

# RACE TECH

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## GOLD VALVE INSTALLATION

2017 50 SX 31mm WP AER - BPF/SFF

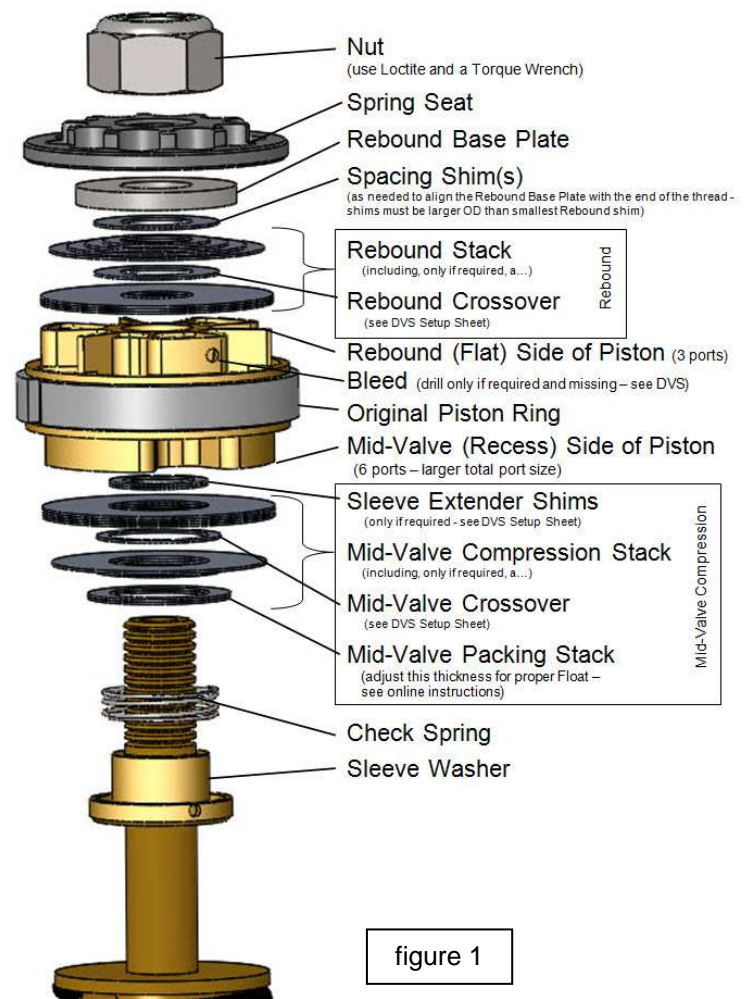
FMGV 3106C P Thede © 3-11-19

**TOOLS & SUPPLIES 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), Metric Calipers, 0-25 mm Metric Micrometer, Loctite, TPSH 1225 (included), USF05 Suspension Fluid, Propane Torch, TMPS 02 Pin Spanner or TFCH PS24050 Seal Head Tool.

**NOTE:** The left fork leg is the “Air Only” side while the right leg has Compression and Rebound Damping as well as a Coil Spring. One of the major issues with these forks is the air space at the top of the damping cartridge creates very poor and inconsistent damping. This kit adds an Internal Reservoir underneath the spring in the right Damping Leg.

### DISASSEMBLY

- D1 **CLEANLINESS IS CRITICALLY IMPORTANT. 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 On the Damping (right) Leg **remove** the Fork Cap, Jam Nut and Bottom-out Spacer. Remove the Adjusting Rod from the center
- D3 Gently pry off the Dust Seal. This will expose the Seal Clip. Remove the Seal Clip with a small screwdriver (the stock clip can be a pain as on some of them one end is tapered in and one tapered out, find the “easy-to-grab-with-a-small-screwdriver-or-clip-tool-end”). Slide hammer off the Outer Tube (this may bend the Seal Washer – don’t worry, see Assembly).
- D4 **Remove the Seal Head** from the Inner Fork Tube. The Seal Head is Loctited into the top of the Fork Tube. Remove the Outer Bushing and use a propane torch to heat the top of the tube to help release the Loctite. **Aim the flame towards the Seal Head between the holes.** Use gloves (so you don’t burn your hand) and a TFCH PS24050 or a Pin Spanner to remove the Seal Head. Remove the Rod Assembly; pour out the Oil and dispose of it properly. **Make sure you remove any stock plastic Preload Washers at the bottom of the Fork Tube. More than likely they will want to stick to the bottom just with the oil. If you look down the tube and it looks like a big Torx nut a Preload Washer is still in there.**
- D5 Slide off the Top-out Spring Washer. Pry the Top-Out Spring off the Valving Holder. Use the Shaft Holding Tool (provided) in a Vise to grab the shaft near the top (threaded) end. Grabbing it near the Valving Holder increases the possibility of damaging the Shaft. Remove the stock Valving Assembly from the Damping Rod. Remove the Adjuster Needle and Adjuster Spring from the Valving Holder.
- D6 **Grease the o-ring and insert the stock Adjuster Needle and Spring into the Valving Holder. Use Loctite, attach the Valving Holder to the Damping Rod and torque it to 16 ft-lbs (22 NM). Install the stock Top-out Spring and Piston Ring.**



# VALVING - Welcome to the wonderful world of Gold Valving.

To obtain your personal Custom Suspension Settings:

1. Log on to [www.racetech.com](http://www.racetech.com)
2. Go to Digital Valving Search (DVS)
3. Input both Access Codes (in your kit) when prompted
4. Input your personal specifications
5. Print your DVS Custom Setup Sheet

If you do not have access to the Internet contact Technical Support at 951.279.6655 for recommendations. Note: The Access Code is good for one use.

## DAMPING LEG (right)

- V1 Install the Sleeve Washer and Check Spring. Install the Mid-Valve Stack. Pay attention to the order of the shims.
- V2 **Install the Gold Valve with the Recess and the Large Ports facing down towards the Mid-Valve Compression Stack (figure 3).**
- V3 Install the Rebound Stack. Pay attention to orientation.
- V4 Install the Base Plate, Spring Seat and the Nut. Check for proper Total Stack Height and add Spacing Shims under the Rebound Base Plate if necessary (figure 4). Use Loctite and **torque to 48 in-lbs (0.56 kgf-m)**.
- V5 **Inspect the assembled stack.** Hold the valving stack up to the light and look for proper assembly. If there are any problems, disassemble and look for burrs to surface and/or dirt in the valving. Check the Float with a Feeler Gauge (figure 5). Production tolerances may throw off the required Float. Double check for the Valving and adjust if necessary by changing Packing Shims at the bottom of the Mid-Valve stack.

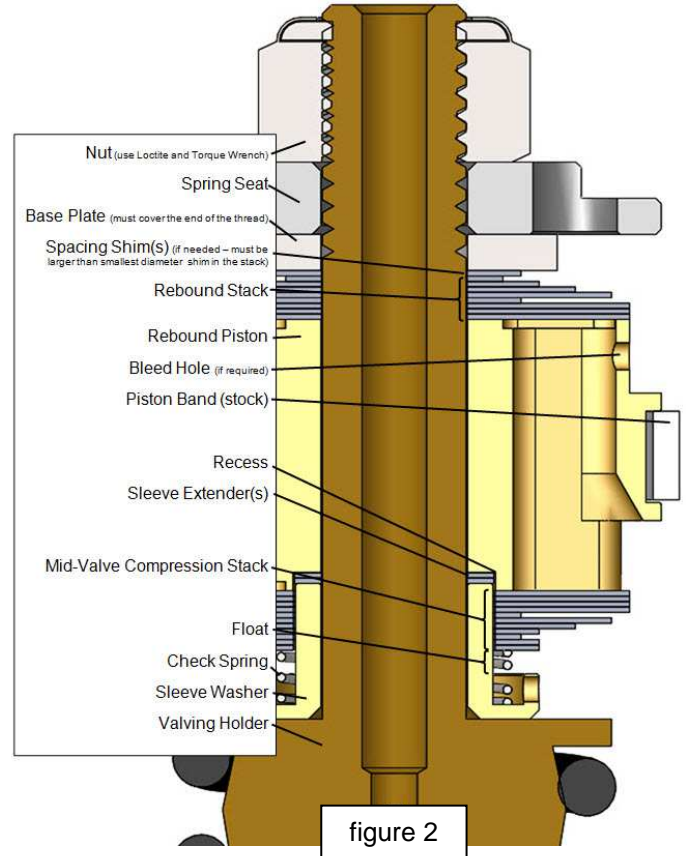


figure 2

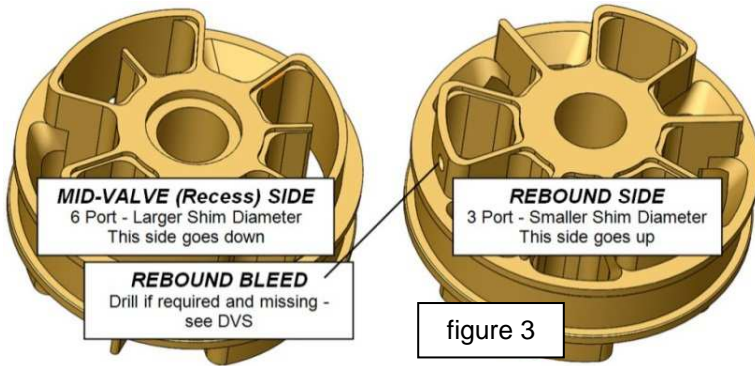


figure 3

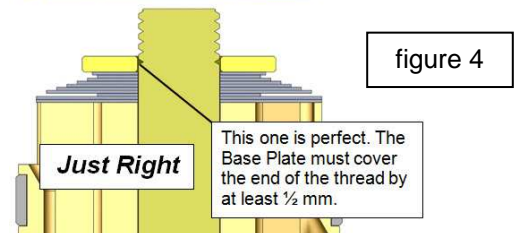
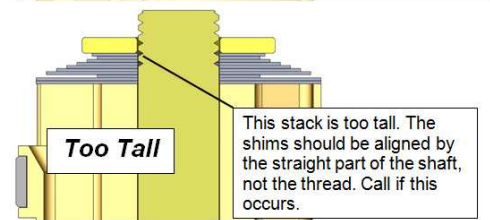
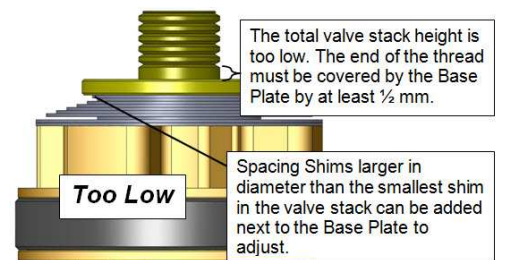


figure 4

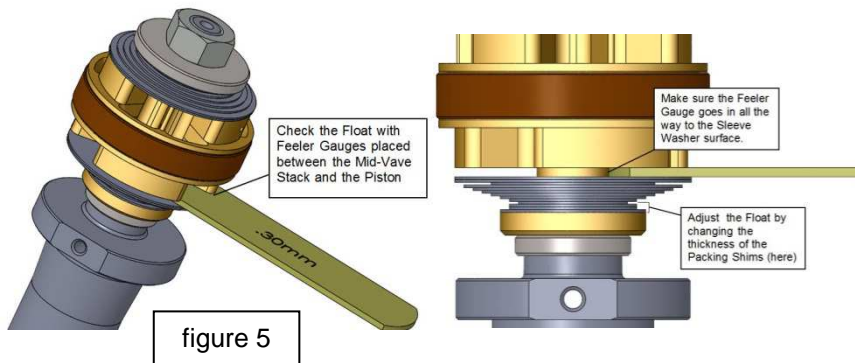
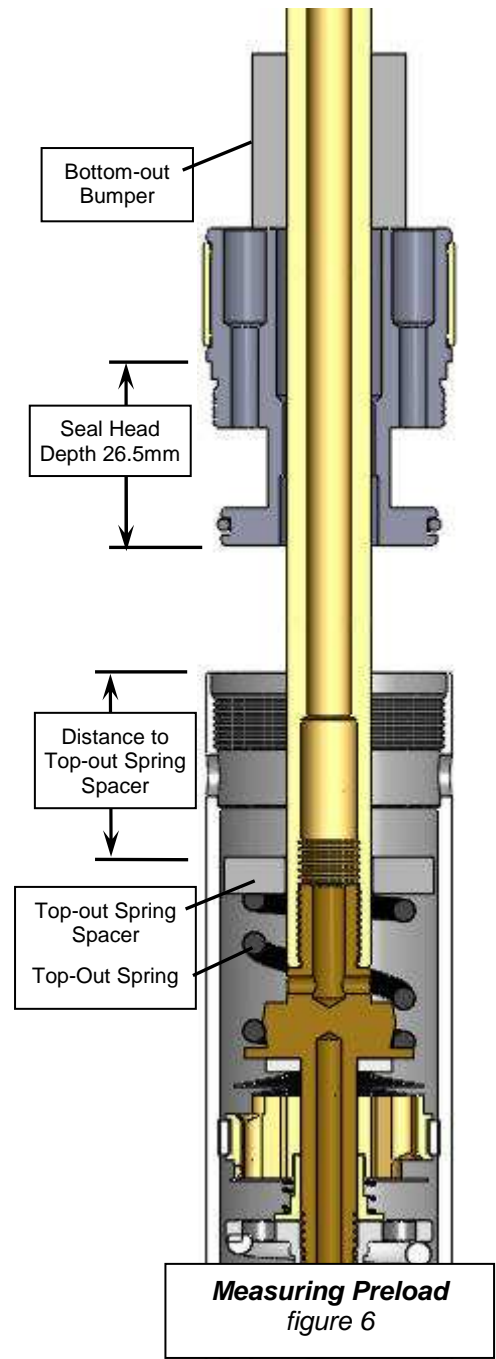


figure 5

# ASSEMBLY

- A1 **Check the Fork Spring Preload (figure 6).** Make sure the stock Preload Spacers are removed from the bottom of the Fork Tube. If they are not removed the Valving assembly will hit the Internal Reservoir. **Double check that the Reservoir Tube length is 140mm. If it is not CALL RT.** Install the Reservoir Assembly into the chrome Inner Fork Tube first. The Reservoir comes pressurized to 15 psi. Insert the Fork Spring and lightly rest the Compression Damping Rod Assembly on the Fork Spring. **Measure from the end of the chrome Inner Fork Tube down to the Top-out Spring Spacer. Subtract this measurement from the Seal Head Depth (26.5mm). This is the Preload.** It should be 3 to 4mm. **Preload = 26.5 – (Distance to Top-out Spring Spacer)**
- A2 **If the Preload is negative (or not enough)** add Preload Spacers and Washers over the Reservoir Tube, under the Spring (figure 7). The Spring should rest on a steel washer not directly on the plastic spacer. Repeat with the Rebound (right) leg.
- A3 Install the Dust Seal, Seal Clip and Oil Seal along with the Seal Washer and Outer Bushing on the Inner Fork Tube. (Note that the Seal Washer probably has been bent into a conical shape on disassembly. If you reverse the washer it will flatten itself during assembly.)
- A4 With the Reservoir and Spring in, fill the Cartridge with Ultra Slick USF05. Insert the Damping Rod Assembly and stroke it up and down a few times until it is bled. Add Oil up to the bottom of the holes near the top of the Inner Tube. Slowly install the Seal Head, letting the oil overflow into the gap between the Inner and Outer Fork Tube. This procedure completely fills the damping chamber. Use Loctite and torque the Seal Head to 40 ft-lbs.
- A5 Install the Outer Fork Tube and use a Seal Driver to insert, first the Bushing and, then the Oil Seal into the Outer Tube. Install the Seal Clip and the Dust Seal.
- A6 **Install the new Bottom-out Bumper on the Damping Rod. This is critical. If it is not done the Damping Rod will hit the Reservoir.** Install the stock plastic Bottom-out Sleeve.
- A7 **The Adjuster threads into the Damping Rod, not the Cap. Screw the Adjuster into the Damping Rod.** Use Loctite on the damping rod thread at the cap. **Screw the Cap onto the Damping Rod until it gently bottoms. Tighten the Jam Nut onto the Cap. Set the Adjuster to the DVS recommended setting.**
- A8 Add fork oil to the outer chamber according to the DVS. Set the Air Pressure in the "Air Only" leg.
- A9 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 axle clamp loose. This will line the tubes up so they won't bind. Finally, tighten the axle clamp.
- A10 If you have **any questions** please call Tech Support at 951.279.6655.



## TUNING NOTE

- 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 on the outer chamber by 5cc.

