



Western Instruments Inc.

Established 1965

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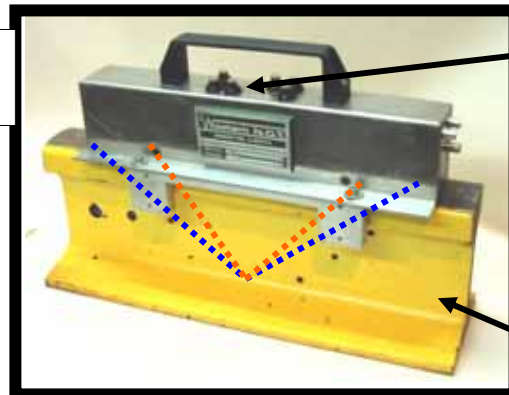
Ultrasonic Rail Testing Systems

Summary

The company was incorporated to manufacture Ultrasonic Testing Systems for the Primary and Secondary Metals Industries in 1965. Original primary emphasis was, and continues to be in Welded Steel Pipe & Tube. The Ultrasonic Testing Systems Division has also produced equipment for testing Specialty Bars and Railway Rail in both the Manufacturing and Field operations. Western's Systems have been installed throughout the world, with the company being recognized as an industry leader.

Railway Milestones

Rail Ultrasonic Multi Probe
'RUMP'

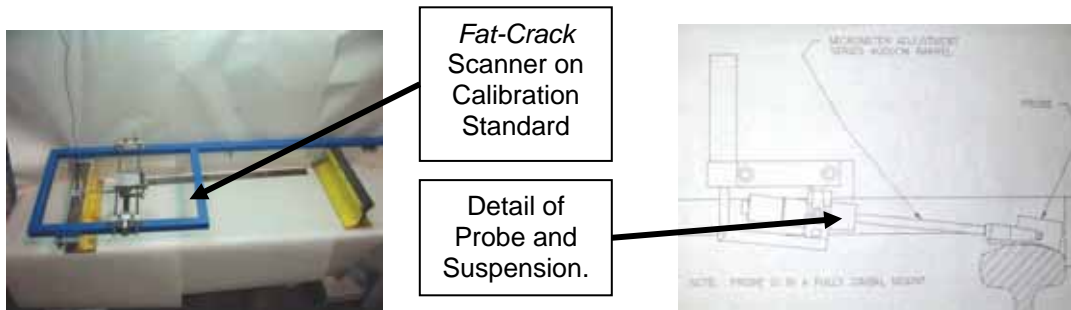


Probe Selection/Sequencing
Switches

Calibration Standard with
Reference Indications

- 1984 First RUMP Manufactured, now over 40 units in use around the World.
 - *RUMP's* are primary use are for testing Thermite and Flash Butt Welds, along the Right-of-way.
 - Models are manufactured with 4 to 10 Probes (most popular, 4 Probe model illustrated).
 - *RUMP's* are normally made to suit particular rail weights, but are also available for different sizes of rail.
- 1993, Developed *Mini-RUMP*, with over 30 units in use around the World.
 - *Mini-RUMP's* are used to test short sections of Rail, such as Connelly Expansion Joints, for defects, with either 2 or 3 Probes.
 - *Mini-RUMP's* are designed, with a handle for the operator to push, while walking, along the Right-of-way.

- 1998, Designed and Manufactured *Fat-Crack* (Rail Head Fatigue Crack Depth) Ultrasonic Testing System.



- *Fat-Crack* utilizes the latest Computer Based Ultrasonic Testing Instrumentation.
- The *Fat-Crack* System is used to measure the depth and severity of Rail Head Fatigue Cracks on "High Speed" and "Heavy Haul" Railways, prior to Rail Head Grinding. *Fat-Crack* allows the Grinding Gang to optimize the amount of material removal, to mitigate the growth of Fatigue Cracks.
- 2000, Provided consulting services for Ultrasonic Testing (Systems and Manual), for a proposed CWR Assembly Plant. Winnipeg, Canada
- 2001, Redesigned and Manufactured Mechanical Portion of a 10 Channel Ultrasonic Testing System for CWR Plant for Canadian National Railways (CNR). This System was used to test;
 - Rail Body for Defects.
 - Flash Butt Welds, for assembling special strings of "Ribbon Rail".