

16i Outdoor Fan Motors

16 SEER Outdoor Fan Motors We have identified a sequence of events that could lead to misdiagnosis of fan motor failure in 16 SEER American Standard or Trane units that use the 2 step Scroll compressor.

The symptom is compressor running without outdoor fan operation. This can occur if the 24 volt "Y2" circuit remains energized when 230 volt power is interrupted to the Outdoor unit and then restored such as during startup/checkout procedure during installation. It can also occur if an electro-mechanical thermostat, which doesn't have a time delay circuit, is used to control the system for "Y2". As brief as a 2 second delay will avoid the conflict.

It is not likely this situation would develop during normal use of the system but it can inadvertently occur as described above.

Specifically what happens is a noise is created through the solenoid holding circuit which shares a "common" wire connection with the ECM outdoor fan motor. Once the fan has been de-energized and comes to a stop, this "noise" is interpreted as a non-programmed command which the motor does not recognize. This causes the motor to ignore the correct commands and therefore the motor does nothing. Once the Y2 circuit is de-energized, the "noise" is eliminated and the motor will run correctly.

We are aware that several motors have been replaced due to this condition and want to make sure you and your dealers are aware of this possibility. Our Comfort Controls have sufficient time delay but in cases where electromechanical thermostats are used, a field provided time delay should be applied to the "Y2" circuit providing a 2 sec minimum/10 second maximum delay on make.