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Because every industry has a leader

Installation Instructions for S&S® Custom Connector Kit for the S&S EFI Wire Harness

DISCLAIMER:

S&S parts are designed for high performance, off road, 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.

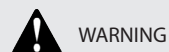
SAFE INSTALLATION AND OPERATION RULES:

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.

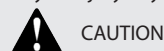
IMPORTANT NOTICE:

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'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:

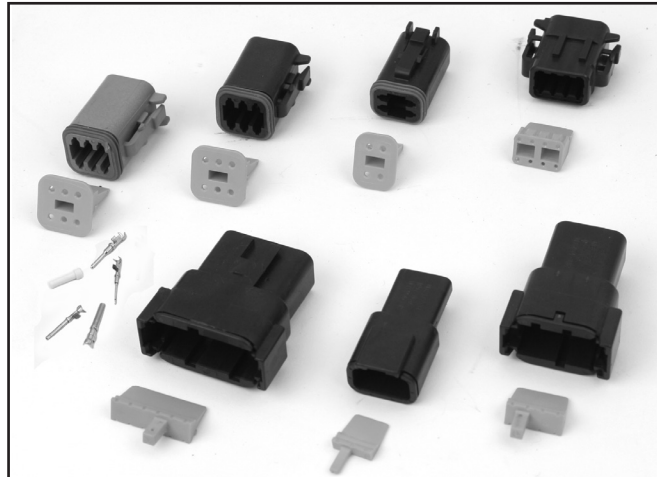
- (1) S&S shall have no obligation in the event an S&S part is modified by any other person or organization.
- (2) S&S shall have no obligation if an S&S part becomes defective in whole or in part as a result of improper installation, improper maintenance, improper use, abnormal operation, or any other 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.

⚠ WARNING

- The safety of the motorcycle rider is dependent on proper installation of this product. 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 injury or death to the rider.
- Ensure that the battery has not been connected, and do not connect the battery until told to do so in these instructions. Failure to do so may result in damage to your wire harness and other motorcycle electronics which can result in costly repair and service fees. With the battery also remaining disconnected during the entirety of this installation prevents accidental starting of the motorcycle which could cause injury to you or others around you.

⚠ CAUTION

To avoid damage to motorcycle and motorcycle components follow the guidelines specified by the manufacturer when assembling and servicing your motorcycle.



Picture 1

When S&S® released the X-Wedge™ engine, this created an additional market to provide the customer with a complete wiring harness for custom motorcycles. The S&S EFI wire harness was created specifically for motorcycle frames with two inches of stretch in the backbone and using fuel injected S&S engines, including X-Wedge. The S&S EFI wire harness also accepts most stock parts designed to fit Harley Davidson® Softail® models along with other parts specifically offered through S&S. In order to get those components to fit, the S&S custom connector kit contains all the necessary connectors that will allow you to meet your electrical needs. With connectors that directly mate to the S&S EFI wire harness, we've eliminated the guess work of determining what you'll need to get your fuel injected bike on the road.

NOTE: The S&S EFI Wire Harness is only compatible with motorcycles utilizing Delphi® style modules such as S&S USB Delphi style VFI Module #55-5090 for 2001 Softails® and all 2002-'07 models or a Harley-Davidson equivalent module if used in non X-Wedge applications.

Kit Contents (Not all quantities of components listed below are shown in Picture 1)

- Left Hand Control Connector (1)
- Right Hand Control Connector (1)
- Headlight Connector (1)
- DT Terminal Sockets (20)
- Fuel Gauge Connector (1)
- Indicator Lights Connector (1)
- Speedometer Connector (1)
- DTM Terminal Pins (23)
- Front Turn Signals Connector (1)
- Sealing Plugs (10)
- DT Terminal Pins (10)
- DTM Terminal Sockets (12)

Tool Requirements

- Deutsch® Crimper DTT-16-00 or equivalent
- Deutsch® Crimper DTT-20-00 or equivalent
- Wire Stripper
- Zip ties

⚠ CAUTION

Variable Fuel Injection (VFI) requires training and certification to work on it properly. S&S® strongly recommends you take your motorcycle to an S&S® certified VFI center for any VFI or Closed Loop Variable Fuel Injection (CLVFI) modifications.

A. INSTALLING CONNECTORS

WARNING

Always wear eye protection when working on your motorcycle.

NOTE: In order to crimp terminals onto the wire leads of the additional components you plan to use on your motorcycle, you will need a Deutsch® crimping tool or an equivalent. Since there are two types of terminals supplied with the S&S® EFI wire harness for the Deutsch connectors, two Deutsch crimpers will be needed. The terminals, which are DTM and DT type, should not be interchanged. A DTM terminal, which is the smaller terminal of the two, should always mate with another DTM terminal and likewise with DT terminals. Make sure before crimping each terminal that this rule always is applied. Use Deutsch crimper part numbers DTT-16-00, or equivalent, for DT type terminals & DTT-20-00, or equivalent, for DTM type terminals. These tools are readily available through your local parts distributor or you can consult a local shop for additional help.

- 1- Disconnect the battery.
- 2- Begin by determining the location of the component you plan to connect to the S&S EFI wire harness.
- 3- After the component is installed/mounted, determine the routing of the wires from the component to the appropriate connector on the S&S EFI wire harness.
- 4- Once the wires have been laid on the correct path of choice, cut the wire leads of the component leaving some excess so the final connector assembly will not be stressed.
- 5- Match the colors of wire on the component with the appropriate colors on the S&S EFI wire harness.

CAUTION

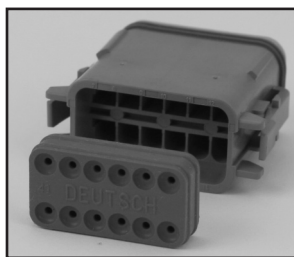
The colors of the wires on the component do not in all cases match the colors on the S&S EFI wire harness. Consult the instructions of the component and the wiring diagram for the S&S EFI wire harness to determine proper pin location of the component. It is also important to note that some wiring from the additional components may be too small to create an effective seal in the connector. In these cases, use heat shrink tubing on those wires to increase its outside diameter and provide better sealing.

WARNING

Failure to correctly match the component wires with the correct wires on the S&S EFI wire harness may result in permanent damage to the component or the S&S EFI wire harness when power is supplied to the assembly. Please take special care when identifying wire colors and where they should go. If in any doubt, consult a professional S&S dealer. Improper installation could result in injury or death.

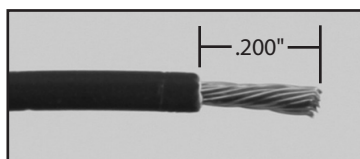
- 6- You can hold the location of the component wires by using the inner seal of the mating connector housing. Begin by determining which connector correctly mates to the intended connector on the S&S EFI wire harness. For example, if you are assembling the rear lighting, you will want to use the connector that fits the rear lighting connector on the S&S EFI wire harness.
- 7- Once you have determined the correct connector to use, remove the seal from the backside of the mating connector.

NOTE: Take special care not to damage the seal as this helps prevent moisture from entering the connector which can disrupt the electrical connection. See **Picture 2**.



Picture 2

- 8- Route the wires of the component through the holes in the seal so they mate with the correct wire color of the S&S EFI wire harness when properly connected. Arrange them according to the component instructions and the wiring diagram supplied with your S&S EFI wire harness.
- 9- Next, pull approximately three inches of the components wires through the seal and strip off the top insulation of each wire to about .200" (5mm). See **Picture 3**.

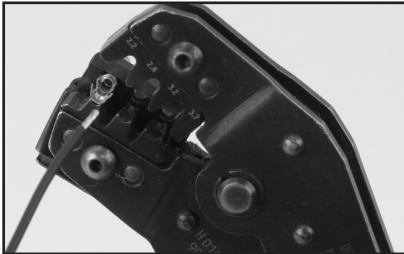


Picture 3

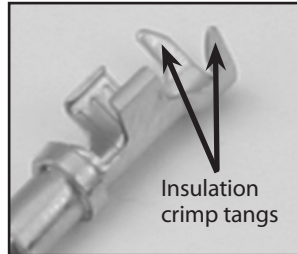
10- Place a single terminal that mates with the intended S&S EFI wire harness terminal inside the Deutsch® crimper tool, taking special care not to crimp the terminal until the wire is installed.

NOTE: Proper crimping of the terminals is necessary in order for the component to operate to its full potential. An improperly crimped terminal could prevent the component from working. Read the instructions provided with the crimper or consult a professional on how to use the tool. Practice may also help before crimping the final product. If a terminal is crimped poorly, replace with one of the supplied extra terminals.

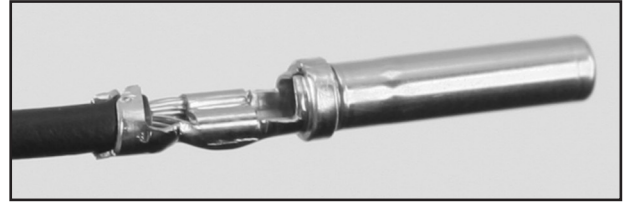
11- Insert a wire into the terminal which is being held in the crimper tool. **See Picture 4.** Slide the component wire just past the inside of the terminal's insulation crimp tangs. **See Picture 5.** Squeeze the crimper tool until it stops and you will have a crimped terminal. **See Picture 6.**



Picture 4



Picture 5



Picture 6

12- Repeat step 10 and 11 for the rest of the terminals in that connector.

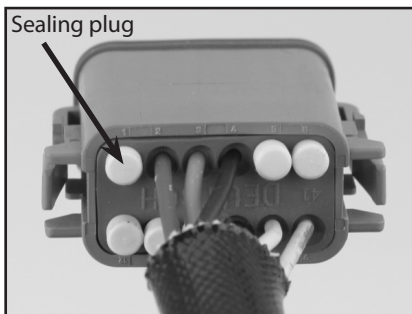
13- Once all wire leads of the component have had terminals installed, insert each wire into its correct position in the connector housing. The connector housing will positively lock the wire into place if properly installed.

⚠ WARNING

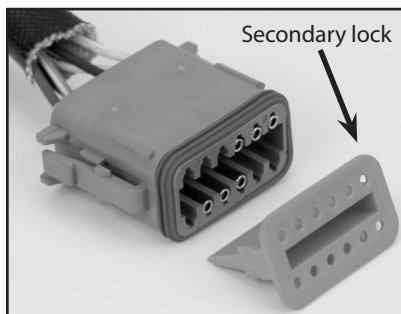
Failure to correctly match the component wires with the correct wires on the S&S EFI wire harness may result in permanent damage to the component or the S&S EFI wire harness when power is supplied to the assembly. Please take special care when identifying wire colors and where they should go. If in any doubt, consult a professional at a shop with the component instructions and the wiring diagram supplied with your S&S EFI wire harness. Improper installation could result in injury or death.

14- After each wire is inserted into the connector housing, slide the seal back up the wires and position the seal back inside the housing. If necessary, install sealing plugs to block off moisture from entering the connector housing. **See Picture 7.**

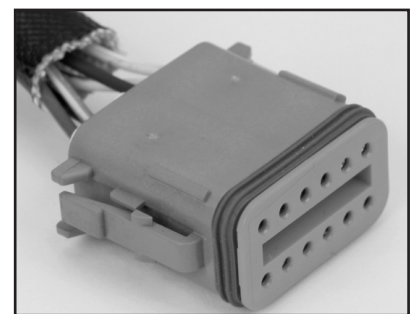
15- Finish the assembly by installing the connector's secondary lock, which helps prevent the wire leads from coming out. **See Picture 8 & 9.**



Picture 7



Picture 8



Picture 9

16- Finally, connect the component connector to the S&S EFI wire harness.

B. CONNECTING THE BATTERY

⚠ WARNING

This is the last step of installing your connectors for your additional components. Until now S&S recommended to not connect the battery until told to do so in these instructions. Failure to do so may result in damage to your wire harness and other motorcycle electronics which can result in costly repair and service fees. With the battery also remaining disconnected during the entirety of this installation, it prevents accidental starting of the motorcycle which could cause injury to you or others around you. The following instructions will guide you through the steps necessary in connecting the battery.

- 1- After the harness has been routed and all sensors/components have been installed and connected, install your battery in the appropriate location.
- 2- Connect the positive lead (+) first followed by the negative lead (-).