USER MANUAL

M2.SHOCKS

Drag Racing Shock

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User Manual

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Thank you for choosing M2.Shocks. M2.Shocks are manufactured by RPS Manufacturing. The Type M2.S2 (Double Adjustable) and M2.S3 (Triple Adjustable) are custom made for each and every customer. Our goal is to build you “The Perfect Shock”. We hope you find complete satisfaction with our product and encourage you to contact our offices directly if you have any questions concerning your product.

Use and Warranty

Our shocks are designed for competition use/off-road use only. We provide a complete “end to end” one-year warranty for our customers. Any issue or parts failure that Is not considered “normal wear” that occurs within one year of purchase is covered for both parts and labor. If a customer has any concern or question…they simply can just send the shock in after contacting the M2.Shocks offices and a complete test and service will be completed @ no charge with M2.Shocks paying for the return freight.

Included Services (Buyer Support)

When you purchase an M2.Shocks S2 or S3, you have complete service you can depend on. We provide 6 months of “no hassle” support. This support provides the following:

1. Spring changes – If you purchase a shock directly or from one of its authorized dealers there is no charge for spring exchanges. (Deposit is required and the spring CANNOT BE SCRATCHED OR MARKED UP)

2. Valving changes – If you want to fine tune your build, there is no charge for any valving changes. (Customer is liable for inbound shipping and RPS covers outbound shipping)

3. Service inspection – Concerned things may not be working the way you expect? You can send in your shock for a complete inspection and service at no charge. (Customer is liable for inbound shipping and RPS covers outbound shipping)

4. Buyer Support shipping policy - RPS Manufacturing policy for Buyer Support is we pay for all inbound and outbound shipping for the first 30 days. After that the buyer pays inbound, RPS manufacturing pays outbound.

   The policy includes USPS standard Priority mail only or UPS Ground.

   UPS Overnight, Priority Express, third party 2nd day, and/or overnight may include charges to the customer.

Features and controls

M2.Shocks for Drag Racing include some of the best technology in the marketplace. All M2.Shocks feature the following:

1. Ride height adjustment – All M2.Shocks include ride height adjustment this includes up to 15mm of additional ride height adjustment.

2. Spring Bearings – All M2.Shocks come with thrust washers and needle bearings mounted above and below the spring to remove significant spring stiction.

3. Damping Adjustment – All M2.Shocks come with damping control of compression and rebound.

4. Floating Piston – All M2.Shocks have dividing pistons to separate oil and nitrogen chambers.

5. Custom spring lengths and rates – Customers can choose any spring weight AND length. Most M2.Shocks come with a 6” spring, but when a customer needs to be able to change the spring without any tools OR when the shock is shortened dramatically a 5” spring will be installed.

6. Easy to adjust preload (collar) – M2.Shocks provides a spring preload collar with 20 adjustment receptacles. This allows access to adjustment even in the tightest spaces.

UNDERSTANDING HOW TO SETUP AND TUNE YOUR M2.SHOCK

Your M2.Shock is an “OPEN JET DESIGN”. This design allows phenomenal traction “down track” while providing exemplary 60’ and 300’ times. An OPEN JET DESIGN allows oil to move past the shaft needle in BOTH THE COMPRESSION AND REBOUND STROKE beyond just a minimal bleed port.

Open jet design is also a WYSIWYG design. That means, “What you see is what you get”. The way you push down in the pits IS EXACTLY how it will act on the track. **DON’T OVER TUNE THE REBOUND or COMPRESSION**. Having the rebound come up in “5 seconds” literally turns your shock into a brick unless you are pushing 400hp or more.

To setup your shock use the following process:

1. MAKE SURE THE FRONT END is either strapped down OR in its race position. ALWAYS lower the front first BEFORE setting rear pivot heights OR overall adjustments

with the dog bones. Lowering your bike primarily through the dog bones will cause inconsistent chassis performance.

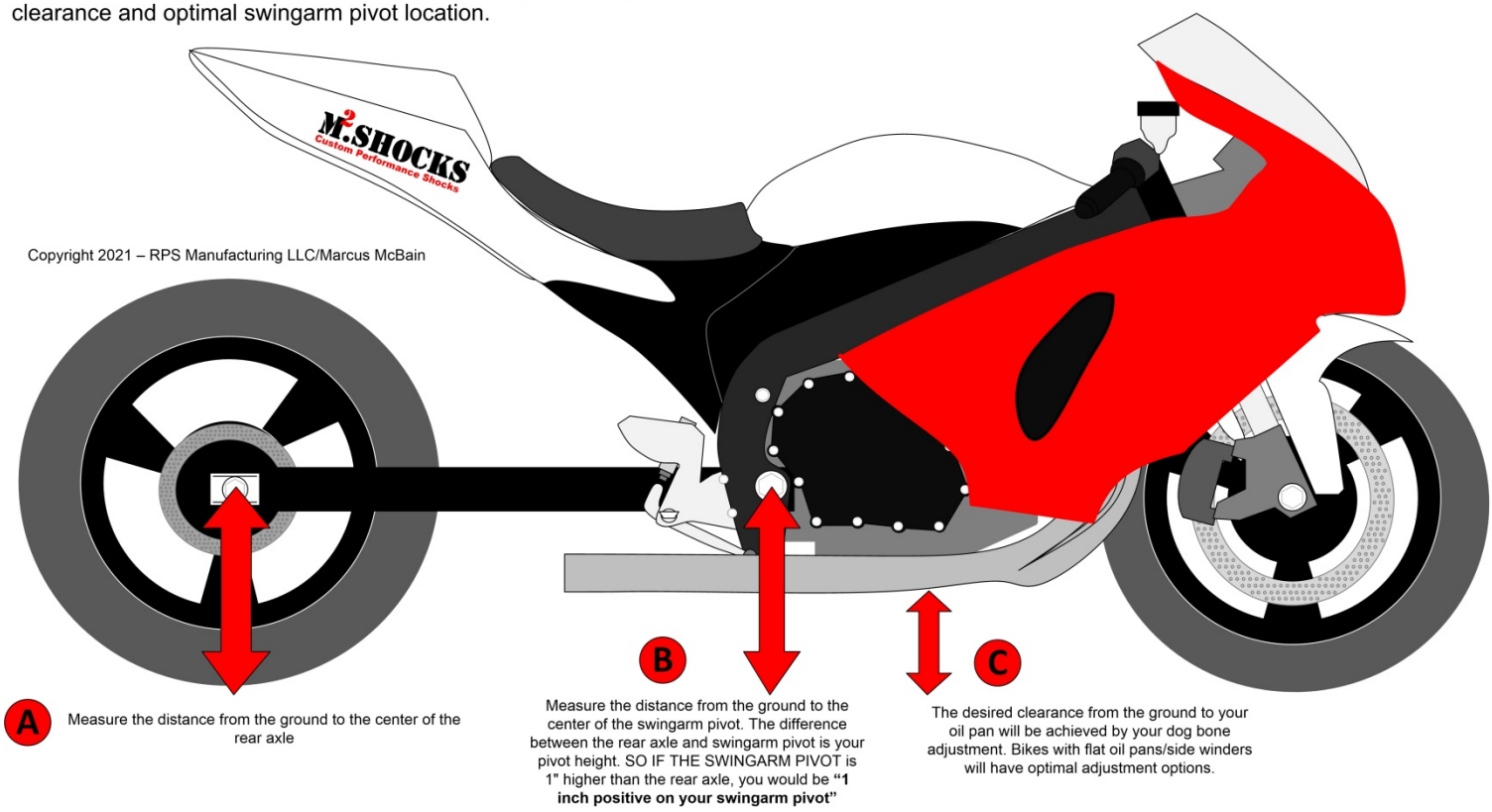
2. Set your rear ride height by using your dog bones.

To optimally set your pivot height, ENSURE your front end height is set FIRST. Use these steps

1. Set front end to its lowest operating height setting
2. After installing shock, set the rear height via dog bones to provide for overall bike clearance and optimal swingarm pivot location.

M²SHOCKS Custom Performance Shocks

Setting Swingarm Pivot height



3. SET YOUR SAG – "SAG" is the amount of movement generated when the rider sits on the bike AS MEASURED FROM THE REAR AXLE.

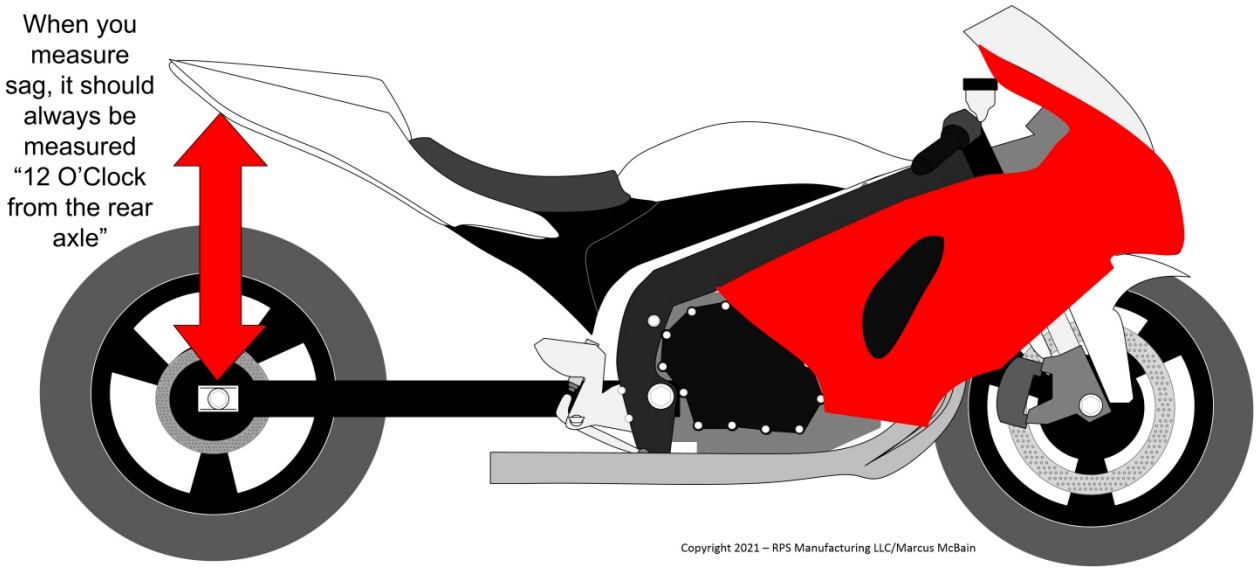
You may also have "FREE SAG"…Free Sag is the amount of movement that can be measured with the bike at rest. Generally, you do not want more than ¼" of Free Sag.

To check your "SAG NUMBERS" do the following:

CHECK FREE SAG, measure a point from the rear axle up to the bodywork (12 O'Clock). NEXT, pick on the rear by grabbing either the foot pegs OR the most solid point where the sub frame meets the frame spars. (NOTE: Grabbing a sub frame that has a lot of "flex" will result in poor measurements). The amount that the tail section "comes down" is the free sag. It is normal to see ¼" to 3/8" of free sag due to bearing

stiction in linkage and swing arm pivot/axle. **Free Sag (bike at rest) should not be more than ¼" to 3/8".**

CHECK RIDER SAG, measure a point from the rear axle up to the bodywork (12 O'Clock). NEXT, have the rider sit on the bike. The amount the tail section comes down is your SAG. SAG should be approximately ¾" to 1" depending on tuning strategy.



VERY IMPORTANT!!!

If you receive your shock, and you have to turn the pre-load collar more than 4 turns to achieve optimal SAG, please contact the office immediately so that get you the correct spring.

4.Setting up rebound damping – Before you adjust the compression…setup the rebound damping. Typically, you will setup the rebound damping by "pushing down on the rear" and observing the following.

For no prep/light prep/poor track conditions: The bike should return "UP" to the original resting position IN 1.5 to 2.5 seconds.

For no average prep track conditions: The bike should return "UP" to the original resting position IN 2 to 3 seconds.

For good/excellent track conditions: The bike should return "UP" to the original resting position IN 3.5 to 4.5 seconds.

SPECIAL NOTE: Putting excessive “rebound” in the shock has the same effect on compression. Again, trying to get “5-6 seconds” for the shock to come up is not warranted and puts excessive compression damping in the shock as the shaft needle provides minimal flow.

5. Setting Swingarm pivot height. Use this information as a guide when setting your swingarm pivot:

WHEN SWINGARM PIVOT IS +1” or more, this will provide more traction, but the bike may tend to wheelie more.

WHEN SWINGARM PIVOT IS EVEN or up +1”, this will provide good traction, and help prevent the motorcycle from wanting to wheelie (Good forward drive).

WHEN SWINGARM PIVOT IS NEGATIVE, this provides good forward drive, but may be more prone to spinning on tracks that are not well prepped.

6.Setting up compression damping – Setup compression damping on the following basis:

Push down on the seat or sub frame (if the sub frame is capable of handling “pushing down”). The rear should sink about 2-3 inches by you just “leaning on it”. IF the rear does not compress well…OR…compresses too easily, please contact the office to discuss that your shock is properly operating.

7.SUPPORT AND ASSISTANCE – Getting your drag bike down the track can be a daunting task. WE ARE HERE TO HELP. If you need an evaluation OR verification of performance, please feel free to send videos to RPS Manufacturing via email OR facebook messaging through our company sites.

For further questions or assistance, please contact us via one of the following options:

RPS Manufacturing LLC/DBA M2.Shocks
2301A Old St. James Road
Rolla, MO 65401

EMAIL: Support@rpsraceteam.com

FACEBOOK: https://www.facebook.com/M2.Shocks

PHONE: 573.308.0336

M2 SHOCKS
Custom Performance Shocks
Shock components and controls

Pre-Load Collar: Used for adjusting spring tension/sag

Spring: Selected based on your weight and bike length, linkage, and seating position. **The correct spring is VERY IMPORTANT**

Torrington Bearings (Top and Bottom of spring) – Helps eliminate spring stiction

Rebound Adjuster – Controls "how fast the shock comes up".

Turn to the

RIGHT to make the bike "come up slower"

AND

LEFT to "come up faster"

Ride Height Adjustment: By "loosening the jam nut on the bottom", you and raise or lower the shock by up to 5/8" turning the upper nut.

Compression Adjuster: Turning knob(s) on the compression adjuster increase (Clockwise) OR decrease (Counter Clockwise compression damping force.

M².SHOCKS
Custom Performance Shocks

Shocks controls and adjustments

Top View of Compression Adjuster/Knob

Key Safety Guidelines For operation of your M2Shock

M2SHOCKS Custom Performance Shocks

Your M2Shock was designed and rigorously tested to ensure reliable and robust operation. Because this product is used for competition, the following bulletins are provide to maintain safe operation of your motorcycle with your M2shock. Please regularly (every event weekend) inspect your shock and look for signs of wear.

KEY TESTING ITEMS

1. Your shock was tested with an average of over 500 stroke cycles to break in the shock and ensure safe use.

2. Your shock was tested with over 2500lbs of load place on the shock to ensure structural soundness.

3. Lastly, your shock was tested through its various control settings to ensure proper damping control

KEY SAFETY ITEMS

Please remember, today's shocks are being used harder than ever before. With more HP being delivered to the rear wheel that has ever been used before with a working suspension, your shock takes a tremendous amount of stress. These key safety items are listed FOR YOUR SAFETY!

A. Should your shock lose "damping" (become "springy" with no resistance in the compression or rebound stroke), stop use immediately. Something has failed, although many times it is a loss of nitrogen, the shock should be sent to M2Shocks for inspection and service.

B. Should you notice any oil leaking from the shock, please immediately stop use of the product and send to M2Shocks for inspection and service.

3. **Ride Height adjuster** – Your shock may have ride height adjustment, please be aware of the following safety conditions:

A. The jam nut must always be tight! No exceptions. If the jam nut is left loose, the threads may strip out and cause the clevis to break. You simply need to tighten the jam nut against the shaft extension with 7.5ft lbs of torque, BUT It must be tightened.

Regularly check that the jam nut is tight.

B. Your shock may be adjusted up to 3/8" (9.5mm) upward. DO NOT ADJUST MORE THAN 9.5" mm upward. If you see more than 6 threads, you have adjusted the shock "up" to far. (See Illustration)

Clevis in fully extended position. Do not extend beyond this position