HEIDENHAIN

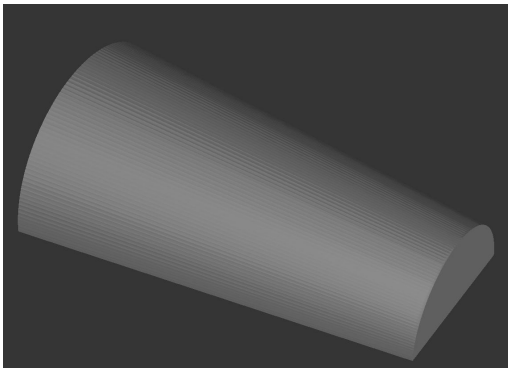
NC Solutions

Description of NC program 3040

English (en)
6/2017

1 Description of the NC program 3040_en.h

NC program for machining a horizontal truncated cone from outside in contour lines



The cone axis is parallel to the X axis.

Description

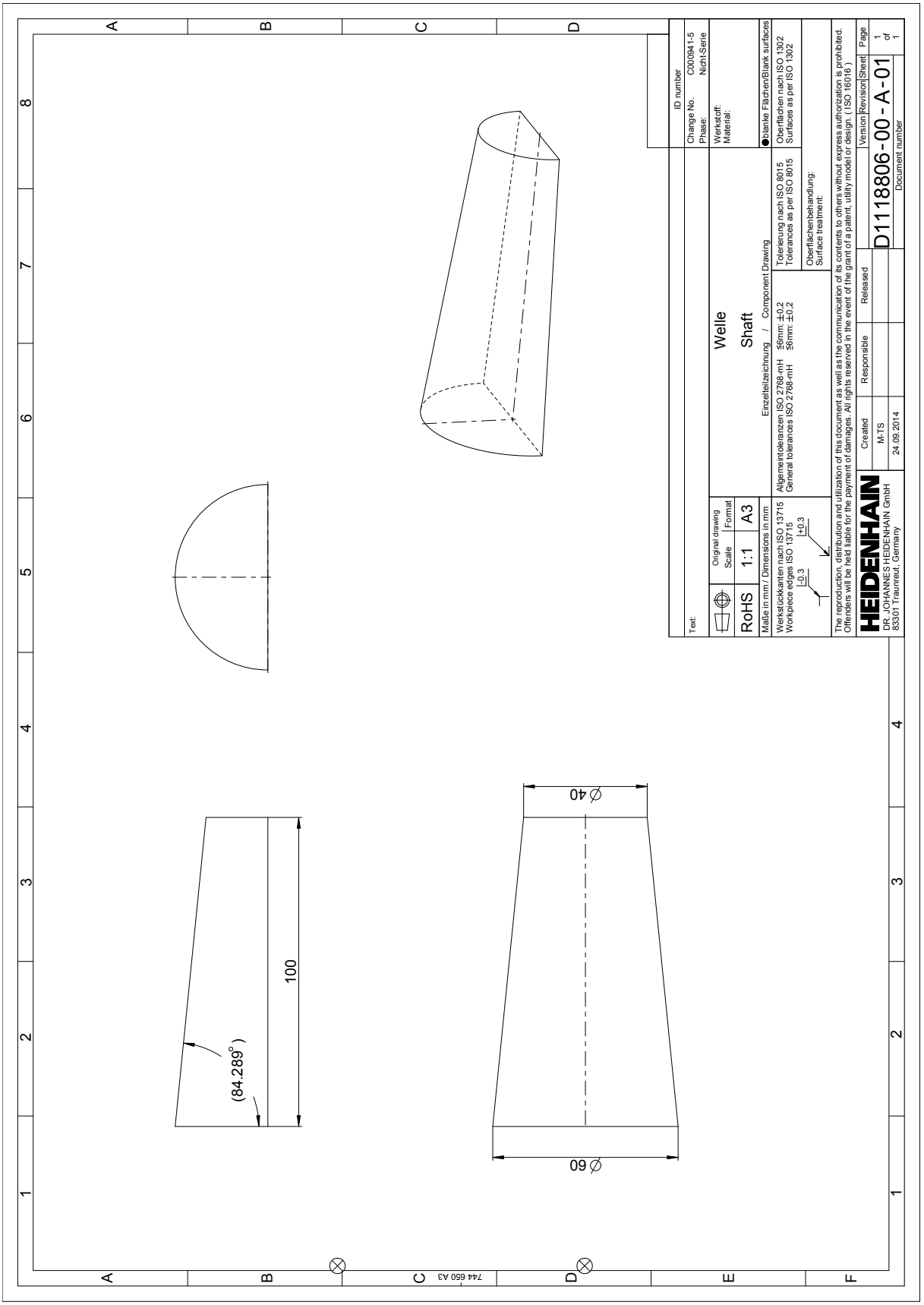
With this NC program, the control machines a horizontal truncated cone. The control performs this machining operation with a ball-nose cutter in contour lines. You define the number of contour lines in one parameter. You can thereby influence the surface quality of the truncated taper and the machining time.

In the first part of the NC program, you define the tool and all of the parameters required for machining. Then a further **TOOL CALL** is programed. In this **TOOL CALL**, the control compensates for the tool length into the center of the ball-nose cutter For this, a change of length amounting to the active tool radius is defined. If you have measured the tool at the center of the ball, then you must delete this NC block.

The control then pre-positions the tool and calls a subprogram. The control first carries out several calculations in this subprogram. After this, the control shifts the datum into the center of the cone. The control then calculates the starting point and end point of the first milling path and approaches these points. When the end point has been reached, the tool moves along the Z axis to the safety clearance.

The control repeats the program section with the calculations and the traversing of the calculated path until the defined number of milling paths has been attained. After this, the control ends the subprogram and resets the datum shift. The control then retracts the tool completely away and ends the NC program.

Parameter	Name	Meaning
Q13	TAPER CENTER IN Y	Y coordinate of the center of the cone
Q14	TAPER CENTER IN Z	Z coordinate of the center of the cone
Q1	MINIMUM X COORDINATE	Minimum X coordinate of the truncated cone
Q5	MAXIMUM X COORDINATE	Maximum X coordinate of the truncated cone
Q6	RADIUS WITH X MINIMUM	Radius of the truncated cone at the minimum X coordinate
Q7	RADIUS WITH X MAXIMUM	Radius of the truncated cone at the maximum X coordinate
Q8	SCALE	Number of milling paths
Q10	SAFETY CLEARANCE	Incremental distance at which the control retracts the tool from the milling path
Q11	FEED RATE FOR PECKING	Traversing speed of the tool in the Z axis
Q12	FEED RATE FOR MILLING	Traversing speed of the tool during milling


A
B
C
D
E
F
1
2
3
4
5
6
7
8
744 650 A3
ID number
Change No. C000941-5
Phase: Nicht-Serie
Text:
Welle
Shaft
Einzelteilzeichnung / Component Drawing
Werkstoff:
Material:
Original drawing
Scale 1:1
Format A3
RoHS
Maße in mm / Dimensions in mm
Allgemeintoleranzen ISO 2768-mH ≤6mm: ±0.2
General tolerances ISO 2768-mH ≤6mm: ±0.2
Tolerierung nach ISO 8015
Tolerances as per ISO 8015
Oberflächenbehandlung:
Surface treatment:
blanke Flächen/Blank surfaces
Oberflächen nach ISO 1302
Surfaces as per ISO 1302
Werkstückkanten nach ISO 13715
Workpiece edges ISO 13715
+0.3
-0.3
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24.09.2014
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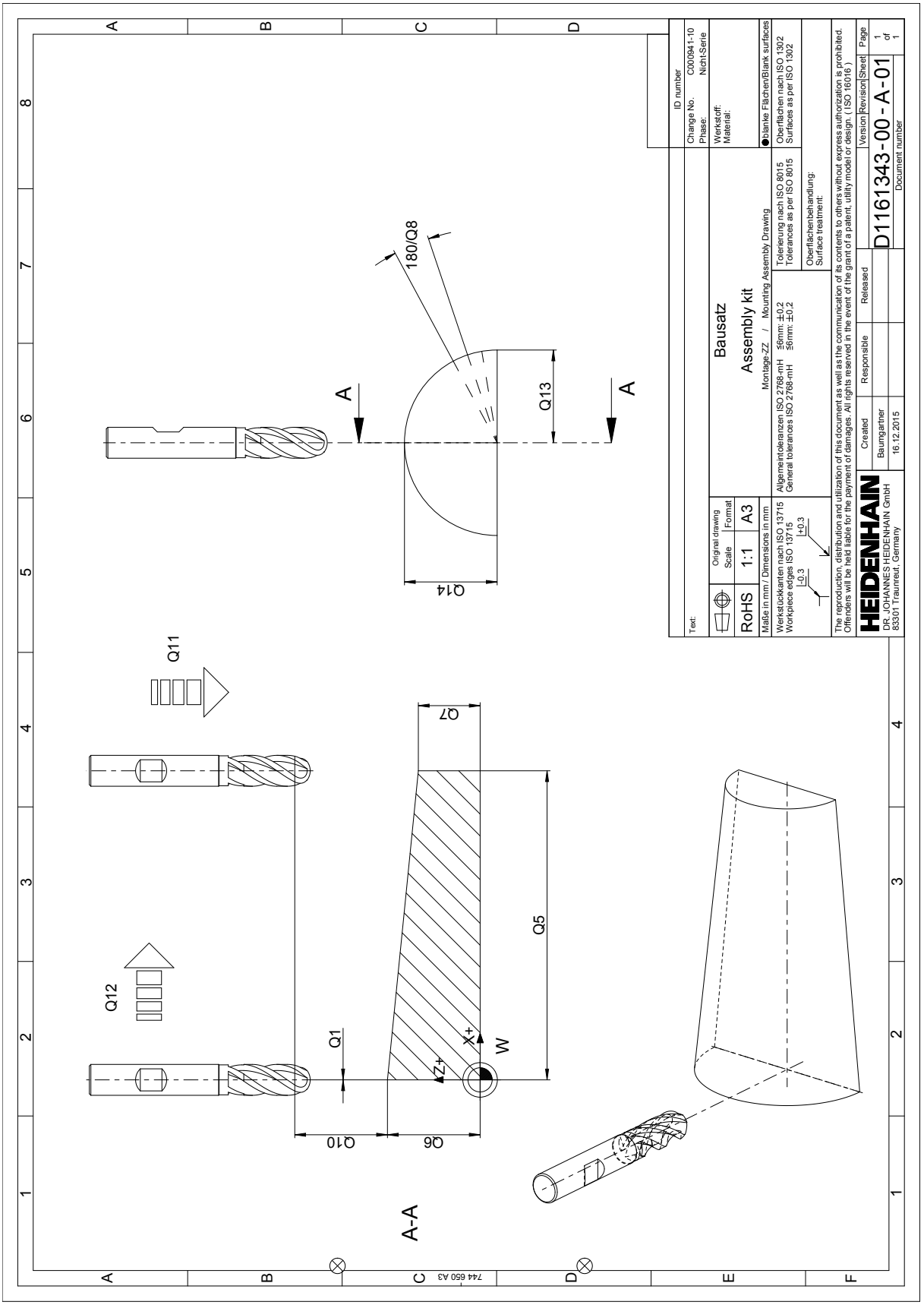
180/Q8
Q13
Q14
A
A
Q11
Q12
Q7
Q5
Q1
Q10
Q6
X+
Z+
W
A-A
Bausatz
Assembly kit
Montage-ZZ / Mounting Assembly Drawing
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Document number
Created
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16.12.2015
Original drawing
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Format A3
RoHS
Maße in mm / Dimensions in mm
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Workpiece edges ISO 13715
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Surface treatment:
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Change No. C000941-10
Phase: Nicht-Serie
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