

HEATING SYSTEM

THEORY OF OPERATION

Heater system takes advantage of nature's laws where heat energy always moves from a warmer to a cooler area. In a heater system there is no "change of state" involved in system operation. System is sealed and operates under pressure.

A heater system uses engine coolant to carry excess heat energy to cab air. Water pump forces hot coolant through a hose from engine block and heater core. Coolant is returned to engine cooling system either at suction side of water pump or radiator.

Heater fan or blower forces cab air through heater core where heat energy moves from engine coolant to air in cab.

Heating System

FIG. 1: Heater (1) is located to right-hand side of console and has vents (2) in main heater unit and in remote unit bolted to left-hand side of console.

The heating system is used to provide comfortable cab for operator.

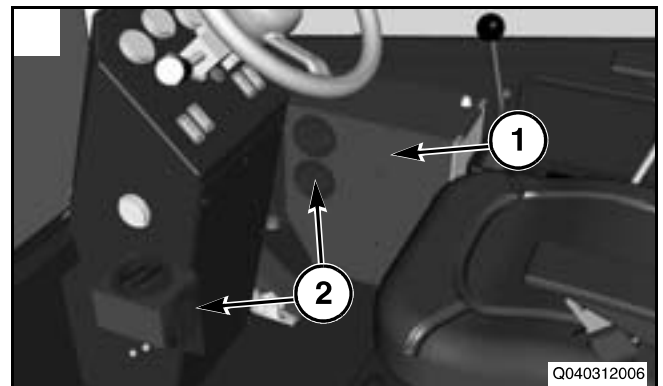


FIG. 1

Heater Components and Controls

Heater Components and Controls

FIG. 2: Side panel removed with expanded view of components.

Basic heater system components discussed:

1. Heater core
2. Heater system ducts
3. Blower or fan and motor assembly
4. Controls

Heater Core

Most heater cores are of tube and fin construction, with inlet and outlet on one end of core. Hoses connect core to engine. In heater core heat energy moves from hot engine coolant to air in cab.

Heater System Ducts

Ducts direct and control air as it circulates through heating system. Heater core housing is usually.

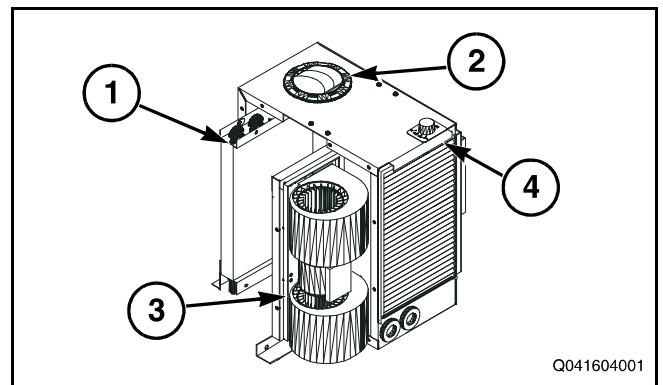


FIG. 2

Heating System

Blower or Fan and Motor Assembly

Air movement in a heater system depends on blower or fan. Operator selects motor speed to control amount of air circulated through system. Motors have one to four speeds, depending on heater design. Both single and double entry blower wheels are used.

Controls

Controls allow operator to turn heater on and off and regulate quantity of warm airflow. When system is turned on, hot engine coolant flows through heater core. Blower motor circulates cab air through heater core to warm air.

In heating systems the number of doors in system and their function vary depending on system design.

AIRFLOW

FIG. 3: Airflow to vents.

Vents on front console and heater box direct cab airflow toward operator's top, sides and feet.

Operator has ability to control vents in cab by adjusting the direction and flow of air.

Air flows through the filter in the rear of heater box. Blower fans force air through heater core to heat air. Air is forced through vents to heat cab.

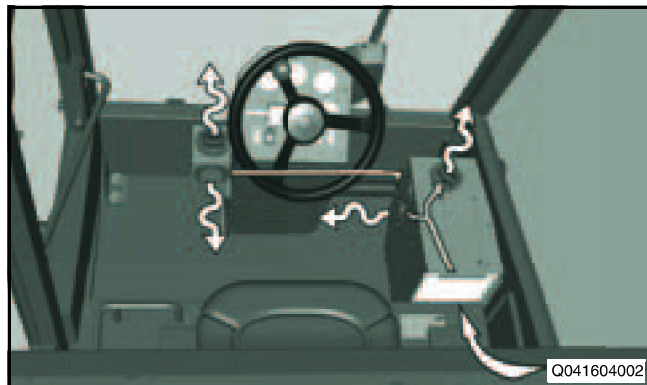


FIG. 3

FIG. 4: Recirculated air filter

Recirculated air is drawn through cab recirculation filter located on the rear of heater box. Recirculation filter (1) collects dust particles from air.

Heating unit is behind filter.

Filter should be cleaned, inspected or replaced when necessary.

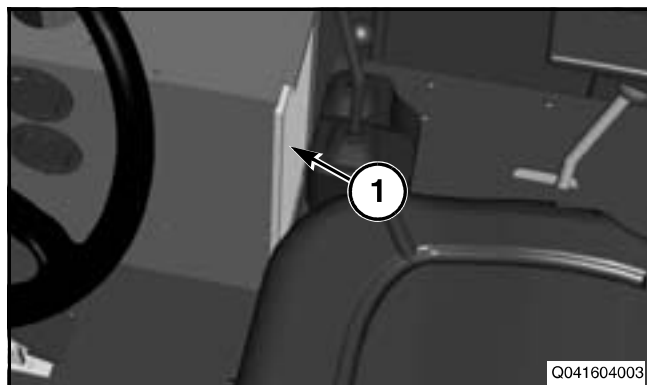


FIG. 4