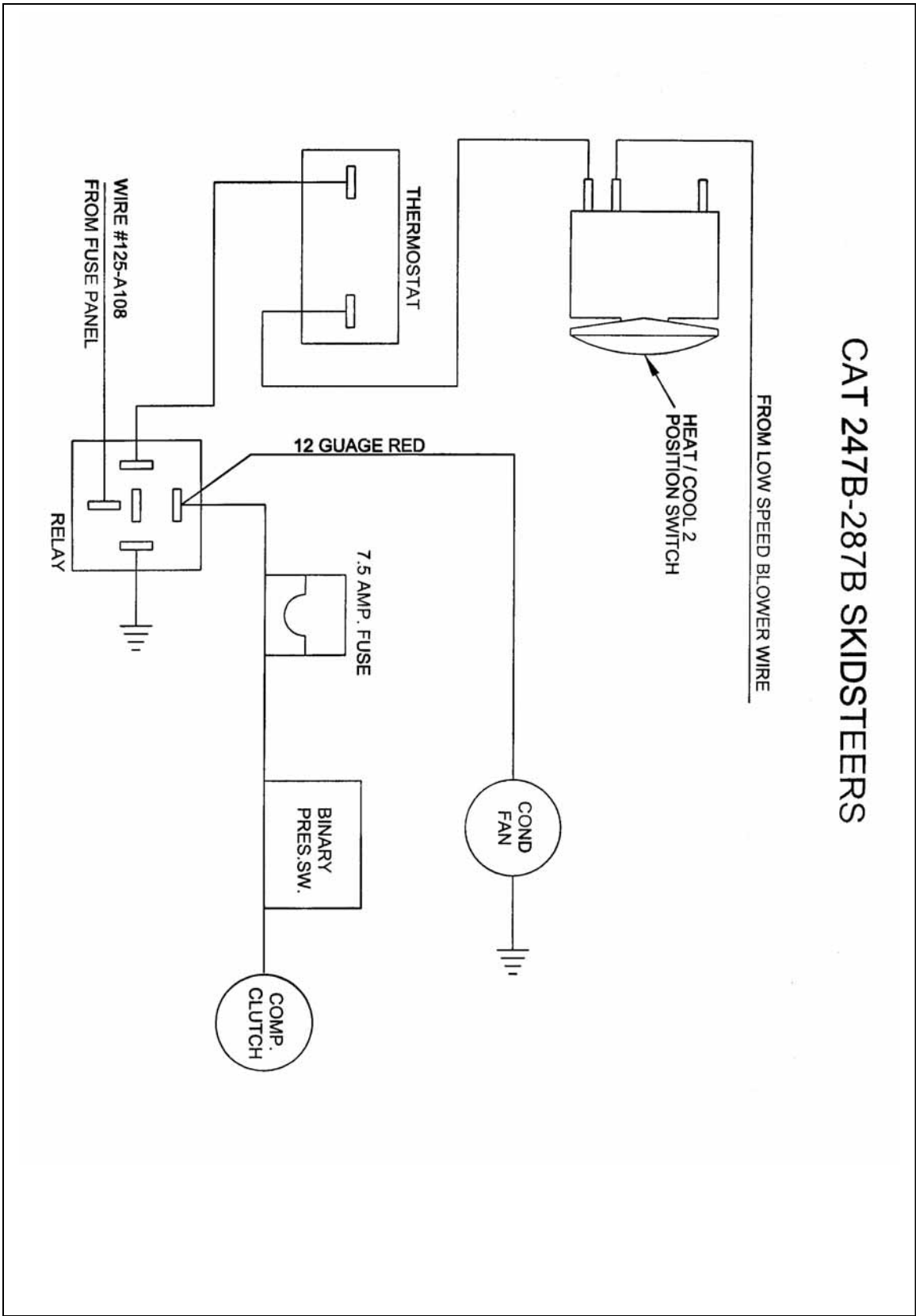


Fuse block back on place.

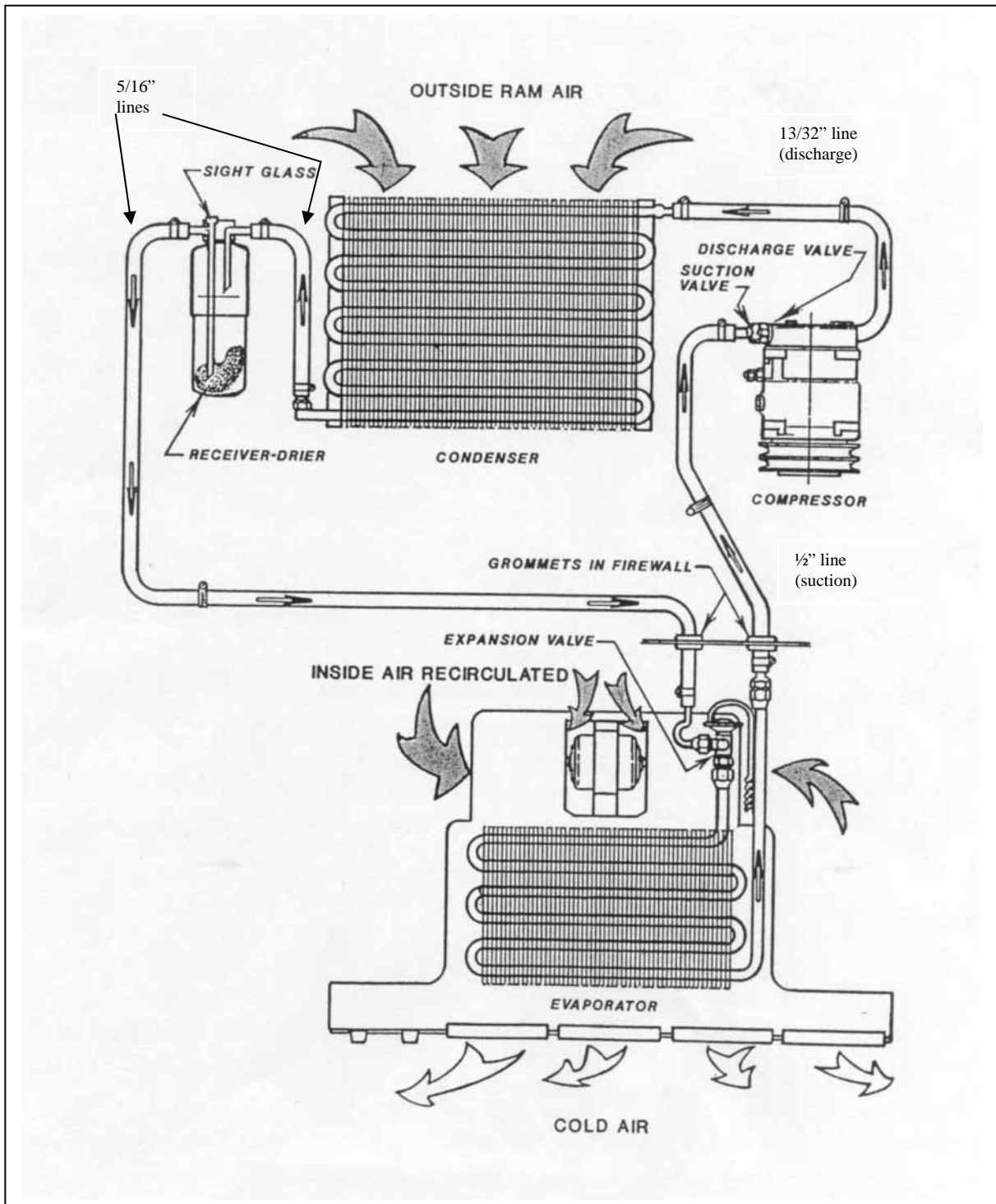


Condenser power wire coming from relay

CAT 247B-287B SKIDSTEERS



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.

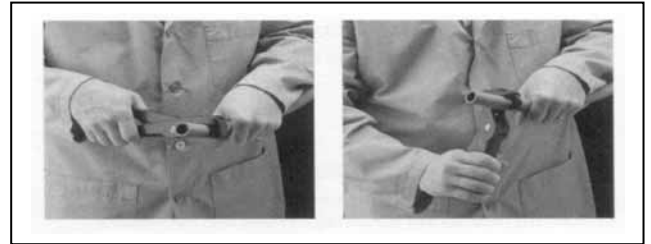
By looking at all these different factors, the area of an evaporator coil most likely to be the coldest can be determined.

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

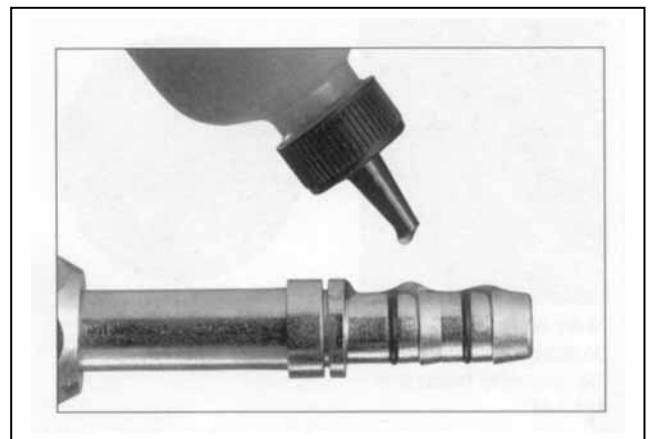
Step 1. Cut the hose to proper length with an appropriate cutting tool. Aeroquips hand held hose cutter has been specially designed for cutting all non-wire reinforced hose, such as GH-134 Multi-Refrigerant hose. Be sure the cut is made square to the hose length.



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.

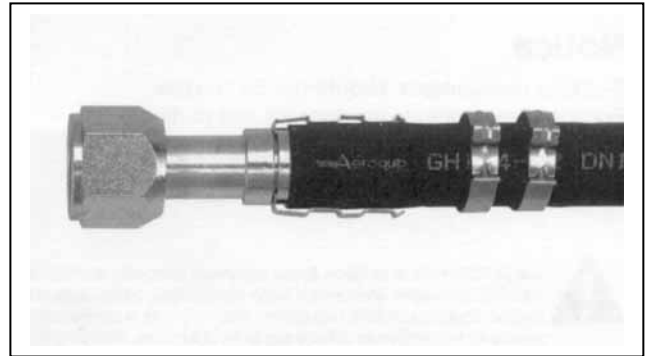


Step 4. Insert the nipple into the hose. To ensure that the nipple is fully inserted, check the gap between the cut end of the hose and the shoulder on the nipple. Care should be taken to avoid kinking or other damage to the hose during nipple insertion. NOTE: Be sure to wipe excess oil from the nipple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

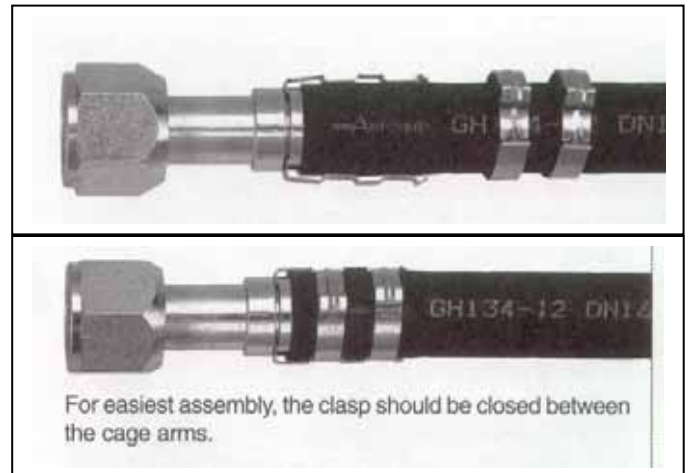


Step 5. Snap the cage into the groove on the nipple. The arms should extend over the hose length. When the cage has been correctly installed in the cage groove, the cage will be able to rotate in the groove. This step **MUST** be performed to ensure:

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.

