

## Instruction 510-0393A

04-24-2018

Ver. 2

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## Installation Instructions for S&S Single Bore Tuned Induction Kit for 2008-2017 Harley-Davidson® Models with Electronic Throttle Control

### 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.

Exempt from emissions tampering regulations on 2001-2017 fuel injected non-CVO models under CARB EO# D-355-21 and EO# D-355-24.

### 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 a 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.
- (4) S&S parts are designed exclusively for use in Harley-Davidson® and other American v-twin motorcycles. S&S shall have no warranty or liability obligation if an S&S part is used in any other application.

Thank you for choosing S&S® Cycle's tuned induction runner kit for all Harley-Davidson® motorcycles with electronic throttle control. The following steps will help guide you through the proper installation of the kit.



#### CAUTION



- If you are not certain of your capabilities or do not have the correct tools for this installation, please consult a shop to have it done for you. Improper installation of this product could result in damage to the motorcycle and motorcycle components.

#### Tool Requirements

- $\frac{3}{16}$ " Allen Wrench
- $\frac{5}{32}$ " Allen Wrench
- Pliers
- Blue Threadlocker
- $\frac{5}{16}$ " Nut Driver or Standard Screwdriver
- $\frac{3}{8}$ " or  $\frac{1}{2}$ " Ratchet
- $\frac{7}{8}$ " Socket or Wrench
- $\frac{3}{8}$ " or  $\frac{1}{2}$ " Drive Torque Wrench

**NOTE-** Included with this kit is a label containing a CARB EO number. This EO label is required for use on 2008-2016 pollution controlled motorcycles.

#### INSTALLATION

- 1- Remove the stock air cleaner cover and backplate assembly from the motorcycle so there is direct access to the throttle body as shown in **Picture 1**.



Picture 1

- 2- Install the throttle body gasket and spacer plate to the throttle body using the two supplied  $\frac{1}{4}$ -20 x .75" chrome socket head cap screws. Torque both screws to approximately 55-60 in-lbs. See **Pictures 2 and 3**.

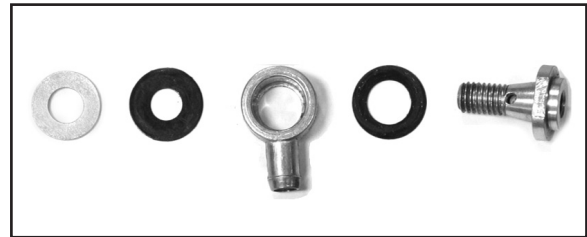


Picture 2



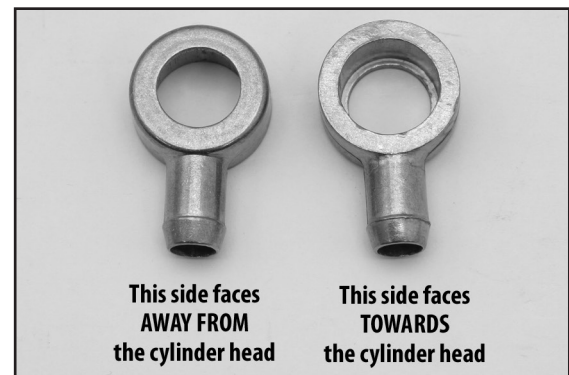
Picture 3

- 3- Lightly fasten both banjo-style vent fittings to each cylinder head. **Picture 4** shows the layout of fasteners and how they should be installed. Be sure to note the placement of the two different rubber-coated washers.



Picture 4

**NOTE:** There are two different diameters on the banjo-style vent, so be sure the larger diameter is facing towards the head as shown in **Picture 5**



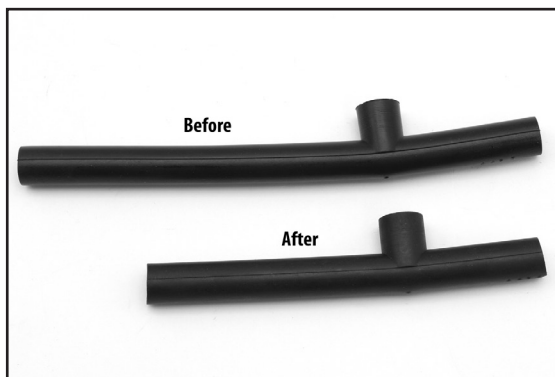
Picture 5

- 4- Slide one spring clamp over the short end of the breather hose and insert the breather hose over the breather tube located on the back side of the spacer plate that you mounted to the throttle body in step 2. Use pliers to open the spring clamp as the breather hose is pushed over the breather tube. Be sure that when the spring clamp is released it is positioned directly over the breather tube for maximum clamping and sealing.

- 5- The breather hose will extend past the banjo-style vent fittings on the head as shown in **Picture 6**. Measure and cut the hose so it will slide all the way onto the vent fitting with out kinking the hose shut when correctly installed.



Picture 6



Picture 7

- 6- After the breather tube has been cut, (See **Picture 7**) slide the remaining two spring clamps over each end of the breather tube. Again, use pliers to open the spring clamp as you slide the breather tube onto the banjo-style vent fitting. Now torque the bolts holding the banjo-style fittings on the heads to 12-14 ft-lbs. The completed breathing system should be as shown in **Picture 8**.



Picture 8

- 7- Place a clean rag on a flat surface and lay the intake runner face down on the rag.
- 8- Place one intake adapter gasket on the gasket surface of the intake runner followed by the plastic cover, the remaining intake adapter gasket, and then the adapter plate. Refer to **Figure 1** for the proper order of components.



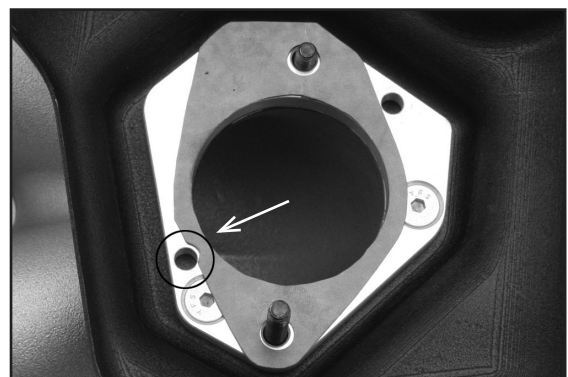
Figure 1

- 9- Apply a small amount of blue thread locker to the three zinc plated  $\frac{1}{4}$ "-20 x .75" countersunk socket screws. Secure the parts placed into position in step 8, by installing the screws in the three corresponding intake runner holes. Torque each screw to approximately 55-60 in-lbs.
- 10- Apply blue thread locker on both "black chrome"  $\frac{1}{4}$ " - 20 x 1" and  $\frac{1}{4}$ " - 20 x 1.5" countersunk allen screws. Pick the assembly up and install the two "black chrome" fasteners and washers in the face of intake runner cover.

**NOTE:** The longer "black chrome" screw goes in the bottom hole of the cover.

- 11- Position the remaining gasket onto the two "black chrome" screws as shown in **Picture 9**.

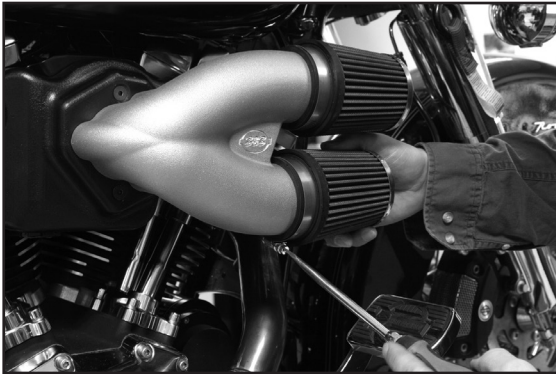
**NOTE:** Make sure the notch in the gasket lines up with the dowel pin hole on the adapter plate as indicated in **Picture 9**.



Picture 9

- 12- Mount the intake runner assembly onto the throttle body ensuring that the gasket installed in step 11 stays in position. The assembly will "snap" into place as the two plates are aligned by the dowel pins on the spacer plate.
- 13- Torque the fasteners to 25-30 in-lbs.

- 14- Install the air filters and clamps onto the intake runner assembly. Press the air filters on approximately 1-inch from the tube ends. Tighten the clamps with a standard screwdriver or  $\frac{5}{16}$ " nut driver. See **Pictures 10 & 11**.



**Picture 10**



**Picture 11**

**NOTE:** If the motorcycle is equipped with fairing lowers then it may be necessary to remove the glove-box from the fairing lowers.

15. Apply the label containing the CARB Executive Order (EO) number to the front frame down tube in a location above the factory label. See **Picture 12**.



**Picture 12**



**Do not apply this label to motorcycles not covered by this application.**

## S&S® Throttle by Wire Single Bore Tuned Induction Runner Kit Replacement Parts

1- Intake Runner, Kit, Single Bore, 2.19", 2008-Up Touring (Includes all parts shown below) Wrinkle Black.....	106-2447	12- Gasket, Intake Adapter, Throttle by Wire, 2008-Up bt.....	106-4428
Chrome Plated.....	106-2448	13- Gasket, Intake Adapter, .020", 2.19", Gray, Paper.....	17-1022
2- Installation Kit, Throttle by Wire, 2008-Up bt .....	106-4851	14- Gasket, Throttle Body, Throttle by Wire, 2008-Up bt.....	106-2643
3- Intake Runner, Single Bore, w/Gasket & Air Filter, 2.19" Wrinkle Black.....	106-4966	15- Spacer, Plate, Throttle By Wire, Intake Runner, Machined, 2008-Up bt.....	106-4826
Chrome Plated.....	106-4967	16- Adapter, Plate, Throttle by wire, Intake Runner .....	106-3607
4- Breather, Kit, Throttle by Wire, 2008-Up bt.....	106-4827	17- Screw, Breather, 3/8-16 UNC, +.250, 2008 Touring.....	106-2667
5- Mount, Kit, Spacer/Adapter, Throttle by Wire, 2008-Up bt.....	106-4824	18- Hose, Vent, Breather .....	17-0339
6- Cover, Induction Module, Throttle by Wire, Plastic, 2008-Up .....	106-3612	19- Fitting, Vent, Aluminum Alloy .....	17-0350
7- Screw, FHSC, 1/4-20 x 3/4", Zinc Plated .....	50-0491	20- Washer, Flat, .375" x .813" x .063", Zinc, Steel.....	50-7051
8- Screw, FHSC, 1/4-20 x 1", Black Chrome .....	106-4828	21- Washer, Flat, .380" x .880" x .024", Nitrile Rubber Coated, Cold Rolled Steel.....	50-7054
9- Screw, FHSC, 1/4-20 x 1 1/2", Black Chrome.....	106-4829	22- Washer, Flat, .520" x .880" x .024", Nitrile Rubber Coated, Cold Rolled Steel.....	50-7055
10- Screw, SHC, 1/4-20 x 3/4", Chrome, ASTM A574-92A.....	50-0067	23- Clamp, Spring, 3/16" .....	50-8001
11- Washer, countersunk, external tooth, 1/4" x 1/2", parkerized steel.....	106-4980	24- Air Filter, with Clamp, Stainless Cap, Conical, 2 7/16" I.D. x 4" Red (1 each).....	17-1020
		Blue (1 each).....	17-1023
		25- Intake Runner, Single Bore, 2.19" + Gasket Natural.....	106-4968
		Wrinkle Black.....	106-4969
		Chrome Plated.....	106-4970
		26- Oil, Air Filter, 8oz. (Not shown) Red.....	106-1163
		Blue.....	106-1164

