

Avery Elliott

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SUMMARY

Manufacturing engineer with more than three years of hands on aerospace hardware integration and structural assembly experience supporting high reliability flight systems. Builds controlled assembly sequences, work instructions, integration checklists, and configuration records that help technicians execute released engineering accurately on the floor. Designs fixtures and **ground support equipment** in Siemens NX, applying GD&T per **ASME Y14.5** to critical interfaces. Supports structural bonding, composite assembly, mechanical fastening, cleanroom preparation, and **Thermal Protection System** integration. Investigates non conformances through MRB, dimensional evidence, **root cause analysis**, and corrective action. Coordinates design engineering, quality, fabrication, part delivery, and integration teams during time sensitive builds. Practical experience with alignment checks, mass properties, system checkouts, avionics harness interfaces, and high pressure fluid hardware supports dependable vehicle production.

EXPERIENCE

Manufacturing Engineer II, Aerospace Hardware Integration

January 2025 - Present

Pacific Orbital Works

Long Beach, CA

Owns manufacturing planning and floor execution for aerospace hardware integration, supporting design engineering, technicians, quality, fabrication, bonding, inspection, and system checkout activities. Converts released engineering into controlled build records while resolving hardware issues with traceable technical evidence.

- Sequenced vehicle build instructions with inspection points, tooling needs, and configuration records for **floor execution**.
- Designed **Siemens NX** fixtures and GSE using ASME Y14.5 **GD&T** for critical locating interfaces.
- Supported structural bonding and **composite assembly** through surface preparation, adhesive cure, and inspection documentation.
- Resolved MRB non conformances with dimensional evidence, hardware history, and root cause analysis methods.
- Coordinated fabrication, bonding, **part delivery**, and subassembly readiness across quality, design, and shop teams.
- Completed alignment checks, **mass properties** activities, interface verification, and system checkout preparation.

Associate Manufacturing Engineer, Aerospace Structures

June 2023 - December 2024

Redwood Flight Structures

Hawthorne, CA

Supported production engineering for aerospace structural hardware, translating released designs into repeatable assembly plans and controlled shop documentation. Partnered with technicians, design engineers, quality personnel, and fabrication teams during bonding, integration, anomaly review, and acceptance activities.

- Converted released engineering into sequenced **work instructions**, inspection points, **tooling** requirements, and build records.
- Created Siemens NX fixture and GSE concepts with GD&T callouts for repeatable **structural assembly**.
- Documented composite **bonding preparation**, adhesive application, cure controls, and inspection evidence for production hardware.
- Investigated non conformances through **MRB** review, dimensional checks, hardware history, and **corrective action** tracking.
- Coordinated part delivery, fabrication, bonding, and subassembly readiness with production and quality personnel.
- Performed precision alignment checks, mass properties support, mechanical interface reviews, and checkout preparation.

PROJECTS

Reentry Vehicle Integration Planning 📅 2026

A hands on integration planning effort connected assembly sequences, fixture concepts, bonding controls, alignment checks, and configuration records into a practical vehicle build flow.

Composite Hardware Bonding Readiness 📅 2025

Focused on preparation steps, adhesive controls, cleanroom practices, cure documentation, and inspection evidence for dependable composite aerospace assembly.

LEADERSHIP & AWARDS

- Manufacturing integration leadership recognition for dependable coordination across design, quality, fabrication, and technician teams.
- Production engineering recognition for clear work instructions, controlled configurations, and practical resolution of hardware anomalies.

EDUCATION

Bachelor's Degree in Manufacturing Engineering

2023

California State University, Long Beach GPA: 3.5

Long Beach, CA

Coursework: Aerospace manufacturing, CAD and tooling, materials and processes, quality engineering

CERTIFICATIONS

- ASME Y14.5 GD&T Training 📅 2024
- Aerospace Composite Bonding Training 📅 2024

TECHNICAL SKILLS

- **Aerospace Manufacturing:** Vehicle integration, structural assembly, flight hardware
- **CAD and Design:** Siemens NX, CAD, tooling layouts
- **GD&T Standards:** ASME Y14.5, datum schemes, tolerance analysis
- **Fixtures and GSE:** Assembly fixtures, ground support equipment, proof loading
- **Bonding Processes:** Structural bonding, adhesive cure, bonding preparation
- **Composite Assembly:** Composite hardware, surface preparation, inspection documentation
- **Mechanical Assembly:** Mechanical fastening, precision joints, interface alignment
- **Quality Engineering:** MRB, non conformity tracking, corrective action
- **Root Cause Methods:** Root cause analysis, dimensional evidence, hardware history
- **Vehicle Verification:** Mass properties, alignment measurements, system checkouts
- **Production Systems:** Configuration control, build plans, work instructions
- **Aerospace Operations:** Cleanroom practices, aerospace cleaning, part delivery
- **Vehicle Interfaces:** Avionics harness interfaces, high pressure fluid hardware, TPS integration

SKILLS

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|---------------------------|------------------|------------------------|-------------------------|
| • Aerospace manufacturing | • CAD | • Structural bonding | • MRB |
| • Vehicle integration | • Fixture design | • Composite assembly | • Root cause analysis |
| • Structural assembly | • ASME Y14.5 | • Mechanical fastening | • Configuration control |
| • Siemens NX | • GD&T | • TPS integration | |

PROFESSIONAL AFFILIATIONS

- Aerospace manufacturing and vehicle integration professional network member.
- Manufacturing engineering community participant focused on aerospace structures, tooling, and quality practices.

LANGUAGES

- English (Native)
- Spanish (Intermediate)

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST