## Instruction 106-4426 06.13.2023

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S&S<sup>®</sup> Cycle, Inc.

235 Causeway Blvd. La Crosse, Wisconsin 54603 Phone: 608-627-1497 • Fax: 608-627-1488 Technical Service Phone: 608-627-TECH (8324) Technical Service Email: sstech@sscycle.com Website: www.sscycle.com



# S&S Oil Filter Mount for S&S Alternator/Generator, KN-Series, P-Series, SH-Series, 1986-'90 Harley-Davidson® Sportster® models, S&S Superstock® and Special Application Crankcases for Sportster and Buell® Models

#### **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<sup>®</sup>, Harley-Davidson<sup>®</sup>, H-D<sup>®</sup>, Sportster<sup>®</sup>, Evolution<sup>®</sup>, 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<sup>®</sup> 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.

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#### Disconnect the battery ground cable to avoid accidental engagement of electric starter.

This kit provides parts and hardware for several different year models of big twin and Harley-Davidson<sup>®</sup> Sportster<sup>®</sup> models. Pay attention to existing engine configurations, oiling system set-ups and routing. It is the responsibility of the installer to correctly identify engine make and to ensure proper installation of prescribed parts in this kit. Hardware included in this kit are the correct sizes for use with Stock and S&S<sup>®</sup> manufactured parts or combination there of, but may not be correct for other aftermarket parts and accessories. Additional fittings are provided for special oil line routing applications.



Oil Filter Bracket Kit 106-3134



Oil Filter Bracket Kit 106-4747 (for KN-Series)

ltem	Part Number	Description	Quantity
1	106-4427	Bracket, Oil Filter	1
2	50-8112	Fitting, 45°, ¼-27 NPTF	2
3	50-1007	Fitting, 90°, ¼-27 NPTF, Sold in 5 pack	2
4	50-8115	Hose Fitting, Straight, ½-27 NPTF	2
5	50-1015	Taper Pipe Plug, 1/8-27 NPTF, Sold in 10 pack	2
6	50-0190	Screw, SHC, 5/16-24 x 23/4", Zinc, Sold in 5 pack	2
7	106-4793	Screw, SHC, 5/16-24 x 3.5", Zinc	2
8	106-4794	Gasket, Oil Filler Mount, 1936-'69 bt, 1986-'90 xl/sb, Sold in 5 Pack	1
9	50-8000	Hose Clamp, Sold in 10 pack	3
10	106-4782	Hose, Oil Return, .375" x 12", SAE 30R7	1
11	50-1005	Pipe fitting, 90°, %-27 NPT x .375", Brass, UNS, Sold in 5 pack	1
12	106-2121	Screw, HH, Countersunk, 5/16-24 x 3-1/4", Cadmium Plated, Sold in 5 Pack	2

1- Remove any dirt or debris from around the front half of the engine and the oil filter mount.

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Dirt and other foreign matter can cause extensive damage to oil pump and engine.

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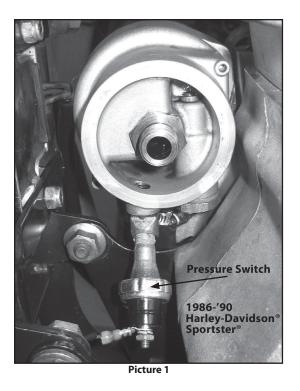
Compressed air and particles dislodged by compressed air are potentially harmful. Wear protective goggles when using compressed air and always direct air stream away from yourself and others nearby.

2- Place an oil pan under front of engine.

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#### Oil on tires or brakes can cause loss of control of motorcycle resulting in serious injury to operator and others.

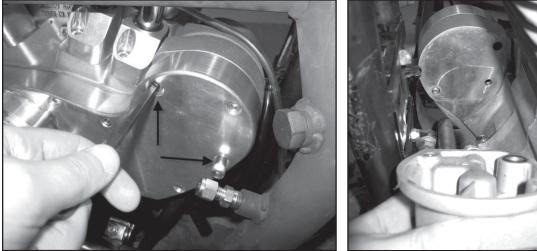
3- For 1986 through 1990 Harley-Davidson<sup>®</sup> Sportster<sup>®</sup> models, disconnect the oil pressure switch located on the filter mount from the wiring harness. See Picture 1.



4- Correctly identify the oil feed and return lines and mark them accordingly.

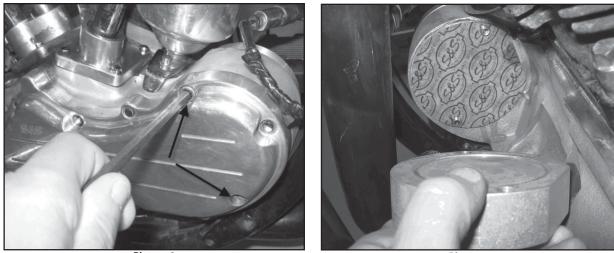
**NOTE:** 1986 through 1990 Sportster models, the stock mount uses a <sup>1</sup>/<sub>4</sub>" NPT fitting for the return line and a <sup>1</sup>/<sub>6</sub>" NPT fitting for the feed line. The oil feed line allows oil to pass through the mount and into the oil filter, the return line removes oil from the mount that is passing through the oil filter adapter nut located in the center of the filter mount and returns the oil to the oil tank or back to the oil pump, depending on year model and engine make.

- 5- Remove both engine oil lines from the existing filter mount and limit the amount of oil drained from the engine.
- 6- Remove the two bolts from the gear cover that secures the filter mount to the gear case and pull the old filter mount away. See Pictures 2-4.



Picture 2

Picture 3



Picture 4

Picture 5

7- Remove the old gasket if present from the crankcase and ensure that the mounting surface is clean of debris.

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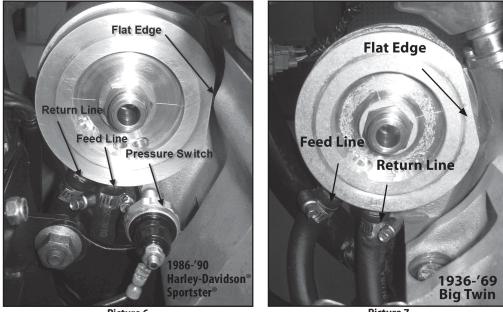
Many solvents are flammable and potentially toxic. Read solvent manufacturers instructions prior to use.

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- Always apply Teflon<sup>®</sup> tape or pipe sealant to the threads of fittings before assembling fittings or installing fittings. Failure to install
  fittings correctly may damage mount and void warranty.
- Apply tape and pipe sealant to threads only. Avoid using excessive amounts that may protrude into and obstruct oil passages or contaminate engine oil. Incorrect use of Teflon tape or pipe sealant may cause engine damage not covered under warranty.
- 8- Depending on year model and engine make, remove the oil pressure switch from the old filter mount and install it into the new mount. **See** Picture 1.

**NOTE:** In **Picture 8 and 9** port 1,3 and 4 are oil feed and port 2 is oil return. For Harley-Davidson<sup>®</sup> Sportster<sup>®</sup> applications use hole 4 or 1 for the pressure switch placement, hole 2 for return line fitting and hole 3 for oil feed line fitting. Place a <sup>1</sup>/<sub>8</sub>" NPT pipe plug into the hole that is not used by 1 or 4. For generator style applications use hole 1 for oil feed line fitting, hole 2 for oil return line fitting and place a <sup>1</sup>/<sub>8</sub>" NPT pipe plug into holes 3 and 4. **See Picture 8 and 9.** 

9- To properly install the Sportster pressure switch, use a 90 degree fitting from the hardware packet and thread it into hole 4.
10- Next thread the pressure switch into the fitting and tighten to 8-12 ft-lbs. See Picture 6 and 7.



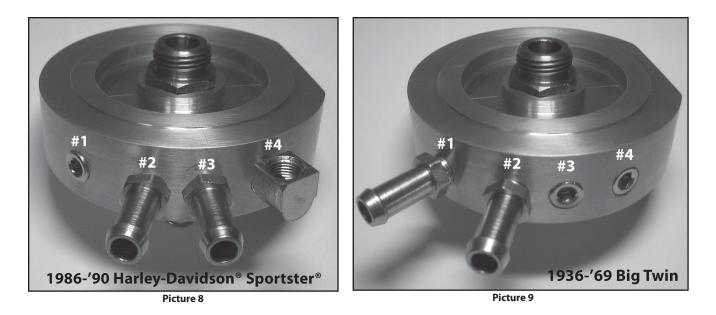
Picture 6

Picture 7

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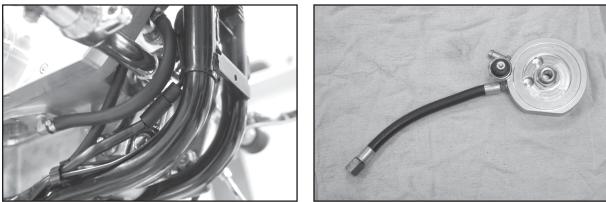
Improper filter mount installation due to incorrect identification of crankcase year group may result in engine damage not covered under warranty.

11- If mount application is for configuration such as on big twin engine, install fittings from the hardware packet into holes 1 and 2 and 1/2" NPT tapered pipe plug into holes 3 and 4. See Picture 8 & 9.



**NOTE:** There is no pressure regulator bypass designed into the S&S<sup>®</sup> filter bracket since modern oil filters contain a bypass valve relieving oil pressure that could potentially collapse the filter media. In 1936-'69 big twin models, filters with anti-drain back valves should not be used due to restricted flow back to the oil tank. Make sure to use the correct oil filter as recommended by the engine manufacture.

- 12-Install the straight, 45°, or 90° fittings that will optimize the oil line routing of the engine into the side holes as indicated in **Picture 5**. Ensure that oil line placement does not impede oil flow by kinked lines.
- 13- On 1986 to 90 Sportster models the factory return line will not be used. This line is replaced with the supplied hose in the kit and the 90° fitting. The 90° fitting replaces the stock fitting in the crankcase and to install it the oil pump is removed. Follow your manufacturer's service manual for removing and installing the oil pump. The existing supply line is used and can be installed in port 1, 3, or 4. The hose routing and an example oil mount setup is shown in **Picture 10 and 11**.



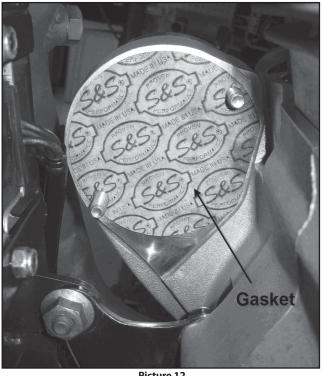
Picture 10

Picture 11

#### Restricted oil supply may cause extensive engine damage not covered under warranty.

14- If the 45° or 90° fittings are used, thread the straight barbed fitting into the female side of the angled fitting and tighten.

15- Place the new gasket provided in the kit between the filter mount and the crankcase, aligning its features with the filter mount facing the S&S logo outward. See Picture 12.



Picture 12

16-Place the filter mount into the proper location on the gear case, aligning the flat side towards the crankcase. See Picture 4.

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Using components other than those provided by S&S<sup>®</sup> may result in oil leaks, insufficient oil pressure and possible engine damage.

17- Use the 3.5" cap screws for stock Harley-Davidson® Sportster® models or S&S SB engines. Use the 2.75" cap screws for S&S® engines for 1936-'69 chassis or stock engines equipped with Stock or S&S gear covers. Use the hex 3.25" bolts for the S&S KN-Series engines. Place a small amount of blue threadlocker onto the threads to secure the filter mount to the gear case.

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Existing stock hardware used in Sportster models are 18 threads per inch and are not the correct thread type for the S&S® filter mount. Only use hardware provided which has 24 threads per inch.

18-Toque screws to 13-16 ft-lbs.

19- Place hose clamps over hoses that will be slipped over barbed fittings. Slip the return line onto the return fitting noted by the R on the mount.

Incorrect placement of oil lines or oil line fittings can cause extensive engine damage not covered under warranty.

- 20- If present, connect pressure switch wire and tighten nut.
- 21- Replace any engine oil that was drained during installation
- 23- Install new oil filter by placing a small coating of oil over the rubber seal and thread the filter onto the filter adapter nut until sung. Rotate the filter an additional ¼ to ½ turns.

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"Air lock" or cavitation can occur if trapped air is not released from the oil pump. It can occur when oil has been removed from feed and return lines, and interferes with oil circulation. It is installer's responsibility to remove trapped air by priming the pump prior to running the engine and to confirm correct pump operation with engine running. Models with oil tank below transmission require precautions to prevent air from entering oil pump during oil changes

- 24- If necessary re-prime oil pump by loosening the oil feed connection at the pump and starting the engine at idle. Allow a few ounces of oil to leak out of the line and then tighten.
- 25-Turn off engine and check oil for correct level in tank.
- 26-Restart engine and check for leaks, tighten fittings or clamps if necessary.