

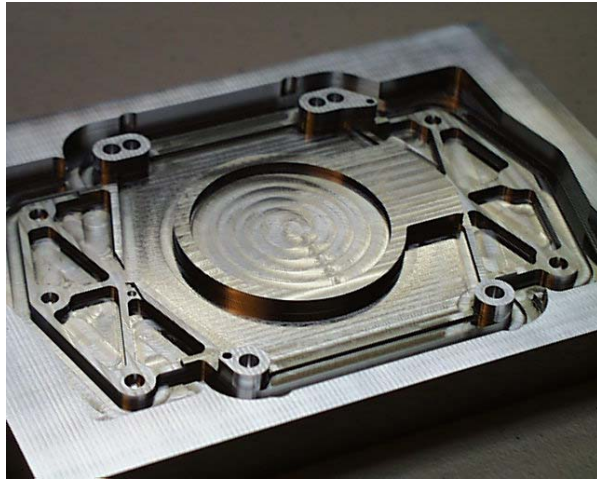


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## Application Notes

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**Part:**..... Scanner Mount  
**Material:** ..... 1/2" x 4" x 5 1/2" - 6061 Aluminum  
**Machine Used:**..... M8 Raptor  
**Features Utilized:** ..... 2 kwatt high frequency spindle & ATC w/ length sensor  
**Software Used:** ..... Primcam Cad/Cam software  
**Total Cycle Time:** ..... 9 minutes and 37 seconds (front side only)



### Machining Details:

Tool 1: 6mm (.236") s/f end mill at 40,000 rpm for all rough pocketing - feed rates up to 250 i.p.m.

Tool 2: .1405" dia. drill at 18,000 rpm for all .140" diameter holes

Tool 3: .1260" dia. drill at 20,000 rpm for (1) hole

Tool 4: .0625" dia. drill at 25,000 rpm for (3) holes

Tool 5: 3mm (.118") s/f end mill at 48,000 rpm for all finish milling and sharpening indise radii

### Application Summary:

Requiring intricate tooling, the M8 Raptor offers distinct advantages for this application. The high frequency spindle supported the intricate tooling, and allowed for optimized feed rates. Eliminating secondary operations, the combination of the high frequency spindle, coolant, and tooling, provided a burr free part that required no de-greasing. Reducing operator interaction, the large 40" x 27" work envelope allows doing a batch production of parts. For example, 55 parts can be machined simultaneously within the work envelope. This allows reducing the cycle time per part, by amortizing tool change times over the whole batch. We estimate the cycle time could be reduced to approximately 8 1/2 minutes per part, or just less than 8 hours for 55 parts.

The M8 Raptor also offers other unique benefits such as, low power consumption and efficient operating costs. Realizing further savings, work holding efforts can be reduced, due to the lower forces involved with intricate machining. The M8 Raptor's design features built-in safety sensors in order to prevent serious damage to the machine. Datron Dynamics prides itself on superb support and service to all of North America from its New Hampshire location.