

MAG CANICA

4204 JUTLAND DRIVE
SAN DIEGO, CA 92117
USA

HIGH PERFORMANCE WIRELESS TORQUE SENSING



JOB DESCRIPTION

ELECTROMECHANICAL TEST & CALIBRATION TECHNICIAN
Full-Time Position

COMPANY OVERVIEW

MagCanica, Inc., a leading provider of non-invasive torque sensor systems to the motorsport, aerospace, and energy sectors, is actively seeking new members to join our San Diego based team as we expect continued and sustained growth during 2024 and beyond. Since the company's inception, MagCanica has focused its efforts on the development and commercialization of its non-contact torque sensor technology, which is used to measure torque on high performance powertrains on racecars, rotorcraft, and gas turbines. MagCanica is the global market leader in motorsport torque sensing and powertrain performance monitoring across a variety of automotive racing series including Formula 1, Formula E, World Endurance Championship (WEC), IMSA, NASCAR, IndyCar, and World Rally Car. Additionally, MagCanica provides hardware, support services, and technology to the US Navy, US Army, and US Air Force, as well as Lockheed Martin (Sikorsky) and Vericor Power Systems. Leveraging its leading position in motorsport torque measurement and having established a proven track record in solving some of the most challenging torque measurement problems facing the industry, MagCanica is poised to expand further in its existing markets, as well as into new markets such as electric and autonomous vehicles, and robotics and automation.

JOB DESCRIPTION & TYPICAL TASKS

The primary role of the MagCanica Electromechanical Test & Calibration Technician will be to ensure and further bolster the outstanding quality of calibration and system-level testing of MagCanica's torque sensor product line. The candidate will apply the most exacting standards of quality in testing and calibrating systems and the highest level of craftsmanship in product final assembly. As MagCanica delivers products that measure mechanical parameters and provide electrical analog and digital output signals, the candidate will need to be prepared to carry out a combination of mechanical testing, electrical testing, and data acquisition as well as be comfortable with electrical (especially soldering) and mechanical assembly. The technician will have the opportunity to be exposed to various aspects of the production cycle, with a primary emphasis on testing and calibration. The types of tasks an Electromechanical Test & Calibration Technician will be responsible for carrying out are listed below.

Typical Primary Tasks (75% min)

- Test and calibrate torque sensor systems using electromechanical and electro-hydraulic torsion testers. This task includes physically setting up the machinery, installing fixtures, setting up test sequences, acquiring and monitoring data, etc.
- Operate and troubleshoot test equipment software running LabVIEW, TestSuite, and/or Python scripts. Check data for compliance with product quality metrics. Point out issues with equipment and/or product validation data to the rest of the team.
- Carry out production process for deliverable systems: demagnetization, magnetization, mechanical testing, environmental testing, and calibration of sensor systems, comparing MagCanica torque sensor output with reference torque sensor output and comparing system performance with required product specifications
- Evaluate and help improve sensor performance as a function of various parameters such as shaft

material and heat treatment, relative sensor position, magnetization parameters, environmental conditions (e.g. temperature), or sensor layout/geometry

- Operate, maintain, and upgrade major equipment and associated subsystems (e.g. torque test rigs, electronics, hydraulic pumps, accumulators, and actuators, chillers, cooling and heating equipment, and magnetization and demagnetization equipment)
- Work closely with engineers to acquire and analyze data, document, improve, and optimize the calibration and testing processes with a view to improving process efficiency and safety, and/or product performance

Typical Secondary Tasks (25% max)

- Perform R&D testing on new product features or product configurations, supporting design and development engineers in validating improvements to the product line
- Physically build deliverable sensor systems: assemble mechanical components, solder electronic components, apply coatings to printed circuit boards, install printed circuit boards into sensor housings, precisely cut and strip wiring, mount fasteners, fasten and/or seal electro-mechanical assemblies by applying various bonding and/or sealing agents
- Participate in failure analyses by dissecting and analyzing hardware returned from the field, conducting diagnostic and validation testing, and comparing with original results. Assist in writing and issuing detailed reports outlining findings

JOB QUALIFICATIONS

Skill Requirements

- Applicants must have at least 2 years of full-time work experience in a related role
- A background in mechanical testing and data acquisition is preferred (e.g. experience as a dynamometer operator or a laboratory technician who has worked with sensors)
- Experience with control systems, automated machinery, or data acquisition setups
- A strong concern for safety and quality
- Proficiency with LabVIEW, MTS Test Suite, or Python software preferred but not required
- Applicants should be detail-oriented with strong mechanical, electrical, and software skills
- Familiarity with wiring harness assembly protocols using AWG 20-gauge harnesses or smaller
- Familiarity with processing adhesives, soldering, and general machine shop skills
- Ability to read and interpret mechanical drawings and electrical schematics
- Understanding and knowledge of sensor or instrumentation calibration protocols

Although substantial formal and on-the-job training will be provided by MagCanica to further refine and complement the candidate's skills, the candidate is expected to already have a hands-on approach and a certain comfort level building and operating machines and devices.

Educational Requirements

An Associate's degree in fields such as machining, mechanical technology, electronics, automotive

technology, or CNC machinery is preferred but not required. Candidates without an Associate's degree but with substantial experience in mechanical and electrical assembly and/or testing will be considered.

The Type of Person We Are Looking For

We are looking for self-motivated candidates who have a high degree of self-discipline and consistency in their work, and really enjoy making and testing great products. A painstaking attention to detail and a rigorous commitment to quality are paramount for this position. It also is important to be well-versed and comfortable with mechanical hardware, electrical hardware, and computers. The successful candidate will be a self-starter who has the ability to work under a changing timeline due to our heavy involvement in the motorsport sector. Our approach to quality is to combine rigorous process controls with individual attention to detail and dedicated craftsmanship in order to provide our clients with the combination of consistency and flexibility they demand. The MagCanica Electromechanical Manufacturing & Assembly Technician will contribute first-hand to ensuring and improving MagCanica's global reputation for best-in-class products operated by the world's most demanding clients across the motorsport, aerospace, and energy sectors. Therefore, the successful candidate will be an individual who has very high personal standards, is a team player with a solution-oriented "can-do" attitude, and derives genuine satisfaction from getting every detail right and striving for even seemingly minor but continuous improvements.

COMPENSATION & BENEFITS

For this position, MagCanica offers very competitive compensation including a competitive base salary ranging from \$32/hour to \$40/hour depending on the candidate's credentials and experience level, a discretionary yearly performance-based bonus, discretionary yearly merit raise, paid vacation, and 10 paid holidays per year. Benefits include medical, dental, workers' compensation, disability, and life insurance as well as a 401K program with matching and a Flexible Spending Account (FSA) program. The company works hard to allow employees the greatest possible personal flexibility while achieving our overall technical and business objectives.

CONTACT INFORMATION

Please send your resume **in PDF format with the file name containing your full name** to:

recruiting@magcanica.com

MAGCANICA IS AN EQUAL OPPORTUNITY EMPLOYER AND WILL CONSIDER ALL APPLICANTS WITHOUT REGARD TO RACE, COLOR, RELIGION, SEX OR NATIONAL ORIGIN.