



DATRON DYNAMICS, INC.
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Application Notes

Part: Three Dimensional Engraving
Material: 1/4" x 6" x 6" Engravers Brass
Machine Used: M4
Features Utilized: High Frequency Spindle and Z Correction Probe
Software Used: Artcam (G-code file supplied by the customer)
Total Cycle Time: 1 hour and 38 minutes



Machining Details:

Tool:
 1/16" two flute Ballnose end mill x 1/8" cut length
 45,000 rpm at 180 inches per minute feed rate
 Sample was cut dry (no coolant)

Z Surface Correction:
 9 measuring points taken - .002" surface variance compensated - 32 seconds measuring time

Mounting:
 Double sided tape adhesive to an aluminum sub-plate

Summary of the Application:

In order to optimize the feed rates and cycle times for a small tooling application such as this, it requires a high frequency spindle. Since the Datron systems can achieve a 60,000 rpm maximum, running the spindle at 45,000 does not induce any abnormal stress. The cast steel construction of the M4 design, offers minimal vibrations and superb surface finishes. The Z Surface Correction Probe allows for exact engraving depths, regardless of material or mounting variances. In conclusion, this sample further demonstrates why Datron is an industry leader in three dimensional engraving.