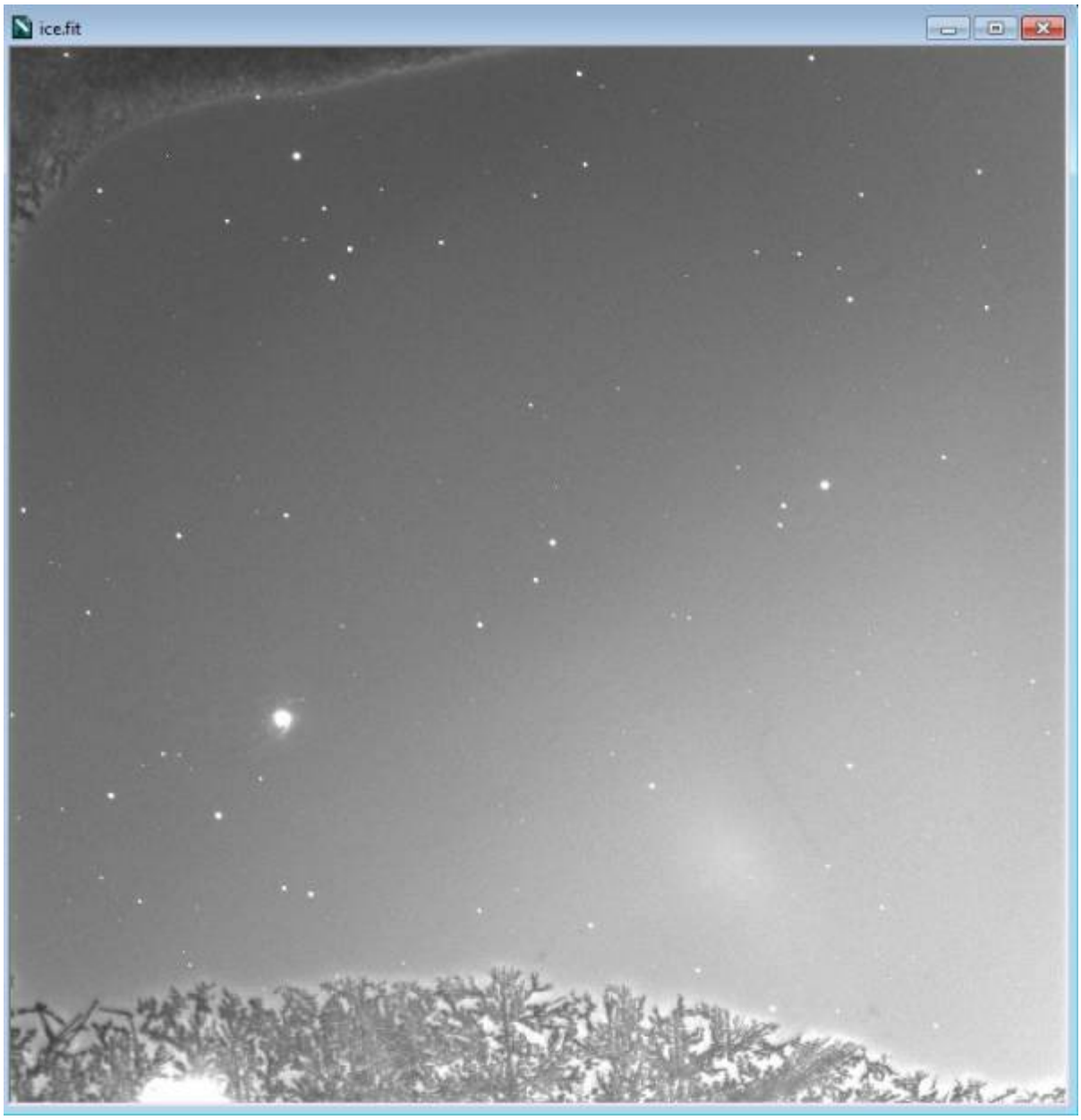
Recharging the CCD Desiccant

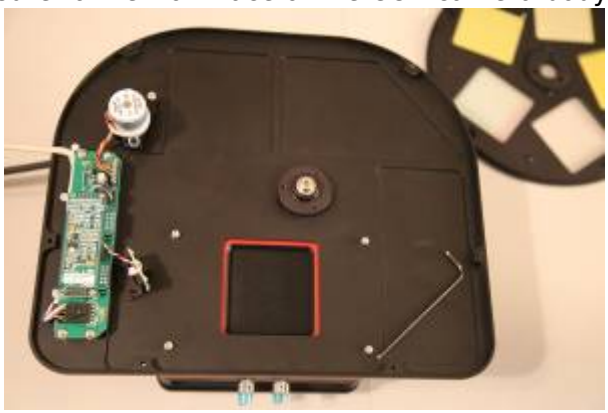
Amateur CCD cameras generally use a desiccant to absorb moisture that would otherwise condense on the CCD window or chip. When the chip is cooled any latent moisture crystallizes and forms ice. See the picture below:



The above clearly shows frost. However, ice usually forms a translucent (foggy) circle that changes size while the chip is cooled (and then is “locked in” once the chip reaches temperature). These are all indications the desiccant needs to be dried out. There is a plug in the camera body that stores the desiccant to be recharged.

Procedure

1. In a clean space, using electrostatic precautions, begin by opening the filter while enclosure and remove the filter wheel. (See Cleaning the CCD Filters)

2. Remove the four bolts that surround the CCD window and attach the bottom of the filter wheel enclosure to the front face of the CCD camera body.
1. 
3. Now remove the 8 bolts around the middle of the camera body in order to access the internal parts.
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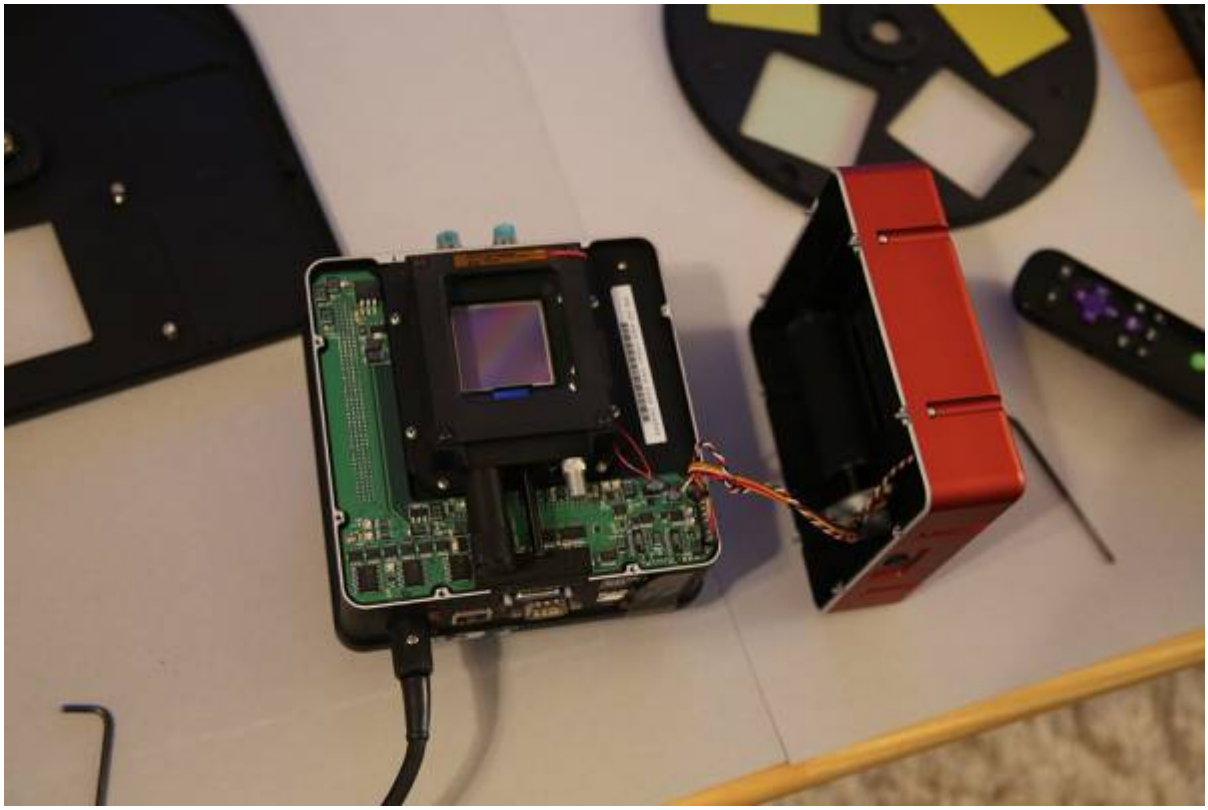
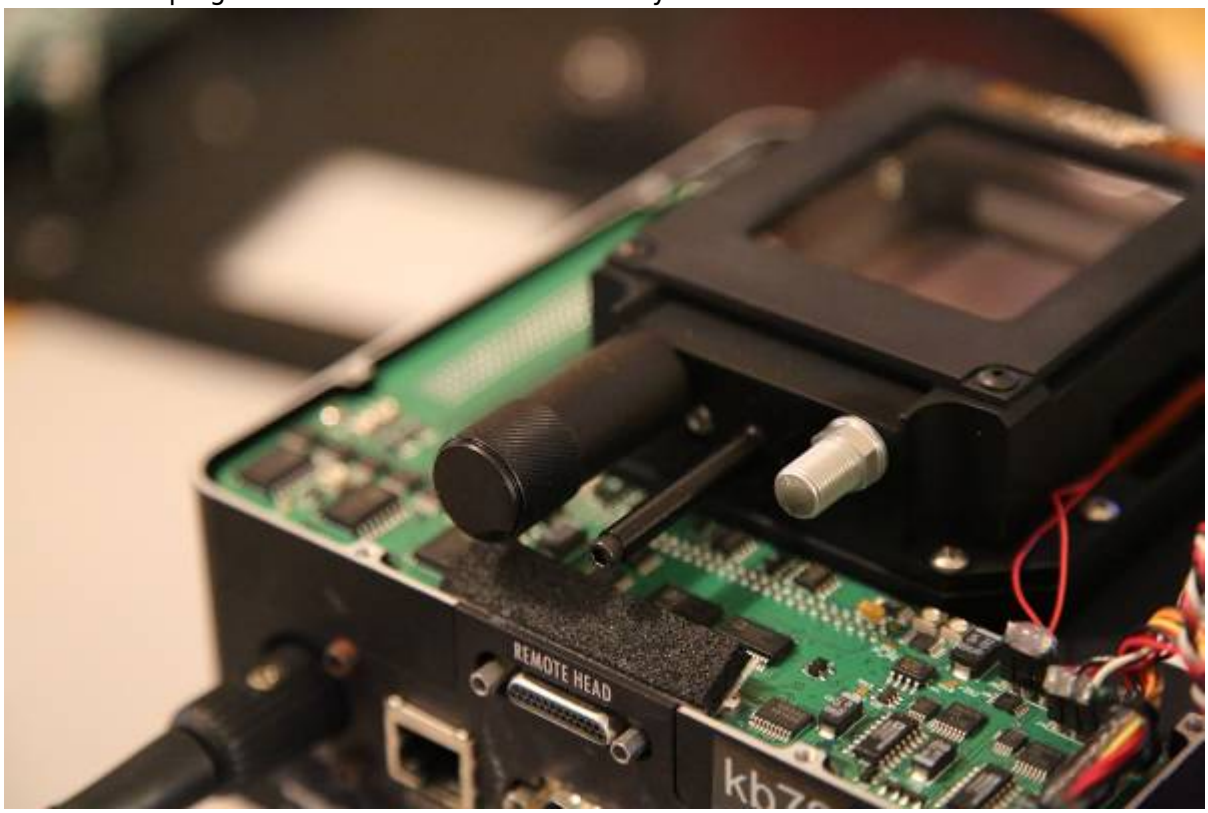
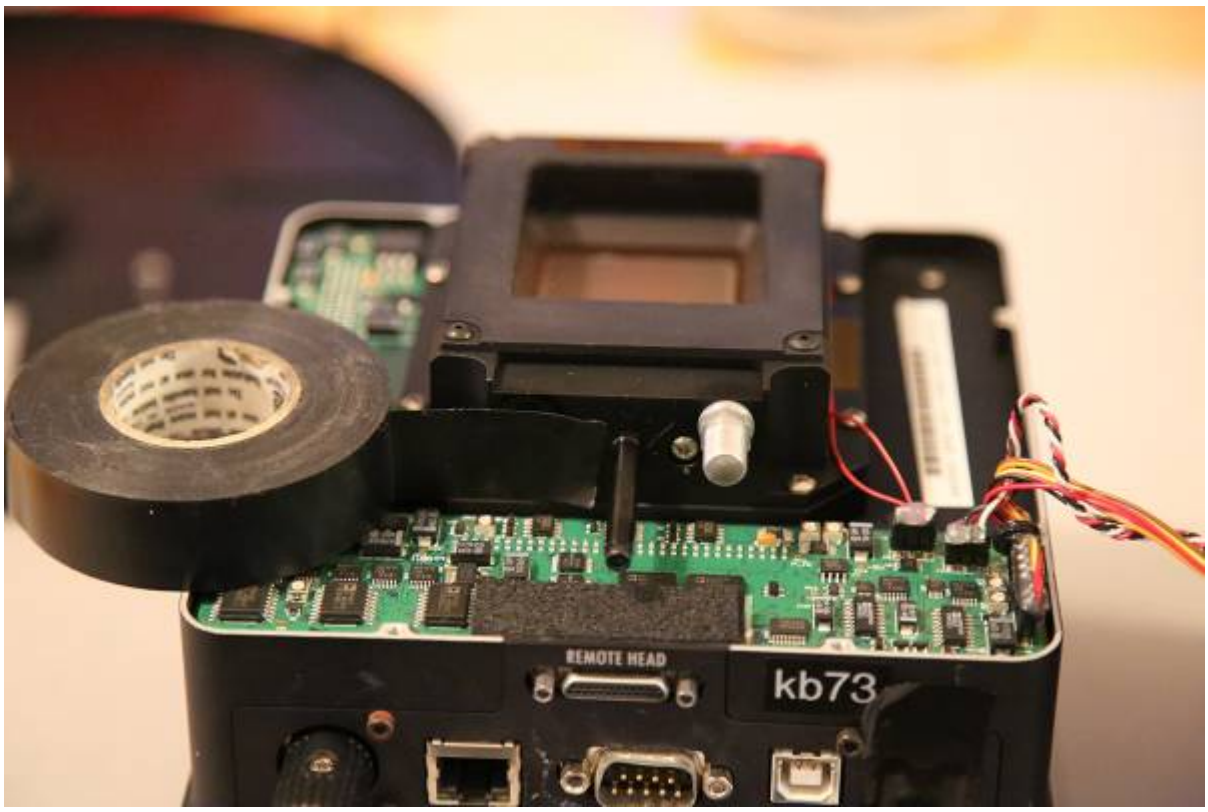
4. Carefully lift the upper portion without unplugging or tugging on the wires that connect to the shutter.

1. 

5. The black knurled plug contains the desiccant. Carefully unscrew it from the CCD chamber.

1. 

6. Cover the hole to the CCD chamber with a piece of electrical tape while drying the desiccant.

1. 

7. **IMPORTANT!** Carefully examine the plug and remove the rubber O-Ring.

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2. 

8. Bake plug (without O-ring) in an oven heated to 350F degrees for 4 hours. After baking and once it is cool to the touch, reinstall the plug and reassemble the CCD camera.