DECO MAGAZINE 24

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APRIL
English

TB-DECO:
Operation of the calculator

Expositions 2003

Noch mehr Möglichkeiten...

C'è del nuovo nel capitolo della preregolazione

MOTOREX-PFM – framgångsrecep-tet

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The machine tool business is not dead!

Yes, I agree things are slow but the requirement for capital equipment is not going away. It is for that reason that we choose to see the last three years decline as a correction instead of doom's day.

Elmore Machine Tools has taken this opportunity to, shall we say, "Sharpen our axe". Our collective axes had gotten dull and sharpening was overdue. Today, we are better positioned for the next upswing in business. In the last two years, we have revamped our sales approach, invested nearly $600,000 in our new facility, shored up relationships with existing builders and as well as added some new ones. Additionally we have adjusted our staffing needs for a much leaner operation without downsizing during the slow down. Each of these points came with some considerable pain, but I was always taught, "any thing that doesn't kill you makes you stronger".

First, we abandoned our traditional approach to salesman territories. When I first entered this business, I was told, "territories are sacred". Well, they may be, but not here. If a personality conflicts arises between a customer and a staff member, we quickly make a change and no one is affected negatively. Not all customers like my style or my approach and I am not insulted to send in a replacement if the chemistry is better and the customer gets what he needs. Also our sales staff associates are all currently on salary with an annual bonus calculated on "company" goals being meet. This system encourages team members to work together with a winning approach to best serve the customer.

Secondly, we have just completed the construction of a 10,000 sq. ft. facility which will serve as our offices, showroom and training center. After six years in the business with only an office, we had reached the point where growth was hindered by not having machines for demonstration purposes. With the growth in customers' need for local turnkeys we had been handicapped without our own facility. I have been asked, why now? My answer, "there was no better time." Local building contractors needed work, interest rates were at an all time low, and my intentions are to continue in this business for at least the next 15 years. For the same reason forward looking customers are buying machines, we had to make an investment in our future.

Thirdly, we analyzed our staff to evaluate individual talents. Each team member has primary, secondary and, in some cases, tertiary responsibilities. No more, "that's not my job". Our staff currently consists of eight people; all with very divers backgrounds and skills. Monday a staff member may be on a sales call, Tuesday could be a service call; Wednesday could be an office day to process parts orders, etc. "What ever is required."

Annually we monitor our total sales dollars to staff size ratio. We target $1,000,000 sales per staff member. Until 2002, we always achieved that number but missed it slightly last year. Within our small team, we can complete turnkeys for bar applications and milling applications. We service and install all of our products. We can complete classroom training, field training, etc. If we had downsized, our overall plan would have been disrupted, so we bit the bullet, held on to our "complete" staff, and now we are ready for the rebound.

As a final thought, the importance of the business to business relationships cannot be underestimated. In these lean times, it has been my experience that the loyalty factor can be very strong between end users and machine tool dealers. Even in the machine tool world, buying can be entirely an emotional decision. It is sometimes disguised by other issues, but in the final analysis people buy from people. Trust, history, and experience cannot be easily replaced. For this reason, we work closely with our OEMs (such as TORNOS) to find the best solution for our customer. In that situation everybody wins. The end user keeps his comfortable relationships, and sometimes we get a sale that would have otherwise been lost.

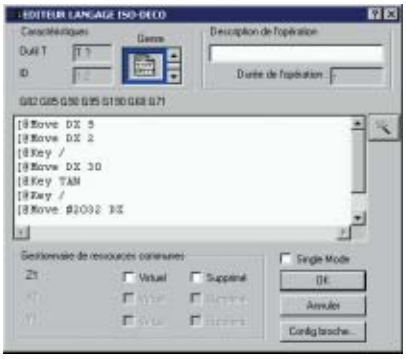
Mark Elmore of EMTI

Tornos agent in North Carolina and South Carolina

TB-DECO:

Operation of the calculator

The article in number 23 described the possibility of programming a parameterized part by using the extended programming. To make full use of this extended programming, it is essential to know something about the functioning of the calculator.



The language used for the extended programming includes a whole series of functions, which are described in the section entitled "Extended programming" in TB-DECO HELP.

The majority of these functions are of no use if one merely wants to execute straight forward mathematical operations in one session.

We shall therefore, look in detail at the following 2 functions:

@Move

@Key

Calculator

The calculator incorporated in TB-DECO uses a method referred to as the reverse Polish logic method. This method is characterised by the deletion of brackets, i.e. by transcribing mathematical expressions, input as such from left to right, with all the brackets being managed by a module.

Description of the method

Some of you, especially those operators of Hewlett Packcard calculators, are probably familiar with the reverse Polish notation. In a "normal" calculator, if you want to calculate "3 * 4" for example, then this is input in the following order:

3 * 4 =

With a reverse Polish calculator, you would have to enter:

3 ENTER 4 *

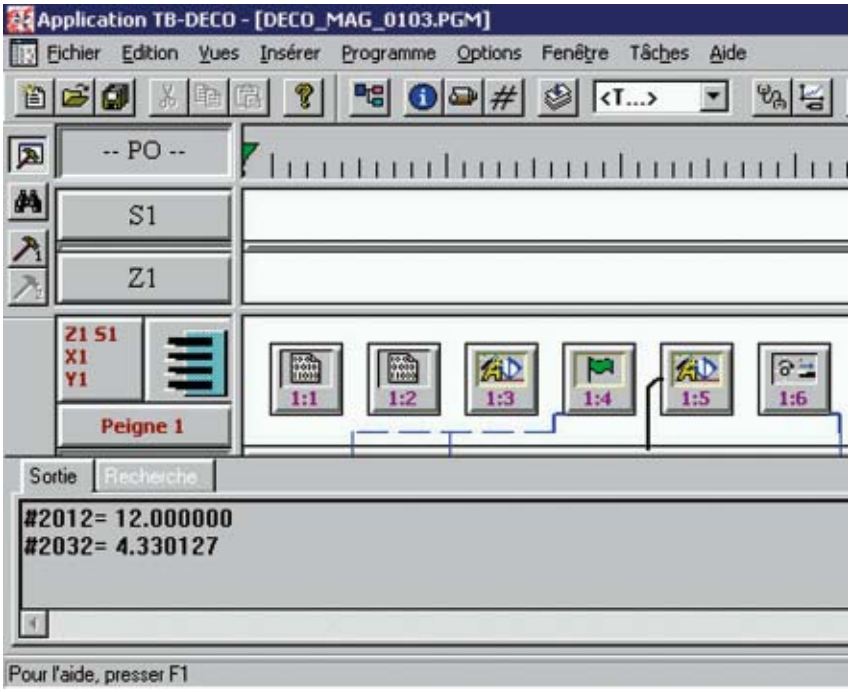
When one inputs 3 followed by ENTER, the number 3 is put into the machine register. One then enters 4 and finally the multiplication *. The calculator then takes the number of the register (3), the current number (4), multiplies these and produces the result (hopefully 12). Although this method is quite different from the way of writing equations, it has the advantage that it dispenses with the use of brackets and is much faster. This is why: let us assume that we want to work out (4+5)*3. With a normal calculator we would enter:

(4 + 5)* 3 =

in other words, we would have to press down eight keys to obtain the result. With a reverse Polish calculator, we would enter:

4 ENTER 5 + 3 *

in other words, we would only need to press six keys, i.e. two less than for the normal notation.



Features in TB-DECO

The TB-DECO calculator consists of several registers, the first of which is called DX. The ENTER function, which moves the numbers entered into the registers, is replaced by the @Move function.

@Move function

@Move allows for a value to be placed in a specific place, which could be one of the following:

a) the calculator register (DX)	@Move	DX	8
b) The OUT window	@Move	OUT	#2012
c) A variable	@Move	#2012	10
d) An indirect value	@Move	#2012	#2013
e) Transfer from register DX	@Move	#2013	DX

Syntax

@Move <destination> <source>

The <destination> is the variable into which the value is entered, the <source> is either a direct value which is entered in the <destination> variable (c) or the value contained in a variable, which is recopied into the <destination> variable (d) or finally, the contents of register DX which is transferred to a variable (e).

Details

@Move	DX	8	Stores the value of 8 in DX
@Move	OUT	#2012	Displays the value of the variable #2012 in the OUT window
@Move	#2012	10	Stores the value of 10 in #2012
@Move	#2012	#2013	Recopies the value of #2013 into #2012
@Move	#2013	DX	Transfers the value of DX to a variable

@Key function

@Key will allow you to perform all mathematical operations on the calculator registers.

Syntax

@Key <operator>

The operator may be +, - , *, / or the trigonometric operators TAN, SIN or COS. See TB-DECO HELP for the complete list of available operators.

TB-DECO: Operation of the calculator

Examples:

Proceed with the 3 * 4 calculation described below and transfer the result to variable #2012.

Code line	Register status		
@Move DX 3	3	DX	Value 3 is stored in DX
@Move DX 4	3 4	DX	Value 3 is moved to the next register Value 4 stored in DX
@Key *	12	DX	@Key*, multiplies the 2 registers The result of this operation is found in DX
@Move #2012 DX	12	DX	Transfer of value in DX to variable #2012

As an exercise, proceed with the following calculation (#3048 / 2) / TAN 30° and transfer the result to variable #2032.
Remark: #3048 = 5.

Code line	Register status		
@Move DX #3048	5	DX	The value of #3048 (5) is stored in DX
@Move DX 2	5 2	DX	Value 5 is moved to another register Value 2 stored in DX
@Key /	2.5	DX	@Key/, divides the 2 registers The result of the operation is found in DX
@Move DX 30	2.5 30	DX	The value 2.5 is moved to the next register Value 30 stored in DX
@Key TAN	2.5 0.577	DX	@Key TAN, produces the tangent of 30 The result of the operation is found in DX
@Key /	4.330	DX	@Key/ divides the 2 registers The result of the operation is found in DX
@Move #2032 DX	4.330	DX	Transfer of the DX value to variable #2032

Important comment:

To program all these extended functions into one operation, it is necessary to add the symbol open bracket [before calling up the function.

For example: [@Move ...., [@Key .... etc.

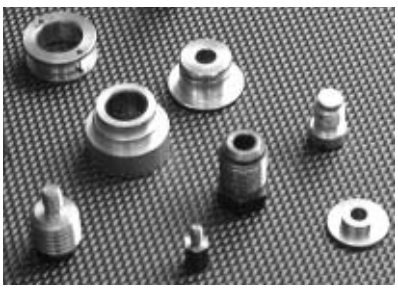
Declaration of faith in Germany as a manufacturing location

Cham in the Upper Palatinate really does not count as one of the industrial centres of Germany.

Volkmar Gienger, Head of sales TORNOS Germany (left) and Rainer Müller solving a technical concern.

This is why it is all the more pleasing, that in times of general recession, there is an entrepreneur from this region, who has clearly declared his faith in Germany, as a manufacturing location and is also highly successful in the market. This is reason enough for DECO Magazine to take a closer look at the company, Müller Präzision, in Cham and to investigate the reasons for its success.

Metalworking has a long established tradition in the Müller family. The grandfather opened a metal parts manufacturing business in Nuremberg in 1904 and in 1974 Rainer Müller and his brother, Lothar, established the company, Müller Präzision, as a subsidiary plant in Cham. Since Lothar Müller, who ran the two production sites in the Nuremberg area, left the company in 1989, the business has been run by Rainer Müller. As a result of his entrepreneurial skill, the factory in Cham has become one of the leading turned parts manufacturers in Germany.



Samples of parts produced by Müller Präzision.

Satisfied employees are no empty talk

As soon as you go into the entrance hall, it is obvious that staff satisfaction and motivation are no empty words for Rainer Müller but rather an important pillar of his success. Light, friendly rooms with works of art on the walls and the latest equipment on the desks, immediately produce a pleasant working atmosphere. The management style is open and sets great store on own-responsibility. The organisation of the working groups reflects this: each group consists of a minimum of seven and a maximum of fifteen employees and is responsible for its own success. Of course, this only works if the employees are appropriately qualified. The proportion of well-trained skilled workers is extremely high in an area, which tends to be marked by a shortage of skilled labour. At Müller Präzision there is even a waiting list of skilled workers. If growth continues, this reserve can be tapped. Rainer Müller also invests a lot in training and further training. Its 170 employees can take part in a wide variety of seminars up to the point of mental training and can also put into practice what they have learnt. This is also true of the sixteen apprentices who regularly shine at their final examinations with outstanding results.

The programming of a 23 axes PNC multispindle machine allows users to show their know-how.

Difficult tasks faced head-on

Simple turned parts with wide tolerances and long lead times do not belong in the world of Müller Präzision. There are enough manufacturers of these in Eastern Europe and the Far East, who will satisfy this market sector at the required prices. Because of the skill and flexibility of the workforce and the existing fleet of machines, the strengths of Müller Präzision lie in quite a different area. Clearly calculations are done with a sharp pencil and thinking is extremely rational. However, price advantages are not obtained at the cost of low pay. More intelligent solutions, the contributions of employees and the far-sightedness of the company's management are the reasons that tip the scales. For example, all parts, which had hitherto been manufactured on the existing 6-spindle machines, were thoroughly examined and it was discovered that approximately 80% of these parts could be manufactured in only 4 spindle positions. What was more obvious then for Rainer Müller than to order two MULTIDECO 8-spindle machines (2x4) from TORNOS, so that he could produce two parts simultaneously and in parallel. And this, at a time when Germany was depressed and even with some of the workforce doubting the utilisation capacity of the machines. In the meantime, the two machines have been supplied and are working around the clock in three shifts.

Not just a supplier but a partner

As a result of their know-how, which is put to the test daily, and their incredible flexibility, Müller Präzision is regarded by the large car manufacturers and other customers in the electrical, hydraulic and medical engineering sectors, not only as a supplier, but rather as a partner. The company is networked with some of these customers. Changes to delivery quantities or to parts are transmitted overnight by remote data transmission and implemented the next day, without any time delay. This is, of course, only possible if the appropriate staff and technical equipment are available. The PNC multispindle lathes from TORNOS help to change over to a related workpiece within parts families, within minutes. The trust and co-operation go so far that some staff from Müller Präzision are included in customers' developments and the subsequent manufacturing processes are jointly optimised. This has resulted in one car manufacturer choosing Müller Präzision to be its sole supplier of one special part. This distinction did, however, involve certain consequences, which included considerable conversion work. For example, all racks had to be fitted with an automatic sprinkling unit and special safety devices had to installed.

Declaration of faith in Germany as a manufacturing location

Do you know the cost-centre known as the flexibility accelerator?

Müller Präzision is divided into four divisions and in 2002 achieved a turnover in excess of 21 million Euros, with two-digit annual growth rates.

The original manufacture of precision turned parts has, in the meantime, been supplemented by the company's own hardening plant, which processes up to approximately 80% outside orders, an assembly area, which produces complete sub-assemblies consisting of up to 200 individual components and the systems engineering division, which offers cross-technology solutions in association with other manufacturers. You can find out more about this on www.mueller-praezision.de.

The range of services in the area of precision turned parts includes turned parts of 3 to 240 mm diameter and any complexity in batches of one to 25 million parts per year, in any material, from soft iron to titanium. The fleet of machines includes all types of lathes, chucking lathes, long-bed lathes, multi-spindle lathes, machining centres, grinding machines, which in each case are combined into specific groups and cost centres and, as a rule, run on a three-shift system, 16 shifts per week.

The "flexibility accelerator" as a cost centre, occupies a special position. In it, minimum quantities (up to one piece) are produced in such a way that colleagues in the other cost centres of the company can react more flexibly to customer requirements. The same also applies to external customers. Their development departments, pre-series production or other departments can fall back on this and, as a result of the flexibility of the Müller staff, can start series production more quickly.

High standards for machine tools

Anyone who has to produce maximum output for his customers on a daily basis inevitably makes the same high demands on his own machine tool suppliers. Müller Präzision is no exception in this respect and all the well-known manufacturers are represented in the company's fleet of machines: EMAG, Index, Traub, Gildemeister, Schütte and TORNOS. Rainer Müller has a special relationship with TORNOS. As long ago as the early 50s, the first machine was purchased and the company now owns 14 multi-spindle lathes and numerous automatic 2-spindle sliding head lathes. He values the meticulous precision with which the Swiss manufacture their machines. "Nothing rattles or wobbles" this is pure quality. Added to this is the excellent price-to-performance ratio and the sheer

vast experience in building automatic single and multi-spindle lathes.

The development of the new PNC-controlled 8-spindle MULTIDECO 20/8 b-2x4 is the result of intense co-operation. Rainer Müller and his staff have often been to Moutier, in order to develop a practical machine together with the specialists from TORNOS. The result is a means of production that has no equal with respect to precision, economy, flexibility and ease of use. Added to the features that are typical of TORNOS, the MD 20/8 b also offers some advantages for the user: for example, the switching off of the spindle positions 5-8 when tooling the first four positions. Or the separate spindle drum cooling system, using cutting oil, which noticeably improves the process capability.

What appears to be a retrograde step – converting the pick-up spindle monitoring from an electronic to a mechanical system – makes the machine 0.6 seconds faster per part.

An improvement, which Markus Eggert, group leader of the CNC multispindle machines, particularly likes to emphasize, is the new door cladding. The doors now open on the side, with the result that the annoying shower of oil that you get when the doors are opened, has become a thing of the past. From a technical point of view, he gives particular praise to the drilling performance. He is no longer surprised by the extraordinary turning precision. What is important is that the TORNOS MULTIDECO 20/8 is capable of performing machining operations such as thread whirling, hexagon socket slotting, cross- or eccentric drilling, milling complex contours etc...

500 metres or 600 kilograms material per shift

Given these material quantities, the loading unit naturally takes on a special role. This is why Markus Eggert is enthusiastic about the new Robobar MSF 522/8 2x4 side-loading magazine, which has a sizeable storage magazine (up to 2 tonnes), can be easily loaded by crane and is also 25 per cent quicker than other systems on the market. The unique, "genuine hydrodynamic bar guide" and the integral steady rest mean that the bars are conveyed without vibration. Also interesting to insiders is the reduced drive belt length for the bar pusher giving less vibration.

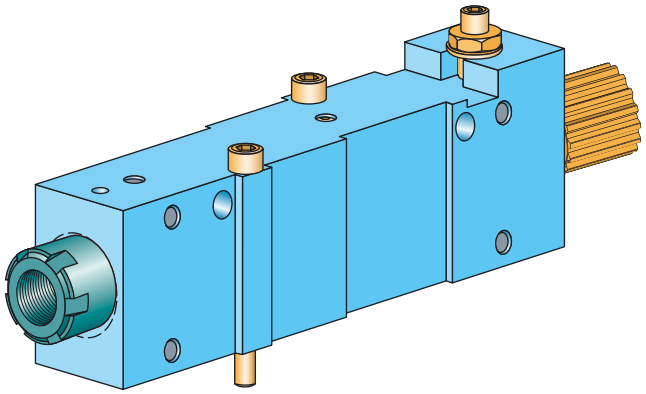
Programming is even done at the weekend

The programming of a CNC multispindle lathe with 23 axes would seem to present a special challenge to any operator. According to Markus Eggert, however, he sees no problem at all here. The software is clearly designed and anyone who has any idea about Windows, can manage it. This probably speaks for the modesty of the specialist, but as Markus Eggert emphasises, it's just as easy for his colleagues. The TB-DECO programming software is supplied with a company licence without any restriction on the number of workstations. This means that all employees can load the latest version onto their own computer and, in most cases, program it at home. In addition, TORNOS also provides support to the setters with programming aids and downloadable program sections from the Internet.

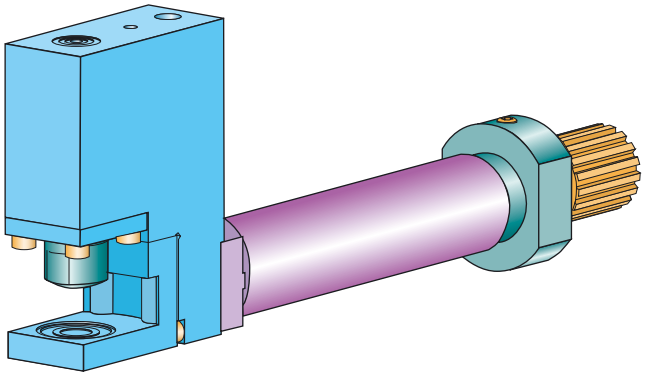
In response to the question as to what could be improved even further in future co-operation with TORNOS, Rainer Müller and Markus Eggert stress that, from a technical point of view, they are very happy. They stand by TORNOS and hope that the company has overcome its upheavals and that their successful co-operation can be continued for a long time yet.

Still more possibilities...

This latest edition of the DECO Magazine demonstrates numerous possibilities for increasing the machining capacities of the DECO 13bi, the DECO 20a and 26a.



Option 4515



Option 4520

To meet the ever-increasing flexibility requirements of our customers, the development department has just unveiled some new, highly interesting options.

For the DECO 13bi

Option 4500

Motorisation for S5 counter-operation rotating tools.

Option 4515

Unit with an axial drilling/milling rotating spindle for collet ESX 20.

(requires option 4500)

Option 4520

Unit with transverse drilling/milling rotating spindle for collet ESX 12.

(requires option 4500)

Technical characteristics

Number of motorized positions	2
Assembly position	T41 & T42
Max. drilling diameter (soft steel)	6 mm
Motor	Infranor HDD b 09N
Power	1.25 kW
Rotation	500-5000 rpm
Ratio	1:1
Enclosure to:	IP65
Torque 500-2000rpm	4 Nm
Torque 5000 rpm	2 Nm

Option 4500

Application

This additional motorization for the dedicated borers provides the DECO 13bi operators with numerous additional machining possibilities on the rear of the part.

All these operations are obviously executed in masked time (according to the part configuration) and the increased range of operations available and feasible on the DECO 13bi in no way jeopardises the productivity of the lathe.

This option uses the S6 type of design for the DECO 20a, which has been successfully in operation.

Comment

This device is not compatible with the device used for long parts. Likewise, this simplified type of motorization does not allow for any tapping or synchronisation with the other motors.

This device can be retrofitted to any DECO 13bi and is always of modular design.

Use of the S5 motorization requires the use of option 4015 to stop the counter-spindle.

Compatibility

DECO 13bi

For DECO 20a and 26a

Tooling

Strong tool holder for internal drilling and turning.

Application

These straightfoward yet very strong tool holders are, in fact, auxiliary units for converting a turning station into an internal drilling or turning station.

The tool holders are fitted to the two plattens, as is the case for counter-operation, and they do not impede the fixing of other tools (i.e. no loss in position).

They can accommodate the usual range, such as tool holders, drills, internal turning tools, extensions and so on.

Using these devices, it is possible, for example, to execute end drilling operations on an 8 axis machine, which has no end unit. For counter-operation, it is possible to go from 4 to 7 axial drilling positions.

Remark

Assembly at pos. T51-T53 and at all the positions of platten 1 and 2

Compatibility

DECO 20a and 26a

These tool holders are managed by our tooling department.

Technical characteristics

Available in 4 versions	Boring 20 mm without offset
	Boring 20 mm offset 20 mm
	Boring 20 mm offset 40 mm
	Boring 2x8 mm offset 20 mm

TRADE FAIRS IN 2003

A new EMO year has just started and for TORNOS, this also means a year where the company will have the opportunity to meet its clients through the events organized by its subsidiaries.

This major biennial trade fair will be held very late this year (21.-28.October) and will only make a small contribution towards informing our clients of the solutions proposed by the company throughout the course of this year.

Consequently, a series of events has been organized throughout the various countries in Europe (see programme below) to allow those interested to discover for themselves the advantages of the solutions proposed by the company.

The company will start this year by exhibiting machines, which are the subject of two current topics and which respond to the actual issues governing the market.

Productivity

By presenting the MULTIDECO 20/6 hp (high productivity) and the DECO 20a, the company will demonstrate the execution of parts for which production time has been improved and where the production time to complexity ratio is quite impressive.

Medical/dentistry sector

The second subject selected to kick-off this new year of exhibitions is in the medical sector. To illustrate the facilities provided by TORNOS in this market, the company will exhibit a DECO 13a fitted with the various devices that have been perfectly matched to the types of parts needed in this demanding sector, such as thread whirling, high-pressure drilling, as well as rigid tapping.

The company's sales network is convinced that it can offer innovative solutions providing real benefits to its clients and is looking forward to demonstrating these.

TORNOS will also show as world premiere the MULTIDECO 20/8b in Moutier since april 28.

(More information about this machine in a further issue of DECO Magazine).

In-house shows 2003

In-house show	City / Country	From	To
Tornos Iberica	**Granollers / Spain**	March 10	March 14
Tornos Deutschland	**Pforzheim / Germany**	March 26	March 29
Tornos Moutier	**Moutier / Switzerland**	April 28	April 30
Tornos Moutier	**Moutier / Switzerland**	May 5	May 6
MULTIDECO show room Moutier	**Moutier / Switzerland**	April 28	September 6
Tornos Italie	**Milan / Italy**	June 5	June 8
Open House Teximp	**Czech Republic**	June ?	June ?
Tornos Deutschland	**Pforzheim / Germany**	September 24	September 27
Tornos Iberica	**Granollers / Spain**	November 10	November 14
TTFrance	**La Roche sur Foron / France**	November	

The above schedule is subject to modification and must not be regarded as final. If you are interested in these events, please consult our site at www.tornos.ch under the heading "exhibitions" or contact your usual TORNOS agent.

Exhibitions outside the "EMO" 2003 area

Apart from the area governed by CECIMO regulations, numerous exhibitions will obviously be held and TORNOS will participate in some of these.

Whether in the USA, Asia, "outside the CECIMO area" in Europe or even in Australia, TORNOS solutions will be presented.

The USA will be covered by a tight schedule (on this point, also see the article on page 23 relating to PMPA), which will enable the information concerning TORNOS solutions to be distributed quite widely.

In Asia, apart from the DECO machines that will be exhibited by the agents, TORNOS is intending to present a MULTIDECO machine, which will criss-cross this region of the world for several months! A unique opportunity to discover new machining solutions that combine versatility, precision, productivity and Swiss quality!

If you require further information on a specific event, please do not hesitate to contact your usual TORNOS agent, who will be pleased to provide you with details.

Exhibitions 2003

Exhibition	Country	From	To	Asia	Europe	Others
Opening TTC, Ljubljana	**Slovenia**	March	March		x	
EMAQH, Buenos aires	**Argentina**	March 20	March 23			x
Formatool, Celje	**Slovenia**	April 11	April 16		x	
CIMT, Beijing	**China**	April 16	April 22	x		
MACH-TECH'03, Budapest	**Hungary**	April 23	April 26		x	
Femafe, Sao Paulo	**Brazil**	May 12	May 17			x
MetalAsia	**Singapore**	May 20	May 24	x		
Austech, Melbourne	**Australy**	May 27	May 30			x
Maschinostrojenije 2003, Moscow	**Russia**	September	September		x	
Open house STC	**Japan**	July 7	July 11	x		
EMO, Milan	**Italy**	October 21	October 28		x	
Open house Taiwan	**Taiwan**	October		x		
Thai Metalex	**Thailand**	November		x		

Exhibitions USA 2003

Exhibition	Country	From	To
Orlando SME	**USA**	January 14	January 16
Westec	**USA**	March 24	March 27
Indiana AMTDA	**USA**	April 29	April 30
PMTS	**USA**	May 6	May 8
Eastec	**USA**	May 20	May 22
Midwest Machine Tool	**USA**	September 9	September 11
Rochester, NY	**USA**	September 23	September 25
Wisconsin	**USA**	October 1	October 2
Fort Washington AMTSA	**USA**	October 7	October 9
Cleveland Apex	**USA**	October 14	October 16
Toronto	**Canada**	October 20	October 23
Dallas Apex	**USA**	October 21	October 23
Pacific coast, Santa Clara	**USA**	November 11	November 13

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TRADE FAIRS IN 2003

TORNOS will exhibit a MULTIDECO in Asia !

To find out more about this decision, the editorial staff of DECO Magazine met

Messrs. Froidevaux and Villard, in charge of the Asia region at TORNOS

DM: Hello Gentlemen. You will be exhibiting a MULTIDECO lathe for the first time in Asia. Why this particular machine this year?

RF: In fact, exhibiting such a machine, given its vast size (approximately 10 m x 1.5 m x 2 m) and weight (almost 9 tonnes) incurs major logistic operations and costs, meaning that everything must be very well planned beforehand.

The schedule of the various events for this year means that we can ship one machine locally, thereby making it possible for us to organise these events efficiently.

Asia represents an important number of markets for the company and we are fully convinced that the MULTIDECO will provide highly efficient solutions in executing large series of precision made parts, as required in the car or electronic sectors, for example.

In China, we will be participating in the CIMT exhibition, which is the Asian counterpart of EMO in Europe or IMTS in the USA. Hence, a very important venue! I am proud that I am able to exhibit a MULTIDECO machine there.

SV: TORNOS will be presenting the MULTIDECO lathe in southern Asia for the first time at the Metalasia, which is the largest industrial event that takes place in Asia Pacific.

I am convinced that more and more companies, which are active in this region, will want to invest in this new technology, since it provides efficient solutions to very real requirements.

I am most pleased and can't wait to demonstrate all the benefits to our clients, who will be witnessing these for the first time. The exceptionally high rate of productivity, combined with the versatility of the DECO concept, will really give its users that extra bit of added value.

The hybrid concept and the numeric control, coupled with a camshaft for specific functions, such as "locking/unlocking", means that you can save precious time on "chip-to-chip" downtimes, so that the company can offer a lathe combining the very high productivity of a cam-operated lathe with the flexibility of an NC lathe.

As for the precision obtained, this is unsurpassable compared with other means of production.

This range of machines has demonstrated its strength throughout Europe and the USA and there is no reason whatsoever why our clients in other parts of the world should not be able to benefit from this.

DM: But isn't it just that bit too different or too new? And also that bit too far from the main registered office of the company?

RF/SV: Not at all ! The DECO concept in its multi-spindle version is simplicity itself; the programming is even easier than for the DECO single spindle machine, which is working very well in our markets.

We provide training that is adapted to all our clients, with much of it being carried out locally.

Besides which, in all our territories, we are backed up by agents who are fully informed of the properties, benefits and details of our machines and who can also provide professional and efficient support to meet the very demanding expectations of these markets.

MULTIDECO is both a present facility with enormous future potential just like the part of the world we are currently looking at. There is a vast future potential for our industry. It is quite inevitable that these two should meet.

DM: Thank you gentlemen. We wish you a lot of success.

Productivity and flexibility

Rowan Precision of Birmingham has been a specialised subcontractor for accurate turned parts for many years. Their name is now synonymous with high-precision machined components for a wide range of products for many industries including automotive, electronic, medical and instrumentation.

They specialise in Swiss precision sliding head technology, which with their many years of experience gives them the capability of producing all types of turned parts in all material and varying from the simpler parts up to the very complex.

Said Martin Baker, co-owner and director "Chris Kent and I originally set out to provide a level of expertise that many companies could not aspire to.

We were determined to provide this expertise and technical excellence by purchasing the best available machinery and training. Many difficult production problems were encountered and overcome. Our investment decisions are still based on these principles and have always paid dividends. For our continued success we must be productive and cost effective.

The earliest machines we chose were the TORNOS ENC162 machines, which provided the springboard for our success. They were superb and just ran and ran, giving the reliability and accuracy that we loved. They gave us many opportunities that were realised.

As the TORNOS machines developed and the DECO was born, we embraced them and continued to invest to give our customers all the advantages that TORNOS innovation is famous for.

Our partnership with TORNOS has been symbiotic, based on trust and loyalty creating a unique relationship between machine tool supplier and customer."

Said Chris Kent "When TORNOS introduced the DECO range of machines we welcomed them with open arms. Using the same software on all the various sizes of machine we now programme DECO 10, DECO 13 and DECO 20/25 machines, which have from 9 to 12 axes. A simple, very effective and powerful programming system. What was missing was a machine with lower number of axes and therefore lower priced. When they introduced the DECO 13bi this answered our requirement, able to make simple parts quickly and easily and yet still with the capability of making medium complexity parts. It is not as flexible as our DECO 13a but is a lower cost machine that still has cross drilling and milling, end working and a sub-spindle. The same tooling is compatible with our other 13 mm machines. The concept has worked well and we have just installed a second DECO 13bi. This has enabled Rowan to expand our export marketing and we have sold the capacity for this machine in one export order.

Rowan looks for compatibility, flexibility, productivity and cost effectiveness. Within the DECO range we find everything we want in sliding head technology."

Technological days

To continue with the awareness course we spoke about at great length in edition 20, TORNOS – Technologies Deutschland has taken the concept one stage further.

Portrait of an exciting event

The day was broken down into two parts – the first geared towards the "transfer of technology" to the client and the second more specifically geared towards "setting up".

The first part was a real training session dealing with materials that are difficult to machine, the technology of cutting tools and with the various essential ancillaries (oil, tooling etc…).

Different manufacturers then presented the various solutions, principles and benefits in concrete terms, as well as specific operating restrictions, such as:

- Turning
- External thread whirling
- Internal thread whirling
- Transverse thread whirling I think this is thread milling not thread whirling
- Milling
- Deep drilling

The participants then had the opportunity to discover these operations at all levels and to witness presentations with a very high added value.

The second part of the day was centred on the topic of "find out how to set up a DECO machine within 20 minutes".

This demonstration highlighted the value of the numerous elements required to uphold such a statement.

Universal tool availability

- Quick replacement drills
- Quick replacement milling/ drilling heads
- Turning insert holder for fixing the inserts at the side
- Pre-adjustment in hidden time

A lot of timesaving operations were illustrated and the challenge laid down by the horological sector was also met.

This day also served to (re) discover the potential of the DECO concept, with flexibility and versatility matched to productivity and a promise that is always kept!

Interview with Mr. H. Gunther, head of the technical-commercial division in Pforzheim.

DM ***Hello Mr. Gunther. You are the instigator of these days – what exactly prompted you to organise them?***

HJG *Because of the many contacts I have with clients, I found that very often they were not really fully aware of the potential offered by DECO technology. Added to this, the combination of the three components that are essential to produce perfect machining – namely machines, tools and cutting fluids – All are vital elements that can completely alter the profitability of machining operations carried out by our clients. I therefore thought that it would be useful to demonstrate this once again.*

DM ***What were the reactions?***

HJG *I am quite satisfied with this operation. Those clients who followed through the sequence did not have any regrets. Even those companies already in possession of several dozen DECO machines used this opportunity to discover new means (in particular to optimise the process) for executing their parts.*

Our partners in the tooling and lubrication sectors were also highly positive in this respect.

DM ***As this proved to be highly successful, does this mean that there will be a repeat session?***

HJG *Everything is on the cards – I believe that we have taken the first step, but we won't stop there!*

DM ***Mr. Gunther, thank you very much for the information and good luck in the future.***

What is new in pre-setting

In small parts turning, pre-setting is of vital importance to producing manufacturing facilities.

For a long time now, single-spindle DECO lathes have been fitted with an auxiliary pre-setting device.

This system, which is specific to each machine, has to undergo some rather annoying changes when altering the tool pre-setting for one type of DECO machine to another (for example, the DECO 13a to DECO 20a) on the same unit.

Universality

To dispense with this resetting operation, TORNOS has now introduced a new universal pre-setting unit for all DECO machines.

This new device even further simplifies tool pre-setting by way of a single calibration for all the machines (no resetting) and a rapid change of settings for the different machines based on a patented bearing centering system.

This drastically reduces the tool change-over times for the different machines.

Measuring system

A new measuring system has been unveiled to simplify the handling and use of the pre-setting device. This allows you to obtain a direct Y reading and offers the major benefit of eliminating any risks of error during calculation, as it, has been dispensed with. All the operator has to do, is observe the (+) or (-). The on-screen display of the comparator is also a model of simplicity.

This latest pre-setting device is now available and replaces its predecessor. This is a pre-setting device supplied ready for use and does not require any tricky installation.

With this new device, you will be immediately operational.

For further information on the new pre-setter, please do not hesitate to request the specific documentation or download it from the Internet on http://www.tornos.ch/e/documents/d.tml

Technical characteristics

Axis travel: X 75 mm
Y 30 mm
Z 60 mm

Precision amongst the various tool holder settings < 0.01 mm

Tool holder fixing system: rapid bearing centering system

Measurement scale: mm or inches

MOTOREX-PFM

recipe for success

The three letters, PFM, stand for PROCESS FLUID MANAGEMENT and will play a big part in the future of all production companies that think economically. DECO Magazine had the opportunity to be present at the first PFM trials at Mathys Medizinaltechnik AG in Bettlach.

Each machine is recorded and clearly labelled with the PFM colour and bar code system.

All fluids and machines are identified and efficiently managed by a well thought-out colour and bar code system.

Structured PFM introduction

Recently, the starting gun for the introduction of MOTOREX PROCESS FLUID MANAGEMENT was heard at Mathys Medizinaltechnik AG, with its registered office in Bettlach near Solothurn.

MOTOREX-PFM is of modular design and covers approximately 12 topics from the areas of process fluid, logistics, maintenance and running of machines. During a thorough situation analysis, check lists are used to check, categorise, adjust and interlink a large number of customer-specific variables. This provides the advantage that, according to the situation, specific priorities can be set and implemented in various way according to time.

The procedure for MOTOREX PROCESS FLUID MANAGMENT can be roughly divided into the following areas:

- Situation analysis of the customer
- Production of lubrication schedules
- Logistics structure for lubricants
- Production of machine documentation
- Preparing soft- and hardware for data acquisition
- Structure of databases
- Colour code system (machines, plant, drums etc.)
- Reducing the large number of lubricant types
- Training staff
- Highlighting potential savings
- Plant design (filter, cleaning systems, pipework etc.)
- Success monitoring

What are the advantages of PFM?

Seen objectively, fully implemented PROCESS FLUID MANAGEMENT leads to a concentration on the core business, i.e. the machining and manufacture of workpieces. As a result of simplified processes, the metalworking professionals can devote themselves totally to their main task and, by perfecting the overall logistics, can improve machine utilisation and value-creation.

At the same time, there is a stabilization of quality standard, because the simplified processes and the averted risk of confusion safeguard the processes. The elimination of sources of errors and an even more rational way of working, result in distinctly lower costs per workpiece.

Time frame for introducing PFM

The time frame for introducing MOTOREX PROCESS FLUID MANAGEMENT may take a couple of weeks to several months, for example, as a result of structural measures, for a part or complete solution, depending on customer requirements and the prevailing conditions.

The risk of confusion has been eliminated and refilling can even be carried out by personnel without specialist knowledge.

With innovative MOTOREX PROCESS FLUID MANAGEMENT, the solution for the forward-looking production company is obvious.

Mr. Daniel Schmid
(daniel.schmid@motorex.com) will be pleased to explain the conditions and give you further details.

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will be available on 0049 6234 929084.

Get ready. Get set. Go !

May 2003 is the month for important industry events you won't want to miss.

The PMPA (Precision Machined Products Association) National Technical Conference
May 3 – 5, 2003
Precision Machining Technology Show
May 6 – 8, 2003
Location: Greater Columbus Convention Center, Columbus, Ohio

The SID (Syndicat International du Decolletage) International Congress
May 10 – 16, 2003
Location: Marriott's Rancho Las Palmas, Rancho Mirage, California

The major U.S. and international associations in the precision parts industry are planning events that promise to be chock full of timely information geared to making your operations ever more effective and efficient. "Making your company better is worth the trip," states Michael Duffin, Executive Director of the PMPA (Precision Machined Products Association).

The world view

It's the U.S.-based PMPA's turn to host the biennial International Congress at which the associations around the world, interact, learn and share the global perspective of our industry. Other member organizations include:

- *British Turnedparts Manufacturers Association*
- *Syndicat National du Decolletage (France)*
- *Verband Der Deutschen Drehteile-Industrie (Germany)*
- *Precision Turnedparts Manufacturers Association of Ireland*
- *Federacion Espanola de Asociaciones de Decoletage (Spain)*
- *Swedish Association for Turned Parts*
- *Swiss Precision Association*