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Steven Hull

Machine: ST-25 CNC lathe
Work Instruction: Adapter, Plate

Machine time: 50 minutes per slug CONFIRMED
Operation #2

Material: 4 3/4" dia 6061-T6511 aluminum slugs
Bar length: 4.550"
Parts per bar: 5 parts
Tooling Box: B103
Chucking pressure: 200 PSI

Tooling as follows:

Tool 1	- Rough turn	CNMG 431 G10E
Tool 2	- Finish turn	VNMG 331 G10E
Tool 3	- OD groove	GIP 3.18-0.20 IC20
Tool 4	-	
Tool 5	- 2” insert drill	WCEM 421 UK20
Tool 6	-	
Tool 7	- Rough bore	CNMG 431 G10E
Tool 8	-	
Tool 9	- Finish bore	CNMG 431 G10E
Tool 10	-	
Tool 11	- Cut off	GFN-3 IC20
Tool 12	-	

N1 (T505) - Insert drill for 1 part slug.

N2 (T101) - Rough face and turn the 3.000 to 3.013 and the 4.4998 to 4.513.

N3 (T707) - Rough bore the 2.80 to 2.795.

N4 (T303) - Plunge the back of the part holding the .65 OAL and the .02 45 deg to size.

N5 (T1111) - Plunge to relieve material stress.

N6 (T202) - Finish face & turn the 3.000 to 3.005 and the 4.4998 to 4.505 for the final lathe OP. Note: The relationship between T303 and T202 is what holds the .310 +.000/-.005 to size.

N7 (T909) - Finish bore the 2.80 to 2.799/2.800 to fit the milling plug for OP#2 AND the turning mandrel for OP#3.

N8 (T1111) - Cut off for milling operation.

NOTES:
1. Jaws in tooling.

2. Hold the ID at 2.799/2.800 to fit the milling plug and the finish turn mandrel in tooling. Check with the Sunnen Hole Gage.

IMPORTANT: This program is written with macros to run 5 parts off each slug before going home. If a reset is done during operation, variable #2 in the program must be changed so that the work offset value is set to the correct position for that part position in the slug. Example: If you need to reset after the second part in the slug, then you need to change variable #2 to 56 in the program. Do not forget to change this number back.

Calling up a number sequence is not done in the program, but rather on the local parameter page. Input the sequence number (number only) that you want to start with in parameter #1. Example: If you want to re-run or start with the rough bore (N3), input 3 into local parameter #1.

More instructions can be found in the program.