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                  Mauna Loa Solar Observatory Observer's Log
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           Tue Jun  7 16:56:27 GMT 2011
Year: 11  Doy: 158
Observer: koon
WEATHER COMMENT: Tue Jun  7 16:56:29 GMT 2011
Medium cirrostratus overcast, wind=8mph from the SSE, temp=44F.
___end___
**GENERAL PROBLEM COMMENT BY DARRYL**: Tue Jun  7 18:36:57 GMT 2011
The main dome shutter binds badly near the fully opened position, radius of
curvature of the dome seems larger than it was before the events of 6/1,
and at least one bearing needs to be changed.  This takes a lot of iteration
going up to the gearbox with the lift and back down to the shutter controls.
Stopping for now to get to some other things, will continue ASAP.
___end___
Tue Jun 7 18:48:18 GMT 2011: PSPT Start Patrol
NOTE BY DARRYL: Tue Jun  7 18:58:37 GMT 2011
Swapped cordless phones back to proper holders, reset answering machine clock
that was off due to power outage on the weekend, brought up Gaspro receipt
from emergency telephone box at NOAA.  Gaspro didn't deliver LN2 last
Wednesday due to mixup based on their leaving multiple tanks up here for us,
I setup a delivery for tomorrow, until then we can borrow LN2 from dewar
next to ours.
___end___
NOTE BY DARRYL: Tue Jun  7 20:50:19 GMT 2011
Swapped out 2nd bad HDD from mlsoserver at VPort5 (labeled 6 externally)
using one of the 2 new HDD Ron sent, RAID is rebuilding now.
___end___
WEATHER COMMENT: Tue Jun  7 20:51:28 GMT 2011
Cirrostratus is thicker and low clouds are moving in.
___end___
**PSPT PROBLEM COMMENT BY DARRYL**: Tue Jun  7 21:30:25 GMT 2011
Crashed, restarted and then closed down due to clouds.
___end___
WEATHER COMMENT: Tue Jun  7 21:30:43 GMT 2011
Surrounded by low dark clouds.
___end___
Tue Jun 7 21:31:23 GMT 2011: PSPT Start Patrol
Tue Jun 7 21:31:28 GMT 2011: PSPT Abort Patrol
**GENERAL PROBLEM COMMENT BY DARRYL**: Wed Jun  8 02:14:48 GMT 2011
I worked on the dome shutter most of the day, it still doesn't function as well
as it should.  There are areas where it binds when moving it, the shutter is
warped.  I tried many iterations of various variables, so far I got the best
results with the transmission tie-rod extended by 2 revolutions, and I adjusted
the L-bracket to be about 1/16" above the top of the rack slide with the top
shutter at mid-point, that's also the best place to adjust the tie-rod, I
replaced the bearing at the bottom East corner of the top shutter when the
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slot is facing South, I also checked and lubed all the other bearings while
I was at it, I cambered the bottom 2 bearings for the top shutter because it
seems that it might help reduce friction as the shutter reaches the fully
opened position - there is still some binding there so don't open the shutter
fully, stop about 1 foot before the fully open position. The fully opened
position causes the biggest problem, too much L-bracket friction and there
is binding, not enough L-bracket friction and the gear slips in the track,
the track is worn in that area due to previous slipping and maybe due to
slipping on 6/1, the dome also seems to have been warped on 6/1. The key
problem that caused all this is that the operators need to watch the shutter
while it drives near the open position and we need to avoid sudden shutter
direction changes - the motor can't handle it, it will keep going in the
same direction it is moving, which means it can drive right past the limit
switch and cause the dome to be stuck open, then the shutter needs to be gently
manually moved using levers until the limit switch functions correctly
again, and if the gearbox slips like it did this time then that means
that the shear pin in the gearbox needs to be replaced after the shutter
is fully closed using levers one after another in the dome track up at the
gearbox area, use one lever as a jam and move the other, then jam the shutter
so it won't slide back and move the other lever, back and forth until the dome
is closed. Rope or a come-along can be used to lower the shutter to the
closed position once the weight shifts. Too much force can warp the dome
and we may not be able to fully recover from that. I'll continue trying
on Sunday.
___end___
Wed Jun 8 02:39:01 GMT 2011
        MkIV