

RACE TECH

1501 Pomona Rd, Corona, CA 92880 • 951.279.6655 • fax 951.279.7171 • racetech.com

FORK GOLD VALVE INSTALLATION DIRT 23 mm

FK code

<IP FMGV 2320w.doc> FMGV 2320, FMGV 2370 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), Fine flat file, Hi-Strength Loctite (provided), Metric calipers, Metric micrometer.

NOTE: Many 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 nut**. When disassembling the compression valve for the first time, the threads above the nut must be filed off flat. Lightly deburr the end of the threads.
- D3 **Disassemble the valving stack**. Lay out the pieces in the order they come off the shaft. Clean and inspect all the original parts. Be careful to maintain the original order and orientation of the parts. (You may need some of the original valving for spacing purposes, do not discard.)

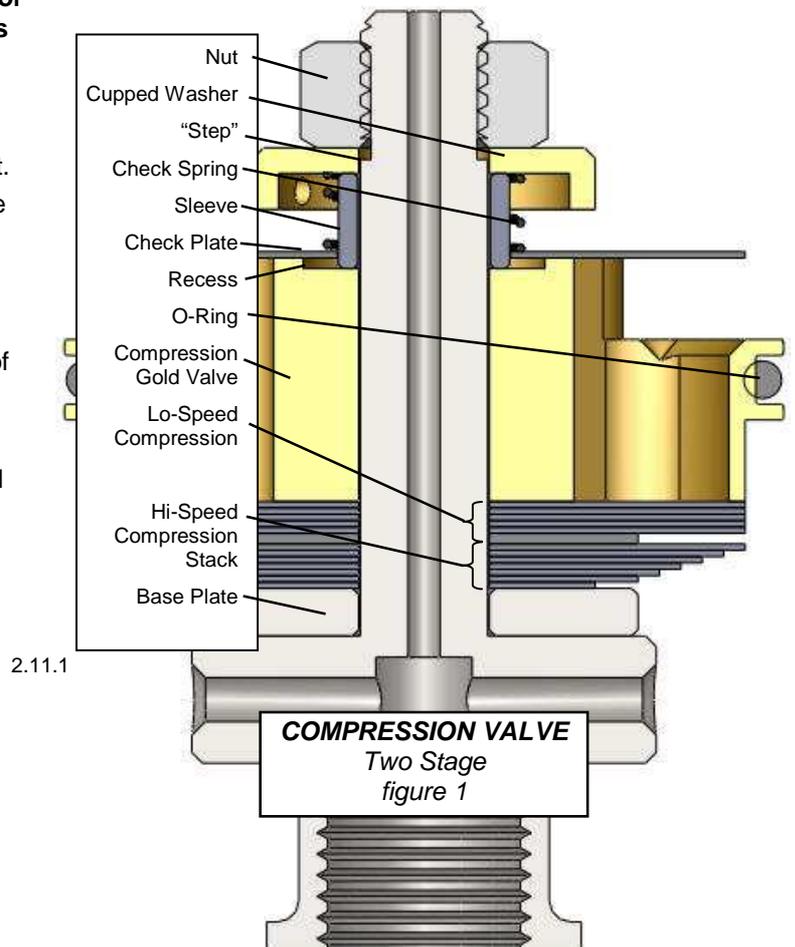
VALVING

V1 To obtain custom valving settings go to **Digital Valving Search**, insert your Access, 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 time use.**

V2 Once you have selected your valving **begin assembling the valve**. (figure 1) Place the original Base Plate(s) (*thick washer*) on the shaft.

V2a **Single Stage** - Put the valving on the shaft in the order listed, starting with the smallest diameter shim (*clamping shim*) of the Hi-Speed Stack and ending with the largest diameter closest to the Gold Valve. You will not use a Lo-Speed Stack.

V2b **Two Stage** - 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 of the Hi-Speed Stack. Then the Lo-Speed Stack gets placed on top of the Hi-Speed Stack starting with the small diameter and ending with the largest diameter shim closest to the Gold Valve. (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 **Place the check valve sleeve on the shaft**, then the check valve plate (*large ID washer*) and the spring. Be sure the sleeve fits into the recess in the piston and the plate is free.
- V5 **Put the spring cup on the shaft** dished down. You must be very sure that the nut does not run out of threads onto the straight part of the shaft. If it does, the nut will not tighten down on the valving. This will cause incorrect operation or the nut will come off. This is a critical part of the installation. To get the proper total valve stack thickness you may need to place some of the original shims on the shaft just after the base plate. NOTE: Any shims added must be larger in diameter than the last shim in the stack. **Be sure the nut is fully engaging the threads!**
- V6 **Make sure the check valve plate (*large ID washer*) is free** and can move up and down against the spring.
- V7 **CAUTION! The threads can be damaged without using extreme care. They are made out of aluminum and strip easily.** To install the nut you must use Loctite. The 8mm nut (12mm wrench) must be torqued with a torque wrench to 48 in-lbs (4 ft-lbs or 0.56 kgf-m), **NO MORE!** Do not take this step lightly.
- V8 **Inspect your work.** For two stage stacks, hold the compression stack up to the light and look for the gap at the crossover between the Lo-speed and Hi-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. For most forks this is 43 to 60 ft-lbs (58 - 82 NM). Consult owner's manual for specs. Bleed the cartridge and set the oil level using Ultra Slick USF-05 (5w). NOTE for Twin Chamber Forks: To protect the cartridge seal deburr both ends of the thread. Next, coat the threads with heavy grease and push the rod out. (Shaft seals are available if needed.)
- A2 Use Loctite on the damping rod threads at the cap and **torque it to manufacturer's specs** (typically 16 to 21 ft-lbs [21.7 – 28.5 NM]). Consult owner's manual for specs.
- A3 **Adjust the compression and rebound adjusters, spring preload, and oil level** according to the Digital Valving Search Setup Sheet.
- A4 **Install the forks on the bike.** 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. This will line the tubes up so they won't bind. Finally, tighten the axle clamp.
- A5 **If you have any questions** please call our Technical Support Hot-line at 951.279.6655. Feel free to experiment and please call if you need us. 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.** If the forks are too firm, go the opposite direction, to the left.
- **Spring rate affects ride height, dive and bottoming.** Typical spring preload should be 3-5mm (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 10cc.

**Sign up for Race Tech News
at www.racetech.com.**

BUILDING the VALVING STACK - DIRT 23mm

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
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 Hi-Speed Stack.

Two Stage - made up 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

(2) 0.15x20

Hi-Speed Stack

(1) 0.15x20

(1) 0.10x19

(1) 0.10x17

(1) 0.10x14

(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

(2) 0.15x20

Crossover

(1) .10x11

Hi-Speed Stack

(1) 0.10x20

(1) 0.10x17

(1) 0.10x14

(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 DVS at racetech.com.

NOTE: All measurements are metric (*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 brackets the quantity is one. Example: (2).15x20 means quantity two, 15 hundredths of a millimeter thick by 20mm in diameter.