

## DESCRIPTION AND OPERATION (Continued)

Two O-rings are used to seal between the two halves of the coupling. These O-rings are green in color and are made of special material and must be replaced with an O-ring made of the same material. The O-rings normally used in refrigerant system connections are not the same material and should not be used with the spring lock coupling. Use only the green O-rings listed in the Ford Master Parts Catalog for the spring lock coupling.

A plastic indicator ring is used on spring lock couplings to indicate, during vehicle assembly, that the coupling is connected. Once the coupling is connected, the indicator ring is no longer necessary but will remain captive by the coupling near the cage opening.

The indicator ring may also be used during service operations to indicate connection of the coupling. After the coupling has been cleaned, and new, green O-rings are lubricated and installed, insert the tabs of the indicator ring into the cage opening. Connect the coupling together by pushing with a slight twisting motion. When the coupling is connected, the indicator ring will snap out of the cage opening but will remain captured on the coupling by the refrigerant line.

## Fixed Orifice Tube

The fixed orifice tube assembly is the restriction creating the dividing point between the high and low-pressure liquid refrigerant, and meters the flow of liquid refrigerant into the evaporator core. Evaporator temperature is controlled by sensing the pressure within the evaporator core and suction accumulator / drier with a pressure-operated electric switch. The pressure switch controls compressor operation as necessary to maintain the evaporator pressure within specified limits.

The fixed orifice tube is located in the liquid line near the condenser and has a filter screen located on the inlet ends of the tube body. The filter screens act as a strainer for the liquid refrigerant flowing through the fixed orifice opening. O-rings, on the tube body, prevent the high-pressure liquid refrigerant from bypassing the orifice. Adjustment or service cannot be made to the fixed orifice tube assembly which cannot be removed from the liquid line. The liquid line must be replaced, or an Orifice Tube Replacement Kit (E5VY-190695) installed if replacement of the orifice tube is necessary.

The fixed orifice tube should be replaced whenever a compressor is replaced. If the high pressure reading is higher than normal and the suction pressure drops rapidly creating a faster than normal clutch cycle rate, the orifice tube may be restricted and should be replaced. This condition is usually indicated by the compressor having a short ON time and a long OFF time.

## Evaporator Core

**NOTE:** Whenever an evaporator core is replaced, the suction accumulator / drier must also be replaced.

The evaporator core is the plate / fin type with an S-flow multi-pass refrigerant path. A mixture of refrigerant and oil enters the bottom of the core through the evaporator inlet tube and is routed so that it flows upward through the partitioned first three plate / fin sections. The next four plate / fin sections are partitioned to force the refrigerant to flow downward toward the bottom of the evaporator core. The refrigerant then continues over to the remaining five plate / fin sections and then moves upward and out of the evaporator via the evaporator outlet tube. This S-pass flow pattern accelerates the flow of refrigerant and oil through the evaporator core.

## Suction Accumulator / Drier

The suction accumulator / drier is mounted to the engine side of the dash panel on the RH side of the vehicle. The inlet tube of the accumulator / drier attaches directly to the evaporator core outlet tube.



Refrigerant enters the accumulator/drier through the evaporator core outlet tube and the bottom of the chamber. A small diameter orifice tube is located in the side of the outlet tube near the bottom of the chamber. This orifice hole is covered with a filter screen and allows a small amount of the heavier liquid refrigerant and oil mixture to enter the suction line at a controlled rate. When the heavier liquid refrigerant and oil mixture enters the compressor suction line, it has a second opportunity to vaporize and circulate through the compressor without causing damage to the compressor due to refrigerant slugging.

A desiccant pad is mounted inside the suction accumulator/drier chamber to absorb any moisture which may be in the refrigerant system.

A fitting located on the top of the chamber is used to attach the clutch cycling pressure switch. A fitting located on the side of the chamber is used in the fitting opening to prevent refrigerant loss when the clutch cycling pressure switch is removed.