Die/Mold Seminar Outline
Steve McBride

1. HSM Defined
   - Explanation of High Speed Machining vs. Conventional Machining

2. Primary Components of HSM
   - Tool Path, Machine Communication, Machine Control, Tooling Work Piece

3. Tool Holders
   - Side Lock
   - Collet
   - Mill Chuck
   - Hydraulic
   - Shrink Fit

4. Tool Holder Considerations
   - Detailed Explanation of Balance
   - Tool Interface Taper Specifications Explained
   - Concentricity Issues Addressed
   - Rigidity and Length to Diameter (L/D) Issues

5. Coolant Considerations
   - Water Based
   - Air
   - Air / Oil
   - MQL (Mist)

6. Tool Path Strategies
   - Climb vs. Conventional
   - Z-Level Machining (Fixed Axis)
   - Raster Cutting
   - Box Cutting
   - Trochoidal Machining

7. Part Entry Strategies
   - Linear (off Part)
   - Helical
   - Ramping

8. Tooling Choices for Materials up to 60 HRc
   - High Feed Tooling
   - End Mills & Ball End Mills / Machining Parameters
   - Specialized Milling Tools for Deep Machining Applications (Phoenix Solid Carbide)
   - Blizzard End Mills for Aluminum Materials
   - Standard & New Machining Methods for Producing Ribs
   - Thread Milling Solutions
   - Drilling & Tapping Hard Materials
   - Drilling Depths to 30 times Diameter
   - Trouble Shooting & Excessive Tool wear Characteristics