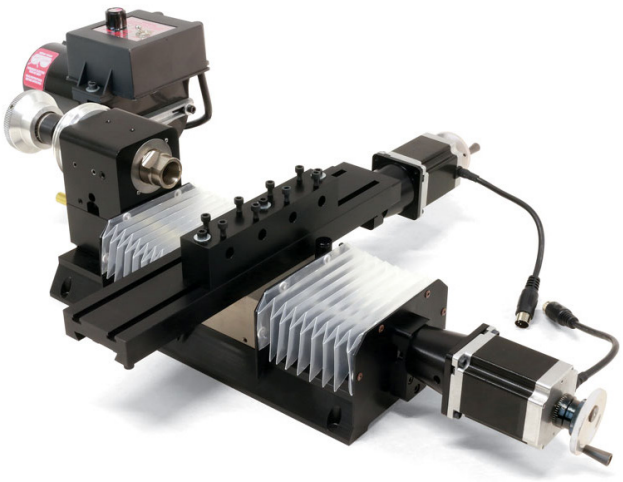

SHERLINE
INDUSTRIAL
PRODUCTS
DIVISION

Chucker Lathe

Sample Program

CNC Chucker Lathe Sample Program

Below is a sample program for a small air fitting that we made on our CNC Chucker Lathe.

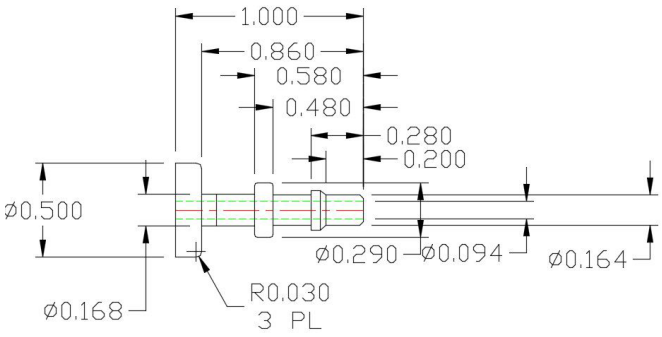

FIGURE 1— Part diagram print for air fitting.

FIGURE 2— Chucker lathe with the tooling used to make this part.

Air Fitting Program with Notes at End

```
%
(Machine Setup - 1 .040 wide Cutoff )
(TOOL #1     )
G80 G94 G7 G40 G20 G18 G90 G54
T1 M6 G43
G00 X-.6 Z.1
G00 Z-.820
G00 X-.208
G01 X-.118 F2.
G00 X-.208
G00 Z-.800
G01 X-.128 Z-.820 F1.0
G01 X.020 F3.0
G00 X0.0
G00 Z.100
G00 X0.0
M01
G01 Z0.0
M01
G00 Z1.
G49
G90G00G54 X0 Z0
```

(TOOL #2 2 CENTER DRILL)
N200 G00 G94 G7 G40 G20 G18 G90 G54
T2 M6 G43
G90 G00 Z.1
G00 X0
G01 Z-.100 F4.0
G90 G00 Z1.2
G49
(TOOL #3 0.0940 Dia.118.0000 Deg. 1.0000 CL)
N300 G00 G94 G7 G40 G20 G18 G90 G54
T3 M6 G43
G00 Z.1
G00 X0.0
G01 Z-.088 F2.0
G00 Z.1
G00 Z.060
G01 Z-.37
G00 Z.1
G00 Z-.350
G01 Z-.464
G00 Z.1
G00 Z-.440
G01 Z-.558
G00 Z.1

G00 Z-.530
G01 Z-.580
G00 Z.1
G00 Z-.560
G01 Z-.630
G00 Z.1
G00 Z-.610
G01 Z-.680
G00 Z.1
G00 Z-.660
G01 Z-.730
G00 Z.1
G00 Z-.710
G01 Z-.785
G00 Z.1
G00 Z-.76
G01 Z-.840
G00 Z.2
G49
(TOOL #4 55 DIAMNOD BACKSIDE)
N400 G80 G94 G7 G40 G20 G18 G90 G54
T4 M6 G43
G00 X-.7
G00 Z0
G01 X0.0 F3.0

G00 X-.7 Z.052
G00 X-.57
G01 X-.47 Z.002 F6.
G01 Z-.8639
G02 X-.5095 Z-.884 I.0232 K-.0426
G02 X-.5197 Z-.9024 I.0533 K-.0247
G01 X-.52 Z-1.
G01 X-.62 Z-.95

G00 Z.052
G00 X-.52
G01 X-.42 Z.002
G01 Z-.8579
G02 X-.47 Z-.8639 I-.0005 K-.0532
G01 X-.57 Z-.8139
G00 Z.052
G00 X-.47
G01 X-.37 Z.002
G01 Z-.8578
G01 X-.42
G01 X-.52 Z-.8079
G00 Z.052
G00 X-.42
G01 X-.32 Z.002
G01 Z-.8578
G01 X-.37
G01 X-.47 Z-.8078
G00 Z.052
G00 X-.37
G01 X-.27 Z.002
G01 Z-.4807
G02 X-.3044 Z-.498 I.0124 K-.0296
G02 X-.3098 Z-.5083 I.0351 K-.0146
G01 X-.31 Z-.5744
G01 Z-.8578
G01 X-.32
G01 X-.42 Z-.8078
G00 Z.052
G00 X-.32
G01 X-.22 Z.002
G01 Z-.2335
G02 X-.23 Z-.2474 I.0165 K-.0138
G01 Z-.4778
G02 X-.27 Z-.4807 I-.0033 K-.0475
G01 X-.37 Z-.4307
G00 Z.052
G00 X-.27
G01 X-.17 Z.002
G01 Z-.0214
G02 X-.1823 Z-.0313 I.0136 K-.0153
G02 X-.184 Z-.0494 I.0705 K-.0122
G01 Z-.2097
G01 X-.22 Z-.2335
G01 X-.32 Z-.1835
G00 Z.052
G00 X-.22
G01 X-.12 Z.002
G01 Z.0006
G01 X-.1298 Z-.0017
G01 X-.1687 Z-.0207
G01 X-.17 Z-.0214
G01 X-.27 Z.0286
G00 Z.052
G00 X-.1867
G01 X-.0867 Z.002
G01 X-.1122 Z.0017
G01 X-.12 Z.0006
G01 X-.22 Z.0506

G00 X-.53
G00 Z-.2356
G01 X-.33
G01 X-.23 Z-.2856
G01 X-.2282 Z-.3002
G01 X-.1984 Z-.3275
G01 X-.184 Z-.3404
G01 Z-.3571
G01 Z-.4777
G01 X-.23 Z-.4778
G01 X-.33 Z-.4278
G00 X-.61
G00 Z-.5244
G01 X-.41
G01 X-.31 Z-.5744
G02 X-.3019 Z-.5959 I.0383 K-.004
G01 X-.26 Z-.6326
G01 Z-.8578
G01 X-.31
G01 X-.41 Z-.8078
G00 Z-.5826
G00 X-.36
G01 X-.26 Z-.6326
G01 X-.21 Z-.6759
G01 Z-.8577
G01 X-.26
G01 X-.36 Z-.8078
G00 Z-.6259
G00 X-.31
G01 X-.21 Z-.6759
G01 X-.194 Z-.6899
G03 X-.188 Z-.7022 I-.0114 K-.0093
G01 Z-.8577
G01 X-.21
G01 X-.31 Z-.8077
G00 X-.6
G00 Z.2
G49
(TOOL #5 55 DIAMOND FRONTSIDE)
N500 G80 G94 G7 G40 G20 G18 G90 G54
T5 M6 G43
G00 X.7 Z.0497
G00 X.1038
G01 X.0038 Z-.0003 F4.
G01 X.0942
G03 X.1131 Z-.0041 I-.0006 K-.0153
G01 X.1503 Z-.0223
G03 X.164 Z-.0395 I-.0127 K-.015
G01 Z-.2103
G01 X.2071 Z-.2391
G01 X.21 Z-.2464
G01 X.2092 Z-.2977
G01 X.2023 Z-.3063
G01 X.1659 Z-.3378
G01 X.164 Z-.3419
G01 Z-.4797
G01 X.2308 Z-.4799
G01 X.2424 Z-.481
G03 X.2664 Z-.4869 I-.0074 K-.03

```
G03 X.2892 Z-.5077 I-.0177 K-.0232
G03 X.2884 Z-.5865 I-1.3457 K-.0332
G03 X.2761 Z-.6006 I-.0428 K.0102
G01 X.1744 Z-.6887
G02 X.168 Z-.6965 I.0063 K-.0071
G01 Z-.8597
G01 X.4104 Z-.8599
G03 X.4786 Z-.8766 I-.0016 K-.0463
G03 X.4973 Z-.8955 I-.0308 K-.027
G03 X.5 Z-.9172 I-.0777 K-.0157
G01 Z-1.
G01 X.6 Z-.95
G00 X.8
G00 Z.5
G00 G49
(TOOL #6    OD GROOVE .030 WIDE )
N600 G80 G94 G7 G40 G20 G18 G90 G54
T6 M6 G43
G00 X.5
G00 Z-.3149
G00 X.274
G01 X.214 F4.
G00 X.254
G00 X.224
G01 X.184
G00 X.274
G00 Z-.3349
G01 X.214
G00 X.254
G00 X.224
G01 X.184
G01 X.204 Z-.3299
G00 X.274
G00 Z-.3447
G01 X.214
G00 X.254
G00 X.224
G01 X.184
G01 X.204 Z-.3397
G00 X.274
G00 Z-.3453
G01 X.23
G01 X.25 Z-.3403
G00 X.254
G00 X.184
G00 X.2348
 (Machine Setup - 1  Turn Groove Finish )
(TOOL #6    OD GROOVE .030 WIDE )
G00 X.5 Z-.3703
G00 X.25
G01 X.21 Z-.3503 F4.
G01 X.164 Z-.3497
G01 Z-.3103
G00 X.254
G00 Z-.2899
G01 X.214 Z-.3099
G01 X.164
G01 Z-.3103
G00 X.6
```

G00 Z-.3
(Machine Setup - 1 Turn Groove Rough)
(TOOL #6   OD GROOVE .030 WIDE)
G00 X.5 Z-.5982
G00 X.35
G01 X.3082 F3.
G01 X.3282 Z-.5882
G00 X.35
G00 Z-.6149
G01 X.29
G00 X.33
G00 X.3
G01 X.256
G00 X.296
G00 X.266
G01 X.222
G00 X.262
G00 X.232
G01 X.188
G01 X.35
G00 Z-.6349
G01 X.29
G00 X.33
G00 X.3
G01 X.256
G00 X.296
G00 X.266
G01 X.222
G00 X.262
G00 X.232
G01 X.188
G01 X.208 Z-.6249
G00 X.35
G00 Z-.6549
G01 X.29
G00 X.33
G00 X.3
G01 X.256
G00 X.296
G00 X.266
G01 X.222
G00 X.262
G00 X.232
G01 X.188
G01 X.208 Z-.6449
G00 X.35
G00 Z-.6749
G01 X.29
G00 X.33
G00 X.3
G01 X.256
G00 X.296
G00 X.266
G01 X.222
G00 X.262
G00 X.232
G01 X.188
G01 X.208 Z-.6649
G00 X.35

G00 Z-.6949
G01 X.29
G00 X.33
G00 X.3
G01 X.256
G00 X.296
G00 X.266
G01 X.222
G00 X.262
G00 X.232
G01 X.188
G01 X.208 Z-.6849
G00 X.35
G00 Z-.7149
G01 X.29
G00 X.33
G00 X.3
G01 X.256
G00 X.296
G00 X.266
G01 X.222
G00 X.262
G00 X.232
G01 X.188
G01 X.208 Z-.7049
G00 X.35
G00 Z-.7349
G01 X.29
G00 X.33
G00 X.3
G01 X.256
G00 X.296
G00 X.266
G01 X.222
G00 X.262
G00 X.232
G01 X.188
G00 X.6
G00 Z-.6
(Machine Setup - 1 Turn Groove Finish)
(TOOL #6   OD GROOVE .030 WIDE)
G00 X.5 Z-.790
G00 X.33
G01 X.29 Z-.770 F3.
G01 X.168
G01 Z-.6103
G00 X.33
G00 Z-.5724
G01 X.29 Z-.5924
G03 X.2579 Z-.6097 I-.0172 K-.0002
G01 X.168 Z-.6099
G01 Z-.6103
G00 X1.0
G00 Z1.0
G49
G90G00G54Z0
G00 X0
M30
%

Notes

The program MUST start and finish with a (%).

No M03, M04, M05, M08, M09 can be used.

M00 and M01 can be used to stop the program in designated areas.

T1 M6 G43 (this implements the length offsets from the tool data page for tool #1 without a move)

G00 Z.1 (this moves the distance in Z that is on the tool data page for tool #1 -.100)

G00 X0 (this moves the distance in X that is on the tool data page for tool #1)

G00 Z-1.0

G00 Z0

G00 Z1.0 (move to clearance point in Z.)

G49 (This clears the length amounts for tool #1 without a move)

M00

Thank you,
Sherline Products Inc.