

Instruction 51-1040
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Because every industry has a leader

S&S® Hydraulic Tappet PN 33-5342

DISCLAIMER:

S&S parts are designed for high performance, off road, 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 inhaled. 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 judgement when performing installation and operating motorcycle. Good judgement begins with a clear head. Don't let alcohol, drugs or fatigue impair your judgement. 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 inhaled. 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 suspected 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.

INTRODUCTION

S&S® tappets PN 33-5342 feature several significant improvements. Closer operating tolerances, redesigned roller-axle assembly and precisely metered oil supply make these tappets especially well-suited for high performance engines which utilize increased cam lift/duration and valve spring pressure and operate at high RPM.

Tappet 33-5342 can be identified by six small dimples in pushrod cup, large O.D. oil hole, special tru-arc style hydraulic plunger retaining ring and S&S logo with part number on side of tappet body. See **Picture 1**.



Picture 1

Installation and adjustment procedures are similar to previous S&S tappets with exceptions listed below:

- 33-5342 tappets are suitable for virtually all applications without S&S Hydraulic Lifter Limited Travel Kit recommended with previous lifters. If customer elects to install HL2T kit, PN 33-5338 designed for 1984-'85 Harley-Davidson® Evolution® engine tappets must be used.

NOTE: If HL₂T kit is installed, pushrods must be adjusted according to S&S Hydraulic Lifter Limited Travel Kit Instruction 51-1039.

- Because of reduced operating clearances, bleed-down time of 33-5342 tappet may be somewhat longer than with other tappets. Bleed-down averages 15-20 minutes with temperature 65°F or above but on some test engines has taken as long as 30 minutes. Lower temperatures will increase bleed-down time.

NOTE: See pushrod manufacturer's instructions for correct pushrod installation and adjustment procedures.

⚠ CAUTION

Rotating or operating engine with insufficient pushrod freeplay can cause extensive damage not covered under warranty.

ADDITIONAL INFORMATION

Even though 33-5342 tappets may retain a small quantity of fluid from pre-testing at factory, new tappets should be considered dry, meaning that bleed-down time will be substantially less than with subsequent adjustments after tappets have filled with engine oil.

Because of extremely close tolerances, S&S recommends that these tappets not be disassembled unless absolutely necessary. Even minute contamination can damage tappet and interfere with proper operation. If tappet must be disassembled, components should be meticulously cleaned with solvent and compressed air, moving parts given a thin coat of clean 20W50 engine oil and excess removed with clean, lint-free cloth prior to reassembly.

NOTE: If tappets are disassembled, care must be taken not to mix internal parts from different tappets as components are specially fit for optimum performance.

⚠ CAUTION

Mixing parts will alter operating tolerances which may result in loss of hydraulic function and damage to other engine components. In no case should pushrods be adjusted and engine turned over until tappets have been completely bled down and sufficient freeplay between tappets, pushrods, and rocker arms exists. Pushrods must rotate freely between thumb and forefinger.

⚠ WARNING

Compressed air and particles dislodged by compressed air can be hazardous, especially to eyes. Always wear protective clothing when using compressed air and direct air stream away from self and others nearby.