

# RACE TECH

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## FORK REBOUND GOLD VALVE INSTALLATION - STREET / ROAD RACE 20 mm

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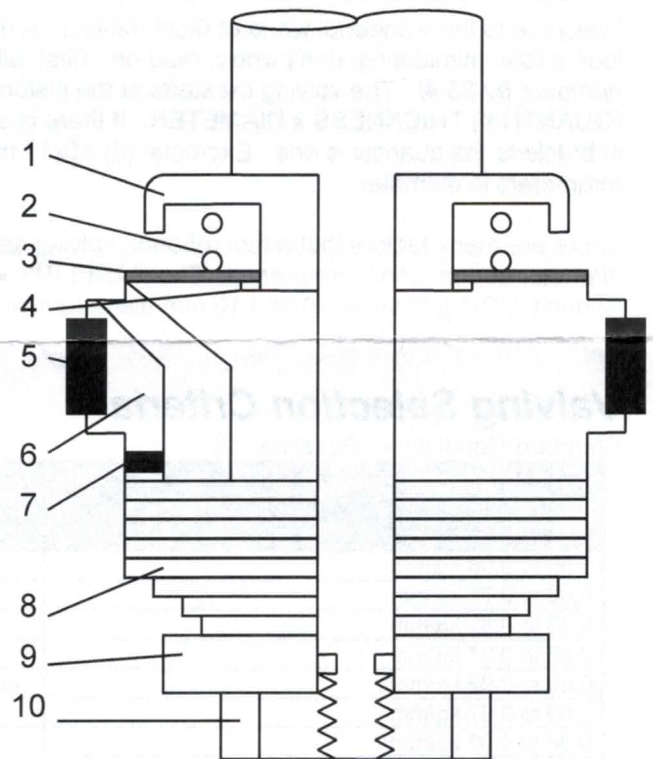
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**TOOLS REQUIRED:** In addition to the tools required for disassembly and assembly. TFSH 10 Shaft Holding Tool, Loctite 271 - Red, 400 grit (very fine) or finer Sandpaper.

**CAUTION: THIS PROCEDURE SHOULD ONLY BE DONE BY A QUALIFIED SUSPENSION TECHNICIAN. IF YOU ARE NOT FAMILIAR WITH THIS PROCEDURE, STOP! CONTACT RACE TECH OR A QUALIFIED SUSPENSION TECHNICIAN.**

### DISASSEMBLY

- 1 **Disassemble the forks** and remove the cartridge.
- 2 **Remove the compression valve.** If you are installing compression Gold Valves at this time, follow the instructions for installation included in the kit.
- 3 **Remove the rebound rod from the cartridge.** On RS 125R models this will require removing the hydraulic bottom-out system from the rod. Being very careful not to damage the rod, hold the rod using the TFSH 01 Shaft Holding Tool. The bottom-out piston is held onto the rod with peening over a circlip on the rod (the circlip is not visible until the piston is removed). You must spread the peening over the circlip. Simply tap down on the piston using a hammer and a 12" (300 mm) length of 1/2" (12 mm) electrical conduit (or some other piece of pipe) as a driver (or you can use a small chisel). This will spread the peening. Save the circlip and piston, they will be reused. Slide the rod out of the cartridge tube.
- 4 **Lightly file the peening off the end of the shaft that holds on the nut.** Remove the nut holding on the rebound valving and **disassemble the valving stack.** Lightly deburr the end of the threads.



### VALVING INSTALLATION

- 5 **Assemble the Rebound Gold Valve.** Starting with the cupped washer (1), check spring (2), check plate (3), Rebound Gold Valve (6) (the recess (4) towards the check plate), rebound valving (8) [Select your valving using the Valving Selection Chart], base plate (9) and nut (10). Use Loctite and torque the nut to 30 in-lbs (0.35 kgf-m).  
**Note:** If your bike does not have external rebound adjusters (on fork cap) you will need to drill a small bleed hole (7) into the Rebound Gold Valve, just below the piston band (just above is OK too). The standard bleed hole size is a #55 (1.3 mm) diameter drill bit. For Racing use a #60 (1.0 mm) drill. The bleed needs to be drilled into one of the three round ports between the valve stack and the piston ring (5).
- 6 **Polish the damping rods with 400 grit (very fine) or finer sandpaper.** This will drastically improve bushing life and will reduce drag as well. The important part is the lower half of the rod as that is the part that contacts the damping rod bushing.

### REASSEMBLY

- 7 **Reinstall the rod** into the cartridge being careful not to damage the piston ring (5). **Hint:** Bend the piston ring by rolling it up and use assembly grease to "stick" it into the groove.

- 8 **Install the compression assembly and reassemble the forks.** (On RS 125R models **remember** to reinstall the bottom-out piston). Bleed the cartridges and set the oil height to the correct specification, (consult the Digital Valving Search at [www.racetech.com](http://www.racetech.com) for your specific bike).
- 9 **Install the fork cap.** Use Loctite on the damping rod threads at the cap and torque it to manufacturers specs. Some models require careful positioning of the rod in the cap so the proper number of rebound clicks are available for adjustment. If the rod is threaded too far into the cap there will not be the full number of clicks. If the cap is not threaded on far enough, it will not touch the adjuster and it could come off the shaft. On this type, set the total number of available clicks to 15 to 20 (or 4 turns if there are no "clicks"). Consult owners' manual for the proper procedure. On most models screw the adjuster out all the way, and then screw it in 3 to 4 turns. Then, **install the cap onto the rod** until it starts to feel tight (the adjuster needle is bottomed out). Hold the position of the cap in relation to the rod, back out the adjuster 5 clicks (so the needle isn't damaged when the slop is taken up in the threads) and torque the jam nut to proper specs (consult manual). Check to see you have the proper number of clicks.
- 10 **Set the rebound adjustment** to 1 1/2 turns out (6 clicks if there are any). This should be a good starting point. Enjoy!

## Rebound Valving Selection Chart

### STREET / ROAD RACE 20mm FRGV S02

Welcome to the wonderful world of Gold Valving. A major advantage of the Gold Valve is its flexibility. The chart may look a little intimidating, don't worry, read on. First, all measurements are metric (*if you want inches simply divide the numbers by 25.4*). The valving list starts at the piston face and goes down to the base plate. Valve specs are listed by (QUANTITY) THICKNESS x DIAMETER. If there is a number in parentheses that means quantity. If there is no number in brackets the quantity is one. Example: (4).15x17 means quantity four, 15 hundredths of a millimeter thick by 17 millimeters in diameter.

There are many factors that affect rebound valving selection, among them are spring rate, oil viscosity, Damping Rod diameter and personal preference. **The BASELINE valving stack is r18. r18 is set for a rider** with 0.90 kg/mm Springs, US-1 Light (5w oil) and 10 mm diameter Damping Rods. Your personal conditions and preferences may move your optimum selection from r18. The guidelines are as follows:

## Valving Selection Criteria

Standard Conditions - Baseline r18

Standard - 0.90 kg/mm springs, US-1 oil, 10 mm diameter Damping Rods	r18
<b>SPRING RATE</b>	
0.55 to 0.68 kg/mm	- 4
0.69 to 0.77 kg/mm	- 3
0.78 to 0.82 kg/mm	- 2
0.83 to 0.87 kg/mm	- 1
0.88 to 0.92 kg/mm	no change
0.93 to 0.97 kg/mm	+ 1
0.98 to 1.02 kg/mm	+ 2
1.03 to 1.07 kg/mm	+ 3
1.08 to 1.12 kg/mm	+ 4
<b>OIL VISCOSITY</b>	
US-1 Light (5w oil viscosity)	no change
US-2 Medium (10w oil viscosity)	- 2
<b>DAMPING ROD DIAMETER</b>	
10 mm diameter Damping Rods	no change
12 mm diameter Damping Rods	+ 1

### Example:

1995 RS 125R, using 0.59 kg/mm springs and US-1 oil (12 mm diameter Damping Rods).

Baseline	r18
0.59 kg/mm Springs	- 4
US-1 Oil (5w)	+ 0
12 mm Damping Rods	+ 1
<b>Total</b>	<b>= r15</b>

## FORK REBOUND GOLD VALVE CHART - STREET / ROAD RACE 20mm

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SLOWER →

r14	r15	r16	r17	r18	r19	r20*	r21*	r22*	r23*
(3) .15x17	(4) .15x17	(5) .15x17	(6) .15x17	(7) .15x17	(8) .15x17	(9) .15x17	(10) .15x17	(11) .15x17	(12) .15x17
.10x15	.10x15	.10x15	.10x15	.10x15	.10x15	.10x15	.10x15	.10x15	.10x15
.10x12	.10x12	.10x12	.10x12	.10x12	.10x12	.10x12	.10x12	.10x12	.10x12
.10x9	.10x9	.10x9	.10x9	.10x9	.10x9	.10x9	.10x9	.10x9	.10x9

Shim Dimensions - (QUANTITY) THICKNESS x DIAMETER in mm (*for inches divide by 25.4*)

**If you would like assistance please contact the Race Tech Technical Support Hotline 951.279.6655.Ext 109**