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**GP-B Telescope Image Divider Assembly (IDA)**  
**“Position Beam Splitter Assembly**  
**on Channel A Plate”**  
**P0290 Rev -**

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## POSITION BEAM SPLITTER ASSEMBLY ON CHANNEL A PLATE

- for SUGP-B dwg# 25445
  - follows *Align Channel A Plate w/laser* (SUGP-B P0289) and *Position Beam Splitter to Beam Splitter Holder* (SUGP-G P0288)
  - also use *GP-B Telescope Image Divider Assembly (IDA) General Alignment and Bonding Procedures* (SUGP-B P0282).
- 1) Verify cleanliness of all fixturing.
  - 2) Mount fixture #'s 506-0004A and 506-0010A on Basic IDA Fixtures with provided assembly hardware per OID dwg# 800-0043B. Use care to prevent damage to coated or bonding surfaces of flight parts.
  - 3) Mount one Tilting Microscope Holder (OID dwg# 572-0058B described in *Position Channel B Roof Splitter on Channel B Plate* step 3) on to Basic IDA Fixture opposite target (506-0010A).
  - 4) Install a 10" focal length microscope (w/camera and monitor) and focus it such that the camera crosshair image is focused and aligned on the target.
  - 5) Place a small piece (~3cmsq.) of 2mil 'orange' shim stock over the bonding region to protect surfaces during initial alignment. Ensure that the clear aperture of the Channel A Plate is not obscured.
  - 6) Place Beam Splitter Assembly (SUGP-B dwg# 25090) on Channel A Plate (SUGP-B dwg# 25399) as shown in OID dwg# 800-0043B. Place carefully to prevent tipping and protect all bonding and coated surfaces from damage or contamination.
  - 7) Apply power to laser and adjust power for comfortable viewing of the laser spot on target via microscope camera (probably near maximum).
  - 8) Adjust 'side' screw to center ( $<0.010''$ ) active region of beamsplitter over beam and clear aperture. It may be useful to focus the AS on the beamsplitter and adjust laser power as required. During all adjustments, frequently ensure that three point contact is maintained and that the Beam Splitter Assembly remains flat on the shim over the Channel A Plate. Use caution to prevent the Beam Splitter Assembly from tipping over.
  - 9) Adjust both 'rear' screws together until the vertical position of the laser spot is on the target ( $<0.005''$ ).
  - 10) Adjust either 'rear' screw until the lateral position of the laser spot is on the target ( $<0.005''$ ).
  - 11) Repeat steps 8, 9, and 10 until all three conditions are met.
  - 12) Remove the Beam Splitter Assembly and shim. Bond Beam Splitter Assembly to Channel A Plate using *Bonding Procedures for Fused-Quartz Components* (SUGP-B P0218).
  - 13) Continue to monitor laser spot after bonding and make alignment adjustments as required within a few moments. Use care to prevent 'tipping' or 'cocking' of this part during bonding.

14) After curing, remove fixture #'s 506-004A and 506-0010A and Tilting Microscope Holder.

Attachments: SUGP-B dwg#'s 25445, 25090, 25399; OID dwg#'s 800-0043B, 572-0058B.