

 **11 34 004 Adjusting valve clearance**

Preparatory work

Fitting the auxiliary stand

Removing both primary spark plug ignition coils

Removing cylinder head covers

Core activity

(-) Setting engine to firing TDC

- Engage the highest gear and turn the rear wheel until the piston of the cylinder in question is at firing TDC (TDC = top dead centre).



Note

If you remove a spark plug from each cylinder, you will find that the engine is easier to turn.

» The inlet and exhaust valves in the cylinder concerned are closed; those of the other cylinder are at overlap.

- You can make sure the cylinder is at TDC by inserting locating pin (No. 11 2 650).



(-) Adjusting valve clearance

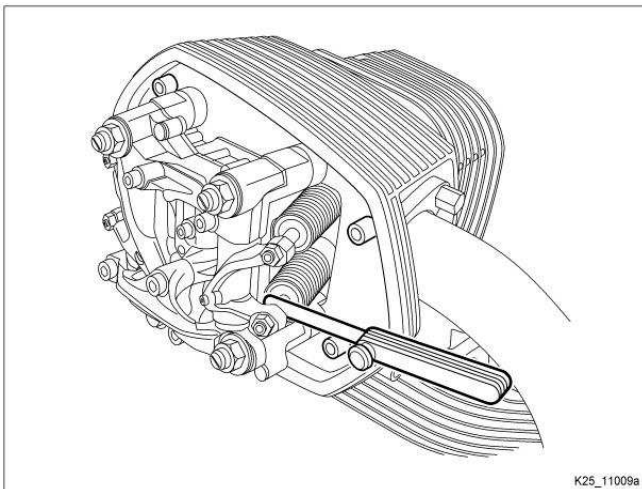
Test


- Measure valve clearance with feeler gauge.



Note

You should feel slight resistance as the blade of the feeler gauge slides between the valve stem and the rocker arm.




 Technical data			
Inlet valve, valve clearance	Engine cold max 35 °C	0.15 mm	
Exhaust valve, valve clearance	Engine cold max 35 °C	0.3 mm	

Result: Valve clearance is out of tolerance.

Measure:

- Correct valve clearance with adjusting screw and tighten locknut.

 Tightening torques		
Locknut, valve adjusting screw, M6x0.5	8 Nm	

- Recheck valve clearances.

- Set the valves actuated by a common rocker arm to exactly the same setting.
- Check valve clearances and adjust if necessary and, repeat the same procedures for the second cylinder.

Finishing work

Installing cylinder head covers

Installing direct ignition coil

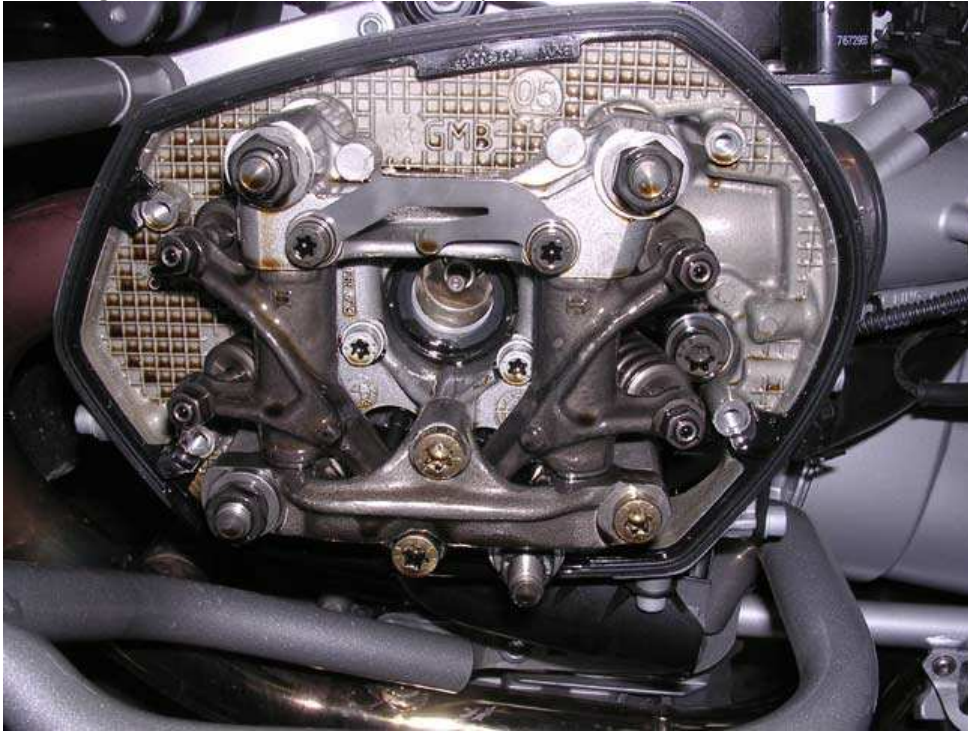
Removing the auxiliary stand

Final check of work performed

R1200GS 6K Service done, with pics.

Today I did the 6K on my not so new 12GS. It was almost exactly the same as my previous 11GS and 11RS, so there were no real surprises.

I am using a modified Anton Method, created by Shane.

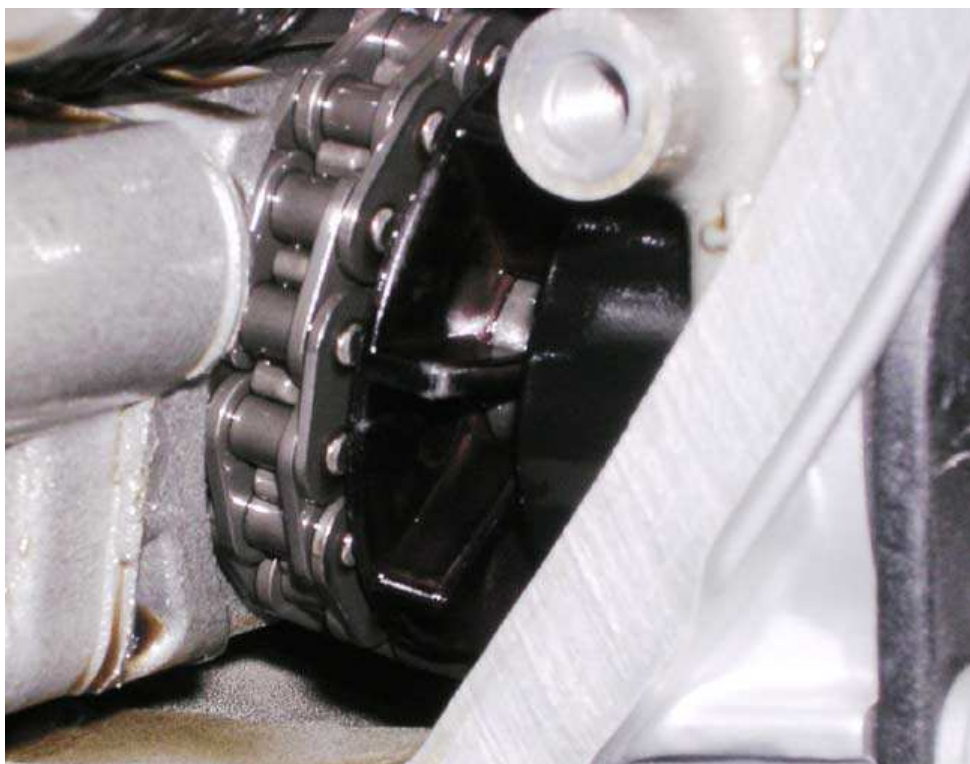


The cover came off the same as the 11GS, and easily cleared the H&B crash bars.

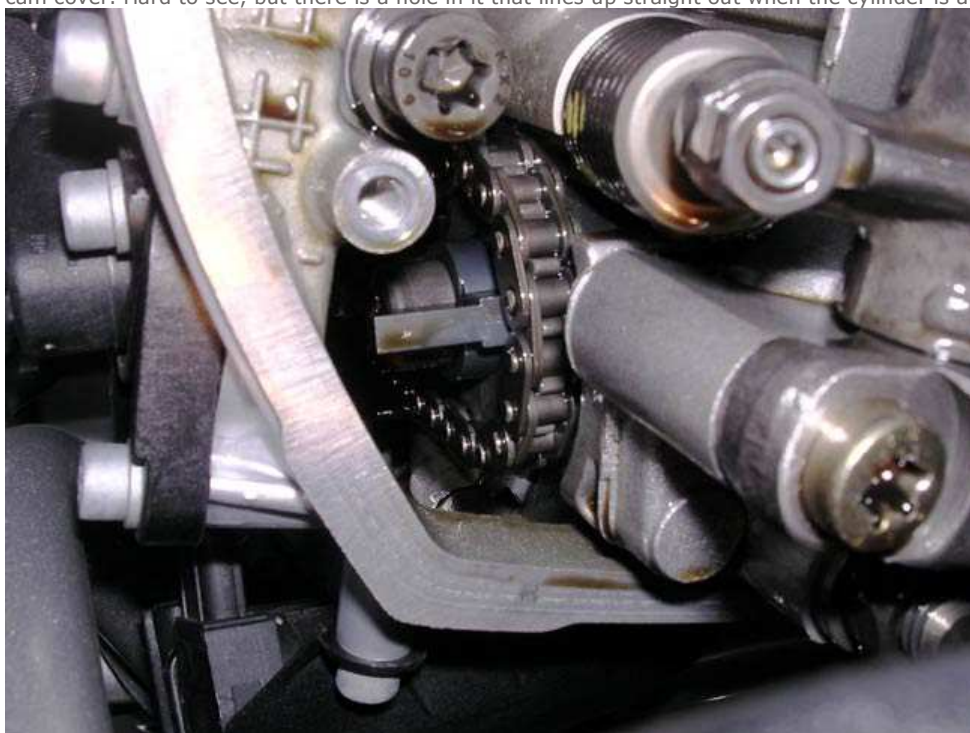
However, the front engine cover would not even come close to coming off with the crash bars, so I pulled the plugs and rotated the engine using the rear wheel with the trans in 6th gear.



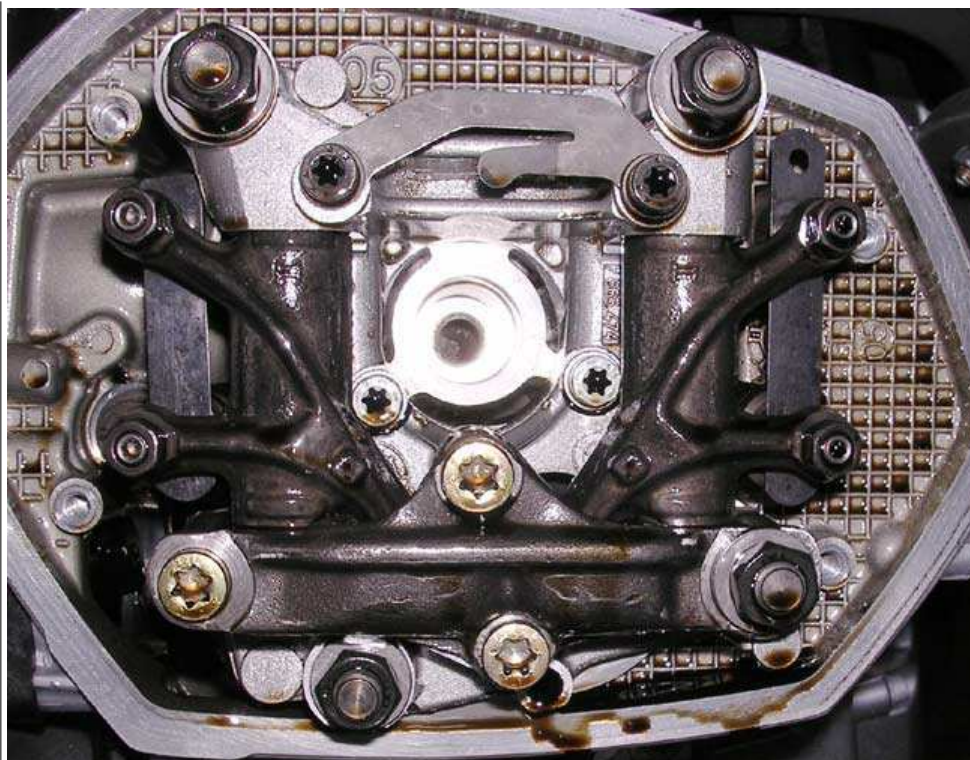
The right side of the 12GS has a cam arrow like on the R11 series, and it worked the same way. Have the arrow point straight out, and check the valves to make sure both intake and exhaust are loose. If not, rotate the engine so the arrow comes around again.



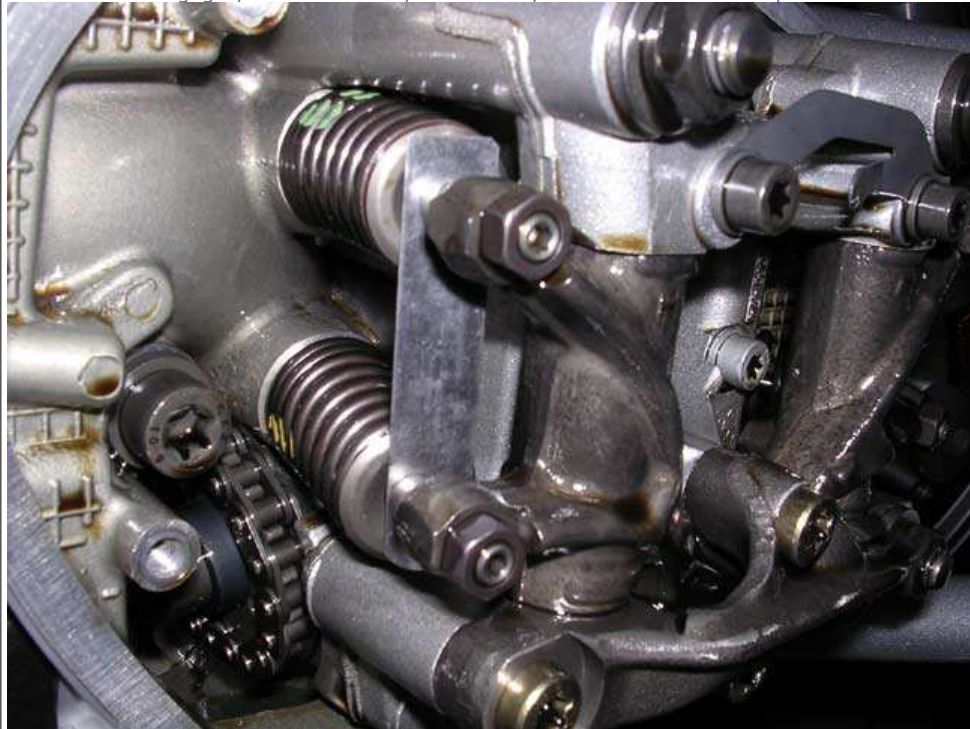
The left side had this attachment to the cam, I think it was some sort of position sensor since wires were attached to the cam cover. Hard to see, but there is a hole in it that lines up straight out when the cylinder is at TDC.



If you look back over on the right side, this is what you see when the left is at TDC, if the valves aren't loose to the touch, rotate the engine so the cam rotates 360 degrees.

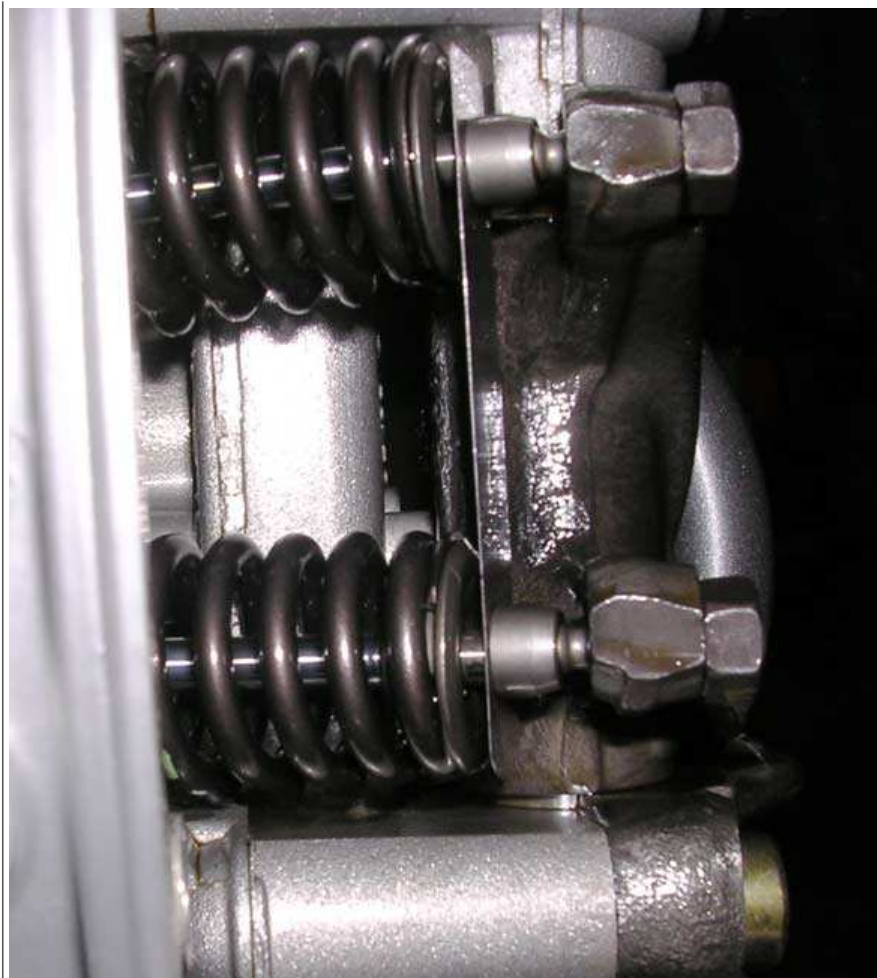


Insert the feeler gages, same as the 11/1150 series, .30mm on the exhaust, and .15 mm on the intake.



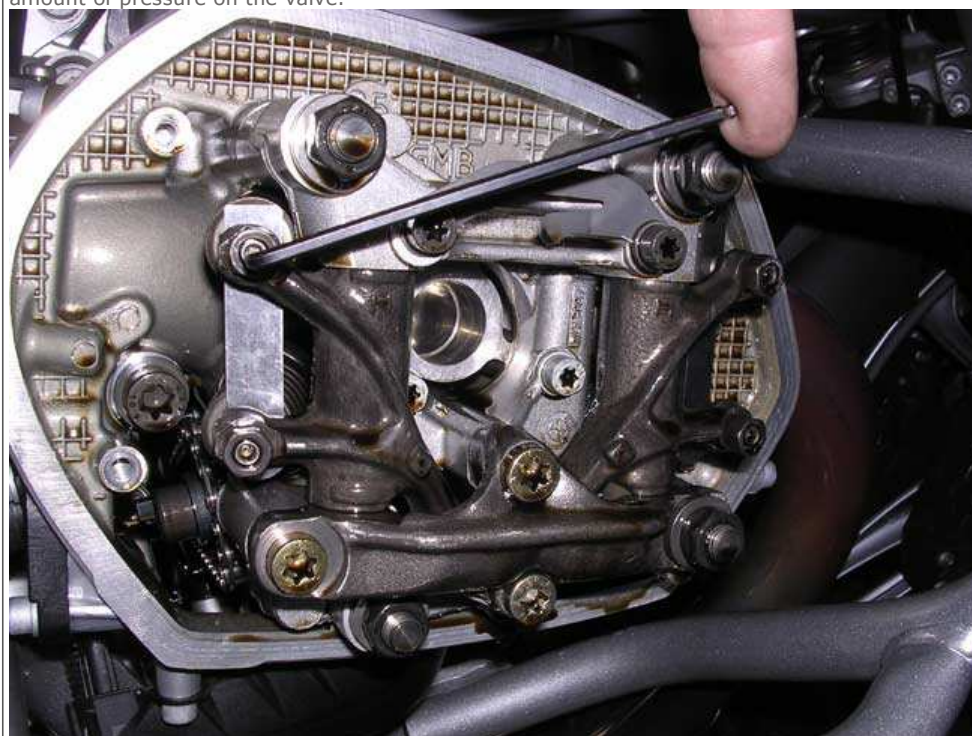
Intake side.

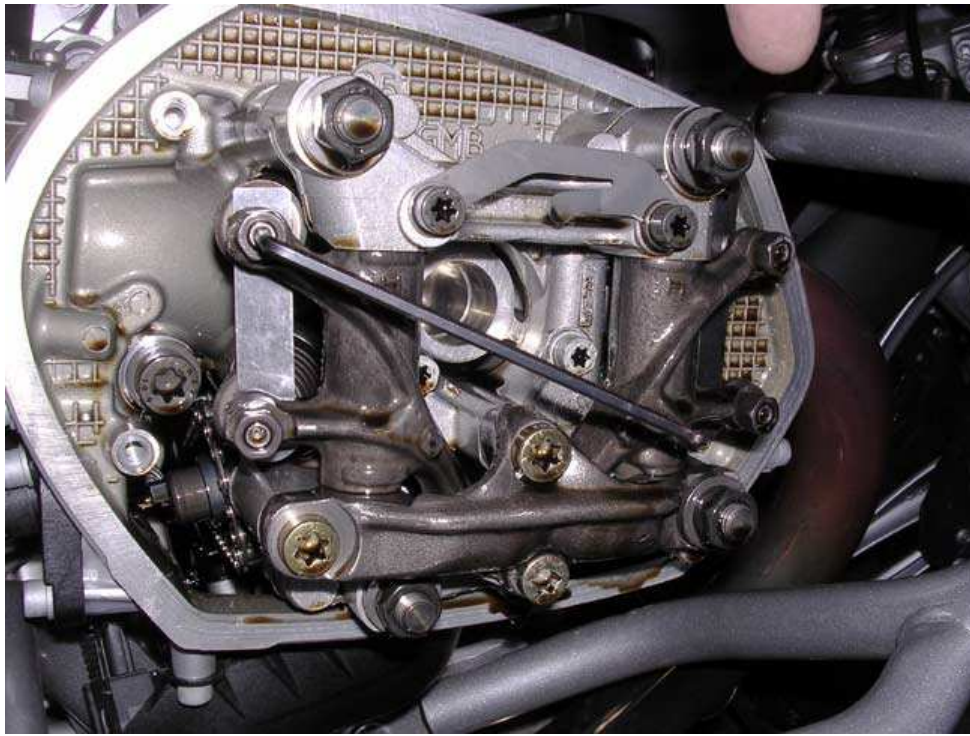
The exhaust side looks similar. Make sure you have both sides in, and all 4 valves covered when you get set to adjust the valves.



As you can see, the valves are parallel enough that no significant stress is placed on the feeler gages, and an accurate measurement is easily achieved.

First loosen the locking nuts, then insert the 3mm allen wrench and back off the adjustment approximately 1/4 turn. Ensure the allen wrench is near the top of a gravity stroke, then let it go. Gravity and resistance will stop it with the right amount of pressure on the valve.





Tighten the lock nut without disturbing the position of the allen wrench. I hold it in place and tighten the locking nut. Pull from the center, and if the resistance is even, you have the adjusted correctly. There should be some slight resistance, but it should be easy to move the feeler gages.

Rotate the engine and do the other side.

I changed the oil and filter, warmed up the bike, and did a TB sync of just just the cables, since the idle is done automatically.

I also checked all the nuts and bolts, and made a few adjustments. Everything looked good, and the bikes runs as good as ever.

One note though, two of the exhaust valves were very tight, probably from the dealer doing the 600. Glad all my future service will be from me only! Except warranty repairs of course.