

4 STEP COMPRESSOR CHECK LIST

Wondering why your system has a low refrigerant charge? It could be because of the leak that needs repair, or a high-side blockage that limits refrigerant flow to the compressor. Diagnose those problems first, and if not resolved, then perform a simple compressor function check.

Before you pull the compressor from a vehicle, take these four steps to confirm that it really needs replacing:

- 1) Is the compressor rotation smooth?** With the vehicle off, turn the compressor shaft with a 14-mm socket. If you feel grinding or hanging as you rotate the shaft, there may be broken components within the compressor. If the rotation is smooth, move on to Step 2.
- 2) Is the coil getting more than 11.5 volts?** Take a reading with the engine running and the clutch engaged. If there is insufficient voltage, get to work on that. Otherwise, move on to Step 3.
- 3) Is the coil resistance between 2.8 and 4.4 ohms for a 12 vdc system and 11.2 to 17.6 ohms for a 24 vdc system?** Any resistance outside these ranges will prevent the clutch from engaging or will cause used circuits to open. If the resistance measures correctly, continue to Step 4.
- 4) Is the compressor able to produce 350 psig or more?** The compressor should be able to build over 350 psig on the high side with the condenser airflow restricted, and also able to pull the suction side down to 5 psig when the TXV is closed. If needed, the technician can close the TSXV by chilling the charge head using a can of dust-off held upside-down. This will temporarily freeze the TXV charge head and cause it to close. If the compressor is operating correctly, the suction pressure will drop below 5 psig.

