

*Gimbal: Ultra<sup>2</sup><sup>®</sup>/Shadow<sup>™</sup>*



p/n LIT-257010-D

**STEADICAM<sup>®</sup>**

## The Gimbal & Centering

### *The gimbal*

The Ultra<sup>2</sup>® gimbal (also used on the Shadow™ series stabilizer) uses high-precision and high load bearings, and the body, yoke, and handle are precisely registered to each other. The yoke's shape and contoured edges extends the range of motion without interference and promotes a better operating grip over a wider range.

The operator can easily center the gimbal in the field – useful if you've taken apart the gimbal for cleaning, taken a really bad bump, etc.



Note: You might notice that there is a small amount of in and out “play” between the handle that holds the remote and the Y shaped yoke. This is part of the gimbal design and is normal. In use, the play disappears.

## Centering the gimbal

- Place the gimbal on the docking stud (as you would for normal balancing), give yourself a 3 to 4 second drop time, and aim the camera along a line through the two bearings in the yoke, as shown in the left photo.



- Balance side to side and fore-aft as precisely as you can to get the post vertical. We recommend you use a bubble level on the stage, and be sure that the tilting head is set 90° to the post (horizontal). Rotate the sled 90° so that the camera is aimed along the axis of the yoke handle, as shown in the right photo, above. Tweak the fore-aft balance as precisely as you can, then do not touch the stage adjustments for the rest of the procedure.

- Rotate the sled 90 degrees again, as shown below, and test for level. Rotate 180 degrees and test for level. If the sled is level, great. If not, use the “blue whale” tool to loosen one of the two end caps 1/16 of a turn or so, and tighten the other one to the same degree.

- If the sled does not hang perfectly level, move the whole sled “uphill” with the yoke bearings.

- If it gets worse, you chose the wrong one to loosen! If it gets better, keep going until it is perfect. Do not rebalance fore-aft with the stage.

Adjust the yoke bearings equally – i.e. loosen one and tighten the other the same amount - and do it in small increments.



Blue Whale Tool

Tip: We urge you to test your gimbal's centering with a normal drop time, and then with progressively longer drop times. Go slowly and follow the procedure closely, rebalancing carefully and testing everything as you go. Before you adjust anything, be sure it's not your balancing technique that is causing the problem, or a dangling cable, anything loose on the sled, or the wind. With long drop times, the sled is very sensitive to these shifts and influences.

**A small warning:** do not over-tighten the caps against the bearings, as this will cause binding. Just tighten each cap down to touch the bearing. If the bearing starts to bind, just back off one of the two end caps until the gimbal is free again. The blue whale tool also makes it easy to take apart and clean the gimbal if this ever becomes necessary.



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