ZFG Racing LLC
HP Tuners - Custom Tuning Guide

ZFG RACING LLC

COMPLIANCE WITH EMISSIONS REGULATIONS

U.S. motor vehicle emissions standards are intended to help achieve and maintain air quality goals that benefit human health and the environment. U.S. laws and regulations prohibit operation on public roads any motor vehicle that violates applicable emission standards. The U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), and other regulatory agencies are responsible for implementing and enforcing applicable emission standards. In particular, the U.S. Clean Air Act (CAA) prohibits "tampering", i.e., the alteration of certified production vehicles to modify, remove, or render inoperable emissions control hardware or software. Tampering with motor vehicles emissions control systems is punishable by substantial monetary penalties. Consumers are responsible for complying with laws prohibiting tampering, and for ensuring that modified vehicles are operated in compliance with applicable U.S. laws.

It is ZFG Racing LLC's ("ZFG," "we," "our") policy not to manufacture, offer for sale, sell, convey, or otherwise transfer any product, including Handheld Devices, Pre-Loaded Tunes, or Calibrations that contain features to bypass, defeat or render inoperative the following: EGR, Rear Oxygen Sensors, SCR, DPF, NAC, DOC, or any diagnostic trouble codes (DTCs) associated with these emission controls. Products and calibrations sold by ZFG shall retain the full operation and functionality of the On Board Diagnostic System (OBD) and continue to satisfy applicable emissions requirements.

Although ZFG offers for sale products with CARB EO certifications, we maintain a site-wide policy of NO SALES TO CALIFORNIA.

In an effort to help consumers maintain compliance with emissions regulations, product descriptions on this site may include emissions-related warnings and notices. This page summarizes the emissions-related information that you may see in this website/catalog. The process of adding these descriptions is done in good faith and is a work in progress.

Products With a California Air Resources Board Executive Order (CARB EO) Number

Products within this category are identified on ZFG's website with the corresponding California Air Resources Board (CARB) Executive Order (EO) number and the following description:

CARB EO: XXXXX

Such products are considered "Street Legal" because they have an EO from CARB. The manufacturer demonstrated through emissions testing that the use of these parts does not adversely affect vehicle emissions.

Parts with a CARB EO may be installed in accordance with the product specifications, and such vehicles may be driven on public roads. Products within this category should be installed and used properly in order to maintain compliance with emissions standards.

Products With a Reasonable Basis Determination - Emissions Testing Verified to Have No Adverse Effect on Emissions

The EPA's longstanding view is that conduct that may be prohibited by CAA § 203(a)(3) does not warrant enforcement if the person performing that conduct has a documented, reasonable basis for knowing that the conduct does not adversely affect emissions.

Products within this category have been determined -- by ZFG or the original manufacturer -- to be unlikely to adversely affect emissions of a certified production vehicle, so long as such products are installed and used in accordance with the product specifications. Emissions testing for these products, unless otherwise noted, was performed by an independent testing facility, with guidance from SEMA Garage Emissions Compliance, using good engineering judgment to test the worst-case scenario tune on the worst-case vehicle (in accordance with product specifications).

Such products are identified on ZFG's website with the following notice:

ZFG Racing LLC Reasonable Basis File Number: XXXXX

Products within this category, to the best of ZFG's knowledge and understanding, demonstrate a reasonable basis that they do not adversely affect vehicle emissions and retain the full operation and functionality of the On-Board Diagnostic System (OBD) Emissions Related Items, and will continue to satisfy emissions requirements, such as meeting standards within useful life or maintaining emissions performance outside useful life. Such labeling does not indicate products are 50 state legal. Consumers are advised to make sure that such parts are installed and used properly in order to maintain compliance with emissions standards.

Reasonable Basis testing under the guidance of SEMA Garage Emissions Compliance for reasonable basis often coincides with CARB EO pending. Additional documentation available upon request.

Competition Use Only Products

Products labeled or marked as "Competition Use Only" or "Track Use Only" are products manufactured by Company or others, which are not intended for use on any vehicle driven on public roads, and such products are marketed and sold by Company for installation on vehicles to be used solely for competition motorsports ("Competition Use Only Products").

All Competition Use Only Products sold after October 1, 2021, require a signed Competition Use Waiver before the order can be processed and shipped. The Competition Use Waiver must be completed for every order containing Competition Use Only Products. The Competition Use Waiver can be found here <link to wavier> and is submitted via our portal.

Competition Use Only Products will be accompanied by the following warning:

WARNING: This is a Competition Use ONLY Product manufactured and sold for installation on vehicles to be used solely for competition motorsports, which, once such product is installed, may never be used, or registered or licensed for use upon a public road or highway. Any other use, including recreational off-road use, may be in violation of local, state, and Federal laws. ZFG Racing LLC does not implicitly or explicitly confirm the legality of using any products it sells on public roads; that is entirely the responsibility of the consumer. If a Competition Use Only Products is installed on a vehicle and that vehicle is used on a public road or highway, it may be considered in violation of the Clean Air Act and personally subject to substantial civil penalties.

Other Items

Parts that are not accompanied by any of the above notices are either considered by the manufacturer to be unlikely to affect motor vehicle emissions in most vehicle applications, when properly installed and used OR are products that do not require a CARB EO as identified by California's Bureau of Automotive Repair (BAR.CA.gov) OR have an emissions status that is not known by ZFG. Any and all questions regarding products that are not accompanied by any of the above notices and are related to emission shall be directed to the original equipment manufacturer.

Contents

ZFG RACING LLC

Part Numbers Supported by Reasonable Basis

Part Number	Application	OEM Brand	Reasonable Basis File #
ZFG-20-EXPLORER-3.0-CT001	2020+ Explorer 3.0l Custom Tune	FORD	RBF-001
ZFG-20-AVIATOR-3.0-CT001	2020+ AVIATOR 3.0l Custom Tune	LINCOLN	RBF-001
ZFG-15-EDGE-2.7-CT001	2015-2018 EDGE SPORT 2.7l Custom Tune	FORD	RBF-001
ZFG-18-EDGE-2.7-CT001	2018+ EDGE ST 2.7l Custom Tune	FORD	RBF-001
ZFG-17-FUSION-2.7-CT001	2017-2020 FUSION SPORT 2.7l Custom Tune	FORD	RBF-001
ZFG-19-NAUTIUS-2.7-CT001	2019+ NAUTIUS 2.7l Custom Tune	LINCOLN	RBF-001
ZFG-16-MKX-2.7-CT001	2016-2018 MKX 2.7l Custom Tune	LINCOLN	RBF-001
ZFG-17-MKZ-3.0-CT001	2017-2020 MKZ 3.0l Custom Tune	LINCOLN	RBF-001
ZFG-17-CONTINENTAL-3.0-CT001	2017-2020 CONTINENTAL 3.0l Custom Tune	LINCOLN	RBF-001
ZFG-17-CONTINENTAL-2.7-CT001	2017-2020 CONTINENTAL 2.7L Custom Tune	LINCOLN	RBF-001
Part Number	**Application**	**OEM Brand**	**Reasonable Basis File #**
ZFG-17-RAPTOR-3.5-CT001	2017-2020 Raptor 3.5L Custom Tune	FORD	RBF-002
ZFG-17-F150-3.5-CT001	2017-2020 F150 3.5L Custom Tune	FORD	RBF-002
ZFG-15-F150-3.5-CT001	2015-2016 F150 3.5L Custom Tune	FORD	RBF-002
ZFG-18-EXPEDITION-3.5-CT001	2018+ EXPEDITION 3.5L Custom Tune	FORD	RBF-002
ZFG-15-EXPEDITION-3.5-CT001	2015-2017 EXPEDITION 3.5L Custom Tune	FORD	RBF-002
ZFG-18-F150-2.7-CT001	2018-2020 F150 2.7L Custom Tune	FORD	RBF-002/RBF-001
ZFG-15-F150-2.7-CT001	2015-207 F150 2.7L Custom Tune	FORD	RBF-002/RBF-001
ZFG-18-NAVIGATOR-3.5-CT001	2018+ NAVIGATOR 3.5L Custom Tune	LINCOLN	RBF-002
ZFG-15-NAVIGATOR-3.5-CT001	2015-17 NAVIGATOR 3.5L Custom Tune	LINCOLN	RBF-002

Competition Use ONLY tunes:

TDN/MOBILE Based Tuning

Getting Started

Visit www.tunedbyzfgracing.com/hp-tuners for the latest version of these instructions, they are updated on an as need basis. Remember, VCM Suite will need a Windows Based Laptop or tablet running a full version of Windows 10 and RTD+/MPVI2+ for Apple iOS as well as RTD/RTD+ and MPVI2/MPVI2+ for Android for TDN. To start, we'll talk about the addition of the TDN [Tune Delivery Network] Apple & Android OS users are now able to Read/Write and Data Log all from your wireless mobile device [Pending your model is supported]. To Download and install both HP Tuners RTD Flasher and HP Tuners VCM Suite Beta, visit the ZFG website listed above. For laptop-based tuning, we will be using RTD+, MPVI2+ and VCM scanner for your custom tune!

If you're on Apple/Android, you can begin to download the "Tune Delivery Network" TDN – application from the Apple and or Google Play Store.
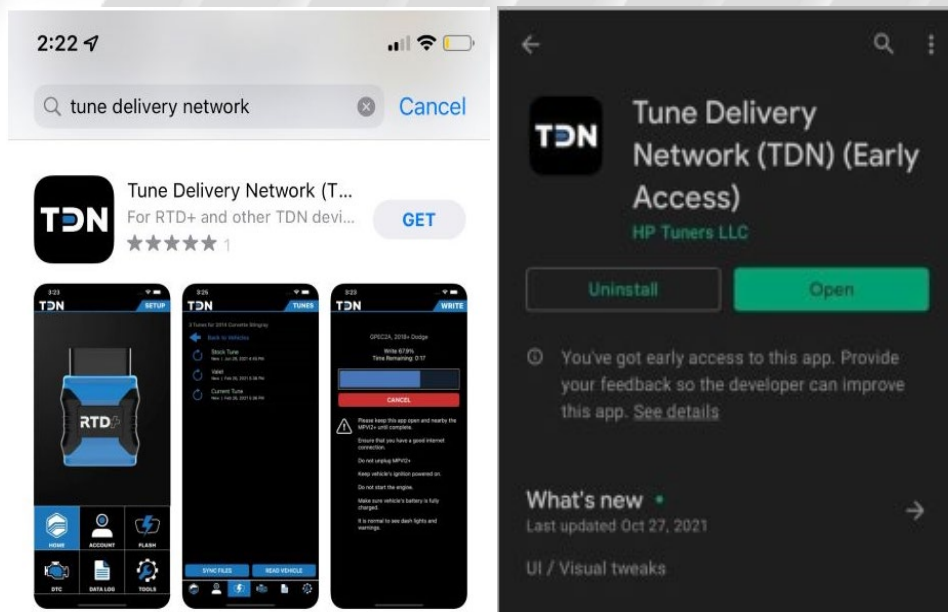
Tune Delivery Network Application Setup

Now that you've downloaded and installed the TDN application on your mobile device, you'll need to get started by Syncing your MPVI2+ or RTD+ credits. To do so, start by clicking "Tools" and select "Resync MPVI2+ Credits" and follow the onscreen prompts.
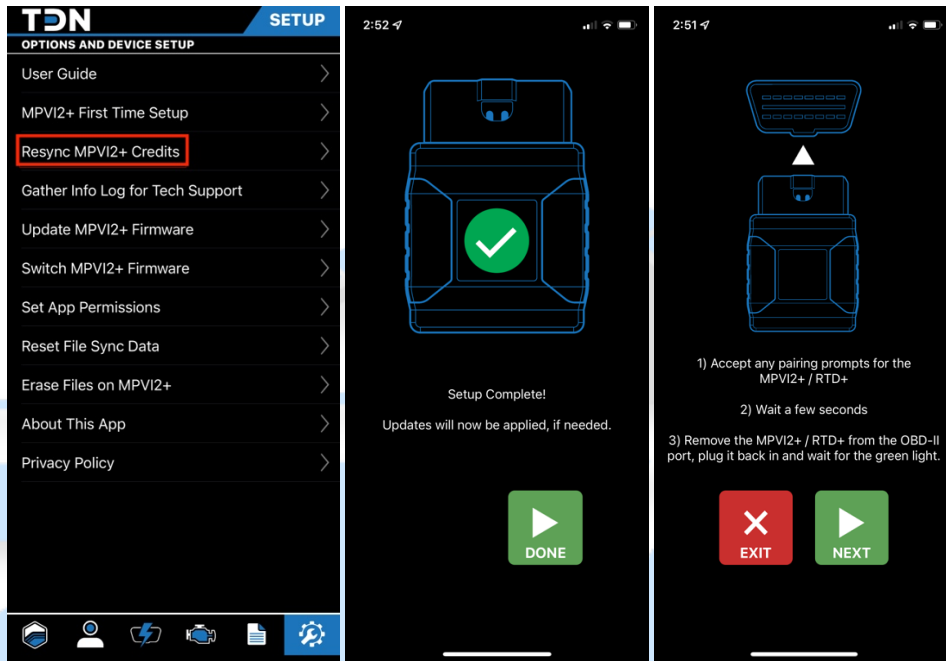

Once this is complete, you'll need to add your Tuner. Start by opening the application and on the home screen, select "Account". You'll need to log into your HP Tuners account. This is the same account login that you'd use on the ZFG Racing Website. Once logged in, please input your "**Invite Code" – TFWP-6913 and click "JOIN".**
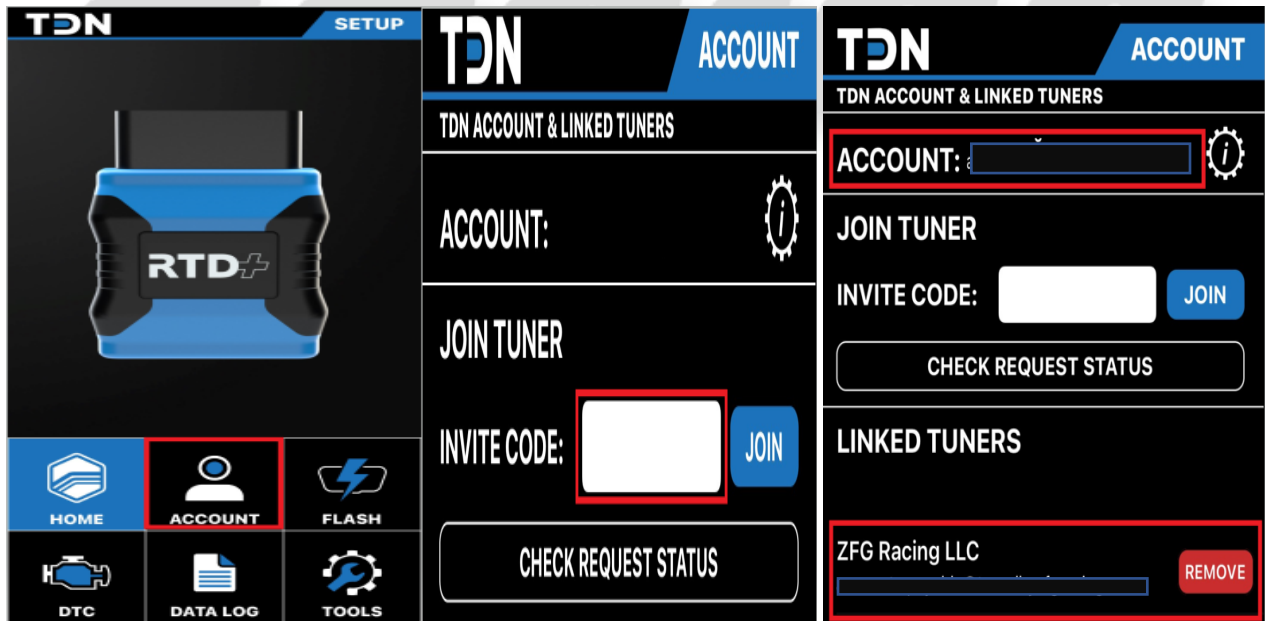
Now that you've connected to your device via Bluetooth and synced, the next step is to send an initial "Read" file to your tuner. This will allow your tuner to build a base map tune and return to you for "Writing". To do this, click on "Flash" from the home screen. Note: The reading process can take several minutes.
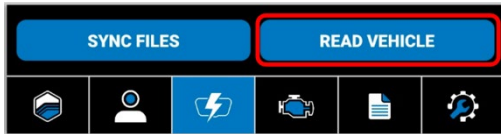
Once the read process has completed. Your tune will automatically be sent to your linked tuner. Once your tuner has created a base map, the tune will be returned to your TDN account for writing.
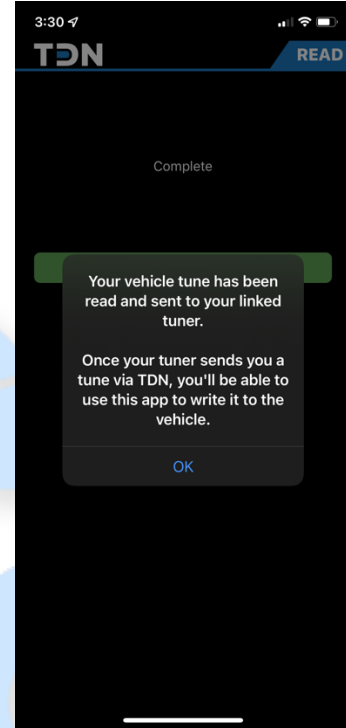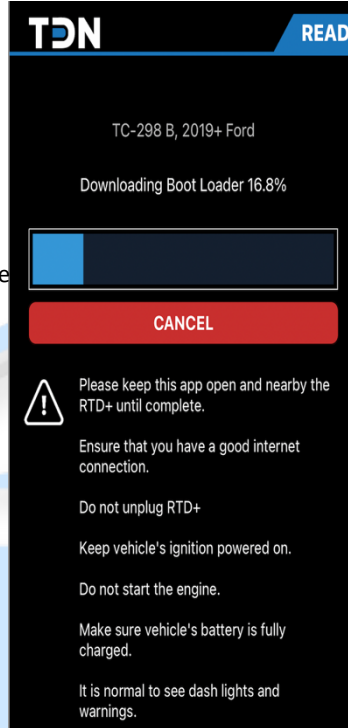
Note: Lastly, if you've not submitted a TDN request – please do so by clicking on "Tuning Central" from www.tunedbyzfgracing.com/hp-tuners. A TDN Request Form is "Mandatory" every time you send Data to your Tuner. Submitting this request is what notifies your tuner that a change file, data log or misc. request has been submitted. These TDN requests are worked in the order they are received. Please allow 2-3 business days to process your request before contacting ZFG Racing LLC.

Now that your tuner has submitted Base Maps and or Tune Revisions to your TDN account. You can sync and review these files from within the "Flash" Menu. Once in this menu, select a tune that you wish to load and once the green check mark is next to it, click "Write".
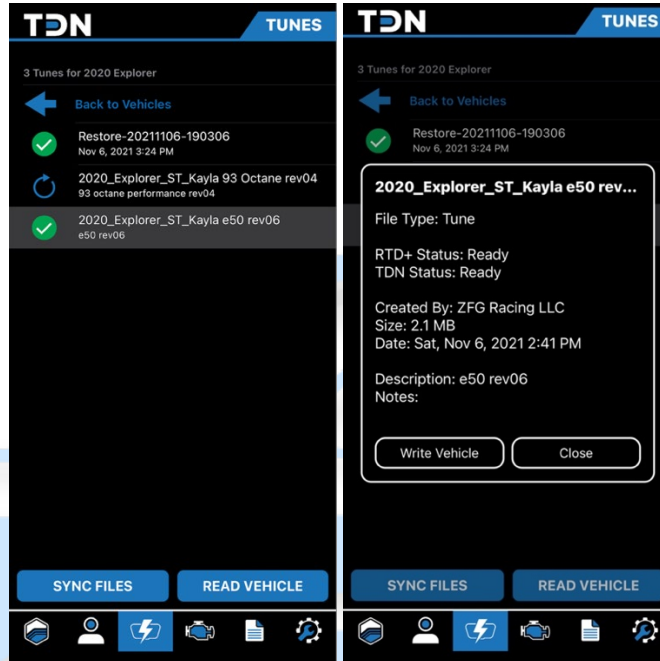
The write process will look just like the read process during the load.
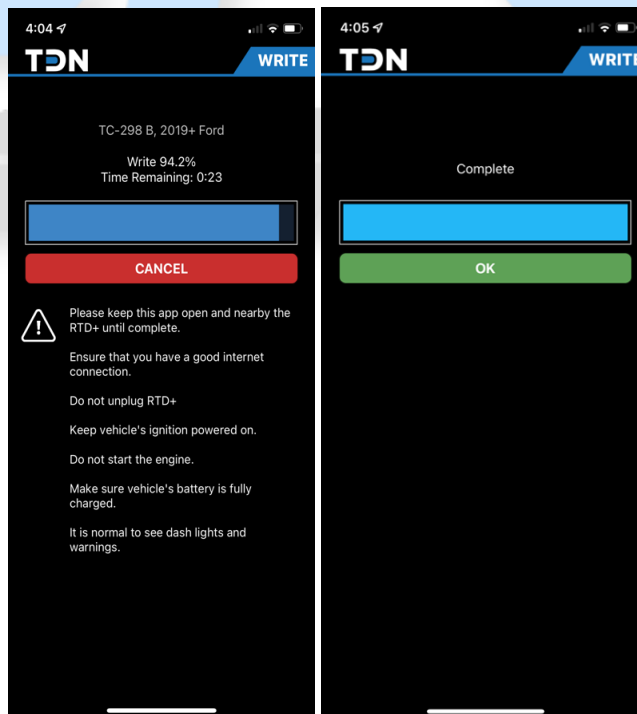
Creating Data Logs

Now that you've learned how to Setup, Sync, Read and Write tunes to your vehicle. Let's talk about datalogging. Data logging is the process of collecting data and storing that data for your Tuner to review. To do this, follow the below instructions.

1. Tap on the **Data Log** button on the **Navigation Bar**.

2. Tap in the 'i' gear icon near the top right to choose an appropriate time limit for this logging session.
3. Connect your MPVI2 to our vehicle and start the engine.
4. Tap the **Start** button to start the session. Pay attention to the status displayed, as there is a delay before logging starts.
5. Once the data logging process is underway, a screen with gauges will appear, allowing you to monitor your vehicles data in real-time. This screen can be displayed in both landscape and portrait views.

6. When complete, tap the **Stop** button to end the logging session.
7. There may be many log files stored on the MPVI2 that may not be useful to your tuner. For this reason, files will not be uploaded automatically.
8. To upload a log to your tuner, click **View & Sync Files**. Tap on the desired file and select **Upload**
9. Note: If you have any incomplete or aborted data logging sessions, you can remove them by swiping left, and then tapping on **Delete**. If you've not submitted a TDN request – please do so by clicking on "Tuning Central" from https://www.tunedbyzfgracing.com/hp-tuners. A TDN Request Form is "Mandatory" every time you send Data to your Tuner. Submitting this request is what notifies your tuner that a change file, data log or misc. request has been submitted. These TDN requests are worked in the order they are received. Please allow 2-3 business days to process your request before contacting ZFG Racing LLC.
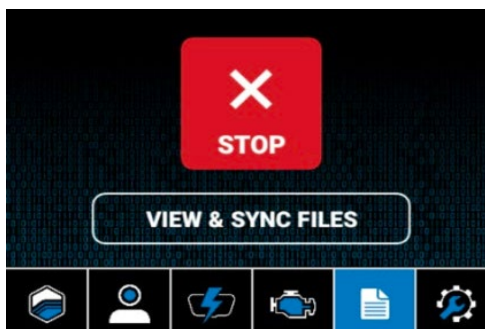
The last feature of the TDN that we'll cover, is that you can also READ and CLEAR DTC Codes from your mobile device. From the home screen of TDN, click on the "Engine" icon at the bottom of your screen. You'll have options to "Read Codes, Share and Clear Codes". Start off by Reading Codes and then sharing with your Tuner. Once you've been given the "OK" to clear codes, do so. Note: If you're familiar with the codes that you're seeing and feel comfortable removing them at your own expense, you can do so as well.
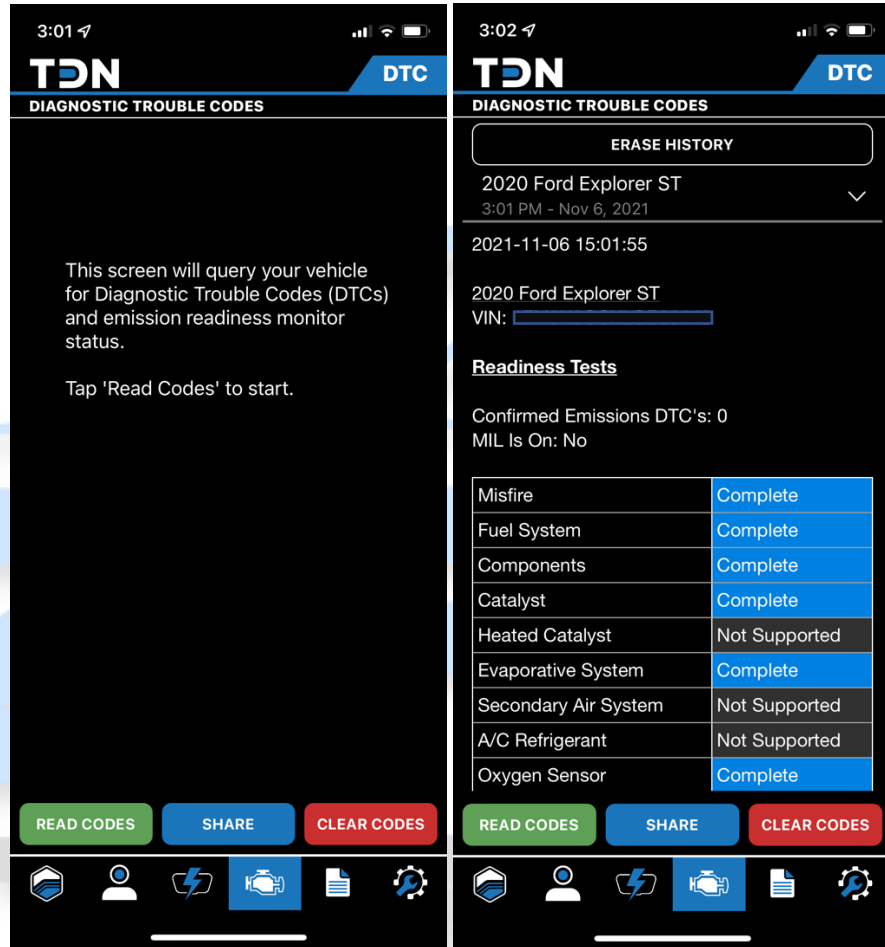
End of TDN/Mobile Tuning

Laptop Based Tuning

Reading the Stock Ecu Calibration – RTD Flasher

To get started on your custom tune we will need your stock file. This process will take approximately 20 minutes so please ensure your laptop/tablet is charged. Please follow the link below to our website to download the latest version of the RTD flasher and VCM Suite Beta if you've not already done so. We will use the RTD Flasher for tuning and VCM Scanner for data logging. If you're using an MPVI2 instead of an RTD Flasher – please revert to page 6 for Read/Write Instructions. https://www.tunedbyzfgracing.com/hp-tuners.

Note: During the tuning process, while opening a file, you may get a message that a file you are trying to open cannot be opened because it was created with a newer version of HP Tuners. If that is the case, please revisit our website and repeat the download and install process of RTD Flasher. There is no need to remove the old program as the new install will write over the older version.

Before we read the stock tune, you will need to plug your RTD Flasher into the OBD2 Port of your vehicle. Using the supplied HP Tuners USB cable. Please connect from your Laptop/Tablet to the RTD Flasher. From within the RTD Flasher Software, please select the help menu and select resync interface; this will check for updates.
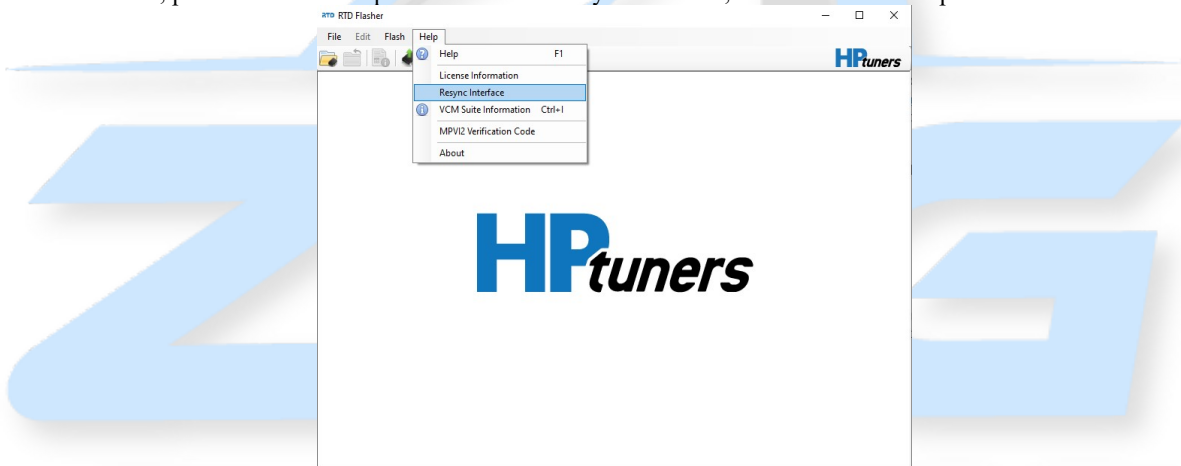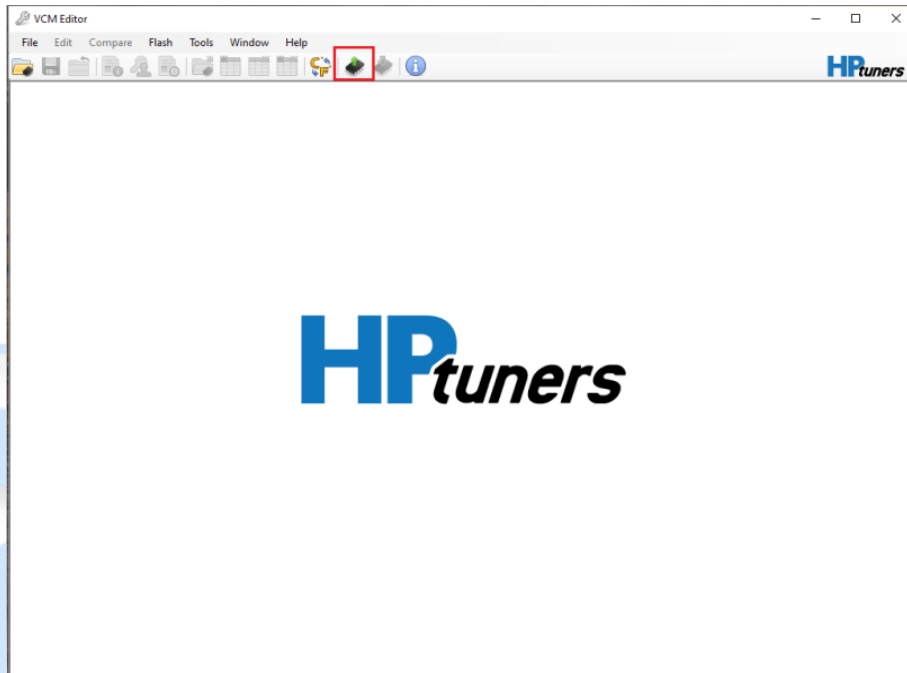

After the resync is successful, turn your vehicle's key to the run position, but do not start the vehicle. If you have a push button start, this is completed by pushing the start button with your foot off the brake pedal.

The vehicle reader menu will appear. Press "gather" info and once the info is present, press read. Note: if you have a vehicle that has and ECU and TCU you may be asked to cycle the power in between the ECU and TCU hardware read. This process can take over 20min to complete. Once completed, you will be asked to save the file. Please save the file as the year, make and model of your vehicle and you name. Ex. 2018 Ford F150 Adam Stock Tune. Once saved, please go to www.tunedbyzfgracing.com/hp-tuners and click "Tuning Central- Upload Your Data or submit a TDN request". Within 48 business hours you will receive the baseline tune! In all emails throughout the process please include your order number or invoice number in the subject line of the email!
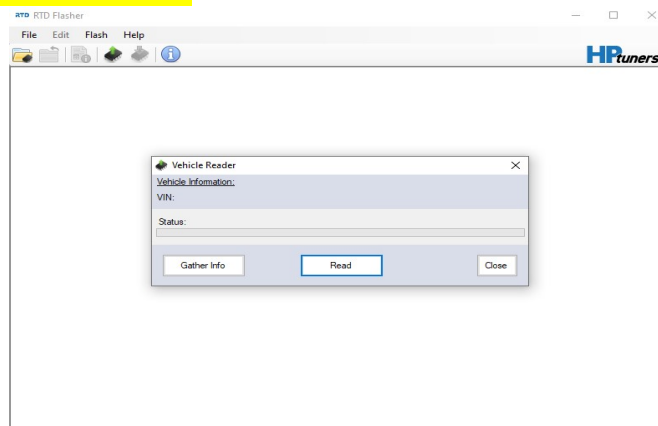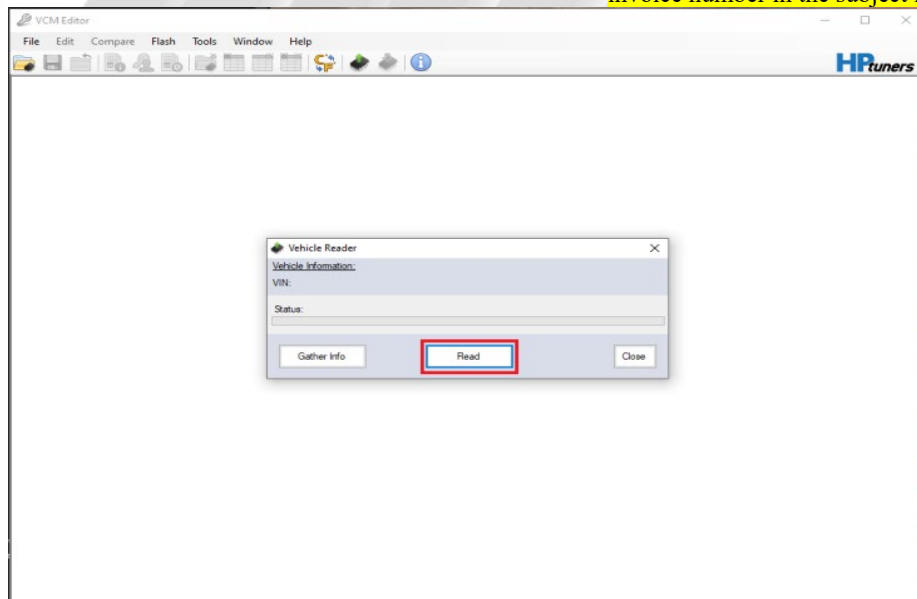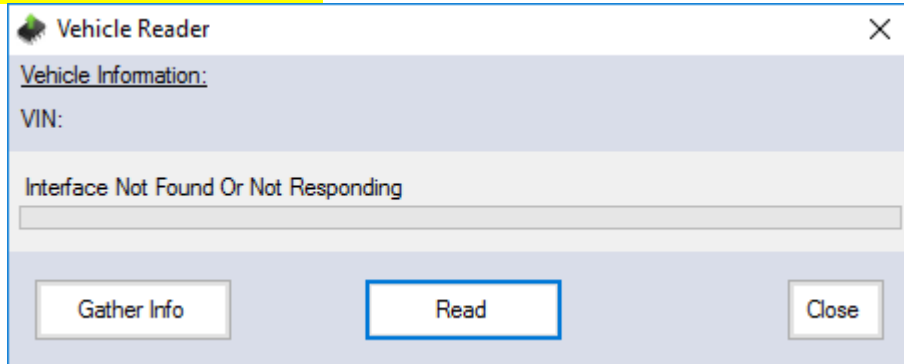
Reading the Stock Ecu Calibration – MPVI2

To get started on your custom tune we will need your stock file. This process will take approximately 20 minutes so please ensure your laptop/tablet is charged. Please follow the link below to our website to download the latest version of the VCM Editor and VCM Suite Beta if you've not already done so. We will use the VCM Editor for tuning and VCM scanner for data logging.

   This process can take over 20min to complete. Once completed, you will be asked to save the file. Please save the file as the year, make and model of your vehicle and you name. Ex. 2018 Ford F150 Adam Stock Tune. Once saved, please go to www.tunedbyzfgracing.com/hp-tuners and click "Tuning Central- Upload Your Data or submit a TDN request". Within 48 business hours you will receive the baseline tune! In all emails throughout the process please include your order number or invoice number in the subject line of the email!

To ensure you've purchased licenses, please click the "Show License Options" button, as pictured below. Once you've done this and your credits are found, you're ready to "Write" a tune file to your vehicle.   We'll outline those steps below.
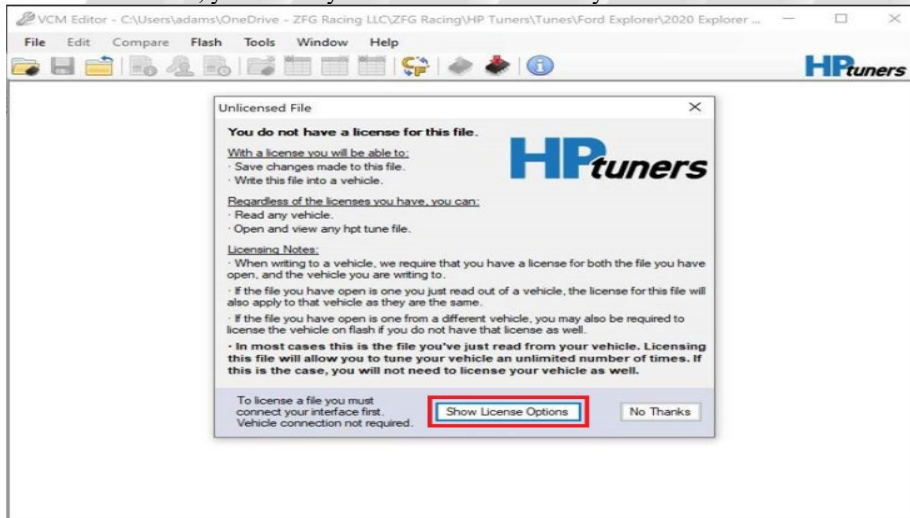
Loading the Custom Calibration – MPVI2

You will receive 2 files from calibrations@tunedbyzfgracing.com. One will be the baseline tune and the other will be the channels for VCM Scanner. To load the custom tune on to your vehicle open the tune file in VCM Editor. With the MPVI2 connected to the vehicles OBD2 Port and your Laptop/Tablet with the supplied HP Tuners USB Cable, place your vehicle into the "Run" position. After locating the Tune File and selecting it, you'll press the write button, outlined below.
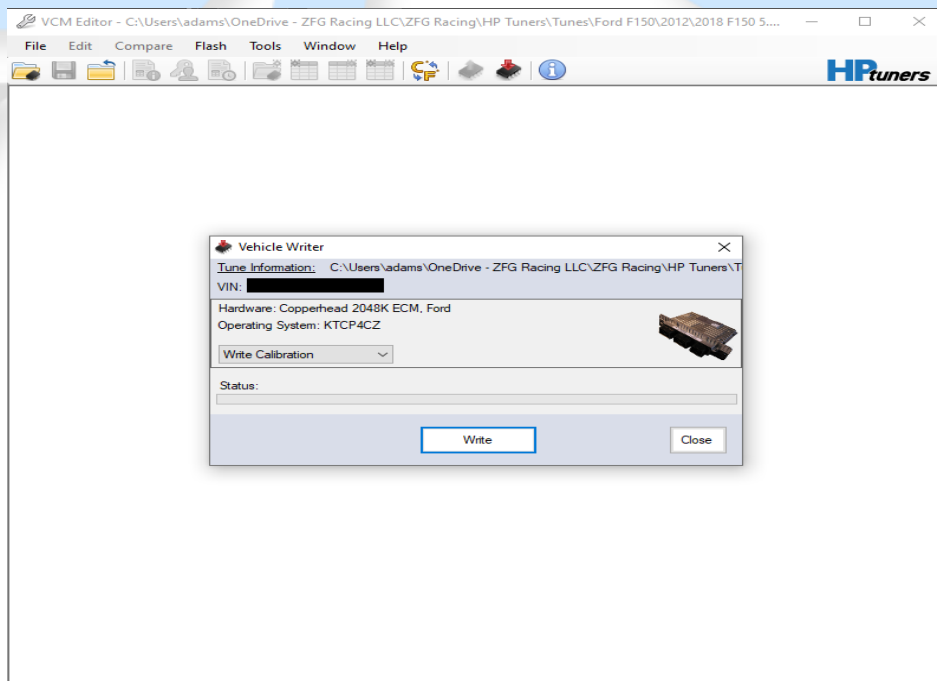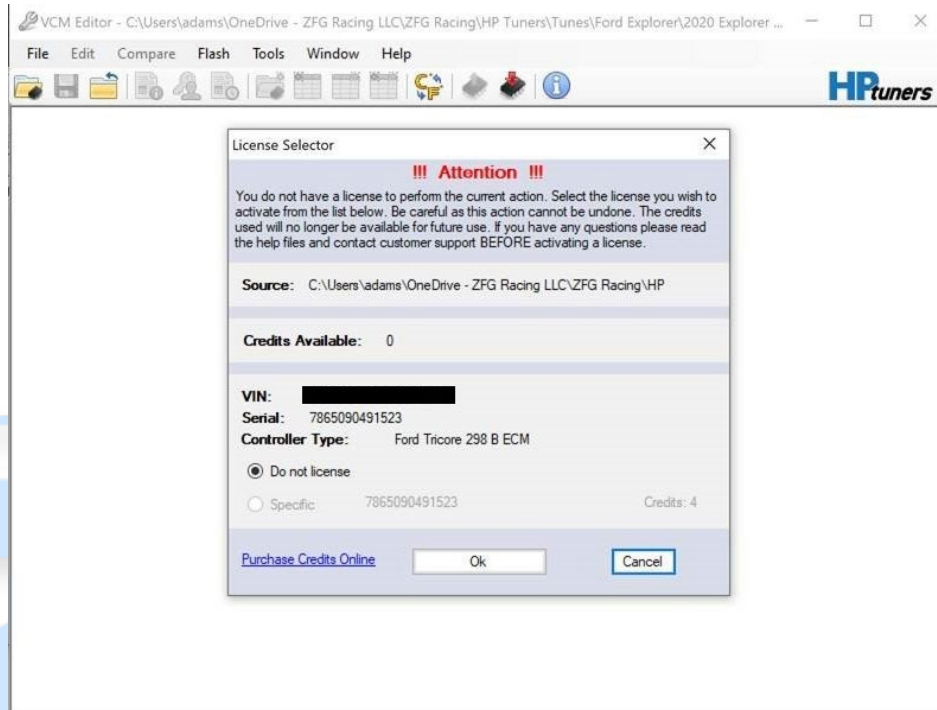
## Loading the Custom Calibration – RTD Flasher

You will receive 2 files from calibrations@tunedbyzfgracing.com. One will be the baseline tune and the other will be the channels for VCM scanner. To load the custom tune on to your vehicle open the tune file in RTD flasher. With the RTD connected to the vehicles OBD2 Port and your Laptop/Tablet with the supplied HP Tuners USB Cable, place your vehicle into the "Run" position. After locating the Tune File and selecting it, you'll press the write button, outlined below.
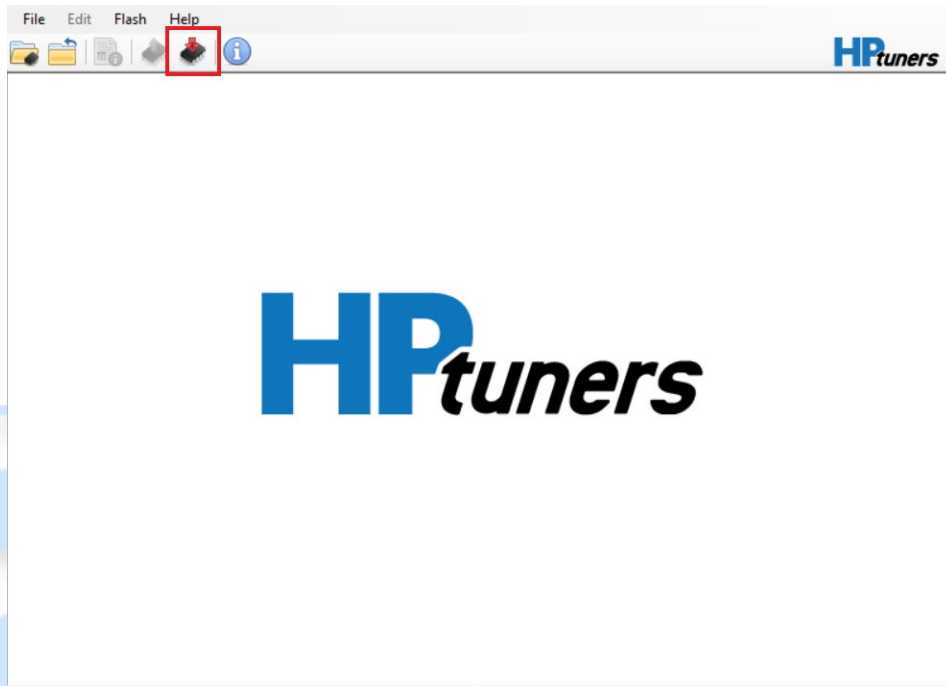
This will bring up the Licensing Menu. Click show options. Note: if your credits are not showing, press help and resync the device.
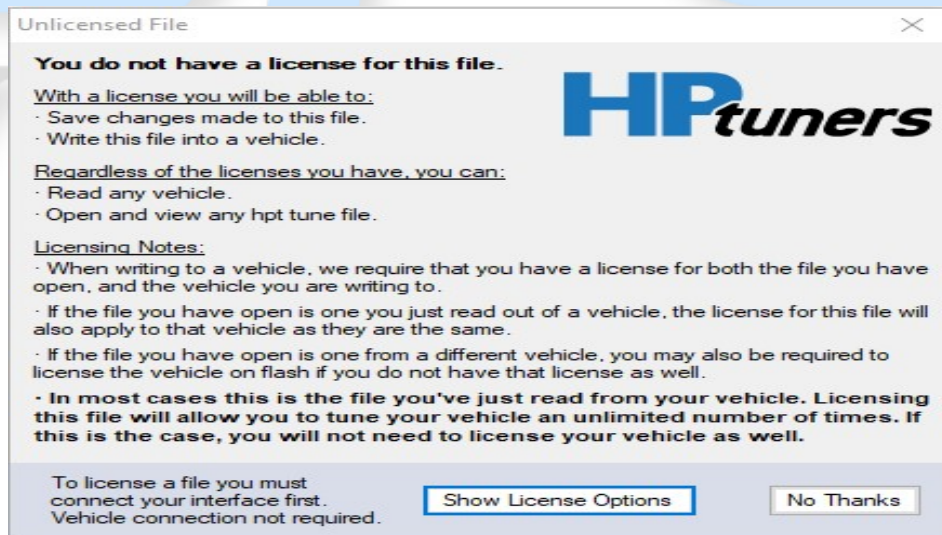
Change the selection to specific under each controller. Note: most vehicles will have only one controller, however some 10r80 equipped trucks will have 2.
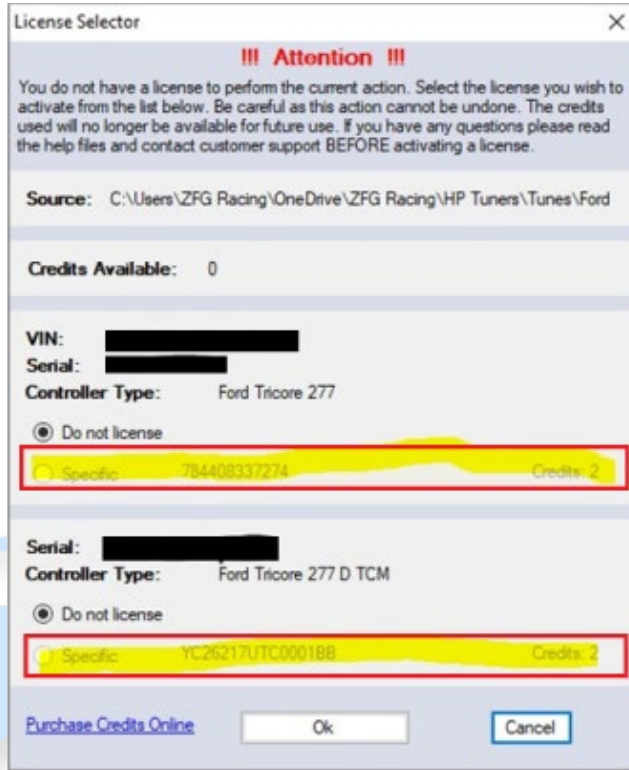

Press okay, **you will not have to repeat this process.**
Next: The vehicle writer menu will appear; press write to begin the process. This process will take 2-8 minutes depending on your vehicle. IMPORTANT: you must always perform a write entire, if write calibration is shown, please change the drop-down menu to write entire!
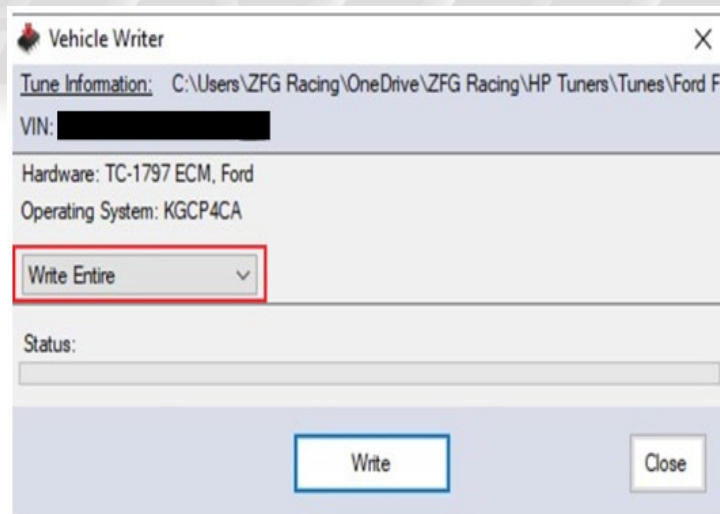

Once complete, you will need to turn the key off (wait 3 seconds) and then back on. Please note if you receive a Data Integrity "Check Failed" error message, that can be ignored. HP Tuners is aware of the error, but it has no bearing on the tune files you've loaded.
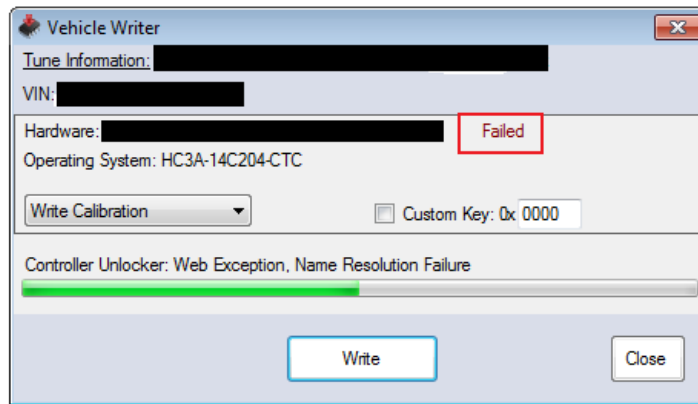
Preparing for Data Logging

Data logging is done from within VCM Scanner which is part of VCM suite Beta. You will first need to load the channels file that was included in the email with you baseline calibration. This is accomplished by opening the .XML file from the channels section of scanner.
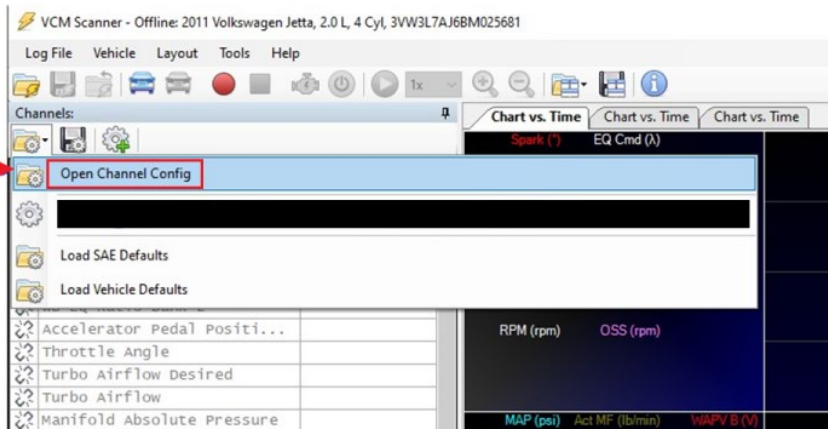
It is recommended that you connect to vehicle before starting a data log. This is done by plugging your RTD Flasher into the OBD2 Port of your vehicle and connecting your Laptop/Tablet to the RTD Flasher with the HP Tuners Supplied USB Cable.
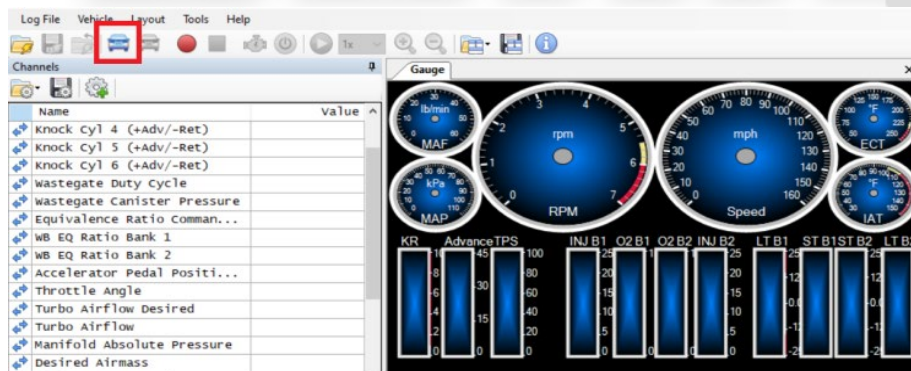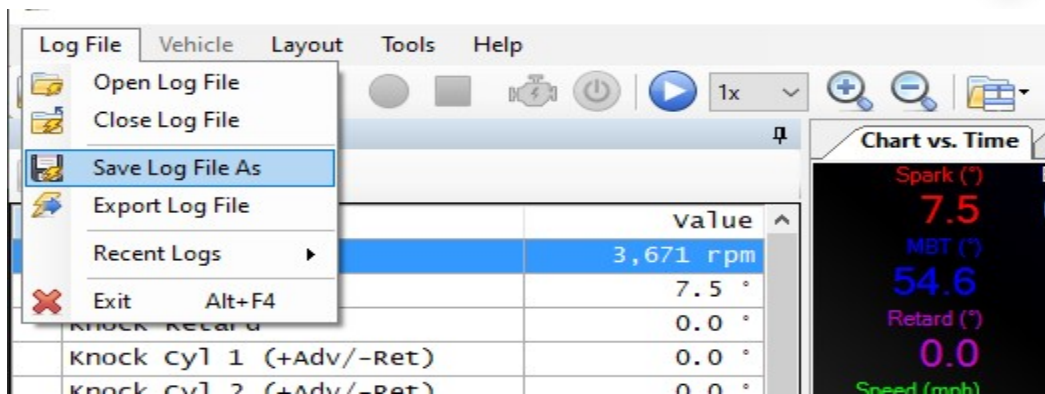
Recording Data

To start a data log, press the red record button. To stop a data log, press the blue stop button.

To stop a data log, press the blue stop button.

You will need to save the log file, to do so press Log File> Save Log As. Please include the tune type, the rev number, and a brief description in the name. <mark>Ex E50 Rev01-3rd Gear Pull</mark>

Once saved, please go to www.tunedbyzfgracing.com/hp-tuners and follow the link to submit your data log, you can put notes or questions in the comments section. If you have any questions during the process, please feel free to text (715) 600-3447 or email adam@tunedbyzfgracing.com.   As always, thank you for allowing ZFG Racing the opportunity to work with you!

Data Logs

Name *

_____

Order Number *

_____

Email *

_____

Tune Name and Revision Number *

_____

Comments

_____

⬆

Drop your data logs here! Files should be in .hpl format. Hint: you can submit more than one file!

Submit

Checking DTCs

Throughout the process you may be asked to check for Diagnostic Trouble Codes or DTC's. With the RTD Flasher connected to your vehicle <mark>but not taking a data log</mark>, click the DTC button. A new window will appear, click the Read DTCs button at the bottom and report that information via email or in the comments when you submit your data log.
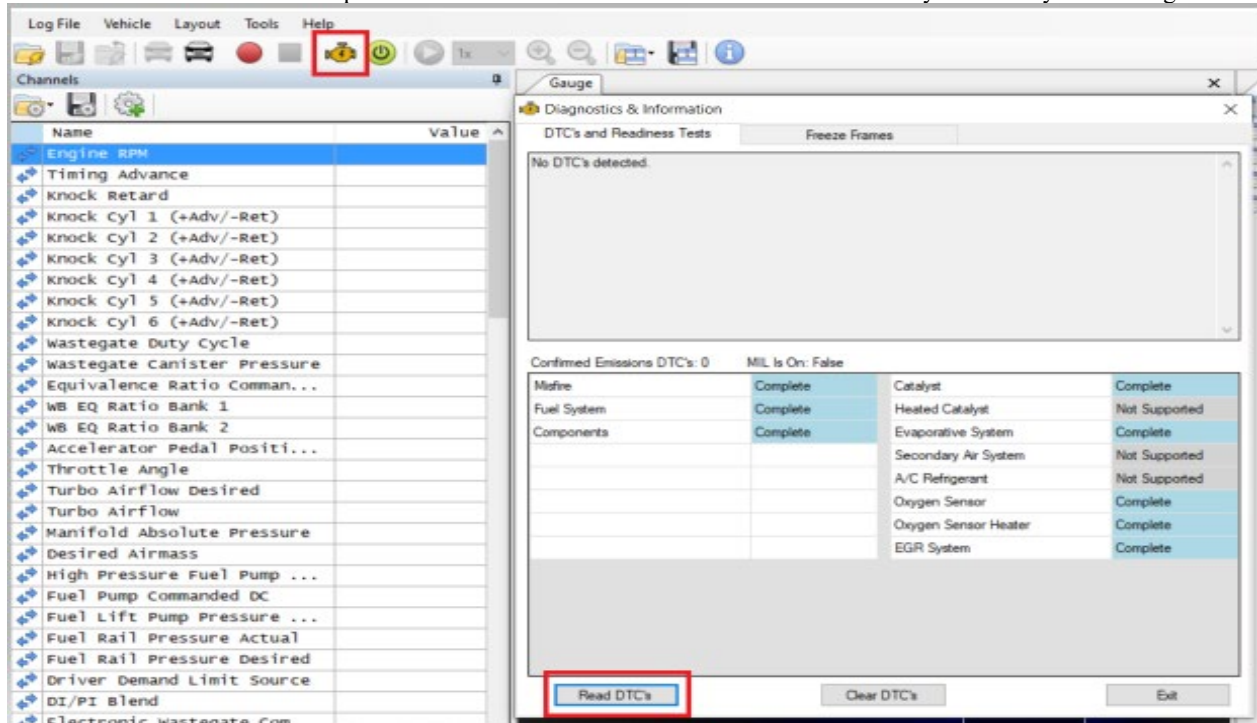
No DTC's were detected. However, if one or more DTC's are detected, please be sure to notate them during your data log submission. If you're instructed to clear the DTC codes. Please do so by clicking the "Clear DTC's" button.