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GP-B Telescope Image Divider Assembly (IDA)
“Position Channel B Roof Splitter
on Channel B Plate”
P0285 Rev -

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POSITION CHANNEL B ROOF SPLITTER ON CHANNEL B PLATE

- For SUGP-B dwg# 25444
 - follows *Align Channel B Plate w/laser* (SUGP-B P0284)
 - also use *GP-B Telescope Image Divider Assembly (IDA) General Alignment and Bonding Procedures* (SUGP-B P0282).
- 1) Verify cleanliness of all fixturing.
 - 2) Assemble fixture #'s 560-0002A, 560-001A, 501-0014C, and 591-0015A with provided assembly hardware per OID dwg# 800-0039F.
 - 3) Assemble two sets of fixture #'s 505-0034B, 625-0005B, 527-0029A, and 656-0017A(2) with provided assembly hardware per OID dwg# 572-0058B (Tilting Microscope Holders).
 - 4) Mount Tilting Microscope Holders on IDA Fixtures per OID dwg# 800-0066A.
 - 5) Assemble two 10" focal length microscopes with CCD cameras and monitors and focus them such that the double crosshair patterns are clear in the central region.
 - 6) Install 10" microscope assemblies into Tilting Microscope Holders such that cameras are focused on and aligned to targets (note: targets may be of different size).
 - 7) Verify cleanliness of all fixturing.
 - 8) Place a small piece (~3cmsq.) of 2mil 'orange' shim stock over bonding region of Channel B Plate (SUGP-B dwg# 25078) to protect surfaces during initial alignment.
 - 9) Place Channel B Roof Splitter (SUGP-B dwg# 25068) on shim over bonding region as shown in OID dwg# 800-0039F.
 - 10) Adjust 'end' screw such that end of Roof Splitter is 0.190" (+0.010"/-0.000") from flat on Plate. (During all adjustments, frequently realign the Roof Splitter into three point contact with the aligning fixture and verify flat contact with the plate; take great care to avoid touching, contaminating, or damaging critical regions.)
 - 11) Adjust laser power to comfortable viewing levels through monitors (probably near maximum).
 - 12) Adjust coarse 'side' screw such that laser spots are of equal size and intensity (<5% on targets (should appear as lower-half semicircles with a diffraction ring pattern).
 - 13) Adjust fine 'side' screw such that laser spots are centered laterally on targets (<0.005").
 - 14) Repeat steps 12 and 13 until both conditions are met.
 - 15) Remove Roof Splitter and shim. Bond Roof Splitter to plate using *Bonding Procedures for Fused-Quartz Components* (SUGP-B P0218).
 - 16) Continue to monitor laser spots after bonding and make alignment adjustments as required within a few minutes.
 - 17) After curing, remove fixture #'s 560-0002A, 560-001A, 501-0014C, 591-0015A, and both Tilting Microscope Assemblies.

Attachments: SUGP-B dwg#'s 25444, 25078, 25068; OID dwg#'s 800-0039F, 560-0002A, 560-0001A, 501-0014C, 572-0058B, 800-0066A