Production of a hood ornament

Male hood ornament

With this hood ornament you show what your car is made of. It is not only the exhibition of pure male power in esthetic form but also an attractive eye-catcher. One thing is sure, you will attract attention.

All information, tool data and ShopMill machining plans required for a reproduction are summarized in the following sections.

www.siemens.com/cnc4you

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1. Safety note

The handling of machines brings many dangers. Consequently, the legal and general company safety regulations must always be observed for the production of the hood ornament.

2. Preliminary remark

The following description is oriented to technicians familiar with a CNC milling machine who have experience or knowledge of the SINUMERIK CNC with ShopMill/ShopTurn. All technology data listed here is appropriate for the machines, tools, materials, machining plans and drawings used to produce the sample piece. Although the wide range of conditions prevailing in other workshops mean they are only examplary for a reproduction, in most cases they should allow a problem-free reproduction.

ShopMill permits the complete milling of the hood ornament in a single clamping and a single work step. A face-turned disk with a diameter of approx. 90 mm and a thickness of approx. 6 mm is used as raw material. The clamping should be made in bored-out clamping jaws in the vise or some other suitable clamping equipment for round stock.

To guarantee success, we recommend simulating the machining plans prior to the start. This detects and avoids collisions, caused, for example, by incorrect tool lengths. The "Perform simulation" work step before starting the manufacturing is not essential.

You can download without charge all CAD drawings and production descriptions for the workpieces in the registered "My SINUMERIK" Internet area at **www.siemens.com/cnc4you**. We make the following files and formats available here:
IGS file / DXF file / Jobshop file

3. Workpiece blank

- One piece of round stock, AlCuMgPb material, material no. 3.1645;
  90 mm diameter face-turned, thickness approx. 6 mm

4. Milling machine and milling programs

- Deckel-Maho DMC 64V linear milling machine equipped with SINUMERIK 810D
- ShopMill version 6.4 milling program (minimum equipment)
- PGM_MAN.MPF machining plan for milling the hood ornament

5. Tools used for milling the hood ornament

Designation	Tool name in the machining plan	Order no. of the Kennametal tools
6 mm diameter VHM drill groove cutter	D6R08	KC631M 1844553
3 mm diameter VHM groove cutter	D3R02	KC633M 2231312
5 mm diameter VHM-NC spotdrill	FASE_D6	K20F-DCF 2339807


6. Milling the hood ornament

The face-milled blank is securely clamped and the surface can be faced milled.

Work steps on the milling machine

- B.1 Approach the reference point of the machine.
- B.2 Import the PGM_MAN.MPF machining plan.
- B.3 Enter measured tools in the tool list.
- B.4 Place tools in the magazine.
- B.5 Use clamping jaws and blank in the milling machine.
- B.6 Set workpiece zero point; zero point in the center.
- B.7 Perform simulation.
- B.8 Start the manufacturing; process the machining plan.

7. Information in the Internet

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

Siemens AG, TAC SINUMERIK Application Center
Frauenauracher Strasse 80
91056 Erlangen / Germany

in the Internet: http://www.siemens.de/cnc4you

Dimensions and performance data for the tools to be used

Kennametal Holding GmbH
Werkzeuge und Systeme für die Metallzerspanung
Wehlauer Strasse 73
90766 Fürth / Germany
in the Internet: www.kennametal.com

Details of the tool machine to be used

Gildemeister Aktiengesellschaft
Gildemeisterstrasse 60
33689 Bielefeld / Germany
In the Internet: www.gildemeister.com


Siemens AG manuals and information

Manuals and detailed information about our products are available at www.siemens.de/sinumerik -> index or search: DOConWEB -> SINUMERIK

- "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

Searching tips at DOConWEB

DOConWEB permits the fast access to individual pages from documents without loading the complete file.

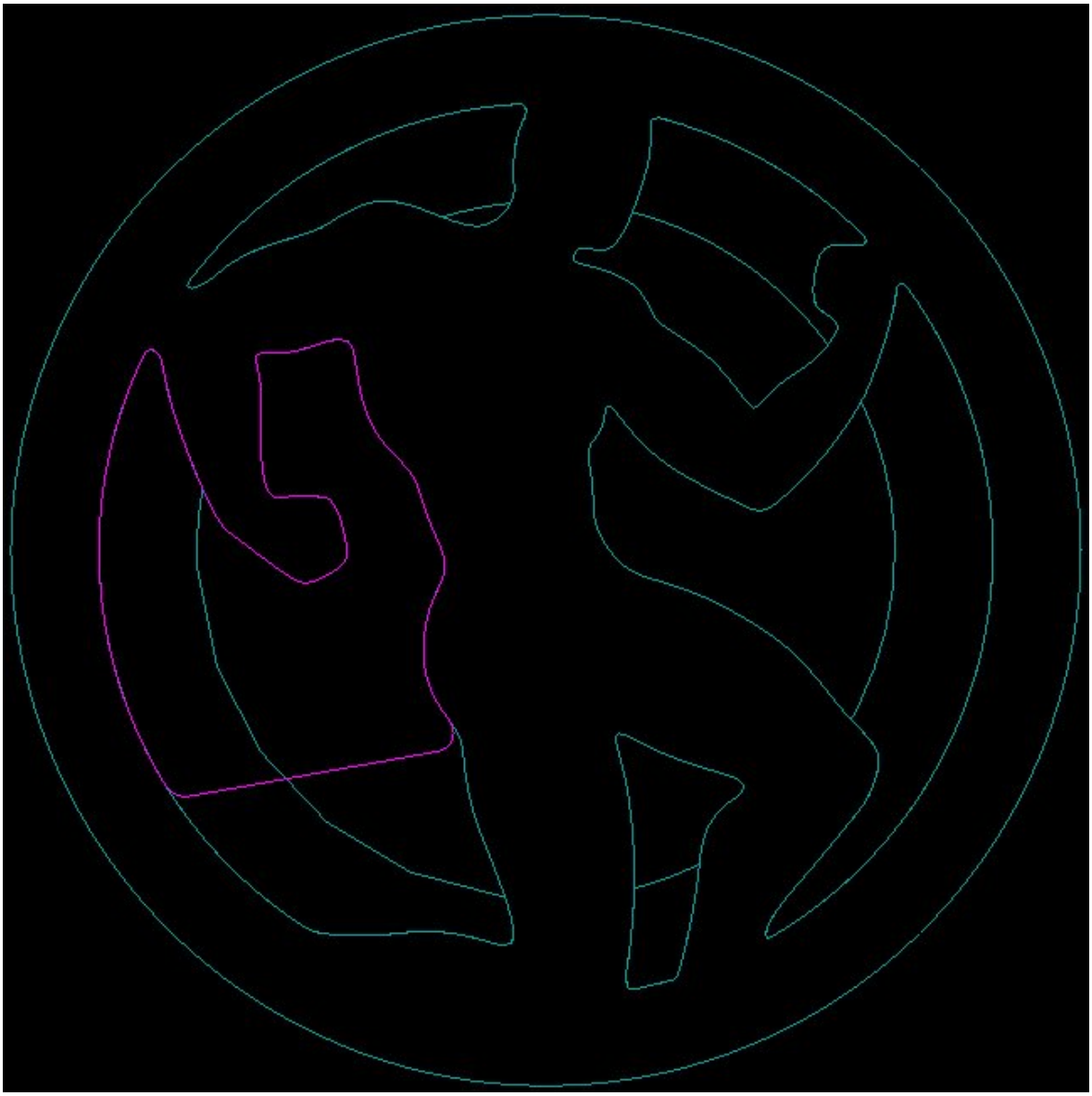
- You have the possibility to restrict the selection by clicking "A-Z"
  (-> a search is now only made within this item in the index),
- Or click the magnifying glass
  (-> the search is now made for complete text within this item).


8. Figures

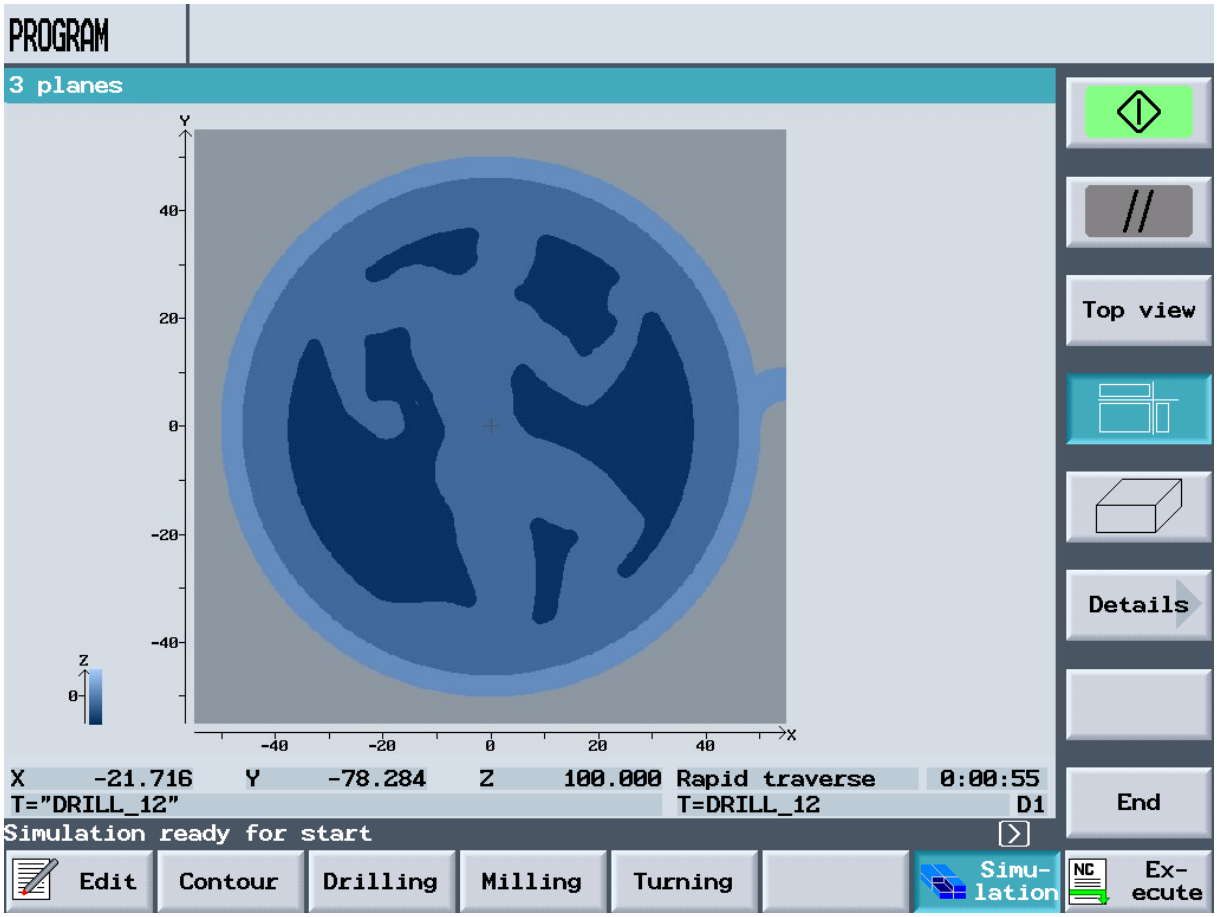
Completed hood ornament

Male DXF file


Male DXF file with outer ring (not used)




2D simulation in ShopMill



3D simulation in ShopMill