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GP-B Telescope Image Divider Assembly (IDA)
“Align Channel B Plate with Laser”
P0284 Rev -

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ALIGN CHANNEL B PLATE WITH LASER

- preliminary to all IDA assembly work required for SUGP-B dwg#25444
 - follows *Set up basic IDA assembly fixtures* (SUGP-B P0283)
 - also use *GP-B Telescope Image Divider Assembly (IDA) General Alignment and Bonding Procedures* (SUGP-B P0282).
- 1) Verify cleanliness of all fixturing.
 - 2) Adjust focus of channel B laser diode to minimize spot size at infinity (>20').
 - 3) Center laser body in holder such that beam is coaxial with body by rotating the holder in a v-block and observing the spot travel at a distant location.
 - 4) Center 0.010" pinhole in holder such that spot is coaxial with body by rotating the holder in a v-block and observing the spot travel at a distant location.
 - 5) Assemble channel B laser assembly and mount on Basic IDA Fixtures per OID dwg#800-0039F.
 - 6) Mount standard (4") legs and leg extenders (10") on Basic IDA Fixtures.
 - 7) Mount custom four axis stage assembly under Basic IDA Fixtures.
 - 8) Mount DOI model 271 Alignment Scope in custom four axis stage.
 - 9) Verify cleanliness of all fixturing.
 - 10) Install Centering Reticle Plate (CRP) into IDA Fixtures and center (<0.002") with respect to fixture body by gap measurement (~0.025").
 - 11) In autocollimation mode, adjust tip-tilt of Alignment Scope (AS) such that it is normal to CRP (<15 arc-seconds).
 - 12) Focus AS on CRP and adjust x-y position of AS such that it is centered on CRP pattern (<0.002"); verify normality.
 - 13) Lock four axis stage and verify alignment; repeat steps 11 and 12 as necessary.
 - 14) Remove CRP from IDA Fixtures.
 - 15) Apply power to laser and adjust output to comfortable levels for viewing through AS.
 - 16) Focus AS on to laser pinhole and adjust lower four screw push-push array until laser pinhole is centered in AS (<0.002").
 - 17) Adjust upper four screw push-push array such that laser beam is parallel to AS in autocollimation mode (<30 arc-seconds).
 - 18) Repeat steps 16 and 17 until both conditions are met.
 - 19) Verify cleanliness of all fixturing.
 - 20) Install Channel B Plate (SUGP-B dwg#25078) in IDA Fixtures; verify chirality; clock (<1°) and center with respect to fixture body (<0.005"); verify normality to AS (<30 arc-seconds).

Attachments: SUGP-B dwg#'s 25444, 25078; OID dwg#800-0039F.