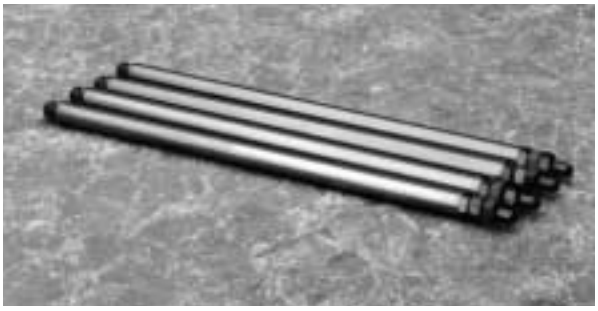
Instruction Sheet For Part #2369 & #2404

PUSHROD ADJUSTMENT				
Threads Per Inch	Wrench Flats	Total Travel	Distance Per Turn	Distance Distance Per Flat
32	18	.0937	.0313	.0052





1. Refer to Harley Davidson® Service Manual for specifications.
2. These pushrods were designed and engineered for use with JIMS® panhead and shovelhead tappets, #18522-53PG, 2459-1, 1029-53, and 1029-53B. Also stock style hydraulic units and some solid tappet kits.
3. If you are using these pushrods for JIMS® Tappets #18522-53PG or 2459-1, follow the adjustment instructions using the 32 threads per inch adjustment.
4. If you are using these pushrods for JIMS® Tappet Block Kit #1029-53B, follow the adjustment instruction also using 32 threads per inch adjustment. NOTE: This adjustment will make the pushrod tight which will bleed the hydraulic lifter. It can take 5-15 minutes, or longer to bleed off. It is very important that the engine is not rotated while pushrods are tight. The pushrod will spin with your fingers after the tappet has bled off.
5. Recheck lock nut, close covers and install clips.
6. Repeat exact procedure on rear set.
7. Turn motor over several times to pump oil into the Powerglide® Tappets, until the oil light goes out, or until oil is returning to the oil tank.

FOUR POSSIBLE REASONS THAT MAY KEEP NEW HYDRAULIC UNITS FROM WORKING PROPERLY

IMPROPER FIT • MECHANICAL • CONTAMINATION OF OIL SUPPLY • LOW OIL SUPPLY

1. IMPROPER FIT

a) Not likely, each unit goes through two separate dimensional tests. The fit is checked twice, to within .00015" to .0002".

b) Second, a hydraulic bleed down test is performed dry, then with 5 weight oil.

2. MECHANICAL

a) Not adjusted properly, readjust per instruction sheet. For 2459-1, the hydraulic unit itself needs to be at .100" ± .010" below snap ring. For 1029-53B kit the hydraulic unit itself needs to be .050" ± .010" below the snap ring. Some shovel models from 1978-80 have tappet blocks with oil drain holes too low. If running a higher lift cam than stock, and sometimes even stock, these blocks will allow oil pressure to bleed off from the tappets. This is most common in the front tappet block.

b) A bent pushrod, loose valve guides, a broken valve spring, a valve hitting a piston, a valve hitting a valve, a loose rocker bushing, a rocker tip wearing at the valve stem, and a lifter roller hitting the tappet block will all cause a noisy valve train.

c) Gear lash: If you did not change the cam at the time you installed new hydraulic units and had no gear lash, but a slight whine when motor was cold, it is safe to say you are OK in this area.

d) Broken hydraulic valve spring which is not allowing valve to seal. If this is the case the hydraulic unit will not hold oil pressure. We have not seen this situation on any of JIMS® hydraulic units.

To check this, hold pushrod with your hand (with lifter on the heel of cam valve shut) and push down on pushrod. Hydraulic unit will feel spongy. Do not mistake this for no oil getting to tappet. If all tappets are spongy, this is no oil. If just one tappet is spongy that has been readjusted, but will not pump up, replace the tappet.

CAUTION: Wear safety glasses. Excessive force may damage the parts! See JIMS® catalog for over 100 other top quality professional tools. The last tools you will ever need to buy.

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3. CONTAMINATION OF OIL

a) With contamination of oil, the hydraulic unit may work for a minute and then become noisy. Most of the time it is more than one hydraulic unit that will be contaminated to the point of being stuck in the downward position.

b) Readjust per instruction sheet. If hydraulic unit will not come back up to the top of snap ring, replace hydraulic unit and wash out the entire oil system. We recommend performing a oil sample test, JIMS® No.2399, to find the source and extent of the contamination.

4. OIL PRESSURE AT NORMAL OPERATING TEMPERATURE, AT ABOUT 2,000 R.P.M., SHOULD BE 12-35 P.S.I..

a) Check lifter filter screen (Big Twin).

b) Make sure you are getting oil to the lifters. Install oil pressure gauge for top end oil.

c) Lifter to tappet block clearance is best at .0007"-.0012".

d) Lifters work best with 20-50w motorcycle oil.

e) If lifters are quiet when cold or low r.p.m. and become noisy as r.p.m. is increased, there is not enough oil pressure or too much clearance from lifter to block bore (See "C").

f) To isolate a possible noisy hydraulic lifter, start with a cool motor and the lifter you think is making the noise. With that lifter on the heel of cam, valve shut, adjust pushrod so lifter unit is all the way compressed down (very important). This adjustment will make the pushrod tight which will bleed down the hydraulic lifter. It will sometimes take five minutes, or longer, to bleed down. Do not rotate engine while pushrods are tight. Go to the point where pushrod will spin with your fingers. Adjust down a little more until pushrod becomes tight (so you can just barely turn with your fingers). Start bike. If it is quiet, then you have found the lifter that was not working properly. If it is still noisy, continue with the next lifter until you have located the the noisy one. Readjust per instruction sheet, or replace lifter.

THE FOLLOWING IS SOMETIMES MISTAKEN FOR NOISY TAPPETS:

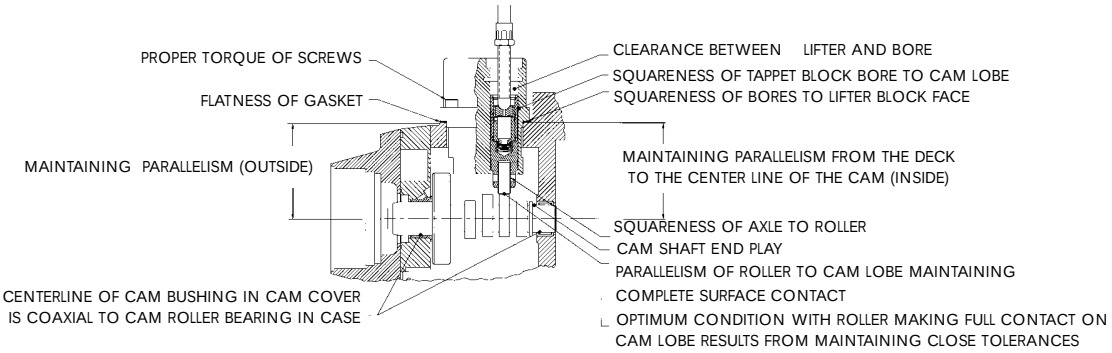
A. The most common being the clearance between cam gear and pinion gear (referred to as gear lash). If you did not change the cam at the time of installing this kit and had no gear lash but a slight whine when motor was cold, it is safe to say you are OK in this area.

B. Rocker arm end play .004" to .010" is good.

C. Oil pressure at normal operating temperature about 2000 r.p.m. should be 12-35 p.s.i. on Big Twin models, and 10-17 p.s.i. at 2500 r.p.m. on Sportster models.

D. Check valve to guide clearance.

CONGRATULATIONS



You and your Harley® have just taken the first steps towards owning the finest precision designed and engineered valve train components known to the Harley-Davidson® market. JIMS® tappets, tappet blocks and cam covers surpass the stock requirements and demands of the present and future Harley-Davidson® motorcycle.

To achieve the best life possible from this tappet (or any other valve train part) you must be aware of some very important issues.

1. Clean! Clean! Clean! You must use the best possible oil and oil filter available for your Harley-Davidson®. Use only motorcycle or air cooled type engine oil. No Substitutes!
2. If these tappets are being installed in a motor that has had motor problems, or was rebuilt, wash out oil tank, oil feed lines and motor.
3. If these tappets are replacing a previous tappet and cam problem, please make sure you know what caused the problem in the first place.
4. First concern: The tappet roller must seat flat on cam. JIMS® tappets are square from the tappet body to the axle bore within .0002". If the roller is not seated flat on the cam, it will fail within a short period of time.
5. Second concern: Squareness of tappet block bore to cam lobe. JIMS® tappet blocks are machined to hold the bores perpendicular to the mounting flange within ±.0002 of an inch.
6. The next important concern is alignment of the cam itself. First, the cam will be, or should be, parallel from the two bearing journals to the lobes within ±.0002" (this is just the cam). With the cam installed in the motor this can be a lot different. For this reason, JIMS® has a precision machined cam cover to hold your cam to within .0002" of cam centerline.

As you can see from some of the examples, there are a lot of possible reasons for your valve train to have a shortened life. For this reason JIMS® is continuously helping you achieve the longest possible life for your valve train.