



**Zoomlion Heavy Industry N.A., Inc.**

## **Mechanical Engineer**

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**Department:** Engineering

**Job Status:** Full Time

**FLSA Status:** Exempt

**Reports To:** Engineering Manager - Structural Systems

**Job Type:** Regular

**Amount of Travel Required:** up to 10%

**Work Schedule:**

**Positions Supervised:** None

Hybrid Work Model Weekdays Mon. – Fri.

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### **POSITION SUMMARY**

As an Engineer II in the Structure Group, you will play a pivotal role in the design and development of construction equipment components and systems. Perform engineering duties in planning and design processes for construction equipment. This includes direct involvement in all related design activities and engagement with cross-functional teams to ensure project goals are met. Evaluate products, parts or processes for cost efficiency and reliability and work with other members of the engineering staff in a team environment to ensure that production is completed per project plan and timely.

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### **ESSENTIAL FUNCTIONS**

#### **Reasonable Accommodations Statement**

To accomplish this job successfully, an individual must be able to perform, with or without reasonable accommodation, each essential function satisfactorily. Reasonable accommodations may be made to help enable qualified individuals with disabilities to perform the essential functions.

#### **Essential Functions Statement(s)**

- Product Design and Development:
  - Collaborate with cross-functional teams to conceptualize, design, and develop construction equipment solutions.
  - Utilize engineering principles and state-of-the-art technologies to create innovative and efficient designs.
- Engineering Analysis:
  - Conduct comprehensive engineering analyses to ensure the structural integrity, performance, and safety of the designed construction equipment.
  - Evaluate and optimize designs through simulation, testing, and prototyping.
- Testing and Benchmarking:
  - Develop and implement testing protocols to evaluate the performance and reliability of construction equipment designs.
  - Conduct benchmarking studies to stay abreast of industry trends and ensure our products remain at the forefront of innovation.
- Prototyping and 3D Printing:
  - Utilize 3D printing technologies for rapid prototyping and iterative design processes.
  - Collaborate with the prototyping team to create functional prototypes for testing and validation.
- 3D Scanning and Reverse Engineering:
  - Employ 3D scanning techniques to capture and analyze existing components for reverse engineering purposes.
  - Integrate scanned data into the design process for efficient modification and optimization of existing equipment.
- Project Management:

- Lead and manage assigned projects, ensuring timely and successful completion within budgetary constraints.
- Coordinate with team members, stakeholders, and suppliers to align project goals with overall company objectives.
- Quality Assurance:
  - Implement and adhere to quality control procedures to guarantee the highest standards in product design and manufacturing.
  - Participate in design reviews and provide constructive feedback to enhance product performance and reliability.
- Documentation and Reporting:
  - Prepare detailed engineering documentation, including design specifications, test plans, and reports.
  - Communicate project progress, challenges, and solutions effectively to internal teams and management.

## **POSITION QUALIFICATIONS**

### **Competency Statement(s)**

- Accountability - Ability to accept responsibility and account for his/her actions.
- Detail Oriented - Ability to pay attention to the minute details of a project or task.
- Analytical Skills - Ability to use thinking and reasoning to solve a problem.
- Problem Solving - Ability to find a solution for or to deal proactively with work-related problems.
- Conceptual Thinking - Ability to think in terms of abstract ideas.
- Communication, Oral - Ability to communicate effectively with others using the spoken word.
- Communication, Written - Ability to communicate in writing clearly and concisely.
- Presentation Skills - Ability to effectively present information publicly.
- Judgment - The ability to formulate a sound decision using the available information.
- Initiative - Ability to make decisions or take actions to solve a problem or reach a goal.
- Organized - Possessing the trait of being organized or following a systematic method of performing a task.
- Systems Analysis - Ability to determine how a system should work and how changes in conditions, operations, and the environment will affect outcomes.
- Technical Aptitude - Ability to comprehend complex technical topics and specialized information.
- Self-Motivated - Ability to be internally inspired to perform a task to the best of one's ability using his or her own drive or initiative.
- Innovative - Ability to look beyond the standard solutions.

## **SKILLS & ABILITIES**

**Education:** Bachelor's Degree (four-year college or technical school) required, Field of Study: Mechanical or Agricultural Engineer or other related Engineering field

**Experience:** ME II – 5-10 years of experience in Structural Design of Off-Road Heavy Equipment or Industrial Mobile Machines  
 Familiar with manufacturing process, sheet metal, welding and formed tubing.  
 Understanding of ergonomic principles and design.  
 Competent in static and dynamic calculations.  
 Experience performing simplified linear static FEA.  
 Experience developing free-body diagrams.

**Computer Skills:**

3D CAD modeling required (NX preferred or (Creo/Wildfire)  
Microsoft Office Suite including Outlook, PowerPoint, Word, Excel and SharePoint

**Other Requirements**

Previous experience in agricultural or off-road heavy equipment field required.  
Basic understanding of hydraulics a plus. Strong communication and problem-solving skills.

**PHYSICAL DEMANDS**

- N (Not Applicable)** Activity is not applicable to this position.
- O (Occasionally)** Position requires this activity up to 33% of the time (0 - 2.5+ hrs./day)
- F (Frequently)** Position requires this activity from 33% - 66% of the time (2.5 - 5.5+ hrs./day) **C**
- (Constantly)** Position requires this activity more than 66% of the time (5.5+ hrs./day)

**Physical Demands**

**Lift/Carry**

Stand	F	10 lbs or less	O
Walk	F	11-20 lbs	O
Sit	F	21-50 lbs 51-	O
Manually Manipulate	O	100 lbs	N
Reach Outward	O	Over 100 lbs	N
Reach Above Shoulder	O		
Climb	N		
Crawl	N		O
		<b>Push/Pull</b>	O
Squat or Kneel	O	12 lbs or less	N
Bend	O	13-25 lbs	N
Grasp	F	26-40 lbs	N
Speak		41-100 lbs	

**Other Physical Requirements**

**WORK ENVIRONMENT**

Office environment in a controlled atmosphere building.