

Injectronics

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TECHNICAL BULLETIN

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Make: Ford

Model: EF Falcon

Subject: Engine cooling fan operation

Injectronics technical department often receive calls on the operation of the rather complex EF Falcon electric cooling fan system. The 2 electric cooling fans are controlled by the PCM via four relays (located in front of the air cleaner). The PCM offers three different operating modes for the fans, depending on the status of the air conditioner, the engine coolant temperature, the vehicle speed and the fan blower switch position. Refer to workshop manual for correct wiring diagram to follow operation of each mode.

When in mode 1, relay number 2 is energised by the PCM supplying current through fan number 2, to the number 4 relay. Current is then diverted to relay number 3. With the relay de-energised, the contacts allow current to pass through fan number 1 to earth, allowing fan 1 to operate at half speed (1400 RPM). The low speed brush of the number 2 fan motor also receives power so fan number 2 also operates at low speed (1400 RPM).

When in mode 2, relay number 2 is kept switched on (contacts closed) as in mode 1 and relay number 4 is switched off (contacts closed). Current is then supplied through fan number 2 to earth. As relay number 2 is connected to the low speed brush, the fan operates at part speed (1900 RPM). Relay number 3 is also switched on therefore current is directly applied to the number 1 fan which then operates at high speed (2300 RPM).

When in mode 3, the fan circuits are connected as in mode 2, except relay number 1 is turned on and therefore supplies current to the high speed brush of fan number 2. Consequently, both fans operate at high speed (2300 RPM).

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