

INSTALLATION INSTRUCTIONS

KOMATSU PC300 LC-6 EXCAVATOR

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NOTE: THIS PACKAGE IS FOR THE JAPANESE ENGINES (ENGINE #SAA6D108E-2) WITH THE SMALL HEATER ASSEMBLY ONLY.

EVAPORATOR:

The evaporator/heater box mounts under the 'lunch boxes' behind the seat and under the plastic moldings.



Mounting location for evaporator assembly.

1. Remove the plastic cowling and 'lunch boxes' behind the operator's seat along with the existing heater blower box.
2. Install the air plenum adapter with the two 2½" flex hoses on it onto the forward air channel and secure with self drilling screws. Seal any air gaps with tar tape sealer.
3. Place the heat/cool box in place and bolt down in place with the hardware removed from the heater mounts. Ensure that the drain hoses run out through the large grommet in the floor of the cab.
4. Connect the flex hoses from the forward air plenum to the two 2½" round hose adapters on the motor side of the heater/AC box. Secure with cable ties to the hose adapters.

5. Connect the existing heater lines up to the copper heater lines out of the heat/cool box. Use the existing hardware.
6. Connect the power for the heat/cool box to the 20A fused power source. It should be possible to use the fuse from the original heater. Connect the ground wire to any bolt grounded to the cab.
7. Connect A/C lines to the evaporator fittings and tar tape all exposed metal that could sweat from condensation.
8. Install the rectangular louvers in the factory knock out areas on the tops of the plastic cowlings. Cut and drill holes in the right hand cowling for the control panel and thermostat. Install the banjo fitting in the right hand storage box to supply warm and cool air to the inside of the box. During final assembly the 1½" flex duct coming off the heat/cool assembly will be connected to the banjo fitting.
9. Connect the flex hoses from the forward air plenum to the two 2 ½" round hose adapters on the motor side of the heater/AC box. Secure with cable ties to the hose adapters.



Evaporator assembly mounted in place.

10. Connect the existing heater lines up to the copper heater lines out of the heat/cool box. Use the existing hardware.
11. Connect the power for the heat/cool box to a 20A fused power source. It should be possible to use the fuse from the original heater.
12. Connect A/C lines to the evaporator fittings and tar tape all exposed metal that could sweat from condensation.
13. Install the rectangular louvers in the factory knock out areas on the tops of the plastic cowlings. Cut and drill holes in the right hand cowling for the control panel and thermostat. Install the bulkhead fitting in the right hand storage box to supply warm and cool air to the inside of the box for lunches etc. During final assembly the 1" flex ducting coming off the heat/cool box will be connected to the 'lunch box' fitting.
14. Install the 2 ½" flex hose onto the two outlets in the top of the heater box. Cut roughly to length for connection to the rectangular louvers on the cowlings.
15. When the system has been charged and tested for operation (mechanically and electrically) reassemble the cowlings and do the final hookups and mountings to them.



Flex hoses connecting to the forward air duct.



Louvers and controls in place.

COMPRESSOR:

The compressor mounts to the engine on the location shown in the pictures, on the lower left when facing down the engine toward the fan.



Location of compressor on engine.

1. The mount is bolted to the two 12mm threaded holes on the vertical surface of the engine mount bracket.
2. The compressor is driven off the open ½" pulley groove on the crankshaft assembly of the engine. Use an AM-41 belt for this application and tighten the compressor in place. It is important to ensure the oil fill port is oriented 'up'.

CONDENSER MOUNTING:

The condenser is configured for mounting on the radiator behind the intercooler.

1. Remove the intercooler from the radiator area to make mounting of the condenser easier.
2. Slide the condenser and frame down in front of the radiator from the top.
3. Using the spacers and hardware provided bolt the condenser to the existing brackets on each top corner of the radiator. The left side will use the long M12 bolt provided and the right side will use the 3/8" x 5" bolt, nut and flatwasher assembly provided.
4. Using the spacers and hardware provided bolt the lower corners of the condenser bracket to the intercooler brackets. Drill holes for 3/8" bolts in the intercooler brackets in line with the lower holes on the condenser brackets. Using the 3/8" x 3 1/2" bolts, spacers and other hardware, bolt the lower condenser brackets to the intercooler frame.
5. Make sure the radiator screen has clearance to slide out. Connect the hoses to the condenser before re-installing the intercooler.



Condenser mounted in location.



Right side lower condenser bracket with spacer behind intercooler bracket.



Left side lower condenser bracket with spacer behind intercooler bracket.



Top brackets on condenser frame showing spacers in place.

RECEIVER DRIER:

The drier is mounted beside the radiator on an open 12mm threaded hole. Use the straight bracket and hardware provided to mount the drier bracket. Attach the drier to the bracket using the two #48 gear clamps provided. The inlet for the drier should point toward the condenser (or radiator).



Drier mounted in place.

HOSE RUNS:

5/16" Hose Condenser to Drier:

The shorter of the two 5/16" hoses supplied with the kit is designated to run from the condenser to the drier. The pre-crimped straight fitting is to be connected at the condenser and the hose routed to the drier. Connect the 90o fitting at the drier. Protect the hose with hose wrap at any point that may rub through and secure with hose clamps or cable ties.

5/16" Hose Drier to Evaporator:

The 5/16" hose runs from the drier under the cab of the excavator and up through the large grommet in the floor to connect to the inlet fitting on the expansion valve. The 90o fitting is connected at the drier and the 45o fitting is for connection at the expansion valve.

13/32" Hose Compressor to Condenser:

The 13/32" hose is run from the compressor to the condenser out of the engine compartment alongside the radiator and out to the condenser. The compressor fitting is already crimped in place on the hose and has the integral charging port. Connect the discharge side rotolock fitting making sure the white nylon seal is properly in place. The binary switch will be on this fitting. Connect the pre-crimped hose end fitting to the rotolock and run out to the condenser. Connect the 90o fitting to the upper fitting on the condenser.

1/2" Hose Compressor to Evaporator

The 1/2" hose runs from the compressor to the evaporator through the engine compartment, under the cab and up to the evaporator fitting through the large floor grommet.

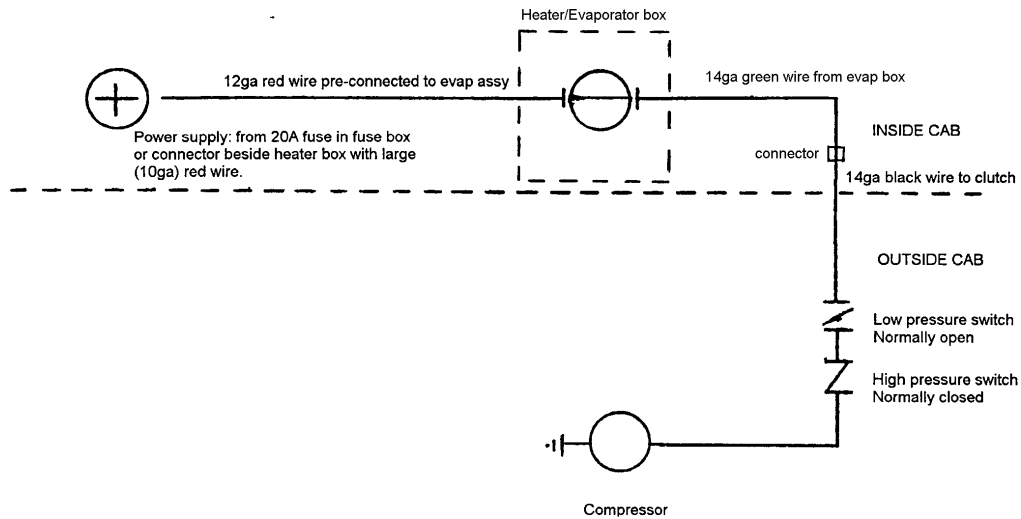
Connect the rotolock fitting on the suction side of the compressor. This fitting will have the 134a charging port on it instead of a 1/4" access port. The fitting at the compressor end of the hose has already been crimped in place. Connect to the rotolock fitting at the compressor and run out under the cab and up to the suction fitting of the evaporator. Connect the 90o fitting to the evaporator coil suction fitting.

Hose-wrap exposed sections and any places the hoses may rub. Secure using cable ties and clamps where necessary. Use

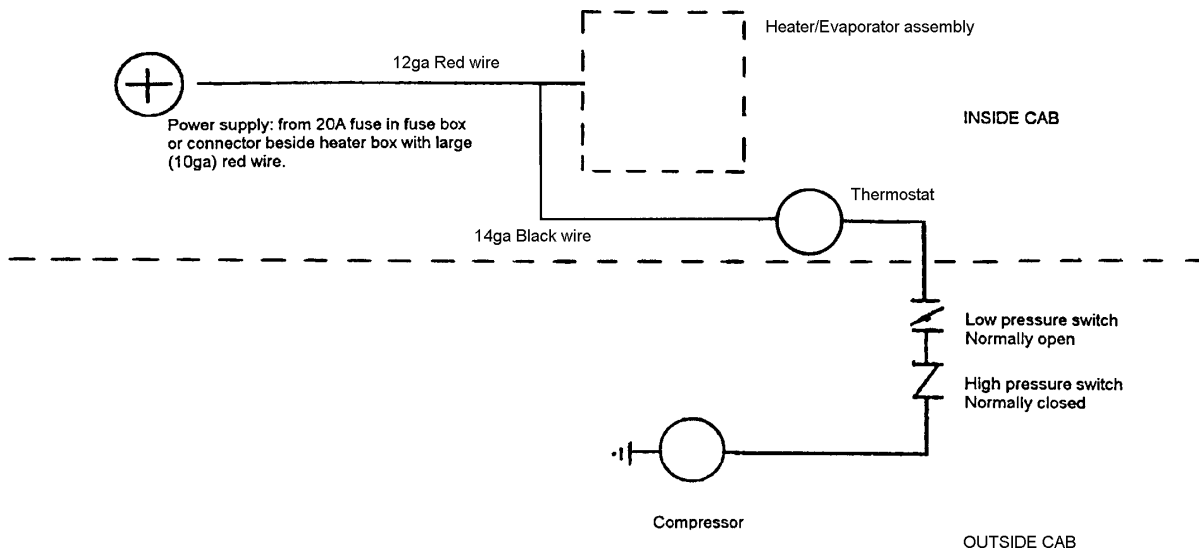
refrigerant oil on the O-rings at the sealing surfaces to ensure a proper seal.

WIRING:

Wiring for the PC300 LC-6 Excavators is set up in one of two configurations. The first is with an integrated thermistor type thermostat which can be determined by the A/C 'snowflake' on the control panel. The other has a controllable thermostat mounted on or under the rear cowling near the control panel. In both cases the only wiring required to the heat/cool box is to connect the 12ga red wire (with a connector already on it) to the power supply. With the integrated thermistor assembly there is a green wire running from the box with a connector already on it. This is connected to the 14ga black clutch wire running out of the cab. For the thermostat type arrangement the 12ga red power wire is hooked up the same except that a 14ga black wire is tied in with the connection at the supply wire and runs to the thermostat. From the thermostat another 14ga black wire runs out of the cab to the compressor.



Integrated thermistor arrangement.



Adjustable thermostat arrangement.