

## PRESS INFORMATION

Construction / Mounting technique / Sheet metal processing

### Incomparably well priced

Costs in transmission construction and maintenance can be reduced by using shims.



*Maintenance friendly: the time and effort required for construction, assembly and maintenance are reduced considerably by installing a precisely fitting shim on the infeed side of the transmission.*

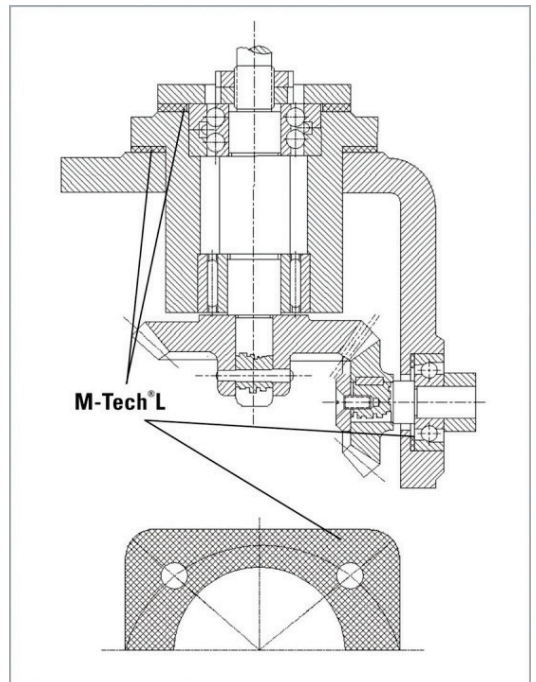
pairs of the flanks of its gearwheels and pinions. When doing so, the construction and maintenance personnel focus in particular on the position of the conical gear wheel on the infeed side when setting the contact pattern. "A lot of money can get lost here if the subject of tolerance compensation is approached the wrong way. Based on their long years of experience with numerous transmission manufacturers, our engineers have calculated this using the example of a compact universal conical gear wheel transmission (size 100) with amazing results," reports Christoph Martin, CEO of Georg Martin GmbH.

#### This can be expensive

From the point of view of construction, positioning on the infeed side can be solved in different ways. To give the screw-on flange a machining allowance and tighten it down to the desired size during assembly – and subsequent maintenance – is regarded as a bit old-fashioned nowadays. The same applies to the placing of a spacer disc – the thickness of which is then ground down to size – between the screw-on flange and transmission casing. In addition to the expense and effort involved in assembly and

The proper setting of the contact pattern of the gearwheels is regarded as an essential quality criterion in transmission construction, because only when the gearwheel flanks are aligned exactly can optimum power transfer and energy conversion be achieved. Considerable cost-saving effects can also be realized here by making specific and selective use of metal shims. The engineers at supplier Georg Martin have calculated this using the example of a compact standard mitre gear.

*Dietzenbach, May 2010* – Mitre gears are often to be found where rotary movements have to be transferred at an angle. These drive technology components are common in mechanical and automotive engineering projects, as well as conveyance and coiling applications, to name but a few. One essential factor for the efficiency and service life of a mitre gear drive is always the alignment in



*M-Tech®L gearwheel shims make the clearance adjustment easy without machining.*

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disassembly, considerable processing costs are involved in both cases. **“Even if the target measurement can be achieved through reworking only one time, this alone takes us to a unit price of almost 34 Euros, which equates to roughly 8.5% of the total price of the transmission (approx. 400 Euros).**

This upsets even the most optimistic repayment calculations and increases maintenance costs at the same time! Waiting and delivery times haven't even been considered here,” emphasizes company boss Martin. It is a bit more “cost effective” to construct and insert a replaceable shim between the mitre wheel and bearing, but unit costs in this instance are still 5.5% of the value of the transmission.

Georg Martin produces M-Tech<sup>®</sup>L shims in versions with up to 64 laminated films (thicknesses of 25, 50, 75 and 100 μ) as customer-friendly shaped pieces made of steel, aluminum and brass with edge lengths of up to 1200 x 600 mm.