**CAPABILITIES:**

**(6) 5-AXIS CNC MILLING:**

**HAAS UMC-750 (6)**

* + **19.7” Table**
  + **30” X-axis Travel**
  + **20” Y-axis Travel**
  + **20” Z-axis Travel**
  + **12,000 RPM / 30HP Spindle**
  + **1200 IPM Rapid Traverse**
  + **40+1 ATC Carousel Tool Changer**
  + **Dynamic Work Offsets**
  + **Intuitive Probing System**
  + ***5 of the 6 machines feature right angle head capability and 1,000 psi through spindle coolant***

**(8) VERTICAL CNC MILLING:**

**HAAS VF-3 (2)**

* + **48” x 18” Table**
  + **40” X-axis Travel**
  + **20” Y-axis Travel**
  + **25” Z-axis Travel**
  + **10,000 RPM / 30HP Spindle**
  + **1000 IPM Rapid Traverse**
  + **24 ATC Carousel Tool Changer**

**HAAS VF-3SS (1)**

**“Super Speed” with high speed machining, featuring right angle head capability and 1,000 psi through spindle coolant**

**HAAS VF-4 (1)**

* + **52” x 18.6” Table**
  + **50” X-axis Travel**
  + **20” Y-axis Travel**
  + **25” Z-axis Travel**
  + **10,000 RPM / 30HP Spindle**
  + **1000 IPM Rapid Traverse**
  + **30 ATC Carousel Tool Changer**

**HURCO VM-2 (1)**

* + **48” x 20” Table**
  + **40” X-axis Travel**
  + **20” Y-axis Travel**
  + **25” Z-axis Travel**
  + **8,000 RPM / 15HP Spindle**
  + **600 IPM Rapid Traverse**
  + **20 ATC Carousel Tool Changer**

**HURCO VM-1 (3)**

* + **30” x 14” Table**
  + **26” X-axis Travel**
  + **14” Y-axis Travel**
  + **18” Z-axis Travel**
  + **8,000 RPM / 15HP Spindle**
  + **750 IPM Rapid Traverse**
  + **16 ATC Carousel Tool Changer**

**ACRA AM-2V**

* + **49” x 9” Table**
  + **33” X-axis Travel**
  + **12” Y-axis Travel**
  + **5” Z-axis Travel**
  + **16” Manual Knee / 5” Manual Quill Z-axis Travel**
  + **5,000 RPM / 3HP Spindle**

**CNC TURNING CENTER:**

**HAAS HL-2 (upgrading in Fall 2019)**

**QUALITY CONTROLS:**

**BROWN & SHARPE VALIDATOR CMM**

* + **48” x 84” table**
  + **36” x 48” travel / bridge type**
  + **Automatic and programmable**

**PROGRAMMING:**

* **Autodesk Fusion360 Ultimate (2 seats)**
  + **5-axis programming and modeling package**
  + **Drafting with GD&T**
  + **Translation capability of nearly all major file types**
* **Autodesk Fusion360 Standard (1 seat)**
  + **3-axis programming and modeling package**
  + **Translation capability of nearly all major file types**
* **BobCAD-CAM**
  + **3-axis programming and modeling**
  + **Translation capability of nearly all major file types**

**SAWING:**

**8” hydraulic power band saw**

**6” Ridgid Horizontal band saw**

**Evolution cold saw / carbide chop saw**