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# Star Turn

**When used with STEP-FOUR cutting machines, the S4 professional software is undeniably second to none in the manufacture of made-to-measure polystyrene parts.**

No wonder large companies such as Airbus Industries, General Electric or BWM and even highly specialized goldsmiths set store by the know-how of STEP-FOUR. But we would not dream of resting on our laurels. Instead we set our sights on the next challenge, which was to improve and extend the software. The final package will soon be available as Version 4 of the professional cutting software.

### What exactly can you do with the new S4cut V4?

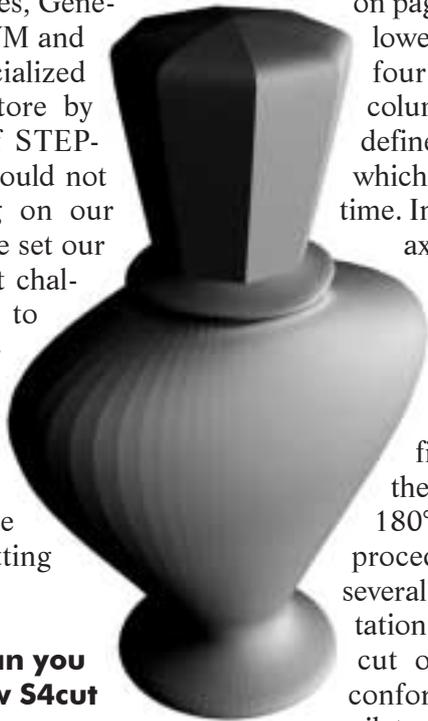
First of all, a fifth axis can be activated in the form of a turntable, which means that the workpiece can be rotated by the software. To manufacture rotary structures such as columns or bottles, you simply create a cutting contour which is then cut at a defined angle after each turn. The number of steps per rotation establishes whether a

square column is to be cut, for instance, or whether "round" objects, i.e. bottles or spheres should be produced using a relatively high angle resolution.

Three simple cutting contours lead to the columns shown in figure 1 on page 2. The upper and lower pedestal is rotated four times by 90°. The column in the middle is defined as a separate step, which is turned 60° each time. In addition, the rotary axis can also be turned continuously during the cutting procedure. This results in a corkscrew effect, as shown in figure 2. In this case, the column was turned 180° during the cutting procedure. By assigning several contours to each rotation angle, you can also cut objects that do not conform to a circular or equilateral ground plan.

### Any Object Shape Possible

A good example is the giant perfume bottle. The equilateral top of the cap was achieved by turning the same contour by 45° each time, whereas the lower area of the oval bottle involved 36 rotary steps of 5°. Even when constructing four-axis objects it is worth using the rotati-



### Customer Information

# STEP FOUR



[www.step-four.at](http://www.step-four.at)

**Editorial**

**Always looking for ideas**

Soon our company will celebrate its tenth anniversary. We have achieved a great deal during the past decade and yet we keep returning to our basic tenet, which is to satisfy our customers. This is of the utmost importance to us, because we believe you deserve the best.

Of course we have been extremely lucky in that the company is successful, but one reason for the company's success is to be found in the optimum working conditions at STEP-FOUR. As our staff enjoy working here, they produce quality products, which in turn satisfy our customers. This is no magic formula, but common sense. Furthermore, we try to extend our horizons and "grow" with every new challenge, which is no easy task sometimes.

That is why we endeavor to keep in touch with our customers and we look forward to receiving your ideas, which are always a wonderful source of inspiration.

Since our slogan is "STEP-FOUR, one step ahead", help us keep abreast with these fast-changing times by sharing your know-how with us, and let us hope that the coming decade brings many successful projects.



■ Ernst Ramberger steering into the unknown but exciting future.



■ Figure 1: Only three simple cutting contours are needed to produce this column.



■ Figure 2: "Corkscrew" Column

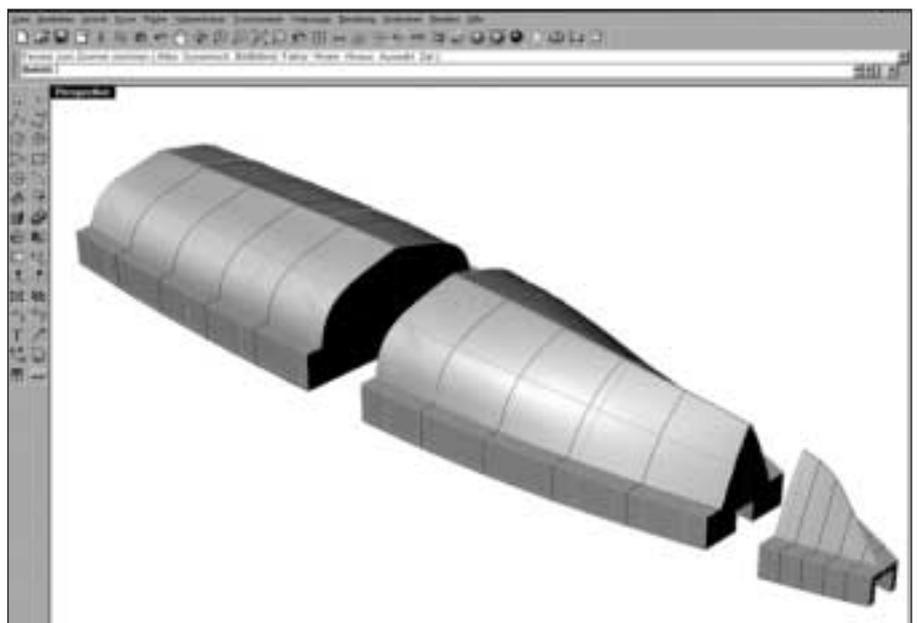
on axis, for example, after the cutting procedure, to provide parts with precise mitre squares by means of defined rotations.

Another novelty, of great advantage to manufacturing construction parts, is the administration of so-called virtual block limits. The model for a ship's hull in figure 3 shows that the hull must be cut out of three block segments. To get the best approximation of the cambered surface, each block is divided again and processed in several cut-

ting cycles. The subdivision is only virtual, however, and involves calculating a corresponding offset with respect to the main block. On the basis of this, the precise projection data is calculated for the path along the two cutting ports.

**Final Tests**

As soon as further tests have been taken and the documentation on the software is ready, Version 4 will be launched. This is envisaged for spring 2004, which might turn out to be quite "hot"!



■ Figure 3: Virtual block limits

## STEP-FOUR News

### English V4 Milling Software

Ready at last: Version 4 of the STEP-FOUR milling software is now available in English. This means customers all over the world can benefit from the many advantages of this software package. For further details, please have a look at the News column on our [www.step-four.at](http://www.step-four.at) website.

### Special Edition

We are working on a special edition of articles that were recently published about our milling and cutting machines. In issue no. 3 of *trucks and details* a test appeared on our Basic 540 milling machine with the heading "Gateway to Happiness". In the April/May issue of *modellflieger* the cutting machine was tested in the report "Scharfes Gerät" ("hot cutting device").

### Training Course in Saudi Arabia

At the beginning of July, our technician Franz Tutschka traveled to Jeddah in Saudi Arabia to install two PC-CUT cutting machines at a well-known company in the construction industry. He also trained the operating staff on site in hot wire cutting techniques and instructed them how to use the STEP-FOUR machines.

When this issue goes into print, Mr Tutschka will be back in Saudi Arabia, this time to train our client's staff on how to work with the STEP-FOUR milling machine.

Our reputation certainly seems to have spread around the world. At the International Agricultural Fair



## STEP-FOUR Staff Outing 2003

The social "highlight" of the business year took place in the Wachau (the wine region along the Danube to the west of Vienna). Incredible to think that one year earlier there had been devastating floods in the area. We were lucky to enjoy bright sunshine and the excellent wine that the region is famous for, a marvelous way to replenish our batteries.

In the photograph: (sitting from left to right) Dieter König, Jutta Schöber, Christian Söser and Franz Tutschka. (Standing from left to right) Artur Dimo, Roman Tutschka, Birgit Joiser, Gerald Högler, Ernst Ramberger and Reinhard Leithner.

## New Milling Spindle for Permanent Industrial Use

In addition to the universal 160 W high-speed spindle, we can now offer a top high-power motor produced by the Italian manufacturer ELTE. Being extremely robust, the precision device is ideal for processing wood and plastics. One special feature is its high-speed ceramic bearings and another advantage is its quiet operation. The speed range reaches 24000 rpm. Chuck range for the TMPO type: from 1 to 7 mm, and 2 to 13 mm for the TMP1 type.



■ The new high-powered spindle

## Experience STEP-FOUR "in the flesh"

From October 30 to November 2, 2003 the MODELLBAU SÜD trade fair will take place in Stuttgart. Come and meet us and get an idea of our products. We will be in hall 4, booth 210.

The EuroMold fair is in Frankfurt from December 3-6. You can visit us in hall 9.1, booth F146.




## New STEP-FOUR Colleagues



■ Patrick Reidl und Daniel Sadjak

At the beginning of August we were joined by several new members of staff. Daniel Sadjak will ensure that STEP-FOUR software products are even more user-friendly and that innovative ideas are put into practice quickly.

On September 1, our fourth apprentice, Patrick Reidl, started his mechatronics training at STEP-FOUR, joining Roman, Christian and Michael. After all, the best way to stay up-to-date is to employ young people

## Advertisements

Advertise free of charge in the STEP-FOUR newsletter. Send us your ad by email as a text file (not more than 1 column, 4 lines). We reserve the right to publish and edit your ad.

Will do your milling and engraving on BASIC 540. Rolling device for cylinder processing available.

Peter Hirnet (engineer), D-83692 Weyarn, Germany. Tel. 0049/8063/8918  
Email: peter@hirnet.de

Please do not hesitate to send us your questions, demands, hints or complaints. Send us photos of pieces produced with STEP-FOUR machinery. Tell us about your milling and cutting projects. We will be happy to print your contribution and look forward to hearing from you.

## Hints & Tricks

### Milling

We recommend you use the STEP-FOUR hot keys so as to work faster and more efficiently.

You can either type "hotkeys" in the field "Suchbegriff" (Search term) of our [www.step-four.at](http://www.step-four.at) website, after which you will reach the hotkeys.pdf file directly, or you can click on the hotkeys.pdf file under "S4PRO V4 Rev. 4" in "Downloads" ("...our offer").

How do you move an object to another layer? Simply select the object and move it with CTRL + F1 or CTRL + F2.

### Cutting

There are some interesting hints on the subject of solid polystyrene (blue foam) on the [www.step-four.at](http://www.step-four.at) website. Look under materials info in the "Archive".

## VISCOM Trade Fair

From September 4-6 2003 the VISCOM trade fair was held in Düsseldorf. This is the famous advertising technology fair at which we presented the new PC-CUT unit that can be fitted with an optional turntable. See our main story for details.



## What people are up to ...



■ Mr. Poznanski, the chairman of the Rhein-Main model club holding the wing rib he had just milled for the "tiny" Horten IX model plane with a wingspan of 2m40.



■ Fan of OVERFLY RC helicopter milled by Mr. Licha.



■ Mr. Licha uses his Basic 540 milling unit to mill all sorts of things incl. mixing levers.

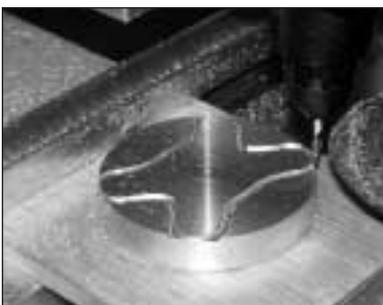


■ Beautiful wagons by Mr. Klünder from Münster, Germany.



■ This model train was milled with a STEP-FOUR Basic 540 unit.

## Users



■ Aluminium workpiece

Read the user reports and look at the pictures on our website. Of particular interest: Schneeberger reports, which now provide details on milling with aluminium and carbon.



■ A Chinese junk by Mr. Brunnhuber from Wilhelmsburg.

## STEP-FOUR Basic 540 Trade Fair Demo

at Ried in the Innkreis region of Upper Austria, the Basic 540 was demonstrated for processing wood. It had a tremendous success. Soon every field in industry will need a STEP-FOUR machine.

# Basic 540 Special Package at a Special Price!

## Autumn Offer!

We are currently offering the Basic 540 special package for only ((Euro-Zeichen)) 3000.- Contact us quickly, as the offer is limited to 20 units.

The special package consists of:

- Basic 540 milling mechanism construction kit
- SF-C2 control electronics
- V4 professional milling software
- tool and reference switch
- Kress FM 6990E 900W router incl. 1/8" and 6 mm clamping device
- Relay box to switch peripheral devices (e.g. Kress router)
- Set of 5 VHM routers, 0.6, 0.8, 1.2, 1.6 and 2.0 mm

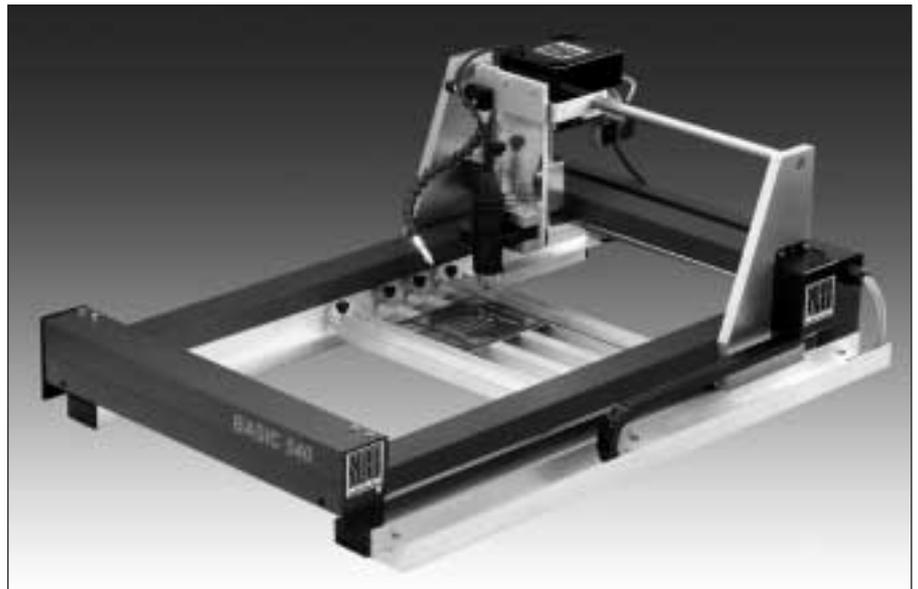
### Special Offer

**ONLY € 3000,-**

incl. VAT/state tax and shipping costs.

**SAVE more than € 600,- !**

■ Offer limited to 20 units, so buy now!



■ The Basic 540

The Basic 540 milling machine designed by STEP-FOUR has a fascinating range of applications. It can be used for virtually anything, including milling, engraving, drilling, cutting films, and what is more, it is compatible with all commonly used CAD, Signmaking and graphic programs such as Corel Draw, AutoCad, EasyCut, etc.

### Applications

Depending on the milling spindle and tool used, plastics, acrylics, metals, wood, adhesive materials and many other materials can be processed in a great variety of thicknesses. One of the great advantages of the machine is that the driver spindles, belts and motors are completely covered, so that no dirt can get into the environment.

Apart from the new design, the structure of the mechanism has been improved to increase stability and it is also easy to install. The unit is open underneath to enable large workpieces such as cabinets to be processed. The positioning range is 540 x 310 mm.

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