

THINK PARTS – **THINK TORNOS**



TB-DECO

PROGRAMMING SOFTWARE
DESIGNED FOR DECO AND MULTIDECO
AUTOMATIC LATHES



TB-DECO

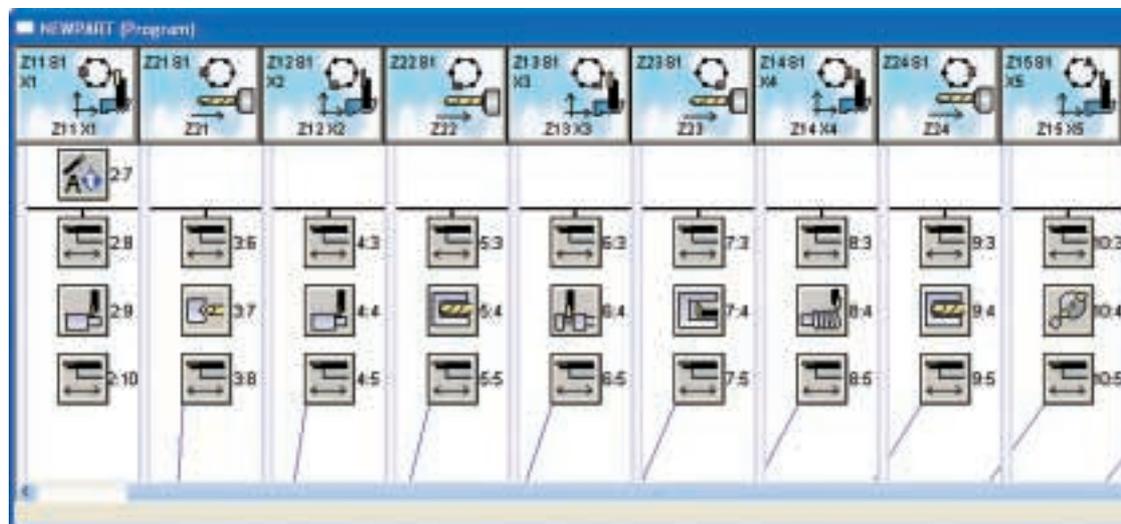
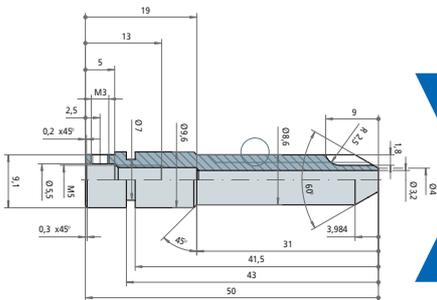


CONTROLLED POWER: PROGRAMMING SOFTWARE + VIRTUAL CNC

Programming an automatic lathe on PC!

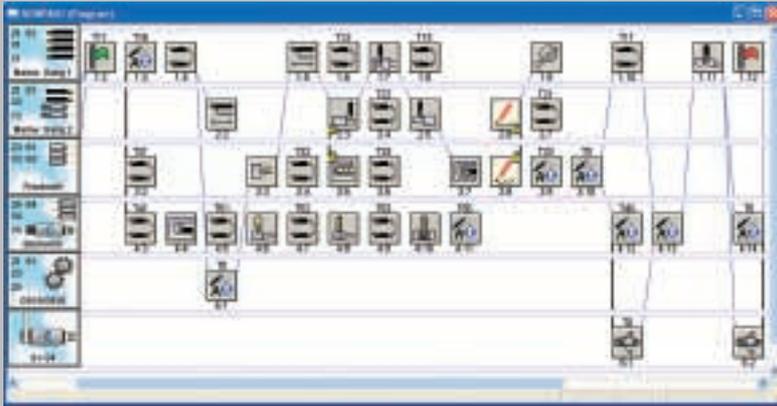
Using a design whereby the PC is separate from the numerical control of the machine, TORNOS has introduced full work management flexibility.

With programming carried out 100 % in hidden time, e.g. on a notebook, parts can be planned at any time anywhere.



Programming the operation sheet of a MULTIDECO

PROGRAMMING SOFTWARE: SYNCHRONISATION TOOL

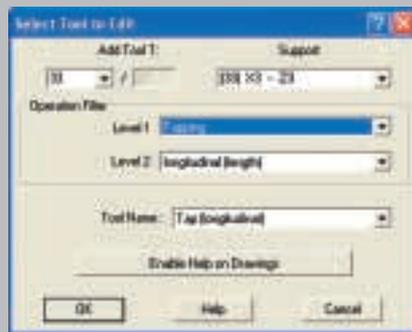


Programming the operation sheet of a DECO

A user-friendly, intuitive and visual software package at your disposal.

Entirely developed by TORNOS, this software enables simple, quick, logical and ergonomic programming parts on your PC.

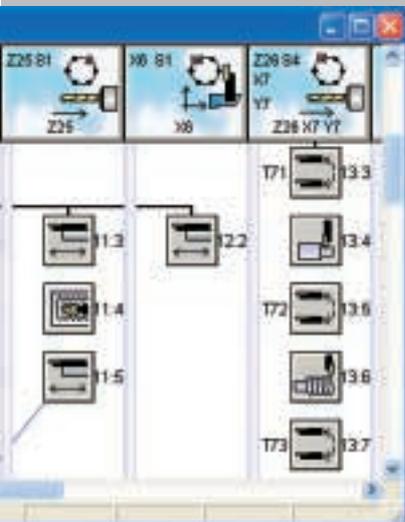
This is undoubtedly the best solution on the market for reducing component cycle times. It provides convenient programming (large screen, brightness control, environment) and allows you to program several types of machines with a single PC.



Selecting the tool to be edited

An uncompromising solution to optimise component cycle times

- ◆ Graphic synchronisation of operations:
Easy operation of simultaneous machining procedures and tool indexing.
- ◆ Unrestricted operation of the machines kinematics.



Help, with tool diagrams

Benefits of TB-DECO programming

- ◆ No writing machine initialisation cycles or secured feeding cycles. TB-DECO does it for you.
- ◆ No downtime with testing on the machine. TB-DECO calculates the exact position of the part.

WHAT CAN TB-DECO DO FOR YOU ?



1. Machine initialisation cycle:
 - Positioning the cutting tool.
 - Positioning the bar.
 - Facing-off.
 - Positioning the spindle.
 - Opening the spindle collet.
2. Bar-end control.
3. Loading cycle for a new bar with its safety features.
4. Part feeding cycle.
5. Multiple feeding cycles (several clampings for a single part).
6. Referencing end tools in relationship to the part.
7. Referencing the counter-spindle in relationship to the part when supported by the counter-spindle.
8. Safe component cutting: controls in case of cutting tool breakage.
9. Safety part pick-up: chips on the part or diameter too large (tool worn or broken).



Presetter for DECO lathes



Editing the global variables of the workpiece

IN ADDITION :

Energy optimisation

You want to minimise stress on the mechanics of your DECO or MULTIDECO.

TB-DECO can automatically calculate the minimum feed speed each time a tool is indexed, without altering the part cycle time.

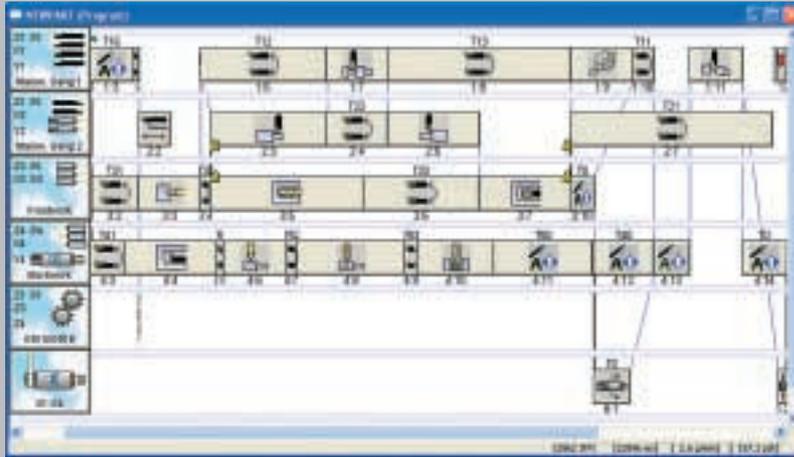
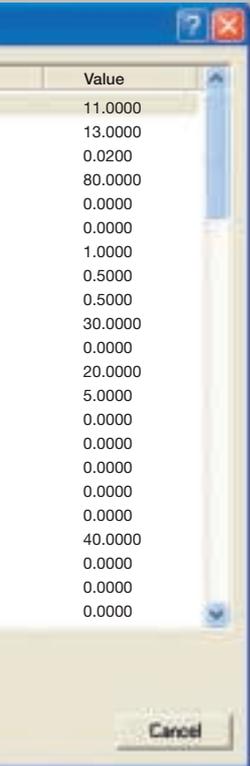
Pre-setting of tools

Prepare your tools even before there is a machine available for setting-up.

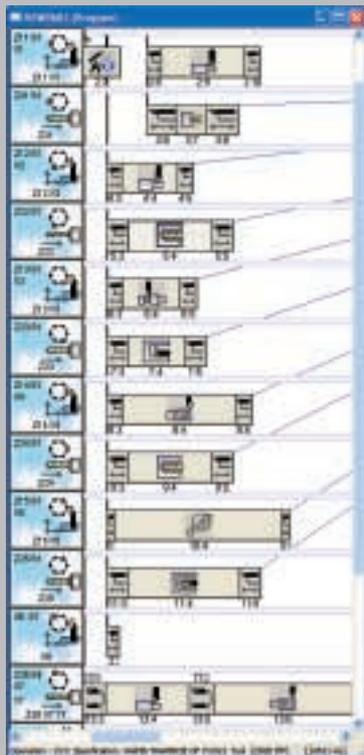
Archiving the part file

As soon as your program is created, TB-DECO automatically archives the part program, tool data and geometries, the material and production cycle times.

TB-DECO even allows you to attach the part plan.



Calculating the program for a DECO: display in Gantt mode



Calculating the program for a MULTIDECO: display in Gantt mode

Before the introduction of TB-DECO, part cycle time management was under the sole control of the CNC. By means of a virtual control, TORNOS's latest innovation TB-DECO does not just approximate the cycle time for the part being machined, it calculates it to a level of accuracy better than 10 ms.

Virtual CNC is a calculation made by the PC during programming.

The result can then be transferred to the machine, via Ethernet or Flash memory card, in the form of mathematical paths. Thanks to virtual CNC, control of the machine (PNC-DECO) no longer requires a high degree of power. It ensures that the DECO and MULTIDECO machines are not affected by time passing in the same way as a normal CNC. Programming can always be done on the latest generation PC using all the power available.

The main economic benefits

Achieve precise cycle times for parts on your PC.

Virtual CNC will monitor the risks of machine collision.

See the critical path for your part's cycle time at a glance with the Gantt chart display.

TB-DECO

MAIN FEATURES



Compatibility with market standards

- ◆ Standard ISO code programming.
- ◆ Programming compatible with a standard Windows environment.
- ◆ Program traceability management fully compatible with ISO 9000 standards.



Selecting the image for the operation



Editing the cutting tool

Selecting the quadrant

Over 20 years experience in IT solutions

- 1985 First TB-LOGIC users.
- 1992 Start of the TB-DECO project.
- 1996 First TB-DECO users.
- 2005 Over 3000 TB-DECO users.

An unqualified success

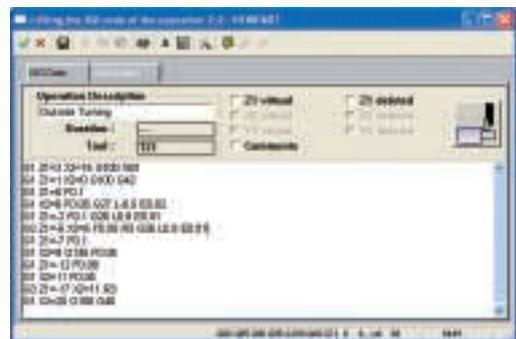
Today TB-DECO is the most widely used machining programming software for lathes.

The TB-DECO environment

- ◆ An integrated solution optimised for all DECO and MULTIDECO machines.
- ◆ A universal programming interface for all DECO and MULTIDECO, to guarantee perfect integration of both worlds into a single production unit.
- ◆ Two levels of representation:
 1. Structure, with intuitive graphics.
 2. Detail, in standard ISO code.
- ◆ Simplified, worldwide program analysis and trouble-shooting facility.

No obsolescence

- ◆ Since information technology is a rapidly changing sector, the TB-DECO team is always on the look out for new solutions and ideas enabling Tornos to fully benefit from developments in modern IT. The programming simplicity and power do not depend on the CNC of the machine, you can always access the latest developments for the TB-DECO solution.



Editing the ISO Code of the operation

PC configuration required:

- ◆ Windows 2000, XP.
- ◆ 17" screen recommended.



TORNOS

PNC-DECO : PARALLEL NUMERICAL CONTROL

The knowledge and experience of two companies

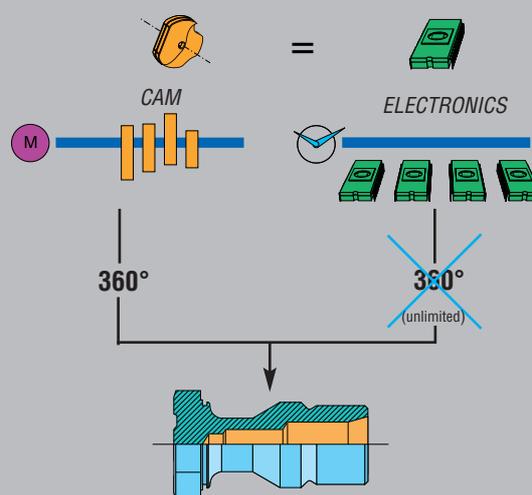
Parallel numerical control is the fruit of close collaboration between TORNOS and the numerical control supplier. It gives users the benefit of our knowledge and experience combined with that of the CNC manufacturer. This concept avoids the restrictions of a traditional CNC to increase the number of parallel machining cycles and/or tool feeds (hidden time).



The basic principles

Virtual CNC uses electronic cam technology (electronic tables).

Comparative mechanical CAM – PNC-DECO



The cam is replaced by a stored calculation, which eliminates the physical 360° angle limit, together with the limit of feed distribution (associated with a limited number of degrees).

PNC-DECO combines the advantage of the mechanical cam with an unlimited number of tools working simultaneously with a fast program changing numerical control.

The main economic benefits

The electronic tables require less power from the control to guarantee a longer lifespan before it becomes obsolete.

There is no need for two CNCs on one MULTIDECO with the attendant difficulty of ensuring they are synchronised. This is due to an unlimited number of programmable channels in TB-DECO.

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