

# Lesson Learned: The Value of a Machine Profile

**KUMAR BALAN'S** article on machine profiles reminded me of a related experience from several years ago. One of our larger customers was retrofitting an old wheel-type peening machine that had MagnaValves. I got a call from their service department asking for assistance because "our MagnaValves weren't working."

I started asking questions and decided to send a service engineer to get a better idea of what was happening. The first report I got back was discouraging. Chaos prevailed. Valves were flowing different flow rates and it was frustrating that all of the valves couldn't flow the same amount. It was time to implement a plan.

My strategy was to profile each MagnaValve on the machine, one at a time. It was necessary to determine the maximum flow rate at each expected motor speed and create a spreadsheet to capture the data. This data was then converted into graphs that very quickly, and convincingly, showed the machine just could not perform in an expanded capacity without changing 25 HP motors for 50 HP motors. My customer upgraded to 50 HP motors and the problem was solved.

I appreciated being involved with the incident because it has helped me with future service calls. If an obvious solution doesn't come to mind quickly, I suggest performing a machine profile to help determine the boundary conditions. It is easy to transfer the technique to air-type machines by requesting the maximum flow rate at selected air pressures.

I recommend you perform a machine profile if you want to peen a different component, flow a different media, retrofit a machine, etc. Once you have the machine profile, you can speak with authority on the machine's capabilities and limitations.

## On a Different Note

I'm very pleased to share the work of the research team of Purdue University's Materials Engineering department in this issue of the magazine. This is partly because Purdue is my alma mater, but also because the resources at Purdue offer tremendous possibilities for the shot peening community. Most companies don't have in-house R&D departments and outsourcing research is difficult. Research venues like the Center for Surface Engineering and Enhancement at Purdue offer a viable alternative. Watch for more articles on this subject in upcoming issues of *The Shot Peener*. ●



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## THE SHOT PEENER

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