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Achieving Comprehensive Shot Peening by Djozic Salko, Croatia

Interpreted by Pete Bailey, Electronics Inc.

It is very difficult to bring good shot peening to every workshop even in one company. This is because the technology of peening is so specialized. The related process of blast cleaning is in a similar situation. For this reason, cooperation between manufacturers, workshops, and even countries, is needed in order to have safe production processes. The current situation causes major discrepancies in peening quality with better manufacturers going ahead and others declining and disappearing. Better international cooperation is needed.

How is international cooperation to begin? One way is cooperation between individuals but it is necessary to have a place where this can occur. Another way is assistance from one manufacturer to another but without specific information that the manufacturer would not want to reveal. In small and poor countries where shot peening is unknown, people who would like to learn about the process do not know where to start. Even in the countries that have mechanical engineering schools, shot peening is unknown. It is needed to create a series of short courses followed with expositions and fairs. Simple examples such as steel bars could be used. My personal experience in electric power plants has many examples including crankshafts and connecting rods. On the sites can be seen examples of wrong heat treatments and missing shot peening. Other defects such as machining tool marks, seams, pits or inclusions can be initiation sites for fatigue also. Another area where shot peening can help extend life is with water flow over turbine blades. Cavitation can cause serious material loss. Shot peening helps because of surface hardening and increased yield strength. Distribution of information like this at expositions and fairs may help develop cooperation between individuals and companies.

Cooperation between companies is often difficult because they believe competitors may learn some of their secrets. I believe such fears are exaggerated.

I must emphasize Electronics Incorporated, in Mishawaka, Indiana, is our benefactor in distributing shot peening information to us: readers, students, engineers, professors, leaders of staff for education, directors and managers through your magnificent free publication, *The Shot Peener*. My best congratulations from myself and colleagues of my company and in the name of my friends actually working at University of Zagreb Mechanical Engineering Department. The demonstration that if a question is submitted to *The Shot Peener* and receives an answer may encourage others in other countries to contribute information.

A note from Dr. David Kirk, United Kingdom, Chairman of the International Scientific Committee on Shot Peening:

I have read with interest the letter from Mr. Salko. He reiterates a problem that I myself had when I first became interested in shot peening over thirty years ago. A large amount of data on shot peening had been accumulated by a few specialist shot peening companies. Getting access to that data was more difficult than getting blood out of a stone! Eventually I set up my own shot peening laboratory at Coventry University and data produced there may or may not have been already duplicated elsewhere. The assistance provided by the Metal Improvement Company, USF Vacu-Blast and Electronics Incorporated is gratefully acknowledged. On the more general problem of basic knowledge of the process, the answer is simpler. As in many areas of manufacture, there is a general level of ignorance amongst responsible staff. Some enlightened companies are, however, trying to rectify the situation by contracting me to put on short courses for them. ○