

## **Ford Transit (MY2006 on) – Fuel Injection Pump Learn**

This function should be used following:

- High Pressure Fuel Pump replacement
- Fuel Metering valve replacement
- PCM (Engine ECU) replacement

Procedures should be carried out in the following order:

- Fuel injector correction factor programming
- Fuel Pump Learn
- Injector Pilot Correction Learn

### **Function overview**

The fuel pressure supplied by the high pressure pump is regulated by the suction control valve. Each suction control valve has its own fuelling characteristics. The differences in pump characteristics are seen from one pump to another; however the change in pump characteristics over time in a pump once fitted is regarded as negligible. The engine control module uses the 'Pump Learning Procedure' to calibrate itself following the fitment of a new high pressure fuel pump.

The function will abort if certain DTCs are present or certain conditions are not met. See below for details of DTC's .

### **Procedure**

- Select Fuel Pump Learn from within the Engine management 'Service Functions Menu'
- Follow on screen prompts and instructions

Pump learning is carried out 'key-on'. This function will clear previously stored pump learning values, then prompt the user to start the engine and perform the pump learn. There are two distinct stages involved. Stage one performs temporary learning; stage two performs permanent learning.

Function will fail if any of the following are present:	
P0190	Fuel Rail Pressure sensor
P0503	Output shaft speed sensor
P215B	Output shaft speed sensor
U2A04	Vehicle Speed over CAN
P0091	Suction Control Valve
P0092	Suction Control Valve
P1250	Suction Control Valve
P062B	Injector Drive Circuit
P2147	Injector Drive Circuit
P2148	Injector Drive Circuit
P121C	Fuel Leak
P0089	Mechanical rail pressure limiter activated
P1608	CPU fault detected
P0115	Engine Temperature
P0180	Fuel Rail Temp
P1293, P1294, P0200, P0201, P0261, P0202, P0264, P0203, P0267, P0270	Injector Faults

**The function will also fail if any of the following are true:**

- The difference between the desired fuel rail pressure and the actual fuel rail pressure is greater than 30 Mpa.
- The difference between the desired engine speed and the actual engine idle speed is greater than 100 rpm.
- The fuel rail pressure of higher than 200 Mpa.
- The fuel quantity per injection stroke is higher than 30 mm<sup>3</sup>/stroke.
- The fuel tank is close to empty (run-dry protection is active).
- The battery voltage is less than 8 volts or more than 16 volts.