



**INSTRUCTION SHEET FOR PART #1820, #1821, & #1822**

**HYDROSOLID™ II TAPPET**

**\* This Tappet Replaces and Surpasses JIMS® No.1802 Hydrosolid®.**

No.1820 - Use on all Twin Cams® 1999-present, also Sportster® and Buell® 2000-present. Standard O.D. is .8420".

No.1821 - +.001" Oversize.

No.1822 - +.0015" Oversize.



**NOTE: FOR USE ON ADJUSTABLE PUSH RODS ONLY.**

Use with JIMS new No.1043 Twin Cam Tappet Cover when using any stock to mild lift cams.

**NOTE:** Hydrosolid® II must be adjusted as a solid lifter in a cold motor only. If you are unfamiliar with solid lifter adjustment, seek professional help. Otherwise serious engine valve train damage will result.

**NOTE:** The JIMS Hydrosolid® II tappet includes design parameters that may or may not affect your oil pressure. These performance tappets incorporate an "oil hole" to feed the tappet roller, axle and cam assembly. In test, JIMS has seen a slight drop in oil pressure ranging from 0-3 lbs psi. It is up to you, the mechanic, to confirm adequate oil pressure before and after installing these tappets.

**READ ALL INSTRUCTIONS BEFORE STARTING JOB**

**CAUTION:** Disconnect the ground cable at the battery.

1. Refer to H-D® Service Manual for tappet installation. If installing a cam and tappet blocks at the same time follow those manufacturers' instructions.

Note: As you are preparing the engine for the installation of the new Hydrosolid® II, place all 4 tappets in a clean container (plastic bag) filled with clean H-D® 20W50 oil to cover tappets, let them set for 20 minutes.

2. Place the front piston at TDC compression position.
3. With all four Hydrosolid® II Tappets installed, start with the front intake pushrod making sure tappet is at the lowest point on the cam.
4. Extend the pushrod adjuster screw to zero lash, you will be making the pushrod longer (no up and down movement, removing all free play without pushing the hydraulic unit down). See pushrod adjustment chart for your particular pushrod. Example: If your pushrods have 24 threads per inch extend pushrod 5 hex wrench flats.

Note: This will move the adjusting screw down, pushing the hydraulic unit down it's bore .0345", this will put the hydraulic unit about .014" from the floor of tappet. What we are looking for is the hydraulic unit resting on the floor of the tappet.

(This is just a starting point, the adjuster screw may need to be extended or shortened if the adjusting screw was either adjusted too far or not enough.)

This adjustment will bleed the Hydrosolid® II Tappet, which may take 5-15 minutes or longer to bleed off oil pressure. What we're looking for is a pushrod that just barely turns with your fingers. If after 15 minutes, if the pushrod still turns easily, (with your thumb and forefinger) extend the pushrod until you can just barely turn pushrod with your fingers. If you can barely turn the pushrods with your fingers and the Hydrosolid® II's are at the lowest point on the cam, then they have been adjusted properly.

**CAUTION:** If you cannot turn pushrod with your fingers DO NOT rotate engine.

POPULAR PUSHRODS		
JIMS® Pro-lite	24	No.s 2380, 2400
Slim Jims	32	No.s 2404, 2369
Andrews	28	
Andrews	32	
Crane	28	New Time Savers
Crane	24	Old Time Savers
Crane	32	
H.D.	32	
S & S	32	
Screamin Egl.	32	
Rivera	40	Taper Lite
Rev Tech	36	

**Note:** You can check your adjustment for all 4 tappets by performing the following: With the rear wheel safely off the ground (bike tied down), shift bike into the highest gear, have a helper rotate the rear tire forward just enough to see the front intake tappet start its move up in its bore (only allow the tappet to move up it's bore .100", almost the thickness of a nickel). Stop the rotation of rear tire and have helper rotate the rear tire backward just enough to see the front intake tappet start the movement back down and then back up it's bore no more then .100". As the tappet is moving up and down in it's bore (from the rear tire being rotated back and forth) you will need to be trying to turn that pushrod with your thumb and forefinger. If you find any free movement (turning) of the pushrod, take up this freeplay (by making the pushrod longer with the adjusting screw) until you can barely turn the pushrod with your fingers.

Do the above Note for the other 3 tappets.

6. Repeat exact procedure for the next three pushrods, making sure to be on the lowest position of cam for the tappet you're adjusting.

**MAINTENANCE FOR HYDROSOLID II™'S IS AS FOLLOWS:**

1. New motors, after the first 50 miles (at time of first oil change), check adjustment of pushrods. You should still be able to turn them with your fingers, if not, you will need to loosen the pushrod until it can be moved.
2. After 200 miles, readjust if needed and as needed until all your motor parts are seated.
3. Recheck as you would for solid tappets, at about 2,000 mile intervals.

PUSHROD ADJUSTMENTS FOR HYDROSOLIDS - A STARTING POINT ONLY				
Threads per inch	Hex Wrench Flats	Total Travel Distance	Distance Per Turn	Per One Hex Flat
24	5	.0345"	.0414"	.0069"
28	6	.0354"	.0354"	.0059"
32	7	.0364"	.0312"	.0052"
36	8	.0360"	.0270"	.0045"
40	8	.0336"	.0252"	.0042"
52	11	.0352"	.0192"	.0032"

**WARRANTY**

All JIMS parts are guaranteed to the original purchaser to be free of manufacturing defects in materials and workmanship for a period of six (6) months from the date of purchase. Merchandise that fails to conform to these conditions will be repaired or replaced at JIMS option if the parts are returned to us by the dealer (purchaser) within the six (6) month warranty period or within ten (10) days thereafter.

In the event warranty service is required, the original purchaser must call or write JIMS immediately with the problem. Some problems can be rectified by a telephone call and need no further course of action. A part suspected of being defective must not be replaced by a dealer without prior authorization from JIMS. If it is deemed necessary for JIMS to make an evaluation to determine whether the part is defective, it must be packaged properly to prevent further damage and be returned prepaid to JIMS 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 JIMS and the part was found to be defective, repair, replacement or credit will be granted.

**ADDITIONAL WARRANTY PROVISIONS**

- 1.) JIMS shall have no obligation in the event a JIMS part is modified by any other person or organization.
- 2.) JIMS shall have no obligation if a JIMS 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 part.
- 3.) JIMS shall not be liable for any consequential or incidental damages resulting from the failure of a JIMS 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 JIMS and a customer.
- 4.) JIMS parts are designed exclusively for use in Harley-Davidson® Motorcycles. JIMS shall have no warranty or liability obligation if a JIMS part is used in any other application.
- 5.) If it has been determined that one or more of the tappets needs to be returned to JIMS for inspection the following must be carried out before returning.
  - A.) As each tappet (one at a time) is removed from the engine it must be cleaned so it can be marked with grease pencil or a similar marker that will not come off during shipping.

**Caution:** Do not use a scribe, electric pencil or any other type of marking that will damage the tappets surfaces, all warrants will be void if any permanent marking is used.

- B.) Mark each tappet for its location i.e. front or rear, intake or exhaust; all marked for the side that was facing the cylinders.

Example: Rear Intake with a "C" on the side of tappet that had faced the cylinders, R/I/C

**Note:** If tappets have been revised and marked as above they will be repaired or replaced as required. If repaired and returned they must be installed in the same location they were removed from. If any are replaced they will be marked for there location.

Example: F/I, for front intake.