



Installation Instructions: S&S Throttle-by-Wire Throttle Hog Throttle Body For 2008–Up Harley-Davidson® models equipped with electronic throttle control throttle bodies

DISCLAIMER:

Many S&S parts are designed for high performance, closed course, racing applications and are intended for the very experienced rider only. The installation of S&S parts may void or adversely affect your factory warranty. In addition such installation and use may violate certain federal, state, and local laws, rules and ordinances as well as other laws when used on motor vehicles used on public highways. Always check federal, state, and local laws before modifying your motorcycle. It is the sole and exclusive responsibility of the user to determine the suitability of the product for his or her use, and the user shall assume all legal, personal injury risk and liability and all other obligations, duties, and risks associated therewith.

NOT LEGAL FOR SALE OR USE IN CALIFORNIA ON ANY POLLUTION CONTROLLED MOTOR VEHICLE.

Not legal for sale or use on any EPA pollution controlled motor vehicle.

SAFE INSTALLATION AND OPERATION RULES:

Before installing your new S&S part, it is your responsibility to read and follow the installation and maintenance procedures in these instructions and follow the basic rules below for your personal safety.

- Gasoline is extremely flammable and explosive under certain conditions and toxic when breathed. Do not smoke. Perform installation in a well ventilated area away from open flames or sparks.
- If motorcycle has been running, wait until engine and exhaust pipes have cooled down to avoid getting burned before performing any installation steps.
- Before performing any installation steps, disconnect battery to eliminate potential sparks and inadvertent engagement of starter while working on electrical components.
- Read instructions thoroughly and carefully so all procedures are completely understood before performing any installation steps. Contact S&S with any questions you may have if any steps are unclear or any abnormalities occur during installation or operation of motorcycle with an S&S part on it.
- Consult an appropriate service manual for your motorcycle for correct disassembly and reassembly procedures for any parts that need to be removed to facilitate installation.
- Use good judgment when performing installation and operating motorcycle. Good judgment begins with a clear head. Don't let alcohol, drugs or fatigue impair your judgment. Start installation when you are fresh.
- Be sure all federal, state and local laws are obeyed with the installation.
- For optimum performance and safety and to minimize potential damage to carb or other components, use all mounting hardware that is provided and follow all installation instructions.
- Motorcycle exhaust fumes are toxic and poisonous and must not be breathed. Run motorcycle in a well ventilated area where fumes can dissipate.

IMPORTANT NOTICE:

Statements in this instruction sheet preceded by the following words are of special significance.



WARNING

Means there is the possibility of injury to yourself or others.



CAUTION

Means there is the possibility of damage to the part or motorcycle.

NOTE

Other information of particular importance has been placed in italic type.

S&S recommends you take special notice of these items.

WARRANTY:

All S&S parts are guaranteed to the original purchaser to be free of manufacturing defects in materials and workmanship for a period of twelve (12) months from the date of purchase. Merchandise that fails to conform to these conditions will be repaired or replaced at S&S's option if the parts are returned to us by the purchaser within the 12 month warranty period or within 10 days thereafter.

In the event warranty service is required, the original purchaser must call or write S&S immediately with the problem. Some problems can be rectified by a telephone call and need no further course of action.

A part that is suspect of being defective must not be replaced by a Dealer without prior authorization from S&S. If it is deemed necessary for S&S to make an evaluation to determine whether the part was defective, a return authorization number must be obtained from S&S. The parts must be packaged properly so as to not cause further damage and be returned prepaid to S&S with a copy of the original invoice of purchase and a detailed letter outlining the nature of the problem, how the part was used and the circumstances at the time of failure. If after an evaluation has been made by S&S and the part was found to be defective, repair, replacement or refund will be granted.

ADDITIONAL WARRANTY PROVISIONS:

- (1) S&S shall have no obligation in the event an S&S part is modified by any other person or organization.
- (2) S&S shall have no obligation if an S&S part becomes defective in whole or in part as a result of improper installation, improper maintenance, improper use, abnormal operation, or any other misuse or mistreatment of the S&S part.
- (3) S&S shall not be liable for any consequential or incidental damages resulting from the failure of an S&S part, the breach of any warranties, the failure to deliver, delay in delivery, delivery in non-conforming condition, or for any other breach of contract or duty between S&S and a customer.

Thank you for choosing S&S® Cycle's throttle-by-wire Throttle Hog throttle body. This fits all 2008-Up Harley-Davidson® motorcycles originally equipped with an electronic throttle control throttle body. Please read the following steps to help guide you through the proper installation of the kit.

CAUTION

- Before doing any of the following installation, be sure to disconnect the negative cable of your battery.
- Consult an appropriate factory service manual for safety instructions on how to disconnect the fuel system from your motorcycle.

WARNING

- Gasoline is extremely flammable. Please be sure to work in a well ventilated area and do not have an open flame near the work area. The following installation should be only done by a qualified technician with the proper tools and training. If you are not certain of your capabilities or do not have the correct tools for this installation, S&S recommends you consult a shop to have it done for you. Improper installation of this product could result in damage to the motorcycle and motorcycle components.

Note: You will have to transfer the following components from the stock induction module to the S&S® throttle-by-wire Throttle Hog throttle body. If this is a new installation or custom application, these parts will need to be sourced from a certified Harley-Davidson® dealer:

- Temperature/Manifold Absolute Pressure (MAP) Sensor H-D® PN 32319-07
- Fuel Rail Assembly (including M5x.8 Torx head mounting screw, fuel line, fuel rail, and fuel rail plate) H-D PN 61208-10 and H-D PN 27721-08.
- Depending on the chosen air cleaner kit, the Induction Module Bracket H-D PN 27712-08 with 4705 screws may be retained as well. S&S recommends using the Super Stock™ Stealth Air Cleaner kits in which this bracket would not be needed.

The following parts will also be required for the S&S throttle-by-wire Throttle Hog throttle body.

- High flow fuel injector such as Screamin' Eagle® Pro high flow injectors H-D® PN 27796-08, or comparable.
- Tuning required.
- Intake Manifold Flange and Seal Kit S&S PN 16-0250 (70mm Only)
- Intake Manifold Flange kit with seals for 2006 -up PN 160-0168 included with 58mm and 66mm Throttle Hog kits.

TOOL REQUIREMENTS:

- ¼" Allen Wrench
- ⅜" Allen Wrench
- ⅝" Allen Wrench
- ¼" Ratchet
- T25 Torx socket
- Torque Wrench
- Blue Threadlocker

INSTALLATION

1. Remove the existing fuel induction system and clean intake mounting surface to ensure a proper seal. See **Picture 1**. It is up to the technician as to whether the gas tank should be removed or just raised up in the rear.



Picture 1

2. Disassemble the old fuel induction system to remove the pre-listed components for re-use.
3. Verify the new fuel induction system manifold size is appropriate for your motorcycle by holding it in place between the cylinder heads. See **Picture 2**



Picture 2

Notes:

- Due to the larger size of the S&S® Throttle Hog throttle body, it may in some cases, be necessary to clearance the lower fins of the rear cylinder head near the plastic cover of the throttle body.
 - Cylinder heads used in S&S engines and Hot Set Up Kits produced after 2013 are specially machined to compensate for the difference in cylinder length and fit stock length throttle body (S&S size code 405).
4. Install the injectors, stock fuel rail and MAP sensor onto the new S&S throttle-by-wire Throttle Hog throttle body. Apply a small amount of blue threadlocker to the stock socket head button screw and torque the MAP sensor to 84-108 in-lbs. Apply a small amount of blue threadlocker to the stock M5x.8 T25 Torx screw and torque the fuel rail assembly to 66-82 in/lbs

CAUTION

- Do not over-tighten as this may damage the part and affect the operation of the sensor.
 - Take special care when installing the injectors. They contain special o-rings that seal pressurized gasoline. If any of the seals are damaged during assembly, replace them immediately.
5. Put the intake manifold flanges on the manifold followed by the intake manifold flange seal. Be sure that the tapered end is towards the manifold and the flat side of the seal is facing the cylinder head. See **Picture 3**.

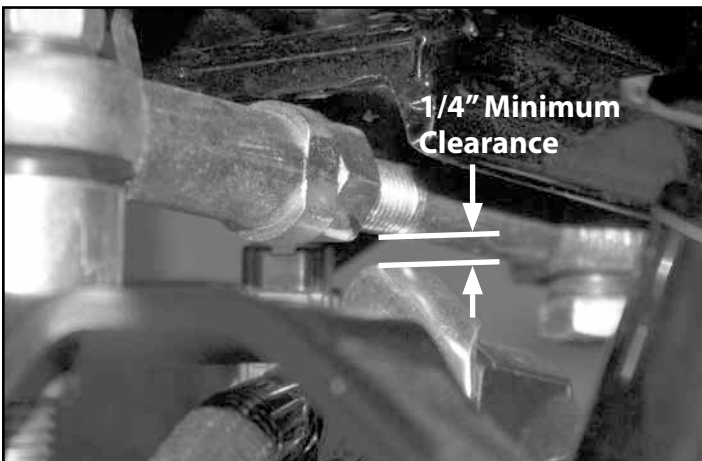


Picture 3

6. Install the S&S throttle-by-wire Throttle Hog throttle body into the motorcycle using the stock mounting flange bolts re-coated with blue threadlocker. Lightly snug all four manifold mounting bolts but **DO NOT TIGHTEN AT THIS TIME**.

Note: The Harley-Davidson service manual for your model will be helpful for more specific procedures during step 6.

7. If installed on a Dyna® model, clearance between fuel rail and top stabilizer link must be checked. Keep in mind that the engine will move forward and backward in operation. Minimum clearance 1/4" from the top of fuel rail tab to bottom of stabilizer link is required. Fuel rail tab may need to be modified for adequate clearance. See **Picture 4**.



Picture 4

CAUTION

Inadequate clearance between fuel rail and motor mount could cause contact during operation, resulting in a fuel leak.

WARNING

Gasoline is extremely flammable. Leaking gasoline may result in a fire, which could cause personal injury or death.

8. Connect all of the wiring harness connectors to the throttle body, excluding the cylinder head temperature sensor which will be done later.
9. At this point mount the motorcycle's backplate or the H-D® induction module bracket to the S&S throttle-by-wire Throttle Hog throttle body. S&S recommends using the Super Stock® Stealth Air Cleaner kits for optimal performance.
10. Once the backplate or the H-D® induction module bracket have been secured in place, finish tightening the four manifold bolts to 96-144 in/lbs.
11. Finish installation of the air cleaner assembly.
12. Install the cylinder head temperature sensor and connect the sensor to the wire harness.
13. Reinstall any components removed for the installation of this product.
14. Once step 12 is complete, place the handlebar Run/Off switch in the "Run" position then cycle the master ignition key switch 5 times. Be sure to wait at least 20 seconds between each on and off cycle. This allows the computer to learn the new throttle plate position. During each "On" cycle clear all codes associated with the throttle body switch-over
15. Begin tuning the motorcycle. In some cases, it may be necessary to adjust IAC warm-up steps in the tuning software utilized such that the after start idle speed is reduced.

Note: Following the installation of this product, the fuel system must be recalibrated using an appropriate tuning device.

CAUTION

Failure to appropriately tune the motorcycle after installing this product may result in severe component damage and/or damage to other components of the motorcycle. If you are not certain of your tuning capabilities or do not have the correct tools, S&S recommends you consult a shop to have it done for you.

