WHIPPLE F150 PERFORMANCE UPGRADE INSTALLATION MANUAL

2021-2026 FORD 5.0L F150

PART NUMBER: 91-70010, 91-70010-CF



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

CALIFORNIA AIR RESCOURCE BOARD EXECUTIVE ORDER #D-231-165

INTRODUCTION

Before beginning installation, please read this manual and important notes:

- Please read the installation manual and verify that all items are present. If you are missing hardware or have any questions, please contact your dealer or Whipple before you start installation.
- Premium fuel (US 91-93 octane) RON+MON/2 is required to achieve optimum results.
- Supply your VIN number to Whipple ahead of installation so your PCM calibration can be built prior to the installation. This will help minimize any down time.
- **COMPETITION BASED PRODUCT MAY BE USED SOLELY ON VEHICLES USED IN SANCTIONED COMPETITION WHICH MAY NEVER BE USED UPON A PUBLIC ROAD OR HIGHWAY, UNLESS PERMITTED BY SPECIFIC REGULATORY EXEMPTION (VISIT THE "EMISSIONS" PAGE AT HTTP://WWW.SEMASAN.COM/EMISSIONS FOR STATE-BY-STATE DETAILS.**
- **COMPETITION BASED PRODUCT IS LEGAL IN CALIFORNIA ONLY FOR RACING VEHICLES WHICH MAY NEVER BE USED, OR REGISTERED OR LICENSED FOR USE, UPON A HIGHWAY.**
- **IT IS THE RESPONSIBILITY OF THE INSTALLER AND/OR USER OF THIS PRODUCT TO ENSURE THAT IT IS USED IN COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.**

RECOMMENDED TOOLS AND SUPPLIES

Tools

Laptop, 5/16" nut driver or socket, small wire cutters, Trim removal tool, Flat head screwdriver

SAFETY PRECAUTIONS



CAREFULLY READ THE IMPORTANT SAFETY PRECAUTIONS AND WARNINGS BEFORE PROCEEDING WITH THE INSTALLATION!

Appropriate disassembly, assembly methods and procedures are essential to ensure the personal safety of the individual performing the kit installation. Improper installation due to the failure to correctly follow these instructions could cause personally injury or death. Read each step of the installation manual carefully before starting the installation.

- Always wear safety glasses for eye protection.
- Place the ignition switch in the off position.
- Always apply the parking brake when working on vehicle.
- Block the front and rear tire surfaces to prevent unexpected vehicle movement.
- Operate the engine only in well-ventilated areas to avoid exposure to carbon monoxide.
- Do not smoke or use flammable items near or around fuel system.
- Use chemicals and cleaners only in well-ventilated areas.
- Batteries can produce explosive hydrogen gas which can cause personal injury. Do not allow flames, sparks or flammable sources to come near the battery.
- Keep hands and any other objects away from the radiator fan blades.
- Keep yourself and your clothing away from moving parts when the engine is running.
- Do not wear loose clothing or jewelry that can be caught in rotating or moving parts.

WARNING

*****NOTICE**: Installation of Whipple Supercharger products signifies that you have read this document and have agreed to the terms stated within.*

It's the purchaser's responsibility to follow all installation instruction guidelines and safety procedures supplied with the product as it's received by the purchaser to determine the compatibility of the product with the vehicle or the device the purchaser intends to install the product on.

Whipple Superchargers assumes no responsibility for damages occurring from accident, misuse, abuse, improper installation, improper operation, lack of reasonable care or all previously stated reasons resulting from incompatibility with other manufacturer's products.

There are no warranties expressed or implied for engine failure or damage to the vehicle in any way, loss of use or inconvenience or labor reimbursement. This includes merchantability and fitness.

The information contained in this publication was accurate and in effect at the time the publication was approved for printing and is subject to change without notice or liability. Whipple Superchargers reserves the right to revise the information presented herein or to discontinue the production of parts described at any time.

INSTALLATION INSTRUCTIONS

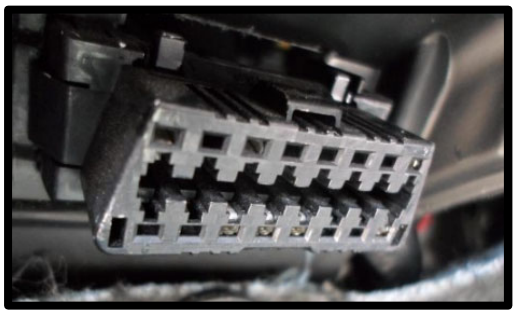
It is strongly recommended that you read through this guide **before** you begin installing your performance parts. **NEVER START YOUR INSTALLATION WITHOUT HAVING CALIBRATION IN HAND.**

1. Go to the HP Tuner website: https://www.hptuners.com/downloads/. Download the latest VCM Suite **BETA**. If you run into any issues installing the software, email **support@hptuners.com** for resolution. Issues with calibration or data logging, please contact us @ support@whipplesuperchargers.com

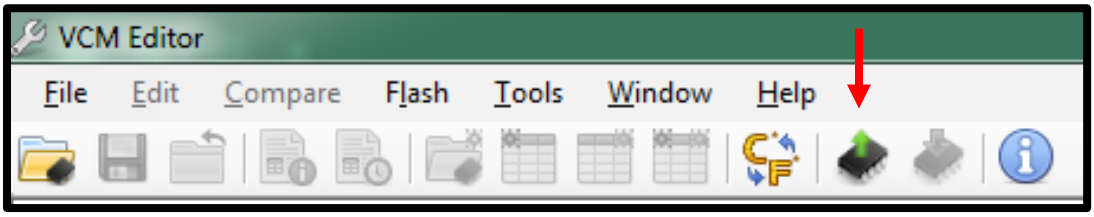
2. Open VCM Editor program by clicking the wrench icon.



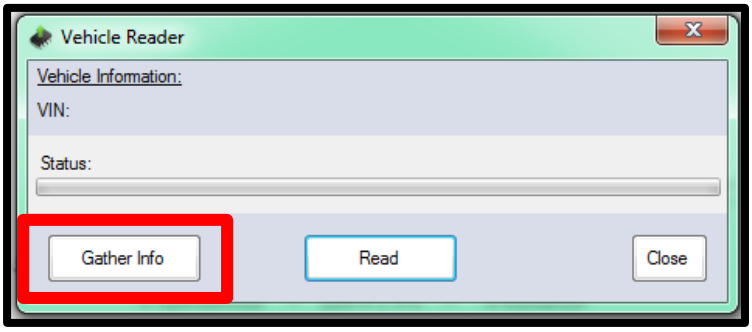
3. Connect to the OBDII port with the MPVI flash tool.



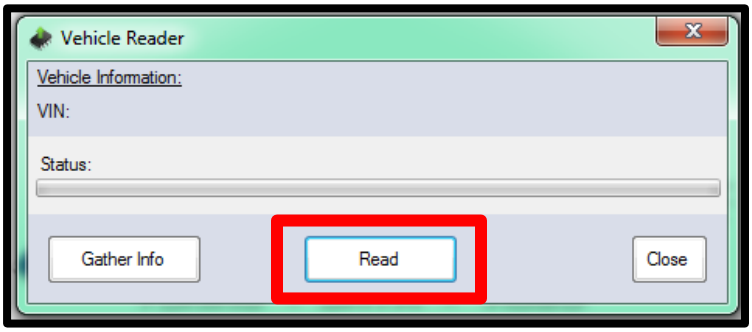
4. With the vehicle ignition in RUN position, engine not running, click the **green arrow** icon to **READ** the file in the PCM.



5. Click the "Gather Info" icon to populate the PCM data.



6. Once the info is gathered by HP Tuners, click the "Read" icon.

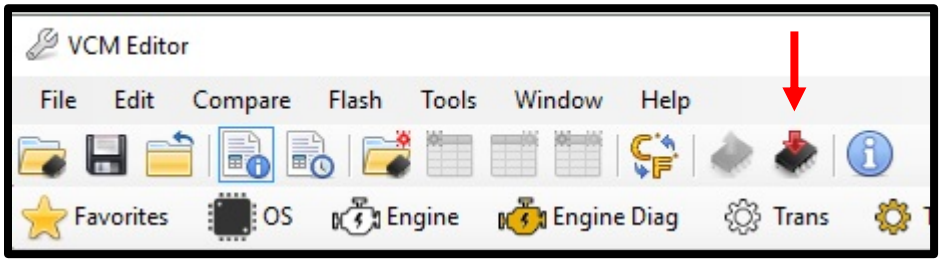


7. Once the file is uploaded, save this file in an easy to find location (example: mydocuments/HP Tuners/cals and logs). Create a file name with VIN number, Customer name and engine size. Example: **2C3CDXCT1FH737913_John Smith_6.2L_Stock**. If you want to keep the file name shorter, use only the last 4 digits of the VIN but keep the same information. We will supply a similar name but with SC in the file to help distinguish between them. NOTE: Always keep the stock file. If you are a dealer/installer, email the file to the customer for future access. Whipple does not store stock files.

8. Go to the Whipple website, click the **Calibration Request** tab and follow the instructions on sending file. This may take 24-48 hours for your calibration so this is important to do before you start the supercharger installation. Each calibration is locked to the supplied MPVI serial #. If you use a different tool, you will not be able to use the file.

    a. Include the following with the calibration:
        i. Octane fuel being run (87, 89, 91, 92, 93, 94).
        ii. List any modifications to the stock engine such as air intake, exhaust, etc.

9. Once calibration is supplied, save to your PC in the same location as the stock file. Open VCM Editor. Open the calibration by clicking file, connect to vehicle, turnkey to engine run (do not start engine) and follow the on-screen commands.



10. HP Tuners supplies a free data logging program, VCM Scanner **BETA**. With foot off brake, hold the push button ignition for 10 seconds until the green light turns on, this is Diagnostic mode. Using VCM scanner, click the check engine icon, then "READ CODES". Once it populates, click CLEAR CODES. Once done, turnkey off, open door to power vehicle off, from here you're ready to run.

11. If required, you may use VCM Scanner Suite for diagnostic purposes, to check codes, read monitors and data log important parameters. Whipple has pre-made channel list for proper data logging. If logging, please request a data log channel list.

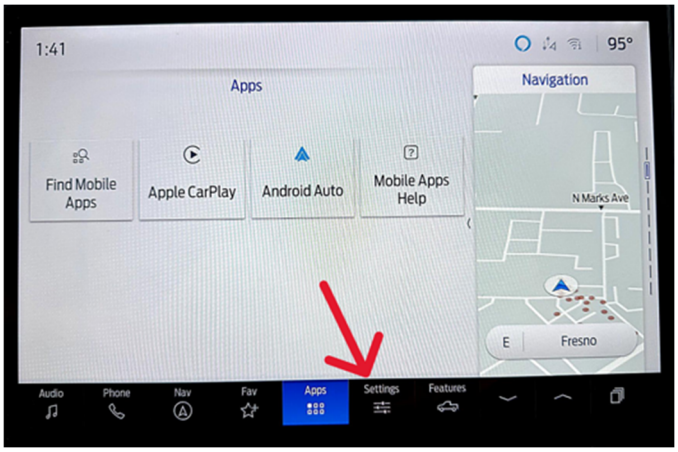
12. Once the vehicle is flashed, turnkey off for 10 seconds (follow on screen instructions). The vehicle is now ready to start and operate.

13. With your HP Tuners installation, you get the free data logging program, VCM Scanner. If required, you may use this for diagnostic purposes. Whipple has pre-made channel list for proper data logging. If logging, please request a data log channel list from support@whipplesuperchargers.com.

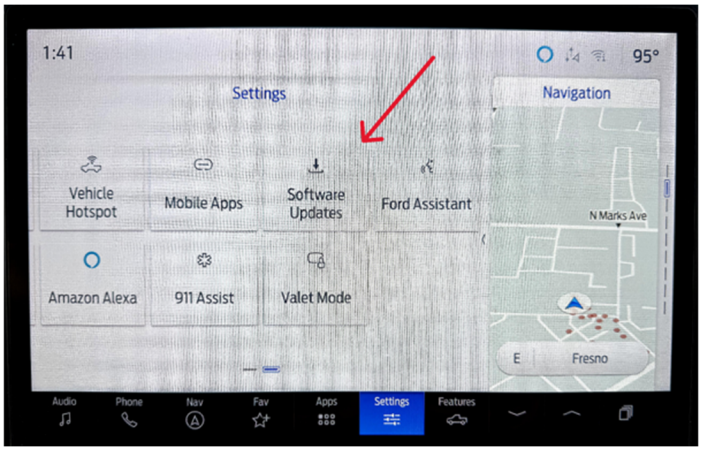
OTA BASED VEHICLES

1. Toggle ignition to **ON**.

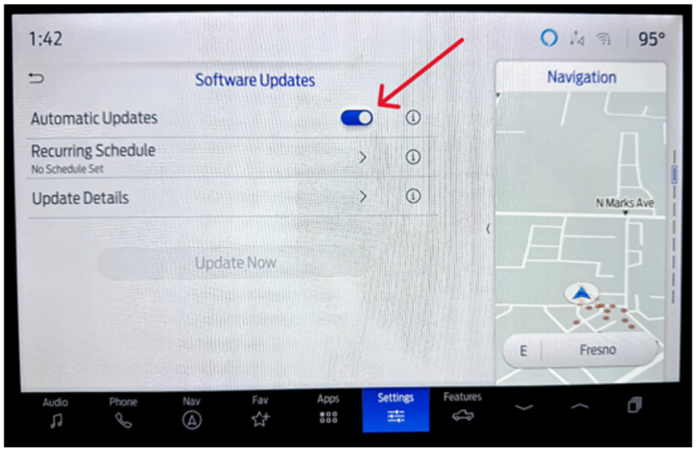
2. Select **Settings** on your SYNC infotainment screen.



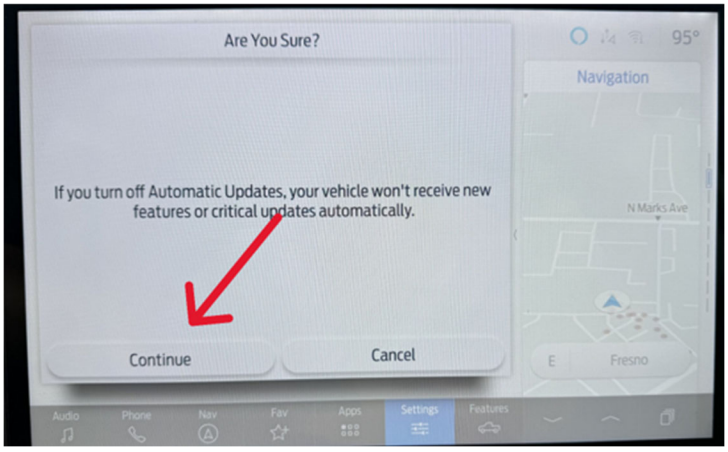
3. Scroll through menu, select **Software Updates**.



4. Toggle Automatic Updates to **OFF**.



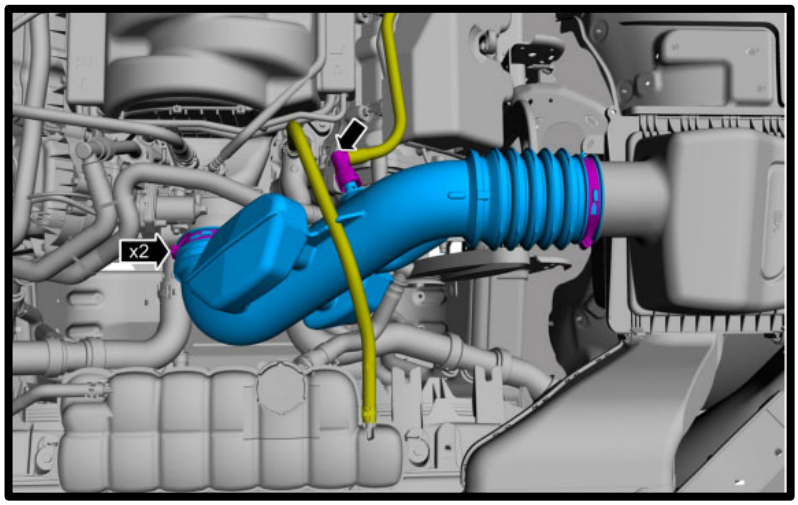
5. Select **Continue** on the following menu.



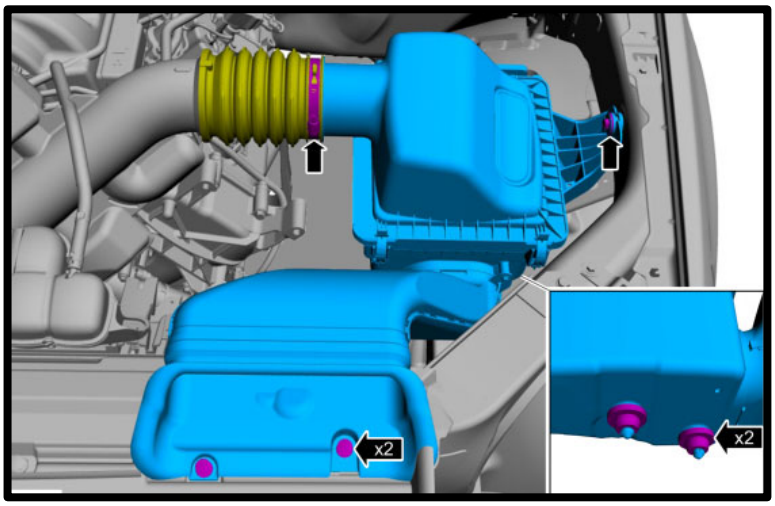
1. Using an air hose, blow off any loose dirt or debris from the engine compartment. If dirty, then steam clean the engine compartment before proceeding to the next step.

WARNING Do not smoke or carry lighted tobacco or open flame of any type when working on or near any fuel-related components. Highly flammable mixtures are always present and can be ignited, resulting in personal injury.

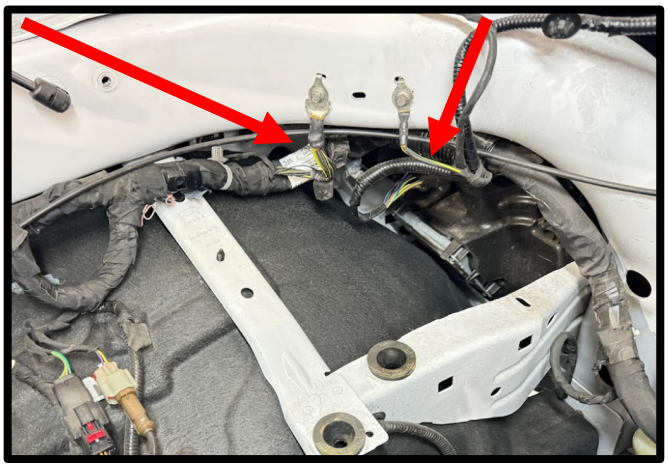
2. Position aside the coolant vent hose. Disconnect the LH crank case ventilation hose from the air tube. Loosen clamps from intake tube.



3. Loosen the clamp from the intake tube to airbox. Remove the (1x) bolt and (2x) push pins. Lift air cleaner assembly up and away from vehicle.



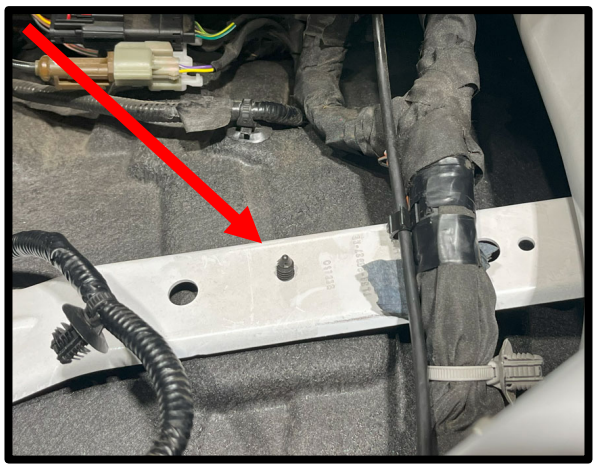
4. Lightly bend the (2x) ground wire so it goes below the frame. **NOTE:** Failure to do so will rub airbox and push airbox towards firewall and cause fitment issues.

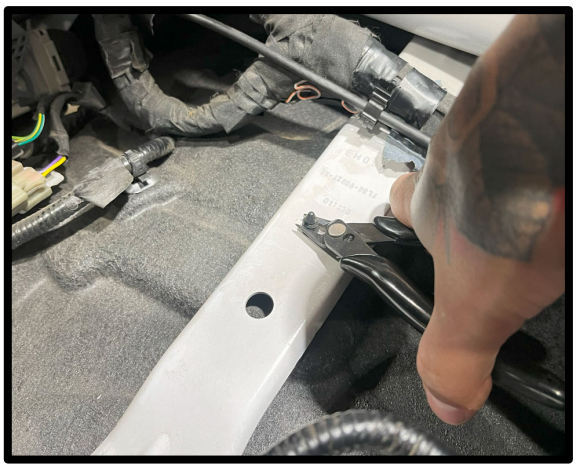


5. Remove wiring loom plastic retainer from vehicle to relax the wiring harness.



6. Cut the plastic push pin coming up from the **LH** inner fender so it only has .125" protruding.





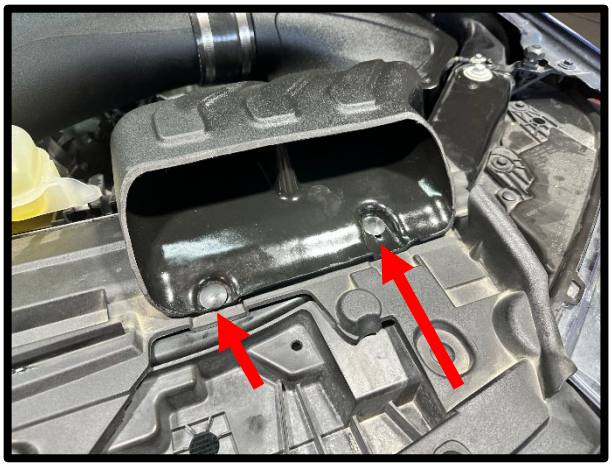
7. Remove the plastic retainer from the wiring loom.



8. Add a zip tie to secure harness to frame as shown.



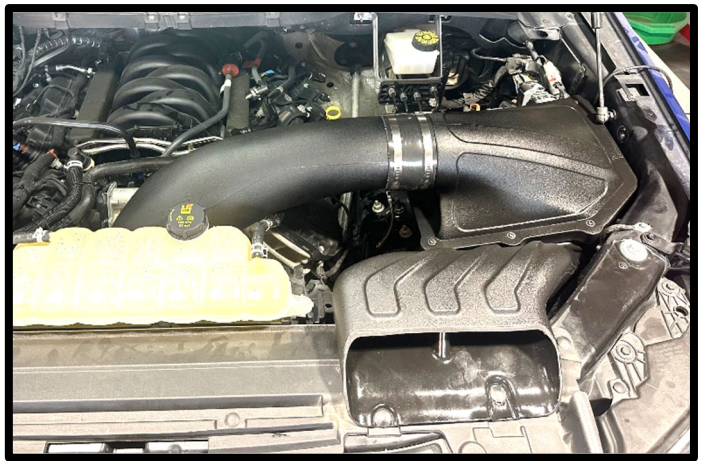
9. Install the supplied airbox into factory (2x) hole locations. Using the supplied (2x) 1.1" L x .30" W plastic push pins, secure front of snorkel to factory location.



10. Install the (1x) supplied 13/16" to ½" rubber grommet into the inlet tube. Install the supplied ½" to 15.82mm quick connect fitting.

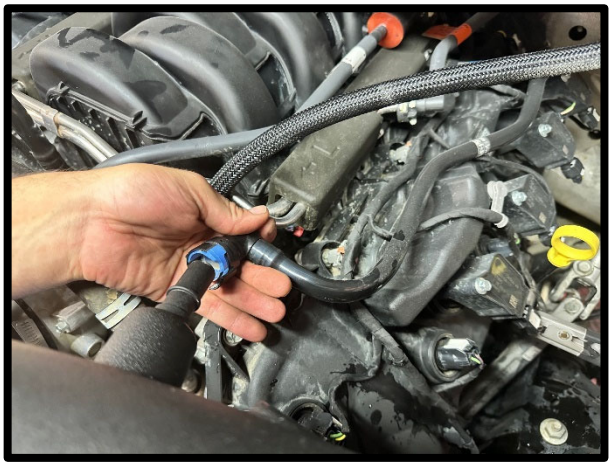


11. Install the supplied 5" ID x 2 1/2" hose over air inlet tube and airbox lid. Install the 4 1/2" x 4" hose over throttle body. Install the air inlet tube between the airbox lid and throttle body. Slide hose over throttle body. Secure all ends with the supplied hose clamps. ***NOTE**: Route coolant vent line under air tube.





12. Reconnect crank case ventilation hose to air tube fitting previously installed.



13. **Install supplied emissions CARB EO label to the hood next to the factory emissions (VECI) label. The installation of the CARB EO label is required for California's Smog Check program.**

14. If you have questions about your vehicle's performance, please check with your installation facility or call Whipple Superchargers at 559.442.1261, Monday through Friday from 8am to 5:00pm, pacific time or email questions to **support@whipplesuperchargers.com**.

IMPORTANT INFORMATION

CHASSIS DYNO
Due to the 135mph speed limit, one must always run in a gear that will not limit the engine rpm below 7000rpm. Therefore, 5th gear is the preferred gear. 7th gear is 1:1 and gives the highest power results but is not available due to drive shaft/tire safety and thus will reach a limit far before peak power is made. Never run back-to-back runs without a proper cool down. You must let the engine cool down for 5 minutes between runs as you won't have adequate airflow to keep the vehicle in proper temperature ranges.

FUEL OCTANE
Peak power can only be achieved with 91-93 or higher-octane fuel. While 87, 89 can be run, the Ford PCM will adapt and lower power. The octane learning function will reset at every fill up or battery reset, then depending on the octane available, will consistently learn and adapt.

MAINTENANCE AND SERVICE

Be sure to follow the maintenance and service recommendations below to optimize the life and performance of your upgraded vehicle.

For best performance and continued reliability, it is essential to adhere to the following guidelines:

1. Use only premium grade fuel (91-octane or higher). RON+MON/2. The PCM calibration will automatically detect higher octane levels and will increase power accordingly.
2. Always listen for any sign of spark knock or pinging. If present, discontinue use immediately and consult your vehicle owner's manual.
3. Do not operate the vehicle at large throttle opening if the MIL lamp is on steadily. This indicates an electronic engine control malfunction: reduce throttle opening and consult your vehicle dealer.
4. Service or replace high-flow air filter element every 10,000 miles. Whipple oiled filter required.
5. Follow your factory service intervals for all maintenance items unless specified.

CAUTION: Any modification to your vehicle's new computer program may cause serious damage to the engine and/or drivetrain. The PCM is locked to the VIN, never let anyone, including dealerships install updates to the PCM.