Application Notes

DATRON DYNAMICS, INC.
454 Route 13
Phone: 603-672-8890
Fax: 603-672-8067

Part: ..... Three Dimensional Prototype Mold

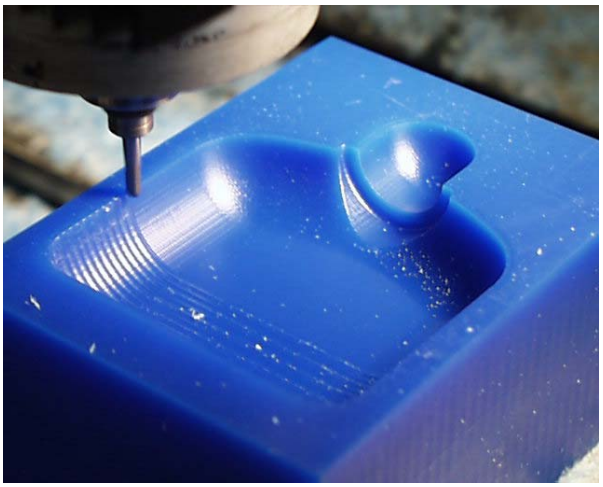
Material: ..... Wax

Machine Used: M4

Features Utilized: ..... High frequency spindle, automatic tool change, tool length sensor & Z surface probe

Software Used: ..... Type 3 (programmed by Vision Numeric USA)

Total Cycle Time: ..... 14 minutes and 32 seconds



Machining Details:

Tool 1: ¼" dia. ball nose end mill at 25,000 rpm at 300 i.p.m. feed rate – roughing pass

Tool 2: 1/8" dia. ball nose end mill at 40,000 rpm at 300 i.p.m. feed rate – final finishing pass

Two jets of air flow only were used for cooling and clearing chips.

Part was double sided tape mounted to the bed.

Summary of the Application:

This type of work piece is an excellent application for the Datron M4 compact machining center. The large working volume and compact footprint, is ideal for both prototyping and production environments, where space is limited. The 208 volt single phase power requirements and low voltage controls, make the system efficient and easy to install and maintain. The cast steel construction offers superb stability with minimal tool vibration, for optimum surface finishes. A better surface finish could easily be achieved with this sample, simply by having a finer step-over with the finishing tool path. It merely becomes an issue of surface finish, versus cycle time. The 60,000 rpm high frequency spindle, offers a lot of flexibility when working with small tooling in various materials. Other features such as, the Z probe make set-up quick and easy. This part demonstrates why Datron systems are often used in these type of applications.