

# LABORATORY TESTING INC.

## Racing Safety Starts with Nondestructive Testing

Vehicle safety and reliability are top priorities at Thompson Racing & Restoration in Bucks County, PA. Their business is building, restoring and racing cars which range from vintage collectibles to open-wheel, single-seat formula or Indy-style vehicles.



One of the latest additions undergoing a final rebuild.

Thompson Racing & Restoration began back in 1982 as a hobby that now has involved three generations of the Thompson family. Their collection of cars is raced at the semi-professional level and selected vintage races.

Ensuring that each car operates safely and reliably is an ongoing concern for this team due to the age of the vehicles and/or the expected hard use they will endure. It's also a challenge they take very seriously. After purchase, each car is disassembled so every part can be thoroughly checked for wear and damage. This process includes sending all metal components that support or move the vehicle to Laboratory Testing Inc. (LTI) for nondestructive testing (NDT) by Liquid Penetrant and Magnetic Particle Inspection methods. Parts that are routinely inspected include wheels, metal brackets and posts, and steel, aluminum, magnesium and titanium components from all of the following sections of the car:

- ◆ Suspension and uprights
- ◆ Gear box/Transmission
- ◆ Engine
- ◆ Brake, gas, clutch pedals
- ◆ Steering shafts and boxes

The NDT inspectors at LTI work with dye penetrants and fine magnetic particles to identify cracks and other flaws that could result in breakage, and ultimately more serious and costly damage to the car or injury to the driver or others racing on the track. Often times, components do not pass inspection, but the Thompson Racing & Restoration team is glad to know their condition so the parts can be repaired or replaced while the car is being rebuilt.



Rebuilding rear suspension and gear box on a 1985 Ralt RT5.

After each racing season, the cars are broken down again. All parts are re-evaluated, re-inspected and replaced as needed, before being rebuilt for the next season.

In the racing industry, all parts going into top-level Formula 1 and Indy-style pro-racing cars must pass nondestructive testing. Even though it is not mandated for their level of racing, Thompson Racing & Restoration does what it takes to prevent a break on the track, following the lead of the top-level racing professionals.

# LAB NEWS

## Adding a Nearby Building to Our Work Space

Laboratory Testing Inc. has been fortunate to experience growth in sales, staff and services during the past few years, but with growth, there can be growing pains. We've had space limitations in some departments that prevented us from acquiring much needed equipment and adding all the new positions we need for optimal operating efficiency. Our solution was to expand into a nearby building that we are calling the South Building in the same industrial center.

### Introducing the South Building

Our nondestructive testing (NDT) Magnetic Particle and Liquid Penetrant Inspection Services and Accounting Department are moving by May 15<sup>th</sup> to our South Building at

2246 North Penn Road  
Hatfield, PA 19440

Orders for Magnetic Particle and Liquid Penetrant Inspections can be shipped or delivered directly to the South Building after mid-May. We will also have delivery service between our two locations, if items are packaged with orders for other departments or if other orders are being delivered at the same time. Phone numbers and e-mail addresses will remain the same for all employees in these departments.

The move will give us room to add more technicians and two new immersion machines to our NDT Ultrasonic Testing area. The first machine is scheduled to arrive any day. We will also add to our office staff with new employees in our Customer Service and Quality Departments.



### 1st Quarter Improvements

We were also busy the past few months making other purchases, improvements and plans for a more convenient customer experience:

- Built another X-ray processing room.
- Purchased new Leco Hydrogen & Carbon/Sulfur Analyzers.
- Began offering Electrical and Temperature Calibration. We are awaiting A2LA approval for accreditation of these services.
- Ordered two more Stress Rupture Machines.
- Purchased the two additional UT Immersion machines mentioned earlier.

### Coming Soon to LTI

So we can continue to provide the level of service and the variety of services our customers require to meet their business needs, the following improvements will be completed during the next few months:

Adding new services:

- Fracture Toughness Testing
- Plastics Testing

Purchasing more top-of-the-line equipment:

- Fourier Transform Infrared Spectroscopy (FTIR)
- 100K Load Force Calibration Machine

We have also been adding many new employees throughout the company to assure efficient processing of orders. Watch for future announcements.

## Promotions

Lee Dilks has been promoted to Destructive Testing Manager for Chemistry and Metallography. Lee has been with LTI for 23 years, holding positions of increasing responsibility in the Chemistry Department. His most recent position was Chemistry Supervisor for the past seven years.

Lee Dilks  
Destructive  
Testing Mgr.  
Chemistry &  
Metallography



The Chemistry Lab provides material characterization, element analysis, corrosion analysis, wet chemistry and positive material identification services. Microscopic, macroscopic and microhardness examinations, failure analysis, scanning electron microscopy and digital imaging are performed in Metallography.

Marion Crooks  
Chemistry  
Supervisor



The position of Chemistry Supervisor was filled by Marion Crooks, a nine-year employee of LTI. Marion had been a Chemistry Technician performing corrosion analysis, ICP AES, wet chemistry, and most recently SEM/EDS analysis.

## Field Calibration at a Location Convenient for You

In our last issue of LabNews, general information about why and when to calibrate items was covered. This article briefly explains field or onsite calibration services. Field services are performed at a location chosen by the customer, which is remote from the calibration service provider's facility. Field calibration services are often performed at the customer's place of business, but may be required at a job site or another facility.

### Field Calibration at Your Convenience

Depending on your service needs, field calibration may be your most convenient option for one or more of the following reasons:

- ◆ Eliminates the inconvenience and risk of transporting large or fragile items.
- ◆ Minimizes instrument downtime because items can remain in service until calibration is performed.
- ◆ Eliminates the need to stabilize dimensional instruments for temperature and humidity conditions before calibration. When calibration is performed in an instrument's own work environment, conditions don't vary as they would during shipping. Stabilization is important for consistent measurement readings and accuracy.



Calibrating a Temperature Controller for a stress rupture machine.

Even with all of these benefits, field calibration is not the answer for everyone.

- ◆ It may be more costly for only a few or small items, if the calibration lab has travel charges that are higher than shipping expenses would be.
- ◆ Not all instruments can be calibrated in the field due to the equipment required to perform the services.

### Field Calibration at LTI

LTI Metrology, our calibration lab at Laboratory Testing Inc., calibrates many measuring hand tools and gages, surface plates, optical comparators, balances, hardness testers, compression testing machines, electrical instruments and temperature equipment in the field. Our newest capabilities allow us to do oven surveys, system accuracy tests, and controller calibrations to meet Nadcap requirements.

LTI field technicians can provide adjustments and repairs while calibrating your instruments and resurface surface plates to bring measurements within grade guidelines. A Calibration Certificate is provided for each item calibrated showing all results and any adjustments or repairs that were made.

Field calibration is NIST traceable and our lab is A2LA accredited for the calibration of most instruments in the field. For more information on pricing or to schedule field calibration services, contact Mike Hiller, Field Supervisor, at [mhiller@labtesting.com](mailto:mhiller@labtesting.com) or 215-716-7150.



Conducting an Oven Survey to meet Nadcap requirements for AMS2750D

# LABNEWS



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## Find Us on the Internet

Use of the Internet has certainly been growing over the past decade. During this time, Laboratory Testing Inc. has worked to become more visible and accessible on the Internet.

Hopefully, you've had a chance to explore our website, [www.labtesting.com](http://www.labtesting.com), and found the information helpful and easy to locate. If you have any suggestions, we always enjoy hearing from our customers.

Send us an e-mail at [online@lab-testing.com](mailto:online@lab-testing.com).

Within the last year, we joined LinkedIn, Facebook, Twitter and YouTube, and we started a Blog to share articles, news and videos. We hope you give us a visit. Links can be found at the bottom of our website pages.



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## Holiday Closings

LTI will be closed for the following holidays:

Good Friday - Fri., April 22

Memorial Day - Mon., May 30

Independence Day - Mon., July 4

Enjoy the Holidays!