



S&S® Adjustable Camshaft Sprockets for Polaris® ATV's and UTV's Kit (330-0753)

DISCLAIMER:

Many 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. 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.

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.

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 an 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.

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.

General

- The purpose of this kit is to allow for fine tuning of the valve events and must be checked with a degree wheel
- Altering the camshaft timing by advancing or retarding the valve events will change rpm at which the engine makes peak power and torque

Specialty Tools Needed

- Degree wheel and hardware to mount to crankshaft
- Pointer - Any type of metal wire or rod will work Dial indicator - One that reads in 0.001" increments Dial indicator stand
- Pison stop
- Service manual for the model you are working on

Caution

- It is the responsibility of the engine builder determine all clearances before final assembly
- Piston to valve clearance must be checked, a minimum of 1.5mm (0.060") is recommended
- A degree wheel is required to verify all valvetrain setups
- When working on a engine in a vehicle, disconnect the battery in order to prevent accidental engagement of the starter
- Use red threadlock on M6 socket head cap screws for cam sprockets and torque to 14 ft*lbs for final assembly

Adjusting Cam Timing

- The supplied camshaft sprockets are designed to accept removable timing inserts that will advance or retard the camshaft timing relative to the crankshaft depending on the insert used.
- The supplied timing inserts are marked as 0, +2, +4, +6, +8, and +10. When the inserts are installed with the numbers facing outward, they will advance (in crankshaft degrees) the camshaft timing by the indicated number.

Example: +2 insert installed with number facing away from cam=Advanced timing of 2 crankshaft degrees

- When the inserts are installed with the numbers to the inside (facing the camshaft) they will retard (in crankshaft degrees) the camshaft timing by the indicated number.

Example: +2 insert installed with number facing cam = Retarded timing of 2 crankshaft degrees

- General affects of Lobe Separation Angle
 - Narrower:** Increased overlap, Broad torque cure
 - Wider:** Decreased overlap, Increased peak power
- General affects of Advancing and Retarding camshaft timing
 - Advanced:** Moves peak torque lower to a lower rpm, improves low end throttle response.
 - Retarded:** Moves peak torque and power to a higher rpm

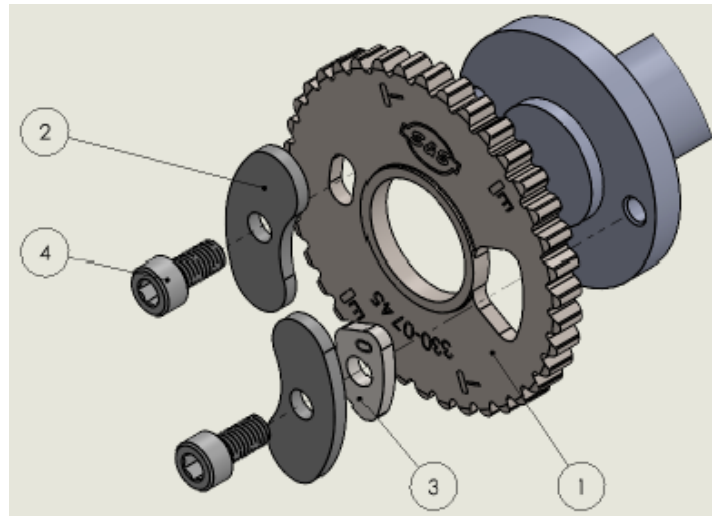


Figure 1: Exploded view of sprocket assembly

Item #	Description	Part #
1	Sprocket	NA
2	Retainer	330-0752
3	Timing Insert, 0 degree	330-0746
	Timing Insert, 2 degree	330-0747
	Timing Insert, 4 degree	330-0748
	Timing Insert, 6 degree	330-0749
	Timing Insert, 8 degree	330-0750
	Timing Insert, 10 degree	330-0751
4	Socket Head Cap Screw, M6 x 12mm	500-1521