TOOL LIFE MANAGEMENT

Improvements in production starts with enhanced tool wear management and this is one of the development projects underway at Tornos. The DECO machines therefore have a constant supply of new functions enabling them to rise to the challenge of providing improved productivity every year.

Currently, Tornos is proposing a new function: “Automatic tool wear correction”, as well as a more intuitive representation of tool wear.

The current tool management system for the DECO range of machines comprises:

**Basic operation**
- Tool wear programming.

**Options 7052/7053 – Tool life management**
- Automatic correction of tool wear.
- Production stop after tool wear.
- Also available with a warning light before machine stops.
- Coupling of several instances of wear on same tool.
- E.g. 2 instances of wear Z coupled for 2 independent instances of wear X.

**Option 7051 – Tool wear corrections by RS232**
- Interface enabling tool wear correction by an external system that measures the workpiece.

**Option 7057 – Multi Programme**
- Automatic passage from one part programme to another for a family of parts with the same tool line.

**New representation of tool wear**

In order to simplify the visualisation and research of tool wear, a new page (A) has been created with a representation of wear sorted by tool.

The old page (B) of wear, with the Fanuc representation sorted by axis is still available on numerical control.
Automatic correction of tool wear

This new function available with the “Tool life management option” enables the user to programme an automatic wear correction of the X or Z axis. Two different ramps per axis can be programmed.

Productivity gains

Automatic tool wear correction was developed in collaboration with Essor. «The development of new functions in close collaboration with our customers is always a guarantee of success» – Marc Wyss, Product Manager.

Essor, presented on page 37, were looking for ways of increasing their productivity:
- by reducing sources of errors
- by increasing the number of night time production hours. ¹

Essor had no hesitation in becoming a partner in this project. «This function enabled us to gain production hours. It is suited to the production of long production runs, particularly in stainless steel. Operation is intuitive. The data to be entered is based on the analysis of the results of our internal inspections,» – Jacques Rossé, Technical Director.

Automatic tool correction enabled Essor to gain up to 6 hours of production per night on a DECO 10. This function is even more valuable when large diameters need machining.

¹ The 8 hours of production during the night are not supervised by operators.