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One million parts processed with LPB[®] and counting

Burnishing process to improve fatigue life of metallic components reaches production milestone, establishing itself as validated design and repair solution

Cincinnati, OH – One million critical components used in everything from aircraft engines and power turbines to nuclear waste containers and medical implants are safer and will last longer because of the metal burnishing process dreamt up by Lambda Technologies Group CEO and co-founder, Paul Prev y during a family trip to Disney World more than 25 years ago.

Low Plasticity Burnishing, or LPB, is a patented mechanical process that applies pressure to the surface of metallic components using a custom-designed hydrostatic burnishing tool – a wheel or ball tool that rolls across the surface of a material to apply compressive stress. Prev y came up with the idea after a happenstance look across the World Showcase Lagoon in which the Epcot ball appeared to be hovering atop the surface of the water.

In engineering, compressive stress (or residual compression) increases the fatigue strength and extends the life of components by mitigating crack propagation. Lambda developed LPB to impart a layer of deep, stable compression with an extremely high level of control.

The high level of control allows the beneficial compression to be applied in a single pass with no overlapping paths using conventional CNC machine tools. This high level of control is particularly important for the compression to remain stable in high temperatures, like jet engine blade applications. The single-cycle application also provides faster production times and lower operational costs.

LPB can sculpt designed levels of compression onto a component surface ranging from a few thousandths of an inch to over a full centimeter. Critical components processed by LPB, both at the company's Cincinnati, Ohio manufacturing plant and in the field, include:

- Military and commercial aircraft components: fan blades, disks, vanes, IBRs/blisks, landing gear, structures, etc.
- Helicopter components
- Large and small armaments
- Fitness equipment
- Bicycles
- Large and small automotive components
- Medical implants
- Nuclear power components & waste containers



LAMBDA

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- Power turbine components
- Train components
- Mining equipment
- Oil drilling components surface/down hole

The increase in fatigue life combined with the reduction in out-of-service and inspection times from component failures have saved customers millions of dollars in operations and maintenance costs.

LPB has received numerous certifications and accreditations over the years, and Lambda Technologies Group is an approved supplier for NAVAIR, Pratt & Whitney, Delta TechOps, and GE Aviation.

About Lambda Technologies Group

Lambda Technologies Group, headquartered in Cincinnati, Ohio, is an innovative company incorporating a premier materials research laboratory with a world-class engineering and production enterprise dedicated to developing and optimizing surface treatments to improve component performance. To learn more about Lambda Technologies Group, visit lambdatechs.com or call 800.883.0851.