



*Morehouse*  
THE FORCE IN CALIBRATION SINCE 1925

**TRUSTED  
PERFORMANCE**

**HIGH  
RELIABILITY**

**ULTIMATE  
ACCURACY**



**PRODUCT AND SERVICE GUIDE FOR MAKING  
BETTER FORCE AND TORQUE MEASUREMENTS**

 (717) 843-0081

 [www.mhforce.com](http://www.mhforce.com)



Certificate 1398.01

## Load Cells

Reduce Annual Calibration Costs by Doing More with Less

- . Metrology & Field Kits
- . Up to 6,000,000 LBF
- . Lightweight Systems for Your Travel Needs
- . 0.005 % Accuracy on Ultra Precision Cells
- . Common Capacities are in Stock Now



## UCM Premium & Standard Models

A Hydraulic Force Calibration System that Lasts for Generations

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



## Quick Change Tension Members

Versatile, Time-Saving, Money-Saving Adapter System

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



# MOREHOUSE

## Indicators

## Deadweight Calibrators

## Digital Proving Rings

Various Models for Different Applications and Accuracies

- . 4215: Highly Accurate, Dual Channel
- . HADI: Accurate, Computer Power with USB
- . PSD: Handheld, Battery Operated
- . DSC-USB: Analog to Digital with DC Excitation

### The Most Accurate Force Calibration System

- . Calibration Uncertainty as Low as 0.0016 % of Applied Force
- . Tension / Compression Calibration
- . Capacities from 100 to 120,000 LBF
- . Custom Designs Available

Known for Accuracy, Stability, and Longevity

- . Reduces User Reading Errors
- . High Stability
- . Faster Readings
- . Conversion of Existing Proving Rings Available
- . Computer Interface Compatibility



# PRODUCTS



# RECOMMENDED TRAINING



## 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 uncertainty budget as required by ISO/IEC 17025 and ANSI Z540.3.



## ADVANCED MEASUREMENT UNCERTAINTY

Do you want to fully understand measurement uncertainty, 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.



## SPC FOR MEASUREMENT RISK

ISO/IEC 17025 and ISO/IEC 9001 require analysis of measurement risk. This Statistical Process Control (SPC) workshop focuses on providing you with the right tools to help manage and mitigate risk in calibration to meet the requirements of ISO/IEC 17025.

# Calibration might not be glamorous, but it matters!

Most companies have experienced problems related to bad measurement practices, which often result in critical failures. Anytime a failure occurs, there is always a root cause. Therefore, the surest way to reduce failures is to eliminate the root cause. Companies valuing proper calibration and observing best practices are the ones least likely to have failures. 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.

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

Quality companies come to Morehouse and stay with Morehouse for their force and torque calibration needs.

## What's in it for you...

### LOWER RISK

Your measurement risk is determined by the accuracy of the standards used for calibration. By using highly accurate standards (most standards are accurate to better than 0.002 % of applied force) we can reduce your measurement risk.

### LESS DOWNTIME

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

### COST EFFECTIVE SYSTEMS

A typical Morehouse system will use fewer load cells. This translates into a reduction in calibration, setup, and transportation costs.

### 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 are answered daily, and callers are greeted by a live person.



Our dedication to doing things right helps eliminate failures. We will work with you until we get things right and you have confidence in your measurements.

# MOREHOUSE FORCE AND TORQUE CALIBRATION



- ▶ Primary Standards laboratory, directly traceable to SI through NIST.
- ▶ Featuring the second most accurate torque machine in the world.
- ▶ Accredited force calibration services through 2,250,000 lbf in compression and 1,125,000 lbf in tension.
- ▶ Deadweight calibration up to 120,000 LBF, accurate to 0.0016 % of applied force.

## Force calibration services for:

load cells (regular & multi axis), proving rings, force gauges, dynamometers, crane scales, aircraft scales, and other measuring instruments.

## Morehouse achieves confidence and results with:

- ▶ Initial inspection of all instrument components to ensure reliable performance
- ▶ Utilization of best calibration practices, including simulation of customer's loading conditions during calibration
- ▶ 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 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

For more information on calibration, products, or training courses, contact us.

We are a customer-oriented company, where a live person answers the phone M-F 7:30 -17:00 EST.