CASE STUDY

Application: Automated Back Spotfacing

Tool: BSF

Industry: Aerospace

Material: Inconel 718 (cast)

Benefits: Cycle Time Reduction, Cost Savings, Tool Longevity

Challenge: A precision aerospace manufacturer machining Inconel bearing housings faced persistent tool breakage and short insert life using a competitor's back-spotfacing tool. Each part required manual setup and multiple tool changes to complete, resulting in long cycle times, high tooling costs, and frequent downtime. The company sought a more durable, automated solution that could maintain quality while cutting machining time.

Solution: HEULE recommended the BSF-A-0700/040-7.5 tool equipped with a TiAlN-coated BSF-M-A-1A-6.0 blade, designed for automated back spotfacing through small bores. The BSF tool allowed the manufacturer to machine front and back faces in a single pass without reversing the spindle or flipping the workpiece. Its sealed, through-spindle coolant design ensured chip-free operation, and its robust construction provided consistent performance even in demanding Inconel 718 applications.

Results: The HEULE BSF tool delivered a remarkable improvement in both performance and efficiency. The manufacturer reduced in-cut cycle time from 62 minutes to just 7 minutes 45 seconds and eliminated the need to index inserts after each part. Tool life improved dramatically—each BSF blade could complete one full part (10 holes) while the competitor's tool required five blades to achieve the same result. The upgrade resulted in an estimated $130,000 in annual savings across 300 parts, while also improving process stability and operator safety.