

# THE SHOT PEENER

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## IN THIS ISSUE:

From the Desk of...  
..... Page 3

The Latest in Dry  
and Wet Peening  
Technology  
..... Page 4

Letters to the Editor  
..... Page 7

Shot Size(s)  
..... Page 8

News Release from  
Clemco Industries  
..... Page 12

News Release from  
Component Repair  
Technologies, Inc.  
..... Page 16

Upcoming  
Conferences  
..... Page 17

News Release from  
Abrasive Supply  
Company  
..... Page 18

News Release from  
Rotex Inc.  
..... Page 19

Information on Our  
1994 Workshop  
..... Page 20

Patent Information  
..... Page 23

SAE Surface  
Enhancement  
Division  
..... Page 25

And much, much  
more!

## Shot Peener of the Year



Recipients of the "Shot Peener of the Year" award are from left to right: Bob Thompson, Jim Whalen, and Pete Bailey

The *Shot Peener* is pleased to announce that the 1993 Shot Peener of the Year award was presented to three General Electric employees during a ceremony held March 4th in Cincinnati, Ohio. The three recipients are Peter Bailey, Dr. Robert Thompson, and Jim Whalen. In presenting the award, Jack Champaigne cited their contributions to the advancement of shot peening as evidenced in an article they authored entitled "New Challenges for Shot Peening of Aircraft Gas Turbine Engine Components".

The paper was given by D.M. Comassar at the June 1992 Surfair IX Conference in Cannes, France. The article was then published in the 1993 Summer Issue, Volume 7, No. 2 of *The Shot Peener*.

The following are the biographies of the three recipients.

**Peter G. Bailey**, Staff Engineer, Advanced Manufacturing Process Development, Manufacturing and Quality Technology Department, General Electric Aircraft Engines, Evendale, Ohio.

Mr. Bailey joined General Electric in July 1972. Since coming to G.E., Pete has been working in the process development area of superalloys. In a position as Manager of Fabrication Development, he had the responsibility for developing and evaluating advanced fabrication techniques for superalloys. He was responsible for process development of dispersion-strengthened alloys and engine components. In addition, Pete

was responsible for the process development activities involving densification of castings and managed three Air Force direct contracts on the subject.

In a recent position, he directed the development of advanced technology in non-conventional metal removal processes. In his current assignment, he directs development of advanced technology shot peening. Mr. Bailey has been deeply involved in shot peening technology for over nine years. He is chairman of an in-house Shot Peen Council and is a certifying agent for shot peen processing.

Prior to joining General Electric, Mr. Bailey was involved in the development of dispersion-strengthened mill products with E.I. DuPont de Nemours and Co., and then Fansteel, Inc. Prior to his DuPont and Fansteel experience, Pete worked for the Linde Division of Union Carbide Corporation, primarily in the application of industrial gases to steelmaking. At Dupont and Fansteel, he was intimately involved in the manufacture, evaluation, and application of oxide dispersion-strengthened (ODS) alloys. He was principal investigator for Air Force sponsored programs to produce ODS foil, tubing, and sheet.

Mr. Bailey has received the following degrees: B.S. Mechanical Engineering, Cornell University - 1956. Metallurgy, Stevens Institute of Technology - 1961.

**Jim Whalen** received a B.S.M.E. from the University of Dayton in 1984. Upon graduation, Jim joined General Electric's Manufacturing Management Program. During the MMP program, Jim had Quality Control Engineering and Supervisory assignments at GE's Specialty Transformer Business in Ft. Wayne, Indiana. His next two assignments were a Manufacturing Engineer and Software Engineer at GE Aircraft Engines (GEAE). Jim's MMP experience gave him a diverse manufacturing foundation in two different business environments.

Continued on Page 3

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Upon graduation from the MMP program, Jim took a permanent position as a Welding Engineer in the Manufacturing Technology Laboratory (MTL) within GEAE's Engineering Division. During this assignment, he gained process development and statistical experimentation experience by developing inertia welding processes. His next position was as a Staff Engineer in the Metalworking section of MTL. Here Jim developed his shot peening expertise by developing new peening processes, analytical tools, and equipment of peen critical aircraft engine components. He was instrumental in introducing NC peening to GEAE's production division. In addition to his peening responsibilities, Jim also introduced GEAE to Abrasive Waterjet (AWJ) Machining by developing several production processes and by specifying and installing a complete 5 axis AWJ machining center. During these assignments, Jim also received a M.S.M.E. from the University of Cincinnati.

Recently, Jim left GEAE and took a position at Progressive Technologies in Grand Rapids, Michigan, as Manager of Process Engineering. In his new position, Jim will further develop and enhance Progressive's process experience to aid in the design and build of precision peening, blasting, and waterjet machine tools.

**Bob Thompson** received a B.S.M.E. from Bucknell University in 1960, a M.S.M.E. from Rensselaer Polytechnic Institute in 1962, and a Ph.D. from the University of Rochester in 1966. He joined the Research and Development Center of General Electric in the fall of the same year where he is still employed.

His first assignment at GE involved developing sensors and controls for metal cutting and grinding. Next, he was involved with the power generation business where he developed equipment to harden the erosion shields of large steam turbine buckets, developed and applied new methods to measure through wall residual stress in nuclear reactor piping and assembled math models to predict the pressing behavior of nuclear fuel powder with the aim of reducing fuel rod failures. The period around 1980 was spent devising new, improved ways to manufacture Lucalox and tungsten filament lamps. Since 1987, his research has had the goal of building a scientific base for shot peening, a manufacturing process which has been largely empirical. This led to math models for intensity and coverage based on process parameters like shot flow rate, stream distribution, velocity, etc. The research led to magnetic shot velocity sensors, new ways to set up and control the process, and NDE evaluation techniques for peened surfaces.

Bob became a Fellow of the A.S.M.E. in 1988 and in 1980 received the Blackall Machine Tool and Gage Award of A.S.M.E. for his studies of grinding stability. ○

## From the Desk of Jack Champaigne

### Atta-Boy Department

One atta-boy to **John Pokorski**, Wheelabrator. John called me before going to see one of his customers that had trouble with our MagnaValves. When John called me from the job site I asked if he had access to an electrician or technician. Unfortunately, his answer was no. Unfortunately, I said, "Oh-noo." Apparently, John took that as a challenge. He found, all on his own, a pinched wire out at the MagnaValve. What a salesman. John—you're ok.

One atta-boy to **Mike Wern**, Engineered Abrasives. Mike has used our MagnaValves for almost ten years. During a recent run-off for General Electric, our engineer, Mark Ingram, showed a prototype of our next generation controller to Mike. His reaction was positive until he saw how to set the alarm band. Then he went ballistic. (Sorry Mark. I should have warned you.) Anyhow—Mark decided to incorporate Mike's suggestion into the production version of the model AC controller. Thanks Mike.

### SAE FD&E Committee Meeting

The next meeting of SAE FD&E Committee will be on October 4-5 in Detroit, Michigan. If you are interested in learning more about the Surface Enhancement Sub-committee of the Fatigue Design and Evaluation Committee, make sure that you read the SAE Surface Enhancement Division article on page 25 of *The Shot Peener*, or contact chairman Charlie Barrett at (908)972-1562.

### All you need to know about shot peening is 1-800-832-5653

That's what we advertise in *The Shot Peener*. But—what do you suppose I do when I get a hard question about shot? I usually call Bob Gillespie at Premier Shot, or for the really hard questions, Dave Hale at Ervin Industries. Dave was casting shot before iron was an element. Gottcha Dave. (Dave - I warned you. I asked you to write something for the Memories Column and you didn't do it. Charlie Barrett listens. But Dave doesn't.) ○

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## We're Growing

*The Shot Peener* continues to grow. We recently contracted with KL Advertising Services to handle all of our advertising layout and design. Kathy Levy, President of KL Advertising, will be contacting all of our advertisers for insertion orders. She also will be offering contract services for ad creation and copy writing.

It was Kathy's efforts that enabled us to offer the 4-color printing. We look forward to many more improvements. Welcome aboard, Kathy. ○