

Checking Run Capacitors

5-2-1 COMPRESSOR
SAVER®
diagnostic method

⚠ WARNING

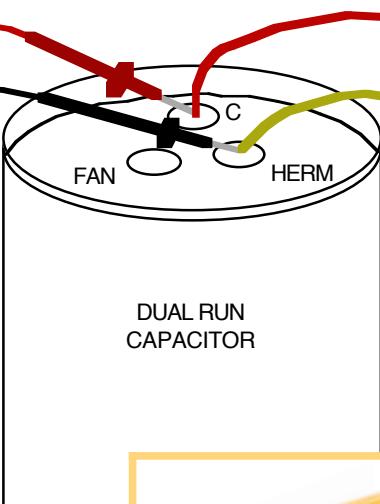
These tests are only to be performed by a licensed professional HVAC technician (or equivalent). Use caution when working with live electrical circuits.

2nd Test

Set meter to AC VOLTS. With compressor operating under normal load check voltage between C and HERM on Run Capacitor. With this information you can now calculate actual Capacitor Microfarad (MFD) using the formula below.



VOLTS _____



FORMULA

$$\frac{2652 \times \text{START WIRE AMPS}}{\text{RUN CAP VOLTS}} = \text{MICROFARAD}$$

Example:

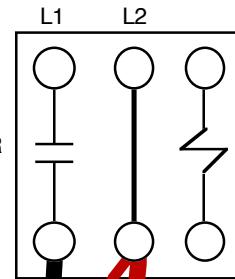
2652 X 6.45 start wire amps = 17,105.4. Divide by 357 the run cap voltage reading and this equals 47.91. This is a 50 Microfarad Run Cap and this reading is within 6% of the rating so it's good. 50MFD \pm 6% is 47 - 53MFD. 2652 is a fixed number (an important number to keep handy).



It is important to know the capacitor is producing the correct capacitance to the compressor and fan motor. Testing the capacitor with a meter can be misleading, the VOM only produces 9 volts to the capacitor when testing. This could give an inaccurate reading. Capacitors operate above the 240 line voltage. The start winding produces counter emf (ELECTROMOTIVE FORCE). The capacitor can be tested while under load with the following tests.

First Test

With unit operating set meter to AMPS and clamp wires per diagram. The combined amperage of C&R should equal the amperage of S. If not, the capacitor may be weak. Proceed to 2nd test if readings are not equal.



DRAWING BY: JOHN G. KOPP - OCEAN AIR CONDITIONING & HEATING CO.
LAGUNA NIGUEL, CA

INFORMATION PROVIDED BY: 5-2-1 COMPRESSOR SAVER - CARL POLLEX
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A 5-2-1 COMPRESSOR SAVER® significantly reduces the amount of time a compressor is on high amp start-up. Starting the compressor without start components can shorten the life of a run capacitor. Be sure capacitor is operating within spec before adding start components to a system.

Troubleshooting: Cooling Electrical

Start Here

