Ashland Precision Tooling, Ashland

Intervention Keywords: Polishing, honing machine, extrusion
Industry: Manufacturing
Risk Factor(s): Awkward posture – wrist deviations, awkward posture – neck deviations, high-hand force – pinching/gripping

Situation: Ashland Precision Tooling creates tooling for other manufacturers. Many items require polished finishes. Employees do most polishing by hand or by holding an abrasive material against a spinning or oscillating part. The polishing activity causes pain, discomfort and numbness in the hands. The photo in the upper left shows this process.

Solution: Ashland Precision Tooling purchased an extrusion honing machine. A putty solution is pushed through the inside of a die. When the outside part needs polishing the solution is pushed through a cylinder that encapsulates the part. The putty contains an abrasive material that will polish it as it is forced through the part. Opposing hydraulic cylinders supply the pressure. The machine eliminated the intense handwork. The machine cost $61,500. The photos to the left show the process.

Results

- The incident rate (standardized per 200,000 hours worked) decreased from 180 the two years prior to the intervention to zero over the two years following, a 100 percent improvement.
- The company calculated savings over two years at $58,000. Productivity increased 209 percent in the first year and 157 percent in the second year. The solution saves 1,550 hours of time. The return on investment was 2.1 years.
- The company reported that final finish measurements were consistently within the required specifications.