

Static Balancing

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First, extend the posts and position the monitor where you want it, then find the proper position for the battery and camera for static and dynamic balance.

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The Steadicam sled should be carefully balanced to help the operator get the shot. Before balancing, the sled should have the camera and battery attached, all cables secured, and all accessories on board. The gimbal should be near the top of its post.

First we must position the monitor to the best possible advantage. We want to be able to see the image and we want it to create the proper balance and inertia for the shot.

Extend the monitor horizontally to increase pan inertia.

Bring the monitor closer to the post for a quicker, "hand-held" feel.



Lower the monitor and/or extend the posts to balance a heavy camera, gain lens height, and/or to increase tilt and roll inertia (or all three!!).



The posts and the monitor bracket should all be properly aligned. Check the index marks on the posts. Release the proper clamp and rotate any section that is out of alignment.

For normal operating

Mount the gimbal on the balancing stud. Even if your C-stand has plenty of sand bags, it's a good idea to have an assistant hold the C-stand. You need to balance the sled in all three axes: fore-aft, side to side, and top to bottom. Pick the most out of balance axis and get that close to being in balance, then work on another axis. You may have to go back to tweak the balance in any given axis several times.



With the camera and monitor set, release the two battery rod clamps and pull out the battery until the sled balances upright. Balance as best you can with the battery – do not move the camera or monitor – then tighten the battery rod clamps.





To adjust top-to-bottom balance, tilt the sled until it is horizontal. Hold the sled firmly and release the gimbal clamp. Slide the gimbal until the sled balances horizontally - but never allow the sled to move from horizontal with the gimbal clamp open. Slide the gimbal up towards the camera about 1/2 inch and lock the gimbal.



Now let the sled rotate (drop) through vertical and note the time. A two second drop time is a good starting point. 2 to 4 seconds is typical. Raise or lower the gimbal slightly to get a faster or slower drop time. (Again, only release the gimbal clamp when the rig is horizontal!!) A different drop time is required for long mode shooting. See pages 52-53 for details.

To fine tune fore-aft and side to side balance, use the knobs on the camera mounting stage, or use the remote control.

When the sled is very bottom heavy, it has a quick drop time and it will require bigger movements of a weight (camera or battery) to properly balance the sled. When the sled is nearly neutrally balanced top to bottom, very slight movements of any component will have a large effect on balance.

Tip: When adjusting the balance fore-aft or side to side, moving any weight “up hill” makes the sled hang more vertically.

Working with a Very Light Camera

With a fully compressed sled and a very light camera, the gimbal can get very low, causing the arm to hit the electronics module.

Tip one: You can raise the gimbal by raising the monitor while leaving the sled length the same. Release the clamps at the top of posts three and four and slide post three up to the gimbal. Lock post three in place, and then lock post four to maintain the minimal sled length. Move the upper monitor mount to the top of post 3, and attach the monitor.

Re-balance top-to bottom.

An alternative solution (tip two): Raise the c.g. of the sled – and therefore the gimbal – by raising post number one. This makes the whole sled a little longer and raises the lens height slightly. Either way, the gimbal moves away from the electronics module.

Tip three: Add weight to the top of the camera.



Tip: To speed up the process of side to side and fore-aft balancing, hold the sled vertical with your operating hand on the gimbal. Hold the gimbal the same way you would do while operating. Hold the sled absolutely vertical as you adjust the side to side or fore/aft balance. Turn the adjustment knobs with your other hand (or use the remote) until you feel no pressure on your operating hand, and the sled will be in static balance.