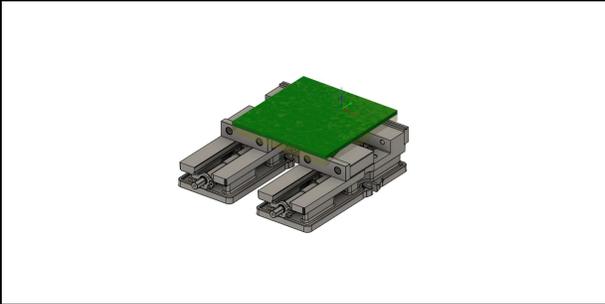


### Setup Sheet for Program 00002

PROGRAM COMMENT: Aerospace panel  
 JOB DESCRIPTION: OP20  
 DOCUMENT PATH: Aerospace panel machining v15

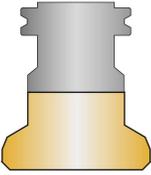
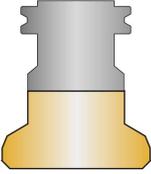
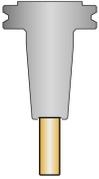
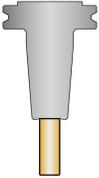
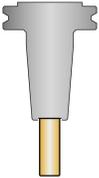
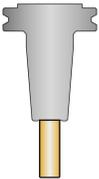
Setup	
<p>WCS: #1</p> <p>STOCK:                      DX: 12in                      DY: 12in                      DZ: 1.25in</p> <p>PART:                      DX: 11.055in                      DY: 9.055in                      DZ: 0.866in</p> <p>STOCK LOWER IN WCS #1:                      X: -6in                      Y: -10.528in                      Z: -0.05in</p> <p>STOCK UPPER IN WCS #1:                      X: 6in                      Y: 1.472in                      Z: 1.2in</p>	

Total
<p>NUMBER OF OPERATIONS: 8</p> <p>NUMBER OF TOOLS: 3</p> <p>TOOLS: T1 T2 T4</p> <p>MAXIMUM Z: 1.8in</p> <p>MINIMUM Z: 0.058in</p> <p>MAXIMUM FEEDRATE: 240in/min</p> <p>MAXIMUM SPINDLE SPEED: 12000rpm</p> <p>CUTTING DISTANCE: 2500.47in</p> <p>RAPID DISTANCE: 568.97in</p> <p>ESTIMATED CYCLE TIME: 20m:3s</p>

Tools		
<p><b>T1 D1 L1</b></p> <p>TYPE: face mill</p> <p>DIAMETER: 3in</p> <p>CORNER RADIUS: 0.005in</p> <p>TAPER ANGLE: 45°</p> <p>LENGTH: 1.75in</p> <p>FLUTES: 6</p> <p>DESCRIPTION: 3" Cut Dia, 1" Arbor Hole, 4.51mm Max Depth of Cut, 45° Indexable Chamfer &amp; Angle Face Mill</p> <p>VENDOR: Kennametal</p> <p>PRODUCT: <a href="#">60299922</a></p>	<p>MINIMUM Z: 0.866in</p> <p>MAXIMUM FEED: 72in/min</p> <p>MAXIMUM SPINDLE SPEED: 4000rpm</p> <p>CUTTING DISTANCE: 491.188in</p> <p>RAPID DISTANCE: 121.673in</p> <p>ESTIMATED CYCLE TIME: 6m:58s (34.8%)</p>	<p>HOLDER: Shell Mill Holder: CAT40, Taper Shank, 1" Pilot</p> <p>VENDOR: Kennametal</p> <p>PRODUCT: 30734412</p>
<p><b>T2 D2 L2</b></p> <p>TYPE: bullnose end mill</p> <p>DIAMETER: 0.5in</p> <p>CORNER RADIUS: 0.03in</p> <p>LENGTH: 1.5in</p> <p>FLUTES: 4</p> <p>DESCRIPTION: Corner Radius End Mill: 1/2" Dia, 1" LOC, 0.0300" Radius, 4 Flute, Solid Carbide</p> <p>VENDOR: SECO</p> <p>PRODUCT: <a href="#">82763467</a></p>	<p>MINIMUM Z: 0.118in</p> <p>MAXIMUM FEED: 240in/min</p> <p>MAXIMUM SPINDLE SPEED: 12000rpm</p> <p>CUTTING DISTANCE: 1905.236in</p> <p>RAPID DISTANCE: 430.352in</p> <p>ESTIMATED CYCLE TIME: 10m:38s (53%)</p>	<p>HOLDER: Shrink-Fit Tool Holder &amp; Adapter: CAT40 Taper Shar</p> <p>VENDOR: Haimer</p> <p>PRODUCT: 61772216</p>
<p><b>T4 D4 L4</b></p> <p>TYPE: chamfer mill</p> <p>DIAMETER: 0.375in</p> <p>TAPER ANGLE: 45°</p> <p>LENGTH: 1.5in</p> <p>FLUTES: 2</p> <p>DESCRIPTION: Chamfer Mill: 3/8" Dia, 3/8" Shank Dia, 90 deg, 2 Flute, Solid Carbide, Single End</p> <p>VENDOR: Accupro</p> <p>PRODUCT: <a href="#">09550336</a></p>	<p>MINIMUM Z: 0.058in</p> <p>MAXIMUM FEED: 72in/min</p> <p>MAXIMUM SPINDLE SPEED: 12000rpm</p> <p>CUTTING DISTANCE: 104.046in</p> <p>RAPID DISTANCE: 16.945in</p> <p>ESTIMATED CYCLE TIME: 1m:27s (7.2%)</p>	<p>HOLDER: Shrink-Fit Tool Holder &amp; Adapter: CAT40 Taper Shar</p> <p>VENDOR: Haimer</p> <p>PRODUCT: 61772174</p>

Operations		
<p>Operation 1/8</p> <p>DESCRIPTION: Clear overhang</p> <p>STRATEGY: Adaptive 2D</p> <p>WCS: #1</p> <p>TOLERANCE: 0.004in</p> <p>STOCK TO LEAVE: 0.02in/0in</p> <p>OPTIMAL LOAD: 0.125in</p> <p>LOAD DEVIATION: 0.013in</p>	<p>MAXIMUM Z: 1.8in</p> <p>MINIMUM Z: 0.566in</p> <p>MAXIMUM SPINDLE SPEED: 12000rpm</p> <p>MAXIMUM FEEDRATE: 240in/min</p> <p>CUTTING DISTANCE: 681.238in</p> <p>RAPID DISTANCE: 294.534in</p> <p>ESTIMATED CYCLE TIME: 2m:54s (14.4%)</p> <p>COOLANT: Flood</p>	<p><b>T2 D2 L2</b></p> <p>TYPE: bullnose end mill</p> <p>DIAMETER: 0.5in</p> <p>CORNER RADIUS: 0.03in</p> <p>LENGTH: 1.5in</p> <p>FLUTES: 4</p> <p>DESCRIPTION: Corner Radius End Mill: 1/2" Dia, 1" LOC, 0.0300" Radius, 4 Flute, Solid Carbide</p> <p>VENDOR: SECO</p> <p>PRODUCT: <a href="#">82763467</a></p>



<p>Operation 2/8  <b>DESCRIPTION:</b> Rough top  <b>STRATEGY:</b> Facing  <b>WCS:</b> #1  <b>TOLERANCE:</b> 0in  <b>MAXIMUM STEPDOWN:</b> 0.05in  <b>MAXIMUM STEPOVER:</b> 2.6in</p>	<p><b>MAXIMUM Z:</b> 1.8in  <b>MINIMUM Z:</b> 0.916in  <b>MAXIMUM SPINDLE SPEED:</b> 4000rpm  <b>MAXIMUM FEEDRATE:</b> 72in/min  <b>CUTTING DISTANCE:</b> 390.679in  <b>RAPID DISTANCE:</b> 35.956in  <b>ESTIMATED CYCLE TIME:</b> 5m:28s (27.2%)  <b>COOLANT:</b> Flood</p>	<p><b>T1 D1 L1</b>  <b>TYPE:</b> face mill  <b>DIAMETER:</b> 3in  <b>CORNER RADIUS:</b> 0.005in  <b>TAPER ANGLE:</b> 45°  <b>LENGTH:</b> 1.75in  <b>FLUTES:</b> 6  <b>DESCRIPTION:</b> 3" Cut Dia, 1" Arbor Hole, 4.51mm Max Depth of Cut, 45° Indexable Chamfer &amp; Angle Face Mill  <b>VENDOR:</b> Kennametal  <b>PRODUCT:</b> <a href="#">60299922</a></p>	
<p>Operation 3/8  <b>DESCRIPTION:</b> Finish top  <b>STRATEGY:</b> Facing  <b>WCS:</b> #1  <b>TOLERANCE:</b> 0in  <b>MAXIMUM STEPOVER:</b> 1.4in</p>	<p><b>MAXIMUM Z:</b> 1.8in  <b>MINIMUM Z:</b> 0.866in  <b>MAXIMUM SPINDLE SPEED:</b> 4000rpm  <b>MAXIMUM FEEDRATE:</b> 72in/min  <b>CUTTING DISTANCE:</b> 100.509in  <b>RAPID DISTANCE:</b> 85.718in  <b>ESTIMATED CYCLE TIME:</b> 1m:31s (7.5%)  <b>COOLANT:</b> Flood</p>	<p><b>T1 D1 L1</b>  <b>TYPE:</b> face mill  <b>DIAMETER:</b> 3in  <b>CORNER RADIUS:</b> 0.005in  <b>TAPER ANGLE:</b> 45°  <b>LENGTH:</b> 1.75in  <b>FLUTES:</b> 6  <b>DESCRIPTION:</b> 3" Cut Dia, 1" Arbor Hole, 4.51mm Max Depth of Cut, 45° Indexable Chamfer &amp; Angle Face Mill  <b>VENDOR:</b> Kennametal  <b>PRODUCT:</b> <a href="#">60299922</a></p>	
<p>Operation 4/8  <b>DESCRIPTION:</b> Left ramp  <b>STRATEGY:</b> Morph  <b>WCS:</b> #1  <b>TOLERANCE:</b> 0in  <b>STOCK TO LEAVE:</b> 0.1in/0in  <b>MAXIMUM STEPOVER:</b> 0.125in</p>	<p><b>MAXIMUM Z:</b> 1.8in  <b>MINIMUM Z:</b> 0.59in  <b>MAXIMUM SPINDLE SPEED:</b> 12000rpm  <b>MAXIMUM FEEDRATE:</b> 240in/min  <b>CUTTING DISTANCE:</b> 36.588in  <b>RAPID DISTANCE:</b> 1.738in  <b>ESTIMATED CYCLE TIME:</b> 9s (0.8%)  <b>COOLANT:</b> Flood</p>	<p><b>T2 D2 L2</b>  <b>TYPE:</b> bullnose end mill  <b>DIAMETER:</b> 0.5in  <b>CORNER RADIUS:</b> 0.03in  <b>LENGTH:</b> 1.5in  <b>FLUTES:</b> 4  <b>DESCRIPTION:</b> Corner Radius End Mill: 1/2" Dia, 1" LOC, 0.0300" Radius, 4 Flute, Solid Carbide  <b>VENDOR:</b> SECO  <b>PRODUCT:</b> <a href="#">82763467</a></p>	
<p>Operation 5/8  <b>DESCRIPTION:</b> Right ramp  <b>STRATEGY:</b> Morph  <b>WCS:</b> #1  <b>TOLERANCE:</b> 0in  <b>STOCK TO LEAVE:</b> 0.1in/0in  <b>MAXIMUM STEPOVER:</b> 0.125in</p>	<p><b>MAXIMUM Z:</b> 1.8in  <b>MINIMUM Z:</b> 0.59in  <b>MAXIMUM SPINDLE SPEED:</b> 12000rpm  <b>MAXIMUM FEEDRATE:</b> 240in/min  <b>CUTTING DISTANCE:</b> 33.095in  <b>RAPID DISTANCE:</b> 2.014in  <b>ESTIMATED CYCLE TIME:</b> 8s (0.7%)  <b>COOLANT:</b> Flood</p>	<p><b>T2 D2 L2</b>  <b>TYPE:</b> bullnose end mill  <b>DIAMETER:</b> 0.5in  <b>CORNER RADIUS:</b> 0.03in  <b>LENGTH:</b> 1.5in  <b>FLUTES:</b> 4  <b>DESCRIPTION:</b> Corner Radius End Mill: 1/2" Dia, 1" LOC, 0.0300" Radius, 4 Flute, Solid Carbide  <b>VENDOR:</b> SECO  <b>PRODUCT:</b> <a href="#">82763467</a></p>	
<p>Operation 6/8  <b>DESCRIPTION:</b> Rough pockets  <b>STRATEGY:</b> Adaptive 2D  <b>WCS:</b> #1  <b>TOLERANCE:</b> 0.004in  <b>STOCK TO LEAVE:</b> 0.02in  <b>OPTIMAL LOAD:</b> 0.125in  <b>LOAD DEVIATION:</b> 0.013in</p>	<p><b>MAXIMUM Z:</b> 1.8in  <b>MINIMUM Z:</b> 0.138in  <b>MAXIMUM SPINDLE SPEED:</b> 12000rpm  <b>MAXIMUM FEEDRATE:</b> 240in/min  <b>CUTTING DISTANCE:</b> 831.007in  <b>RAPID DISTANCE:</b> 101.193in  <b>ESTIMATED CYCLE TIME:</b> 5m:42s (28.4%)  <b>COOLANT:</b> Flood</p>	<p><b>T2 D2 L2</b>  <b>TYPE:</b> bullnose end mill  <b>DIAMETER:</b> 0.5in  <b>CORNER RADIUS:</b> 0.03in  <b>LENGTH:</b> 1.5in  <b>FLUTES:</b> 4  <b>DESCRIPTION:</b> Corner Radius End Mill: 1/2" Dia, 1" LOC, 0.0300" Radius, 4 Flute, Solid Carbide  <b>VENDOR:</b> SECO  <b>PRODUCT:</b> <a href="#">82763467</a></p>	
<p>Operation 7/8  <b>DESCRIPTION:</b> Finish pockets  <b>STRATEGY:</b> Pocket 2D  <b>WCS:</b> #1  <b>TOLERANCE:</b> 0.004in  <b>STOCK TO LEAVE:</b> 0in  <b>MAXIMUM STEPOVER:</b> 0.25in</p>	<p><b>MAXIMUM Z:</b> 1.8in  <b>MINIMUM Z:</b> 0.118in  <b>MAXIMUM SPINDLE SPEED:</b> 12000rpm  <b>MAXIMUM FEEDRATE:</b> 240in/min  <b>CUTTING DISTANCE:</b> 323.307in  <b>RAPID DISTANCE:</b> 30.873in  <b>ESTIMATED CYCLE TIME:</b> 1m:45s (8.7%)  <b>COOLANT:</b> Flood</p>	<p><b>T2 D2 L2</b>  <b>TYPE:</b> bullnose end mill  <b>DIAMETER:</b> 0.5in  <b>CORNER RADIUS:</b> 0.03in  <b>LENGTH:</b> 1.5in  <b>FLUTES:</b> 4  <b>DESCRIPTION:</b> Corner Radius End Mill: 1/2" Dia, 1" LOC, 0.0300" Radius, 4 Flute, Solid Carbide  <b>VENDOR:</b> SECO  <b>PRODUCT:</b> <a href="#">82763467</a></p>	
<p>Operation 8/8  <b>DESCRIPTION:</b> Chamfer top edges  <b>STRATEGY:</b> 3D Path  <b>WCS:</b> #1  <b>TOLERANCE:</b> 0in  <b>STOCK TO LEAVE:</b> 0in</p>	<p><b>MAXIMUM Z:</b> 1.8in  <b>MINIMUM Z:</b> 0.058in  <b>MAXIMUM SPINDLE SPEED:</b> 12000rpm  <b>MAXIMUM FEEDRATE:</b> 72in/min  <b>CUTTING DISTANCE:</b> 104.046in  <b>RAPID DISTANCE:</b> 16.945in  <b>ESTIMATED CYCLE TIME:</b> 1m:27s (7.2%)  <b>COOLANT:</b> Flood</p>	<p><b>T4 D4 L4</b>  <b>TYPE:</b> chamfer mill  <b>DIAMETER:</b> 0.375in  <b>TAPER ANGLE:</b> 45°  <b>LENGTH:</b> 1.5in  <b>FLUTES:</b> 2  <b>DESCRIPTION:</b> Chamfer Mill: 3/8" Dia, 3/8" Shank Dia, 90 deg, 2 Flute, Solid Carbide, Single End  <b>VENDOR:</b> Accupro  <b>PRODUCT:</b> <a href="#">09550336</a></p>	