

The Tilt Head

The integral, low profile head is designed to alter the lens angle plus or minus 20 degrees from horizontal with only a minor shift of the camera's c.g.

The most important use of the tilt head is in normal operating. Instead of trimming even two or three degrees for a shot by altering the Steadicam's balance, use the tilt head to preserve a perfectly vertical post and keep your sled in dynamic balance.



Trim for headroom

Without the tilt head, much of the benefit of getting the sled into dynamic balance is wasted when one alters the trim of the rig as much as a few degrees. For example, operators routinely trim their sleds for headroom. This action puts the rig out of both static and dynamic balance.



With the Ultra², the operator determines the proper length of sled, optimal monitor viewing position, inertia, and lens height. Then the operator adjusts the camera to the nominal tilt angle for the shot.



Setting the tilt

The operator sets the tilt by releasing the two clamps and manually repositioning the camera to the proper angle.



The post remains vertical and the rig stays in (or close to) dynamic balance. Only minor static rebalancing is normally required, but exactly how much depends on the camera, accessories, sled length, monitor position, etc. In all cases, bringing the sled back into static balance by moving the camera will return the sled to dynamic balance as well (see page 40).

The Tilt Head — General

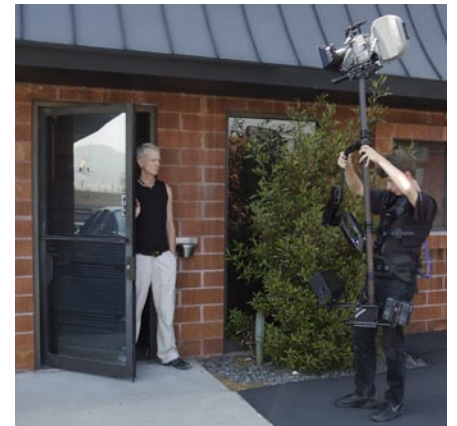
Operating

Even if the Steadicam is slightly out of perfect dynamic balance, it's a whole lot easier to hold the post vertical than at any other angle, especially when panning and accelerating - which we tend to do a lot when operating a Steadicam. The tilt head keeps the post vertical in many situations, making it easier to operate and keep things level.

Another benefit of the tilt head: a whole new class of whip pans is now possible. All whip pans are done in dynamic balance with the post vertical. Previously this meant that the lens was always horizontal. With the tilt head, the lens can be angled up or down as much as twenty degrees and the operator can still make extremely precise fast pans. Using the tilt head will increase the precision of any pan with a lens angled up or down – fast or slow.

Long mode pans with the lens looking down - say at a crowd - used to be exceedingly difficult or impossible, due to the large spatial translations of the battery, monitor, and camera. But the tilt head leaves the post vertical and therefore eliminates this spatial translation, and makes these pans routine.

Low mode and very low mode pans are also much easier and more precise.



Tilt Head

Maintaining Lens Height — Long Modes

As the operator tilts the sled, the precious super-high (or super-low) lens height gained with an extended telescoping post quickly disappears. The more one tilts, the more rapidly the lens height is lost.

Example 1:
Without a tilt head.



Example 1: Same shot,
with a tilt head.
Note that the post is
vertical, the lens is
higher, and the monitor
is in a much better
viewing condition.



Example 2:
Without a tilt head. The
monitor is in a really
awkward position now;
it even degrades the
operator's form.



Example 2: Same shot,
with a tilt head.
Again, the lens height
is greater with the tilt
head.



Other Applications

One of the more unusual applications of the tilt head is to angle the sled and its components relative to the desired position of the lens. Moving the sled relative to the lens might avoid casting shadows into the shot, seeing one's own feet, or prevent the sled from hitting something on the set.

