Live Tooling Lathe- Project 2



**Project 1 Overview**



For this part, the program is supplied for the rough turning, drilling, finish turning and parting off. The radial endmill will need to be programmed to cut the four flats using only the C axis. A radial holder with a drill can then be programed to drill the cross holes. Last you will need to program the axial holder with drill to drill the face holes.

**Outcomes:**

1. Successfully set the tool offsets manually for 278-2
2. Successfully set load, set-up, and offset both a Radial and Axial Live Tool Holder
3. Successfully program the Axial and Radial tool for the O02782 program
4. Successfully Dry Run the part
5. Successfully produce a part to print tolerances

**Topis Covered:**

* Radial Milling
* Radial Drilling
* Axial Milling
* Insertable Drilling
* Profile Turning
* Axial Tool Set-up and Offsets

**Suggested Tool List:**

* T1- 80 degree diamond turning tool
* T2- 55 degree diamond turning tool
* T4- 1” Insert Drill
* T6- ½” Endmill w/ Radial holder
* T8- Axial tool holder w/ 3/16” drill
* T10- Radial tool holder w/ ¼” drill
* T12- Cutoff tool

**Suggested Jaws:**

* Hard jaws

**PRZ:**

* Z- Front Face of Part
* X- Centerline of Part

**Program**

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O02784

(CONTOUR PRACTICE)

(PRZ - CENTERLINE/FACE)

(T0101 80 DEG. TURNING TOOL)

(T0202 55 DEG. TURNING TOOL)

(T0404 1" INSERTABLE DRILL - SET AS BORING BAR)

(T0606 1/2" RADIAL ENDMILL)

(T0808 3/16" CARBIDE AXIAL DRILL)

(T1010 1/4" CARBIDE RADIAL DRILL)

(T1212 CUTOFF TOOL - TOUCH OFF AND OFFSET)

G00 G40 G80 (ROUGH PART)

G50 S3000

T101 (80 DEG. TURNING TOOL)

G96 S320 M03

Z1.0

X1.75

G01 Z.1 F.02

M08

G71 P10 Q20 U.025 W.004 D.04 F.01

N10 G01 X-.032

G01 Z0.

X1.65 K-.002

Z-2.255

N20 G0 X1.75

G00 Z1. M09

G28 U0.

G28 W0.

M05

T100

M01

(DRILL 1" HOLE)

G00 G40 G80

G50 S3000

T404

G97 S1500 M03

G00 Z1.0

X0.

Z.1 M08

G01 Z-2.255 F.003

Z.1 F.05

G0 Z1.0 M09

G28 U0.

G28 W0.

M05

T400

M0

(MEASURE ID DIAMETER AND ADJUST OFFSET)

G00 G40 G80

G50 S3000

T404

G97 S1100 M03

G0 Z1.

X.03

Z.1 M08

G01 Z-2.255 F.002

X0.

Z.1 F.05

G0 Z1. M09

G28 U0.

G28 W0.

M05

M01

(FINISH TURN THE PART)

G00 G40 G80

G50 S3000

T0202

G96 S400 M03

Z1.

X2. M08

G42 G01 X1.75 F.025

G70 P10 Q20 F.005

G40 X2. F.025

G0 Z1. M09

G28 U0.

G28 W0.

M05

T200

M01

(Write the MIlled Flats with a Radial LIve TOol Holder Using a ½” endmill and utilizing only the C axis)

M01

(Write the ¼” radial drilled holes using a canned cycle)

M01

(Write and axial drilled holles using a 3/16” drill and a canned cycle)

M01

(CUT OFF PART)

G00 G40 G80

G50 S3000

T1212

G97 S800 M03

Z1.

X1.75

Z-2.25 M08

M36

G01 X1. F.002

G00 X1.75

M37

Z1. M09

G28 U0.

G28 W0.

M05

T400

M30

%