CEM60EC High Precision Optical Encoder Wheel Cleaning
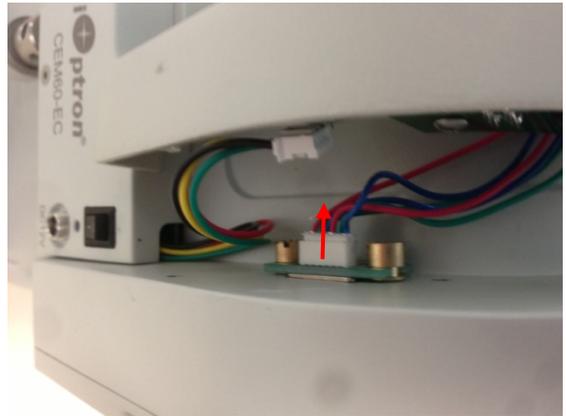
May 10, 2016

NOTE: When the instruction says rotate the mount in RA direction, it means you need to **HOLD** the mount head, fully **disengage** the Gear Switch, rotate the mount head, and **engage** the Gear Switch again.

NOTE: This instruction is released upon customer request and is for reference only. It is at your own risk to perform the task listed below. iOptron assumes no liability at all.
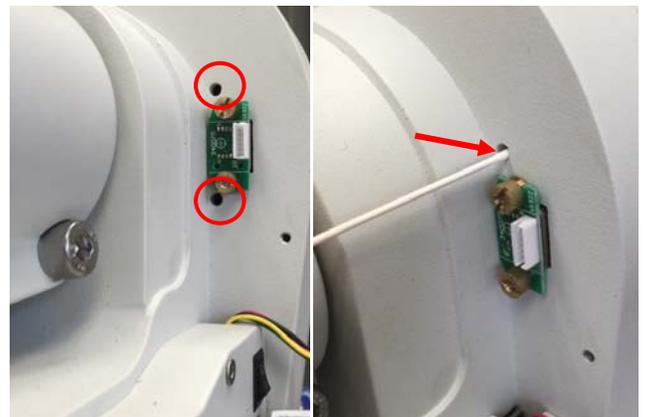

Rotate the mount head to sideway. Remove four screws that hold the RA board cover.

Unplug the high precision encoder cable. Now you can remove the RA board with the cover from the mount.
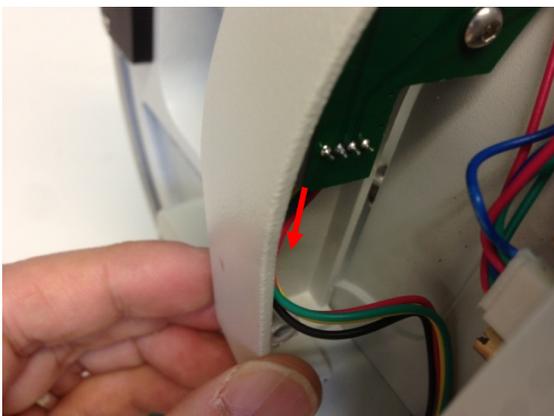

Slightly separate the RA board case from the RA worm wheel case. Unplug the motor control cable.
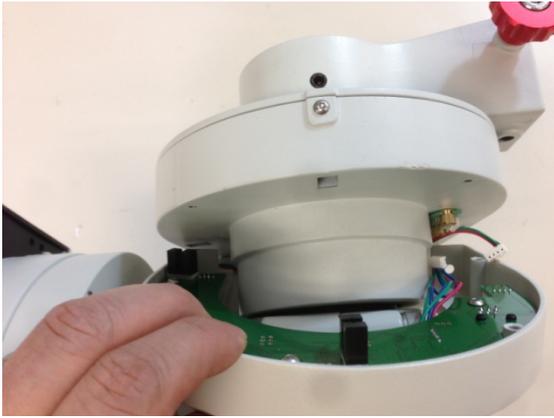

There are two small holes above and below optical encoder reader board. Insert a small Q-tip with alcohol into the holes until you feel it touches the wheel. Release the Gear Switch and rotate the RA by hand. Do not push the Q-tip in with force. You are clean a delicate, micron size encoder tics!!! Repeat the process a few times through both holes.
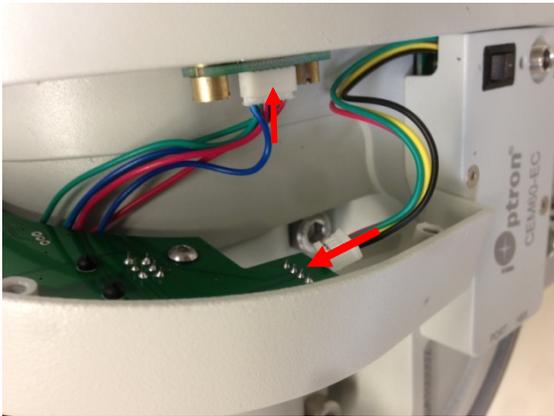
Warning: Do not touch the encoder reader board. ***NEVER EVER try to adjust two brass screws!**** It will mess up the alignment between the reader and encoder wheel and only factory can redo the realignment.
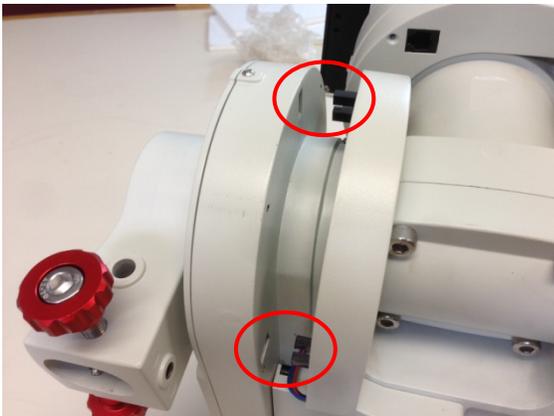

Unplug the main board connecting cable.

Slide the RA board case with the board over the RA axle.

Plug in encoder cable first. Then connect the main board connecting cable and RA motor control cable.

Align two position sensors to the openings on the RA worm wheel case and place the RA board case against the RA worm wheel case. Secure four screws.

Before tightening the cover screws, double check if any cables are getting into the way between the cover and body, especially the 6 thin encoder wires.

Power on the mount and do a high precision encoder calibration.