SPACE COAST UNMANNED

COMPACT LAW SIGHT

OBJECTIVE

Design a low-cost quadrant sight that clips onto the latest SOCOM LAW (light assault weapon) that extends the range of the weapon to match the capacity of the projectile propulsion system.

- Accurate sight adjustment measured in mils from 0 to 700 mils
- Sight must be compatible with Day/Night aiming techniques
- Sight must clip onto a MIL-STD-1913 Rail
- Operator must have the ability to eliminate canting.

DESIGN APPROACH

- Design and produce an initial rapid prototype, resulting in valuable lessons learned and a more mature solution for phase two.
- Use in house modern CAD tools with CNC manufacturing to quickly make accurate prototypes
  - Lowers development cost
  - Easily scalable for production
- Working in house allows greater customizability to meet customer's future needs

PHASE 1DELIVERABLES

- Prototype Rev A CAD files and documentation
- Prototype Rev A Quadrant with “Vortex Sparc II’ red dot sight(Note: Quadrant is not anodized)
- Prototype Rev B CAD files and documentation

PROTOTYPE SIGHT SOLUTION

- Vortex Sparc II
  - Parallax free
  - Unlimited eye relief
  - Max Elevation Adjustment(Adjustment Graduation 1 MOA): 90 MOA
  - Max Windage Adjustment(Adjustment Graduation 1 MOA): 90 MOA
  - Fully multi coated lenses, better light transmission for low light situations
  - Nitrogen gas purging delivers fogproof, waterproof performance
  - Includes a high mount, low mount, and a spacer that can be combined to provide various mounting heights
  - Provides ten variable illumination settings—the lowest two settings are night-vision compatible
  - 12-hour auto-shutdown feature maximizes battery life. Typical battery life is 300 hours at maximum brightness and 5,000 hours at minimum brightness setting

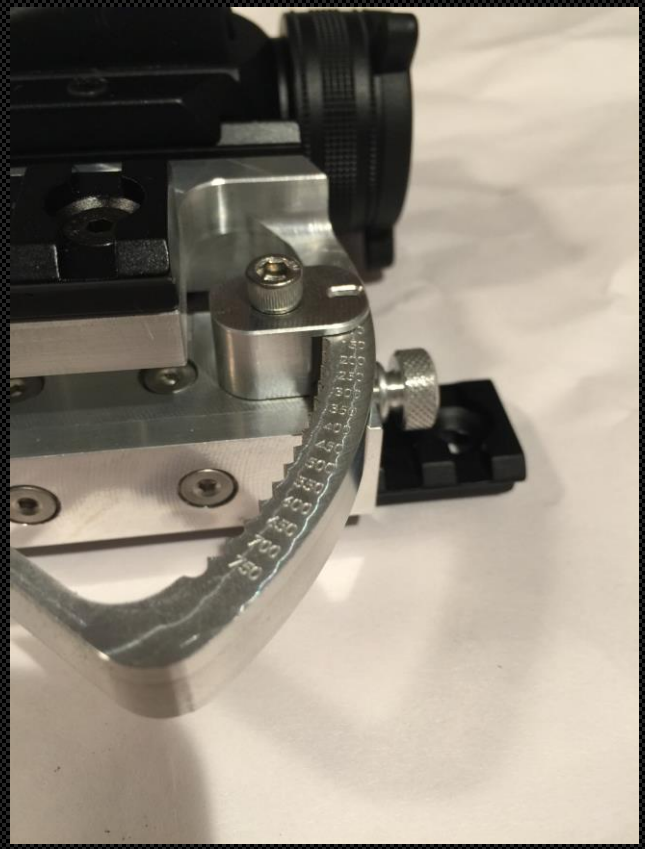
REVISION A SPECS

- 0-750mil range, adjustable in 50mil increments
- Actual prototype weight: 0.42 lbs
- CAD estimated weight: 0.41lbs
- CNC machined from aerospace grade 7075-T6 aluminum for maximum corrosion resistance.
- The sight fits the SOCOM LAW with no interference and allows operator to comfortably sight a target.
- The quadrant is easily adjusted with one hand

REVISION A ADJUSTMENT DEMONSTRATION

REV A PROTOTYPE LESSONS LEARNED

- Increase font on the 0-750mils range
- Incorporate glow in the dark features on range indicators for improved night operation
- Incorporate a leveling device to help eliminated canting of the weapon
- Improve push button release for the 0-750mils range
- Improve the mil-std-1913 rail locking knob for better operator ergonomics



REV B SPECS

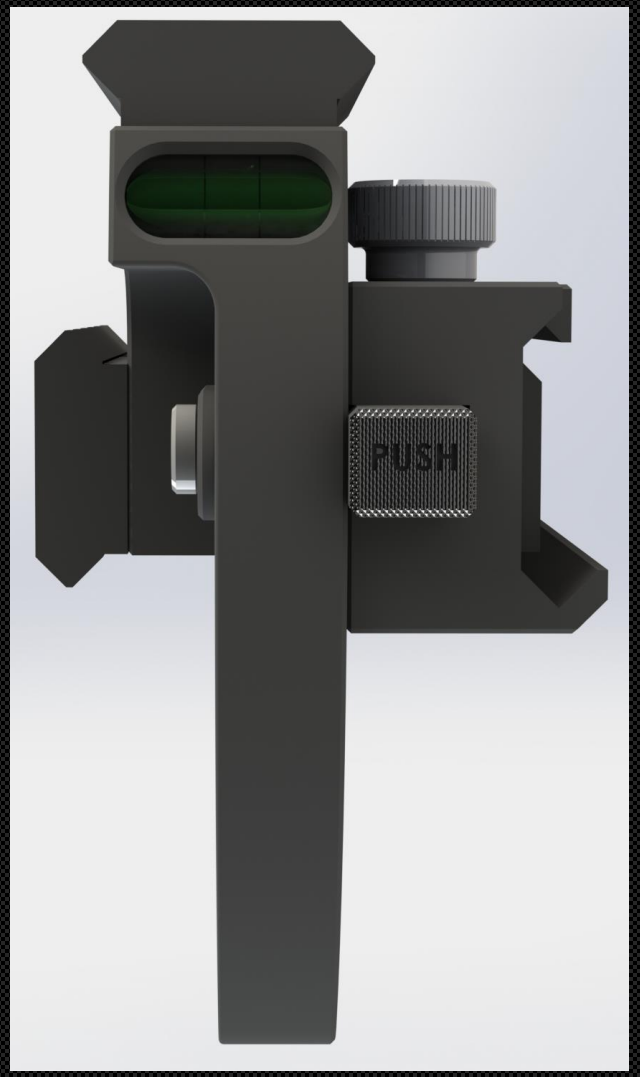
- Extra-large 0-750mil range, adjustable in 50mil increments, all labeling will be engrave after anodization for a bright easy to read text
- CAD estimated weight: 0.39lbs
- Precision ground glass bubble level to help the operator control unintentional canting
- Two sets of mil-std-1913 rails to accommodate any standard issue scopes available
- Maintains compatibility with SOCOM LAW with no interferences
- The quadrant is easily adjusted with one hand
- Final versions will receive a MIL-A-8625 Type 3 hard anodization(multiple color options available)

REV B SPECS CONT.

- No tools required to install onto the LAW
- Simply turn the knurled thumbscrew to lock the quadrant sight onto the MIL-STD-1913 rail.

REV B SPECS CONT.

- Precision ground glass bubble level with 0.05” divisional increments
- Level is placed on the moving range so no matter what angle the LAW is at the level is close to the operators eye and sight



REV B SPECS CONT.

- To adjust the angle of the quadrant sight press the button on the back and move it to the correct setting
- 0-750Mil range adjustment button is all one piece with knurled finish to help ensure good grip
- The spring rate and travel distance was also changed to improve tactile feel.

DEVELOPMENT PLAN

- Space Coast Unmanned has successfully completed 1 fully functioning prototype (Rev A) prior to the competition deadline to allow test fitment and design improvement
- Rev B can be produced, anodized, and delivered for testing within 30 days of phase two announcement

SPACE COAST UNMANNED'S SOLUTION

Offers a system that includes:

- ✓ Accurate sight adjustment exceeding 0 to 700 mils
- ✓ Day/Night aiming techniques
- ✓ Fitment onto MIL-STD-1913 Rail
- ✓ Feedback for operator to help eliminate cant

RESOURCES

- This presentation, along with the CAD files can be found at our Github repository:
- https://github.com/Space-Coast-Unmanned/Law_Sight

CONTACT US

- If you have any questions please visit our website at:
- https://spacecoastunmanned.com/