Stanford University
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GP-B Telescope "Position Detector Reflectors on Telescope" P0338 Rev A

ECO 774
December 31, 1997

Prepared: _____ Date _____
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POSITION DETECTOR REFLECTORS ON TELESCOPE

- for SUGP-B dwg#25091
- follows *Position Detector Package Holder Pads on Telescope* (SUGP-B P0337)
- also use *GP-B Telescope Image Divider Assembly (IDA) General Alignment and Bonding Procedures* (SUGP-B P0282).
- uses Optical Detector Package Assemblies assembled by personnel certified by the DPA Responsible Engineer (M.Sullivan)

1) Verify cleanliness of all fixturing.
2) Prepare one each 'optical detector package assemblies' (DPA) for channels A and B.
3) With telescope mounted in fixturing as descibed in *Position Image Divider Assembly (IDA) on Telescope* (SUGP-B P0336), assemble all tooling as shown in OID dwg#800-0053F using new positioners (OID part #'s 515-0034B and 515-0035B) for parts 4 and 5.
4) Turn on the 7" aperture autocollimator and adjust power to maximum output.
5) Carefully place a plane parallel (<1 arc-second wedge) mirror on the top surface of each positioner and adjust the micro actuators such that the return image from the mirror is coincident with the return image from the forward plate of the telescope in the 7" aperture autocollimator readout. Carefully remove the mirrors.
6) Install the Optical DPA's as shown in OID dwg#'s 572-0067A and 572-0068A.
7) Install and align calibrated 'o+o reticles' and 'periscopes' (OID dwg#800-0058A) as required to complete OID dwg#800-0053F.
8) Focus all four cameras on the 'o+o' reticle patterns. Relocate cameras as required to prevent interference with new fixturing.
9) Verify cleanliness of all fixturing.
10) Place a small piece (~3cmsq.) of 2 mil 'orange' shim stock on the detector package holder pad for Channel A over the area where the reflector will bond.
11) Carefully place the Channel A reflector (SUGP-B dwg#25070) on the pad as shown in OID dwg#800-0053F. Bring the reflector into full contact with the three small brass locating screws and use care to ensure that the reflector does not 'cock' on the screws and remains flat on the pad.
12) While maintaining contact with the reflector, adjust the three screws such that the spots seen in the 'o+o' pattern are centered. Adjust light intensity as required.
13) Carefully remove the DPA from the fixturing, verify fixturing alignment as in step 4, and reinstall the DPA. If any changes occur in the spot positions in the 'o+o' pattern, repeat steps 4 through 13.
14) Remove the reflector and shim.
15) Verify cleanliness of all fixturing.
16) Bond reflector to pad using *Bonding Procedures for Fused-Quartz Components* (SUGP-B P0218). Use special care when placing reflector to prevent 'cocking' against adjusting screws.

17) Monitor the relevant laser spots on the reticle patterns through the cameras and make adjustments as required within a few minutes.
18) Repeat steps 9-15 for channel B.
19) Allow bonds to cure at least 48 hours before disturbing telescope.
20) Remove OID part #'s 515-0034B and 515-0035B. Use care to prevent touching or damaging the reflective surface of the reflectors and the bonding surfaces of the telescope and pads.

SUGP-B P0338 Rev A
K.Bower

Attachments: SUGP-B dwg#'s 25070, 25091, 25091 sheet 7 redline; OID dwg#'s 800-0053F, 572-0067A, 572-0068A, 800-0058A.