

STEADICAM[®]

SOLO[™]

User's Manual



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Solo User's Manual
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NOTE: It's important to read this manual thoroughly, so you can have your SOLO up and running (maybe literally) in just a few minutes. Let's get started!

Welcome to STEADICAM!

A letter from Steadicam® inventor, Garrett Brown.

Dear Friends,

Congratulations! Your Steadicam SOLO™ is a professional shooting instrument. It's also a brand new critter -- a radical hybrid that crosses-over seamlessly from Steadicam to monopod and performs tricks in between that neither can do alone.

You may be a veteran Steadicam ace looking for the ultimate run-and-gun rig for your new digital camera, or a seasoned conventional shooter, eager to expand your technique, or maybe you're new to the game: a film student or gifted amateur, ready to edge into the professional world...

in any case you're in for a rewarding experience. Your new SOLO is a true Steadicam®: precise, rigid and beautifully engineered, and it's also a brilliant and versatile monopod; but most startling to me, after decades of shooting, is the realization that SOLO can deliver combination shots I never imagined, and with a speedy panache that would spin the heads of my old Hollywood colleagues.

With its inertia-augmenting 'wings' folded out, monopod shooting is stable in all three axes -- 'tilt and roll,' obviously, but now also 'pan' -- and with SOLO also balanced in Steadicam mode (at any desired length), you can smoothly 'lift off' and walk, run or climb stairs like your favorite moves from the movies.

You can hoist the camera up for ceiling-height 'aerials' or invert it to skim the floor, and then seamlessly return to monopod or Steadicam-mode -- with or without the optional arm and vest.

We have entered a new, highly democratic era in filmmaking, and our tools are ever more accessible for shooting, editing and special effects. Increasingly, success may finally depend more on skill and talent than on big budgets -- and SOLO can help you get there.

This latest iteration of the 'noble instrument' is cool and it's hot! and I look forward to seeing your results -- in sample reels, documentaries, commercials, home videos, reality TV and feature films!

In this manual you'll find all you need to know for balancing, basic operation and beyond, including superb Steadicam training exercises and monopod techniques.

Good luck with your new Steadicam SOLO™ and good shooting!

Garrett Brown
Philadelphia, 2013

www.garrettcam.com

Top Stage

Quick Release (QR) Plate, Lock Knob and Release Button.

Balance Adjuster Knobs.



Gimbal Handle and Post Grip

One to support and one to control the rig.

Yes, the handle is supposed to be loose!



4-section post

Post Locks.

Length increases for **MONOPOD MODE** or for Beyond Basic **STEADICAM** Operation.



Wings

With 8x **Weights**.

They're folded now, but you'll spread them and be flying soon.



Swivel Foot

For use in **MONOPOD MODE**.

Or for resting the rig after a long **STEADICAM** shot.



Tools

Allen Wrenches.



Next: [Mounting your camera](#)

Build the camera exactly as you plan to use it

Install the **battery** and **media card** (or tape or film!)

Attach ALL camera accessories, in a compact setup with no loose wires.



Make sure the LCD screen is flipped open and positioned for easy viewing. It'll affect the balance.



Find the center of balance of your camera

Use a pen or something round to find the **Fore-and-Aft** balance point.



Mark the point with a piece of tape on the side of the camera.



Rotate the camera 90° and find the **Side-to-Side** balance point.



Mark this point as well.



NOTE: Some cameras (like DSLRS) may have balance points **OUTSIDE** of the camera body. In that case, you would mount the QR Plate to the camera **FIRST** and use the pen to find and mark the balance points.



Fasten QR Plate to your camera

Remove **QR Plate** from the **Top Stage** and remove the 2 camera screws.



Center the **Camera** to the **QR Plate** by using the **Fore-and-Aft** and **Side-to-Side** marks you made.



Fasten with the appropriate camera screw.

Do not over tighten, but ensure the camera will not rotate.

NOTE: The QR plate will work in either direction, but make sure to mount it parallel to the lens.

Mount camera to Top Stage with QR Plate

Slide the **QR Plate** into the **Top Stage**, position your **Fore-and-Aft** mark at or slightly behind the **CENTER** of the **Post**.

Tighten the **Lock knob** to ensure the **QR Plate** won't slide.



Using the **Side-to-Side Adjuster Knob**, align your **Side-to-Side** mark with the **CENTER** of the **Post**.

Don't pick it up just yet! We'll learn how to set up the SOLO to fly in the next section.



Next: **STEADICAM MODE**



Now for the fun part!

Quick reference guide to SOLO setup:

| | | |
|--------------------|----------------------|--------------------|
| Camera is 2-5 lbs | Start with 1 Weight | 23" Post extension |
| Camera is 5-8 lbs | Start with 3 Weights | 25" Post extension |
| Camera is 8-10 lbs | Start with 4 Weights | 27" Post extension |

Rest the SOLO

With your camera mounted, rest the **Swivel Foot** on a solid surface.



Fold down The Wings

Pull the **Tab** while rotating each **Wing** down.



The **Tabs** should *click* into place.



Picking up the SOLO.

Carefully pick up the **SOLO**, support it by the **Gimbal Handle** alone and allow the **Post** to hang without touching anything.



Observe how the **SOLO** is balanced **Fore-and-Aft** and **Side-to-Side** (both axes.)



Use the **Fore-and-Aft Adjuster Knob** to balance the **Post** vertically.



Use the **Side-to-Side Adjuster Knob** to balance the **Post** vertically.



When the **Post** is vertical in BOTH axes, move on to test your **Drop Time**.

TIP: Always move the weight UPHILL to balance.



Test for Drop time

Support the **SOLO** firmly with the **Gimbal Handle**.



With your other hand, rotate the **Post** so it's horizontal.



Release the Post and observe how fast the SOLO drops.

Count the number of seconds until the **Post** passes vertical.

Your target for the **Drop Time** is 2 seconds.



If your Drop Time is **MORE** than 2 seconds, is completely neutral or the SOLO inverts when held by the Gimbal Handle:

Extend **Post #2** by an inch or so (if possible.)

OR add 2 more weights to the **Wings**.

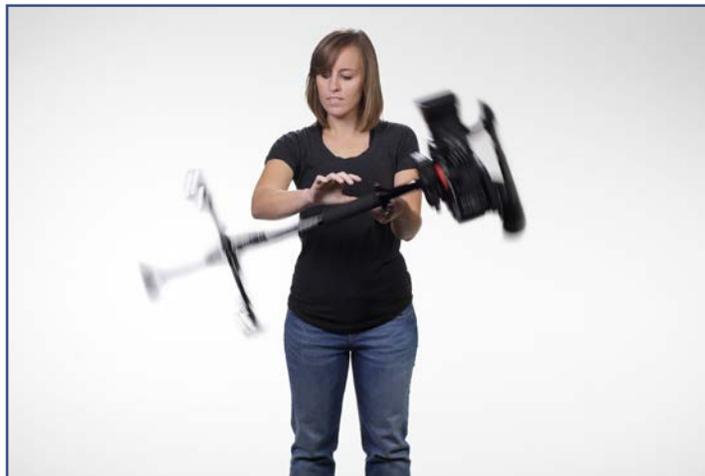


Screw additional weights under the existing weights.

Always use the same number of weights on each **Wing** and in the same positions.



Quickly re-test your **Drop Time** and continue adjusting until you're in the zone.



If your Drop Time is LESS than 2 seconds (the SOLO drops too fast):

Retract **Post #2** by an inch or so (if possible.)

OR remove 2 of the weights from the **Wings**.



Unscrew locking nut and remove the weight.

Always use the same number of weights on each **Wing** and in the same positions. It's all about balance.



Quickly re-test your **Drop Time** and continue adjusting until you're in the zone.



Repeat the **Fore-and-Aft** and **Side-to-Side** balance.

The slower the **Drop Time**, the more critical the **Balance** Adjusters will be to get the **Post** PERFECTLY vertical.

TIP: To ensure accurate leveling, you may want to attach a tiny bubble level on the gimbal, on the camera or another horizontal surface of the SOLO.



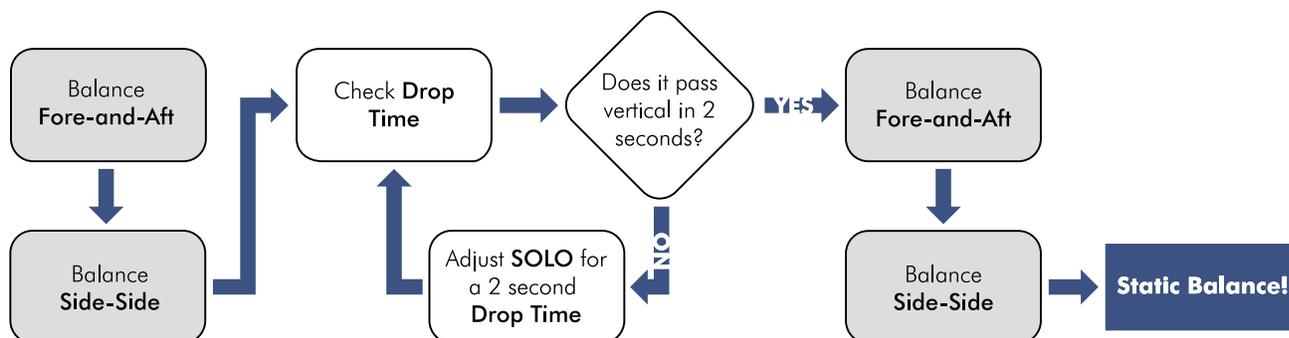
Continue these adjustments until the Post remains vertical in both axes with a 2 second drop time.

You might repeat each step several times until you find that sweet spot. That's just the process of properly balancing any **STEADICAM**. Take your time.



Well done! You're now in Static Balance. You're ready to fly SOLO.

Static Balance Quick Reference Flow Chart



Next: Basic **STEADICAM** operation

The Grip

The Hand on Gimbal Handle supports weight of rig.

A **STRONG** grip controls where the **SOLO** goes and how it flies.



Use either hand and alternate if necessary.



Post Grip hand guides the rig, preventing unwanted movement.

IMPORTANT

Use a **VERY** light touch on the **Post**.
 Index finger and thumb are directly underneath the **Gimbal**.



Use this hand for panning and tilting the camera.

Don't LIFT the **SOLO** with the **Post Grip**, do your lifting with the **Gimbal Handle** only.



The Posture

Stand upright, don't bend over.



Hold the **SOLO** as close as possible without contacting your body.

Allow the **SOLO** to move independently of your body.



The Walk

Walk normally, don't bend your knees too much and use gentle footsteps.

It's best to know where you're going before you start.



Adjust your grip on the **Post** when starting/stopping to prevent the **SOLO** from swaying.

Finesse the beginning and end of each move with your arms.



Practice, practice, practice! For more operating tips and lessons, keep reading.

Next: What NOT to do!

What NOT to do!

Bend over.



Hold POST away from the Gimbal.



Contact rig with body.



What NOT to do!

Support rig by the Post Hand.



Contact Top Stage with Gimbal Handle.



Touch the Camera while operating.



Next: Beyond the basics of STEADICAM

Gimbal Placement.

Why? With the **Gimbal CLOSER** to the camera, you can remove weights from the Wings which makes the **SOLO** lighter. Or you can use the same weights with a more compact **Post**.



With the **Gimbal FURTHER** from the camera, you can lengthen the **Post** for additional lens height or to go lower in **Low Mode**.



Gimbal Adjustment.

Lay **SOLO** on a table when adjusting the **Gimbal Height**.

Use the included ~~9/64"~~ **Allen Wrench** to loosen the **Gimbal Lock** screw.



Slide the **Gimbal**.

And then **RE-TIGHTEN THE GIMBAL LOCK SCREW** before testing.

Careful! Don't over-tighten this screw.



Move the **Gimbal CLOSER** to the camera for a faster **Drop Time**.



Move the **Gimbal FURTHER** from the camera for a slower **Drop Time**.



Make **BIG Gimbal Placement** changes until you're close to the 2 second **Drop Time** and then make smaller changes to get it perfect.

Tip: Once you have the Drop Time **CLOSE** to your target, you might choose to make small changes to the Post length to fine tune your Drop Time without using any tools.

Dynamic Balance

*Why? So the **SOLO** spins flat with no wobble, the **Post** stays vertical. This is important when panning or going around corners.*

The good news? Your **SOLO** will always be in **Dynamic Balance** as long as the weights are placed symmetrically on the **Wings**.

Pan Inertia Adjustment

*Why? To make the **SOLO** more or less resistant to panning.*

Leave the camera where you have it **Dynamically Balanced** and re-balance with **ONLY** the weights. This maintains the **Dynamic Balance**, it's like magic!



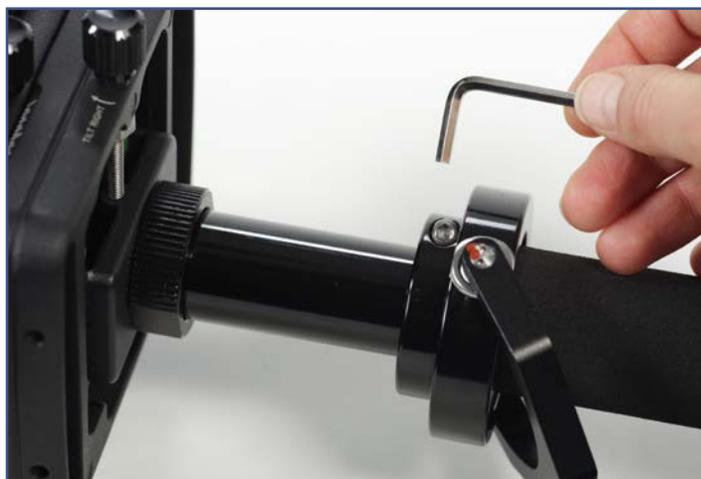
For the **SLOWEST** panning, **ADD** more weights equally to the **Wings**, but place them as **FAR** from the **Post** as possible.



For the **FASTEST** panning, **TAKE AWAY** more weights equally from the **Wings**, and place the remaining weights as **CLOSE** to the **Post** as possible.



Remember to re-adjust the **SOLO** so it is in **Static Balance** after changing the weights by moving the **Gimbal** or adjusting the length of the **Post**.



For additional adjustment possibilities, more weights can be purchased.

Long Mode

Why? For additional lens height, additional tilt and roll resistance and to reach lower in Low Mode (that's next.)

Again, leave the camera and weights where you have them
Dynamically Balanced.



Extend the **2nd Post** section with the **Wings**.



Move the **Gimbal** away from the camera, and set the **Drop Time** to 2 seconds.



Adjust for **Static Balance** if necessary.



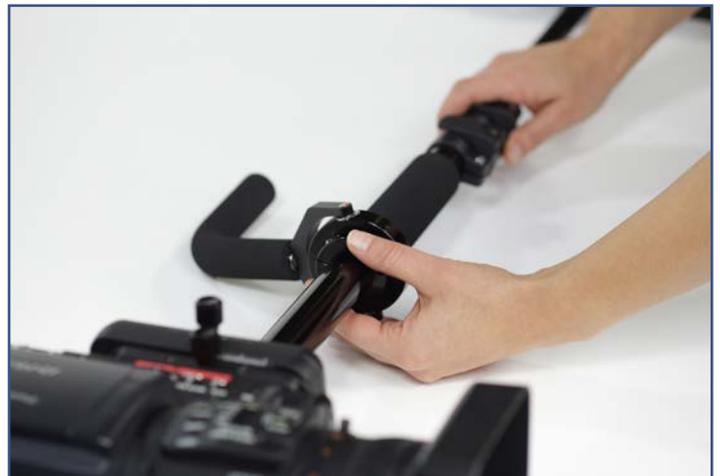
Low Mode

Why? To get closer to the ground or fly over a surface.

Re-adjust your LCD screen so you can see it with the **SOLO** inverted, make sure all accessories are locked down tight.



With **SOLO** balanced in **Long Mode**, adjust the **Gimbal** approximately 2" FURTHER AWAY from the camera. This will make the **SOLO** top heavy.



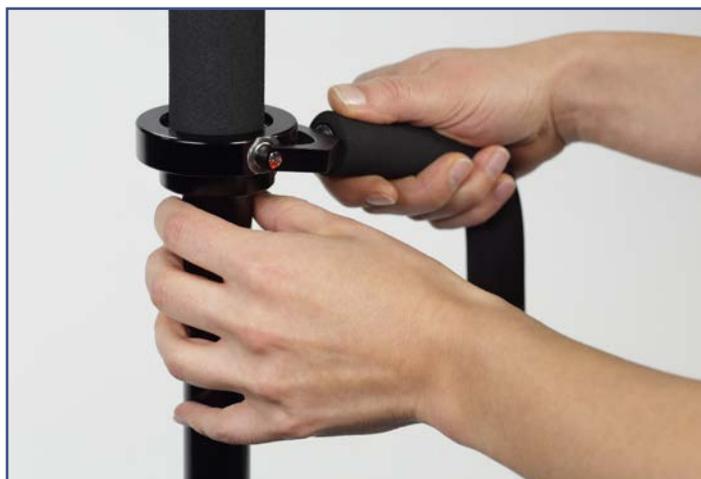
Pick up the **SOLO** inverted and check your **Static Balance** with a 2 second drop time.



Once the **SOLO** is balanced, go chase your dog or kids!



You should still operate with your **POST** hand below the **Gimbal**, not on the foam grip.



NOTE: The camera will be upside down, so the picture will have to be rotated when you're editing. Unless you like it upside down!

[NEXT: STEADICAM training](#)

Starting out

Start with the camera system OFF and get used to walking with the **SOLO**.

Later, power up the camera and start framing shots.



Use your peripheral vision to watch your footing while looking at the camera screen.

Practice on smooth, level surfaces at first.



Walk the Line

Why? To learn to isolate the camera from your body movements and create accurate frames.

Make a tape line on the floor 10-20 feet long.

Add a crosshair at eye level on the wall at one end.



Walk the **SOLO** along the line so the crosshair is centered in the frame the entire time.



The **SOLO** should remain centered over the line as if it's on tracks.



Walk forward and backwards with the frame centered on the crosshair. Concentrate on maintaining a level horizon, the camera shouldn't look like you're on a boat!



Practice with a wide lens and then try a telephoto lens. See how each have their own challenges?



Tilting Well

Why? To improve your accuracy when Tilting the **SOLO**.

Hand position can change from traditional operating:

Tilting UP: slide your **Post** hand down a LITTLE, and use your finger tips to support the **Post**.

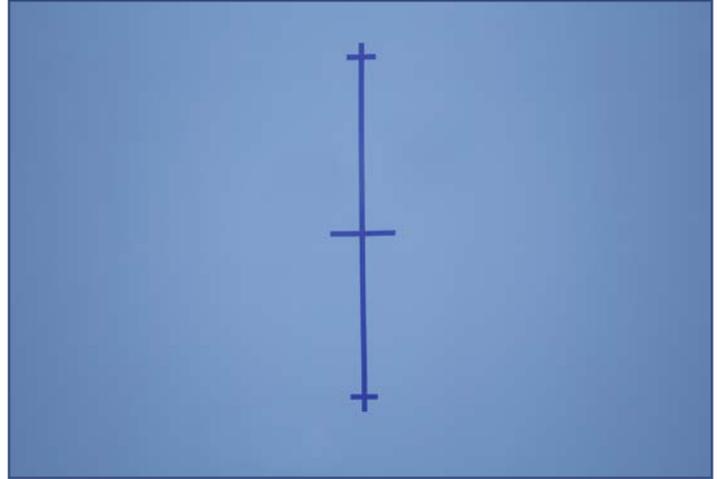


Tilting DOWN: slide your **Post** hand down a LITTLE, and use your finger tips to tilt the **Post**.



Add a long vertical line through the eye-level crosshair and put crosshairs on either end.

Practice **Tilting** from top to bottom and back again without walking.



Walk the line and **Tilt** from one mark to the other.

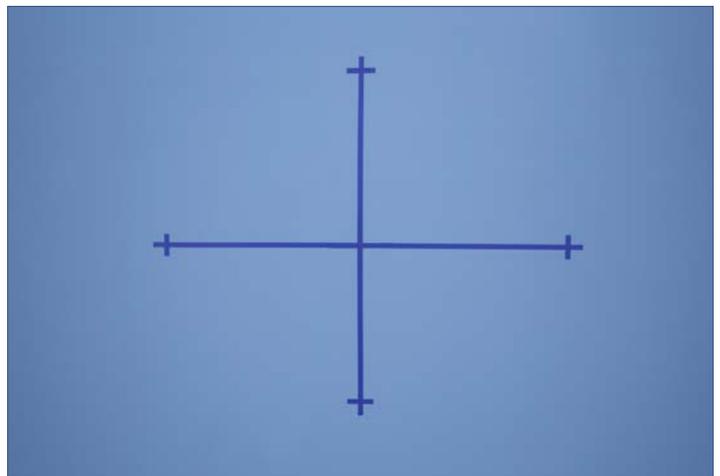
Begin on one mark, start walking and end your walk centered on the 2nd mark.



Panning Well

Why? To learn to control camera framing without effecting the horizon.

Add a long horizontal tape line through the eye-level crosshair and put a crosshair on either end. This will be your **Panning line**.



Stand at the far end of the line and try panning from one end of the **Panning** line to the other while maintaining your horizon.



Now, walk the line and pan along the **Panning** line, keeping it parallel and center of frame.

Try a wide lens and a telephoto lens to see the difference it makes.



Booming up and Down

Why? Because it's easier to control headroom with Booming than tilting.

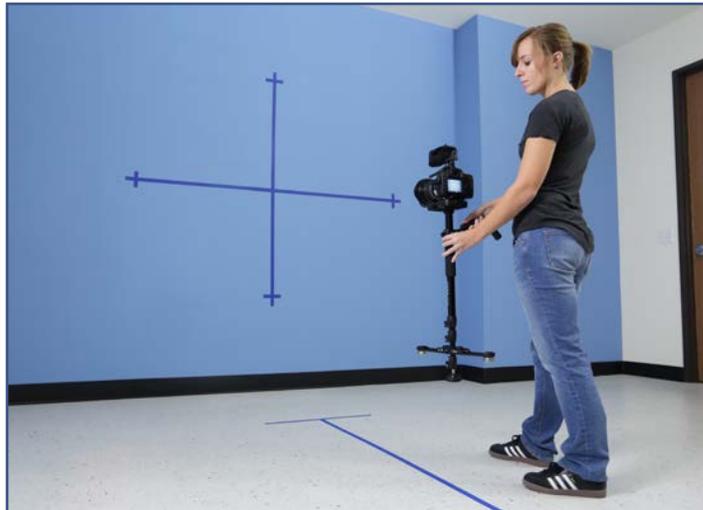
Practice holding the **SOLO** as low as possible and raising it above your head, keeping the post vertical, then back down.

Walk the line and keep your TOP crosshair at the top of the frame.

Walk forward AND backwards and maintain your frame in both directions.



Now walk the line and keep your **BOTTOM** crosshair at the bottom of the frame.



Congratulations!!! You now have taken your first step in making beautiful, smooth, STEADICAM shots. Though, don't forget it takes practice to become skilled with the SOLO, and only with continued practice can you become a SOLO professional.

TIP: For additional information on training, the **Steadicam Operator's Handbook** written by Jerry Holway and Laurie Hayball is a comprehensive guide to becoming a successful operator. In addition to this **The Steadicam Workshops** may be for you. For more information visit:

www.thesteadicamworkshops.com

NEXT: MONOPOD MODE



NEXT: MONOPOD Operation

Looks easy, and it is!

Unlock the **Wings** by pulling the **Tabs** and folding each **Wing** to the **Post**, there's no need to move the **Weights**.



Extend the **Post** by opening each **Section Lock** and extending the **SOLO** to your desired height.



Operate with the **Swivel Foot** on the ground for stability.



Hold the camera as you would hold it handheld, with one hand on the grip, the other on the lens. There's no need to use the **Gimbal Handle** in **MONOPOD MODE**.



Lean forward to tilt down.
 Lean backwards to tilt up.
 Take your shot.

TIP: If your SOLO is already balanced for Steadicam mode, take note of each Post section length, (perhaps make marks on the Post) so you can quickly return to this position



Next: Maintenance

Post Lock Adjustment

If your Post is slipping while in operation:

Use the provided **Allen Wrench**.

With the **Post Lock** CLOSED, gently tighten the screws.

Test by opening and closing the **Post Lock** to ensure that the **Post** is unable to move when locked but still releases easily.

CAUTION: Over-tightening the Post Lock screws may **DAMAGE** the Post.



Surface cleaning

Use a soft, damp cloth to remove dust and fingerprints.

DON'T use aggressive solvents or abrasives!



Next: Useful Accessories and contact TIFFEN

Useful Accessories

Docking Mount (804-7900)

Docking Stand (601-7910)

Additional Weights (821-7900)

Solo Arm Vest Kit (821-7930)

1/4-20 Camera Screw (078-1121)

3/8-16 Camera Screw (078-1122)

1/4-20 Spacer (601-7411)

Steadicam Operator's Handbook (LIT-900001)

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vPatent pending.

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