



1. The stock is  $\varnothing 3.0$ "
2. Drill 1.150 deep, rough and finish the outer contour, rough and finish the inner contour, and part off leaving .025" to be faced off later.
3. Check the lathe turret for the proper tool locations.
4. Break the sharp corner on the inner contour .01 OR (1 place).
5. Change the COMM offset for the next part - ask your instructor for help.
6. Be sure your program does NOT have block N1 G10 L2 P0 X0 Z0.

Adam Hathaway	
TITLE:	
<b>FLANGE PROJECT</b>	
SIZE	Monday, October 18, 2021 4:46:51 PM
<b>A</b>	Material: 6061-T6 (SS)
SCALE: 1:2	SHEET 1 OF 1

%  
O01503 (ELI GONZALEZ, FLANGE PROJECT, FALL 2021)  
(T0101 1/64R 80 DEG TURNING AND FACING TOOL)  
(1.25 DIA. DRILL TAIL STOCK MOUNTED)  
(T0202 BORING BAR)  
(T0408 .125 INCH PART OFF TOOL)  
(3.0 DIA. 6061-T6 ALUMINUM STOCK)  
(1.5 INCH STOCK STICKOUT)  
N1 G10 L2 P6 X0 Z-25.0  
N10 G00 G18 G80 G40 G99 (ROUGHING AND FINISHING THE OUTER  
CONTOUR)  
N20 G28 U0  
N30 T0 G59 Z0  
N40 T0101 (1/64R 80 DEG TURNING AND FACING TOOL)  
N50 G97 S300 M03 (CHANGE TOOL AND THEN TURN ON SPINDLE)  
N60 G54 Z.250  
N70 X3.2 /M08  
N80 G50 S2500  
N90 G96 S500  
/N100 G71 P110 Q170 U.020 W.003 D.050 F.008  
N110 G42  
N120 G01 X2.3850 F.004 (2X TNR BELOW R.14 TRANSITION POINT?)  
N130 Z0.  
N140 G01 X2.7250 R-.0680  
N150 G01 Z-.2750  
N160 G01 X2.9150 R-.0680  
N170 G01 Z-1.2500  
N180 G40 X3.2  
N190 G00 Z.250  
/N200 G70 P110 Q180  
N210 M09  
N220 G00 Z.250 M05  
N230 G28 U0  
N240 T0 G59 Z0  
N250 G54 M01  
N260 G00 G18 G80 G40 G99 (DRILL 1.25 DIA HOLE TO 1.1 INCH DEEP)

N270 G28 U0  
N280 T0 G59 Z0  
N290 T0101 (1.25 DIA DRILL)  
N300 G53 Z-43.0  
N310 G97 S640  
N320 M00  
(MOVE TAILSTOCK UP, INSERT THE DRILL, MOVE INTO POSITION AND LOCK  
INTO PLACE.)  
(PRESS THE SPINDLE FWD BUTTON TO START THE SPINDLE. RUN THE  
COOLANT MANUALLY. DRILL THE HOLE 1.1 INCH DEEP.)  
(REMOVE THE DRILL, MOVE THE TAILSTOCK ALL THE WAY BACK AFTER  
DRILLING THE HOLE.)  
N330 G28 U0  
N340 G00 T0 G59 Z0  
N350 G54 M01  
N360 G00 G18 G80 G40 G99 (ROUGH AND FINISH THE INNER CONTOUR)  
N370 G28 U0  
N380 T0 G59 Z0  
N390 T0202 (BORING BAR)  
N400 G97 S300 M03  
N410 G54 G00 Z.25 (POINT 1)  
N420 X1.05 / M08  
N430 G50 S2500  
N440 G96 S500  
/N450 G71 P460 Q560 U-.020 W.003 D.050 F.008  
N460 G41  
N470 G01 X2.7563 F.005 (X = 2.7250 + .0313)  
N480 G01 Z0. F.004 (POINT 2)  
N490 G01 X2.2450 R-.1400 (POINT 3)  
N500 G01 Z-.2750 (POINT 4)  
N510 G01 1.7884 Z-.4370 (POINT 5)  
N515 G02 X1.7800 Z-.4452 R.01  
N520 G01 Z-.7000 (POINT 6)  
N540 G01 X1.3100 R-.0680 (POINT 7)  
N550 G01 Z-1.1250 (POINT 8)  
N560 G40 X1.05

N570 Z.250  
N580 / G70 P460 Q560  
N590 M09  
N600 G00 Z.250 M05  
N610 G28 U0  
N620 T0 G59 Z0  
N630 G54 M01  
N640 G00 G18 G80 G40 G99 (PARTOFF W/O CHAMFER)  
N650 G28 U0  
N660 T0 G59 Z0  
N670 G97 S300 M03  
N680 T0408 (.125 INCH PART OFF TOOL)  
N690 G54 Z-1.0025  
N700 X3.2 / M08  
N710 G50 S2500  
N720 G96 S300  
N740 G01 X1.3 F.001  
N750 G0 X3.2 M09  
N770 G00 Z.250 M05  
N780 G59 X0 Z0  
N790 M30  
%