

Mechanical Engineer

Why ClearFlame

Diesel engines are critical to world economies and quality of life. However, they are currently coupled to dirty diesel emissions. At ClearFlame Engine Technologies, we are breaking the bond between the diesel engine and diesel fuel, clearing the path to gigaton scale emissions reduction for hard-to-electrify applications, including heavy-duty trucking, power generation, and other off-highway markets.

Easily integrated into existing engines and new production, ClearFlame maintains the same rugged performance and practicality at a much lower cost than current alternatives, offering a rapid pathway to decarbonizing diesel-dominated sectors worldwide. By allowing these engines to keep fulfilling their vital functions—but replacing diesel with plant-based, low-carbon liquid fuels—ClearFlame simultaneously addresses their climate impact, as well as the energy equity and environmental justice issues that disproportionately affect underrepresented populations globally.

We are on a mission to free global economies from a need for petroleum-based fuels in heavy-duty applications. We have big ambitions, but we can't do it alone. We need talented, passionate individuals to help make our vision a reality. In return, we provide comprehensive benefits and are committed to providing a positive team culture—supporting our team relentlessly and focusing on creating personal successes as well as organizational ones.

About the Position

Summary

This position requires a high degree of engineering creativity and intuition in the heavy-duty truck sector to work on all product stages from research and development to design and manufacture, through to installation and final commissioning. This role will require working cross-functionally with a multi-disciplinary group of engineers while learning how to leverage hardware, and software solutions to validate ClearFlame's technology to the rigorous internal and external industry standards. We are interested in candidates with all levels of experience but will be looking for driven engineers with strong problem solving, communication, and collaboration skills. Depending on the project, your responsibilities will include:

Essential Duties and Responsibilities

- Perform a full lifecycle product development (design, develop, test prototypes, manufacture and implement)
- Design systems and components that meet needs and requirements
- Integrate various inputs based on schematics, wiring diagrams, test requirements, and engineering guidance into testable solutions.
- Troubleshooting electrical and mechanical issues seen on test platforms.
- Utilize various test resources to set up, run and monitor several series of electrical and durability tests.
- Facilitate the failure analysis process by providing detailed information surrounding failures in test articles. Assist in pre-inspection and post-test inspection of test articles.
- Produce outline designs
- Conduct experiments methodically, analyze data and interpret results
- Test and evaluate theoretical designs
- Identify, formulate, and produce effective solutions to emerging problems
- Evaluate final product's overall performance, reliability, and safety
- Alter and modify design to meet requirements and to eliminate malfunctions
- Prepare product reports and documentation
- Drive other projects as needed by management or as business needs change.

Education and Experience Requirements

- Bachelors in mechanical, electrical or equivalent field
- Proven work experience in mechanical engineering
- Working experience with product lifecycle management (PLM), finite element analysis (FEA) and computational fluid dynamics (CFD)
- Capable of analyzing vehicle performance in Matlab/Simulink or another comparable software
- Hands-on experience with computer-aided engineering (CAM) and computer-aided manufacturing (CAE)
- Familiarity with 2D or 3D engineering design and manufacturing tools (e.g., AutoCAD, ProE or other)
- Adequate knowledge of engineering analysis tools (ANSYS, Promechanica or similar)
- Mathematical computing and analysis tools knowledge (Matlab, Excel, LabView etc.)
- Solid understanding of core concepts including mechanics, kinematics, thermodynamics, materials science etc.
- Creativity and analytical skills
- Demonstrate exceptional written and verbal communication of technical knowledge in a clear and understandable manner
- Strong skills in problem solving, communication, personal effectiveness, quality and common sense, team player, organization, task management.
- Self-starter, motivated person.

Physical Requirements



- Prolonged periods of sitting at a desk and working on a computer
- Must be able to lift 25 lb. unassisted at times
- Periodic travel
- The position could be in Geneva, IL. or in Columbus, IN

Equal Opportunity Employer:

ClearFlame is an Equal Opportunity Employer. Employment decisions are made without regard to race, color, religion, national origin, gender, sexual orientation, gender identity, age, physical or mental disability, genetic factors, military/veteran status or other characteristics protected by law.