



ZFG Racing LLC

HP Tuners

Custom Tuning Guide

ZFGR

RUNZFG.COM

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.

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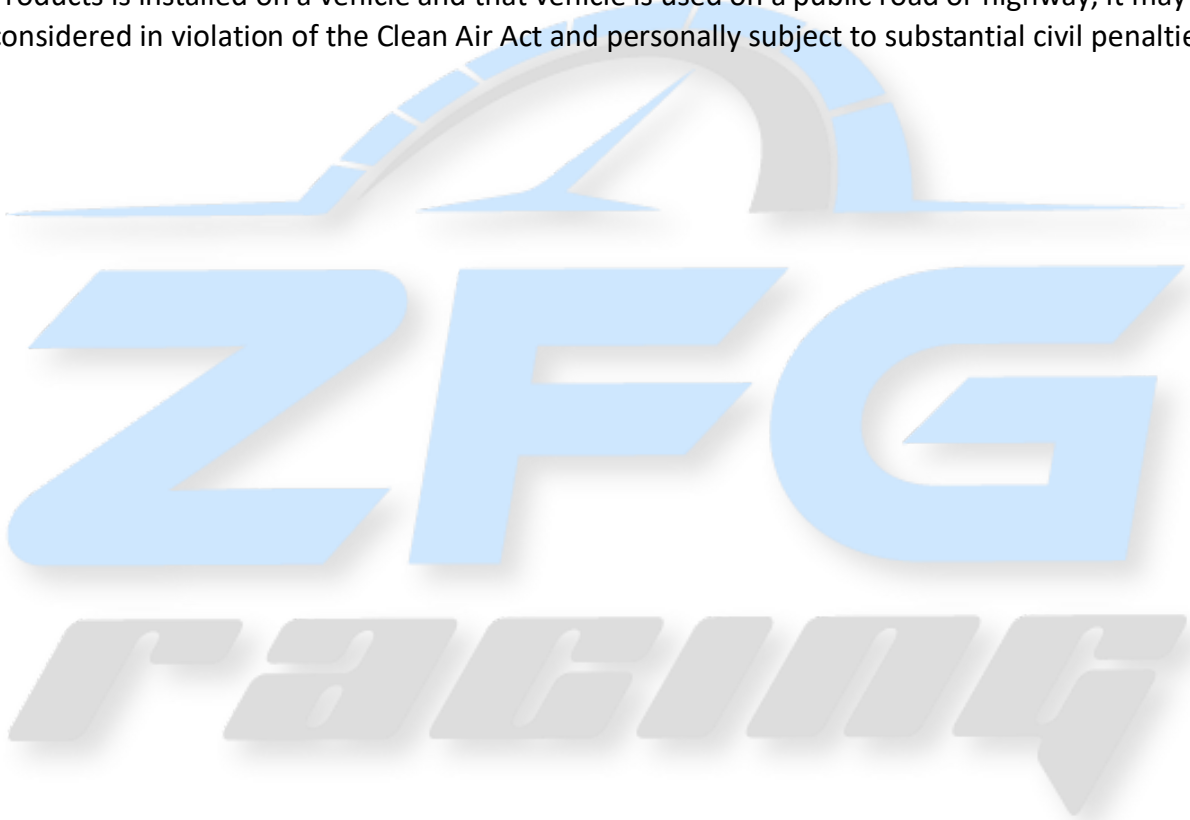
ZFG RACING LLC

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-20-EXPLORER-3.0-CT002	2020+ Explorer 3.0l DMS Custom Tune	FORD	RBF-001
ZFG-20-AVIATOR-3.0-CT002	2020+ AVIATOR 3.0l DMS Custom Tune	LINCOLN	RBF-001
ZFG-15-EDGE-2.7-CT001	2015-2018 EDGE SPORT 2.7l Custom Tune	FORD	RBF-001
ZFG-19-EDGE-2.7-CT001	2019+ 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+ Nautilus 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-21-RAPTOR-3.5-CT001	2021+ Raptor 3.5L Custom Tune	FORD	RBF-002
ZFG-21-F150-3.5-CT001	2021+ F150 3.5L Custom Tune	FORD	RBF-002
ZFG-21-F150-3.5PB-CT001	2021+ F150 3.5L POWER BOOST (HYBRID) Custom Tune	FORD	RBF-002
ZFG-21-F150-2.7-CT001	2021+ F150 2.7L 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	2018-2021 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	2015-2017 F150 2.7L Custom Tune	FORD	RBF-002/RBF-001
ZFG-18-NAVIGATOR-3.5-CT001	2018-2021 NAVIGATOR 3.5L Custom Tune	LINCOLN	RBF-002
ZFG-15-NAVIGATOR-3.5-CT001	2015-2017 NAVIGATOR 3.5L Custom Tune	LINCOLN	RBF-002

Competition Use ONLY tunes:

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.



Introduction and Tuning Process

How does the custom tune process work?

Here are the basic steps on the process:

- 1) Once you place your order, we will ship your tuning hardware.
- 2) You will use that hardware to read the stock calibration (Tune) file and send it to back us.
- 3) We use that stock file to build a baseline tune tailored to the information you provided us during checkout (i.e. fuel type and tune goal).
- 4) You use the same hardware again to flash the new calibration (Tune) on to the vehicle.
- 5) You will record specific types of driving, while using HP tuners the TDN phone application or VCM Suite software to record the data.
- 6) You will send those logs to us, and adjustments are made.
- 7) Rinse and Repeat until the best tune for you and your vehicle is attained.

The Basic Tuning and Data logging Methods

- 1) The mobile app method uses the TDN or tune delivery network which is a mobile device app that is both IOS and Android compatible. The app allows you to complete all necessary tuning steps with your phone and the supported tuning device. This includes sending and receiving both data logs and the tunes themselves. Note: the TDN request for found in [Tuning Central](#) is required to be completed any time a new file is uploaded to the TDN.
- 2) The laptop Data Logging method is for advanced users and complicated builds. The laptop method uses VCM Suite on your windows-based laptop to data log the vehicle. The files are submitted through [Tuning Central](#).

Compatible Tuning Devices

Laptop Based Tuning Devices

- MPIV2
- MPVI2+
- MPVI3
- RTD
- RTD+
- RTD3

Android Based Tuning Devices

- MPIV2
- MPVI2+
- MPVI3
- RTD
- RTD+
- RTD3

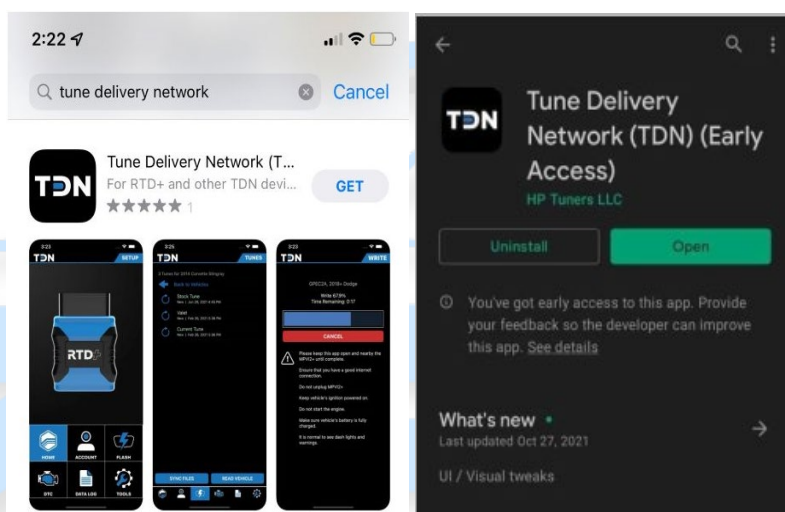
IOS Based Tuning Devices

- MPVI2+
- MPVI3
- RTD+
- RTD3

TDN Mobile App Based Tuning

Getting Started

Visit www.tunedbyzfggracing.com/hp-tuners for the latest version of these instructions, they are updated on an as need basis. 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]. 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.

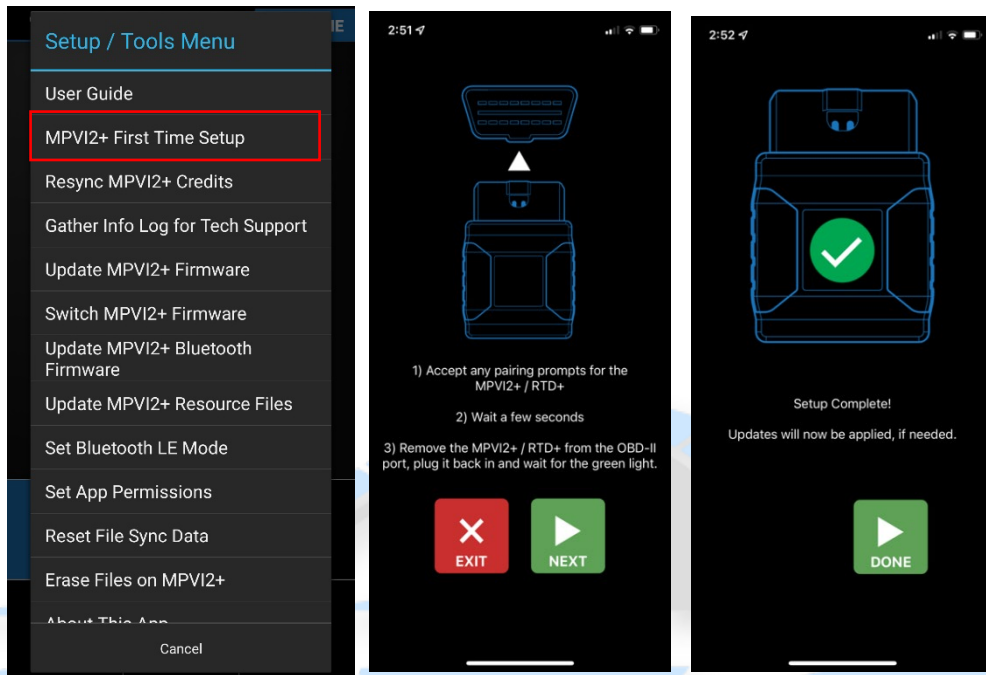


Tune Delivery Network Application Setup

Now that you've downloaded and installed the TDN application on your mobile device, you'll need to run through the first time setup.

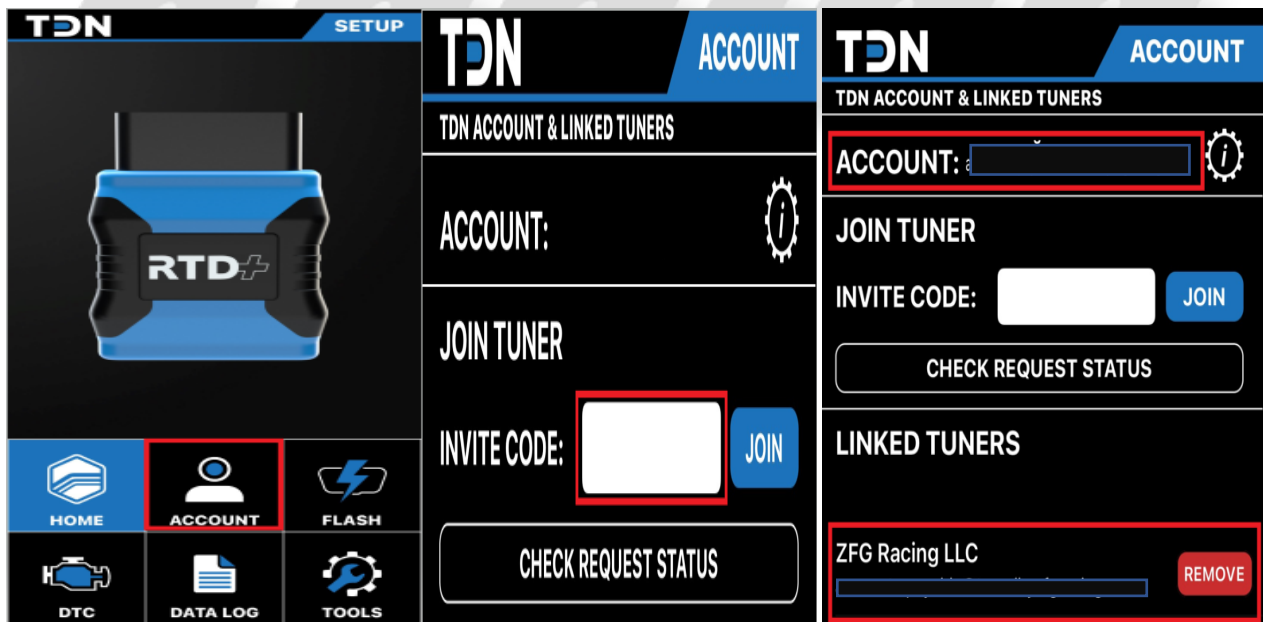
IMPORTANT: You must have a good internet connection during this process and to avoid chances of disrupting the process and or data loss, do not minimize the app during the update process.

- 1) First Connect your [compatible tuning device](#) to your vehicle and turn you key to the "run" position but do not start the vehicle.
- 2) To do so, start by clicking **"Tools"** and select **"First Time Setup"**



Linking Your App to Your Tuner

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. Your Hp tuners account is different from your account on the ZFG Racing and may need to be created yet. Once logged in, please input your **"Invite Code" – TFWP-6913 and click "JOIN"**.

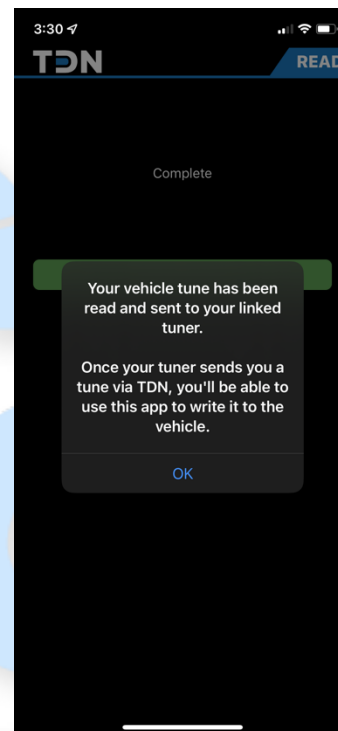
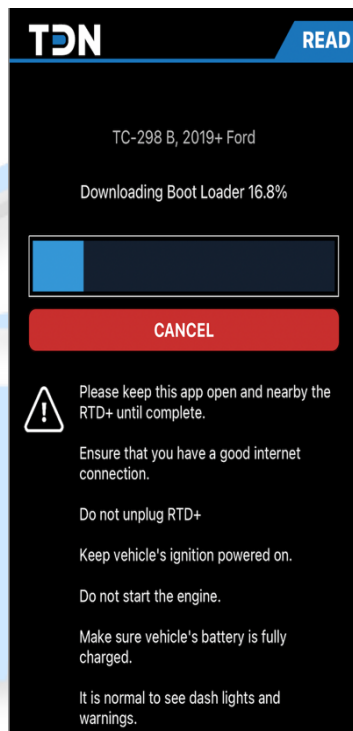


Reading Your Factory Calibration/Tune

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.

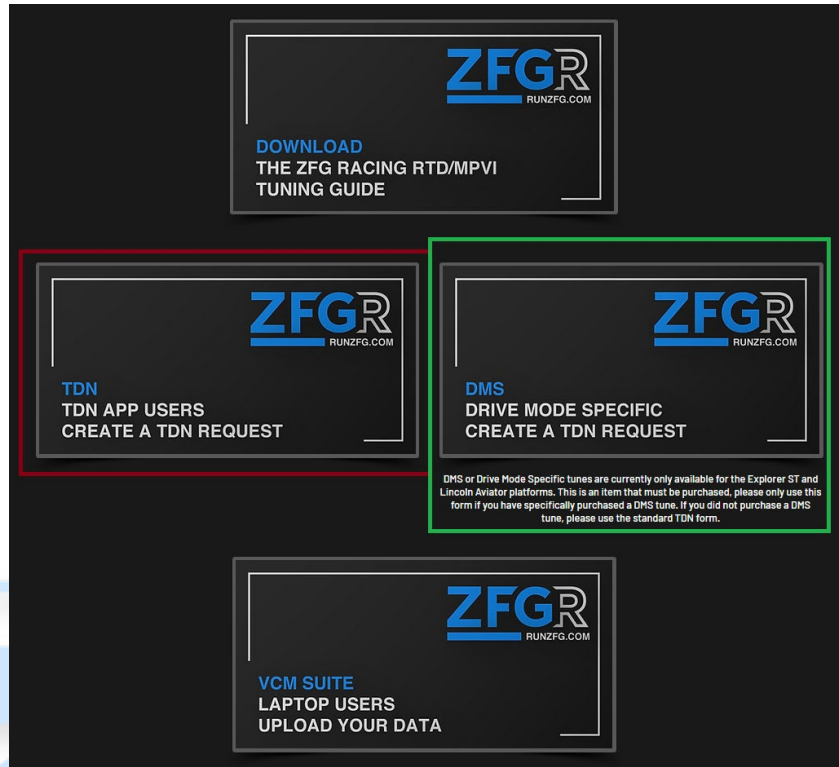


Once the read process has completed. You will need to ensure the file has sync'd and has the green check mark next to it. If it does not, you will need to click the blue arrow next to the file and follow the prompts to sync the file.



IMPORTANT: After completing the initial read you must submit a TDN request by clicking on **"Tuning Central"** from www.tunedbyzfggracing.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 stock file, data log or misc. request has been submitted. These TDN requests are worked in the order they are received. When submitting your stock file please select **"Stock Calibration"** from the drop-down menu. Please allow 2-5 business days to process your request before contacting ZFG Racing LLC. **NOTE: If you have purchased a DMS tune, you must submit a DMS specific request.**

Standard TDN request shown in red and DMS TDN request shown in green.



TDN Request Form

TDN Request Type *

Stock Calibration

First Name * Last Name *

Email * Order Number

Your Tuning Device * Device Serial Number

Select Device

Comments

Please enter and comments, concerns or requests for you tune.

☐ I have read my stock file and sync'd it to the TDN prior to submitting this request

Submit

Explorer and Aviator 3.0i TDN Custom Tune Form

DMS TDN Request Type *

Stock Calibration

First Name * Email *

Last Name * Order Number

Your Tuning Device * Device Serial Number

Select Device

Normal Mode Power Profile

Choose an option

Sport Mode Power Profile

Choose an option

Tow Mode Power Profile

Choose an option

Slippery Mode Power Profile

Choose an option

Eco Mode Power Profile

Choose an option

Snow/Sand Mode Power Profile

Choose an option

Trail Mode Power Profile

Choose an option

Comments

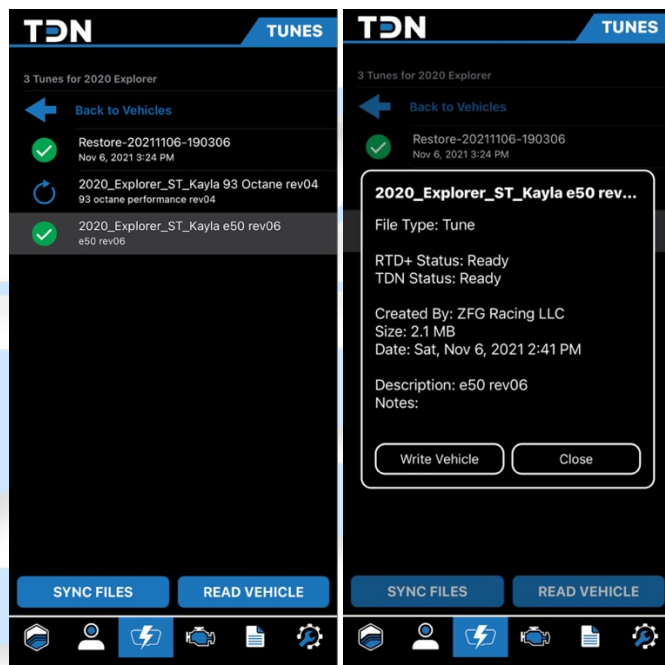
Please enter and comments, concerns or requests for you tune.

☐ I have read my stock file and sync'd it to the TDN prior to submitting this request

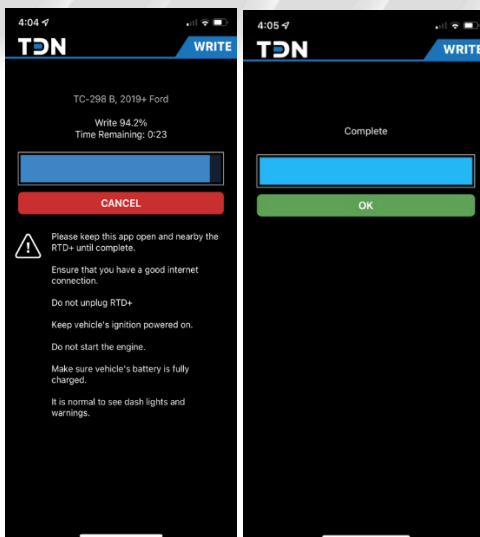
Submit

Writing a Calibration/Tune

After you stock file and TDN request form have been received, your tuner will create a new “baseline” tune file based on your order. Once your tune is ready you will receive an email notifying you that your file is ready as well as instructions for what needs to be data logged. 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 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**.

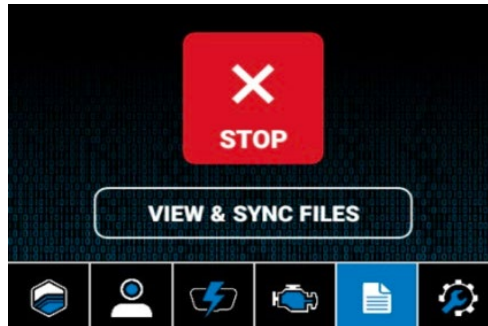


2. Tap in the 'i' gear icon near the top right to choose an appropriate time limit for this logging session.
3. Connect your [compatible tuning device](#) to your vehicle and start the engine.
4. Tap the **Start** button to start the session. Pay attention to the status displayed, as there is a delay 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**

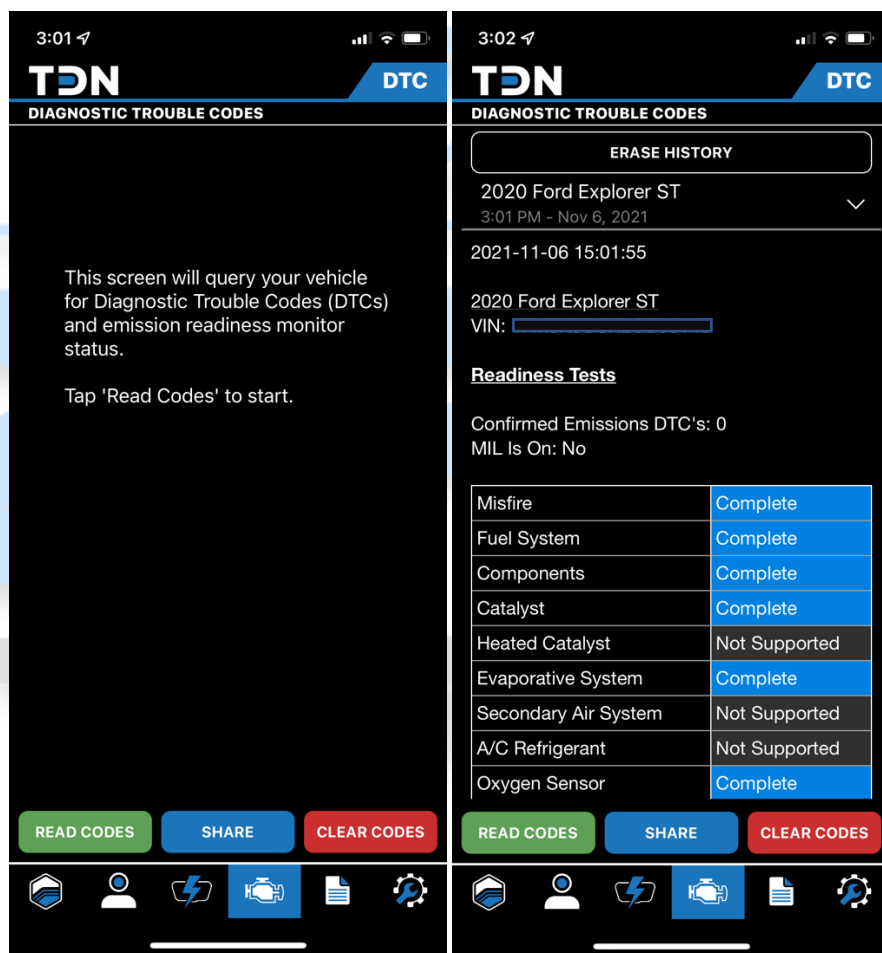
9. **Note:** If you have any incomplete or aborted data logging sessions, you can remove them by swiping left, and then tapping on **Delete**.



IMPORTANT: After completing the data logging and syncing the file you must submit a TDN request by clicking on “Tuning Central” from www.tunedbyzfggracing.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 stock file, data log or misc. request has been submitted. These TDN requests are worked in the order they are received. When submitting your data log files please select “Data Log Review” from the drop-down menu. Please allow 2-5 business days to process your request before contacting ZFG Racing LLC

Reading Diagnostic Trouble Codes (DTCs)

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.



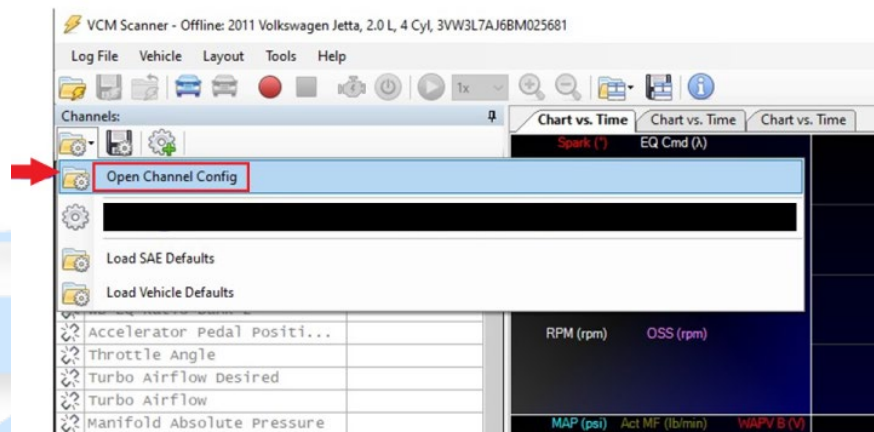
End of TDN/Mobile Tuning

Laptop Based Data Logging

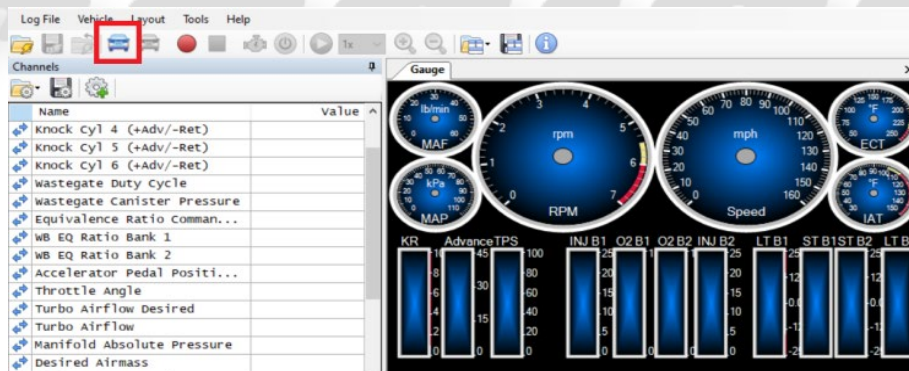
Preparing for Data Logging

For all compatible devices data logging is done from within VCM Scanner which is part of VCM suite (BETA).

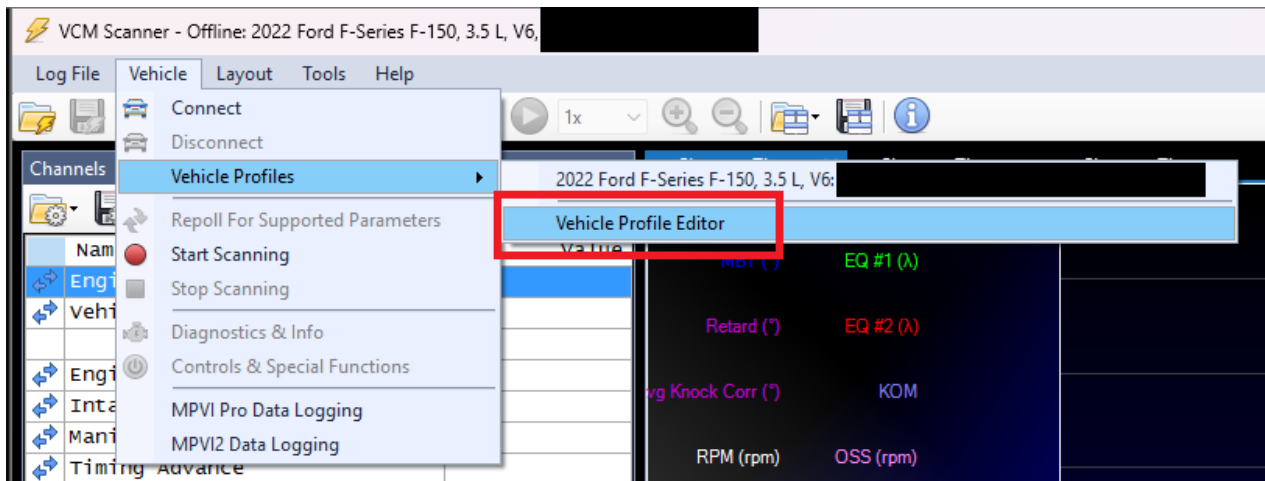
- 1) You will first need to load the channels file that was included in the email with you baseline calibration. This is accomplished by opening the .XML file from the channels section of scanner.



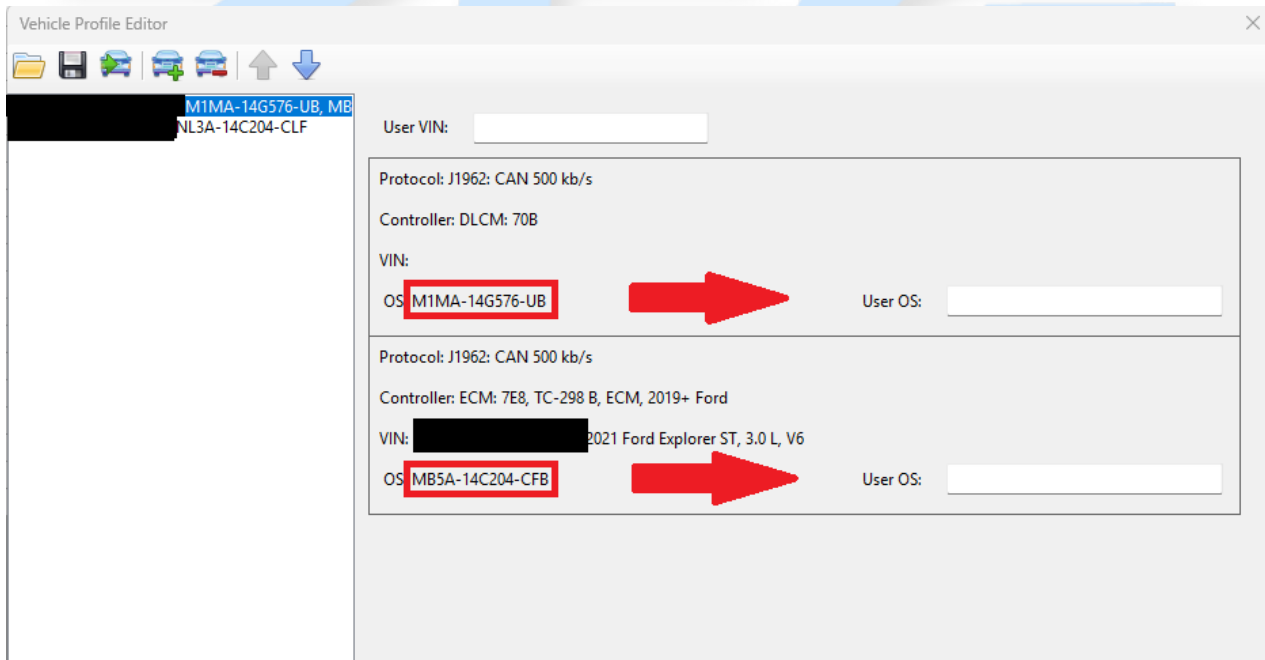
- 2) The Next Step is to connect to you vehicle. This is done by plugging your compatible device into the OBD2 Port of your vehicle and connecting your Laptop/Tablet to the RTD Flasher with the HP Tuners Supplied USB Cable.



- 3) Once connected to the vehicle, you will need enter your vehicle profile and define the USER OS for your vehicle. This is done by clicking on vehicle, vehicle profiles and then clicking on vehicle profile editor.



- 4) Next you will enter your stock OS into the User OS field. Most vehicles will list one controller, however if you vehicle has more than one controller enter the stock OS in all of the fields. **IMPORTANT: In order to see the stock OS you must be connected to the car while the STOCK tune is loaded. Also, depending on the situation you may be provided with a OS to enter in the User OS Field. In that case, you do not have to have the stock file loaded.**



Recording Data

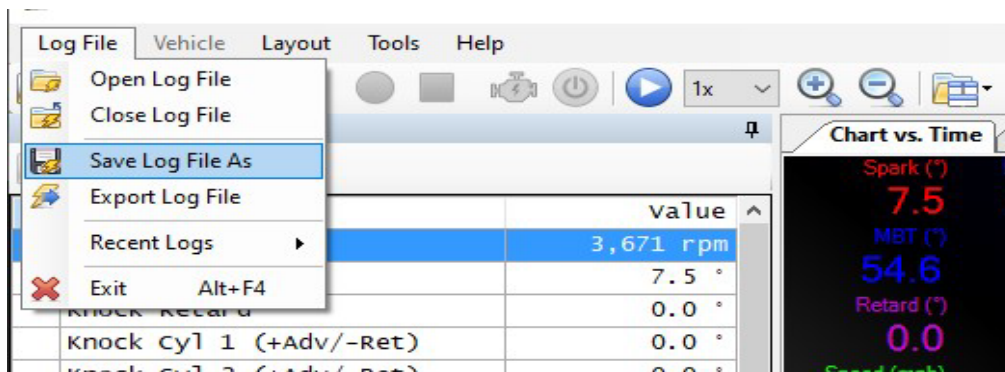
- 1) To start a data log, press the red record button. To stop a data log, press the blue stop button.



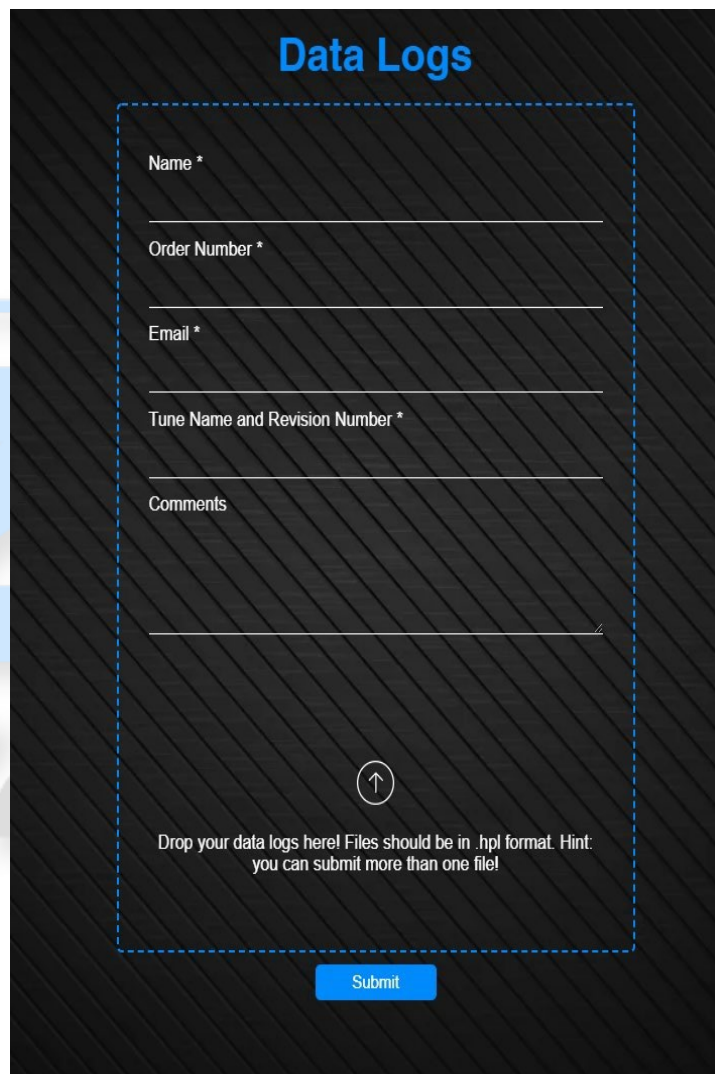
- 2) To stop a data log, press the blue stop button.



- 3) 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. **Ex E50 Rev01-3rd Gear Pull**



IMPORTANT: After data logging and saving your file you must submit the file by clicking on “Tuning Central” from www.tunedbyzfg.com/hp-tuners. All data including stock calibrations and data logs must be submitted through tuning central. Submitting this request is what notifies your tuner that a stock file, data log or misc. is ready to be completed. All requests are worked in the order they are received. Please allow 2-5 business days to process your request before contacting ZFG Racing LLC

A screenshot of a web form titled "Data Logs" in blue text. The form is set against a dark background with a diagonal line pattern. It contains several input fields: "Name *" with a red asterisk, "Order Number *" with a red asterisk, "Email *" with a red asterisk, and "Tune Name and Revision Number *" with a red asterisk. Below these is a "Comments" section with a text area. At the bottom of the form area is a circular icon with an upward arrow. Below the icon is the text: "Drop your data logs here! Files should be in .hpl format. Hint: you can submit more than one file!". A blue "Submit" button is located at the bottom right of the form area.

Data Logs

Name *

Order Number *

Email *

Tune Name and Revision Number *

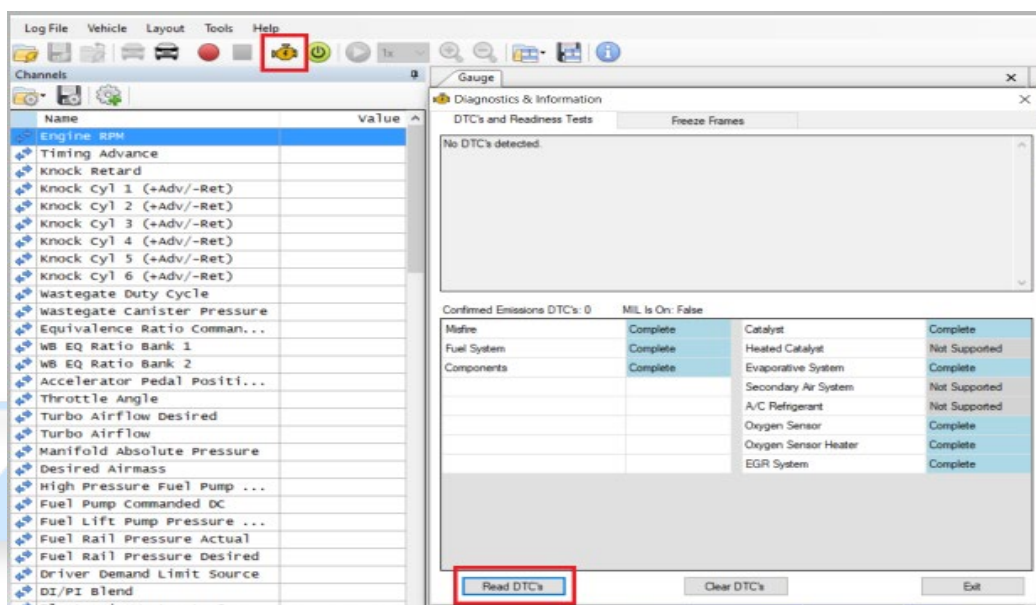
Comments

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 Compatible Tuning Device connected to your vehicle **but not taking a data log**, 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.

