

RST

Owner's Manual

FOR MOTO
ENGLISH

SIGMA



CONGRATULATIONS on selecting an RST suspension fork.
You have chosen the best suspension components for your bicycle!
This RST fork is fully assembled and ready to be installed onto your bicycle.

CAUTION

Proper care and maintenance of your RST product is necessary for longevity and optimum performance.

Failing to perform routine maintenance will greatly decrease the performance of the product and may lead to premature deterioration or even failure of the product. Lack of maintenance may also jeopardize the safe operation of your fork and will void the warranty.

GENERAL WARNING

This manual contains important information about the safe operation and maintenance of your fork. Reading this manual entirely, and properly maintaining your bicycle and suspension fork is essential. To ensure that your RST fork performs properly, we recommend that you have your fork installed by a qualified bicycle mechanic. Prior to riding your bicycle, you should inspect your suspension fork to ensure that no damage has occurred during the course of riding.

Do not ride your bicycle if the fork shows any signs of bending, cracking, leaking, or if it is missing any of the original supplied components. Any fall from your bicycle can result in serious injury or even death. Following these instructions can help you reduce the risk of being injured. We recommend returning your suspension fork to your dealer or an authorized service center annually for a thorough inspection and service.

IMPORTANT

This is an off-road fork, and as such, does not come with proper reflectors for on-road use. Have your dealer or mechanic install proper reflectors to meet the Customer Product Safety Commission's (C.P.S.C.) requirements for bicycles if the fork is going to be used on public roads at any time.

CONSUMER SAFETY INFORMATION

1. Never remove or have the steerer tube or stanchions removed from the crown. The steerer tube and stanchions (inner legs) are press fit at the factory. Press fitting of the inner legs and steerer tubes has higher performance versus having clamped stanchions or steerer tubes, but they can NOT be pressed out and changed. Pressing them out will permanently damage the crown beyond repair and render it unsafe for any use.
2. Do NOT attempt to thread a thread-less steerer tube. Cutting threads will weaken the steerer tube and cause an unsafe condition. The only safe thing to do is to obtain the proper crown/steerer from your dealer, contact RST USA warranty service center or RST Europe.
3. Any other alteration or modification to your fork should be considered unsafe and will void the warranty. Contact your dealer, RST USA warranty service center or RST Europe prior to modifying your fork in any way for safety information.
4. Do not use an RST fork if any parts are broken, bent, cracked, or you suspect may be damaged. Contact your dealer, RST USA warranty service center or RST Europe, if you have any question concerning the integrity or condition of your fork.
5. RST recommends that you inspect your fork before every ride for wear and damage. Please pay particular attention to the crown, stanchions, sliders, dropouts and brace for any sign of cracks, bending or damage.
6. Do not use lithium-based lubricant as it will react chemically with the internal materials of the fork and significantly reduce the performance of the fork. In order to obtain the best performance of the front fork, lubricating oil will adhere to the Stanchion during initial riding. This is a normal phenomenon. After riding for about 1,000 kilometers, it gradually decreased. After riding, you can wipe it with a dry cloth and clean the Stanchion.

WARRANTY INFORMATION

Any RST fork found, by the factory, to be defective in materials and/or workmanship within two year from the date of purchase will be repaired or replaced at the option of the manufacturer, free of charge, when received at the factory with proof of purchase, freight prepaid. This warranty does not cover any fork that has been subject to misuse or abuse, including but not limited to, any breakage, bending, damage cause by crashes and/or assembly, improper maintenance, or other excessive, improper or abnormal conditions.

This warranty does not cover paint damage.

Any modifications or alterations made by the user will render the warranty null and void. This warranty is expressly in lieu of all other warranties, and any implied are limited in duration to the same duration as the expressed warranty herein. RST shall not be liable for any incidental or consequential damages. In the event that a product needs to be replaced and is discontinued or not available, RST reserves the right to replace the product with one of equal value, no credit or refund will be issued.

This product is not intended for use in stunt or acrobatics riding, ramp jumping, or similar activities, the user assumes all risks of personal injury, product damage or failure, and any other losses which may arise under such use.

If for any reason, warranty work is necessary, return the fork to the place of purchase, In the USA and Canada, dealers should call RST USA warranty service center. Customers in countries other than USA should contact their local dealer or distributor or RST Europe.

INSTALLATION INSTRUCTION

It is extremely important that your RST fork is installed correctly by a qualified bicycle mechanic. Improperly installed forks are extremely dangerous and can result in serious and/or fatal injuries. Ensure that the proper steerer tube has been delivered on your RST fork. The steerer tube may need to be cut to length to fit your bicycle head tube. If you are not familiar with this procedure, or do not have proper tools to cut the steerer tube, it is recommended that you seek a dealer with a qualified bicycle mechanic to perform installation.

WARNING

The steerer tube and stanchions (inner legs) are a one-time precision press fit at the factory and can not be removed from the crown. Replacement of the entire crown/steerer assembly must be done to change steerer tube lengths or diameters. Attempting to remove and replace the steerer tube or stanchions will result in an unsafe condition and should never be done.

FORK INSTALLATION

1. Remove the old fork from your bike.
2. Measure the length of steerer tube to fit your bicycle head tube, make sure there is sufficient length to install the stem (refer to the stem manufacturer's instructions), you can use your old fork as guide for cutting the length of steerer tube.
3. Install the headset crown race (as per manufacturer's instructions) firmly against the top of the fork crown.
4. Clean and lubricate the headset bearings and races.
5. Insert the steerer tube into the head tube of the frame.
6. Install the upper bearings, stem spacers, and stem.
7. Install the stem cap and bolt. Tighten the bolt to headset manufacturer's specifications.
8. Install the handlebars to desired height and torque stem pinch screws or stem clamping system to manufacturer's specifications. Adjust the headset until you feel no play and drag.
9. Install the brakes and adjust per manufacturer's instructions.
10. Install the front wheel into the dropout counter bore. The quick release must be tightened after it is properly seated into the dropout counter bores to manufacturer's specifications.
11. Make sure to check the tire clearance. To check tire clearance, remove the air pressure and/or spring stacks and compress the fork completely to make sure a minimum of 1/4" (6.4mm) of clearance exists between the top of the tire and the bottom of the crown.

- Your new fork is designed to break-in during your first few rides (about 20 hour total riding time). Prior to break-in, you may notice your fork feels tight and slightly sluggish. Following the break-in period, your fork will feel much smoother and will react to bumps much better than when you first put in on your bike.

SAFETY MAINTENANCE

Before every ride, please perform the following inspection :

- Ensure that quick release skewers and thru axles are properly adjusted and tight.
- Wipe the stanchions and outer legs clean and check entire fork for any obvious damage.
- Check the headset for proper adjustment.
- Ensure that the front brake cable is properly routed and check brake adjustment.
- Check top caps, brake posts and shaft bolt for proper torque.
- Please pay particular attention to ensure that steerer and stanchion tubes are still parallel. (Bending of the fork forward or backward is a common trait of hard landings.)



Whenever the performance of the fork is noticed to have diminished or it has reached a service interval (whichever occurs first), perform the following procedures :

PERFORMANCE MAINTENANCE

- Disassemble fork and thoroughly clean grease and residue from each part.
- Inspect all parts for damage such as cracks, abrasions, and normal wear. If any parts are found to be damaged or excessively worn in anyway, replace them immediately. Stop using this product until the damaged or worn parts have been replaced. If all the parts are in usable condition, proceed to step 3.
- Apply a liberal amount of approved grease to the upper and lower bushing, stanchion, valve assembly, and wipers. Fill the wiper pocket with a generous amount of grease. Do not use a lithium grease as it can cause damage to the bushing material and the seals.

Bushing replacement :

In the event that an RST fork is founded to have excessive play between the stanchion and outer leg, the bushings will need to be replaced.

All forks, that have been 5 years or more, should be inspected and serviced annually if they are going to remain in use.

IMPORTANT

Replacing bushing requires special tools to remove and install the bushings properly.

RST strongly recommends this work should be done by a qualified mechanic with the proper tools.

Improperly installed bushings are extremely dangerous and can result in serious and/or fatal injuries.

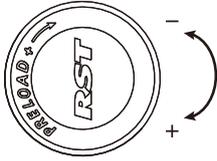
Suggested service intervals for all RST suspension forks			
Normal Conditions		Severe Conditions	
Short Sporadic Rides	Long Frequent Rides	Short Sporadic Rides	Long Frequent Rides
Every 6 months	Every 4 months	Every 4 months	Every 3 months

Normal wear and tear parts are identified as follows			
1	Dust seal	6	Remote lockout cable
2	Air sealing O-ring	7	Bushing
3	Rubber moving parts	8	Stanchion (upper tube)
4	Rear shock mounting hard and main seal	9	Pivot
5	Strippeds/bolt	10	Lubricant-grease

Suggested replacement/service intervals of wear and tear parts as follows			
Dust seal	6 months	Rear shock mounting	1 year
Air sealing O-ring	1 year	Remote lockout cable	1 year
Rubber moving parts	1 year	Lubricant--grease	6 months

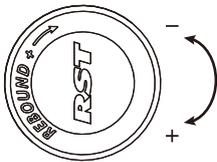
FUNCTION

PRELOAD ADJUSTMENT

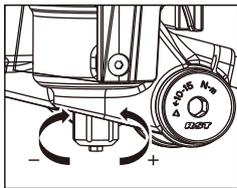


1. Adjust the knob clockwise to increase spring preload to adjust spring hardness.
2. Adjust the knob counter-clockwise to reduce spring preload to adjust spring hardness.

REBOUND ADJUSTMENT



1. Adjust the knob clockwise to increase the rebound damping and slow down the rebound speed of the front fork.
2. Adjust counter-clockwise to reduce the rebound damping and make the front fork rebound faster.



Rotate the rebound hydraulic pressure adjustment knob and adjust the rebound speed in the direction indicated by the label.

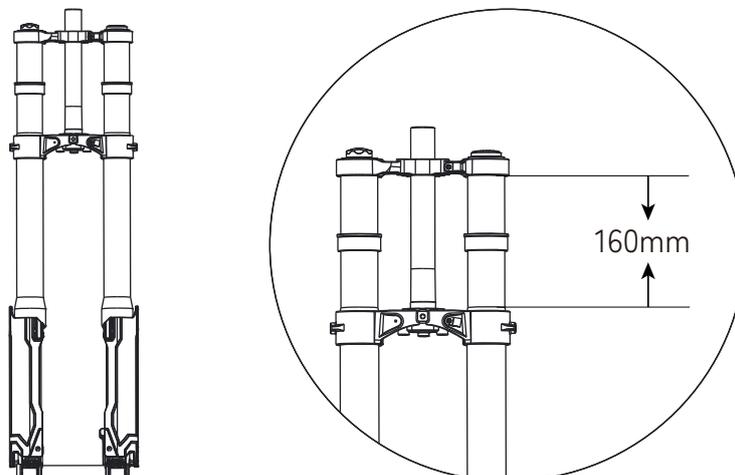
- + To increase rebound damping, make the front fork rebound slower
- - To reduce rebound damping and make the front fork rebound faster

COMPRESSION ADJUSTMENT



1. Adjust the knob clockwise to increase the damping oil flow and increase the front fork compression speed.
2. Adjust the knob counterclockwise to reduce damping oil flow and reduce the front fork compression speed.

DISTANCE OF UPPER AND LOWER

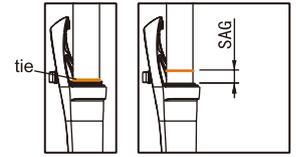


MEASURING AND SETTING SAG

SAG is the amount of suspension fork travel that rider sits on the bicycle without use any force on it. The SAG can help to maintain contact and traction over bumpy terrain.

Zip-tie method

1. Please install a zip tie down against the wiper seal of the fork's stanchion and without the rider on the bicycle. (see as photo 1)
2. Sit on the bicycle in a normal riding position. RST recommends that you to fit up with your normal riding equipment. It may be necessary to hold yourself up against the wall to help steady yourself. Do not bounce on pedals or saddle.
3. Step off the bicycle and measure the distance between the zip tie and wiper seal. This is the sag value. RST recommends the proper value of sag should be between 15 and 25 percent of maximum travel. If the distance shorter than the 15 percent of maximum travel. It means the fork is too stiff (You need to decrease the air pressure). If the distance longer than the 25 percent of maximum travel. It means the fork is too soft (You need to increase the air pressure).
4. Air Spring Preload Setting – Please follow the steps below
 - a. Open the air cap and release the air pressure
 - b. Inflate the air chamber
 - c. Make sure the air cap is securely tightened



INCREASE AIR PRESSURE

1. Unscrew the valve cap on the left leg and set aside.
2. The air fitting is of the Schrader valve type.
3. Use the RST air pump, to pressurize the fork to the desired level. (Upon removing the air pump, there may be some air lost. This is air escaping from the pump and doesn't affect the pressure setting you set the fork at).
4. To decrease pressure, it is best to use the RST air pump since the air chamber volume is quite small and will allow better control than simply depressing the center pin of the Schrader valve.
NOTE: Since all air chambers contain a small amount of oil, you should only adjust the air pressure with the fork in an upright position. If you depress the Schrader valve manually, it is normal to see a small amount of oil mist, please use a shop towel to cover the valve to protect yourself and do not look directly over the valve.

WARNING

Changing the suspension settings on the fork can change the handling and braking characteristics of your cycle. Do not change the adjustment until you are fully familiar with the instructions and recommendations. Always check for changes in handling or braking by taking a careful test ride in a safe environment after each adjustment.

LUBRICATION

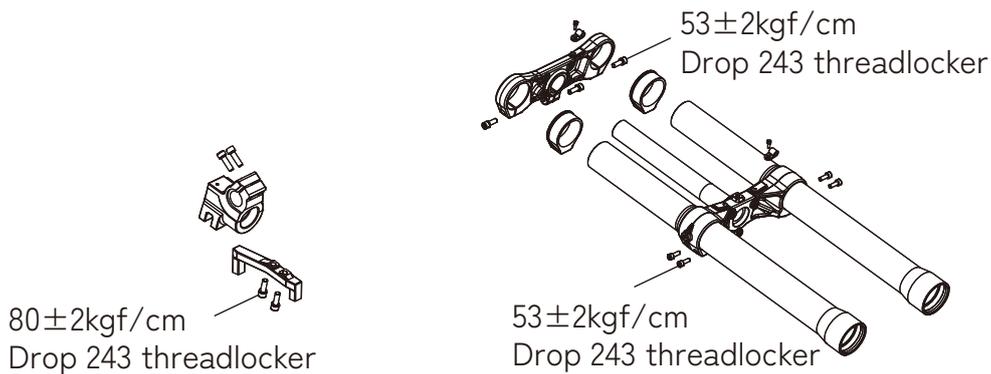
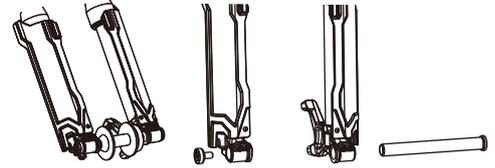
To ensure the fork's optimum performance, we recommend regular lubrication with a suspension approved grease. Please log on RST website (www.rst.com.tw) for maintenance manual information.

WARNING

1. Before disassembly of the "function system", it is strongly recommended to take it to an RST dealer. The authorized RST dealers will provide qualified technicians with proper tools and training to perform service correctly. Improper disassembly may damage the product and lead to failure of human injury.
2. Before completing maintenance, please make sure all screws have been securely tightened according to the correct torque settings to avoid any human injury.

SIGMA 20mm front wheel axle assembly steps

1. Align the hub with the center line and place it into the foot sleeve axle hole.
2. Apply lubricating oil to the 20mm axis
3. Insert the 20mm axle into the hub from the left fork leg (disc brake seat)(8mm wrench can be used to assist insertion and positioning)
4. Use a 6mm Allen key to rotate the fixing screw counterclockwise into the internal thread of the shaft.
5. After the fixing screw is rotated to the position, use an 8mm Allen key to fix the axis, and a 6mm Allen key to tighten the fixing screw with a force of 10~15 N·m.
6. After assembly is completed, please check the operating status of the disc.



SPECIAL NOTE ON FORKS USED FOR DJ / FREE RIDE / DH

This warranty does not apply to damage to the product caused by crash, impact, abuse of the product, non-compliance with the manufacturer's specifications of usage or any other circumstances in which the product has been subjected to forces or loads beyond its design.

GENERAL WARNING NOTE

As with all mechanical components, the bicycle is subject to wear and high stresses. Different materials and components may react to wear or stress fatigue in different ways. If the design life of a component had been exceeded, it may suddenly fail possibly causing injury to the rider. Any form of crack, scratches or changing of color in highly stressed areas indicate that the life of the component had been reached and it should be replaced.

WARNING

Do not use the lithium based grease because it may react with some parts (O-ring, wiper, seal) internals and greatly reduce the performance of the fork.

WARNING

Please notice if you suspend your bicycle or store it with upside down or without riding for a long period, the incorrect hydraulic positioning will cause the damping system malfunction, and it will affect the performance of riding. Therefore, in order to have a better performance, please adjust the lock out knob to "OPEN" position then press the fork with entire travel for 10 to 20 times before riding.

RST

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