

## Equipment List

# CAZTEK | PRECISION

### ENGINEERS

- (8) - Mechanical Engineers
- (1) - PhD Mechatronics Engineer
- (1) - Licensed Professional Engineer
- (2) - Electrical Engineer
- (1) - Industrial Designer

### CNC MILLING

DMG Mori DMU65 Monoblock 5 axis with work envelope of 28"x 25"x 22" x-y-z travels, full simultaneous motion, 60 station tool changer, 18,000 rpm spindle speed

Haas VF-4SS with HRT-160 4th-Axis 50"x20"x 25" x-y-z travels, 40 taper 12k rpm spindle, through the spindle coolant, high speed machining

Haas VF-2SS with 4th axis drives 30"x16"x 20" x-y-z travels, 40 taper 12k rpm spindle, high speed machining

Haas GR-510 CNC Gantry Router with work envelope of 121"x 61"x 11" x-y-z travels, 3-axis motion, 10 station carousel tool changer, 15,000 rpm spindle speed

### CNC TURNING

DMG Mori NLX2000-500 Lathe with Y-Axis and live tooling 15" diameter by 20.2" long work envelope, 6k rpm spindle with 10k rpm live tooling, programmable tailstock

### SWISS MACHINE

Citizen Cincom L32-1M10 Swiss-type CNC lathe, 32/38mm max machining Ø, 320mm headstock stroke, dual spindles, and live tooling for complex turned parts in one setup.

### PRECISION GRINDING

Kent KGS-616S surface grinder with Accurite DRO, power spinner for O.D. grinding

### WELDING

Miller Dynasty 350 GTAW welder, water cooled Miller Synchrowave 250 GTAW welder, water cooled Miller Millermatic 211 GMAW welder

### ADDITIVE MANUFACTURING

Markforged Mark II Fused Deposition Modeling (FDM) 3D printer, 320mm x 132mm x 154mm (xyz) [12.60" x 5.20" x 6.06"], high strength Onyx material and continuous filament carbon fiber and kevlar reinforcement material, 100 micron build layer

Forlabs Form-2 Stereolithography (SLA) 3D printer, 145mm x 145mm x 175mm (xyz) [5.7" x 5.7" x 6.9"], multiple materials: rigid, high strength, clear, flexible etc., 25 – 300 micron build layer

Stratasys Fortus 250mc 3D printer, 254 x 254 x 305mm (xyz) [10" x 10" x 12"], ABSplus™ – a production-grade thermoplastic, three build layer thicknesses: (.178, .254 and .330 mm)

Fusion3 EDGE Fused Deposition Modeling (FDM) 3D Printer, 368mm x 368mm x 343mm [14.5" x 14.5" x 13.5"], all major printable plastics, 20-500 microns

### INSPECTION

Numerex/Zeiss Coordinate Measuring Machine with Nikon CMM Manager software, 24"x 24"x18" envelope

Hexagon GLOBAL S 7.10.7 Scan+ Accuracy+ /Tolerance + Coordinate Measuring Machine 700mm x 1000mm x 700mm envelope

### PROGRAMMING SOFTWARE

Mastercam Computer aided Machining software with surfacing and multi-axis modules

### SOFTWARE

SolidWorks, with FEA and CFD modules

