



Senior Design Engineer

Engines & micro-Combined Heat and Power

Enginuity Power Systems (EPS) is a distributed energy power generation and engine R&D company that is poised to fundamentally transform the way energy is produced. Started in 2015, EPS is growing fast, and we are currently seeking a seasoned and multi-talented Sr. Design Engineer with a background in engine design & thermodynamic cycles with an interest in electrical power generation and thermal energy storage systems. The Sr. Design Engineer will be responsible for design, development, and preparing design for manufacturing documentation of Enginuity's unique opposed piston engines, engine generator, and distributed energy generation systems. The Sr. Design Engineer will work directly with our Engineering and Manufacturing teams and will be responsible for the overall engine design and specification of key components of our opposed piston engine (head, pistons, block, valvetrain) and also components for our micro-combined heat and power system (heat exchanger, piping, valves, water tank, generator, cabinet packaging). This will include clean-sheet designs, as well as design improvements/refinements, component packaging, generation of CAD geometry, hosting design reviews, as well as performing initial analysis of thermal fluid, structural and NVH as well as electrical systems to ensure system design meet performance, NVH, durability and emissions targets.

DUTIES & RESPONSIBILITIES

- Working with Engineers to research, conceptualize, and develop new designs and product feasibility studies to support new product offerings in 2D and 3D.
- Incorporating modifications to existing 3D & 2D component & assembly designs as per Engineering team suggestions.
- Developing detailed component layouts, assembly layouts, and manufacturing documentation using tolerances, and standard tables.
- Design and release responsibility, developing, managing, and releasing Engineering Bill of Material for existing and new designs.
- Ensuring new designs comply with relevant design standards, MIL (military), motorsports spec and other Engineering standards.

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- Performing calculations as necessary for component loading (thermal, structural). Components stress/strain, fatigue materials selection to meet target life. motion studies, interference analysis, both 1D and 3D simulations
- Rapidly producing mechanical drawings, solid component and assembly models, and design documentation.
- Capable of handling multiple tasks and priorities to meet target dates for short and long term project objectives.
- Perform other duties as needed.

SKILLS & QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential function satisfactorily. The requirements listed below are representative of knowledge, skills, and/or abilities required.

- Educational Qualification: Bachelor's Degree or higher.
- Experience: At least 6 years in IC engine design - cylinder heads, power cylinders, valvetrain, engine sealing.
- At least 6 years' experience using CAD/CAE software PTC CREO, and/or SOLIDWORKS.
- Experience developing engines for motorsports a plus.
- MasterCAM experience is a plus.
- Experience with Design for Manufacturability & Assembly (DFMA).
- Proficient in Geometric Dimensioning & Tolerancing (GD&T), motion analysis, and interference analysis.
- Experience with rendering is a plus
- Experience in creating Engineering Bill of Materials for complex assemblies.
- Strong knowledge of electromechanical system drawings (e.g., wiring schematics, terminal blocks, panel layouts, cabling etc.).
- Experience with design standards & model-checking.
- Experience with MIL standards.
- Strong understanding of top-down modeling principles and practices.

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- Experience with complex surfacing modeling.
- Extensive experience in complex castings, stampings, forgings, and injection molds.
- Proficient in handling sheet metal and weldment designs.
- Ability to read component layouts and isometric drawings.
- Ability to work effectively with other in a cross functional organization.
- Ability to work under pressure and meet tight deadlines.
- Strong verbal and written communication skills.
- Effective interpersonal skills.

Demonstrated Proficiencies/Skills/Abilities:

- **Technical skills:** provides accurate, neat, and thorough work; pursues training and professional development; and strives to continuously build knowledge & skills and share expertise with others.
- **Continuous Improvement:** Generates and uses creative ideas to improve processes and services; adapts to change, works in an organized manner, uses time efficiently; and displays a positive outlook.
- **Dependability/Initiative:** Assumes ownership of actions; follows instructions, offers ideas, and follows through on commitments; volunteers readily and offers to help and assist when work is complete; and commits to additional hours when necessary.
- **Organizational Support:** Supports organizational goals, objectives, & values; adheres to all company policies & procedures; observes safety & security procedures.
- **Attendance:** Punctual; observes appropriate break and meal periods; acceptable attendance record.
- Must be able to demonstrate the ability to read, write and speak the English language.
- Ability to communicate technical knowledge in a clear and understandable manner.
- Ability to work both independently and within a cross-functional team.
- Ability to efficiently learn new skills and manage multiple tasks.
- Proficient with Microsoft Office (Outlook, Excel, PowerPoint, Word)

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Competencies

To perform the job successfully, an individual should demonstrate the following competencies:

- **Manages Complexity:** Makes sense of complex, high quantity, and sometimes, contradictory information to effectively solve problems.
- **Action Oriented:** Engenuity is a fast-paced, results driven company. Applicant will need to take on new opportunities and tough challenges with a sense of urgency, high energy, and enthusiasm.
- **Resourcefulness:** Secures and deploys resources effectively and efficiently.
- **Collaborates:** Builds partnerships and works collaboratively with others to meet shared objectives.
- **Situational Adaptability:** Adapts approach and demeanor in real time to match shifting demands of different situations.

Other Duties

Please note this job description is not designed to cover or contain a comprehensive listing of activities, duties or responsibilities that are required of the employee for this position. Duties, responsibilities, and activities may change at any time with or without notice. Work beyond 40 hours per week may be required.

This opportunity is in the Metro Detroit Michigan area.

Engenuity is dedicated to a drug free work environment promoting equal employment opportunity. Qualified applicants will receive consideration for employment without regard to race, sex, national origin, color, age, disability, religion, pregnancy, veteran status, marital and family status, sexual orientation, receipt of public assistance, genetic information or any other characteristic protected by applicable law.