

## **To level the MT/PRO with the stock inbuilt bubble level.**

To use this procedure with the recent AZ Pro you must put the mount into manual mode after turning on, so as you can use the motors to turn the mount 360°, this is required to complete the procedure as this mount does not have an AZ clutch.

Hi all, over time I've noticed that a number of people have had trouble in levelling their mounts with the stock inbuilt bubble level.... This bubble level is sometimes not fitted as accurate as it should be... it is I believe glued in place with a substance similar to plaster of paris, the unit can let go from this at anytime and also move while it is setting. The moving would happen because that substance is water based and as it dries it would shrink dragging the level out of alignment.

Never mind that, there is a way to level these mounts with this inbuilt level regardless of how it has been fitted and as long as it's stuck there.

First.... You must make sure your tripod is on firm ground and itself is reasonably level (use a torpedo level for this).

Second ... You must make sure your OTA is loaded with all the bits you are going to use and is BALANCED in both the DEC and AZ, this is important. Also leave about 5mm of thread showing on the level adjusting screws to be able to make the adjustments needed.

To level....As you know the mount base is round and only a small diameter (150mm) and the bubble level is placed on the outside edge of the mount and it rotates on bearings that are fitted in cast mouldings which may or may not be absolutely accurate but each mount will be different so what I'm going to describe will work on each and every mount regardless of how the bubble level has been fitted.

To do this we need reference points and in the MT/PRO we have built in ones i.e. the level adjusting screws.

What I do is rotate the mount until the bubble is over one of these screws, wait for the bubble to settle then adjust the bubble until it is somewhere near the centre, take note of the bubbles position and then rotate to next reference point which is the next level adjusting screw, take note of where the bubble is and adjust it to half between the last one and this. Rotate to the next and last level adjusting screw and do the same.... Keep doing this until you get the bubble in the "SAME" position over all three reference points (level adjusting screws).. It does "NOT"

matter that the bubble is "NOT" in the centre, what matters "MOST" is that the bubble is in the "SAME" position over all three reference points then you will be level.... The final position of the bubble will be different from mount to mount (because of the way the unit has been fitted) but that does NOT matter because it will still be level.

I've had a lot of mounts come thru my workshop and all the levels have been different but after showing the owner this method they have gone away happy.

I have 3 mounts myself and the bubble will arrive at different positions but yet are all dead level, this just means that the levels have been glued in different if you can follow that.

To describe this has taken way longer than it takes to do...I level my mount in no more than 30seconds and its real easy. Can I suggest you first try it in daylight hours to get the hang of how this system works.

Cheers.  
Graham.