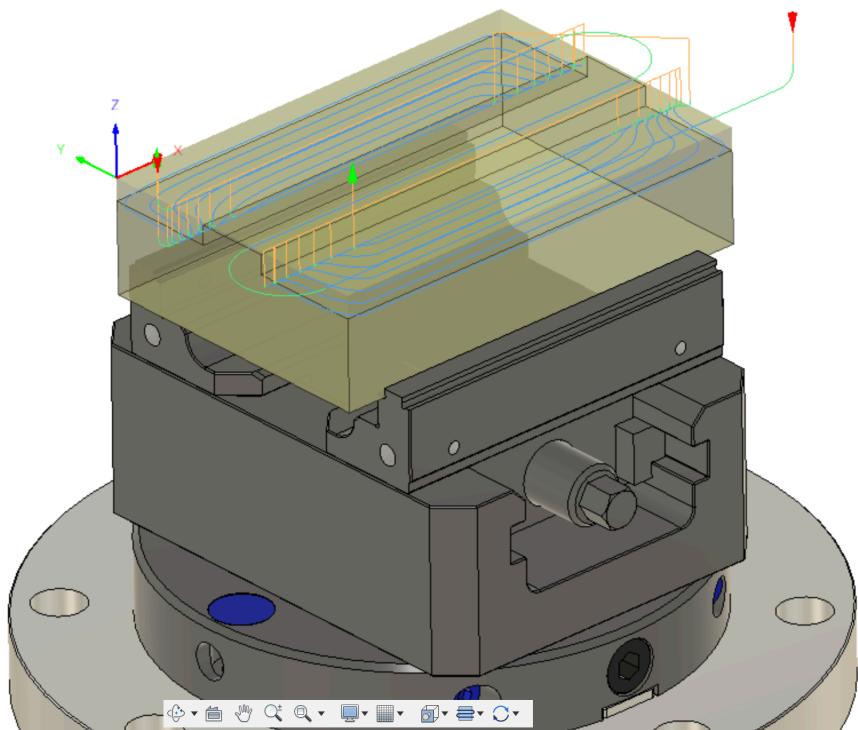


Multi-Axis CNC Toolpaths

Link to file:

<https://a360.co/33eBiUP>

Stock prep:

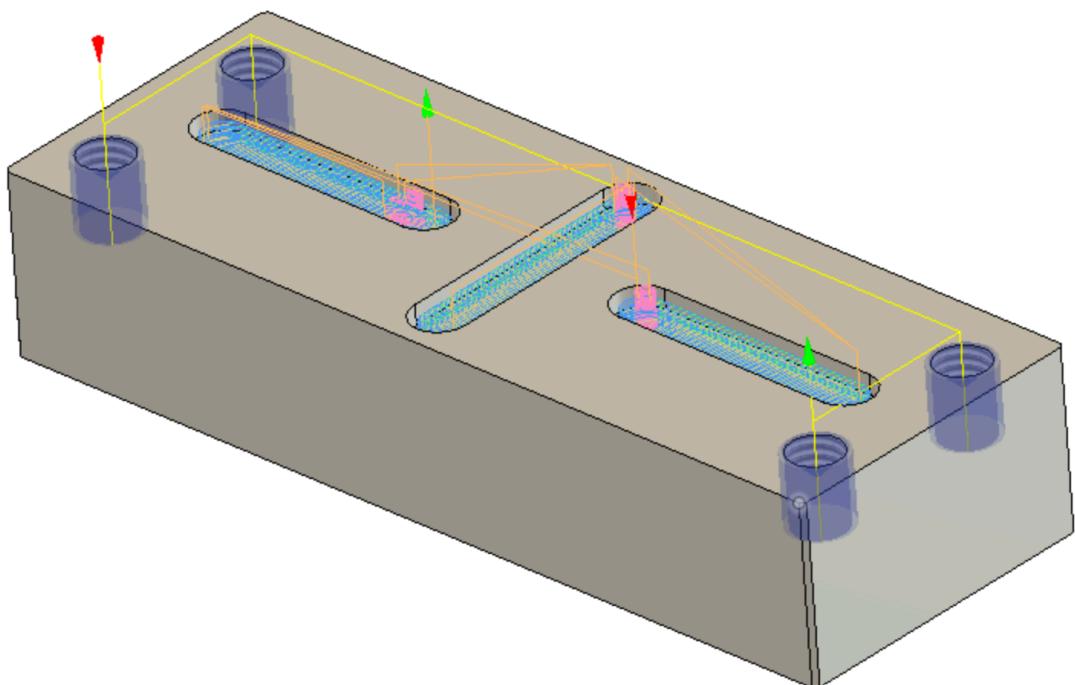


Operations: Face and 2D adaptive clearing

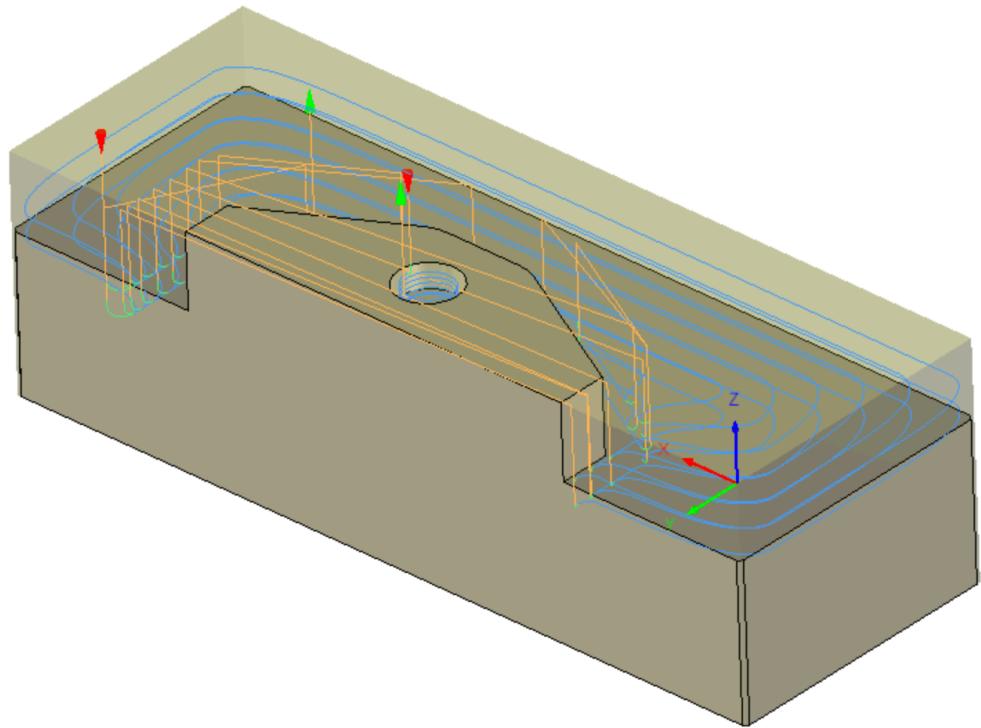
Soft Jaw prep:

Side one:

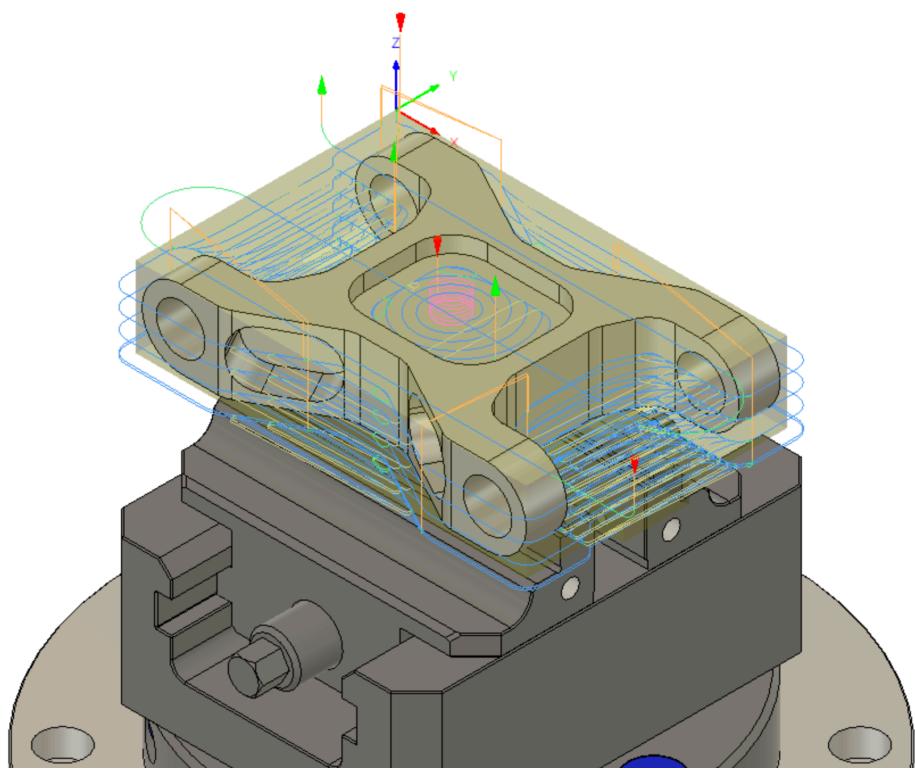
Pocket, spot drill, drilling, tapping



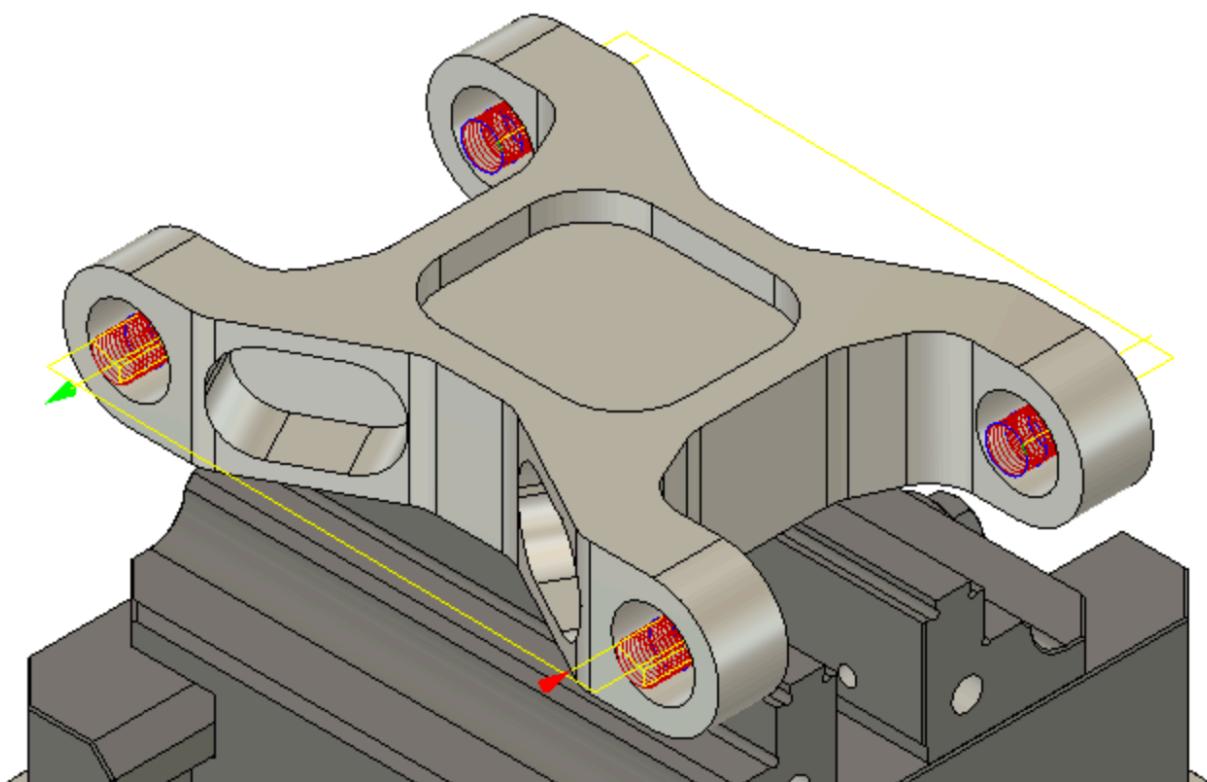
Side two:
2D adaptive clearing, optional stop, 2D adaptive clearing for G54



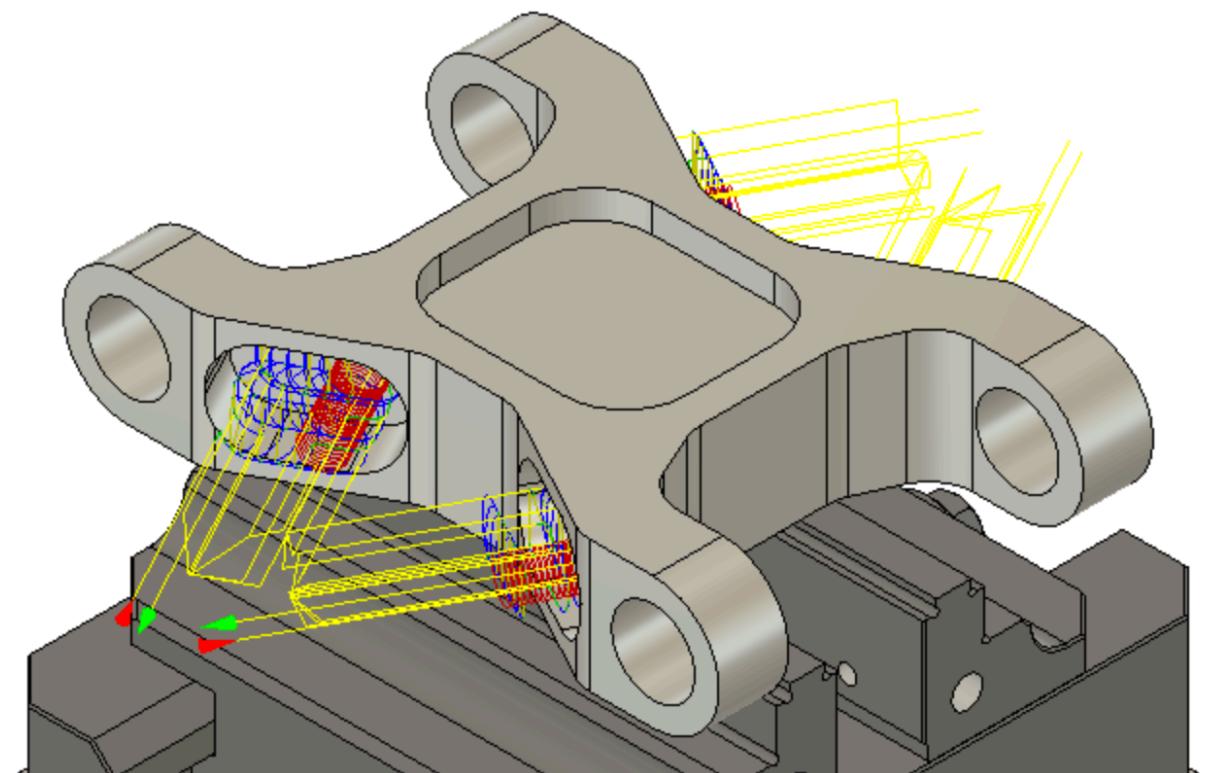
Multi axis part top:
Facing, 2D adaptive clearing for pocket and outside shape



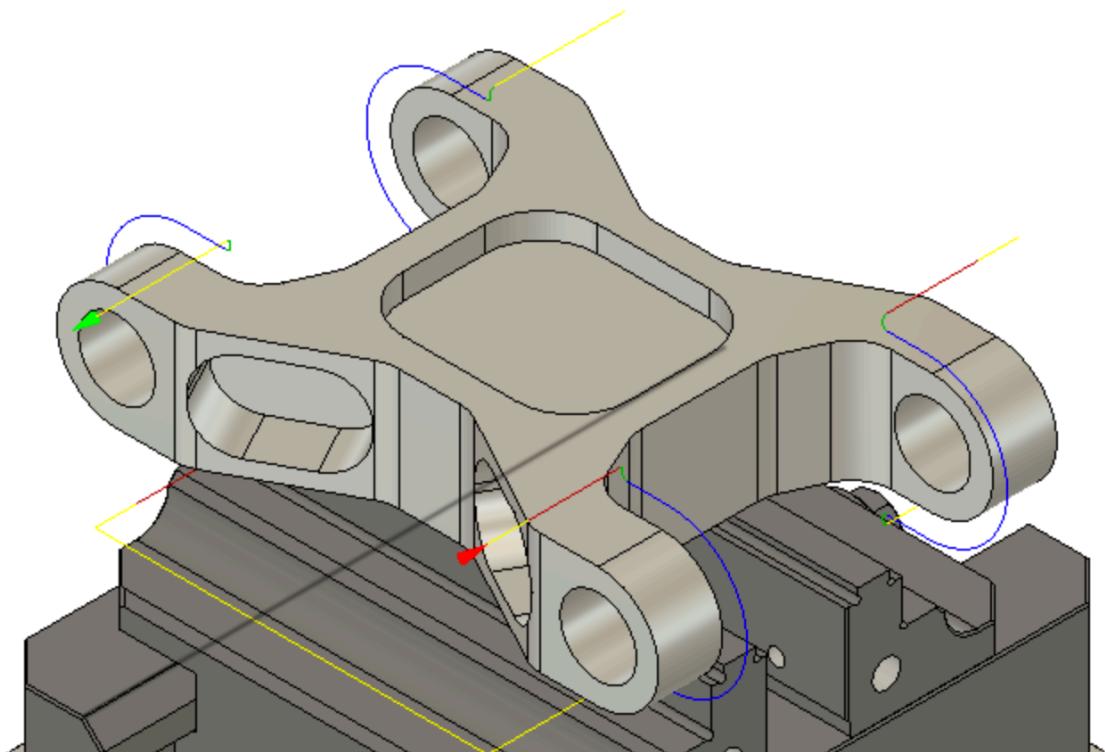
Holes (2D adaptive clearing, mirrored)



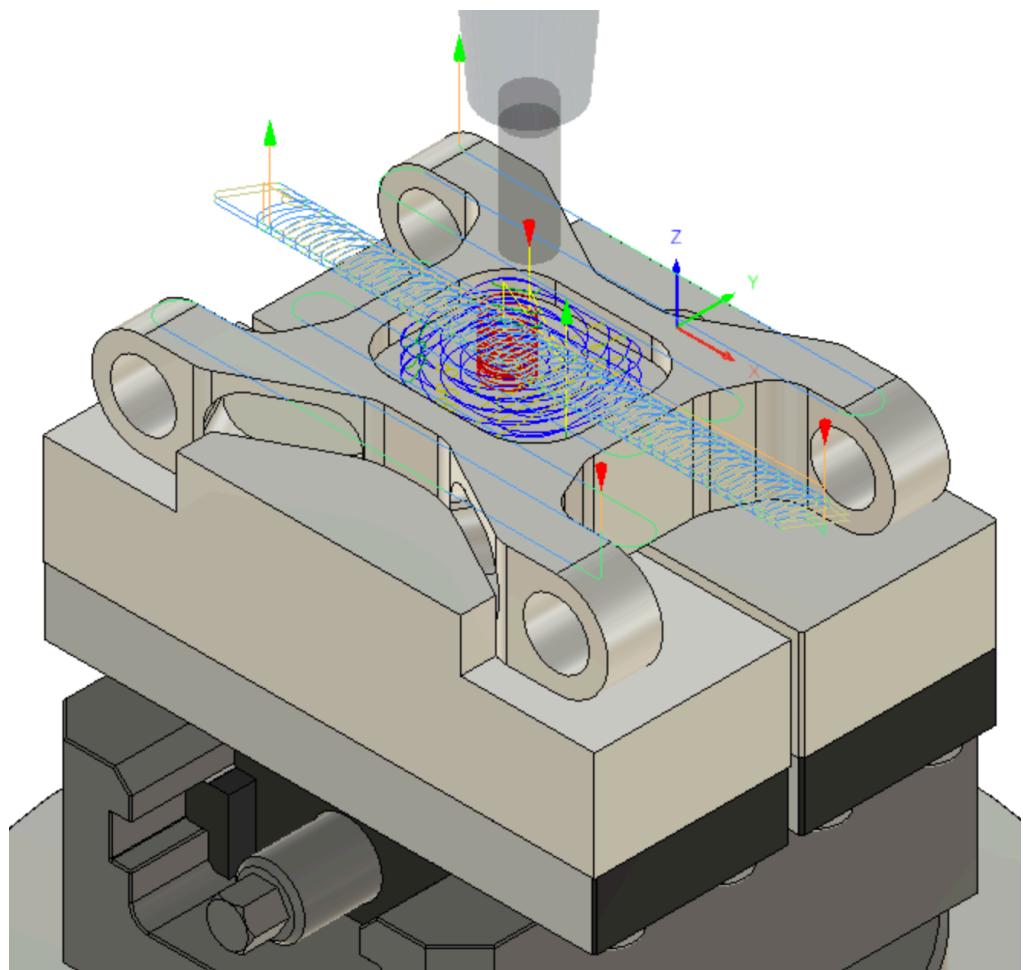
Side pockets (2D adaptive clearing, mirrored)



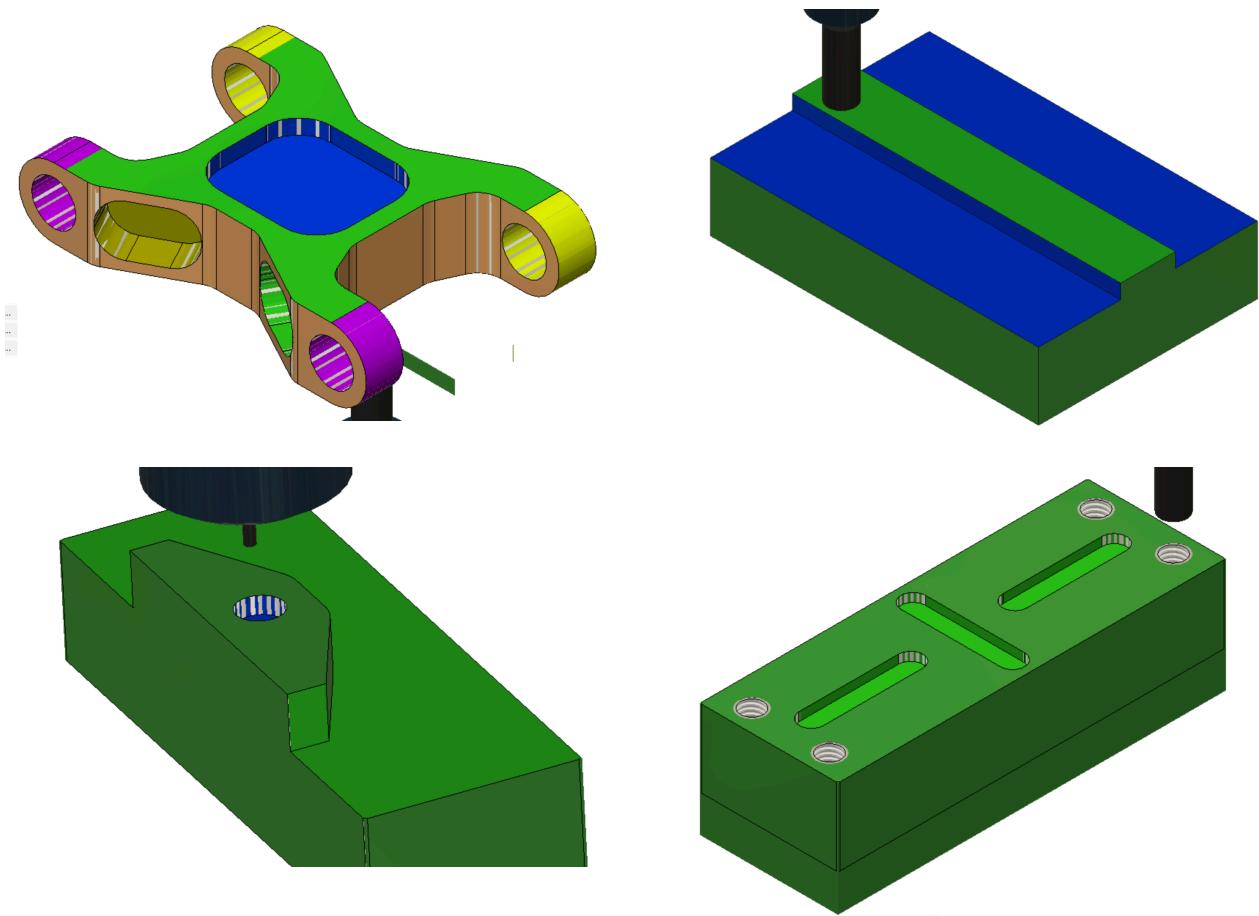
Rounding of sides (2D contour)



Multi axis part bottom:
2D adaptive clearing, face, 2D pocket



Simulation results:



G code (for HAAS UMC-750)

```
001001 {Stock prep}  
  {(Using high feed G1 F650. instead of G0.)  
  {Macro name: Stock_prep  
  { Vendor: Haas Automation  
  { Model: HAAS UMC-750  
  { (T1 D=0.012, C=0.0001, ZMIN=-1.016 - face mill)  
  { (T2 D=0.012, C=0.0001, ZMIN=-7.747 - flat end mill)  
  { (T3 D=0.012, C=0.0001, ZMIN=-0.016 - flat end mill)  
  { N10 G54 G17  
  { N15 G21  
  { N28 G55 G6 Z0.  
  
N25 T1 M6  
N30 S5000 M3  
  
N40 G33 G X=-736.6 Y=-203.2  
N41 G33 G X=-736.6 Y=-203.2  
N50 M8  
N60 G41 G X=-92.3R5  
N60 G41 Z15.24 H1  
N65 T3  
N70 G0 Z=5.00  
N75 G1 Z4.864 F918.0  
N80 G0 Z=5.00 F918.0 S34 Z=-1.016 I=5.00 K0.  
N85 G1 X15.24 H1  
N90 G0 Z=5.00 F918.0 S34 Z=-1.016 I=5.00 K0.  
G17 G2 Y=-58.077 I8. J17.114  
N100 G1 X152.4 H1  
N105 G0 Z=5.00 F918.0 S34 Z=-1.016 I=5.00 K0.
```

```
k 001862 (Soft jaw)          high feed GI F650, instead of GB.  
  (Machine)  
  ( vendor: Raen Automation )  
  ( model: RAE-1000 )  
  ( serial: 1000-00000000 )  
  ( IP: 192.168.1.175 )  
  ( RAM: 1024 MB )  
  ( ROM: 128 MB )  
  ( CPU: Intel(R) Dual Band Wireless-AC 7265 )  
  ( TTY: 0-3,175 CrchB, -ZMIN=3.555 - flat end kill )  
  ( TTY: 0-3,175 CrchB, -ZMIN=1.674 - spot drill )  
  ( TTY: 0-9,347 CrchB, -TAPFR=118deg - ZMIN=-15.568 (drill) )  
  ( TTY: 0-9,347 CrchB, -ZMIN=12.446 - right hand tap )  
  N10 G98 G54 G17  
  N15 G21  
  N20 G0 Z8.  
  Protect  
  N25 T4 M6  
  N30 G8000 M3  
  N35 G54  
  N40 G53 G0 X-736.6 Y-283.2  
  N45 G54 G0 X-736.6 Y-283.2  
  N50 M8  
  N55 G54 G0 X-736.6 Y-26.992  
  N60 G43 Z15.24 Y-26.992  
  N65 G54 G0 X-736.6 Y-26.992  
  N70 G54 G0 X-736.6 Y-26.992  
  N75 Z2.541  
  N80 G0 X-736.6 Y-26.997 Z2.10.896 J-1.594 F1274.98  
  N85 X57.913 Y-27.814 Z1.888 E-1.126 J-3.1583
```

```

081883 (Soft jw)
  (Using high feed GI F658. instead of G8.)
  (Measured at 1000ms)
    vendor: Mass Automation
      model: MTC-200
    (T) 1000ms-2.7 Cm8. - ZMIN=-15.24 - flat end mill)
    (D) D=3.175 Cm8. - ZMIN=-5.88 - flat end mill)
    N10 G21
    N15 G28 G55
    N20 G55 02.
    N21 G01
    N25 G17 M6
    N30 S120000 M3
    N35 G00 X0 Y0
    N40 G51 G90 X-736.6 Y-203.2
    N45 G00 X0 Y0
    N50 G00 X0 Y0
    N55 G00 X-235.98 Y-977
    N60 G63 215.24 H3
    N65 T4
    N70 G00 Z-25.00
    N75 Z-7.00
    N80 G00 X0 Y0
    N85 X130.857 Y8.975 Z-9.832
    N90 X130.857 Y8.975 Z-9.832
    N95 X130.795 Y8.964 Z-9.389
    N100 X130.741 Y8.964 Z-9.441
    N105 X130.741 Y8.964 Z-9.441
    N110 X130.741 Y8.964 Z-9.441

```

```

% 001884 (Part 3plus2)
      high feed G1 F650. instead of G0.)
(Machine)
  ( vendor: Haas Automation
    ( model: HSTC-5000
      (T1 D=0.8 Cm=0.787
        (T1 G0 G1 G2 - first and mill)
        (T1 G0 G1 G2 - first and mill)
        (T1 G0 G1 G2 - first and mill)
      N18 G98 G99 G17
      N20 G53 G80 Z0.
      (Face2)
        N5 G0 G1
        N18 S8000 M3
        N19 C54
        N20 G0 G1 X-736.8 Y-283.2
        N45 G8 B8. C8.
        N46 G0 G1 Z15.24 H1
        N55 G8 X105.42 Z-92.385
        N60 G0 G1 Z15.24 H1
        N65 T3
      N78 G0 Z5.08
      N80 G0 G1 X105.42 Y-1810.0
      N88 G18 G1 X108.34 Z-8.630 I-5.88 K0.
      N90 G0 G1 Z15.24 H1
      N98 X0_ F650#
      N95 G17 G2 Y-58.077 I0. J17.114
      N106 G1 X52.4

```