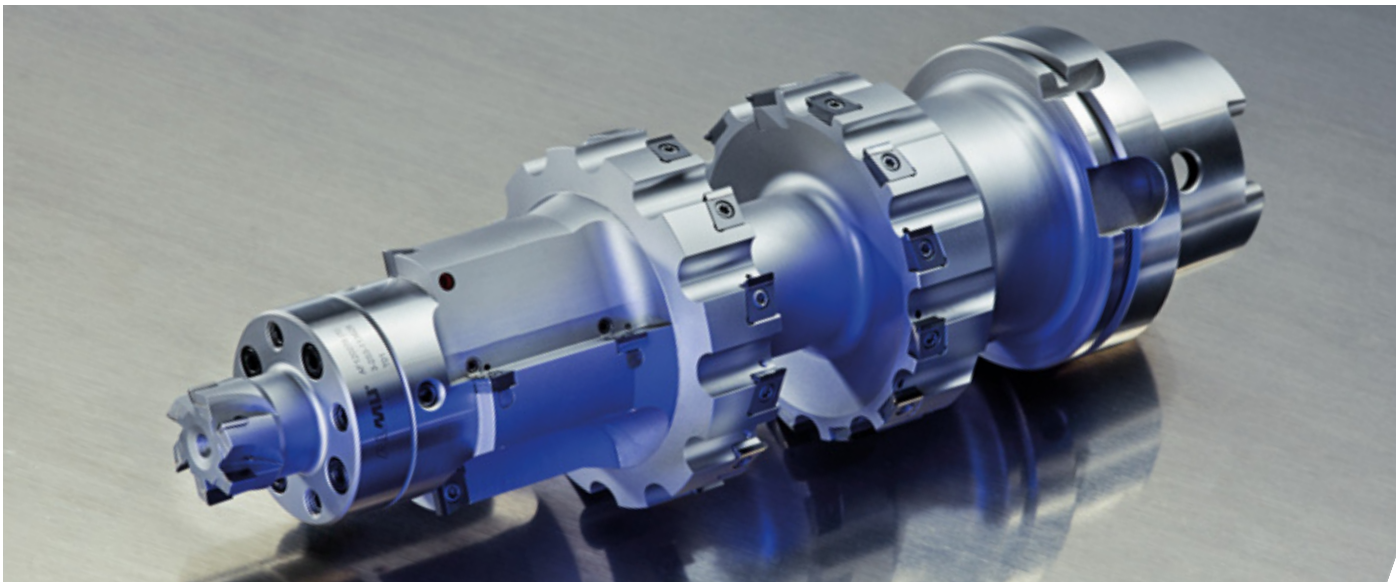
ALMÜ INSIDER

AlmüPräzisionswerkzeugGmbH • Ohmderstraße12 • 73119Zellu.Aichelberg • Germany
Telefon: +49 71 64 / 94 16 - 0 • Telefax: - 9 • info@almue.de • www.almue.de

July 2016

MULTI-STAGE PRECISION TOOLS – SAVE TIME AND COST

In today's modern automob ile construction mass production, it has become almost unthinkable to work with standard tools. Facing the tight cycle times required, specifically configured special tools can be used highly efficiently and reliably. ALMÜ Präzisionswerkzeug GmbH is well prepared, especially in this environment. The tool we present today combines three operations in a row.



When it comes to machine aluminum or aluminum die cast components, PCD-equipped tools are the number one choice. Only with this cutting material, aluminum components can be machined economically in mass production. In conjunction with minimum quantity lubrication (MQL) – see overleaf for an explanation – ALMÜ offers a state-of-the-art tool concept.

The tool to be machined was die cast from basic material AlMg5Si2Mn. Later, this structural component is used to fix the lower controls of the running gear to the front axle of a vehicle.

The individual work steps at a glance:

Using a small monobloc miller with a diameter of 32 mm, equipped with six cutters, six points of support are initially face-milled. This part of the combined tool can be unscrewed and removed, which permits variable and permanent use of the tool.

Steps 1 and 2:
Face-milling cutter with Module 60 interface, spindle tool with ALMÜ Flex system

Step 3:
Gang miller with PCD milling inserts.

In the next work step, two clearance holes are machined using the ALMÜ Flex cutting insert tool, which are also terminally chamfered. The adjustable and interchangeable PCD milling inserts offer our customers the best surface finish and long tool life. Thus, resharpening the tool becomes unnecessary. The integrated coolant guides that allow minimum quantity lubrication take care of optimal cooling and lubrication of the cutters.

The component's screw-on surfaces are finally milled to fit using the twin-disc miller.

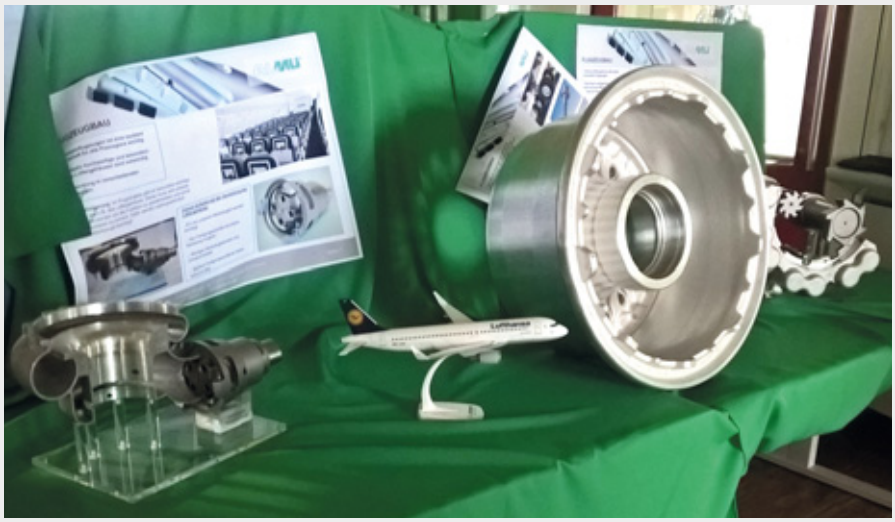
ALMÜ® INTERN

ALMÜ PRESENTS ITSELF

On this year's "shopping Sunday", which was part of our town's "Zell Spring" activities, ALMÜ opened its doors. Many visitors used the opportunity to take a closer look at our company.

Already for the third time, the team around Markus Müller used the occasion to present their work to the general public. Between various sales stalls, craftspeople, and the shopping center, it is still somewhat exceptional to discover a precision tool manufacturer. Large signs showed them the way to our "open house" – and we welcomed numerous visitors.
This year, our apprentices took care of this special day. It was their task to display and explain ALMÜ's products in such a clear manner that everyone was able to understand what is finally produced with the tools that are manufactured here every day. Our apprentices had decided to arrange individual tables to explain their various projects. Thus, the visitors could see the actual tool, the finished work piece, and what it is finally used for. On one table, they displayed an Airbus A320 model, and along with it, the tools for machining the main landing gear brake caliper of this modern airplane. Those who were interested could immediately establish a relationship between the tools and the finished product.

ALMÜ is thus well aware of the fact that in times of skills shortages and a steady search for suitable apprentices, it is important to benefit sensibly from such local events.



ALMÜ IS PRESENT AT THE AMB 2016 IN STUTTGART

This year, too, we are part of the AMB; we are already looking forward to interesting conversations with you …

AMB

Sept. 13 – 17, 2016

Our stand is in
Hall 2, stand number 2B22

You find our stand at the same spot as in 2014.

MINIMUM QUANTITY LUBRICATION

Minimum quantity lubrication (MQL), also minimum quantity cooling lubrication (MQCL), are terms for cooling during cutting actions using small quantities of coolants. An oil-air mixture is used to provide optimal lubrication while preventing frictional heat. The remaining heat is then being discharged via the tool and the chips. The cooling lubricant has to be reliably dosed and channeled toward the tool. This must especially be ensured when it comes to working with changing and much different tools. Moreover, safe chip removal from the machine is necessary, and aerosol leaking must be avoided.

This procedure is a further development of conventional wet machining, during which the tools are literally flooded with cooling lubricant. A related discipline is dry processing, which does without any lubrication at all during metal chipping.

Source: German Wikipedia

Text and design of this ALMÜ Insider issue: www.projekt-e.de | photos: ALMÜ, Mirko Lehnen | English text: www.ueber-setzer.de