

US Atlas SCT Barrel Module Hybrid Attach Process.

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This document will be replaced with a new version referring to the production fixtures.

Parts list:

Large plate - backside gluing

Small plate – front side gluing

2 rods for alignment

2 Al strips for clamping

2 short cap head screws for back side clamping

2 long cap head screws for front side clamping

3 wire segments for securing the kapton

- 1) Confirm that hybrid fits properly into recesses. If not you may need to trim excess kapton with a new scalpel blade – carefully.
- 2) Fill four small holes with 5-minute epoxy. After cure, remove any excess which beads out onto top surface.
- 3) Place hybrid into backside fixture and front side fixture. Secure on Large plate only with one wire clamp.
- 4) Mix glue.
- 5) Deposit glue on backside hybrid “feet”, avoid edges so that there will not be excess flow onto metal causing hybrid to stick!
- 6) Place detector sandwich in place and locate with drill rod pins.
- 7) Clamp in place with Al strips and small cap head screws. Tighten until Al starts to flex. Note that on LEFT side Al will partly cover washers and may tilt a bit. This is OK.
- 8) Remove drill rod pins.
- 9) Lift front side hybrid out of fixture and flip assembly over. Inspect under microscope and confirm that hybrid is centered on detector. At this point hybrid position can be shift left/right to maintain pad alignment.
- 10) Place front side back in fixture and secure with additional 2 wire segments.
- 11) Cure for 24 hours in cabinet.
- 12) Remove Al strip clamps. Confirm that hybrid detector assembly can lift out of fixture. Leave in place.
- 13) Mix glue.
- 14) Deposit glue on front side hybrid “feet”, avoid edges so that there will not be excess flow onto metal causing hybrid to stick!
- 15) Fold front side hybrid over, position and slip drill rod pins in place to locate accurately.
- 16) Secure with Al strips and long cap head screws. Tighten until Al starts to flex.
- 17) Inspect and confirm that sandwich is “flat”.
- 18) Check alignment under the microscope and adjust to correct any small shifts if needed.
- 19) Cure for 24 hours in cabinet.
- 20) Remove three wire pieces. Remove drill rod pins.
- 21) Remove Al strips and open fixture, lift module out.