

AUTOMOTIVE AIR CONDITIONING REPAIR

Question:

What is a clutch saver switch and where should it be located?

Answer:

A clutch saver switch came about as a result of clutches burning up. Systems running at high pressures cause a load on the clutch and it starts to slip. When this happens, the clutch will score, reducing the friction area on the clutch.

The clutch saver switch and the high pressure cut out switch are one and the same. There have been many new vehicles from the factory that came equipped with compressor cut out switches.

There have been some AC units equipped with high pressure cut out switches in the after market. It wasn't a common practice on most units.

Aftermarket compressor manufacturers coined the phrase, clutch saver switch.

When retrofit came about it became law, whenever a system is changed over to a new refrigerant, that a high pressure cut out switch must be installed. Systems that have high-pressure relief valves must have a pressure or temperature cut out switch. It's against the law to vent refrigerant.

It is recommended to install a pressure or temperature switch as close to the compressor on the discharge pipe as possible. There are kits on the market that attach a switch to the service port on the liquid line. This is the high side but it is after the condenser. Putting the switch there is like closing the barn door after the horse is out. If there is high pressure, it needs to be known before the condenser.

Switches are rated by the pressure or temperature that they cut out at and cut in at. Most want to cut the pressure at 350 pounds. That is too high. This is equal to 200 degrees. Temperature that high will cause seals in the compressor to start leaking. The temperature, taken at the discharge line should never be any higher

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than 175 degrees. Therefore, the best pressure switch is one that will turn the clutch off at 275 pounds or 175 degrees.