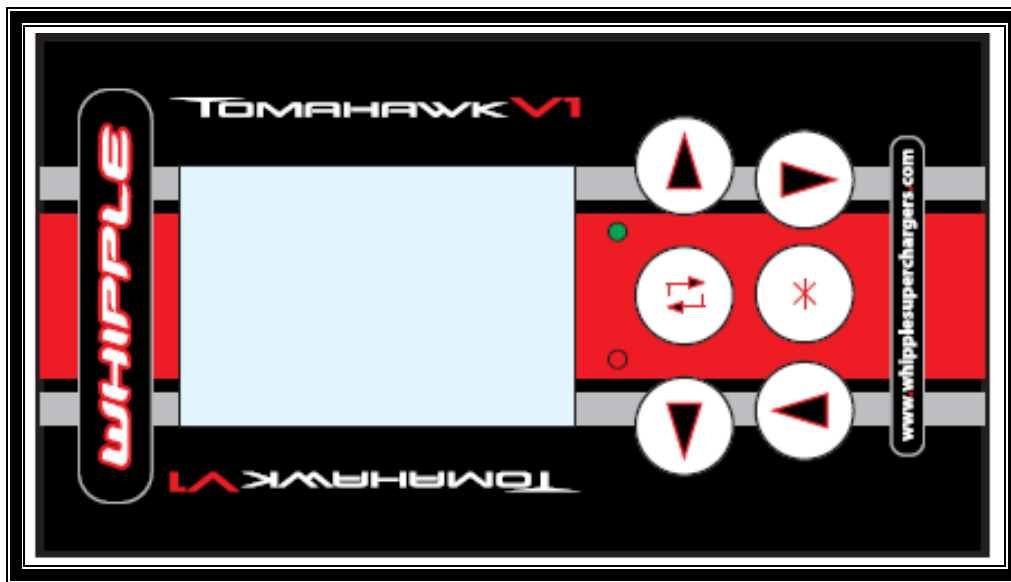# WHIPPLE TOMAHAWK INSTRUCTION MANUAL

2015 AND UP FORD F150 5.0L
2015 AND UP FORD MUSTANG/GT350/BULITT/MACH 1
2017 AND UP FORD ECOBOOST 2.7L/3.0L/3.5L
2022 AND UP FORD LIGHTNING

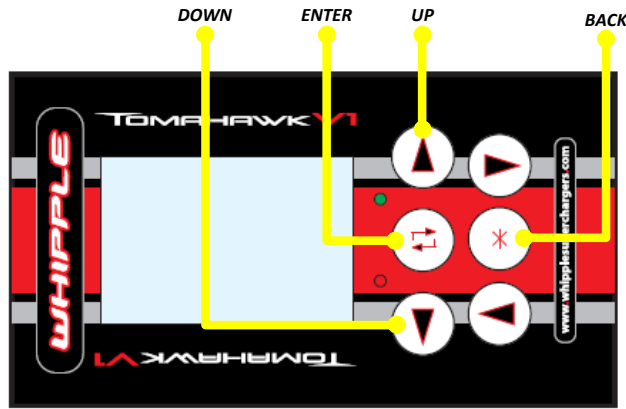# INTERNET ACCESS REQUIRED
SD MEMORY CARD READER REQUIRED

The Whipple calibration procedure is based off factory calibration files. If you have an aftermarket calibration, put the calibration back to STOCK. The TOMAHAWK will not upload and backup your file.

NOTE: ANY CONNECTION TO THE CAN NETWORK OR OBDII PORT FOR AUXILLARY GAUGES, STEPS OR OTHER AFTERMARKET ACCESSORIES MUST BE UNPLUGGED/DISCONNECTED FOR PROPER PROGRAMMING. ANY EXTRA CONNECTION TO THE CAN NETWORK WILL CAUSE PROGRAMMING ERROR CODES.
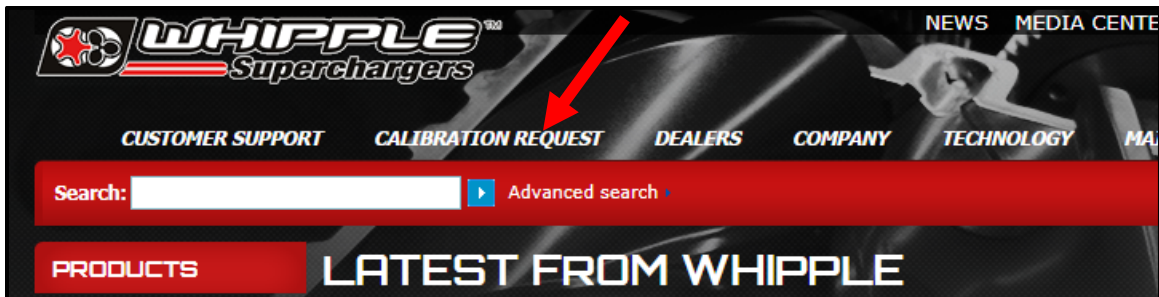
WHIPPLE SUPERCHARGERS
3292 NORTH WEBER AVE
FRESNO, CA 93722
TEL 559.442.1261
FAX 559.442.4153
www.whipplesuperchargers.com
tech@whipplesuperchargers.com for a copy

PREMIUM FUEL ONLY (91 OCTANE OR BETTER ALWAYS) RON+MON/2

DOWN   ENTER   UP   BACK

1. Turn the ignition to the **ON/RUN** position, engine not running (with foot OFF brake if push button)

2. Connect the Tomahawk tool to the factory OBD2 port (after vehicle ignition key/on).

3. Using the toggle buttons, select **Request Cal File**. Hit enter button. The tool will auto ping the factory PCM and create a **TOMAHAWK.REQ** file to the supplied SD card.

4. Remove the SD card from the Tomahawk tool by pressing it in until it springs out. Install the SD card in a memory card reader on your PC/Laptop and locate the REQ file.

5. Go to www.whipplesuperchargers.com and click the calibration request link (Whipple Superchargers Calibration Request). Note: Typical response time is up to 24 hours from request time during normal business hours.

6. Whipple Superchargers will email your calibration file which will have a unique file name ending with **.BIN** and firmware file named **APP.LDR (HAS TO BE EXACTLY AS SHOWN)**. Save these files for future access. Drag/drop or save these files to the supplied SD card using a laptop/PC. ***Only 1 BIN and LDR file can be stored at a time. Never change the file names, this will cause a conflict with the tool. If you have downloaded more than once, windows will add a (1) or (2) at the end of the file name. Always delete this. **NOTE: Keep your TOMAHAWK.REQ file on the tool for later use if needed for future updates.**

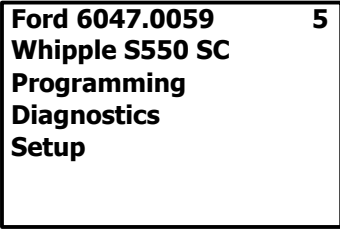File name must look EXACTLY like shown

Keep REQ file for future reference

Only 1 BIN file on SD card at a time

Dates aren't relative, there is no internal clock on Tomahawk

General File Size

7. Turn the key to the **run/accessory position**. Connect the Tomahawk tool to the factory OBD2 port. The new firmware (**APP.LDR**) will install automatically when the tool is powered on. **NOTE:** If it's stuck on the REQUEST CAL screen, you have an error with the **APP.LDR** file. If this file name is different than **APP.LDR**, it will error, ensure name is correct.

8. With the ignition key set to the ON/RUN position, use the arrow options to select "**Programming**" tab and click the enter button. Follow the onscreen menu for flashing the vehicle. Once you're done flashing, cycle the key off for 5 seconds, then back on.

```
Ford 6047.0059        5
Whipple S550 SC
Programming
Diagnostics
Setup
```

9. Once you're done flashing, cycle the key off for 5 seconds, then back on. Select the "**Diagnostic**" tab, read all the DTC (trouble codes). Erase all codes. Note: De-energizing relay code is common after flashing and will go off after a few driving cycles or if you hit clear DTC 5-6 times. The vehicle will run proper even if this code is on.

10. After flashing the PCM, in some rare cases, a crank/profile relearn is required. This only needs to be performed **IF** you get a random misfire code, hard starting issues, or, you have changed the clutch on a manual transmission. To perform a profile relearn, start the engine, leave the vehicle in **PARK**. Select the "**Diagnostics**" option. Scroll to the Profile Relearn and click enter. Follow the onscreen instructions. Note that the engine must be at normal operating temp (160deg F+) to perform this test and you must blip the throttle to get RPM over 4500rpm for the process to work. If you begin the test, but leave it unfinished, it will set a crank learn DTC as it erases the original data. Therefore, to run properly, this procedure needs to be finished to remove this DTC.

11. After flashing PCM, if the axle ratio and/or tire size is not stock. Turn the ignition key to the "**ON**" position (no foot on brake). Click the "**Diagnostic**" tab. Scroll to the **Tire/Axle Change** and hit **Enter**. Using the on-screen instructions and arrow keys, change the axle ratio to desired ratio (ex. 3.55, 3.73, etc). For tire size changes, tire size is the tire circumference in millimeters. Measure the rollout of the tire, to convert from inches to MM, multiply by 25.4. Example (97.48" x 25.4 = 2476mm). Another, less exact method, measure the real height of the tire (as shown below), multiply by **3.14** to get the circumference. Enter this number using the arrow keys. Hit **Enter** when done and follow the on-screen menu to complete the tire/axle changes. You may do the tire and axle at the same time, or just one. ****Broncos max is 2890mm**.

```
Tire/Axle Change

Tire: 2476mm
Axle: 3.73

▶ = Toggle edit

* = cancel
```

Tire Height (measured) INCH	Tire Height (measured) MM	Recommend Starting Tire size
32.0	813	2517
32.5	826	2557
33.0	838	2596
33.5	851	2635
34.0	864	2675
34.5	876	2714
35.0	889	2753
35.5	902	2793
36.0	914	2832
36.5	927	2871
37.0	940	2911
37.5	953	2950
38.0	965	2989
38.5	978	3029
39.0	991	3068

12. **ALL Broncos Only**: Vehicles equipped with AWD/DLCM modules require a **RELEARN** function after tire/axle changes. To perform, after tire/axle change. Toggle ignition to **OFF**, open door for 10 seconds or more to power modules **OFF**. Toggle ignition to **ON**. Go to Diagnostics>Tire/Axle Change>Relearn Veh Data. Once completed, toggle ignition **OFF** and open door to power all modules **OFF**. To erase store DLCM codes. Toggle Ignition **ON**, from Tomahawk Home screen, go to: Other Modules>DLCM>Driveline>Erase Codes. Once complete, toggle ignition to **OFF**.

Tomahawk Error Codes	
Code #	Description
2200	Multiple BIN files found on SD Card
2201	Flash file on SD card exceeds max name length
3560	Max number of downloads reached
3610	VIN read error
3670	Enter flash mode error
3673	SBL download error
4681	Tire/axle size out of range

DATA LOGGING WITH TOMAHAWK TOOL

1. Connect the OBDII connector to vehicles OBDII connector. Turn the ignition to the ON position with engine not running. Allow the Tomahawk tool to power up. The Tomahawk will start with a Whipple splash screen, hit the enter button to continue. Toggle to **DIAGNOSTICS** and click the enter button.

```
Ford 6047.0059        5
Whipple S550 SC
Programming
Diagnostics
Setup
```

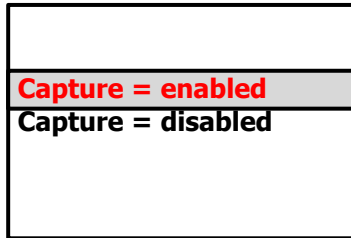2. Select **DIAGNOSTIC MENU DATA DISPLAY**.

```
Diagnostic Menu
Data Display
Diagnostic Codes
Show Module Info
Profile Relearn
Tire/Axle Change
Octane Adjust
Other Modules
```

3. Whipple has provided pre-made PID list for logging. Unless instructed otherwise, always use **WhippleData** list for logging.

```
Standard Data
WhippleData
DeepDiveFuel
DeepDiveTFC
DeepDivePump
DeepDiveKnock
DeepDiveTorque
```

    a. Standard Data: Generic SAE Pids.
    b. WhippleData: Enhanced Pids.
    c. DeepDive logs are proprietary logs that are encrypted and cannot be viewed by customer. These are only to be used when having specific problems, Whipple Tech may instruct you to log using one of these special lists.

4. Toggle to the **CAPTURE = ENABLED** option to record data. The **CAPTURE = DISABLED** is for live viewing only, as this will not save the data.

5. Start the vehicle. Click the enter button to start the logging. If given specific instructions on what to test, follow these. If not, give a 2-4 minute general drive that has idle and part throttle driving.

6. **To save data log:** Prior to turning ignition off, hit the asterisk once to stop the data log and second time to save the data log. Remove the SD card and install in PC. The **CSV** or **ENC** file are the logs. Send this to tuning@whipplesuperchargers.com or to support@whipplesuperchargers.com.