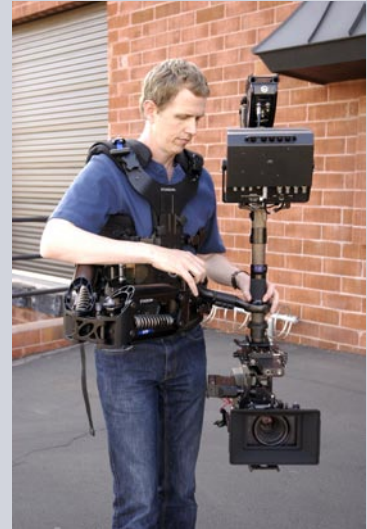


## Low Mode

### *Configuring the sled for low mode*

In order to configure the sled for low mode operating, you must:

- Flip the monitor and the camera upside-down.
- Attach the optional slanted F-bracket (P/N 252-7906) to the gimbal.
- Rebalance the sled, both statically and dynamically.
- Re-set the electronic level.
- You also might change the post in the arm and/or raise the socket block on the vest to restore some of the arm's lost boom range.



The camera will need some means of attaching a second dovetail (P/N 252-7410) to the top of the camera.



A low mode handle clamp (P/N 078-7393-02) works for some cameras, but be sure the camera's handle is strong enough. Many plastic handles on video cameras are inadequate, and a custom cage or bracket is required.

Many film cameras come with dedicated low mode brackets and 100% video viewfinders. Some camera-specific low mode bracketry might also provide a means of mounting motor rods (or a dovetail with motor rods), and this



system should not interfere with camera functions or working with the camera in high mode.

Most operators work with the low mode bracketry and second dovetail in place — ready to go at all times.

Attach the second dovetail directly above the first dovetail. Check that it does not interfere with changing mags or any other camera functions.



## *Remove the monitor mount and flip to low mode*

Always support the monitor. Loosen the Kipp handle, depress the safety button, and slide the monitor bracket straight up or down. To replace, engage the monitor bracket with the dovetail squarely and slide it down until the safety clicks in. Tighten the Kipp handle. The monitor will be square to the post.

By design, the monitor flips on its c.g., preserving dynamic balance — if the sled's length isn't changed.



## *Balance the Steadicam*

The sled can be balanced the same as in high mode. Hang the rig by its gimbal on the balancing spud. The camera will still be on top, but it is upside down. Balance statically and dynamically. Once balanced, adjust your drop time so the camera now falls to the bottom of the rig: simply move the gimbal toward the **electronics** to achieve a proper drop time.



**Cautionary Tip:** When in low mode and grossly adjusting the camera position by sliding the dovetail, be sure to: 1) support the camera, and 2) lock the dovetail by pushing the lever forward. Balance as you would for high mode.

## *Adjust the electronic level*

Place a spirit level on the camera. Hold the sled level and push the level button quickly. Pushing the “level” button on the sled for less than 1 second will set the level; pushing and holding the level button for 1-3 seconds will alter the direction for low mode. (See pages 30-31 for a full description of the Artificial Horizon.)

*The slanted F-bracket*

There are two positions for the F-bracket, one for regular side operating and one for goofy-foot. Be sure to angle the F-bracket away from you (about 45 degrees forward) when standing in the Missionary position.



regular operating



goofy foot operating



with f-bracket

The F-bracket brings the arm back into a proper relationship with the inverted sled. Without an F-bracket, the end of the arm will be next to the camera. Switches are impossible and operating is severely limited.



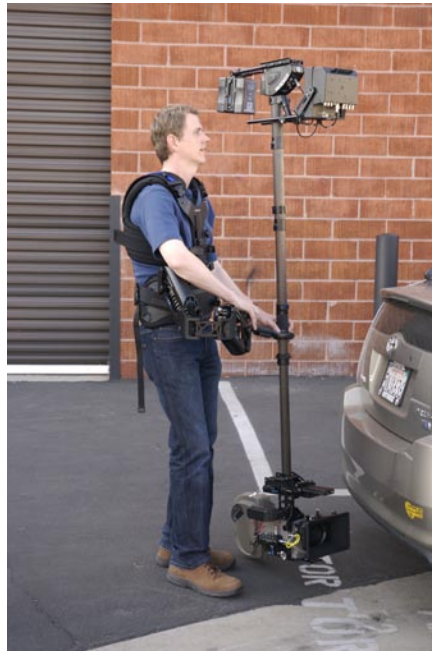
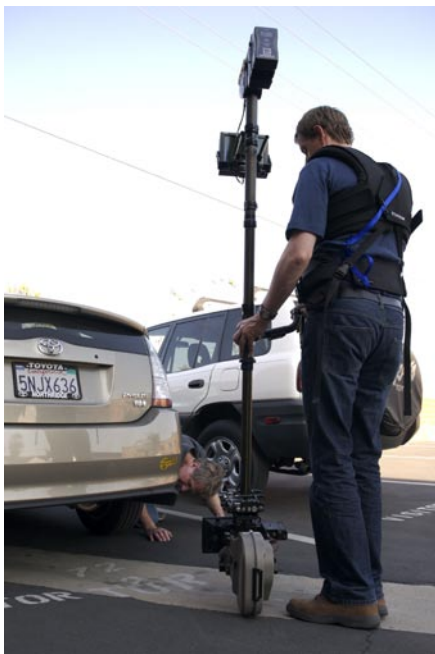
without f-bracket

Tip: In very long and low mode operating, the F-bracket can be omitted, as there is plenty of room for the arm.

The Ultra<sup>2</sup>'s unique slanted F-bracket has several advantages over the original straight F-brackets. With the new bracket, the gimbal-to-centerpost angle is changed, increasing the gimbal yoke's clearance to the centerpost. The operating hand-to-arm hand differential is reduced, which makes it easier to operate and is less fatiguing. The new bracket also wastes about three fewer inches of the arm's boom range than the old style F-bracket.

### *A useful trick*

The range of low mode lens heights can be lowered by making the rig more bottom heavy. With this trick – and the unique design of the Ultra's telescoping post – even a very heavy camera can kiss the ground. In fact, if one didn't care at all about bottom heaviness, the top of the camera could be almost four feet below the gimbal – which might be great for a trench or grave shot or working off scaffolding.



### *Low mode operating*

Traditionally, it's considered harder to operate in low mode than in high mode. Why?

Several factors may work together to make low mode operating harder. The operator usually holds the sled further from his body than in high mode. The operator's hands are not at the same height. Many times, the post is tilted from vertical. The boom range is sometimes reduced. The rig may not be in dynamic balance. The operator often cranes his neck to see the image. In addition, every director wants the lens height lower or higher than one can properly reach. And it's just plain weird to have the monitor so far above the lens.

### *To make low mode operating easier and more precise:*

Use the tilt head to keep the post more vertical and to make viewing the image easier. Use the new F-bracket to reduce the hand height differential and to have fewer clearance issues with the post. Use the telescoping post system and different arm posts to set the proper lens height range and to restore the full boom range of the arm.

Be sure to rebalance dynamically as well as statically. Dynamic balancing is often ignored because it's next to impossible to spin balance in low mode, but dynamic balance is critical for precise work.

Fortunately, the Ultra<sup>2</sup> is easier to get in dynamic balance in low mode than any other Steadicam. If the operator does not change the length of the sled or the monitor position, the sled remains in dynamic balance. (Remember, the monitor tilts and flips on its center of gravity.)

But one still has to hold the camera further from one's body, and the monitor is still above the lens. So practice until low mode is as easy as.... it can be.