

Instruction 106-5394
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Installation Instructions: S&S® Billet Air Cleaner Kit PN 106-5131 for Victory® Motorcycles

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 Victory®, Victory Freedom®, and all Victory part numbers and model designations are used for reference only.

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) These S&S parts are designed exclusively for use in Victory motorcycles. S&S shall have no warranty or liability obligation if an S&S part is used in any other application.

KIT CONTENTS:

- Billet backplate
- Billet top cover
- 243 Blue Loctite®
- Wire tie
- Qty of 5 - M6 fasteners
- Gasket
- Straight breather fitting
- Filter Element
- Breather hose
- Qty of 4 - Hose clamps



Picture 1

SPECIAL TOOL REQUIREMENTS

- PVC Pipe Wire Saw – Available from your local hardware store
- Victory® Service Manual – Available through Polaris dealers

The S&S® 106-1319 billet air cleaner kit is intended for all Victory® 2008 and up models except Vision™, Cross Country™, and Cross Roads™. This air cleaner kit is intended to be used with Victory Stage I performance slip-on mufflers or Victory Stage I performance exhaust systems.

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 dealer 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

Seat and Gas Tank Removal

- 1 – Disconnect the negative battery cable from the motorcycle and route it away from any metal parts in the area.
- 2 – Remove the seat and gas tank from the Victory motorcycle following your Victory service manual for the specific model you are performing the work on.

Key Switch Cover and Coil Mounting Bracket Removal

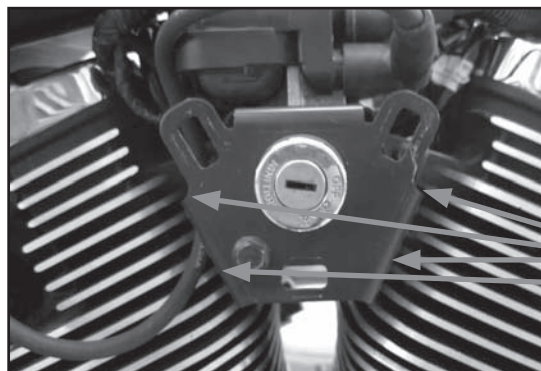
1 – Remove the ignition key switch cover by pulling outward on it. **Picture 2** illustrates the key switch cover.



Key Switch Cover

Picture 2

2 – Remove the four socket head cap screws from the ignition and coil mounting bracket that holds the bracket to the front and rear heads. **Picture 3** points out the location of the four socket head cap screws.



Socket Head Cap Screws

Picture 3

3 – With the bracket free from the front and rear head unplug the spark plug wires at the coil.

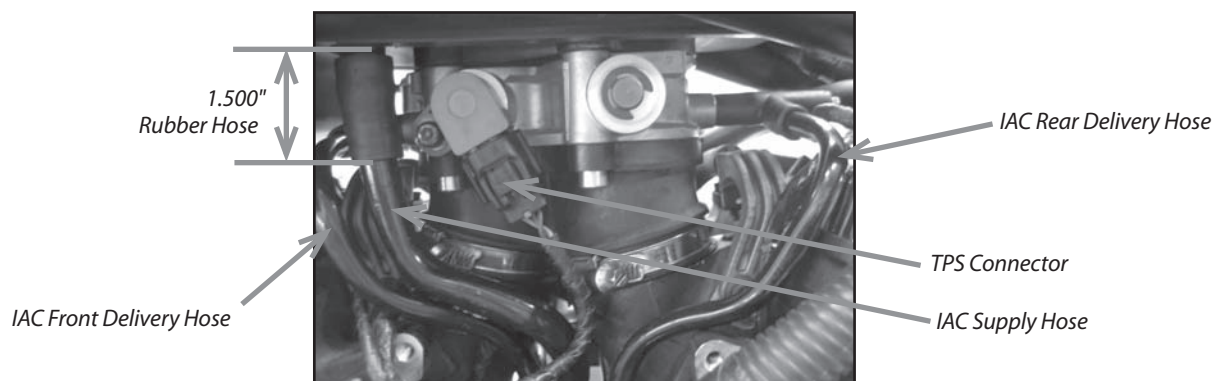
4 – Disconnect the coil and ignition switch at the connectors freeing them from the primary wiring harness.

Idle Air Control Hoses and Throttle Position Sensor Removal

1 – Disconnect the Throttle Position Sensor (TPS) at the connector leaving the TPS attached to the throttle body. **Picture 4** points out the TPS connector.

2 – Remove the Idle Air Control (IAC) supply hose from the air box.

NOTE: Leave the 1.500" rubber hose attached to the hard plastic IAC supply hose. **Picture 4** points out the IAC air supply hose and the 1.500" rubber hose.



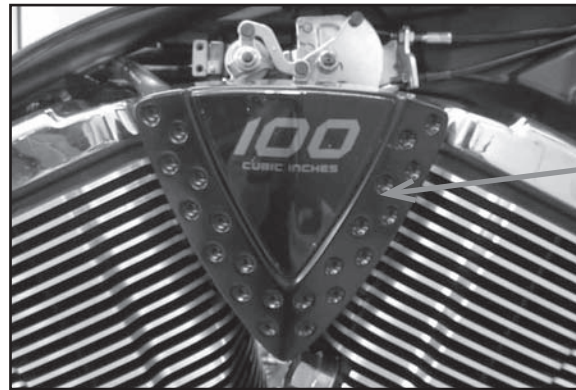
Picture 4

3 – Remove the front Idle Air Control (IAC) air delivery hose from the rubber 90° fitting that leads into the front intake bore on the throttle body. Leave the 90° rubber fitting attached to the throttle body. **Picture 4** points out the IAC front delivery hose.

4 – Remove the rear IAC air delivery hose from the rubber "T" fitting that leads into the rear intake bore on the throttle body. Leave the rubber "T" fitting attached to the throttle body. **Picture 4** points out the IAC rear delivery hose.

Idle Air Control Cover and IAC Mounting Bracket Removal

1 – Moving to the opposite side of the motorcycle, remove the IAC cover from the motorcycle. **Picture 5** illustrates the IAC cover.



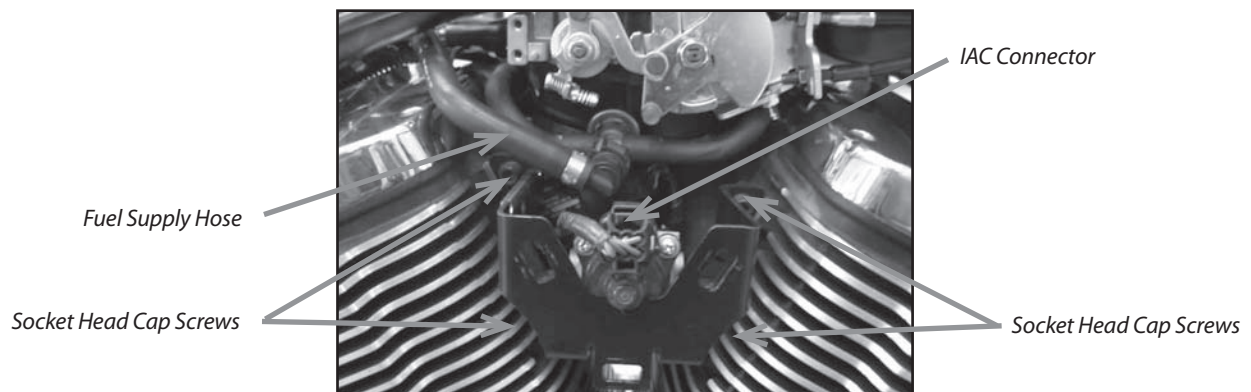
Picture 5

2 – Disconnect the IAC from the main wiring harness at the connector pointed out in **Picture 6**.

3 – Disconnect and remove the fuel supply hose at the connector pointed out in **Picture 6**.

4 – Remove the four socket head cap screws from the IAC mounting bracket that holds the bracket to the front and rear heads. **Picture 6** points out the location of the four socket head cap screws.

5 – Remove the IAC mounting bracket and the IAC supply and delivery hoses all in one piece.



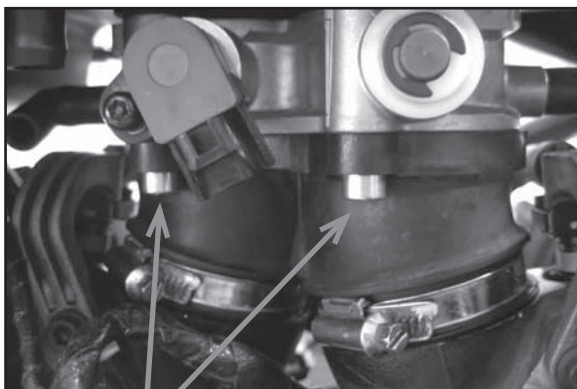
Picture 6

Throttle Body Removal

1 – Remove the throttle cables from the throttle body following your Victory® service manual for the specific model you're performing the work on.

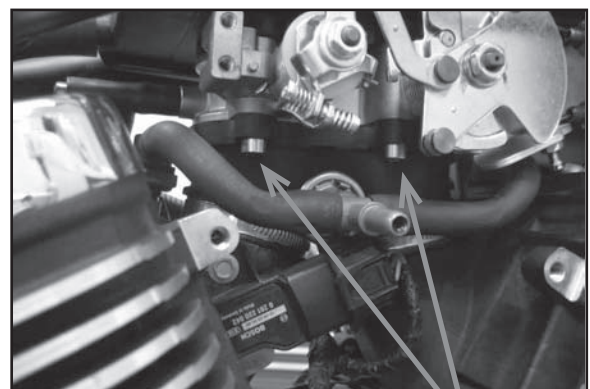
2 – Remove the four socket head cap screws from the throttle body. **Picture 7** and **Picture 8** point out the socket head cap screws that need to be removed.

NOTE: The four socket head cap screws that are removed will be used for attaching the new S&S® Air Cleaner.



Picture 7

Socket Head Cap Screws

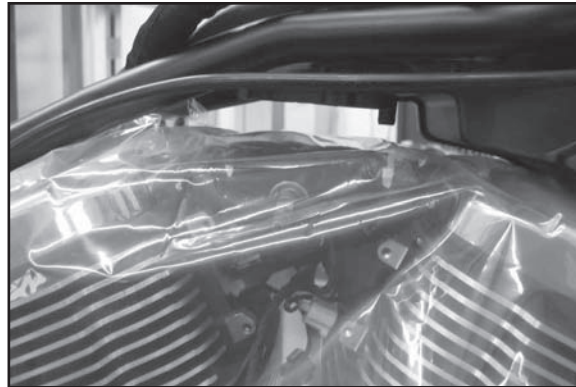


Picture 8

Socket Head Cap Screws

- 3 – Remove the throttle body from the motorcycle by sliding it out from the right side (throttle cable side).
- 4 – With the throttle body removed, slide a large piece of clean plastic between the air box and the rubber intake manifold as illustrated in **Picture 9**. This will help keep any debris from entering into the motor.

NOTE: Covering the intake manifold must be done before you move on.



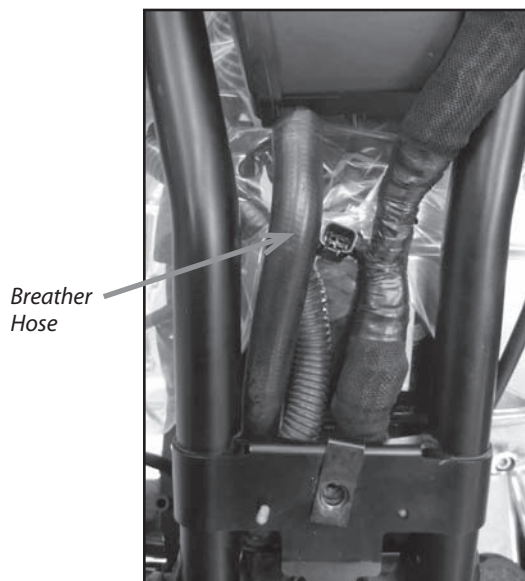
Picture 9

Preparation for Victory® Air Box Removal

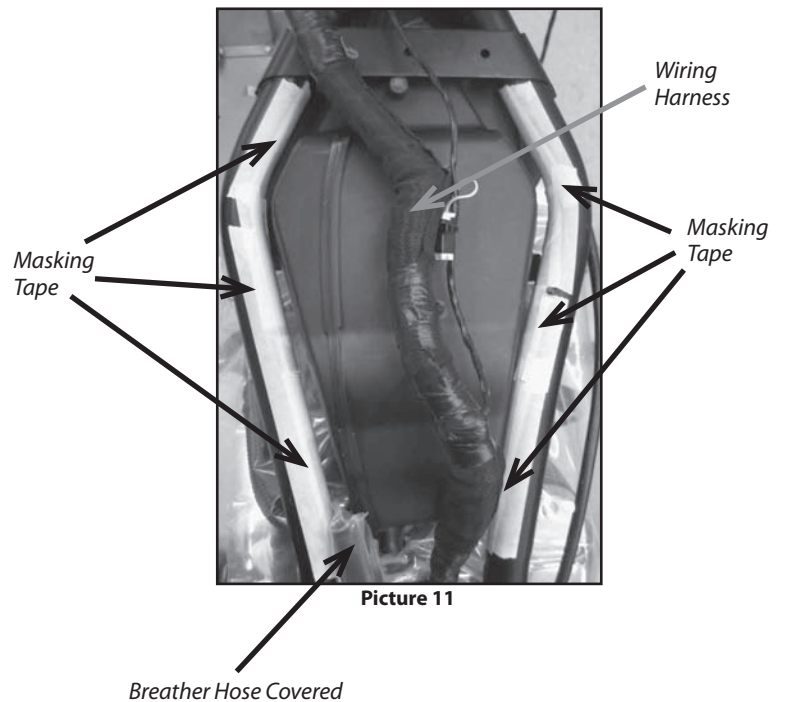
- 1 – Moving to the top side of the motorcycle, locate the breather hose and remove it from the air box. **Picture 10** illustrates the breather hose connected to the air box.
- 2 – Cover the end of the breather hose so no debris can enter the opening.

NOTE: A small plastic bag with a rubber band works well for this as illustrated in **Picture 11**.

- 3 – Detach the wiring harness from the right side of the frame as pointed out in **Picture 11**.
- 4 – Masking tape should be applied to the frame of the motorcycle as illustrated in **Picture 11** to reduce the risk of scratching the frame when removing the stock air box.



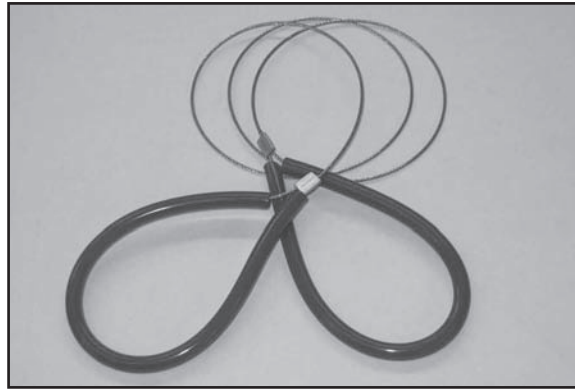
Picture 10



Picture 11

Removing the Victory® Air Box

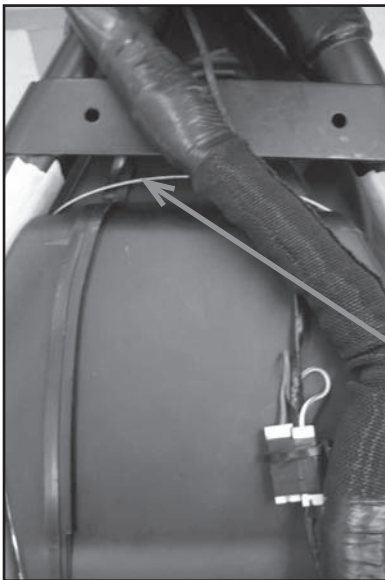
1 – The use of a PVC pipe wire saw as illustrated in **Picture 12** works best for removal of stock Victory air box.



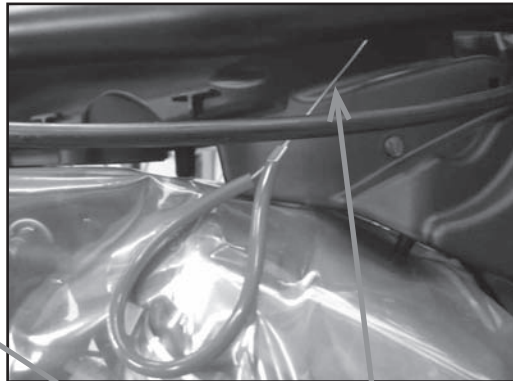
Picture 12-PVC Wire Saw

2 – Remove the air filter cover and the air filter element from the stock Victory air box

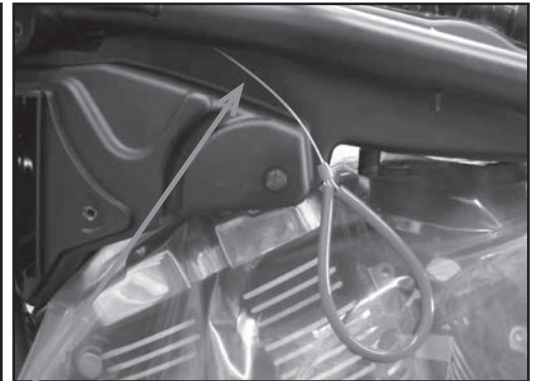
3 – Thread the wire saw between the frame rails as illustrated in **Picture 13, 14, and 15**.



Picture 13



Picture 14



Picture 15

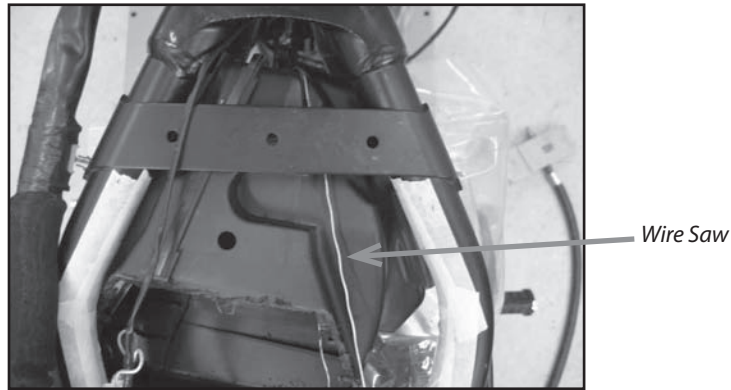
Wire Saw

WARNING

Always wear eye protection while cutting or sawing to avoid injury to the eyes.

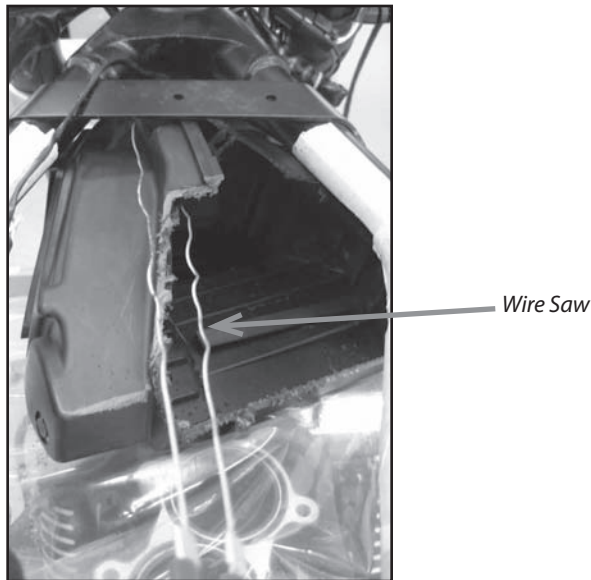
4 – Before making the first cut make certain you are wearing safety glasses or protective eyewear. With the wire saw in place, make sure there are no wires or cables between the wire saw and the air box; work the saw back and forth cutting the air box from the top down and at an angle toward the Idle Air Control plastic supply barb, cutting the air box into two pieces. Once the first cut is made, the rear section of the air box should be removed.

- 5 – Making the second cut. With the rear section of the air box removed, thread the wire saw in the rear of the air box and through the opening in the front of the air box, the air supply slot, and back out on the outside of the air box as illustrated in **Picture 16**. Make sure there are no wires or cables between the wire saw and the air box, now pull the wire saw back and forth cutting the right side section out of the air box.



Picture 16

- 6 – Making the third cut. Thread the wire saw in the rear of the air box and through the opening in the front of the air box, the air supply slot, and back out on the outside of the air box as illustrated in **Picture 17**. Make sure there are no wires or cables between the wire saw and the air box, now pull the wire saw back and forth cutting the left side section out of the air box. The front section of the air box can now be removed from the motorcycle.



Picture 17

- 7 – Now that the air box is removed, clean up all of the plastic shavings on and around the motorcycle with the plastic sheeting in place so no debris enters the intake.

⚠ WARNING

Always wear eye protection when removing and cleaning plastic shavings from the work area to avoid injury to the eyes.

NOTE: Clean rags work well for removing debris from the frame rails and then follow up with compressed air. Once the motorcycle is free of debris, sweep the floor so you have a clean work area before moving on to the next step.

INSTALLATION

Installing the S&S® Air Cleaner Assembly

- 1 – Locate the S&S backplate, top cover plate, throttle body gasket, M6 fasteners, 243 Blue Loctite®, and filter element in the air cleaner kit as illustrated in **Picture 18**.



Picture 18

- 1- Backplate
- 2- Throttle Body Gasket
- 3- 243 Loctite®
- 4- M6 Fasteners
- 5- Filter Element
- 6- Top Cover Plate

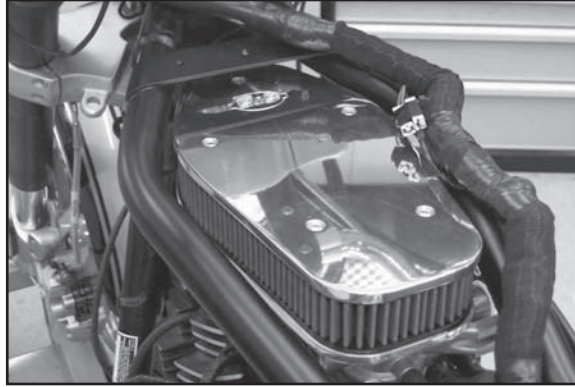
- 2 – Remove the tape from the frame rails as well as the plastic sheeting covering the throttle body.
- 3 – Place the throttle body back on top of the rubber intake manifold making certain the O-ring is still in the rubber intake manifold.
- 4 – With the throttle body in position, place the S&S supplied gasket on top of the throttle body.

NOTE: The S&S throttle body gasket is designed to be installed dry. Do not use any type of sealer.

- 5 – Locate the four socket head cap screws that were removed from the throttle body and stock air box at disassembly. Clean the threads and apply 243 Blue Loctite® on them.
- 6 – Locate the S&S backplate and place it on top of the throttle body making certain the throttle body gasket is captured between the throttle body and the backplate.
- 7 – Install the four socket head cap screws up through the intake manifold, throttle body, and throttle body gasket. Thread the four socket head cap screws in to the S&S backplate, making certain the gasket is captured between the throttle body and the backplate. Hand tighten evenly in a cross pattern. Once hand tightened finish torque to 72-96 inch pounds.
- 8 – Locate the S&S pre-formed filter element. Place the filter into the machined groove on the S&S backplate.
- 9 – Locate the S&S top cover plate. Place the top cover plate on top of the filter element making certain that it fits into the machined groove in to the top cover plate. Look all the way around the air cleaner assembly and make certain that the filter is positioned evenly into top cover plate and the backplate.
- 10 – Locate the S&S supplied Qty 5 - M6 fasteners. Apply 243 Blue Loctite® to the threads and hand tighten evenly into the top cover plate and backplate. Finish torque fasteners to 72-96 inch pounds.

NOTE: The top cover plate requires four fasteners and the backplate requires one fastener.

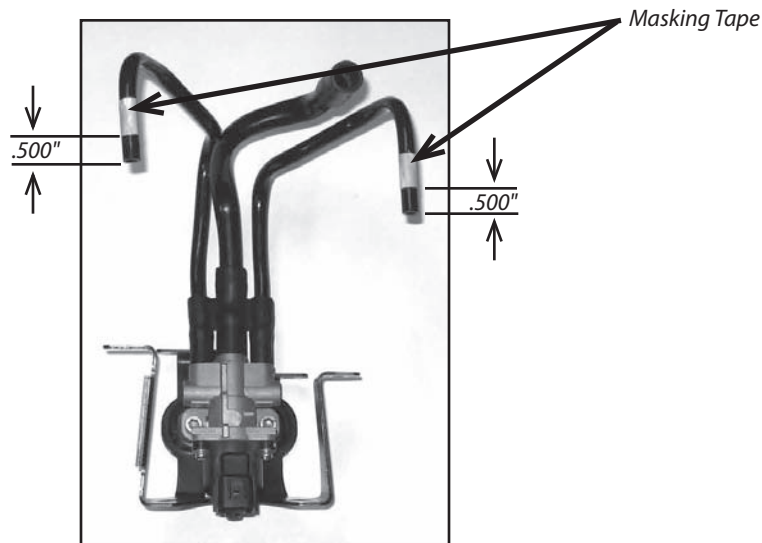
- 11– Re-secure the wiring harness to its original location on the right side frame rail. **Picture 19** illustrates the assembled S&S® air cleaner and wiring harness positioned back in the original location.



Picture 19

Idle Air Control Bracket, Supply and Delivery Hose Installation

- 1 – With the Idle Air Control (IAC) bracket, supply and delivery hose assembly on your work bench, measure back .500" from the end of the front and rear air delivery hoses and mark with a piece of masking tape as illustrated in **Picture 20**.



Picture 20

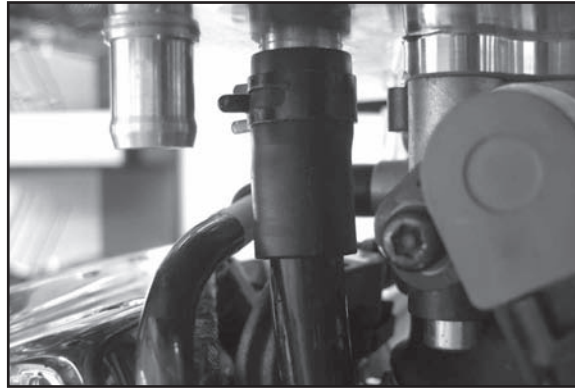
NOTE: The tape that is placed on the air delivery lines will be your depth gauge for installing lines into the front 90° and rear "T" rubber fittings that connect to the throttle body. If the air delivery lines are pushed to far into the rubber fittings they may bottom out and restrict air flow causing improper function of the IAC.

- 2 – Route the air supply and air delivery lines between the cylinders and to the left side of the motorcycle just as they were routed before disassembly. Mount the IAC bracket to its original location, to the front and rear heads, on the right side of the motorcycle with the four socket head cap screws that were removed at disassembly. Tighten fasteners to 85 inch pounds.
- 3 – Push the front and rear air delivery lines in .500", or up to the masking tape that was attached in step 1, into the rubber 90° and "T" fittings that are attached to the throttle body. Once installed remove masking tape.
- 4 – Locate the black .660" spring clamp, illustrated in **Picture 21**, from the S&S supplied hardware pack.



Picture 21

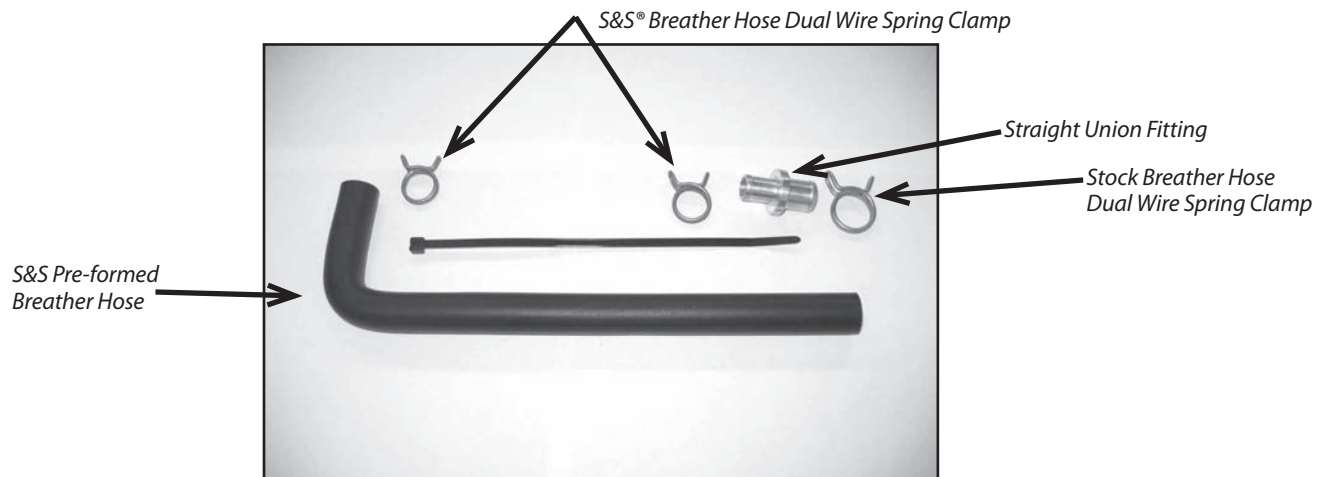
- 5 – Put the .660" spring clamp over the rubber hose on the air supply line.
- 6 – Push the rubber piece connected to the air supply line over the brass barb, closest to the throttle body, on the S&S® air cleaner.
- 7 – Move the spring clamp up over the hose barb as illustrated in **Picture 22**.
- 8 – Reconnect the Throttle Position Sensor to the primary wiring harness at the connector.



Picture 22

Breather Hose Routing and Fuel Line Installation

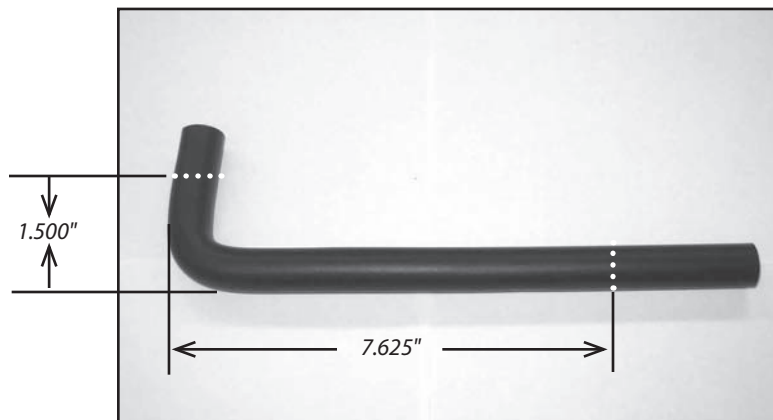
- 1 – Locate the S&S pre-formed breather hose, straight union fitting, 8" black wire tie, and the three dual wire spring clamps in the air cleaner kit as illustrated in **Picture 23**.



Picture 23

- 2 – The S&S preformed breather hose will need to be cut on both ends for proper fitment. **Picture 24** illustrates approximately where the breather hose should be cut.

NOTE: It is best to cut long and test fit for proper length and clearance.



Picture 24

3 – Once the S&S® preformed breather hose has been cut, slide a dual wire spring clamp over each end.

NOTE: There are three dual wire spring clamps included in the kit. The two smaller diameter clamps go on the S&S breather hose. Push the 90° end of the breather hose over the brass barb in the S&S air cleaner backplate followed by the dual wire spring clamp as illustrated in **Picture 25**.



Picture 25

4 – Route the straight end of the breather hose between the air cleaner and the frame rail and over the top of the rear rocker cover.

5 – Locate the S&S straight union breather fitting.

NOTE: The barbed ends of the straight union fitting have two different outside diameters. The small diameter end goes in the S&S breather hose and the large diameter goes into the stock breather hose.

5 – Push the small outside diameter of the straight union fitting into the S&S formed breather hose followed by the dual wire spring clamp.

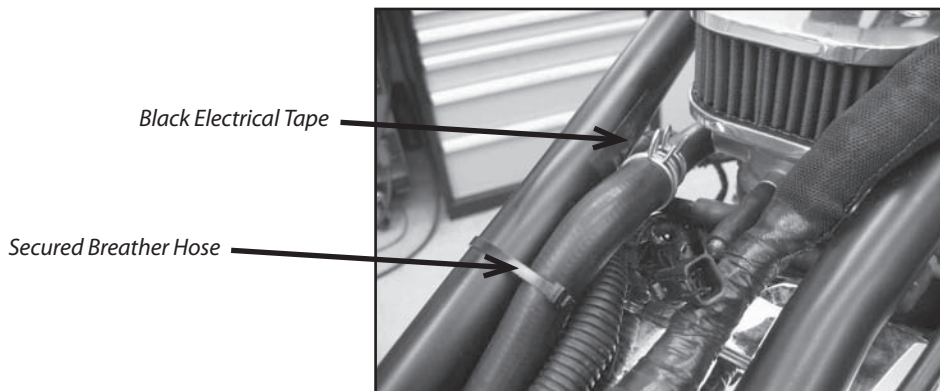
6 – Remove the cover from the stock breather hose that was put in place during the stock air box removal. Slide the large dual wire spring clamp over the stock breather hose.

7 – Push the stock breather hose over the straight union fitting followed by the dual wire spring clamp.

8 – Rotate dual wire spring clamps so they are not contacting the frame rail.

NOTE: A small piece of black electrical tape should be applied to the frame rail where the breather fitting and dual wire spring clamps are close to contacting the frame. This will reduce the risk of scratches to the frame.

9 – Secure the stock breather hose to the frame using the supplied 8" black wire tie. **Picture 26** illustrates the proper breather hose routing, black electrical tape location and secured breather hose to the frame.



Picture 26

10 – Install fuel line and connect to its original location from where it was removed.

Key Switch Cover and Coil Mounting Bracket Installation

- 1 – Connect the coil and the ignition switch to the primary wiring harness at the connectors. Install the coil mounting bracket back to its original location, to the front and rear heads, using the socket head cap screws that were removed at disassembly. Tighten fasteners 85 inch pounds.
- 2 – Connect the spark plug wires back to the coil. **Picture 27** illustrates the proper location of the spark plug wires. Front cylinder plug wire connects to the bottom post on the coil and the rear cylinder plug wire connects to the top post on the coil.



Picture 27

- 3 – Attach the ignition key switch cover to the mounting bracket from where it was removed.

Throttle Cable and Idle Air Control (IAC) Cover Installation

- 1 – Connect the throttle cables to the throttle body and adjust following your Victory® service manual.
- 2 – Attach the IAC cover to the mounting bracket from where it was removed.

Seat and Gas Tank Installation

- 1 – Install gas tank and seat to the motorcycle you are working on following your Victory service manual.
- 2 – Connect the negative battery cable lead to the battery that was disconnected prior to the air cleaner installation.

Idle Air Control Cover Decal

- 1 – The S&S® air cleaner kit comes with a decal that can be placed on your Idle Air Control (IAC) cover. Before applying the decal to the IAC cover clean the surface of the IAC cover with a soap and water solution and dry. **Picture 28** illustrates the S&S decal attached to the IAC cover.



Picture 28

Test Drive

- 1 – To avoid engine damage, S&S recommends that the technician installing the air cleaner kit verifies that the motorcycle is running the proper air fuel mixture.
- 2 – Test drive vehicle to ensure proper operation and verify that there are no leaks.

REPLACEMENT PARTS FOR S&S® 106-5131 BILLET AIR CLEANER KIT

- | | | |
|----|--|----------|
| 1- | Air filter, Packaged, 2008-up Victory® | 106-1324 |
| 2- | Gasket, Backplate, 2008-up Victory, 5 Pack | 106-1547 |
| 3- | Clamp, Spring, Double wire, 5 Pack | 106-2333 |
| 4- | Clamp, Spring, .660", 10 Pack | 106-1174 |
| 5- | Clamp, Spring, Double wire, 10 pack | 50-8156 |
| 6- | BHC Screw, M6 X 1 X 20, 10 pack | 50-8421 |
| 7- | Decal, Speed Equipment, Black, Victory, 5 pack | 106-2326 |
| 8- | Hose, Breather, Formed, .500", 1 pack | 41-0012 |

