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## Installation Instructions: S&S® Roller Rocker Arms for 2017-Up Harley-Davidson® Milwaukee 8® Engines

### 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.

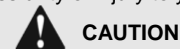
### IMPORTANT NOTICE:

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.

**SPECIAL TOOL REQUIREMENTS**

- Harley-Davidson® service manual for the specific model or engine
- Feeler gauge
- Torque wrench

**GENERAL INFORMATION**

- Thoroughly read and understand the section that pertains to the rockers you are installing.
- If you don't have the required tools or knowledge for installing these rockers you should have a qualified shop install them.
- It is the engine builder's responsibility to confirm proper clearances when assembling an engine.
- S&S Roller Rockers are compatible with Stock and S&S CnC Heads
- S&S recommends the use of Rocker Arm Studs (kit 900-1013) and Quickee Adjustable Pushrods with this product.

**DISASSEMBLY**

1. Refer to the Harley-Davidson service manual or for the specific model or engine you are working on for the correct disassembly procedure.
2. The valve covers and old rocker arms will need to be removed from the engine of the motorcycle.

**INSTALLATION**

**Preparation for Installation**

1. Remove rocker arms from packaging material. Handle with care to avoid dropping.
2. Using a lint free cloth and lacquer thinner, thoroughly clean rockers to remove rust preventative oil.
3. Do not immerse or wash the rockers in a solvent tank.
4. Inspect rocker shafts, valve tips, pushrod, rocker shaft bolts and thrust surface of the rocker towers in the head for excessive wear or damage.

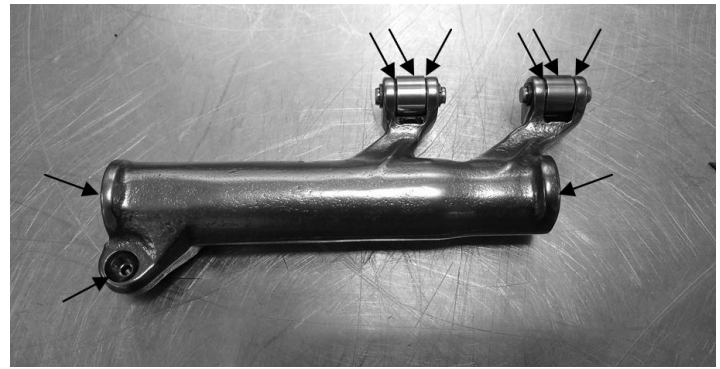
**Lash Measurement**

1. Apply assembly lubrication or oil to the bushings, rollers, axles, and pushrod socket. **See Picture 1**
2. Install rocker shafts into the rocker arms.
3. With pushrods removed, install the rocker arm/shafts, and torque the bolts/studs to 5 ft-lbs.
4. Use firm finger pressure to pull up on the pushrod socket of the rocker. Do not use a pry bar or screwdriver to apply pressure. If lash is present, one roller will spin freely and the other will not.
5. Maintaining finger pressure, use a feeler gauge to measure the lash of the freely spinning roller. **See Picture 2.** Wear limits are shown in **Table 1.**
  - a. Lash greater than that wear specification will require the removal and repair of the cylinder head.

6. Remove rocker arms.

**Rocker Installation**

7. Set piston to BDC and verify lifters are on the base circle of the camshaft lobe.
8. Install pushrods per the manufacturer's recommendation.
9. Re-install the rocker arms. Tighten the bolts/studs evenly.
  - a. Torque the rocker shaft bolts to 23 - 27 ft-lbs. If using S&S Rocker Studs, install per instructions.
10. With the rockers installed, the rest of the engine may be assembled. Follow steps outlined in stock or S&S service manual. In addition, follow any special steps required for any aftermarket or high performance components used in the engine.



**Picture 1: Oil Locations**



**Picture 2: Lash Measurement**

<b>TABLE 1: SPECIFICATIONS</b>		
	<b>Factory Specification (in)</b>	<b>Service Wear Limit (in)</b>
<b>Rocker shaft fit in bushing</b>	<b>.0005-.0022</b>	<b>.006</b>
<b>Rocker End Clearance</b>	<b>.004-.0015</b>	<b>.025</b>
<b>Valve Lash</b>		<b>.008</b>

