



Throttle Body Installation Manual

Ford Shelby GT500 5.4L 32 Valve

Engine: Ford 5.4L 32 Valve
Shelby GT500 Model Years: 2007-2008

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Symbol Key

Throughout this installation guide you will see the following symbols used:

NOTE

Used to indicate tips and information to aid in installation, maintenance, or use of the supercharger.

!! CAUTION !!

Used to indicate precautions that must be taken to avoid damage to the supercharger and associated components.

WARNING!!

Used to indicate precautions that must be taken to avoid bodily injury as well as damage to the supercharger and associated components.

Introduction

This throttle body was created for the Shelby GT500 supercharged engine that utilizes a Whipple Supercharger, model years of 2007-2008. It has been designed and tested specifically for this application, it's not intended to bolt to the stock supercharger or any other application. **A CUSTOM CALIBRATION IS REQUIRED BY A QUALIFIED TUNER, AND IN NO WAY, IS IT INTENDED TO WORK WITH STOCK CALIBRATIONS OR MODIFIED STOCK CALIBRATIONS.** Before beginning installation of this throttle body, first **read the entire installation manual carefully.**

PCM Calibration

⚠ WARNING!! The Whipple Shelby GT500 mono blade throttle body **MUST HAVE A CUSTOM PCM CALIBRATION.** At no time is it intended to work with the factory calibration or a previous "custom tune". Because the blade size is much larger than stock, the throttle opening time must be modified for more controllable throttle control. Also, because the factory monitoring system is constantly monitoring the electronic throttle system, its very possible and likely that the PCM will go into "fail-safe" mode which will limit the power.

Whipple does not provide custom calibrations for throttle bodies, therefore it's up to the installer and customer to provide an accurate calibration. Boost PSI will increase due to increased airflow, therefore, cylinder pressures may increase to a critical level depending on pulley combo's. Installation of the throttle body without a proper calibration is negligent, and has no warranty of any-type.

Recommended Tools and Supplies

The following items are not included in this kit and it is strongly recommended that they're used for ease of installation or maximum performance:

Tools

You'll need a T20 torx wrench or socket to remove/install TB motor. 5/16" nut driver to remove hose clamps. 8mm wrench. Small flat head screw driver. Volt meter or OBD2 scan tool.

Sealants

Blue Loctite™ #242 or equivalent and Loctite #518 anerobic silicone.

Chemicals and lubricants

You will need some cleaner/degreaser such as carb cleaner.

Clean Shop Towels

Use these to keep the installation area clean.

Supercharger Installation Instructions

Vehicle: 07-08 Shelby GT500

Engine: 5.4L 32V

NOTE !! CAUTION !! 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.

 **NEVER SMOKE DURING THE INSTALLATION OF THE SC, THERE WILL BE FLAMMABLE FUMES AND LIQUID AROUND THE VEHICLE**

Illustrated Installation Guide

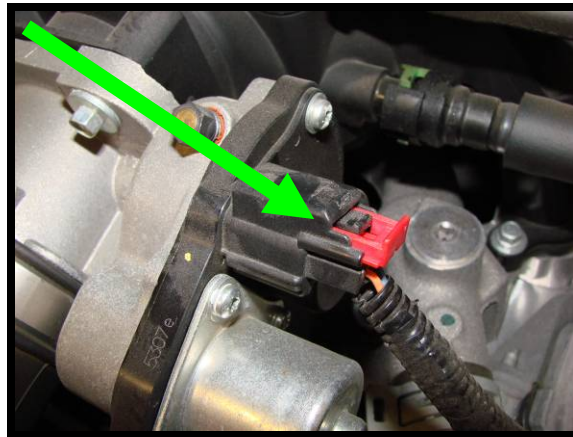
It is strongly recommended that you read through this guide before you begin installation.

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

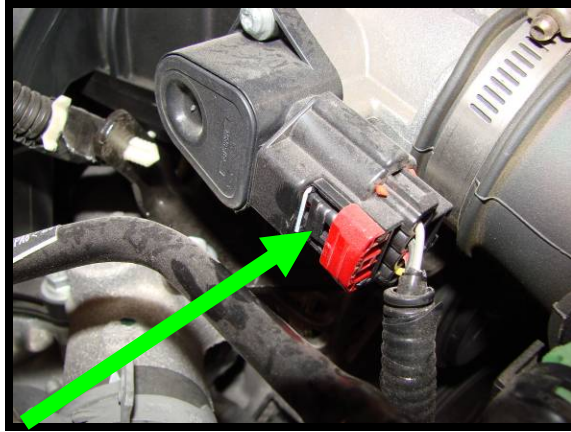
⚠ WARNING!! Batteries normally produce explosive gases. Therefore, do not allow flames, sparks or lighted substances to come near the battery. When charging or working near a battery, always shield your face and protect your eyes. Always provide ventilation. Failure to follow these instructions may result in personal injury.

⚠ WARNING!! Keep out of the reach of children. Batteries contain sulfuric acid. Avoid contact with skin, eyes or clothing. Also, shield your eyes when working near the battery to protect against possible splashing of the acid solution. In case of acid contact with the skin or eyes, flush immediately with water for a minimum of 15 minutes and get prompt medical attention. If acid is swallowed, call a physician immediately. Failure to follow these instructions may result in personal injury.

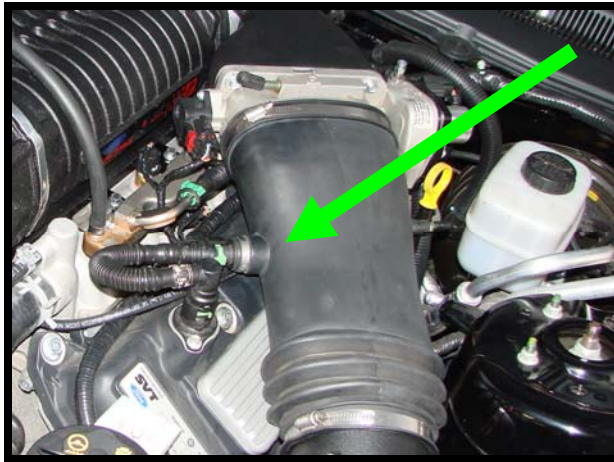
2. Using a scan tool or a volt meter (probe wire/pin #1), check the TPS voltage with "Key-on". Mark this voltage for later reference. Stock volts _____
3. Disconnect ground cable from battery using an 8mm wrench.
4. Disconnect electronic throttle control connector and TPS connector.
 - ☐ Electronic Throttle Control motor. Carefully pull red tab out, squeeze the connector and then pull the connector away from connection.



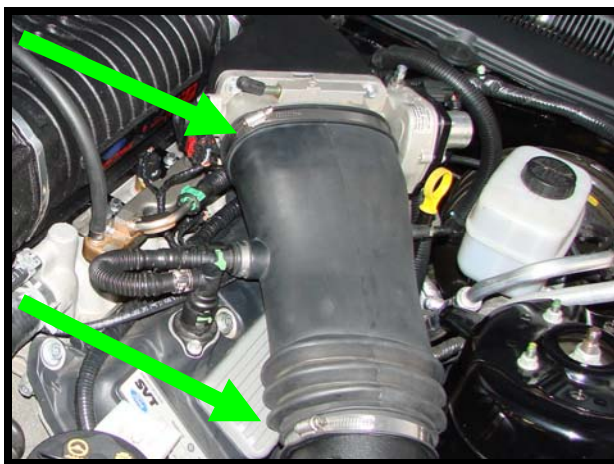
- ☐ Throttle Position Sensor. Carefully pull red tab out, squeeze the connector and then pull the connector away from connection.



5. Disconnect plastic breather hose from air inlet tube. To release, push green tab on bottom side and then pull.

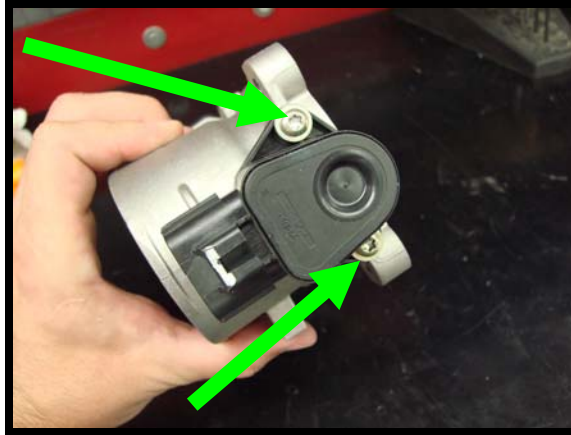


6. Loosen factory hose clamps (2) that secures air inlet tube to stock throttle body and mass air flow sensor.

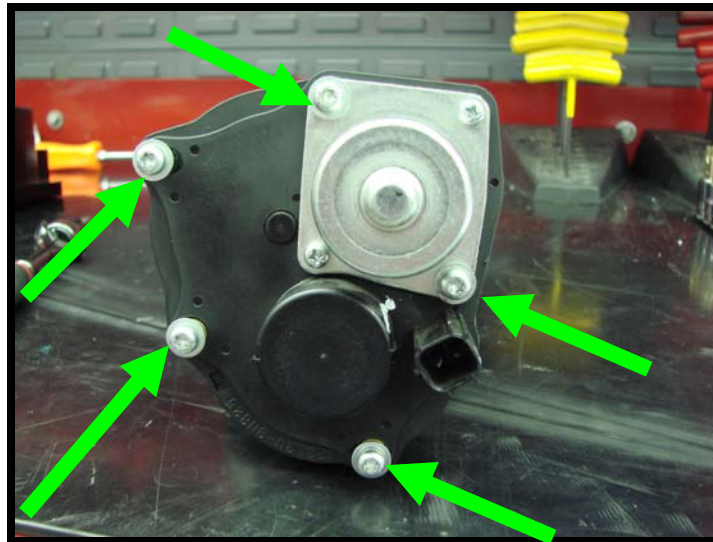


7. Remove air inlet tube from engine.
8. Remove throttle body from supercharger inlet housing by removing the (4) bolts that secure TB to SC inlet.
9. Clean SC inlet to TB mounting flange surface, this will require silicone to seal at a later time.

10. Clean throttle body and set on a clean work bench.
11. Using a T20 torx wrench, remove the (2) torx bolts that secure the TPS sensor to stock throttle body.



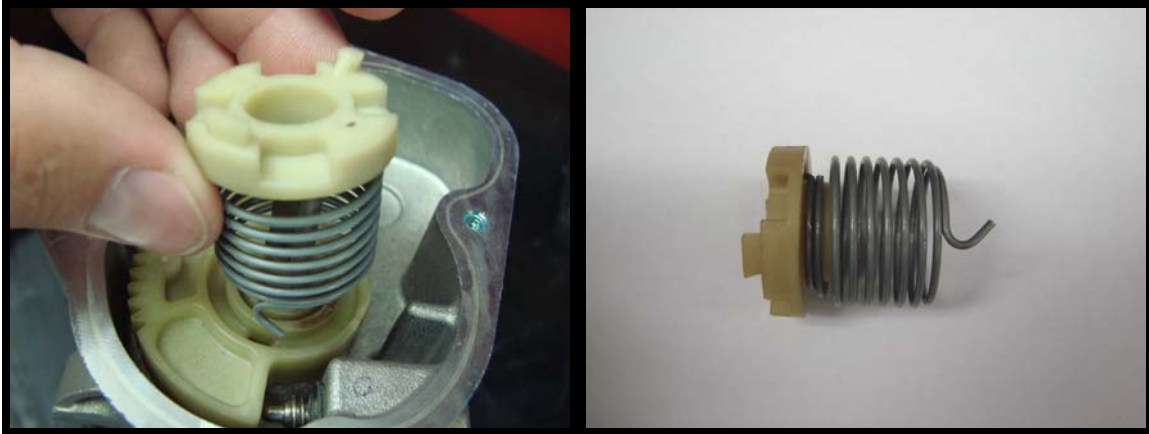
12. Remove TPS sensor from stock throttle body, install TPS sensor to new mono blade throttle body. Utilize the supplied (2) 4mm x 10mm allen bolts. Install blue Loctite #242 to threads.
13. Using a T20 torx wrench, remove the (5) torx bolts that secure the electric motor cover to throttle body. When you pull the cover away from the throttle body, the throttle spring will come loose. You will reuse the spring and it's plastic adapter.



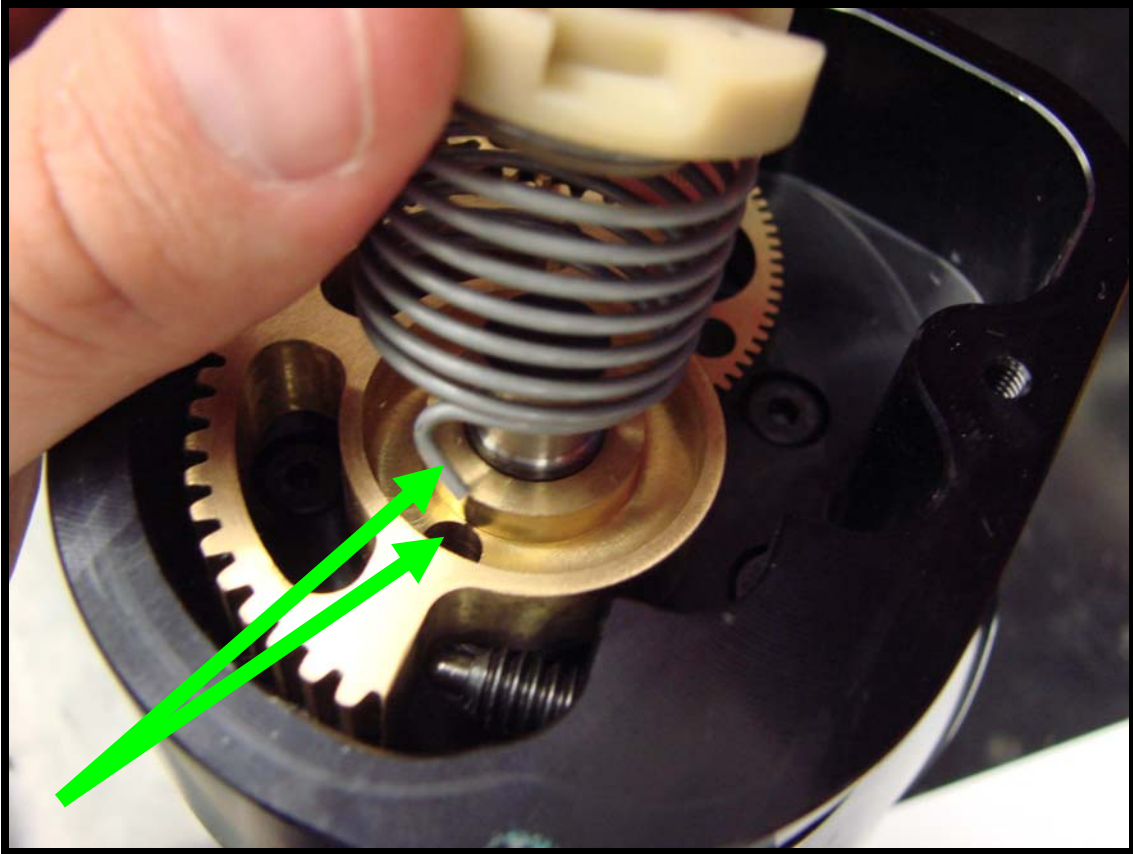
14. Using a small flat head screw driver, carefully remove the inspection cover from electric motor cover.



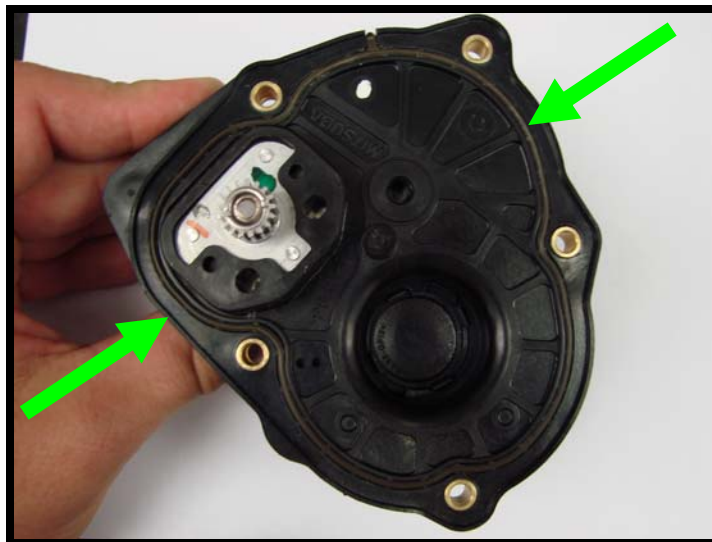
15. Remove the throttle spring and plastic adapter from throttle body. If this comes apart while removing cover from stock throttle body, then see picture below. The small end of the spring goes onto the plastic adapter. The spring locks into the plastic adapter with the tail of the spring locating into plastic adapter hole.



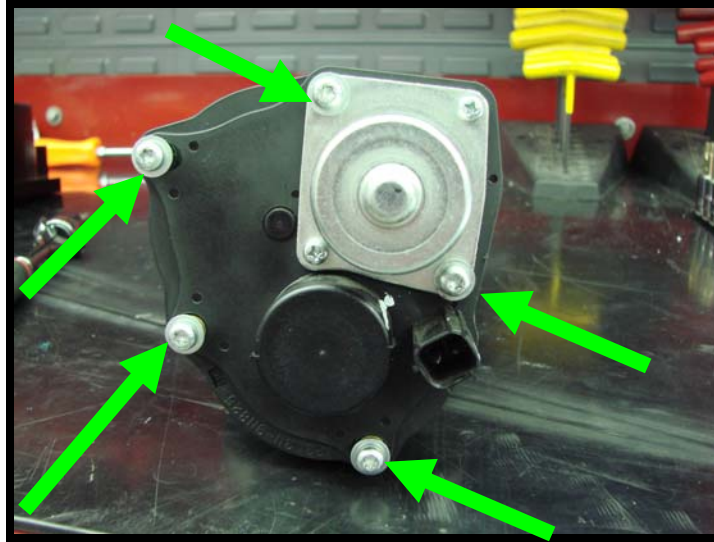
16. Install spring and plastic adapter to throttle body. **Note that the tail of the spring locates into the hole in the brass gear.



17. If oring fell from throttle body electric motor cover, reinstall using a very light amount of grease.



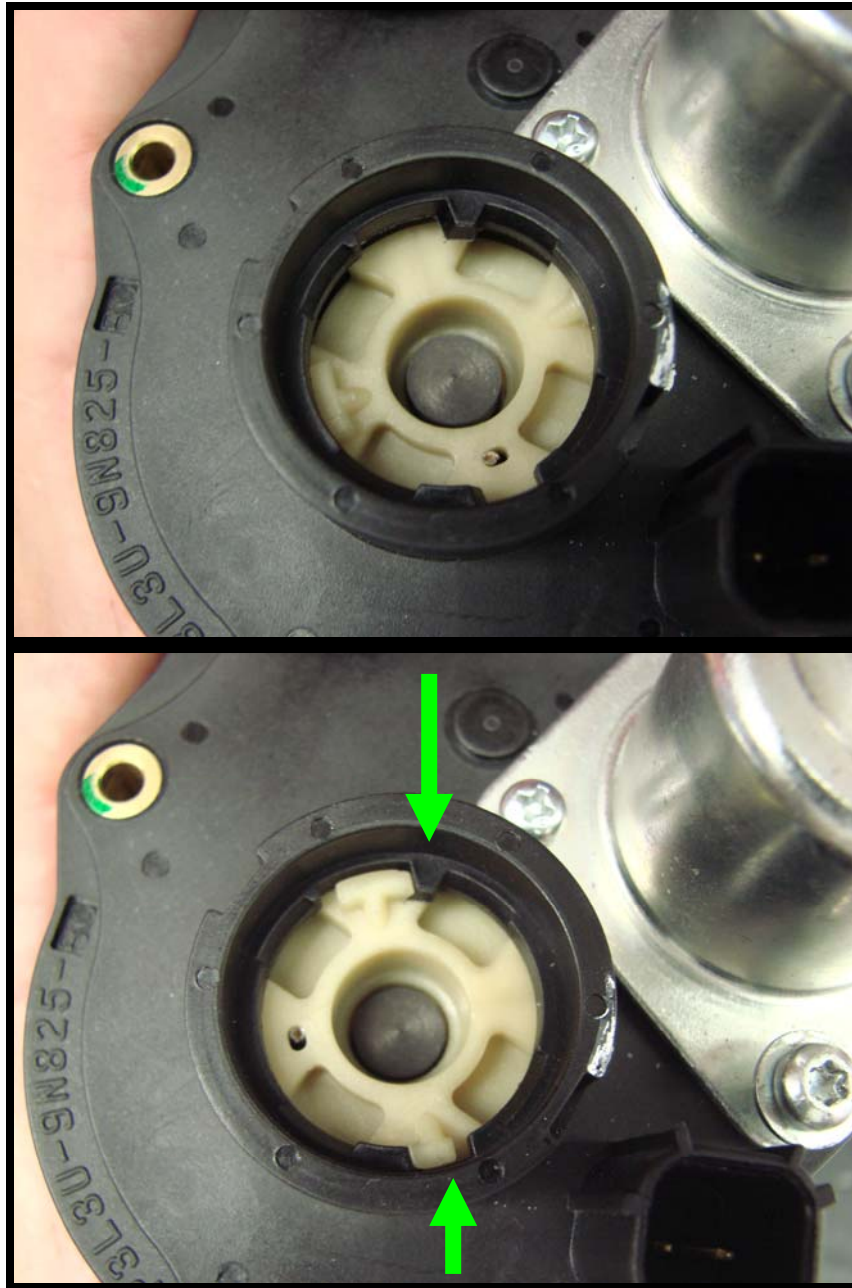
18. Install electric motor cover to new mono blade throttle body. Utilize the (5) factory torx bolts to secure in place. Install blue Loctite #242 to threads.



19. Install the spring rotation tool, into inspection hole. Using a marking pen, mark the top of the tool so you have a reference when rotating part.



20. Rotate tool approx. 220 degrees. While close to the 220deg rotation, slightly pull the tool away from electric cover, this will let plastic adapter lock into place. If you inspect the plastic adapter, you'll notice there are 2 tabs that lock it in place. One small, one large, verify that this is correct before proceeding.

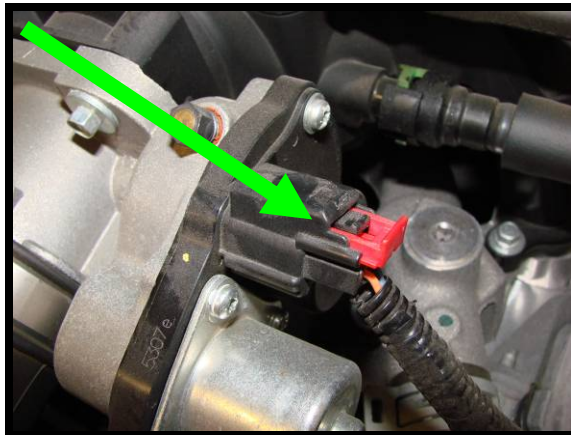


21. Reinstall the plastic inspection cover by carefully snapping into place.

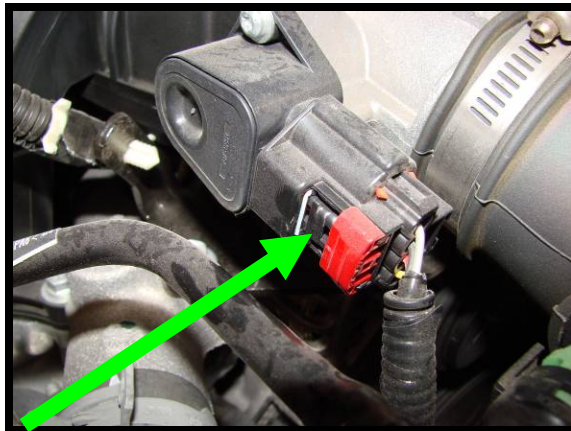


22. Using an Anerobic silicone such as Loctite #518, apply approx. 3mm bead around the throttle body mounting surface. Install throttle body to supercharger inlet housing using the factory (4) mounting bolts.
23. Connect electronic throttle control connector and TPS connector.

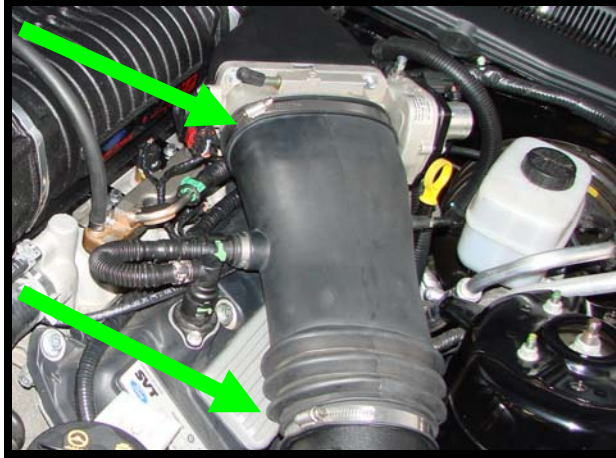
- ☐ Electronic Throttle Control motor. Connect electronic throttle connector to electronic throttle, lock red latch in place.



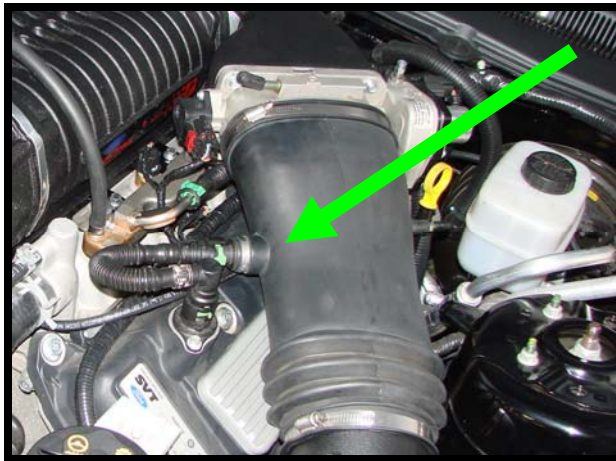
- ☐ Throttle Position Sensor. Connect TPS connector to TPS sensor, lock red latch in place.



24. Install air inlet tube, secure (2) hose clamps.

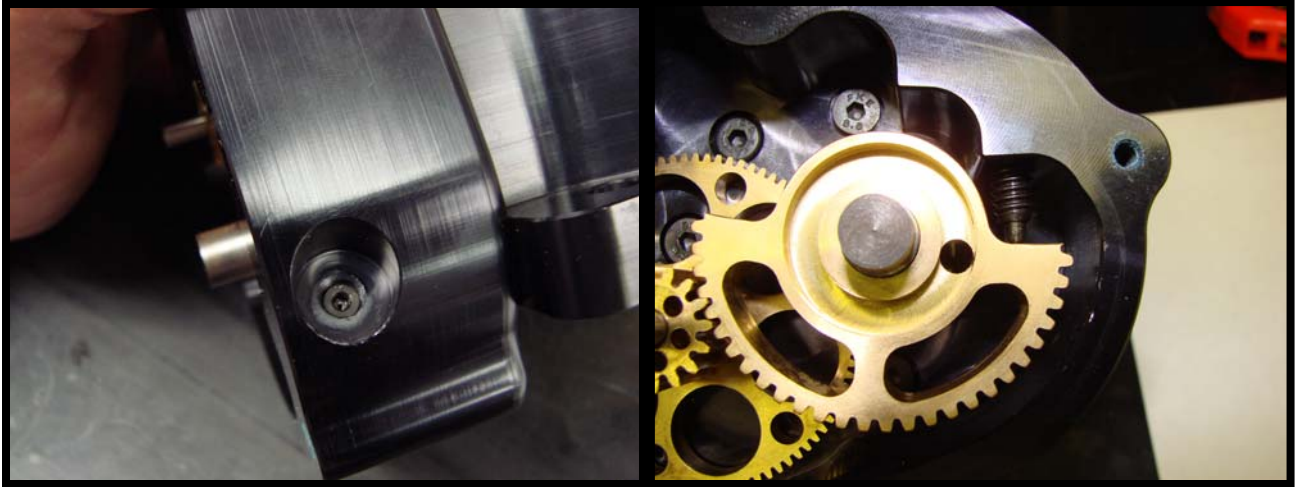


25. Connect plastic breather hose from air inlet tube.



26. Connect ground cable from battery using an 8mm wrench.
27. Using a scan tool or volt meter (probe wire/pin #1), check TPS voltage with "Key-on". If different from the original setting, slightly loosen the button head allen bolts (2) and rotate until the same voltage is reached. Once desired voltage is reached, re-tighten button head allen bolts (2).
28. Turn key to "off" position.
29. Start engine. Let idle until motor reaches operating temperature, which will bring the idle speed down to its desired idle speed. ****DO NOT DRIVE UNTIL IDLE IS VERIFIED!!!**

30. If the idle is too high, the idle stop will need to be slightly adjusted. There is a small set screw, turn this counter clock-wise 1/16" of a rotation at a time to lower the idle. Do not adjust more than 1 full rotation. If being adjusted, you must go back and check TPS voltage again to ensure you did not lower below it's fail safe mode.



Checklist Review

Have you completed the Post-Installation Checklist? Be sure you have:

1. ☐ Checked that all bolts and clamps are tight.
2. ☐ Verified TPS voltage is the same as stock.
3. ☐ Started the vehicle and ensured no codes are being set.

➡ NOTE

There are no warranties expressed or implied for engine failure or damage to the vehicle in any way during throttle body installation or use.

➡ NOTE !! CAUTION !! ⚠ WARNING!!

IF AT ANYTIME, THE THROTTLE HANGS UP, STICKS OR DOES ANYTHING UNSAFE, PUT THE CAR IN NEUTRAL, PULL OFF THE ROAD WITH A SAFE DISTANCE, AND DISCONTINUE USE IMMEDIATELY.