Application Notes

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

Part: ..... Bus Bar

Material: ..... 0.150" x 16 1/2" x 2 3/4" Leaded Brass

Machine Used: M8

Features Utilized: ..... 2kwatt High Frequency Spindle and Automatic Tool Change Unit w/ Length Sensor

Software Used: ..... Datron Macro programming Language

Total Cycle Time: ..... 8 minutes and 41 seconds

Machining Details:

Tool 1: Combination Thread Mill for 4-40 holes at 45,000 rpm x 30 i.p.m. = 102 seconds

Tool 2: .047" dia. drill at 20,000 rpm x 60 i.p.m = 167 seconds

Tool 3: 3mm (.118") single flute end mill at 38,000 rpm at 100 i.p.m. = 252 seconds

Summary of the Application:

This application demonstrates nicely the capabilities of the Datron High Speed Machining System. The RAPTOR M8 Machine is typically 2-3 times faster in performance than a typical vertical machining center when utilizing cutting tools 1/4" and under. The 60,000 rpm high frequency spindle offers much faster feed rates compared to conventional spindles allowing for a substantially reduced cycle time. Additionally, the design and lighter weight of the spindle carriage compared to traditional VMC's offers much faster acceleration and deceleration in all axis. The polymeric concrete and steel frame construction provides ample stability for the application and allows for a compact design with efficient power consumption.
We were able to offer a clean BURR-FREE part that requires no de-greasing operation afterwards. The customer also has the flexibility to mount a larger sheet of aluminum, brass or plasic within the 30" x 40" working volume of the M8 machine for batch production requirements.