## **CHECKING / ADJUSTING VALVES on Suzuki DR650**

Credits:

Inspired by instructions in Suzuki shop manual and two threads on Thumpertalk: Member "Clear-a-Path" wrote some of this here: <u>http://www.thumpertalk.com/forum/showthread.php?t=414189</u> Member "DRpilot" wrote some of this here: <u>http://www.thumpertalk.com/forum/showthread.php?t=562905</u>

## **PROCEDURE:**

1. Remove the side covers, one screw per side, slide forward 1/2" and pull down.

2. Remove the 12mm blots holding the seat and remove the seat by sliding it back, then upwards.

3. Remove the two bolts holding down the tank. Keep the petcock in the "ON" position and remove the vacuum hose (the smaller hose that does not go to the carb). Remove the fuel hose from the petcock (a little fuel will come out).

## Leave in on or reserve position



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Some gas comes out

4. Remove the tank by pulling it back. Remove two rubber pieces where tank screws in. They are just sitting there and can slide off easy.



5. Clean off valve covers before removing. Unhook the sparkplug cables. Clean off around sparkplugs. You might have mud or other stuff caked in there. Get it all out around plugs! When you take the plugs off, you don't want stuff falling in. Toothpicks and/or Q-tips and a can of compressed air will help!



6. Remove the valve cover caps, they each have two bolts. When covers come off, watch for the rubber seals. If it breaks... get a new one. You'll see the rocker, it has two arms, each arm has a bolt with a square head and a lock nut which tightens it against the arm. At the bottom end of each threaded adjuster is where they contact the valve stem. Remove sparkplugs. Here you can see the valve cover caps and seals:



7. On the left side of the bike locate and remove the crank cover and flywheel view port cover, one is an 8mm and the other 10mm hex. If the 10mm does not go off or it strips, you can still do this...



8. Put the bike in neutral. Use a 17mm socket to turn the crank COUNTERCLOCKWISE. Do this a few times and watch the rockers open and close the valves. Also notice through the flywheel view port the "T" with a line on the left side of it is stamped into the flywheel. When you see the "T" in the window and both rockers are not compressing the valves you have reached TDC.

NOTE 1: If your 10mm hex stripped and you could not get the cover off, you'll have to lift the back wheel off the ground and while bike is in gear, turn the wheel to turn your engine.

NOTE 2: There are TWO TDC positions and you have to get the right one... I edited the explanation made by member "DRpilot":

A way to find the TDC compression position (where adjustment should be made) is to remove the rocker covers and watch the rocker arms as you turn the engine over by turning counterclockwise or turning the wheel. When the TDC mark on the crank comes to the hole, continue turning the engine slowly while watching the rocker arms. If they DO NOT MOVE at all as you continue turning, this was the position where adjustment needs to be made. The other TDC is when the valves are in the overlap position. You will see the exhaust rocker arm just closing and the inlet rocker arm just opening and no valve clearance at all. So keep turning the engine until you get to the desired TDC. If you see the wrong one, then the next one will be the right one. If you just missed the right one, then keep turning through the next one and stop at the second.

![](_page_11_Picture_0.jpeg)

9. Loosen the lock nut and adjust using a "feeler", make the gap on both intake as close to each other as possible and same within the exhaust side. Check the manual for the spec or follow Jesse's suggestions. You *DID* get the kit from him to make this adjustment, right? I <u>http://kientech.com/ValveAdjustingToolKit.htm</u>

![](_page_13_Picture_0.jpeg)

10. After all done, put it back together. Be careful putting sparkplugs in so they thread right. I suggest anti-seize on plugs as well as little on valve cover cap screws. Spray a little WD-40 into the sparkplug cable ends before putting them on. Bike might be harder to start than usual, that's normal as you interrupted the gas flow etc...

If questions, PM me on Thumpertalk: bigboy292000