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FORK GOLD VALVE INSTALLATION – DIRT 20mm

90-00 XR600, 86-87 CR

<IP FMGV 2042w.doc> **FMGV 2042** P Thede © 12.5.15

TOOLS REQUIRED: (In addition to those required for fork disassembly.) In-lb Torque Wrench that accurately measures 0 to 50 in-lbs (0.58 kgf-m), 1/2" Wrench, Hi-Strength Loctite (included), Metric Calipers, Metric Micrometer 0-25 mm.

NOTE: Most riders require different fork springs. Please consult www.racetech.com or call Race Tech.

DISASSEMBLY

D1 Completely disassemble and clean your front forks. ***If you are unfamiliar with this process, STOP! Do not proceed. Seek out a qualified suspension technician to complete the installation.***

D2 ***Remove the retaining ring*** from the bottom of the cartridge (it is usually finger tight). You must use either a very large screwdriver, a special removal tool or you can sometimes get away with using three screwdrivers (one in each slot and the third used to twist the other two). ***Remove the stock compression valving holder and valving stack.*** (You can push it out with the rebound rod.)

VALVING

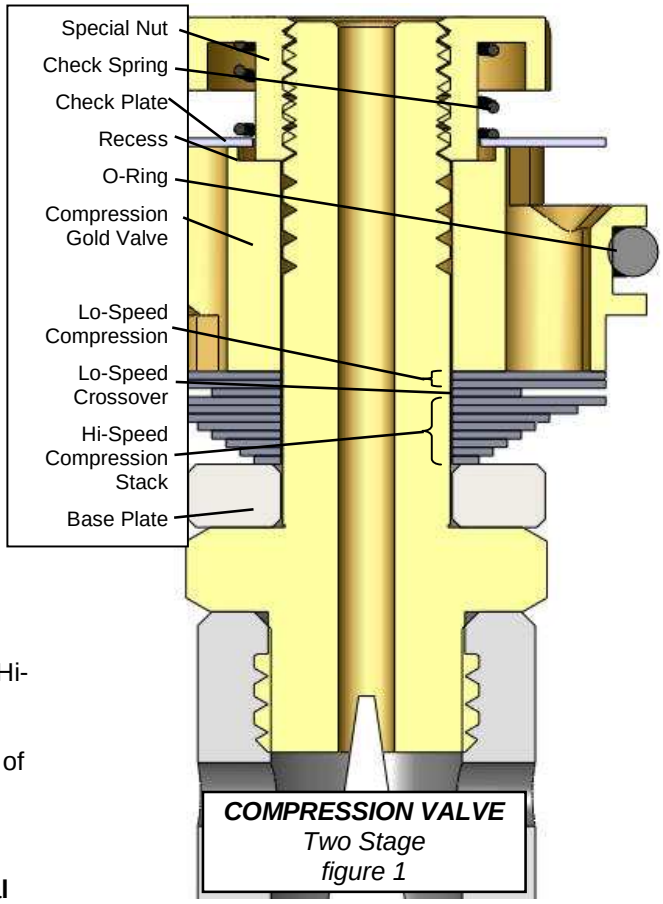
To obtain custom valving settings for your particular application go to Digital Valving Search, insert your Access Code, input your personal specifications and print the custom setup information. If you do not have access to the web, contact our Technical Support Hotline 951.279.6655 for recommendations. Note: The Access Code is good for one limited-time use.

The standard valving that comes installed on the Gold Valve is cH9. If you need to change valving, follow these steps:

V1 Once you have selected your valving **begin assembling the valve**. (figure 1) Place the Base Plate *(thick washer)* on the shaft of the compression valve.

V1a **Single Stage Stacks** - Put the valving on the shaft in the order listed, starting with the smallest diameter shim *(clamping shim)* of the High Speed Stack and ending with the largest diameter closest to the Gold Valve. You will not use a Lo-Speed Stack.

V1b **Two Stage Stacks -** For Two Stage Stacks the total valving stack is made up of a combination of a Lo-Speed Stack and a Hi-Speed Stack. Put the valving on the shaft in the order listed, starting with the smallest diameter shim *(clamping shim)* of the Hi-Speed Stack. Then the Lo-Speed Stack gets placed on top of the Hi-Speed Stack starting with the small diameter *(crossover shim)* and ending with the largest diameter shim closest to the Gold Valve.



COMPRESSION VALVE
Two Stage
figure 1

NOTE: On some models you will need to use the additional Base Plates provided to achieve the proper total valve thickness. Also, you may end up with additional parts, don't worry.

V2 **Begin assembling the valve**. Place the original base plate *(thick washer)* on the shaft of the compression valve. Put the valving on the shaft in the order listed, starting with the smallest diameter shim *(clamping shim)* of the Hi-Speed Stack. Then (for Two Stage Stacks only) the Lo-Speed Stack gets placed on top of the Hi-Speed Stack starting with the small diameter *(crossover shim)* and ending with the largest diameter shim closest to the Gold Valve. (see figure 1 - your exact configuration may look slightly different.)

V3 Make sure the o-ring is on the Gold Valve. **Place the Gold Valve on the shaft** with the recess on the piston facing up.

V4 **Put the check spring and the check valve plate on the special nut. Use Loctite on the threads and loosely install the nut assembly.**

V5 **Make sure the check valve plate *(large ID washer)* is free** and can move up and down against the spring.

V6 ***CAUTION! The threads can be damaged if you're not careful. To install the nut you must use Loctite. The 6mm special nut has a 1/2" hex head. It must be torqued with a torque wrench to 25 in-lbs (2 ft-lbs or 0.29 kgf-m).***

V7 **Inspect your work**. For two stage stacks, hold the compression stack up to the light and look for the gap at the cross-over between the low speed and high speed stack *(the small shim near the top of the stack).* This gap should be visible, if it isn't, disassemble the stack and look for burrs to surface and/or dirt in the valving. Reassemble and check again.

ASSEMBLY

A1 ***Reassemble the forks according to the procedure in your manual.*** Torque the compression valve body to manufacturer's specs. Consult your owner's manual for specs.

A2 Use Loctite on the damping rod threads at the cap and ***torque it to 16 ft-lbs (21.7 NM)***.

A3 ***Adjust the compression and rebound adjusters, spring preload, and oil level*** according to the DVS Setup Sheet. Be sure to bleed the cartridge.

A4 When the forks are put on the bike it is very important to ***align the fork tubes***. This is done by first tightening the axle all the way. Then the tubes are aligned by pumping the forks up and down with the right-hand axle clamp loose. Finally, tighten the axle clamp. This will line the tubes up so they won't bind.

A5 If you have any **questions** please call our Technical Support Hotline at 951.279.6655. Feel free to experiment and have fun.

TUNING NOTES

- Damping depends on vertical wheel velocity, not position in the stroke**.**
- **If the forks feel too soft all the way through**, increase compression damping with the external adjuster. If that is not enough, change the compression stack internally.
- The compression damping adjuster **controls the lowest speed damping and affects the entire range. NOTE: The closer to maximum damping (full clockwise) the more effect one click makes. In other words going from 3 to 2 out has a lot more effect than going from 14 to 13. Adjusters are numbered from all the way clockwise (the slowest or firmest setting).**
- If your valving needs to be stiffer, move to the right on the valving chart**. Moving to the right on the Lo-Speed Valving Chart will stiffen up Lo-Speed damping. This will improve bottoming resistance with minimum increase in harshness. Moving to the right on the Hi-Speed Valving Chart will increase damping overall, making it stiffer through the entire speed range particularly landing off jumps. If the forks are too firm, go to the left.**
- **Spring rate affects ride height, dive and bottoming**. Typical spring preload should be 2-5mm (0.1–0.2").
- Oil level can drastically alter bottoming resistance **and only affects the last part of the travel (near bottoming). If you like the action but the forks bottom too easily, raise your oil level by 10mm (0.4").**

BUILDING the VALVING STACK - DIRT 20 mm

Welcome to the wonderful world of Gold Valving. **To obtain your personal Custom Suspension Settings:**

1. **Go to Digital Valving Search (DVS)**
2. **Input your Access Code when prompted (your Code is printed on top of page 1 of these instructions)**
3. **Input your personal specifications**
4. **Print your DVS Custom Suspension Setup Sheet**

If you do not have access to the Internet contact our Technical Support Hotline 951.279.6655 for recommendations. Note: The Access Code is good for one bike, limited-time use.

Once you have your valving settings, build your valving stacks.

Single Stage - made up of just a High Speed Stack.

Two Stage - made up of a combination of a Lo-Speed Stack on top of a Hi-Speed Stack.

EXAMPLE Single Stage:

Starting from the Gold Valve piston face

Lo-Speed Stack

(1) 0.15x17
(2) 0.10x17

Hi-Speed Stack

(1) 0.15x17
(1) 0.10x15
(1) 0.10x13
(1) 0.10x12
(1) 0.10x11
(1) 0.10x10
(1) 0.10x9

EXAMPLE Two Stage:

Starting from the Gold Valve piston face

Lo-Speed Stack

(1) 0.15x17
(2) 0.10x17

Crossover

(1) 0.10x11

Hi-Speed Stack

(1) 0.15x17
(1) 0.10x15
(1) 0.10x13
(1) 0.10x12
(1) 0.10x11
(1) 0.10x10
(1) 0.10x9

OIL LEVEL, EXTERNAL ADJUSTERS, SPRING RATE, and PRELOAD are all listed on the Digital Valving Search on www.racetech.com.

NOTE: All measurements are metric *(for inches divide by 25.4)*. The valving list starts at the piston face and goes towards the base plate. Valve specs are listed by (QUANTITY) THICKNESS x DIAMETER. A number in parentheses means quantity. If there is no number in parentheses the quantity is one. Example: (2).15x17 means quantity two, 15 hundredths of a millimeter thick by 17 millimeters in diameter.