

MSP

GROOVE

180

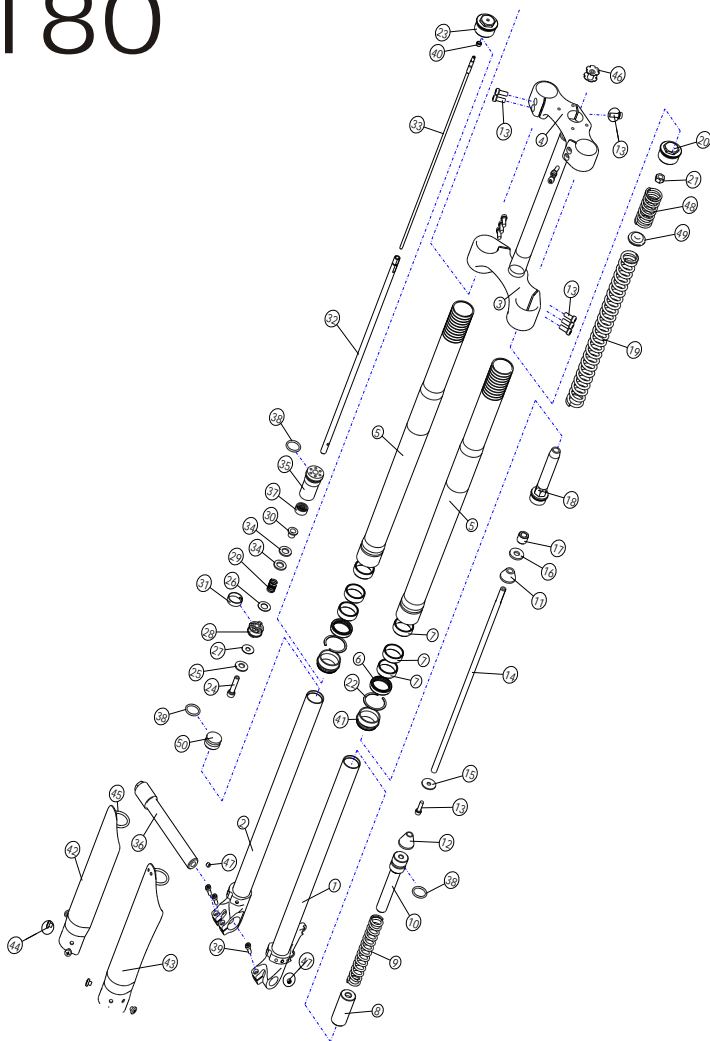


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IMPORTANT

CONSUMER SAFETY INFORMATION

WARNING: RIDING A BIKE IS DANGEROUS. NOT PROPERLY MAINTAINING OR INSPECTING YOUR BIKE AND IT'S COMPONENTS IS EVEN MORE DANGEROUS. IT IS ALSO DANGEROUS TO NOT READ AND FOLLOW THESE INSTRUCTIONS.

1. NEVER REMOVE STEERER TUBE FROM CROWN. THIS IS A PRESSED IN PART. REMOVING IT WILL RENDER BOTH THE CROWN AND STEERER TUBE INOPERABLE.* MAKE SURE THE FORK CAPS AND ALL FORK HARDWARE (pinch bolts, etc.) ARE TIGHT BEFORE EACH RIDE.
2. DO NOT PERFORM ANY MODIFICATIONS OR ADJUSTMENTS THAT ARE NOT OUTLINED IN THIS MANUAL. SEE THE TUNING SECTION FOR MORE DETAILS.
3. INSPECT YOUR FORK BEFORE EVERY RIDE. INSPECT THE CROWN, TUBES, AND AXLE SEAT AREAS FOR ANY SIGNS OF FATIGUE, BENDING, CRACKING OR OTHER DAMAGE. IF YOU NOTICE ANY TYPE OF DAMAGE, DO NOT RIDE IT. RETURN IT TO YOUR DEALER OR TO MRP FOR A COMPLETE INSPECTION AND NECESSARY REPAIR.
4. PERFORM ALL RECOMMENDED MAINTENANCE ACCORDING TO THE MAINTENANCE SECTION OF THIS MANUAL. FAILURE TO PERFORM MAINTENANCE COULD DRASTICALLY REDUCE THE FORK'S LIFE, PERFORMANCE, AND CAUSE YOUR FORK TO BE A SAFETY HAZARD.
5. MRP RECOMMENDS THAT YOU WEAR PROPER SAFETY EQUIPMENT EVERY TIME YOU RIDE. INCLUDING AN APPROVED BICYCLE HELMET. NEVER RIDE AT NIGHT WITHOUT LIGHTS.
6. ALWAYS USE GENUINE MRP PARTS. USE OF AFTERMARKET REPLACEMENT PARTS AND UPGRADES VOIDS THE WARRANTY AND COULD CAUSE STRUCTURAL FAILURE.
7. MRP FORKS ARE DESIGNED FOR OFF ROAD USE ONLY. THEY ARE NOT EQUIPPED WITH REFLECTORS FOR ROAD USE. IF YOU ARE GOING TO USE YOUR FORK ON THE ROAD, HAVE A DEALER OR MECHANIC INSTALL REFLECTORS THAT MEET THE CONSUMER PRODUCT SAFETY COMMISSION'S REQUIREMENTS.

**IF SERVICE BECOMES NECESSARY OR REMOVAL OCCURS, PLEASE CALL MRP CUSTOMER SERVICE FOR PRODUCT EVALUATION AND DIAGNOSIS.*

INTRODUCTION

Thank you for purchasing your new MRP fork. Our forks are designed to help you perform at your absolute peak.

Your new MRP fork has oil damping and is coil sprung for light weight performance. The coil spring and damper is set stock to satisfy a wide range of rider weights and riding styles. Fine tuning can be easily accomplished by changing pre-load and external damper settings. See the tuning section for details. For very heavy riders, replacement springs are available. Steering accuracy is improved over conventional MTB forks by utilizing superior materials and design. Every effort has been made to make MRP forks perform at a level superior to other forks on the market. To ensure peak performance, proper installation and periodic maintenance is required. When riding on public land, please respect the rights of others and stay on established paths and trails. By riding responsibly, you are helping ensure the future of our sport.

FORK INSTALLATION

MRP forks feature a 1-1/8" threadless steerer tube. If you have a threaded type fork on your bicycle, consult your dealer for the appropriate upgrade parts necessary to convert to a 1-1/8" threadless steerer tube. Check with your frame manufacturer to ensure your bike is designed for a triple clamp fork. If not, you may void your warranty.

1. Remove your old fork from the bicycle. Measure the diameter and length of your old fork's steerer tube to ensure that the MRP steerer tube is the correct diameter and sufficient length for the installation.
2. Remove the crown race from your old fork.
3. Press the crown race onto your new MRP fork. (see **Figure #1**)
4. Preassemble the headset by sliding the fork steerer tube through the bearings. Then install the headset upper race, upper triple clamp, headset spacer (optional), and stem onto the fork steerer tube. Adjust with optional spacers to your preferred height. (**See Figure #2**) **WARNING:** Refer to the head set owners manual if there are any questions about the head set installation.

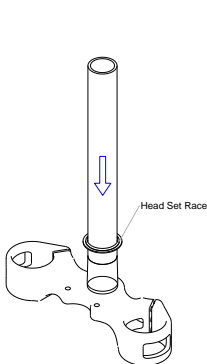


Figure #1

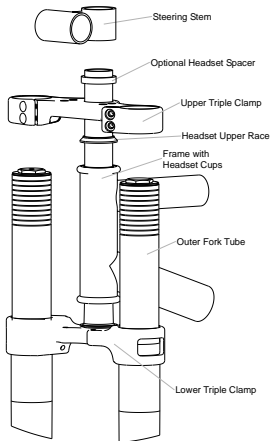


Figure #2

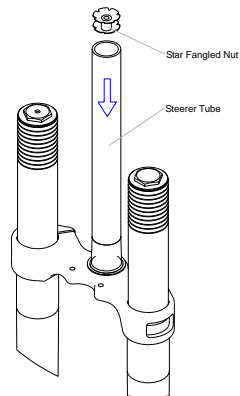


Figure #3

5. Mark the steerer tube at the top of the stem. The steerer tube will now need to be cut to the correct length. Disassemble and cut 3mm (1/8") below the mark. Consult your dealer or mechanic if you don't have the proper tools to cut the steerer tube.
6. The star fangled nut must now be installed into the steerer tube. If you don't have the set tool we recommend dealer installation of this part. **(See Figure #3)**
7. Clean and grease all headset bearings and races to prepare them for assembly.
Note: Replace the bearings if there is any sign of wear or corrosion.
8. Now loosely assemble the headset, stem and handle bars as done in step four. **(See Figure #2)**
9. Install the headset top cap into the star fangled nut. Tighten until there is no play in the steering. The fork should rotate freely in the head tube. Straighten the stem in relation to the front tire and tighten the pinch bolts on the stem. Tighten the pinch bolts on the upper clamp and double check that the lower clamp bolts are tight. These can easily be over tightened. We recommend tightening to 5 foot pounds. If there are any questions consult your dealer or mechanic.
10. Slide the wheel in and line up the brake rotor with the brake caliper then line up the hub with the axle feet. Slide the 20mm axle through the right side foot, hub and into the left side foot. Tighten the pinch clamps after the axle is properly seated and tight.
11. Adjust your front brake according to the manufacture's instructions.
12. Check to see that the brakes are adjusted and properly working. Make sure the brake line doesn't interfere with any part of the bike when the fork is compressed and released.

Warning: When installing the wheel or a new tire, check for minimum clearance. Measure from the highest point on the tire to the under side of the crown. There must be 1/8" or 3mm more clearance than the fork's travel to ensure adequate clearance in all riding conditions. Any less clearance can cause the tire to hit the crown resulting in serious injury or death.

The Groove 180 will not work on a frame with a head tube longer than 5 1/2"

TUNING

To get the most from your MRP fork, it is important that you tune the forks to fit your style of riding and the conditions you ride in.

INITIAL BREAK-IN PERIOD

Your new fork is designed to break-in over a period of 10 hours or more of riding. As all the parts bed into each other, the stiction (friction) of the fork will diminish and the fork will absorb the bumps better. After this initial break-in, fine tuning the spring pre-load and hydraulic damper may be beneficial to achieve the best possible fork performance for your weight and riding style.

TUNING YOUR SPRINGS

1. There are two ways to adjust your fork's spring action. The first is by changing

the spring pre-load and the second is changing the springs for a completely different rate. Your MRP fork comes equipped with a medium rate spring adjusted with a minimum of pre-load. Minimum pre-load means that at full extension, the fork caps just touch the top of the springs. This setting usually gives the best ride characteristics. Excessive pre-load will cause the fork to top out and may indicate that you need a stiffer spring.

2. **Pre-load** can be changed by adding or removing pre-load spacers from under the main spring. More pre-load will have less sag and a firmer feel. Thread the cap up and tighten the jam nut onto the cap to reduce pre-load. Less pre-load will have more sag and a softer feel.
3. Though the medium rate springs that are fitted in your MRP forks should satisfy most rider weights and conditions, for very heavy riders, a spring change may be necessary. If you are a lightweight rider and feel you are not getting the full travel out of your fork, ordering the optional light fork springs for your fork would be recommended. For heavier weight riders that feel they are constantly using too much fork travel, the optional heavy fork springs would be recommended. A good way to test the travel you are using with your fork is to tie a zip tie around fork stanchion and slide it up to the forks wiper seal. Go and ride a variety of conditions you normally experience, including some conditions that you feel should use the full fork travel. After the ride, inspect the position of the zip tie. Measure that position from the fork wiper seal to the axle clamp. Next remove the fork cap and compress the fork to full bottom out. If the zip tie moves more than 1/4", your spring is probably too stiff and a change to a softer spring may improve your ride. Very heavy riders may note that the zip tie slides down the fork stanchion quite far even over minor bumps and this could indicate the need for a heavy spring rate.
4. If after adjusting as outlined in steps 1-3 you feel the fork is too soft or too firm, you may need to change the spring out. Contact MRP for a replacement spring. See the "Disassembly of the Spring Leg" and "Reinstalling the Springs and Left Hand Top Cap" sections to replace the spring.

TUNING YOUR DAMPER

1. **Rebound damping** is adjusted by turning the slotted brass adjuster on the top cap of the right leg. The adjuster has 8 turns of adjustment. Turn the adjuster clockwise for slower rebound. To speed up rebound, turn the adjuster counter-clockwise. Start with a middle setting and fine tune the rebound from there. Proper rebound will allow the tire to track the ground over consecutive bumps. Rebound that is set too slow will pack-up (feel harsh over consecutive bumps) while rebound set too fast will cause the fork to top out harshly. If the fork is topping out and you have the correct spring for your weight, turn the adjuster one turn at a time until the top-out stops.

2. **Compression damping** can be adjusted by adding or removing air pressure from the damper leg. The schrader valve for adjusting the air pressure is located on the right fork leg drop-out. Remove the valve cover and adjust between 50 psi min. and 150 psi. max. Adding air will increase the compression damping (slow it down) and removing air will decrease compression damping (faster compression). Less compression damping will increase the fork dive but will feel

smoother over small bumps. More compression damping will feel stiff over small bumps but will be more resistant to bottoming.

MAINTENANCE

Your MRP fork requires periodic maintenance to ensure peak performance and long life. Neglecting proper maintenance will reduce the fork's life. Internal build up of water and dirt or a lack of lubrication will cause excessive wear and void the warranty.

BEFORE EVERY RIDE: Visually inspect your fork for bent or broken parts, loss of oil, abnormal sounds or other indications of possible fork failure. Compress your fork to verify proper function. Check all other bicycle components to ensure proper working order.

AFTER EVERY RIDE: Clean and dry the exterior of your fork. When cleaning the fork, do not direct the water spray at the seals. Visually inspect your fork for damage.

***EVERY 30 HOURS OF RIDING:** Your fork should be disassembled, inspected, cleaned and re-greased. If the fork appears to be relatively clean, you can go 40 hours between servicing. If the fork appears excessively dirty you should service it every 20 hours. The three things that will effect the service interval and performance of your fork are water, mud and dust. How much you use your fork in those conditions will determine how much service it requires.

***EVERY 100 HOURS OF RIDING:** Complete service should include removing the upper fork legs cleaning and re-greasing all shafts, bushings and seals. Check damper leg for proper function(see Disassembly of the Damper Leg). NOTE: Disassembly of the hydraulic damper should be left for the MRP factory. At this time, the fork should be carefully inspected for wear and damage before reassembly. Contact MRP for replacement parts and service. We recommend that this service be performed by a qualified dealer or the MRP factory.

| Tools needed to service fork | | |
|-------------------------------------|--------------------|--------------------|
| Quantity | Part Number | Part Name |
| 1 | WB -97-700 | Damper Shaft Clamp |
| 1 | 15mm. | Open End Wrench |
| 1 | 25mm. | Socket |
| 1 | 19mm. | Open End Wrench |
| 1 | 17mm. | Open end wrench |
| 1 | SH-EDL-04 | Suspension Lube |

***MRP recommends that you consult with a qualified technician before performing the following:**

BASIC FORK DISASSEMBLY

Removal of the Leg Assemblies

1. Disconnect the front brake and loosen the pinch clamp bolts at the bottom of each leg. Unscrew the axle with a 17mm wrench and remove the wheel.
2. Loosen the four M6 upper clamp bolts. Before loosening the lower clamp bolts, start to loosen the top caps using a 25mm or 1" socket. Then loosen the lower

clamp bolts and slide the legs out of the clamps.

Disassembly of the Spring Leg Assembly (Left Hand)

1. Unscrew the top cap from the outer leg. Check for noticeable play between the stanchion tube and the outer fork tube. If there is play, contact MRP or a qualified dealer for service.
2. Lower the outer leg until the seal touches the axle clamp.
3. Use a 15mm wrench to hold the jam nut and unscrew the top cap counterclockwise from the shaft.
4. Remove the jam nut, single sided spacer and main spring from the shaft.
5. Remove the inner leg from the outer leg. Place the leg in a vise with a soft jaw and remove the spring guide from the inner leg using a 19mm or 3/4" wrench.
6. Normally, it's unnecessary to remove the anti bottoming system from the inner leg, but it is a good idea to shine a flashlight down inside to visually inspect the compression bumper. If it looks damaged, use a spoke or a coat hanger to hook the bumper and pull it out. Replace with a new bumper.
7. Clean and inspect all the parts. Check the bushings inside the outer leg carefully for wear. This is done by looking at the color of the clean bushings. If the bushings are tan, they are in good condition. If they are silver/aluminum in areas, they are worn and can cause fork stanchion damage. Please note that special tools are required to remove and replace these bushings. This service can be performed directly through MRP or a qualified dealer.
8. Next, inspect the fork stanchion tubes for wear, nicks or scrapes. These will cause premature wear on the seals and bushings. If there is any damage to the stanchion tubes, have them replaced.

Disassembly of the Damper Leg Assembly (Right Hand)

NOTE: 10mm Clamp Blocks WB-97-700 are required to work on the damper side leg. Contact MRP for the proper tools.

1. Unscrew the top cap from the outer leg. Use the block to hold the shaft. Clean the damper shaft with a brake cleaner to prevent the shaft from turning. Check for noticeable play between the stanchion tube and the outer fork tube. If there is play, contact MRP or a qualified dealer for service. Slide the outer leg down to the axle clamp.
2. Carefully clamp the shaft in the vise using 10mm clamp blocks. *Note: You can easily damage the shaft by scratching or bending it.* When clamping, be sure the fork isn't touching the bench under the vise.
3. Unscrew the top cap counterclockwise from the shaft. *Note: There is a small spacer under the cap that can fall out.*
4. Remove from the vise and pull the inner leg out of the outer leg.

BASIC FORK REASSEMBLY

Rebuilding the Outer Legs

1. Thoroughly clean all the parts in a mild solvent.
2. Check the condition of the wiper seals and the inner oil seal for cracks, abrasions or obvious signs of wear. *Note: If the wiper seals are in question, replacement is*

always recommended. It helps to keep the dirt out, especially when riding in harsh conditions.

3. The wiper seals can be removed with a spoon style tire iron or something similar and can be re-installed using a large socket as a driver to install squarely in to the leg. *Note: Jamming the seals in at an angle can crush the steel casing and the seal will no longer seal correctly and/or stay in place.*
4. Apply grease to the bushings down inside the leg. Verify the bushings are in good working order. Bushings are replaceable but require a number of special tools to remove and install. Return to MRP to have the bushings changed if required.

Rebuilding the Spring Leg Subassembly

1. Thoroughly clean all the parts.
2. Check the condition of the rebound and compression bumpers and replace if necessary.
3. Rebuild the dummy shaft starting from the bottom. First the rebound bumper, the delrin washer, rebound spring, rebound bumper spacer that goes inside the rebound spring and finally the spring guide attached to the rebound spring. The bottom out bumper must be pushed down in inner leg until it stops. Thread the dummy assembly into the inner leg.

Rebuilding the Damper Leg Assembly

1. Thoroughly clean all the parts.
2. Inspect for obvious signs of damage. Check the air pressure. 50-150 psi. The damper must have 50 psi in leg before compressing. Test the damper by pushing the shaft down. It should compress and return in a controlled manner. At the top of the stroke, check for dead spots in the damping and if the damper shaft does not return to full extension or you see oil, this indicates the need for damper service. Contact MRP for service.

Reinstalling the Outer Legs

1. Apply Slick Honey or other non-lithium based suspension lube to the bushings inside the outer leg. Make sure to lube the lower bushing which is deep in the outer leg.
2. With all parts cleaned and reinstalled with new grease, fit the outer leg over the stanchion and gently rock and slide the legs until the inner leg slides into the bushings. **Note:** Slide the outer leg all the way down to the axle clamp. Check for noticeable play between the stanchion tubes and the fork lower. If there is play, contact MRP for service.

Reinstalling the Springs and LH Top Cap

1. Install the outer leg. Pull the dummy shaft out to full extension. If additional pre-load is needed, drop the pre-load shims over the control rod and down onto the spring guide.
2. Carefully slide the main spring, covered in grease, over the shaft and down onto the spring guide. Install the single sided spring guide on top of the main spring and then thread the jam nut onto the shaft until it stops.
3. You can start the top cap threading onto the shaft. Hold the top cap with a 25 mm.

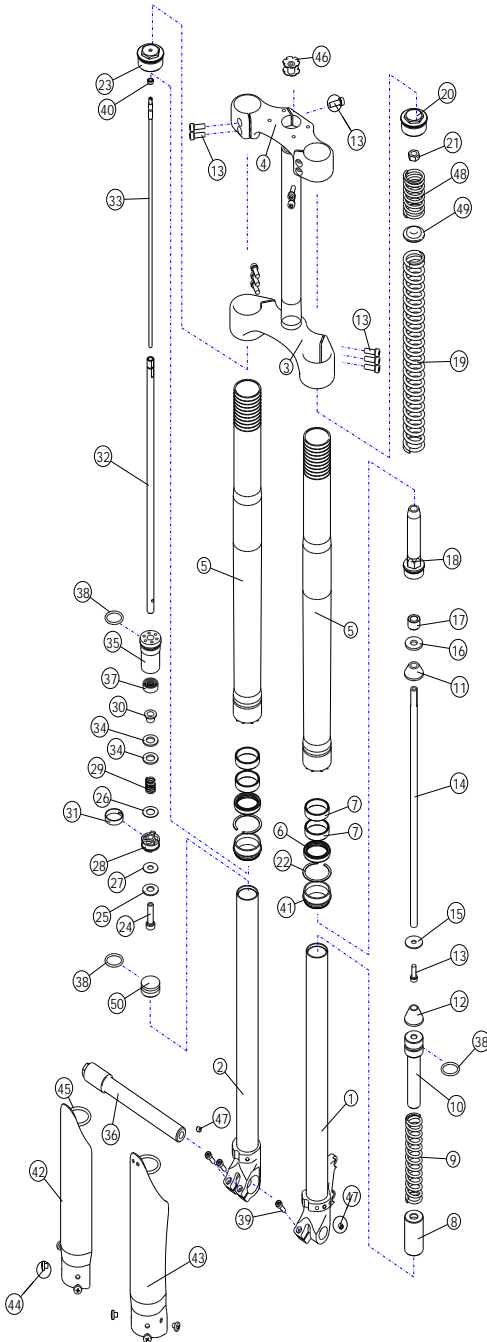
socket and tighten the jam nut with a 15 mm. wrench up against the top cap to lock them in place. Apply grease to the auxiliary spring.

4. Thread the top cap into the outer leg and tighten. *Note: A little more than hand tight is all that is necessary, as the upper clamp will hold the top caps tight.*

Reinstalling the RH Top Cap

1. Screw the rebound needle in clockwise until it stops then back it out 3 to 4 turns.
2. Install the small spacer under the top cap if you removed it earlier.
3. Carefully clamp the shaft in the 10mm clamp blocks. *Note: You can easily damage the shaft by scratching or bending it.* When clamping, be sure the fork isn't touching the bench under the vise. Use a brake cleaner on the shaft to clean and lessen the chance of the damper shaft moving in the clamp block.
4. Install the top cap onto the damper shaft and tighten. Remove the assembly from the vise and thread the top cap into the outer leg and tighten. *Note: A little more than hand tight is all that is necessary, as the upper clamp will hold the top caps tight.*
5. Readjust the rebound needle to your preferred position.

Exploded View



TECH NOTE:

Different model years of this fork have minor differences in parts and parts order in the spring leg. When replacing parts, contact the service department at MRP for technical advice.

| ITEM NO. | QTY. | PART NO. | DESCRIPTION |
|----------|------|---------------|------------------------------|
| 1 | 1 | P1541 | Leg Assembly LH DH |
| 2 | 1 | P1540 | Leg Assembly RH DH |
| 3 | 1 | P1159-110 | Crown Assembly DH 2.0 |
| 4 | 1 | P1157-110 | Upper Crown |
| 5 | 2 | 100021-100022 | Outer Leg DH 2.0 |
| 6 | 2 | P3060 | Oil Seal |
| 7 | 4 | 102470 | Bushing |
| 8 | 1 | P3307 | Bottomer Seat |
| 9 | 1 | 97-3500 | Bottom Out Spring |
| 10 | 1 | P3309 | Bottomer Stop |
| 11 | 1 | 97-3342 | Bumper Soft |
| 12 | 1 | 97-3341 | Bumper Hard |
| 13 | 12 | 97-852 | Bolt M6 |
| 14 | 1 | P2026 | UD 180 Dummy Rod |
| 15 | 1 | 97-4110 | Washer |
| 16 | 1 | P3321 | 0.1" Delrin Washer |
| 17 | 1 | P3322 | Shaft Top |
| 18 | 1 | P3304-1 | Spring Guide |
| 19 | 1 | 100040 | Main Compression Spring, Med |
| 20 | 1 | P2349 | Fork Cap UD 180 |
| 21 | 1 | 97-4100 | Jam Nut |
| 22 | 2 | P4301 | C Clip |
| 23 | 1 | P2348 | Damping Cap UD DH-2 |
| 24 | 1 | P4010 | Shim Stack Bolt |
| 25 | 1 | P2005 | Belvil Washer |
| 26 | 1 | P2004 | Check Valve 22x12x0.02 |
| 27 | 1 | P2006 | Low Spd Shim 22x8x0.02 |
| 28 | 1 | P2012 | Piston |
| 29 | 1 | P2015 | Check Valve Spring |
| 30 | 1 | P2014 | Check Valve Guide |
| 31 | 1 | P3000 | Piston Band |
| 32 | 1 | P2028 | DH-3 Damper Shaft |
| 33 | 1 | P2035 | Needle Assembly |
| 34 | 2 | P3315-1 | Pre-load Washer |
| 35 | 1 | P2201-1 | Shaft Head |
| 36 | 1 | 97-3677 | Axle |
| 37 | 1 | 97-1409 | Shaft Seal |
| 38 | 3 | P3021 | O-Ring -118 |
| 39 | 3 | 97-9200 | M5x16mm Screw |
| 40 | 1 | P2025-1 | Shaft Stop |
| 41 | 2 | 97-1351 | Wiper Seal |
| 42 | 1 | 98-406-1 | Stone Guard, right |
| 43 | 1 | 98-406-2 | Stone Guard, left |
| 44 | 6 | P4005 | Screw Nylon Guard Guide |
| 45 | 2 | P3027 | O-Ring -218 |
| 46 | 1 | 97-9300 | Star Nut |
| 47 | 2 | P4051 | M6x6mm Set Screw |
| 48 | 1 | P3220-A | Auxiliary Spring |
| 49 | 1 | P3300 | Dual Spring Guide |
| 50 | 1 | P2010-1 | Floating Piston |

OWNERS NAME:

ADDRESS:

PHONE:

PURCHASE DATE:

MAINTENANCE LOG

Date

Service Performed

| <u>Date</u> | <u>Service Performed</u> |
|-------------|--------------------------|
| | |

MAINTENANCE LOG

Date Service Performed

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MAINTENANCE LOG

Date Service Performed

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WARRANTY

MRP suspension products are the highest quality and as such are warranted to be free from defects in materials and workmanship for a period of one year from the date of purchase for the original purchaser. If date of purchase cannot be verified by product registration or proof of purchase then the warranty is one year from the date of manufacture. On receipt of the product by MRP, if it is found to be defective, MRP will determine replacement or repair of the product at its sole discretion. MRP shall not be liable for any indirect, special or consequential damages. Warranty does not apply to any product that has been installed improperly or adjusted using methods not outlined in this manual. Warranty also does not cover products that have been misused, or products that have missing/altered serial numbers. The product is not warranted against damage in the appearance of the product or for modifications not outlined in this manual. This warranty does not cover breakage, bending, or damage that may result from crashes, falls or abuse. Normal wear and tear items such as, seals, wipers, bushings, stanchion coating, stanchions, piston bands, foam rings, bottom out and top out bumpers, or damage caused by lack of proper maintenance as outlined in this manual is not covered by this warranty.

What to do if you need warranty inspection or service:

1: Call or email Mountain Racing Products, about the troubles you are having and to set up a RA# (Return Authorization Number).

Phone: (970) 241-3518 Email: info@mrpbike.com

2: Carefully pack and ship your product, be sure to insure the package in case it is lost or damaged in transit. (Only the return shipping to the customer is covered under warranty)

3: Wait for an email confirming MRP has received your shipment.

We will follow up with you about what we have found and how we are going to proceed with the warranty.



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