

HEULE CASE STUDY

Aerospace Application COFA



Deburring a Fuel Pump Component on a Rocket Engine

Challenge

This aerospace manufacturer was looking for a solution for deburring three through-holes with four bore edges each on a fuel pump component for a rocket.

Application details:

- 3x Through bore: $\text{Ø}3.0$ mm
- Deburr size max.: $\text{Ø}3.4$ mm
- Main bore: $\text{Ø}11.5$ mm
- Ring groove diameter: $\text{Ø}24.0$ mm
- Outer diameter component: $\text{Ø}29.0$ mm
- Material: VACOFLUX (Iron-Cobalt Alloy)

Solution

We have suggested the proven COFA tool system which was the first tool worldwide featuring the ability to deburr even and uneven bore edges forward and backward in one single pass. It removes the burrs radially from the bore edges without requiring to turn the workpiece or to stop the spindle.

Machining parameters:

Working speed of 1800 rpm, Cutting speed v_c of 20 m/min.

Working feed of 0.02 mm/rev.

Results:

The customer's main focus was the automation of the manual deburring of the cross bores. By using the COFA tool for the automated front and back deburring of the cross bores, the resulting time savings per workpiece amounted to 15 minutes.

The customer was satisfied by the deburr quality and the achieved time savings. The tool fulfilled their expectations to the fullest extent.

