

Setup Sheet for Program 1001

▼ Summary

PROGRAM USES MULTIPLE WCS

Program comment: All OPs
Number of operations: 21
Number of tools: 8

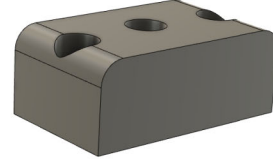
Design document: Engine Case RH -
Programmed - Final Rev v10
Tools: T1 T2 T3 T4 T5 T6 T7 T8
Maximum Z: 2.5 in
Minimum Z: -1.52 in

Product version:
Fusion 360 CAM 2.0.12670

Created:
Friday, April 22, 2022
15:45:06

Number of setups: 4

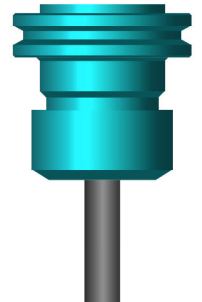
Maximum feedrate: 300 in/min
Maximum spindle speed: 7500 rpm
Cutting distance: 310.2326 in
Rapid distance: 90.2046 in
Estimated cycle time: 5m 15s



▼ Tools

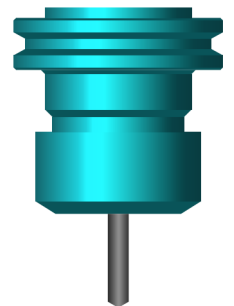
Number: 1
Diameter offset: 1
Length offset: 1
Tool type: flat end mill
Diameter: 0.5 in
Length: 1.75 in
Number of flutes: 3
Tool description: 1/2" 3 Flute Flat Carbide Endmill 1.5" Flute Length
Tool vendor: Generic
Tool product:
Minimum Z: -1.52 in
Maximum feedrate: 300 in/min
Maximum spindle speed: 7500 rpm
Cutting distance: 178.634 in

Rapid distance: 14.504 in
Estimated cycle time: 2m 2s
Holder description: Maritool CAT40-ER32-2.35
Holder vendor: Maritool
Holder product: CAT40-ER32-2.35



Number: 2
Diameter offset: 2
Length offset: 2
Tool type: spot drill
Diameter: 0.25 in
Tip angle: 120 deg
Length: 1.125 in
Number of flutes: 2
Tool description: 1/4" 120deg HSS Spot Drill
Tool vendor: Generic
Tool product:
Minimum Z: -0.6034 in
Maximum feedrate: 9.12 in/min
Maximum spindle speed: 2280 rpm

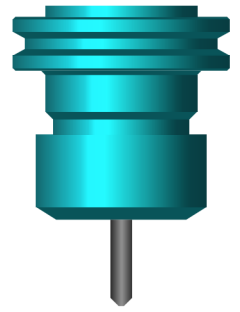
Cutting distance: 1.7926 in
Rapid distance: 11.5361 in
Estimated cycle time: 12s
Holder description: Maritool CAT40-ER32-2.35
Holder vendor: Maritool
Holder product: CAT40-ER32-2.35



Number: 3
Diameter offset: 3
Length offset: 3
Tool type: chamfer mill
Diameter: 0.25 in
Taper angle: 45 deg
Length: 1 in

Number of flutes: 4
Tool description:
1/4" 90deg Carbide Chamfer Mill
Comment: L0140
Tool vendor: Generic
Tool product:
Minimum Z: -0.5913 in
Maximum feedrate: 60 in/min

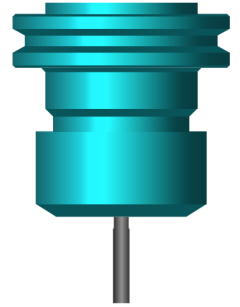
Maximum spindle speed:
7500 rpm
Cutting distance: 25.8823 in
Rapid distance: 26.7086 in
Estimated cycle time: 32s
Holder description:
Maritool CAT40-ER32-2.35
Holder vendor: Maritool
Holder product:
CAT40-ER32-2.35



Number: 4
Diameter offset: 4
Length offset: 4
Tool type: right hand tap
Diameter: 0.19 in
Length: 1 in
Number of flutes: 2

Tool description:
#10-32 UNF RH Spiral Flute Bottoming Tap
Tool vendor: Generic
Tool product:
Minimum Z: -0.4125 in
Maximum feedrate:
15.63 in/min
Maximum spindle speed:
500 rpm
Cutting distance: 2.05 in

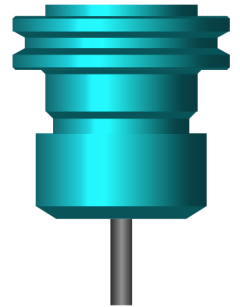
Rapid distance: 3.075 in
Estimated cycle time: 8s
Holder description:
Maritool CAT40-ER32-2.35
Holder vendor: Maritool
Holder product:
CAT40-ER32-2.35



Number: 5
Diameter offset: 5
Length offset: 5
Tool type: flat end mill
Diameter: 0.25 in
Length: 1 in
Number of flutes: 3

Tool description:
1/4" 3 Flute Flat Carbide Endmill 3/4" Flute Length
Tool vendor: Generic
Tool product:
Minimum Z: -0.9575 in
Maximum feedrate:
300 in/min
Maximum spindle speed:
7500 rpm
Cutting distance: 96.1351 in

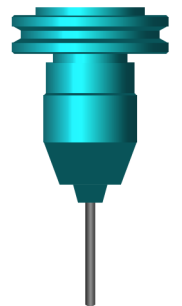
Rapid distance: 15.5384 in
Estimated cycle time: 2m 1s
Holder description:
Maritool CAT40-ER32-2.35
Holder vendor: Maritool
Holder product:
CAT40-ER32-2.35



Number: 6
Diameter offset: 6
Length offset: 6
Tool type: drill
Diameter: 0.159 in
Tip angle: 118 deg
Length: 1.69 in

Number of flutes: 1
Tool description:
#21 Jobber Length 118deg HSS Drill (0.1590)
Tool vendor: Generic
Tool product:
Minimum Z: -0.5228 in
Maximum feedrate:
17.19 in/min
Maximum spindle speed:
7207 rpm

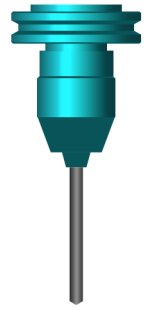
Cutting distance: 1.424 in
Rapid distance: 4.339 in
Estimated cycle time: 5s
Holder description:
Maritool CAT40-APU08 Drill Chuck
Holder vendor: Maritool
Holder product:
CAT40-APU08



Number: 7
Diameter offset: 7
Length offset: 7
Tool type: drill
Diameter: 0.257 in
Tip angle: 118 deg
Length: 2.67 in

Number of flutes: 1
Tool description:
F Jobber Length 118deg HSS
Drill (0.257)
Tool vendor: Generic
Tool product:
Minimum Z: -1.0722 in
Maximum feedrate:
17.19 in/min
Maximum spindle speed:
4459 rpm

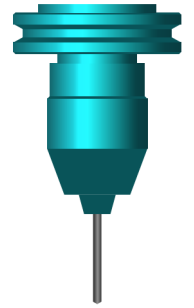
Cutting distance: 3.6776 in
Rapid distance: 10.5473 in
Estimated cycle time: 13s
Holder description:
Maritool CAT40-APU08 Drill
Chuck
Holder vendor: Maritool
Holder product:
CAT40-APU08



Number: 8
Diameter offset: 8
Length offset: 8
Tool type: drill
Diameter: 0.125 in
Tip angle: 118 deg
Length: 1.35 in

Number of flutes: 1
Tool description:
1/8" Jobber Length 118deg
HSS Drill (0.125)
Tool vendor: Generic
Tool product:
Minimum Z: -0.2251 in
Maximum feedrate:
14.06 in/min
Maximum spindle speed:
7500 rpm

Cutting distance: 0.6372 in
Rapid distance: 3.9562 in
Estimated cycle time: 3s
Holder description:
Maritool CAT40-APU08 Drill
Chuck
Holder vendor: Maritool
Holder product:
CAT40-APU08



▼ Setup

Description: OP1
WCS: 1

Stock:
x: 2.5 in
y: 1 in
z: 2 in

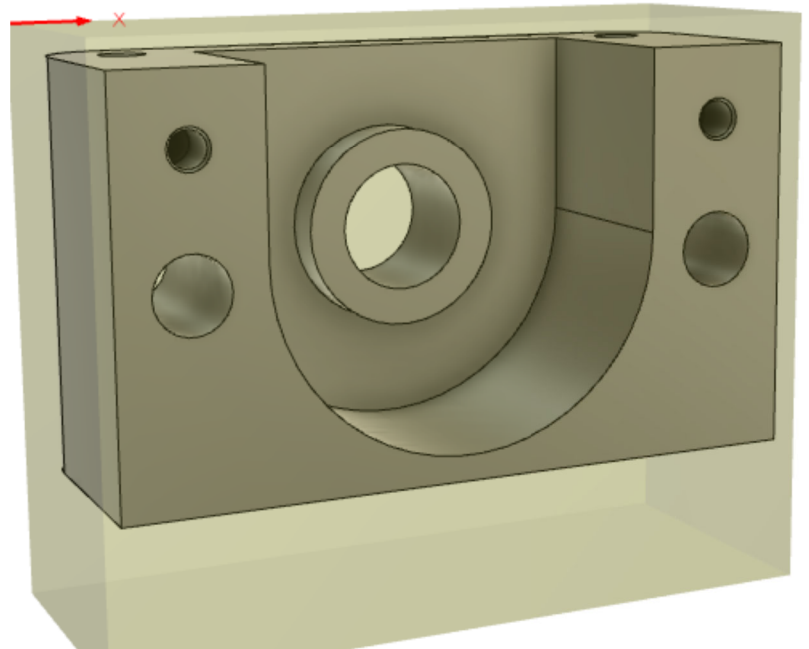
Part:
x: 2.375 in
y: 0.9375 in
z: 1.4 in

Stock lower:
x: 0 in
y: -1 in
z: -2 in

Stock upper:
x: 2.5 in
y: 0 in
z: 0 in

Notes:

On a typical Kurt vise with 1.75" tall jaws, use 1.375" parallels



Description: OP2

Stock:

WCS: 2

x: 2.5 in

y: 1 in

z: 2 in

Part:

x: 2.375 in

y: 0.9375 in

z: 1.4 in

Stock lower:

x: -0.0625 in

y: -0.975 in

z: -0.1 in

Stock upper:

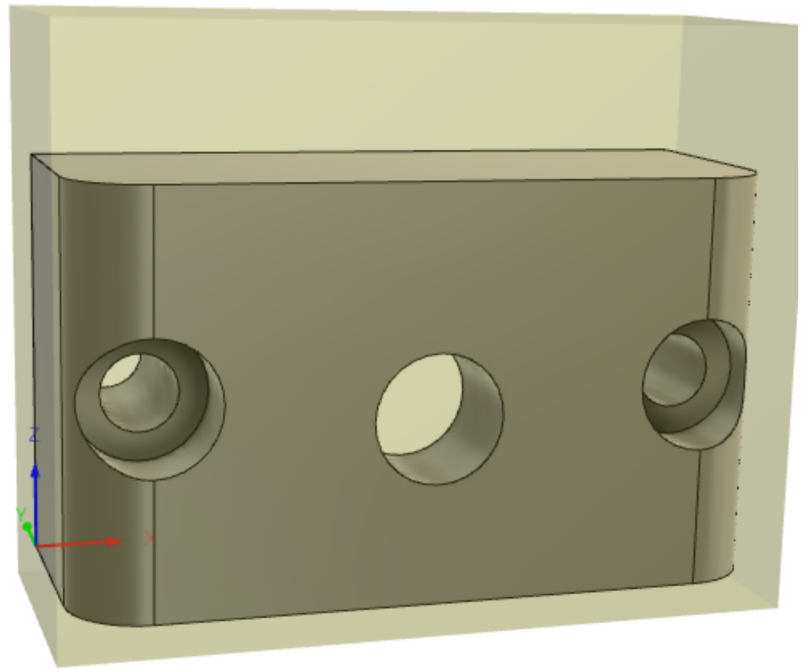
x: 2.4375 in

y: 0.025 in

z: 1.9 in

Notes:

On a typical Kurt vise with 1.75" tall jaws, use 0.75" parallels



Description: OP3

Stock:

WCS: 3

x: 2.5 in

y: 2 in

z: 1 in

Part:

x: 2.375 in

y: 1.4 in

z: 0.9375 in

Stock lower:

x: -0.0625 in

y: -1.9 in

z: -0.975 in

Stock upper:

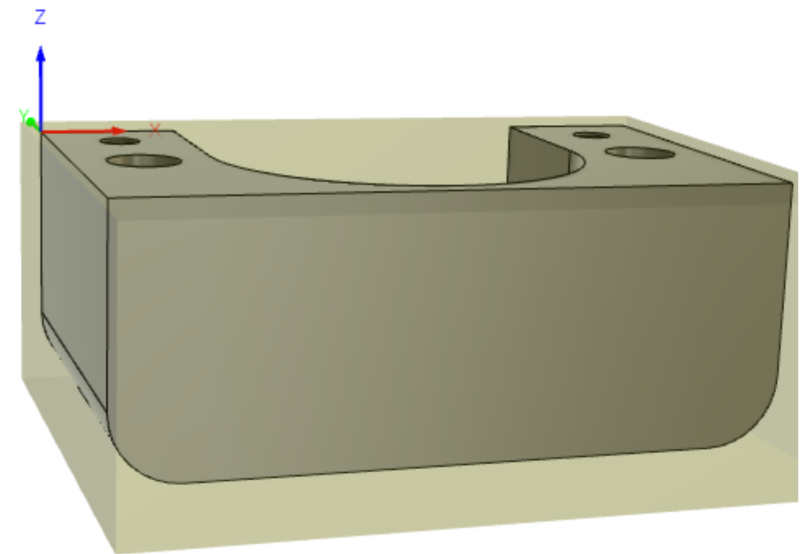
x: 2.4375 in

y: 0.1 in

z: 0.025 in

Notes:

On a typical Kurt vise with 1.75" tall jaws, use 1.625" parallels



Description: OP4

WCS: 3

Stock:

x: 2.5 in

y: 2 in

z: 1 in

Part:

x: 2.375 in

y: 1.4 in

z: 0.9375 in

Stock lower:

x: -0.0625 in

y: -1.9 in

z: -0.9625 in

Stock upper:

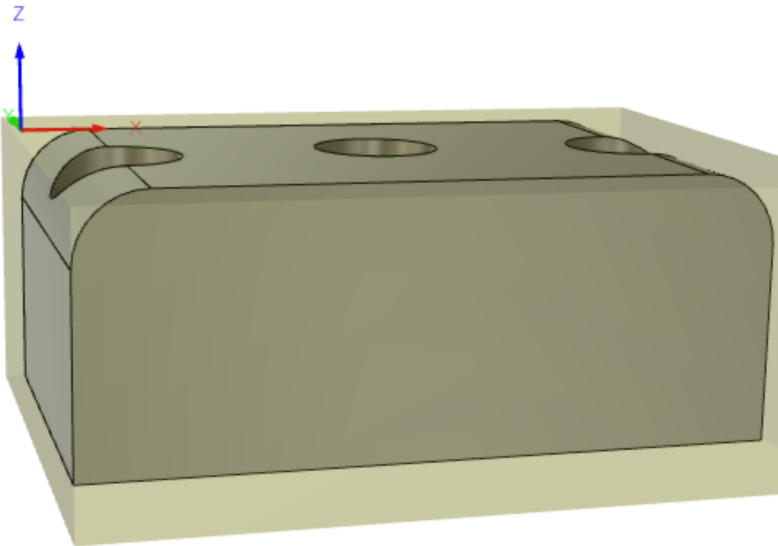
x: 2.4375 in

y: 0.1 in

z: 0.0375 in

Notes:

You can actually use the same setup as OP3 on this one if you have a work stop, just flip the part over.



▼ Operations

WCS #1

Operation 1/21

Description: Face

Strategy: Facing

WCS: 1

Tolerance: 0.0004 in

Axial stock to leave: 0 in

Maximum stepdown: 0.25 in

Maximum stepover: 0.35 in

Maximum Z: 0.6 in

Minimum Z: -0.1 in

Maximum spindle speed: 7500 rpm

Maximum feedrate: 100 in/min

Cutting distance: 20.9641 in

Rapid distance: 1.9608 in

Estimated cycle time: 15s

Coolant: Flood

Number: 1

Diameter offset: 1

Length offset: 1

Diameter: 0.5 in

Length: 1.75 in

Number of flutes: 3

Tool type: flat end mill

Tool description: 1/2" 3 Flute Flat Carbide Endmill 1.5" Flute Length

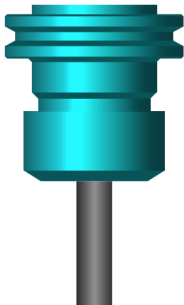
Tool vendor: Generic

Tool product:

Holder description: Maritool CAT40-ER32-2.35

Holder vendor: Maritool

Holder product: CAT40-ER32-2.35



Notes:

Use a 3 flute 1/2" endmill with at least 1.5" of flute length

Operation 2/21

Description: Outer Contour

Strategy: Pocket 2D

WCS: 1

Tolerance: 0.001 in

Stock to leave: 0 in

Maximum stepdown: 0.375 in

Maximum stepover: 0.475 in

Maximum Z: 0.5906 in

Minimum Z: -1.52 in

Maximum spindle speed:
7500 rpm

Maximum feedrate:

100 in/min

Cutting distance: 51.8071 in

Rapid distance: 2.7511 in

Estimated cycle time: 41s

Coolant: Flood

Number: 1

Diameter offset: 1

Length offset: 1

Diameter: 0.5 in

Length: 1.75 in

Number of flutes: 3

Tool type: flat end mill

Tool description:

1/2" 3 Flute Flat Carbide

Endmill 1.5" Flute Length

Tool vendor: Generic

Tool product:

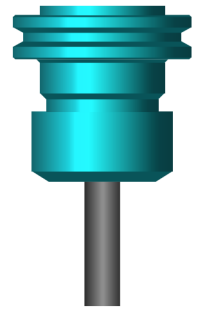
Holder description:

Maritool CAT40-ER32-2.35

Holder vendor: Maritool

Holder product:

CAT40-ER32-2.35



Operation 3/21

Description:

Spot Drill for #10-32

Strategy: Drilling

WCS: 1

Tolerance: 0.0004 in

Maximum Z: 0.6 in

Minimum Z: -0.1462 in

Maximum spindle speed:
2280 rpm

Maximum feedrate:

9.12 in/min

Cutting distance: 0.4924 in

Rapid distance: 3.5674 in

Estimated cycle time: 3s

Coolant: Flood

Number: 2

Diameter offset: 2

Length offset: 2

Diameter: 0.25 in

Tip angle: 120 deg

Length: 1.125 in

Number of flutes: 2

Tool type: spot drill

Tool description:

1/4" 120deg HSS Spot Drill

Tool vendor: Generic

Tool product:

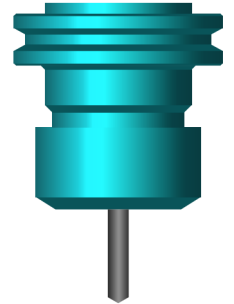
Holder description:

Maritool CAT40-ER32-2.35

Holder vendor: Maritool

Holder product:

CAT40-ER32-2.35



Notes:

120deg spot drill, 1/4" or larger

Operation 4/21

Description:

Pilot Drill for #10-32

Strategy: Drilling

WCS: 1

Tolerance: 0.0004 in

Maximum Z: 0.6 in

Minimum Z: -0.5228 in

Maximum spindle speed:
7207 rpm

Maximum feedrate:

17.19 in/min

Cutting distance: 1.424 in

Rapid distance: 4.339 in

Estimated cycle time: 5s

Coolant: Flood

Number: 6

Diameter offset: 6

Length offset: 6

Diameter: 0.159 in

Tip angle: 118 deg

Length: 1.69 in

Number of flutes: 1

Tool type: drill

Tool description:

#21 Jobber Length 118deg

HSS Drill (0.1590)

Tool vendor: Generic

Tool product:

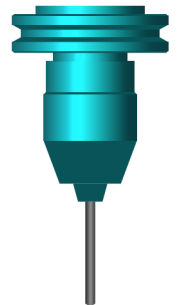
Holder description:

Maritool CAT40-APU08 Drill
Chuck

Holder vendor: Maritool

Holder product:

CAT40-APU08



Operation 5/21

Description: Chamfer for tap

Strategy: chamfer2d

WCS: 1

Tolerance: 0.001 in

Stock to leave: 0 in

Maximum Z: 0.5906 in

Minimum Z: -0.15 in

Maximum spindle speed:

7500 rpm

Maximum feedrate: 30 in/min

Cutting distance: 0.5513 in

Rapid distance: 3.8473 in

Estimated cycle time: 2s

Coolant: Flood

Number: 3

Diameter offset: 3

Length offset: 3

Diameter: 0.25 in

Taper angle: 45 deg

Length: 1 in

Number of flutes: 4

Comment: L0140

Tool type: chamfer mill

Tool description:

1/4" 90deg Carbide Chamfer Mill

Tool vendor: Generic

Tool product:

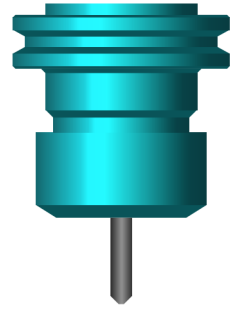
Holder description:

Maritool CAT40-ER32-2.35

Holder vendor: Maritool

Holder product:

CAT40-ER32-2.35



Notes:

90deg chamfer mill, 1/4" or larger. Adjust tip diameter to match the actual tool in use. If the tool has a sharp point, set tip diameter to 0. A 90deg spot drill or drill-mill is also acceptable.

Operation 6/21

Description:

Chamfer Part Profile

Strategy: chamfer2d

WCS: 1

Tolerance: 0.001 in

Stock to leave: 0 in

Maximum Z: 0.5906 in

Minimum Z: -0.16 in

Maximum spindle speed:

7500 rpm

Maximum feedrate: 60 in/min

Cutting distance: 5.8381 in

Rapid distance: 1.2911 in

Estimated cycle time: 6s

Coolant: Flood

Number: 3

Diameter offset: 3

Length offset: 3

Diameter: 0.25 in

Taper angle: 45 deg

Length: 1 in

Number of flutes: 4

Comment: L0140

Tool type: chamfer mill

Tool description:

1/4" 90deg Carbide Chamfer Mill

Tool vendor: Generic

Tool product:

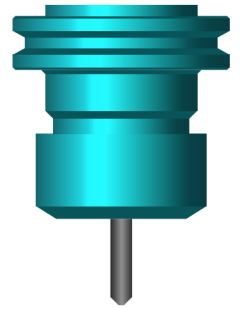
Holder description:

Maritool CAT40-ER32-2.35

Holder vendor: Maritool

Holder product:

CAT40-ER32-2.35



Operation 7/21

Description: Tap #10-32

Strategy: Drilling

WCS: 1

Tolerance: 0.0004 in

Maximum Z: 0.6 in

Minimum Z: -0.4125 in

Maximum spindle speed:

500 rpm

Maximum feedrate:

15.63 in/min

Cutting distance: 2.05 in

Rapid distance: 3.075 in

Estimated cycle time: 8s

Coolant: Flood

Number: 4

Diameter offset: 4

Length offset: 4

Diameter: 0.19 in

Length: 1 in

Number of flutes: 2

Tool type: right hand tap

Tool description:

#10-32 UNF RH Spiral Flute Bottoming Tap

Tool vendor: Generic

Tool product:

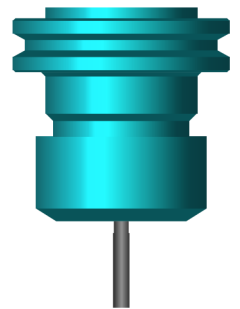
Holder description:

Maritool CAT40-ER32-2.35

Holder vendor: Maritool

Holder product:

CAT40-ER32-2.35



Notes:

A spiral flute bottoming tap is preferred, but the bottom height has been set such that a spiral point tap can be used to start the hole without risk of chip jamming. With a bottoming tap the bottom height offset can be changed to .02" or .5mm

WCS #2

Operation 8/21

Description:

Face OP2 Carrier Stock

Strategy: Facing**WCS:** 2**Tolerance:** 0.0004 in**Axial stock to leave:** 0 in**Maximum stepdown:** 0.25 in**Maximum stepover:** 0.35 in**Maximum Z:** 2.5 in**Minimum Z:** 1.4 in**Maximum spindle speed:**

7500 rpm

Maximum feedrate: 75 in/min**Cutting distance:** 32.3961 in**Rapid distance:** 3.8266 in**Estimated cycle time:** 26s**Coolant:** Flood**Number:** 1**Diameter offset:** 1**Length offset:** 1**Diameter:** 0.5 in**Length:** 1.75 in**Number of flutes:** 3**Tool type:** flat end mill**Tool description:**

1/2" 3 Flute Flat Carbide

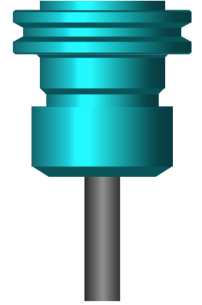
Endmill 1.5" Flute Length

Tool vendor: Generic**Tool product:****Holder description:**

Maritool CAT40-ER32-2.35

Holder vendor: Maritool**Holder product:**

CAT40-ER32-2.35

**Notes:**

An adaptive + face might be a better choice but we're keeping it simple.

Operation 9/21

Description:

Chamfer Part Profile

Strategy: chamfer2d**WCS:** 2**Tolerance:** 0.001 in**Stock to leave:** 0 in**Maximum Z:** 2.4906 in**Minimum Z:** 1.34 in**Maximum spindle speed:**

7500 rpm

Maximum feedrate: 60 in/min**Cutting distance:** 7.5731 in**Rapid distance:** 1.6911 in**Estimated cycle time:** 9s**Coolant:** Flood**Number:** 3**Diameter offset:** 3**Length offset:** 3**Diameter:** 0.25 in**Taper angle:** 45 deg**Length:** 1 in**Number of flutes:** 4**Comment:** L0140**Tool type:** chamfer mill**Tool description:**

1/4" 90deg Carbide Chamfer

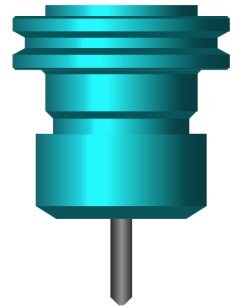
Mill

Tool vendor: Generic**Tool product:****Holder description:**

Maritool CAT40-ER32-2.35

Holder vendor: Maritool**Holder product:**

CAT40-ER32-2.35



WCS #3

Operation 10/21

Description:

Rough Inner Cavity

Strategy: Adaptive 2D**WCS:** 3**Tolerance:** 0.004 in**Stock to leave:** 0.02 in**Maximum stepdown:** 0.3 in**Optimal load:** 0.1 in**Load deviation:** 0.01 in**Maximum Z:** 0.625 in**Minimum Z:** -0.5113 in**Maximum spindle speed:**

7500 rpm

Maximum feedrate:

300 in/min

Cutting distance: 63.1314 in**Rapid distance:** 4.4593 in**Estimated cycle time:** 28s**Coolant:** Flood**Number:** 1**Diameter offset:** 1**Length offset:** 1**Diameter:** 0.5 in**Length:** 1.75 in**Number of flutes:** 3**Tool type:** flat end mill**Tool description:**

1/2" 3 Flute Flat Carbide

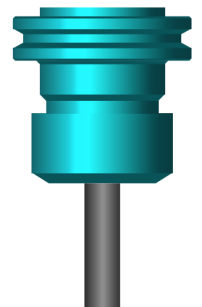
Endmill 1.5" Flute Length

Tool vendor: Generic**Tool product:****Holder description:**

Maritool CAT40-ER32-2.35

Holder vendor: Maritool**Holder product:**

CAT40-ER32-2.35



Operation 11/21

Description:

Finish top of boss

Strategy: Pocket 2D

WCS: 3

Tolerance: 0.004 in

Stock to leave: 0 in

Maximum stepover: 0.3 in

Maximum Z: 0.625 in

Minimum Z: -0.5313 in

Maximum spindle speed:

7500 rpm

Maximum feedrate: 50 in/min

Cutting distance: 10.3353 in

Rapid distance: 1.5063 in

Estimated cycle time: 12s

Coolant: Flood

Number: 1

Diameter offset: 1

Length offset: 1

Diameter: 0.5 in

Length: 1.75 in

Number of flutes: 3

Tool type: flat end mill

Tool description:

1/2" 3 Flute Flat Carbide

Endmill 1.5" Flute Length

Tool vendor: Generic

Tool product:

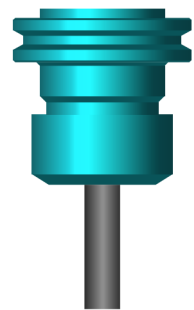
Holder description:

Maritool CAT40-ER32-2.35

Holder vendor: Maritool

Holder product:

CAT40-ER32-2.35



Operation 12/21

Description:

Rough cavity floor

Strategy: Adaptive 2D

WCS: 3

Tolerance: 0.004 in

Stock to leave: 0.02 in

Optimal load: 0.05 in

Load deviation: 0.005 in

Maximum Z: 0.625 in

Minimum Z: -0.6675 in

Maximum spindle speed:

7500 rpm

Maximum feedrate:

300 in/min

Cutting distance: 58.5652 in

Rapid distance: 6.5807 in

Estimated cycle time: 42s

Coolant: Flood

Number: 5

Diameter offset: 5

Length offset: 5

Diameter: 0.25 in

Length: 1 in

Number of flutes: 3

Tool type: flat end mill

Tool description:

1/4" 3 Flute Flat Carbide

Endmill 3/4" Flute Length

Tool vendor: Generic

Tool product:

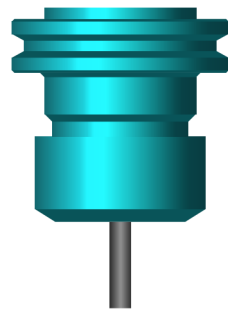
Holder description:

Maritool CAT40-ER32-2.35

Holder vendor: Maritool

Holder product:

CAT40-ER32-2.35

**Notes:**

Use a 3 flute 1/4" endmill with at least 3/4" flute length

Operation 13/21

Description:

Finish floor and walls of cavity

Strategy: Pocket 2D

WCS: 3

Tolerance: 0.004 in

Stock to leave: 0 in

Maximum stepover: 0.15 in

Maximum Z: 0.625 in

Minimum Z: -0.6875 in

Maximum spindle speed:

7500 rpm

Maximum feedrate: 30 in/min

Cutting distance: 24.593 in

Rapid distance: 2.3438 in

Estimated cycle time: 49s

Coolant: Flood

Number: 5

Diameter offset: 5

Length offset: 5

Diameter: 0.25 in

Length: 1 in

Number of flutes: 3

Tool type: flat end mill

Tool description:

1/4" 3 Flute Flat Carbide

Endmill 3/4" Flute Length

Tool vendor: Generic

Tool product:

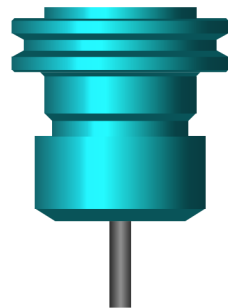
Holder description:

Maritool CAT40-ER32-2.35

Holder vendor: Maritool

Holder product:

CAT40-ER32-2.35



Operation 14/21

Description:

Spot drill for F Drill

Strategy: Drilling

WCS: 3

Tolerance: 0.0004 in

Maximum Z: 0.625 in

Minimum Z: -0.6034 in

Maximum spindle speed:

2280 rpm

Maximum feedrate:

9.12 in/min

Cutting distance: 0.8165 in

Rapid distance: 4.71 in

Estimated cycle time: 5s

Coolant: Flood

Number: 2

Diameter offset: 2

Length offset: 2

Diameter: 0.25 in

Tip angle: 120 deg

Length: 1.125 in

Number of flutes: 2

Tool type: spot drill

Tool description:

1/4" 120deg HSS Spot Drill

Tool vendor: Generic

Tool product:

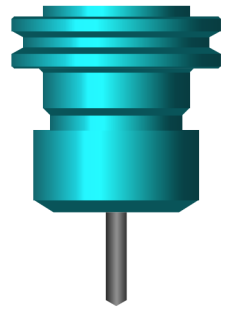
Holder description:

Maritool CAT40-ER32-2.35

Holder vendor: Maritool

Holder product:

CAT40-ER32-2.35



Operation 15/21

Description:

Spot drill for 1/8"

Strategy: Drilling

WCS: 3

Tolerance: 0.0004 in

Maximum Z: 0.625 in

Minimum Z: -0.0419 in

Maximum spindle speed:

2280 rpm

Maximum feedrate:

9.12 in/min

Cutting distance: 0.4837 in

Rapid distance: 3.2587 in

Estimated cycle time: 3s

Coolant: Flood

Number: 2

Diameter offset: 2

Length offset: 2

Diameter: 0.25 in

Tip angle: 120 deg

Length: 1.125 in

Number of flutes: 2

Tool type: spot drill

Tool description:

1/4" 120deg HSS Spot Drill

Tool vendor: Generic

Tool product:

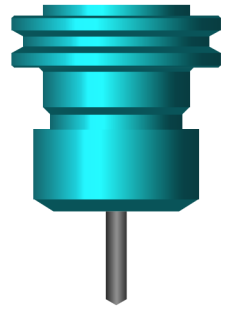
Holder description:

Maritool CAT40-ER32-2.35

Holder vendor: Maritool

Holder product:

CAT40-ER32-2.35



Operation 16/21

Description:

Drill F through hole

Strategy: Drilling

WCS: 3

Tolerance: 0.0004 in

Maximum Z: 0.625 in

Minimum Z: -1.0722 in

Maximum spindle speed:

4459 rpm

Maximum feedrate:

17.19 in/min

Cutting distance: 3.6776 in

Rapid distance: 10.5473 in

Estimated cycle time: 13s

Coolant: Flood

Number: 7

Diameter offset: 7

Length offset: 7

Diameter: 0.257 in

Tip angle: 118 deg

Length: 2.67 in

Number of flutes: 1

Tool type: drill

Tool description:

F Jobber Length 118deg HSS Drill (0.257)

Tool vendor: Generic

Tool product:

Holder description:

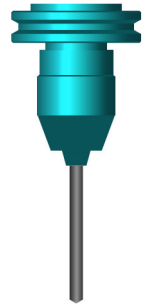
Maritool CAT40-APU08 Drill

Chuck

Holder vendor: Maritool

Holder product:

CAT40-APU08

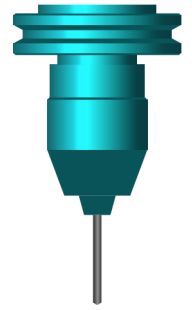


Operation 17/21

Description: Drill 1/8 hole
Strategy: Drilling
WCS: 3
Tolerance: 0.0004 in
Maximum Z: 0.625 in
Minimum Z: -0.2251 in
Maximum spindle speed:
7500 rpm
Maximum feedrate:
14.06 in/min
Cutting distance: 0.6372 in

Rapid distance: 3.9562 in
Estimated cycle time: 3s
Coolant: Flood
Number: 8
Diameter offset: 8
Length offset: 8
Diameter: 0.125 in
Tip angle: 118 deg
Length: 1.35 in

Number of flutes: 1
Tool type: drill
Tool description:
1/8" Jobber Length 118deg
HSS Drill (0.125)
Tool vendor: Generic
Tool product:
Holder description:
Maritool CAT40-APU08 Drill
Chuck
Holder vendor: Maritool
Holder product:
CAT40-APU08

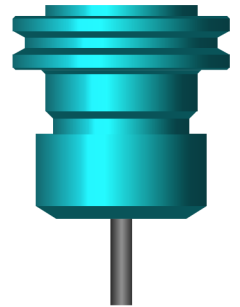


Operation 18/21

Description: Bore 7/16 hole
Strategy: Bore
WCS: 3
Tolerance: 0.0004 in
Radial stock to leave: 0 in
Maximum stepover: 0 in
Maximum Z: 0.625 in
Minimum Z: -0.9575 in
Maximum spindle speed:
7500 rpm

Maximum feedrate: 22 in/min
Cutting distance: 7.7201 in
Rapid distance: 2.6137 in
Estimated cycle time: 21s
Coolant: Flood
Number: 5
Diameter offset: 5
Length offset: 5
Diameter: 0.25 in

Length: 1 in
Number of flutes: 3
Tool type: flat end mill
Tool description:
1/4" 3 Flute Flat Carbide
Endmill 3/4" Flute Length
Tool vendor: Generic
Tool product:
Holder description:
Maritool CAT40-ER32-2.35
Holder vendor: Maritool
Holder product:
CAT40-ER32-2.35

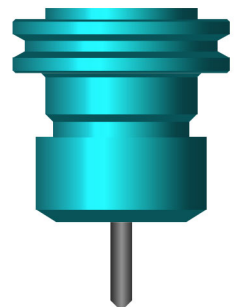


Operation 19/21

Description:
Chamfer part profile
Strategy: chamfer2d
WCS: 3
Tolerance: 0.001 in
Stock to leave: 0 in
Maximum Z: 0.6156 in
Minimum Z: -0.5913 in
Maximum spindle speed:
7500 rpm
Maximum feedrate: 60 in/min
Cutting distance: 8.4143 in

Rapid distance: 8.6395 in
Estimated cycle time: 10s
Coolant: Flood
Number: 3
Diameter offset: 3
Length offset: 3
Diameter: 0.25 in
Taper angle: 45 deg
Length: 1 in
Number of flutes: 4

Comment: L0140
Tool type: chamfer mill
Tool description:
1/4" 90deg Carbide Chamfer
Mill
Tool vendor: Generic
Tool product:
Holder description:
Maritool CAT40-ER32-2.35
Holder vendor: Maritool
Holder product:
CAT40-ER32-2.35



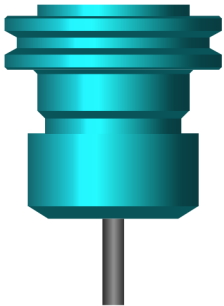
Operation 20/21

Description:

Counterbore F hole
Strategy: Contour 2D
WCS: 3
Tolerance: 0.0004 in
Stock to leave: 0 in
Maximum stepover: 0.05 in
Maximum Z: 0.6375 in
Minimum Z: -0.25 in
Maximum spindle speed:
7500 rpm

Maximum feedrate: 40 in/min
Cutting distance: 5.2568 in
Rapid distance: 4.0002 in
Estimated cycle time: 8s
Coolant: Flood
Number: 5
Diameter offset: 5
Length offset: 5
Diameter: 0.25 in

Length: 1 in
Number of flutes: 3
Tool type: flat end mill
Tool description:
1/4" 3 Flute Flat Carbide
Endmill 3/4" Flute Length
Tool vendor: Generic
Tool product:
Holder description:
Maritool CAT40-ER32-2.35
Holder vendor: Maritool
Holder product:
CAT40-ER32-2.35



Notes:

Added predrill location

Operation 21/21

Description: Chamfer holes
Strategy: chamfer2d
WCS: 3
Tolerance: 0.001 in
Stock to leave: 0 in
Maximum Z: 0.6281 in
Minimum Z: -0.31 in
Maximum spindle speed:
7500 rpm
Maximum feedrate: 60 in/min
Cutting distance: 3.5056 in

Rapid distance: 11.2396 in
Estimated cycle time: 5s
Coolant: Flood
Number: 3
Diameter offset: 3
Length offset: 3
Diameter: 0.25 in
Taper angle: 45 deg
Length: 1 in
Number of flutes: 4

Comment: L0140
Tool type: chamfer mill
Tool description:
1/4" 90deg Carbide Chamfer
Mill
Tool vendor: Generic
Tool product:
Holder description:
Maritool CAT40-ER32-2.35
Holder vendor: Maritool
Holder product:
CAT40-ER32-2.35

