MICROTECH QUICK REFERENCE GUIDE

- **LOAD CORRECTION LEAN / RICH**

As load increases, the vacuum in the inlet manifold drops. The ECU senses this change via the MAP sensor (manifold absolute pressure) and increases the injection pulse width up to the maximum point which has been set via Load Correction LEAN / RICH.

For turbo and supercharged engines, the MAP sensor also reads boost pressure and will continue to increase injection pulse width.

- **LOAD CORRECTION 0% TO -50%**

Additional load correction is required to existing program when adding larger high flow injectors. You may trim the existing program which is supplied with the ECU by as much as 50%. ie. When adding a set of injectors which flow 25% move fuel than existing ones, you may subtract 25% of the existing program via 0% to 50% adjustment which leaves the midrange the same and then add more "rev correction" for more top end were the extra fuel is needed.

- **REVS CORRECTION**

The ECU looks at rev correction under full load and has the effect of richening or leaning the top end without affecting the bottom end and mid-range values.

- **OFF-IDLE MIXTURE**

This should be adjusted while driving at a very small throttle opening (cruising). Lean mixture until the engine is sweet at constant throttle just off-idle cruise.

- **IDLE MIXTURE**

Lean the idle mixture until the engine falters, then richen up slightly until smooth idle. If idle speed is not satisfactory, adjust idle speed via the bypass air bleed screw on throttle body.

NOTE: Red "IDLE" LED must be on at IDLE for mixture to work correctly. (see Idle position adjust)

- **WARM-UP ENRICHMENT**

Adjust "warm-up enrichment" to a nice smooth idle when first starting engine. If warm-up enrichment does not work and coolant sensor fault LED is ON, check wiring and sensor.

- **ACCELERATOR PUMP AMOUNT AND TIME**

To remove residual throttle opening stumble, adjust pump amount and time until there is a nice smooth progression. Beware that stumble can be caused by TOO MUCH fuel. A little juggling will get it right.

- **IDLE POSITION ADJUST**

Used only by variable resistor type Throttle position switch (T.P.S.). Check that throttle is closed, and then adjust "Idle position adjust" pot until the red "IDLE" LED is just coming on with throttle closed. A light touch of the throttle should bring the "off-idle" LED ON and the "IDLE" LED OFF.

- **CRANKING ENRICHMENT**

This is adjusted by cranking engine and gradually richen until engine starts when warm. The ECU will automatically add additional fuel while cranking engine when cold.

- **MIXTURE TRIM +/- 10%**

Additional correction of the total fuel mixture if required can be done via the "+/- 10%" adjuster.

- **MIDRANGE**

Used only by Throttle position and Staged Injector version of ECU.

A. For low or irregular vacuum applications such as Rotary engines, motor cycle, race engine with large cam overlaps and radical inlet designs can produce wide fluctuations or pulsations, which will give false reading proportional to load. It is best not to use a MAP sensor, and use "Throttle Position" to sense load. The "Midrange" adjustment changes the gain of enrichment as the throttle begins from IDLE to wide open throttle.

b. For staged injector setup "Midrange" is used to change the gain of enrichment for primary injectors and is then ignore when secondary injectors are switched on by ECU. This feature is mainly used on turbo setup ie. Mazda 13b turbo with primary and secondary injectors.

- **FUEL PUMP ON**

Fuel pump is automatically controlled by ECU via external relay.

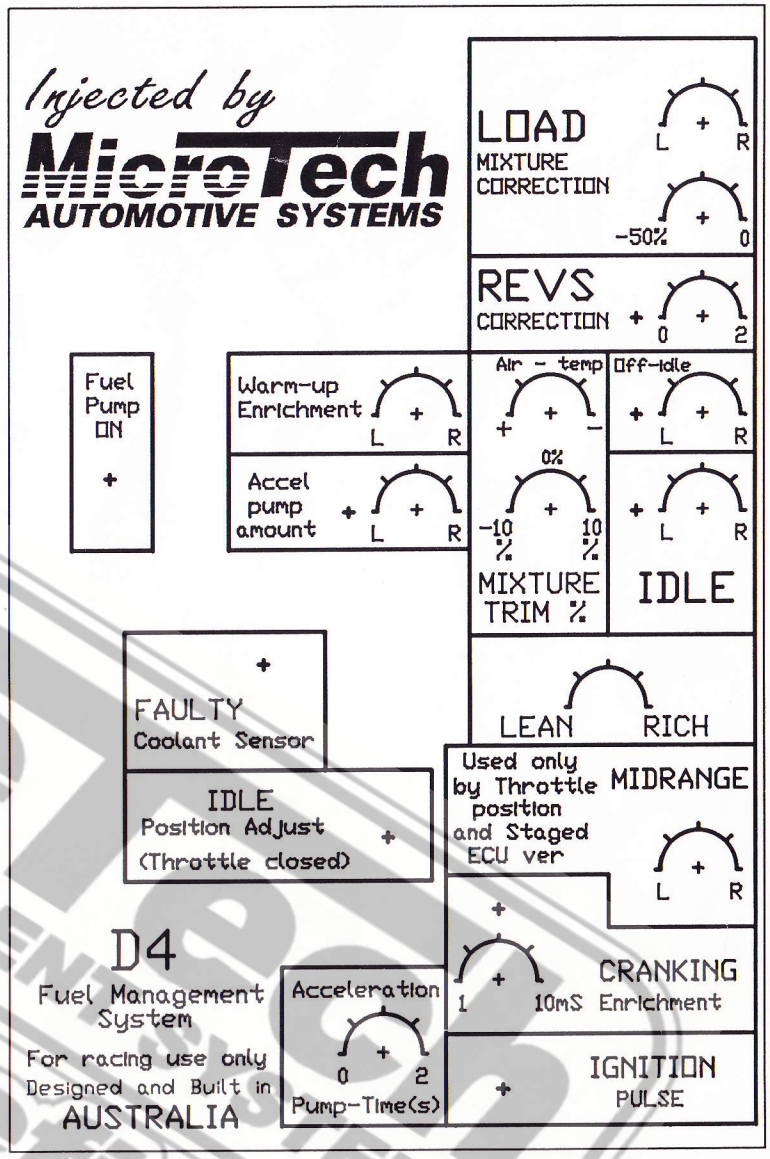
- **IGNITION PULSE**

Allows you see instantly if ECU is receiving correct Ignition pulse while engine is cranking or running.

- **AIR-TEMP**

This option is only necessary if air-temp sensor is fitted and allows you to trim the sensitivity from + to - of air temp correction made by ECU.

MicroTech D4 Overlay



• MICROTECH CONFIGURATION

CYL 4 6 8 12 Turbo Normal T.P.S. Pot Switch
Injector drivers 2 3 4 5 6 S2 S4 Stage injectors Yes No
Load signal MAP Throttle Multipoint Throttle Body
Deceleration cut-out Yes No SERIAL NO._____