



DOWNHILL RACING FORK



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Introduction

Thank you for choosing the Risse Racing Champ as your downhill suspension fork. Your new Champ fork is the most sophisticated bicycle suspension fork available. It is engineered to provide you with a lifetime of enjoyment and can be tailored to suit an infinite variety of riding conditions. All Risse Racing products are designed, manufactured and assembled by the finest professionals in the industry. It is important that you know how to set up your fork correctly to ensure maximum performance. This manual will provide you with the step-by-step instructions of how to set up your fork. When you have finished reading this manual, keep it on hand as it will be your tuning guide.

Disclaimer

Risse Racing is not responsible for any damages to you or others arising from riding, transporting, or other use of your fork or bicycle. In the event that your fork breaks or malfunctions, Risse Racing shall have no liability or obligation beyond the repair or replacement of your fork, pursuant to the terms outlined in the Service and Warranty provisions of this manual.

Consumer Safety

RIDING A BICYCLE IS DANGEROUS AND CAN RESULT IN DEATH OR SERIOUS INJURY. TAKE RESPONSIBILITY FOR YOURSELF AND OTHERS SERIOUSLY:

- Maintain your bike & suspension
- Wear protective clothing, eye protection and a helmet
- Ride within your limits

Before riding, take the time to read the Risse Racing manual on setup, use and service of your fork. If you have questions, call Risse Racing directly at (530) 246-8700.

If your fork ever loses oil, or if it makes unusual noise, stop riding immediately and have the fork inspected by a dealer or contact Risse Racing. **RIDING WITH A MALFUNCTIONING FORK CAN RESULT IN LOSS OF CONTROL, CRASHING, AND POSSIBLE DEATH OR SERIOUS INJURY.**

Never modify your fork. Only use genuine Risse Racing parts for your fork. Any modification, improper service, or use of aftermarket replacement parts will void the warranty and could damage the fork or cause loss of control of the bike resulting in serious injury or death.

Installation

Remove upper triple clamp and install lower headset bearing onto the steerer tube. Install fork onto frame with triple clamps and stem. Mark steerer tube and cut to correct length. Reinstall the fork, triple clamps and stem, but leave the upper triple clamp and stem pinch bolts loose. Install your headset's preload device and preload the headset bearings. Tighten down the upper triple clamp pinch bolts and stem.

Do not overtighten the lower triple clamp.

Check tire clearance. With the fork completely compressed you need a minimum of 5mm clearance between the top of the tire and the bottom of the crown.

Part	Qty	Size	Torque
Upper Triple Clamp	2	6mm x 16mm	60 in/lb 68 N/m
Upper Steerer Tube	1	6mm x 16mm	60 in/lb 68 N/m
Lower Triple Clamp	4	6mm x 16mm	40 in/lb 45 N/m
Lower Steerer Tube	1	6mm x 16mm	60 in/lb 68 N/m
Brake Clamp	2	6mm x 12mm	200 in/lb 13.6 N/m
Axle Bolts	2	5mm x 12mm	50 in/lb 4.7 N/m
Stem to Triple Clamp	4	6mm x 20mm	60 in/lb 6.8 N/m
Bar Clamp Top Clamp	4	6mm x 16mm	60 in/lb 6.8 N/m

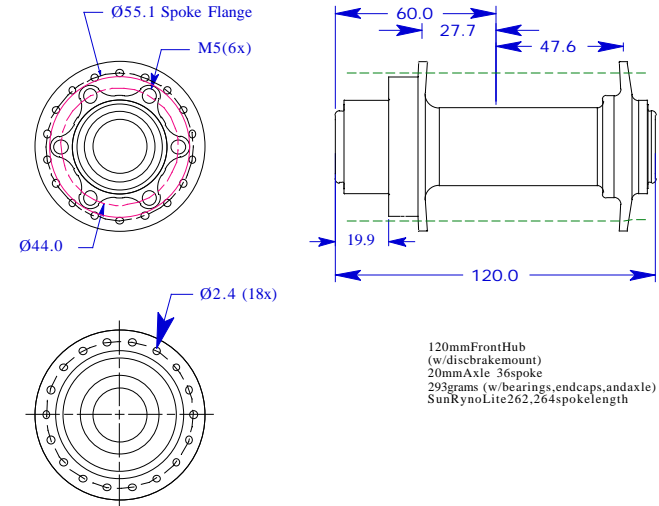
Disc Brake Installation

Install the brake clamp onto the left lower fork leg. Install the brake rotor onto the front hub. Install the brake caliper onto the brake clamp. The Champ is compatible with the following disc brake models: Hayes, Hope/ International Standard, and Magura and Pro Stop. Each model requires the corresponding brake hanger to mount the caliper. These are available from Risse. Once the brake is installed, align the caliper to the rotor and tighten the two brake clamp bolts (20 ft./lbs.; 13.6 N/m – 120 in/lb).

Note: A 110mm hub can be run with 5mm hub spacers and 5mm rotor spacers.

Disk Brake mounts	Part #
Hope/International Standard	20817
Magura	20699
Hayes 69mm	20835-2.7
Hayes 71mm	20835-2.8
Hayes 74mm	20835-74
Pro Stop	20559

120 mm Risse Hub:



120mmFrontHub
(w/discbrakemount)
20mmAxle 36spoke
293grams (w/bearings,endcaps,andaxle)
SunRynoLite262,264spokelength

Tuning

Your Champ fork has five ways of being tuned in order to change the way your bike handles. By changing the spring rate, adjusting spring preload, rebound damping, compression damping, and ride height it is possible to tune your fork to specific rider preferences and different course conditions.

Spring Rate:

If you are bottoming out too often or not using the available travel, then the spring rate should be changed. The spring rate required is dependent upon the weight of the rider. If you need a different spring rate, contact Risse for a different spring, or send your fork in.

Spring rate:

There are currently four spring rates available. Each fork leg has two springs inside with a center guide spacer between each spring. There are many combinations of springs available to help allow very small changes in the total spring rate.

Spring Color	Rider Weight Range
Green	110-170 lbs.
Red	140-200 lbs.
Yellow	180-260 lbs.

Use different spring rates to balance the bike front to rear. From a standing position ride the bike while bounding the suspension up and down.

The front and rear suspension should compress about equally. If you cannot get the correct amount of sag by adjusting the preload, it is likely that you will need a different spring rate.

Preload:

Preload is the amount of spring that is compressed from its free length. It is changed by adjusting the spring preload via the knurled knob on the top left fork leg (Figure 1). Turning the knob clockwise increases preload and turning it counterclockwise decreases preload.

Preload is used only to set sag, not to keep the fork from bottoming or to fix an incorrect spring rate. Front fork sag should be measured with the rider seated on the bike in full riding gear on flat ground and with the suspension settled. The suspension should sag between 15-30% of the fork's travel.

To measure sag, install a zip tie on the upper tube so that it's flush against the seal. Sit on the bike and then step off and measure the bottom of the zip tie to the top of the wiper. That measurement is sag.

Rebound Damping:

Rebound damping is used to control the extension rate/speed of the fork. Too much rebound damping will cause the fork to pack down over a series of bumps because the fork cannot return to its original position in time for the next bump. Too little rebound damping will make the front end pogo or feel loose.

The Champ has one external damping adjustment. The needle adjuster is accessible on top of the fork cap. The cap labeled "R" on the right leg of the fork adjusts the rebound damping. The knurled adjuster is rotated by hand (Figure 2). Turning the adjusters clockwise *increases* the damping force and counterclockwise *decreases* the damping force. The adjuster has 12 clicks from full soft to full stiff.

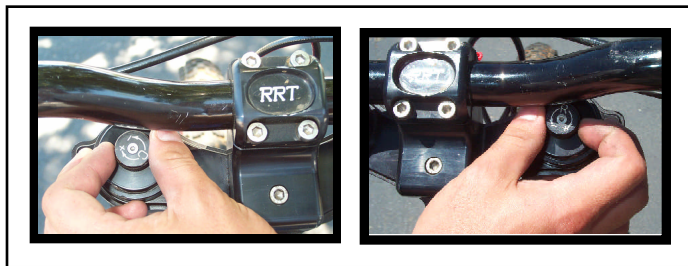


Figure 1

Figure 2

Compression Damping:

compression damping is used to provide the rider with feedback through the handlebars, and to slow the wheel down as it crests the top of a bump in order to keep it from coming off the ground. Typically, very little compression damping is necessary. Smoother courses will usually allow you to run more compression damping in order to get more feedback through the handlebars.

Ride Height:

Ride height can be used to alter weight bias and steering geometry. A steeper head tube angle will allow faster steering. A less-steep (slack) head tube angle will allow for slower steering and will be more stable. If the front end turns in on you when it slides try raising the front end, if it turns out on you try lowering it.

Maintenance

The oil should be changed every 25-50 hours for the best performance. The seals should be changed every two years.

Oil Levels

The oil levels on the Champ legs fluctuate slightly depending on the size of fork you have. A 5 or 6 inch fork will have 145 to 150 cc's in the compression leg and 245 to 250 cc's in the rebound leg. A 7 inch fork will have 150 to 160cc's in the compression leg and 250 to 275 cc's on the rebound leg. The forks are filled with standard 5 weight oil, although this can be replaced by heavier weight oil for a slower reaction.

All Champ forks are equipped with a bumper inside the fork legs to prevent the legs from compressing more than a desired amount. When it is possible to feel the bumper hit when compressing the fork, this is referred to as a hard limit (it won't compress beyond the bumper). Another type of limit on the fork is referred to as a soft limit, this is when the amount of oil inside each leg is the exact amount needed to fill the fork leg completely once the leg has compressed to its entirety. The soft limit is reached through the exponential increase in oil pressure as the fork compresses. Once the space within the legs is reduced to such an amount that there is no place for the oil to go the fork has reached its soft limit. All Champ forks are built to withstand this amount of pressure within and it is recommended that the forks be run this way.

Most forks that leave the factory are set up with a soft limit, however, this limit is also dependent on the rider weight combined with the type of riding done. If you can feel a definite hard limit on your fork then add 5cc's of oil to each leg at a time, since small amounts make a big difference. In shop, it is usually 20 cc's to every inch of travel lost.

Trouble shooting

Sticky fork:

When your fork is installed, **avoid overtightening the lower triple clamp.** Loosen it all the way and retighten it alternating between the upper and lower bolts, making sure they are tightened equally. If the lower triple clamp is overtightened it will squeeze the upper tube and the upper fork bushing will bind as it passes the triple clamp. This will cause it to feel like the fork is sticking in the initial part of the travel.

In the event of a hard crash, the upper triple clamp may twist out of alignment with the lower triple clamp. This will cause excess stiction and the bike will not go straight when pointed straight ahead. If this happens, loosen all the bottom clamp pinch bolts and, while holding the front wheel between your knees, gently turn the handlebars to center the wheel to the handlebars. Bounce the front end firmly several times and this will make everything fall in place. Now retighten the lower triple clamp.

Warranty

The factory warranty period for your fork is one year from the original date of purchase. A copy of the original purchase receipt must accompany any fork being considered for warranty service. Warranty is at the full discretion of Risse Racing and will cover only defective materials or workmanship.

This warranty is void when damage to the fork has occurred from the following:

- Abuse
- Any attempt to disassemble
- Modifications
- Non-factory oil changes or improper service
- Shipping damages

To maintain high performance and product longevity, periodic maintenance is required. To ensure peak performance, repairs and service to the fork must be performed by Risse Racing in the US or outside the US by a Risse Racing authorized service center. Risse Racing reserves the right to all final warranty decisions.

Service

The following procedures must be completed in order to obtain service or repairs for your fork.

Contact Risse Racing at (530) 246-8700 to obtain a Return Authorization Number and shipping address. For our international service centers please refer to the list on the following page or contact Risse Racing directly to determine the service center nearest you.

6.

Send fork to Risse Racing or the international service center nearest you with shipping charges prepaid by sender. Mark the Return Address and Return Authorization Number clearly on the outside of the package.

Include a description of the problem with the fork. Satisfactory proof of purchase receipt is required for warranty consideration.

International Service Centers

Columbia	Mosca LTDA	57 28 23 1123
El Salvador	Bike Doctor	(530) 262-0953
England	CVI	+44(0)1405 760030
Germany	Toxoholics	06331-258160
Italy	Pro-MSAS	39-2-33404547
Norway	KRASJ	911-13799
Peru	Rojo Sports	(305) 758-3792
Sweden	Inerti Sport Import	46 0322 70117
Switzerland	Suspension Center	(031) 809 3020

Methods of Payment

Visa Mastercard COD Check

Method of Shipping

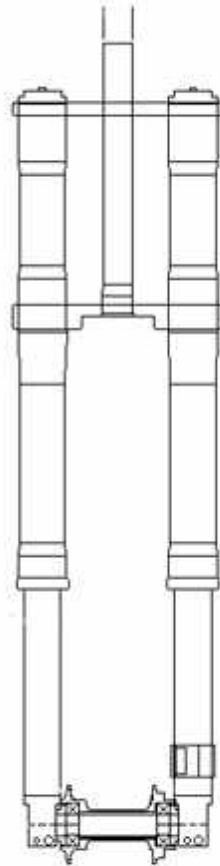
We use UPS ground service within North America, unless otherwise specified.



7.



Available Travel	P/N
6" (152mm)	50210
7" (178mm)	50387
8" (203mm)	50388
9" (229mm)	50389



Risse Racing Technology, Inc.
 Champ Fork
 Hub Spacing 120mm or 110mm w/spacers
 Hayes Brake Mount (RS Caliper, 8" Rotor)
 Compatible with Hayes Pro-Stop, Magura, and Hope Brakes

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