

20 years of woodWOP

The journey continues

There is no other CNC programming system which can claim such a long and successful development history as woodWOP. So it is hardly surprising that woodWOP has evolved to become the most widespread programming system and has now even become the accepted standard used by vocational colleges and universities for CNC training.

It was way back at the beginning of the nineties that the HOMAG Group began to develop its own programming system wood**WOP**. Previously CNC machines used to be programmed directly in DIN code, often using separate VDU workstations in the office. The HOMAG Group's entry into the construction of processing centers with edge gluing gave rise to the need for a new development. The programming of asymmetrical workpieces in DIN Code was highly complex. In addition, programming this type of workpiece entailed a high level of process engineering expertise which was only held by the machine operators themselves. This prompted a move to take programming out of the office and back to the machine itself, creating a "workshop-oriented" process.

1992 saw the start of a new era with the launch of wood**WOP** 1.0. This system ran in the OS9 operating system on the machine's own control system. Even in this early version, variable programming was possible and mathematical expressions were used. The first version even included a drilling optimization feature. For many customers, setting up an office workstation meant incurring an unwelcome additional expense, as this entailed the installation of an OS9 computer.

With the launch of wood**WOP** 2.5 in 1994, the problem of office

application was solved with a DOS-based version of wood**WOP** which permitted installation on Microsoft-compatible PCs, and paved the way for far more widespread use of the system. In addition, it was now possible to create contour lines, although this was still limited to 120 elements and 99 variables.

wood**WOP** 4.0 was unveiled for the first time in 1997. Another quantum leap in the development of programming software originated with HOMAG. wood**WOP** 4.0 was based on the Windows operating system from Microsoft. Using wood**WOP** 4.0, significant detail convenience functions such as tool preview and startup / shutdown routines or context-specific help functionality now became available. The use of component technology allowed recurring processing operations to be quickly and simply programmed.

For customers who operate machines with gluing sections, the version jump to wood**WOP** 4.5 which took place in 1999 represented a major step forward. For the first time in the marketplace, automatic C-axis swivel action was implemented. From this version onwards, the necessary C-axis adjustment to deal with curved contours took place automatically. This meant a radical simplification of programming processes for units using the interpolating C axis. In addition, wood**WOP** 4.5 substantially simplified work with components. The component browser Mosaic now offered users the facility to simply drag and drop components into the workpiece. Using offset dimensions or the assignment of optional coordinate systems, components can be placed practically in any optional position in the workpiece.

Single part processing with edge banding was revolutionized in 2002 with wood**WOP** 5.0. This new version reduced the programming of edge banding in the processing center essentially to choosing which edge

processing operation was required on which workpiece contour. Ever since this development, edges have been practically conjured onto workpieces by the Edge Wizard. All macros which had to be manually programmed in the previous version are automatically generated by the Wizard: Rough trimming, finish trimming, air jet nozzle, edge banding, snipping, flush trimming, scraper blade – to name just a few. Since wood**WOP** 5.0 was launched, gluing processes have been further optimized with the technology database. Depending on small inside or outside radii, the technology parameters in the wood**WOP** program are automatically adjusted, for example to reduce feed distances or switch on heating lamps to increase edging material flexibility. To this day, these features remain an unique selling position exclusive to wood**WOP**.

But what about further developments? If workpiece programs can already be generated practically automatically, what still remains to be improved? Actually there is still plenty of scope for improvement if we consider the headlong development of CNC technology over recent years. CNC machines are now moving into practically the third dimension. Ever more sophisticated processing unit technology and increasing use of five-axis heads permit processing operations at the workpiece in every spatial axis.

In 2009, wood**WOP** 6.0 took machine programming into the third dimension. The new realistic 3D depiction of workpieces with all processing operations allowed programmers to recognize straight away on screen if incorrect values had been entered. The facility for simultaneously opening a number of different workpiece views left nowhere for errors to hide. Even the suction cups and consoles were shown in 3D from this new version. Another significant change was the facility for selecting, deleting or shifting interactive processing operations in the graphic display. Contours can also now be directly drawn in the graphic depiction. wood**WOP** 6.0 is the fourth generation jump in the development history of the software. Following on from OS9, DOS and Windows compatibility,

this version is now based on a 3D CAD program library which paves the way for all further developments in the future.

2012 – 20 years after the first version was launched, wood**WOP** 6.1 with integrated CAD functionality has now been launched. It offers users scope for operators to generate, import or modify CAD drawings in the office or directly at the machine, supported by a wide range of drawing and modification functions. This is not restricted to only the basic coordinate system, and can be implemented on any optional plannable level.

But it is not only the on-going further developments which have made wood**WOP** so well known. Another success factor is the open file format which can be used for storing wood**WOP** programs. It provides external software suppliers with a simple way of achieving a stable and compatible link in the long term. This is just one reason why all popular trade-specific programs are compatible with the wood**WOP** format, allowing trouble-free integration into the customer's software landscape.

As wood**WOP** 6 is reverse compatible down to wood**WOP** 4.0, older programs can be simply imported. This allows every user to easily update an older version of wood**WOP**. But HOMAG is going a step further still: wood**WOP** 6 is also upward compatible. This means that programs which were generated in the office using the new version can also be opened at a machine where an older version of wood**WOP** is installed.

Summary

With its new wood**WOP** version 6, the HOMAG Group is setting whole new standards in modern CNC programming. Programming speed in the office through to the fault-free production program is not the only issue addressed by the new software version, but attention is also paid to the question of security and visualization. With these innovative software

solutions, the HOMAG Group is offering the market a security package which is unique anywhere in the marketplace, and will allow even complete newcomers to learn the ins and outs of programming and working with HOMAG Group CNC machines within an amazingly short familiarization period. With over 30,000 users worldwide, wood**WOP** is among the most successful and most widely used programming systems in the world. Success simply programmed to happen!

Picture courtesy of: HOMAG Holzbearbeitungssysteme GmbH



Fig.: wood**WOP** 1, the HOMAG Group's first in-house developed variant programming software.



Fig.: wood**WOP** 2.5 was the first software to run under MS DOS, opening up scope for simple office application.



Fig.: woodWOP 4.0 allowed depiction of units and permitted the swivel angle of the gluing section to be controlled. Automatic C-axis control was introduced with ww4.5.

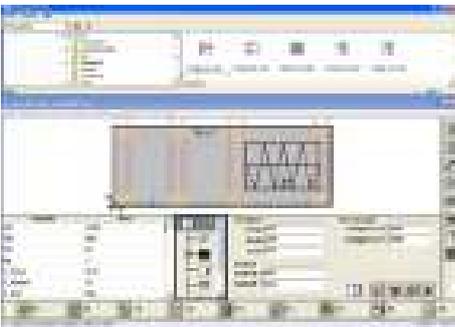


Fig.: woodWOP version 4.5 brought with it the enormously helpful component browser, and an equally important automatic C-axis swivelling function for units.

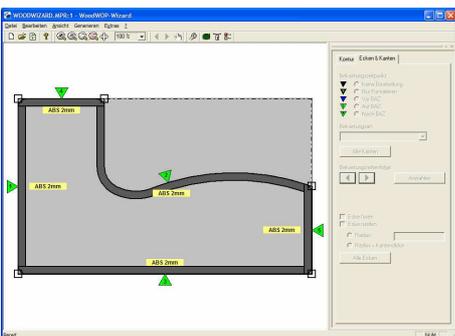


Fig.: The Edge Wizard was introduced with ww5.0 and has since allowed the automatic programming of workpieces with edge gluing.

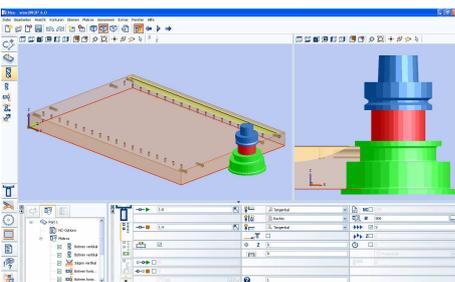


Fig.: The graphic capability alone demonstrates the enormous leap forward taken by woodWOP 6.0 in comparison with the predecessor version.

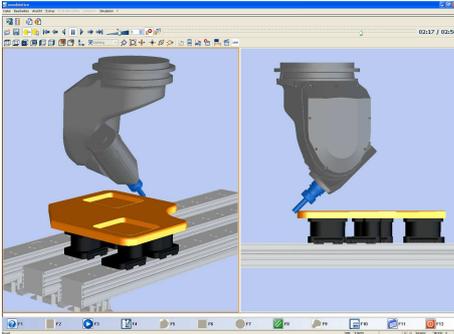


Fig.: The processing simulation facility creates a precise illustration of the processed workpiece

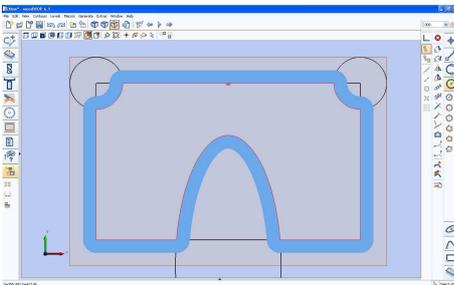


Fig.: woodWOP 6.1 with CAD functions.

For more information, contact

HOMAG Holzbearbeitungssysteme GmbH
Homagstraße 3–5
72296 SCHOPFLOCH
GERMANY
www.homag.de

Alexander Prokisch
Head of Communication
Tel. +49 7443 13-3122
Fax +49 7443 13-8-3122
alexander.prokisch@homag.de

Author:

Mr Kai Friebe
Product Manager Application Software
Tel. +49 7443 13-3110
kai.friebe@homag.de