
Mauna Loa Solar Observatory Observer's Log

Thu Oct 1 17:24:52 GMT 2020

Year: 20 Doy: 275

Observer: berkey

WEATHER COMMENT: berkey: Thu Oct 01 17:25:32 GMT 2020

Temp: 45.4f, Humidity: 29%, Pressure: 28.664in, Wind: 6mph from 173degs, Skies: clear w
ith large t-storm over Hilo

____end____

GENERAL COMMENT BY berkey: Thu Oct 01 17:31:14 GMT 2020

Opened windows upstairs

____end____

GENERAL COMMENT BY berkey: Thu Oct 01 17:31:17 GMT 2020

PM Blew off Kcor 01

____end____

Thu Oct 01 17:32:30 GMT 2020 Kcor Focus/alignment program exited

Thu Oct 01 17:52:23 GMT 2020 KCOR Start Synoptic Patrol

Thu Oct 01 18:02:05 GMT 2020 KCOR End Patrol

Thu Oct 01 18:02:07 GMT 2020 KCOR End Patrol

GPS COMMENT by MLSO: Thu Oct 01 21:45:09 GMT 2020

Successfully logged in to system

Good disk mount

GPS software running

Last 5 GPS data files are:

/mnt/usb/dataoutiq_2020_270_2145.bin 2147483647

/mnt/usb/dataoutiq_2020_271_2145.bin 2147483647

/mnt/usb/dataoutiq_2020_272_2145.bin 2147483647

/mnt/usb/dataoutiq_2020_273_2145.bin 2147483647

/mnt/usb/dataoutiq_2020_274_2145.bin 2147483647

____end____

GENERAL COMMENT BY berkey: Thu Oct 01 23:53:54 GMT 2020

Inspection of the SGS DEC arm and limit switches took place to check to try and underst
and the issues found on Tuesday as well as check the functioning of hard and soft limit
sensors.

Initial checks showed that if the DEC arm was allowed to slew past the negative limit (physically the top/north sensor when looking up for the ladder) the ball screw assembly would run out of range and bind against the end of its travel before the hard stop sensor was triggered stopping motion. During this operation the drive train became bound and was unable to drive out of this position with a + slew. I was not clear if the binding was in the motor/worm drive train or the ball screw. So the whole assembly was removed from the spar for inspection. With the motor/worm removed from the ball screw assembly; the motor and worm gear moved smoothly. After backing the ball screw off to the middle of its range and reinstalling the ball screw assembly back to the motor/worm assembly; free motion was returned to the complete assembly.

On reinstalling the everything back into the spar and reconnecting it to the DEC arm normal motion was apparently restored.

To prevent the ball screw from bottoming out again the Hard limit sensor was moved inward toward the center of the DEC range as far as the sensor threads would allow (~1/4"). Testing after this change showed smooth motion toward and away from the new Negative hard limit position. A similar test was done at the Positive hard limit position with nominal results.

During the positive and negative Hard limit checks it was found that there was a gap between HARD and SOFT (warning) limit positions; such that the DEC arm could move past the software limit leaving no more indication of the control software or observer that the limit had been past. The SOFT limit positions were moved outward (away from the HOME position) to remove this gap; and allow the software/observer to keep getting feedback from the SOFT sensors all the way up to the HARD limit.

While the system was apart the worm gear was re-lubricated.

____end____

GENERAL COMMENT BY berkey: Fri Oct 02 00:03:57 GMT 2020

Heavy rains.

____end____

GENERAL COMMENT BY berkey: Fri Oct 02 01:23:24 GMT 2020

Lots of thunder to the NW

____end____

ONSITE STAFF: berkey