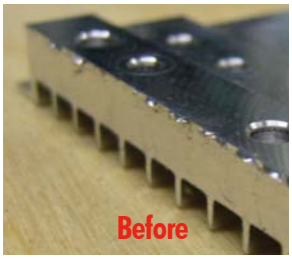
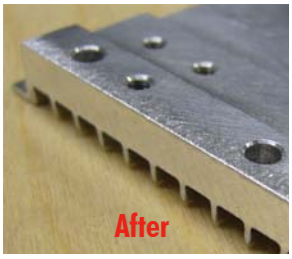
Aluminum Extrusion

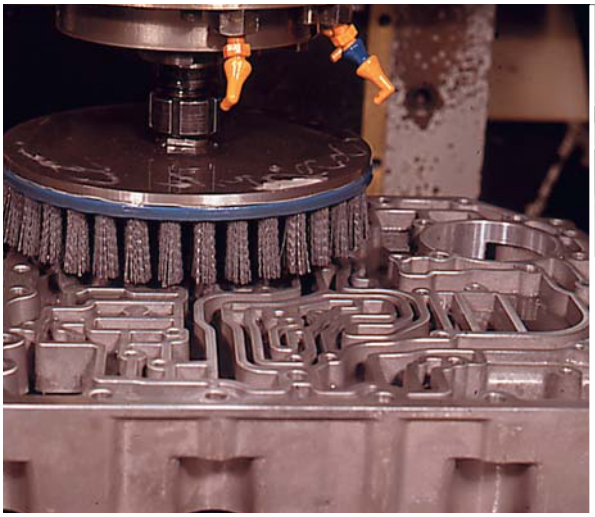


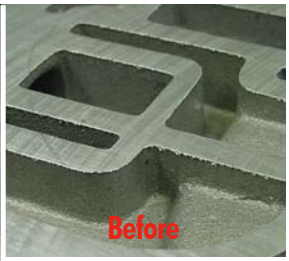


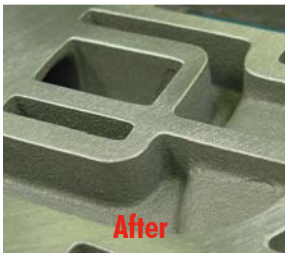
Problem: Computer and communications equipment contain aluminum heat sinks which are critical to dissipate the heat produced by these systems. Machined surfaces on heat sinks ensure tight fit and proper mounting characteristics. However, burrs produced by machining processes must be removed to ensure they do not fall into the electrical components and short circuit their operation.

Solution: Weiler developed a process for removing the burrs produced by the milling process. Using a 12" NMX style wheel brush at 1,200 RPM, an operator was able to remove the burrs off-hand during the cycle of the machining center.

Aluminum Automotive Transmission Valve Body



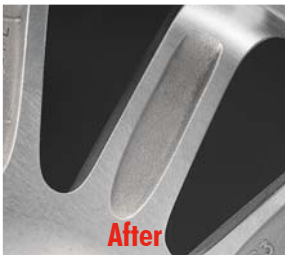




Problem: Burrs on transmission components can break away from parent components during use and cause transmission wear and eventual failure. Therefore, fluid passages must be completely burr-free.

Solution: A 10" Nylox® disc brush operating at 825 RPM in a vertical CNC machining center is an ideal solution for deburring this component. Since all of the burrs are on a single plane, the non-directional nature of a Nylox disc brush produces a part on which all edges have been uniformly deburred.

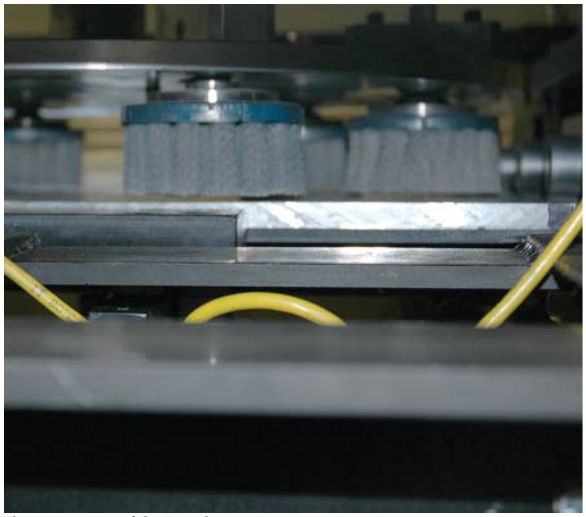
Aluminum Wheel

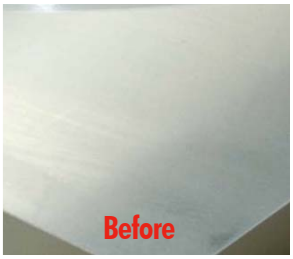


Problem: Sharp burrs cause safety concerns due to handling issues. In the production of aluminum wheels, burrs and sharp edges can also contribute to problems with painting and powder coating.

Solution: Weiler designs Nylox disc brushes that are tailored to match the specific geometric features of each aluminum wheel. The customized design and use of next-generation filament technology ensures wheels that are thoroughly deburred at the minimal cost-per-part.

Washing Machine Door



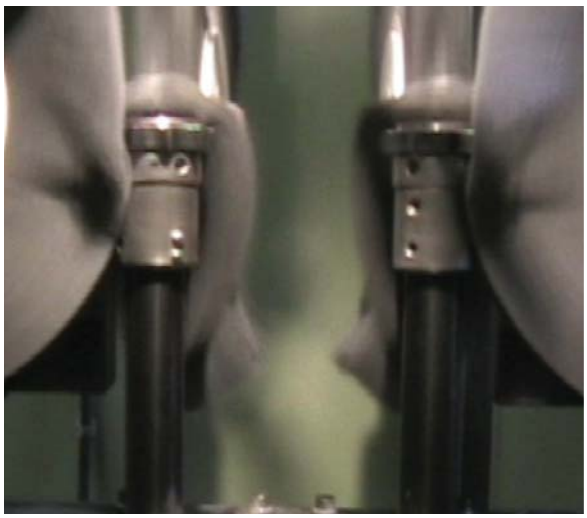


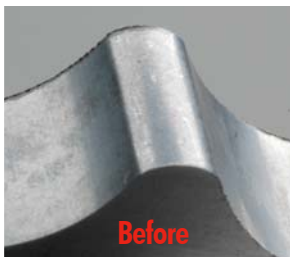
Photos courtesy of On-Line Services.

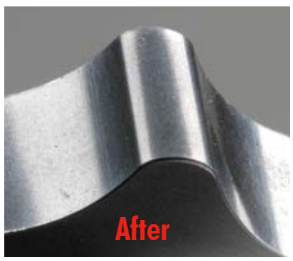
Problem: While Nylox® brushes are most commonly used for deburring applications, they also have the ability to produce decorative finishes. Users who want to produce a distinctive appearance on their parts are faced with the challenges of producing a unique look, and maintaining that finish in a high production environment.

Solution: Small diameter Nylox disc brushes fixed to a rotating head are capable of producing the unique finish required by a home appliance manufacturer. A major benefit of the brushes is that they wear very slowly and expose new sharp grain during use. This ensures low media cost as well as finish consistency.

Pump Gear





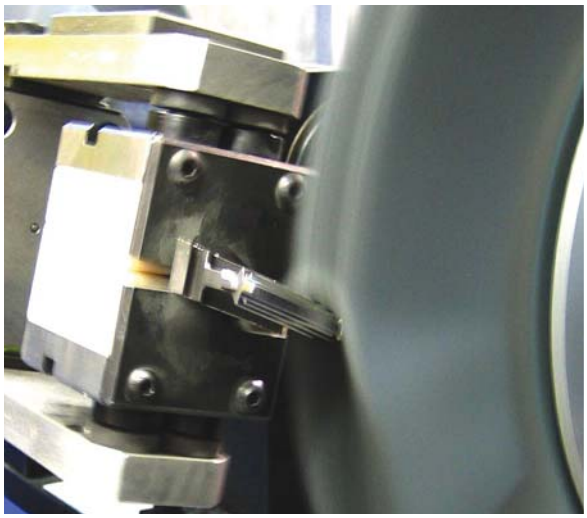


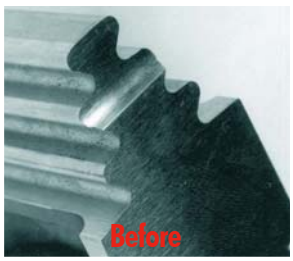
Photos courtesy of On-Line Services.

Problem: Pumps are extremely susceptible to failure due to burrs. Due to the tight fit between components, all edges must be deburred and radiused to ensure proper function. Proper deburring of rotating pump gears is especially important.

Solution: A dedicated machine running 14" Nylox wheel brushes at 900 RPM was a low-cost solution for deburring these gears. By using dedicated equipment, cycle time was minimized and an acceptable edge condition was achieved.

Turbine Blades





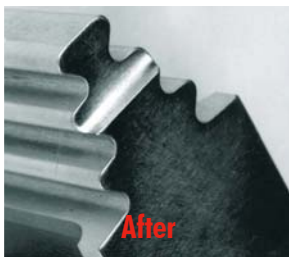


Photo courtesy of ACME Manufacturing.

Problem: Protecting turbine engine components against high-temperature fatigue is critical to ensure safe, reliable engine operation. Component edges must be burr-free and generally require an edge radius in the range of 0.005" to 0.060".

Solution: Robots are extremely well-suited for this application because they can manipulate the component in many orientations in relation to the brush. Weiler works closely with users and robot integrators to develop products and process programs which maximize brush life while generating exceptional part quality and consistency.