SAMPLE SET UP SHEET FOR HI-CELL Y-AXIS LATHE

```
CUSTOMIZABLE LATHE SETUP SHEET - LATHE.SET
==========================================

PROGRAM NAME    = D998703A1_ATHENA
PROGRAM NUMBER = 9987
DATE PROCESSED = MAY. 02 2010
TIME           = 12:30 PM
MATERIAL TYPE  = STEEL inch - 1030 - 200 BHN
STOCK LENGTH   = 2.
STOCK MAX DIA. = 4.5
MACHINE NAME   = HI CELL POST
GROUP NAME     = MACHINE GROUP-1


--------------------------------------
OPERATION = FACING
OPERATION COMMENT = FACING OPTOOL #1 STANDARD WNMG-432
TOOL NAME = Tool 1 std WNMG 432
TOOL DEF. (MANUFACTURER) = NONE
TOOL NUM. = 1
TOOL OFFSET = 1
TOOL RADIUS = .0313
SPINDLE = 600 SFPM
MAX RPM = 2500
FEEDRATE = .01 IN/REV
CUTTER COMP. = OFF
MAX_X = +4.7000  MIN_X = -0.1865
MAX_Z = +0.1000  MIN_Z = +0.0000
TOOL FEED CUT LENGTH = 2.4432
TOOL RAPID TRAVERSE LENGTH = 21.5785
RAPID TIME = 1.29 SECONDS
FEED TIME  = 15.23 SECONDS
OPERATION TIME = 16.53 SECONDS
--------------------------------------
OPERATION = ROUGH
OPERATION COMMENT = C AXIS FACE DRILLTOOL #6 .25 CENTER DRILL
TOOL NAME = .25 Center Drill
TOOL NUM. = 6
TOOL OFFSET = 6
TOOL RADIUS = .0000
SPINDLE = 850 RPM
FEEDRATE = 3.5 IN/MIN
CUTTER COMP. = OFF
MAX_X = +1.2495  MIN_X = -1.2495
MAX_Z = +0.5000  MIN_Z = -0.2000
TOOL FEED CUT LENGTH = 0.
TOOL RAPID TRAVERSE LENGTH = 26.1651
RAPID TIME = 1.57 SECONDS
```

```
FEED TIME  =
OPERATION TIME = 1.57 SECONDS
--------------------------------------
OPERATION = ROUGH
OPERATION COMMENT = C-AXIS FACE DRILL TOOL #4 .125 HSS TWIST DRILL 1.75
LONG MIN.
TOOL NAME = .125 twist drill 2.0 long
TOOL NUM. = 4
TOOL OFFSET = 4
TOOL RADIUS = .0000
SPINDLE = 1575 RPM
FEEDRATE = 2.5 IN/MIN
CUTTER COMP. = OFF
MAX_X = +1.2495  MIN_X = -1.2495
MAX_Z = +0.5000  MIN_Z = -1.7000
TOOL FEED CUT LENGTH = 0.
TOOL RAPID TRAVERSE LENGTH = 26.1651
RAPID TIME = 1.57 SECONDS
FEED TIME  =
OPERATION TIME = 1.57 SECONDS
--------------------------------------
OPERATION = ROUGH
OPERATION COMMENT = OD ROUGH TOOL #1 STANDARD WNMG-432
TOOL NAME = Tool 1 std WNMG 432
TOOL DEF. (MANUFACTURER) = NONE
TOOL NUM. = 1
TOOL OFFSET = 1
TOOL RADIUS = .0313
SPINDLE = 600 SFPM
MAX RPM = 2500
FEEDRATE = .01 IN/REV
CUTTER COMP. = OFF
MAX_X = +4.6414  MIN_X = +0.9291
MAX_Z = +0.2030  MIN_Z = -1.3470
TOOL FEED CUT LENGTH = 28.339
TOOL RAPID TRAVERSE LENGTH = 48.8871
RAPID TIME = 2.93 SECONDS
FEED TIME  = 3 MINUTES, 24.47 SECONDS
OPERATION TIME = 3 MINUTES, 27.41 SECONDS
--------------------------------------
OPERATION = FINISH
OPERATION COMMENT = OD FINISH TOOL #3 STD VNMG 432
TOOL NAME = turn tool #3
TOOL DEF. (MANUFACTURER) = NONE
TOOL NUM. = 3
TOOL OFFSET = 3
TOOL RADIUS = .0313
SPINDLE = 600 SFPM
MAX RPM = 2500
FEEDRATE = .01 IN/REV
CUTTER COMP. = OFF
MAX_X = +4.3700  MIN_X = +3.3800
MAX_Z = -1.1500  MIN_Z = -1.3500
TOOL FEED CUT LENGTH = .6728
```

```
TOOL RAPID TRAVERSE LENGTH = 23.3248
RAPID TIME = 1.4 SECONDS
FEED TIME  = 11.26 SECONDS
OPERATION TIME = 12.66 SECONDS
--------------------------------------
OPERATION = ROUGH
OPERATION COMMENT = FACE CONTOUR HELIX  TOOL #2  1.0  TICN COATED HSS END
MILL
TOOL NAME = 1.0 coated hss center cut
TOOL NUM. = 2
TOOL OFFSET = 2
TOOL RADIUS = .0000
SPINDLE = 850 RPM
FEEDRATE = 5.5 IN/MIN
CUTTER COMP. = OFF
MAX_X = +2.3360  MIN_X = -2.3360
MAX_Z = -1.0090  MIN_Z = -1.8740
TOOL FEED CUT LENGTH = 18.8101
TOOL RAPID TRAVERSE LENGTH = 27.5129
RAPID TIME = 1.65 SECONDS
FEED TIME  = 2.56 SECONDS
OPERATION TIME = 4.21 SECONDS
--------------------------------------
OPERATION = ROUGH
OPERATION COMMENT = FACE CONTOUR FINISH  TOOL #2  1.0 CENTER CUT TICN END
MILL
TOOL NAME = 1.0 coated hss center cut
TOOL NUM. = 2
TOOL OFFSET = 2
TOOL RADIUS = .0000
SPINDLE = 850 RPM
FEEDRATE = 5.5 IN/MIN
CUTTER COMP. = OFF
MAX_X = +2.3355  MIN_X = -2.3355
MAX_Z = +0.2430  MIN_Z = -1.8770
TOOL FEED CUT LENGTH = 6.6455
TOOL RAPID TRAVERSE LENGTH = 26.3434
RAPID TIME = 1.58 SECONDS
FEED TIME  = 1 MINUTE, 14.6 SECONDS
OPERATION TIME = 1 MINUTE, 16.18 SECONDS
--------------------------------------
OPERATION = FINISH
OPERATION COMMENT = SPINDLETURRN TOOL #11  5\8 BAR  WITH TCMT 220 INSERT
REVERSE SPINDLE
TOOL NAME = tool 11
TOOL DEF. (MANUFACTURER) = NONE
TOOL NUM. = 11
TOOL OFFSET = 11
TOOL RADIUS = .0080
SPINDLE = 500 SFPM
MAX RPM = 2500
FEEDRATE = .01 IN/REV
CUTTER COMP. = OFF
MAX_X = +1.7500  MIN_X = -1.7500
```

```
MAX_Z = +0.2500  MIN_Z = -1.8770
TOOL FEED CUT LENGTH = 2.3146
TOOL RAPID TRAVERSE LENGTH = 25.7361
RAPID TIME = 1.54 SECONDS
FEED TIME  = 15.69 SECONDS
OPERATION TIME = 17.24 SECONDS
--------------------------------------
OPERATION = FINISH
OPERATION COMMENT = THREAD BORETOOL #11 .625 BORING BAR WITHTCMT INSERT
TOOL NAME = tool 11
TOOL DEF. (MANUFACTURER) = NONE
TOOL NUM. = 11
TOOL OFFSET = 11
TOOL RADIUS = .0080
SPINDLE = 500 SFPM
MAX RPM = 2500
FEEDRATE = .01 IN/REV
CUTTER COMP. = OFF
MAX_X = +3.6907  MIN_X = +1.7500
MAX_Z = +0.1000  MIN_Z = -1.8770
TOOL FEED CUT LENGTH = 1.1002
TOOL RAPID TRAVERSE LENGTH = 25.3517
RAPID TIME = 1.52 SECONDS
FEED TIME  = 19.63 SECONDS
OPERATION TIME = 21.16 SECONDS
--------------------------------------
OPERATION = PLUNGE ROUGH
OPERATION COMMENT = EXTERNAL GROOVE LTOOL #9    .093 DIA. FULL RAD L
HOLDER
TOOL NAME = tool 9 .093 external groove tool
TOOL DEF. (MANUFACTURER) = NONE
TOOL NUM. = 9
TOOL OFFSET = 9
TOOL RADIUS = .0465
SPINDLE = 500 SFPM
MAX RPM = 2500
FEEDRATE = .01 IN/REV
CUTTER COMP. = OFF
MAX_X = +1.3909  MIN_X = +1.1295
MAX_Z = -0.0800  MIN_Z = -1.6093
TOOL FEED CUT LENGTH = 1.1966
TOOL RAPID TRAVERSE LENGTH = 24.317
RAPID TIME = 1.46 SECONDS
FEED TIME  = 5.83 SECONDS
OPERATION TIME = 7.29 SECONDS
--------------------------------------
OPERATION = GROOVING
OPERATION COMMENT = ID GROOVE TOOL #17  .120 ID GROVE
TOOL NAME = Lathe Tool 17
TOOL DEF. (MANUFACTURER) = NONE
TOOL NUM. = 17
TOOL OFFSET = 17
TOOL RADIUS = .0150
SPINDLE = 600 SFPM
```

```
MAX RPM = 2500
FEEDRATE = .01 IN/REV
CUTTER COMP. = OFF
MAX_X = +3.5600  MIN_X = +3.2220
MAX_Z = +0.0900  MIN_Z = -1.8240
TOOL FEED CUT LENGTH = .169
TOOL RAPID TRAVERSE LENGTH = 24.8566
RAPID TIME = 1.49 SECONDS
FEED TIME  = 1.88 SECONDS
OPERATION TIME = 3.37 SECONDS
--------------------------------------
OPERATION = THREADING
OPERATION COMMENT = ID THREAD UNIFIED NATIONAL 60 DEG. THREAD TOOL
TOOL NAME = Lathe Tool 15
TOOL DEF. (MANUFACTURER) = NONE
TOOL NUM. = 15
TOOL OFFSET = 15
TOOL RADIUS = .0144
SPINDLE = 200 RPM
FEEDRATE = 16.67 IN/MIN
CUTTER COMP. = OFF
MAX_X = +3.5000  MIN_X = +3.2220
MAX_Z = +0.0737  MIN_Z = -1.7500
TOOL FEED CUT LENGTH = 7.8594
TOOL RAPID TRAVERSE LENGTH = 32.5349
RAPID TIME = 1.95 SECONDS
FEED TIME  = 28.29 SECONDS
OPERATION TIME = 30.25 SECONDS
--------------------------------------
OPERATION = DRILL CYCLE - CHIP BREAK
OPERATION COMMENT = FACE DRILL TOOL #8 .532 TWIST DRILL
TOOL NAME = Tool #8
TOOL DEF. (MANUFACTURER) = NONE
TOOL NUM. = 8
TOOL OFFSET = 8
TOOL RADIUS = .2660
SPINDLE = 750 RPM
FEEDRATE = 5. IN/MIN
MAX_X = +0.0000  MIN_X = +0.0000
MAX_Z = +0.2500  MIN_Z = -2.5098
TOOL FEED CUT LENGTH = 3.1098
TOOL RAPID TRAVERSE LENGTH = 25.3244
RAPID TIME = 1.52 SECONDS
FEED TIME  = 37.32 SECONDS
OPERATION TIME = 38.84 SECONDS
--------------------------------------
OPERATION = ROUGH
OPERATION COMMENT = ID ROUGH TOOL #5   .5 ID BORE BAR WITHTCMT INSERT
TOOL NAME = Lathe Tool 14
TOOL DEF. (MANUFACTURER) = NONE
TOOL NUM. = 5
TOOL OFFSET = 5
TOOL RADIUS = .0156
SPINDLE = 600 SFPM
```

```
MAX RPM = 2500
FEEDRATE = .01 IN/REV
CUTTER COMP. = OFF
MAX_X = +1.2188  MIN_X = +0.4528
MAX_Z = +0.2030  MIN_Z = -0.6175
TOOL FEED CUT LENGTH = 3.1567
TOOL RAPID TRAVERSE LENGTH = 24.7948
RAPID TIME = 1.49 SECONDS
FEED TIME  = 7.72 SECONDS
OPERATION TIME = 9.2 SECONDS
--------------------------------------
OPERATION = FINISH
OPERATION COMMENT = ID FINISH TOOL #5   .5 ID BORE BAR WITHTCMT INSERT
TOOL NAME = Lathe Tool 14
TOOL DEF. (MANUFACTURER) = NONE
TOOL NUM. = 5
TOOL OFFSET = 5
TOOL RADIUS = .0156
SPINDLE = 600 SFPM
MAX RPM = 2500
FEEDRATE = .01 IN/REV
CUTTER COMP. = OFF
MAX_X = +0.9876  MIN_X = +0.4768
MAX_Z = +0.1000  MIN_Z = -0.6196
TOOL FEED CUT LENGTH = .9283
TOOL RAPID TRAVERSE LENGTH = 22.6498
RAPID TIME = 1.36 SECONDS
FEED TIME  = 2.25 SECONDS
OPERATION TIME = 3.61 SECONDS
--------------------------------------
OPERATION = DRILL CYCLE - TAP
OPERATION COMMENT = FACE TAP TOOL#7 5/8 -11 TAP
TOOL NAME = Lathe Tool 7
TOOL DEF. (MANUFACTURER) = NONE
TOOL NUM. = 7
TOOL OFFSET = 7
TOOL RADIUS = .3125
SPINDLE = 250 RPM
FEEDRATE = .09 IN/REV
MAX_X = +0.0000  MIN_X = +0.0000
MAX_Z = +0.0300  MIN_Z = -2.5378
TOOL FEED CUT LENGTH = 4.2502
TOOL RAPID TRAVERSE LENGTH = 26.1599
RAPID TIME = 1.57 SECONDS
FEED TIME  = 11.22 SECONDS
OPERATION TIME = 12.79 SECONDS
--------------------------------------
OPERATION = ROUGH
OPERATION COMMENT = OD CONTOUR TOOL# 12   .5 HSS TICN COATED END MILL
TOOL NAME = tool #12 clear slot .5 HSS End Mill
TOOL NUM. = 12
TOOL OFFSET = 12
TOOL RADIUS = .0000
SPINDLE = 850 RPM
```

```
FEEDRATE = 6.5 IN/MIN
CUTTER COMP. = OFF
MAX_X = -1.2769  MIN_X = -3.1200
MAX_Z = +2.2500  MIN_Z = +1.6250
TOOL FEED CUT LENGTH = 1.9231
TOOL RAPID TRAVERSE LENGTH = 30.4325
RAPID TIME = 1.83 SECONDS
FEED TIME  = 2.62 SECONDS
OPERATION TIME = 4.44 SECONDS
--------------------------------------
OPERATION = ROUGH
OPERATION COMMENT = C-AXIS DRILL TOOL#10  .25 CENTER CUT FINISHING END
MILL
TOOL NAME = .250 TICN End Mill
TOOL NUM. = 10
TOOL OFFSET = 10
TOOL RADIUS = .0000
SPINDLE = 1250 RPM
FEEDRATE = 7. IN/MIN
CUTTER COMP. = OFF
MAX_X = -0.3700  MIN_X = -0.3700
MAX_Z = +0.2500  MIN_Z = -0.1380
TOOL FEED CUT LENGTH = 0.
TOOL RAPID TRAVERSE LENGTH = 20.6231
RAPID TIME = 1.24 SECONDS
FEED TIME  =
OPERATION TIME = 1.24 SECONDS
--------------------------------------
OPERATION = ROUGH
OPERATION COMMENT = OD SLOT TOOL #10 .250 CENTER CUT FINISHER
TOOL NAME = .250 TICN End Mill
TOOL NUM. = 10
TOOL OFFSET = 10
TOOL RADIUS = .0000
SPINDLE = 1250 RPM
FEEDRATE = 7. IN/MIN
CUTTER COMP. = OFF
MAX_X = -0.3700  MIN_X = -2.8700
MAX_Z = +0.2500  MIN_Z = -0.1380
TOOL FEED CUT LENGTH = 2.738
TOOL RAPID TRAVERSE LENGTH = 21.1611
RAPID TIME = 1.27 SECONDS
FEED TIME  = 22.14 SECONDS
OPERATION TIME = 23.41 SECONDS
--------------------------------------
OPERATION = ROUGH
OPERATION COMMENT = C AXIS OD DRILL TOOL #14 .106 TWIST DRILL
TOOL NAME = Tool #14  #36 Twist Drill
TOOL NUM. = 14
TOOL OFFSET = 14
TOOL RADIUS = .0000
SPINDLE = 1850 RPM
FEEDRATE = 3. IN/MIN
CUTTER COMP. = OFF
```

```
MAX_X = -0.9400   MIN_X = -2.6200
MAX_Z = +0.2000   MIN_Z = -0.3750
TOOL FEED CUT LENGTH = 0.
TOOL RAPID TRAVERSE LENGTH = 22.8218
RAPID TIME = 1.37 SECONDS
FEED TIME  =
OPERATION TIME = 1.37 SECONDS
-------------------------------------
OPERATION = ROUGH
OPERATION COMMENT = C AXIS OD TAP TOOL#16   6-32 TAP
TOOL NAME = Tool #16 6-32 Tap
TOOL NUM. = 16
TOOL OFFSET = 16
TOOL RADIUS = .0000
SPINDLE = 200 RPM
FEEDRATE = .03 IN/MIN
CUTTER COMP. = OFF
MAX_X = +0.2000   MIN_X = -2.6200
MAX_Z = +0.2000   MIN_Z = -0.3750
TOOL FEED CUT LENGTH = 0.
TOOL RAPID TRAVERSE LENGTH = 20.
RAPID TIME = 1.2 SECONDS
FEED TIME  =
OPERATION TIME = 1.2 SECONDS


=================================================
PROGRAM TOTALS (21 TOOLS):

MAX_X = +4.7000   MIN_X = -3.1200
MAX_Z = +2.2500   MIN_Z = -2.5378
TOTAL FEED CUT LENGTH = 85.6565
TOTAL RAPID TRAVERSE LENGTH = 546.7406
TOTAL RAPID TIME = 32.8 SECONDS
TOTAL FEED TIME = 7 MINUTES, 42.71 SECONDS
CYCLE TIME:  10 MINUTES, 21.52 SECONDS
```