

Stephen A. Swartz
Aerospace Engineer, Unmanned Aerial Systems Instructor Pilot, Veteran
Clearance: Active TS/SCI, U.S. citizen

305-741-6789
saswartz@gmail.com
linkedin.com/in/stephenaswartz
Longmont, CO

Aerospace Engineer | Mission Operations & Integration

Air Force veteran with 20 years of leadership in high-stakes flight operations. Expert in leading through ambiguity, accomplishing multiple roles at once, mission planning and real-time execution, anomaly resolution, and systems integration. Proven ability to validate complex system interactions and translate requirements into operational success. Seeking to leverage deep experience in ISR mission threads to support the NextGen OPIR program.

Core Competencies

- **Mission Operations:** Real-time remote aircraft flight operations, mission tasking, and performance analysis.
- **Integration & Test:** Hands-on end-to-end mission processing integration, V&V, and pre-launch readiness.
- **Anomaly Resolution:** Expert in real-time troubleshooting and root-cause analysis in stressful environments.
- **Technical Proficiency:** Aerospace Engineering fundamentals, orbital mechanics, satellite systems.
- **Documentation:** Development of detailed mission plans, operational procedures, and test reports.

Professional Experience

Instructor Pilot (MQ-9A Reaper), Air National Guard, 108th Formal Training Unit, *Mar 2020-Dec 2025*

- **Flight Test Execution:** Executed flight test profiles for the Pentagon's Chief Digital and Artificial Intelligence Office (CDAO) "Smart Sensor" program. Validated Edge-AI sensor control and automated target recognition algorithms by performing precise maneuvers in accordance with formal test plans; provided critical pilot-in-the-loop feedback to Test Directors.
- **System Expert:** Qualified SATCOM control Launch and Recovery instructor; managed complex link transitions and handover procedures analogous to spacecraft readiness, execution, and evaluation phase.
- **Process Improvement:** Authored the initial phase of a syllabus for a military flight training program graduating 150+ students per year. Oriented and focused hundreds of training tasks into 9 sequential simulator and live-fly events to shepherd students through the nerve racking transition from academics to flying training. Student feedback surveys identified this phase as essential for building confidence.

Supervisor of Flying, Air National Guard, 174th Operations Group, *Jul 2020-Dec 2025*

- **Executive Communication:** Facilitated daily technical briefings for large, multi-disciplinary teams to synchronize flight operations, mission safety, and system status—directly analogous to Mission Readiness Briefings (MRB) in satellite operations
- **Anomaly Resolution:** Served as the primary authority for real-time troubleshooting of in flight anomalies; identified broken operations limits and directed emergency procedures to maintain asset health.
- **Mission Analysis:** Monitored mission tasking and system performance, providing feedback to engineering teams to improve software/hardware reliability.

Assistant Director of Operations, Air National Guard, 174th Operations Support Squadron, *Nov 2023-Dec 2025*

- **Program Oversight:** Managed technical baselines and risk opportunities for 11 specialized teams, ensuring seamless integration between cyber defense, intelligence, and flight segments.
- Managed short and long-term operations planning for military squadrons, ensuring 24/7 mission readiness and systems reliability.
- Bridged the gap between technical intelligence analysis and operational execution to optimize system performance in complex environments.

Mission Commander, Air National Guard, 138th Attack Squadron, *Nov 2017-Nov 2023*

- **CONOPS Development:** Designed and executed complex deployment plans to Africa and the Pacific, defining operational requirements and logistical support.
- **Mission Integration:** Led multi-disciplinary teams of aircrew, intelligence analysts, maintainers, and network technicians to provide 24/7 armed ISR support.
- **Stress Management:** Maintained a calm, decisive disposition while leading combat air patrols in high-pressure, contested environments.

Mission Director, U.S. Air Force, 27th Special Operations Group, *Nov 2013-Feb 2017*

- **System Reliability & Fleet Management:** Orchestrated cross-functional teams (Maintenance, Network, and Flight Ops) to maintain 24/7 mission availability for 8 high-value airborne assets; managed technical readiness for systems surpassing 350K cumulative operational hours.
- **Link Architecture & C2:** Directed SATCOM and network link configurations to ensure 99%+ availability for high-bandwidth data dissemination, maintaining constant command and control (C2) across global ground station architectures.
- **Operational Acceptance & Reporting:** Authored mission performance and reliability assessments for executive stakeholders, utilizing metrics analogous to the "Operational Acceptance" and "Handover" phases of spacecraft programs.
- **Mission Thread Integration:** Managed the end-to-end "sensor-to-shooter" mission thread, ensuring signal integrity and data synchronization from remote sensor collection through global network dissemination.

Infrastructure Systems Engineer (Civil), U.S. Air Force, *Nov 2005 – Aug 2010*

- **Technical Programming:** Authored and managed technical documentation for a \$350M infrastructure portfolio; successfully advocated for \$200M+ in project awards through quarterly executive-level requirements reviews.
- **Regulatory Oversight:** Directed safety programs and environmental compliance for industrial fabrication centers and mission-critical infrastructure, ensuring adherence to strict federal and military standards.

Education

- **Bachelor of Science Aerospace Engineering** | Worcester Polytechnic Institute, Worcester, MA, 2005
 Senior Qualifying Project: Designed and constructed satellite attitude control and sensor systems
- **Squadron Officer School** | Air University, Maxwell AFB, Alabama, 2011
- **Air Command and Staff College** | Air University, Maxwell AFB, Alabama, 2025