

# **Zeitronix ZT-3 Megasquirt CAN Quick Setup**

**By: Dan Swartz**

**This setup guide will explain how to quickly setup the Megasquirt 3 to receive Air Fuel Ratio via CAN-Bus communication. This guide assumes you already have the ZT3 wired to switched power and ground.**

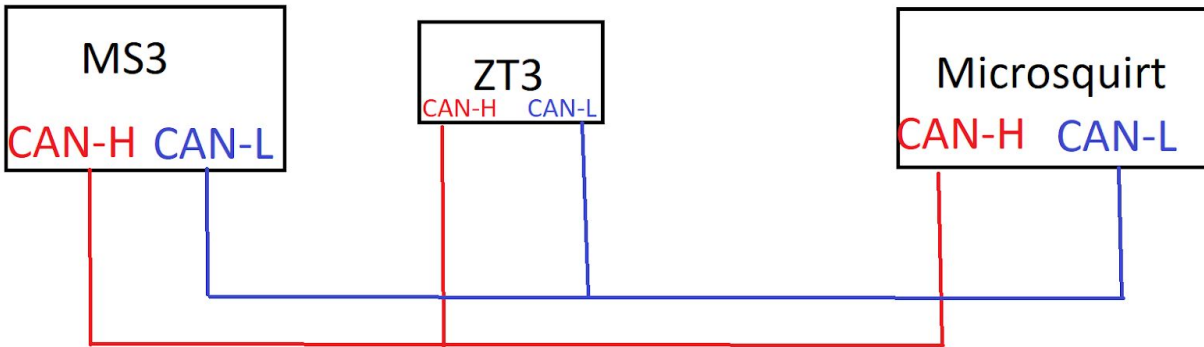
## **Part 1. Wiring CAN Communication**

Locate the CAN-H and CAN-L wires/connector in your Megasquirt Harness. If you're using a Microsquirt to run your transmission, you'll need to connect the ZT3 between the MS3 and Microsquirt. If you aren't utilizing any other CAN device in your system, you will need a 120ohm resistor across the CAN-H CAN-L wires after the ZT3.

Connect the ZT3 CAN-H (red/white) wire to the MS3 CAN-H wire  
Connect the ZT3 CAN-L (black/white) wire to the MS3 CAN-L wire

**The diagrams on the following Page are examples of common setups. The wire colors are only for example.**

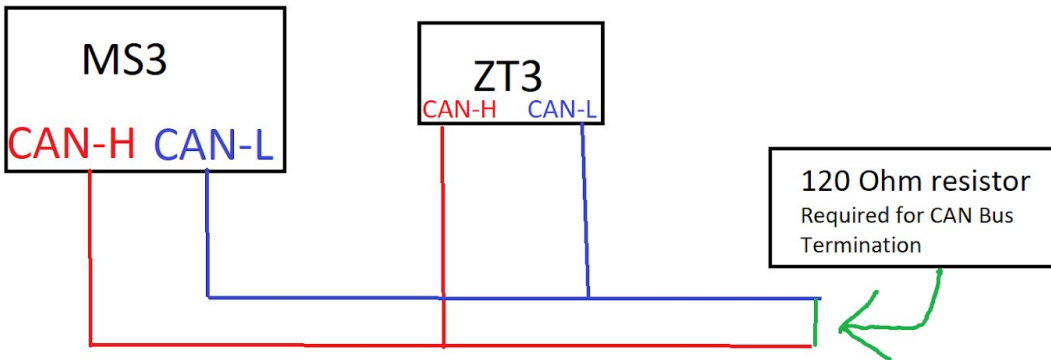
## MS3 ZT3 and Microsquirt Trans Controller Combo



Connection Diagram for MS3, ZT3, and Microsquirt combo.

Note: Wire Colors will vary, colors used here are only for representation.

## MS3 to ZT3 only. Note 120Ohm Resistor!



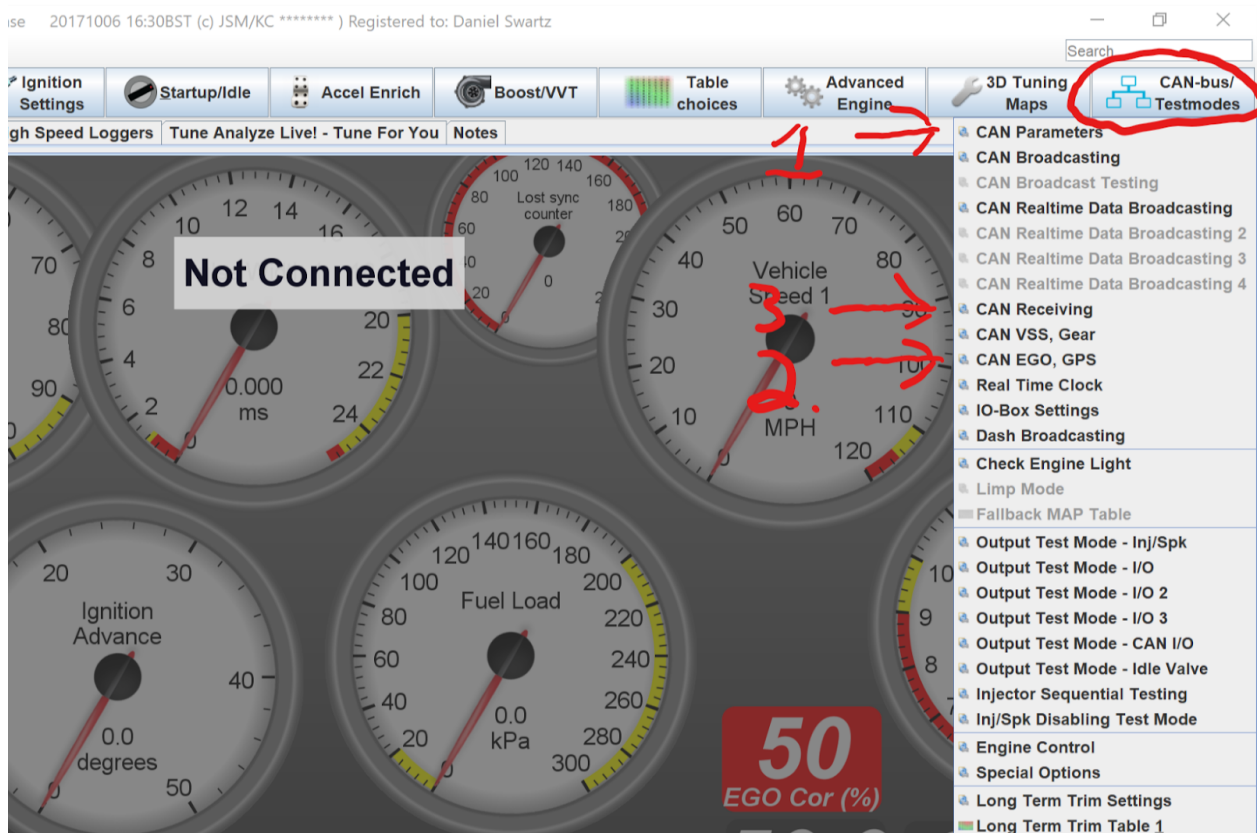
MS3 to ZT3 connection without any other CAN devices

Note: Wire color is only for representation, your wire colors will be different. The 120Ohm Resistor must be connected between CAN-H and CAN-L only if you do not have any other device on the CAN Bus.

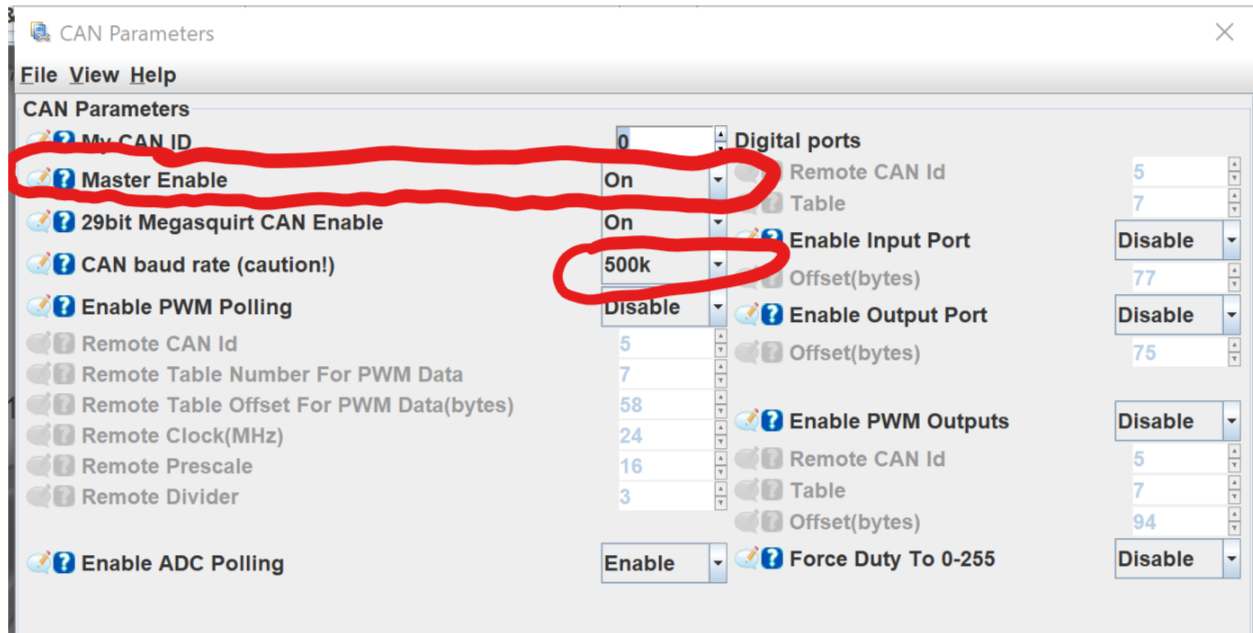
## Part 2. Tunerstudio Configuration

Once you have everything wired, you must configure the MS3 to receive AFR/Lambda via can bus. These settings are assuming your ZT3 is broadcasting with default settings which are 11bit messages, 5C msg ID, 500k baud and 16bit lambda as Data 0/1.

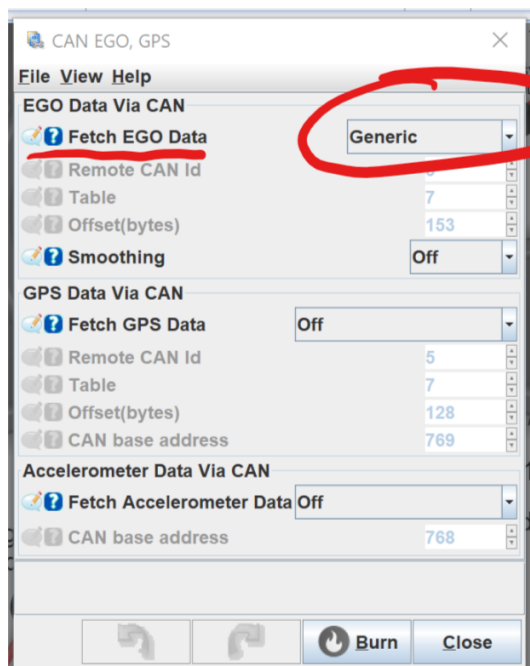
With your current tune open, follow the steps/pictures below.



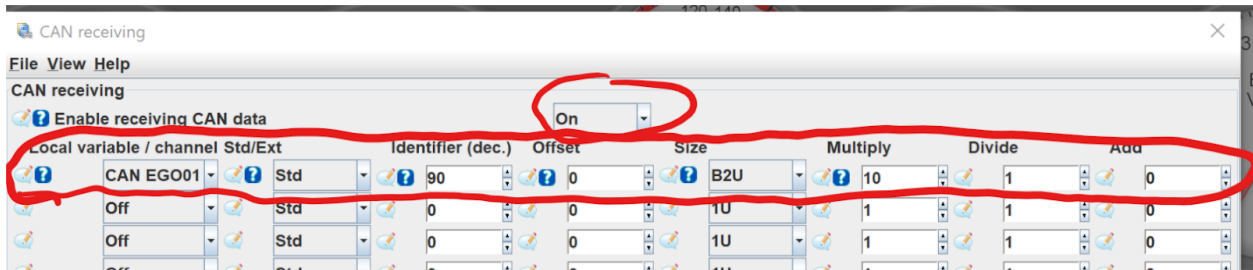
1. Click CAN-Bus/Testmodes->CAN-Parameters  
Set **Master Enable** to **ON**  
Set **CAN Baud Rate** to **500k**



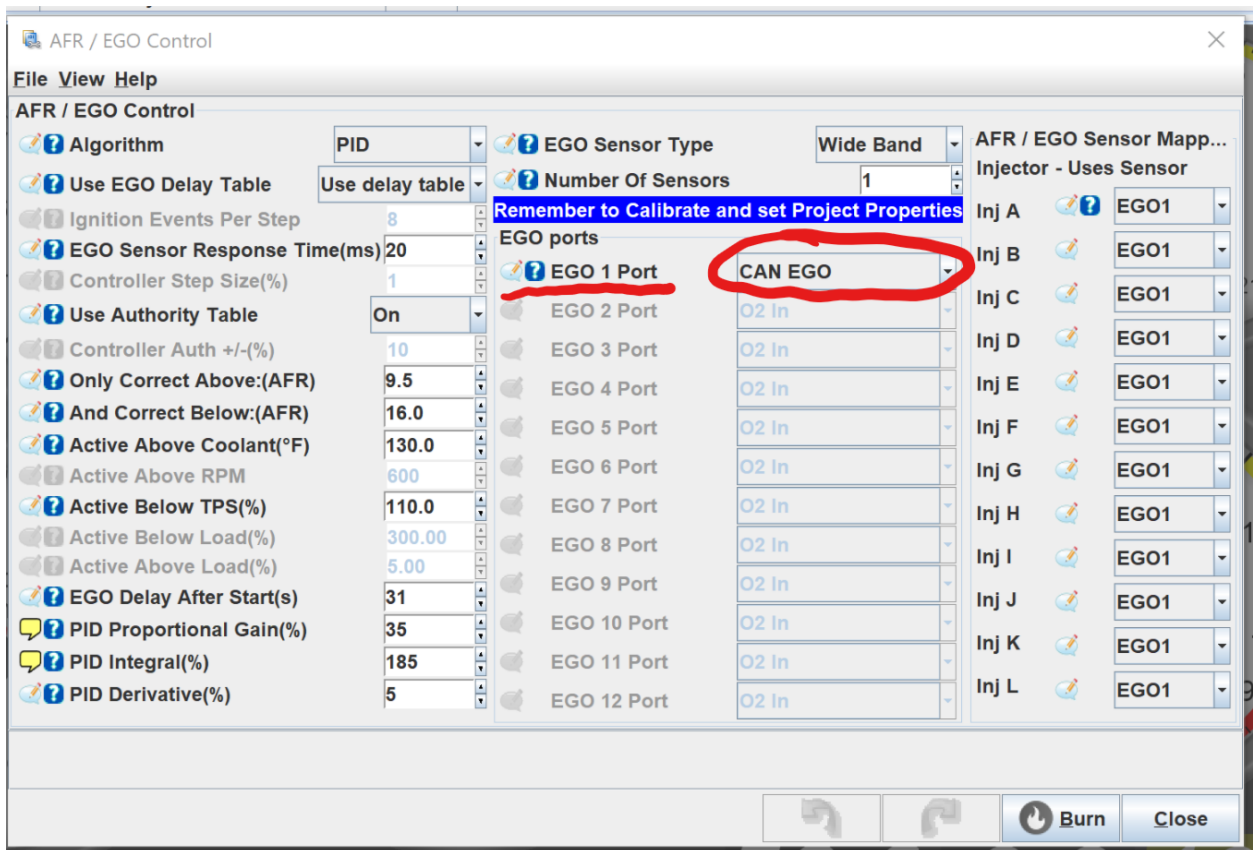
2. Click CAN-Bus/Testmodes->CAN EGO, GPS  
Set **Fetch EGO Data** to **Generic**



- Click CAN-Bus/Testmodes->CAN receiving
  - Set **Enable receiving CAN data** to **On**
  - Set **Channel** to **CAN EGO01**
  - Set **Identifier** to **90**, **Offset** to **0**, **Size** **B2U**
  - Set **Multiply** to **10**, **Divide** to **1**, **Add** to **0**



- Click Fuel Settings->AFR/EGO control
  - Set **EGO 1 Port** to **CAN EGO**



Step 5. Confirm its working

Key on your vehicle but don't start it yet. The wideband will take 10-20sec to warm up. During the warm up period, it should show **14.7** for AFR. After a full warmup, with the sensor in free-air, you should see AFR pegged at **25.5**.

**I hope this guide was helpful for you. If anyone has any questions, please feel free to contact me at danswartz92 "at" gmail dot com.**

Notes for advanced users:

The ZT3 transmits lambda as a 16bit unsigned value via CAN with a range of 0.625-4.000. Megasquirt stores AFR as an 8bit unsigned value. The MS AFR maximum value is 255 due to its 8bit nature. When the ZT3 is in free air, it will transmit a value higher than the Megasquirt can store for AFR. Therefore the free air value for AFR becomes 25.5 as its maxed out.