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

Introduction and Tuning Process
How does the custom tune process work?
The Basic Tuning and Data logging Methods6
Compatible Tuning Devices7
TDN Mobile App Based Tuning
Getting Started
Tune Delivery Network Application Setup
Linking Your App to Your Tuner9
Reading Your Factory Calibration/Tune
Writing a Calibration/Tune
Creating Data Logs
Reading Diagnostic Trouble Codes (DTCs)
Laptop Based Data Logging
Preparing for Data Logging
Recording Data
Checking DTCs

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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 3.0I 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 2.7I 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 3.0I Custom	LINCOLN	RBF-001
ZFG-17-CONTINENTAL-2.7- CT001	2017-2020 CONTINENTAL 2.7L Custom Tune	LINCOLN	RBF-001
		OFM	Reasonable Basis
Part Number	Application	Brand	File #
Part Number ZFG-17-RAPTOR-3.5-CT001	Application 2017-2020 Raptor 3.5L Custom Tune	Brand FORD	File #
Part Number ZFG-17-RAPTOR-3.5-CT001 ZFG-21-RAPTOR-3.5-CT001	Application 2017-2020 Raptor 3.5L Custom Tune 2021+ Raptor 3.5L Custom Tune	Brand FORD FORD	File # RBF-002 RBF-002
Part Number ZFG-17-RAPTOR-3.5-CT001 ZFG-21-RAPTOR-3.5-CT001 ZFG-21-F150-3.5-CT001	Application 2017-2020 Raptor 3.5L Custom Tune 2021+ Raptor 3.5L Custom Tune 2021+ F150 3.5L Custom Tune	Brand FORD FORD FORD	RBF-002 RBF-002 RBF-002
Part Number ZFG-17-RAPTOR-3.5-CT001 ZFG-21-RAPTOR-3.5-CT001 ZFG-21-F150-3.5-CT001 ZFG-21-F150-3.5PB-CT001	Application 2017-2020 Raptor 3.5L Custom Tune 2021+ Raptor 3.5L Custom Tune 2021+ F150 3.5L Custom Tune 2021+ F150 3.5L POWER BOOST (HYBRID) Custom Tune	Brand FORD FORD FORD FORD	File # RBF-002 RBF-002 RBF-002 RBF-002
Part Number ZFG-17-RAPTOR-3.5-CT001 ZFG-21-RAPTOR-3.5-CT001 ZFG-21-F150-3.5-CT001 ZFG-21-F150-3.5PB-CT001 ZFG-21-F150-2.7-CT001	Application 2017-2020 Raptor 3.5L Custom Tune 2021+ Raptor 3.5L Custom Tune 2021+ F150 3.5L Custom Tune 2021+ F150 3.5L POWER BOOST (HYBRID) Custom Tune 2021+ F150 2.7L Custom Tune	Brand FORD FORD FORD FORD FORD	File # RBF-002 RBF-002 RBF-002 RBF-002 RBF-002 RBF-002
Part Number ZFG-17-RAPTOR-3.5-CT001 ZFG-21-RAPTOR-3.5-CT001 ZFG-21-F150-3.5-CT001 ZFG-21-F150-3.5PB-CT001 ZFG-21-F150-2.7-CT001 ZFG-17-F150-3.5-CT001	Application 2017-2020 Raptor 3.5L Custom Tune 2021+ Raptor 3.5L Custom Tune 2021+ F150 3.5L Custom Tune 2021+ F150 3.5L POWER BOOST (HYBRID) Custom Tune 2021+ F150 2.7L Custom Tune 2017-2020 F150 3.5L Custom Tune	Brand FORD FORD FORD FORD FORD FORD	File # RBF-002 RBF-002 RBF-002 RBF-002 RBF-002 RBF-002 RBF-002 RBF-002
Part Number ZFG-17-RAPTOR-3.5-CT001 ZFG-21-RAPTOR-3.5-CT001 ZFG-21-F150-3.5-CT001 ZFG-21-F150-3.5PB-CT001 ZFG-21-F150-2.7-CT001 ZFG-17-F150-3.5-CT001 ZFG-15-F150-3.5-CT001	Application 2017-2020 Raptor 3.5L Custom Tune 2021+ Raptor 3.5L Custom Tune 2021+ F150 3.5L Custom Tune 2021+ F150 3.5L POWER BOOST (HYBRID) Custom Tune 2021+ F150 2.7L Custom Tune 2017-2020 F150 3.5L Custom Tune 2015-2016 F150 3.5L Custom Tune	Brand FORD FORD FORD FORD FORD FORD FORD	File # RBF-002
Part Number ZFG-17-RAPTOR-3.5-CT001 ZFG-21-RAPTOR-3.5-CT001 ZFG-21-F150-3.5-CT001 ZFG-21-F150-3.5PB-CT001 ZFG-21-F150-3.5-CT001 ZFG-17-F150-3.5-CT001 ZFG-15-F150-3.5-CT001 ZFG-18-EXPEDITION-3.5- CT001	Application 2017-2020 Raptor 3.5L Custom Tune 2021+ Raptor 3.5L Custom Tune 2021+ F150 3.5L Custom Tune 2021+ F150 3.5L POWER BOOST (HYBRID) Custom Tune 2021+ F150 2.7L Custom Tune 2017-2020 F150 3.5L Custom Tune 2015-2016 F150 3.5L Custom Tune 2018-2021 EXPEDITION 3.5L Custom Tune	Brand FORD FORD FORD FORD FORD FORD FORD	File # RBF-002
Part Number ZFG-17-RAPTOR-3.5-CT001 ZFG-21-RAPTOR-3.5-CT001 ZFG-21-F150-3.5-CT001 ZFG-21-F150-3.5PB-CT001 ZFG-21-F150-3.5PB-CT001 ZFG-17-F150-3.5-CT001 ZFG-15-F150-3.5-CT001 ZFG-18-EXPEDITION-3.5-CT001 ZFG-15-EXPEDITION-3.5-CT001	Application2017-2020 Raptor 3.5L Custom Tune2021+ Raptor 3.5L Custom Tune2021+ F150 3.5L Custom Tune2021+ F150 3.5L POWER BOOST(HYBRID) Custom Tune2021+ F150 2.7L Custom Tune2017-2020 F150 3.5L Custom Tune2015-2016 F150 3.5L Custom Tune2018-2021 EXPEDITION 3.5L CustomTune2015-2017 EXPEDITION 3.5L CustomTune	Brand FORD FORD FORD FORD FORD FORD FORD FORD	File # RBF-002
Part Number ZFG-17-RAPTOR-3.5-CT001 ZFG-21-RAPTOR-3.5-CT001 ZFG-21-F150-3.5-CT001 ZFG-21-F150-3.5PB-CT001 ZFG-21-F150-3.5PB-CT001 ZFG-17-F150-3.5-CT001 ZFG-15-F150-3.5-CT001 ZFG-18-EXPEDITION-3.5-CT001 ZFG-15-EXPEDITION-3.5-CT001 ZFG-18-F150-2.7-CT001	Application2017-2020 Raptor 3.5L Custom Tune2021+ Raptor 3.5L Custom Tune2021+ F150 3.5L Custom Tune2021+ F150 3.5L POWER BOOST(HYBRID) Custom Tune2021+ F150 2.7L Custom Tune2017-2020 F150 3.5L Custom Tune2015-2016 F150 3.5L Custom Tune2018-2021 EXPEDITION 3.5L CustomTune2015-2017 EXPEDITION 3.5L CustomTune2018-2020 F150 2.7L Custom Tune	Brand FORD FORD FORD FORD FORD FORD FORD FORD	File # RBF-002
Part Number ZFG-17-RAPTOR-3.5-CT001 ZFG-21-RAPTOR-3.5-CT001 ZFG-21-F150-3.5-CT001 ZFG-21-F150-3.5PB-CT001 ZFG-21-F150-3.5PB-CT001 ZFG-17-F150-3.5-CT001 ZFG-15-F150-3.5-CT001 ZFG-18-EXPEDITION-3.5-CT001 ZFG-15-EXPEDITION-3.5-CT001 ZFG-18-F150-2.7-CT001 ZFG-18-F150-2.7-CT001 ZFG-15-F150-2.7-CT001	Application 2017-2020 Raptor 3.5L Custom Tune 2021+ Raptor 3.5L Custom Tune 2021+ F150 3.5L Custom Tune 2021+ F150 3.5L Custom Tune 2021+ F150 3.5L POWER BOOST (HYBRID) Custom Tune 2021+ F150 2.7L Custom Tune 2017-2020 F150 3.5L Custom Tune 2015-2016 F150 3.5L Custom Tune 2018-2021 EXPEDITION 3.5L Custom Tune 2015-2017 EXPEDITION 3.5L Custom Tune 2018-2020 F150 2.7L Custom Tune 2018-2020 F150 2.7L Custom Tune	Brand FORD FORD FORD FORD FORD FORD FORD FORD FORD FORD FORD FORD FORD	File # RBF-002 RBF-002/RBF-001 RBF-002/RBF-001
Part Number ZFG-17-RAPTOR-3.5-CT001 ZFG-21-RAPTOR-3.5-CT001 ZFG-21-F150-3.5-CT001 ZFG-21-F150-3.5-CT001 ZFG-21-F150-3.5-CT001 ZFG-17-F150-3.5-CT001 ZFG-15-F150-3.5-CT001 ZFG-18-EXPEDITION-3.5- CT001 ZFG-18-F150-2.7-CT001 ZFG-18-F150-2.7-CT001 ZFG-18-F150-2.7-CT001 ZFG-18-F150-2.7-CT001 ZFG-18-NAVIGATOR-3.5- CT001	Application2017-2020 Raptor 3.5L Custom Tune2021+ Raptor 3.5L Custom Tune2021+ F150 3.5L Custom Tune2021+ F150 3.5L Custom Tune2021+ F150 3.5L POWER BOOST(HYBRID) Custom Tune2017-2020 F150 2.7L Custom Tune2017-2020 F150 3.5L Custom Tune2018-2021 EXPEDITION 3.5L CustomTune2015-2017 EXPEDITION 3.5L CustomTune2018-2020 F150 2.7L Custom Tune2018-2021 F150 2.7L Custom Tune2018-2021 NAVIGATOR 3.5L CustomTune	Brand FORD FORD FORD FORD FORD FORD FORD FORD FORD FORD FORD EORD EORD EORD EORD EORD	File # RBF-002 RBF-002

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

- 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 <u>Tuning Central</u> 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 <u>Tuning Central</u>.

Before you tune

 It's essential that your vehicle be in excellent condition before you tune. This includes but is not limited to ensuring your vehicle is free from DTCs (diagnostic trouble codes), free from mechanical defects, general maintenance items are up to date and making sure all fluids levels are within normal ranges. Note: fluid levels such as oil level and transmission fluid level should be at the very top of the full range. It's very important that fluid levels be checked often as it is normal for the EcoBoost to burn/loose oil between oil changes.

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 <u>www.tunedbyzfgracing.com/hp-tuners</u> 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 <u>compatible tuning device</u> 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"

ZFG Racing LLC Custom Tuning Guide



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. You 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".

TON SETUP	TON	TON ACCOUNT
	TDN ACCOUNT & LINKED TUNERS	
	ACCOUNT:	JOIN TUNER
	JOIN TUNER	INVITE CODE: JOIN CHECK REQUEST STATUS
	INVITE CODE:	LINKED TUNERS
HOME ACCOUNT FLASH	CHECK REQUEST STATUS	ZFG Racing LLC

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.



IMPORTANT: After completing the initial read you must submit a TDN request by clicking on "Tuning Central" from <u>www.tunedbyzfgracing.com/hp-tuners</u>. A <u>TDN Request Form</u> 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.



REV08 1/26/2024

Writing a Calibration/Tune

After your 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".

TƏN	
3 Tunes for 2020 Explorer	3 Tunes for 2020 Explorer
Back to Vehicles	Back to Vehicles
Restore-20211106-190306 Nov 6, 2021 3:24 PM	Restore-20211106-190306 Nov 6, 2021 3:24 PM
2020_Explorer_ST_Kayla 93 Octane 93 octane performance rev04	2020_Explorer_ST_Kayla e50 rev
2020_Explorer_ST_Kayla e50 rev06	6 File Type: Tune
	RTD+ Status: Ready TDN Status: Ready Created By: ZFG Racing LLC Size: 2.1 MB Date: Sat, Nov 6, 2021 2:41 PM Description: e50 rev06 Notes: Write Vehicle Close
SYNC FILES READ VEHI	ICLE SYNC FILES READ VEHICLE
ê 🔔 梦 🖨 🗎	(a) (a) (a) (b) (a) (b) (a) (b) (a) (b) (b) (b) (b) (b) (b) (b) (b) (b) (b

The write process will look just like the read process during the load.



REV08 1/26/2024

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 <u>compatible tuning device</u> 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 <u>www.tunedbyzfgracing.com/hp-tuners</u>. A <u>TDN</u> <u>Request Form</u> 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.

Channels	4	Gauge			×
ō• 🛃 🥨		and the second second	TANKING TANK	COLUMN A	CHILING STREET
Name	Value ^	²⁰ Ib/min ⁴⁰	3 4	60 70 80	90 100 100 1F 200
Knock cyl 4 (+Adv/-Ret)		2	rom 5	50 mg	h 120 50 20
Knock Cyl 5 (+Adv/-Ret)	100	MAF		-30	130 - ECT
Knock Cyl 6 (+Adv/-Ret)		-1	6	20	140
🕈 Wastegate Duty Cycle		20" kPa "40		10	150 160 1F 120
🕈 Wastegate Canister Pressur	e		7	0	160
🕈 Equivalence Ratio Comman		MAP	RPM	Spe	ed IAT
📌 WB EQ Ratio Bank 1		KR AdvanceTPS	INJ B1 02 B	1 02 B2 INI B2	LTB1 STB1STB2 LTB2
🕈 WB EQ Ratio Bank 2			100 25	1 25	25 25
Accelerator Pedal Positi	•	8	80 20	20	12 12
Throttle Angle		6 30	60 15	15	
Turbo Airflow Desired		4	40 10	10	-0.0
Turbo Airflow		2 15	20 5	5	-11 -11
Manifold Absolute Pressure					
A model of advances					

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.

Vehicle Profile Editor		×
📄 🖶 🚘 🚘 🚘 🛧 🚽		
M1MA-14G576-UB, MB NL3A-14C204-CLF	User VIN:	
	Protocol: J1962: CAN 500 kb/s	
	Controller: DLCM: 70B	
	VIN:	
	OS M1MA-14G576-UB User OS:	
	Protocol: J1962: CAN 500 kb/s	
	Controller: ECM: 7E8, TC-298 B, ECM, 2019+ Ford	
	VIN: 2021 Ford Explorer ST, 3.0 L, V6	
	OS MB5A-14C204-CFB User OS:	

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.

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Log rile venicie Layout logis Help	
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Channels P	Gauge X
👼 🛃 🏟	
Name Value ^	10/min 1 3 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Engine RPM کې	0 so 2 rpm 5 5 540 mph 120 5 20
📌 Timing Advance	MAF 130 - 130 - ECT
📌 Knock Retard	
<pre> Knock Cyl 1 (+Adv/-Ret) </pre>	2 kPa 0 150 0 F 20
♦ Knock Cyl 2 (+Adv/-Ret)	
♦ Knock Cyl 3 (+Adv/-Ret)	MAP HPM Speed IAT
✤ Knock Cyl 4 (+Adv/-Ret)	KR AdvanceTPS INJ B1 02 B1 02 B2 INJ B2 LT B1 ST B1ST B2 LT B2
♣ Knock Cyl 5 (+Adv/-Ret)	
♣ Knock Cyl 6 (+Adv/-Ret)	8 80 20 20 12 12 12
📌 Wastegate Duty Cycle	6 ³⁰ 60 15 15
📌 Wastegate Canister Pressure	4 40 10 10 10 10 0.0
🗬 Equivalence Ratio Comman	2 10 20 5 5 11 11 11
📌 WB EQ Ratio Bank 1	
wB EQ Ratio Bank 2	

 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

Log File Vehicle Layou	t Tools Help	þ		
Open Log File Close Log File		ق 🔘 ای	~ 4	
Save Log File As				Spark (*)
🕖 Export Log File		Value	~	7.5
Recent Logs 🔹 🕨		3,671 rpm		MBT (7)
Y Exit Δlt+F4		7.5 °		54.6
KHOCK KELALU	1	0.0 °		Retard (°)
Knock Cyl 1 (+Adv	//-Ret)	0.0 °		0.0
Knock CVI 2 (+Ad)	/_Pot)	0.0 *		Sneed (moh)

REV08 1/26/2024

IMPORTANT: After data logging and saving your file you must submit the file by clicking on "Tuning Central" from <u>www.tunedbyzfgracing.com/hp-tuners</u>. 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

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!	

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 <u>but not taking a data log</u>, 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.

Channels	4 Gauge		×
🛼 🔜 🏟	Dispectics & Information		
	Magnosites & information	-	^
Name	Value o DICs and Headness Tests Freez	te Frames	
C Engine Krw	No DTC's detected.		A
Knock Betand			
<pre>Knock Recard Waash Cull 1 (+tdu/_Bat)</pre>			
<pre>knock cyl 1 (+Adv/-Ret) </pre>			
Knock Cyl 3 (addy/=Ret)			
Knock Cyl 4 (+ady/-Ret)			
Knock Cyl 5 (+Adv/-Ret)			
Knock Cyl 6 (+Ady/-Ret)			
Wastegate Duty Cycle			~
a new collect oney offers			
Wastegate Canister Pressure	Confirmed Emissions DTC's: 0 MIL Is On: False	e	
✤ Wastegate Canister Pressure ✤ Equivalence Ratio Comman	Confirmed Emissions DTC's: 0 MIL Is On: False Misfire Complete	e Catalyst	Complete
✿ Wastegate Canister Pressure ▲ Equivalence Ratio Comman ▲ WB EQ Ratio Bank 1	Confirmed Emissions DTC's: 0 MIL Is On: Felse Mafre Complete Fuel System Complete	e Catalyst Heated Catalyst	Complete Not Supported
¢ ^Φ Wastegate Canister Pressure ↓ ^Φ Equivalence Ratio Comman ↓ ^Φ WB EQ Ratio Bank 1 ↓ ^Φ WB EQ Ratio Bank 2	Confirmed Emissions DTC's: 0 MilL is On False Mafre Complete Fuel System Complete Components Complete	e Catalyst Heated Catalyst Evaporative System	Complete Not Supported Complete
wastegate Canister Pressure Equivalence Ratio Comman We EQ Ratio Bank 1 we WB EQ Ratio Bank 2 Accelerator Pedal Positi	Confirmed Emissions DTC's: 0 MIL Is On: False Mafrie Complete Fuel System Complete Components Complete	e Catelyst Heated Catalyst Evaporative System Secondary & System	Complete Not Supported Complete
Wastegate Canister Pressure Gquivalence Ratio Comman We EQ Ratio Bank 1 We EQ Ratio Bank 2 Accelerator Pedal Positi Throttle Angle	Confirmed Emissions DTC's: 0 MIL Is On: False Matrie Complete Fuel System Complete Components Complete	e Catalyst Heated Catalyst Evaporative System Secondary Air System A/C Refinement	Complete Not Supported Complete Not Supported Not Supported
Wastegate Canister Pressure Gquivalence Ratio Comman We EQ Ratio Bank 1 Wb EQ Ratio Bank 2 Wb EQ Ratio Bank 2 Accelerator Pedal Positi Throttle Angle Turbo Airflow besired	Confirmed Emissions DTC's: 0 MilL Is On: False Midne Complete Fuel System Complete Components Complete	e Catalyst Heated Catalyst Evaporative System Secondary Air System A/C Refrigement	Complete Not Supported Complete Not Supported Not Supported Not Supported
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Wastegate Canister Pressure Equivalence Ratio Comman We EQ Ratio Bank 1 We EQ Ratio Bank 2 Accelerator Pedal Positi Throttle Angle Turbo Airflow Desired Turbo Airflow Manifold Absolute Pressure	Confirmed Emissions DTC's: 0 MiL Is On False Matrie Complete Fuel System Complete Components Complete	e Catalyst Heated Catalyst Evaporative System Secondary Ar System A/C Refingerant Orggen Sensor Oxygen Sensor	Complete Not Supported Complete Not Supported Not Supported Complete Complete
 Wastegate Canister Pressure Equivalence Ratio Comman Was EQ Ratio Bank 1 Was EQ Ratio Bank 2 Accelerator Pedal Positi Turbo Airflow Desired Turbo Airflow Manifold Absolute Pressure Desired Airmass 	Confirmed Emissions DTC's: 0 MilL Is On: False Midre Complete Fuel System Complete Components Complete	e Catalyst Catalyst Evaporative System Secondary Air System A/C Refrigerant Oxygen Sensor Oxygen Sensor EGR System EGR System	Complete Not Supported Complete Not Supported Not Supported Complete Complete Complete Complete
 wastegate Canister Pressure Equivalence Ratio Comman WB EQ Ratio Bank 1 WB EQ Ratio Bank 2 Accelerator Pedal Positi Throttle Angle Turbo Airflow Desired Turbo Airflow Manifold Absolute Pressure Desired Airmass High Pressure Fuel Pump 	Confirmed Emissions DTC's: 0 MIL Is On: False Marine Complete Fuel System Complete Components Complete	e Catalyst Heated Catalyst Evaporative System Secondary Air System A/C Refrigerant Oxygen Sensor Oxygen Sensor Heater EGR System	Complete Not Supported Not Supported Not Supported Complete Complete Complete
	Confirmed Emissions DTC's: 0 MiL Is On False Midre Complete Fuel System Complete Components Complete	e Catalyst Heated Catalyst Evaporative System Secondary Ar System A/C Refrgerant Oxygen Sensor Oxygen Sensor Oxygen Sensor EGR System	Complete Not Supported Complete Not Supported Not Supported Complete Complete
 Wastegate Canister Pressure Equivalence Ratio Comman Wastegatio Bank 1 Wastegatio Bank 2 Accelerator Pedal Positi Turbo Airflow Desired Turbo Airflow Desired Manifold absolute Pressure Desired Airmass High Pressure Fuel Pump Fuel Pump Commanded DC Fuel Lift Pump Pressure 	Confirmed Emissions DTC's: 0 MIL Is On: False Midre Complete Fuel System Complete Components Complete	e Catalyst Heated Catalyst Evaporative System Secondary Ar System A/C Refrigerant Orggen Sensor Orggen Sensor EGR System	Complete Not Supported Complete Not Supported Not Supported Complete Complete
 Wastegate Canister Pressure Equivalence Ratio Comman WB EQ Ratio Bank 1 WB EQ Ratio Bank 2 Accelerator Pedal Positi Throttle Angle Turbo Airflow Desired Turbo Airflow V Manifold Absolute Pressure Desired Airmass High Pressure Fuel Pump Fuel Pump Commanded DC Fuel Lift Pump Pressure Fuel Lift Pump Acceleration 	Confirmed Emissions DTC's: 0 MilL is On False Mefre Complete Fuel System Complete Components Complete	e Catalyst Heated Catalyst Evaporative System Secondary Ar System A/C Refingerant Oxygen Sensor Oxygen Sensor EGR System	Complete Not Supported Complete Not Supported Not Supported Complete Complete
 wastegate canister Pressure kguivalence Ratio Comman w BE GR Ratio Bank 1 w BE GR Ratio Bank 2 Accelerator Pedal Positi Throttle Angle Turbo Airflow Desired Wanfold Absolute Pressure Besired Airmass Fuel Lift Pump Pressure Fuel Lift Pump Pressure Actual Fuel Rail Pressure Desired Fuel Rail Pressure Desired 	Confirmed Emissions DTC's: 0 Mill, Is On: False Midre Complete Fuel System Complete Components Complete	e Catalyst Heated Catalyst Evaporative System Secondary Ar System A/C Refrgerant Oxygen Sensor Oxygen Sensor Oxygen Sensor EGR System	Complete Not Supported Complete Not Supported Not Supported Complete Complete

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.

Channels Channels Name Va Channels Va Chan	Value No DTC's and	detected.	ion ts Free	eze Frames	
Channels Name Va Name Va Continue RPM Va Image: State and state	Value No DTCs and No DTCs de	t ostics & Information nd Readiness Tests detected.	ion ts Free	eze Frames	
Name Vame Engine RPM Vame Timing Advance Knock Retard Knock Cyl 1 (+Adv/-Ret) Knock Cyl 2 (+Adv/-Ret) Knock Cyl 3 (+Adv/-Ret) Knock Cyl 3 (+Adv/-Ret) Knock Cyl 3 (+Adv/-Ret) Knock Cyl 4 (+Adv/-Ret)	value A DTC's and No DTC's de	ostics & Information and Readiness Tests detected.	ion ts Free	eze Frames	
Name V2 Engine RPM ** * Timing Advance ** * Knock Retard ** * Knock Cyl 1 (+Adv/-Ret) ** * Knock Cyl 2 (+Adv/-Ret) ** * Knock Cyl 3 (+Adv/-Ret) ** * Knock Cyl 4 (+Adv/-Ret) **	Value A DTCs and No DTCs de	nd Readiness Tests	ts Free	eze Frames	
Engine RPM Timing Advance Knock Retard Knock Cyl 1 (+Adv/-Ret) Knock Cyl 2 (+Adv/-Ret) Knock Cyl 3 (+Adv/-Ret) Knock Cyl 3 (+Adv/-Ret) Knock Cyl 4 (+Adv/-Ret)	No DTC's de	detected.			
Timing Advance		oetecreo.			
Knock Cyl 1 (+Adv/-Ret) Knock Cyl 2 (+Adv/-Ret) Knock Cyl 3 (+Adv/-Ret) Knock Cyl 4 (+Adv/-Ret)					
<pre> Knock Cyl 2 (+Adv/-Ret) Knock Cyl 3 (+Adv/-Ret) Knock Cyl 4 (+Adv/-Ret) </pre>					
<pre>Knock Cyl 3 (+Adv/-Ret) Knock Cyl 4 (+Adv/-Ret)</pre>					
Knock Cyl 4 (+Adv/-Ret)					
<pre>Knock cyl 5 (+Adv/-Ret)</pre>					
<pre>Knock Cyl 6 (+Adv/-Ret)</pre>					
Wastegate Duty Cycle					
Wastegate Canister Pressure	Confirmed En	Emissions DTC's: 0	0 MIL Is On: Fair	ise	
Equivalence Ratio Comman	Misfire		Consideration	Catalyst	Complete
WB EQ Ratio Bank 1			Complete	Heated Catalyst	Not Supported
WE ED Batio Back 2	Fuel System	em	Complete		Complete
WD EQ RACIO Dalik 2	Fuel System Components	em nts	Complete	Evaporative System	
Accelerator Pedal Positi	Fuel System Components	em inta	Complete Complete	Evaporative System Secondary Air System	Not Supported
Accelerator Pedal Positi Throttle Angle	Fuel System Components	em nts	Complete Complete	Evaporative System Secondary Air System	Not Supported
Accelerator Pedal Positi Arrotle Angle Turbo Airflow Desired	Fuel System Components	em nts	Complete Complete	Evaporative System Secondary Air System A/C Refrigerant	Not Supported Not Supported
Accelerator Pedal Positi Accelerator Pedal Positi Throttle Angle Turbo Airflow Desired Turbo Airflow	Fuel System Components	em nts	Complete Complete	Evaporative System Secondary Ar System A/C Refrigerant Oxygen Sensor	Not Supported Not Supported Complete
Accelerator Pedal Positi Arcelerator Pedal Positi Throttle Angle Turbo Airflow Desired Auroba Airflow Manifold Absolute Pressure	Fuel System Components	em nôs	Complete Complete	Evaporative System Secondary Ar System A/C Refrigerant Oxygen Sensor Oxygen Sensor Heater	Not Supported Not Supported Complete
<pre>% Accelerator Pedal Positi % Throttle Angle % Turbo Airflow Desired % Turbo Airflow % Manifold Absolute Pressure % Desired Airmass</pre>	Components	em nta	Complete Complete Complete	Evaporative System Secondary Air System A/C Refrigerant Oxygen Sensor Oxygen Sensor Heater EGR System	Not Supported Not Supported Complete Complete Complete
<pre> Accelerator Pedal Positi Turbo Airflow Desired Turbo Airflow Manifold Absolute Pressure Desired Airmass High Pressure Fuel Pump </pre>	Fuel System Components	em	Complete Complete	Evaporative System Secondary Air System A/C Refrigerant Oxygen Sensor Oxygen Sensor Heater EGR System	Not Supported Not Supported Complete Complete Complete
Accelerator Pedal Positi Accelerator Pedal Positi Throttle Angle Turbo Airflow Desired Turbo Airflow Manifold Absolute Pressure Desired Airmass High Pressure Fuel Pump Fuel Pump commanded DC	Components	em	Complete Complete	Evaporative System Secondary Ar System A/C Refrigerant Oxygen Sensor Oxygen Sensor Heater EGR System	Not Supported Not Supported Complete Complete Complete
Accelerator Pedal Positi Accelerator Pedal Positi Throttle Angle Turbo Airflow Desired Turbo Airflow Manifold Absolute Pressure Desired Airmass High Pressure Fuel Pump Fuel Pump Commanded DC Fuel Lift Pump Pressure	Components	em	Complete Complete Complete	Evaporative System Secondary Air System A/C Refrigerant Oxygen Sensor Oxygen Sensor Heater EGR System	Not Supported Not Supported Complete Complete
<pre>* Wo Eq Ratio Balk 2 * Accelerator Pedal Positi * Throttle Angle * Turbo Airflow Desired * Turbo Airflow * Manifold Absolute Pressure * Desired Airmass * High Pressure Fuel Pump * Fuel Pump Commanded DC * Fuel Lift Pump Pressure * Fuel Rail Pressure Actual </pre>	Fuel System Components	em năs	Complete Complete	Evaporative System Secondary Air System A/C Refrigerant Oxygen Sensor Oxygen Sensor Heater EGR System	Not Supported Not Supported Complete Complete
Accelerator Pedal Positi Accelerator Pedal Positi Turbo Airflow Desired Turbo Airflow Manifold Absolute Pressure Desired Airmass High Pressure Fuel Pump Fuel Pump Commanded DC Fuel Lift Pump Pressure Fuel Rail Pressure Actual Fuel Rail Pressure Desired	Components	em năs	Complete Complete	Evaporative System Secondary Air System A/C Refrigerant Oxygen Sensor Oxygen Sensor Heater EGR System	Not Supported Not Supported Complete Complete
Accelerator Pedal Positi Accelerator Pedal Positi Throttle Angle Turbo Airflow Desired Turbo Airflow Manifold Absolute Pressure Desired Airmass High Pressure Fuel Pump Fuel Pump Commanded DC Fuel Lift Pump Pressure Fuel Rail Pressure Actual Fuel Rail Pressure Desired Deriver Demand Limit Source	Components	em	Complete Complete	Evaporative System Secondary Ar System A/C Refrigerant Oxygen Sensor Oxygen Sensor Heater EGR System	Not Supported Not Supported Complete Complete Complete