

**40/60 XT
CASE SKIDSTEER
INSTALLATION INSTRUCTIONS**



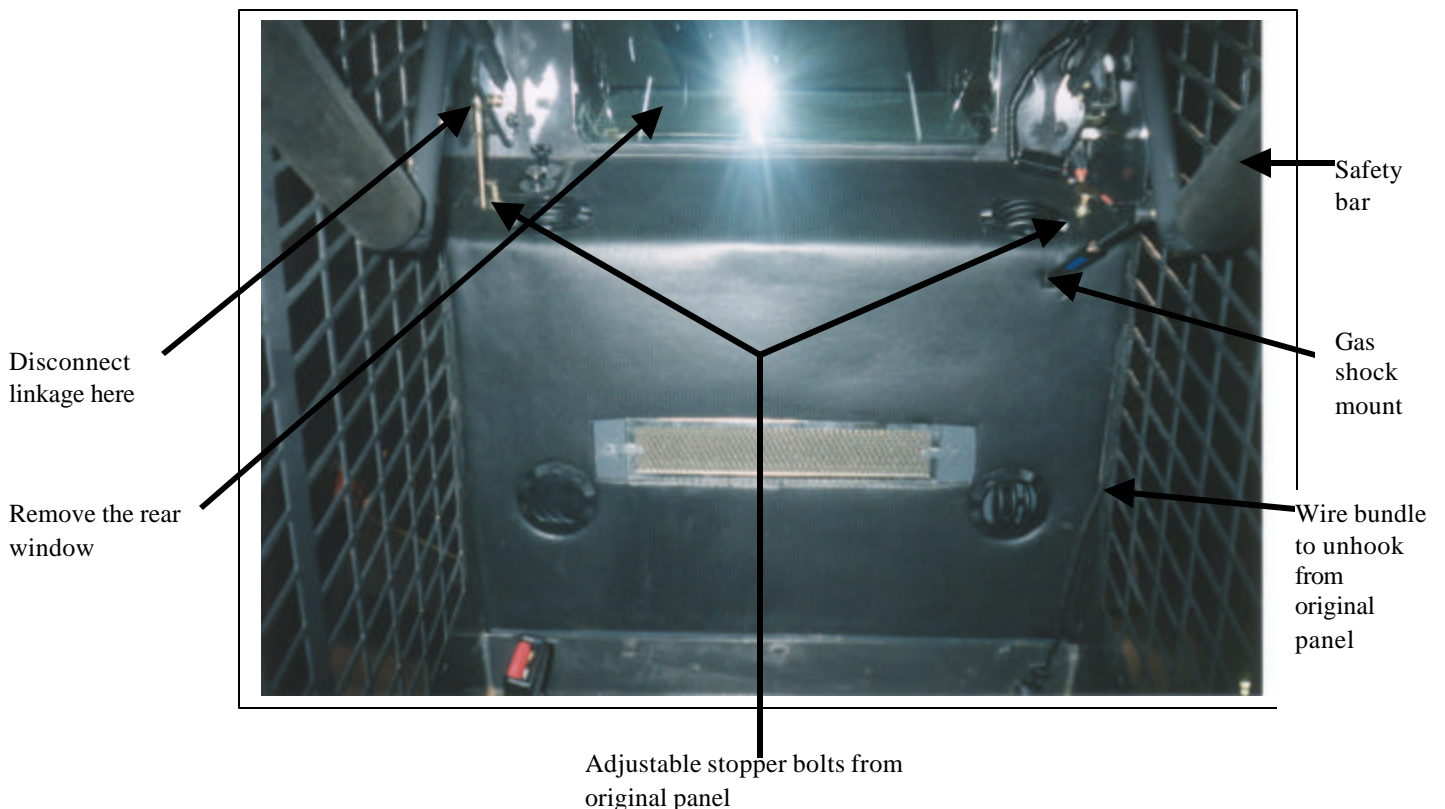
HAMMOND AIR CONDITIONING LTD
INGERSOLL, ONT.
1-800-267-2665
1-888-267-3745 (FAX)

Heat/cool/press Climate Control Unit

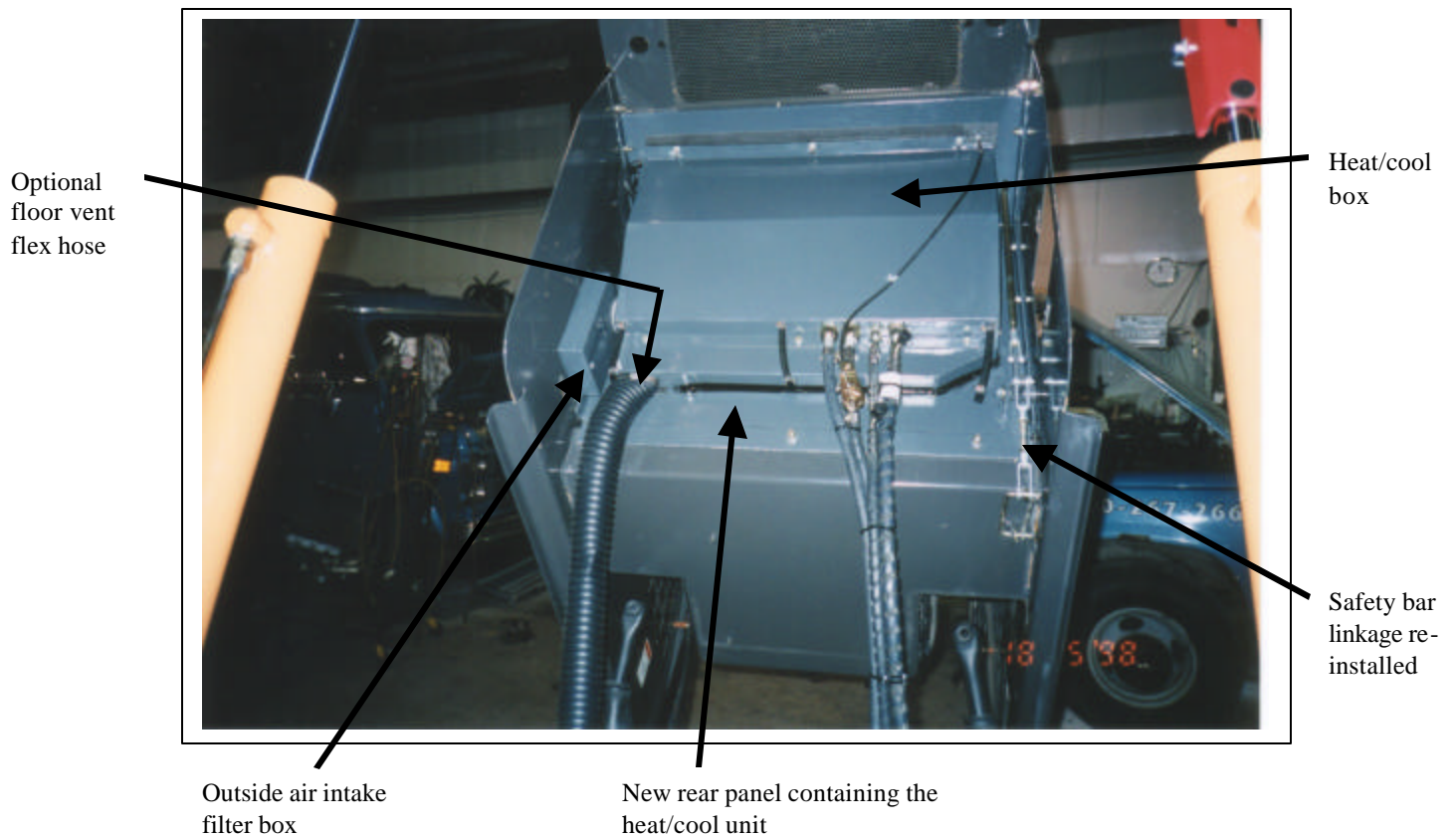
Heater/evaporator – The heater/evaporator system is a pre-assembled unit that replaces the original rear wall of the cab behind the operators seat.

Steps:

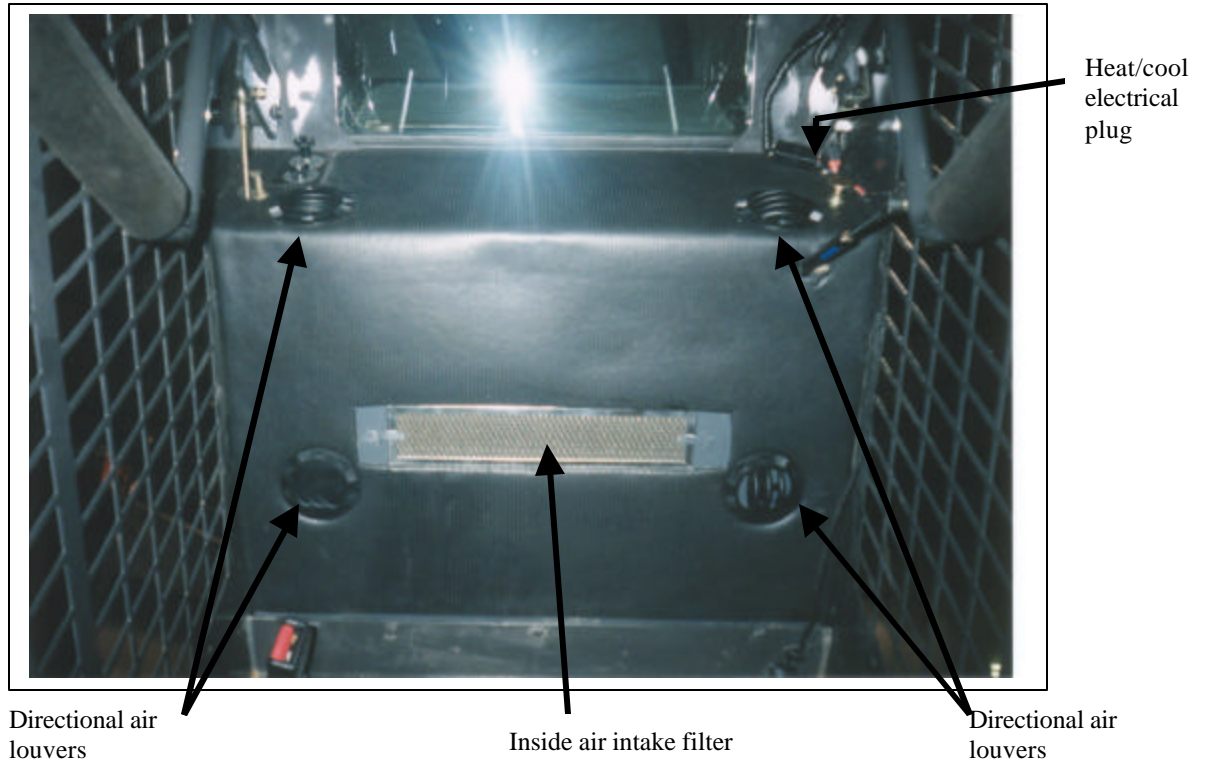
1. Start the machine and engage the hydraulics. Raise the bucket until the safety bar on the right arm can be installed. Lower the bucket until the safety bar is holding the bucket up. Stop the machine.
2. Raise the cab by removing the two M14 bolts from the outside rear corners of the cab. The bolts are located to either side of the air intake screen just behind the rear window. Tilt the cab ahead until the safety catch on the front right pivot point latches. There are no other linkages or pipes to remove.
3. Remove the seat from the cab by removing the four M8 nuts from the underside of the cab floor. Unplug the wire harness going to the seat. The seat should now be free.
4. Remove the side access panels from the lower rear corners of the cab. (one on each side). Disconnect the linkage for the operators safety bar from inside the cab. Disconnect the other end of the safety bar linkage at the outside lower right corner of the cab. Unbolt the pivot point for the linkage. The bolt passes in through the right side of the cab, through the linkage pivot and into the mounting bracket welded to the outside of the rear wall of the cab. Once the bolt is pulled the linkage is free to be removed from the machine. Set it aside for re-installation.



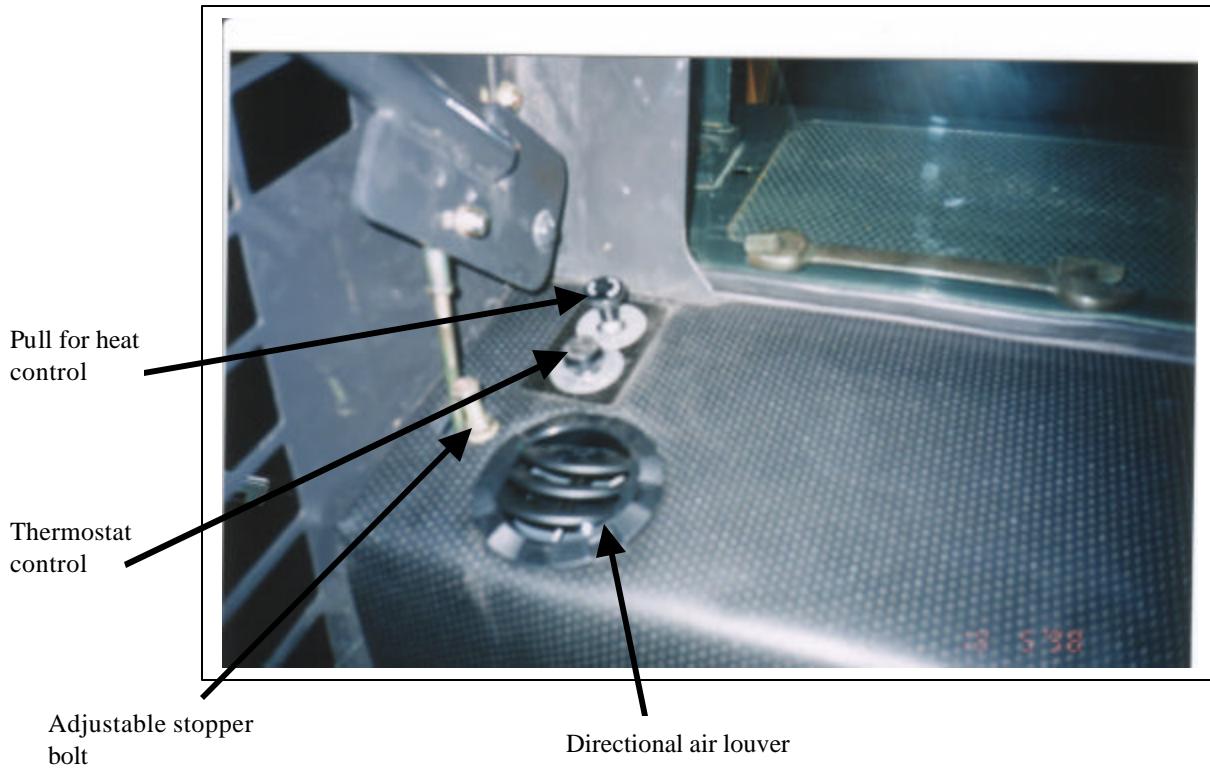
5. Unhook and disconnect any wire bundles that are fastened to the rear wall of the cab. Unbolt the air shock for the operators safety bar from the rear panel.
6. Unbolt and remove the rear window from above the rear panel to reduce the risk of breaking it.
7. Unbolt the rear wall panel by removing four M8 bolts from each side and by removing the nuts from the three studs across the bottom. Push the panel out the back of the cab and set aside.
8. Remove the adjustable stopper bolts from the rear panel and re-install them on the new rear panel containing the heat/cool unit.
9. From the back of the cab using at least two people, slide the new rear panel containing the heat/cool system into place and bolt it down. Use the same hardware in the same positions as the original panel.



10. Re-install the linkage and air shock for the operator safety bar. Re-connect and secure any wire bundles that have been disconnected. Re-install the rear window.

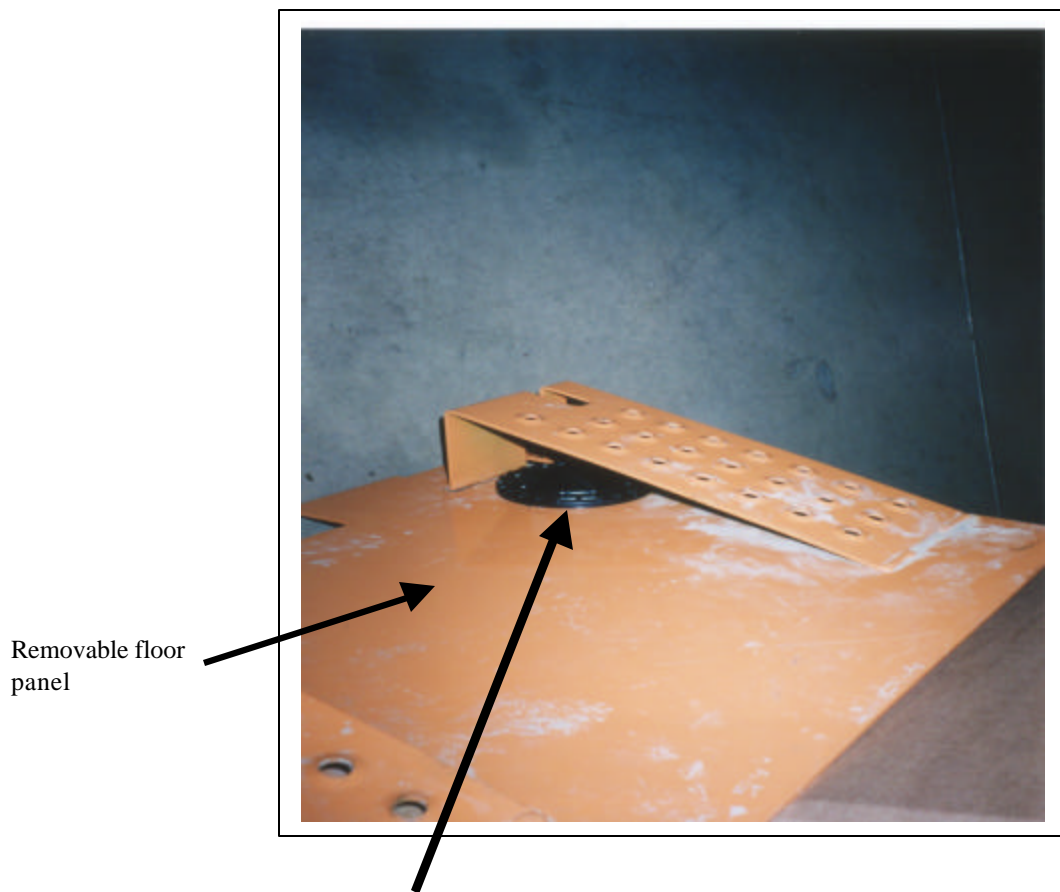


11. Once the rest of the installation has been completed re-install the operators seat. Test and adjust the stops on the operators safety bar as required.

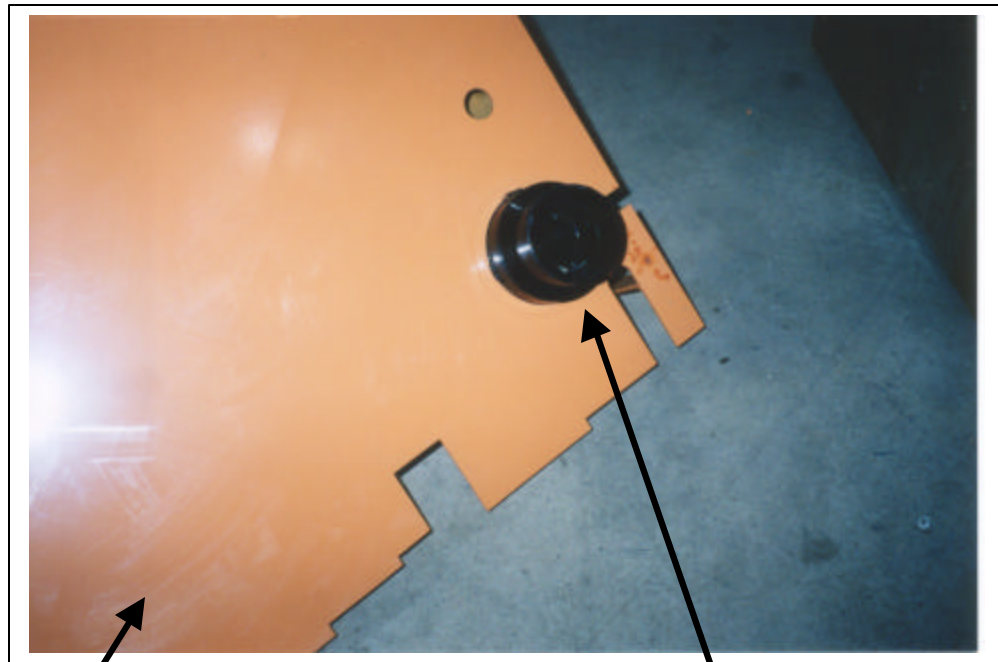


12. Optional air outlet at feet.

Remove the floor panel containing the foot rests. Drill a 3" hole in the floor plate under the right side foot rest towards the front of the foot rest. Leave enough room so that the full diameter of the louver face will fit under the foot rest. Install the hose adapter bezel in the hole from the top side. Snap the louver face into the bezel. Attach the supplied flex hose to the hose adapter on the louver. Run the hose back to the right of the battery and then over to the left and up the left side of the hydraulic pump just behind the fuse and relay area. With the cab tilted forward, continue the hose up to the lower left corner of the air channel on the heat/cool unit. Attach the hose to the air channel using the supplied hose adapter plate and 1/4" wing bolt.



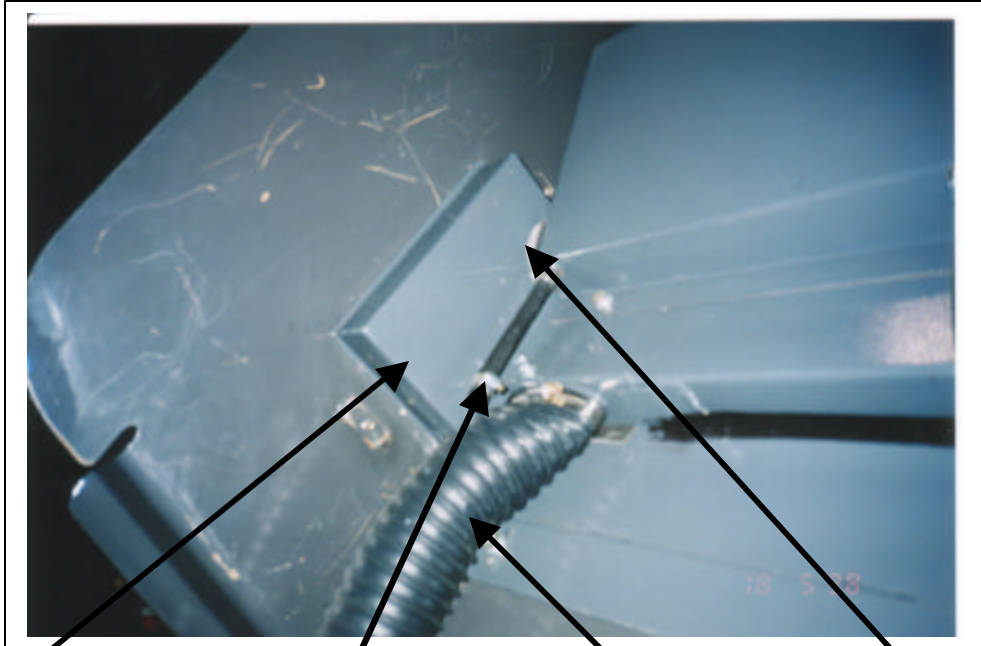
Directional air louver under foot support



Underside of the removable floor panel

Louver bezel with 2 1/2 hose adapter in place

13. Once the heat/cool panel is completely installed, the outside air intake filter can be installed. It consists of a filter box and a louvered cover plate that replaces the access panel on the back left side of the cab. Install the filter box into the rectangular hole so that the air outlet hole on the filter box and the air inlet hole on the heat/cool unit line up. Place the louvered plate over the filter box and secure it to the cab using the two M8 wing bolts provided. Check to ensure that the foam gaskets are sealing the air passage between the filter box and the heat/cool unit.

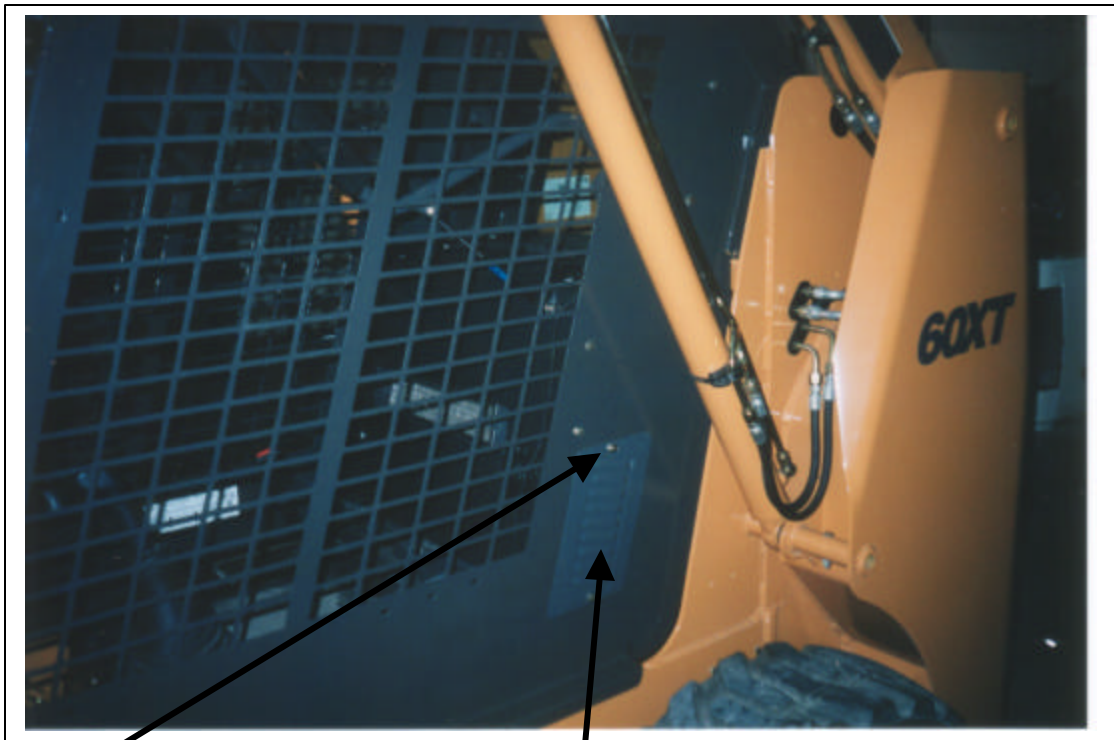


Outside air filter box

Drain tube

Optional floor vent flex hose

Foam gaskets



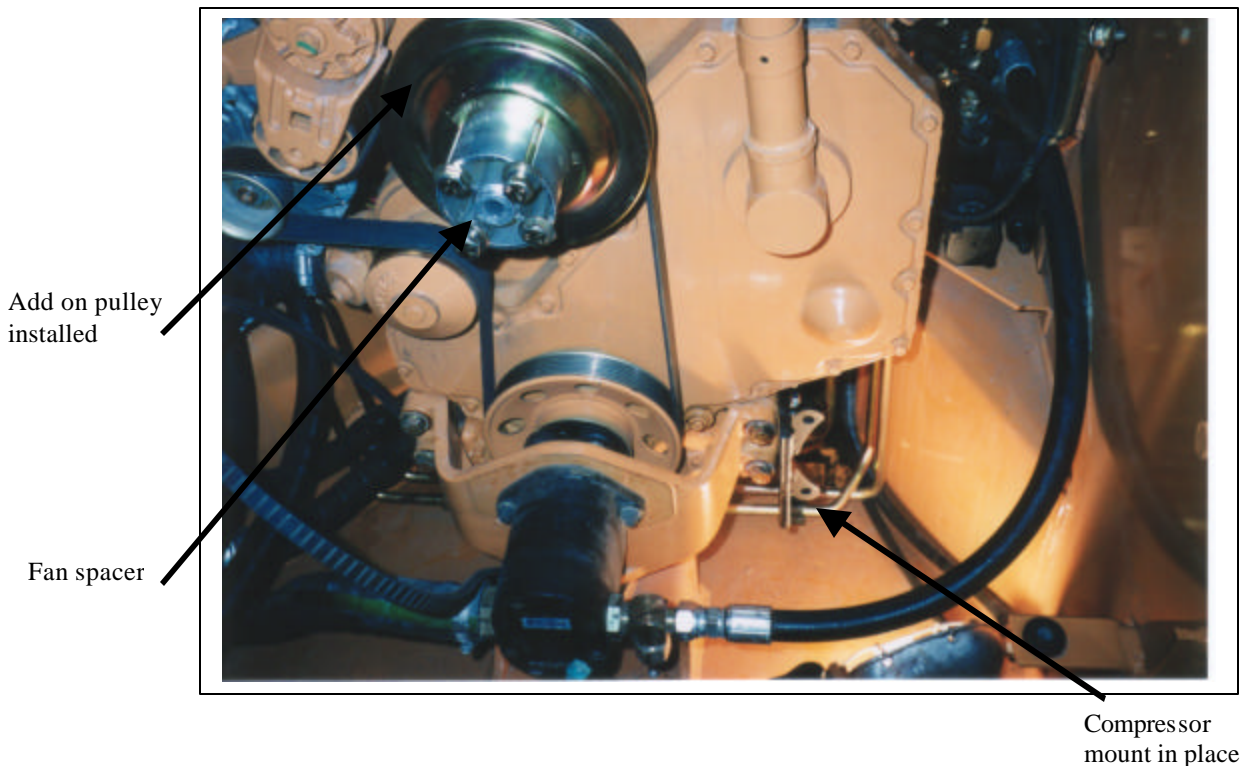
M8 wing bolt

Louvered cover plate for outside air filter box.

Compressor: The A/C compressor is mounted on the lower right rear corner of the engine and is driven off an add on pulley on the fan hub.

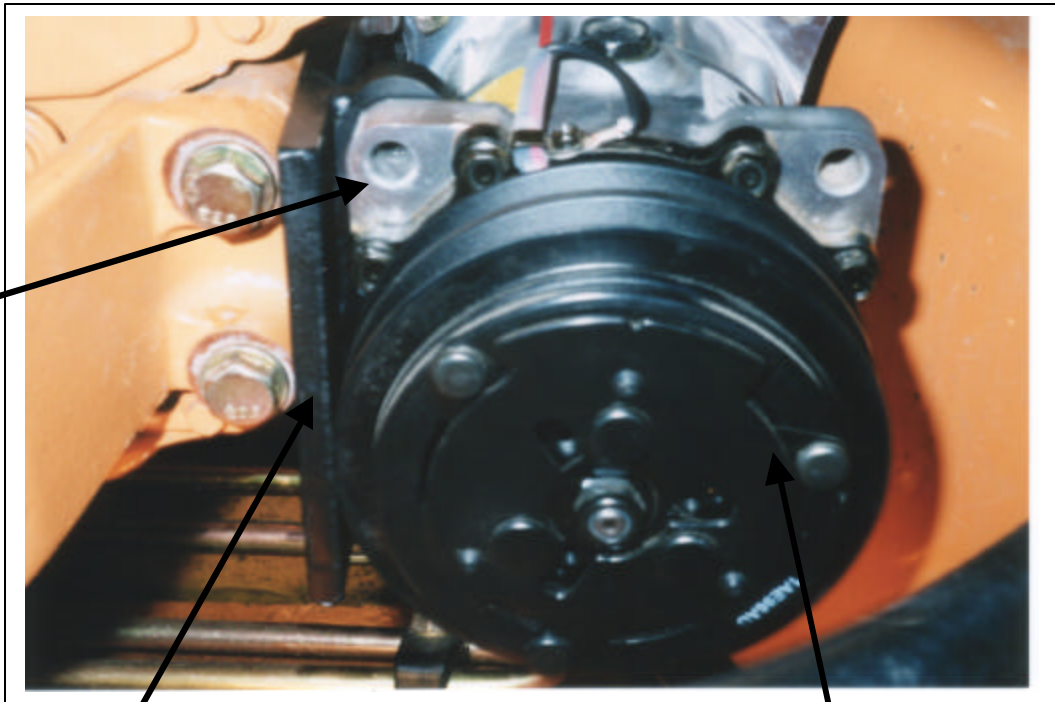
Steps:

1. To gain easy access to the compressor mount area and to install heater and A/C lines, it is necessary to drain and remove the radiator and radiator overflow bucket.
2. Remove the fan screen, drain the antifreeze and set it aside for reuse. Disconnect the upper and lower rad hoses. Remove the four bolts holding the radiator and overflow bucket in place. Carefully lift the radiator out and set it aside for re-installation.
3. Remove the fan and spacer. Install the add on pulley with it cupping towards the engine. Set the 17560 belt over the pulley and re-install the fan and spacer.



4. Bolt the compressor mount bracket to the engine utilizing the three M12 threaded holes on the lower right rear corner of the engine. Use the M12 x 35 hardware supplied in the kit.
5. Bolt the compressor to the mount using the 3/8" hardware supplied. The back two holes of the mount use 1 1/2" long bolts, washers and nuts, while the front side uses bolts and washers only. Leave top front bolt out.

Top bolt left out until tensioner assembly is installed



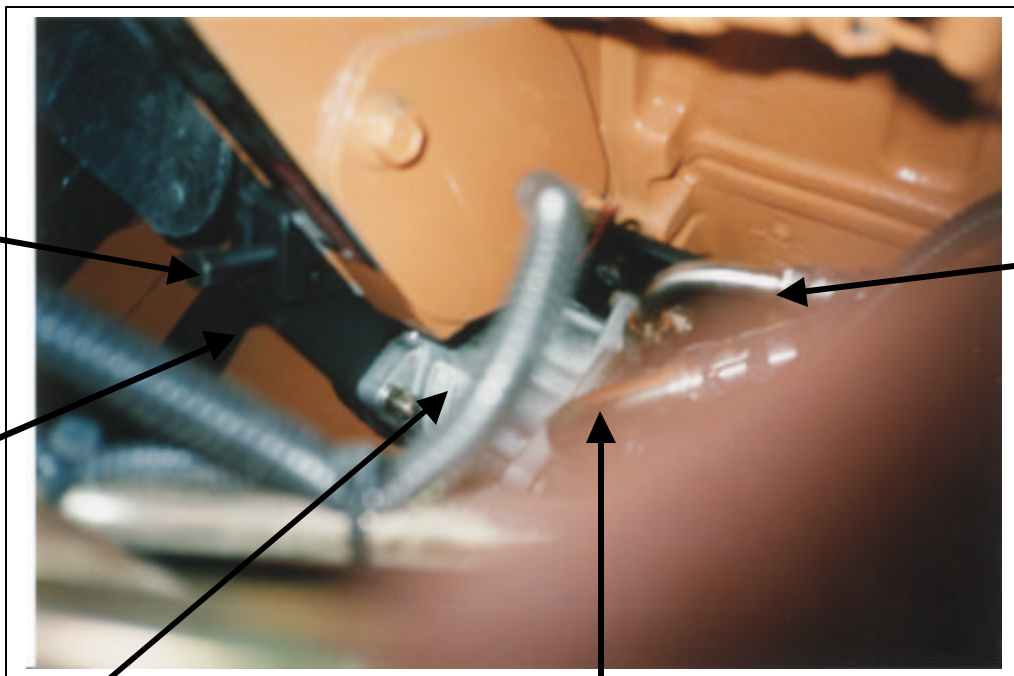
Compressor mount

Compressor

6. Prior to installing the belt tensioner bracket the hose connections at the compressor should be made. Its some what easier to tighten the two hose fittings on the compressor without the belt tensioner bracket in place. See step one of A/C hose connections.

Tightener bolt

Tensioner assembly

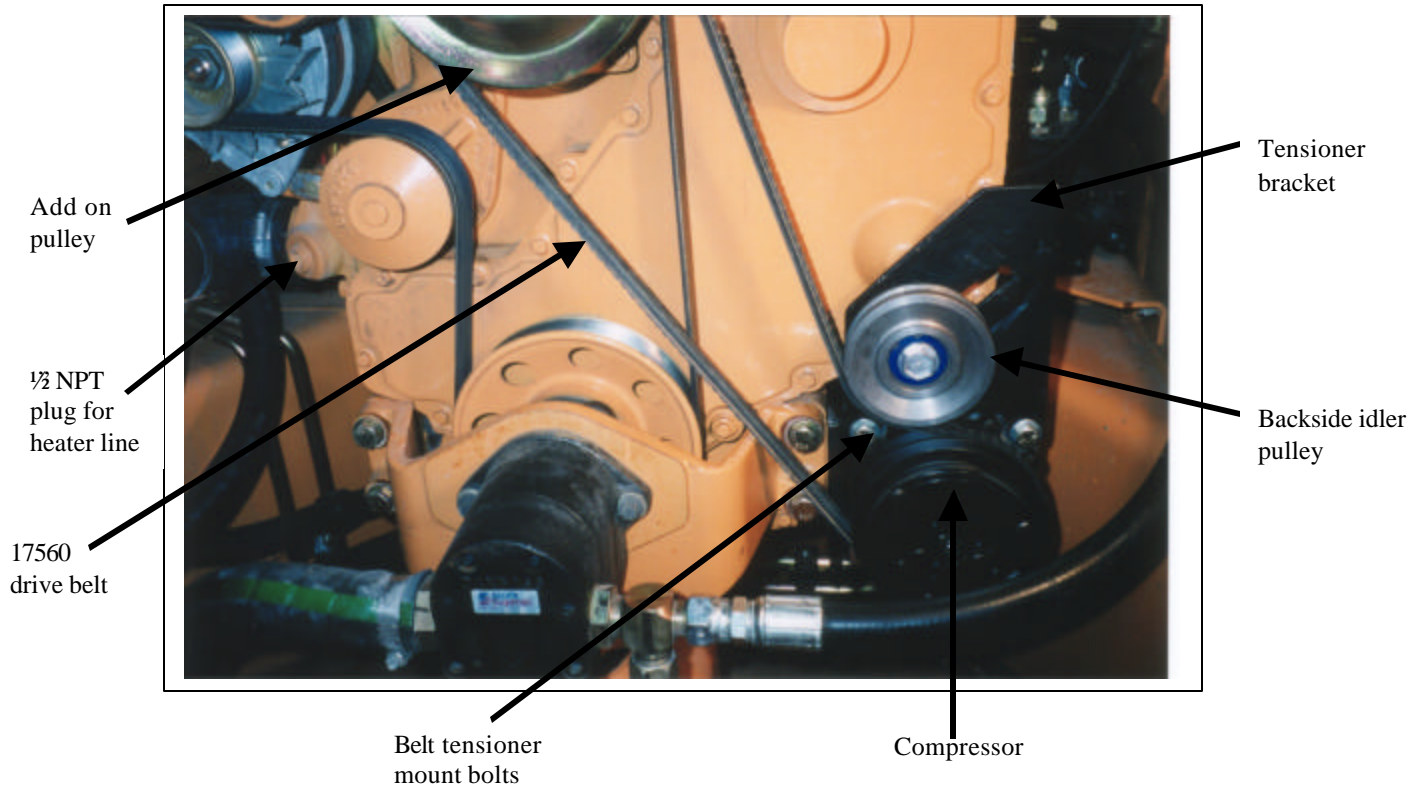


Compressor

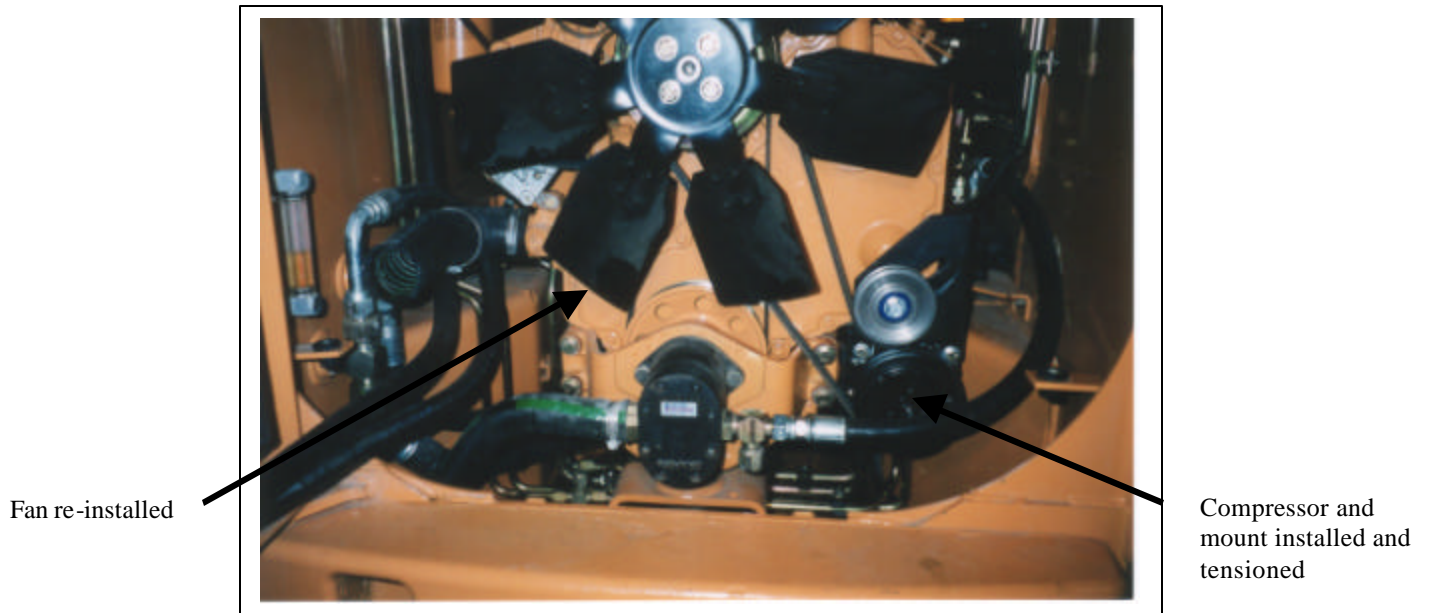
1/2 90° fitting

13/32" 90° fitting

7. Install the belt tensioner bracket to the top front of the compressor, and fasten tight with the 3/8" hardware supplied.



8. Install the belt around the compressor pulley and tighten using the tensioner. The tensioner pushes on the backside of the belt. Once tight the bolt on the front of the idler pulley should be tightened as well as the nut on the tensioner.

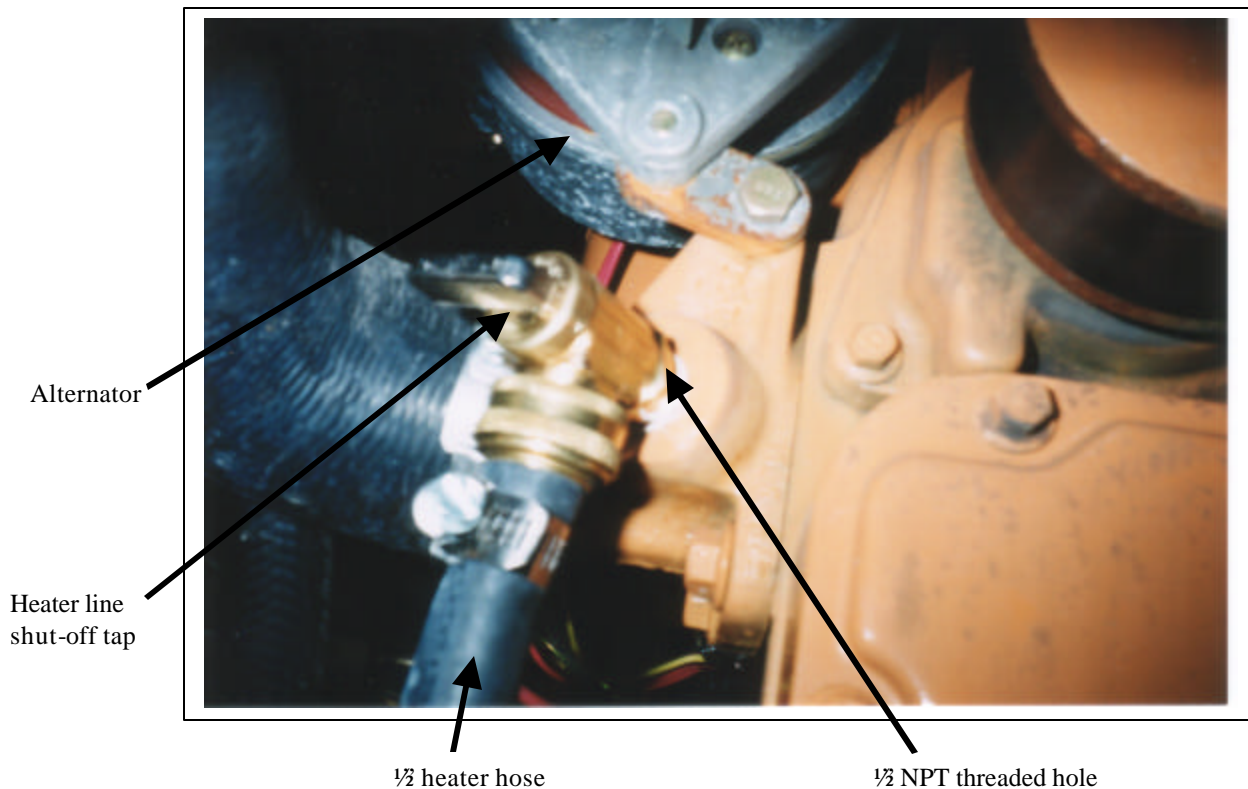


9. Check belt and tensioner alignment, Adjust if required.

Installation of heater hose and taps: Even though the evaporator heater assembly has a cable controlled shut off, the kit comes with shut off taps to install into the engine block, allowing absolute shut off of the water.

Steps:

1. While the coolant system is drained, remove the plug at the engine located directly below the alternator.(near the lower rad hose) and install a $\frac{1}{2}$ NPT tap. Thread seal or teflon tape should be used on the tap prior to installing. The hose connection should face down.

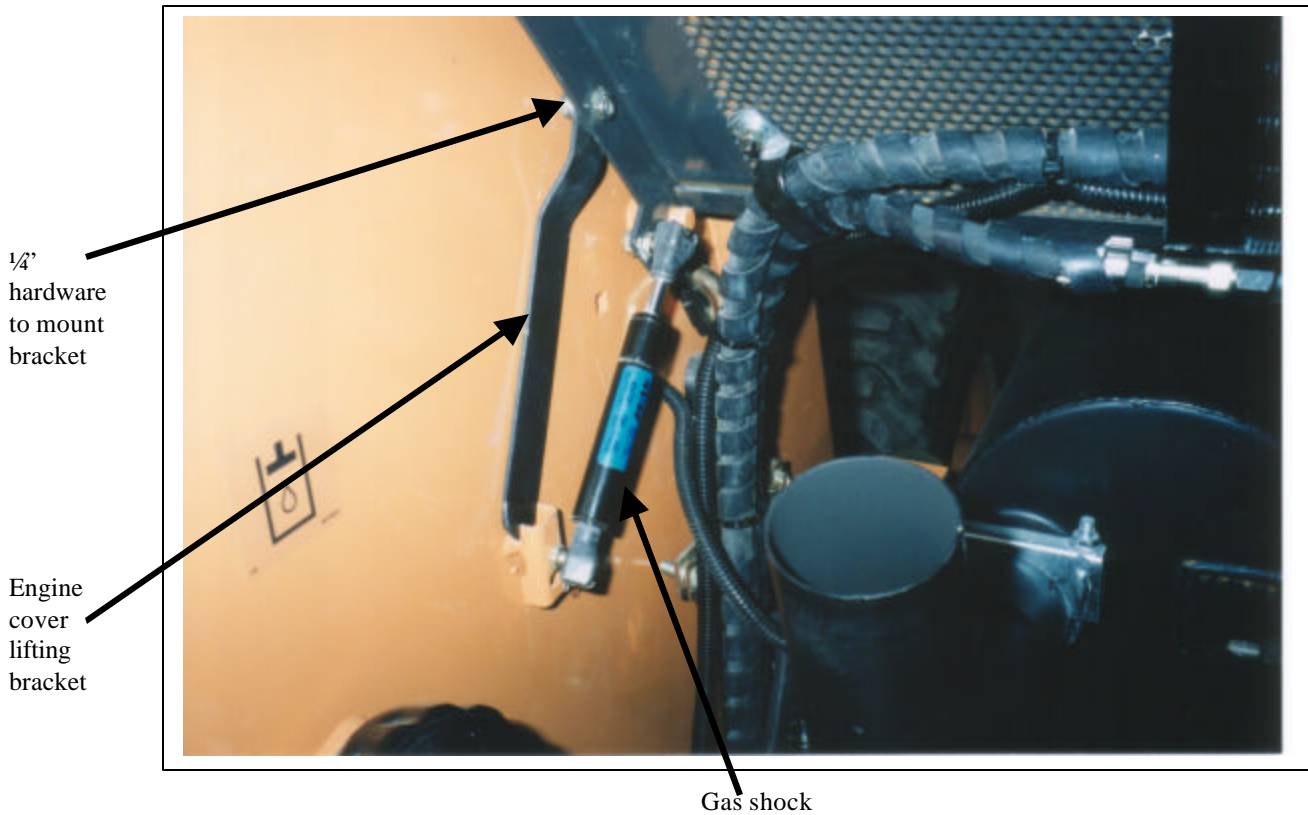


2. The other plug to be remove is found at the opposite corner of the engine to the first tap. The tap installed in this plug should also point straight down.
3. Install the clamps onto the end of the $\frac{1}{2}$ heater hose and install the hose to the two taps. Both hoses run down to the floor, across to the right side of the hydraulic pump, and then up to the evaporator / heater panel. Hose wrap is provided to wrap the hoses where they lay on the floor of the equipment.

Engine cover bracket: The perforated engine cover carries the extra weight of the condenser and fan assembly and therefore requires a small bracket installed to assist the gas shock.

Steps;

1. The small bracket should be installed on the left side of the engine cover near the small gas cylinder which currently holds the engine cover up.



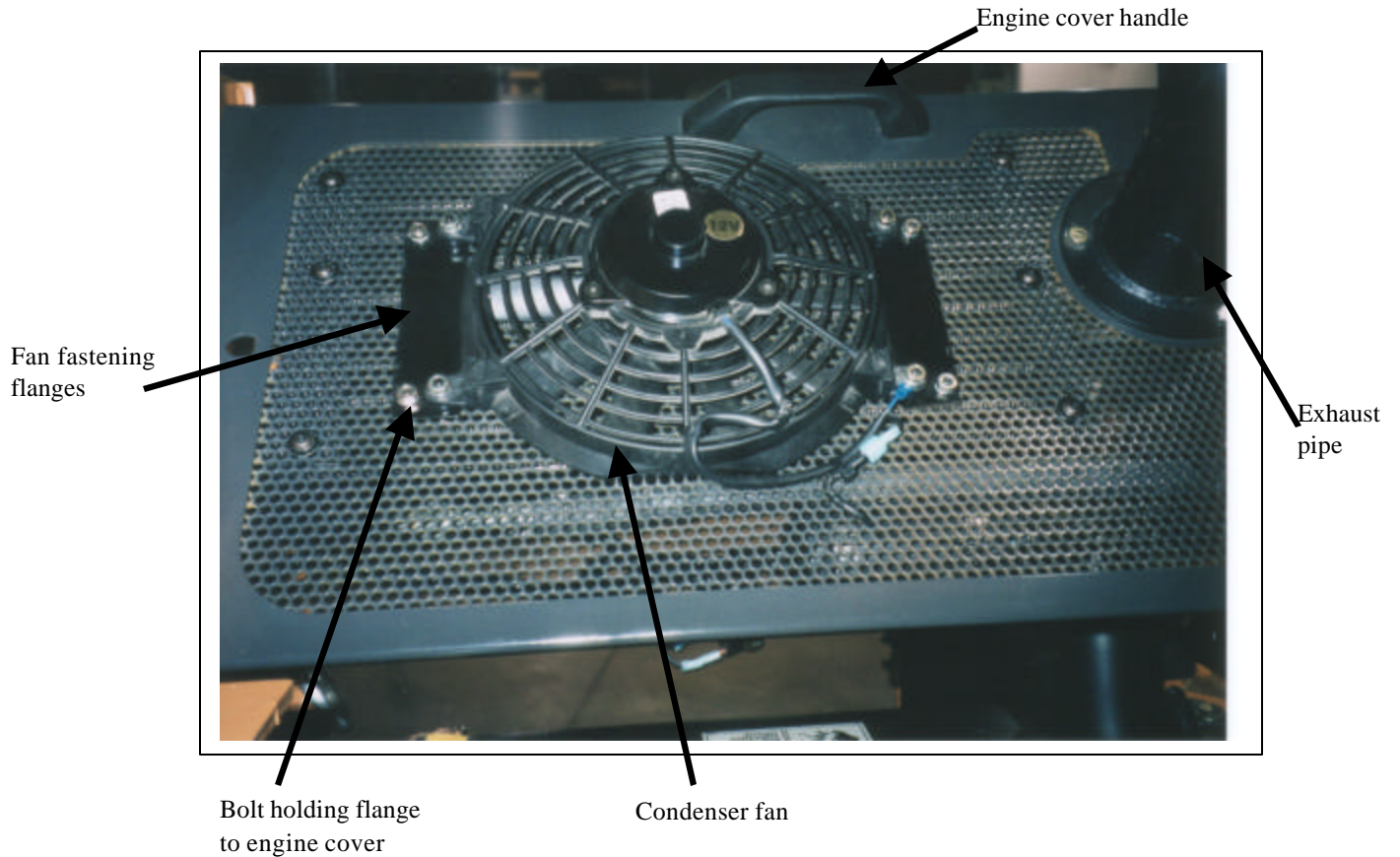
2. With the lid open, hold the bracket in position as seen in picture and mark the location where a 9/32" hole should be drilled. (approx. 3" up from the gas shock)
3. The 1/4" fastening hardware supplied allows for the bracket to swing freely once the bolt and nut are tightened, so that the bracket hooks the existing stand off bracket at the lower end of the gas cylinder when the cover is lifted.

Condenser fan assembly installation

The fan assembly must be installed prior to the condenser installation.

Steps:

1. With the engine cover down, place the fan assembly on top of the perforated steel with the wiring towards the front of the equipment, the fastening flanges centered between the exhaust pipe and the right side, and then pulled all the way down toward the edge of the perforated metal near the engine cover handle.



2. Four $\frac{1}{4}$ 'x $\frac{1}{2}$ black button head bolts are to be push up from the bottom, through the perforated engine cover and through the holes in the flanges.
3. Install the lock washers and nuts and then tighten in place.

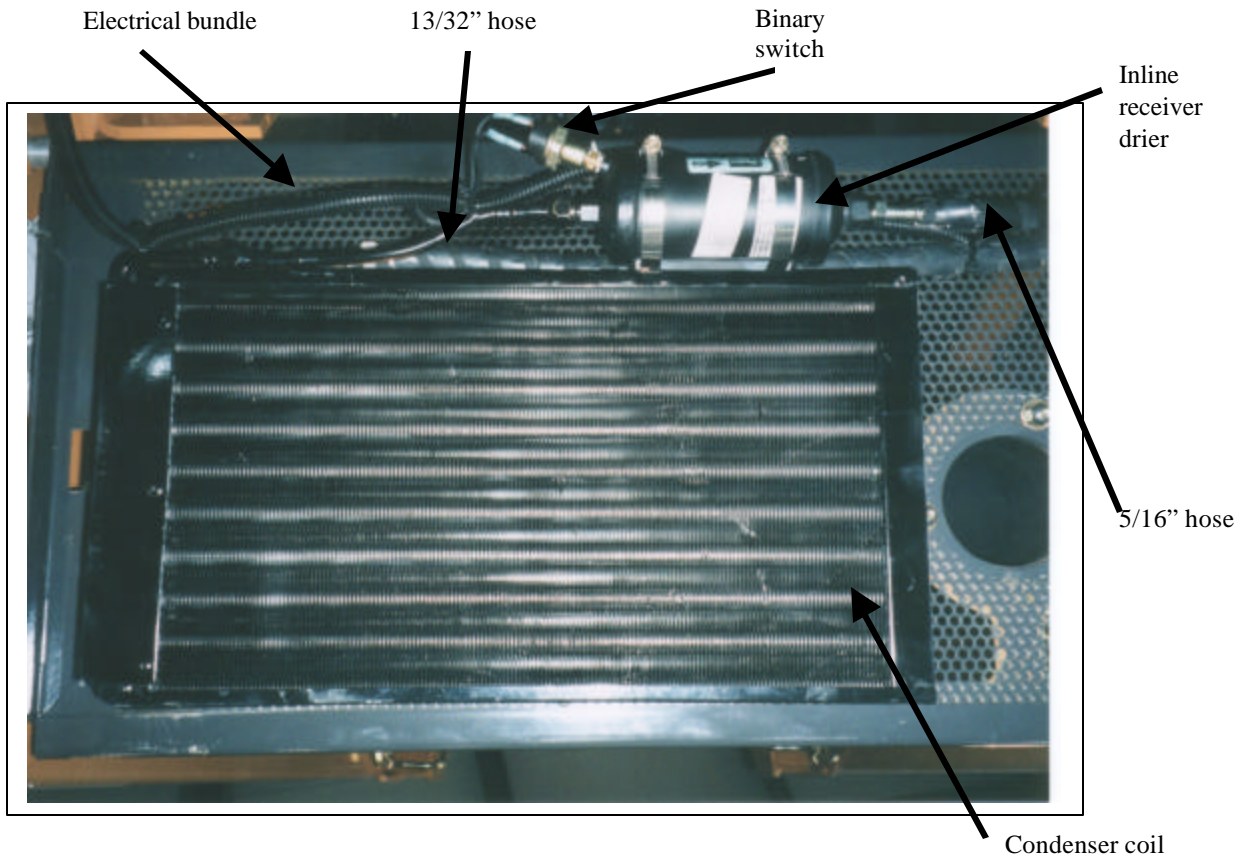
Condenser assembly. : The condenser supplied has the dryer and binary switch assembled to it and mounts under the hinged engine cover.

Steps:

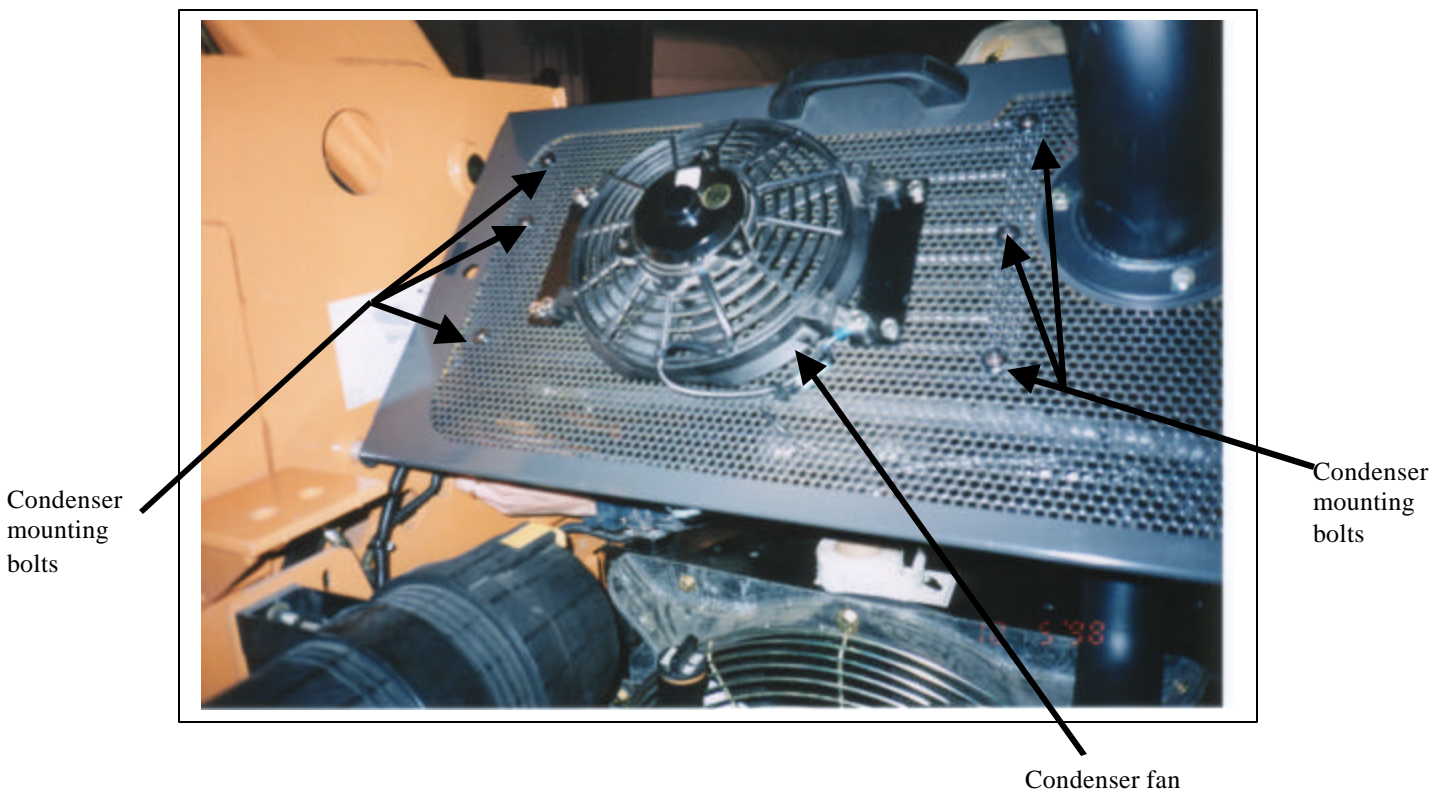
1. Lock engine cover in the open position so the condenser assembly can be fastened to the bottom side of it.



2. Position the condenser assembly as seen in the picture under the engine cover between the exhaust pipe and the right edge of the perforated steel section of the cover. It should be located directly under the fan, top to bottom, but not exactly centered under the fan right to left.



3. Six $\frac{1}{4}$ " x $\frac{1}{2}$ " black button head bolts and washers are used to fasten the condenser to the cover. It may be necessary to drill a few of the perforated holes out a bit larger to achieve alignment for all six bolts. Tighten into place.



A/C hose runs: Even though the Arequip hoses supplied are flexible and durable, we suggest hose wrapping wherever possible to add additional protection. Prior to installing the A/C hoses install the wrap as follows;

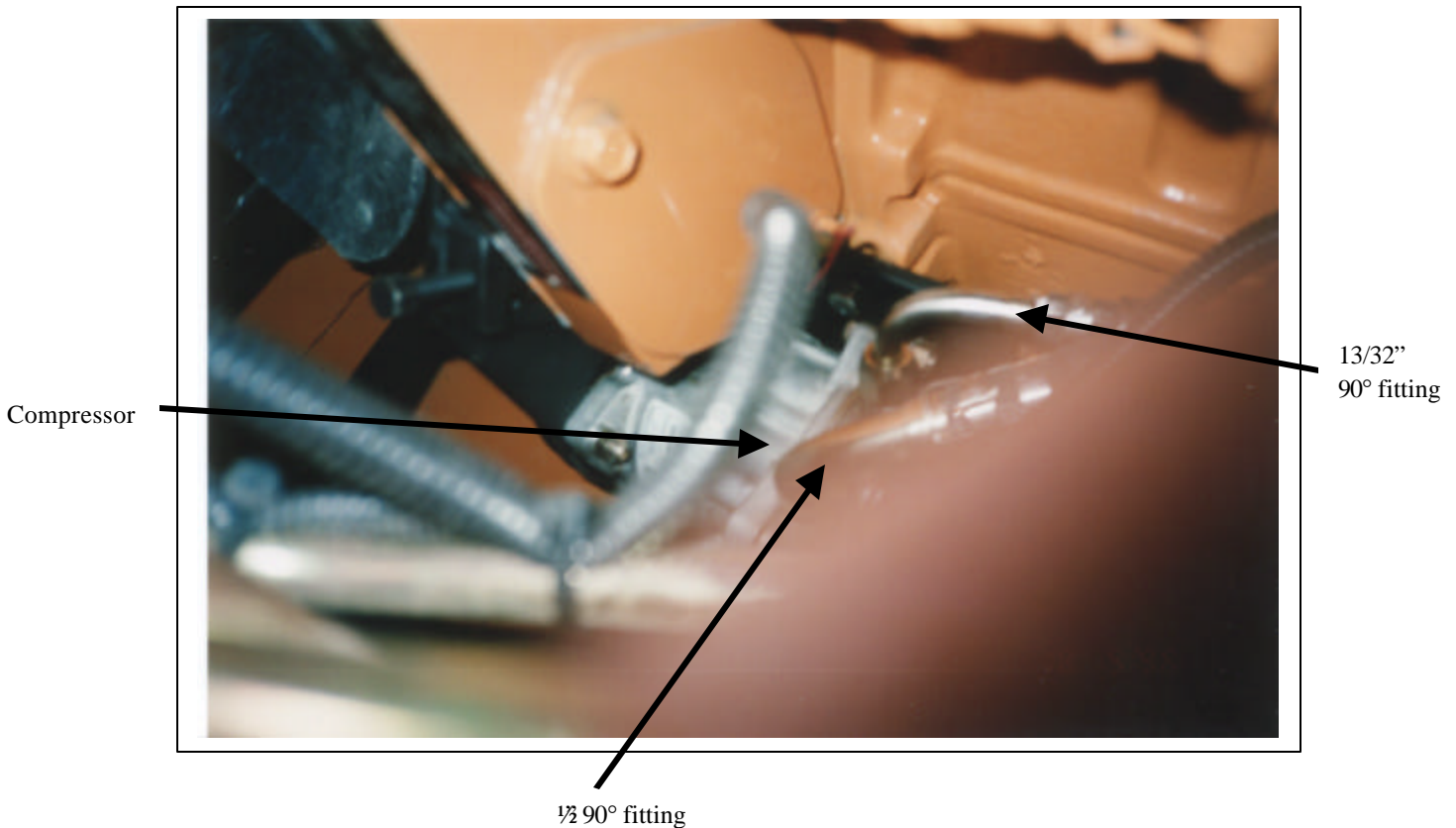
13/32" hose ---wrap entire length of hose.

5/16" hose wrap all but four feet starting at the 90 degree fitting end

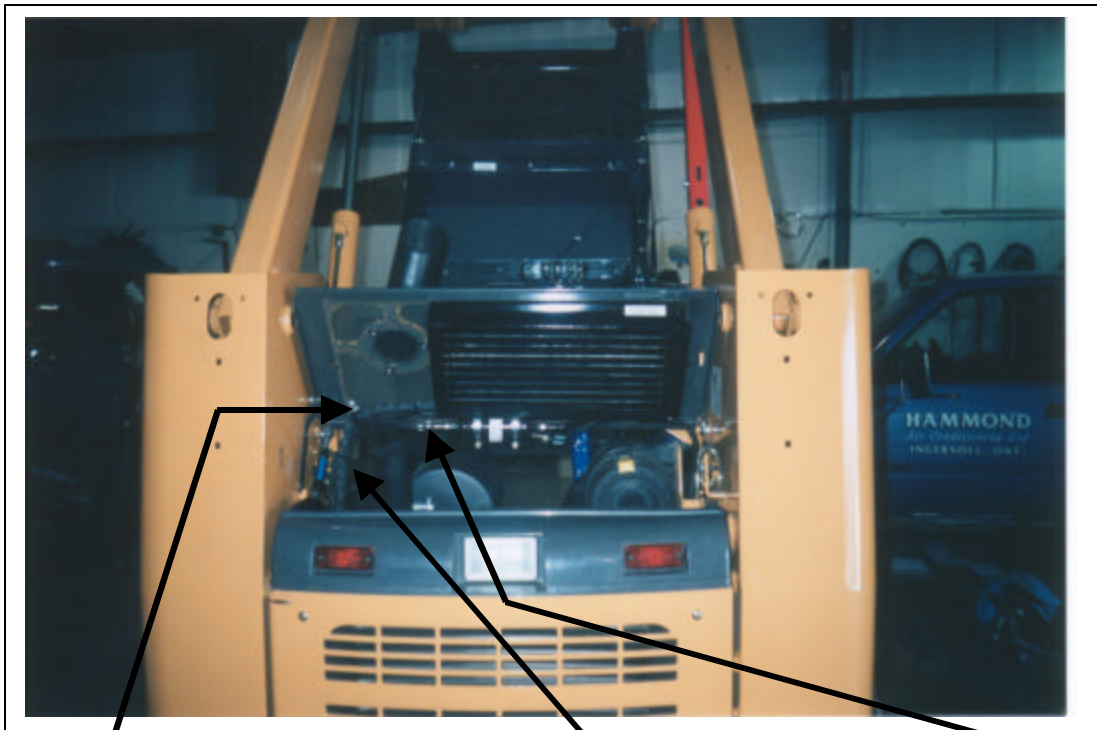
1/2" hose -wrap first two feet at 90 degree fitting end.

Steps:

1. From the Right side of the equipment feed the 90 degree fitting ends of both 13/32" and 1/2" hoses up from the floor to the back of the compressor. Oil the "O" rings, which are to be installed on the fittings prior to fastening to the compressor. Tighten the fittings in a fashion which prevents the hoses from coming into contact with any moving parts.



2. The 1/2" hose should run from the rear of the compressor down to the floor of the equipment and along with the two heater hoses up to the new evaporator panel. Do not connect this hose at the evaporator until all four hoses are sleeved together with the blue hose cover.
3. The 13/32" hose should run from the back of the compressor along the floor and around to the left rear of the engine compartment where it will come up along the steel hydraulic lines to the condenser. Connect the straight 13/32" fitting at the condenser and tighten fitting. Use the correct "O" rings and oil all contact surfaces with PAG oil.

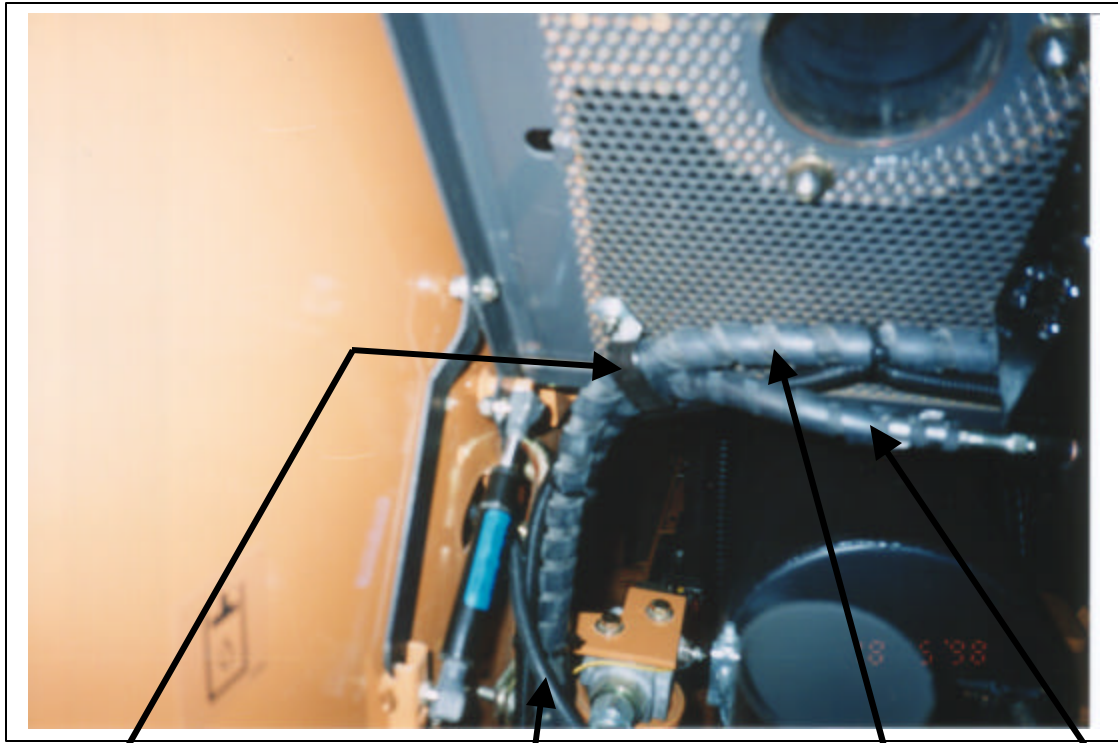


P clamp holding 5/16"
and 13/32" hoses

13/32" and 5/16"
hoses secured to steel
hydraulic lines

5/16
Straight
fitting

4. Bring the straight fitting end of the 5/16" hose up the same side along the hydraulic lines and along side the 13/32" hose to the condenser where it will connect to the dryer. Fasten both the 5/16" hose and the 13/32" hose together with a P clamp to the bottom of the engine cover as shown in the picture. Feed the end of this hose with the access ports along with the other three hoses going to the evaporator panel through the blue hose cover sleeve provided and fasten all of them now at the evaporator / heater assembly. Use the correct "O" rings and oil all contact surfaces with PAG oil.



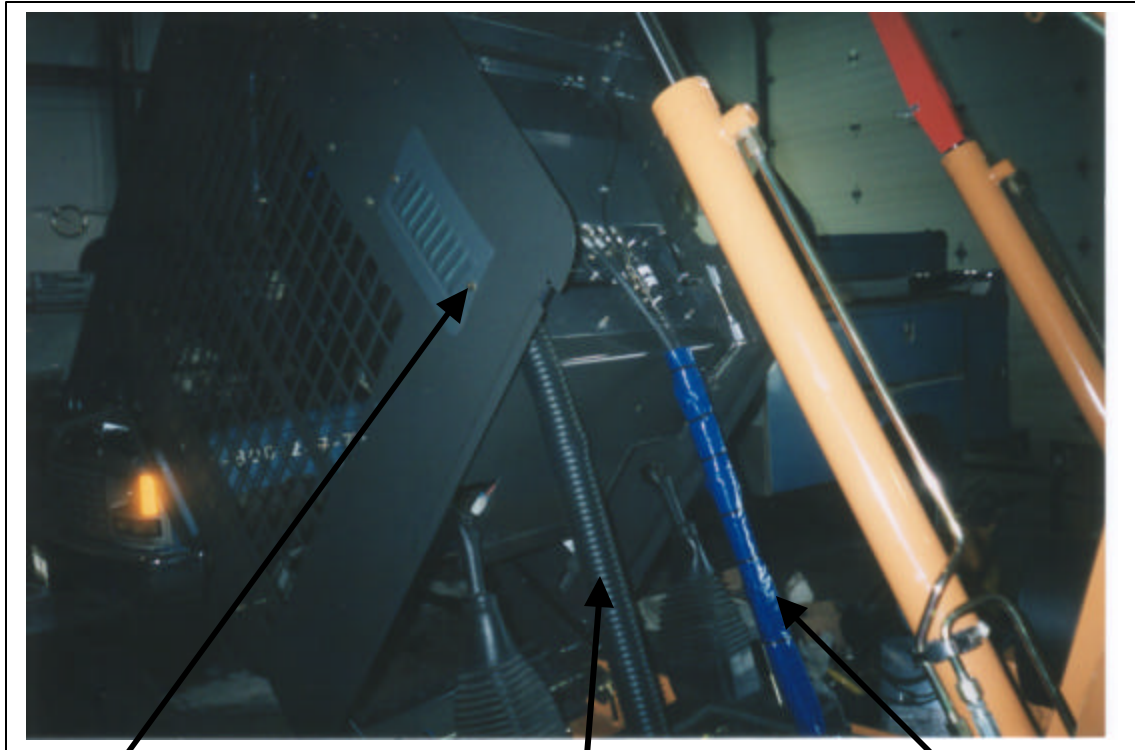
"P" clamp

Hoses tied to steel hydraulic

13/32" hose

5/16" hose

5. Secure the hoses away from any moving parts with the supplied cable ties. Tie them along them hydraulic lines at the rear of machine and then use cable ties approx. 6" apart all along the blue hose sleeve.



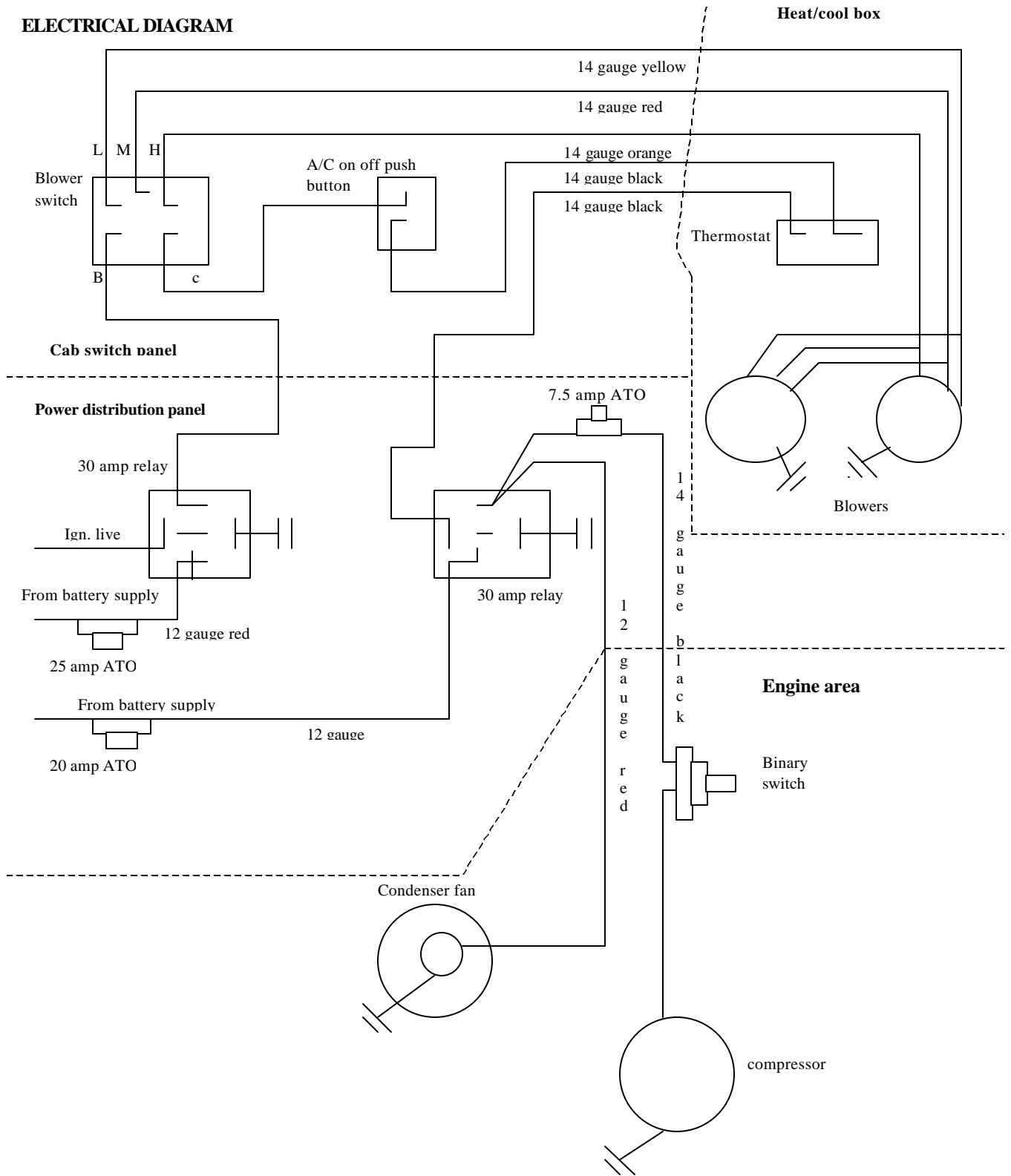
Outside air intake

Floor vent flex
hose

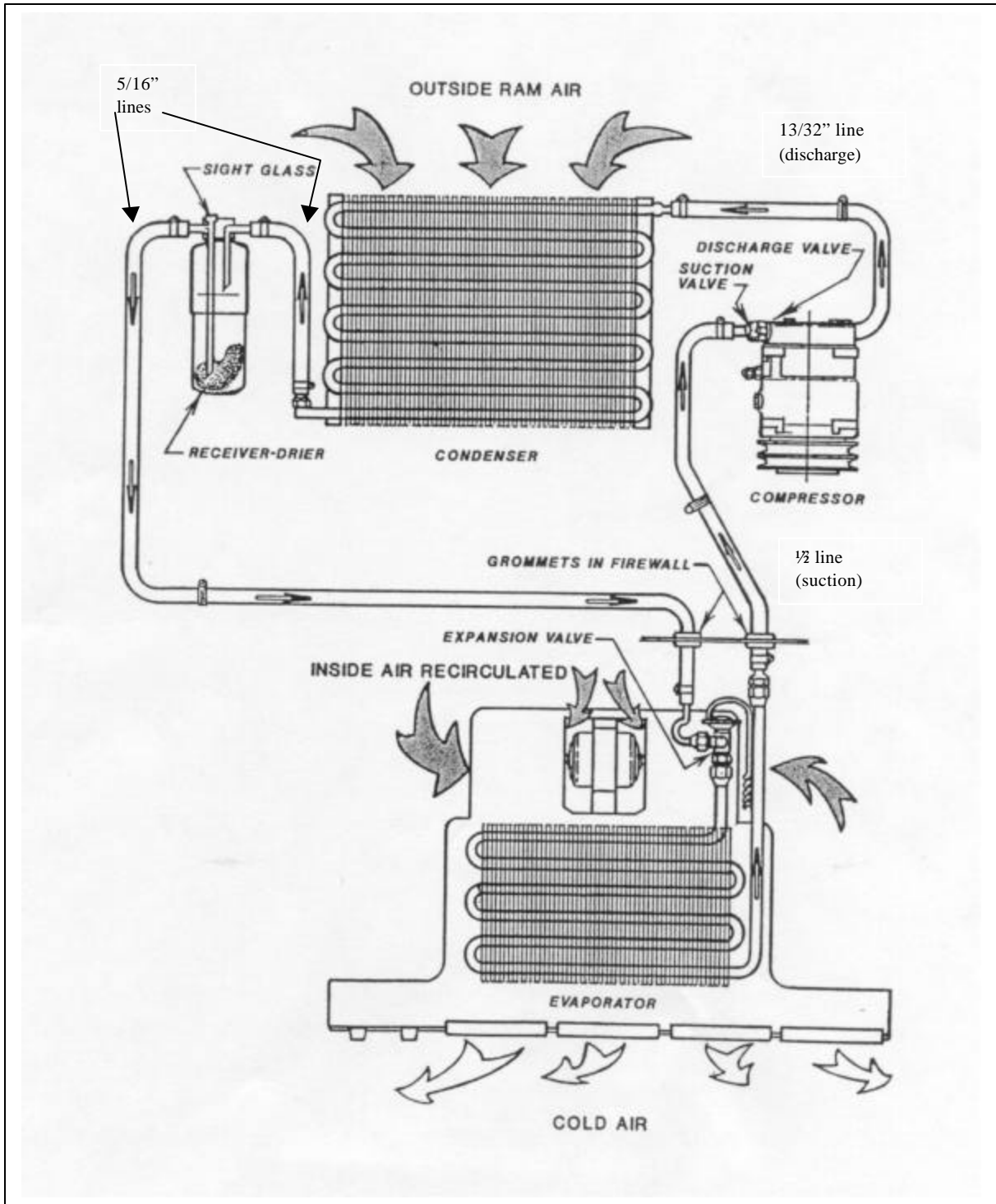
Hose sheath
and four hoses

6. When the cab is raised or lowered, special care must be taken with the hoses and flex hose to ensure that they are not pinched or caught. The flex hose can be removed before raising the cab to reduce problems with it. Access the removable flex hose adapter plate by removing the outside air filter box. The A/C and heater hoses will angle forward and then loop down into the belly of the engine compartment when the cab is down. They can be checked for clearances through the right side access panel.

ELECTRICAL DIAGRAM



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.