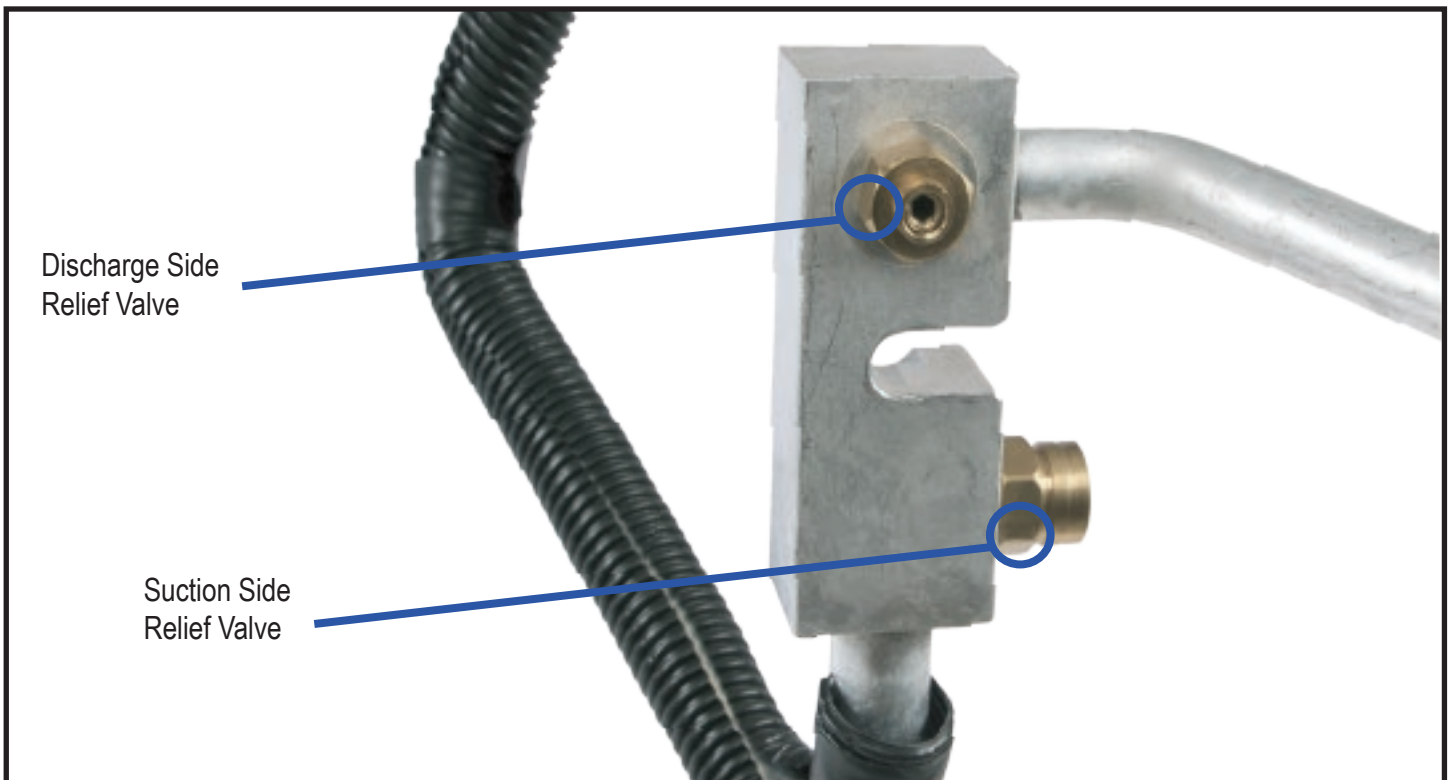


TECH TIP

SUCTION SIDE PRESSURE RELIEF VALVE

Some 1994 and later model Fords may exhibit a repeated, low charge condition with no leaks found. A suction-side pressure-relief valve, which opens prior to the pre-set pressure, may cause this condition.



The suction-side pressure-relief valve is designed to open at 250 PSI. This is to prevent damage to the evaporator from excessive, static refrigerant pressure that develops when the vehicle “heat soaks”. A “heat soak” condition occurs when the engine is at normal operating temperature, the ignition is turned off, and under-hood temperature increases. This could cause the static refrigerant pressure to exceed the burst pressure limit of the evaporator. With a static refrigerant temperature of 150 degrees Fahrenheit, the static pressure for R134a is 264 PSI. Most evaporators will experience damage when static pressure exceeds 250 PSI. At such pressure, the valve opens and dumps refrigerant to the atmosphere.

The pressure spring inside the valve is subject to rapid temperature changes as the air conditioning system is cycled on and off. The constant changes in temperature (from warm to cold to warm) can weaken the spring, allowing it to open below 250 PSI.