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GOLD VALVE CARTRIDGE EMULATOR

HONDA GOLD WING 1988-2000 GL1500

<IP FEGV S4104.doc> **FEGV S4104** P Thede © 10-28-05 M Wiley update 6-24-09 2 pgs

TOOLS REQUIRED - Deep 8 mm Allen Socket, air impact, 5/16" (8 mm) drill and drill motor, tape measure (metric/inch), Ultra Slick US-3 (15w) Fork Fluid

1 ***Remove the forks from the bike and disassemble them***. **CAUTION: IF YOU ARE UNFAMILIAR WITH THIS PROCESS, STOP! SEEK OUT A QUALIFIED SUSPENSION TECHNICIAN.** Remove the fork caps. **NOTE: Use extreme caution when removing the fork cap as there is a lot of preload force on it and could release with a lot of velocity causing injury.**

2 ***Completely disassemble the forks***. An air impact will help in removing the damping rod bolt. Before disassembly, use a drift and beat on the damping rod bolt to loosen the threads. You will need a long 6mm Allen socket. Remove the damping rods by removing the wire circlips with the washers and the bottoming cone and sliding them off the end. Be careful to maintain proper orientation of all the parts as you take them off. Turn the fork tubes over to remove the rods.

3 ***Drill additional compression holes in the damping rod***. You will add four 5/16 inch (8 mm) holes. Two at 68 mm (2 3/4") from the bottom (small end) and two at 78 mm (3 1/8"). The exact size of the holes is not critical. It is only important to have enough flow, more than enough does not hurt. Each set of two holes must be perpendicular to the last set so as not to weaken the rod. (See Drawing) After drilling, deburr the compression holes, inside and out. Leave the rebound hole(s) stock and do not chamfer them or add any. NOTE: With the Emulators installed the anti-dive is unnecessary and is disabled. Remove Bypass Plates.

4 ***Install the new Super Slick Bushings.*** Reassemble the forks without springs and oil. Reinstall the top-out spring and bottoming cone. The bottoming cone is held in place with a circlip. Consult manufacturers specs for damping rod bolt torque.

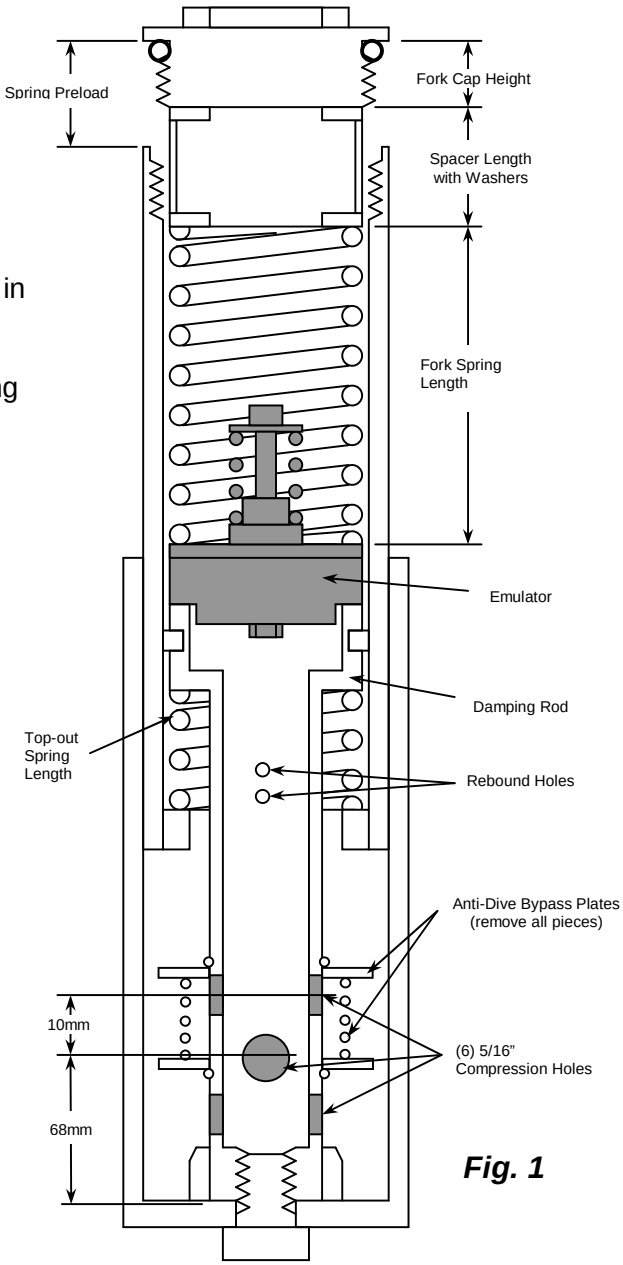

Fig. 1

5 ***Install Ultra Slick US-3 Suspension Fluid (15wt)*** and bleed the forks by pumping them. Check the setting on your Emulator and check the tightness of the jam nut. Before setting the oil level, drop the Gold Valve Emulator down the tube. It sits on top of the damping rod with the valve spring facing up (and is held in place with the main spring). Set the oil level to 130 mm (5.1") from the top with the forks collapsed and the springs out.

6 The stock springs are too soft. This kit provides a stiffer spring rate of 1.0 kg/mm, which is excellent for most riders. It requires 35 mm (1 3/8 ") of total preload for proper operation. Preload is the amount the spring is compressed when it is installed. The 138 mm (5.4") preload spacer included is precut for 1995-2000 models & produces approximately 35 mm of preload. *For early models modify the spacer as needed to provide 35mm of fork spring preload.* Make sure you install spring washers (provided) at both ends of the preload spacer. The preload spacer must not sit directly on the spring or the fork cap***.*** ***UNFORTUNATELY YOU CANNOT USE PROGRESSIVE SUSPENSION BRAND FORK SPRINGS WITH THIS KIT as there is not enough clearance on the inner diameter of the spring.***

7 Before installing the forks on the bike push on them, ***checking for any unusual drag or bind*** that would indicate an improperly seated Emulator. Install the forks on the bike following the procedure outlined in the shop manual making sure the tubes are aligned. Tighten all bolts including the brake caliper bolts. Pump up the brakes. Enjoy!

TUNING NOTES

To adjust the Gold Valve Emulator, simply remove it from the fork to make changes (you don't have to remove the forks from the bike in most cases). Remove the springs using a twisting motion to avoid oil drips. To remove the Emulator, use a parts grabber and pull it out. Or use a 1/16" (1 mm) welding rod with 1/4" (6 mm) of both ends bent over 90 degrees into an "L" shape. Push one end into the rebound check valve slot and turn it 90 degrees to hook the Emulator. Make your valving changes and be sure the jam nut on the Emulator is tight using a socket.

TUNING VARIABLES

VARIABLE	*STANDARD*	*OPTIONAL*	*PRIMARY EFFECT*
Valve Spring Preload	3 Turns	0 to 7 Turns	Overall firmness, controlling a mushy feel and the speed the front end dives under braking. **4 turns of Valve Spring Preload for Racing or for heavy riders.**
Oil Viscosity	US-3 (15wt)	US-2 (10wt) to 30wt	Use oil viscosity to set rebound, this affects traction and stability. Heavier oil equals slower rebound, lighter oil equals quicker rebound.
Valve Spring Rate	64 lbs/in (Yellow)	26, 40 or 64 lbs/in	Overall firmness and the ride on square shaped bumps. Note that most 33-36mm vintage forks work better with the 40lb/in spring at 2-4 turns
Emulator Valve Plate Bleed Holes	2 bleeds	Additional bleeds as desire up to 4 total	Initial fork movement low speed damping & plushness before valve plate opens; small bumps, chatter, etc.

* Measured from zero preload (no tension) on the Valve Spring. To find zero preload back off on the adjuster bolt until the spring is loose then tighten it until the spring just touches. Use oil viscosity to set the amount of rebound damping, then adjust the compression with the Emulator settings. The Emulator does not affect rebound, however oil viscosity does. The primary compression adjustment is the amount of Emulator Valve Spring Preload. Increasing Valve Spring Preload makes the fork stiffer. The effect of all the variables will overlap providing extreme tuning flexibility.

Please call the Technical Support Hotline 951.279.6655 for assistance. You may also visit www.racetech.com product search for your model; see the Fork Comments at the top of the page for details on your model.