

SAMPLE CODE FOR HI-CELL Y-AXIS LATHE

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%
O9987 ( D998703A )
  G0 G21 G40
/   G28U0
/   G28V0W0
  G28 U0.
  G28 V0.W0.
  M28
  # 5403=000.0
  ( Facing opTool #1 standard WNMG-432 )
  G54 W0.
  T010100
  G18 M40
  G50 S2500
  G97 S2500 M3
  M9
  G0 X4.7 Z0.
  G96 S600 M3
  G99 G1 X-.187 F.01
  G0 Z.1
  X4.7
  G28 U0.
  G28 V0.W0.
  M01

  ( C Axis Face DrillTool #6 .25 Center Drill )
  G28 U0.
  G28 V0.W0.
  G54 W0.
  T060600
  G28H0.
  M43
  G50C0.
  G17 M44
  G97 S1200 M13
  M9
  C0.
  G0 X-1.25 Y0. Z9999.
  Z.5
  Z.1
  G98 G1 Z-.2 F4
  G0 Z.1
  Z.5
  X0. Y-.625
  Z.1
  G1 Z-.2
  G0 Z.1
```

Z.5
X1.25 Y0.
Z.1
G1 Z-.2
G0 Z.1
Z.5
X0.
Z.1
G1 Z-.2
G0 Z.1
Z.5
G28 U0.
G28 V0.W0. M45
M01

(C-axis Face Drill tool #4 .125 HSS twist drill 1.75 long min.)
G28 U0.
G28 V0.W0.
G54 W0.
T040400
G28H0.
M43
G50C0.
G17 M44
G97 S2000 M13
M9
C0.
G0 X-1.25 Y0. Z.5
G98 G199 G83 Z-1.7 R0. Q.1 F3
X0. Y-.625
X1.25 Y0.
G0 G80
G28 U0.
G28 V0.W0. M45
M01

(OD Rough Tool #1 standard WNMG-432)
G28 U0.
G28 V0.W0.
G54 W0.
T010100
G18 M40
G50 S2500
G97 S2500 M3
M9
G0 X4.302 Z.203
G96 S600 M3
G99 G1 Z.103 F.01
Z-1.347
X4.5
X4.641 Z-1.276
G0 Z.203
X4.103
G1 Z.103

Z-1.247
G3 X4.2 Z-1.301 R.054
G1 Z-1.347
X4.322
X4.463 Z-1.276
G0 Z.203
X3.905
G1 Z.103
Z-1.247
X4.091
G3 X4.123 Z-1.249 R.054
G1 X4.265 Z-1.179
G0 Z.203
X3.707
G1 Z.103
Z-1.247
X3.925
X4.067 Z-1.176
G0 Z.203
X3.509
G1 Z.103
Z-1.247
X3.727
X3.868 Z-1.176
G0 Z.203
X3.31
G1 Z.103
Z-1.247
X3.383
X3.529
X3.67 Z-1.176
G0 Z.203
X3.112
G1 Z.103
Z-1.247
X3.33
X3.472 Z-1.176
G0 Z.203
X2.914
G1 Z.103
Z-1.247
X3.132
X3.273 Z-1.176
G0 Z.203
X2.715
G1 Z.103
Z-1.247
X2.934
X3.075 Z-1.176
G0 Z.203
X2.517
G1 Z.103
Z-1.247
X2.735

X2.877 Z-1.176
G0 Z.203
X2.319
G1 Z.103
Z-1.247
X2.537
X2.679 Z-1.176
G0 Z.203
X2.121
G1 Z.103
Z-1.247
X2.339
X2.48 Z-1.176
G0 Z.203
X1.922
G1 Z.103
Z-1.247
X2.141
X2.282 Z-1.176
G0 Z.203
X1.724
G1 Z.103
Z-1.247
X1.942
X2.084 Z-1.176
G0 Z.203
X1.526
G1 Z.103
Z-1.247
X1.744
X1.885 Z-1.176
G0 Z.203
X1.327
G1 Z.103
Z-1.247
X1.546
X1.687 Z-1.176
G0 Z.103
X.929
G1 Z.003
X1.143
G3 X1.205 Z-.01 R.044
G1 X1.254 Z-.034
G3 X1.28 Z-.065 R.044
G1 X1.279 Z-.182
Z-.321
Z-.622
Z-.761
Z-1.062
Z-1.201
Z-1.247
X1.347
X1.489 Z-1.176
G0 X4.302 Z.203

G28 U0.
G28 V0.W0.
M01

(OD Finish tool #3 std VNMG 432)

G28 U0.
G28 V0.W0.
G54 W0.
T030300
G18 M40
G50 S2500
G97 S2500 M3
M9
G0 X3.38 Z-1.15
G96 S600 M3
G99 G1 Z-1.25 F.01
X4.067
G3 X4.17 Z-1.301 R.051
G1 Z-1.35
X4.37
G0 Z-1.15
G28 U0.
G28 V0.W0.
M01

(Face Contour Helix Tool #2 1.0 TICN Coated HSS End Mill)

G28 U0.
G28 V0.W0.
G54 W0.
T020200
G28H0.
M43
G50C0.
G17 M44
G97 S570 M13
M9
C0.
G0 X2.336 Y0. Z9999.
Z-1.009
Z-1.159
G98 G1 Z-1.259 F5
X2.329 Y-.087 Z-1.261
X2.327 Y-.102
X2.316 Y-.152 Z-1.262
X2.301 Y-.203 Z-1.263
X2.256 Y-.302 Z-1.265
X2.228 Y-.351 Z-1.266
X2.195 Y-.399 Z-1.268
X2.158 Y-.447 Z-1.269
X2.117 Y-.494 Z-1.27
X2.072 Y-.539 Z-1.271
X2.023 Y-.584 Z-1.272
X1.97 Y-.628 Z-1.273
X1.914 Y-.67 Z-1.274

X1.853 Y-.711 Z-1.275
X1.789 Y-.751 Z-1.276
X1.722 Y-.789 Z-1.277
X1.652 Y-.826 Z-1.278
X1.578 Y-.861 Z-1.279
X1.502 Y-.895 Z-1.28
X1.422 Y-.927 Z-1.281
X1.34 Y-.957 Z-1.282
X1.255 Y-.985 Z-1.284
X1.168 Y-1.012 Z-1.285
X1.079 Y-1.036 Z-1.286
X.987 Y-1.059 Z-1.287
X.894 Y-1.079 Z-1.288
X.799 Y-1.098 Z-1.289
X.702 Y-1.114 Z-1.29
X.605 Y-1.128 Z-1.291
X.506 Y-1.14 Z-1.292
X.406 Y-1.15 Z-1.293
X.305 Y-1.158 Z-1.294
X.204 Y-1.164 Z-1.295
X.102 Y-1.167 Z-1.296
X0. Y-1.168 Z-1.297
X-.102 Y-1.167 Z-1.299
X-.204 Y-1.164 Z-1.3
X-.305 Y-1.158 Z-1.301
X-.406 Y-1.15 Z-1.302
X-.506 Y-1.14 Z-1.303
X-.605 Y-1.128 Z-1.304
X-.702 Y-1.114 Z-1.305
X-.799 Y-1.098 Z-1.306
X-.894 Y-1.079 Z-1.307
X-.987 Y-1.059 Z-1.308
X-1.079 Y-1.036 Z-1.309
X-1.168 Y-1.012 Z-1.31
X-1.255 Y-.985 Z-1.311
X-1.34 Y-.957 Z-1.312
X-1.422 Y-.927 Z-1.313
X-1.502 Y-.895 Z-1.315
X-1.578 Y-.861 Z-1.316
X-1.652 Y-.826 Z-1.317
X-1.722 Y-.789 Z-1.318
X-1.789 Y-.751 Z-1.319
X-1.853 Y-.711 Z-1.32
X-1.914 Y-.67 Z-1.321
X-1.97 Y-.628 Z-1.322
X-2.023 Y-.584 Z-1.323
X-2.072 Y-.539 Z-1.324
X-2.117 Y-.494 Z-1.325
X-2.158 Y-.447 Z-1.326
X-2.195 Y-.399 Z-1.327
X-2.228 Y-.351 Z-1.328
X-2.256 Y-.302 Z-1.329
X-2.281 Y-.253 Z-1.331
X-2.301 Y-.203 Z-1.332

X-2.316 Y-.152 Z-1.333
X-2.327 Y-.102 Z-1.334
X-2.334 Y-.051 Z-1.335
X-2.336 Y0. Z-1.336
X-2.334 Y.051 Z-1.337
X-2.327 Y.102 Z-1.338
X-2.316 Y.152 Z-1.339
X-2.301 Y.203 Z-1.34
X-2.281 Y.253 Z-1.341
X-2.256 Y.302 Z-1.342
X-2.228 Y.351 Z-1.343
X-2.195 Y.399 Z-1.344
X-2.158 Y.447 Z-1.345
X-2.117 Y.494 Z-1.347
X-2.072 Y.539 Z-1.348
X-2.023 Y.584 Z-1.349
X-1.97 Y.628 Z-1.35
X-1.914 Y.67 Z-1.351
X-1.853 Y.711 Z-1.352
X-1.789 Y.751 Z-1.353
X-1.722 Y.789 Z-1.354
X-1.652 Y.826 Z-1.355
X-1.578 Y.861 Z-1.356
X-1.502 Y.895 Z-1.357
X-1.422 Y.927 Z-1.358
X-1.34 Y.957 Z-1.359
X-1.255 Y.985 Z-1.36
X-1.168 Y1.012 Z-1.361
X-1.079 Y1.036 Z-1.363
X-.987 Y1.059 Z-1.364
X-.894 Y1.079 Z-1.365
X-.799 Y1.098 Z-1.366
X-.702 Y1.114 Z-1.367
X-.605 Y1.128 Z-1.368
X-.506 Y1.14 Z-1.369
X-.406 Y1.15 Z-1.37
X-.305 Y1.158 Z-1.371
X-.204 Y1.164 Z-1.372
X-.102 Y1.167 Z-1.373
X0. Y1.168 Z-1.374
X.102 Y1.167 Z-1.375
X.204 Y1.164 Z-1.376
X.305 Y1.158 Z-1.378
X.406 Y1.15 Z-1.379
X.506 Y1.14 Z-1.38
X.605 Y1.128 Z-1.381
X.702 Y1.114 Z-1.382
X.799 Y1.098 Z-1.383
X.894 Y1.079 Z-1.384
X.987 Y1.059 Z-1.385
X1.079 Y1.036 Z-1.386
X1.168 Y1.012 Z-1.387
X1.255 Y.985 Z-1.388
X1.34 Y.957 Z-1.389

X1.422 Y.927 Z-1.39
X1.502 Y.895 Z-1.391
X1.578 Y.861 Z-1.392
X1.652 Y.826 Z-1.394
X1.722 Y.789 Z-1.395
X1.789 Y.751 Z-1.396
X1.853 Y.711 Z-1.397
X1.914 Y.67 Z-1.398
X1.97 Y.628 Z-1.399
X2.023 Y.584 Z-1.4
X2.072 Y.539 Z-1.401
X2.117 Y.494 Z-1.402
X2.158 Y.447 Z-1.403
X2.195 Y.399 Z-1.404
X2.228 Y.351 Z-1.405
X2.256 Y.302 Z-1.406
X2.281 Y.253 Z-1.407
X2.301 Y.203 Z-1.408
X2.316 Y.152 Z-1.41
X2.327 Y.102 Z-1.411
X2.334 Y.051 Z-1.412
X2.336 Y0. Z-1.413
X2.334 Y-.051 Z-1.414
X2.327 Y-.102 Z-1.415
X2.316 Y-.152 Z-1.416
X2.301 Y-.203 Z-1.417
X2.281 Y-.253 Z-1.418
X2.256 Y-.302 Z-1.419
X2.228 Y-.351 Z-1.42
X2.195 Y-.399 Z-1.421
X2.158 Y-.447 Z-1.422
X2.117 Y-.494 Z-1.423
X2.072 Y-.539 Z-1.424
X2.023 Y-.584 Z-1.426
X1.97 Y-.628 Z-1.427
X1.914 Y-.67 Z-1.428
X1.853 Y-.711 Z-1.429
X1.789 Y-.751 Z-1.43
X1.722 Y-.789 Z-1.431
X1.652 Y-.826 Z-1.432
X1.578 Y-.861 Z-1.433
X1.502 Y-.895 Z-1.434
X1.422 Y-.927 Z-1.435
X1.34 Y-.957 Z-1.436
X1.255 Y-.985 Z-1.437
X1.168 Y-1.012 Z-1.438
X1.079 Y-1.036 Z-1.439
X.987 Y-1.059 Z-1.441
X.894 Y-1.079 Z-1.442
X.799 Y-1.098 Z-1.443
X.702 Y-1.114 Z-1.444
X.605 Y-1.128 Z-1.445
X.506 Y-1.14 Z-1.446
X.406 Y-1.15 Z-1.447

X.305 Y-1.158 Z-1.448
X.204 Y-1.164 Z-1.449
X.102 Y-1.167 Z-1.45
X0. Y-1.168 Z-1.451
X-.102 Y-1.167 Z-1.452
X-.204 Y-1.164 Z-1.453
X-.305 Y-1.158 Z-1.454
X-.406 Y-1.15 Z-1.455
X-.506 Y-1.14 Z-1.457
X-.605 Y-1.128 Z-1.458
X-.702 Y-1.114 Z-1.459
X-.799 Y-1.098 Z-1.46
X-.894 Y-1.079 Z-1.461
X-.987 Y-1.059 Z-1.462
X-1.079 Y-1.036 Z-1.463
X-1.168 Y-1.012 Z-1.464
X-1.255 Y-.985 Z-1.465
X-1.34 Y-.957 Z-1.466
X-1.422 Y-.927 Z-1.467
X-1.502 Y-.895 Z-1.468
X-1.578 Y-.861 Z-1.469
X-1.652 Y-.826 Z-1.47
X-1.722 Y-.789 Z-1.471
X-1.789 Y-.751 Z-1.473
X-1.853 Y-.711 Z-1.474
X-1.914 Y-.67 Z-1.475
X-1.97 Y-.628 Z-1.476
X-2.023 Y-.584 Z-1.477
X-2.072 Y-.539 Z-1.478
X-2.117 Y-.494 Z-1.479
X-2.158 Y-.447 Z-1.48
X-2.195 Y-.399 Z-1.481
X-2.228 Y-.351 Z-1.482
X-2.256 Y-.302 Z-1.483
X-2.281 Y-.253 Z-1.484
X-2.301 Y-.203 Z-1.485
X-2.316 Y-.152 Z-1.486
X-2.327 Y-.102 Z-1.487
X-2.334 Y-.051 Z-1.489
X-2.336 Y0. Z-1.49
X-2.334 Y.051 Z-1.491
X-2.327 Y.102 Z-1.492
X-2.316 Y.152 Z-1.493
X-2.301 Y.203 Z-1.494
X-2.281 Y.253 Z-1.495
X-2.256 Y.302 Z-1.496
X-2.228 Y.351 Z-1.497
X-2.195 Y.399 Z-1.498
X-2.158 Y.447 Z-1.499
X-2.117 Y.494 Z-1.5
X-2.072 Y.539 Z-1.501
X-2.023 Y.584 Z-1.502
X-1.97 Y.628 Z-1.504
X-1.914 Y.67 Z-1.505

X-1.853 Y.711 Z-1.506
X-1.789 Y.751 Z-1.507
X-1.722 Y.789 Z-1.508
X-1.652 Y.826 Z-1.509
X-1.578 Y.861 Z-1.51
X-1.502 Y.895 Z-1.511
X-1.422 Y.927 Z-1.512
X-1.34 Y.957 Z-1.513
X-1.255 Y.985 Z-1.514
X-1.168 Y1.012 Z-1.515
X-1.079 Y1.036 Z-1.516
X-.987 Y1.059 Z-1.517
X-.894 Y1.079 Z-1.518
X-.799 Y1.098 Z-1.52
X-.702 Y1.114 Z-1.521
X-.605 Y1.128 Z-1.522
X-.506 Y1.14 Z-1.523
X-.406 Y1.15 Z-1.524
X-.305 Y1.158 Z-1.525
X-.204 Y1.164 Z-1.526
X-.102 Y1.167 Z-1.527
X0. Y1.168 Z-1.528
X.102 Y1.167 Z-1.529
X.204 Y1.164 Z-1.53
X.305 Y1.158 Z-1.531
X.406 Y1.15 Z-1.532
X.506 Y1.14 Z-1.533
X.605 Y1.128 Z-1.534
X.702 Y1.114 Z-1.536
X.799 Y1.098 Z-1.537
X.894 Y1.079 Z-1.538
X.987 Y1.059 Z-1.539
X1.079 Y1.036 Z-1.54
X1.168 Y1.012 Z-1.541
X1.255 Y.985 Z-1.542
X1.34 Y.957 Z-1.543
X1.422 Y.927 Z-1.544
X1.502 Y.895 Z-1.545
X1.578 Y.861 Z-1.546
X1.652 Y.826 Z-1.547
X1.722 Y.789 Z-1.548
X1.789 Y.751 Z-1.549
X1.853 Y.711 Z-1.55
X1.914 Y.67 Z-1.552
X1.97 Y.628 Z-1.553
X2.023 Y.584 Z-1.554
X2.072 Y.539 Z-1.555
X2.117 Y.494 Z-1.556
X2.158 Y.447 Z-1.557
X2.195 Y.399 Z-1.558
X2.228 Y.351 Z-1.559
X2.256 Y.302 Z-1.56
X2.281 Y.253 Z-1.561
X2.301 Y.203 Z-1.562

X2.316 Y.152 Z-1.563
X2.327 Y.102 Z-1.564
X2.334 Y.051 Z-1.565
X2.336 Y0. Z-1.567
X2.334 Y-.051 Z-1.568
X2.327 Y-.102 Z-1.569
X2.316 Y-.152 Z-1.57
X2.301 Y-.203 Z-1.571
X2.281 Y-.253 Z-1.572
X2.256 Y-.302 Z-1.573
X2.228 Y-.351 Z-1.574
X2.195 Y-.399 Z-1.575
X2.158 Y-.447 Z-1.576
X2.117 Y-.494 Z-1.577
X2.072 Y-.539 Z-1.578
X2.023 Y-.584 Z-1.579
X1.97 Y-.628 Z-1.58
X1.914 Y-.67 Z-1.581
X1.853 Y-.711 Z-1.583
X1.789 Y-.751 Z-1.584
X1.722 Y-.789 Z-1.585
X1.652 Y-.826 Z-1.586
X1.578 Y-.861 Z-1.587
X1.502 Y-.895 Z-1.588
X1.422 Y-.927 Z-1.589
X1.34 Y-.957 Z-1.59
X1.255 Y-.985 Z-1.591
X1.168 Y-1.012 Z-1.592
X1.079 Y-1.036 Z-1.593
X.987 Y-1.059 Z-1.594
X.894 Y-1.079 Z-1.595
X.799 Y-1.098 Z-1.596
X.702 Y-1.114 Z-1.597
X.605 Y-1.128 Z-1.599
X.506 Y-1.14 Z-1.6
X.406 Y-1.15 Z-1.601
X.305 Y-1.158 Z-1.602
X.204 Y-1.164 Z-1.603
X.102 Y-1.167 Z-1.604
X0. Y-1.168 Z-1.605
X-.102 Y-1.167 Z-1.606
X-.204 Y-1.164 Z-1.607
X-.305 Y-1.158 Z-1.608
X-.406 Y-1.15 Z-1.609
X-.506 Y-1.14 Z-1.61
X-.605 Y-1.128 Z-1.611
X-.702 Y-1.114 Z-1.612
X-.799 Y-1.098 Z-1.613
X-.894 Y-1.079 Z-1.615
X-.987 Y-1.059 Z-1.616
X-1.079 Y-1.036 Z-1.617
X-1.168 Y-1.012 Z-1.618
X-1.255 Y-.985 Z-1.619
X-1.34 Y-.957 Z-1.62

X-1.422 Y-.927 Z-1.621
X-1.502 Y-.895 Z-1.622
X-1.578 Y-.861 Z-1.623
X-1.652 Y-.826 Z-1.624
X-1.722 Y-.789 Z-1.625
X-1.789 Y-.751 Z-1.626
X-1.853 Y-.711 Z-1.627
X-1.914 Y-.67 Z-1.628
X-1.97 Y-.628 Z-1.629
X-2.023 Y-.584 Z-1.631
X-2.072 Y-.539 Z-1.632
X-2.117 Y-.494 Z-1.633
X-2.158 Y-.447 Z-1.634
X-2.195 Y-.399 Z-1.635
X-2.228 Y-.351 Z-1.636
X-2.256 Y-.302 Z-1.637
X-2.281 Y-.253 Z-1.638
X-2.301 Y-.203 Z-1.639
X-2.316 Y-.152 Z-1.64
X-2.327 Y-.102 Z-1.641
X-2.334 Y-.051 Z-1.642
X-2.336 Y0. Z-1.643
X-2.334 Y.051 Z-1.644
X-2.327 Y.102 Z-1.646
X-2.316 Y.152 Z-1.647
X-2.301 Y.203 Z-1.648
X-2.281 Y.253 Z-1.649
X-2.256 Y.302 Z-1.65
X-2.228 Y.351 Z-1.651
X-2.195 Y.399 Z-1.652
X-2.158 Y.447 Z-1.653
X-2.117 Y.494 Z-1.654
X-2.072 Y.539 Z-1.655
X-2.023 Y.584 Z-1.656
X-1.97 Y.628 Z-1.657
X-1.914 Y.67 Z-1.658
X-1.853 Y.711 Z-1.659
X-1.789 Y.751 Z-1.66
X-1.722 Y.789 Z-1.662
X-1.652 Y.826 Z-1.663
X-1.578 Y.861 Z-1.664
X-1.502 Y.895 Z-1.665
X-1.422 Y.927 Z-1.666
X-1.34 Y.957 Z-1.667
X-1.255 Y.985 Z-1.668
X-1.168 Y1.012 Z-1.669
X-1.079 Y1.036 Z-1.67
X-.987 Y1.059 Z-1.671
X-.894 Y1.079 Z-1.672
X-.799 Y1.098 Z-1.673
X-.702 Y1.114 Z-1.674
X-.605 Y1.128 Z-1.675
X-.506 Y1.14 Z-1.676
X-.406 Y1.15 Z-1.678

X-.305 Y1.158 Z-1.679
X-.204 Y1.164 Z-1.68
X-.102 Y1.167 Z-1.681
X0. Y1.168 Z-1.682
X.102 Y1.167 Z-1.683
X.204 Y1.164 Z-1.684
X.305 Y1.158 Z-1.685
X.406 Y1.15 Z-1.686
X.506 Y1.14 Z-1.687
X.605 Y1.128 Z-1.688
X.702 Y1.114 Z-1.689
X.799 Y1.098 Z-1.69
X.894 Y1.079 Z-1.691
X.987 Y1.059 Z-1.692
X1.079 Y1.036 Z-1.694
X1.168 Y1.012 Z-1.695
X1.255 Y.985 Z-1.696
X1.34 Y.957 Z-1.697
X1.422 Y.927 Z-1.698
X1.502 Y.895 Z-1.699
X1.578 Y.861 Z-1.7
X1.652 Y.826 Z-1.701
X1.722 Y.789 Z-1.702
X1.789 Y.751 Z-1.703
X1.853 Y.711 Z-1.704
X1.914 Y.67 Z-1.705
X1.97 Y.628 Z-1.706
X2.023 Y.584 Z-1.707
X2.072 Y.539 Z-1.709
X2.117 Y.494 Z-1.71
X2.158 Y.447 Z-1.711
X2.195 Y.399 Z-1.712
X2.228 Y.351 Z-1.713
X2.256 Y.302 Z-1.714
X2.281 Y.253 Z-1.715
X2.301 Y.203 Z-1.716
X2.316 Y.152 Z-1.717
X2.327 Y.102 Z-1.718
X2.334 Y.051 Z-1.719
X2.336 Y0. Z-1.72
X2.334 Y-.051 Z-1.721
X2.327 Y-.102 Z-1.722
X2.316 Y-.152 Z-1.723
X2.301 Y-.203 Z-1.725
X2.281 Y-.253 Z-1.726
X2.256 Y-.302 Z-1.727
X2.228 Y-.351 Z-1.728
X2.195 Y-.399 Z-1.729
X2.158 Y-.447 Z-1.73
X2.117 Y-.494 Z-1.731
X2.072 Y-.539 Z-1.732
X2.023 Y-.584 Z-1.733
X1.97 Y-.628 Z-1.734
X1.914 Y-.67 Z-1.735

X1.853 Y-.711 Z-1.736
X1.789 Y-.751 Z-1.737
X1.722 Y-.789 Z-1.738
X1.652 Y-.826 Z-1.739
X1.578 Y-.861 Z-1.741
X1.502 Y-.895 Z-1.742
X1.422 Y-.927 Z-1.743
X1.34 Y-.957 Z-1.744
X1.255 Y-.985 Z-1.745
X1.168 Y-1.012 Z-1.746
X1.079 Y-1.036 Z-1.747
X.987 Y-1.059 Z-1.748
X.894 Y-1.079 Z-1.749
X.799 Y-1.098 Z-1.75
X.702 Y-1.114 Z-1.751
X.605 Y-1.128 Z-1.752
X.506 Y-1.14 Z-1.753
X.406 Y-1.15 Z-1.754
X.305 Y-1.158 Z-1.755
X.204 Y-1.164 Z-1.757
X.102 Y-1.167 Z-1.758
X0. Y-1.168 Z-1.759
X-.102 Y-1.167 Z-1.76
X-.204 Y-1.164 Z-1.761
X-.305 Y-1.158 Z-1.762
X-.406 Y-1.15 Z-1.763
X-.506 Y-1.14 Z-1.764
X-.605 Y-1.128 Z-1.765
X-.702 Y-1.114 Z-1.766
X-.799 Y-1.098 Z-1.767
X-.894 Y-1.079 Z-1.768
X-.987 Y-1.059 Z-1.769
X-1.079 Y-1.036 Z-1.77
X-1.168 Y-1.012 Z-1.772
X-1.255 Y-.985 Z-1.773
X-1.34 Y-.957 Z-1.774
X-1.422 Y-.927 Z-1.775
X-1.502 Y-.895 Z-1.776
X-1.578 Y-.861 Z-1.777
X-1.652 Y-.826 Z-1.778
X-1.722 Y-.789 Z-1.779
X-1.789 Y-.751 Z-1.78
X-1.853 Y-.711 Z-1.781
X-1.914 Y-.67 Z-1.782
X-1.97 Y-.628 Z-1.783
X-2.023 Y-.584 Z-1.784
X-2.072 Y-.539 Z-1.785
X-2.117 Y-.494 Z-1.786
X-2.158 Y-.447 Z-1.788
X-2.195 Y-.399 Z-1.789
X-2.228 Y-.351 Z-1.79
X-2.256 Y-.302 Z-1.791
X-2.281 Y-.253 Z-1.792
X-2.301 Y-.203 Z-1.793

X-2.316 Y-.152 Z-1.794
X-2.327 Y-.102 Z-1.795
X-2.334 Y-.051 Z-1.796
X-2.336 Y0. Z-1.797
X-2.334 Y.051 Z-1.798
X-2.327 Y.102 Z-1.799
X-2.316 Y.152 Z-1.8
X-2.301 Y.203 Z-1.801
X-2.281 Y.253 Z-1.802
X-2.256 Y.302 Z-1.804
X-2.228 Y.351 Z-1.805
X-2.195 Y.399 Z-1.806
X-2.158 Y.447 Z-1.807
X-2.117 Y.494 Z-1.808
X-2.072 Y.539 Z-1.809
X-2.023 Y.584 Z-1.81
X-1.97 Y.628 Z-1.811
X-1.914 Y.67 Z-1.812
X-1.853 Y.711 Z-1.813
X-1.789 Y.751 Z-1.814
X-1.722 Y.789 Z-1.815
X-1.652 Y.826 Z-1.816
X-1.578 Y.861 Z-1.817
X-1.502 Y.895 Z-1.818
X-1.422 Y.927 Z-1.82
X-1.34 Y.957 Z-1.821
X-1.255 Y.985 Z-1.822
X-1.168 Y1.012 Z-1.823
X-1.079 Y1.036 Z-1.824
X-.987 Y1.059 Z-1.825
X-.894 Y1.079 Z-1.826
X-.799 Y1.098 Z-1.827
X-.702 Y1.114 Z-1.828
X-.605 Y1.128 Z-1.829
X-.506 Y1.14 Z-1.83
X-.406 Y1.15 Z-1.831
X-.305 Y1.158 Z-1.832
X-.204 Y1.164 Z-1.833
X-.102 Y1.167 Z-1.834
X0. Y1.168 Z-1.836
X.102 Y1.167 Z-1.837
X.204 Y1.164 Z-1.838
X.305 Y1.158 Z-1.839
X.406 Y1.15 Z-1.84
X.506 Y1.14 Z-1.841
X.605 Y1.128 Z-1.842
X.702 Y1.114 Z-1.843
X.799 Y1.098 Z-1.844
X.894 Y1.079 Z-1.845
X.987 Y1.059 Z-1.846
X1.079 Y1.036 Z-1.847
X1.168 Y1.012 Z-1.848
X1.255 Y.985 Z-1.849
X1.34 Y.957 Z-1.851

X1.422 Y.927 Z-1.852
X1.502 Y.895 Z-1.853
X1.578 Y.861 Z-1.854
X1.652 Y.826 Z-1.855
X1.722 Y.789 Z-1.856
X1.789 Y.751 Z-1.857
X1.853 Y.711 Z-1.858
X1.914 Y.67 Z-1.859
X1.97 Y.628 Z-1.86
X2.023 Y.584 Z-1.861
X2.072 Y.539 Z-1.862
X2.117 Y.494 Z-1.863
X2.158 Y.447 Z-1.864
X2.195 Y.399 Z-1.865
X2.228 Y.351 Z-1.867
X2.256 Y.302 Z-1.868
X2.301 Y.203 Z-1.87
X2.316 Y.152 Z-1.871
X2.327 Y.102 Z-1.872
X2.336 Y0. Z-1.874

G0 Z-1.009

(Face Contour Finish Tool #2 1.0 Center Cut TICN End Mill)

Z.243

Z.093

G1 Z-1.877

G3 X0. Y1.168 R1.168

X-2.336 Y0. R1.168

X0. Y-1.168 R1.168

X2.336 Y0. R1.168

X2.327 Y.1 R1.168

G0 Z.243

G28 U0.

G28 V0.W0. M45

M01

(SpindleTurn Tool #11 5\8 Bar With TCMT 220 Insert Reverse Spindle)

G28 U0.

G28 V0.W0.

G54 W0.

T111100

G18 M40

G50 S2500

G97 S2500 M4

M9

G0 X-1.185 Z.098

G96 S600 M4

G99 G1 Z-.002 F.01

X-1.245 Z-.032

G2 X-1.25 Z-.038 R.008

G1 Z-1.822

G3 X-1.359 Z-1.877 R.054

G1 X-1.75

Z-1.777

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G0 Z.25
X1.75
( Thread BoreTool #11 .625 Boring Bar withTCMT Insert )
Z.1
X3.625
Z-1.15
X3.691
G1 Z-1.25
X3.478
G2 X3.422 Z-1.278 R.028
G1 Z-1.877
X3.12
X2.979 Z-1.806
G0 Z.03
Z.098
G28 U0.
G28 V0.W0.
M01

( External Groove lTool #9 .093 Dia. Full Rad L Holder )
G28 U0.
G28 V0.W0.
G54 W0.
T090900
G18 M40
G50 S2500
G97 S2500 M3
M9
G0 X1.391 Z-.08
G96 S500 M3
G99 G1 X1.249 Z-.151 F.01
G3 X1.153 Z-.207 R.056
G2 X1.13 Z-.22 R.013
X1.153 Z-.233 R.013
G3 X1.25 Z-.289 R.057
G0 X1.391
( Tool #9 .093 Dia. External GrooveTool )
Z-.52
G1 X1.249 Z-.591
G3 X1.153 Z-.647 R.056
G2 X1.13 Z-.66 R.013
X1.153 Z-.673 R.013
G3 X1.25 Z-.729 R.057
G0 X1.391
( Tool #9 .093 Dia. External GrooveTool )
Z-.96
G1 X1.249 Z-1.031
G3 X1.153 Z-1.087 R.056
G2 X1.13 Z-1.1 R.013
X1.153 Z-1.113 R.013
G3 X1.25 Z-1.169 R.057
G0 X1.391
( Tool #9 .093 Dia. External GrooveTool )
Z-1.4

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G1 X1.249 Z-1.471
G3 X1.153 Z-1.527 R.056
G2 X1.13 Z-1.54 R.013
X1.153 Z-1.553 R.013
G3 X1.25 Z-1.609 R.057
G0 X1.391
Z-.08
G28 U0.
G28 V0.W0.
M01

(ID Groove Tool #17 .120 ID Grove)
G28 U0.
G28 V0.W0.
G54 W0.
T171700
G18 M40
G50 S2500
G97 S2500 M3
M9
G0 X3.222
Z-1.824
G96 S500 M3
G99 G1 X3.422 F.01
X3.56
G0 X3.222
Z.09
G28 U0.
G28 V0.W0.
M01

(ID Thread Unified National 60 Deg. Thread Tool)
G28 U0.
G28 V0.W0.
G54 W0.
T151500
G18 M40
G97 S20 M5
M9
G0 X3.222
Z-.995
X.422 Z-1.03
M23
G76 X3.5 Z-1.75 I0. K.039 D.007 A30. E.0833 P3
M24
G0 X3.222 Z.074
G28 U0.
G28 V0.W0.
M01

(Face Drill Tool #8 .532 Twist Drill)
G28 U0.
G28 V0.W0.
G54 W0.

T080800
G18 M40
G97 S850 M3
M9
G0 X0. Z.25
Z.1
G98 G74 Z-2.51 K.1 F5
G0 Z.25
G28 U0.
G28 V0.W0.
M01

(ID Rough Tool #5 .5 ID Bore Bar WithTCMT Insert)
G28 U0.
G28 V0.W0.
G54 W0.
T050500
G18 M40
G50 S2500
G97 S2500 M3
M9
G0 X.613
Z.203
G96 S600 M3
G99 G1 Z.103 F.01
Z-.295
G2 X.61 Z-.303 R.019
G1 Z-.587
X.588
G2 X.562 Z-.592 R.019
G1 X.512 Z-.617
X.453 Z-.588
G0 Z.203
X.715
G1 Z.103
Z-.247
G2 X.695 Z-.252 R.019
G1 X.621 Z-.289
G2 X.61 Z-.303 R.019
G1 Z-.587
X.593
X.534 Z-.557
G0 Z.203
X.816
G1 Z.103
Z-.247
X.721
G2 X.695 Z-.252 R.019
G1 X.636 Z-.223
G0 Z.203
X.917
G1 Z.103
Z0.
G2 X.88 Z-.031 R.034

G1 Z-.247
 X.796
 X.737 Z-.217
 G0 Z.103
 X1.219
 G1 Z.003
 X.947
 G2 X.897 Z-.008 R.034
 G1 X.838 Z.022
 G0 Z.03
 (ID Finish Tool #5 .5 ID Bore Bar WithTCMT Insert)
 Z.1
 X.988
 G1 Z0. F.06
 X.971
 G2 X.91 Z-.031 R.031
 G1 Z-.25
 X.745
 G2 X.723 Z-.255 R.016
 G1 X.649 Z-.292
 G2 X.64 Z-.303 R.016
 G1 Z-.59
 X.612
 G2 X.59 Z-.595 R.016
 G1 X.54 Z-.62
 X.477 Z-.588
 G0 Z.03
 Z.203
 G28 U0.
 G28 V0.W0.
 M01

(Face Tap Tool#7 5/8 -11 Tap)
 G28 U0.
 G28 V0.W0.
 G54 W0.
 T070700
 G18 M40
 G97 S250 M3
 M9
 G0 X0. Z-.338
 Z-.488
 G32 Z-2.538 E.0909 M5
 G32 Z-.488 M4
 G0 Z-.338 M3
 Z.03
 G28 U0.
 G28 V0.W0.
 M01

(OD Contour Tool# 12 .5 HSS TICN Coated End Mill)
 G28 U0.
 G28 V0.W0.
 G54 W0.

T121200
G28H0.
M43
G50C0.
G17 M44
G97 S950 M13
M9
C90.
G0 X-1.317 Y.877 Z9999.
Z2.25
Z1.625
G98 G1 X-1.848 Y.612 F5
G3 X-2. Y.428 R.26
G1 Y.427
G2 X-2.002 Y.403 R.25
G1 X-2.003 Y.402
G2 X-2.009 Y.379 R.25
G1 X-2.01 Y.378
G2 X-2.02 Y.356 R.25
G1 X-2.021 Y.354
G2 X-2.035 Y.333 R.25
G1 X-2.036 Y.331
G2 X-2.054 Y.311 R.25
G1 X-2.056 Y.309
G2 X-2.077 Y.289 R.25
G1 X-2.079 Y.288
G2 X-2.104 Y.269 R.25
G1 X-2.106 Y.268
G2 X-2.134 Y.25 R.25
G1 X-2.136 Y.249
G2 X-2.167 Y.233 R.25
G1 X-2.17 Y.232
G2 X-2.204 Y.217 R.25
G1 X-2.207 Y.216
G2 X-2.243 Y.203 R.25
G1 X-2.246 Y.202
G2 X-2.284 Y.191 R.25
G1 X-2.287 Y.19
G2 X-2.327 Y.18 R.25
G1 X-2.331 Y.179
G2 X-2.372 Y.172 R.25
G1 X-2.376 Y.171
G2 X-2.419 Y.165 R.25
G1 X-2.422
G2 X-2.466 Y.161 R.25
G1 X-2.47
G2 X-2.514 Y.159 R.25
G1 X-2.529 Y.158
X-2.796
X-2.805
X-2.811
X-2.818
X-2.824
X-2.831

X-2.837 Y.157
X-2.844
X-2.85 Y.156
X-2.857
X-2.863 Y.155
X-2.869
X-2.876 Y.154
X-2.882 Y.153
X-2.888 Y.152
X-2.895 Y.151
X-2.901 Y.15
X-2.907 Y.149
X-2.913 Y.148
X-2.919 Y.147
X-2.925 Y.146
X-2.931 Y.145
X-2.937 Y.143
X-2.942 Y.142
X-2.948 Y.141
X-2.954 Y.139
X-2.959 Y.138
X-2.965 Y.136
X-2.97 Y.134
X-2.975 Y.133
X-2.981 Y.131
X-2.986 Y.129
X-2.991 Y.128
X-2.996 Y.126
X-3.001 Y.124
X-3.006 Y.122
X-3.01 Y.12
X-3.015 Y.118
X-3.02 Y.116
X-3.024 Y.114
X-3.029 Y.111
X-3.033 Y.109
X-3.037 Y.107
X-3.041 Y.105
X-3.045 Y.102
X-3.049 Y.1
X-3.053 Y.098
X-3.057 Y.095
X-3.061 Y.093
X-3.064 Y.09
X-3.068 Y.088
X-3.071 Y.085
X-3.074 Y.082
X-3.077 Y.08
X-3.08 Y.077
X-3.083 Y.074
X-3.086 Y.072
X-3.089 Y.069
X-3.092 Y.066
X-3.094 Y.063

X-3.096 Y.06
X-3.099 Y.057
X-3.101 Y.054
X-3.103 Y.051
X-3.105 Y.048
X-3.107 Y.045
X-3.109 Y.042
X-3.11 Y.039
X-3.112 Y.036
X-3.113 Y.033
X-3.114 Y.03
X-3.115 Y.027
X-3.116 Y.024
X-3.117 Y.021
X-3.118 Y.018
X-3.119 Y.015
Y.011
X-3.12 Y.008
Y.006
Y-.001
Y-.003
Y-.006
X-3.119 Y-.01
Y-.013
X-3.118 Y-.016
Y-.019
X-3.117 Y-.022
X-3.116 Y-.025
X-3.115 Y-.028
X-3.114 Y-.032
X-3.112 Y-.035
X-3.111 Y-.038
X-3.109 Y-.041
X-3.108 Y-.044
X-3.106 Y-.047
X-3.104 Y-.05
X-3.102 Y-.053
X-3.1 Y-.056
X-3.098 Y-.059
X-3.095 Y-.062
X-3.093 Y-.065
X-3.09 Y-.067
X-3.088 Y-.07
X-3.085 Y-.073
X-3.082 Y-.076
X-3.079 Y-.078
X-3.076 Y-.081
X-3.072 Y-.084
X-3.069 Y-.086
X-3.066 Y-.089
X-3.062 Y-.092
X-3.059 Y-.094
X-3.055 Y-.096
X-3.051 Y-.099

X-3.047 Y-.101
X-3.043 Y-.104
X-3.039 Y-.106
X-3.035 Y-.108
X-3.031 Y-.11
X-3.026 Y-.113
X-3.022 Y-.115
X-3.017 Y-.117
X-3.013 Y-.119
X-3.008 Y-.121
X-3.003 Y-.123
X-2.998 Y-.125
X-2.993 Y-.127
X-2.988 Y-.129
X-2.983 Y-.13
X-2.978 Y-.132
X-2.973 Y-.134
X-2.967 Y-.135
X-2.962 Y-.137
X-2.956 Y-.138
X-2.951 Y-.14
X-2.945 Y-.141
X-2.939 Y-.143
X-2.934 Y-.144
X-2.928 Y-.145
X-2.922 Y-.147
X-2.916 Y-.148
X-2.91 Y-.149
X-2.904 Y-.15
X-2.898 Y-.151
X-2.892 Y-.152
X-2.885 Y-.153
X-2.879
X-2.873 Y-.154
X-2.867 Y-.155
X-2.86
X-2.854 Y-.156
X-2.847 Y-.157
X-2.841
X-2.834
X-2.828 Y-.158
X-2.822
X-2.815
X-2.81
X-2.794
X-2.534
X-2.526
G2 X-2.493 Y-.159 R.25
G1 X-2.489 Y-.16
G2 X-2.446 Y-.163 R.25
G1 X-2.443
G2 X-2.4 Y-.168 R.25
G1 X-2.397
G2 X-2.356 Y-.175 R.25

G1 X-2.352
G2 X-2.312 Y-.184 R.25
G1 X-2.309
G2 X-2.27 Y-.195 R.25
G1 X-2.267
G2 X-2.23 Y-.207 R.25
G1 X-2.227 Y-.208
G2 X-2.192 Y-.222 R.25
G1 X-2.189 Y-.223
G2 X-2.156 Y-.238 R.25
G1 X-2.154 Y-.24
G2 X-2.124 Y-.256 R.25
G1 X-2.121 Y-.258
G2 X-2.094 Y-.276 R.25
G1 X-2.092 Y-.277
G2 X-2.069 Y-.296 R.25
G1 X-2.067 Y-.298
G2 X-2.047 Y-.318 R.25
G1 X-2.045 Y-.32
G2 X-2.029 Y-.341 R.25
G1 X-2.027 Y-.343
G2 X-2.015 Y-.365 R.25
G1 X-2.014 Y-.367
G2 X-2.006 Y-.39 R.25
G1 X-2.005 Y-.391
G2 X-2.001 Y-.414 R.25
G1 Y-.416
G3 X-1.831 Y-.596 R.26
G1 X-1.277 Y-.849
Z1.725 F100
G0 Z2.25
G28 V0.
G28 U0.W0. M45
M01

(C-axis Drill Tool#10 .25 Center Cut Finishing End Mill)
G28 U0.
G28 V0.W0.
G54 W0.
T101000
G28H0.
M43
G50C0.
G19 M44
G97 S1800 M13
M9
C-90.
G0 X19999.25 Z-.185
X1.75 C-89.996
X1.45 C-90.
G98 G1 X1.39 F4
G0 X1.43
G1 X1.33
G0 X1.37

G1 X1.27
G0 X1.31
G1 X1.21
G0 X1.25
G1 X1.15
G0 X1.19
G1 X1.09
G0 X1.13
G1 X1.03
G0 X1.07
G1 X.974
G0 X1.45
X1.75
G28 V0.
G28 U0.W0. M45
M01

(C Axis OD Drill Tool #14 .106 Twist Drill)

G28 U0.
G28 V0.W0.
G54 W0.
T141400
G28H0.
M43
G50C0.
G19 M44
G97 S2000 M13
M9
C-90.
G0 X19999.25 Z-1.31
X1.65 C-89.996
X2.25 C-90.
G98 G1 X2.19 F6
G0 X2.23
G1 X1.99
G0 X2.03
G1 X1.79
G0 X1.83
G1 X1.59
G0 X1.63
G1 X1.39
G0 X1.43
G1 X1.19
G0 X1.23
G1 X.99
G0 X1.03
G1 X.79
G0 X.83
G1 X.59
G0 X.63
G1 X.5
G0 X2.25
X1.65
Z-.47

X2.25
G1 X2.19
G0 X2.23
G1 X1.99
G0 X2.03
G1 X1.79
G0 X1.83
G1 X1.59
G0 X1.63
G1 X1.39
G0 X1.43
G1 X1.19
G0 X1.23
G1 X.99
G0 X1.03
G1 X.79
G0 X.83
G1 X.59
G0 X.63
G1 X.5
G0 X2.25
X1.65
G28 V0.
G28 U0.W0. M45
M01

(C Axis OD Tap Tool#16 6-32 Tap)
G28 U0.
G28 V0.W0.
G54 W0.
T161600
G28H0.
M43
G50C0.
G19 M44
G97 S200 M13
M9
C-90.
G0 X1.65 Z-.47
G98 G198 G88 X.5 C-89.996 R.6 Q.06 F0
Z-1.31 C-90.
G0 G80
X1.25 C-89.996
Z.1 C0.
G28 V0.
G28 U0.W0. M45
M30

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