
Mauna Loa Solar Observatory Observer's Log

Fri May 23 16:44:54 GMT 2003

Year: 03 Doy: 143

Observer: yasukawa

WEATHER COMMENT: Fri May 23 16:44:58 GMT 2003

Cool, clear, no wind.

COMMENT: Fri May 23 16:45:58 GMT 2003

Read HELCO meters on the way up this morning.

Fri May 23 16:52:08 GMT 2003 CHIP Start Patrol

Fri May 23 16:52:16 GMT 2003 MKIV Start Patrol

Fri May 23 16:52:20 GMT 2003 PICS Start Patrol

MKIV COMMENT: Fri May 23 16:52:24 GMT 2003

Centered O1 at startup.

MKIV COMMENT: Fri May 23 17:45:27 GMT 2003

Centered O1.

Fri May 23 18:01:40 GMT 2003 CHIP LSD

Fri May 23 18:03:16 GMT 2003 MKIV End Patrol

Fri May 23 18:03:29 GMT 2003 MKIV Start Cal

Fri May 23 18:03:31 GMT 2003 CHIP End LSD

Fri May 23 18:03:44 GMT 2003 CHIP BiasLSD

Fri May 23 18:04:27 GMT 2003 PICS Flat

Fri May 23 18:04:46 GMT 2003 CHIP End BiasLSD

Fri May 23 18:05:01 GMT 2003 CHIP Bias

Fri May 23 18:06:01 GMT 2003 CHIP End Bias

Fri May 23 18:06:59 GMT 2003 PICS End Flat

Fri May 23 18:22:15 GMT 2003 MKIV End Cal

Fri May 23 18:22:26 GMT 2003 MKIV Start Patrol

MKIV COMMENT: Fri May 23 18:40:09 GMT 2003

Centered O1.

PSPT PROBLEM: Fri May 23 19:31:40 GMT 2003

Remounted dome shutter drive gear platform. By using the hand crank to check out the mesh between the main gear and the track, the force needed to move the dome shutter near its closed position is greater than at its open position--may be gravity but could be difference in track to side-rail differences causing more friction.

Fri May 23 19:36:42 GMT 2003 PICS End Patrol

COMMENT: Fri May 23 19:36:50 GMT 2003

Stopping to reconfigure dome shutter.

Fri May 23 19:36:46 GMT 2003 CHIP End Patrol

Fri May 23 19:39:14 GMT 2003 MKIV End Patrol

MKIV COMMENT: Fri May 23 19:43:38 GMT 2003

Centered O1.

Fri May 23 19:44:23 GMT 2003 MKIV Start Patrol

Fri May 23 19:44:39 GMT 2003 CHIP Start Patrol

Fri May 23 19:44:50 GMT 2003 PICS Start Patrol

MKIV COMMENT: Fri May 23 21:03:56 GMT 2003

Centered O1.

PSPT PROBLEM
Fri May 23 21:28:14 GMT 2003

Wired up the start capacitor and reinstalled new motor and wiring.
Tested open/close function and it worked well.
Darryl's and Allen's wiring analysis concurred and were correct.
Buttoned things up, put away tools and updated documentation.

!!! That toolbox and tool set we acquired was sure worth it !!!

WEATHER COMMENT: Fri May 23 21:31:19 GMT 2003

In scattered orographic clouds.

PSPT COMMENT: Fri May 23 21:40:08 GMT 2003

Observing!

-- Uh... I'll need to stop program for a bit. Wire retaining ring holding the rubber bumper onto diffuser/dustcap fell off upon opening--may have abraded it off manipulating cables and ladders on the platform during dome shutter repair. I also found the blue wire nut I lost (replaced with one from inventory). Must have been on or near the dust cap.

PSPT PROBLEM
Fri May 23 21:51:30 GMT 2003

Reattached wire retaining ring.

PSPT COMMENT: Fri May 23 21:52:12 GMT 2003

Resume observations.

MKIV COMMENT: Fri May 23 21:53:56 GMT 2003

Centered O1.

COMMENT: Fri May 23 22:14:17 GMT 2003

Manually rotated dome thru tight fit at midday.

MKIV COMMENT: Fri May 23 23:25:01 GMT 2003

Centered O1.

WEATHER COMMENT: Fri May 23 23:29:33 GMT 2003

Gusty winds.

MKIV COMMENT: Sat May 24 00:18:05 GMT 2003

Centered O1.

PSPT PROBLEM
Sat May 24 02:10:13 GMT 2003

Not sure what initial cause of the shutter motor failure was, but windings in old motor appear OK, there may be shorts due to burnt enamel insulation between wires in winding, though. No shorts between start winding and run windings. Capacitor blew because it was energized for too long a period when the motor stalled and centrifugal switch remained closed, energizing the start windings. Centrifugal switch mechanism is made of plastic and it was melted due to the heat of the windings I would guess, and that disabled it's function preventing the switch to open and remove the current to the start windings and to the capacitor.

My guess is the shutter or gearing slowed the motor enough (>75%) so that the centrifugal switch closed the start circuit and blew the capacitor after a while. The heat from the now stalled motor windings, melted the centrifugal switch plastic parts.

COMMENT: Sat May 24 02:20:20 GMT 2003
Spar has reached the cable stretch point. Losing guiding.
Shutting down.

Sat May 24 02:20:43 GMT 2003 CHIP End Patrol

Sat May 24 02:22:48 GMT 2003 PICS End Patrol

Sat May 24 02:24:47 GMT 2003 MKIV End Patrol

PSPT COMMENT: Sat May 24 02:25:12 GMT 2003

Aborted PSPT observations and shutting it down.

PSPT COMMENT: Sat May 24 02:29:07 GMT 2003

Dome closed OK.

Sat May 24 02:29:29 GMT 2003

MkIV

00_00.rawmk4	01_54.rawmk4	18_28.rawmk4	20_28.rawmk4	22_23.rawmk4
00_03.rawmk4	01_57.rawmk4	18_31.rawmk4	20_31.rawmk4	22_26.rawmk4
00_06.rawmk4	02_00.rawmk4	18_34.rawmk4	20_34.rawmk4	22_29.rawmk4
00_09.rawmk4	02_03.rawmk4	18_37.rawmk4	20_37.rawmk4	22_32.rawmk4
00_12.rawmk4	02_06.rawmk4	18_40.rawmk4	20_40.rawmk4	22_34.rawmk4
00_15.rawmk4	02_09.rawmk4	18_43.rawmk4	20_43.rawmk4	22_37.rawmk4
00_18.rawmk4	02_12.rawmk4	18_45.rawmk4	20_46.rawmk4	22_40.rawmk4
00_20.rawmk4	02_15.rawmk4	18_48.rawmk4	20_49.rawmk4	22_43.rawmk4
00_23.rawmk4	02_18.rawmk4	18_51.rawmk4	20_52.rawmk4	22_46.rawmk4
00_26.rawmk4	02_21.rawmk4	18_54.rawmk4	20_55.rawmk4	22_49.rawmk4
00_29.rawmk4	16_52.rawmk4	18_57.rawmk4	20_58.rawmk4	22_52.rawmk4
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01_40.rawmk4	18_06.rawmk4	20_13.rawmk4	22_08.rawmk4	c18_09.rawmk4

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01_52.rawmk4	18_25.rawmk4	20_25.rawmk4	22_20.rawmk4	