Instruction 510-1444
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Installation Instructions:

Adjustable Pinion Sprocket
For 2006-'17 Dyna®, 2007-'16 Touring, 2007-'17 Softail®, 2017-Up M8 (part number 330-0849)



There are many aspects to tuning and S&S cycle is aware of all of them. Because of that we have developed a +/- 4 Degree Adjustable Pinion Shaft Sprocket for 2017-2026 M8 models. Allowing this flexibility in fine tuning assures you can get all the performance your engine has to offer. Our Adjustable Pinion Shaft Gear is made from high-quality bearing-strength steel, offers exceptional wear reistsance and is a direct bolt-in.

Special Tool is required:
Harley-Davidson sprocket locking tool H-D #42314

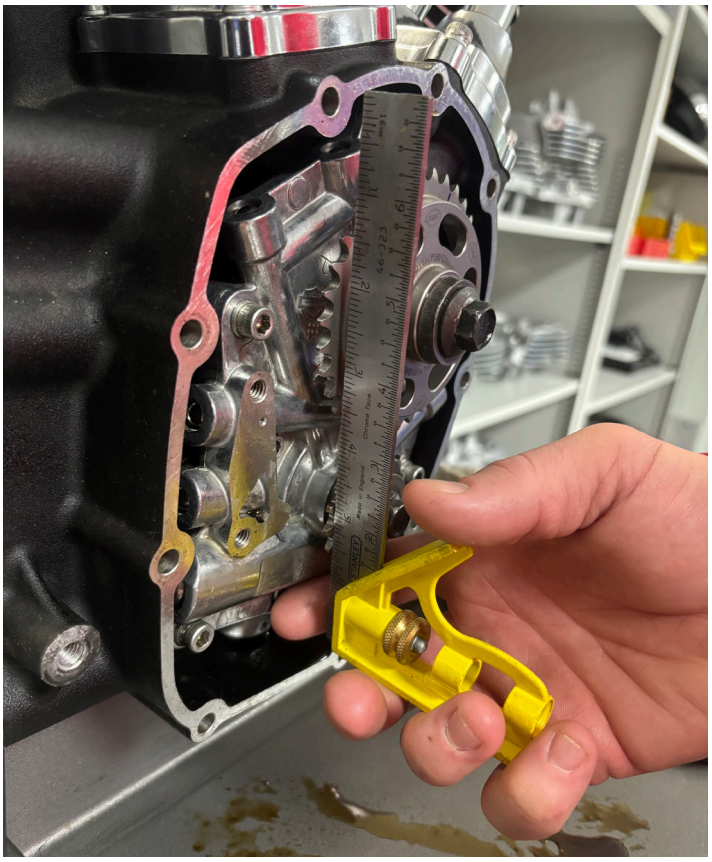
IMPORTANT NOTE: When installing the adjustable crank sprocket on the engine, it is important to verify the piston to valve clearance prior to starting the engine. Adjusting the cam timing will alter the valve lift at TDC and may create clearance issues.

Disassembly

1. Disconnect negative battery cable or pull main fuse to eliminate potential sparks and inadvertent engagement of the starter while working on the motorcycle.
2. Remove exhaust system and right floor board following factory service manual procedures.
3. Remove cam cover, chain tensioner, chain drive sprockets, and chain following factory service manual procedures.

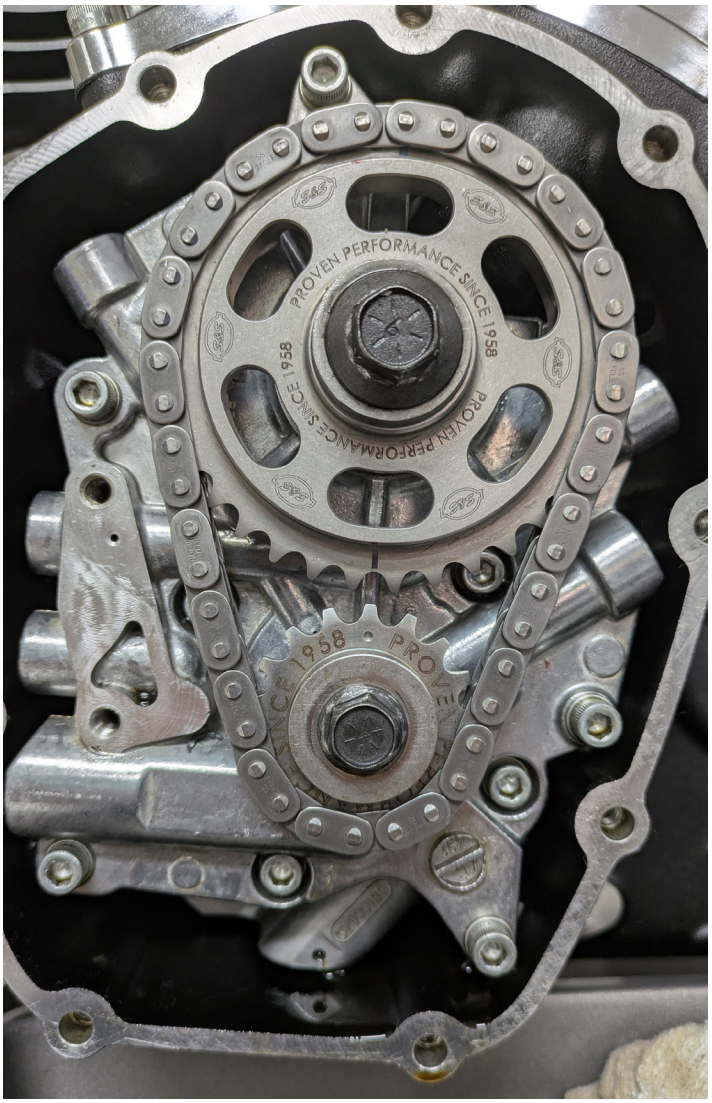
Assembly

1. If removed, reinstall camshaft sprocket spacer onto the camshaft.
2. Install the new S&S camshaft sprocket and OEM crankshaft sprocket without the chain. Snug the bolts to ensure the sprockets are seated.
   a. The S&S crankshaft sprocket is a light press fit and requires a puller to be removed. This step should be completed with the original crank sprocket.
3. Lay a straight edge across the teeth of both sprockets as shown in ***Picture 1***



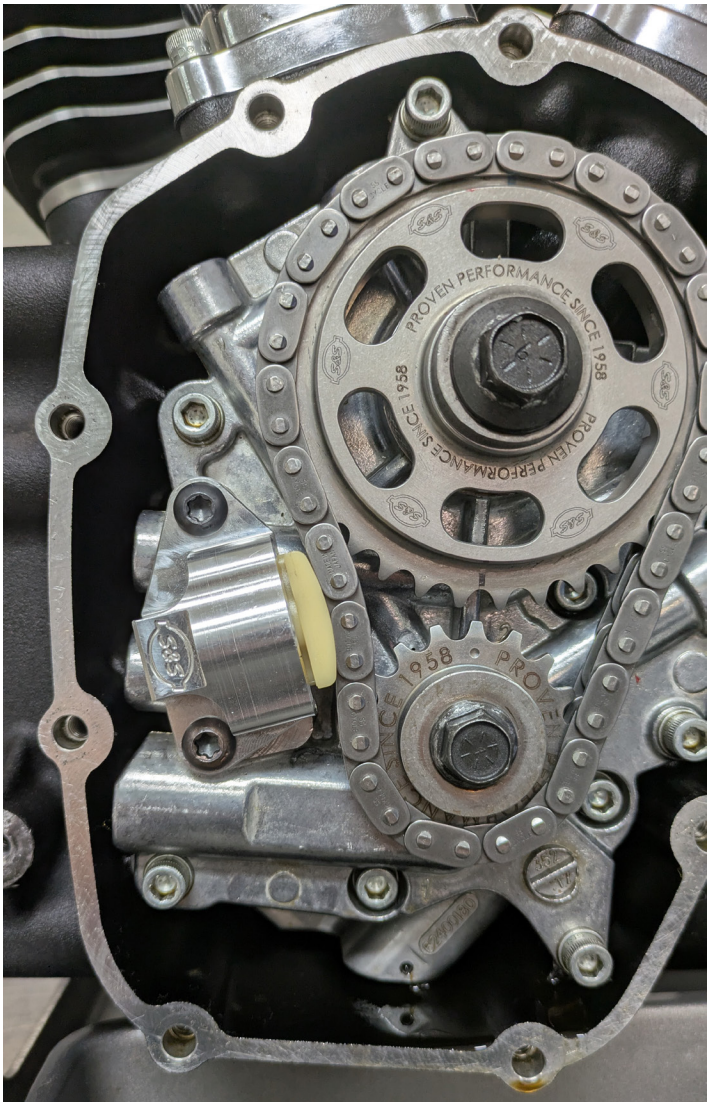
Picture 1

4. Measure difference in alignment between the two sprockets with a feeler gauge. Maximum allowable alignment is .009". If more than .009" alignment exists, it must be corrected by installing a thicker or thinner shim on the camshaft.
5. Remove cam and crankshaft sprocket.
6. Assemble camshaft sprocket and adjustable crankshaft sprockets with the chain as shown in ***Picture 2***. Timing marking must be aligned. Assembly with the "+" markings out will advance the timing 4 degrees, and assembly with the "-" markings out will retard the timing 4 degrees.



Picture 2

7. Install the chain assembly over the cam and crankshaft. Turn the camshaft so the wide tooth matches the wide space in the sprocket.
   Turn the crankshaft so the flat surface of the pinion shaft is facing up. Double check the timing marks still line up.
8. The S&S crankshaft sprocket is a much tighter fit and will require light tapping the sprocket on with a deadblow or nylon hammer. The sprocket can also be drawn on using the crankshaft bolt.
   a. Note: Ensure the backside of the crankshaft sprocket is seated against the shoulder on the crankshaft.
9. Apply a red thread locker to the crankshaft and cam sprocket bolts. Install the sprocket locking tool and tighten sprocket bolts.
   a. Torque: Camshaft bolt: 34 ft-lbs, Crankshaft bolt: 24 ft-lbs
11. Apply blue thread locker to the cam chain tensioner bolts, and install the chain tensioner as shown in ***Picture 3***.
   a. Torque - 120 in-lbs (10 ft-lbs)



Picture 3

12. Apply assembly lube or engine oil to the cam chain and cam chain tensioner shoe.
13. Apply blue thread locker to cam cover screws. Install cam cover, gasket, and screws.
14. Tighten cam cover screws to 10 ft-lbs (120 in-lbs).
15. Reinstall exhaust and right floorboard.
16. Reinstall any other parts removed from the motorcycle.

Safety and Warranty Info:

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.

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