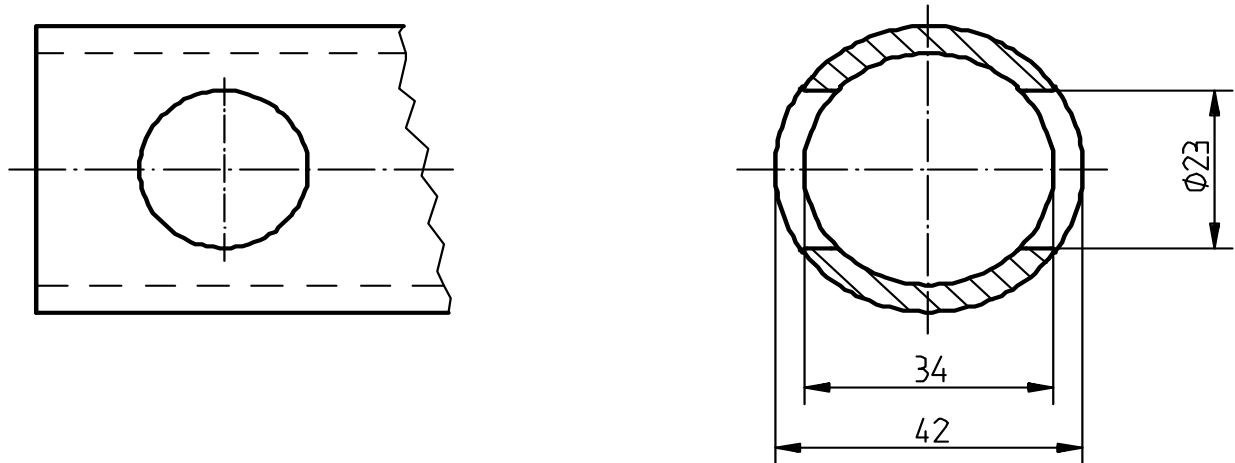


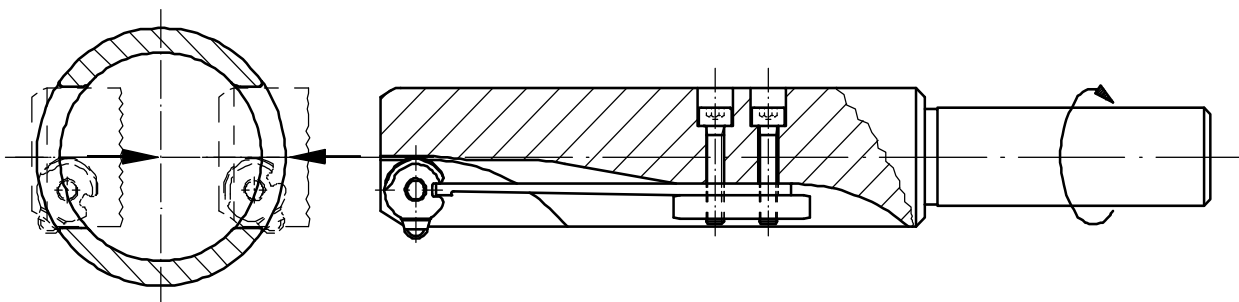
Industry	Mechanics and optics
Work piece	Tube
Material	ST52
What is machined	Cross hole $\varnothing 23\text{mm}$ in a tube of $\varnothing 42 \times 4\text{mm}$ deburred forward and backward in a single work operation.

Work piece sketch



Ratio D:d (34:23) = 1.48

Sketch of tool and work piece



Use of a special cutting blade with increased clearance angle.

Tool	COFA12/22.8/Z
Speed	430 1/min
Feed	0.25 mm/rev
Coolant	Emulsion
Notes	In one single work operation without stopping or reversing the spindle

### Workpiece



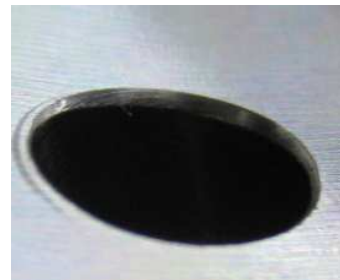
Field	Automotive industry
Workpiece	Con Road
Material	Steel forged
Processing	Ø 6.00mm in bore Ø62.5mm

### Application

- Cross bore Ø 6.00mm / 10mm out of the middle
- Main bore Ø 62.5mm



Undeurred



Deburred

### Processing



- Speed : 100 rev / min
- Feed: 0.15 mm / rev
- Coolant: external cooling
- Deburring size: ca. 0.3mm
- Tool: COFA6/6.0/Z
- Blade: GH-C-M-0002

**Remarks:** To debure both bores of the Con road with the COFA6 tool, we had to clamp the tool far outside to get the required working lenth. Therefore we could not guaranteed the full stability. The deburring was still well. For this application we reccomend a COFA6 tool with working length approx. 85-90mm

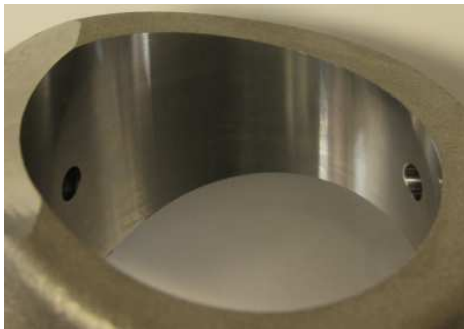
## Workpiece



Field	Automotive industrie
Workpiece	Con Road
Material	Steel forged
Processing	Ø 62.5mm

## Application

- Bore Ø 62.5mm
- Camber approx. 20°

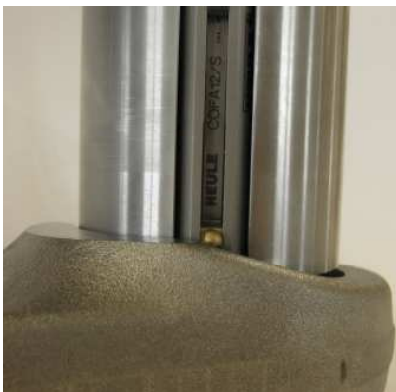


Undeurred



Deburred

## Processing



Speed : 300 rev / min  
Feed: 0.15 mm / rev  
Coolant : external cooling  
Deburring size: approx. 0.4 – 0.5mm  
Tool: COFA 12 Cassette GH-C-O-9624  
Spring: Type S  
Blade: GH-C-M-0007

**Remarks:** The deburring is around the hole well and relatively evenly. The deburring at the elevation is a little bigger. The camber has an angle with approx. 20 degrees. The same on the back

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Industry	Automotive
Work piece	Valve body
Material	Cast aluminum
Was wird bearbeitet	Valve bores $\varnothing 12.0$ (minimum deburring on the bore edge approx. 0.03mm)

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Work piece



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Application



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Tool



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Tool	COFA C3 Cassette tool $\varnothing 12.0$ mm special
Blade	COFA3 blade carbide with DLC coating standard (C3-M-0001-D)
Parameter	Spindle speed 1'000 rev/min; feed forward 0.15 mm/U; backwards 0.1 mm/rev.
Cooling	Cooling emulsion

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**Remarks:**

Through the adjustment of the cassette we can achieve the minimum deburring required approx. 0.03mm. To achieve forwards and backwards the same deburring size, we need to adjust the feeds separately.

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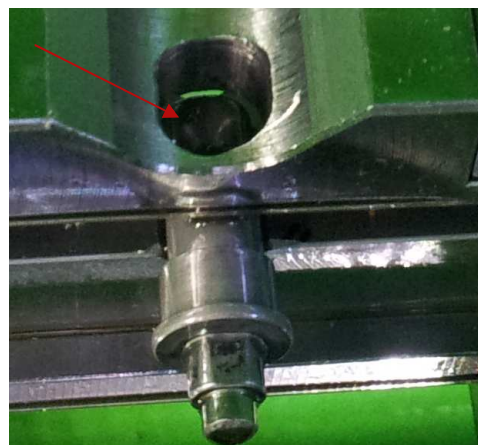
Industry	Automotive industry
Work piece	Steering pin wheel
Material	Cast steel
To process	Forward and backward deburring the bore- Ø5.4mm (radius-shaped)
Situation before	Manual deburring

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Work piece



Application



Tool	COFA5M/Ø5.4/H COFA5 blade carbide TiN coated (GH-C-M-0505)
Parameters	Speed = 3'000 rev/min., feed = 0.2 mm/rev.
Output	400'000 bores / work pieces per month
Coolant	Dry machining (deburring)

Remarks:

Before the customer was using our COFA tool, all the work pieces were deburred manually. The production is running 24h a day now and there is no longer manual deburring required. The customer is very happy about the easy function and simple programming of the tool and the reached deburring quality. Beside of the deburring quality we improved the time frame for the operation and the customer benefits from much lower costs.

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Industry	Automotive industry
Work piece	Camshaft
Material	Steel similar Steel 52 approx. 700N/mm <sup>2</sup>
What is processed	Oil bore Ø2.5mm (because of the low unevenness we can use a SNAP tool)

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Work piece



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Application



The customer is using 5 SNAP2 tools at the same time on the machine. The production is running 24h a day and the monthly output is about 1Mio. camshafts. The blade life is approx. 10'000 chamfers and the customer is very satisfied with the reached deburring result.

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Tool	SNAP2/2.5/20
Blade	SNAP2 blade carbide TiAlN coated Ø3.2mm (GH-Q-M-40111)
Parameters	Spindle speed 3'000 rev/min; Feed 0.1 mm/rev
Cooling	Dry machining (chamfering)

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Remarks:

The customer has previously manually deburred. Thereby the customer had high personnel costs. Using our SNAP2 tools the personal costs could be reduce. The control procedure could also be simplified. The process safety and the quality of the chamfer were the key arguments for the customer to use our tools.