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Because every industry has a leader

Installation Instructions for S&S Motor Mounts for Buell® Motorcycles

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 effect 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 inhaled. 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 judgement when performing installation and operating motorcycle. Good judgement begins with a clear head. Don't let alcohol, drugs or fatigue impair your judgement. 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 inhaled. 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.

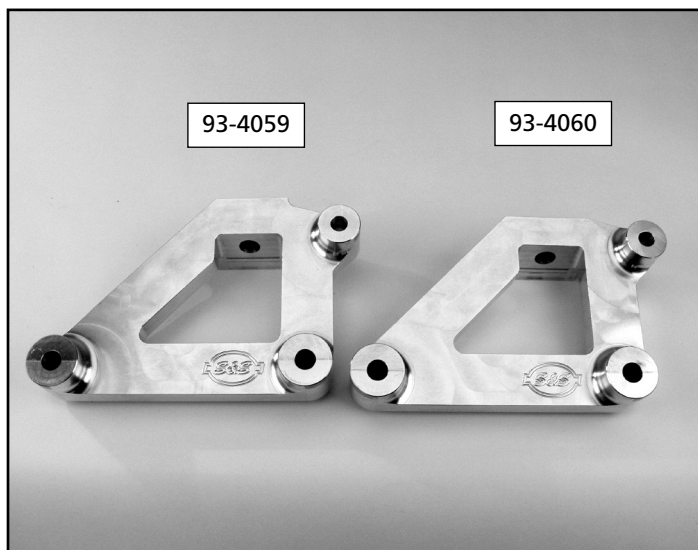
A part that is suspect of being defective must not be replaced by a Dealer without prior authorization from S&S. If it is deemed necessary for S&S to make an evaluation to determine whether the part was defective, a return authorization number must be obtained from S&S. The parts must be packaged properly 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

S&S® billet front motor mounts for 1996-'02 v-twin Buell® motorcycles are machined from 6061-T6 billet aluminum and offer a considerable increase in strength over stock. They are available in three versions. The first version is intended to be a heavy duty replacement motor mount for motorcycles with stock height engines. S&S PN 93-4059. The second version is designed to allow the S&S 100" engine to be installed in a stock Buell chassis. S&S PN 93-4060. See Picture 1.



Picture 1

A special order front motor mount is also available. The special order front motor mount allows builders to install custom engines which are between .200" shorter and .430" taller than stock. Keep in mind that when installing some non-stock height engines in a stock Buell chassis, exhaust and frame clearance may be a problem.

A slotted steel top motor mount, S&S PN 93-4062 is also required for taller than stock engines.

NOTE: Installing an engine of other than stock height in a stock chassis can result in interference between frame and exhaust. It is the installer's responsibility to make sure there is adequate clearance in all areas.

A. Securing the motorcycle

⚠ WARNING

Motorcycle must be adequately secured against falling over during the motor mount installation procedure. Use of tie down straps on both sides of the motorcycle is recommended.

⚠ WARNING

Do not reuse mounting bolts and washers indicated when installing the S&S motor mount. Special high-strength bolts and washers are used to secure the motor mount to the engine and frame. Use only new bolts and washers as specified. See Figure 1. This hardware is not available from S&S, and must be purchased separately.

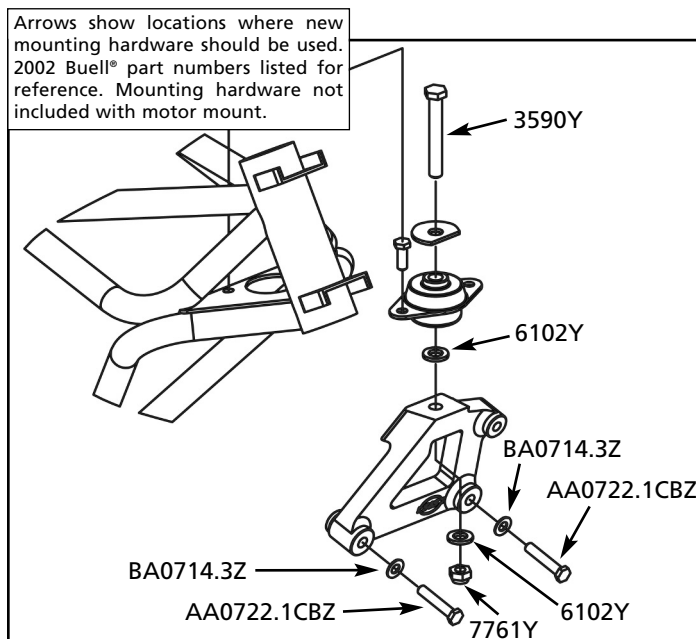


Figure 1

1. Place motorcycle on a suitable repair stand so that it is stable and secure. The motor mount supports the weight of the engine, so the engine must be supported from underneath during the motor mount change. Use a jack that is strong enough to bear the weight of the engine and stable enough to hold the engine steady during the procedure.
2. Disconnect negative battery cable.

B. Remove existing front motor mount

1. Remove seat and fuel tank per appropriate OEM service manual.
2. After securing the motorcycle, place a suitable jack and support under the engine. Apply pressure with jack just enough to offset the weight of the engine so that there will be no vertical load on the motor mount bolts.
3. Remove bolt, washers, and nut securing rubber isolator to motor mount. Note washer locations.
4. Remove both upper and lower front tie bars from motor mount (1999-'02 models only).

5. Remove two lower motor mount to cylinder head mounting bolts and washers.
6. Set existing motor mount aside.
7. Clean residual Loctite® from threaded cylinder head holes with a suitable non-flammable solvent, and dry with compressed air.

C. Install new front motor mount

⚠ CAUTION

The motor mount should not be removed and installed any more than is absolutely necessary. Repeated removals and installations will damage cylinder head threads.

NOTE: The rubber isolator assembly has to be partially removed from the frame to install the upper engine mount bolt. New bolt is inserted from the top, with the new retaining nut at the bottom, reverse of the original stock position. Washers remain in their original positions.

1. Remove rubber isolator to frame bolts.
2. Remove rubber isolator.

⚠ CAUTION

Use new Buell® part # 3590Y bolt for step 3.

3. Place "D" washer on new upper bolt and insert new upper bolt through rubber isolator from the top, with the threads to the bottom. Locate flat of "D" washer to the front. See Picture 2.



Picture 2

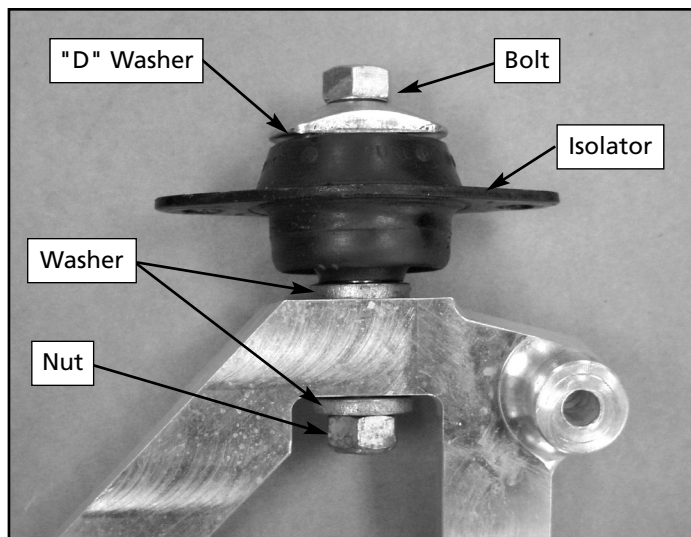
4. Install assembled rubber isolator and upper motor mount bolt to frame.

NOTE: Steps 6-8 involve the use of Loctite threadlock. Motor mount bolts must be tightened to final torque within 10 minutes before the threadlocker sets.

⚠ CAUTION

Use new Buell part # 6102Y washers and new Buell part # 7761Y locknut for step 5.

5. Slide new washer and motor mount into position onto motor mount bolt. Place new washer and new self-locking nut on bolt. Tighten nut only to snug at this time. Parts should be positioned as shown in Picture 3.



Picture 3

⚠ CAUTION

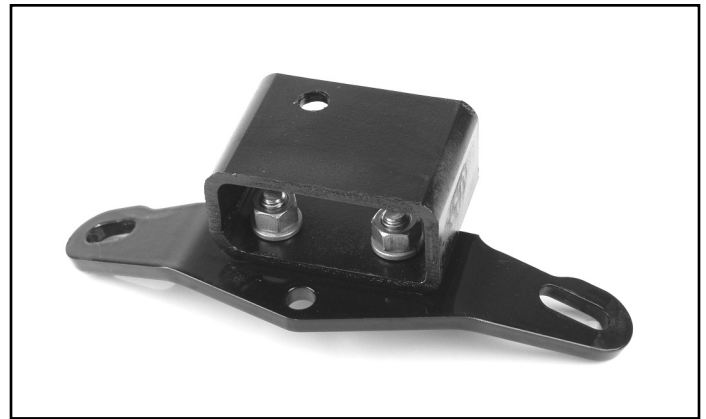
Use new Buell part # AA0722.1CBZ bolts and BA0714.3Z washers for step 6.

6. Install new motor mount to cylinder head bolts and new washers using Loctite 271 (red). Torque to 60 ft. lbs. initially, then immediately loosen each bolt one full turn, then tighten each bolt again back to 60 ft. lbs.
7. Torque upper motor mount bolt and locknut installed in step 5 to 100-110 ft. lbs.
8. Attach upper and lower front tie bars to motor mount (1999-'02 models only). Tighten to 30-33 ft. lbs.
9. Check clearances of mount to frame.
10. Install fuel tank, seat, and any other components removed for installation.

D. Steel top motor mount notes

Top Motor Mount S&S® 93-4062 is a two-piece, bolt together mount with slotted engine mounting holes. **See Picture 4.** The slotted mounting holes allow it to work with engines both shorter and taller than stock. It uses the OEM tie bar. A different length tie bar to motor mount bolt will need to be sourced, the exact length is determined by the engine height.

On engines that are either shorter or taller than stock, the tie bar should be installed so that it sits level with the engine. This is done by fabricating a custom length spacer to go between the tie bar and the motor mount. The correct length tie bar mounting bolt should have at least one full thread showing past the end of the tie bar mounting nut.



Picture 4



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