Motocross and Offroad Suspension Tuning Guide

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Contents

Introduction

Welcome to our motocross suspension tuning guide! Properly adjusting your suspension is one of the most critical steps in achieving optimal performance and control on the track or trail. This guide is designed to be short yet precise, giving you the foundational knowledge needed to confidently fine-tune your suspension setup.

In the following sections, we'll walk you through the key aspects of suspension adjustment, including setting both free and rider sag, making precise changes to compression and rebound clickers, and tailoring your bike for various terrains and track styles. Whether you're looking to enhance stability, improve cornering, or maximize comfort, this guide will provide you with the tools and techniques to take your riding experience to the next level.

I encourage you to take the time to work through the following steps in order and get your bike and suspension working best for you!

- Check your sag and install the appropriate springs.
- Write down your current clicker settings in the setting record at the end of this guide.
- Develop a baseline setting that works best for you on your local track or area that you ride most often.

After you complete these steps, you'll have a strong baseline setting to make adjustments for each type of terrain or track that you encounter, and you will be much more in tune with your bike and know how and when to make adjustments!

Take a moment right now to find the compression and rebound adjusters on your motorcycle. On closed chamber type forks, compression will be on the top of the fork. **However,** on open chamber type forks, compression will be on the bottom of the fork, and rebound will be on the top!

On shocks, your Low Speed and High Speed Compression (if available) adjustment will usually be on the top of the shock. Rebound will usually be located on the bottom, near the suspension linkage.

Start with the Basics: Suspension Setup Made Simple

Before making any adjustments to your suspension, it is essential to know your starting point. The first step is to check your **suspension sag settings**. This helps ensure you're using the correct springs and gives you a foundation for making further adjustments.

Most full-size motocross bikes are designed around an **average rider weight of around 165lbs.** Mini bikes target weight varies widely. If you're close to this weight, and riding a modern MX or enduro bike, the stock spring rates may already be in the ballpark. However, checking and adjusting your sag is crucial to confirm this.

Exceptions to Consider:

- **Sand or Mud Riders:** Heavier springs may be needed to handle these demanding terrains.
- **Pro Riders or Big Jumpers:** Stiffer springs are often preferred for high-intensity riding and high skill level.
- **Older OEM Springs:** Stock springs can lose free length over time. If your bike isn't handling like it used to, it's worth rechecking your sag.

Adjusting Sag:

- If **rider sag** is too much or too little, adjust the **spring preload** accordingly.
- Use these general guidelines to assess your spring rates:
    - **Rider sag too low, static sag correct:** Spring is too firm.
    - **Rider sag too high, static sag correct:** Spring is too soft.
    - If both rider and static sag are off, your spring rate may need to be reevaluated.

How to Measure and Adjust Suspension Sag

1. **Start with the Bike on a Stand**
   Place the bike on a stand so that both the front and rear wheels are off the ground. Set all clickers to full soft to ensure they don't interfere with your measurements.
2. **Measure the Fully Extended Suspension**
    - For the rear suspension: Measure the distance from the rear axle to a fixed point, such as the rear side cover or muffler. Use a felt-tip pen to mark a convenient reference point, ensuring accuracy.
    - For example, let's use **500mm** as the measurement. Precision is key—just a few millimeters can make a big difference.
3. **Measure with Rider in Position**
    - Take the bike off the stand and have the rider sit in their **normal riding position** on the bike.

- Ideally, the rider should be wearing full riding gear. If not, add approximately **5mm** to account for the gear's weight.
- In our example, the new measurement is **380mm**, giving a **rider sag** of **120mm** (500mm - 380mm).

4. **Measure Static Sag (No Rider)**
    - With the bike back on the ground but no rider, measure how much the bike sags under its own weight.
    - In our example, the measurement is **480mm**, resulting in **20mm static sag** (500mm - 480mm).
5. **Evaluate and Adjust**
    - For a motocross bike, the ideal rider sag is typically around **100-105mm**. If your sag is greater, as in this example (120mm), you'll need to add preload to the rear spring to reduce the sag.
    - However, with only **20mm of static sag**, adding more preload may eliminate static sag entirely, indicating the spring is too soft. In this case, you'll need a **stiffer spring** to achieve proper balance.
6. **Recheck your Sag OFTEN!**
    - Adding fuel to your gas tank or a larger gas tank can lower your sag.
    - If you move the rear axle forward to accept a larger rear sprocket, you will take leverage away from the swingarm and the sag will rise.
    - Same goes for chain adjustments, it can change your sag reading.
    - Adding tools, water, etc to your pack can lower your sag. Adjust and set sag for the conditions that you are riding! See the tuning guide section at the end of the manual for a guide.

Basic Fork Spring Guidance

Bike Type	Static Sag	Rider Sag
125 / 250 / 450 MX & Enduro with 300+mm suspension travel	30 ± 10 mm	50 ± 10 mm
80 / 85cc Mini MX	15 ± 5 mm	40 ± 5 mm
50 / 65cc Mini MX (KTM PDS)	15 ± 5 mm	30 ± 5 mm

1. **Spring Rate and Preload Relationship**
    - **Softer springs** require more preload, while **firmer springs** need less.
    - Final spring selection depends on both measured sag values and rider preference.
    - Firmer springs often feel more compliant in the initial part of the stroke because they require less preload.
2. **Impact of Excessive Preload**
    - Too much preload on soft fork springs can lead to a **harsh feel** and reduced mechanical grip, negatively affecting performance.
3. **Preload Guidelines**
    - The typical preload range for forks is **3–10mm**.
    - Softer springs require more preload, whereas stiffer springs require less.
4. **Spring Rate Options**
    - Most riders can choose between **2 or 3 suitable spring rates** depending on track conditions and personal preferences. Consult your suspension tech if you are unsure which direction to go.
5. **Minimizing Fork Stiction**
    - To reduce stiction (the resistance caused by friction in the fork), ensure proper alignment:
        - After installing the front wheel, compress the forks several times **before** tightening the axle pinch clamps.
        - This process neutralizes the forks' position and prevents unnecessary friction.
    - Improper alignment can cause significant stiction, negatively impacting suspension performance.

Basic Shock Sag guidance:

Key points for Rear Sag setup

Bike Type	Static Sag	Rider Sag
125 / 250 / 450 MX & Enduro with 300+mm suspension travel	30 ± 8 mm	100 +8/-3 mm
80 / 85cc Mini MX	10 ± 3 mm	85 ± 3 mm
50 / 65cc Mini MX (KTM PDS)	10 ± 5 mm	65 ± 5 mm

1. **Guidelines vs. Personal Preference**
    - The settings provided are general guidelines. Some riders may achieve better performance and comfort with alternative setups tailored to their riding style.
2. **KTM non-linkage (PDS) System Sensitivity**
    - The **PDS suspension system** is highly sensitive to rear height adjustments. Start with a **105mm ride height**, but a range of **90–110mm** is practical depending on preference and conditions.
3. **KTM/HSK/GG 85 Rider Sag**
    - The **KTM 85** works optimally with approximately **100mm of rider sag**.
4. **Spring Rates and Preload**
    - **Soft springs** require more preload, while **stiffer springs** need less.
    - Firmer springs can feel more compliant in the initial part of the stroke due to reduced preload requirements.
    - Final spring selection should balance measured sag values with personal preference for handling and feel.
5. **Spring Rate Options**
    - Typically, **3 suitable spring rates** can work well for a given rider, depending on setup and conditions.
    - To fine-tune geometry and preload:
        - Measure the spring's **free length** and **installed length** to determine preload (in mm).
        - For example, switching from a **90Nm spring** to a **95Nm spring**:
            - If the current setup uses **13mm preload**, reduce preload to **12mm** with the stiffer spring to maintain similar geometry.
            - The stiffer spring will offer greater progression ("ramp-up") as more travel is used.

Damping Systems and what they affect-Explained

Damping Adjustment	Best Places on Track for Testing	Perfect When
Low-Speed Rebound Damping	- Small bumps - Sweeper turns over washboard sections - Off-camber washboard turns - Braking on washboard surfaces	Heavy enough to prevent rear-end bouncing or oscillation, yet light enough to allow the rear wheel to extend. Tracks well on washboard turns and brakes effectively.
High-Speed Rebound Damping	- Series of medium or large rolling bumps in high-speed sections - Fast downhill sections with deep rolling bumps	Heavy enough to prevent the rear-end kicking up, yet light enough to avoid "packing down" over a series of bumps.
Low-Speed Compression Damping	- Small and medium bumps - Deep rolling sand whoops - Washboard sections - Deep smooth gullies	Heavy enough to prevent bottoming out in rolling whoops and gullies, yet light enough for smooth shock travel and good braking grip on washboard surfaces.
High-Speed Compression Damping	- Big square-edged bumps in fast sections - Big jumps	Heavy enough to prevent excess bottoming on jumps or large square-edged bumps, yet light enough to absorb impacts without harshness or rigidity.

Developing feeling for your clickers Setup Step By Step Guide

To become familiar with your clickers and develop a feel for the effects on your suspension follow these steps:

Fork Compression

- Ride 2 laps at your current clicker settings
- Set Fork compression full stiff (clockwise). Ride 2 laps.
- Set Fork compression full soft (counterclockwise). Ride 2 laps.
- Set clickers back to your starting place and ride 1 lap at a time, making adjustments to the best setting based on feel using the tuning and troubleshooting guides.

Fork Rebound

- Ride 2 laps at your current clicker settings
- Set Fork rebound full stiff (clockwise). Ride 2 laps.
- Set Fork rebound full soft (counterclockwise). Ride 2 laps.
- Set clickers back to your starting place and ride 1 lap at a time, making adjustments to the best setting based on feel using the tuning and troubleshooting guides.

Shock Low Speed Compression

- Ride 2 laps at your current clicker settings
- Set low speed compression full stiff (clockwise). Ride 2 laps.
- Set low speed compression full soft (counterclockwise). Ride 2 laps.
- Set clickers back to your starting place and ride 1 lap at a time, making adjustments to the best setting based on feel using the tuning and troubleshooting guides.

Shock High Speed Compression

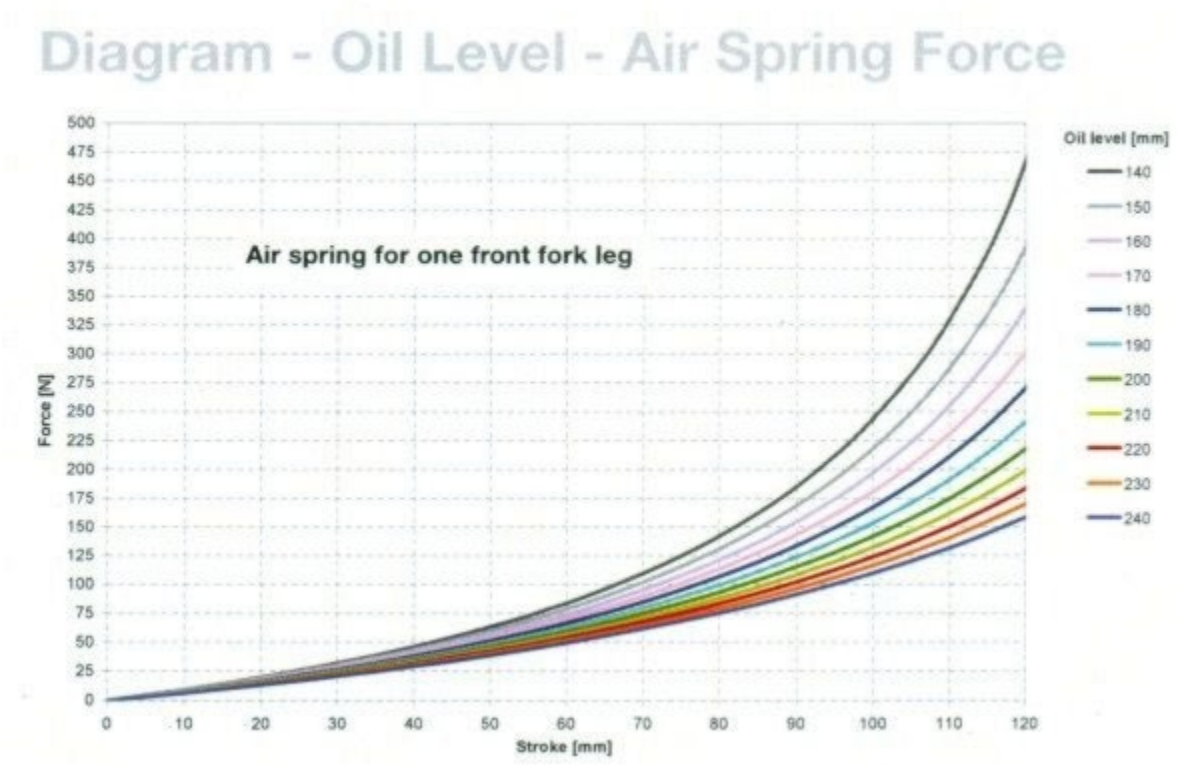
- Ride 2 laps at your current clicker settings
- Set high speed compression full stiff (clockwise). Ride 2 laps.
- Set high speed compression full soft (counterclockwise). Ride 2 laps.
- Set clickers back to your starting place and ride 1 lap at a time, making adjustments to the best setting based on feel using the tuning and troubleshooting guides.

Shock Rebound

- Ride 2 laps at your current clicker settings
- Set shock rebound full stiff (clockwise). Ride 2 laps.
- Set shock rebound full soft (counterclockwise). Ride 2 laps.
- Set clickers back to your starting place and ride 1 lap at a time, making adjustments to the best setting based on feel using the tuning and troubleshooting guides.

Ride cautiously while developing a feel for your clickers. The bike will react differently with each change and will compress and rebound much faster or slower than normal.

Explaining and Adjusting Oil Level



Understanding Fork Springs and Air Pressure

In every fork, there are **two types of springs**:

1. **Coil Springs** – The wire springs that provide mechanical resistance.
2. **Air Spring** – The air trapped in the fork above the oil.

Behavior of Fork Springs

- Both the coil spring and air spring are **position-sensitive**, meaning their stiffness changes as the fork compresses.
- In contrast, damping is **speed-sensitive**, reacting to the velocity of fork compression rather than its position.

Linear vs. Air Spring Characteristics

- **Linear Springs (Straight-Wound):** Provide a consistent progression in stiffness throughout the fork's travel.
- **Air Spring (Air Gap):**
    - Its effect is **non-linear**:
        - Minimal influence in the first half of the stroke.
        - Significant influence in the last third of the stroke.
    - **Low oil height:** Forks bottom out too easily.
    - **High oil height:** Forks lose compliance at the end of the stroke, feeling overly stiff.

Twin-Chamber Forks and Oil Height Sensitivity

- In twin-chamber forks, oil height also affects performance through a secondary damping effect.
    - The spring perch plunges into the oil, creating additional resistance.
    - **Raising the oil height** brings this effect into play earlier, impacting the fork's behavior at deeper compression.

Fork Tuning Guide

1. **Adjusting Fork Compression for Track Feedback**
    - Your forks should respond smoothly to all track variations.
    - If the forks feel harsh over small bumps or holes, **soften the compression** by turning the clicker **out**.
    - If they don't feel responsive enough, **stiffen the compression** by turning the clicker **in** until they feel slightly harsh. Then, back off by one or two clicks for a balanced feel.
2. **Tuning for Rough Sections**
    - Locate a rough section of the track and observe the fork's performance. The forks should **bottom out** on the most extreme obstacles without harshness.
    - If the bottoming feels too harsh, increase the fork oil level in **5mm increments** to reduce the severity.

Adjusting Rebound Damping

The rebound damping controls the motorcycle's **stability** and **cornering performance**. Here's how to fine-tune it:

1. **Cornering Dynamics**
    - Find a **sweeping corner** to test the rebound.
    - As the forks compress in the turn, the rebound speed determines how firmly the front wheel is pushed into the ground:
        - If the rebound is **too fast**, the bike will lose traction, causing it to drift wide or wash out.
        - If the rebound is **too slow**, the bike will oversteer, tucking in and turning too sharply.
    - Adjust until you achieve the right balance for the track.
2. **Wheel Recovery**
    - When the bike is turning correctly, the front wheel should return to the ground **quickly** and maintain stability without deflecting or bouncing off obstacles.

Front Fork Troubleshooting Guide

1. Front End Falls Into Curves (Oversteering), Especially in Sand

Cause: Steep front fork angle; front end too low compared to rear.
Solutions:

- Increase the fork compression damping.
- Switch to stiffer springs.
- Lower the fork legs approximately 5mm in the triple clamps.

2. Front End Unstable During Deceleration

Cause: Fork angle too steep under braking; front end too low or rear end too high.
Solutions:

- Raise the fork oil level.
- Switch to stiffer fork springs.
- Increase fork compression damping.

3. Fork Feels Harsh, Does Not Use Full Travel, Poor Grip in Bumpy Turns

Cause: Suspension too stiff.
Solutions:

- Decrease fork compression damping.
- Switch to softer springs.

4. Fork Suspension Bottoming but Handles Small Bumps Well

Cause: Damping force not progressive enough.
Solution:

- Increase the fork oil level.

5. Fork Handles Small Bumps but Feels Too Hard at End of Travel

Cause: Damping force is too progressive.
Solution:

- Decrease the fork oil level.

6. Front End Feels Low, Initially Soft, but Does Not Bottom Out

Cause: Too much spring preload or excessive compression damping.
Solutions:

- Increase oil level or switch to softer springs.
- Decrease compression damping.
- Reduce spring preload.
- Clean the oil seals and scrapers.

7. Handles First Bump Well, but Feels Harsh Over Subsequent Bumps

Cause: Excessive rebound damping.
Solution:

- Decrease rebound damping.

8. Front End Rebounds Too Quickly After Bumps

Cause: Insufficient rebound damping or excessive spring preload.
Solutions:

- Increase rebound damping.
- Reduce spring preload.

9. Headshake

Cause: Incorrect weight distribution, spring rate, or damping settings.
Solutions:

- Check if the fork is abnormally soft or hard and adjust using the steps above.
- Reduce rebound damping.
- Verify the fork springs match your weight.
- Check steering head bearings for proper preload and lubrication.

10. Bike Does Not Want to Turn

Cause: Insufficient weight on the front wheel.
Solutions:

- Increase rear shock preload (maintain at least 15mm of static sag).

Continued from (10)

- Slide the forks up 5mm in the triple clamps.
- If the rear is not too stiff, increase rear compression damping (low-speed if applicable).
- If headshake is not an issue, increase fork rebound damping (2 clicks at a time).
- If fork bottoming is not an issue, decrease fork compression damping (2 clicks at a time).
- Check if the forks are centered in the axle, especially after reinstallation.
- As a last resort, reduce fork spring preload or switch to softer springs.

Rear Shock Tuning Guide

1. Compression Adjustment

- **Scenario:** Exit a corner with acceleration bumps.
    - If the rear end “breaks up”:
        - Soften the compression (turn clicker out).
        - If this fails, soften the rebound by two clicks.
- **Scenario:** Test on rough sections, a large jump, and “G-Outs.”
    - The shock should bottom out on the roughest section but without a harsh, slamming sensation.
        - Add compression (turn clicker in) to resist bottoming.
        - Avoid over-adjusting, as this can sacrifice small bump compliance.
    - **Note:** Bottoming is not inherently bad—it ensures maximum plushness. Strive for bottoming on the biggest load obstacle on the track.

2. Rebound Adjustment

Step-by-Step:

1. **Straight with braking bumps into a corner:**
    - Reduce rebound damping (turn clicker out) until the rear end starts to hop or feel loose.
    - Gradually increase rebound damping (turn clicker in) until the hopping sensation disappears.
2. **Jump with launch effect:**
    - The rear should absorb the jump and lift smoothly.
    - If the rear bounces up:
        - Add rebound damping (turn clicker in).
3. **Large whoops:**
    - The rear wheel should extend fully to the ground before the next impact.
    - If the rear packs (doesn’t extend in time):
        - Reduce rebound damping (turn clicker out).

Note: Sand setup rules differ; refer to specific guidance for sand.

Symptoms of Incorrect Rebound Damping

A. Excessive Low-Speed Rebound Damping:

- Symptoms:
    - Rear end slides or washes out in hard-packed sweeper turns with small bumps or off-camber “washboard” sections.
    - Poor braking power and traction over “washboard” sections.
- Cause:
    - The rear wheel cannot extend fast enough to follow low spots, reducing traction.

B. Insufficient Low-Speed Rebound Damping:

- Symptoms:
    - Rear end bounces excessively, especially during braking on downhill sections with small bumps or over a washboard surface.
    - Rear wheel feels uncontrolled and “kicks up.”
- Cause:
    - Not enough rebound damping to control oscillations, leading to instability.

Shock Troubleshooting Guide

Issue: Rear End Does Not Hook Up

1. **Check Suspension Sag:**
    - Insufficient preload can lead to poor traction. Verify and adjust sag as needed.
2. **Adjust Rebound Damping:**
    - Reduce rebound damping (turn clicker out) to help the rear wheel return to the ground faster, improving traction.
3. **Inspect Rear Axle Position:**
    - If the axle is positioned too far back, shorten or replace the chain to restore proper geometry.
4. **Evaluate High-Speed Compression (HSC) Adjustment:**
    - If the issue occurs on rocks and roots, decrease the HSC damping (turn adjuster out).

Issue: Can't Handle Whoops

1. **Increase Compression Damping:**
    - Focus on high-speed compression adjustment if available.
2. **Increase Rebound Damping:**
    - Add rebound damping to stabilize the rear, **but avoid over-adjusting to prevent packing during repeated bumps.**

Issue: Rear End Bottoms Out

1. **Increase Compression Damping:**
    - Adjust the compression clicker (turn in) to provide more resistance.
2. **Increase Spring Preload:**
    - Add preload, but do not exceed 5mm below the recommended rider sag for your model.
3. **Decrease Rebound Damping:**
    - Reduce rebound damping (turn clicker out) to allow the shock to recover more quickly.

Terrain-Specific Setup Tips

See the following "Quick setup guides" after this page for complete setup recommendations.

Hard Pack to Intermediate Tracks

- **Adjust Compression:** Soften the compression settings (turn clickers out) 2-3 clicks for both the front and rear suspension. This increases wheel contact and improves plushness for better traction.

Sand Tracks (Non-Square Edged Bumps)

1. **Increase Compression and Rebound:**
    - Add 1–2 clicks (turn clicker in) of rebound damping to both front and rear.
    - As the track roughens, increase compression damping by 1–4 clicks (turn clicker in).
2. **Address Fork Packing:**
    - Harshness in the forks is often due to packing. Add compression damping (turn clicker in) to counteract this issue.
3. **Eliminate Rear Packing:**
    - If the rear swaps side to side, gradually add compression damping (turn clicker in) until the bike tracks straight. Do this **before adjusting rebound.**
    - Add rebound damping (turn clicker in) to ensure the rear wheel follows the terrain smoothly.
4. **Sand-Specific Adjustments:**
    - Don't worry if your clicker settings approach their maximum in sand conditions. This is typical unless your bike has been revalved for sand tracks.

Supercross Tracks (G-Loads and Curb Hits)

1. **Adjust for Bottoming Resistance:**
    - G-loads produce slow piston speeds, requiring firmer compression settings. Increase compression damping by 2–6 clicks (turn clicker in).
2. **Consider Additional Modifications:**
    - If bottoming persists, raise the fork oil level or switch to stiffer springs for better resistance to these intense loads.
    - Valving changes are commonly needed for the loads that supercross puts on the suspension.

Quick Setup Guide: Hard Pack tracks

Component	Setting	Guidelines
General Goals	Stability, Traction, Smooth Handling	Optimize chassis for reduced grip and sharp bumps common on hardpacked surfaces.
Fork Setup		
- Compression Damping	Softer 1-2 clicks to start	Allows better compliance over small, sharp bumps for improved traction.
- Rebound Damping	Start with baseline, then counterclockwise(softer) 1-2 clicks	Ensures controlled fork recovery over bumps
- Fork Height	Slightly higher in the clamps (3-5mm)	Improves cornering by shifting weight to the front for better traction. Matches more rear end sag.
Shock Setup		
- High-Speed Compression Damping	Softer-1/4 to ½ turn to start	Improves compliance over square-edge bumps.
- Low-Speed Compression Damping	Baseline to slightly firmer,-1-2 clicks to start	Helps stabilize the rear end in corners without sacrificing traction. Keeps rear from sinking during acceleration.
- Rebound Damping	Start with baseline, then counterclockwise 1-2 clicks	Faster rear-wheel recovery for smoother acceleration over rough sections.
- Sag Setting	100-103mm	Slightly less sag increases front-wheel traction on hardpack surfaces.
Clicker Settings	Adjust incrementally	- Decrease compression damping by 1-2 clicks for better compliance. - Fine-tune rebound for smooth recovery.
Tire Pressure	12-14 psi	Maintain higher pressure to reduce tire squish on the hard surface.
Testing & Adjustment	Test and adjust	- Start with your baseline settings. - Fine-tune for bumps and corners based on track feedback.
Rider-Specific Adjustments	Tailor to weight, style, and skill level	Adjust to improve grip and stability, especially for sections with braking bumps or sharp acceleration zones.

Component	Setting	Guidelines

Quick Setup Guide: Sand tracks

Component	Setting	Guidelines
General Goals	Stability, Floatation, Controlled Recovery	Optimize for soft, deep terrain with heavy resistance and constant bumps.
Fork Setup		
- Compression Damping	2-4 Clicks Stiffer	Prevents excessive diving in soft sand, especially during braking or landing off jumps.
- Rebound Damping	1-2 Clicks Stiffer	Ensures stiff response to maintain front-end stability and reduce bogging in the sand.
- Fork Height	Flush or slightly lower	Helps with high-speed stability and reduces front-end twitchiness in rutted sand corners.
Shock Setup		
- High-Speed Compression Damping	Baseline then ¼ turn stiffer increments	Allows better absorption of large, rolling bumps and whoops common in sand tracks.
- Low-Speed Compression Damping	2-4 Clicks Stiffer	Provides stability under acceleration and prevents excessive squat in deep sand. Tune LS Comp stiffer to eliminate swapping in sand.
- Rebound Damping	1-2 Clicks stiffer	Keep the rear wheel tracking smoothly without packing down in repetitive bumps. Go softer if bumps become square edged.
- Sag Setting	105-110mm	Slightly more sag improves traction by allowing the rear wheel to dig into the sand.
Clicker Settings	Adjust incrementally	- Increase compression damping slightly to maintain stability.
Clicker Settings **Tire Pressure**	Adjust incrementally Lower (8-12 psi)	 Allows tires to float and grip better in soft sand conditions.
Testing & Adjustment	Test and adjust	- Test in deep sand corners and whoops.

Testing & Adjustment **Rider-Specific Adjustments**	Test and adjust Tailor to weight, style, and skill level	- Adjust for stability and smooth recovery, focusing on traction and front-end control, aiming to keep the front end light but stabile in corners.
Rider-Specific Adjustments		Heavier riders may require stiffer springs, while lighter riders should prioritize quick rebound and traction.

Quick Setup Guide: Arenacross tracks

Component	Setting	Guidelines
General Goals	Quick Response, Stability, Traction	Optimize settings for tight turns, sharp jumps, whoops, and rhythm sections.
Fork Setup		
- Compression Damping	2-4 Clicks Stiffer	Reduces bottoming on steep landings, sharp jump transitions.
- Rebound Damping	Baseline	Ensures the front wheel tracks the ground without “packing down.”
- Spring Rate	Stiffer (if needed)	Use stiffer springs if consistently bottoming out.
- Fork Height	Raise slightly (3-5mm)	Increases cornering ability for tight corners.
Shock Setup		
- **High-Speed Compression Damping**	Stiffer in ¼ turn adjustments	Prevents bottoming on jump landings, large whoops.
- **Low-Speed Compression Damping**	Stiffer 2-4 clicks	Controls rear compression on jumps.
- **Rebound Damping**	Baseline	Extends quickly enough for obstacles but prevents rear-end kick in whoop adjust LS compression for whoops first.
- **Sag Setting**	100-105mm	Balances traction and stability.
Clicker Settings	Adjust incrementally	- Increase compression by 1-2 clicks if bottoming.
		- Increase rebound if unsettled after landings.
Tire Pressure	10-12 psi	Provides better traction on tight and slippery tracks.
Testing & Adjustment	Test and adjust	- Start with Baseline settings.
		- Make small incremental changes based on track feedback. Make changes quickly as heats and mains are short.
Rider-Specific Adjustments	Tailor to weight, style, and skill level	Every rider’s setup will differ slightly; adjust for comfort and performance.

Washing & Bike Care

Bike Washing Routine

1. **Post-Ride Cleaning:** Wash your bike thoroughly after every ride. This allows you to inspect the fork chrome tubes for nicks or scratches that can cause seal failure. Do not point the high pressure water stream directly at the fork, shock, or linkage and swingarm seals.
2. **Upside-Down Forks:** Keep the chrome tubes clean and free from dry mud, as dust scrapers may struggle to remove it.
3. **Seal Maintenance:** After washing, apply a light coat of water-dispersing oil (e.g., WD-40) to keep seals and wipers lubricated.

Fork Maintenance

1. **Dust Scraper Cleaning:** Periodically, lever down the fork dust scraper and clean any dust buildup from around the seal and wiper.
2. **Lubrication:** Lightly apply general-purpose or white lithium grease to the area, then refit the wiper to maintain optimal performance. If you ride in dusty conditions, use sparingly.

Shock Maintenance

1. **Bump Stop Care:** Occasionally lift the bump stop with a screwdriver and clean beneath it to prevent shock shaft corrosion.
2. **Protection Flap:** Replace a damaged shock protection flap promptly to shield the shaft from rear-wheel roost and potential damage.

Suspension Setting Record Sheet

	SUSPENSION SETTING RECORD						
	Date:		Rider:				
	Session	1	2	3	4	5	6
	Track Temp						
BIKE	Front Tire PSI						
	Rear Tire PSI						
	Gearing						
	Fastest Time						
FRONT							
	Fork Height						
	Compression						
	Rebound						
	Spring Rate						
	Preload (mm)						
	Oil Level (mm)						
REAR							
	Shock Type & #						
	Link						
	LS Comp						
	HS Comp						
	Rebound						
	Spring Rate						
	Preload (mm)						
	Notes & Comments						

SUSPENSION SETTING RECORD

	Date:		Rider:				
	Session	1	2	3	4	5	6
	Track Temp						
BIKE	Front Tire PSI						
	Rear Tire PSI						
	Gearing						
	Fastest Time						
FRONT							
	Fork Height						
	Compression						
	Rebound						
	Spring Rate						
	Preload (mm)						
	Oil Level (mm)						
REAR							
	Shock Type & #						
	Link						
	LS Comp						
	HS Comp						
	Rebound						
	Spring Rate						
	Preload (mm)						
	Notes & Comments						

SUSPENSION SETTING RECORD

	Date:		Rider:				
	Session	1	2	3	4	5	6
	Track Temp						
BIKE	Front Tire PSI						
	Rear Tire PSI						
	Gearing						
	Fastest Time						
FRONT							
	Fork Height						
	Compression						
	Rebound						
	Spring Rate						
	Preload (mm)						
	Oil Level (mm)						
REAR							
	Shock Type & #						
	Link						
	LS Comp						
	HS Comp						
	Rebound						
	Spring Rate						
	Preload (mm)						
	Notes & Comments						

SUSPENSION SETTING RECORD

	Date:		Rider:				
	Session	1	2	3	4	5	6
	Track Temp						
BIKE	Front Tire PSI						
	Rear Tire PSI						
	Gearing						
	Fastest Time						
FRONT							
	Fork Height						
	Compression						
	Rebound						
	Spring Rate						
	Preload (mm)						
	Oil Level (mm)						
REAR							
	Shock Type & #						
	Link						
	LS Comp						
	HS Comp						
	Rebound						
	Spring Rate						
	Preload (mm)						
	Notes & Comments						

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