Interfacing Spartan 3 to MegaSquirt 3

Section 2 and 2.1. are optional

1. Configuring Spartan 3 to transmit Lambda to MS3 over CAN

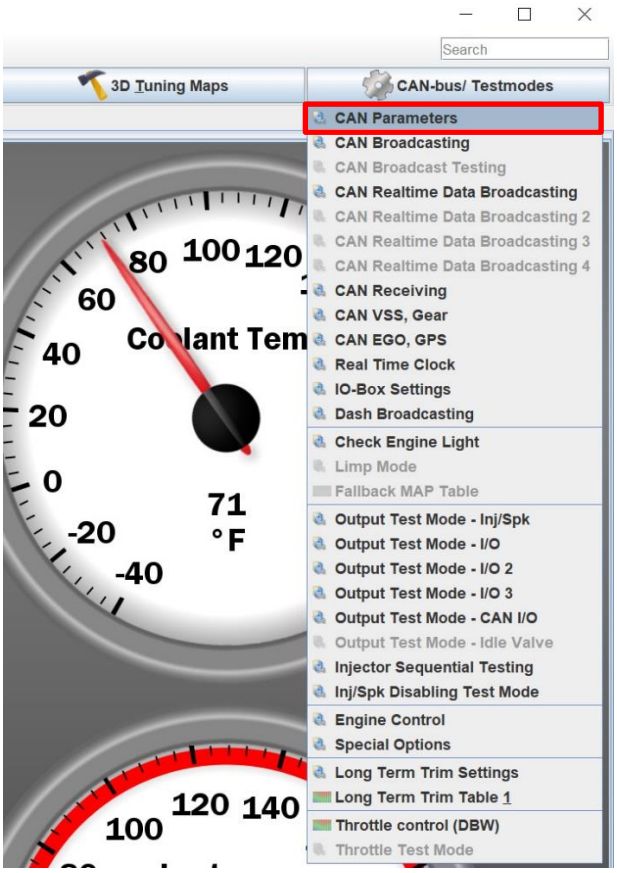
Spartan 3's default CAN Baud rate is 500kbit/s and the default CAN Format is 0 and the default CAN ID is 1024. The default settings do not need to be changed for a single Spartan 3 install. For installing Multiple Spartan 3 please refer to "Interfacing Multiple Spartan 3 to MegaSquirt 3.pdf".

Please refer to Section 11 of the Spartan 3 User manual regarding the CAN Termination Resistor.

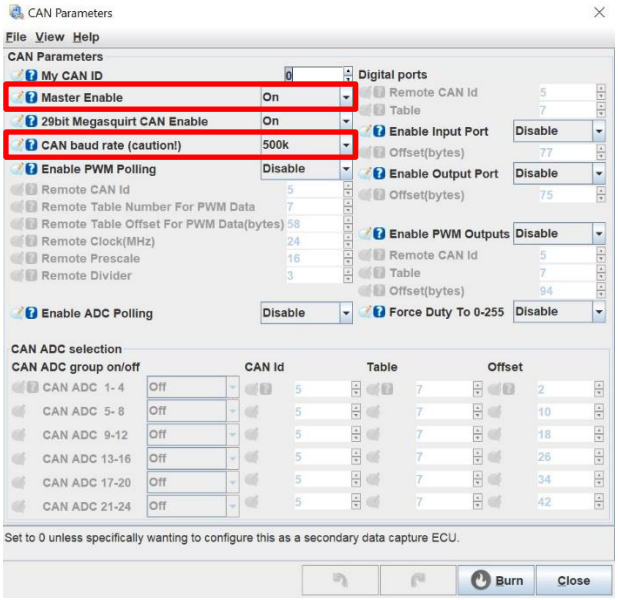
1.1. Configuring MS3 to receive Lambda from Spartan 3 over CAN

Your Megasquirt 3 ECU must be running Firmware 1.5.1 or newer, earlier firmwares have fewer user adjustable CAN settings. If you find that you are missing CAN options in Tuner Studio; you are most likely running a firmware older than 1.5.1

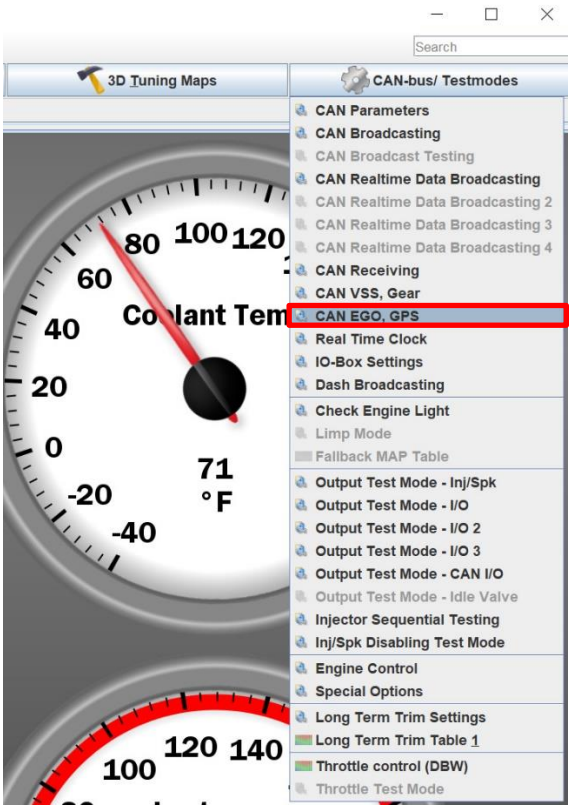
In Tuner Studio



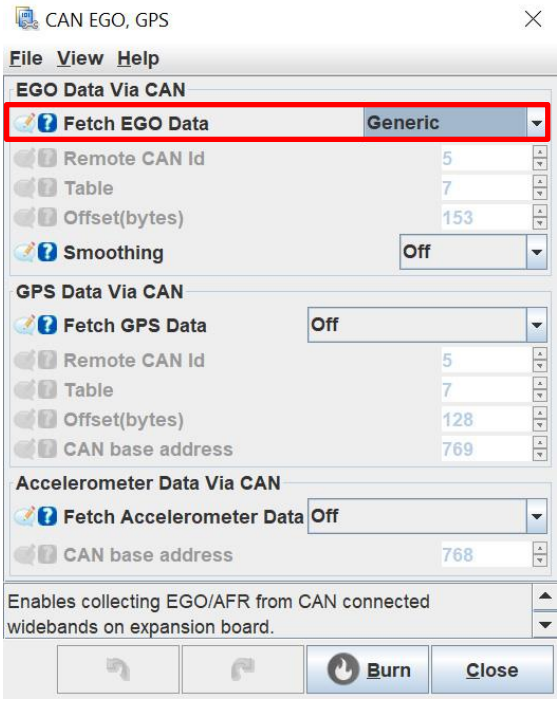
Click **CAN-bus/Testmodes** and select **CAN Parameters**.



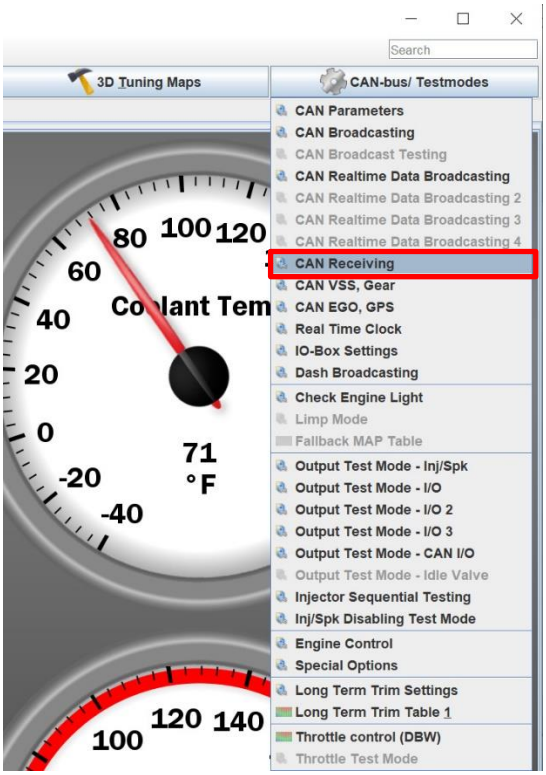
Set **Master Enable** to **On**. Set **CAN baud rate** to **500k**.



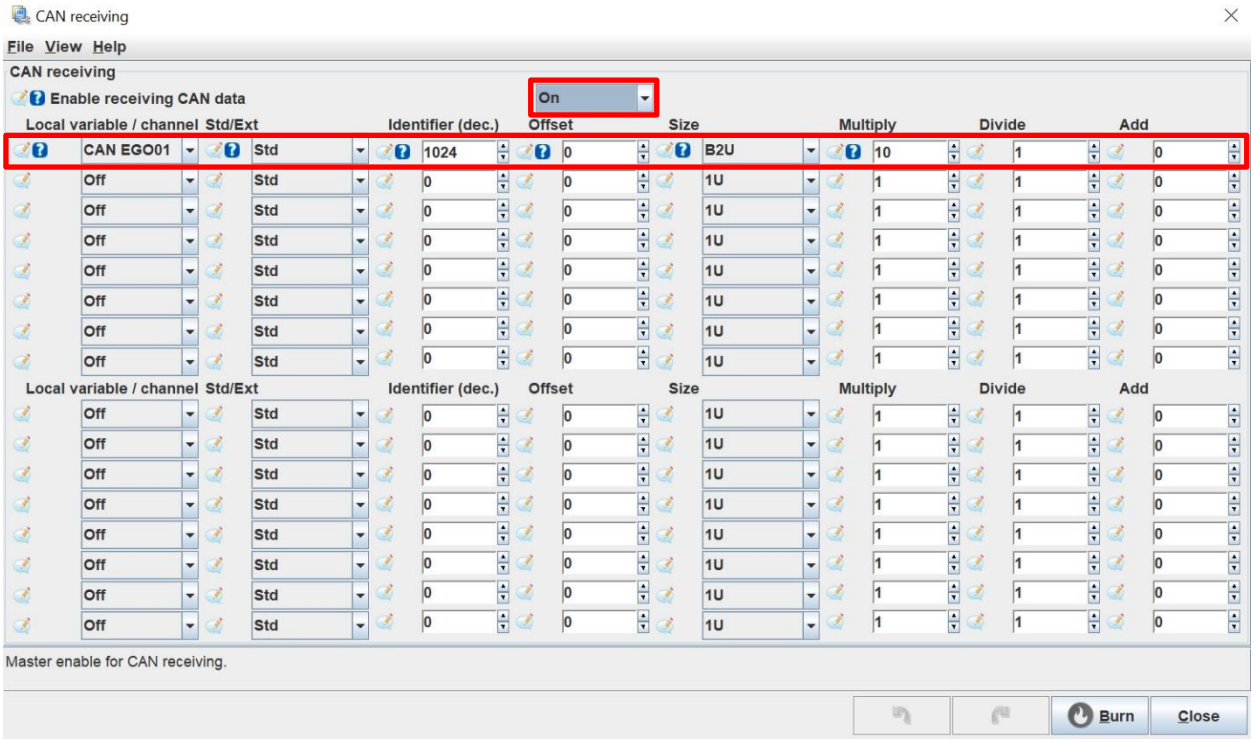
Click **CAN-bus/Testmodes** and select **CAN EGO, GPS**



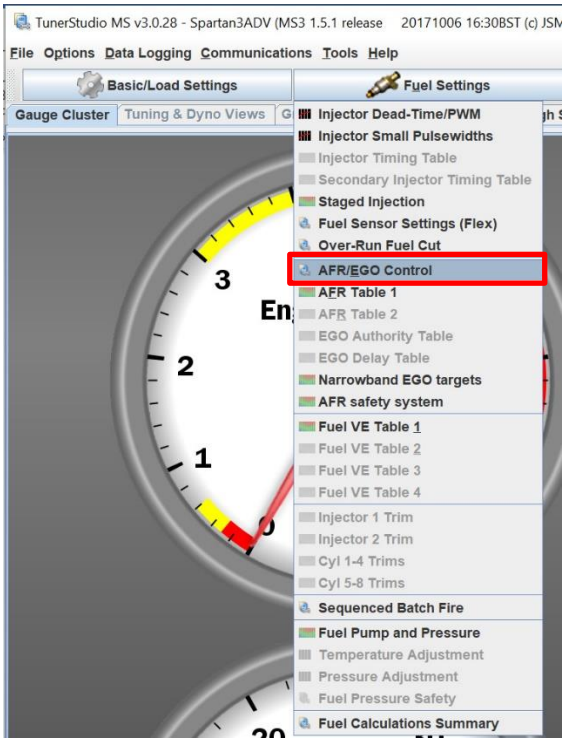
Set **Fetch EGO Data** to **Generic**



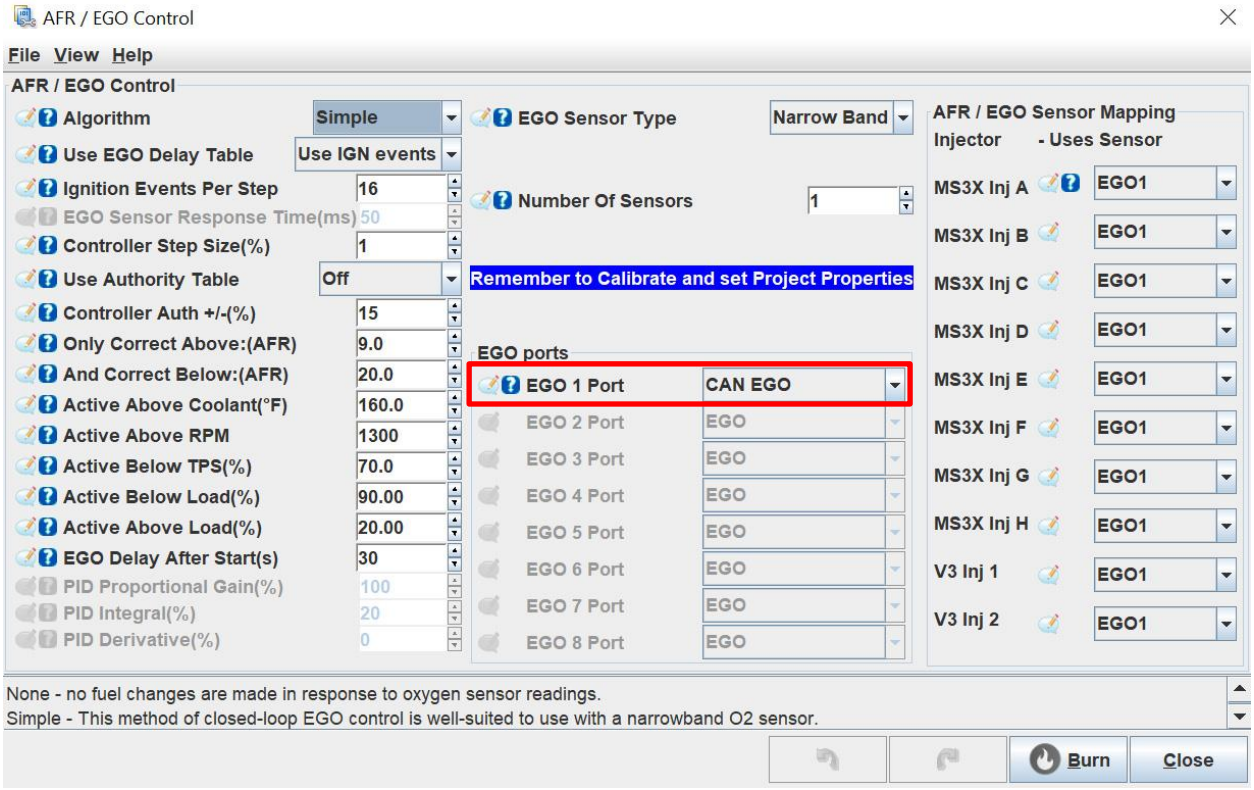
Click **CAN-bus/Testmodes** and select **CAN Receiving**



Set **Enable receiving CAN** data to **On**



Click on **Fuel Settings** and select **AFR/EGO Control**



Set **EGO 1 Port** to **CAN EGO**

2. Configuring Spartan 3 to read engine RPM from MS3 Simplified Dash Broadcasting

Section 2 and 2.1. are optional

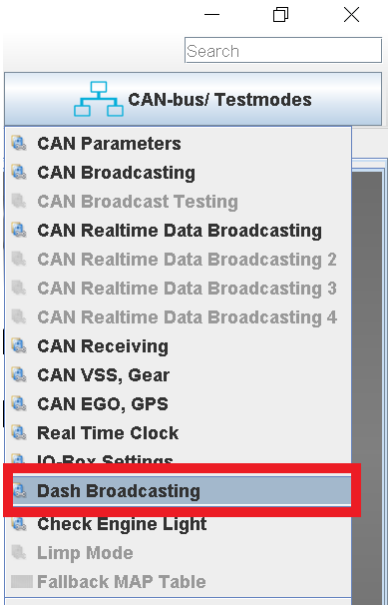
By default, Spartan 3 will immediately start heating the oxygen sensor as soon as power is applied. If the serial command, see sections 6 to 8 of the Spartan 3 User manual, "SlowHeat2" is sent to spartan 3 then Spartan 3 will receive engine RPM from MS3 Simplified Dash Broadcasting over CAN and only start heating the sensor once the engine is running. Spartan 3 will wait a maximum of 10 minutes for the engine to run, after 10 minutes Spartan 3 will start heating the oxygen sensor regardless of engine RPM.

This feature requires Spartan 3 to running firmware 1.04 or later. Use the serial command, see section 6 to 8 of the Spartan 3 User manual, "GETFW" to see the firmware version.

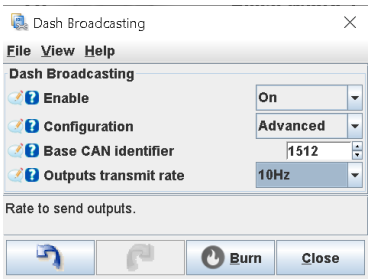
Spartan 3 reads engine RPM via the MS3 Simplified Dash Broadcasting. Both Simplified Dash Broadcasting and Advanced Real-Time Data broadcast can operate at the same time.

2.1. Configuring MS3 to transmit Simplified Dash Broadcasting

In Tuner Studio



Click **CAN-bus/Testmodes** and select **Dash Broadcasting**.



Set **Enable** to **On**, set **Configuration** to **Advanced,** set **Outputs transmit rate** to **10Hz,** and set **Base CAN Identifier** to **1512.**

You can change **the Outputs transmit rate** to any value without problems. The lower the value the less burden there is on the ECU and less traffic there is on the CAN Bus.