



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

### Sr. Mechanical Engineer - Hydraulics

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**Department:** Engineering

**FLSA Status:** Exempt

**Grade/Level:**

**Job Type:** Regular

**Work Schedule:**

Daily Monday through Friday unless travelling.

**Job Status:** Full Time

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

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

**Positions Supervised:** None

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#### POSITION SUMMARY

Develop new or improved designs for vehicle structural members, engines, transmissions, or other vehicle systems, using computer-assisted design technology. Direct building, modification, or testing of vehicle or components.

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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)

- Effectively communicate with internal and external customers to understand concerns and customers' requirements and specific technical issues.
- Work with suppliers to validate product designs meet specifications.
- Develop engineering specifications, propose and select product design concepts.
- Upgrade or modify designs to obtain specified functional or operational performance.
- Define control system strategy or algorithms for purposes such as system dynamics, energy management or increased operational safety or performance.
- Researches, studies, and proposes use of new technologies to be used in the development of new and improved hydraulic components/systems in products.
- Perform system development, component selection, engineering analysis, system modeling, and problem diagnosing in the vehicle hydraulic areas.
- Communicate project objectives to team members and maintain close contact to coordinate activities with other groups within the product engineering departments.
- Establish and enforce the proper use of engineering criteria and drawing standards. Ensure that technical issues are conducted within the framework of company policies and procedures.
- Evaluate designs for performance, safety, and reliability. Perform failure, variation or root cause analysis.
- Conduct or direct system-level hydraulic testing plans and implementation in the lab and field.
- Develop calibration methodologies, test methodologies, or tools.
- Direct preparation of layouts, drawings, specifications, and bills of material.

- Create and maintain project documentation for analysis, research and historical records.
- Provide technical support and leadership in area(s) of assigned responsibility including material selection, structural requirements, tolerances, aesthetics, and testing.
- Prepare technical proposals, quotations, reports and presentations.
- Provide technical assistance for prototype, pilot and production support.
- Analyze and resolve issues reported to Engineering via verbal or written communication.
- Read current literature, attend meetings or conferences, or talk with colleagues to stay abreast of new technology or competitive products.

## **POSITION QUALIFICATIONS**

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

- Detail Oriented - Ability to pay attention to the minute details of a project or task.
- Accountability - Ability to accept responsibility and account for his/her actions.
- Analytical Skills - Ability to use thinking and reasoning to solve a problem.
- Communication, Oral - Ability to communicate effectively with others using the spoken word.
- Communication, Written - Ability to communicate in writing clearly and concisely.
- Conceptual Thinking - Ability to think in terms of abstract ideas.
- Decision Making - Ability to make critical decisions while following company procedures.
- Deductive Reasoning - Ability to apply principles of logical or scientific thinking to a wide range of intellectual and practical problems.
- Goal Oriented - Ability to focus on a goal and obtain a pre-determined result.
- Innovative - Ability to look beyond the standard solutions.
- 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.
- Problem Solving - Ability to find a solution for or to deal proactively with work-related problems.
- Research Skills - Ability to design and conduct a systematic, objective, and critical investigation.

## **SKILLS & ABILITIES**

**Education:** Bachelor's Degree (four-year college or technical school) Required, Field of Study: Mechanical Engineering or related field  
Master's Degree Preferred, Field of Study: Engineering

**Experience:** 5 plus years of experience in Hydraulic Engineering  
5 years design experience on hydraulics subsystems/components on heavy construction machinery  
Practical knowledge on engineering standards e.g. NFPA, JIC, ISO, SAE, ANSI, NEMA  
Experience working with supplier/vendors to integrate new technologies or components to machine hydraulic subsystems  
Experience collaborating with Engineering Service Providers  
Experience working and collaborating with global teams

**Computer Skills:** Microsoft Office Suite (Outlook, Word, Excel, PowerPoint, etc.), CAD (NX/PTC Creo), PDM/TeamCenter, MATLAB & Simulink, LMS AMESim

**Certifications &  
Licenses:**

**Other Requirements:**

**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.