Calibration Solutions

be certain.
MTS CALIBRATION SERVICES OPTIMIZE THE VALIDITY OF YOUR TEST DATA AND THE EFFICIENCY OF YOUR TEST LAB. OUR ACCREDITED ONSITE CALIBRATION AND METROLOGY LABORATORY; AS WELL AS FACTORY CALIBRATION CAPABILITIES WILL PROVIDE YOU WITH A SOLID FOUNDATION FOR ENSURING ACCURATE TEST DATA AND MEANINGFUL RESULTS. IF YOU PLAN TO OUTSOURCE YOUR CALIBRATION, MTS OFFERS THE BEST TOTAL VALUE FOR YOU.
In today’s competitive and cost-conscious marketplace, you need to generate accurate test data faster than ever before. How quickly you can produce accurate results has a direct impact on your project’s success. That is why proper calibration is critical. MTS provides a full menu of accredited professional calibration and metrology services, and has been doing so since our company’s formation more than four decades ago. All of our calibration is fully compliant with the appropriate national and international standards.

Nobody is more qualified to help you deliver consistent, verifiable results, test after test, in the most cost-efficient manner possible.

**Expertise**

Our test system expertise allows us to offer true end-to-end system calibrations. Highly trained MTS field service engineers possess a deep understanding of your test equipment, along with the methods and software required for full system calibration. We see beyond calibration alone, applying our system and calibration expertise toward ensuring that your entire test setup is performing at its optimal level.

**Efficiency**

Proprietary MTS software provides the industry’s fastest and most efficient calibration. Our proven, automated process helps to ensure your calibration is done correctly the first time, saving you money by reducing your downtime. MTS Onsite Calibration requires minimal assistance from your staff, so your technicians can continue to focus on your production schedule while we meet your calibration needs.

**Value**

Industry-leading software. Test system calibration expertise. A deep understanding of your test equipment and the latest industry standards. Calibration equipment traceable through National Metrology Institutes. Combined, these capabilities create an unparalleled solution for providing the most accurate, efficient and all-encompassing calibration program available anywhere in the world. For you, that means absolute confidence in your test data — and the best value for your test program.
Deliver consistent, verifiable test results with confidence

Upholding test data integrity through regular calibration is not only a requirement, but a strategic imperative for your organization. Accuracy is essential to conducting the highest-quality testing in the least amount of time — and at the lowest cost. Professional calibration optimizes test equipment performance and helps you deliver accurate, reliable results every day.

WHAT ARE THE STANDARDS?

» ASTM International. The American Society for Testing and Materials plays a leadership role in addressing the standardization needs of the global marketplace. ASTM International is one of the largest voluntary standards development programs in the world — a trusted resource for technical standards for materials, products, systems and services.

» ISO 9001. The International Organization for Standardization (ISO) promotes the development of international manufacturing, trade, and communication standards. ISO 9001 management practices establish a quality system.

» ISO/IEC 17025. This ISO/International Electrotechnical Commission (IEC) standard describes good laboratory practice and requires proficiency testing of individuals performing tests or calibrations. It also requires a quality system, along with a corresponding management structure to which that system must adhere.


WHAT DRIVES THEM?

» FQA. The Fastener Quality Act (FQA) requires that certain fasteners conform to the specifications under which they are alleged to be manufactured. It provides for accreditation of laboratories engaged in fastener testing, requiring the inspection, testing and certification of fasteners covered by the Act in accordance with standardized methods.

» API PTLAP. The American Petroleum Institute Petroleum Laboratory Accreditation Program (API PTLAP) allows petroleum refineries and independent laboratories that test petroleum products to be accredited using procedures listed in API Standard 1512. Based on ISO/IEC, the program involves onsite assessments and results in three-year certifications.

Keep your test systems intact and test technicians working while we complete all necessary calibration at your facility. MTS Onsite Calibration provides a convenient, time-efficient and cost-effective means of keeping your testing instrumentation calibrated to exacting industry standards.

MTS has an A2LA-accredited field service organization trained to perform your necessary onsite transducer and system calibrations. All MTS Onsite Calibration services meet ISO/IEC 17025 requirements and adhere to a wide range of ASTM test methods. Our engineers are equipped with the necessary calibration equipment, traceable through NIST or other recognized National Metrology Institutes, and utilize our proprietary automated calibration software to reliably deliver your calibration data. A calibration report and certificate is issued showing As Found/As Left calibration data.

**FORCE CALIBRATIONS TO ASTM E4**
Verifies test system ability to apply the appropriate forces.

**CRACK-OPENING DISPLACEMENT (COD) GAGES**
Includes calibration of COD gages for compliance with ASTM E399 (plane-strain fracture toughness of metallic materials), ASTM E561 (R-curve determination), ASTM E1290 (crack-tip opening displacement fracture toughness) and ASTM E1280 (fracture toughness).

**EXTENSOMETER CALIBRATION TO ASTM E83**
Calibration to ASTM E83, Standard Practice for Verification and Classification of Extensometer System, offers the best means available of achieving superior extensometer calibration, on almost any extensometer currently in use.

**ACCELEROMETER CALIBRATION**
While we’re at your test facility calibrating other test systems, we can quickly and effectively calibrate your accelerometers onsite as well. That includes calibration transducers with or without conditioners for both uniaxial and triaxial accelerometers.

**STATIC ALIGNMENT VERIFICATION**
This service can help you uphold test data fidelity by driving variability from the materials testing equation. Using the advanced MTS 609 Alignment Fixture, our field engineers will help you align your load frames in accordance with current national and international standards.

**DYNAMIC FORCE VERIFICATION**
MTS will help you avoid costly over- or under-testing by verifying the dynamic operation of your material testing system in compliance with NASM1312-26 and ASTM E467.

**CROSSHEAD SPEED VERIFICATION CALIBRATION**
MTS has developed a highly accurate and fully traceable means of assessing test system speed.

**ADDITIONAL SYSTEM CALIBRATION**
Includes torque, rotary and linear displacement calibration.

**MTS simulation systems**

**MTS FLAT-TRAC® TEST SYSTEM CALIBRATION**
Includes full calibration to either current or new matrix standards, through force and/or displacement transducer calibration of corner, half-car and full-car configurations.

**MTS MODEL 329 ROAD SIMULATOR CALIBRATION**
Includes force and/or displacement transducer calibration for corner, half-vehicle or full-vehicle configurations.

**MTS MULTI-AXIAL SIMULATION TABLE (MAST™) CALIBRATION**
For your six-channel MAST system, choose from three end-to-end calibration packages to meet your needs.
The ISO/IEC 17025 accredited MTS Metrology Laboratory can help you minimize and understand measurement risk by identifying error sources and stating the uncertainty of the measurement process. Through this laboratory, we currently provide calibration for more than 6,000 instruments in use around the world. The MTS Metrology Laboratory also supports North American field service accreditation.

The MTS Metrology Laboratory provides a full range of in-house calibration services to meet your measurement and test equipment special requirements, including both ISO/IEC 17025 accredited and non-accredited calibration services.

**Highly precise instrumentation measurement**

**Technical competence assessments**

Our accredited calibration process allows a common artifact to be measured in our environment with our methods and equipment. Measurement results are then compared to other results and used to show consistency and process control.

We participate in rigorous cross-laboratory comparisons to assess how well our measurement results compare with other established calibration laboratories. Such proficiency testing is an excellent means of helping us improve our technical competence.

**Measurement uncertainty analysis (MUA)**

We routinely assess and monitor our measurement processes to identify and quantify sources of measurement uncertainty. We will then provide a statement of measurement uncertainty to you, so you can assess your own measurement processes for uncertainty contribution.

**Unbroken chain of comparisons**

Before any measurement can have meaning, it must first be based on a foundation of nationally recognized standards. That’s why all MTS measurements are supported by reference standards traceable through the National Institute of Standards Technology (NIST) or other recognized National Metrology Institutes. This link is clearly stated on every calibration certificate issued.

**Proprietary methods**

We continually write, append and approve our own procedures as a means of minimizing errors arising from the calibration process. MTS is also active on ASTM committees to ensure that our methods fully satisfy the requirements of the latest calibration practices.

**Areas of calibration expertise**

» Force
» Torque
» Vibration
» Pressure
» Electrical Instruments/Devices
» Dimensional and Mechanical Instrument/Devices
» Temperature and Humidity
» Time and Frequency
Our experienced calibration technicians use the best procedures available to provide credible and traceable MTS transducer calibrations, in the disciplines of force, pressure, torque and strain.

**HOW OFTEN IS CALIBRATION REQUIRED?**

The answer to this question depends on several variables, all of which are unique for every lab and quality system.

Generally speaking, recalibration following ASTM and ISO standards should be done one year after initial calibration and annually from that point forward, assuring the test system meets certain minimum calibration values as prescribed by published testing standards. Calibration is also necessary whenever a test system is moved or repaired.

We’ll work closely with you to develop a custom calibration approach that provides the best results for you.

**MTS SWIFT® System calibration**

Our factory calibration includes a proprietary, automated SWIFT calibration system that applies true vector loading to ensure the most accurate calibrations possible. All force calibrations are NIST traceable.

**Accredited force transducer calibration**

Includes axial calibration up to 220,000 lbf and As Found/As Left data for MTS electronics.

**Torque cell calibration**

Includes calibration up to 12,000 lbf-in and As Found/As Left data for MTS electronics.

**Accredited extensometer calibration**

Includes calibration and As Found/As Left data for MTS electronics.

We can also calibrate laser extensometers to ASTM E83. We have specially-designed adapters to complete the appropriate calibration on a wide range of extensometers.
From the global leader in test solutions and support

MTS is recognized worldwide for helping people build confidence in the performance of their products. Our unmatched calibration solutions play a critical role in helping test professionals achieve the highest levels of certainty.

We also field one of the largest, most experienced worldwide service, support and consulting staff of any testing solution provider. Our calibration offerings are designed to help you maximize your productivity and uptime, while getting the longest functional life possible from your MTS investments.