

Wheels: Bert writes by E-mail: “A friend of mine has a Pontiac Sunfire, whose air conditioning supposedly worked long ago, but got less and less cool. This description is coming from her, and her memory may be a bit foggy. I thought this question was important, as it would point to whether the refrigerant had leaked out slowly, or there was a sudden problem, like the failure of the compressor clutch or whatever.

So I'm out there watching the compressor while she has the car running, and I ask her to cycle the air conditioning on and off. As she does this, I can see that the compressor is not running, as the clutch is simply letting the pulley spin without engaging, regardless of whether she turns it on or off.

I used a multimeter to check the two fuses I could find (one “HVAC” was on the outside-driver side of the dash, in the main, passenger-compartment fuse block, and the other “AC” was under the hood on the driver's side), and both were good. In that same, under-hood fuse block, I saw the two relays, one labeled “AC,” and the other labeled “Fuel Pump.” These relays have the exact same manufacturer and model number, so they are presumably interchangeable when properly oriented. When she has the car running and I pull out the “Fuel Pump” relay, the car stops running. This tells me that the proper functioning of this relay is essential to the car's continued running, and, further, that this relay is okay. So I EXCHANGED the two relays. The clutch for the air-conditioning compressor still doesn't engage when she turns it on, but the car starts and runs normally after the exchange of the relays. Also, just as before, when I remove the exchanged, A/C relay from its new spot in the “Fuel Pump” position, the car stops running. This tells me that BOTH of these relays are functioning properly.

Next, I used a jumper to connect the two fuse-block contacts that are closed by the relay when it's active. Doing THAT made the AC-compressor clutch engage.

Does this relay close the contacts when it's at 0 Volts, or what?

I can't figure this one out, so I thought I'd ask you.

Thanks a ton, as always.”

Halderman: Good job of running through a basic diagnosis. This diagnosis tells me it is low on refrigerant charge. You bypassed the low pressure switch. That prevents the operation of the compressor if the system is low on charge to protect the compressor. I suggest you take the Pontiac to a professional for diagnosis of the leak in the system and a system recharge.

