

**Instruction 106-2707**  
**11-20-08**

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**Because every industry has a leader**

## **Installation Instructions for S&S® Sealed Air Cleaner**

### **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.

## INTRODUCTION

New motorcycles sold in California are required to meet evaporative hydrocarbon (HC) emissions standards established by the California Air Resource Board (CARB). Evaporative HC emissions are simply the result of gasoline that has evaporated and leaked into the atmosphere and one source of evaporative HC is the fuel found in the carburetor. To help meet CARB requirements the new S&S Sealed Air Cleaner (SAC) was developed to close off the carburetor when the motorcycle is shut off to reduce the evaporative HC emissions from the motorcycle. When the starter button is pressed the SAC will reopen to allow air to flow freely into the engine. The SAC will help meet the evaporative hydrocarbon emission levels mandated by the CARB and maintain the same level of engine performance that customers have come to expect from S&S.

The S&S® Sealed Air Cleaner Kit is for S&S Super E & G carbureted emissions engines that are to be sold in California, USA. The SAC is only part of an emissions compliant motor and other components and specs are required to meet the standards of the CARB.

### WARNING

- Gasoline is highly flammable, explosive under certain conditions, and the fumes toxic when inhaled. Be sure gasoline petcock is OFF before beginning installation, provide adequate ventilation, and disconnect battery ground cable to avoid sparks and accidental engagement of electric starter.
- Improperly mounted carburetor may become detached from motorcycle, resulting in immediate health and fire hazard.

### CAUTION

- Improperly tightened bolts, screws, etc. located inside air cleaner assembly may fall into engine, causing extensive damage not covered under warranty. S&S recommends applying Loctite® 242 or equivalent thread locking compound to threads of all bolts, screws, and nuts located inside air cleaner assembly.
- It is the owner's responsibility to determine if the installation of this air cleaner assembly is in accordance with applicable legal and emissions requirements.
- Pressure relief passages in crankcase and/or cylinder heads must not be plugged as gasket failure and oil leakage may result.

#### NOTES:

- Air cleaner assembly must be firmly supported. Brackets for the SAC kit are included in each kit according to a specific engine size.
- Adjustable brackets 16-0471, 106-2053 and bracket 106-3506 attach to the center case bolt and lower carb-manifold bolt.
- Kits may contain wire ties or metal clamps for securing vent hoses depending on application.

## INSTALLATION OF THE S&S® SEALED AIR CLEANER KIT

- 1- Check that these items are in each kit; Assembled SAC; Hardware Packet; Deutsch® Connector Packet.



Picture 1

- 2- Remove the hardware packets from the box.
- 3- Install the SAC support bracket between the lower manifold bolt and the center case bolt.

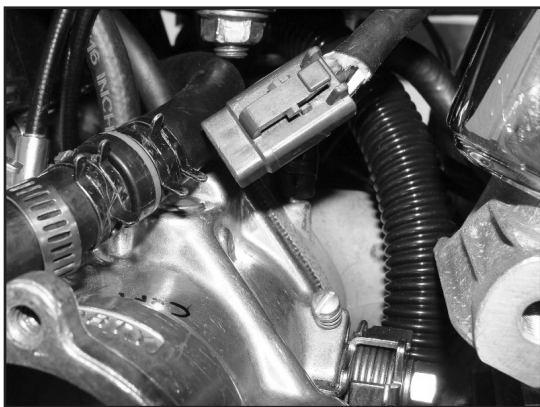


Picture 2

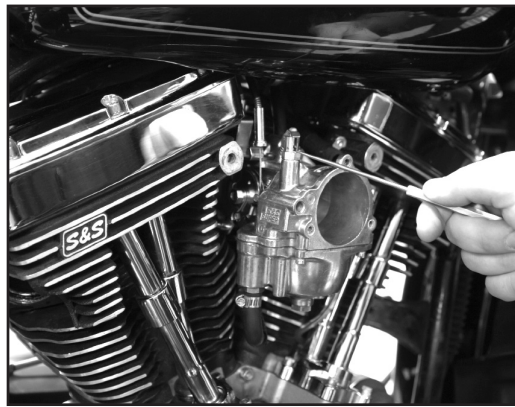


Picture 3

- 4- Remove the Teardrop Cover and filter. Place teardrop cover on a non-scratch surface to protect the chrome finish.
- 5- Install the Deutsch Connector kit (supplied) on the appropriate motorcycle wiring (see SAC Wiring Diagram 1 page 6). Make sure to use the connector on the SAC for reference. Also, remove the existing enrichment device and install the supplied S&S quarter-turn enrichment device. **See Picture 5.**

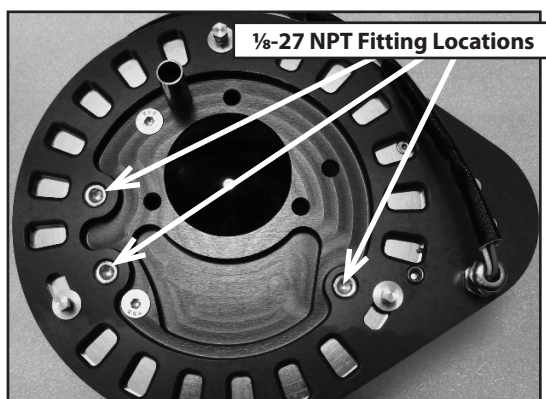


Picture 4



Picture 5

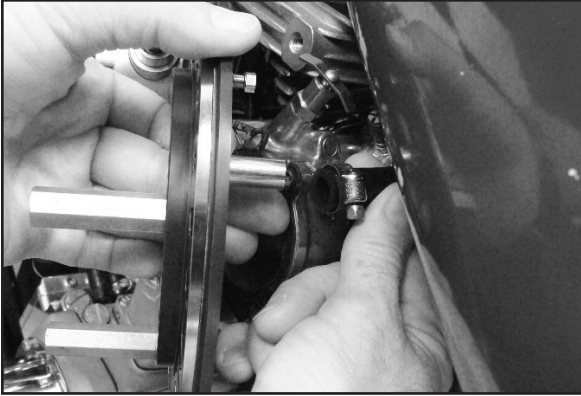
- 6- Fitting locations marked below are available for the Fuel Overflow Tube and the Carbon Canister (see Evap. Diagram 2 on page 6).



Picture 6



7- Attach the case/head breather vent hose to the vent tube in the back of the backplate.



Picture 7

**⚠ WARNING**

**Vent hose must not contact hot or moving surfaces that could damage it and expose brakes or tires to crankcase oil/air mist. Oil on these components could result in loss of control of motorcycle with death or severe injury to operator and others.**

8- Connect wiring harness to the SAC connector and tuck excess wire so as not to contact any of the rotating components on the back of the SAC.

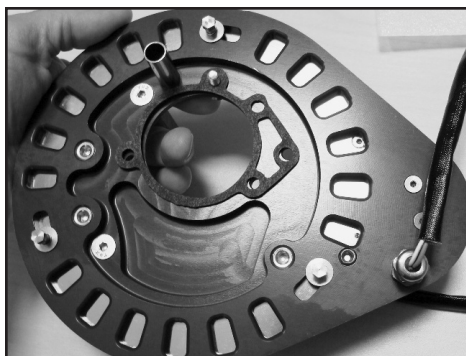


Picture 8

9- Install backplate by applying BLUE Loctite® (242) to the 3 1/4-20 x 3/4" flat head socket cap screws. Position the gasket on the backplate and slide two of the fasteners onto their respective holes to hold the gasket in place and mount the backplate to the carburetor. Install the third fastener and tighten all three fasteners.



Picture 9



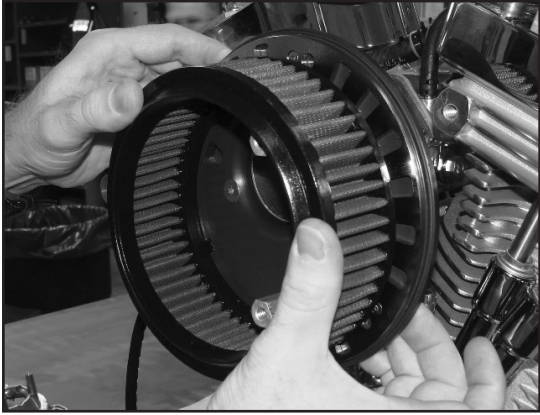
Picture 10

**⚠ CAUTION**

**Be sure that there is nothing interfering with the rotating components on the back of the SAC.**

10- To check the operation of the SAC at this time disconnect the wire from the starter, turn on the ignition and press the starter button. Turn off the ignition and the valve should return to the closed position. If either operation fails check for interference with the rotating components.

11- Install the filter element by stretching the smaller diameter around the hub of the backplate. It should be a tight fit. If not you'll need to turn it around.



Picture 11

**⚠ WARNING**

**Improper installation of the filter could impeded the rotation of the valve and cause the SAC not to function. Be sure that the smaller diameter of the filter is installed on the hub of the backplate.**

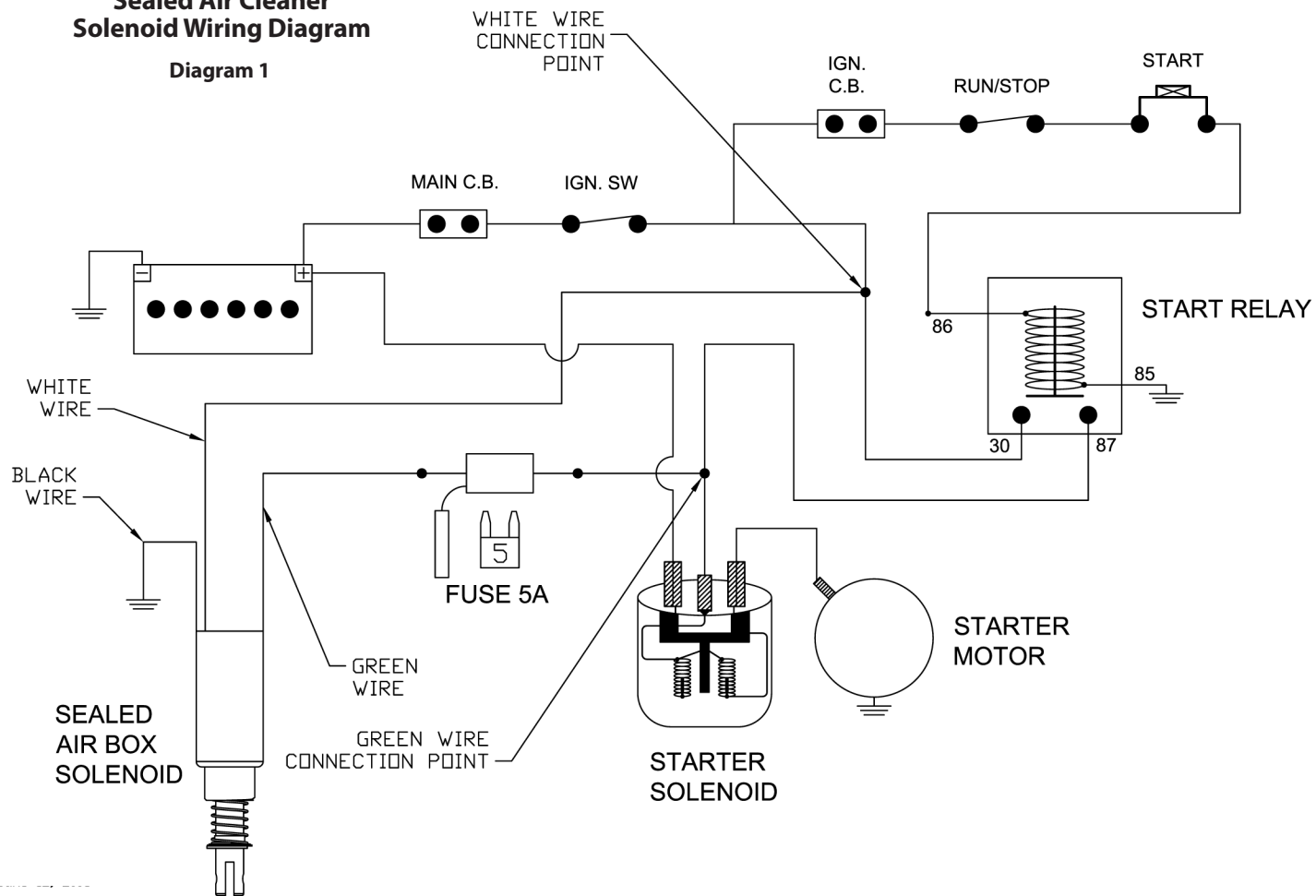
12- Check to insure that the cover o-ring is properly installed in the backplate groove. Apply BLUE Loctite® (242) to the 3/4-20 x 1" Phillips oval head screws. Install the cover with the three screws and tighten until they bottom out.



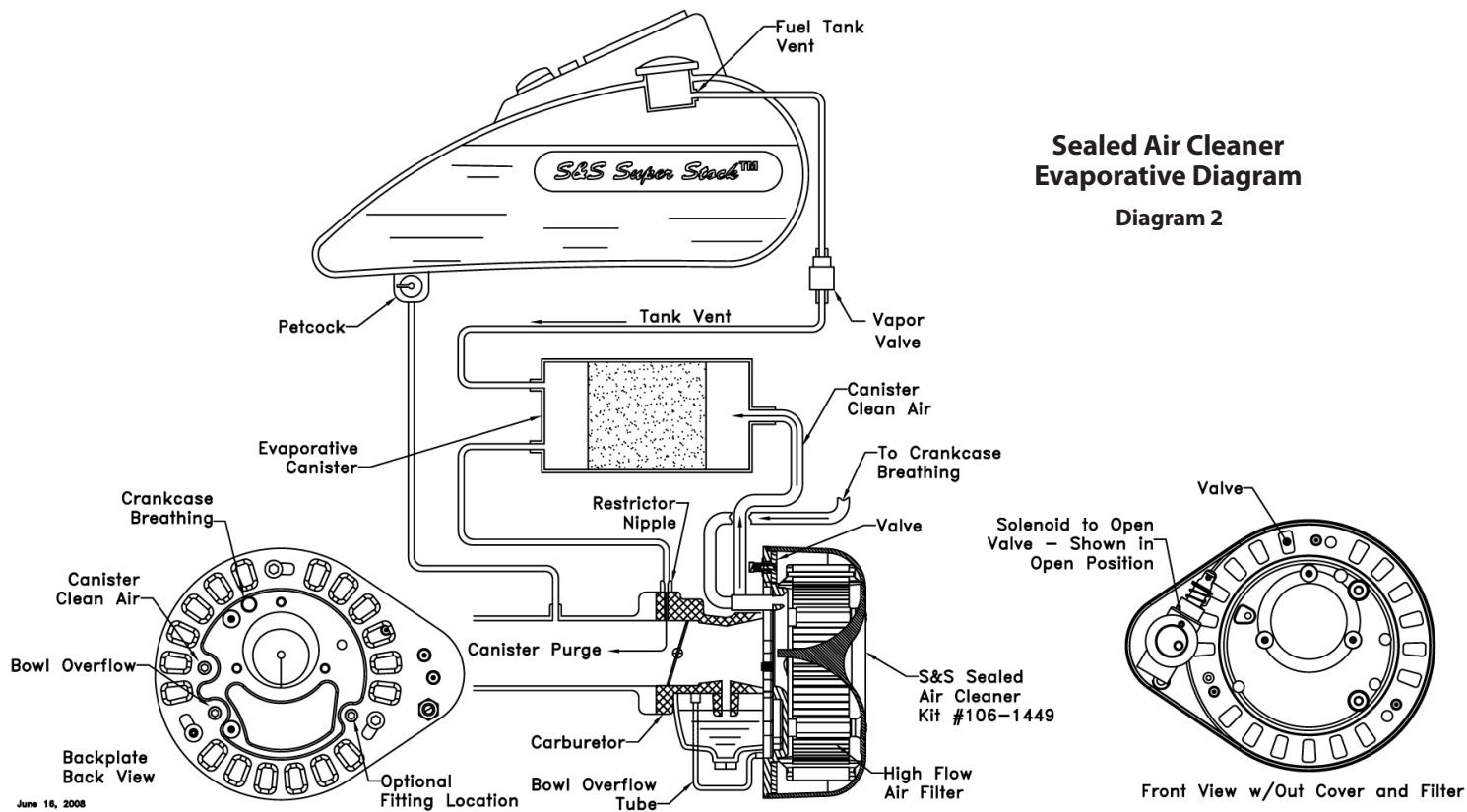
Picture 12

13- Start motorcycle, check rotation of the valve, inspect for leaks, and test ride. Engine should run smoothly after proper warm-up.

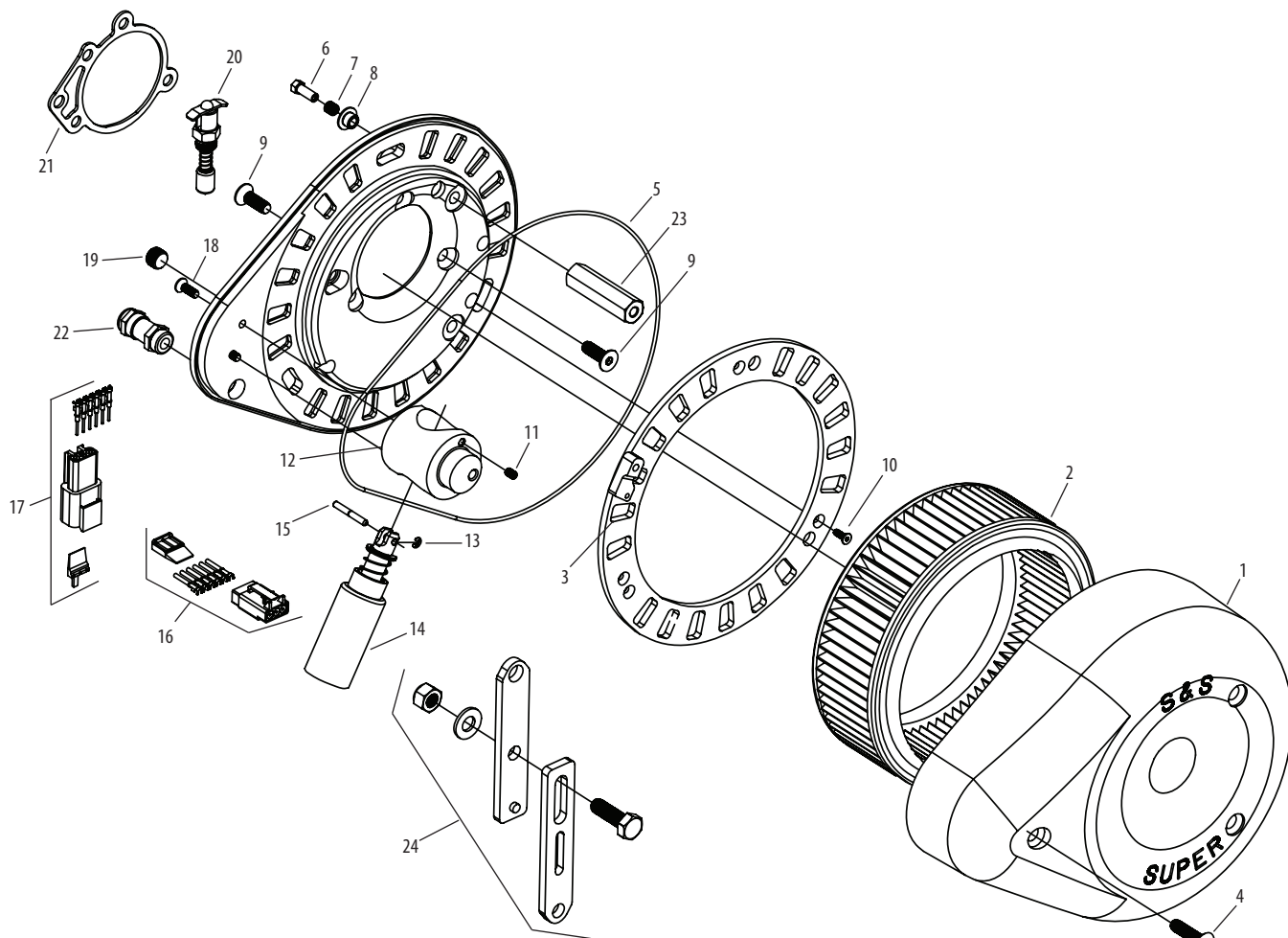
### Diagram 1



### Diagram 2



## REPLACEMENT PARTS FOR S&S® SEALED AIR CLEANER



1. Cover, air cleaner teardrop, chrome.....	<b>17-0378</b>
2. Filter, air, sealed air cleaner.....	<b>106-1451</b>
3. Valve assembly, backplate, sealed air cleaner .....	<b>106-2627</b>
4. Screw, phil/oval head 1/4-20 x 1 (10 pack).....	<b>50-0094</b>
5. O-ring, 7.613" x 7.753" x .070" Viton.....	<b>106-2317</b>
6. Pin, guide, stainless .....	<b>106-2641</b>
7. Spring, 5.2 lb/in .24" OD x .208" ID x .25 stainless (12 pack) ..	<b>106-2633</b>
8. Washer, flat with .18" step .192" x .500" x .030" (3 pack).....	<b>106-2628</b>
9. Screw, FHSC, 1/4-20 x 3/4" zinc (10 pack) .....	<b>106-2318</b>
10. Screw, FHSC 5-40 x 3/8" stainless (10 pack).....	<b>106-2636</b>
11. Screw, SHS set cup point, 8-32 x 1/4" stainless (10 pack) .....	<b>106-2631</b>
12. Housing, solenoid, aluminum.....	<b>106-2634</b>
13. Retaining ring, external E-type 3/32 shaft stainless (10 pack) ..	<b>106-2739</b>
14. Solenoid assembly, pull dual coil 12v .....	<b>106-1452</b>
15. Pin, dowel, grooved .094" x 1" stainless (5 pack).....	<b>106-2642</b>
16. Connector, kit, style DTM, 3-position male .....	<b>106-2595</b>
17. Connector, kit, style DTM, 3-position female .....	<b>106-2742</b>
18. Screw, FHSC, 8-32 x 1/2", stainless (10 pack) .....	<b>106-3456</b>
19. Plug, SH pipe, 1/8-27, NPT, zinc (10 pack) .....	<b>50-1015</b>
20. Enrichment device .....	<b>11-2084</b>
21. Gasket, backplate (10 pack) .....	<b>106-2328</b>
22. Cord grip.....	<b>106-2748</b>
23. Stand-off .....	<b>N/A</b>
24. Bracket kit, carb to manifold V100, V111, V113, V117 .....	<b>106-2053</b>
V96, V124 .....	<b>106-3082</b>



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