AIR CONDITIONING SYSTEM

System Schematic

Schematic Diagram of Refrigerant and Coolant Lines (Air Conditioning System with Orifice Tube)

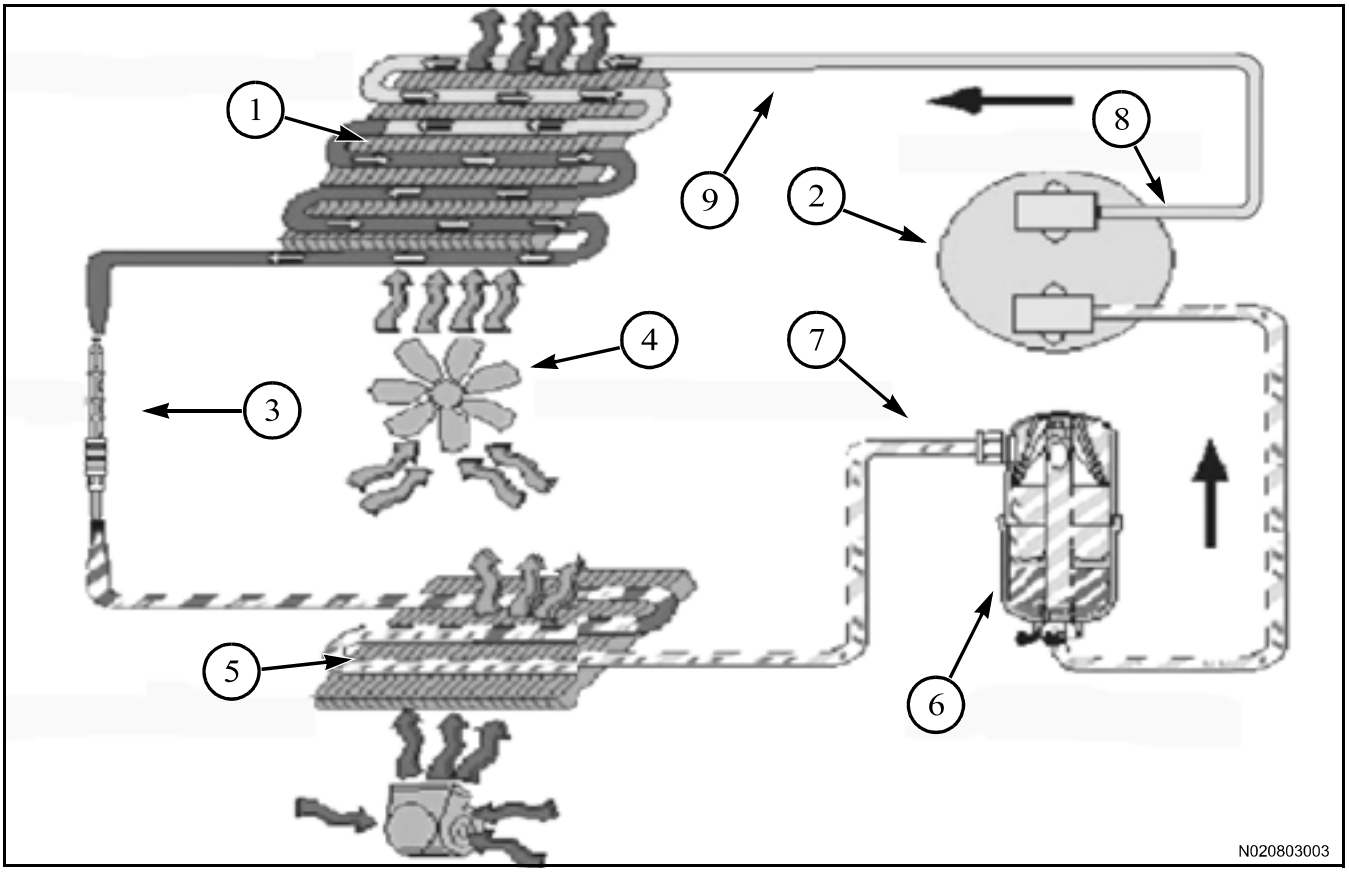

FIG. 6

FIG. 6: General Diagram

Condenser Coil (1)

Compressor (2)

Orifice Tube (3)

Condenser Fan (4)

Evaporator Coil (5)

Accumulator (6)

Low Pressure Switch (7)

High Pressure Switch (8)

In-line Filter (9)

Refrigerant Compressor

FIG. 7: Refrigerant Compressor (1) is belt driven and is located on engine's left front. Magnetic clutch (2) engages compressor.

Compressor separates low and high pressure sides of system and is basically a pump which has two functions:

It raises refrigerant temperature and pressure by compression.

It functions as a pump to circulate required volume of refrigerant and refrigerant oil around system.

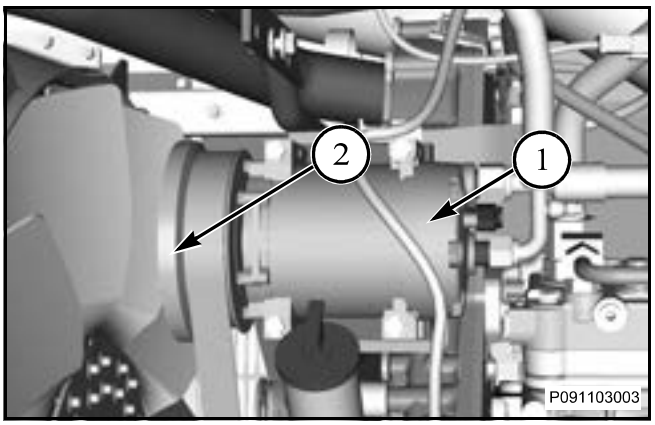

FIG. 7

Refrigerant Condenser

FIG. 8: Refrigerant Condenser (1) is located in front of radiator. The condenser is combined with fuel cooler and consists of a number of turns of continuous coil mounted in a series of thin cooling fins. These coils provide maximum heat transfer in a contained amount of space.

Refrigerant gas leaves compressor and moves through a high pressure hose to condenser. Inside condenser gas "changes state" and becomes a liquid. It is still hot and under pressure. Heat energy was involved in "change of state," but temperature did not change. The same kind of action happens inside air conditioning system. Refrigerant gas gives up a lot of heat energy to outside air as it "changes state" in condenser. Air moving through condenser absorbs heat from refrigerant. The amount of airflow through condenser is the major factor in how well the condenser functions.

Condenser receives hot, high-pressure refrigerant vapor from compressor. 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.

When refrigerant vapor reaches pressure and temperature 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 on to receiver/drier.

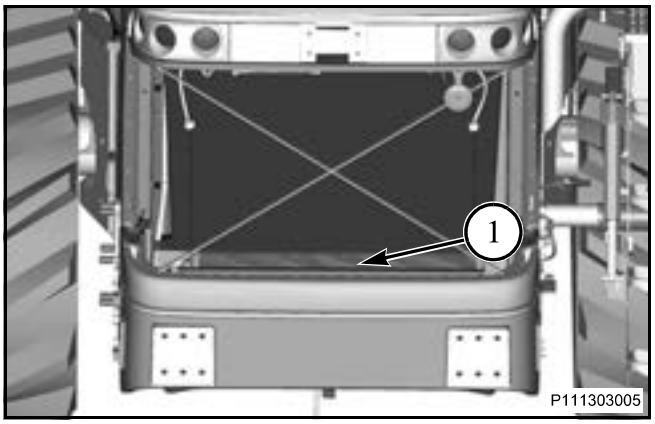

FIG. 8