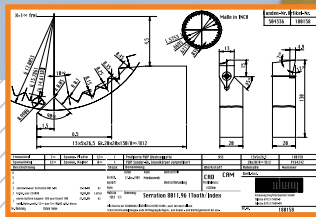
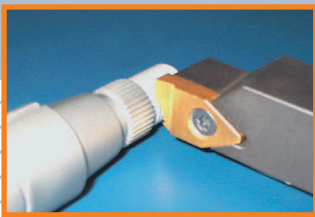
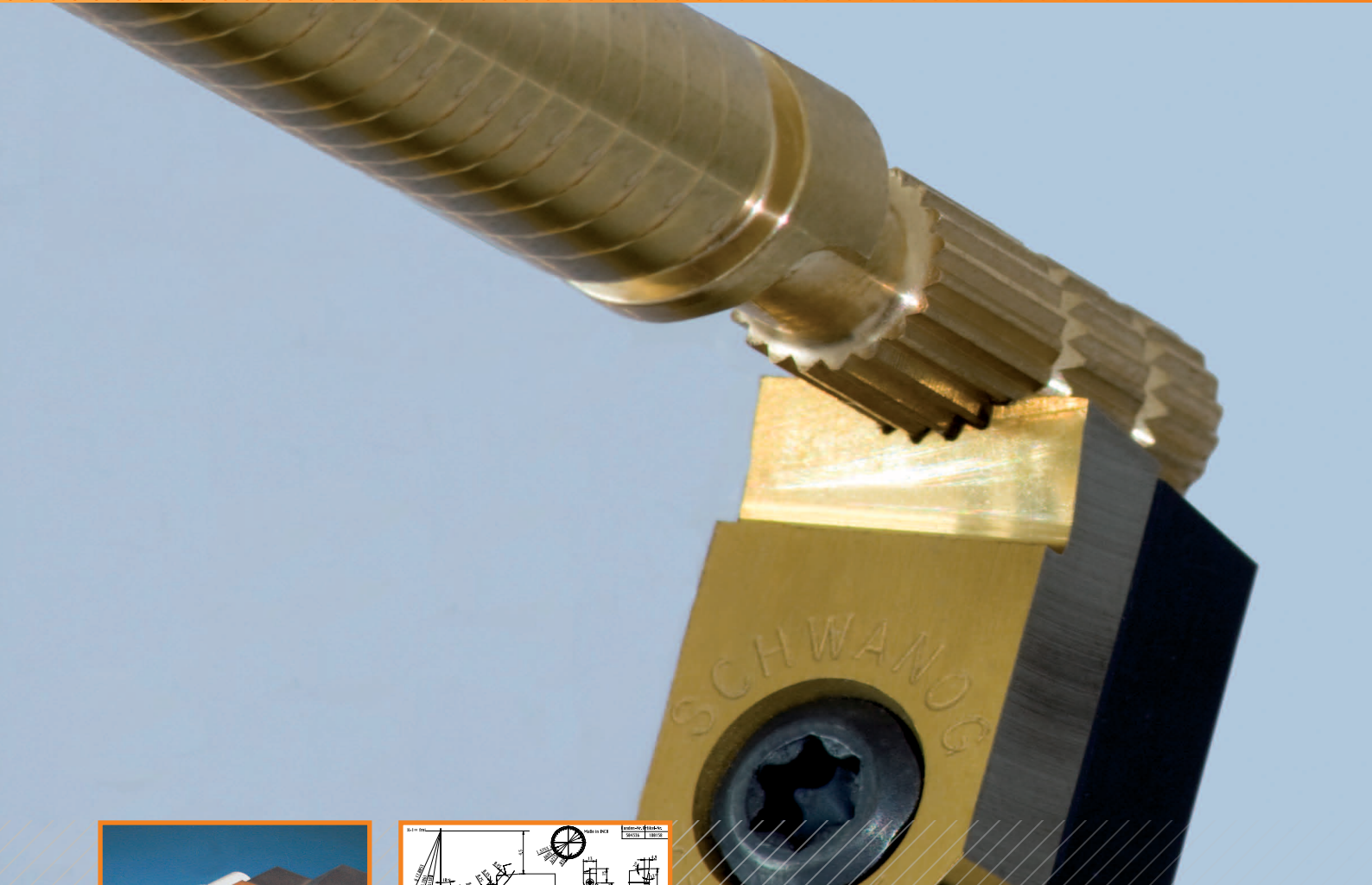


Machining technology  
**Serration**



## Cost Savings:

# Machining of Turned Parts with Serration.

**As the specialist for insertable form tools, let us show you how you can cut cost while machining turned parts with serration.**

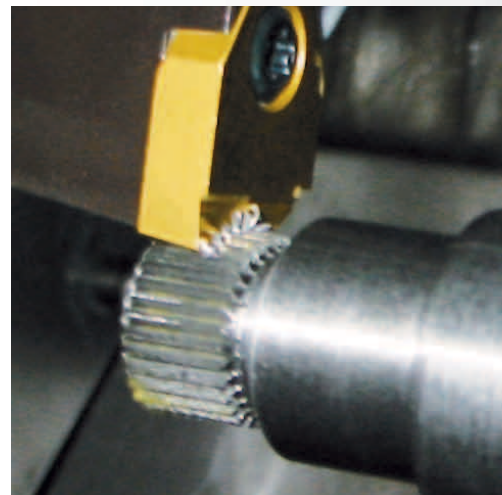
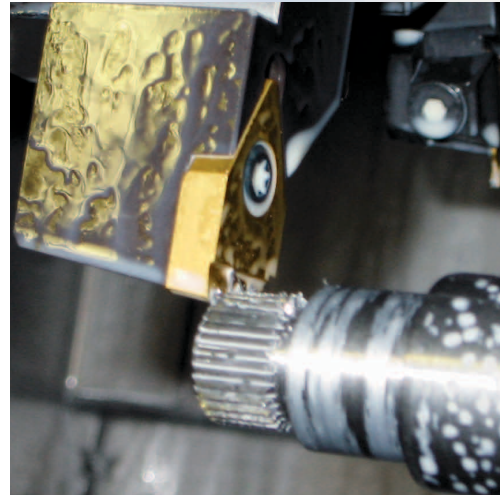
It is fact that the conventional machining of serrations on turned parts requires a separate process either while milling or broaching. Before either of these finishing processes can take place the parts generally must go through a costly cleaning process.

With Schwanog's "broaching (serration) tool", manufacturer of serrated turned parts i.e. according to DIN 5480, 5481 or 5482 are able to use a completely new approach to machine these parts. I.e. the machining of a serrated part made from 1045 steel is achieved on a conventional lathe in a single operation, in just 7 seconds and eliminates the cleaning, handling, planning and controlling process.

The Schwanog broaching tool carries a quarter circle geometry with 6 teeth while only the first tooth carries a complete (finish depth) profile while the remaining 5 teeth are considered roughing teeth.

The broaching of serrations is a two step process. With the first step the spindle does not move and the tool feeds three times until the first tooth is completely established. With the second step the spindle starts indexing and the 5 successive teeth are continuously machined until they are broached to finished depth.

The cost of Schwanog tools is quickly recovered due to efficiency and savings up to 30% in set up times are not uncommon. Schwanog specializes in individually ground form tools which thanks to first class consulting and state of the art production guarantee both economical and technical advantages.



Schwanog tool and part with serration.

**The advantages for the user are clear to see with our smart tooling system:**

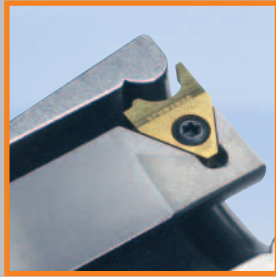
- Significant cost savings due to set up time reduction.
- Reduction of part cycle time due to quicker production cycles.



# Insertable tooling system.



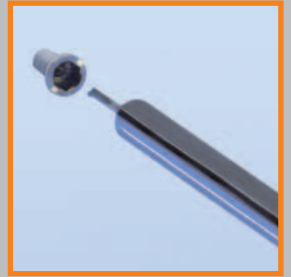
OD grooving



ID grooving



OD whirling



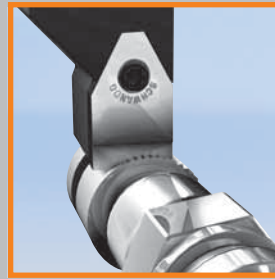
ID Whirling tools



Thread milling cutter



Polygon cutting



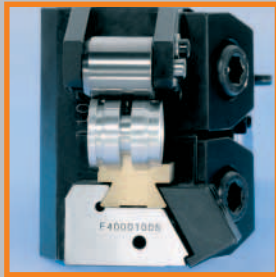
Serration



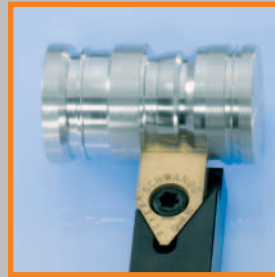
Form drilling



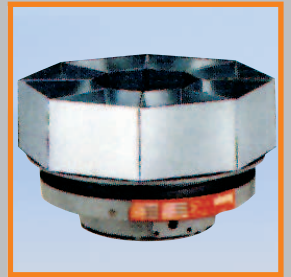
Form milling



Shave Tools



Rotary transfer machines



Selector system

Broaching of serrations is one of twelve application areas for which Schwanog offers top solutions in regard to quality and efficiency.