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Micro Pro 3 & Micro Pro **CARBON**

4th Axis Stabilizer

Quick-Start Guide

The Micro Pro 3 / Carbon - 4th Axis is one heck of a full-featured and versatile filming rig that folds up into a tiny footprint ready for when you need it. With it, you'll find so many new ways to capture smooth footage!

We each move differently, but if you follow this guide, you'll be up and running with smooth footage within one to two hours. Over time and with practice you'll develop the style, method, and settings that work best for the way you move to get the smoothest possible footage.

What's in the Box

Micro Pro 3

Micro Pro Carbon (also includes mesh bag)

Common Handheld Rig Arrangements

		
Balanced Upright - Front Mount All-rounder with ok balance and good centre of gravity	**Balanced Upright - Top Mount** Good balance, but high centre of gravity	**Underslung Inverted Mount** Great balance and great (low) centre of gravity. Easiest to get good results.

		
Upright with Inverted Mount Good balance and good centre of gravity. 2nd easiest to get good results.	**Upright Unbalanced** Quick to set up but difficult to use.	**Selfie Mode** Good for 360 Cams or when you need to take a selfie video

Before you Start

The 4th axis is designed to reduce and smooth out the up-and-down movement, known as bobbing, that occurs when walking or when a camera is mounted on a bike or car. This movement can make great footage look awful, but the 4th axis helps to remove the vertical bumps, creating smoother and more stable footage.

The 7 main things to focus on when starting out;-

1. Use a balanced 4th axis setup such as the Balanced Upright - Front Mount, or preferably, the Underslung Inverted Mount. To adjust, loosen the handle knobs and rotate into position, before retightening them to lock position.
2. Get your payload (Camera, Case and Counterweights) to be between 300g and 450g (10-16oz)
3. Set the payload adjuster so that when loaded, the suspension arm is roughly horizontal. (match your rig to the examples in this guide)
4. When testing at first, walk steadily at a standard pace.
5. Keep your hand steady, don't move it up and down to try to counteract the bobbing because it's you that's bobbing, not the camera!
6. Keep the damping adjustment at 0% until you've mastered the basics

7. Keep running through the process of testing and viewing footage until you get good results.

When using the 4th axis while walking, you will notice the camera bobbing up and down. However, it's not the camera that is moving, but rather, as you walk, your head is moving up and down while the 4th axis remains level relative to the ground.

Some people tend to move their hands up and down to try to minimize this bobbing, which only makes the footage much worse. It's essential to resist the urge to do so and trust in the process.

Keep in mind that with time and practice, you'll be able to achieve great results, so stick with it!

The quickest way for beginners to achieve smooth footage is to start by using the 4th axis in 'Underslung Inverted Mount', where the rig is perfectly balanced on your hand. To do this, unscrew the camera mounting screw and screw it in from the top of the mount. This method reduces any side to side and forward and back movement, keeping it out of direct eye line, so you're less likely to make mistakes.

> ***Note:*** *Just as you wouldn't leave your expensive camera in a car on an extremely hot day, don't do likewise with your Micro Pro 3 / CARBON - 4th Axis. Due to the payload spring being in permanent tension, temperatures exceeding 70°C (160°F) can cause permanent deformation!*

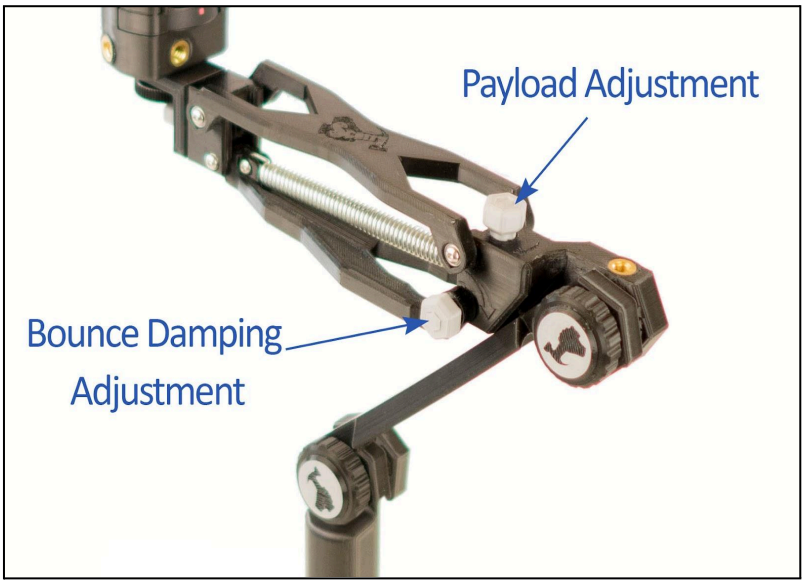
Don't use the Bounce Damping Adjuster when starting out

90% of the bounce reduction comes from the Spring Suspension System. The final 10% of the bounce reduction comes from the damping adjustment. The damping adjustment is a very subtle setting that uses 8 Teflon discs to smoothly reduce bouncing. When starting out, it's best to avoid the bounce damping and focus more on fine-tuning the Spring Suspension System and your payload weight.

Start with it set to 0% damping - which is with the damping turned off. (See setting on pg 6 for how to adjust it to 0%).

When you're starting to get good results, and you're refining your technique, you can then try adding or removing counterweights and adjusting the payload adjuster so the suspension arms sit slightly above or below horizontal.
Once you've found the ideal setup at 0% damping adjustment you can then follow the last stage of using the Bounce Damping adjustment on page 6.

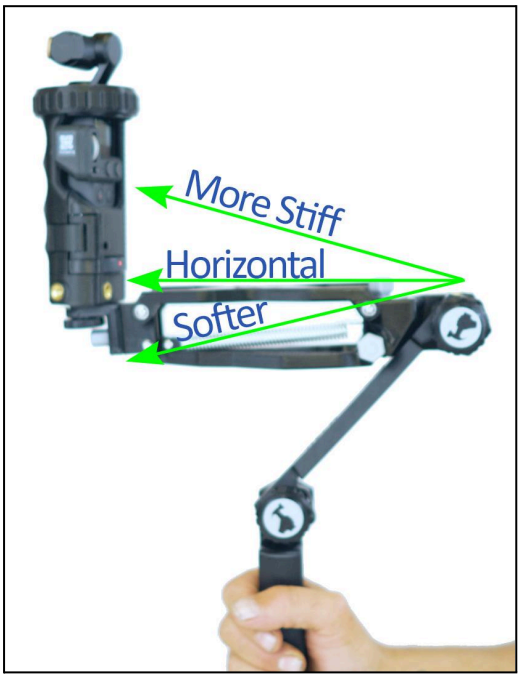
Getting Started



1) Weigh your payload (Camera, Case and Counterweights) and aim to be between 300g and 450g (10-16oz). When starting out, a payload at the top of the payload range is suggested as it'll be more forgiving.
2) Turn the payload adjuster so that your stabilizer's suspension arm sits roughly horizontally. There's no rule that this arm needs to be perfectly horizontal, but it's a good place to start. At the bottom of the adjustment be careful not to loosen it past this firm stop or the M3 nylock nut could be forced undone.
3) Turn the Damping Adjuster to 0%
    a) Adjust the damping adjuster knob by turning it clockwise until you meet firm resistance. This is 100% damping and only the hardest vertical motion will be absorbed.
    b) To turn the bounce damping off i.e set it to 0% damping, you simply loosen the damping adjuster knob anticlockwise two full revolutions. You'll see your rig will bounce more before stopping. Take note of how quickly the bounce takes to fully stop.

4) Take some test footage and view on a computer to see how well the bobbing vertical motion is controlled.
5) The ideal total payload (Camera, Case and Counterweights) should be between 300g and 450g (10-16oz). Test film with a weight towards the heavier side, keeping the suspension arms horizontal and also test film it with a weight towards the lighter side of that range.
6) Once you have a weight / payload adjustment that works well for you, then you can turn your attention to the bounce-damping control.

Note: *The Payload Adjuster is the primary way to balance your rig. As you get more skilled, you can adjust the ride by adjusting the angle of the suspension arm. For a softer suspension, have the suspension arm pointing slightly down and likewise, if it's pointed up you'll get a more stiff suspension. Just find what works best for you.*



Adjusting the Bounce Damping

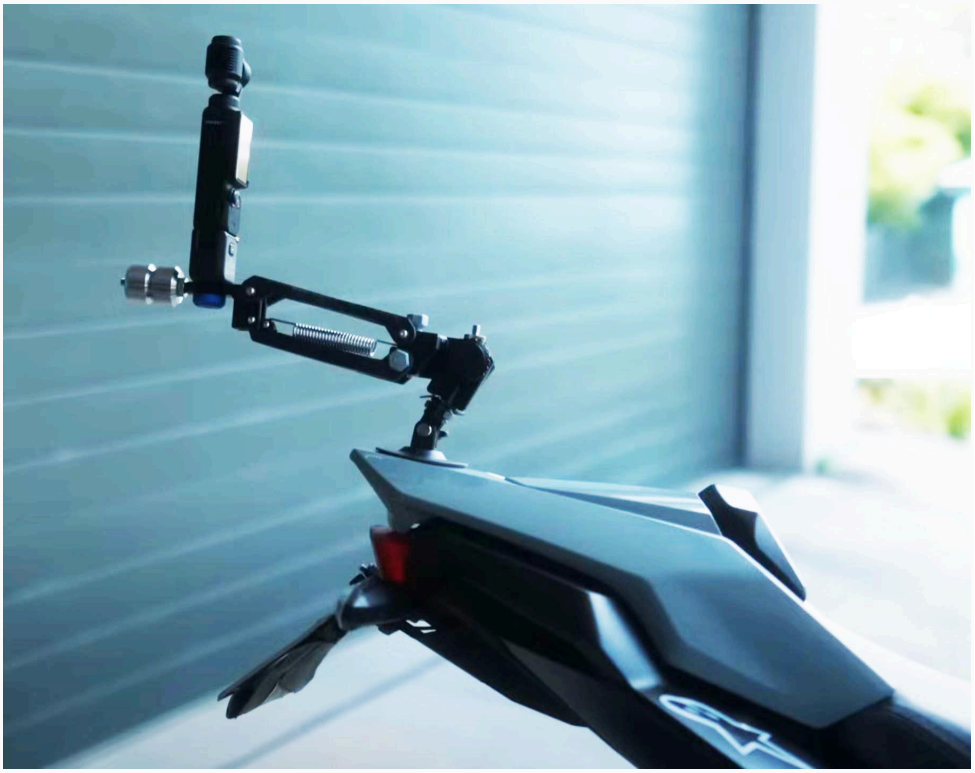
7) Adjust your damping knob clockwise one-half of a revolution, and this will be 25% damping. Test and analyze the footage.
8) Adjust your damping knob another half of a revolution, and this will be 50% damping. Test and analyze the footage.
9) Adjust your damping knob another half of a revolution, and this will be 75% damping. Test and analyze the footage.
10) Adjust your damping knob another half of a revolution. This will be 100% damping. This will have poor control of small movements during normal walking but will be more useful during intense up and down motion.

Most people will find a setting between 25% and 75% will work best for general uses.

Autonomous Rigging of your Micro 4th Axis

When you take the ‘human’ component out of your 4th axis footage, you’ll find you achieve the ultimate results in 4th axis smoothing. This means attaching your Micro Pro to an object such as a bike, car, electric scooter, backpack strap, helmet, you name it! We have a ¼-20 mount and a bike handlebar mount that attaches directly.

Here you can see how to achieve that with the Micro Pro 3, Micro Pro Carbon.



Note: If you push the Micro Pro to its limits with hard bouncing, your autonomous rig may hit the top or bottom of its travel. To help with this, add more payload (weight) to your rig and readjust the Payload Adjuster. This will effectively increase its ability to absorb shocks without bottoming out. If your rig is only bottoming out, then you can increase the payload adjuster so that the rig sits up higher. Likewise if it’s topping out, then you can lower the rig, by reducing the Payload Adjuster. With autonomous rigs, you should always have a safety line connected to your camera in case your rig somehow becomes detached.

Some additional pointers that may be helpful

‘Soft Hands’

Sometimes, it can be easy to hold the handle too tightly and tilt it forward or backward. Additionally, this firm grip can cause some rocking to occur when you take each step. To ensure that you achieve the best smoothing results for your payload and damping settings, there are a couple of things you need to do.

The technique is to use what is known as 'soft hands'. This means that when you grip the handle, you should hold it lightly, allowing it to balance perfectly in your hand. Avoid locking your wrist like you do with a firm handshake. It is important to ensure that the suspension arm remains level while maintaining this light grip.

This is easy in the inverted mode as the rig naturally balances on your hand so if you hold the handle lightly it will stay level.
Upright Mode does not allow soft hands, but Balanced Upright Modes will be the next easiest to achieve ‘soft hands’ with.

To fully master the Micro Pro 3 / Carbon 4th Axis stabilizer it’s highly recommended to see the videos at *https://www.youtube.com/c/ScottyMakesStuff*