

Valve Adjustment

(Supplement to other adjustment articles)

Ok folks, if I have to explain, how to take your tank and seat off, then, you may want to have someone else do your valve adjustment, LOL ! !

All-right-tee then. Here we go:

Running the engine for a few seconds insures the lifters are pumped up, (Not enough to get the engine HOT).

If you have stock coils, then taking them off, is not necessary, BUT, taking the plug wires and tying them up, will get them out-of-the-way.

Remove ALL 4 of the plugs, (Now's a good time to change them, if you need to). If you're going to change the plugs, PLEASE, gap them at .032 or .033. The shop manual has the correct gap settings, while the owners manual is WRONG. (Don't put the new ones in, yet).

All right, we've got the tank and seat off. We've got the plugs out, and the plug wires 'up' out of the way. We're staring down at the top of the motor.

LOOK at all them allen bolts ! If you've got a shop manual, NOW, would be a good time to look on page 5-26, fourth picture from top. See bolts #3, and #4? We'll get to them later, <tee-hee>.

Lets start on the front cylinder first, OK?

Loosen the allen bolts ¼ turn, at-a-time, till all are loose. (The reason we do this, is, because with a well made metal gasket, (like the ones in our engine), loosening 1 bolt all the way out, before you get to the others, will 'possibly', put a slight, low/bow, spot in the gasket. (Allright, I'm 'anal' about nit-noy things, BUT, this is my friggin article, LOL).

With all the bolts loosened, (14 of them, per rocker cover), the #3, (2 each), and the #4 bolts, (4 each), may be taken completely out. Why, you ask? Because these are the longest bolts. With these bolts completely out, the rocker/head cover will lift up, and out, without the long shanks of those bolts, getting in the way. You'll see.

OK, now lift 'CAREFULLY'! You may have to 'tap' with a soft rubber mallet, to get the gasket to let go. Stick an eyeball in there, (as you're lifting), and 'watch' for the 2 dowel pins. They're sneaky! !

Most of the time, the gasket will come off with the cover. Just be sure that you don't, kink it, or bend it. We'll get to cleaning it, later.

Got the cover off, and laying on a clean surface, (yea, I know, I forgot to tell you, ahead-of-time, about the clean towel; Sorry !!). Put the #3 and #4 bolts back in to their appropriate places.

We're now looking at the rocker/head spacer, and the innards of the rockers and pushrods, huh? There are 'ONLY' 6 allen bolts holding the spacer on. Page 5-26, second picture from the top. Remove these, as you did the rocker cover bolts. You can actually take these all the way out, if you wish. They're all the same length.

'CAREFULLY' lift, (with gentle tapping, remember?), the spacer, 'REMEMBER' there are 2 more dowel pins, under the spacer!

Place them on the clean towel, next to the rocker cover. Don't they look pretty? Yepper, gotta clean them little nooks and crannies, later, huh?

WOW, we got to where we need to be, huh? Open up that favorite beverage, and have a few swallows! You deserve it !!! Remember, just one. We still have lots to do.

Got the rocker off. Got the spacer off. No dowel pins missing, right? Gaskets still intact and serviceable.

Now to set the valve train up, to adjust the valves.

We're going to put the bike in gear and push! While we're doing this, we're watching the pushrods go up and down. This is the reason for not putting the plugs back in. It doesn't take a lot of pushing/bumping the bike, to get the pushrods/lifters, to the bottom of the cam, so, PLEASE, don't race around the yard, while watching the valve train work, LOL.

With the pushrods/lifters at the bottom of their cam position, (or, your pretty sure it is), take a 'PLASTIC' straw, and stick it in a spark plug hole, (to 'see' if the piston is all the way up, or close). With the piston at the top, you're ready to adjust the valves. You can take the straw out, now.

Loosen the lock nut that surrounds the adjusting bolt. (page 3-8, 1st and 2nd picture, is kinda a cute rendition). With the lock nut loosened, you 'should' be able to turn the adjusting nut. Back it out till there's clearance, then, slowly, turn it in, till it touches the top of the valve. Tighten lock nut.

Note; I found that ‘touching’ the adjuster bolt, to the top of valve, works fine for my M*. I don’t have to hold the adjuster, while tightening the locking nut, because, (on several of these bikes, that I’ve done), the adjuster bolt, stays in place, while being locked down.

You can get the thinnest feeler gauge, (.0015, I believe), you can find, and ‘see’ if it goes under the opposing rocker/valve. If it does, then, you have the adjuster ‘touching’ too much. Have to back off and try again. The adjuster, verses the other valve rocker, is a ‘see-saw’ effect. If you tighten down too much on the adjuster bolt, then, it ‘lifts’ the other rocker. Why Yammie wanted to do it this way, is a puzzlement to mankind, huh?

OK, you’ve got them adjusted. Now, to put it back together.

*Note; This is a good time to clean the outside portion of the chrome rocker & spacer covers. With the chrome cleaned, lets work on the gasket surfaces. With a ‘plastic’ scraper, you can get the rubber residue off, fairly easy. Don’t worry about the gaskets losing any of the rubber material. The metal gaskets ‘seal’ because it’s metal, and are reuseable, over and over again, (If your careful not to bend or kink them).

With the 2 dowel pins in place, AND, the gasket in place, lower the spacer down, till it seats. Put your 6 allen bolts, back in their appropriate positions. Screw them in until they ‘just’ make contact. Tighten ¼ turn at a time, till they’re all nice and ‘snug’.

*Note; Do I need a torque wrench? Well, the answer is: Yes & No. If you have one, then, 7.2 ft lbs, is recommended. If no, then, get ‘use’ to what 7.2 lbs is, by; Pick a bolt, on the top side of your clutch cover, and ‘feel’ the pressure while loosening. And, you can pick another bolt, (on the top portion of the clutch basket), and, ‘feel’ the tightness of it, by trying to tighten an already tightened bolt. It won’t ‘move’, much. By practicing on the top portion bolts, of the clutch basket, you won’t risk a leak, AND, it’s good practice.

Tighten away, IN A CRISS-CROSS, or ‘SPREAD’, pattern. I normally tighten from the inside, to the outside. Others tighten from outside, ‘in’, towards the center. Guess it doesn’t really matter much. Just ‘have’ a pattern to work with, keeping in mind, you’re ‘spreading’ the gasket, as you tighten. (Guess that’s about the best way, to put it).

Got the spacer on. Got the gasket surfaces clean, (for the rocker/head cover). Got the chrome, nice and shiny. Got the 2 dowel pins in. Got the gasket placed onto the spacer.

*Side Note; Forcefully grab the chrome rocker box, and give it a big kiss, and tell her, how much you love her, (This always helps, followed by a slurp of 'favorite beverage'), when putting everything back together, for perfection, in engine enhancement, and operation, LOL.

OK, take the #3, (2 each), and the #4, (4 each), bolts back out, of the rocker box, before placing on spacer. **Remember, these are the long shank bolts.** Place the rocker cover down on the spacer. Put the #3 and #4 bolts back in. Tighten all bolts, till snug. Again, work in a pattern of tightening, 1/4 turn at a time. Tighten/Torque, them down, in a pattern.

Wallah ! ! ! ! Now, for another beverage ! ! !

Place a wad of paper towel, or clean garage cloth, into the crevasses of the spark plug holes. While working on the rear cylinder, 'try' to remember to take them out of there, prior to bumping the bike in gear, (to get the low side of the lifter/valve train).

*Note; The only thing different for the rear cylinder rocker/head cover is; There is an oil vent hose, and a crankcase breather hose, to take off, and position, out of the way. Other than that, you're doing the same thing to the rear valve adjustment. The rear rocker cover has even a smaller amount of room to lift off, and move out of the way, SO: It's really important to take out the #3, (2 each), and #4, (4 each), bolts out. Because of the backbone of the frame, 'being extra careful', in removing the rocker cover, is most essential. **WATCH FOR THOSE DOWEL PINS ! !**

Once the job is finished, a 'start' of the engine is in order. Here's a few questions, you might have;

Q. I can't really tell any difference. Why?

A. Well, some engines will have a 'tick' to them, because they may need an upgrade in lifters and pushrods. Others will keep the 'tick', until the right oil is discovered, which will flow into the lifters a little better. Either way, you also, may have just put the adjusters back in the same position they were at, to begin with. Happened to me on the front exhaust cylinder, first time I adjusted them, LOL.

Q. Really quieted them down, but, now, I'm getting a different noise from the front of the engine somewhere. Why?

A. You're now picking up 'other' noises, such as gears meshing, or slight looseness, in the stator cover area. That's another reason I love this engine so much; It 'talks' to you, in some way or manner, to tell you it's happy!

Not making excuses folks, just don't be surprised, if you have a slight 'ticking', and it doesn't go away with an adjustment. If yours is a full, blown 'clacker', then, HELL YES, it's going to improve, LOL.

Another thing is a rich burning engine. It carbons up the valve stems, and makes for other problems.

Oh yea, re-gap the plugs, or put fresh plugs in, with correct gap.

Hope this makes for an easier adjustment. NOW, drink the rest of those beverages, with PRIDE, LOL !!!

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