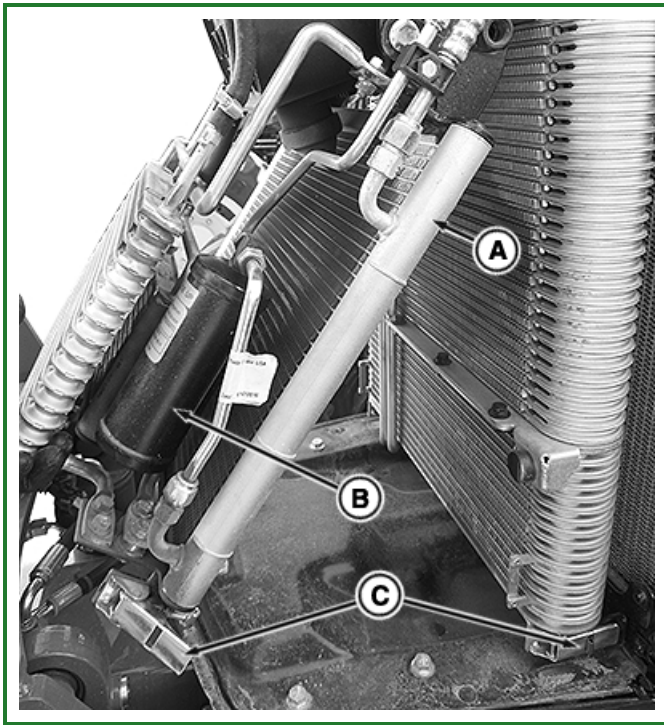


Operator Station - Air Conditioning Receiver/Drier Operation



RXA0151982-UN: Receiver/Drier

LEGEND:

A - Condenser

B - Receiver/Drier

C - Hold Down Clamps

IMPORTANT:

Receiver/driers are NOT interchangeable between R-12 and R-134a refrigerant systems. The desiccant in each is different (SH5 for R-12 and SH7 for R-134a) and they are not compatible. When SH5 comes in contact with R-134a, it breaks down into a powder that causes excessive wear in the compressor.

NOTE:

The receiver/drier is not repairable. If a malfunction is suspected, install a new receiver/drier.

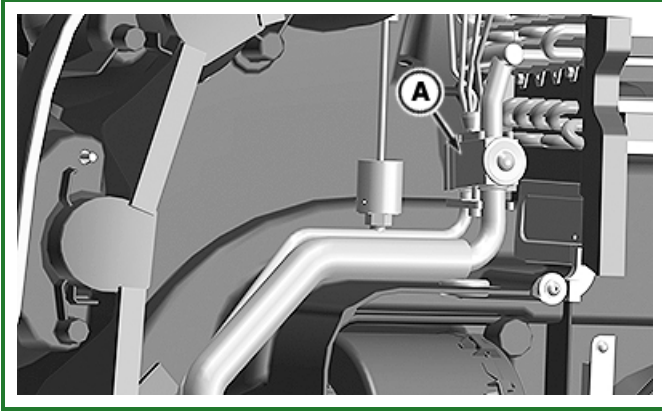
Replace the receiver/drier every time the system is opened for service or repair.

The receiver/drier (B) is located in front of the condenser, under the hood. Its inlet is connected to the condenser and its outlet is connected to the expansion valve. It performs two functions. One is to store high-pressure liquid it receives from the condenser until the evaporator needs it. It also acts as a filter for the air conditioning system.

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Operator Station - Air Conditioning Expansion Valve Operation



RXA0151983-UN: Expansion Valve

LEGEND:

A - Expansion Valve

The expansion valve (A) is located in the evaporator/heater core housing in the cab roof. Its inlet is connected to the receiver/drier and its outlet is connected to the evaporator. It has two additional connections, one from the evaporator outlet and another to the compressor. This circuit is used to sense the outlet temperature and pressure of the evaporator to help modulate the opening of the expansion valve.

The expansion valve is a diaphragm valve with a stainless steel thermal head. The thermal head is filled with gas which expands and contracts as the air temperature in the compartment rises and falls. The expansion valve uses a variable orifice to control the flow of refrigerant through the evaporator to maintain a constant, comfortable temperature in the cab. If the expansion valve is open too far, liquid can reach, and possibly damage, the compressor. If the valve is not open far enough, lack of cooling is the result.

A ball and seat combination provides the variable orifice to control the flow of refrigerant into the evaporator. The position of the ball, relative to its seat, determines the amount of refrigerant that flows into the evaporator. The position of the ball is controlled by an actuating pin. The movement of the actuating pin is controlled by the diaphragm. Gas in the thermal head, the temperature, and pressure at the outlet of the evaporator all act on the diaphragm to move the actuating pin.

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