# MAX EFI 500
HORSEPOWER EFI SYSTEM ADVANCED SETUP

6/23/2021

TARGET AFR

AFR Targets: The AFR table is a 3x3 matrix which the AFR is interpolated between these breakpoint values. This means that if your breakpoints are 45kPa at 14:1 and 75kPa at 13:1, operating at 60kPa will result in 13.5:1 target.

The settings are based on RPM and kPa. Atmospheric pressure can be read in different scales. The EFI uses kPa but you may be more familiar with vacuum read as inHg.
45 kPa is a light load situation like cruising.
75 kPa is a mid load situation like climbing a hill.
95 kPa is a full load situation like full throttle acceleration.
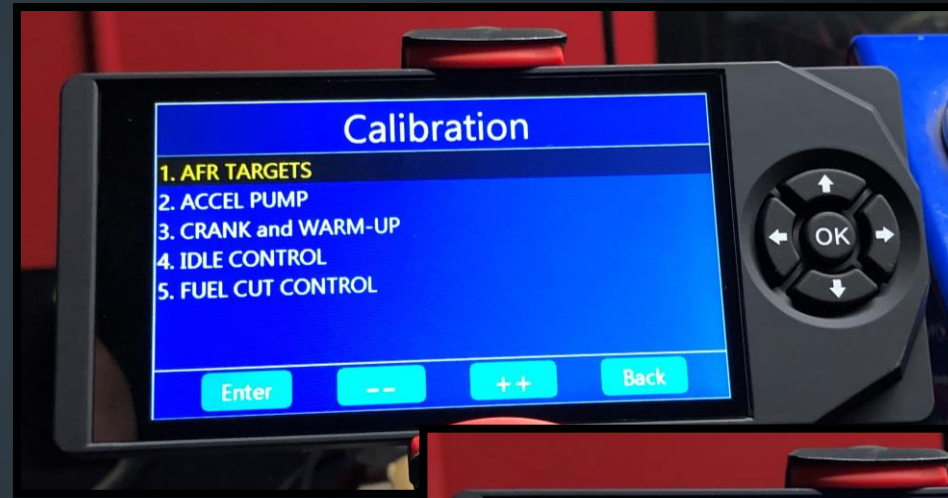
Always hit **OK** to apply setting changes

Use the Edit button on the screen to pop up a number pad for easy value changes. You can also use the left and right arrows from all setting screens like above.

ACCEL PUMP

The Accel Pump settings adjust how much fuel, at varying temperatures, the system injects when you accelerate. Accel pump is used for any normal throttle input; Fast Accel is for any fast throttle inputs or Wide Open Throttle (WOT).

Hesitation: If the vehicle has a hesitation (when you step on the throttle and the engine hesitates and/or almost dies and then suddenly take off) this normally is a lack of fuel so you would fix this by increasing the Accel Pump (for normal throttle input hesitations) or Fast Accel (for fast throttle or WOT inputs). You would make changes starting in increments of 10, to the temperature range that you are finding the issue to reside in. This will also make incremental changes to the tables in the temperatures between that temperature and the next.

Bogging/engine loads up/slow to respond: If the vehicle is bogging (when you step on the throttle and the engine is slower/sluggish to come up to a higher rpm) this is normally caused by over fueling. To fix this you would need to reduce the amount of fuel it is injecting as an accel pump shot. To do this this decrease the Accel Pump (for normal throttle input hesitations) or Fast Accel (for fast throttle or WOT inputs). You would make changes starting in increments of 10, to the temperature range that you are finding the issue to reside in. This will also make incremental changes to the tables in the temperatures between that temperature and the next.

CRANK AND WARM-UP

In the Crank and Warm-Up Menu you will see three cranking fuel selections. For cold starts add or subtract fuel from Crank fuel 65f, for hot starts add or subtract fuel from crank fuel 170f. Changing these settings will also make incremental changes to the tables in the temperatures between that temperature and the next and should help with your start up issues along with setting the IAC. A good starting point is to change the settings in intervals of 10 to find which way you need to adjust the system to work better.

Prime Fuel Mult is the first shot of fuel the system shoots into the intake. This value can be increase to add additional fuel prior to cranking the engine to help the engine start quickly.

Afterstart works in a similar way but applies just after the engine fires up and tapers off within a few seconds. If the engine is loading up just after starting use the Afterstart settings to decrease the amount of fuel the engine is receiving.
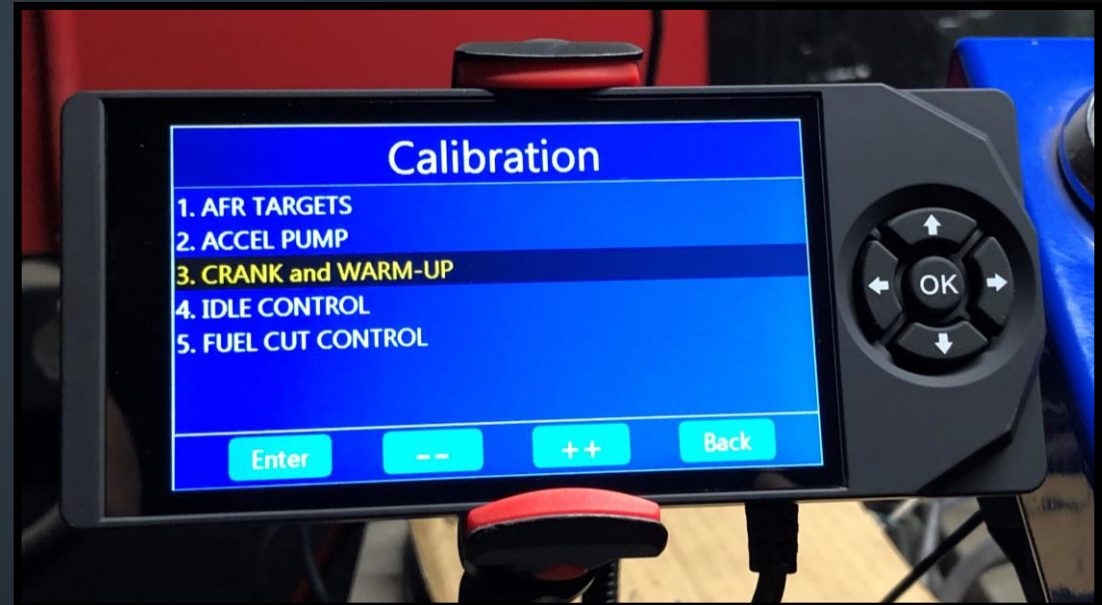
IDLE CONTROL

An Idle Air Control (IAC) stepper motor valve is used to open or close a passage in small increments (called "Steps") that adjusts the amount of AIR going through the throttle.

Loop Rate UP = This value controls how quickly it can open the IAC in response to a lower RPM.

Loop Rate Down = This value controls how quickly it can close the IAC in response to a higher RPM.

Decel Open IAC = When the throttle is opened, the IAC is also opened by several steps in preparation for when the throttle closes. This open IAC helps reduce engine braking during deceleration which can give a smoother drive feeling. However, too much can cause the RPM to jump a bit too much when the throttle is cracked open or cause the engine to have positive torque for a moment after the throttle is closed.
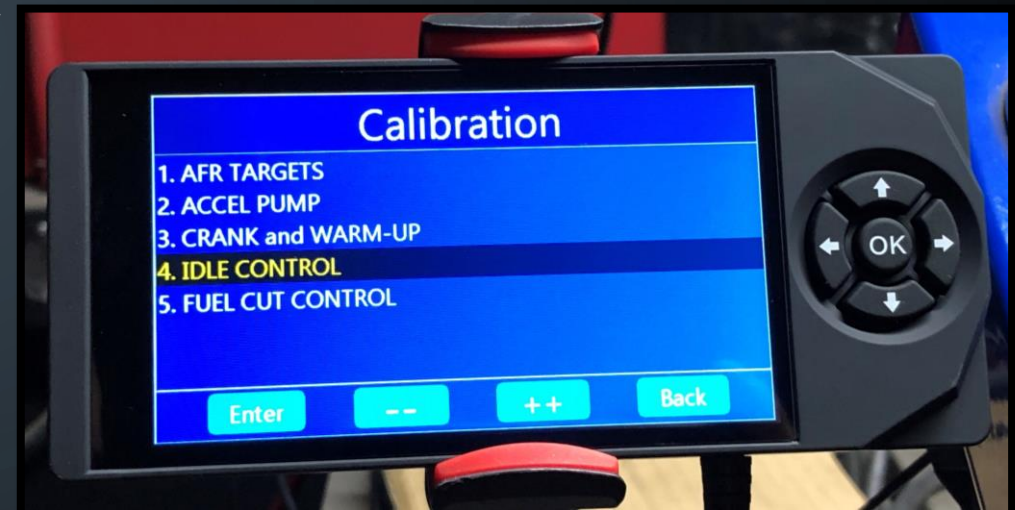
FUEL CUT CONTROL

This menu is for adjusting the systems ability to shut fuel off under deceleration. It is common for this menu to be shut off all together when radical cammed engines or manual transmissions are used. This is done by running up the Dfco Enable Temp to an out-of-range value such as 290 degrees. This menu can also be used to promote better fuel economy by adjusting how long fuel is shut off for.

Rev Limit RPM = Above this engine speed, the fuel will be turned off. Should be used with a rev limiting capable ignition system.

Dfco Enable Temp = Above this temperature, Deceleration Fuel Cutoff can be used.

Dfco Cut Fuel MAP = Below this MAP, Deceleration Fuel Cutoff can be used.

Dfco Return MAP = Above this MAP, Deceleration Fuel Cutoff will be exited, and fuel injection returned.

Dfco Return Fuel = When the fuel injection returns, extra fuel is required to wet the intake manifold walls, to avoid going lean.
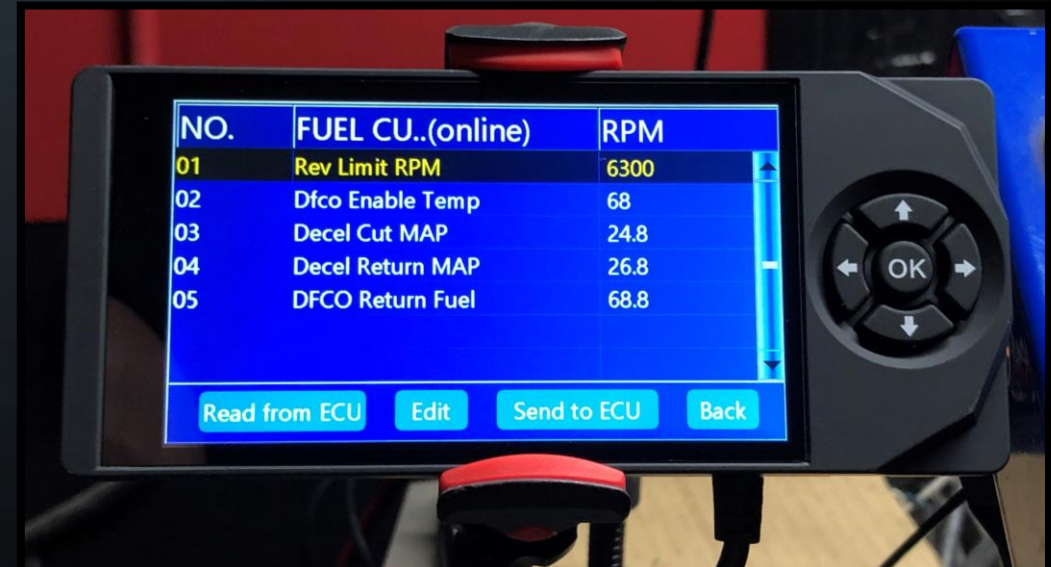
FAULT CODES

If a drive-ability issue appears the first thing to ALWAYS check is the Fault Code Menu. This menu will display hard faults that will direct you to where components and reading are not operating properly. Once corrected, hit the clear button on the screen to clear the codes. Momentary codes will appear in the DASHBOARD and will go into the Fault Code menu when the issue happens multiple times in a short period.

Fault Code Menu

Dashboard Menu

P Code	Number	Name
P0107	11	MAP Low
P0108	12	MAP High
P0129	13	Baro Low
P0106	14	Baro High
P0122	15	TPS Low
P0123	16	TPS High
P0112	21	IAT Low
P0113	22	IAT High
P0116	23	CTS Low
P0117	24	CTS High
P0131	27	Wideband Low
P0132	28	Wideband High
P0130	31	Wideband Open
P0562	32	Battery Low
P0563	33	Battery High
P0335	36	Crank Noise Fault
P0201	45	Injector A
P0202	46	Injector B
P0203	47	Injector C
P0204	48	Injector D
P0505	53	IAC Fault
P0032	55	Wideband Heater Open
P0031	56	Wideband Heater Short
P0230	63	Fuel Pump Relay Open
P0480	74	Fan 1 Open
P0480	75	Fan 1 Short