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Peel off instead of grinding

Press manufacturer using shims to gain 2 days in assembly



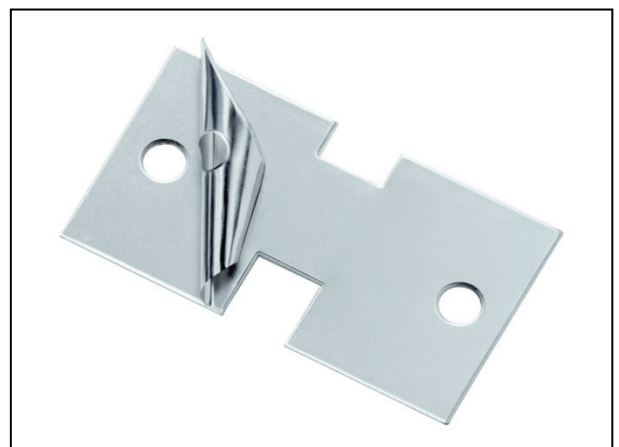
The AZ 630 blanking press with a single connecting rod was developed for the manufacture of aluminium packaging. Enormous time savings in final assembly are achieved by using shims from the Georg Martin company.

Press manufacturers Beutler Nova have achieved considerable savings in the assembly of their fully automatic blanking presses with a single connecting rod by using steel shims. High-precision tolerance compensation with M-Tech®L shims from Georg Martin GmbH have replaced time and cost-intensive grinding work during the necessary fitting and adjustment phase. This is a decisive contribution towards optimizing the coordination processes during final assembly.

Dietzenbach, October 2011. – “By using M-Tech® shims, we have realized quite considerable time savings during assembly,” reports Stefan Birrer, Works Manager at Beutler Nova. Located in the Swiss town of Gettnau the company, which belongs to the Schuler group, manufactures compact presses for use in the automotive industry, as well as in the manufacture of household appliances and in electrical and packaging technology applications. With a pressing force of 630 kN, the company developed the fully automatic AZ 630 blanking press with a single connecting rod mainly for the manufacture of aluminium packaging. To achieve tangible process optimization during final assembly, the Works Manager contacted the German sheet metal processing company Georg Martin GmbH a few weeks ago. The supplier from the state of Hesse is regarded as one of the world’s leading manufacturers of metallic shims for tolerance compensation. When and wherever components have to grow together to form functioning sub-assemblies, the M-Tech® products manufactured by Georg Martin GmbH usually result in considerable simplification and cost savings during assembly.

Marriage of guide rails and carcass

This was also the case with the Swiss press manufacturer, because Beutler Nova use four pre-tensioned, vertically installed linear guide units for the twin-stand construction of their AZ 630 blanking press with a single connecting rod. The trick here is to “marry” these linear units to the press carcass during final assembly. One essential aspect of this is the exact fitting of the guide rails by shims into the carcass of the press, because this is ultimately responsible for a high-quality blanking result. “Until recently, this step in the assembly process was still done with the help of solid steel plates which were painstakingly ground to the right size before fitting. With a processing time averaging two days, this was simply too long for us, so we started to look for alternatives. In the course of a discussion at a trade fair last year, we discovered the shims from Georg Martin GmbH as the ideal solution. Once we were able to establish feasibility using sample parts, we now only use multi-layer steel shims of the type M-Tech®L to fit the linear guide units, ” explains Stefan Birrer. The press manufacturer is supplied by Georg Martin GmbH with a



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highly durable M-Tech[®]L version with an overall thickness of 2.0 mm which the fitters can reduce to the required size by peeling

off layers of 0.05 mm. Peeling is done manually with a knife directly at the machine. "The fitting and adjustment work is now completed much more quickly, because once the measuring has been done, all we have to do is peel off the individual layers of laminated sheet metal and install the shim without further ado," the Works Manager emphasizes. Georg Martin GmbH delivers the shims as ready-to-install die-cut parts with drill holes.

Plenty of potential in the process

The example of the Swiss press manufacture is indicative of the optimization potential the use of M-Tech[®] shims offers to the value-added process. Time can even be saved during the development phase, because the constructors no longer have to contend with close tolerance specifications. Manufacturing effort is reduced too, because the "more tolerant" construction of the joints does not require any reworking. On top of all of this, throughput times are also reduced, because the compensation elements are available on the spot during assembly, and repair costs are reduced too, because all the maintenance mechanic has to do is peel instead of grind.

Shims from Georg Martin GmbH are available in steel, stainless steel, aluminium and brass in the product lines M-Tech[®]L, M-Tech[®]S and M-Tech[®]P. The layered sheet metal M-Tech[®]L shims consist of up to 64 laminated metal films (25 to 100µ) with total thicknesses of 0.50 to 3.20 mm. The layers can be peeled off individually until the required tolerance compensation has been achieved. M-Tech[®]S shims are made of solid sheet metal designed as precisely fitting individual shims or ground and polished in sets. M-Tech[®]P are customer-friendly edge bonded shims as thin sheet metal packages with adhesive on the edge which can be removed like a tear-off calendar, or shims of various thicknesses joined up with cable connectors as "loose leaf shim".



"We have achieved quite considerable time savings in the assembly process by using M-Tech[®] shims," reports Stefan Birrer, Works Manager at Beutler Nova.