
Mauna Loa Solar Observatory Observer's Log

Wed Mar 20 16:32:53 GMT 2013
Year: 13 Doy: 079
Observer: berkey
Wed Mar 20 17:15:19 GMT 2013: PSPT Start Patrol
Wed Mar 20 17:19:41 GMT 2013 COMP Start Patrol
Wed Mar 20 19:56:07 GMT 2013 MKIV Start Patrol
Wed Mar 20 19:58:09 GMT 2013
MkIV

Mauna Loa Solar Observatory Observer's Log

Wed Mar 20 19:59:26 GMT 2013
Year: 13 Doy: 079
Observer: berkey
Wed Mar 20 20:08:44 GMT 2013 MKIV End Patrol
Wed Mar 20 20:18:32 GMT 2013 COMP End Patrol
Wed Mar 20 20:18:34 GMT 2013 COMP Start Patrol
NOTE BY BEN: Wed Mar 20 20:32:34 GMT 2013
Idling for clouds
____end____
Wed Mar 20 20:32:49 GMT 2013 COMP End Patrol
Wed Mar 20 20:54:41 GMT 2013: PSPT Abort Patrol
Wed Mar 20 20:55:07 GMT 2013
MkIV

Mauna Loa Solar Observatory Observer's Log

Wed Mar 20 20:55:16 GMT 2013
Year: 13 Doy: 079
Observer: berkey
Wed Mar 20 20:56:06 GMT 2013 MKIV Start Patrol
MKIV COMMENT BY BEN: Wed Mar 20 21:02:40 GMT 2013
I think the limit switch issue may have been address.____end____
MKIV COMMENT BY BEN: Wed Mar 20 21:03:07 GMT 2013
Mk4 can now make a full rotation without hitting limits.
____end____
MKIV COMMENT BY BEN: Wed Mar 20 21:04:04 GMT 2013
Current scans are darks, dome closed
____end____
Wed Mar 20 21:08:32 GMT 2013 MKIV End Patrol
NOTE BY BEN: Wed Mar 20 22:35:07 GMT 2013
Fog now very thick
NOTE BY BEN: Mar 20 20:19:00 GMT 2013

Today I was able to get mk4 moving along its full range of motion again. It looks like during some of the bearing work from this week and last week I lost the proper registering of the barrel position encoder vs actual barrel angle. This morning the reported barrel angle was about 180+ degrees away from the real position; this led to MK4 hitting the CW soft-limit before the barrel could make it all the way to the proper start up position of the encoder ~174.

I turned the encoder shaft relative to the barrel until the encoder readout matched what the barrel location visible appears to be. This is a really difficult angle to measure to better than a few 10s of degrees. I found a document from July 89 that claims the CCW limit should be at 274.9 degrees and the CW limit should be 84.29. After all of the encoder moves I find the current CCW limit at 354 degrees and CW limit at 164.93 degrees. If there were no changes in the encoder between 2012 and 1989 the reported barrel angle is wrong by ~80degrees however I believe the error should be closer to 10-20 degrees.

Is there some way we can measure the barrel angle offset on sky?

(JBurkepile Yes; compare mk4 to LASCO / SDO ...)

About barrel limits: I found these notes in a David Elmore file (David was the Mk4 guru for many many years) dating back to May 2001. Major work (including new camera) was done on Mk4 at that time.

Adjust barrel encoder

Check rotation of coronal features.

Software limits are 91 deg. and 282 deg.. During slit adjustment encoder lost two teeth and error increased to 12 deg. Corrected by moving 9 teeth. Coronal scans look good in comparison to LASCO C2 coronagraph. Barrel limits are now 83.08 deg and 274.08 deg.

End of comments by Burkepile)