



Installation Instructions: S&S® Power Tune Header System for 1986-up Softail® models

(S&S PN 550-0544 Chrome Shields and S&S PN 550-0545 Black Shields)

DISCLAIMER:

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, especially in states where pollution laws may apply. 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.

The words Harley®, Harley-Davidson®, H-D®, Sportster®, Evolution®, and all H-D part numbers and model designations are used in reference only. S&S Cycle is not associated with Harley-Davidson, Inc.

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' 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.

Kit Contents:

- Header Assembly (1)
- Front Heat Shield (1)
- Rear Heat Shield (1)
- Mounting Bracket (1)
- M12 x 1.25 Sensor Bung Plug (2)
- Oxygen Sensor Adaptor M18 to M12 (2)
- Plastic Tie Down (1)
- #24 Stainless Steel Hose Clamp (3)
- #28 Stainless Steel Hose Clamp (4)
- 3/8" – 16 x 3/4" Carriage Bolt (2)
- 3/8" – 16 Flange Lock Nut (2)
- 3/8" – 16 x 2.5" Socket Head Cap Screw (1)
- 3/8" – 16 x 3/4" Serrated Flange Screw (2)
- Exhaust Port Gaskets (2)

Removal of the stock exhaust system

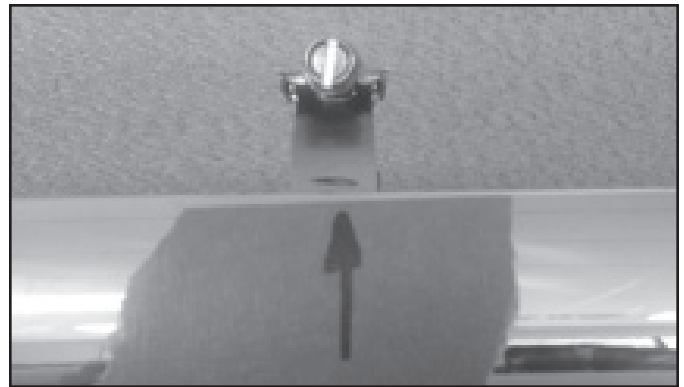
1. Secure the motorcycle to prevent tipping during installation.
2. Disconnect the rear oxygen sensors. **NOTE:** 1986-2006 models do not have oxygen sensors, skip to step 4. 2007-2012 models have 18mm sensors and 2013-up models have 12mm sensors. 2007-2012 models: The sensor is located underneath the oil tank, on the right hand side. Locate the connector and disengage from the harness. 2013-up models: Remove the seat from the motorcycle, refer to the owner's manual for the proper procedures. Once the seat has been removed, locate the harness and unplug the sensor from the harness. Make sure to remember the path of the wire as it will be re-routed through the same path.
3. Disconnect the front oxygen sensors. 2007-2012 models: Unlock the plastic cover above the rectifier right in front of the frame of the motorcycle to get access to the front oxygen sensor connector. Unplug sensor from harness. Now remove cable tie which is holding sensor wire to the motorcycle frame and feed it the end of the wire though releasing it from the motorcycle. 2013-up models: Locate harness underneath the rectifier and disengage sensor.
4. If equipped, remove the right sidefloor boards and brackets to gain clearance for exhaust removal and installation.
5. Loosen heat shield clamps on both the front and rear head pipes and remove the shields.
6. If equipped loosen crossover pipe clamp, located between front and rear head pipes.
7. Remove the exhaust port flange nuts from each head pipe located at the cylinder head.
8. Remove the bolts that attach mufflers to the frame.
9. Remove the complete exhaust system and set aside.
10. On 2007-2012 models use a 7/8" or 22mm wrench to carefully remove the oxygen sensor from the stock head pipes and save

for re-use. On 2013-up models use a 14mm wrench. It may be necessary to use penetrating oil to ease the removal.

11. Remove exhaust port flanges and retaining rings from the stock exhaust system using snap ring pliers. It is best to wear safety glasses when removing retaining rings to prevent eye injury.
12. Lastly remove the two lower mounting studs from the frame.

Exhaust System Installation

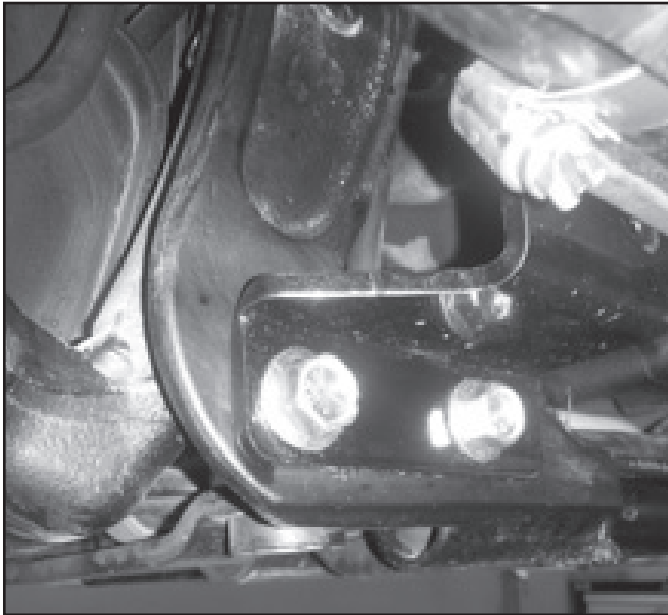
1. Remove header and heat shields from protective foam packaging. Place them on a non-abrasive surface. Unpack end cap kit. We recommend using painters tape to cover parts and accessories on areas of the motorcycle where damage may occur during installation.
2. Begin by installing the end caps to the heat shields. Apply a small amount of Loctite to the supplied screws and install the end caps to the ends of the heat shields. Keep the remaining Loctite, it will be needed again in later steps.
3. The heat shield clamps will need to be installed after the shields are in place. The easiest way of doing this is to mark the location of the heat shield hold down clips on the back side of the shields. A piece of painters tape works well. **See Picture 1**



Picture 1

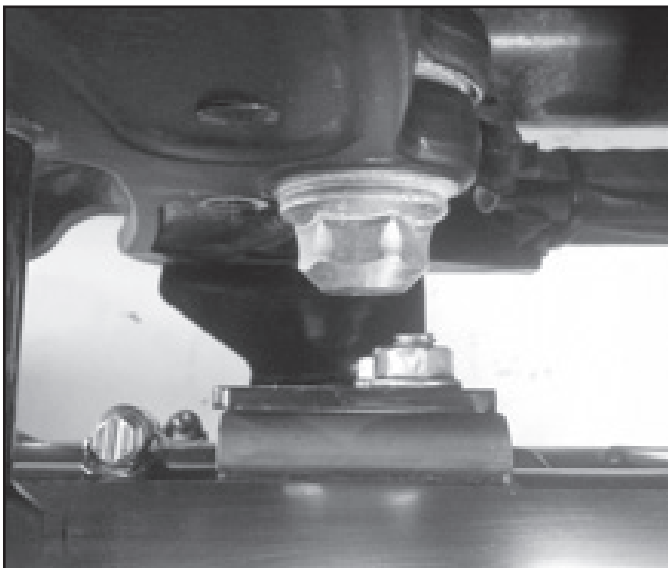
4. Remove the old exhaust port gaskets and install the new exhaust port gaskets that were provided in the kit.
5. Install the exhaust port flanges and retaining rings from the stock system onto the new header. It may be necessary to securely hold down the header, a bench vice works well. If this method is used, place clean shop towels between the jaws and the pipe to prevent damage.
6. On models that do not use oxygen sensors, apply anti seize to the provided adaptors and plugs and cap the oxygen sensor bungs in the head pipe. Models that use the 18mm oxygen sensors, apply anti seize to the sensor threads and install into the head pipe bungs. Models that use the 12mm sensors, locate the 18mm to 12mm adaptors, apply anti seize to the threads and install into the head pipe bungs. Next apply anti seize to the 12mm sensor threads and install into the adaptors in the head pipe.

7. Locate the supplied mounting bracket (under the foam packaging) and the 3/8" -16 x 3/4" flange bolts. Apply Loctite to the flange bolts and secure the mounting bracket to the frame, torque to 13-18 ft*lbs. **See Picture 2**



Picture 2

8. Installation of the header: Start by first inserting the front head pipe in to the exhaust port then carefully pulling the rear head pipe into the exhaust port. Take care not to damage the exhaust port gaskets. Make sure the exhaust flanges easily slide onto the studs. Install the exhaust port flange nuts but do not fully tighten yet.
9. Pull the header outward slightly and install the two provided 3/8"-16x3/4" carriage bolts to the slotted channels in the back of the header.
10. Push the header back toward the mounting bracket. Make sure the carriage bolts go through the holes in the bracket.
11. Install the provided flange nuts but do not fully tighten yet. **See Picture 3**



Picture 3

12. Tighten the exhaust port flange nuts evenly to 100-120 in*lbs. To ensure there are no leaks and the exhaust system is properly aligned, both nuts must be evenly torque.
13. Tighten the mounting bracket flange nuts to 13-18 ft*lbs.
14. Route the wiring for the oxygen sensor (if equipped) in the original location and reconnect the sensors.
15. Install the front heat shield first followed by the rear shield. Next install the supplied heat shield clamps into the heat shield clips. Orient the head of the clamps so they are easily accessible. Align the end of the shields then fully tighten clamps. Note that the larger diameter, #28, clamps are to be used on the larger diameter head pipe.
16. On models with floorboards, reinstall at this time.
17. Use the provided 3/8" socket head cap screw to secure the passenger right side footpeg bracket to the frame. Reinstall footpeg.
18. Thoroughly clean the exhaust system to remove any fingerprints or oil before the motorcycle is started.