FN Mustang GT calibration Notes

The 18+ FN mustang has a factory PWM fuel pump controller that will only allow a max average switched voltage of 12V to the fuel pump. This is true even with KPM Fuel Systems 1500HP/2200HP/2700HP modules and PWM controlling the system by mimicking the factory PWM.

The KPM Fuel Systems pump module WILL NOT achieve its highest fuel flow rate if this is left at factory settings.

As the Mustang PCM actually controls the PWM there are numerous parameters in the calibration. From factory the lowest average voltage is 5v. This is the minimum set point. On KPM twin pump systems this will leave our rail pressure around 460-500KPA during idle, cruise, and deceleration. This is normal and acceptable operation of the systems. For achieving max flow from the KPM Fuel Systems total fuel solution in the higher load range we set the max allowed voltage to 15 to get the most out of the system. This will cause fuel pressure to rise above our desired pressure set point during some conditions. This is normal and acceptable operation. As the fuel pressure starts to lower under power conditions the PCM will allow this until it reaches the desired pressure then start ramping pump duty cycle up to keep pressure where it has been set. Limitations in the PCM and factory PWM are unable to pull the duty cycle down to reach commanded pressures with the allowable voltage clamp lifted which is normal and acceptable operation. The PCM is only capable of sending out a signal to the factory PWM once per second (1Hz) thus being the limitation in response to changes in pressure. However, the volume of the fuel lines and rails provides enough reserve fuel to not have a negative effect.

The KPM Fuel Systems PWM can also be run as a standalone unit with use of its own fuel pressure sensor and will control fuel pressure faster that will ensure no pressure fluctuations happen at all. For more information - enquiries@kpmfuelsystems.com.au

You can find the parameter files for these settings on the calibration parameter files page HERE.

Or follow the instructions on the next page to see what needs to be adjusted.

The following instructions are where to make the calibration changes.

PCMTEC

Tables auF61311 – auF61313 – auF61321 Are our pressure set points. Set these to 67 PSI / 460 KPA.

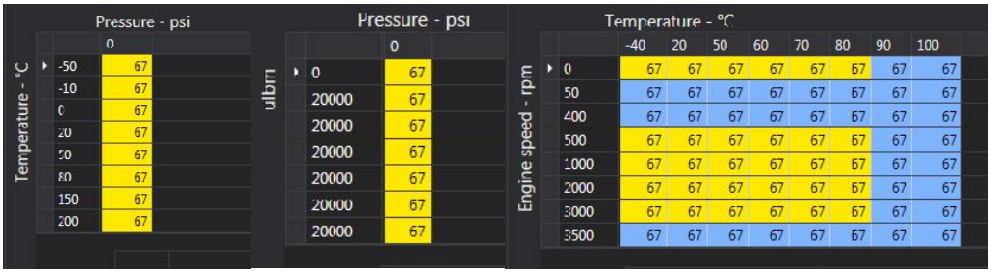
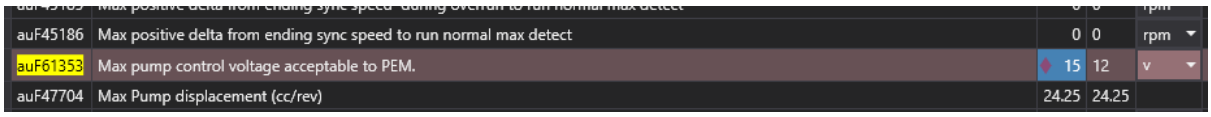


Table auF30958 is a Max Voltage vs Flow vs Pressure table. Set the table as shown.
*This table CAN be adjusted to finely tune duty cycle control based on vehicle modification but not necessary.

Scalar auF61353 is a Max Voltage final Clamp. Raise this to 15V.

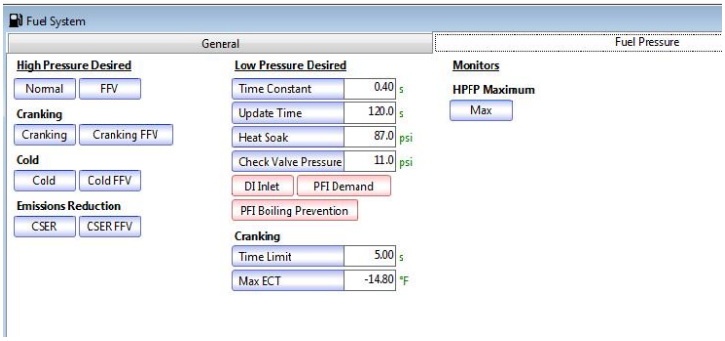


Scalar auF32741 adjusting the slope for the output DC to be closer to the command.

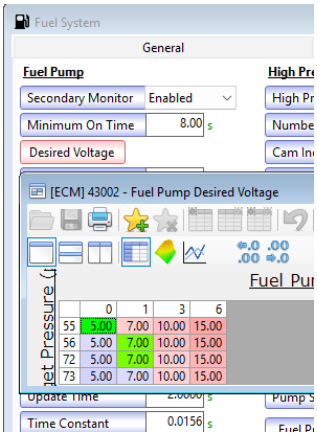
Scalar auF41728 reduce the deadband to allow faster response.

HP Tuners

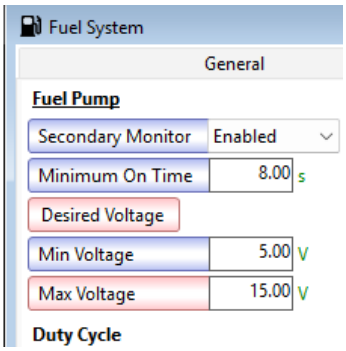
13295 – 13289 – 13287 Are our pressure set points. Set these to 67 PSI / 460 KPA.



43002 is a Max Voltage vs Flow vs Pressure table. Set the table as shown.
*This table CAN be adjusted to finely tune duty cycle control based on vehicle modification but not necessary.

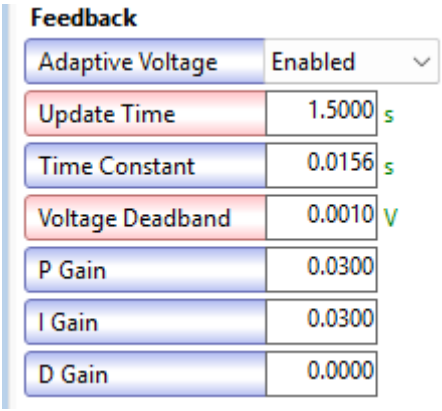


43003 Fuel Pump Max Voltage. Raise this to 15V.



23033 Fuel ump update time. Set to 1.5 s

23030 Fuel pump voltage deadband. Set to .001 v



See next page for Multipliers.

Injector multipliers

As KPM Fuel Systems fuel modules are rated down to the lowest operating pressure being 51 PSI / 350KPA the Fuel injector slopes, breakpoint and offset multipliers should be adjusted slightly to scale the injectors correctly when running down to 51 PSI / 350KPA.

*For aftermarket calibrations such as Whipple where the port injectors are scaled at different pressures we recommend not adjusting. As those multipliers are scaled to go far lower in fuel pressure than recommended for any vehicle and not high enough for even factory pressures.

*If you are using different fuel injectors and have the fuel injector tuning data that is using the factory multipliers then adjust the following.

PCMTEC

auF30941 Injector High slope multiplier

change pressure 55.1 to 50.76 and the multiplier .88 to .84

auF30942 Injector Low slope multiplier

change pressure 55.1 to 50.76 and the multiplier .88 to .84

auF30940 Injector Break point multiplier

change pressure 55.1 to 50.76 and the multiplier .88 to .84

auF30943 Injector Offset multiplier

change pressure 55.1 to 50.76 and the multiplier .936 to .9189

HP Tuners

32060 Injector High slope multiplier

change pressure 55.1 to 50.76 and the multiplier .88 to .84

32062 Injector Low slope multiplier

change pressure 55.1 to 50.76 and the multiplier .88 to .84

32064 Injector Break point multiplier

change pressure 55.1 to 50.76 and the multiplier .88 to .84

32052 Injector Offset multiplier

change pressure 55.1 to 50.76 and the multiplier .936 to .9189

DTC removal

As the factory PWM no longer can see a load form the fuel pump you will need to switch off P0627