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Mauna Loa Solar Observatory Observer's Log  
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Wed Mar 11 18:13:43 GMT 2015

Year: 15 Doy: 070

Observer: waters

WEATHER COMMENT: waters: Wed Mar 11 18:13:53 GMT 2015

Temp 35F with windspeed at about 15mph from the Southwest. Currently a light rain has started.

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GENERAL OBSERVATORY COMMENT BY berkey: Thu Mar 12 04:12:01 GMT 2015

Day Summary:

Without the Kcor camera mounts work progressed on the Kcor alignment and RA drive assembly. Overall work was cut short when snow/hail started to quickly accumulate and we decided to exit the mountain promptly. This morning we found with the spar vertical and the dome pointing east some wind water up under the shutter and depositing it on the top of the spar; this water mostly seemed to be landing on the Kcor ND filter the rest of the top end of telescopes/spar seemed to be dry. For various weather sensors it seems like this rain fall came in between 5-6am. After this we attempted to point the shutter slot into the wind. Later in the day this meant we had rain/drip spots on the south side of the shutter in a region without any equipment. After this a tarp was draped over the top to prevent more moisture from reacting it.

CoMP: In the vertical position we were unable to get a good fill on the comp dewar so we allowed it to warm this afternoon (Camera has been off since Tuesday when we pinned the spar vertical)

RA: Greg got the RA reassembled today, and ready for clutch force testing tomorrow. On arrival to the observatory this morning the RA driver/clutch assembly was installed on the telescope for a test fit EOD yesterday. This was removed this morning. Then the final rotation bearing and follower bearings were cleaned with a scotch bright pad and some break cleaner. [This was done by applying a squirt of brake cleaner to the pad then moving the pad in long strokes tangential to the bearing surfaces.] Greg reports that most of the artifacts found on the drive bearing were cleaned up with this technique expect for one small region that is associated with pointing to the west, and was hard to reach with the spar vertical. Once the spar is moving again we will try to clean up that other region. The MLSO follower bearing surface was found to have damage after cleaning and we will be swapping it out with the follower for the MESA. Post cleaning the RA assembly was reassembled and top and side plates were installed. At the time of departure from the observatory we were ready to release the vertical lock on the spar.

Kcor hardware: At the start of the day we had planned to install a lamp source on the front of the Kcor fore optics and discovered moisture on the ND. The ND filter was then removed and taken down stairs for cleaning by Dennis. It is currently sitting on the PSPT computer table and will be reinstalled before going back on sky. The shutters were rebuilt with new scotch tape; Dennis guarantees a 30 day (or he is willing to come back to Hawaii) warranty on the repair. The shutters and modulator have been reinstalled in the telescope. Looks like last night the modulator may have cooled down to about 31-32F while it was out of the telescope but it was 5C by the time it was installed and 7 hours later it is now up to 31C (below the desired 35C). The old camera aft-optics had been reinstalled to balance the spar for the RA clutch test. But when this test was completed we were planning to remove the aft optics for the modulator test.

Kcor software: All (or most) references to moving the camera focus motors have been commented out to prevent the software from hanging while waiting for feedback from the disconnected motors. I have also changed the default values for the camera focus motor values to double(31415) (in honor of the coming PI day) so that we have some constant that is known but impossible to get from the focus routines, we can change this to some other number if that is better for the data processing or down stream users.

Conclusion: We have heard that the kcor camera mount box should ship tonight (however 6pm hst it has not been scanned since Monday). Tomorrow morning we are planning on setting the clutch tension. Weather permitting setting the SGS gains. And then working on the camera modulator. If/when the kcor mounts arrive in Hilo they will be transport to the summit ASAP

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