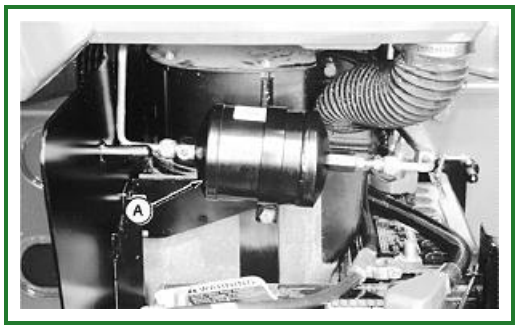
Receiver-Dryer



RW45057-UN: Receiver-Dryer

NOTE:

The receiver-dryer is not repairable. If a malfunction is suspected, install a new receiver-dryer.

If the air conditioning system is reclaimed for servicing and the receiver-dryer is two years old or older, it should be replaced. If it is less than two years old it should only be replaced if the system was contaminated.

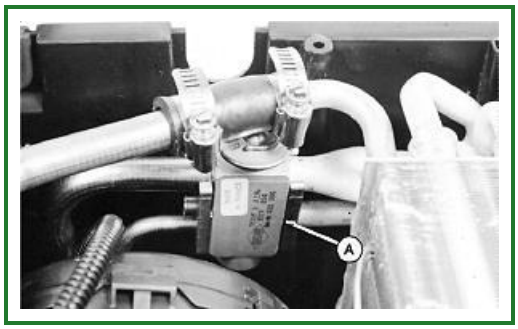
The receiver-dryer (A) is located on the right side of the tractor, behind the batteries and fresh air filter. Its inlet is connected to the condenser and its outlet is connected to the expansion valve. It performs two functions. One is to store high pressure liquid it receives from the condenser till the evaporator needs it. It also absorbs moisture and acid that would have a detrimental effect on the systems operation for a long period of time.

A sight glass in the line near the receiver-drier allows the operator to observe the level of charge in the system, during normal operation or during test and service work.

Go to Section_290:Group_25

RX155229025,3-19-20080403

Expansion Valve



RW21498-UN: Expansion Valve

The expansion valve (A) is located on the right side of the evaporator, below the seat. Its inlet is connected to the receiver-dryer 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 temperature of the HVAC 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 will be 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 and the temperature and pressure at the outlet of the evaporator act on the diaphragm to move the actuating pin.

Go to Section_290:Group_25

RX150129025,8-19-20080403