Marzocchi Bomber Technical Information

Contents

Bomber Technology- Internal Features

Open Bath

Our original Open Bath system remains the industry standard for 2000 ● Marzocchi's Open Bath is utilized in every Bomber fork ● The large volume oil bath serves three main purposes; it's a damping element, it lubricates the fork internals, and it keeps the entire system running cool ● Oil is a superior damping element, eliminating the need for inferior performing MCU elastomers, and closed cartridge systems ● A simple oil change is an economical way to keep things running smoothly verses replacing costly cartridges, bushings, and seals ● Our Open Bath system keeps maintenance to a minimum ● No messy grease guns or time consuming fork rebuilds after each ride.

X.Fly Air Spring System

Found in 2000 model Z.1 X.Fly, Z.2 X.Fly, Z.2 X.Fly QR20, & 1999 Superfly ● Unique dual-chamber design isolates the air spring from the open bath system ● Lo-Pressure, Hi-volume air chamber located in the bottom of each leg ● Open Bath damping chamber located in the top of each leg ● Lo-Pressure air spring for extra sensitive small bump absorption ● Double-duty main seal maintains consistent barrier while keeping dirt out ● Adjustable rebound damping in each leg ● Speed compression damping ● Easy oil and tune-up access.

SSV and SSV Adjustable

Found in 2000 model Z.1 Dropoff, Z.3 QR.20, Z.3 BAM 80, Z.3 M80, Jr. T; 1999 Z.1 Dropoff, Z.3 Long Travel, Z.3 Light; 1998 Z.3 Light, Jr. T ● Marzocchi developed and has continued to use Speed Sensitive Valving (SSV) for 50 years ● New for 2000 only: Easy access internal barrel adjuster for damping control (SSV Adjustable) ● Via 4 internal valves, SSV automatically adjusts the compression damping based on bump speed ● Wide range of tuning using oil viscosity, oil height, and the new internal barrel adjuster ● The most reliable yet simple valve design ever!

SSV Flylight Air System

Found in 2000 model Z.3 Flylight 100, Z.4 Flylight Air, Z.5 Flylight Air, 1999 Z5 ● Identical SSV damping system as described above, utilizing air spring in place of a coil ● New air system found on Performance Bombers for 2000 ● Lo-Pressure design ● Sweet small bump sensitivity with maximum big hit absorption.

Lo-Pressure Air Design

Used in all X.Fly and Flylight model Lo-Pressure systems ● Lo-Pressure gives less static leakage and longer intervals between air adjustments ● Lo-Pressure means better small bump performance- easier to compress 30psi than 130psi ● The new Lo-Pressure air design is the most supple and sensitive air system ever designed: It rivals the buttery smooth feel of our coil spring systems ● Our unique Lo-Pressure design is easy to adjust and resists air loss associated with other high pressure systems.

Bomber Seals

Used in all Bomber forks ● The most proven seal design ever; 5 year track record ● Upper dust wiper seal is the first line of defense against foreign matter ● Lower main seal will sustain over 600psi of pressure ● Main seals are a double lip design that is now duplicated by our competition ● Our seal methods make Bombers the most reliable forks made.

Adjustable Rebound Cartridge

Found in 2000 model Z.1 QR 20, Z.1 CR, Z.2 Atom 80, Mr. T QR20, Jr. T, Monster T, 1999 Z.1 QR 20, Z.1 BAM, Z.1 Alloy, Z.2 Atom Bomb, Z.2 BAM, Z.2 Alloy, Mr. T, Monster T, 1998 Z.1 BAM, Z.1 Alloy, Z.2 Atom Bomb, Z.2 BAM, Z.2 Alloy, Mr. T, 1997 Z.1, Z.2 ● Adjustable via external adjuster ● Allows rider to tune rebound speed to coordinate with spring rate ● Proven design.

Adjustable Compression Cartridge

New for 2000 is our adjustable Compression Cartridge found on the Z.1 CR, Z.1 QR.20, Mr. T QR.20, Monster Triple ● Adjustable via external adjuster with infinite adjustability ● Limits 'dive' under the compression stroke ● Tune out 'bobbing' during sustained climbs ● Sophisticated shim stack design features a high-pressure blow-by function that eliminates hydraulic lock under hard hits ● Shim stack design also protects valve and cartridge body from damage under heavy forces ● Compression Cartridge allows rider to tune compression feel to match body weight ● Retrofits into '97, '98, or '99 fork models where applicable.

Bomber Technology- External Features

Bomber Aerospace Material: BAM

Utilized throughout the Bomber line ● Harder, stronger, and lighter than standard alloys ● BAM is forged then machined for the ultimate in lightweight strength ● Its unique characteristics allow us to use less material while maintaining strength requirements ● We can polish BAM to high gloss perfection- go fast standing still ● Bomber craftsmanship is second to none in the mountain bike industry.

QR.20 Wheel Retention System

Found on: Z.1 QR.20, Z.3 QR.20, Z.2 X.Fly QR.20, Mr. T QR.20 ● A Marzocchi innovation carries over to the 2000 line ● Why do downhill forks use a 20 mm axle?- Stiffness, rigidity, strength, and accurate tracking ● All of these features are now available in a lightweight, Quick-Release (QR) format for Freeride style forks! ● Oversize dropouts offer more 'contact area' to both the axle and the hub ● More 'contact area' means greater strength ● This system allows impact forces to be absorbed by the large axle, not skewer ● Special hub is available in disk and non-disk versions ● Aftermarket axle/QR kit will work with any 20mmx110mm hub ● Patent Pending design.

M PowerWrap Arch

BAM version found on 2000 model Z.1 X.Fly, Z.2 X.Fly, and Z.2 BAM 80 ● MAG version found on 2000 model Z.3 BAM, Z.3 M80, and Z.4 Flylight Air ● Progressive Italian styled brake arch ● Either forged BAM or casted Magnesium is used on this new arch ● BAM version is polished ● MAG version is painted to match the fork legs ● Exclusive Marzocchi Cryofit assembly process eliminates the use of bolts, saving weight and adding strength ● Increased stiffness reduces any stiction for improved smoothness.

New Boltless Crown Design

Found on 2000 model Z.1 X.Fly, Z.2 X.Fly, Z.2 X.Fly QR.20, Z.2 Atom 80, Z.3 BAM 80, Z.3 M80, Z.4 Flylight, Z.3 Flylight 100 ● All new design feature for 2000 ● Lighter, stronger, and cleaner look for XC travel models ● Boltless crown uses our Cryofit process ● Stanchion tubes are Cryofit into the crown.

Bomber Specifications

The following charts outline the different features of each Bomber fork model. Use this chart for reference to be sure that you are following the proper recommendations.

		Spring		Valve System					Total Travel (mm)
		Air	Coil	SSV Adjustable	SSV Non-Adjustable	X.Fly	Rebound Cartridge	Compression Cartridge	
1997 Models	Z1		●				●		105
	Z2		●				●		70
	Z3		●						70
1998 Models	Z1 BAM		●				●		105
	Z1 Alloy		●				●		105
	Z2 Atom Bomb		●				●		70
	Z2 BAM		●				●		70
	Z2 Alloy		●				●		70
	Z3 Light		●		●				70
	Z3 Alloy		●		●				70
	Jr. T		●		●				105
	Mr. T		●				●		105
	Super T		●				●		145
1999 Models	Z1 BAM		●				●		130
	Z1 BAM QR20		●				●		130
	Z1 Dropoff		●		●				130
	Z1 Alloy		●				●		105
	Z2 Superfly	●				●			70
	Z2 Atom Bomb		●				●		70
	Z2 Alloy		●				●		70
	Z2 BAM		●				●		80
	Z3 Light		●		●				70
	Z3 Long Travel		●		●				105
	Z3 QR20		●		●				105
	Z4 Alloy		●		●				70
	Z5 Alloy Air		●		●				70
	Jr. T		●		●				130
	Mr. T		●				●		130
	Super T		●				●		145
	Monster T		●				●		180
		Air	Coil	SSV Adjustable	SSV Non-Adjustable	X.Fly	Rebound Cartridge	Compression Cartridge	Total Travel (mm)
		Spring		Valve System					

		Spring		Valve System					Total Travel (mm)
		Air	Coil	SSV Adjustable	SSV Non-Adjustable	X.Fly	Rebound Cartridge	Compression Cartridge	
2000 Models	Z1 Xfly	●				●			105
	Z1 QR20		●				●	●	110-130
	Z1CR		●				●	●	110-130
	Z1 Dropoff		●	●					110-130
	Z2 Xfly	●				●			80
	Z2 Xfly QR20	●				●			80
	Z2 Atom 80		●				●		80
	Z3 QR20		●	●					110-130
	Z3 Flylight 100	●		●					105
	Z3 BAM 80		●	●					80
	Z3 M80		●		●				80
	Z4 Flylight Air	●			●				80
	Z5 Flylight Air	●			●				80
	Jr. T		●	●					130
	Mr. T QR20		●				●	●	130
	Monster T		●				●	●	180
		Air	Coil	SSV Adjustable	SSV Non-Adjustable	X.Fly	Rebound Cartridge	Compression Cartridge	Total Travel (mm)
		Spring		Valve System					

Maintenance

Bomber forks, accomplished by their open bath system, are designed to be nearly maintenance free. However, proper maintenance will need to be performed to maintain peek performance, safety, and longevity of the fork. It is very important to comply with the following guidelines for proper maintenance. Improper or lack of maintenance may result in premature wear and/or failure and can be very dangerous.

Muddy Conditions

	After every ride	Every 10 hours	Every 100 hours	Every 200 hours
Inspect fork for damage and/or wear	●	●	●	●
Clean and grease under dust wipers and/or boots	●	●	●	●
Wipe off on stanchions	●	●	●	●
Check all bolts for proper torque settings		●	●	●
Check air pressure		●	●	●
Thoroughly clean and relube fork			●	●
Thoroughly clean fork and change the oil			●	●

Dry Conditions

	After every ride	Every 10 hours	Every 100 hours	Every 200 hours
Inspect fork for damage and/or wear	●	●	●	●
Clean and grease under dust wipers and/or boots		●	●	●
Wipe off on stanchions		●	●	●
Check all bolts for proper torque settings		●	●	●
Check air pressure		●	●	●
Thoroughly clean fork and change the oil			●	●

Fork Oil

Marzocchi only recommends the use of high quality, synthetic fork oil like our Factory Fork Oil to be used in the Bomber forks. The oil needs to be free of any detergent or 'seal swell' additives and specifically designed for open bath cartridge systems. Marzocchi's Factory Fork Oil fights damping fade due to heat and aeration and exceeds the performance of other suspension fluids in these applications, especially in regards to 'stiction.' All Bomber forks use 7.5 weight oil stock.

Torque Specifications

Normal maintenance includes checking the torque settings on all of the bolts on the fork. Follow the chart below to set the proper torque for each application.

WARNING: DO NOT use the fork with any of the bolts removed, including the brake bosses. All of the bolts are structural parts of the fork and removal of any part is dangerous and may cause serious injury.

	Tightening Torque	
Bolt	**NM**	**lb ft**
M4 thread diameter	4	2.9
M5 thread diameter	9	6.6
M6 thread diameter	11	7.5
Footnut	12	8.8
Top Cap	12	8.8

FORK SETUP TIPS AND GLOSSARY OF TERMS

Marzocchi offers numerous Bomber forks to correspondent with the different elements of mountain biking. Bombers are setup from the factory for the average rider that will be riding on every terrain possible. This setup may not be suitable for everyone and may need to be modified coordinate with specific needs. Fortunately, Bombers are extremely adjustable and can adapt to any rider, bike and terrain combination possible. Proper setup will insure the best ride possible of any fork and it is necessary to review the following procedures to accurately tune your fork. For best results, follow these instructions in order.

Break-in Period

Some forks may require 5-10 hours of use before the fork fully breaks-in. After the bushings, seals, and other parts have matched to each other, the fork will move smoother. The tight tolerances make the fork last longer and work better.

Sag

Sag refers to how much the fork compresses when the rider is in the normal riding position. Marzocchi recommends 10-20% of XC travel and 20-30% of DH travel in sag to provide the best overall ride. The easiest way to measure sag is to put a zip tie around the stanchion and then measure how much the fork compresses when the rider is in the normal riding position. Keep in mind that the normal riding position on a DH bike may not be correct on level ground. Refer to the following charts for reference.

1997 Models

Fork	Total Travel	Recommended Sag
Z1	105 mm	20-30 mm
Z2	70 mm	7-15 mm
Z3	70 mm	7-15 mm

1998 Models

Fork	Total Travel	Recommended Sag
Z1 BAM	105 mm	20-30 mm
Z1 Alloy	105 mm	20-30 mm
Z2 Atom Bomb	70 mm	7-15 mm
Z2 BAM	70 mm	7-15 mm
Z2 Alloy	70 mm	7-15 mm
Z3 Light	70 mm	7-15 mm
Z3 Alloy	70 mm	7-15 mm
Jr. T	105 mm	20-30 mm
Mr. T	105 mm	20-30 mm
Super T	150 mm	30-45 mm

1999 Models

Fork	Total Travel	Recommended Sag
Z1 BAM	130 mm	25-40 mm
Z1 BAM QR20	130 mm	25-40 mm
Z1 Dropoff	130 mm	25-40 mm
Z1 Alloy	105 mm	20-30 mm
Z2 Superfly	70 mm	7-15 mm
Z2 Atom Bomb	70 mm	7-15 mm
Z2 Alloy	70 mm	7-15 mm
Z2 BAM	80 mm	8-16 mm
Z3 Light	70 mm	7-15 mm
Z3 Long Travel	105 mm	20-30 mm
Z3 QR20	105 mm	20-30 mm
Z4 Alloy	70 mm	7-15 mm
Z5 Alloy Air	70 mm	7-15 mm
Jr. T	130 mm	25-40 mm
Mr. T	130 mm	25-40 mm
Super T	150 mm	30-45 mm
Monster T	180 mm	35-55 mm

2000 Models

Fork	Total Travel	Recommended Sag
Z1 Xfly	100 mm	20-30 mm
Z1 QR20	110 mm	20-30 mm
	130 mm	25-40 mm
Z1CR	110 mm	20-30 mm
	130 mm	25-40 mm
Z1 Dropoff	110 mm	20-30 mm
	130 mm	25-40 mm
Z2 Xfly	80 mm	8-16 mm
Z2 Xfly QR20	80 mm	8-16 mm
Z2 Atom 80	80 mm	8-16 mm
Z3 QR20	110 mm	20-30 mm
	130 mm	25-40 mm
Z3 Flylight 100	100 mm	20-30 mm
Z3 BAM 80	80 mm	8-16 mm
Z3 M80	80 mm	8-16 mm
Z4 Flylight Air	80 mm	8-16 mm
Z5 Flylight Air	80 mm	8-16 mm
Jr. T	130 mm	25-40 mm
Mr. T QR20	130 mm	25-40 mm
Monster T	175 mm	35-55 mm

Spring Preload

Spring preload can be done with the colored external knobs on top of the fork. Preloading the springs will compress them slightly and increase the initial force needed to compress the spring. Bomber forks can preload the spring a maximum of 15mm and the fork will still get full travel. Spring preload is used to fine tune the spring rate to adjust for the proper sag measurement. Minimal spring preload is recommended for better performance and longer working life of the springs, so it is better to change to a stiffer spring rate than to add significant preload.

Coil Spring

Coil spring rate is the force needed to compress the springs in the fork. Marzocchi provides its forks with springs for the average rider. All 1997 and 1998 forks come setup from the Factory with medium springs, and all 1999 forks have the ProWind springs. The 2000 model forks with 80 mm total travel and the Monster T use the Medium springs and all others use the Heavy spring setup. If the rider prefers a different setup, then the stock springs will need to be replaced. See chart below for recommended spring rates.

Marzocchi offers several different spring kits. All springs are linear wound except the Pro-Wind springs which are progressively wound. Dual Rate kits use two compression springs per side. Put the longer compression spring on the bottom and then put the short spring on top to later ease disassembly.

Model	Travel	color	Rider Weights	Spring Rate	Part Number
Z2 '97					
Z2 Alloy '98-'99		none	145-180lbs	Pro-Wind*	5141173
Z2 Atom '98-'99		green	120-155lbs	Soft	5141118
Z2 BAM '98	70 mm	yellow	145-180lbs	Medium	5141116
Z3 Light '98-'99		white	180-220lbs	Heavy	5141117
Z4 '99		red	210-250lbs	X-Heavy	5141109
Z2 BAM '99		none	145-180lbs	Pro-Wind	5141158
Z2 Atom 80 '00		yel/blu	120-155lbs	Medium Dual Rate**	850658
Z3 BAM 80 '00	80 mm		145-180lbs	Medium	5141184
Z3 M80 '00		wht/blu	145-180lbs	Heavy Dual Rate**	850659
		red/blu	180-240lbs	X-Heavy Dual Rate**	850660
Z1 '97		none	145-180lbs	Pro-Wind*	5141156
Z1 Alloy '98-'99		yellow	120-155lbs	Soft	5141112
Z1 BAM '98					
Z1 CR '00	105 mm	white	145-180lbs	Medium	5141113
Z1 QR20 '00					
Z3 LT '99	&110 mm	red	170-205lbs	Heavy	5141114
Z3 QR20 '99-'00					
JR-T '98			195-240lbs	X-Heavy	5141190
MR-T '98					
Z1 BAM '99		none	145-180lbs	Pro-Wind*	5141155
Z1 Dropoff '99-'00		yellow	120-155lbs	Soft	5141162
JR-T '99-'00	130 mm	white	145-180lbs	Medium	5141163
MR-T '99-'00		red	170-205lbs	Heavy	5141164
Z1 QR20 '99-'00			195-240lbs	X-Heavy	5141191
Super T	145 mm	Cyan	145-180lbs	Stock	5141110
		red		Dual Rate**	5141114
Monster T '99-'00	180 mm	none	145-180lbs	Pro-Wind*	5141159
		yellow	120-155lbs	Soft	5141165
		white	145-180lbs	Medium	5141166
		red	170-240lbs	Heavy	5141167

***Pro-Wind springs are progressively wound. All other springs are linear.

****Dual Rate spring kits use two compression springs per side.

Air Spring

Air spring rate is the amount of air pressure that is in the fork. Marzocchi forks come pressurized for the average rider. Air pressure can be infinitely adjusted using a shock pump to fit rider preference. Be sure to use a pump that can accurately gauge air pressure in the adjustment range.

The following charts contain some basic guidelines for tuning the air pressure in the air sprung forks. Be sure to keep both sides of the fork pressurized the same.

These recommendations should be used as a starting point. Air pressure may need to be adjusted according to riding style, frame design, terrain, and/or personal preferences and may vary between pump brands.

Model	Rider Weight	Air Pressure
Z1 XFly '00 **Z2 Superfly** '99 **Z2 Xfly QR20** '00 **Z2 Xfly** '00 **Z3 Flylight 100** '00 **Z4 Flylight Air** '00 **Z5** '99 **Z5 Flylight Air** '00	120-155 lbs.	20-30 psi
	155-180 lbs.	27-37 psi
	180-220 lbs.	35-45 psi
	210-220+ lbs.	42-55 psi

Air Pump Instruction

Be sure to only use an appropriate shock pump with a specialized shrader nozzle for best results. The pump needs to be able to accurately measure air pressure in the appropriate PSI range. Marzocchi makes a pump with a 100psi gauge that is specifically designed for our forks. Rear shock pumps with the 300psi gauge will not work well. Keep in mind that most pumps will fill up with air when attached, registering approximately 5-10psi lower air pressure on the gauge. When unthreading the pump, air loss can usually be heard as it empties from the pump. This is air pressure from inside the pump itself, NOT the shock. Re-install the shrader valve cap before riding to protect the shrader valve from contamination.

Oil Height

Oil height can be used to tune the spring rate in the Bomber suspension forks. The height of the oil determines the air volume in the fork and can be adjusted to compress the air as needed. Raising the oil height will create a smaller air chamber, causing the spring rate to become increasingly stiffer as the fork compresses. Decreasing the oil height will create more of a linear spring rate, relying mostly on the spring for compression. Adjusting the oil height is not a substitute for the correct spring rate and should only be used to fine-tune the spring rate. Do not increase the oil height beyond the maximum recommendations or the fork may be damaged during use. Oil height is measured from the top of the stanchions down to the oil, with the stanchions compressed and the springs and preload assemblies taken off of the fork. When changing the oil, be sure to cycle the air out of the fork to insure an accurate measurement. Refer to the following charts for recommended oil heights.

Fork	Oil Heights	
	120-180 lbs	180-200+lbs
Z1 '97	50 mm	45 mm
Z1 BAM '98	50 mm	45 mm
Z1 Alloy '98-'99	50 mm	45 mm
Z1 BAM '99	55 mm	50 mm
Z1 Dropoff '99-'00	50 mm	45 mm
Z1 QR20 '99	55 mm	50 mm
Z1 QR20 '00 110mm	50 mm	45 mm
130mm	55 mm	50 mm
Z1 CR '00 110mm	50 mm	45 mm
130mm	55 mm	50 mm
Z2 '97	45 mm	40 mm
Z2 Atom '98-'99	45 mm	40 mm
Z2 BAM '98	45 mm	40 mm
Z2 Alloy '98-'99	45 mm	40 mm
Z2 BAM '99	47 mm	42 mm
Z2 Atom 80 '00	47 mm	42 mm
Z3 Light '98-'99	45 mm	40 mm

Fork	Oil Heights	
	120-180 lbs	180-200+lbs
Z3 QR20 '99	50 mm	45 mm
Z3 QR20 '00 110mm	45 mm	40 mm
130 mm	50 mm	45 mm
Z3 LT '99	50 mm	45 mm
Z3 Flylight 100 '00	45 mm	40 mm
Z3 BAM 80 '00	47 mm	42 mm
Z4 '99	45 mm	40 mm
Z4 Flylight Air '00	35 mm	30 mm
Z5 '99	40 mm	37 mm
Z5 Flylight Air '00	45 mm	40 mm
MOTO A '98-'99	50 mm	45 mm
JR. T '98-'00	100 mm	90 mm
MR. T '98	50 mm	45 mm
MR. T '99	100 mm	90 mm
Mr. T QR20 '00	100 mm	90 mm
SUPER T	100 mm	90 mm
MONSTER T '99-'00	100 mm	90 mm

Oil Volume

Marzocchi measures the oil volume in cubic centimeters (cc's.) Oil volume is basically the quantity of oil that is needed in the fork. Forks utilizing the X.Fly Air Spring System use a unique dual-chamber design that isolates the air spring from the oil bath. It is easiest to measure the oil volume when replacing the oil in these forks. See the following chart for reference.

Fork	Damper Chamber	Air Chamber
Z1 Xfly	75cc	7cc
Z2 Xfly/QR20	60cc	7cc
Z2 Superfly	50cc	7cc

Negative Travel

Positive travel refers to how much the fork can compress from the unweighted resting position. Therefore, negative travel refers to the ability of the fork to extend past the unweighted resting position. As the fork and wheel rebound after impact or while dropping off a ledge, the fork extends past its normal resting position and compresses the negative/top-out spring, giving it more positive travel. Negative travel increases the overall travel of the fork without making the fork longer. All of the Bomber forks have negative travel that allows the fork to top-out smoothly and keep the wheel in constant contact with the terrain while adding to the legendary 'plushness.' Negative travel combined with the recommended amount of sag will insure the smoothest ride possible.

Adjustable Travel

Some of the 2000 models are setup stock at 110mm of travel and can be adjusted to 130mm of travel. The conversion kit needed to increase the travel contains four springs- two for

compression and two for top-out. All of the springs in the fork will need to be replaced. Contact your local dealer to get the proper spring kit.
Marzocchi now offers two different travel reduction kits. The first reduction kit will work with any Bomber fork to reduce the travel by ¾". Basically, add one additional top-out spring to each side to make the fork top-out ¾" lower, therefore reducing the travel and overall length of the fork. This will preload the compression spring and add negative travel, creating a better spring rate for the shorter travel.
The other kit offered is to reduce a 5" travel fork down to 4". The kit replaces the stock top-out spring with a longer top-out spring to shorten the length of the fork a full inch. Then the compression spring is replaced with a shorter spring made specifically for 4" of travel.

Rebound Damping

Rebound damping controls the rate in which the fork is able to extend. All of the Bomber forks have adjustable rebound damping. Rebound damping should be set as fast as possible, without causing a sudden, harsh force back to the rider. This will allow the fork to comfortably extend to full travel as soon as possible after impact.
It is a good idea to get a feel for how the different rebound adjustments affect the fork. On forks that have external adjusters, try turning the adjuster all the way counter-clockwise to the fastest rebound setting and then quickly compress and release the suspension several times. Next test the fork with the adjuster turned all the way clockwise and then somewhere in between. This will demonstrate the differences between damping settings.
Forks using the **SSV system** can change their rebound damping with oil viscosities. Stock oil is 7.5 weight, so changing to a lighter oil (Example: 5 wt.) will increase the rebound speed. Heavier riders using stiffer springs may want to adjust their rebound speed with a heavier weight oil. Be sure only to use a high quality motorcycle fork oil like Marzocchi's Factory Fork Oil. Refer to the Setup Chart for recommended settings.
Forks that have the **SSV adjustable system** can adjust the damping via an internal adjuster through the stanchions. When looking down into the stanchions, turn the adjuster clockwise to slow the damping and counter-clockwise to speed it up. Refer to the Setup chart for recommended settings.
Forks that use the **X.Fly cartridge design** have the convenience of an external rebound adjuster. When looking at the adjuster (fork will be upside-down) use a 2.5mm hex wrench to turn the adjuster clockwise to slow the damping speed. Therefore, turning the adjuster counter-clockwise will increase the damping speed. The damper has a total of 9 turns. Refer to the Setup Chart for recommended settings.
Forks that use the **SSV cartridge system** benefit from an external damping adjuster located in the center of the colored spring preload knob. The small rebound knob has a screwdriver slot to aid with adjustment. Turning the adjuster clockwise will slow the rebound speed and therefore turning the adjuster counter-clockwise will speed up rebound. The damper has a total of 9 turns. Refer to the Setup Chart for recommended settings.

Compression Damping

Compression damping is the oil flow resistance felt when compressing the fork. Compression damping is categorized in two ways: low speed compression and high speed compression. Low speed compression refers to when the fork is compressed slowly and gradually, for example during rolling impacts and rounded bumps. High-speed compression refers to the resistance felt during multiple, hard impacts and square-edged bumps. The Bomber's SSV system automatically adjusts damping depending on direction change and rate of travel. Therefore, Bombers can be setup very plush and supple and yet still resist bottoming.
It is better to be conservative while setting the compression damping because the spring offers resistance to compression as well. Too much compression damping creates a harsh ride because the suspension cannot compress rapidly enough to absorb large impacts. Compression damping

is not a substitute for proper spring rate and should not be adjusted until the fork has the proper spring setup for the rider.
Marzocchi has introduced the new adjustable compression cartridges in selected 2000 models. Use the external adjuster located in the middle of the spring preload knob to change the compression damping. Turning the adjuster clockwise will increase the compression damping and therefore slow the compression speed of the fork. Consequently, turning the adjuster counter-clockwise will speed up the compression damping.
Forks that do not have an external compression adjuster can modify their compression damping by changing the oil viscosity. Although most riders will be happy with the stock compression settings, some riders may prefer a different weight oil to coordinate with rider weight and/or spring setup. Keep in mind that changing the oil viscosity will change the entire damping range and will affect rebound as well. See Setup Chart for recommended settings.

Recommended Setup Chart

The following charts contain Marzocchi's recommended setup based on rider weight. This should be used as a basic guideline and may need to be modified to fit rider preference, terrain, etc.

Model	Rider Weights	Spring Rate	Rebound*	Compression**
Z2 '97	145-180lbs	Pro-Wind	4 turns	7.5wt oil
Z2 Alloy '98-'99	120-155lbs	Soft	5 turns	5wt oil
Z2 Atom '98-'99	145-180lbs	Medium	4.5 turns	7.5wt oil
Z2 BAM '98	180-220lbs	Heavy	3.5 turns	7.5wt oil
	210-250lbs	X-Heavy	3 turns	10wt oil
	145-180lbs	Pro-Wind	4 turns	7.5wt oil
Z2 BAM '99	120-155lbs	Medium Dual Rate	5 turns	5wt oil
Z2 Atom 80 '00	145-180lbs	Medium	4.5 turns	7.5wt oil
Z3 BAM 80 '00	145-180lbs	Heavy Dual Rate	3.5 turns	7.5wt oil
	180-240lbs	Xheavy Dual Rate	3 turns	10wt oil
Z1 '97	145-180lbs	Pro-Wind	3.5 turns	7.5wt oil
Z1 Alloy '98-'99	120-155lbs	Soft	5 turns	5wt oil
Z1 BAM '98-'99	145-180lbs	Medium	4 turns	7.5wt oil
Z1 QR20 '99	170-205lbs	Heavy	3 turns	10wt oil
Mr T '98-'99	195-240lbs	X-Heavy	3 turns	10wt oil
Monster T '99				
Z1 QR20 '00	145-180lbs	Pro-Wind	3.5 turns	5 turns
Z1 CR '00	120-155lbs	Soft	5 turns	3 turns
Mr T QR20 '00	145-180lbs	Medium	4 turns	5 turns
Monster T '00	170-205lbs	Heavy	3 turns	7 turns
	195-240lbs	X-Heavy	3 turns	7 turns
Super T	120-155lbs	Medium Short Medium Long	5 turns	5wt oil
	145-180lbs	Heavy Short Heavy Long	4 turns	7.5wt oil
	180-240lbs	Stock Dual Rate	3 turns	10wt oil

*The rebound settings indicate the number of turns out from fully closing the damper (turning it clockwise until it stops.)

Model	Rider Weights	Spring Rate	Rebound*	Compression
Z3 Flylight 100 '00	120-155 lbs.	20-30 psi	5 turns	5wt oil
	155-180 lbs.	27-37 psi	4.5 turns	7.5wt oil
	180-220 lbs.	35-45 psi	3.5 turns	7.5wt oil
	210-220+ lbs.	42-55 psi	3 turns	10wt oil

Superfly '99	120-155 lbs.	20-30 psi	5 turns
Z1 XFly '00	155-180 lbs.	27-37 psi	4.5 turns
Z2 Xfly QR20 '00	180-220 lbs.	35-45 psi	3.5 turns
Z2 Xfly '00	210-220+ lbs.	42-55 psi	3 turns

Jr. T '00	145-180lbs	Pro-Wind	1.5 turns
Z3 QR20 '00	120-155lbs	Soft	3 turns
	145-180lbs	Medium	1.5 turns
	180-240lbs	Heavy	0 turns

Z2 BAM '99	145-180lbs	Pro-Wind	1.5 turns
Z2 Atom 80 '00	120-155lbs	Medium Dual Rate	3 turns
	145-180lbs	Medium	2 turns
	145-180lbs	Heavy Dual Rate	1 turns
	180-240lbs	Xheavy Dual Rate	0 turns

Z2 BAM '99	145-180lbs	Pro-Wind	1.5 turns
Z2 Atom 80 '00	120-155lbs	Medium Dual Rate	3 turns
	145-180lbs	Medium	2 turns
	145-180lbs	Heavy Dual Rate	1 turns
	180-240lbs	Xheavy Dual Rate	0 turns

*The rebound settings indicate the number of turns out from fully closing the damper (turning it clockwise until it stops.)

Z3 Light '98-'99			
Z3 Alloy '98	120-155lbs	Soft	5wt oil
Z3 Long Travel '99	145-180lbs	Medium	7.5wt oil
Z3 M80 '00	180-220lbs	Heavy	7.5wt oil
Z4 '99	210-250lbs	X-Heavy	10wt oil

Z3 Long Travel '99	145-180lbs	Pro-Wind	7.5wt oil
Jr. T '98-'99	120-155lbs	Soft	5wt oil
Z1 Dropoff '99	145-180lbs	Medium	7.5wt oil
	180-240lbs	Heavy	10wt oil

Z4 Flylight Air '00	120-155 lbs.	20-30 psi	7.5wt oil
Z5 '99	155-180 lbs.	27-37 psi	5wt oil
Z5 Flylight Air '00	180-220 lbs.	35-45 psi	7.5wt oil
	210-220+ lbs.	42-55 psi	10wt oil

Trouble Shooting Tips

The following chart will help pinpoint any problems that may occur while setting up your Marzocchi suspension fork. Keep in mind that some problems may be due to one or more cause and that setup should be done in the order as it appears in this book.

Problem	Diagnosis	Solution
Fork has too much sag	Spring rate too soft	Add preload; Change to stiffer spring rate
Fork bottoms too easily; Needs more than max. preload	Spring rate too soft or fork oil too low	Check oil height-refer to oil height chart; Get stiffer springs/increase air pressure-refer to spring/air pressure chart
Fork bottoms too easily but has recommended sag	Not enough compression damping	Change to a higher viscosity oil. Stock oil is 7.5 wt.; Increase compression damping
Fork does not get full travel	Spring rate too stiff; Oil height too high	Check oil height-refer to oil height chart; Get stiffer springs/decrease air pressure-refer to spring/air pressure chart
Fork extends too quickly; Harsh top-out after impacts	Not enough rebound damping	Increase rebound damping-refer to rebound damping chart
Front wheel wants to tuck under while cornering	Too much rebound damping; Spring rate too soft	Decrease rebound damping-refer to rebound damping chart; Increase spring rate-refer to spring rate chart
Fork 'packs up' or stays down in travel during multiple impacts	Too much rebound damping	Decrease rebound damping-refer to rebound damping chart
Knocking sound during rebound, but no harsh top-out	Too much rebound damping	Decrease rebound damping-refer to rebound damping chart
Oil ring on stanchions	Seals are contaminated	Completely take fork apart to be cleaned and serviced
Heavy amount of oil on stanchions; Oil dripping down leg	Seals are damaged	Replace all seals; Inspect stanchions for damage
Fork is sticky; Fork does not perform as new	Oil is contaminated; Fork needs to be serviced	Completely take fork apart to be cleaned and serviced