



# Glider Pro 3 Duo - 4th Axis Stabilizer

## User Guide

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# Getting Started with your 4th Axis Stabilizer

We all know that handheld gimbals are the biggest game changer in the past few years for filmmakers! - You turn it on and out comes the magic footage! But they do have their (bumpy) limitations which is why you're here.

Our 4th Axis Stabilizers are designed to reduce that bounce that you typically see when someone is walking with a gimbal. That vertical bounce from your steps transferred to your hands can be mostly absorbed before it gets to the camera. But it doesn't stop at walking, you can go from softer motion all the way to jumping around like crazy.



*The best steadicam support arm operators usually take years before they truly master their trade, but with our 4th Axis Stabilizers and a handheld gimbal the learning curve is vastly quicker to get smooth results. You might be a natural right out of the box but most of us will need to dedicate time to getting your technique and settings right for each shooting scenario. Follow this guide to get up to speed as quickly as possible and you'll soon understand the finer points about how to get lovely smooth footage!*



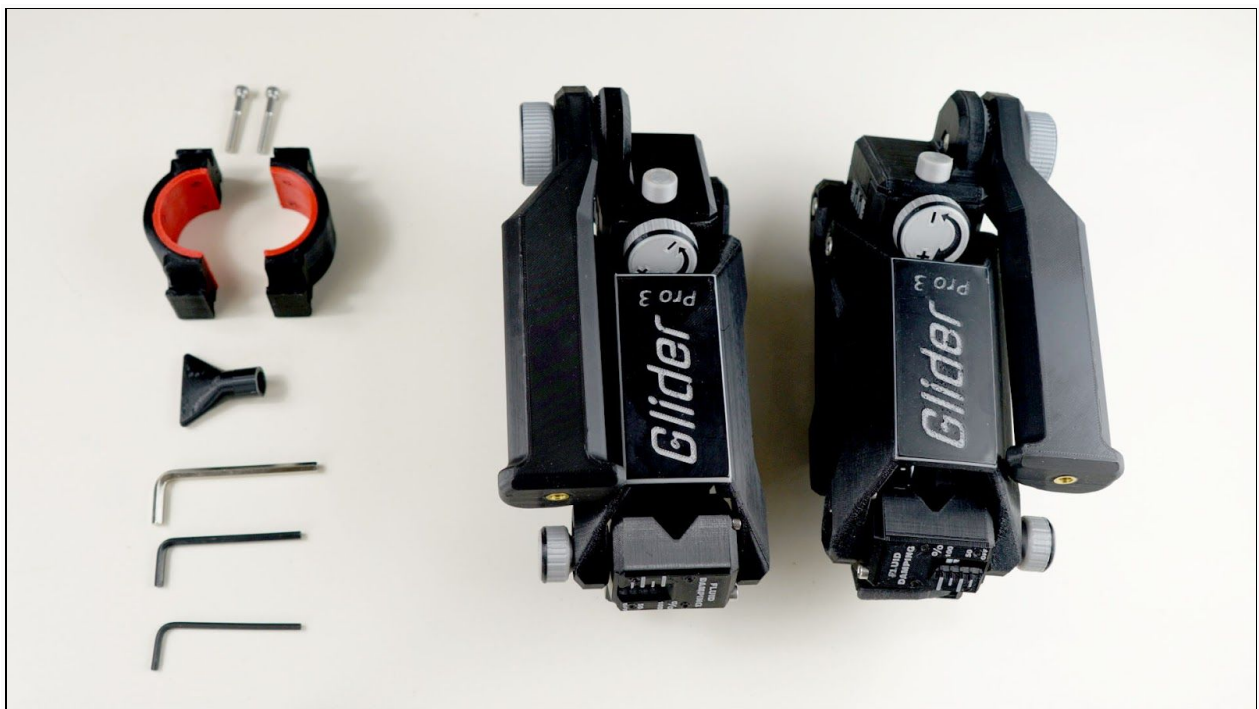
**As there are moving parts in the stabilizer there are a number of pinching hazards that you will need to take care of so as not to injure yourself.**



## Let's get your new Stabilizer out!

Your 4th axis stabilizer (also called a Z axis stabilizer) comes to you fully assembled. All you need to do is add your mount to your gimbal and connect it.

You'll also find this printed guide, an M3, M4, M5 allen keys and an M6 socket which are used for tuning and upgrades but typically you should rarely need to use them as the stabilizer is mostly tool-less.



**Note:** *Your stabilizer is fully tuned out of the box so don't be tempted to go and tighten everything before you start or else you'll have to go over the re-tuning process unnecessarily!*

The only parts you'll normally be adjusting are the handles, payload adjusters, fluid damping adjusters and stabilizer arm attachments which are all tool-less! The re-tuning section near the end of this guide is helpful if you make upgrades to your stabilizer or on the rare occasion that the stabilizer has become out of tune.

Although your stabilizer is ‘tough as old boots’ extremely high temperatures can cause permanent damage so please remember:-



**Note:** *Just as you wouldn't leave your expensive cameras in a car on an extremely hot day, don't do likewise with your Glider Pro 3 Duo. Temperatures exceeding 80°C (180°F) can cause permanent deformation!*

## Attaching the gimbal mount to your gimbal

Before you add the stabilizer to your gimbal you need to first add the **gimbal mount** (**Note:** *This is for standard mounts. Some specialized mounts may connect differently*). This mount is essentially a clamp that holds your stabilizer in place on your gimbal. In most cases the mount should attach high on the handle but occasionally you may wish to change the position to lower down the handle for even higher shots or when inverted for even lower shooting positions.

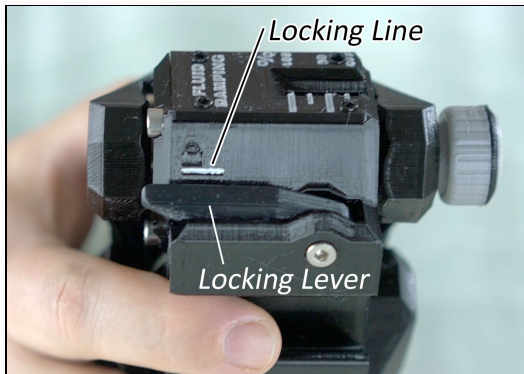
1. Take your mount halves, the bolts that come with the mount and the M4 allen key (the middle size allen key)
2. Place both sides of the mount clamp around the handle and line them up so that the top sides sit level with each other.
3. While holding the clamp in position with one hand use your free hand to start to screw the bolts in by hand.
4. Then continue using the M4 allen key tightening each side alternately just a turn or two until the clamp holds firmly and won't be moved easily by hand. There's no need to tighten fully at this point. There should be a gap between the two clamp halves.



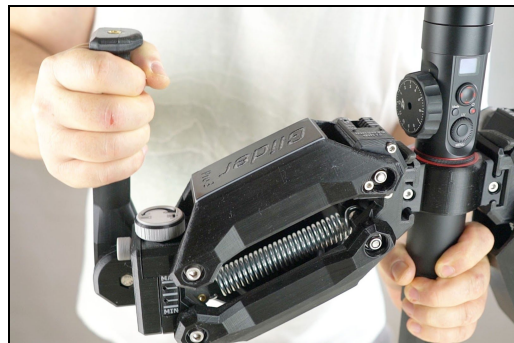


**Note:** Do not overtighten! Unlike alloy dual rigid handles these don't need excessive force to hold your gimbal securely! This is a very secure clamp and the rubber surface provides a strong hold.

5. Add the two Pro 3 Modules in the Upright Position **Note:** Make sure the damping knobs face to the rear of the gimbal.
  - a. Open the locking lever up
  - b. Slide module along mounting rail
  - c. Hold module firmly while locking down the locking lever until it lines up with the line.



6. Now you finally test the holding power of the gimbal clamp by gripping the gimbal firmly and trying to rotate the 4th axis handle. If the gimbal rotates inside the clamp then tighten the clamp bolts another quarter turn and try again and repeat until it won't move easily.



## Now for a quick once over

### Variable Fluid Damping Cartridges



On each side of the gimbal mount are the two smaller adjuster knobs for the variable fluid damping cartridges. The suspension springs, by their nature when stretched bounce back and forth until the springs initial energy or bounce is lost in the system via friction.

That bounce can be reduced and absorbed in the fluid damping cartridge by setting the damping knob; turn it towards the '+' to increase the strength of the damping and towards the '-' to lighten the damping. The white indicating gauge on the top indicates the relative range for the amount of damping. This a concept that's easy to misunderstand so please read the more detailed explanation about this in the 'Fluid Damping' section?





## Suspension System

### Support Arms

The two sets of support arms connect the spring adjusters to gimbal mount and holds the sprung system in tension in a 'McPherson Strut' arrangement.

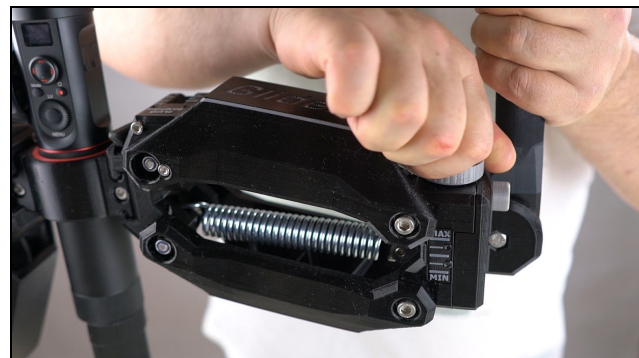
This geometry is what gives you the range of support for different weight rigs. It's also mostly responsible for the very soft up to the more firm elastic suspension.



### Payload Spring Adjusters

The payload spring adjusters attach to the ends of the support arms and the other side to the handles via the rosette mount. The main purpose though is to adjust the spring tension so that you can balance your rig properly.

The spring adjustment knob turns towards the '+' to increase the spring tension and the scale on the side moves towards the 'Max'. This will support an increased payload weight while at the same time decreasing the iso-elasticity.



Turning the other way towards the '-' and the scale on the side moves towards the 'Min'. This will decrease the spring tension (also increasing the iso-elasticity). In most cases you want to be using the most 'Iso-Elastic' setting for your rig but please read the 'Balancing' section to find out more about this as there's reasons to break these rules too!



*Think of it in the same way that car suspension smooths out a bumpy road. So too our suspension system does the same to your bumps.*

*Now consider the difference between the super soft suspension of a luxury limo and the very rigid suspension of an off-roader.*

*In a luxury limo you barely feel any bumps and this is 'Iso-Elastic' suspension. With the stiff suspension of the off-roader you feel the bumps a lot more and this is more 'Elastic' or 'springy' suspension.*

## Handles

They may just look like the things you hold onto but there's a bit more to them than that. For starters, they are offset slightly towards the rear so as to give a slight forward lean to aid in reducing 'forward / aft' wobbles.



Secondly, there's a lip at the top of the handles that aids in supporting the load.



Thirdly, there's 4 brass  $\frac{1}{4}$ -20 attachment points on the handles for adding field monitors, audio and other gear.



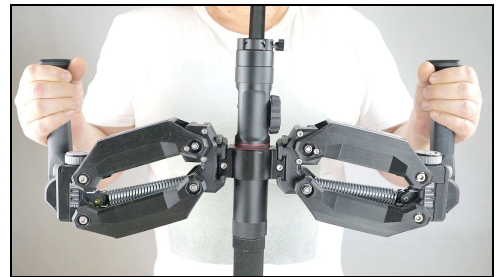
Lastly they attach via a 'Rosette Knob' that gives a full 240 degree range of positions.

# Initial Setup

## Handle Position

Just for reference we call the side of your stabilizer with the fluid damping and the 'Scotty' rosette knobs the 'back' and this side should always face you when filming. This way you can make adjustments on the fly.

Now you'll start with the modules in 'Upright' mode. Even if you're planning on using your stabilizer predominantly with the modules inverted you'll find it easier to set up and balance in 'Upright' mode first before moving to 'Inverted' mode.



Loosen the Rosette Knobs until the handles can be rotated.

I prefer my handles pointing out at around a 10 degree angle but this is just my preference so whatever angle you're comfortable with. Some people like the handles rotated in slightly as it narrows the width

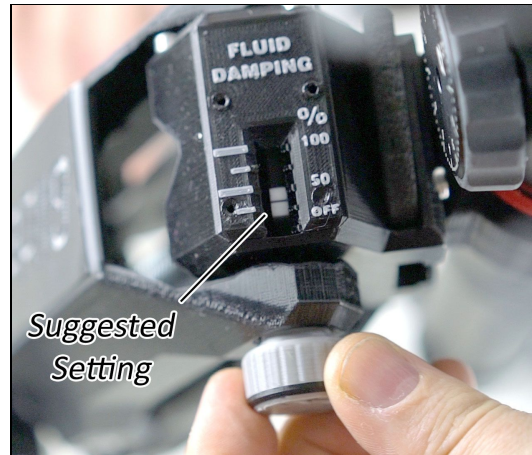


for a narrower grip and more compact form. Once both sides are at the same angle just tighten up the Rosette knobs making sure that the rosette teeth are meshed together and locked in place. You don't need to overtighten these knobs, just tighten until you meet a firm resistance. You may find if you're shooting for instance while 'crabbing' to the side that adjusting the handles independently to different angles may be more ergonomic for you.

## Balancing

To start balancing you'll first need to balance your camera on your gimbal just as you normally do. It helps if you have your gimbal on a mini tripod for this.

Now you'll adjust the fluid damping so that the top edge of the white indicator range lines up with 50% which is ideal for your setup and testing.



**Note:** During other times when you're adjusting the damping adjustment knob to 0% or 100% you will feel an increase in resistance when you get close to the limits. As soon as you feel this increase in resistance, stop and back off the damping a half turn to set it. **Tightening further may permanently damage the damping cartridge!**

### What angle should the support arms be when loaded?

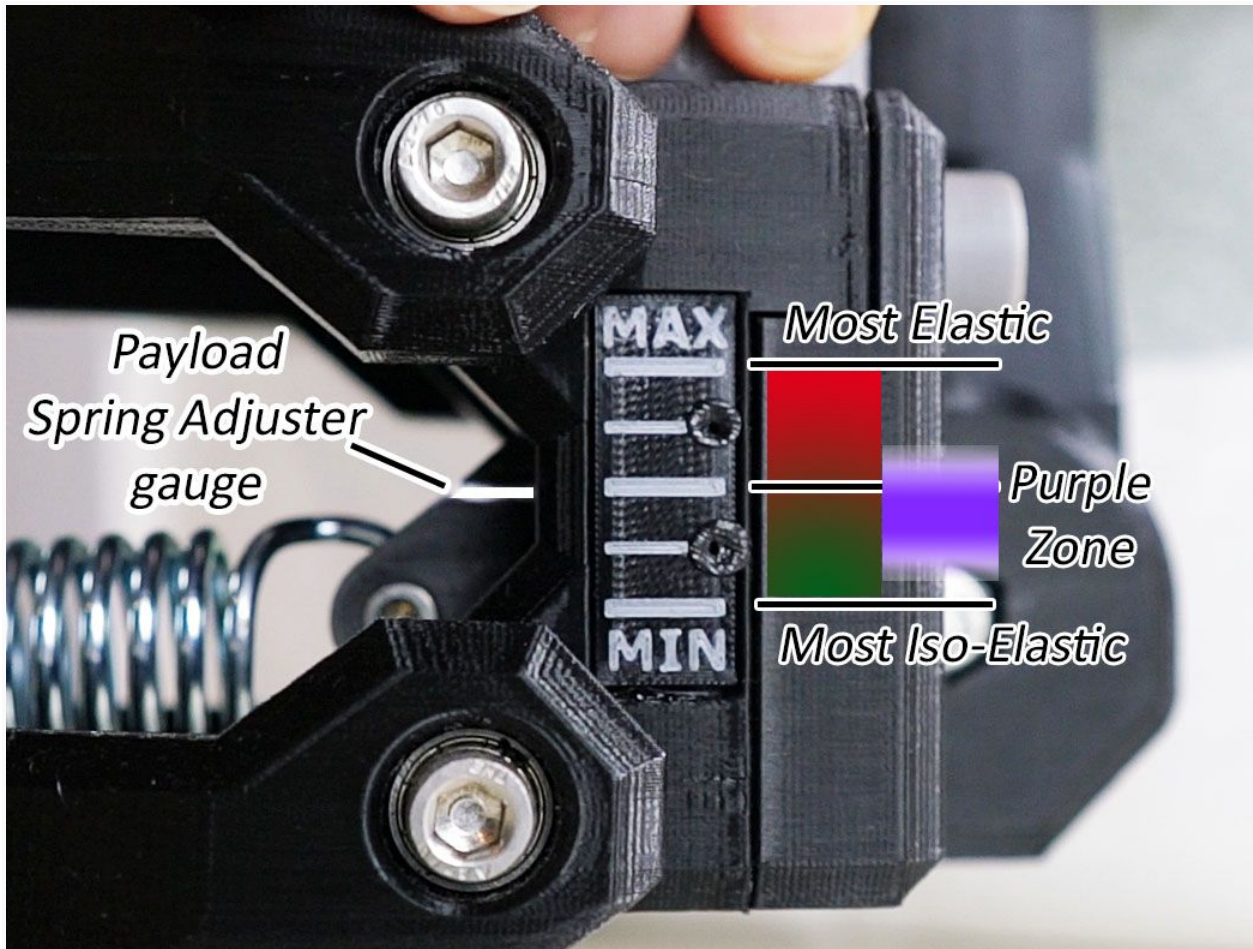
When you hold the stabilizer with the rig loaded you'll notice that the support arms either point up towards the centre or down. The most common use is for typical walking shots and the angle of the support arms is not as important as the setting for the most optimal smoothing. Typically the best angle to have your support arms is the angle that removes most of the bobbing from your footage.

### How low / high can you go?

As low as you like as long as you have enough play in the stabilizer so that the arms don't bottom out while filming. The same concept applies if your rig is sitting high. Do a test run first to confirm your settings will work. For the majority of your shots (from gentle to brisk movement) the illustrated range shows what loaded angles should work.

### So what's the optimal position?

Have a look at where the line on the bolt runners lines up with 'Min' to 'Max' scale. I typically consider from the 'Min' to the halfway point as the range of the 'Iso-Elastic' suspension and above that is 'Elastic' suspension which goes up to the 'Max'. Of course in reality there is really a gradual change between the two.



### It's all about control and how much you can do without!

Typically I operate in the 'purple' zone where at the firm end I have most control and at the softest end I have the least control.

In other words,

- **the firmest end** allows me enough control to frame the shot easier at the expense of more vertical movement in the footage and;
- **the softest end** has the potential to give you a shot that looks 'like it's on rails' but until you master it you likely find it too hard to control and you'll lose your framing easily - It usually takes some practice with the rig to master using the Glider Pro 3 Duo at this level - but don't despair too much since if a guy like me with a bung knee can do it then you can too!

*Ok, sensai, show me 'the way'!*

## Holding your stabilizer with a soft touch

Before you start testing you first need to perfect your grip technique.

Many of us that come from using rigid dual handles are used to operating with the dual handle 'power grip of death' ;-)

The biggest key to transitioning to the Glider Pro 3 Duo 4th axis is to relax that strong grip and start using '**soft hands**' instead. There's an art to 'soft hands' so please read on?

The reason this is so important is that your Duo is truly a dynamic system and what you want to do is eliminate any inward or outward pressure on this dynamic system. It may be hard to 'un-learn' the techniques you've learnt but the silky smooth footage you get will be worth it!

1. The first step is to hold your Duo and place your hands so that the lip at the top of the handles sits on your hand and bares the majority of the weight.



2. Now feel the rig in your hands. You should feel the rig leaning slightly forward. This is by design and assists in preventing unwanted forward to aft wobbles that can affect overall stability.
3. Now try pushing inwards and outwards to see what effect it has on the vertical position of the gimbal. This will vary by whether the arms are pointing up or down. This is the motion you're attempting to avoid.



4. Finally drop your hands to make the gimbal bounce without any inwards or outwards pressure.



When you look at the Glider Pro 3 Duo in motion you'll see that both suspension modules sweep in an arc. You're trying to reduce any sideways force from your hands affecting this smooth arc. It takes time but there's one very easy way to practice this technique so you can get a feel for it fairly quickly. It might remind you of that weird jerking exercise gadget but bouncing the arms up and down repetitively will quickly teach you whether you are doing it right or not. The aim is to bounce the hands while keeping the gimbal as steady as possible. At first you'll find it may be hard to keep it steady but not before too you'll get the hang of it!





# Testing

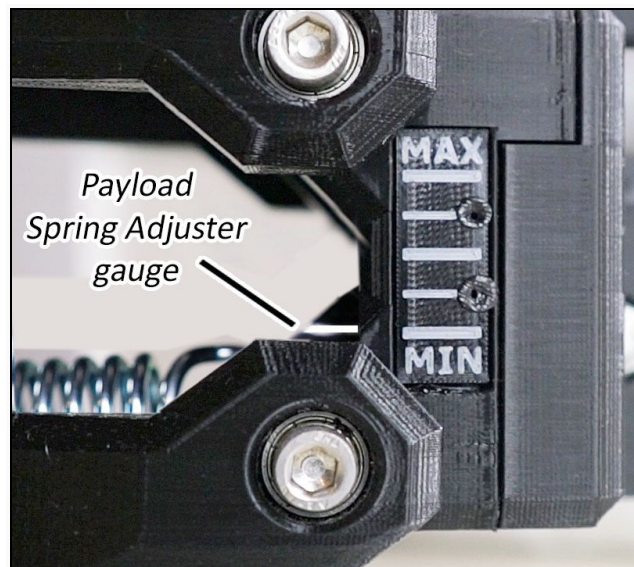
## Payload -> Shoot, Analyse, Adjust, Repeat

You'll start your testing by finding the best settings for your payload and your current level of ability.

The easiest way to do this is to practise the same short filming movement and analyse it to find the best settings for you.

What works best is if you repeat a short 15 to 30 second shot that involves walking on hard and soft surfaces, with some changes in direction and if possible also on an uneven surface such as that found on a lawn.

1. Start with both Payload Spring Adjusters set all the way to the 'Min'.



2. Set the fluid damping adjustment as before so that the top of the white range indicator lines up with 50%.
3. Rotate in full revolutions both Payload Spring Adjusters the same number of revolutions until they're high enough not to bottom out on your practise shoot. (This is now the minimum setting for the weight of your rig)
4. Now do the old Bounce Test to make sure the spring tension is even. It's critical to focus on using soft hands or the test might fail. Once you have

the arms roughly in the right position then you evenly bounce your hands down and let it bounce back up to see if the gimbal favours one side or the other.



If your gimbal bounces say to the right then the right Payload Spring is weaker than the left and you need to increase the payload adjuster tension on the right side to even it up with the left. When your gimbal bounces straight up you're all set to start your test shot!

5. Let's be optimistic and start at this low setting! Film the movement with this setting and if possible look at the results on a monitor to see 1) how well bounce was controlled and 2) if you lost your framing or not. If you're not there yet then increase both Payload Spring Adjustment Knobs exactly the same quantity of revolutions towards the positive, check with a 'Bounce Test' and then shoot again and repeat until you find the optimal balance (*pun intended!*) for your own style of filming.

## Variable Fluid Damping

Your stabilizer has two variable adjustment fluid damping cartridges. These can be adjusted independently to smooth out a large range of spring bounce in your system. The range of fluid damping is seen on both of the white marked gauges with the percent range next to them indicating the minimum (0%) to maximum (100%) damping levels. When it comes to the level of damping for various filming movements I can tell you what works for me but as we each move differently you might find your own settings vary so please experiment to find what suits you.

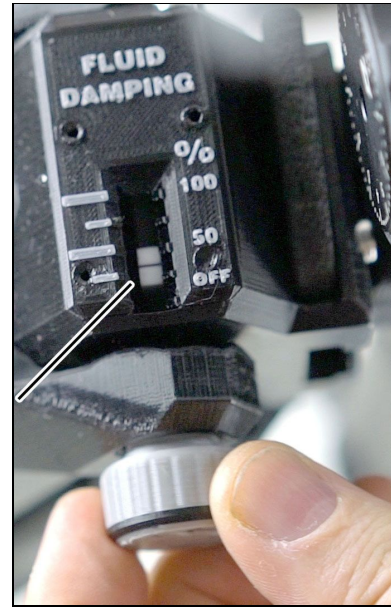


### ***Understanding how to set the damping***


*When you set the damping to a certain level you are actually setting the dampening range i.e. Setting the fluid damping to 100% (Max) will not dampen out all vertical motion. Max damping will only dampen the most extreme vertical motion and light to medium motion will not be damped out. You need to think of this setting more as a range between the top and bottom of the white indicator. For instance, if I set the damping with the black centre line at 30% I find that motion from slow walking thru to walking down stairs will be smoothed out but any harder or softer motion won't be smoothed out.*

## Adjusting Damping

To adjust the amount of fluid damping you turn the two Damping Adjuster knobs. It's best to keep these at the same level. As you can see, like the payload adjusters you've got positive arrows to indicate an increase in damping and negative arrows to indicate a decrease. If you turn the knob in the direction of the negative arrow the variable fluid damping will gradually decrease until there's no damping at all and the spring will bounce back and forth easily.



Here's a few other pointers on the fluid damping cartridges:-

1. The maximum (100%) fluid damping is when the white gauge is furthest away from you towards the front.
2. **Take Care** when near the ends of the damping gauge (0% and 100%) as overtightening past when you meet firm resistance may permanently damage the damping cartridge! 
3. The maximum damping setting will vary in position slightly from the coldest to the hottest year round temperatures. When turning the knobs use the increase in the resistance as an indicator being just past the maximum / minimum damping.
4. There are very few actual scenarios to have your fluid damping set at 100% (i.e. except for say jumping up and down very hard). The majority of soft motion to running fast will likely be between 0% and 80% fluid damping.



***We each move and shoot differently. This guide is a good starting point but you each need to find the range of damping to suit your own shooting styles.***

## Damping Settings:

To give you an idea of where to set the damping here's a range of filming movements with the level of fluid damping that I use for each. This uses the single black line in the white gauge:-

- The most gentle camera movement - for this I tend to use from no damping up to 20% damping. (e.g. All the faux slider shots, dolly/pans, faux crane shots, Push-In and Pull-Out)
- For slow walking or vertical or rotational motion (tilts, orbits or rotates) I'll have it set roughly between 15% and 30%.
- For normal walking or changes in camera direction - (20%-40%).
- For walking backwards or light jogging (follow /Lead) or walking down stairs - (30%-45%).
- For medium pace jogging - (30%-60%).
- For running pace to hard running - (40%-70%).
- For jumping about or with very hard action on uneven surfaces - (60%-100%).



**Note:** As with the spring adjusters you should do a similar style of **Bounce Test** to make sure both damping cartridges are set the same. First set the Payload Spring Adjusters to the exact level and then bounce the loaded stabilizer. If say the gimbal bounce leans towards the right side then the right has more damping than the left and you need to increase the left side damping adjustment or decrease the right side adjuster.

## Fluid Damping -> Shoot, Analyse, Adjust, Repeat

Since you have already found the 'ideal' Payload Spring Setting for your rig you can start with that setting to next find the best damping adjustments for your own personal filming styles.

What I find works best is if you find a short 10 second circuit where you can vary your intensity from soft motion all the way to hard motion (or as hard as you can physically go).

1. Start with both Payload Spring Adjusters set to the ideal level that you already worked out before.
2. Set the fluid damping adjustment to 0%.
3. Do the 'Bounce Test' to make sure the the damping is even and adjust if necessary.
4. Do your 'soft' motion shot and examine footage.
5. Next turn both Fluid Damping Knobs the exact number of whole rotations to get to around say 10% Damping and do the 'bounce test' again (adjust if necessary).
6. Do your 'soft' motion shot again and examine the footage and compare it to the first footage.
  - a. If the first shot was best then keep a note of the first setting.
  - b. If the new shot was better then increase the damping again and keep testing until you find the footage smoothing declines.
7. Once you have your 'soft motion' settings nailed down then keep the damping at the last 'ideal' setting and start the process again but this time up the intensity to the next movement with gentle walking.
8. Next try normal walking
9. Then brisk walking
10. Then jogging
11. Then running

12. Finally hard motion such as on uneven ground or jumping about. Don't be too hard on yourself if this last one doesn't work out at first!

Once you apply these new 4th axis stabilizer techniques to your shoots you'll find you can get even better traditional gimbal moves such as push in, pull out, follow, lead, orbits etc.

## Common Rig Configurations

### Upright Mode



The most common is the Upright Mode which gives the viewer the 'persons eye view' that they're already very familiar with. I tend to use it 80% of the time (e.g. walking head shots or head to waist shots, over shoulder, high to low shots and all the common moves such as push-ins out outs)

## High Mode



From Upright Mode if you invert the handles you get the High Mode. This is useful for a range of high shots and can give some interesting faux crane shots. Its higher centre of gravity makes it harder to control than the other modes.

## Mid Mode

Now you re-attach both modules while swapping sides to keep the handles in the correct orientation. This takes you to the inverted gimbal Mid Mode. If you're not yet silky smooth with Upright Mode then this will be an easier mode to get smooth shots as it's almost the same height as Upright Mode.



You can get some interesting creative angles such as tilted up 'Child's eye view' or moving along lower objects such as cars, railings, plants that's great for B-roll. It's also a good height for capturing smaller children.



## Low Mode

Now with the gimbal in the Mid Mode you turn the handles upright to get to Low Mode (also called Briefcase Mode). It's great for those 'dog's eye view' of the world shots and the toe to head shot tilting up or a following behind legs or feet



shots. Of all the stabilizer positions this is the easiest mode to operate as the lower centre of gravity keeps the gimbal nice and smooth with minimal effort.

## Rigid Mode

You might find that there are times when you want to do a controlled motion such as a whip pan or a tilt without having to attach rigid handles.

This is how you turn your Duo into rigid handles in just a second!



First make sure your handles are straight up or angled outwards as the next step can pinch your hand if they're angled inwards.

It's actually really easy and all you do is bounce down on the gimbal and on the up stroke push inwards on the handles and 'Hey Presto!' you're in Rigid Mode. You can also go to Rigid Mode from all other Modes as well!

## Advanced Usage

As you get more and more familiar with the 4th Axis Stabilizer you'll uncover your own little tips and tricks to make your stabilizer do more. Here's a few things that I use on occasion;

### Semi-Rigid Mode

*Ok, I know some of you are having a chuckle at the name but I'm serious!*

This is a bit of a dark art to get right so don't worry if you can't get it easily. You can't use Rigid Mode as part of a shot that goes from soft suspension to Rigid Mode as the locking motion will give an obvious jolt in the footage. You might find that there are times when you want this transition so what you can do is rather than fully locking the arms just apply enough inward pressure



on the handles to lift or lower the gimbal so that the majority of the suspension is mostly locked and you can do your controlled rapid movement. This takes a bit of practice but if you do these transitions like whip pans regularly then it's well worth the practice to get it right.

### Pro Rig Setups

Many of us gimbal operators are doing it for a living and as such we often have more than just smooth footage to deal with. There's a field monitor to make sure you have the composition right and then there's possibly audio or lighting and other gear to add to your rig on a day to day basis

depending on the shoot. We've got you covered with 4 brass threaded ¼-20 attachment points as standard on the handles and even more for some other add-ons such as the Deluxe Gimbal Base Extender.

You can attach off the centre with add-on mounts but my preference is to keep my monitor and other accessories attached to the handles. When hanging gear off the centre you add to the total 4th Axis payload but when mounted off the handles those accessories don't add to the 4th Axis payload.

Here's a few rigs ideas to give you an idea of what you can do (do a stop motion orbit with the gimbal rotating)

- Monitor left and gimbal remote right
- Audio right top
- Deluxe Gimbal Extender
- light on top right
- Audio on Gimbal Extender front with magic arm

### **Load Support**

If you find you're struggling on shoots holding up your gimbal then a 'Ready Rig' style load carrier system can be used (like the dual arm one pictured) to connect to the attachment points on the top of both handles. These attachment points are extra reinforced for just this purpose. Adding a ¼-20 eye bolt to each handle will give you a perfect attachment point for a mini snap carabiner for fast on and off.



## Re-Tuning AKA Troubleshooting

Occasionally you may need to re-tune your stabilizer if it isn't moving freely, makes a funny sound or if something just isn't working right and no amount of knob adjustments will get it working. You might have made an upgrade and need to retune it from scratch. This is where you get out the M6 socket and M5 Allen key that came with your stabilizer.

But first you need to get a little 'Stabilizer Whisperer' on it and listen to what your stabilizer has to say... seriously! :)

What you are listening for is knocks, scratches or scrapes. In a quiet place get your stabilizer (without the gimbal) and put it up to your ear while holding one handle at a time and moving the central gimbal mount up and down. There will be some just audible sounds that are mostly fine but if there's an odd sound that pipes up then try and work out where that is?

### Some common problem sounds include the following:-

- Knocking around the spring adjuster
- Scratching or scraping around the spring adjuster
- Scratching or scraping around the gimbal mount

I run through every one of the following adjustments when I'm tuning the stabilizers. You may pick and choose what you want to tune but it doesn't take long to check it all.

### Knocking spring adjuster

The **knocking spring adjuster** is a simple fix. This likely means that the spring adjuster bolt is slightly loose and the knocking sound is the bolt moving up and down in the bearing mount. Take you socket and push it firmly over the recessed bolt in the base so that if you turn it the spring adjuster knob turns too. Now what you'll do is firmly grip the spring adjuster knob and tighten the socket until it's

firm. Then you'll loosen off the socket by half a turn and then listen again to hear if the knocking sound is gone. You may need to fine tune this tightness further but it normally does the trick.

### Scratching or scraping around the spring adjuster

This is likely an over tightened support arm bolt. Take your allen key and tighten one of the four bolts until firm.



**Be very careful to only tighten the bolts until you meet firm resistance as you can easily strip the threads if you go too far**

Once firm then you loosen the bolt one complete revolution. Now do this to the other 3 bolts and test to see if the noise is gone.

### Scratching or scraping around the gimbal mount


This can mean one of two things:-

**1) The bottom attachment bolt** with the spring attached to it is rubbing somewhere.

Firstly, you'll make sure that the nut on the front side lines up with the end of the bolt. If not take your socket and allen key and adjust it like so.

Then take your stabilizer and look thru to that bolt and look for light on either side of the two mating mounts. If one side shows a light gap and the other shows none then you will need to take the Allen key and adjust the bolt so that the light is close to equal on each side i.e. if the light is on the nut side then you will need to loosen the bolt.

**2) The damping adjuster knob** might require adjustment.

-  First check that the damping cartridge isn't hard up against the 0% or 100% damping ends. If it doesn't easily turn in one direction

then it's tightened too far and the cartridge is locking up which can result in permanent damage to the the cartridge if used like that! The correct setting of 0% or 100% damping needs to be backed off half a turn from the point where the resistance begins to increase.

- Finally check if the damping adjuster knob moves smoothly. If there's a lot of resistance or it feels a bit gritty than there's a good chance the nut on the other end is too tight. Get your socket and hold the damping knob firmly and loosen it a quarter turn at a time until it turns smoothly with no 'grittiness'.

## General Care

Here's a few pointers that you should be aware of if you want to take best care of your stabilizer.

### Temperature range

You should keep your stabilizer under 80°C (180°F) as some of the polymers will begin to soften after this point and potentially warp out of shape. **Don't leave it in a car on a hot day!** Think of it like any camera gear as you wouldn't leave your expensive camera gear in a hot car.

The minimum operating temperature is -10°C (14°F). This is due to the damping gel hardening past this temperature and operating your stabilizer could do damage to damping cartridge. Anecdotally, we've had customers use their stabilizer at around -20°C (-4°F) in the snow but you would do so at your own risk.

### Rain, Dust and moisture

You should avoid situations where the sealed bearings are subjected to water or dust ingress. Your stabilizer can withstand light rain but heavy driving rain could force water into the bearings. **Do not immerse your stabilizer in water!**

## Cleaning, Maintenance and Care

After use where your stabilizer is subjected to dust or moisture you should wipe with a dry or slightly moist cloth.

When you store your stabilizer for extended periods to minimise the stress on the stabilizer you should adjust both of the spring adjusters to the minimum position. The lubricated bearings are sealed so no lubrication is required to the bearings or any other part of the stabilizer.



**Note:** *We build our stabilizers extremely tough but occasionally under certain movements there can be exceptional forces inadvertently applied to the stabilizer. Although unlikely this can possibly lead to breaking forces being applied to components of the stabilizer possibly causing catastrophic failure. This is especially important during autonomous use where the stabilizer is mounted to an object such as a car. In these types of scenarios it's important to protect your rig with a safety line in the event of a catastrophic failure.*

**OK, that's it! Congratulations! :)**

Now you have all the knowledge you need to get started. Just remember that at first you will need to practise those techniques before you use it on a shoot. You might be a complete natural but I generally suggest you dedicate at least a few hours shooting and reviewing footage to find the right settings for you. Then you can go out with confidence and make all your very own silky smooth footage!

And one last thing, if you post some footage online then we'd love to see it so please shoot me off a link?

Thanks again!

Scotty McPherson