

## TECHNICAL BULLETIN

**Document number: T0006**

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**Make: Ford**

**Model: XF EST**

**Subject: Problems associated with XF EST vehicles**

Common faults associated with the Ford EST system can be sometimes attributed to the factors below. If you have a no start vehicle there are checks to ensure your diagnosis is correct regarding the electronic control system.

1. **Water Damage:** Often the grommet that seals the aerial cable dislodges and therefore creates a problem with water leaking into the cabin. Unfortunately the leak occurs where the EST computer is mounted and results either in a rapid decline of normal functions or a slow oxidation of the circuit board and possible intermittent faults, before complete failure. Faults that result from this problem vary but are normally either intermittent stopping, no start or timing difficulties.

2. **Trigger Problems:** The trigger for the system is the hall sensor. This effectively is a switch down to earth. As the vane (inside the distributor) turns it provides switching of the ECM signal to ground, this in turn produces a square wave signal. Problems associated with the hall sensor can relate to the power supply, faulty sensors or wiring. The power supply is approximately 10 volts and is supplied from pin 2 on the ECM. Earth is connected to pin 15 on the ECM. The trigger is connected to pin 3. Wiring also needs to be checked between the distributor and the ECM. Testing the hall sensor is relatively straight forward once the power and grounds have been checked. To test the unit on the vehicle a multi meter can be used to back probe the distributor.

a) Disconnect the three pin plug from the distributor.

b) Turn the ignition on.

c) Use multi meter to test for the following voltages

- Brown wire - Approximately 10 volts from pin 2 on ECM
- Black / Orange wire - Ground 0 volts from pin 15 on ECM
- Yellow / Green - Approximately 5 volts pin 3 on ECM

d) If the above voltages appear incorrect, it may be an ECM fault, ECM power supply or wiring. If the above voltages are correct then turn ignition off and reconnect the plug.

e) Back probe the yellow / green wire and turn ignition switch on and turn distributor slowly, the voltages should fluctuate between approximately 0 - 5 volts.

3. **Power supply:** The main supply for the EST unit is feed to pin 25 (+12 key power) and ground on pins 1 & 12. The main problems associated with the power supply are, wiring faults, blown fuses or connection problems. One supply problem that can cause total failure of the EST unit can be attributed to the incorrect connection of a main earth wire (at the battery). Unfortunately when the battery is changed or wires disconnected one particular earth wire can reach both the positive and negative terminal so it is often connected incorrectly to the positive terminal. If you have any doubt about which terminal to connect the wire to check resistance between pins 1 or 12 to the wire in question.

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