



Installation Instructions: S&S® Stealth Air Cleaner Kits S&S Super E and G Carbs and S&S 52mm and 58mm Throttle Bodies for 1993–2006 Big Twins

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.



WARNING

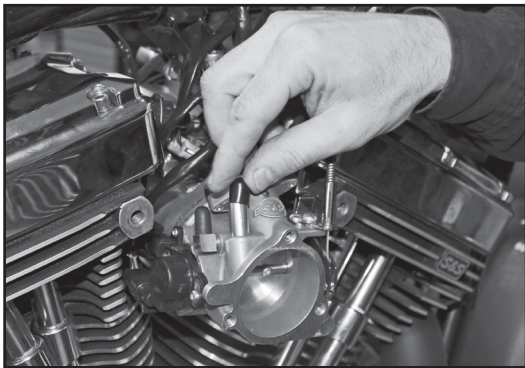


- The safety of the motorcycle rider is dependent of proper installation of this product. If you are not certain of your capabilities or do not have the correct tools for this installation, please consult a shop to have it done. Improper installation of this product could result in injury or death to the rider.
- Be sure to disconnect the battery of your motorcycle before starting on this procedure. Accidental starting of the motorcycle could cause injury to you or others around you during the installation.

Disassembly

Existing Air Cleaner Removal

1. Disconnect the negative battery cable from the motorcycle and route it away from any metal parts in the area.
2. If replacing the S&S Teardrop air cleaner on an existing S&S Super E or G carburetor or throttle body, remove the S&S air cleaner cover, backplate assembly and any breather hardware.
3. If installing the Stealth air cleaner on an S&S single bore EFI throttle body, slide the vacuum line cap over the breather fitting on the top of the throttle body. See **Picture 1**.



Picture 1

Installation

Installing the Fast Idle Lever Assembly to the Backplate (Super E & G Carburetors Only)

1. For Super E or G carburetors, install the fast idle lever assembly as shown in **Figure 1**. Apply a small amount 243 blue Loctite to the threads of the screw and thread into the backplate. Be careful not to overtighten.

Note - Do not install the fast idle lever to the backplate when installing the air cleaner on an S&S single bore throttle body.

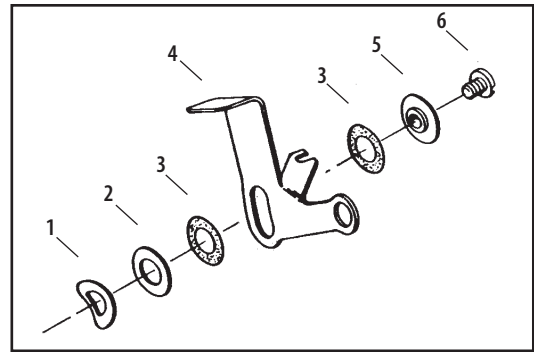


Figure 1

- | | |
|------------------------------|---------------------------|
| 1. Fast idle friction washer | 4. Enrichment lever |
| 2. Fast idle steel washer | 5. Fast idle brass washer |
| 3. Fast idle nylon washer | 6. Fast idle screw |

2. Once the fast idle lever is assembled on the backplate, move it up and down to make sure it functions properly.
3. For S&S single bore throttle body installations apply blue Loctite to the fast idle screw #6 shown above and install it in the threaded hole in the back plate to prevent air leaks.

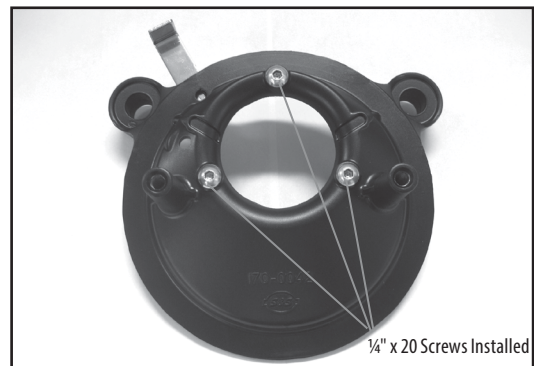
Installing the S&S Stealth AC Kit

1. Locate the S&S backplate and the three back plate screws.



Backplate Screws

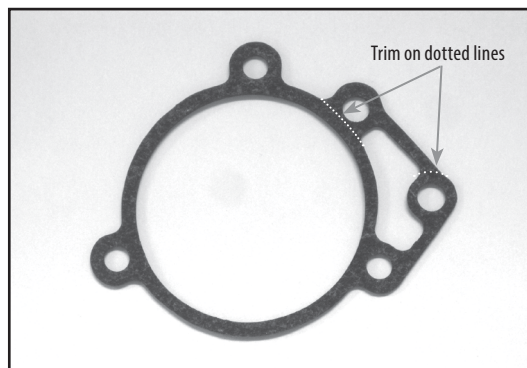
2. Install the three 1/4" X 20 screws in the backplate as illustrated in **Picture 2**.



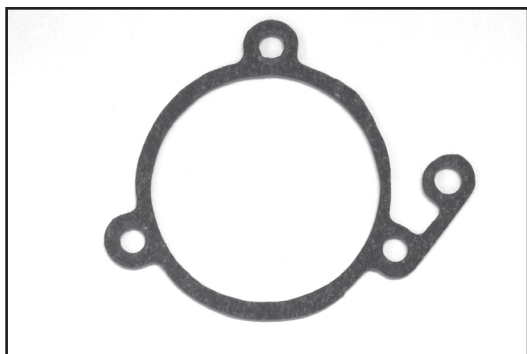
Picture 2

NOTE: The backplate has interference threads tapped into it so the screws will thread in with some force.

3. The S&S backplate gasket will need trimmed to better fit the backplate. With a pair of scissors trim the gasket in the area illustrated in **Picture 3**. **Picture 4** illustrates what the gasket looks like after trimming.



Picture 3



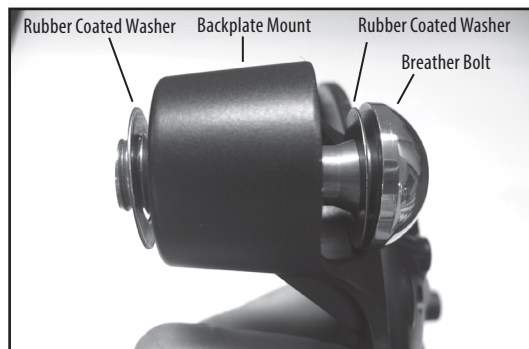
Picture 4

4. Slide the supplied gasket over the screws as illustrated in **Picture 5**.



Picture 5

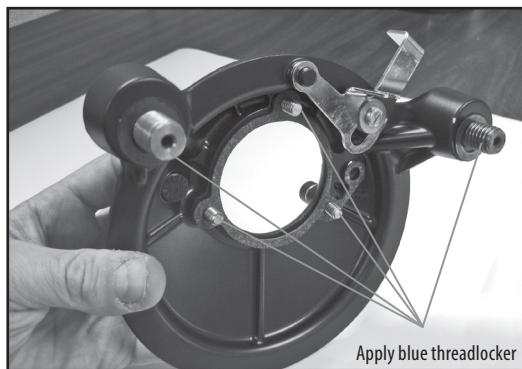
5. Locate the two breather bolts and the eight rubber coated washers. Put one washer on each breather bolt and pass through the backplate mounting holes. Install another rubber coated washer onto each breather bolt. As illustrated in **Picture 6**.



Picture 6

6. If installing the Stealth air cleaner on an S&S single bore throttle body, an additional shim must be added. Kits for stock engines include .063" shims and kits for S&S engines include .150" shims. Install the shims supplied in the kit and another rubber coated washer to each mounting bolt.

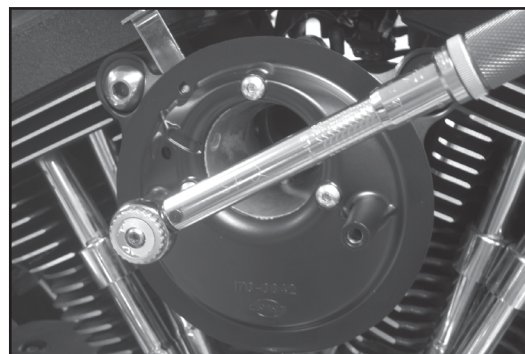
7. Apply a drop of blue threadlocker to the threads of each screw and breather bolt. **Picture 7** illustrates all five fasteners that require 243 blue Loctite.



Picture 7

8. Fit the backplate to the carburetor or throttle body and the cylinder heads. Start the threads of all the screws and tighten evenly until the backplate is snug.

9. Now that the backplate is positioned, finish torque the 1/4" X 20 fasteners to 72 in.-lbs. as illustrated in **Picture 8**.



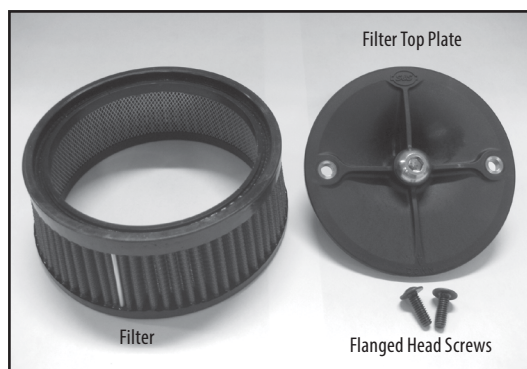
Picture 8

10. Use a feeler gauge to check between the cylinder head and the backplate for air gaps. See **Picture 9**.



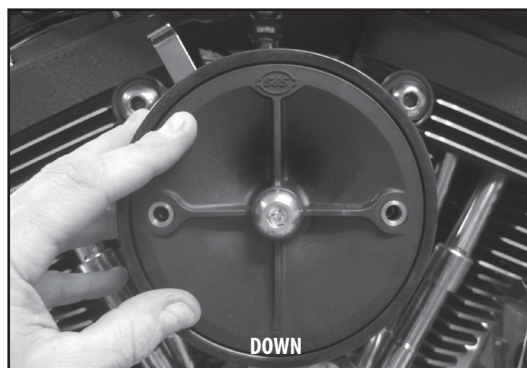
Picture 9

11. If a gap less than the thickness of a rubber coated washer is present, torque the breather bolts down 10-12 ft.-lbs. If the gap of more than the thickness of a rubber coated washer, determine how many rubber coated washers are needed to fill the gap.
12. If more than one rubber coated washer is needed between the head and backplate, back out the breather bolts and install the correct number of rubber coated washers.
13. Thread the breather bolts in and finish torque breather bolts to 10-12 ft.-lbs.
14. Locate the filter, plastic filter top plate and the two 1/4" X 20 flanged head fasteners as illustrated in **Picture 10**.



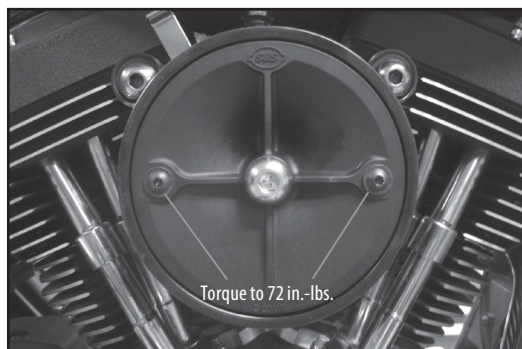
Picture 10

15. Apply a drop of blue threadlocker to the threads of each 1/4" X 20 flanged head screw and set aside.
16. Hold the filter on the backplate and put the filter top plate on top of the filter making sure that the word "Down" is facing down and sitting flat on the filter and locked into the groove as illustrated in **Picture 11**.



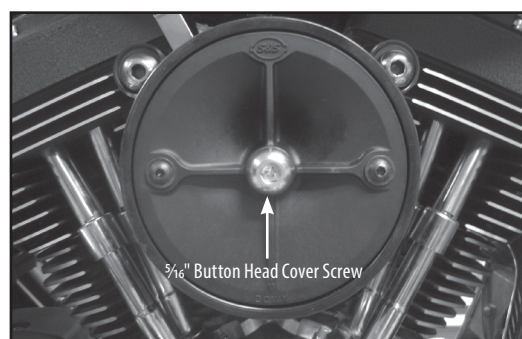
Picture 11

17. Pass the 1/4" X 20 flanged head screws through the plastic top filter plate, thread in and tighten down evenly until snug and then finish torque to 72 in.-lbs. as illustrated in **Picture 12**.



Picture 12

18. Remove the 5/16" button head screw from the plastic top filter plate. **Picture 13** illustrates the button head screw.



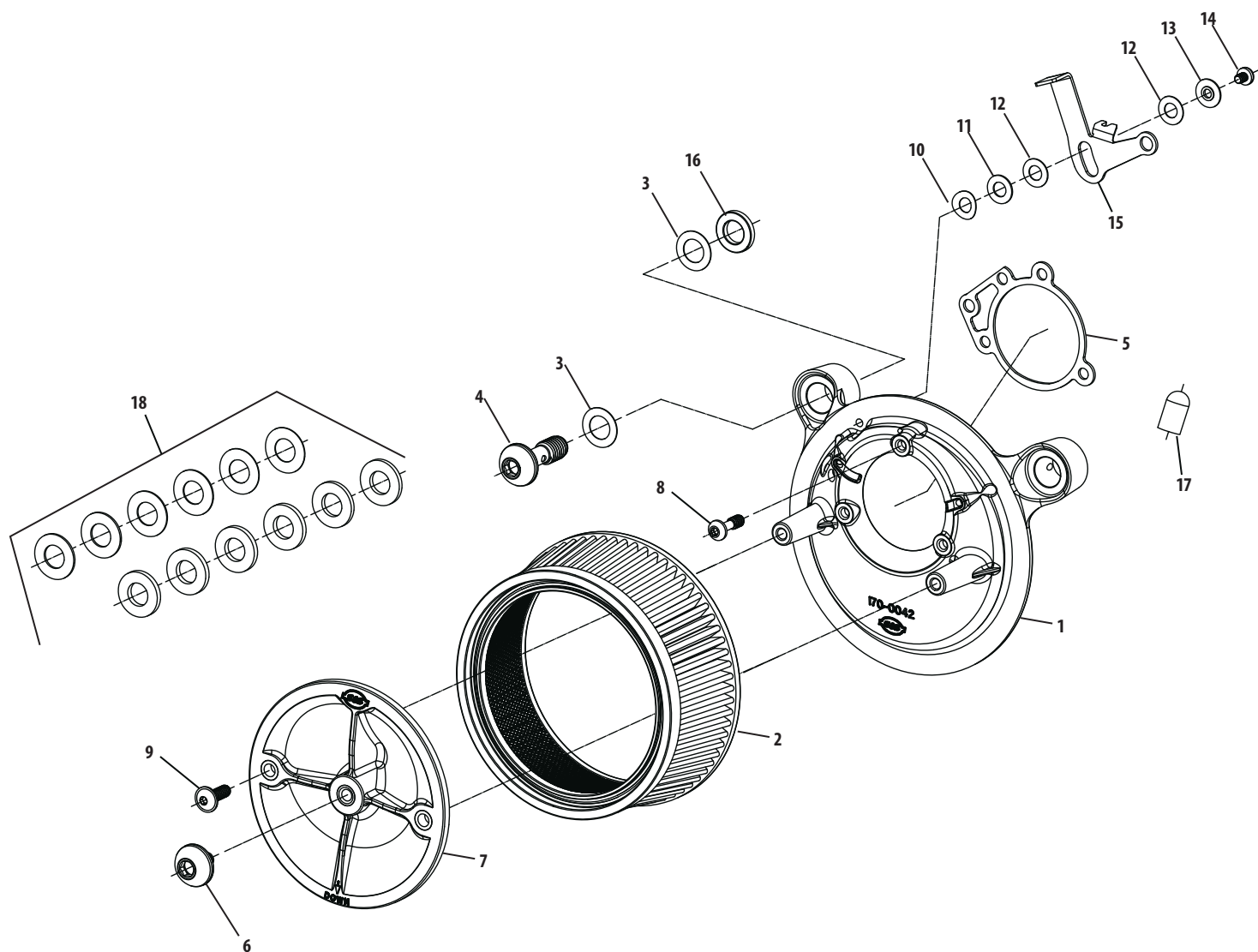
Picture 13

19. Attach an S&S® air cleaner cover or the Harley-Davidson® Twin Cam 88°, 96™, or 103™ stock air cleaner cover to the stealth air cleaner kit by installing the 5/16" button head screw with blue threadlocker applied to the threads and torque to 10 ft.-lbs.

Replacement Parts For

Stealth Air Cleaner Kit 170-0287 For S&S® Super E or G Carburetor or S&S 52mm Single Bore Throttle Body for 1993–2006 Big Twins

1. Backplate,Air Cleaner,Super E/G,AND 52MM Throttle Body
1993-'99 bt..... **170-0286**
2. Filter, Air, Tapered, Standard Pleated, Cotton, Stealth.....**170-0126**
3. Washer,Flat, $\frac{7}{8}$ " x .520" x .024",Rubber Coated,Cold Rolled Steel..... **50-7055**
4. Screw, Backplate Vent, SHCB, $\frac{1}{2}$ -13 x $1\frac{1}{2}$ "
Polished, Stainless Steel **170-0044**
5. Gasket,Backplate,Super E/G,CV Adapter,.0625".....**106-1724**
6. Screw, SHCB, $\frac{5}{16}$ -18 x .500", Polished, Stainless Steel **500-0051**
7. Plate, Top, Air Filter, Molded, Plastic..... **170-0026**
8. Screw, SHCB, $\frac{1}{4}$ -20 UNC X .825" **500-0059**
9. Screw, SHC, Flanged Button, $\frac{1}{4}$ -20 UNC x .750" **500-0060**
10. Washer,Friction,Curved,.329" x .625" x .015",Zinc,Steel..... **50-7035**
11. Washer,Flat,.325" x .625" x .032",Zinc,Steel **50-7037**
12. Washer,Flat,.323" x .625" x .020",Nylon **50-7036**
13. Washer,Flat,Stepped,.195" x .620" x .030",Brass..... **50-7007**
14. Screw,PH,10-24 x $\frac{1}{4}$ ",Zinc,Steel **50-0041**
15. Lever, Enrichment, Super E/G, Stealth Air Cleaner, Short..... **17-0327**
16. Washer,.515" x .900" x .150",Hardened Steel **50-0418-S**
17. Cap,Throttle Body,.500" ID x .625" OD,Black,Viton® **500-0389**
18. Shim,Kit,Air Cleaner Backplate,.050",1993-'99 bt,12 Pack..... **17-0464**



**Replacement Parts For
S&S Stealth Air Cleaner Kits 170-0283 And 170-0284 For S&S 58mm Throttle Bodies For 1995-'06 Big Twins**

- | | | | |
|--|----------|---|----------|
| 1. Backplate,Air Cleaner,Cabled,S&S® 58mm Throttle Body
1995-up bt..... | 170-0276 | 11. Screw, SHC, Flanged Button, ¼-20 UNC x .750"..... | 500-0060 |
| 2. Filter, Air, Tapered, Standard Pleated, 5.500" x 6.000" x 2.375", Cotton,
Stealth Air Cleaner Kit..... | 170-0043 | 12. Washer,Flat,.375" x .813" x .063",Zinc,Steel..... | 50-7051 |
| 3. Washer,Flat,7/8" x .520" x .024",Rubber Coated,Cold Rolled Steel..... | 50-7055 | 13. Cap,Throttle Body,.500" ID x .625" OD,Black,Viton®..... | 500-0389 |
| 4. Washer,Flat,7/8" x .380" x .021",Rubber Coated,Cold Rolled Steel..... | 50-7054 | | |
| 5. Screw, Backplate Vent, SHCB, ½-13 x 1½"
Polished,Stainless Steel | 170-0044 | | |
| 6. Screw, Backplate Vent, SHCB, ¾-16 x 1½"
Polished,Stainless Steel | 170-0045 | | |
| 7. Gasket,Backplate,SBEFI,58mm | 106-4662 | | |
| 8. Screw, SHCB, 5/16-18 x .500", Polished, Stainless Steel | 500-0051 | | |
| 9. Plate, Top, Air Filter, Molded, Plastic..... | 170-0026 | | |
| 10. Screw, SHCB, ¼-20 UNC X .825" | 500-0059 | | |

