

# Reduced cycle times saves thousands



## Modern-Tec

Thinking Outside the Box

Unlikely Solution Reduced Cycle Time by 30%, Saved \$25,000 on Cost of Part

### Challenge:

Modern-Tec was having problems with the cycle time to cut a new stainless steel impeller component. The process was taking too long, the tooling was expensive and there was pre-mature failure because tools were breaking. Christopher Matyas, Modern-Tec CEO, approached the MSC Metalworking Team's Specialist Tom Prisaznuk for a recommendation.



### Solution:

Working with the Kennametal representative, Ken Szeluga, Prisaznuk studied the situation on the shop floor and drew upon industry experience to discuss how they could gain maximum metal removal in cubic inches per minute while increasing the overall tool life. The MSC/Kennametal team set a goal of shortening the projection of the cutting tool on the spindle, which would allow a heavier, deeper and wider cut of the stainless steel. They recommended a HARVI 1 4-flute carbide end mill that goes into a holder, which provided advantages in flushing out the chips from the cutting zone. This allowed them to increase the overall depth of cut more than 15 times.

### Results:

Understandably, Matyas was skeptical the tool would work and worried the spindle could not handle such a dramatic depth of cut. The solution worked. In fact, it exceeded expectations by slashing the cycle time more than 30% and reduced the cost of the part more than 300% -- or \$25,000.

*"Thank you for working with Modern-Tec on our impeller machining application. MSC did an outstanding job at reviewing our application and approaching it in a way that we would have never thought practical. This new method saved many days off of our machining cycle times and actually improved our relationship with our customer. You guys spent the time to understand the application and find the best solution instead of just 'throwing' a tool at it like so many others did. Thank you."*

Christopher Matyas, CEO, Modern-Tec Manufacturing

### About Modern-Tec Manufacturing, Inc.

Modern-Tec Manufacturing Inc. is a full-service CNC machine shop with a tailored specialty employee list. They specialize in providing precision machining solutions, with a technical emphasis placed on multi-axis work. They have a wealth of experience working with Hirth Couplings, which are used for power transfer between an impeller and a shaft. Operating out of their state-of-the-art climate controlled 11,000-square-foot-facility, they are an ISO 9001-2008 certified company.