

## SkyGuider Pro RA Play Identification & Fixing

(Aug 24, 2017, updated Jan. 6, 2019)

Tool needed: A set of metric hex key wrench

If you feel that a SkyGuider Pro seems having free play with camera mounting block, the first step is check if the camera mounting block is loose, before jumping to check the worm and ring gear.

1. Lock the RA Clutch Disk. Release two set screws on the front mounting adapter using a 2mm wrench. Turn the front mounting adapter to check if it is loose. If yes, tighten the mounting adapter. Tighten two set screws. And check if play still exists.

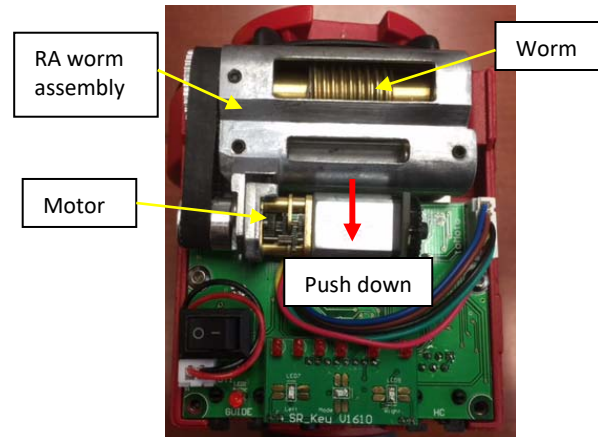


2. Loosen two screws at the front of the mount and two others on the top of a SkyGuider Pro main board cover and remove the black cover.



3. After the cover is removed, double check the mount to see if the free play is disappeared. If it does, the cover is interfering with the motor assembly. Please stop here and contact iOptron for further action.
4. With the cover opened, now you can see the RA worm assembly with RA worm and motor. The worm is spring loaded. So if you push the motor downward using your finger, you'll notice that the assembly is lifted upward. Rotate the RA axis with

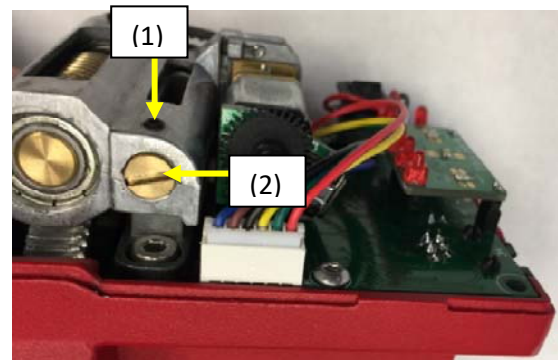
the RA Clutch Disk locked, you should feel some free movement, which is normal.



5. Now without pushing down the motor, rotate the RA axis to check the play. Please pay attention to the worm assembly movement. If the whole box is moving side to side, the hinge is not secured or positioned well.



6. Release the set screw on the hinge (1). Slightly tighten the brass end cap (2) to eliminate the play. Do not over tighten it. Turn 1/16 turn clockwise. Retighten the set screw. Check the play. If it still there, tighten the one on the other side. There is a pair of hinges that you can adjust.



7. If the play is due to RA worm movement, as shown below. You need to tighten the RA worm, which needs to remove the worm assembly.



8. If neither the worm nor the assembly is moving, the play may be caused by the worm not being centered on top of the ring gear. The worm box needs to be adjusted.