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Installation Instructions: S&S® Inner Primary Bearing Race For 2008-Up Stock 6 Speed Transmissions

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.

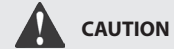
IMPORTANT NOTICE:

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.

WARNING

Disconnect the negative battery cable before performing any clutch work on your motorcycle to prevent personal injury.

CAUTION

The use of specialized installation and removal tools are required for this procedure. Do not attempt to install the S&S® inner primary bearing race without the proper specialty tools.

The S&S inner primary bearing race is intended to prevent movement of race into main drive gear seal and bearing. This situation has been known to occur in high HP applications.

FITMENT

S&S Inner Primary Bearing Race PN 560-0241 fits big twin models with stock 6 speed Cruise Drive™ transmissions found in all 2008-up models. 560-0241 has been verified to fit OEM main shaft PN's:

- 35467-08
- 35467-06B

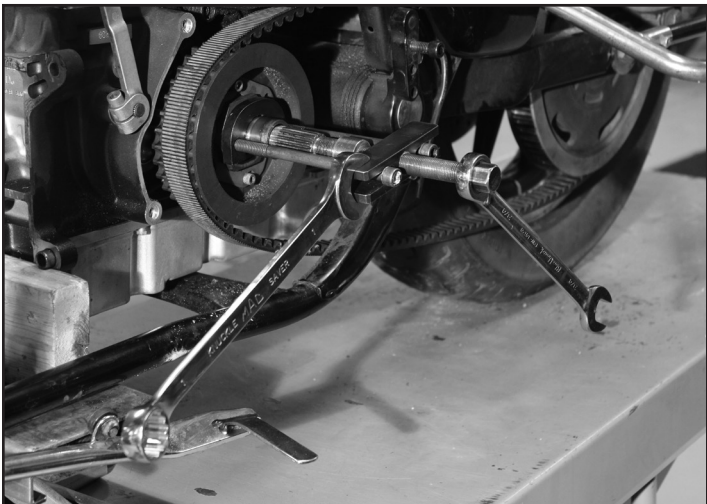
These main shafts measure approximately .9765" in diameter. This race does not fit OEM main shaft PN 35467-06 which measures approximately .9850" in diameter. It also does not fit Baker™ 7 speed main shafts.

SPECIAL TOOL REQUIREMENTS

- Primary Drive Locking Tool
- Inner Primary Bearing Race Puller
- Inner Primary Bearing Race Installer
- Feeler Gage Set
- Caliper Set
- Dial Torque Wrench

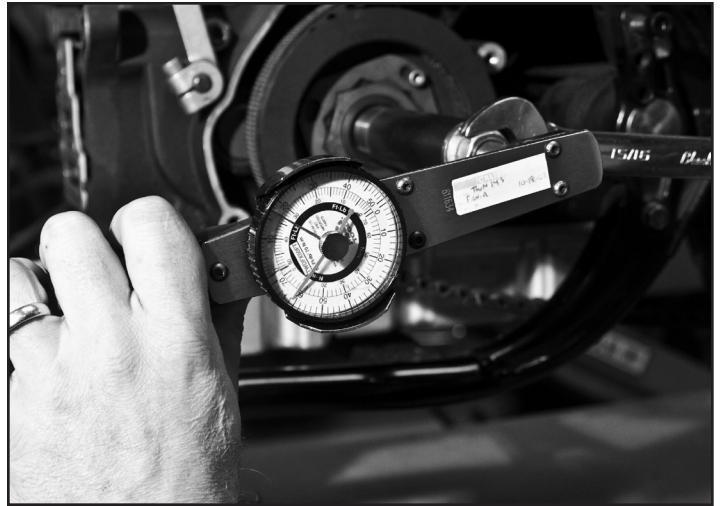
INSTALLATION

1. Disconnect the negative battery cable and move it away from any metal parts in the area.
2. Loosen all the tension in the clutch cable—hydraulic clutch does not require this step.
3. Remove the entire primary and clutch assembly by following the instructions in your factory service manual.
4. Use an Inner Primary Bearing Race Puller to remove the existing race from the mainshaft and discard. Inner Primary Bearing Race Puller shown in **Picture 1**.



Picture 1

5. The S&S Inner Primary Bearing Race has an exclusive internal taper that will engage on the tapered portion of the mainshaft to assure that it mounts to the proper depth and prevents the race from moving on the shaft in high-torque applications. Use an Inner Primary Bearing Race Installer and assembly lube to install the new race. Be sure to install the bearing race with the taper facing out. Seat the race on the mainshaft taper by tightening tool as shown in **Picture 2**. Using a dial torque enables you to monitor the torque it takes to press the race onto the shaft. The torque will gradually increase as the race engages more of the shaft. When the race seats on the taper, the torque will increase immediately. Do not exceed 20 ft-lbs above the torque it takes to press the race onto the shaft.

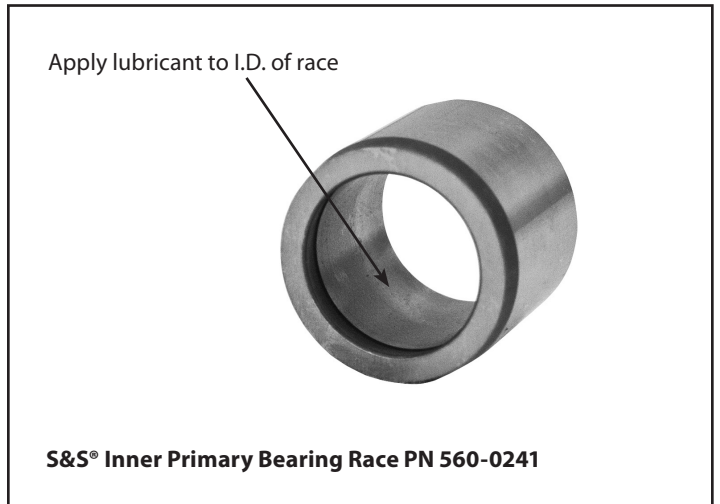


Picture 2

CAUTION

It is important not to overtighten the race onto the shaft as the taper will overload the material and crack or fail.

NOTE: Lubricating the race will make the installation easier and prevent galling of the shaft. **See Picture 3**



Picture 3

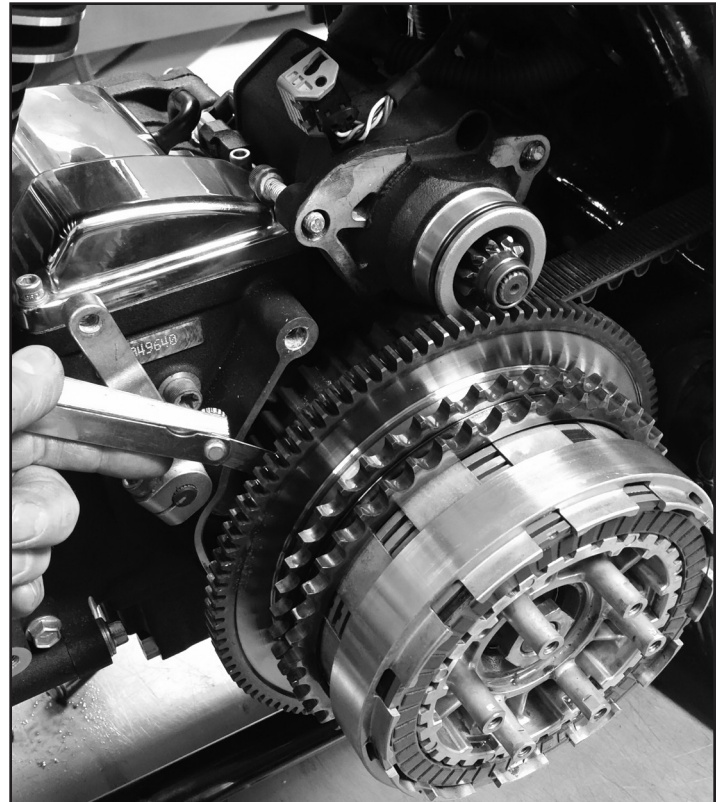
6. Verify race is installed properly.

- A. Measure distance from end of spline to outer face of race. Range 1.725-1.775. **See Picture 4.**



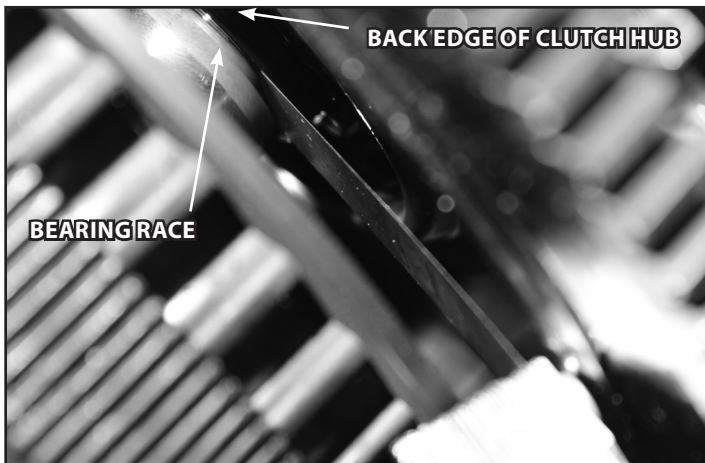
Picture 4

- B. Remove chain from clutch basket. Install clutch on mainshaft until it seats on the spline. Verify clearance/gap is present between hub and outerface of bearing race.
- C. If gap is present install clutch hub nut to light torque and use a feeler gage to verify a minimum of .005" gap still exists. **See Picture 5 and 6.**
- D. If gap is acceptable, remove clutch and proceed to next step. If not, call S&S Tech Line 608 627-TECH



Picture 6

7. Install the primary and clutch following the instructions in your factory service manual. Adjust clutch, fill primary with fluid and reconnect battery.



Picture 5