TOO TECH RACING
SET-UP INSTRUCTIONS (For Twin Chamber Showa)

STEP 1: Measure suspension "Race Sag". (*Most important adjustment there is)*
First: Put the bike on a center stand and release the accumulated air from the front forks.
Second: Put an ink mark on your fender and measure the distance between the Rear Axle and the Mark on your fender.
Third: Take the bike off the stand and position it on level ground, stand on the foot pegs and support yourself against some wall; then measure the distance between the Rear Axle and the ink Mark on your fender.
Forth: The difference between these two measurements should be adjusted to_____ inches.
- To change your Race Sag, turn the large adjusting nuts on your shock using a long screwdriver and big hammer.

STEP 1a: Balance front end and rear end static ride height.
If the rear end squats under acceleration along with too much front-end lift, and/or the bike doesn't want to turn sharp enough or easily enough, tighten your preload by adjusting your rear sag to _____ inches.
If the front end rides low, turns too sharp, and/or tends to Head Shake at high speed, try a combination of lowering the front forks in the triple clamps and loosen your rear sag to _____inches.

STEP 2: Adjust compression damping front & rear.
If "bottoming" is noted at either end, the compression adjusting screw should be turned "in" (clockwise) to stiffen the compression stroke. The front fork compression adjuster is the Slotted Screw at the top of the fork. The rear shock compression adjuster is the Slotted Screw and the Hex Nut in the shock reservoir. If available, first use the hex nut to change compression action and then fine-tune the stroke using the slotted screw.
If either end is more stiff than the other, turn the adjuster “out" (counter clockwise) at the stiff end. This will soften the stiff end making it more compatible with the other “softer” end.

STEP 3: Adjust Rebound damping front/rear. (Critical adjustment, change 1or 2 clicks at a time)
If either front or rear tends to kick up (rebound), more than the other after landing from a large jump, then more rebound damping is needed at that end. Adjusting the rebound screw "in" (clockwise) creates more damping causing the suspension to return more slowly to its original ride height. If the front end bounces up after landing from a jump, turn the slotted screw at the bottom of the forks "in" 1 click at a time to slow their return. If the rear end kicks up after landings or kicks up & side to side on high-speed straights, turn the slotted screw at the bottom of the shock "in" one click at a time to slow the rear wheel return.
But remember, too slow a rebound setting causes "packing" because the suspension does not have time to return to its original ride height before you hit the next bump. This causes the second bump to feel stiff.

Note: Bring a small screwdriver with you when testing and make your adjustments right at your test track.
Make all damping decisions with the suspension hot. Test your changes immediately back on the same test track.
Rule Of Thumb: On hard pack tracks, run your rebound at both ends "slightly faster” to follow the terrain.
On deep sand tracks, run your rebound “slower”, especially at the rear, to prevent bouncing out of the rollers.

DON’TS – Don’t make damping changes in the garage - this can lead to nasty surprises.
-- Don’t let your friends adjust your suspension – get involved yourself. Call me if confused!

SHOCK SETTINGS
Compression: (Hex Nut on Reservoir (Hi Speed)) _____ turns "out" from full hard. Shock Spring Rate _____
Compression: (Screwdriver Slot on Reservoir) _____ clicks "out" from full hard.
Rebound: (Screwdriver Slot at bottom of shock) _____ clicks "out" from full hard. Adjust between ____ and ____ clicks.
Oil: Torco RSF Lite. Nitrogen pressure 155 psi.

FORK SETTINGS
Compression (Screwdriver Slot at top) _____ clicks "out" from full hard. Fork Spring Rate _____ Preload _____
Rebound (Screwdriver Slot at bottom) _____ clicks "out" from full hard. Adjust between _____ and _____ clicks.
Oil: Maxima _____ cartridge oil or Spectro _____ cartridge oil. Adjusted _____ inches from top.

NOTES: After “Suspension Break-in”, the compression will become softer and the rebound will become faster. (This may require the adjusters to be turned in slightly after “Suspension Break-in”)
Once a day put your bike on the stand and releases the accumulated air from your front forks.
Check your Race Sag at least once a month to adjust for spring settling and chain adjustments.
Change suspension fluid every 6 months to maintain maximum suspension performance.

Call Rick Johnson @ (310) 371-3887 to discuss your suspension's performance.

Visit our WEB SITE at www.tootechracing.com

DETAILED INSTRUCTIONS

STEP 1 - BALANCE REAR SPRING PRELOAD WITH FRONT FORK HEIGHT

ADJUST RACE SAG - The most important adjustment

Typical Starting Measurement: 3 3/4" Short track and Super cross
3 7/8" Natural terrain motocross
4" Gran Prix & Desert

Adjust the forks to the standard height in the triple clamps before starting any adjustments. (≈ 3/16" above clamp)

Increasing the preload on your rear spring will decrease the Race sag. This will raise the rear of your bike placing more weight on the front wheel and reduce the castor angle. This will always make the bike turn sharper; but if you tighten the spring too far it will make the bike twitchy and promote headshake.

Decreasing the preload on your rear spring will increase the Race sag. This will lower the rear of your bike putting less weight on the front wheel and cause it to ride like a "Chopper". This will reduce headshake, make the bike go straighter, and be more secure in high-speed sections; but if you loosen the spring too far the bike will be harder to turn.

To fine tune the spring preload (Race Sag), try tightening the rear spring adjusting nut 1/2" turn at a time and mentally note how much easier the front end will dive into a turn and hold the inside line. Continue this spring tightening until the bike becomes twitchy and unstable or it feels like you're always pulling up on the handlebars. Measure and record your Race Sag.

Then try loosening the rear preload 1/2 turn at a time and mentally note how the rear end "Squats" down and traction increases as you exit each turn. When you reach the point of excessive front-end lift (wheelies) and loss of steering, or you begin to have trouble holding a tight turn, the spring is too loose and you have too much Race Sag. Measure and compare these two extremes and then reach a compromise between them that balances 'stability' and 'tight turning'.

ADJUST the front end ride height to match the rear end:

If the Race Sag compromise you determined above is close to the typical measurements listed above, your fork height adjustment in the triple clamps is probably about right.
Raising the forks in the triple clamps will lower the front end making the bike turn sharper but will reduce high-speed stability. (Similar to increasing the rear preload)
Lowering the forks in the triple clamps will raise the front end making the bike harder to turn but will increase high-speed stability. (Similar to lowering the rear preload)

Note: Once you have established the best overall ride height front and rear; record these settings as your baseline. For added stability on a Desert or Gran Prix track, I will push my forks down about 1/8". For Motocross I will pull them back up to improve turning. To further improve turning on a flat Supercross style track, tighten the rear spring about 1 turn.
The goal is balance front to rear. The front should dive into a turn about the same as the rear squats out of a turn.

STEP 2 - ADJUST COMPRESSION DAMPING FOR BOTTOMING –

Rear Shock:

Increasing your compression damping (the Screw & Hex on the shock reservoir), will slow down the compression stroke and decrease rear end bottoming. If Available – use the Hi Speed Hex Adjuster to make major changes to the Shock compression damping, then fine tune with the slotted adjuster. Turn your compression adjuster "in" (clockwise) to reduce bottoming. If you never bottom, try turning your adjuster "out" (counterclockwise) to soften the compression damping and use more travel. Slight occasional bottoming is OK but don't allow the bike to crash down when bottoming.

HI/LO Speed Adjuster – Try stiffening the Hi and softening the Lo to make the bike use more travel in hard pack.
Try softening the Hi and stiffening the Lo to make the bike bide higher in the soft sand.

Front Forks:

Increasing the compression damping (the screw at the top of the forks), will slow the compression stroke, which will hold the front end up higher and decrease front end bottoming. Turn your compression adjuster "in" (clockwise) to reduce bottoming. If you never bottom, try turning the adjuster "out" to soften the compression damping.

Note: -Softer, "adjuster screw out", compression settings provide a plush, mushy feel which works well for cross country racers trying to go straight and conserve energy.

-Stiffer, "adjuster screw in", compression settings hold the suspension up and out of holes and provide more lift on jump take-offs. Additionally, body english and throttle changes transfer directly into the dirt instead of getting lost in a mushy suspension.

STEP 3 -ADJUST REBOUND DAMPING for STABILITY and JUMPING

This adjustment is extremely important and must be fine tuned by the rider very carefully. This adjustment determines how much time it takes the wheel to return to its original position after compressing into a bump. In steps 1 & 2 you determined how much compression travel will be used as you hit each bump. The rebound damping must now be "tuned" to return the suspension to its original ride height before contacting the next bump. Faster riders will have less time between bumps causing them to need a slightly faster rebound.
If the rebound is too fast, the bike will bounce up after landing from a large jump or kick sideways through rough sections.
If the rebound is too slow, the wheel will not have enough time to return between bumps, causing it to "pack down" becoming harsh and then deflect. "Packing " can occur as soon as the second bump.
Experimentation is required to fine-tune this adjustment. Stick a small screwdriver in your boot and concentrate on the highest speed and most aggressive portions of your test track.

Front Forks:
Start by speeding up the front rebound by turning the screw at the top of your forks "out" (counterclockwise) 2 clicks then ride your test track. Continue turning the adjuster out until the bike kicks up after landings or bounces up for no good reason. Record this setting for reference.
Then try turning the rebound "in" (clockwise) 2 clicks at a time until the front end begins to get stiff or your arms begin to get tired quickly (arm pump). These are signs of packing. Record. These settings define your rebound working range.
I prefer to run my rebound as fast as possible at both ends without it kicking up.

Note: - "Slightly fast fork rebound will reduce headshake and arm pump." –
- “Slightly slow fork rebound will help the front end stick in a berm.” --

Rear Shock:
Start by speeding up the rear rebound by turning the screw at the bottom of your shock "out" (counterclockwise) 2 clicks then ride your test track. Continue turning the adjuster out until the bike kicks up after landings or kicks side to side. Record this setting for reference.
Then try tuning the rebound "in" (clockwise) 2 clicks at a time until the rear end begins to pound and get stiff. It may feel like you have a flat tire, the rear is riding low, or like the rear is "dead". You will probably get tired faster. These are signs of packing. Record setting. These settings define your rebound working range.
I prefer to run my rebound as fast as possible at both ends without it kicking up or sideways.

Note: -- "Slightly faster rebound settings will help you clear double jumps and ride aggressively."
-- "Slightly slower rebound settings conserve energy in deep sand and desert whoops."

STEP 4 -BALANCING FRONT AND REAR

Regardless of personal preference on compression stiffness and rebound speed, both ends must be balanced and work together.

Compression Balance:
The front spring and compression setting must coordinate with the rear spring and compression setting. If the front forks are too soft and plow through a whoop but the rear end rides up over it, the bike will go into the "endo" position. To cure this you would try to stiffen the front to make it ride up and over the bump to match the rear end. First try a combination of turning the fork compression adjuster screw in, adding 1/4" fork oil, adding preload to the front fork springs, and pushing the fork tubes down in the triple clamps. Also try speeding up the front rebound, clicker "out" 1 or 2 clicks. All the above changes combine to make the front end ride higher which minimizes the dreaded “endo”.
When you reach the limit on making the front stiffer, try adjusting the rear end softer. A softer rear will reduce the load to the front end causing it to bottom less. Try a combination of turning the shock compression setting "out", and reducing rear spring preload. Reverse this logic if the fork is stiffer than the rear.
Also try slowing the shock rebound, adjust the clicker "in" 1 click, to make the rear stay down after the bump.

Rebound Balance:
The front and rear rebound settings must coordinate to throw the bike up level on jump take-offs. (First the compression balance adjustments above must be made.) If the front end continuously jumps higher than the rear, try a combination of slowing the fork rebound, clicker "in" 1 click, and speeding the rear rebound, clicker "out" 1 click. This will cause the front to ride lower and the rear to ride higher.

General Note:
Heavier Riders, Very Aggressive Riders, and Desert Riders will usually prefer heavier spring rates. Call me to discuss your specific needs.

SUSPENSION LOG

Track ______________________________Track Conditions_____________________Date_____
Shock Race Sag_____________________Shock Spring_______________________
Shock Compression_________________Shock Rebound______________________
Comments____
Fork Position in Triple-Clamps________Fork Oil Level_______________Fork Springs__________
Fork Compression__________________Fork Rebound_______________________
Comments____

Track ______________________________Track Conditions_____________________Date_____
Shock Race Sag_____________________Shock Spring_______________________
Shock Compression_________________Shock Rebound______________________
Comments____
Fork Position in Triple-Clamps________Fork Oil Level_______________Fork Springs__________
Fork Compression__________________Fork Rebound_______________________
Comments____

Track ______________________________Track Conditions_____________________Date_____
Shock Race Sag_____________________Shock Spring_______________________
Shock Compression_________________Shock Rebound______________________
Comments____
Fork Position in Triple-Clamps________Fork Oil Level_______________Fork Springs__________
Fork Compression__________________Fork Rebound_______________________
Comments____

Track ______________________________Track Conditions_____________________Date_____
Shock Race Sag_____________________Shock Spring_______________________
Shock Compression_________________Shock Rebound______________________
Comments____
Fork Position in Triple-Clamps________Fork Oil Level_______________Fork Springs__________
Fork Compression__________________Fork Rebound_______________________
Comments____

Track ______________________________Track Conditions_____________________Date_____
Shock Race Sag_____________________Shock Spring_______________________
Shock Compression_________________Shock Rebound______________________
Comments____
Fork Position in Triple-Clamps________Fork Oil Level_______________Fork Springs__________
Fork Compression__________________Fork Rebound_______________________
Comments____

Track ______________________________Track Conditions_____________________Date_____
Shock Race Sag_____________________Shock Spring_______________________
Shock Compression_________________Shock Rebound______________________
Comments____
Fork Position in Triple-Clamps________Fork Oil Level_______________Fork Springs__________
Fork Compression__________________Fork Rebound_______________________
Comments____

BACK TO HOME PAGE