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Mauna Loa Solar Observatory Observer's Log  
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Tue Jan 6 17:48:42 GMT 2004

Year: 04 Doy: 006

Observer: koon

Tue Jan 6 17:56:25 GMT 2004 MKIV Start Patrol

Tue Jan 6 17:56:25 GMT 2004 CHIP Start Patrol

Tue Jan 6 17:56:38 GMT 2004 PICS Start Patrol

WEATHER COMMENT: Tue Jan 6 17:48:49 GMT 2004

Very thin cirrostratus overcast, wind=5 mph from the SW, temp=38 F, frosty, icy road.

Tue Jan 6 18:02:26 GMT 2004 PICS Flat

Tue Jan 6 18:02:42 GMT 2004 CHIP LSD

Tue Jan 6 18:04:33 GMT 2004 CHIP End LSD

Tue Jan 6 18:04:48 GMT 2004 CHIP BiasLSD

Tue Jan 6 18:05:03 GMT 2004 PICS End Flat

ECHO COMMENT: Tue Jan 6 18:05:46 GMT 2004

Time OK.

Tue Jan 6 18:05:44 GMT 2004 CHIP End BiasLSD

Tue Jan 6 18:05:53 GMT 2004 CHIP Bias

Tue Jan 6 18:06:47 GMT 2004 CHIP End Bias

PSPT COMMENT: Tue Jan 6 18:11:50 GMT 2004

Observing.

A NEW TAPE HAS BEEN PUT INTO KAIEE DLT DRIVE, Tue Jan 6 18:24:33 GMT 2004

Tue Jan 6 19:26:06 GMT 2004 MKIV End Patrol

MKIV COMMENT: Tue Jan 6 19:25:55 GMT 2004

Pausing due to clouds, still haven't seen a good scan yet this morning.

\*\*ECHO PROBLEM\*\*: Tue Jan 6 21:09:41 GMT 2004

Will Pause instrument to work on replacing the broken setscrew at the Turret RA motor shaft.

COMMENT: Wed Jan 7 00:06:11 GMT 2004

Lost Dec guiding, reset and repointed.

WEATHER COMMENT: Wed Jan 7 00:06:32 GMT 2004

Still have thin cirrostratus, can't get mk4 data.

\*\*ECHO PROBLEM\*\*: Wed Jan 7 00:06:58 GMT 2004

That was very difficult but I was able to remove the broken setscrew. I couldn't safely drill the screw and extract it due to the close proximity of the Harmonic Drive gearing and bearing. I was able to separate the motor from the Harmonic Drive using wedges. Then I slowly unscrewed the broken shaft of the setscrew using a hammer and scribe, then a needle-nosed pliers. I also pulled apart the Harmonic Drive meshing gears and cleaned and relubed those with the proper special lube in that little plastic bottle with the long metal tube spout. Everything looks OK as far as I can tell. There isn't any "flat" on the motor shaft but that probably isn't a problem since we ran it for years that way after I last replaced the Harmonic Drive. I found a regular black "carbon steel" type capscrew to replace the old broken Stainless Steel capscrew/setscrew. I'll use Loctite too when I reassemble it all.

I used a capscrew for the setscrew originally because it allowed use of a bigger wrench and wasn't likely to get stripped, but SS isn't as tough as regular carbon steel alloys so the old screw failed in torsion with the classic helix pattern at the failure area. This tougher setscrew should be fine but I'd recommend replacing it with a new screw everytime we remove the motor in the future (hopefully never). If it fails again then we can remove the entire Harmonic Drive to get that setscrew collar off and drilled and tapped for a bigger screw.

\*\*ECHO PROBLEM\*\*:  
Wed Jan 7 01:53:11 GMT 2004

OK, it's fixed for now. Pointing is much better, I changed "HA error to Use" from -3.0 to 0.0 and the quadcell found the sun. It is taking data now.

ECHO is back to normal I hope.

Wed Jan 7 02:00:43 GMT 2004 MKIV Start Patrol

Wed Jan 7 02:21:48 GMT 2004 CHIP End Patrol

Wed Jan 7 02:24:56 GMT 2004 PICS End Patrol

MKIV COMMENT: Wed Jan 7 02:13:06 GMT 2004

I tried to get a few scans but the cirrostratus is too thick for data.

Wed Jan 7 02:36:07 GMT 2004

MkIV

02_00.rawmk4	17_59.rawmk4	18_23.rawmk4	18_44.rawmk4	19_05.rawmk4
02_03.rawmk4	18_05.rawmk4	18_26.rawmk4	18_47.rawmk4	19_08.rawmk4
02_06.rawmk4	18_09.rawmk4	18_29.rawmk4	18_50.rawmk4	19_11.rawmk4
02_09.rawmk4	18_12.rawmk4	18_32.rawmk4	18_53.rawmk4	19_14.rawmk4
02_12.rawmk4	18_15.rawmk4	18_35.rawmk4	18_56.rawmk4	19_16.rawmk4
02_15.rawmk4	18_18.rawmk4	18_38.rawmk4	18_59.rawmk4	19_19.rawmk4
17_56.rawmk4	18_21.rawmk4	18_41.rawmk4	19_02.rawmk4	19_22.rawmk4