CUSTOMER CASE STUDY

MILLING-TO-TURNING CONVERSION DRIVES MAJOR COST AND TIME SAVINGS

FERGUSON INDUSTRIAL

PROJECT OVERVIEW

PROJECT / CUSTOMER:

Multinational orthopedic implant manufacturer

LOCATION:

Multinational

PRODUCT / SOLUTIONS:

Turnkey Computer Numerical Control (CNC) turning solution, including tooling process development, CNC programming support, conversion to Cubic Boron Nitride (CBN) insert tooling, and operator training

CHALLENGE:

Punch dies made from hardened H13 steel were produced via CNC milling — an inefficient approach for round geometry. Each part required 7 to 8 hours of machining time, driving high tooling costs, and complex CNC programming consuming over 60 machine hours monthly, and limiting tool shop capacity.

SOLUTION:

The dedicated Cutting Tool Specialist from Ferguson Integrated Services led a full transition to CNC turning. By coordinating process engineering, tooling selection, and supplier support, Ferguson delivered a complete, production-ready solution tailored to hardened materials with high tolerances and repeatability requirements.

OUR ADVANTAGES:

- Fully integrated, turnkey support from process design through implementation
- Coordination across internal customer teams and supplier manufacturing engineers
- Expertise in machining hardened materials focused on optimizing tool performance
- Operator training to ensure long-term consistency and adoption
- Critical program management solutions with focus on continuous improvement and reduction in Total Cost of Ownership (TCO)
- CNC programming support

BACKGROUND

The manufacturer relied on a legacy milling process to produce hardened steel punch dies used in hip implant production. While proven, the method was not aligned with the part's round geometry and limited overall efficiency.

CHALLENGE

Excessive cycle times (7 to 8 hours per part), high tooling costs, and constrained machine capacity created a clear need for a more efficient, scalable process.

METHOD

FERGUSON DESIGNED AND IMPLEMENTED A NEW TURNING-BASED WORKFLOW, INCLUDING:

- Evaluation of part geometry, material, and production needs
- CNC programming for 21 punch die variations
- Work holding and fixturing for the various dies
- Process validation and prove-out on a CNC lathe
- Integration of optimized CBN insert geometry and coating technology for H13 steel
- Operator training for consistent execution

KEY RESULTS

- 87 percent reduction in cycle time (7.5 hours to 1 hour per die)
- More than 90 percent reduction in tooling cost (from $355 to about $31 per die)
- More than $80,000 in annual savings realized associated with reduced cycle time and tooling cost
- Increased machine capacity and shop productivity resulting in less overtime labor expense and increase scheduling flexibility
- Simplified tooling inventory through supplier and product consolidation

THE FERGUSON DIFFERENCE

Ferguson delivered more than tooling — providing end-to-end process ownership, technical expertise, and coordinated supplier support. The result was a scalable, repeatable manufacturing solution that reduced costs, improved efficiency, and freed capacity for higher-value work.

©2026 Ferguson Enterprises, LLC 0626 9523508