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

June 30, 1997

Prepared: _________________________________ Date __________
Ken Bower, Telescope Assembly

Prepared: _________________________________ Date __________
Don Davidson, Telescope Assembly

Prepared: _________________________________ Date __________
Jason Gwo, Telescope Assembly

Approved: _________________________________ Date __________
Lynn Huff, Telescope Responsible Engineer

Approved: _________________________________ Date __________
John Lipa, Telescope Manager

Approved: _________________________________ Date __________
John Turneaure, Hardware Manager
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 (~3cm sq.) 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.