

Air Conditioning System

Refrigerant Compressor

FIG. 4: Refrigerant Compressor (1)

Belt-driven and located on engine's left front, magnetic clutch is used to engage compressor. Compressor separates the low and high pressure sides of system and is basically a pump with two functions:

- Raising refrigerant temperature and pressures by compression.
- Functioning as a pump to circulate required volume of refrigerant and refrigerant oil around system.

See Systems Operation/Testing and Adjusting, Refrigerant Compressor for additional information.

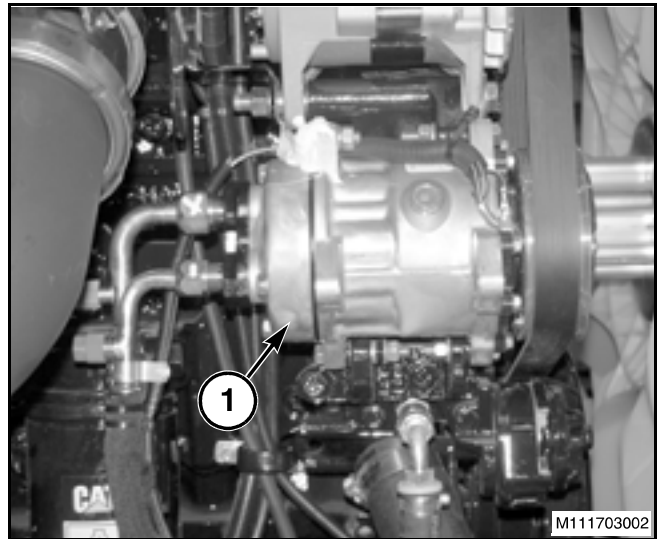


FIG. 4

Refrigerant Condenser

FIG. 5: Condenser Operation

Condenser (1)

Refrigerant from Compressor (2)

Refrigerant to Orifice Tube (3)

Condenser Fan (4)

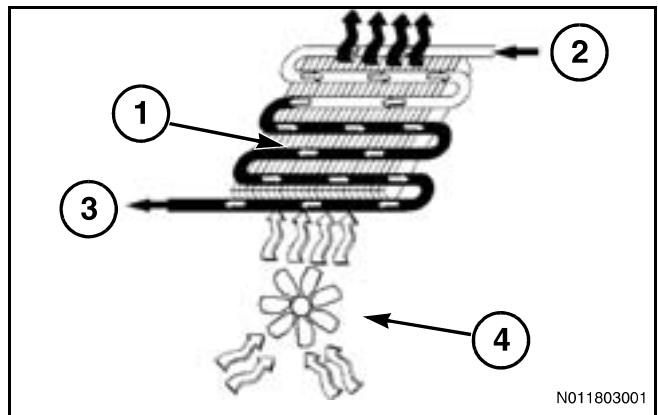


FIG. 5

FIG. 6: Refrigerant Condenser (1)

Located in front of radiator.

Heat is transferred from refrigerant to outside air in condenser. Transfer is in opposite direction as transfer in evaporator coil. Fins on outside surface of condenser are for efficient heat transfer. If refrigerant is not cooled enough, air inside cab at evaporator coil is not cooled sufficiently. To prevent this, good ventilation must be provided. This makes cooling refrigerant more efficient.

Condenser consists of a number of turns of continuous coil mounted in a series of thin cooling fins to provide maximum heat transfer in a contained amount of space.

Condenser receives hot, high-pressure refrigerant vapor from compressor. The hot vapor passes through condenser coils. Outside air is pulled through condenser by engine fan. Heat moves from hot refrigerant vapor into cooler outside air flowing across condenser coils and fins.

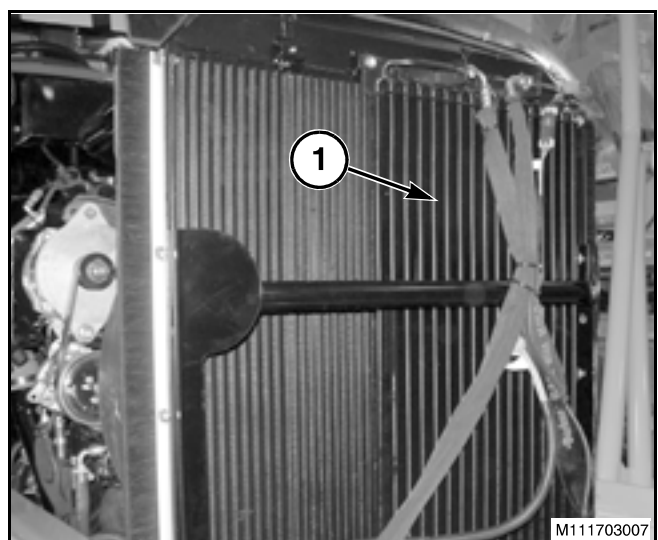


FIG. 6

Heating, A/C, Ventilation and Cooling

Then refrigerant vapor reaches pressure and temperature that induces a change of state, a large quantity of heat is transferred to outside air and refrigerant changes to a high-pressure cool liquid and moves to receiver/drier.

See Systems Operation/Testing and Adjusting, Refrigerant Condenser for additional information.

Receiver/Drier

FIG. 7: Receiver/drier (1) stores liquid refrigerant to ensure a steady flow to thermostatic expansion valve is maintained under widely different operating conditions.

Receiver/drier consists of several components:

The drier section contains a desiccant to absorb any moisture within system and a filter to prevent entry of foreign particles.

A high-pressure relief valve, mounted on outside of receiver/drier, provides protection for system in case of extremely high pressure spikes.

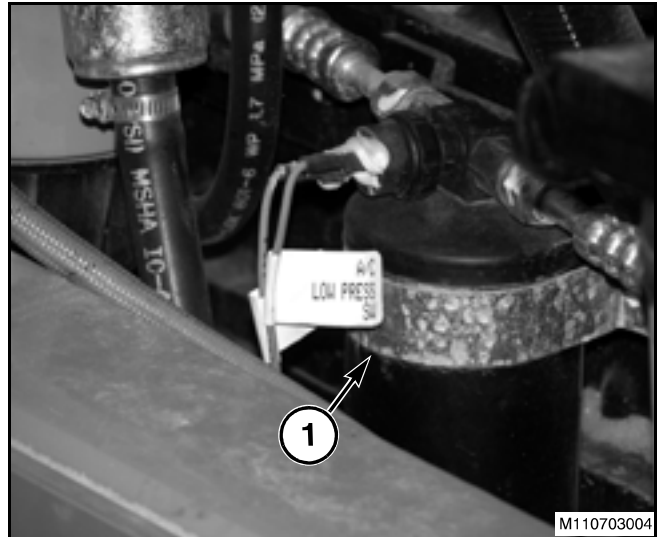


FIG. 7