



Zoomlion Heavy Industry N.A., Inc.

Sr. Electrical Engineer - Excavator

Department: Engineering

FLSA Status: Exempt

Grade/Level:

Job Type: Regular

Work Schedule:

Weekdays Monday through Friday unless traveling.

Job Status: Full Time

Reports To: Engineering Manager - Control Systems

Amount of Travel Required: up to 25%

Positions Supervised: None

POSITION SUMMARY

Perform engineering duties in planning and design processes of electrical equipment, components or control systems. 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)

- Design and implement software of embedded devices and systems.
- Design, develop, code, test and debug system software.
- Analyze and enhance efficiency, stability and scalability of system resources.
- Prepare technical drawings, specifications of electrical systems or software programs to ensure that installation and operations conform to standards and customer requirements.
- Operate computer-assisted engineering or design software or equipment to perform engineering tasks.
- Confer with engineers, customers, or others to discuss existing or potential engineering projects or products and participate in engineering technical reviews.
- Direct or coordinate manufacturing, construction, installation, maintenance, support, documentation, or testing activities to ensure compliance with specifications, codes, or customer requirements.
- Perform detailed calculations to compute and establish manufacturing, construction, or installation standards or specifications.

- Plan or implement research methodology or procedures to apply principles of electrical theory to engineering projects.
- Compile data and write reports regarding existing or potential electrical engineering studies or projects.
- Inspect completed installations and observe operations to ensure conformance to design and equipment specifications and compliance with operational and safety standards.
- Collect data relating to development or power system interconnection to determine operating efficiency of electrical controls systems.
- Develops electrical, electronic and hydraulic control systems for construction, agricultural production equipment and other heavy equipment machinery including concept, design and validation.
- Perform integration testing in the actual vehicle environment.
- Lead work with international design team to implement electrical, electronic and controls functionality for assigned products.
- Perform software unit and integration testing. Generate verification reports to explain results and concerns to other engineering teams.
- Design test fixtures for in-house test bench.
- Responsible for software design, development, integration, testing and trial production of electronic control units.
- Document test procedures and results.
- Assist in supervising or training project team members as necessary.

POSITION QUALIFICATIONS

Competency Statement(s)

- Accountability - Ability to accept responsibility and account for his/her actions.
- Goal Oriented - Ability to focus on a goal and obtain a pre-determined result.
- 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.
- 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.
- Innovative - Ability to look beyond the standard solutions.
- 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.
- 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.
- Technical Aptitude - Ability to comprehend complex technical topics and specialized information.
- Conceptual Thinking - Ability to think in terms of abstract ideas.

SKILLS & ABILITIES

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

Experience: 5 plus years of experience in design of excavator or off road machines' electro-hydraulic, hydro-mechanical and electric control systems
5 plus years of experience in design and manufacturing of excavator or related off-road construction machines" electro-hydraulic, hydro-mechanical and electric control systems.
Five (5) years experience of design and application experiences with hydraulic and electric systems in earthmoving machines.
Three (3) years experience with and knowledge in Design for Assemblies and Manufacturing and the Engineering Change Process.

Microsoft Office Suite including Outlook, PowerPoint, Word, Excel, SharePoint, etc.

Computer Skills:

Five (5) years" experience in Rapid Control Prototyping, embedded control systems, PLC, C and Matlab/Simulink Programming.

Five (5) years" experience with and solid understanding of vehicle bus protocols, such as CAN and J1939, and with industrial engineering standards (ISO, SAE, IEEE, etc.).

Three (3) years" experience with CAD software, such as Pro-E and AutoCAD.

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	Lift/Carry	10 lbs or less	O
Walk	F		11-20 lbs	O
Sit	F		21-50 lbs	O
Manually Manipulate	O		51-100 lbs	N
Reach Outward	O		Over 100 lbs	N
Reach Above Shoulder	O			
Climb	O	Push/Pull		

Crawl	N	12 lbs or less	O
Squat or Kneel	N	13-25 lbs	O
Bend	O	26-40 lbs	N
Grasp	O	41-100 lbs	N
Speak	F		

Other Physical Requirements

WORK ENVIRONMENT

Office environment in a controlled atmosphere building.

Prepared by: Deb Lauenstein, HR Director Date: 8/24/2017

Approval
Signature: Jack Wang, President/General Manager Date: 8/28/2017

The company has reviewed this job description to ensure that essential functions and basic duties have been included. It is intended to provide guidelines for job expectations and the employee's ability to perform the position described. It is not intended to be construed as an exhaustive list of all functions, responsibilities, skills and abilities. Additional functions and requirements may be assigned by supervisors as deemed appropriate. This document does not represent a contract of employment, and the company reserves the right to change this job description and/or assign tasks for the employee to perform, as the company may deem appropriate.