Production of a candleholder

Candleholder

"Let there be light!" – bring light into the darkness with the candleholder or simply have a romantic evening together.

The candleholder is made of two parts: the socket as a milled part and the candleholder, which is turned. You can design the socket as you like. Further suggestions are contained in the machining description. The candleholder can be adapted individually with engravings. A suggestion for lovers can be found at the back.

All the information, tool data, drawings and ShopTurn and ShopMill machining plans required for a reproduction are contained in the following.

www.siemens.com/cnc4you

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1. Safety note

Working with machines is always associated with numerous hazards. It is therefore imperative that the legal and company safety regulations are also observed during the production of the pin.

2. Preliminary remark

The following description is intended for persons acquainted with CNC machines and who have experience with or knowledge of SINUMERIK CNCs with ShopTurn or ShopMill. All the technical data listed here corresponds to the machines, tools, materials, machining plans and drawings used to produce the prototype. Because of the very varying conditions in other workshops, this data is only of exemplary character for a reproduction. Nevertheless, a problem-free reproduction should be possible in most cases.

ShopTurn enables the candleholder to be turned in one clamping. The program was produced on a lathe with collet adapter. The program can also be adapted for other lathe equipment through minor changes.

The candleholder is turned in one clamping. The contour is turned first and then the hole drilled. The hole should have the diameter of the candles to be used later. Suitable candles can be found, for example, at www.eika.de. The part is cut off, which completes the turning.

The socket is milled in two clampings. First the lower part is face milled and the circular pocket machined. After reclamping, the upper part is milled. In the sample program, concentric circular spigots are milled. The contour can be changed as desired, for example, a star-shaped outside contour could also be considered.

The candleholder and the socket are then glued together. A two-component adhesive can be used for this.

You can download all the CAD drawings, programs and machining descriptions for the workpieces free of charge in the registered Internet area "My SINUMERIK" at **www.siemens.com/cnc4you**. The following files and formats are available there:
Jobshop files / Drawing as PDF

3. Workpiece blanks

- Candleholder
  One piece of round stock, AlCuMgPb material, material no. 3.1645;
  diameter 34 mm cut length approximately 500 mm
- Candleholder socket
  One piece aluminium plate, AlCuMgPb material, material no. 3.1645
  Square 60x60 cut length approximately 20 mm.

4. Lathe/miller and machining plans

- Lathe Gildemeister CTX 310 V3 equipped with SINUMERIK 840D / ShopTurn 6.4
- Milling machine DMG DMU50 equipped with SINUMERIK 840D / ShopMill 6.4
- Machining plan KERZENAUFNAHME_01.MPF for turning the holder
- Machining plan KERZENSTAENDER_1SPG.MPF for milling the socket 1.clamping
- Machining plan KERZENSTAENDER_2SPG.MPF for milling the socket 2. clamping


5. Used Tools

Turning tools

Designation	Tool name in the machining plan
Turning tool with round tool insert	PILZ D4
Drill groove cutter Ø10	FRAESER D10
Parting tool, 2.5 mm wide	STECHER_2.5
Stop with center opening because of the protruding cutoff material	ANSCHLAG_25
Inside finishing tool	ISCHL 3504
Turning tool with round tool insert	PILZ D4
Drill groove cutter Ø10	FRAESER D10

Milling tools

Designation	Tool name in the machining plan
End mill Ø20	FRAESER D20-VHM
Multi-mill Ø4x90 degrees	MULTIFR D4 G90

6. Turning the holder

The sawn blank is securely clamped (collet recommended).

Machining steps on the lathe

1. Home the machine
2. Load the KERZENAUFNAHME_01.MPF machining plan
3. Enter the measured tools in the tool list
4. Insert the tools in the magazine
5. Set tool zero by scratching
6. Perform simulation
7. Start production, execute machining plan

7. Milling the socket

The blank is securely clamped.

Arbeitsschritte an der Fräsmaschine

1. Home the machine
2. Load the KERZENSTAENDER_1SPG.MPF machining plan
3. Enter the measured tools in the tool list
4. Insert the tools in the magazine
5. Set tool zero by scratching
6. Perform simulation
7. Start production, execute machining plan
8. Clamp the workpiece, to mill the upper side
9. Load the KERZENSTAENDER_2SPG.MPF machining plan
10. Repeat steps 3. to 7.

8. Information in the Internet

Design of the parts, creation of the drawings, development of the machining plans for the machining

Hans-Peter Moser
Moser CNC-Training,
Strasser Weg 4 in 89233 Neu-Ulm,
E-Mail: info@moser-cnc-training.de

Details of the tool machine to be used

Gildemeister Aktiengesellschaft,
Gildemeisterstraße 60,
33689 Bielefeld,
Im Internet: www.gildemeister.com

Manuals and information from the Siemens AG

Manuals and detailed information about our products can be found at www.siemens.de/sinumerik -> Index or search: DOConWEB -> SINUMERIK

- "Simple Turning with ShopTurn" Training Documents
  -> Info/Training -> "Simple Turning with ShopTurn" Training Documents
- ShopTurn Product Brief
  -> 840D/840Di/810D Users -> ShopTurn Product Brief 840D/810D
- ShopTurn Operation/Programming
  840D/840Di/810D Users -> ShopTurn Operation and Programming
- "Simple milling with ShopMill" training document
  -> Info/Training -> "Simple milling with ShopMill" training document
- ShopMill product brief
  -> 840D/840Di/810D users -> ShopMill 840D/810D product brief
- ShopMill operating/programming
  -> 840D/840Di/810D users -> ShopMill operating and programming

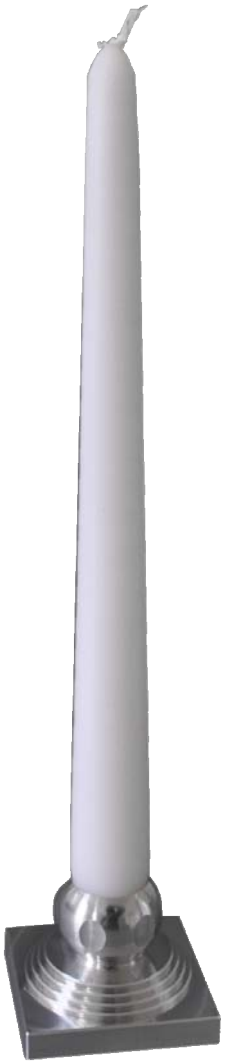
Tips when searching in DOConWEB

DOConWEB enables individual pages to be called up quickly from documents without having to load the entire file.

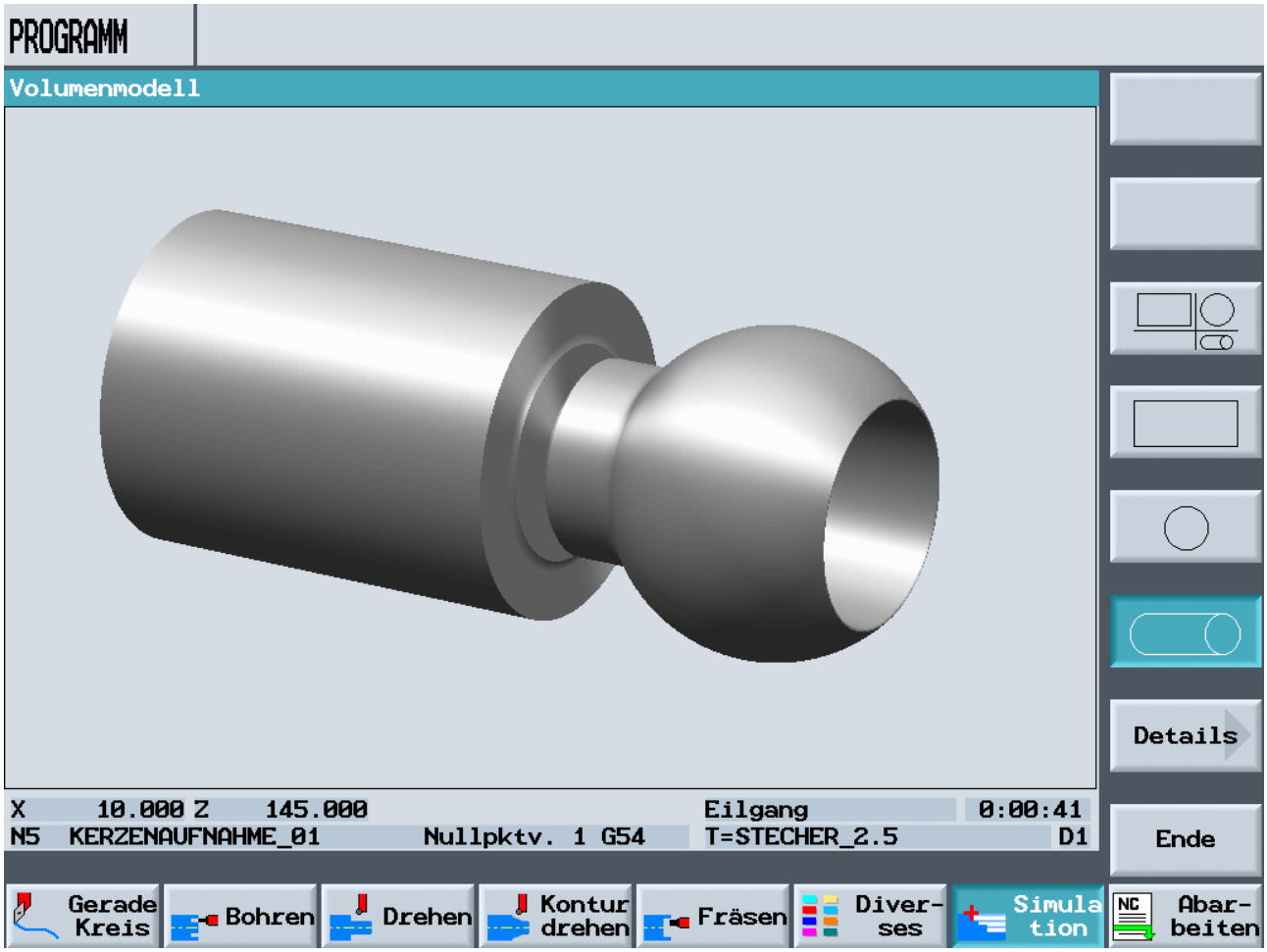
- You can restrict the search by clicking "A-Z"
  (-> a search is now only performed below this point in the index)
- Or click the zoom
  (-> a full text search is now performed below this point


9. Figures

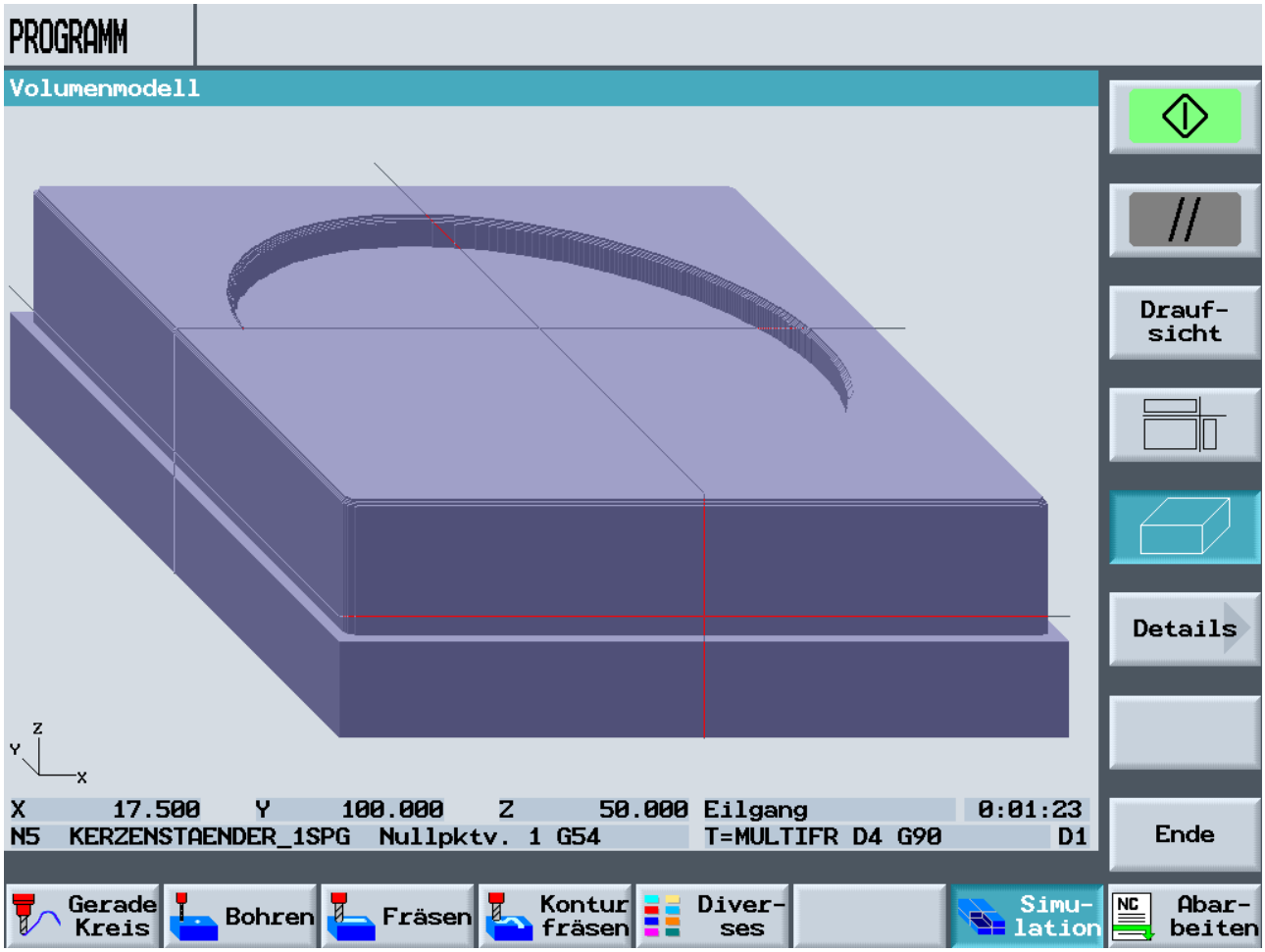
candleholder



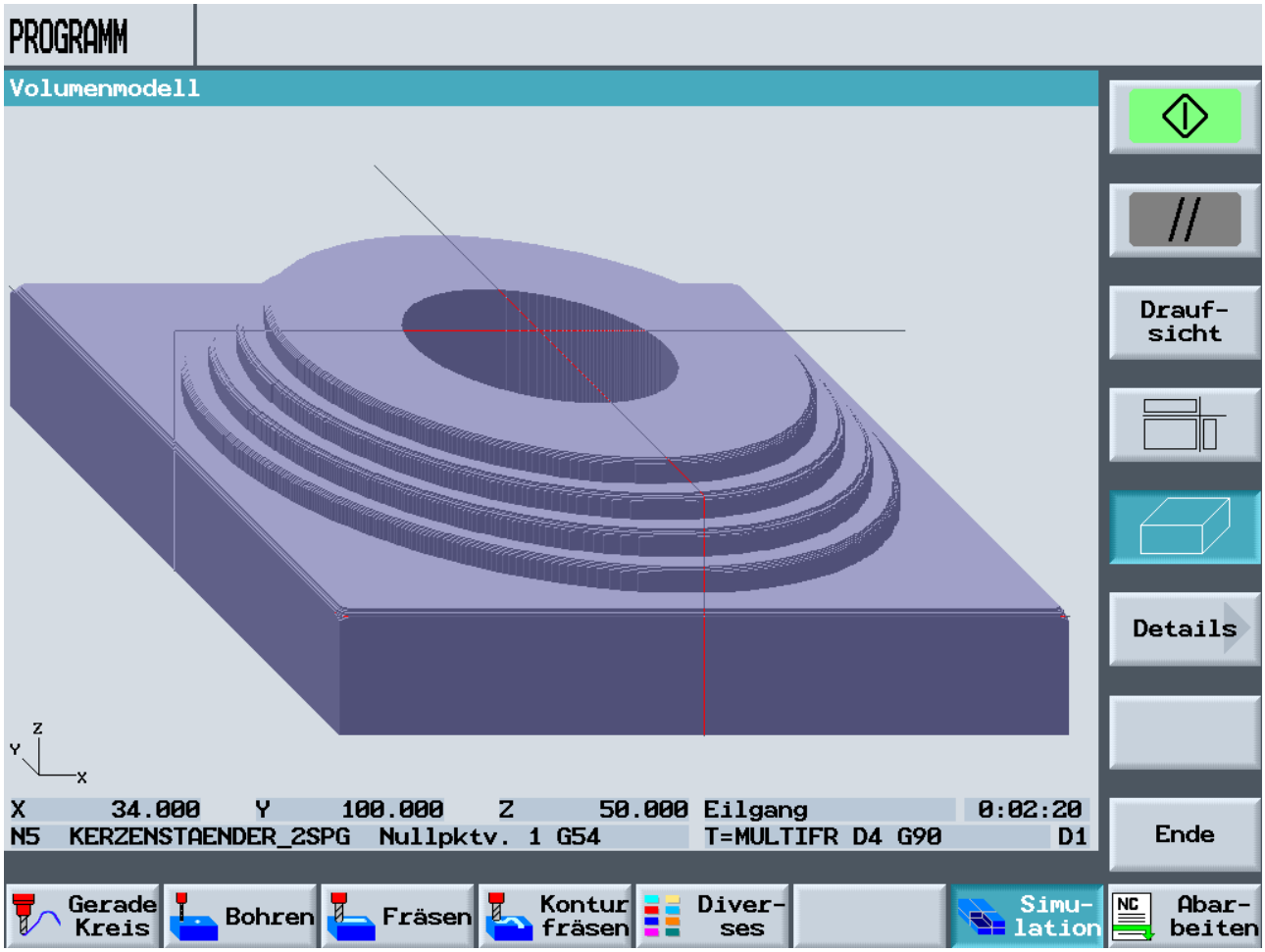
3D-Simulation holder



3D-Simulation lower side socket



3D-Simulation upper side socket



Candleholder other design

Candleholder other design

Engraving lower side