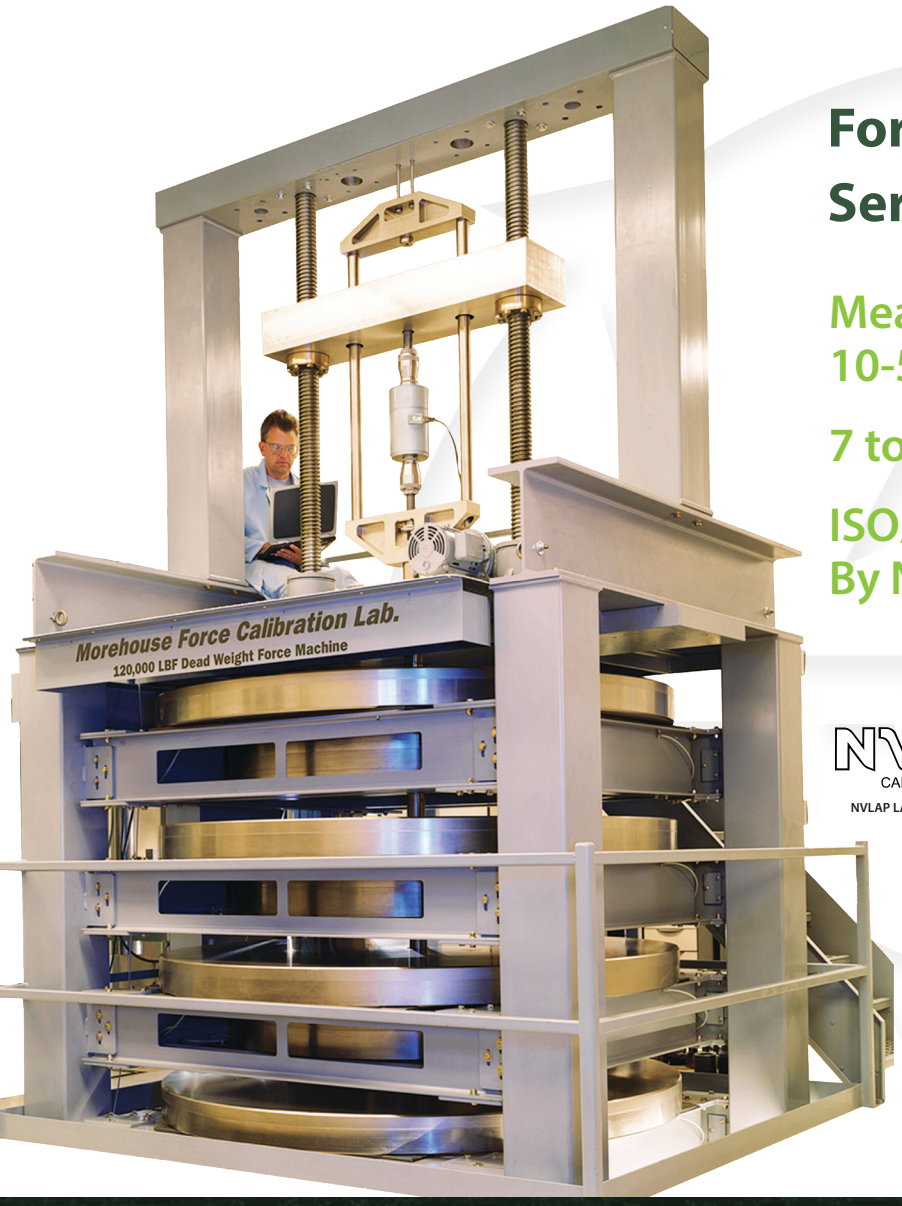
Morehouse®
THE FORCE IN CALIBRATION SINCE 1925

When Accuracy Matters, Experts Rely on Morehouse



Force & Torque Calibration Services and Products

Measurement Uncertainties
10-50 Times Lower Than Competitors

7 to10 Day Turnaround Times

ISO/IEC 17025 Accreditation
By NVLAP and A2LA

NVLAP® CALIBRATION
NVLAP LAB CODE 600259-0

A2LA ACCREDITED
CERTIFICATE #1398.01

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Morehouse Force and Torque Calibration

- Our primary standards laboratory is traceable to the SI through an NMI such as NIST for force and NPL for torque.
- Featuring the second most accurate torque machine in the world.
- Accredited force calibration services through 2,250,000 lbf (10MN) in compression and 1,125,000 lbf (5MN) in tension.
- Deadweight calibration machines up to 120,000 lbf (534 kN), accurate to 0.0016 % of applied force.
- Scale calibration as well as meter and simulator calibration.

Force calibration services for:

Load Cells (regular & multi axis), Proving Rings, Force Gauges, Load Pins, Dynamometers, Load Links, Crane Scales, Aircraft Scales, and Other Measuring Instruments

Morehouse Builds Confidence, and Achieves Results

- Initial inspection of all instrument components to ensure reliable performance
- Utilization of best calibration practices, including simulation of customer's field loading conditions during the calibration process
- Load cell repair services
- Capabilities to calibrate a wide range of equipment and indicators in accordance with ASTM E74, ISO 376, ASTM E2428, and other standards
- Knowledgeable and communicative technical team, who ensure quality service
- Second lowest torque uncertainty in the world from 1N•m to 2 kN•m
- ISO/IEC 17025 accreditation by A2LA and NVLAP for force and torque calibration services
- Audits performed by Nuclear Procurement Issues Committee (NUPIC) for compliance with 10 CFR 50 Appendix B, and 10 CFR Part 21

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Calibration might not be glamorous, yet it matters!

Most companies have experienced problems related to bad measurement practices, often resulting in critical failures. The surest way to reduce failures is to identify and eliminate the root cause of these failures. We have found that companies that value proper calibration and observe best practices are the least likely to fail. Morehouse works carefully to determine every customer's exact calibration needs by precisely replicating the usage of each instrument sent to our lab. Our goal is to solve problems before failures occur.

Morehouse has worked with companies across all industries concerned with the quality of their force and torque applications for over a century. Industries benefiting from our capabilities and training courses include aerospace, medical, nuclear, oil and gas, automotive, testing and calibration laboratories, and anyone who wants accurate force or torque calibration service or equipment.

Quality companies come and stay with Morehouse, trusting us for their force and torque calibration needs.

What's in it for you...

LOWER RISK

Your measurement risk is determined by several factors, one of which is the measurement uncertainty of the reference standards used for calibration. We can help reduce your measurement risk by using highly accurate standards (our primary standards have measurement uncertainties of <0.002 % of applied force or <0.005 % of applied torque.

LESS DOWNTIME

Morehouse offers calibration services from standard to expedited turnaround to ensure your equipment is there when you need it most.

Typically, we turn around your equipment in 7-10 business days, so your machines are not idle, costing you money. Compare that to companies that need 30+ days.

COST-EFFECTIVE SYSTEMS

A typical Morehouse system will use fewer load cells, reducing calibration time, setup, and transportation costs. We offer multiple types of load cell and calibration machines to meet your application and budget requirements.

CUSTOMER-ORIENTED

Have you been treated like a number or someone of low priority? Morehouse puts customers first, working directly with you to answer questions and solve problems. Emails from across the globe are typically answered within a day, and callers can easily reach a live person.

CUSTOMER SATISFACTION 100 % GUARANTEED

We pride ourselves on a foundational reputation for integrity and commitment to doing the right thing for our customers. This dedication is reflected in every service's meticulous attention to detail and precision. We will work with you until we get things right and you have confidence in your measurements.

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DEADWEIGHT CALIBRATORS

The Most Accurate Force Calibration System

Morehouse Deadweight Calibrators provide the most accurate force calibration standards and include a set of calibrated weights of different sizes. All machines make full use of the accuracy of deadweights and are built using true primary standards.

- **Calibration Uncertainty as Low as 0.0016 % of Applied Force**
- **Tension / Compression Calibration**
- **Custom Designs Available for Customer Needs and Affordability**

UCM PREMIUM & STANDARD MODELS

A Hydraulic Force Calibration System that Lasts for Generations

Morehouse's Universal Calibrating Machines are considered the gold standard in calibration machines. UCMs built in the 1950s are still operating today!

We can calibrate the machines' reference standards to the highest accuracy available in the commercial industry.

- **Tension / Compression**
- **Capacities from 100 to 3,000,000 lbf**
- **Precision Alignment**
- **Fine & Coarse Adjustment**
- **Easy to Use**
- **Low Maintenance**
- **Custom Designs Available**

AUTOMATED FORCE CALIBRATION SYSTEM

Purchase as an Upgrade or with any Existing Morehouse UCM or Scale Calibration Press

This is the perfect solution for Cal-Lab techs who want to increase their work throughput while maintaining precision. This proprietary solution is meticulously crafted for seamless integration with Morehouse hydraulic rams, accommodating pressures up to 4500 PSI—capabilities that outshine conventional hydraulic and automated controls limited to 3000 PSI.

- **Increases Productivity up to 75 %**
- **The System Consists of Automated Control and Data Analysis Software**
- **Simplifies the Operation for Cal-Lab Techs**
- **Increases the Work Throughput**
- **Increases the Repeatability of Calibration Routines**

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PORTABLE AND BENCHTOP FORCE CALIBRATING MACHINES

Laboratory-Grade Force Calibration Systems

Morehouse's simple, low-maintenance calibrators allow for a quick change of calibration setups to save on calibration time. These machines eliminate the need for carrying and stacking hand weights. Instead, a mechanical jack generates forces, making them an attractive, versatile, and economical solution.

- **Designed with Field Calibration Requirements in Mind**
- **Quick-change Tension Adapters**
- **Quick-adjust Calibration Height**
- **Quick Setups**
- **Tension and Compression Calibrations in One Setup**
- **Fine Adjustment of the Calibration Load**

MECHANICAL CABLE TENSIOMETER CALIBRATOR

Easy-to-Use Solution

The Mechanical Cable Tensiometer Calibrator (PCM-2MD-T1) provides safety, convenience, and fast turnaround with its all-around safety shield, fine calibration force control, and versatility to calibrate a large variety of instruments.

- **2,000 lbf Capacity**
- **Fine Load Control Capability as Low as 0.005 lbf at 1000 lbf**
- **Compression and Tension Calibration modes**
- **Compatible with Morehouse Adaptable Clevis Kits**
- **Calibration of Cable Tensiometers on Cables up to 5 ft Long**

QUICK CHANGE TENSION MEMBERS & PATENTED CLEVIS KITS

Versatile, Time-Saving, Money-Saving Adapter Systems

Morehouse has created multiple adapters, adapter sets, and accessories to meet specific customer application requirements. They are designed to provide proper loading and alignment to ensure the highest possible measurement accuracy.

- **No Need to Change Tension Members**
- **Automatic Alignment**
- **ISO 376 Compliant**
- **Large Variety with Different Capacities**
- **Fit for Crane Scales and Tension Links**
- **Rust Resistant**

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LOAD CELLS

Reduce Annual Calibration Costs by Doing More with Less

Morehouse is a recognized authority when it comes to load cells. We offer different types of increasing capacity with the lowest uncertainty available. From Ultra-Precision to custom load cells, we have the right tools for your application and budget.

- **0.005 % of FS Accuracy on Ultra-Precision Cells**
- **Variety of Load Cell series to meet calibration needs, including Economy Models**
- **Common Capacities are in Stock Now**

DIGITAL PROVING RINGS

Unquestionable Accuracy

The Morehouse Proving Ring is recognized for its lasting reputation of absolute accuracy in measuring mechanical forces. It is accepted as a prominent standard for calibrating testing machines, torque-measuring, dynamometers, thrust standards, electronic and hydraulic load cells, and many other force-measuring devices and systems.

- **Digital Proving Rings Reduce User Reading Errors**
- **High Stability**
- **Conversion of Existing Proving Rings Available**

INDICATORS

Various Models for Different Applications and Accuracies

At Morehouse, we know that having superior accuracy load cells does not matter unless you can precisely read the load cell output. We have a range of indicator solutions to match your accessibility and readability requirements.

- **4215: Highly Accurate, Dual Channel**
- **HADI: Accurate, Portable, Powered by USB**
- **Handheld, Battery Operated models**
- **C705P and 4215 Plus models include internal storage of calibration curve polynomial**

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UNIVERSAL SCALE CALIBRATOR

Accommodates Large-Size, High-Capacity Scales

Morehouse's Universal Calibrating Machines are considered the gold standard in calibration machines. We can calibrate the machines' reference standards to the highest accuracy in the commercial industry.

- **USC-60k has a maximum capacity of 60,000 lbf**
- **High degree of accuracy**
- **Automated option available**
- **USC-60k is plumb, level, square, rigid, and has low torsion**
- **Can calibrate a wide-variety of truck and aircraft scales, including: Intercomp, Jackson Aircraft Weighing (JAWS), GEC, Haenni, Rice Lake, Ohaus, Proform, Brechnell, and Tanner Racing**

INNOVATIONS YOU CAN'T MISS

New Arrivals

At Morehouse, we are dedicated to meeting the changing demands of your industry. Through extensive research and collaboration with leading experts, our team of engineers and designers develop cutting-edge products that enhance precision, efficiency, and performance.

- **Wireless Shackle Load Pins**
- **Custom Load Pins**
- **Torque Cells**
- **Bluetooth Transmitter for Load Cells**
- **Low-Capacity Overload Protected Load Cells**

FORCE CALIBRATION FOR TECHNICIANS

Top Conditions, Methods, and Systems that Impact Force Calibration Results

Morehouse's eBook, *Force Calibration for Technicians*, can help anyone with their force measurement needs or challenges to simplify things. This free guide covers all aspects of force calibration and is a must-have. It has pertinent information on factors that ensure repeatable results through the entire measurement chain.

Even seasoned metrologists or technicians with years of experience may learn something new, or this book can be a refresher for more advanced people. In either case, the knowledge gained will help you become better and help make better force measurements to make the world safer.

FREE eBook Download

Need Something Special?

We design and build custom products, load cell adapters and accessories. For more information, email us at: info@mhforce.com or call (717) 843-0081.

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MOREHOUSE **TRAINING, WEBINARS, AND IN-PERSON WORKSHOPS**

Morehouse provides various force training from in-person classes, virtual classes, and webinars to teach others how to measure better and achieve the best result possible with our tools. If you have any questions or need customized force training for your team, contact us at (717) 843-0081 or info@mhforce.com

FORCE CALIBRATION WORKSHOP

Force Calibration requires attention to details, such as alignment, adapters, pin sizes, thread engagement, and wiring. This course is designed to make the participant a better calibration technician by providing the knowledge to obtain more accurate force measurements, along with the tools to create a full measurement

ADVANCED MEASUREMENT UNCERTAINTY & MEASUREMENT DECISION RISK

Do you want to understand measurement uncertainty fully and how to create uncertainty budgets for various calibration parameters? This course will teach you how to determine the components of an uncertainty budget and build a budget that will pass an ISO/IEC 17025 audit. We will dive into how measurement uncertainty applies to measurement decision risk, providing examples using global and specific risk for conformity assessment.

DOCUMENTS, TOOLS AND RESOURCES

Morehouse has a collection of tools, videos & documentation, and blogs to assist customers in optimizing their calibration & testing products.

Check Out Our Videos On Youtube

Follow Us On Facebook

Follow Us On LinkedIn

Access Our Documentation and Tools

Subscribe To Our Newsletter

Check Out Our Recent Posts

CONNECT WITH US ONLINE

Morehouse Instrument Company force and torque calibration facilities and procedures are documented in a controlled quality assurance program manual, with compliance to the requirements of the Force Accreditation and Torque Accreditation.

For more information, scan the QR code to visit our website.

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