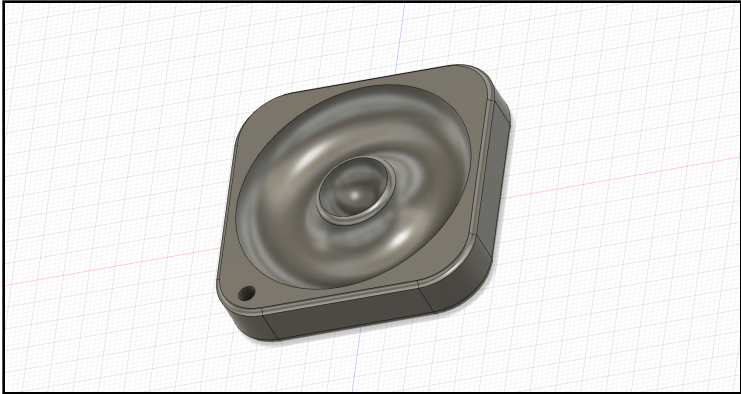


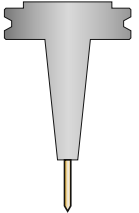
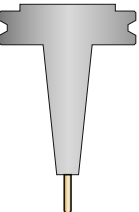
Setup Sheet for Program 1001

JOB DESCRIPTION: Setup3

DOCUMENT PATH: ringbox v4

Setup	
<p>WCS: #0</p> <p>STOCK:</p> <p>DX: 53mm</p> <p>DY: 53mm</p> <p>DZ: 13mm</p> <p>PART:</p> <p>DX: 50mm</p> <p>DY: 50mm</p> <p>DZ: 10mm</p> <p>STOCK LOWER IN WCS #0:</p> <p>X: 0mm</p> <p>Y: -53mm</p> <p>Z: -13mm</p> <p>STOCK UPPER IN WCS #0:</p> <p>X: 53mm</p> <p>Y: 0mm</p> <p>Z: 0mm</p>	

Total
<p>NUMBER OF OPERATIONS: 11</p> <p>NUMBER OF TOOLS: 7</p> <p>TOOLS: T101 T108 T114 T117 T132 T134 T171</p> <p>MAXIMUM Z: 15mm</p> <p>MINIMUM Z: -13mm</p> <p>MAXIMUM FEEDRATE: 5486.4mm/min</p> <p>MAXIMUM SPINDLE SPEED: 12000rpm</p> <p>CUTTING DISTANCE: 22852.19mm</p> <p>RAPID DISTANCE: 1881.16mm</p> <p>ESTIMATED CYCLE TIME: 14m:19s</p>

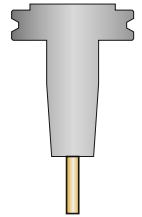
Tools			
<p>T101 D101 L101</p> <p>TYPE: spot drill</p> <p>DIAMETER: 3.17mm</p> <p>TIP ANGLE: 60°</p> <p>LENGTH: 26.01mm</p> <p>FLUTES: 2</p> <p>DESCRIPTION: 1/8" Spot Drill</p> <p>COMMENT: How to make a hole: spot drill, drill, tap or ream</p> <p>VENDOR: MSC</p> <p>PRODUCT: 985085</p>	<p>MINIMUM Z: -13mm</p> <p>MAXIMUM FEED: 155.245mm/min</p> <p>MAXIMUM SPINDLE SPEED: 12000rpm</p> <p>CUTTING DISTANCE: 31.5mm</p> <p>RAPID DISTANCE: 76.5mm</p> <p>ESTIMATED CYCLE TIME: 13s (1.5%)</p>	<p>HOLDER: CAT40 Heat Shrink 1/8" - Haimer</p> <p>VENDOR: MSC</p> <p>PRODUCT: 82213117</p>	
<p>T108 D108 L108</p> <p>TYPE: ball end mill</p> <p>DIAMETER: 3.17mm</p> <p>CORNER RADIUS: 1.59mm</p> <p>LENGTH: 18.15mm</p> <p>FLUTES: 3</p> <p>DESCRIPTION: 1/8" Ball EM Long</p> <p>COMMENT: Max Depth of Cut = 0.005"</p> <p>VENDOR: MSC</p> <p>PRODUCT: 85183374</p>	<p>MINIMUM Z: -9mm</p> <p>MAXIMUM FEED: 1828.8mm/min</p> <p>MAXIMUM SPINDLE SPEED: 12000rpm</p> <p>CUTTING DISTANCE: 15301.2mm</p> <p>RAPID DISTANCE: 293.88mm</p> <p>ESTIMATED CYCLE TIME: 8m:37s (60.3%)</p>	<p>HOLDER: CAT40 Heat Shrink 1/8" - Haimer</p> <p>VENDOR: MSC</p> <p>PRODUCT: 82213117</p>	

T114 D114 L114

TYPE: flat end mill
 DIAMETER: 6.35mm
 LENGTH: 29.96mm
 FLUTES: 3
 DESCRIPTION: 1/4" EM Short
 COMMENT: For pocket toolpaths, max depth of cut = 0.075"
 VENDOR: MSC
 PRODUCT: 65249823

MINIMUM Z: -1mm
 MAXIMUM FEED: 2540mm/min
 MAXIMUM SPINDLE SPEED: 12000rpm
 CUTTING DISTANCE: 551.51mm
 RAPID DISTANCE: 25.37mm
 ESTIMATED CYCLE TIME: 14s (1.7%)

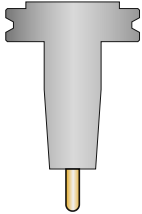
HOLDER: CAT40 Heat Shrink 1/4" - Haimer
 VENDOR: MSC
 PRODUCT: 61772273

**T117 D117 L117**

TYPE: ball end mill
 DIAMETER: 6.35mm
 CORNER RADIUS: 3.17mm
 LENGTH: 20.14mm
 FLUTES: 3
 DESCRIPTION: 1/4" Ball EM Short
 COMMENT: Max Depth of Cut = 0.020"
 VENDOR: MSC
 PRODUCT: 85183440

MINIMUM Z: -10.99mm
 MAXIMUM FEED: 5486.4mm/min
 MAXIMUM SPINDLE SPEED: 12000rpm
 CUTTING DISTANCE: 5128.74mm
 RAPID DISTANCE: 1353.54mm
 ESTIMATED CYCLE TIME: 2m:11s (15.2%)

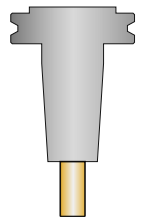
HOLDER: CAT40 Heat Shrink 1/4" - Haimer
 VENDOR: MSC
 PRODUCT: 61772273

**T132 D132 L132**

TYPE: bullnose end mill
 DIAMETER: 12.7mm
 CORNER RADIUS: 0.51mm
 LENGTH: 28.38mm
 FLUTES: 3
 DESCRIPTION: 1/2" Rough EM Short
 COMMENT: For pocket toolpaths, max depth of cut = 0.125"
 VENDOR: MSC
 PRODUCT: 97290019

MINIMUM Z: -10.49mm
 MAXIMUM FEED: 4114.8mm/min
 MAXIMUM SPINDLE SPEED: 12000rpm
 CUTTING DISTANCE: 1401.39mm
 RAPID DISTANCE: 66.91mm
 ESTIMATED CYCLE TIME: 22s (2.6%)

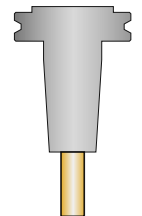
HOLDER: CAT40 Heat Shrink 1/2" - Haimer
 VENDOR: MSC
 PRODUCT: 61772216

**T134 D134 L134**

TYPE: flat end mill
 DIAMETER: 12.7mm
 LENGTH: 35.33mm
 FLUTES: 3
 DESCRIPTION: 1/2" EM Short
 COMMENT: For pocket toolpaths, max depth of cut = 0.125"
 VENDOR: MSC
 PRODUCT: 65250177

MINIMUM Z: -9mm
 MAXIMUM FEED: 4114.8mm/min
 MAXIMUM SPINDLE SPEED: 12000rpm
 CUTTING DISTANCE: 245mm
 RAPID DISTANCE: 43.46mm
 ESTIMATED CYCLE TIME: 4s (0.5%)

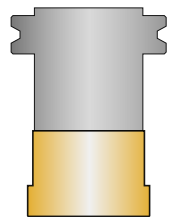
HOLDER: CAT40 Heat Shrink 1/2" - Haimer
 VENDOR: MSC
 PRODUCT: 61772216

**T171 D171 L171**

TYPE: face mill
 DIAMETER: 49.97mm
 CORNER RADIUS: 0.38mm
 LENGTH: 35.33mm
 FLUTES: 5
 DESCRIPTION: 2" Face Mill
 COMMENT: Aluminum Only Max Depth of Cut = 0.100"
 VENDOR: MariTool Face Mill Holder MSAP16-D050A05Rx25.4
 PRODUCT: Aluminum Only Inserts APET160508PDFRSN-DLC100

MINIMUM Z: -1.5mm
 MAXIMUM FEED: 2667mm/min
 MAXIMUM SPINDLE SPEED: 7000rpm
 CUTTING DISTANCE: 192.85mm
 RAPID DISTANCE: 21.5mm
 ESTIMATED CYCLE TIME: 6s (0.7%)

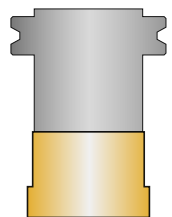
HOLDER: CAT40 Arbor

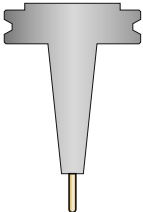
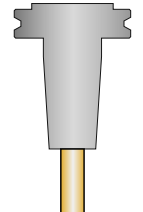
**Operations****Operation 1/11**

DESCRIPTION: Face1
 STRATEGY: Facing
 WCS: #0
 TOLERANCE: 0.01mm
 MAXIMUM STEPOVER: 46.75mm
 MAXIMUM Z: 15mm
 MINIMUM Z: -1.5mm
 MAXIMUM SPINDLE SPEED: 7000rpm
 MAXIMUM FEEDRATE: 2667mm/min
 CUTTING DISTANCE: 192.85mm
 RAPID DISTANCE: 21.5mm
 ESTIMATED CYCLE TIME: 6s (0.7%)
 COOLANT: Flood

T171 D171 L171

TYPE: face mill
 DIAMETER: 49.97mm
 CORNER RADIUS: 0.38mm
 LENGTH: 35.33mm
 FLUTES: 5
 DESCRIPTION: 2" Face Mill
 COMMENT: Aluminum Only Max Depth of Cut = 0.100"
 VENDOR: MariTool Face Mill Holder MSAP16-D050A05Rx25.4
 PRODUCT: Aluminum Only Inserts APET160508PDFRSN-DLC100



<p>Operation 2/11 DESCRIPTION: Adaptive1 STRATEGY: Adaptive WCS: #0 TOLERANCE: 0.1mm STOCK TO LEAVE: 0.5mm MAXIMUM STEPDOWN: 9.52mm OPTIMAL LOAD: 2.54mm LOAD DEVIATION: 0.25mm</p>	<p>MAXIMUM Z: 15mm MINIMUM Z: -10.99mm MAXIMUM SPINDLE SPEED: 12000rpm MAXIMUM FEEDRATE: 5486.4mm/min CUTTING DISTANCE: 4235.35mm RAPID DISTANCE: 1318.68mm ESTIMATED CYCLE TIME: 1m:46s (12.4%) COOLANT: Flood</p>	<p>T117 D117 L117 Type: ball end mill DIAMETER: 6.35mm CORNER RADIUS: 3.17mm LENGTH: 20.14mm FLUTES: 3 DESCRIPTION: 1/4" Ball EM Short COMMENT: Max Depth of Cut = 0.020" VENDOR: MSC PRODUCT: 85183440</p>	
<p>Operation 3/11 DESCRIPTION: Pocket2 STRATEGY: Pocket WCS: #0 TOLERANCE: 0.1mm STOCK TO LEAVE: 0mm MAXIMUM STEPDOWN: 1mm MAXIMUM STEPOVER: 1.27mm</p>	<p>MAXIMUM Z: 15mm MINIMUM Z: -7.5mm MAXIMUM SPINDLE SPEED: 12000rpm MAXIMUM FEEDRATE: 5486.4mm/min CUTTING DISTANCE: 893.4mm RAPID DISTANCE: 34.87mm ESTIMATED CYCLE TIME: 24s (2.8%) COOLANT: Flood</p>	<p>T117 D117 L117 Type: ball end mill DIAMETER: 6.35mm CORNER RADIUS: 3.17mm LENGTH: 20.14mm FLUTES: 3 DESCRIPTION: 1/4" Ball EM Short COMMENT: Max Depth of Cut = 0.020" VENDOR: MSC PRODUCT: 85183440</p>	
<p>Operation 4/11 DESCRIPTION: Steep and Shallow1 WCS: #0 TOLERANCE: 0.01mm STOCK TO LEAVE: 0mm MAXIMUM STEPDOWN: 0.16mm MAXIMUM STEPOVER: 0.16mm</p>	<p>MAXIMUM Z: 15mm MINIMUM Z: -9mm MAXIMUM SPINDLE SPEED: 12000rpm MAXIMUM FEEDRATE: 1828.8mm/min CUTTING DISTANCE: 14366.84mm RAPID DISTANCE: 230.16mm ESTIMATED CYCLE TIME: 8m:5s (56.5%) COOLANT: Flood</p>	<p>T108 D108 L108 Type: ball end mill DIAMETER: 3.17mm CORNER RADIUS: 1.59mm LENGTH: 18.15mm FLUTES: 3 DESCRIPTION: 1/8" Ball EM Long COMMENT: Max Depth of Cut = 0.005" VENDOR: MSC PRODUCT: 85183374</p>	
<p>Operation 5/11 DESCRIPTION: Drill1 STRATEGY: Drilling WCS: #0 TOLERANCE: 0.01mm</p>	<p>MAXIMUM Z: 15mm MINIMUM Z: -13mm MAXIMUM SPINDLE SPEED: 12000rpm MAXIMUM FEEDRATE: 155.245mm/min CUTTING DISTANCE: 16.5mm RAPID DISTANCE: 39.5mm ESTIMATED CYCLE TIME: 7s (0.8%) COOLANT: Flood</p>	<p>T101 D101 L101 Type: spot drill DIAMETER: 3.17mm TIP ANGLE: 60° LENGTH: 26.01mm FLUTES: 2 DESCRIPTION: 1/8" Spot Drill COMMENT: How to make a hole: spot drill, drill, tap or ream VENDOR: MSC PRODUCT: 985085</p>	
<p>Operation 6/11 DESCRIPTION: 2D Adaptive4 STRATEGY: Adaptive 2D WCS: #0 TOLERANCE: 0.1mm STOCK TO LEAVE: 0.5mm OPTIMAL LOAD: 5.08mm LOAD DEVIATION: 0.51mm</p>	<p>MAXIMUM Z: 15mm MINIMUM Z: -9mm MAXIMUM SPINDLE SPEED: 12000rpm MAXIMUM FEEDRATE: 4114.8mm/min CUTTING DISTANCE: 245mm RAPID DISTANCE: 43.46mm ESTIMATED CYCLE TIME: 4s (0.5%) COOLANT: Flood</p>	<p>T134 D134 L134 Type: flat end mill DIAMETER: 12.7mm LENGTH: 35.33mm FLUTES: 3 DESCRIPTION: 1/2" EM Short COMMENT: For pocket toolpaths, max depth of cut = 0.125" VENDOR: MSC PRODUCT: 65250177</p>	
<p>Operation 7/11 DESCRIPTION: Ramp1 STRATEGY: Ramp WCS: #0 TOLERANCE: 0.01mm STOCK TO LEAVE: 0mm MAXIMUM STEPDOWN: 1mm</p>	<p>MAXIMUM Z: 15mm MINIMUM Z: -3.5mm MAXIMUM SPINDLE SPEED: 12000rpm MAXIMUM FEEDRATE: 1828.8mm/min CUTTING DISTANCE: 573.76mm RAPID DISTANCE: 33.43mm ESTIMATED CYCLE TIME: 20s (2.3%) COOLANT: Flood</p>	<p>T108 D108 L108 Type: ball end mill DIAMETER: 3.17mm CORNER RADIUS: 1.59mm LENGTH: 18.15mm FLUTES: 3 DESCRIPTION: 1/8" Ball EM Long COMMENT: Max Depth of Cut = 0.005" VENDOR: MSC PRODUCT: 85183374</p>	

<p>Operation 8/11</p> <p>DESCRIPTION: Adaptive2</p> <p>STRATEGY: Adaptive</p> <p>WCS: #0</p> <p>TOLERANCE: 0.1mm</p> <p>STOCK TO LEAVE: 0.5mm</p> <p>MAXIMUM STEPDOWN: 10mm</p> <p>OPTIMAL LOAD: 5.08mm</p> <p>LOAD DEVIATION: 0.51mm</p>	<p>MAXIMUM Z: 15mm</p> <p>MINIMUM Z: -10.49mm</p> <p>MAXIMUM SPINDLE SPEED: 12000rpm</p> <p>MAXIMUM FEEDRATE: 4114.8mm/min</p> <p>CUTTING DISTANCE: 1401.39mm</p> <p>RAPID DISTANCE: 66.91mm</p> <p>ESTIMATED CYCLE TIME: 22s (2.6%)</p> <p>COOLANT: Flood</p>	<p>T132 D132 L132</p> <p>Type: bullnose end mill</p> <p>DIAMETER: 12.7mm</p> <p>CORNER RADIUS: 0.51mm</p> <p>LENGTH: 28.38mm</p> <p>FLUTES: 3</p> <p>DESCRIPTION: 1/2" Rough EM Short</p> <p>COMMENT: For pocket toolpaths, max depth of cut = 0.125"</p> <p>VENDOR: MSC</p> <p>PRODUCT: 97290019</p>	
<p>Operation 9/11</p> <p>DESCRIPTION: Face2</p> <p>STRATEGY: Facing</p> <p>WCS: #0</p> <p>TOLERANCE: 0.01mm</p> <p>MAXIMUM STEPOVER: 6.03mm</p>	<p>MAXIMUM Z: 15mm</p> <p>MINIMUM Z: -1mm</p> <p>MAXIMUM SPINDLE SPEED: 12000rpm</p> <p>MAXIMUM FEEDRATE: 2540mm/min</p> <p>CUTTING DISTANCE: 551.51mm</p> <p>RAPID DISTANCE: 25.37mm</p> <p>ESTIMATED CYCLE TIME: 14s (1.7%)</p> <p>COOLANT: Flood</p>	<p>T114 D114 L114</p> <p>Type: flat end mill</p> <p>DIAMETER: 6.35mm</p> <p>LENGTH: 29.96mm</p> <p>FLUTES: 3</p> <p>DESCRIPTION: 1/4" EM Short</p> <p>COMMENT: For pocket toolpaths, max depth of cut = 0.075"</p> <p>VENDOR: MSC</p> <p>PRODUCT: 65249823</p>	
<p>Operation 10/11</p> <p>DESCRIPTION: Scallop2</p> <p>STRATEGY: Scallop</p> <p>WCS: #0</p> <p>TOLERANCE: 0.01mm</p> <p>STOCK TO LEAVE: 0mm</p> <p>MAXIMUM STEPOVER: 1.59mm</p>	<p>MAXIMUM Z: 15mm</p> <p>MINIMUM Z: -1.61mm</p> <p>MAXIMUM SPINDLE SPEED: 12000rpm</p> <p>MAXIMUM FEEDRATE: 1828.8mm/min</p> <p>CUTTING DISTANCE: 360.59mm</p> <p>RAPID DISTANCE: 30.3mm</p> <p>ESTIMATED CYCLE TIME: 13s (1.5%)</p> <p>COOLANT: Flood</p>	<p>T108 D108 L108</p> <p>Type: ball end mill</p> <p>DIAMETER: 3.17mm</p> <p>CORNER RADIUS: 1.59mm</p> <p>LENGTH: 18.15mm</p> <p>FLUTES: 3</p> <p>DESCRIPTION: 1/8" Ball EM Long</p> <p>COMMENT: Max Depth of Cut = 0.005"</p> <p>VENDOR: MSC</p> <p>PRODUCT: 85183374</p>	
<p>Operation 11/11</p> <p>DESCRIPTION: Drill2</p> <p>STRATEGY: Drilling</p> <p>WCS: #0</p> <p>TOLERANCE: 0.01mm</p>	<p>MAXIMUM Z: 15mm</p> <p>MINIMUM Z: -11mm</p> <p>MAXIMUM SPINDLE SPEED: 12000rpm</p> <p>MAXIMUM FEEDRATE: 155.245mm/min</p> <p>CUTTING DISTANCE: 15mm</p> <p>RAPID DISTANCE: 37mm</p> <p>ESTIMATED CYCLE TIME: 6s (0.7%)</p> <p>COOLANT: Flood</p>	<p>T101 D101 L101</p> <p>Type: spot drill</p> <p>DIAMETER: 3.17mm</p> <p>TIP ANGLE: 60°</p> <p>LENGTH: 26.01mm</p> <p>FLUTES: 2</p> <p>DESCRIPTION: 1/8" Spot Drill</p> <p>COMMENT: How to make a hole: spot drill, drill, tap or ream</p> <p>VENDOR: MSC</p> <p>PRODUCT: 985085</p>	