



Zoomlion Heavy Industry N.A., Inc.

Mechanical Engineer

Department: Engineering

FLSA Status: Exempt

Grade/Level:

Job Type: Regular

Work Schedule:

Weekdays Monday through Friday.

Job Status: Full Time

Reports To: Engineering Manager - Structural Systems

Amount of Travel Required: up to 15%

Positions Supervised: None

POSITION SUMMARY

Perform engineering duties in planning and design processes for AWP or Excavators. This includes direct involvement in all related design activities and engagement with cross-functional support staff 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.

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)

- Develop the structural design of products using computer-assisted design (CAD) in conformance to all appropriate industry standards and based on core knowledge of engineering and design principles.
- Develop structural systems in accordance to requirements and for a variety of manufacturing processes including thermoforming, rotational molding, sheet metal, weldments and formed tubing to meet requirements, applying knowledge of engineering principles.
- Confer with engineers or other personnel as appropriate regarding any essential engineering functions.

- Create direct detailed engineering drawings in conformance to company and industry standards, read and interpret blueprints, technical drawings, schematics, or computer-generated reports.
- Recommend design modifications to eliminate machine or system malfunctions.
- Conduct research that tests and analyzes the feasibility, design, operation, and performance of equipment, components, and systems.
- Investigate equipment failures and difficulties to diagnose faulty operation, and to make recommendations for performance improvement.
- Develop and test models of alternate designs and processing methods to assess feasibility, operating condition effects, possible new applications and necessity of modification.
- Develop, coordinate, and monitor all aspects of production, including selection of manufacturing methods, parts procurement for prototype build, fabrication, and operation of product designs.
- Specify and direct modification of system components to ensure conformance with engineering design

and performance specifications.

- Research and analyze customer design proposals, specifications, manuals, or other data to evaluate the feasibility, cost, or maintenance requirements of designs or applications.
- Assist in writing performance requirements for product development and engineering projects.
- Oversee installation, operation, maintenance, and repair to ensure that prototype machines are installed and functioning according to specifications.
- Design test equipment and develop procedures for testing products to validate designs, aid in executing tests and analysis for product verification.
- Evaluate mechanical designs or prototypes for energy performance or environmental impact.
- Use ergonomic principles and tools to design proper human machine interfaces.
- Develop and select components with consideration to operator vibration.
- Engage and participate in all relevant engineering activities including, DFMEA's, design reviews, tolerance stack-ups and engineering notifications.

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 ones 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: 2 plus years of experience in Structural Design of Off-Road Heavy Equipment or Industrial Mobile Machines
Familiar with manufacturing process, including thermo forming, rotational molding, 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: Microsoft Office Suite including Outlook, PowerPoint, Word, Excel; 3D CAD modeling required (PROE/Creo and/or NX).

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

Stand	F
Walk	F
Sit	F
Manually Manipulate	O
Reach Outward	O
Reach Above Shoulder	O
Climb	O
Crawl	N
Squat or Kneel	N
Bend	O
Grasp	O
Speak	F

Lift/Carry

10 lbs or less	O
11-20 lbs	O
21-50 lbs	O
51-100 lbs	N
Over 100 lbs	N

Push/Pull

12 lbs or less	O
13-25 lbs	O
26-40 lbs	N
41-100 lbs	N

Other Physical Requirements

WORK ENVIRONMENT

Office environment in a controlled atmosphere building.