



Mechanical Engineer

Solar Technology, Inc. (SolarTech) is an ISO-9001:2015 certified manufacturer of high-tech specialized construction equipment used for the management and control of traffic in and around work zones associated with road, highway, and bridge construction, maintenance, and repair. Defined by reliability, SolarTech is the oldest manufacturer of portable trailer-mounted solar-powered Arrow Panels and Changeable Message Signs, and we build and support all products at our single facility in Allentown, PA. Our equipment is recognized worldwide for durability, reliability, and strong engineering.

Position Summary

We are looking for a Mechanical Engineer to join our long-standing engineering team in Allentown, PA. This is a full-time, on-site position where you will design, develop, and improve the physical products and systems that define SolarTech's reputation for durability and reliability. You will work alongside a collaborative team of engineers while taking meaningful independent ownership of mechanical design and manufacturing challenges.

This position reports to the Director of Engineering.

Position Details

- Full-time, Monday through Friday
- On-site at our Allentown, PA facility - No Relocation Available
- Candidates must be authorized to work in the United States - No Sponsorship offered

Job Duties

- Design and develop mechanical components and assemblies for solar-powered traffic control equipment, including Arrow Panels, Changeable Message Signs, and trailer systems.
- Create and maintain detailed engineering drawings, 3D models, bills of materials (BOMs), quality control documentation, and production work instructions.
- Support and improve manufacturing processes; work closely with production staff to ensure designs are manufacturable, cost-effective, and maintainable.
- Conduct structural, thermal, and environmental analyses to validate designs for field durability.
- Specify and source hardware, materials, and components; collaborate with vendors and suppliers.

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- Perform root-cause analysis and develop corrective actions for field failures and customer-reported issues.
- Support product testing, qualification, and certification activities.
- Work across the full product lifecycle: concept, design, prototyping, testing, documentation, and production support.
- Engage with non-engineering colleagues including production, field technicians, and support staff to solve practical problems and improve product reliability.
- Travel may be required to assist customers and support field service activities.

Qualifications

We value engineering judgment, practical problem-solving, and clear thinking. The ideal candidate has:

- Bachelor's degree in mechanical engineering Required.
- Proficiency in 3D CAD software (SolidWorks preferred).
- 2-3 years experience designing sheet metal, weldments, and structural assemblies.
- Familiarity with manufacturing processes such as welding, machining, and painting.
- Ability to design for reliability in outdoor and field-deployed environments (vibration, weather, transport loads).
- Assist with electrical and software testing, including functional validation of embedded systems and field equipment.
- Contribute to wire and cable design, including harness routing, connector selection, and documentation.
- Participate hands-on during the prototyping process — building, assembling, and iterating alongside the engineering team.
- Self-direction, attention to detail, and genuine curiosity about how systems work.
- Ability to communicate clearly with both technical and non-technical colleagues.
- Experience with trailer systems and solar energy systems design is a plus.

Tools & Environment

- CAD: SolidWorks (primary), with standard PDM/PLM practices.
- Hands-on access to our production floor and prototype shop in Allentown.

Compensation & Work Schedule

Annual Salary: \$75,211.73 - \$85,168.96 per year

Full-time, onsite: 8:00 AM to 5:00 PM, Monday through Friday

Occasional travel may be required

Benefits

- 401(k)
- Dental insurance

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- Employee assistance program
- Health insurance
- Health savings account
- Life insurance
- Paid time off
- Professional development assistance
- Retirement plan
- Tuition reimbursement
- Vision insurance

Education

- Bachelor's (Required)

Location

- Allentown, PA 18106
- Work location: In person

