

Instruction 510-0039
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S&S Oil Supply Line Installation Kit

PN 31-0424 (For 1999–2005 Harley-Davidson® Dyna® Models)

PN 31-0425 (For 2000–2006 FLT Models)

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 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.

Please read these instructions thoroughly before starting work. Proceed with the installation only after they are completely understood. These instructions should be supplemented by the appropriate OEM service manual for your motorcycle. Follow all safety information.

OIL LINE INSTALLATION

FOR 1999-2006 HARLEY-DAVIDSON® FL MODELS PN 31-0425



CAUTION



Oil line installation is crucial to engine life. If you are not sure that you can properly perform this operation, please contact the S&S Tech Department for a referral to a shop in your area.

NOTE: Installation instructions are based on an engine and transmission already in the chassis.

NOTE: Apply thread sealant to all tapered pipe threads.

- 1- Remove the stock oil supply and return fittings from the transmission.
- 2- Install two supplied $\frac{3}{8}$ NPT pipe plugs (S&S PN50-8330) in the oil fitting location.

NOTE: Apply thread sealant to all tapered pipe threads.

- 3- Remove crankcase vent fitting (S&S PN 50-0451) and set aside for later use. Install supplied vent fitting (S&S PN 50-0449 is for use with 2002-'06 with $\frac{7}{16}$ ID vent hose or 50-0454 is for use with 1999-'01 with $\frac{3}{8}$ ID vent hose) with O-ring installed on fitting. **See Picture 1.**
- 4- Install the vent hose and clamp (S&S PN 50-8293 or 50-8076-S) on the new fitting.

NOTE: The stock vent hose is reused in this step.

- 5- Position a drain container in front of the oil pan. Next, locate and remove the two plugs on the forward face of the oil pan allowing the oil to drain. Once the oil is completely drained, replace the $\frac{3}{8}$ " pipe-plug with a 90° fitting (S&S PN 106-1170). Position barb of fitting toward right side of bike at an angle slightly above horizontal as shown in **Picture 2**. Next, install the oil return fitting (S&S PN 50-0451) with O-ring (S&S PN 50-8008) in the drain plug location.

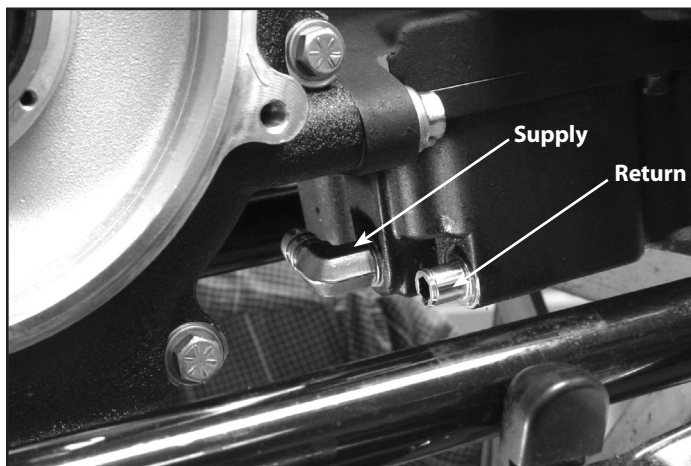


Picture 1 (2002-'06)

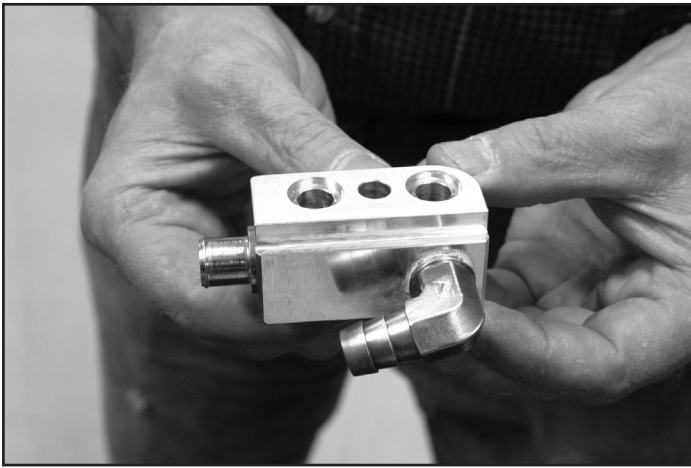
- 6- Remove cover plate that was shipped on crankcase from the bottom surface of the rear motor mount. The oil line block will be installed in this location. Assemble the oil line block by installing the 90° fitting (S&S PN 106-1170) and the oil return fitting (S&S PN50-0451) with O-ring (S&S PN 50-8008) into the block, as shown in **Picture 3, next page.**
- 7- Mount the oil line block on the crankcase using $\frac{5}{16}$ -18 x $1\frac{3}{4}$ " long screw (S&S PN50-0437)—do not final tighten as it will be removed again.
- 8- The next step is to measure and then cut the oil hoses. The straight hose connects the 90° fittings of the oil line block and oil pan. The bent hose runs between the oil return fittings on the oil line block and oil pan. **See Picture 4, next page.**
- 9- Remove the oil line block from the engine case. Install the supplied clamps (S&S PN 50-8293) on the lines between the fittings. **See Picture 5, next page.**
- 10- Install O-Rings (S&S PN 50-8066) in the counter bores of the oil line block. Position the oil line block on the engine case and tighten the screw to 18 ft-lbs. of torque with blue threadlock on the threads. **See Picture 6, next page.**
- 11- Position hose clamps over the fittings.
- 12- Refill oil reservoir.
- 13- Start engine and check for oil leaks.

To Change Engine Oil in the Future

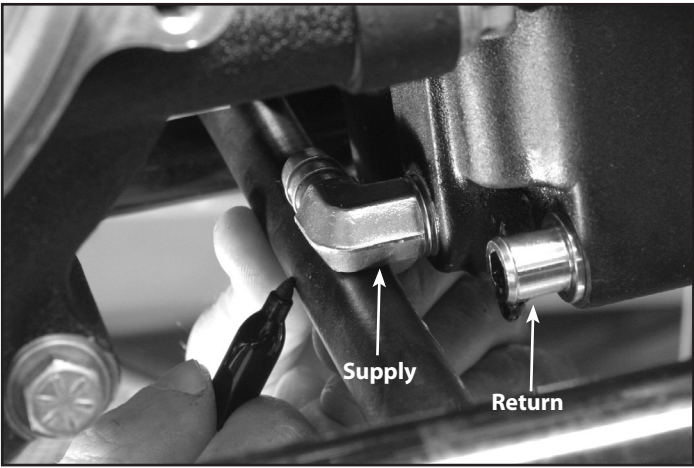
- 1- Slide hose clamp off of fitting along hose. **See Picture 7, next page.**
- 2- Place an oil drain pan under front of oil pan.
- 3- Remove hose from fitting to drain oil.
- 4- Reinstall hose and clamp.
- 5- Continue with recommended oil change procedure.



Picture 2



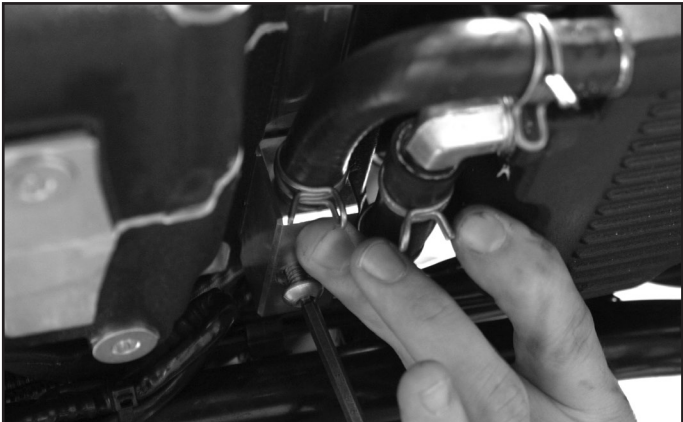
Picture 3



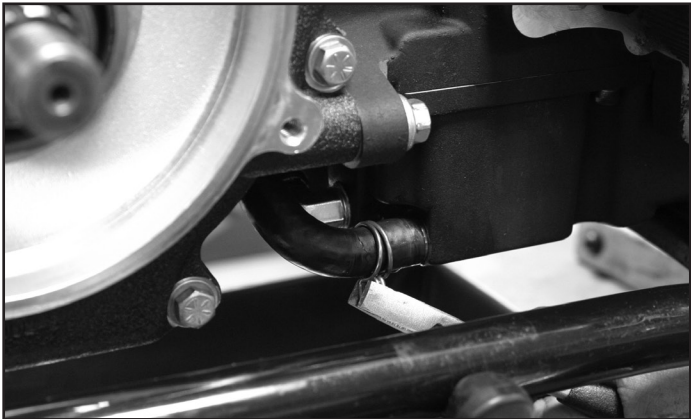
Picture 4



Picture 5



Picture 6

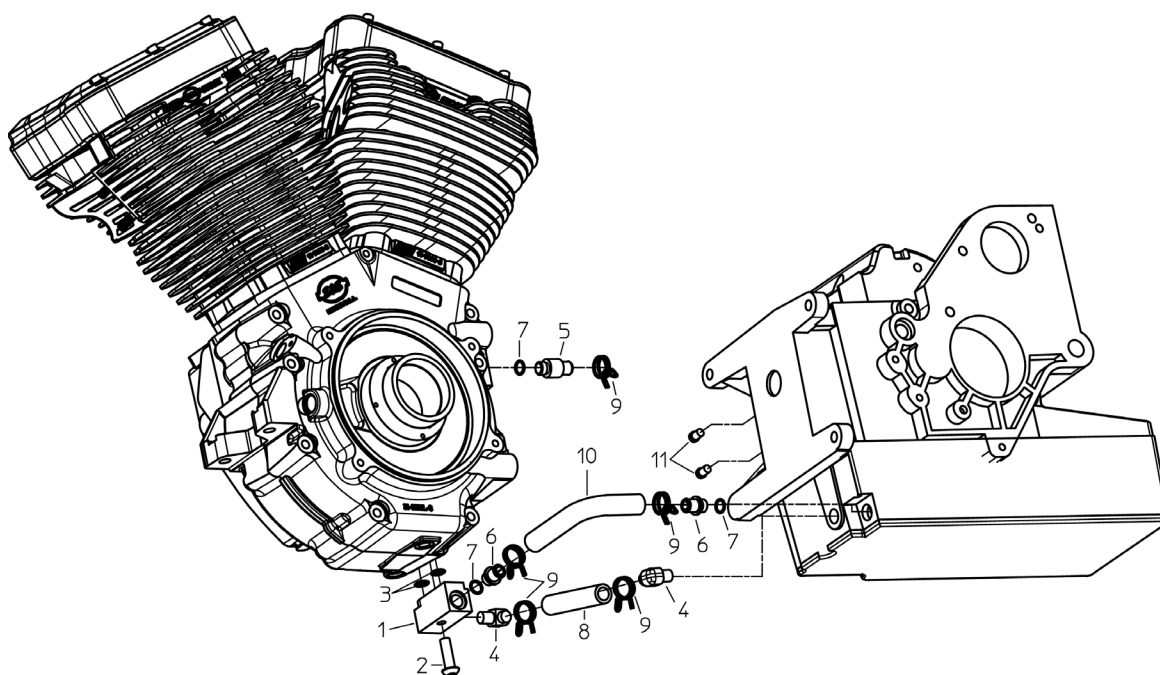


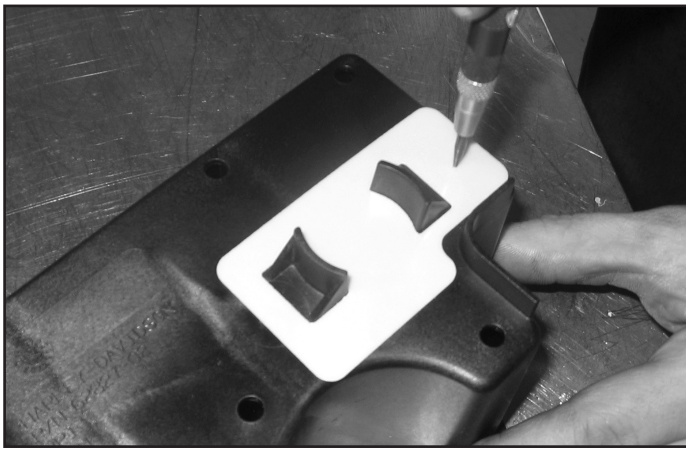
Picture 7

S&S® Oil Line Installation Kit Replacement Parts for Harley-Davidson® FL Models

1- Block, oil line.....	N/A
2- BSHCS, 5/16-18 x 1 3/4	50-0437
3- O-ring (10 pack)	50-8066
4- Fitting, pipe, 90° (2 pack)	106-1170
5- Fitting	
7/16 (2002-'06)	50-0449
3/8 (1999-'01)	50-0454
6- Fitting, 1/2	50-0451
7- O-ring	50-8008

8- Hose, oil supply	50-8157
9- Clamp	
Double wire spring	50-8293
Hose, spring	50-8076-S
10- Hose, return oil line, 90° bend	50-8292
11- Plug, pipe (3/8 NPT)	50-8330





Picture 8



Picture 9

FOR 1999-'05 HARLEY-DAVIDSON® DYNA® MODELS (PN31-0424)

CAUTION

Oil Line installation is crucial to engine life. If you are not sure that you can properly perform this operation, please contact the S&S® Tech Department for a referral to a shop in your area.

NOTE: Installation instructions are based on an engine and transmission already in the chassis.

- 1- Remove the stock oil supply and return fittings from the transmission.
- 2- Install two supplied $\frac{3}{8}$ NPT pipe plugs (S&S PN 50-8330) in the oil fitting location.

NOTE: Apply thread sealant to all tapered pipe threads.

- 3- Drain the oil from the oil pan—see the proper factory service manual for instructions—and then remove the oil pan from the motorcycle.
- 4- Place the supplied template (106-1188) over the oil pan baffle and use a scribe to mark the location of the $\frac{1}{2}$ " hole as shown in **Picture 8, above left**. Use a drill press to machine the $\frac{1}{2}$ " hole as marked in **Picture 9, above right**. Use a small file or deburring tool to make sure no chips or pieces are left on the $\frac{1}{2}$ " hole and then clean the oil pan and baffle with solvent before reinstalling the pan with a new gasket on the motorcycle.

- 5- Remove the transmission top cover. Remove the neutral indicator switch, vent line and fitting from the transmission top cover.
- 6- Install the neutral indicator switch, vent line and fitting on the new S&S transmission top cover (S&S PN 106-3886).
- 7- Slide the oil feed line (S&S PN 31-0449) through the hole in the top cover closest to the oil filler/dipstick boss. Place a new top cover gasket (S&S PN 56-1261) on the transmission case and position the new S&S top cover on it. Rotate the oil feed line so it will pass through the $\frac{1}{2}$ " hole in the baffle. Be sure the bend in the oil feed line orientation is to the rear of the motorcycle. **See Picture 10, below left.**
- 8- Install the transmission top cover screws and washers according to Detail A. Use blue threadlock on the screws, but leave them loose at this time. *See Detail A in exploded view of replacement parts for Harley-Davidson® Dyna® on page 7.*
- 9- Remove the oil line retention plate, plugs and seals from the top of the engine crankcase. Remove seals from the plugs. Discard the plugs.
- 10- To install the oil lines (S&S PN 31-0447 and 31-0448), orient the ends and openings so they are parallel. Insert the lines through the oil line retention plates, then the included washers (S&S PN 50-0439) and, last the seals (S&S PN 50-8271) on each line end. The ends of the lines should protrude through the seals about $\frac{1}{8}$ inch. **See Picture 11, below right.**

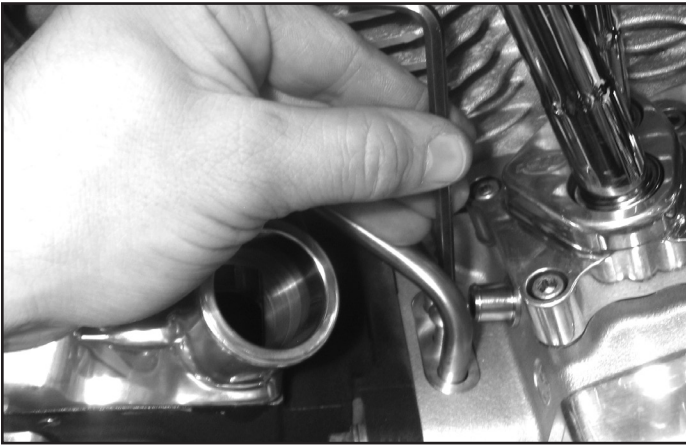


Picture 10



Picture 11

- 11- Position oil line assembly on both the transmission top cover and crankcase and press down until lines are firmly seated in the counterbores in the crankcase and transmission cover. **See Picture 12, below.**
- 12- Press the oil line retention plates into place until they seat. Install the two screws ($\frac{5}{16}$ -18 x $\frac{3}{4}$ button head, S&S PN 106-1178) through the oil line retention plates. First screw goes in the transmission top cover and the second mounts into the crankcase near the rear motor mount. Treat both screws with blue threadlock and tighten to 18-ft-lbs.
- 13- Tighten transmission top cover screws to 100-120 in-lbs.
- 14- Install the vent line (S&S PN 50-8292) with clamps (S&S PN 50-8293).
- 15- Reconnect neutral switch wires.
- 16- Check function of neutral switch.



Picture 12

S&S® Oil Line Installation Kit Replacement Parts for Harley-Davidson® Dyna® Models

1- Clamp, Hold Down	106-1176	16- Fitting.....	50-8289
2- Seal.....	50-8271	17- Vent hose, 90° bend	50-8292
3- BSHCS $\frac{5}{16}$ -18 x $\frac{3}{4}$ (10 pack)	106-1178	18- Clamp.....	50-8293
4- Washer	50-0439	19- Plug, pipe ($\frac{3}{8}$ NPT)	50-8330
5- Line, oil supply	31-0447	20- O-ring.....	50-8008
6- Line, oil return	31-0448	21- Fitting.....	50-0451
7- Line assembly, Oil feed	31-0449	22- Drill Template	106-1188
8- Top cover.....	106-3886		
9- SHC - $\frac{1}{4}$ -20 x $1\frac{1}{2}$ "	50-0267-S		
10- SHC - $\frac{1}{4}$ -20 x $2\frac{1}{4}$ "	50-8455-S		
11- SHC - $\frac{1}{4}$ -20 x $1\frac{3}{4}$ "	50-8458-S		
12- SHC - $\frac{1}{4}$ -20 x $1\frac{1}{4}$ "	50-0257-S		
13- Washer	50-7017		
14- Gasket, tranny top cover	56-1261		

