Mauna Loa Solar Observatory Observer's Log _____ Mon Dec 18 17:04:39 GMT 2006 Year: 06 Doy: 352 Observer: yasukawa WEATHER COMMENT: Mon Dec 18 17:04:45 GMT 2006 Clear, S wind 8 mph, temp 33 F. end Mon Dec 18 17:20:39 GMT 2006 CHTP Start Patrol Mon Dec 18 17:20:49 GMT 2006 PICS Start Patrol SBM COMMENT: Mon Dec 18 17:26:23 GMT 2006 Observing end PSPT COMMENT: Mon Dec 18 17:26:32 GMT 2006 Starting up. end A NEW TAPE HAS BEEN PUT INTO KAIEE DLT DRIVE, Mon Dec 18 17:26:48 GMT 2006 PSPT COMMENT: Mon Dec 18 17:45:50 GMT 2006 Observing end Mon Dec 18 17:46:04 GMT 2006 MKIV Start Patrol Mon Dec 18 18:00:16 GMT 2006 PICS Flat Mon Dec 18 18:02:39 GMT 2006 End Flat PICS Mon Dec 18 18:02:48 GMT 2006 ReStart Patrol PICS Mon Dec 18 18:03:01 GMT 2006 CHIP LSD Mon Dec 18 18:04:44 GMT 2006 CHIP End LSD Mon Dec 18 18:04:54 GMT 2006 CHIP BiasLSD Mon Dec 18 18:05:52 GMT 2006 End BiasLSD CHIP Mon Dec 18 18:06:00 GMT 2006 Bias CHIP Mon Dec 18 18:06:50 GMT 2006 CHIP End Bias Mon Dec 18 18:07:06 GMT 2006 CHIP ReStart Patrol Mon Dec 18 18:10:08 GMT 2006 MKIV End Patrol CHIP COMMENT: Mon Dec 18 18:21:31 GMT 2006 Will be running CHIP focus test. Spar may shake around while removing CHIP covers and making adjustments. SBM alignment will be affected by cover removal so I will be standing down on SBM obs until the tests are over and I can realign the SBM. end Mon Dec 18 18:29:22 GMT 2006 CHIP End Patrol Mon Dec 18 18:29:51 GMT 2006 MKIV End Cal Mon Dec 18 18:29:57 GMT 2006 Start Patrol MKIV SBM COMMENT: Mon Dec 18 18:30:01 GMT 2006 Paused observations. end **CHIP PROBLEM**: Mon Dec 18 20:44:50 GMT 2006 After removing covers, I discovered that the Meadowlark filter's front and rear surfaces had oil smears near the edges, not encroaching more

than approximately 1/8" from the edge, on several areas around the circumference, the largest smear, about 1/2" long. Carefully cleaned the oil off the surfaces with alcohol swabs and lens tissue. I could not tell by looking up thru the filter whether there was any separation internally. Loosened camera on mount, proceeding with focus test. end CHIP COMMENT: Mon Dec 18 20:53:28 GMT 2006 Original setting of focus (read off Oriel Encoder Mike Controller) is 20570.0. I will be moving it thru a series of focus positions: -600, -400, -200, 0, +200, +400, +600 checking the registration of the camera against the micrometer and the retaining spring each time, and then taking one patrol loop at each position. end CHIP COMMENT: Mon Dec 18 21:02:11 GMT 2006 At 19970.5 end Mon Dec 18 21:02:37 GMT 2006 CHIP Start Patrol Mon Dec 18 21:06:20 GMT 2006 CHIP End Patrol **CHIP PROBLEM**: Mon Dec 18 21:04:55 GMT 2006 Too much scattered light, covering the camera/filter area with dark cloth. Repeating 19970.5 FixCEenter needs controller to be in remote mode. Switching changed focus. finished Patrol and then re-focused at 19972.4 (close as I could get it.) end Mon Dec 18 21:09:54 GMT 2006 Start Patrol CHIP Mon Dec 18 21:11:10 GMT 2006 CHIP End Patrol **CHIP PROBLEM**: Mon Dec 18 21:11:18 GMT 2006 Exposure better but still a bit bright. Will go with that on this go-around otherwise, I'll have to put covers on between each adjustment. If the micrometer/spring registration appears good each time, I'll put the covers on for the next two focus series. end CHIP COMMENT: Mon Dec 18 21:17:12 GMT 2006 focus set at 20170.1, mike/screw registration was good. end Mon Dec 18 21:18:16 GMT 2006 Start Patrol CHIP Mon Dec 18 21:19:12 GMT 2006 CHTP End Patrol CHIP COMMENT: Mon Dec 18 21:24:18 GMT 2006 focus set at 20369.2, registration OK. end Mon Dec 18 21:24:59 GMT 2006 Start Patrol CHIP Mon Dec 18 21:25:52 GMT 2006 End Patrol CHIP CHIP COMMENT: Mon Dec 18 21:27:16 GMT 2006 Focus set at 20571.0, registration OK. end

Mon Dec 18 21:31:10 GMT 2006 CHIP Start Patrol Mon Dec 18 21:32:12 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 21:33:33 GMT 2006 Focus set at 20771.4, registration OK. end Mon Dec 18 21:38:48 GMT 2006 CHIP Start Patrol Mon Dec 18 21:40:01 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 21:41:46 GMT 2006 focus set at 20970.4, registration OK. end Mon Dec 18 21:46:55 GMT 2006 CHIP Start Patrol Mon Dec 18 21:48:16 GMT 2006 CHIP End Patrol Mon Dec 18 21:53:44 GMT 2006 CHIP Start Patrol CHIP COMMENT: Mon Dec 18 21:50:00 GMT 2006 focus set at 21169.8, registration OK. end Mon Dec 18 21:55:26 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 21:56:02 GMT 2006 First series complete. Procedure to prevent focus shift during FixCenter step is to press either M1 or M2 (X or Y) and then switch from local to remote before FixCenter begins. If M3 (focus) is selected, it will move after remote is selected during the FixCenter mode. Looks like spring/mike registration is good throughout. I will put covers on to reduce scattered light. end CHIP COMMENT: Mon Dec 18 22:06:18 GMT 2006 Covers back on after repositioning focus to 19971.4 and checking registration on return to first test position. end Mon Dec 18 22:07:37 GMT 2006 CHTP Start Patrol Mon Dec 18 22:08:51 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 22:10:42 GMT 2006 focus set at 20169.7 end Mon Dec 18 22:11:17 GMT 2006 CHIP Start Patrol Mon Dec 18 22:12:16 GMT 2006 End Patrol CHIP CHIP COMMENT: Mon Dec 18 22:13:25 GMT 2006 focus set at 20370.6 end Mon Dec 18 22:14:00 GMT 2006 CHIP Start Patrol Mon Dec 18 22:14:53 GMT 2006 End Patrol CHIP CHIP COMMENT: Mon Dec 18 22:15:52 GMT 2006 Focus set at 20570.2 end Mon Dec 18 22:16:21 GMT 2006 CHIP Start Patrol Mon Dec 18 22:17:36 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 22:18:30 GMT 2006

focus set at 20770.6 end Mon Dec 18 22:19:00 GMT 2006 CHIP Start Patrol Mon Dec 18 22:20:00 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 22:20:51 GMT 2006 focus set at 20969.6 end Mon Dec 18 22:21:27 GMT 2006 CHIP Start Patrol Mon Dec 18 22:22:27 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 22:24:06 GMT 2006 focus set at 21171.0 end Mon Dec 18 22:24:41 GMT 2006 CHIP Start Patrol Mon Dec 18 22:25:29 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 22:28:41 GMT 2006 Checked registration at 21171.0. OK Moved to 19969.8 and checked registration. OK. end CHIP COMMENT: Mon Dec 18 22:32:05 GMT 2006 Re-covered CHIP. Starting third focus test series -- second test series with covers (better exposure) loosely in place. focus is set at 19969.8 end Mon Dec 18 22:34:11 GMT 2006 CHIP Start Patrol Mon Dec 18 22:35:07 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 22:37:42 GMT 2006 focus is set at 20171.1 end Mon Dec 18 22:38:27 GMT 2006 CHIP Start Patrol Mon Dec 18 22:39:30 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 22:40:59 GMT 2006 focus set at 20370.5 end Mon Dec 18 22:41:27 GMT 2006 CHIP Start Patrol Mon Dec 18 22:42:27 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 22:43:27 GMT 2006 Focus is set to 20570.6 ____end Mon Dec 18 22:44:00 GMT 2006 CHIP Start Patrol Mon Dec 18 22:45:26 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 22:46:51 GMT 2006 focus set at 20769.8 end Mon Dec 18 22:47:18 GMT 2006 CHIP Start Patrol Mon Dec 18 22:48:46 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 22:49:53 GMT 2006 focus set at 20969.6 end

Mon Dec 18 22:50:32 GMT 2006 CHIP Start Patrol Mon Dec 18 22:51:32 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 22:52:40 GMT 2006 focus set at 21169.4 end Mon Dec 18 22:53:10 GMT 2006 CHIP Start Patrol Mon Dec 18 22:54:00 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 23:03:50 GMT 2006 Removed covers, checked registration at 21169.4, looked OK. Moved back to first position in test series, 19969.9, registration OK. Re-covered CHIP. Decided to repeat series one more time in order to get three focus test series with the covers on (loosely) for better exposures. First series is inconsistent with the cover-on series. end CHIP COMMENT: Mon Dec 18 23:07:16 GMT 2006 focus set at 19969.9 end Mon Dec 18 23:07:43 GMT 2006 CHIP Start Patrol Mon Dec 18 23:08:54 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 23:09:43 GMT 2006 focus set at 20170.9 end Mon Dec 18 23:10:12 GMT 2006 Start Patrol CHIP Mon Dec 18 23:11:15 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 23:12:14 GMT 2006 focus set at 20371.0 end Mon Dec 18 23:12:46 GMT 2006 CHIP Start Patrol Mon Dec 18 23:13:39 GMT 2006 End Patrol CHIP CHIP COMMENT: Mon Dec 18 23:15:56 GMT 2006 focus set at 20569.9 end Mon Dec 18 23:16:31 GMT 2006 CHIP Start Patrol Mon Dec 18 23:17:28 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 23:18:11 GMT 2006 focus set at 20769.9 end Mon Dec 18 23:18:49 GMT 2006 Start Patrol CHIP Mon Dec 18 23:19:51 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 23:20:52 GMT 2006 focus set at 20969.4 end Mon Dec 18 23:21:25 GMT 2006 Start Patrol CHIP Mon Dec 18 23:22:15 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 23:23:41 GMT 2006 focus set at 21169.6 end

Mon Dec 18 23:24:17 GMT 2006 CHIP Start Patrol Mon Dec 18 23:25:13 GMT 2006 CHIP End Patrol CHIP COMMENT: Mon Dec 18 23:25:52 GMT 2006 Focus test pau. Will check registration at last position, move to original position, check registration, secure camera on dovetail, and break for lunch before putting covers back on. end **CHIP PROBLEM**: Mon Dec 18 23:29:47 GMT 2006 Buggers! I need to stop everybody and move spar in order to reach CHIP at this time. Will postpone lunch and do the checks and restoration first. end Mon Dec 18 23:31:42 GMT 2006 PICS End Patrol Mon Dec 18 23:35:51 GMT 2006 MKIV End Patrol Tue Dec 19 00:34:31 GMT 2006 MKIV Start Patrol CHIP COMMENT: Tue Dec 19 00:36:26 GMT 2006 Covers back on CHIP. Focus is set at 20570.8 Filter surfaces look OK for now. Took a bunch of photos to document insides before buttoning up. Restored encoder mike controller to remote status. end Tue Dec 19 00:38:29 GMT 2006 CHIP Start Patrol Tue Dec 19 00:38:44 GMT 2006 PICS Start Patrol **SBM PROBLEM**: Tue Dec 19 00:48:26 GMT 2006 Restarted SBM and did some alignment. It is well aligned but there is a strange artifact near one of the struts. Something may have come loose and fallen inside tube. Waiting for SBM to get lower before I look down the tube with a mirror. Good time to eat some lunch--finally! end **PSPT PROBLEM**: Tue Dec 19 01:19:21 GMT 2006 I just received email that PSPT crashed. It was actually still running, taking images. Data transfer may have crashed, though so I killed program and restarted it. end **SBM PROBLEM**: Tue Dec 19 01:21:13 GMT 2006 I don't see the artifact anymore. I'll wait until close to shutdown to look down the tube-- it'll be safer then. ____end_ NICE MK4 IMAGE: 1820 NICE PICSLIMB IMAGE: 1815 NICE PICSDISC IMAGE: 1814 NICE CHIP IMAGE: 1816 GONG COMMENT: Tue Dec 19 01:24:30 GMT 2006 Going down to GONG to do weekly PM. end GONG COMMENT: Tue Dec 19 01:48:08 GMT 2006 Back from GONG. ____end_

WEATHER COMMENT: Tue Dec 19 01:48:19 GMT 2006 Seeing is deteriorating. Fortunately, I think today's seeing was pretty good most of the day throughout the CHIP focus tests. end **SBM PROBLEM**: Tue Dec 19 01:49:26 GMT 2006 pausing to look down the tube. end SBM COMMENT: Tue Dec 19 01:57:36 GMT 2006 I did not see anything out of the ordinary inside and at the aperture of the tube. I do not see the "artifact" that was on the initial image(s) after reassembling CHIP and re-aligning the SBM. Observing. end CHIP COMMENT: Tue Dec 19 02:18:59 GMT 2006 Unplugged p3 (focus control cable) from Oriel encoder mike controller. Cable is normally unplugged to prevent changing focus. Plugged it it for tests. ____end_ Tue Dec 19 02:26:29 GMT 2006 MKIV End Patrol Tue Dec 19 02:27:17 GMT 2006 CHIP End Patrol Tue Dec 19 02:27:37 GMT 2006 PICS End Patrol Tue Dec 19 02:35:42 GMT 2006 MkIV 00 34.rawmk4 02 08.rawmk4 19 14.rawmk4 20 48.rawmk4 22 22.rawmk4 00 37.rawmk4 02 11.rawmk4 19 16.rawmk4 20 50.rawmk4 22 25.rawmk4 00 40.rawmk4 02 14.rawmk4 19 19.rawmk4 20 53.rawmk4 22 27.rawmk4 00 43.rawmk4 02 17.rawmk4 19 22.rawmk4 20 56.rawmk4 22 30.rawmk4 00 46.rawmk4 02 20.rawmk4 19_25.rawmk4 20 59.rawmk4 22 33.rawmk4 00_49.rawmk4 02_23.rawmk4 19_28.rawmk4 21_02.rawmk4 22_36.rawmk4 00_52.rawmk4 17_46.rawmk4 19_31.rawmk4 21_05.rawmk4 22_39.rawmk4 00 55.rawmk4 17 49.rawmk4 19 34.rawmk4 21 08.rawmk4 22 42.rawmk4 00_58.rawmk4 17_52.rawmk4 19 37.rawmk4 21 11.rawmk4 22 45.rawmk4 01_01.rawmk4 17_54.rawmk4 19_40.rawmk4 21 14.rawmk4 22_48.rawmk4 19 43.rawmk4 01 03.rawmk4 17 57.rawmk4 21 17.rawmk4 22 51.rawmk4 01 06.rawmk4 18 00.rawmk4 19 46.rawmk4 21 20.rawmk4 22 54.rawmk4 01 09.rawmk4 18 03.rawmk4 19 49.rawmk4 21 23.rawmk4 22 57.rawmk4 18 06.rawmk4 19 52.rawmk4 21 26.rawmk4 23 00.rawmk4 01 12.rawmk4 01_15.rawmk4 18_14.rawmk4 19_55.rawmk4 21_29.rawmk4 23_03.rawmk4 01 18.rawmk4 18 20.rawmk4 19 58.rawmk4 21 32.rawmk4 23 06.rawmk4 01 21.rawmk4 18 26.rawmk4 20 01.rawmk4 21 35.rawmk4 23 09.rawmk4 01_24.rawmk4 18_29.rawmk4 20_03.rawmk4 21_37.rawmk4 23_12.rawmk4 01 27.rawmk4 18 32.rawmk4 20 06.rawmk4 21 40.rawmk4 23 15.rawmk4 01 30.rawmk4 18 35.rawmk4 20 09.rawmk4 21 43.rawmk4 23 18.rawmk4 01_33.rawmk4 18_38.rawmk4 20_12.rawmk4 21_46.rawmk4 23_20.rawmk4 01 36.rawmk4 18 41.rawmk4 20 15.rawmk4 21 49.rawmk4 23 23.rawmk4 01 39.rawmk4 18 44.rawmk4 20 18.rawmk4 21 52.rawmk4 23 26.rawmk4 01 42.rawmk4 18 47.rawmk4 20 21.rawmk4 21 55.rawmk4 23 29.rawmk4 01 45.rawmk4 18 50.rawmk4 20 24.rawmk4 21 58.rawmk4 23 32.rawmk4

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