

# THE SHOT PEENER

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And much, much more!

**Don't forget to renew your free subscription to The Shot Peener. Fill out the enclosed form today!**

## News from Workshop '94: Students Practice Almen Gage Readings

The 1994 class of students assembled at the Holiday Inn on the beautiful Riverwalk in San Antonio, Texas for five days of instruction, food and fun. This year we had 68 students from five countries, our largest class size in the four year history of the workshop. In addition to the regular lecture-style curriculum, we were able to practice Almen strip readings and measure student performance for gage repeatability and reproducibility (Gage R&R).

Students worked in 18 groups of three, each group having 10 almen strips and one gage. Each student was asked to measure the 10 strips and the data was recorded in a standard R&R chart. After all three students made the measurements the task was repeated twice so that each student had three chances to measure each strip. After all 90 data points were recorded the students were then given a different Almen gage to compare their performance. The data sheets with the two sets of 90 measurements were then collected for computation by the Shot Peener staff. Each student was given a copy of their groups' performance prior to leaving the workshop.

Most students were able to see a significant difference between "older" Almen gages and "newer" Almen gages. The purpose of the exercise was twofold: First, to introduce the students to the concept of performing an Almen Gage Repeatability Study; second, to introduce them to the newer style Almen gage that meets the AMS 2432 specification and the soon-to-be-released revision of SAE J-442. Both of these specifications require digital indicators with .0001" resolution. End stops are now shown on J-442. These two enhancements provide substantial improvements in reducing Almen gage reading variations.

Conventional practice with gages places limits on gage reading variations. The variations are related to the tolerance band of your process. In other words, how much of your available tolerance is being consumed by variations in gage reading? If you are above 30%, you

must stop using the gage until it is corrected. Between 10-30% you may continue using the gage, but you must implement an improvement plan. Below 10% gage reading variation is acceptable practice.

Notice the following from the bar chart:

1. All the "new" gages showed less than .0005 reading variation
2. 15 of the new gages showed less than .0003 reading variation
3. Five of the older gages showed more than .0013 reading variation

The message to the students was "It is difficult to get proper credit for your shot peening performance if your Almen gage is incapable of consistent performance." If you are interested in learning more about performing an Almen Gage R&R, circle Bingo No. 10.

## The Top Five Reasons Why the '94 Peening Workshop Was Not Held at Electronics Inc.

- #5 San Antonio was easier to find than Mishawaka!
- #4 San Antonio restaurants permitted the field testing of the relationship between "salsa" and "compressive" stress!
- #3 Texas margarita's get you to saturation quicker!
- #2 Jack heard mariachi bands help fight fatigue!
- #1 Jack wanted to promote the slogan - "Remember the shot peener!"  
by John Pokorski, Wheelabrator.

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# A Salute to Our 1994 Workshop Attendees

We would like to thank the following companies and individuals for participating in the 1994 workshop.

Abrasive Materials, Inc.

Mike McCarty

Allied Signal Engines

Paul Eisenmann

Associated Spring

David B. Kasul

BCP Systems

Macon Jones

Caterpillar, Inc.

Tom Kulupka

Clemco Industries Corporation

Tim Politte

Cooper Industries

Robert R. Decker

Corpus Christi Army Depot

Eldon Anderson

Carol Clark

Kelly Jackson

Daniel P. Lazo

Juan F. Quintana

Jill Van Vleet

Dearborn Precision Tubular Products

Dale Mallett

Dee Howard Company

Keith Ordean

Tom Young

EMS American Grilon

Barbara Edwards

Empire Abrasive Equipment Co.

Ansell MacMillan

Chris Roberts

Hill Air Force Base

Gary L. Miller

Roger A. Simmons

Hilti, Inc.

Delbert Mayberry

Dale Schrimshaw

Troy Wells

Hydro Honing Laboratories, Inc.

Walter A. Beach, Jr.

Kelly Air Force Base

Gary Cox

Richard Gonzalez

Amador Guadiana

Robert Harris

Timothy Hinson

Armando Hernandez

Jose Quinones

John Smith

David Vega

Kelly Air Force Base - Metallurgical Science Section

Domingo Carrillo

Mark Syma

Bret Vogel

Menasco Aerosystems Division

Bill R. Neely

Woody Robinson

National Aviation Depot - Jacksonville

Darrell McKinley

Jon L. Devereaux

National Metal Abrasive, Inc.

James L. Flowers

National Metal Finishing

Gilles Levasseur

Norblast SAS

Michele Bandini

Cassoli Valter

Pangborn Corporation

Lynn Keller

Mike Krause

Bill Ward

Potters Industries Inc.

Bob Mulhall

Rassini S.A. de C.V.

Ing. Edgar Lopez Del Bosque

Royal Jordanian Airlines

Dr. Talal Al-Haddid

Omar Al-Sahhar

Sandvik Rock Tools

Karl Hilgers

Southwest Research Institute

Tom Whitney

Superior Shot Peening

Van Blasingame

Tilghman Wheelabrator Ltd.

David Barnes

Vought Aircraft Company

Silvia Baeza

Wheelabrator Corporation, The

Tom Warren

Bob Maurer

Ted Kostilnik

John Hawkins

Dan Diverty

Greg Allemano

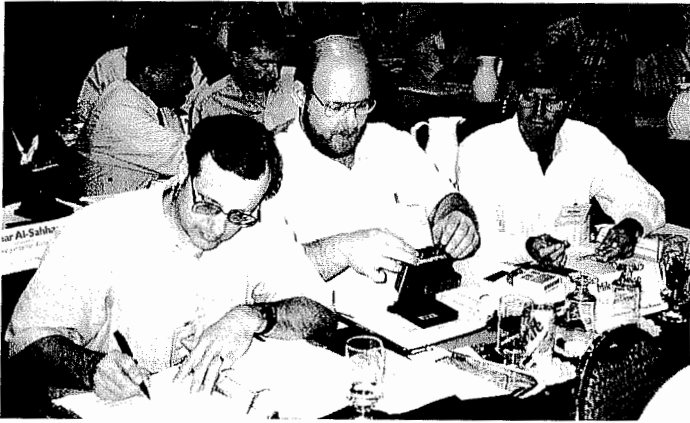
Wheelabrator Sisson Lehmann

Paul Radulesco

Dominique Schwab

W.M. Mexicana (Wheelabrator)

Hector Chavez



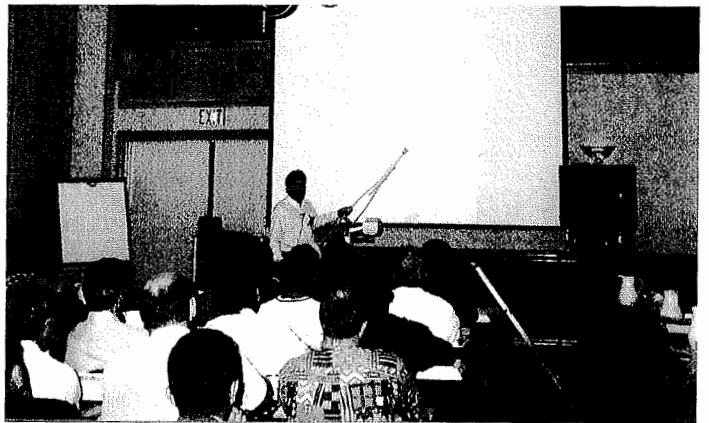
Lynn Keller, Mike Krause and Bill Ward practice almen gage readings.



Pete Bailey of GE Aircraft Engines during his presentation.



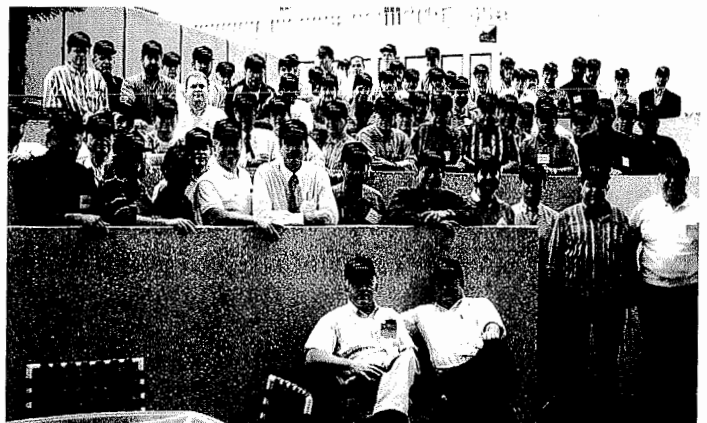
Lunchtime: The food and conversation were greatly enjoyed.



John Pokorski from Wheelabrator relies on an interesting pointer.



Eugene Tarabek, Dan Diverty and Bob Maurer work on their gage R&R.



The Workshop Class of 1994.



Charlie Barrett during his presentation.



John Hawkins, David Barnes, and Paul Radulescu at the display in the Wheelabrator hospitality suite.