

# CLARK GARRISON

## SENIOR MANUFACTURING ENGINEER

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### PROFESSIONAL SUMMARY

Manufacturing engineer with 5+ years bringing complex electromechanical hardware from prototype to full-scale production across autonomous surface vessels and electric vehicles. Proven record developing and optimizing manufacturing processes, applying lean principles to reduce waste, driving quality control and root-cause corrective action, and leading production ramps across domestic and international (Mexico, China, Taiwan, Vietnam) manufacturing. Skilled at integrating design specifications into production, qualifying suppliers, and training production personnel. PMP and Lean Six Sigma Black Belt certified.

### CORE COMPETENCIES

|                                     |                                |                                  |
|-------------------------------------|--------------------------------|----------------------------------|
| Process Development & Optimization  | Lean Manufacturing / Six Sigma | Continuous Improvement           |
| Quality Control & Assurance         | Root Cause Analysis / CAPA     | Design-to-Production Integration |
| Production Ramp & Scaling           | Factory Layout & Line Design   | MES Implementation               |
| Supplier Sourcing & Qualification   | PPAP & Supplier Quality        | DFMA & Cost Reduction            |
| Process Documentation & Compliance  | Production Training & Support  | Project Management (PMP)         |
| Reliability & Qualification Testing | DVP&R / DVT / V&V              | FMEA / Root Cause (8D)           |

### PROFESSIONAL EXPERIENCE

#### Senior Manufacturing Engineer

**Saronic Technologies** · Jun 2025 - Present · Austin, TX · On-site

*Promoted from Manufacturing Engineer to Senior Manufacturing Engineer (2026).*

- Develop and optimize manufacturing processes for the production of autonomous surface vessels (ASVs) delivered to the Department of Defense, applying lean principles to improve efficiency and reduce waste.
- Led expansion of the production facility from **40,000 to 115,000 sq ft**, designing the new facility to output **25 Corsairs per week - a 2.5x increase** over the prior facility's 10/week ceiling, while also supporting two additional product lines.
- Directed the facility relocation and stand-up project, coordinating a team of **8 direct and 15 indirect** contributors across engineering and operations.
- Designed factory layout and optimized manufacturing flow for high-mix autonomous vessel production.
- Partner with design and engineering teams to integrate design specifications into production, and work with suppliers to source and qualify materials.
- Establish quality control measures and conduct root-cause analysis with corrective actions to resolve production issues.
- Developed assembly aids, fixtures, and jigs to improve build efficiency and repeatability.
- Supported the transition to an internally developed MES system for production and quality tracking, and provide training and support to production personnel.

#### Director of Four Wheel Vehicle Development

**Volcon | ePowersports** · Jan 2025 - Jun 2025 · Round Rock, TX

- Led development and launch of electric LSVs, UTVs, and light utility vehicles from concept through production readiness.
- Managed global suppliers across **China, Taiwan, and Vietnam**, including on-site engagement and quality oversight.
- Oversaw regulatory compliance, product testing, and distributor coordination for market launch.
- Developed SKD (semi-knocked-down) manufacturing processes and overseas assembly strategies.
- Led production readiness, packaging design, and cross-functional launch coordination.

#### Manufacturing Engineer

**Volcon | ePowersports** · Jul 2021 - Jun 2025 · Round Rock, TX

##### Grunt FE - Electric Motorcycle

- First manufacturing engineer on the program; led the transition from prototype to full production.
- Scaled output from **4 to 12 units/week** by moving from stall builds to a **7-station assembly line**, then to **15 units/week** through further optimization - a **3.75x throughput increase over 6 months**.
- Built the manufacturing foundation from scratch: work instructions, time studies, standard work, and line balancing.
- Implemented lean systems for inventory control and DFMA-driven design improvements.
- Developed an MES platform for production and quality tracking.

##### Grunt EVO - Electric Motorcycle

- Developed production travelers, final quality control (FQC) processes, and manufacturing documentation.
- Supported design improvements and the contract manufacturing ramp in Mexico.
- Grunt FE and Grunt EVO reached **2,000 combined units** produced.

## Stag - UTV

- Developed the manufacturing package for a **400,000 sq ft** contract manufacturing facility.
- Led PPAP and supplier quality improvement initiatives.
- Collaborated with **General Motors** on Chevy Bolt drivetrain integration.

## Brat - eBike (Global Product)

- Sustaining mechanical engineer for a global product that reached **4,000 units** across all markets.
- Led product improvements and cost reductions totaling **\$300/unit - a 24% reduction (\$1,250 to \$950)**; packaging redesign alone saved **\$40/unit**.
- Coordinated with international design and manufacturing partners; supported launches in **Mexico, Brazil, and Japan**.
- Developed service documentation and homologation packages.

## Reliability, Qualification & Compliance (Cross-Program)

- Planned and executed reliability and qualification test campaigns across the Grunt, Stag, and Brat programs - defining test objectives, test matrices, sample sizes, and pass/fail acceptance criteria to verify designs against durability, environmental, and performance requirements.
- Authored **Design Verification Plans & Reports (DVP&R)** and led **Design Verification Testing (DVT)**, maintaining requirement-to-test traceability and driving each line item to closure.
- Led **root-cause analysis and corrective action** (8D, 5-Why, fishbone) on test and field failures, feeding findings back into design and process changes.
- Managed **third-party testing with Austin Reliability Labs** - scoped test plans, coordinated sample builds and delivery, and interpreted results to drive design iterations.
- Owned **homologation and regulatory compliance** for market launch, assembling certification/homologation packages.

## EDUCATION

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**Texas A&M University** · **B.S., Manufacturing and Mechanical Engineering Technology** · College Station, TX  
Aug 2017 - May 2021 · *Emphasis in Automotive & Welding* · Dean's Honor Roll (Dec 2020)

Activities: Society of Automotive Engineers (SAE), Society of Manufacturing Engineers (SME), Triathlon

**Arab Academy for Science, Technology & Maritime Transport** · **Study Abroad - Engineering Ethics** · Alexandria, Egypt  
2019 - 2020

## CERTIFICATIONS & RECOGNITION

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|----------------------------------------------------|------------------------|
| <b>Project Management Professional (PMP) - PMI</b> | <i>Issued Oct 2025</i> |
| <b>Lean Six Sigma Black Belt (ICBB) - CSSC</b>     | <i>Issued May 2023</i> |
| <b>Forklift Certified</b>                          | <i>Issued Mar 2024</i> |
| <b>Eagle Scout - Boy Scouts of America</b>         | <i>2015</i>            |

## PROFESSIONAL DEVELOPMENT (2024-2026)

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**Systems Engineering:** Product Development & Systems Engineering (Udemy, in progress) | **CAD / PLM Training:** SolidWorks Essentials & Simulation; Siemens NX (Basic Design, Product Design Fundamentals); Teamcenter Visualization (multi-course series, ~26 hrs) | **Lean & Process:** PMI Value Stream Management | **AI & Project Management:** PMI Generative AI for Project Managers (Overview & Practical Application), Claude 101, Disciplined Agile Essentials

## TECHNICAL TOOLS

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**CAD / PLM:** SolidWorks (Simulation, PDM, Composer), Siemens NX, Teamcenter (+ Visualization), AutoCAD, Fusion 360 | **Manufacturing:** MES development, line balancing, time studies, standard work, PPAP, DFMA, FQC | **Reliability & Analysis:** DVP&R, DVT, Weibull life-data analysis, Python, MATLAB | **Project Management:** Jira, Confluence, Lucidchart, Linear, Coda, monday.com

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