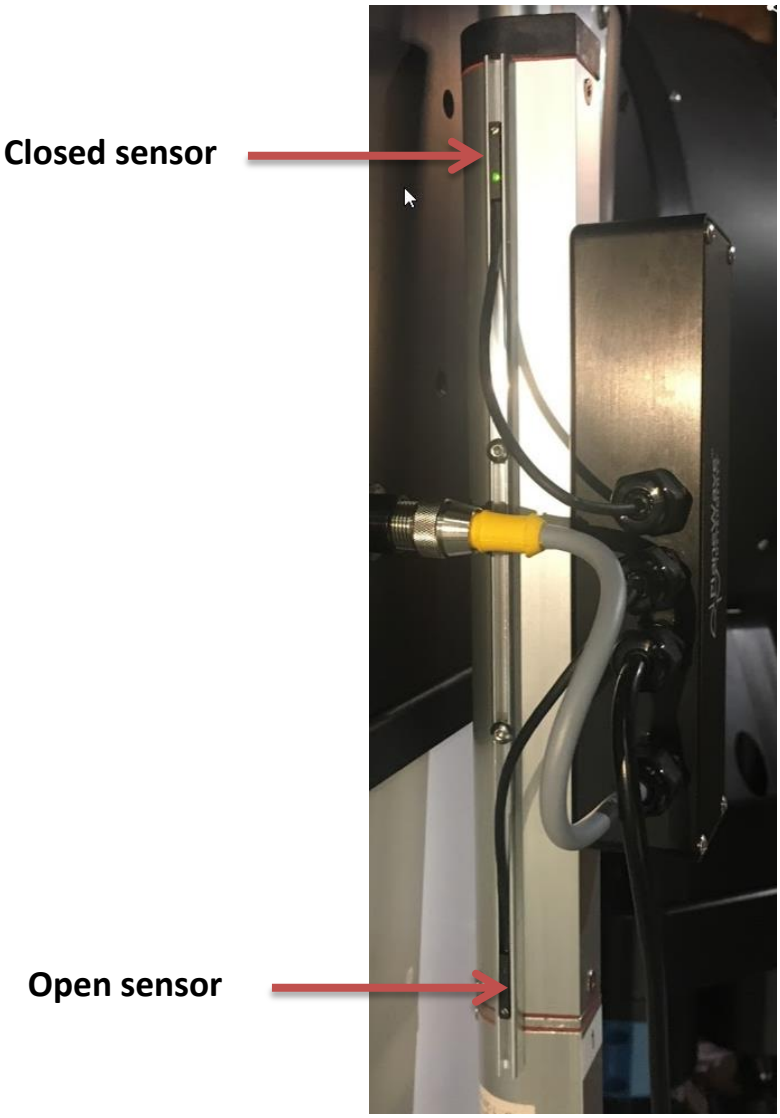
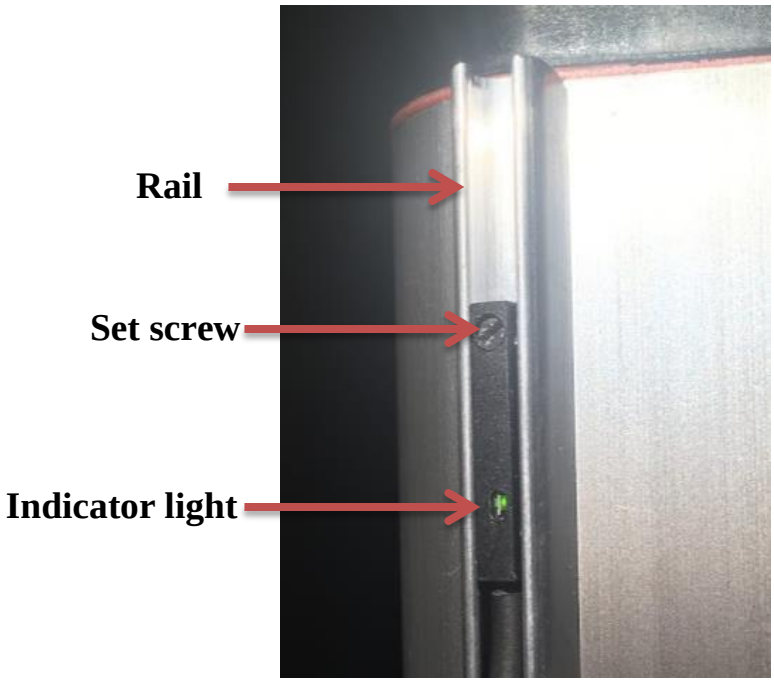
Adjusting Position Limits on the PlaneWave Mirror Cover System

The mirror cover system typically consists of four linear actuators which open and close the four segments of the cover. Along the side of each linear actuator there is a rail with two adjustable magnetic sensors. The upper sensor sets the Closed position of the shutter, and the lower sensor sets the Open position of the shutter. When the actuator is in the Open or Closed, a green light will appear on the corresponding sensor.



Each sensor is held in place with a set screw which can be adjusted using a small flat screwdriver. When the set screw is loosened, the sensor can slide up and down along the rail. After moving the sensor to a new position, tightening the set screw will hold it in place.



The Open and Closed positions of the shutter can be adjusted according to the table below.

Symptom	Adjustment
If a shutter is not closing far enough	Move the upper sensor up
If a shutter is closing too far	Move the upper sensor down
If a shutter is not opening far enough	Move the lower sensor down
If a shutter is opening too far	Move the lower sensor up

The following is an example of how you might fix a shutter **that is not opening far enough:**

1. Press the button on the control box to open all of the shutters. In this example we will assume that one shutter is not opening far enough.
2. Confirm that the light on the sensor is green.
3. Mark the original position of a sensor using tape or a marker.
4. Using a small screwdriver, loosen the set screw on the lower sensor.
5. Slide the sensor down the rail by a small amount (about 1 mm) and tighten the set screw.
6. Press the button on the control box to close the shutters. After the problematic shutter has closed for a few seconds, press the button again to stop the shutters. Then press the button a third time to open the shutters again.

7. Note the new position of the shutter. If it still does not open all the way, move the sensor farther down. If it is trying to move too far and putting strain on the shutter, move the sensor farther up.
8. After making the final adjustment, exercise the system several times to make sure the Open and Closed positions are correct.

Note: many screwdrivers have tips that are slightly magnetized. You might see the indicator light turn on or off as you bring the screwdriver close to the sensor.

When the shutters are in the open position, the shutter should push slightly against the truss poles. This small amount of tension prevents the shutters from shaking back and forth slightly in the wind.

When the shutters are in the closed position, they should be flat and parallel with the midring of the telescope. Two of the shutters have overlapping flaps. Make sure that these overlaps to not press down on the neighboring shutters with too much force.