

## PIC5

### Auxiliary Petrol Injection Boost System

#### Fitting Instructions

Read all sections carefully before fitting unit.

##### Introduction

The PIC5 is designed for retrofit turbocharger installations on petrol-injected engines and boost upgrades on production turbo petrol injection engines.

The system provides the additional fuel required for performance upgrades that cannot be delivered by the original injection system because of lack of injector capacity or control adjustment range.

Input signals representing engine speed and boost pressure are used by the PIC 5 to calculate the additional fuel for the engine's load and drive auxiliary fuel injectors.

The PIC5 works in addition to the engine's original petrol injection system with the original system left as standard for maximum off-boost flexibility and fuel economy.

The PIC5 may be used in non-turbo situations to overcome weak mixture on full load.

#### Auxiliary Components

##### MPS Boost Pressure Sensor.

Usually fitted to the inlet manifold or at another point in the inlet system to sense inlet boost pressure.

##### Petrol injector.

Electronic Fuel Injector from any modern EFI system. Only use a main injector never a cold-start type.

##### Throttle Switch (optional)

A switch operated by the throttle linkage in pre-set positions

#### Installation Procedure

(See Diagram)

##### Injector Wiring.

Connect the Black -sleeved Brown and Blue wires to the injector. Polarity of injector wiring is not important.

##### R.P.M. Sense Wiring.

Connect the White wire to the negative terminal of the ignition coil.

##### Power Supply Wiring.

Connect the Brown wire to the ignition switch or to a terminal which is capable of supplying 3 Amps and is switched with the ignition circuit.

##### Boost Sense Wiring.

Connect the Orange wire to the pressure sensor

**Note** fuel is injected when the orange wire is connected to vehicle earth by the pressure sensor Single terminal switches should be earthed and with 2 terminal types connect the orange wire to one terminal and earth the other.

##### Alternative Actuation

The PIC5 injects fuel when the orange wire is earthed. This usually is done via a pressure switch where the contacts close as the pressure rises, however, any other method of switching may be used. This opens up the possibility of many other methods of operation.

An optional Throttle Switch with normally open contacts may be connected in series with the Pressure Sensor (if required) to enable the system to only operate at throttle openings beyond a certain limit (typically 60% to 80% of full open). Additional fuel is then controlled by:- Boost Pressure, Engine R.P.M. and Throttle Opening.

For use on non-turbo engine a Vacuum Switch may be used in place of a Pressure

Switch.

The switching signal may be routed via a Rev (engine speed) Switch so that the system only operates during a certain rev band.

NOTE -when testing the system, for fuel flow, by manually earthing the orange wire the engine must be running to provide trigger pulses to the white wire.

##### Injector Location

The best location in turbo installations is approximately 150mm upstream of the throttle plane in a position where fuel sprays directly onto the throttle butterfly. Typically it may be fitted into the outer edge of a bend in the intake air system.

##### Fuel Supply.

This is easily obtained by taking a feed from

the engine's existing regulated fuel gallery. The simplest method on most 'K' and 'L' type systems is to fit a 'double banjo' fitting to the cold start injector supply.

The fuel supply must be well filtered and regulated to between 25 and 65 psi and the fuel pump must be able to deliver the increased total fuel requirement.

##### Adjustment.

Adjustment of fuel/air ratio on load (when system is working) is carried out by turning the adjuster under the cover nut on the computer. The range of adjustment is from 10% to 200% of the nominal 100% figure set before delivery and is covered by 20 turns of the adjusting screw. For a conventional retrofit turbo installation up to 7 psi of boost, adjustment may not be required

Warning- MISCONNECTION WILL USUALLY DAMAGE THE COMPUTER BEYOND REPAIR.

