This is a basic howto for the GuzziDiag suite of tools, for use on the CARC series, Breva 750, V7 Classic, 1100 California & California 1400. This howto will show you how to connect, read (backup) your existing map, write (flash) a new map and perform a TPS reset. This uses the Windows versions as examples, but Mac & Linux versions function the same.

All types of ECU use the same version of GuzziDiag. Click on the link for your operating system:

Windows: http://www.von-der-salierburg.de/download/GuzziDiag/GuzziDiag_V0.47.zip

Linux 32 bit: http://www.von-der-salierburg.de/download/GuzziDiag/GuzziDiag_V0.47.tgz

Linux 64 bit: http://www.von-der-salierburg.de/download/GuzziDiag/GuzziDiag_V0.47_x64.tgz

Mac: http://www.von-der-salierburg.de/download/GuzziDiag/GuzziDiag_V0.47.app.zip

For the **5AM ECU**, you will need the following Reader/Writer software from the GuzziDiag page:

Windows:

http://www.von-der-salierburg.de/download/GuzziDiag/IAW5xReader_V0.28.zip

http://www.von-der-salierburg.de/download/GuzziDiag/IAW5xWriter_V0.24.zip

Linux 32 bit:

http://www.von-der-salierburg.de/download/GuzziDiag/IAW5xReader_V0.28.tgz

http://www.von-der-salierburg.de/download/GuzziDiag/IAW5xWriter_V0.24.tgz

Linux 64 bit:

http://www.von-der-salierburg.de/download/GuzziDiag/IAW5xReader_V0.28_x64.tgz

http://www.von-der-salierburg.de/download/GuzziDiag/IAW5xWriter_V0.24_x64.tgz

Mac:

http://www.von-der-salierburg.de/download/GuzziDiag/IAW5xReader_V0.28_x64.app.zip

http://www.von-der-salierburg.de/download/GuzziDiag/IAW5xWriter_V0.24.app.zip

For the **7SM** ECU

Windows:

http://www.von-der-salierburg.de/download/GuzziDiag/IAW7SMReader_V0.03.zip

http://www.von-der-salierburg.de/download/GuzziDiag/IAW7SMWriter_V0.03.zip

For the 15M/15P/15RC ECU

Windows:

http://www.von-der-salierburg.de/download/GuzziDiag/IAW15xReader_V0.67.zip

http://www.von-der-salierburg.de/download/GuzziDiag/IAW15xWriter_V0.26.zip

Linux 32 bit:

http://www.von-der-salierburg.de/download/GuzziDiag/IAW15xReader_V0.67.tgz

http://www.von-der-salierburg.de/download/GuzziDiag/IAW15xWriter_V0.26.tgz

Linux 64 bit:

http://www.von-der-salierburg.de/download/GuzziDiag/IAW15xReader_V0.67_x64.tgz

http://www.von-der-salierburg.de/download/GuzziDiag/IAW15xWriter_V0.26_x64.tgz

Mac OS X:

http://www.von-der-salierburg.de/download/GuzziDiag/IAW15xReader_V0.67.app.zip

http://www.von-der-salierburg.de/download/GuzziDiag/IAW15xWriter_V0.26.app.zip

Each is a standalone program that works independently of each other and does not require any extra software.

You will also need the two cables. They are available from various resellers on the net.

Lonelec is the best source on the net. They sell a kit that includes both cables and is guaranteed to work

Get it here: http://lonelec.co.uk/index.php?route=product/product&product_id=51

Another source is OBD Innovations.

https://www.obdinnovations.com/vag-kkl-obd2-usb-cable-ftdi-ft232rl-chip-fiat-3-pin-adapter-cable/

Do not use the drivers that come with the cables. Download these drivers:

Windows: https://www.griso.org/CDM21228_Setup.zip

OS X 10.9 & above: https://www.griso.org/FTDIUSBSerialDriver_v2_4_2.dmg

OS X 10.3 - 10.8: https://www.griso.org/FTDIUSBSerialDriver_v2_2_18.dmg

Linux doesn't require drivers.

Required Cables:

1. The OBD2 KKL 16 pin to USB cable with the FTDI chip.

2. The Fiat 3 Pin to 16 pin Adapter

To connect to the bike, connect the two 16 pin connectors on the cables together and the 3 pin cable to the diagnostic port. It's usually located under the seat beside the airbox or close to the frame. For the Cali 1400, it's clipped to the ECU cover.

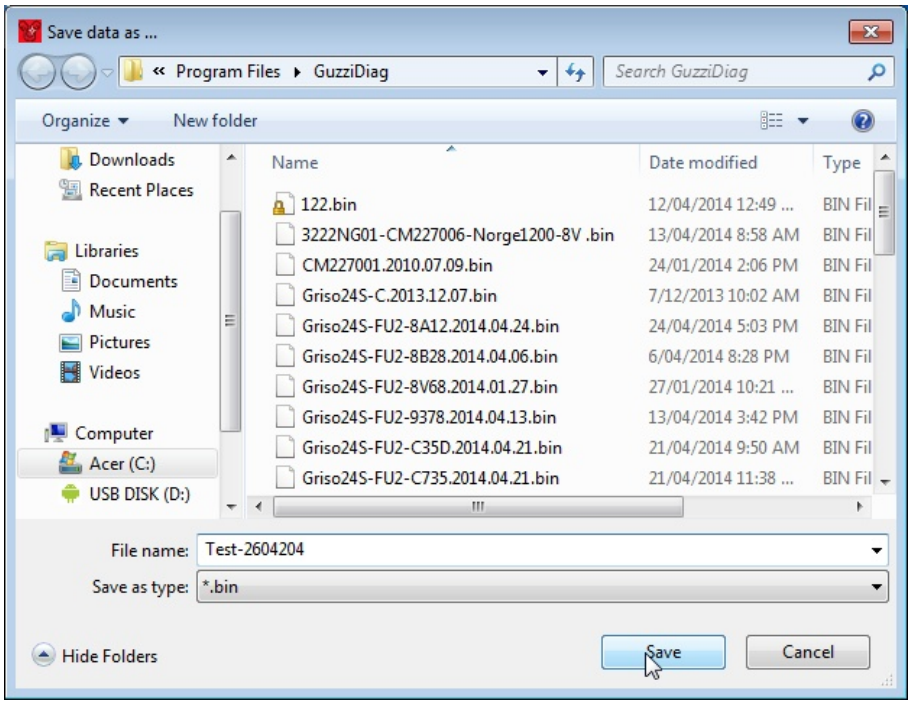
Attach the clips from the 3 pin cable to the battery (take note of polarity) and plug the USB cable into a USB port on your computer.

A LED on the OBD2 cable will indicate power is connected.

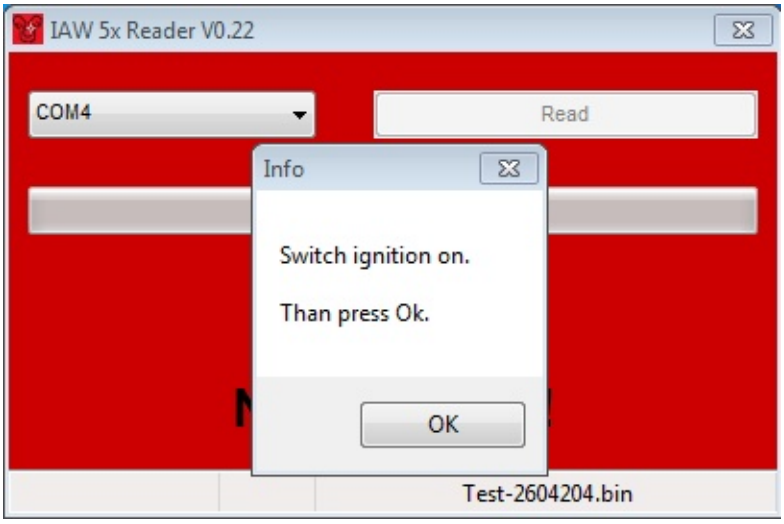
To read and backup your existing map, open the Reader. Your computer may have multiple COM ports, so select the correct one from the drop-down box. it is usually the last one or highest number. if it doesn't connect at first, keep trying different ports. In my example, I only have one, COM4.

Then, click on 'read'

A dialog box will open, and here you can select the folder where you want to save the .bin file. You can name it anything you like, but leave the "Save as type" as "*.bin".

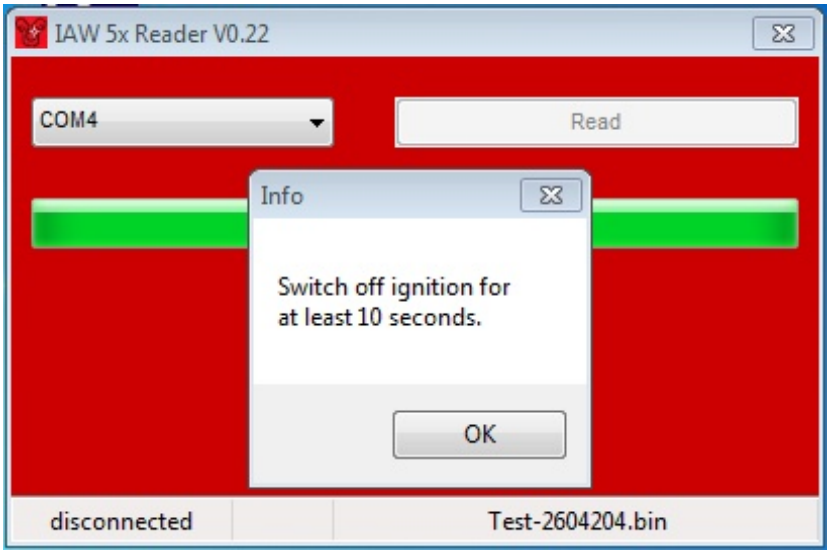


Click 'save'. You will then get:



Turn your keyswitch to 'on'. Do not start the engine. Click "OK". Reader will start downloading. The download takes 15 minutes for CARC bikes, 20 minutes for Breva 750, V7 Classic & 1100 California. It takes 30 minutes for Cali 1400. I recommend using a battery tender to maintain battery voltage.

When it has finished, it will ask you to switch off your keyswitch.

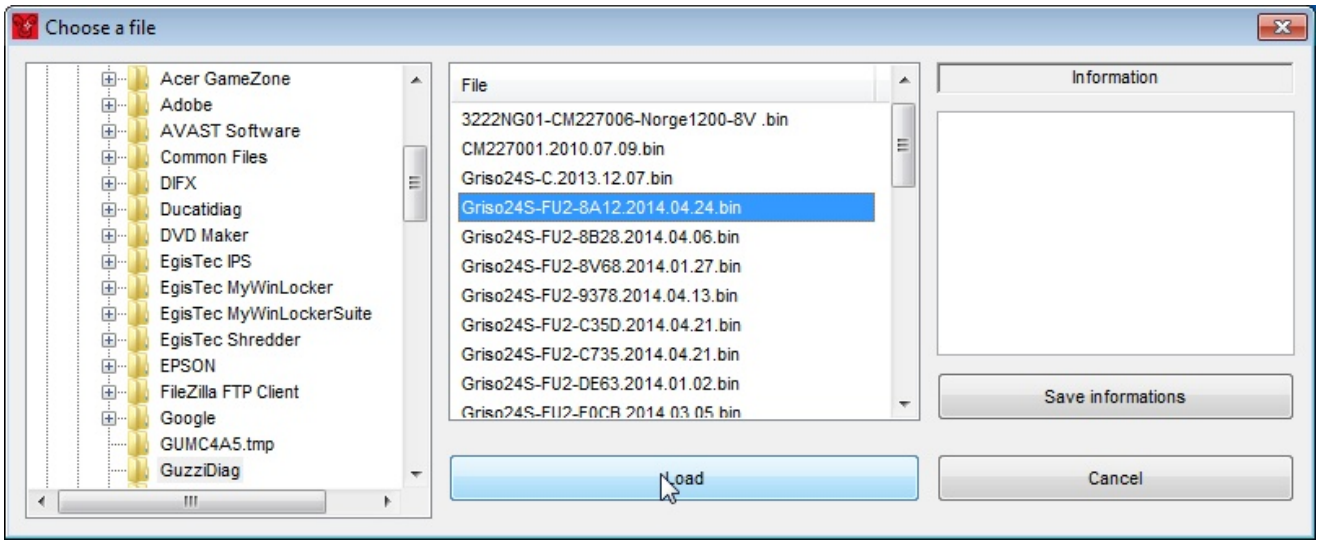


You have successfully saved your current map.

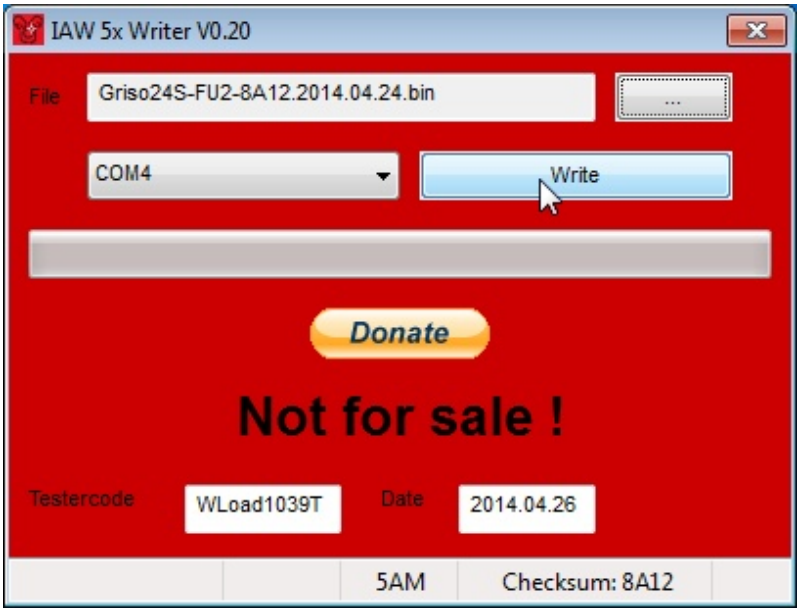
Writing a new map.

To write or flash a new map, start the Writer program. You can select your COM port here as well.

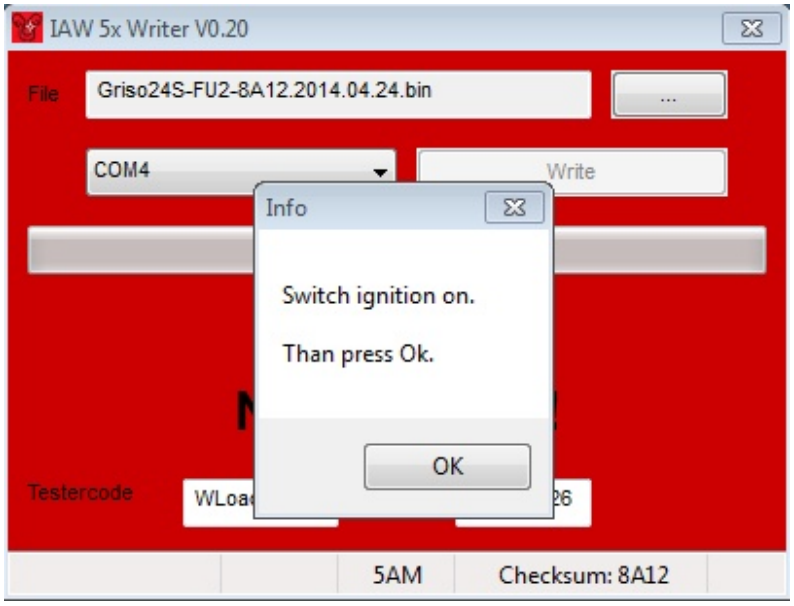
Click on the button with the 3 dots, and you will get a dialog box where you can browse to and select the .bin file you wish to flash by clicking 'Load'.



Then, click 'Write' Note: In the bottom right-hand corner is the checksum of the bin file. If I send you a map, it will have the checksum as part of the file name. If it is different, do not flash it.

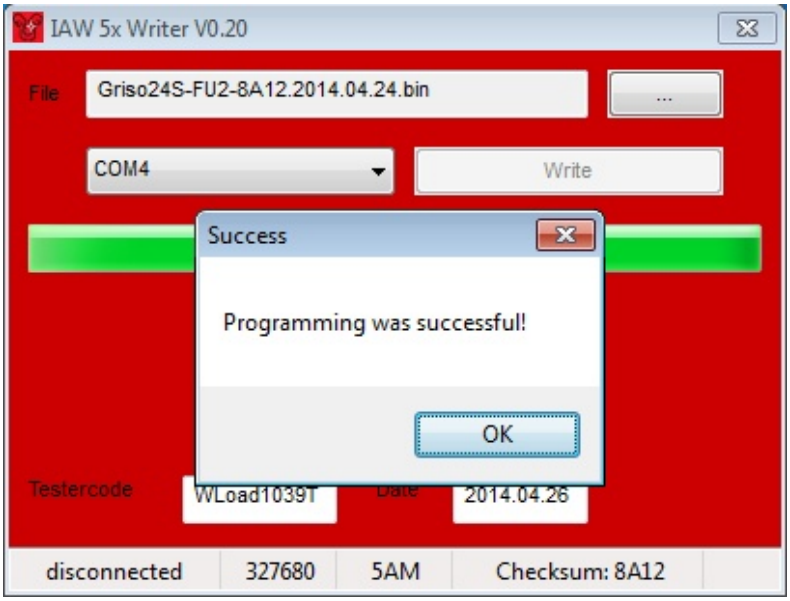


You will be asked to switch on your keyswitch again.



It will start the upload. Note the message in the bottom left corner 'uploading'. Upload time is 3 minutes for CARC bikes, 5 minutes for Breva 750, V7 Classic & 1100 California, and 15 minutes for Cali 1400. The message will then change to 'programming' as it writes the file to the ECU. Again, the use of a battery tender is recommended.

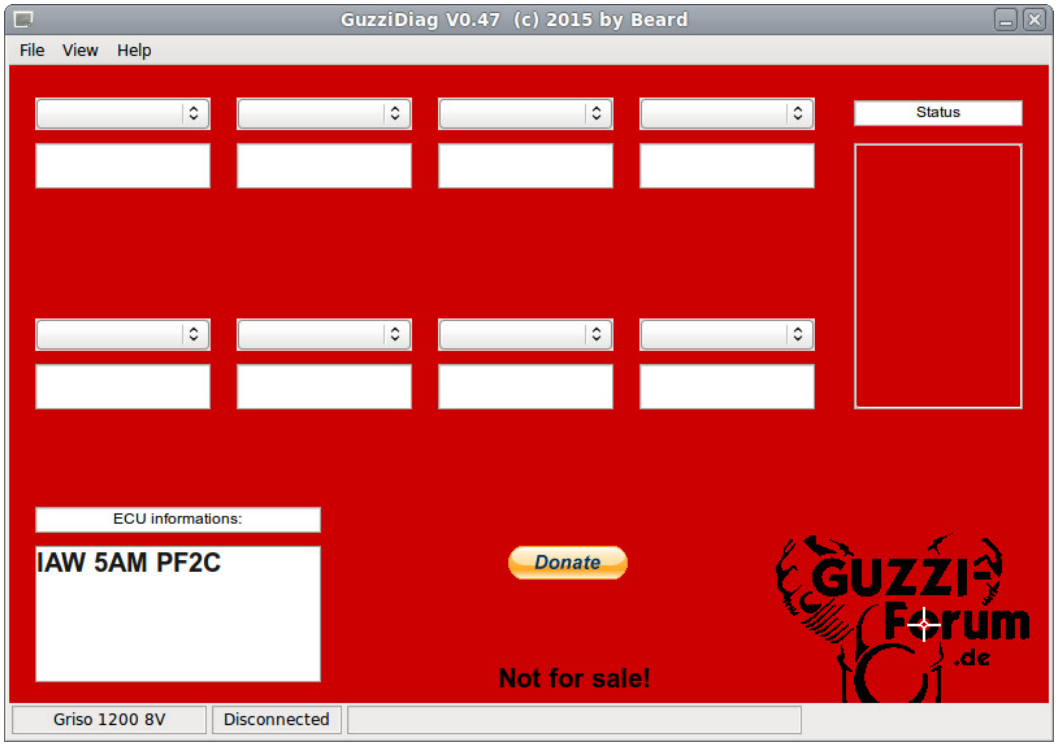
It will confirm programming was successful.



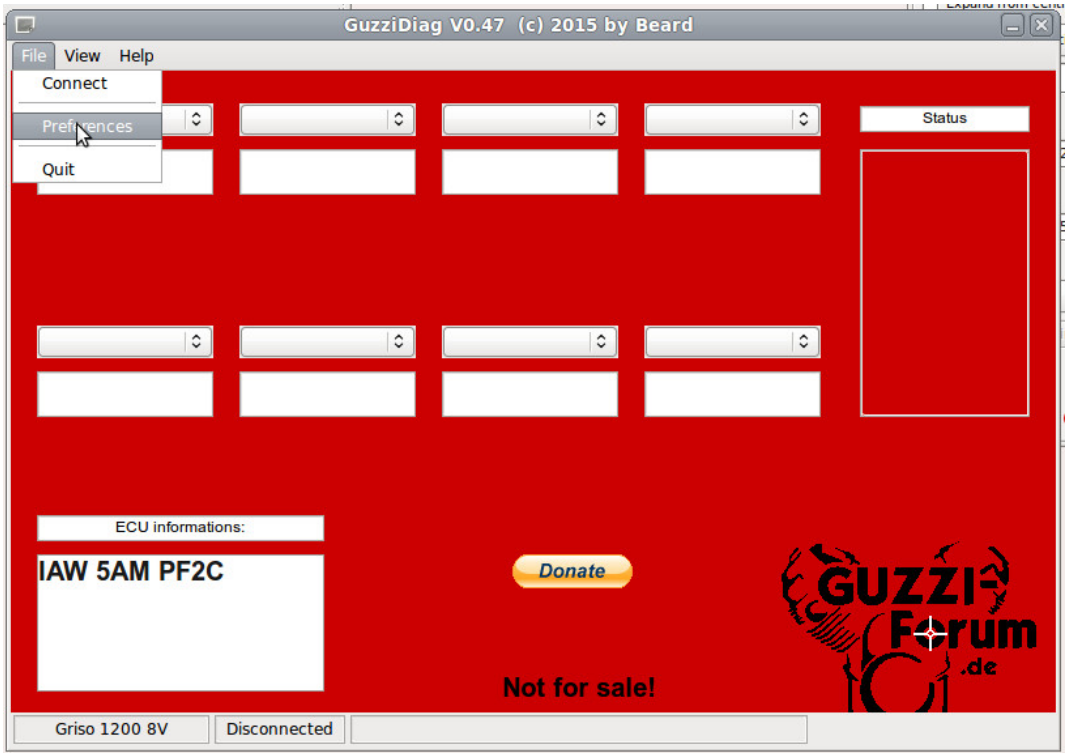
Click 'OK' and switch off your keyswitch.

Here's a little video of a map upload: http://youtu.be/ZAi1N3ZFhHA

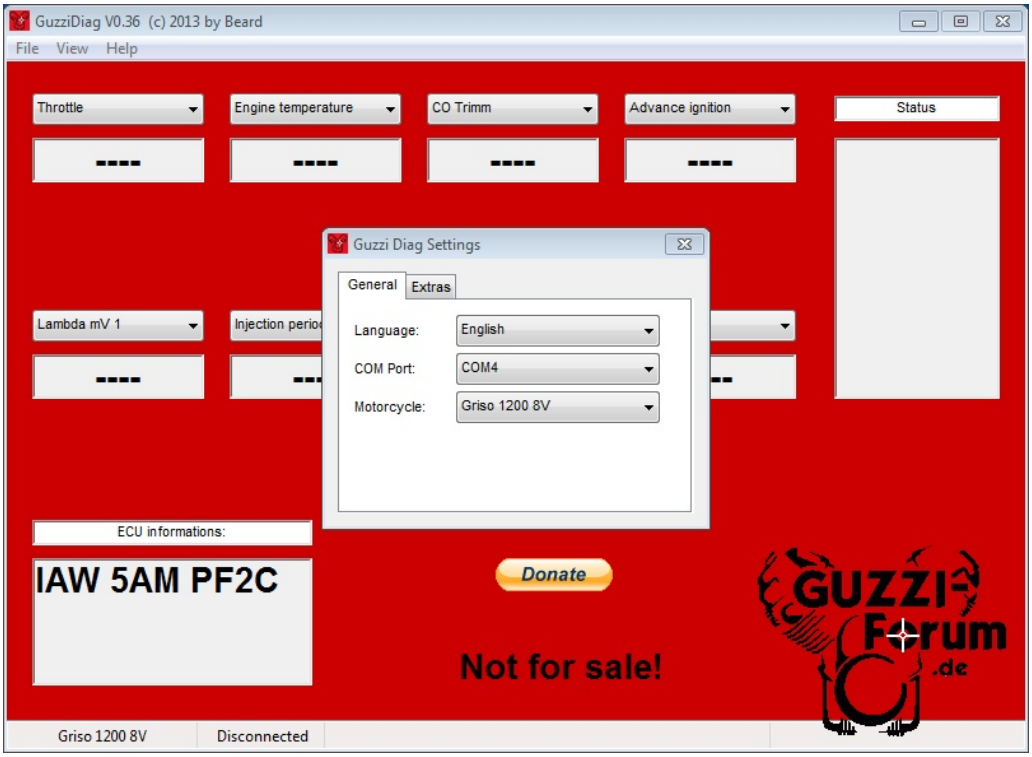
You will then need to reset your TPS (or relearn the throttle) and autolearning parameters. Open the GuzziDiag program. For the Cali 1400, perform Handle Self Learning, then Throttle Self Learning immediately after. Do NOT use GuzziDiag to reset the TPS on a Bellagio. For the Bellagio & 15M based 1100 California, the TPS is set via voltmeter and is not required after a remap.



Click 'File' -> 'Preferences' to configure the software. It only needs to be done once.



The GuzziDiag settings dialog box opens. Here you can select language, COM port and bike type. Click the X to close, when done.

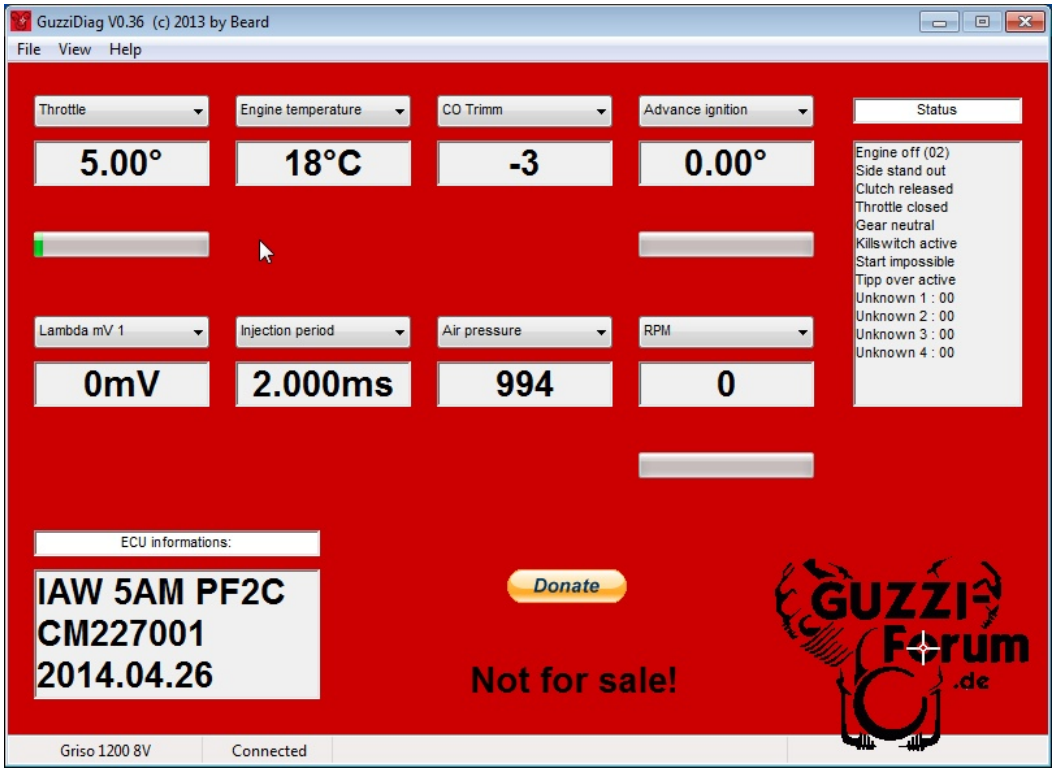


Next we want to connect to the ECU, so click 'File' -> 'Connect'

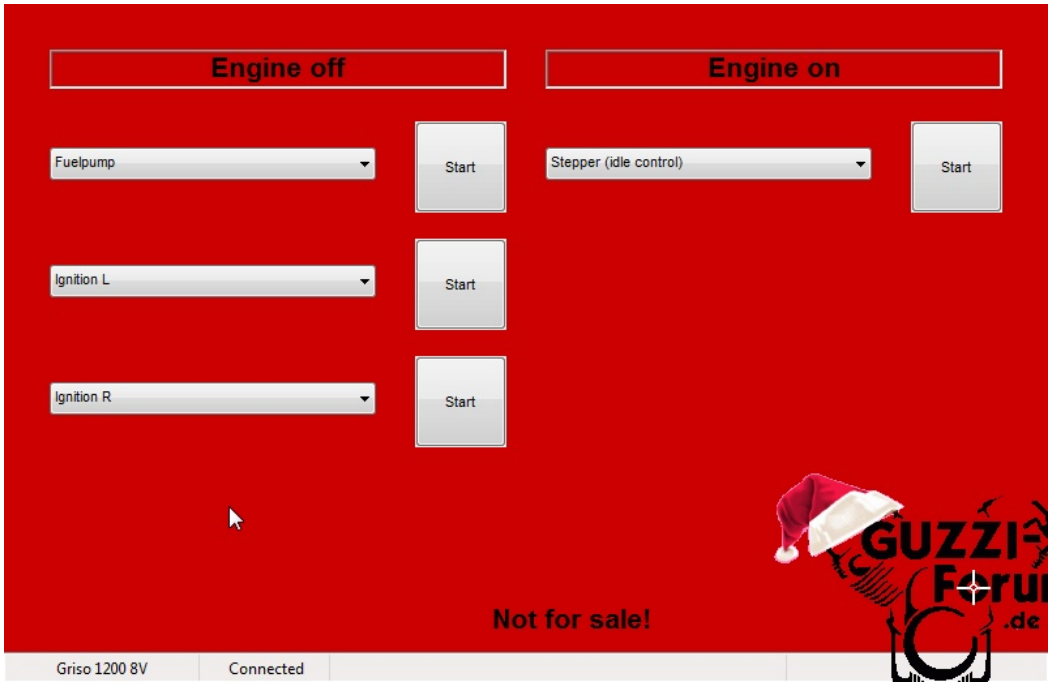
It will ask you to switch on your keyswitch and click 'OK'

You'll notice there are 8 drop down boxes to select various readouts. Select whatever you wish. You should make sure one of the drop-downs selected is 'Throttle'.

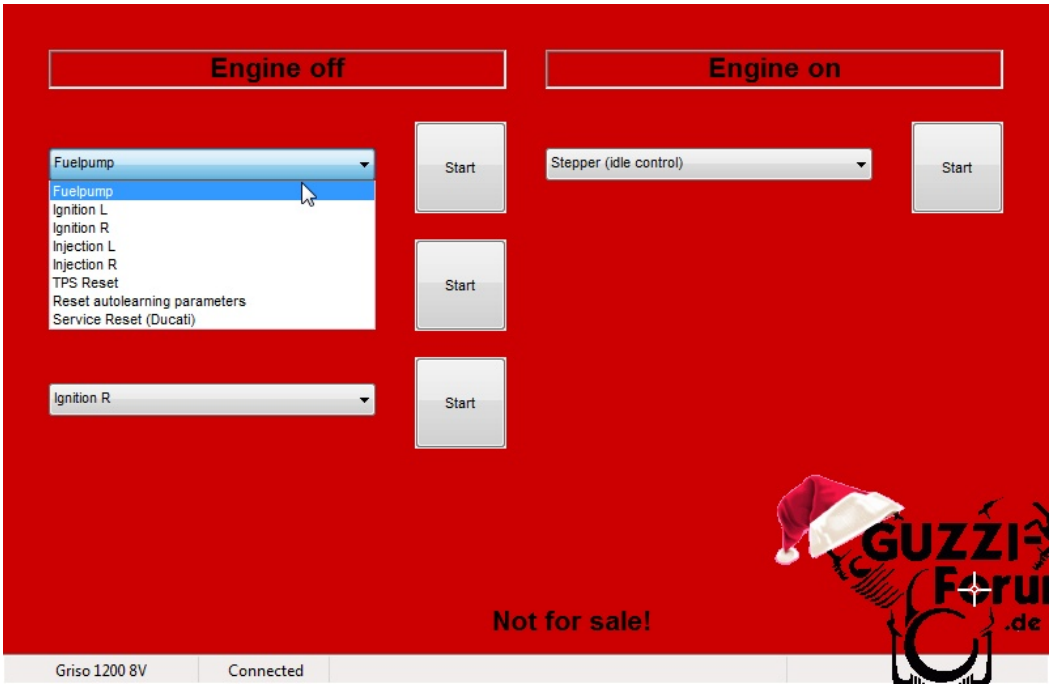
You can see here after uploading the map, my TPS (Throttle) is slightly out. It should read about 4.7. For CARC bikes, it could be 4.6, 4.7 or 4.8. For Breva 750 & V7 Classic, Throttle is 3.1. For the 15RC California, spec is 3.2 - 3.6



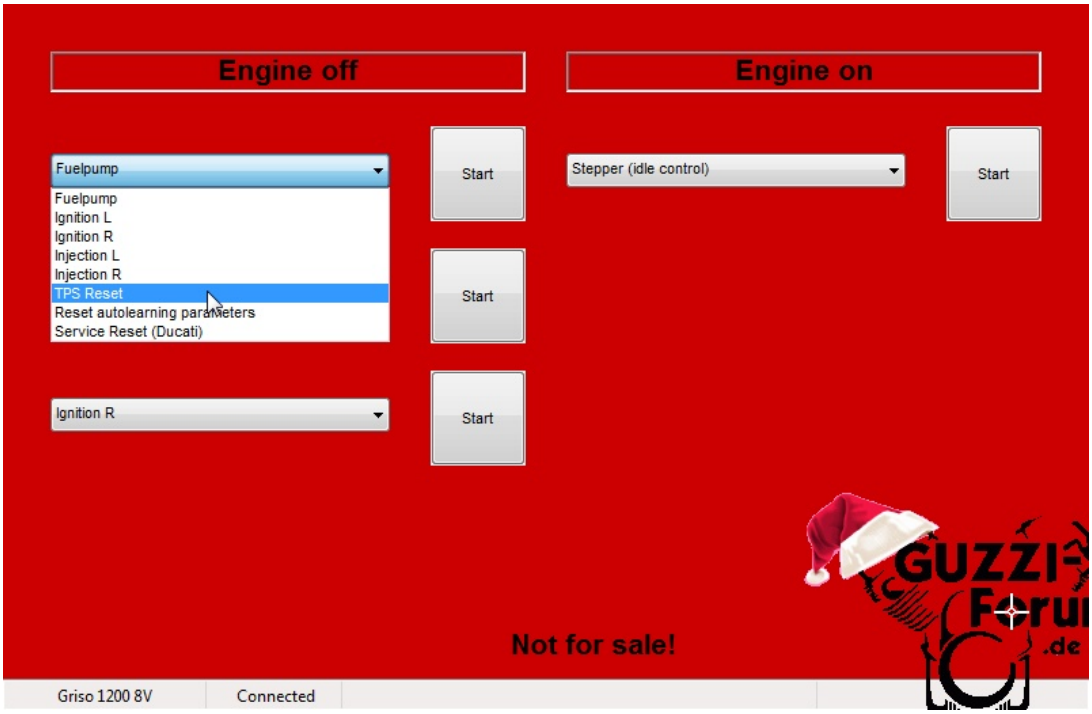
Let's reset it! Click on 'View' -> 'Actors'. You will see the 'Actors' menu.



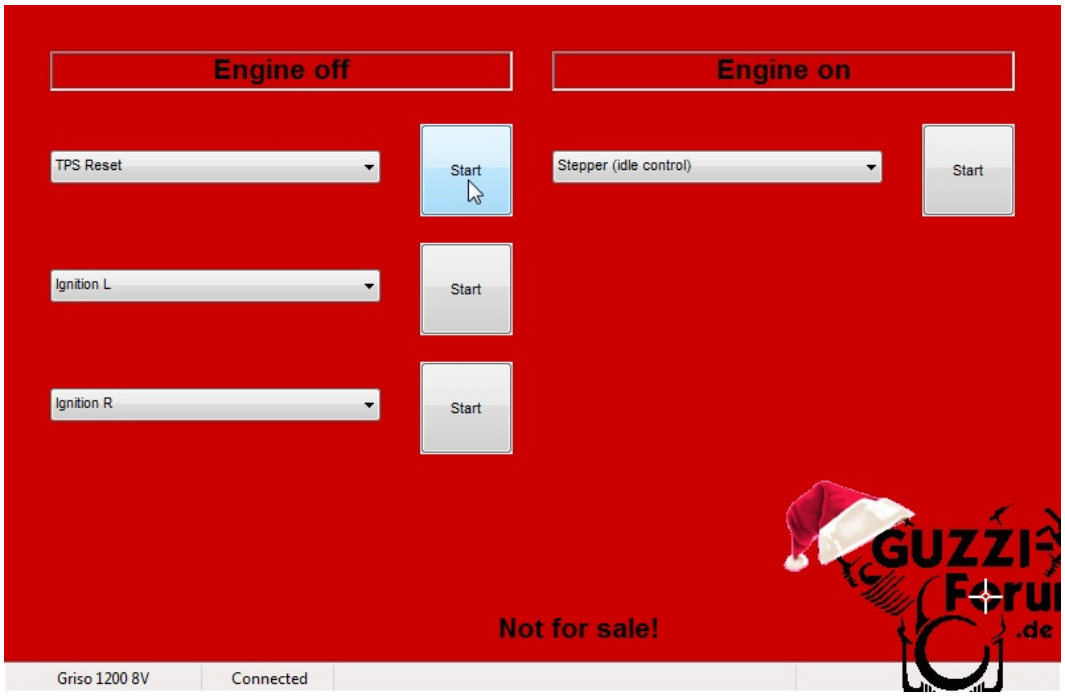
Next, click on one of the drop-down selection boxes under 'Engine Off'



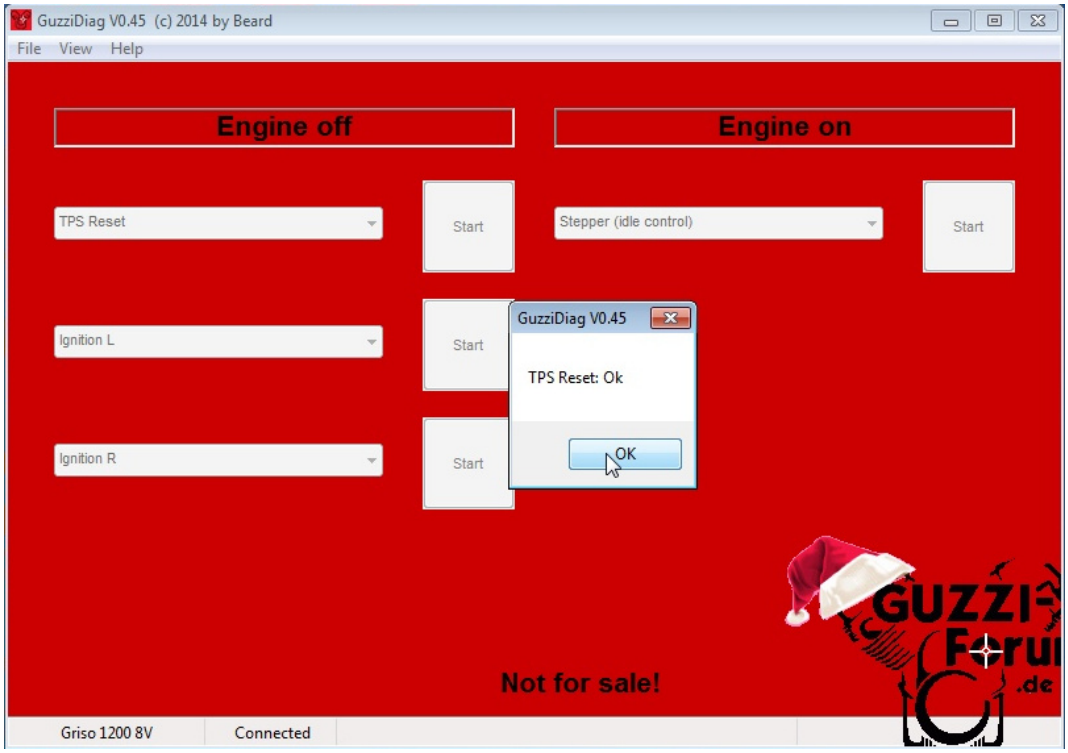
Select TPS Reset (for Cali 1400 - Handle Self Learning or Throttle Self Learning)



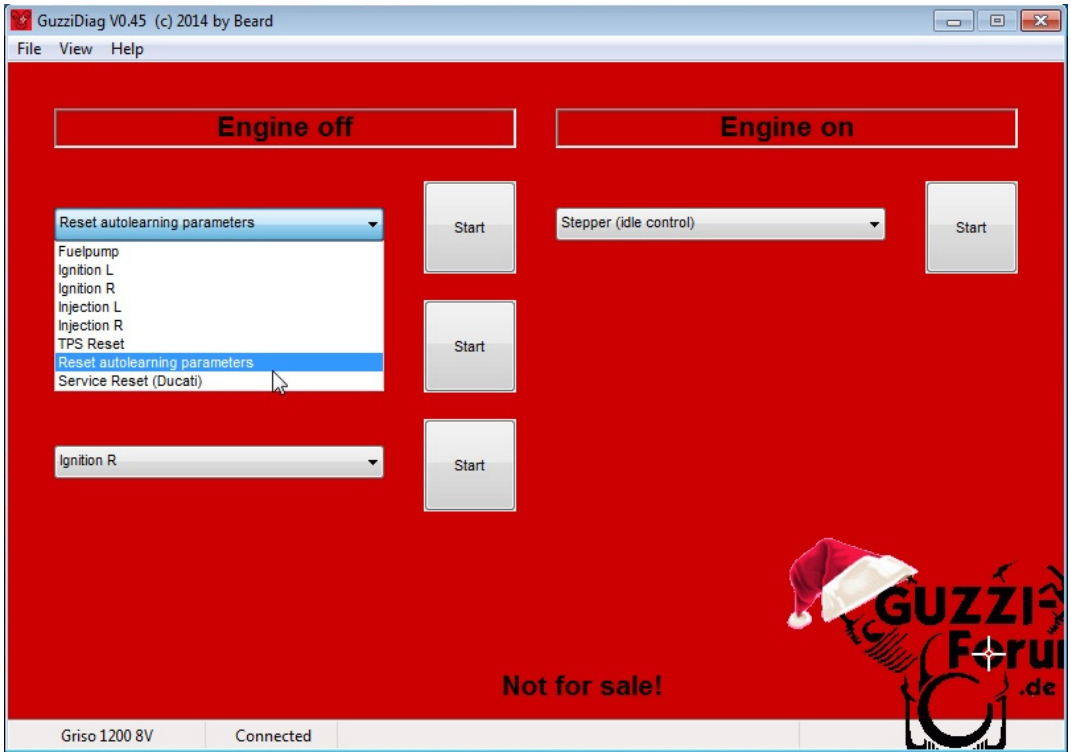
Click 'Start'



You'll get the TPS Reset OK dialog. Click OK. For Cali 1400, GuzziDiag will ask you to switch off the key, then close GuzziDiag. Do not switch off the key. Close GuzziDiag, then reopen it and perform the next step. That is: Handle Self Learning -> close GuzziDiag -> Reopen GuzziDiag -> Throttle Self Learning.



To reset the Autolearning parameters (ECU fuel trims), using the drop-down selection box, select 'Reset autolearning parameters', then click 'Start'. Not required for 15M bikes.

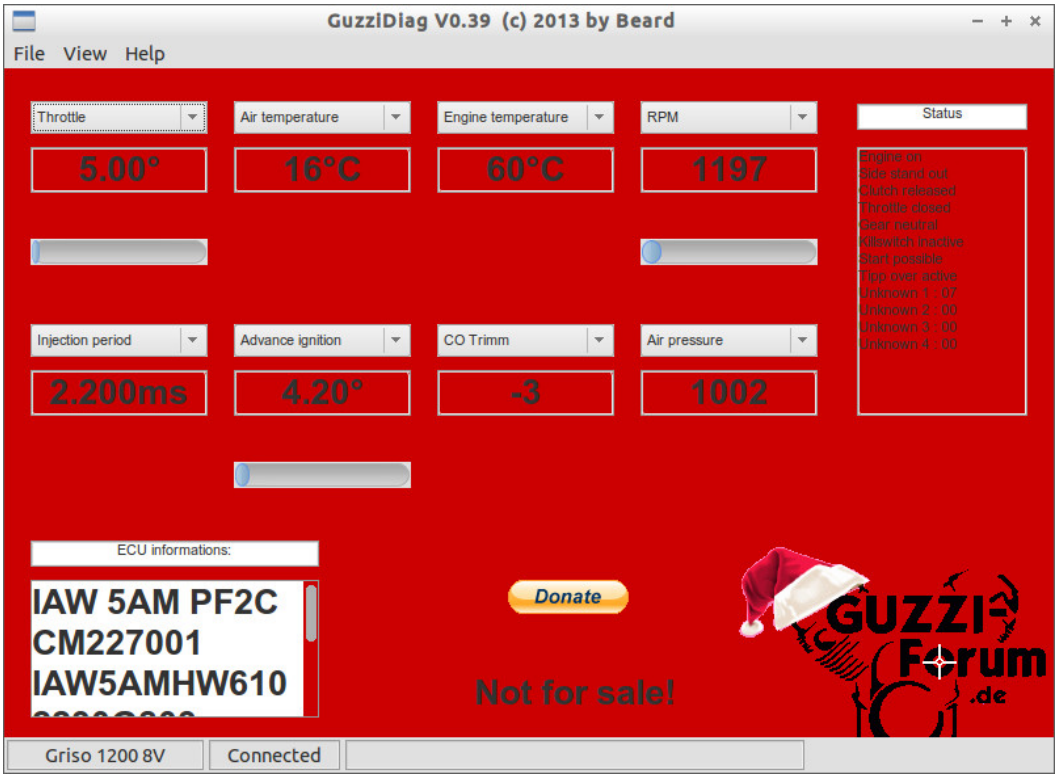


Once you are done, click "File" -> "Disconnect"

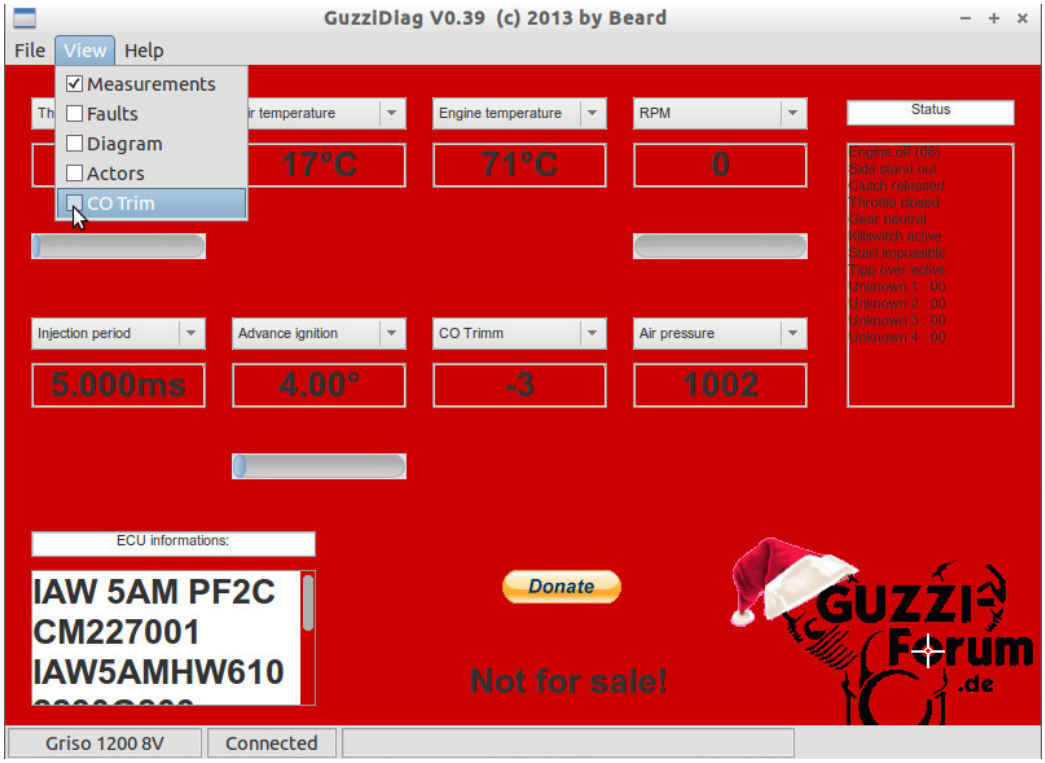
CO Trim - 5AM & 15M/15RC only. The MIUG3 & 7SM do not have this feature.

If you load a new map or do something simple to your stock map like switch of the lambda sensor, you may find you need to adjust the CO trim for a smoother idle or less smelly idle (too much fuel). You should only do this after a test ride or if you have a rough idle. For example, the 8V idles at 1200 +/- 50, 2V 1100 at 1100 +/- 100. If your idle is low, or very lumpy, you may need to go positive. If your idle is high, you may need to go positive or negative. If you smell unburnt fuel, you should go negative.

To do this with GuzzDiag, get your engine up to temperature (which is 60 deg celsius). Go for a short ride or let it idle with GuzziDiag connected so you can monitor the engine temp.



Once up to 60C, hit the kill switch. Click on 'View' -> 'CO Trim'



You will get the following dialog box. Click 'OK'

You will then be presented with the CO trim menu. Click 'Start'

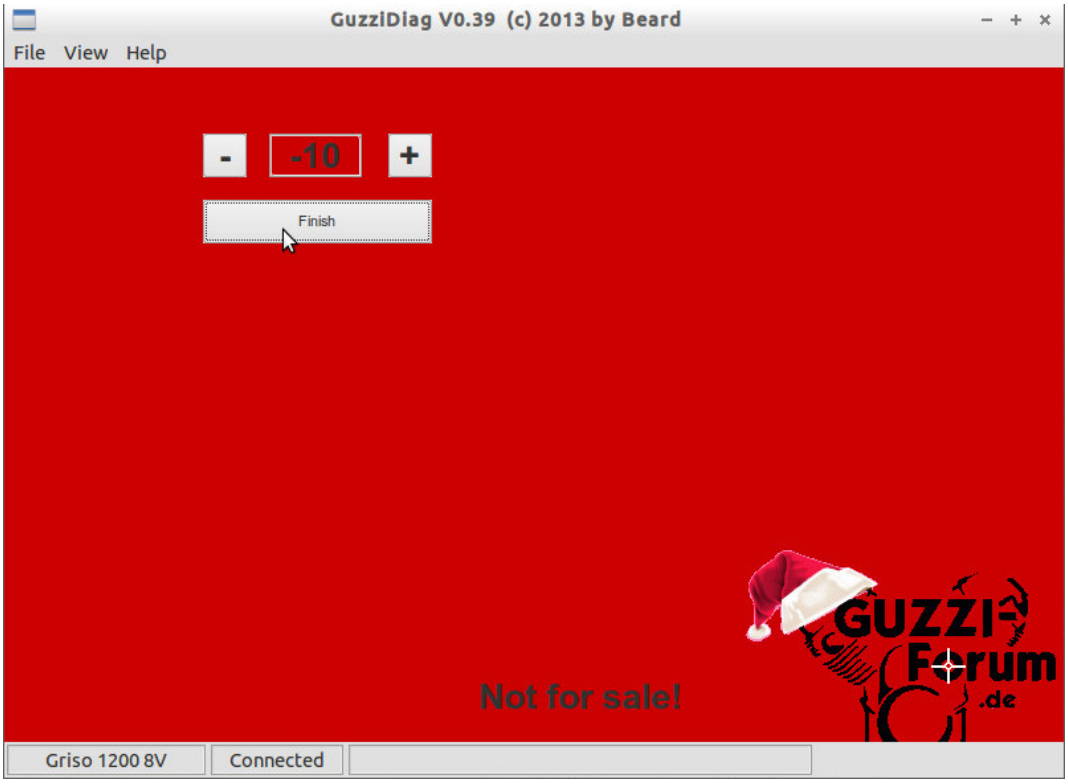
You will get a dialog box that asks you to start your engine. Click 'Ok' and start 'er up.

With the engine running, click the plus '+' or 'minus '-' button to adjust the CO trim. You can go up to +128 or down to -128. Every +/-1 step adds or removes 100uS to the injection pulse. The entire rev range is affected, although the greatest affect is at idle. The effect is non-linear. Adjusting CO too far will affect the midrange and top end.

What value you use will depend on what type of map you have installed and what you are trying to achieve. If you have one of my maps built specifically for the exhaust you have, you should only need to go +/- a small amount. If you smell unburnt fuel, try going to -5. Wait 15-20 seconds. Click 'Finish'. Let it idle for a few seconds. Better or worse? Go up or down as needed. With each change, make sure you wait ~20 seconds between adjustments, and be sure to click 'Finish'. If you have a rough or lumpy idle, try going positive first. Say, +3 or +5. Better or worse? Go up or down as needed. If you have to go more than 10 in either direction, you have the wrong map, you have a mechanical issue you should address, or may have forgotten to reset the TPS or relearn the throttle.

When you click 'Start' to make another adjustment, GuzziDiag will ask you start your engine again, but as it is already running, simply click 'OK' and go. Repeat as necessary until idle is smooth and at your required idle RPM. Always make sure you hit the 'Finish' button when you've made a change. Once done, hit the kill switch.

Try not to let the engine get too hot. You can't hurt anything by adjusting the CO trim, unless you set the number too negative, in which case the engine may run lean. If you feel you haven't quite got it right, let the engine cool off and start again. Of course, you can use a fan to assist with cooling.



Done!