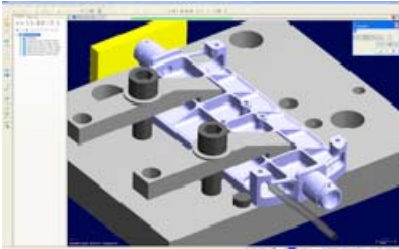




No Limits Medical Parts Manufacturing



“Within the first day, I was already putting toolpaths on the parts and soon I could create programs so complex that most people would be amazed that the machine can even keep up with it. . . . I have yet to find a part that I could imagine (or see as a CAD model) that I could not cut in Mastercam. ”

- Louis Dertouzos, Engineering Manager
Innovative Medical
Fort Myers, FL

Innovative Medical (Fort Myers, FL), a start-up machine shop specializing in the manufacture of surgical tools and implants. As customers discovered that Innovative Medical could expeditiously reproduce their difficult prototype designs, a backlog of work ensued.

The Challenge

The challenge was getting the most out of sophisticated CNC equipment for advanced medical parts prototyping and manufacturing.

The Solution

Mastercam Mill, Lathe, Solids, and Multiaxis

Benefits

- Easy to learn and easy to use
- Optimized cutting based on material removal feedback
- Programmer can assume control of toolpaths at any point to create unique geometries
- Programming precision of edge breaks to eliminate manual finishing operations
- Numerous automatic features that eliminate repetitious tasks



Project Details

Today, whatever combination of material and part geometry a medical device designer can create in CAD and prove out with finite element analysis, is what they expect their suppliers to produce and deliver on time. Innovative Medical (Fort Myers, FL), a start-up machine shop specializing in the manufacture of surgical tools and implants, was founded to meet exactly this sort of challenge.

Innovative Medical's owners, Youngquist Brothers Inc., spared no expense in equipping this brand new 21,000 sq. ft. plant with 20 CNC machines, including Willimen-Macodel mill-turn systems and Citizen Swiss turning machines. As for delivering on time, the owners equipped the plant with its own generator and an uninterruptible power supply to make sure there are absolutely no excuses.

As customers discovered that Innovative Medical could expeditiously reproduce their difficult prototype designs, a backlog of work ensued. To keep pace with the work, Engineering Manager Louis Dertouzos convinced management to purchase two seats of Mastercam, a CAM program he had been using since the mid '80s. Soon he was keeping the company's 15 Willimens entirely busy while still discharging his other responsibilities as engineering manager.

Here are some of the things Dertouzos likes best about his CAM Software:

- Mastercam's allows the user to take complete control of the program wherever he wants to optimise material removal.
- Feeds and speeds can be geared to real-time material volume feedback to improve cutting efficiency while reducing tool wear.
- Using toolpaths that produce precision surface finishes eliminates subsequent tumbling or vibratory finishing operations.
- Special toolpaths allows the machine tool to cut numerous, complex edge breaks to eliminate time-consuming hand finishing operations.
- Mastercam can automatically compare a revised CAD model to the previous one and reorganise the old toolpaths to fit the new design circumstances to save hours and ours of programming time.
- Settings and toolpaths perfected for one part program can be saved generically in a special library, so the programmer rarely has to start a new job from scratch.

Recently, Dertouzos discovered that he had written about 800 Mastercam programs during his first year at Innovative Medical. "What I particularly love about that number," he said, "is that someday I will look back and think; I can't believe it took me that long to create 800 programs!"