

A/C ACCUMULATOR / RECEIVER-DRIER

The receiver-drier or Accumulator is used on the high side of systems that use a thermal expansion valve. This type of metering valve requires liquid refrigerant. To ensure that the valve gets liquid refrigerant, a receiver is used. The primary function of the receiver-drier is to separate gas and liquid.

The secondary purpose is to remove moisture and filter out dirt. The receiver-drier or Accumulator usually has a sight glass in the top. This sight glass is often used to charge the system. Under normal operating conditions, vapor bubbles should not be visible in the sight glass. The use of the sight glass to charge the system is not recommended in R-134a systems as cloudiness and oil that has separated from the refrigerant can be mistaken for bubbles. This type of mistake can lead to a dangerous overcharged condition.

There are variations of receiver-driers / Accumulators and several different desiccant materials are in use. Some of the moisture removing desiccants found within are not compatible with R-134a. The desiccant type is usually identified on a sticker that is affixed to the receiver-drier. Newer receiver-driers use desiccant type XH-7 and are compatible with both R-12 and R-134a refrigerants.

The receiver-drier / Accumulator must be changed each time a system is empty regardless of the reason for loss of refrigerant. It should also be changed every three years, because the desiccant pellets will break down and clog the expansion valve. This will in turn cause the system to become inoperable and may damage the compressor.

The receiver-drier is strictly a disposable item and is thought of in the same terms as a fuel, oil, or air filter. In fact, if any component fails or is replaced for any reason, the receiver-drier must also be replaced to prevent corrosion and moisture in the system.

The receiver-drier performs three functions

-It filters the system of non-condensables.

-It receives the liquid refrigerant and maintains a certain level of liquid at the bottom at all times in a properly charged system.

-It contains a stack of pellets called desiccant (drying agent) to trap and absorb moisture. NOTE that moisture is the most harmful enemy of the air conditioning system. If any moisture is in the system, it will combine with the refrigerant to form hydrochloric acid which is extremely corrosive to metal components.

Replacing the receiver-drier is essential when servicing the A/C system. Whenever you replace a component of the A/C system you must also replace the receiver-drier. If you do not change the receiver-drier there could be serious damage to the other parts of the system, which could be very costly. You must also have proof of changing the receiver-drier in order to receive a compressor warranty.

Drier is used before the evaporator and after the condenser. The Filter Drier is where the system will filter out small amounts of contamination and moisture from the system. Each time the system is opened or worked on the Drier should be replaced. The desiccant inside the dryer will absorb moisture. Also spelled drier.