

iView  
300x

new knees with 3D CAD/CAM  
selecting the right dressing tool  
CLX - compact loader technology  
TRU TECH accuracy  
WGX - the new ANCA grinder  
The partners - Quickgrind and ANCA  
iView shows Denny's Tool a new way

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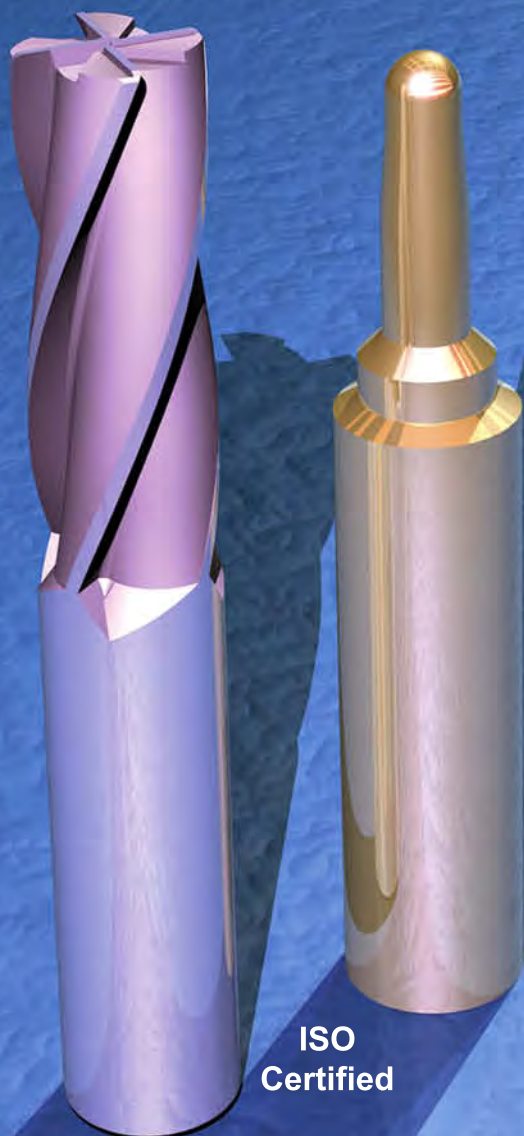


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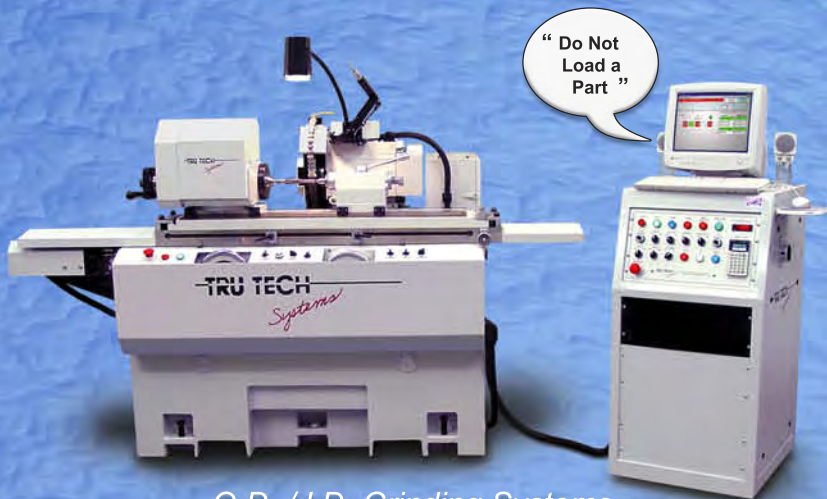
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**cover image: ANCA's iView measurement system.**

See the story on page 14 to read how one company has made good use of iView.

*The Sharp Edge* is published by ANCA Pty Ltd  
25 Gatwick Road, Bayswater North, Victoria 3153 Australia, [www.anca.com](http://www.anca.com)

The magazine is also available in electronic format  
in French, Italian, German, Japanese and Mandarin

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All contributions are welcome

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# a vision for the future



The past year has been one of considerable expansion and growth, and continued change at ANCA. Our product range continues to be enhanced by the flow of exciting new technologies and machines coming from our talented and innovative designers. This includes machines like the new WGX specifically designed for woodworking tools, the optional internal CLX loader and our all new wheel exchanger for the TX7+.

At ANCA our focus is always on our customers, whether it's for new products, new applications or new markets. During 2005 the production capacity at ANCA was increased significantly in order to meet the increased demand from our customers for our new and enhanced product range, particularly the award-winning RX7.

In looking to the future and in response to the increased demand, ANCA has also opened a number of new offices around the globe to be closer to our customers and support their needs. Apart from the China office highlighted in the last issue

of *The Sharp Edge*, during the past year ANCA has now also established office facilities in Thailand, Italy, Japan and Brazil.

ANCA people located in these facilities are there to support their local markets, but also have direct access to all other ANCA offices around the world via the latest high speed IT infrastructure. This includes the highly trained ANCA service network, skilled and experienced application engineering support and our dedicated sales team.

Our objective is simple - to deliver outstanding value through our technically superior products, our highly skilled people and by understanding what's really important to our customers. I believe this edition of *The Sharp Edge* continues to demonstrate these qualities, as we strive to offer world leading machines, services and support to our customers where ever they may be located in the world, and continue to be the world's best at what we do.

Linsey Siede  
Group General Manager





# easy on the knees

*3D cad/cam grinding  
cuts days off  
development time*

**A**NCA engineers were recently faced with a challenging problem: to create an easy method of grinding components for which no parameters or grinding path existed. Normally, tool profiles exist in ANCA embedded software and the machine operator needs to change only a few parameter values to grind the exact shape they want.

Not so with a knee joint, a heavily-contoured component for which no profiles existed. Normally, an engineer would need to measure the part all over and create a file from scratch. ANCA had a better way to tackle the problem: 3D CAD/CAM grinding techniques.

In short, the engineer uploaded a 3D solid model into an off-machine computer and the system calculated a grinding path necessary to make the component. A post-processor then created an NC program for the grinder.

The secret behind this efficiency is Unigraphics 3D solid-modelling software (UG). Once impossible with conventional software, contoured

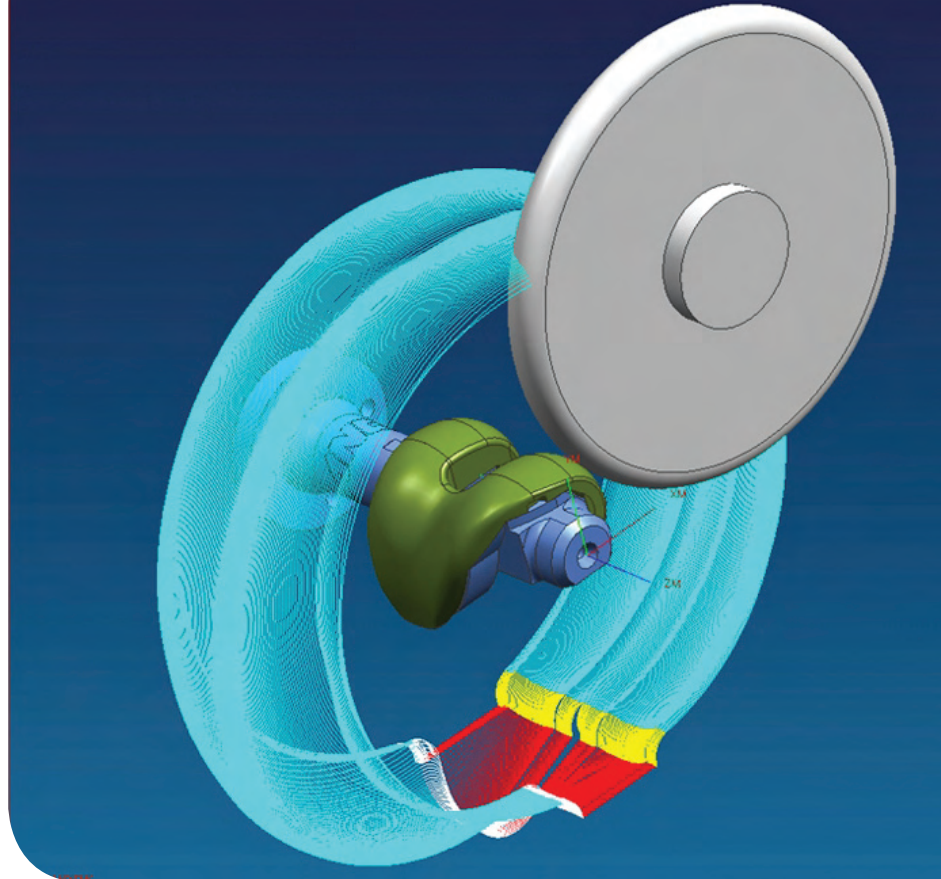
surfaces and complex shapes are no problem for the ANCA system. ANCA Engineering Manager, David McPherson, is in no doubt about the advantages of UG.

"Using UG, we can grind complex 3D geometry of just about any shape and surface finish to within microns. Before it would have taken us days. Now it's only a matter of minutes. With UG, our customers can grind any shape they like, which wasn't possible with the standard cutting-tool software.

"Artificial knees are critical and need to be smoothly contoured to make sure there is no restriction on movement. The design is a mix of concave and convex shapes and has hardly any flat surfaces; a nightmare for the old parametric software."

Using UG and 3D grinding techniques, ANCA turned that nightmare into a CNC operator's dream.

An artificial knee joint similar to that produced by the ANCA UG grinding system.



3D grinding path for knee joints using UG



Pic: Depuy Orthopaedic



# right dress

The type of diamond dressing tool has a huge impact on the wheel form and the dressing costs, explains **William James** of Saint-Gobain Abrasives

**W**hen it comes to selecting the right diamond tool, the application determines the tool type. When dressing simple forms, nearly any tool type will suffice, though grit tools work well. Grit tools provide significantly longer tool life, which reduces dressing costs.

Single point and grit tools are not typically used when dressing intricate forms, as the metal surrounding the diamond(s) tends to hit the sides of the wheel causing form error. Intricate forms require the use of "form tools" which have the diamond tip either "coned" or "chiseled".

The more intricate the form, the more intricate the tool. The terms "resettable" and "non-resettable" pertain to the diamond used in single

point tools. Resettable tools contain higher-quality diamonds, which have more than one point suitable for dressing. After initial diamond use, the tool is returned to the factory and reset in a new shank at a fraction of the cost of a new tool. Resetting diamonds can yield a significant cost savings versus buying a new tool every time.


Non-resettable tools are disposable. Disposable tools have only one settable point, and after a single use are discarded. They are the right choice when a low initial cost is the primary consideration, or resetting is not practical. Regarding carat weight, the larger the wheel diameter (and width), the larger the carat weight should be. Using undersized diamond carat weights allow the

stones to become superheated, even when grinding wet.

Indexable tools get their name from the practice of indexing diamonds radially in their holders. After the initial installation, operators simply turn the head portion of the tool with a wrench, while the tool shank remains in the tool holder. Because indexable tools do not require loosening during indexing, they are the tool of choice for many CNC operators.







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The CLX wrist retracts after extracting a tool from the pallet.

## compact economics

a loading solution  
delivered

**M**aking better use of your labour force is a key element in driving manufacturing costs down and increasing profitability. Automating labour-intensive processes can be expensive, and often many years pass by before the cost savings are actually realized.

ANCA has tackled this problem head-on, and now offers a low-cost automated loading solution called the CLX – Compact Loader.

In line with ANCA's philosophies of innovation and simplicity, the CLX is basically a simple swing-down arm with a set of gripper fingers attached to the end of it. Once the loader arm swings into position it remains stationary. Movement of the machine axes completes the load and unload sequences by bringing the headstock and pallet to meet the stationary gripper fingers. Other than the arm

dropping down, the CLX has no independent axes of its own. Making use of the machine movements has greatly simplified the CLX and has resulted in a very low-cost automation option.

ANCA Product Specialist Greg Perry explains how the CLX was developed.

"Our customers pointed out the need for low-level automation in loaders, and we designed the CLX with that in mind. Using the existing machine functions to provide movement was logical, and turned out to be the key to cutting cost out of the system."

The CLX is suitable for loading round shank tools, woodworking profile blades and tooling inserts. Each tool size can either have its own dedicated pallet or alternatively groups of tools can share the same pallet. This again is an example of ANCA's innovation

in achieving a low-cost automation option.

Designed to meet strict space and budget specifications, the CLX is fully-contained within the existing machine canopy and therefore does not increase the footprint of the machine as many other loaders can do. Operator access for loading pallets or changing gripper fingers is via a sliding panel door at the rear of the machine. Pallets are attached to the Z-axis of the machine via a bayonet style fitting which makes for a quick and easy changover.

Unlike other loaders, the CLX only requires one set of gripper fingers to load and unload as the tool is taken directly from the pallet and placed into the workholding with the same gripper. For tools such as woodworking profile blades and

# RX7 GX7 WGX





For round-shank tools, the CLX wrist angles down to meet the pallet.

inserts, generally only one size of gripper is required to cover a wide range of sizes. When loading round shank tools more than one size of grippers may be required depending on the tool size range. The loader is capable of loading tools up to 25 mm diameter.

The economy and efficiency of the CLX means that automatic loading is now viable for operators who do low-volume production runs and cannot justify more complex systems. The ANCA design team for the CLX jokingly refer to it as the 'One Arm Bandit' because its price performance ratio makes it literally a steal.



CLX insert pallet

## The CLX in Action



1. While the machine is in operation, the CLX arm is in the home position on the side of the machine column.



2. On activation, the loader arm swings down and the gripper fingers are opened.



3. The tool pallet is attached to the Z-axis saddle and is presented to the gripper fingers by movement of the machine axes.



The Variable Helix software means that customers can create stronger tools but still maintain excellent chip flow.

enhancing

## the future

Software is as important to ANCA as jet engines are to Boeing: without high-performance products driving them forward, our machines are going nowhere. For our software to reach the level of performance needed to out-pace our competitors, we need to know how it's being used, and what the users need it to do.

To this end, ANCA dispatched Application Software Manager Eng Tan and Software Product Specialist Lucas Hale on a five-week fact-finding journey around the world. Their mission was to visit software users and tool grinding companies to gain an understanding of our customers' visions of future capability.

Armed with this input, Eng and Lucas guided new developments that have reinforced the ANCA software suite.

Release 28, the latest iGrind software release, boasts over 150 enhancements and new features, some of which include:

**Variable Helix** allows customers to create tools that are stronger, are less likely to experience chatter and maintain excellent chip flow. The helix is variable not only along the length of the tool, but also on the land and the relief angle.

**Chisel Edge Ballnose** feature offers the ability to design ballnose endmills with a specified chisel angle and web thickness, while still maintaining

a true ball shape on the cutter. The ball centre will not only be strong and more accurate, but also will have better cutting properties than a conventional ballnose.

**Constant Helix Ballnose** extends the helix across the ball giving a longer cutting edge than a traditional ballnose cutter. This extends tool life, increases material removal and allows for faster cutting speeds.

**Fluting operation enhancements** will allow different infeed per pass and variable feedrate along the length of the flute. This will optimize material removal, which reduces both the grinding cycle time and wheel wear, and therefore lowers the cost of the finished tool.

iView users (see Denny's Tool article on page 14) will welcome the addition of **user-set tolerance bands** on the

tool profile which will make visual inspection of tool profile much quicker. Also, the ability to create (Adobe) **PDF format tool measurement reports** will impress customers seeking higher QA standards.

ANCA's Patented 3D CIMulator program too has had a number of important new features added to the newest Version 5.0

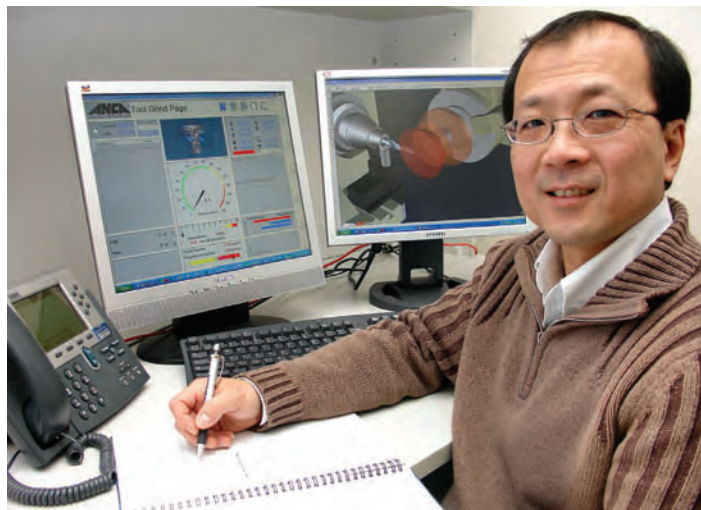
**Collision Detection** highlights where elements other than the desired grinding wheel are hitting the tool or machine - further reducing setup time and cost associated with scrap parts.

**Cycle Time Estimator** allows customers to more quickly optimize grinding cycle setup while off line and helps in production planning.

**Tool Edge DXF Output** will facilitate the use of actual tool models in 2D CAD tool drawings commonly used by tool manufacturers. Side, end face and cross-sectional views can now easily be obtained using this feature.

These enhancements are expected to deliver significant advantages for ANCA customers by allowing them to react quickly to market changes and continue to deliver value to their customers.

Application Software Manager Eng Tan, who spent five weeks visiting customers to find out what they needed in the new package.





ANCA engineer Joon Lee confirms the accuracy of blanks coming off the TRU TECH machine in ANCA's Bayswater grinding centre.

# precision of the highest order



**T**RU TECH Systems Inc. is one of the most innovative companies to enter the precision centerless grinding market in the past 10 years. TRU TECH Systems manufactures a series of precision centerless and OD grinding systems that have revolutionized the way tooling blanks are prepared.

Utilizing the TRU TECH machines for blank preparation has enabled many companies to double their blank production business and drastically cut tooling charges in the process. The integrated, user-friendly software actually teaches the user how to use their machines, enabling companies to train their work force easily and efficiently.

Software modules even include instructions for routine maintenance, reducing the need for service calls and reducing down-times.

A truly innovative feature is TRU TECH's optional one-touch service feature that connects the user with TRU TECH service department, right from the machine. Should assistance be needed, one touch connects the user with the service team to resolve any issues that may arise in setup or maintenance of the machine.

If your company could use a little more precision, contact a TRU TECH Systems representative or call TRU TECH direct at 001 586 469-2700. You can also find them on the web.

[www.trutechsystems.com](http://www.trutechsystems.com)







Ross (left) and Eddie (right) discuss the finer workings of the ANCA RX7.

## a working partnership

**ANCA's *Simon Richardson* investigates how UK firm Quickgrind has made ANCA innovation work for them**

**Q**uickgrind, one of the UK's premier special cutting-tool manufacturers, is based in picturesque Tewkesbury, Gloucestershire, in the southern midlands of England. Recently, they took delivery of an RX7 CNC grinder; making Quickgrind one of the largest ANCA users worldwide. Two more RX7s are due for delivery later this year.

The new grinders underline Quickgrind's on-going commitment to use the latest technology in providing improved products and services to their customers. It has been the basis of their success over many years in business.

Director Eddie Howell founded Quickgrind over 40 years ago. The company started with 26 manual Clarkson machines and then progressed to a basic 3-axis CNC and, due to rapid growth, invested in their first ANCA RGX machine in September 1998. Quickgrind now has a worldwide customer base that

has grown in diverse markets such as Asia and the Caribbean, with working partnerships that Eddie has built using his vast technical experience. Exports make up 90% of their business in all manufacturing sectors including automotive, aerospace and their particular area of expertise, die and mould industries.

Eddie's son Ross joined the company direct from university to work side-by-side with his father, continuing to develop Quickgrind with the same traditions that Eddie had built over the years. This family-run company had been operating with a philosophy of creating a comfortable, productive working environment to be involved with and work within.

The impressive new facility in Tewkesbury — opened just over

five years ago — is evidence of the investment Eddie and Ross have placed in the company. The development in the factory, facilities, offices and the ANCA machines has created a business prepared to face the future with confidence and a positive attitude.

Quickgrind prides itself on lean working practices and productivity coupled with automated "lights out" unmanned operation through the night. The mutually-beneficial partnership with ANCA has now grown to a significant investment in RGX, TX7, and RX7 machines all with loaders. Ross Howell states:

Ross and Eddie are rightfully proud of Quickgrind's new Tewkesbury premises





"One of the first questions Ross always asks when a member of the ANCA team visits is 'what's new from ANCA in terms of the latest technology?' "



"We have improved our productivity based on communication and the continued investment in the ANCA technology, and deliveries are always critical to my customers so the autoloaders prove invaluable to the output of the factory."

One of the first questions Ross always asks when a member of the ANCA team visits is "what's new from ANCA in terms of the latest technology?" This attitude has served both companies well and will foster further growth as ANCA continues to innovate.

Quickgrind was, for example, one of the first companies in the UK to seize the opportunity and exploit the ANCA 3D-CIMulator. Both companies have worked closely over the years to develop a vast range of tooling using the 3D-CIMulator for tool simulation and verification. The customer's tool database now has over 5000 programs and is essential to turn-around tools quickly and increase productivity and profitability.

The working partnership between Quickgrind and ANCA's technology will keep Quickgrind at the forefront of special tooling production not only in the UK but also throughout the rest of the world.



## Tewkesbury

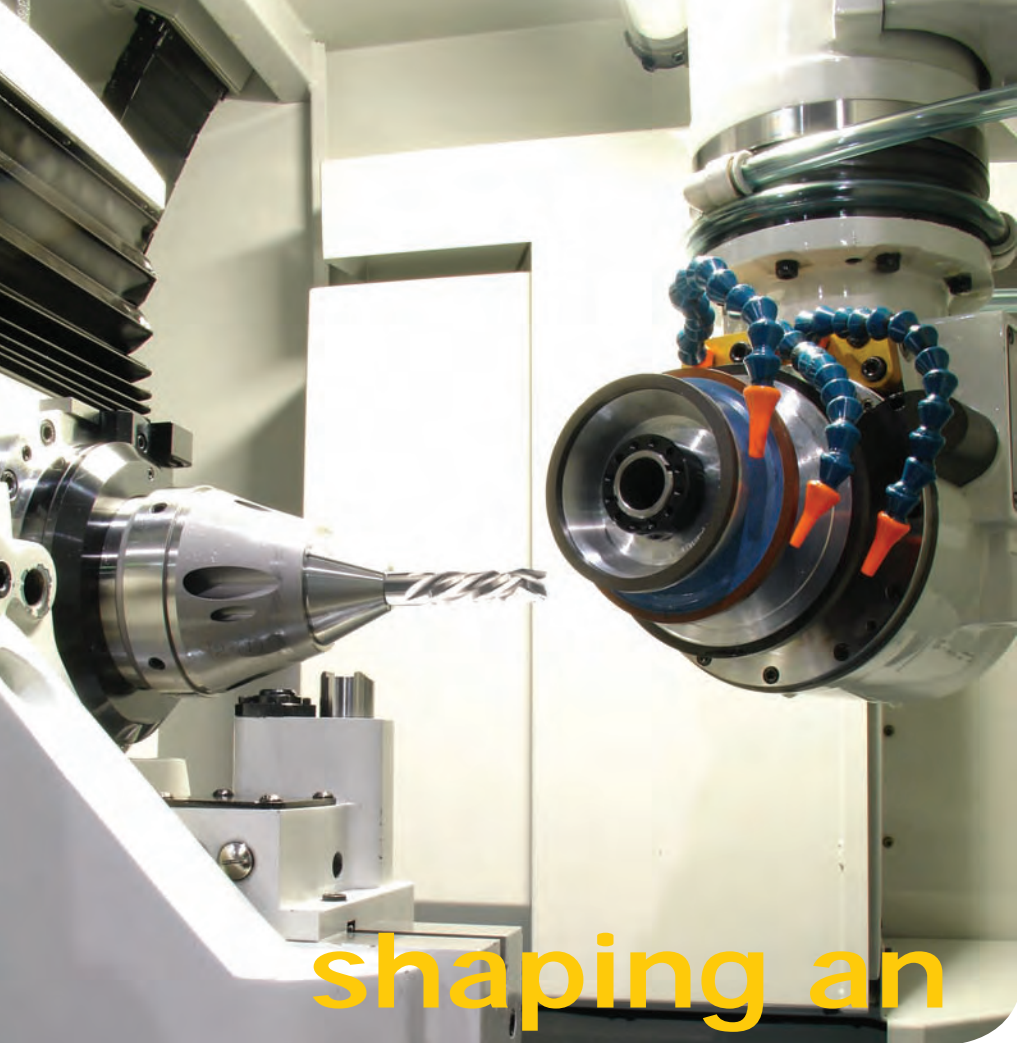
Quickgrind's home, Tewkesbury, Gloucestershire, is a medieval town best known for its timber buildings, with overhanging upper stories and elaborately-carved doorways. It is thought to have been founded as early as the 7th century by the Saxon hermit, Theoc. The centrepiece of the town is the majestic Tewkesbury Abbey, completed by the Normans in 1121. The tower is one of the largest Norman towers in Britain and the church itself is thought to be the third largest non-cathedral church in Britain.

In 1471, Tewkesbury was the site of the most decisive battle of the Wars of the Roses when Edward IV's Yorkists defeated the Lancastrians of the Duke of Somerset. It bought to an end any serious opposition to Edward's reign.

For many centuries, the town has been a major centre for milling flour, and the original Abbey Mill still stands. Today, Tewkesbury is home to a small but thriving high-technology industry, of which Quickgrind is a part.

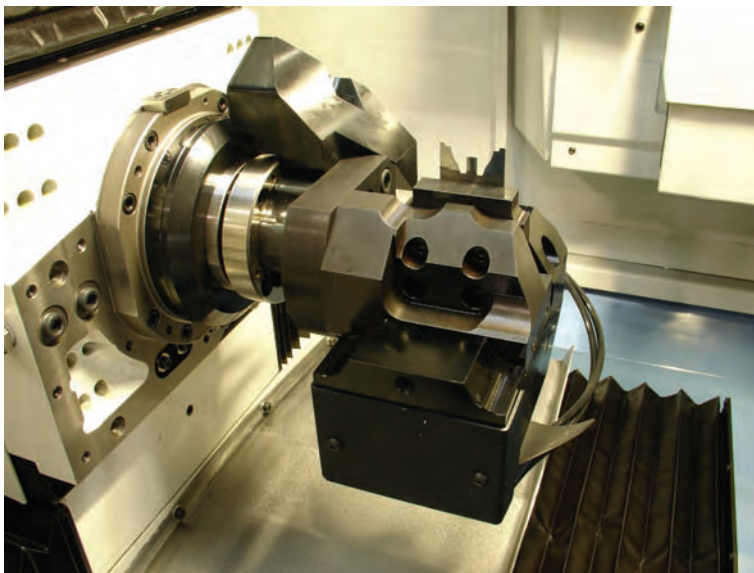






# shaping an industry

**ANCA found out the best way to get an industry sector to accept a machine was to find out what they wanted and build one specifically for them. It worked ... and now the WGX is shaping the future of the woodworking-tool industry.**  
*Greg Perry tells all.*



Profile blade in the rigid chuck designed specifically for the WGX grinder.

Compression routers are just one of many profiles in the WGX software suite.

**A**NCA has always supplied machines to woodworking-tool manufacturing companies and some of the world's best-known woodworking-tool makers are using ANCA CNC grinders. In early 2005, ANCA assigned a product specialist to investigate the woodworking tool market and how we can service it better. As part of this research, visits were made to many companies of various sizes around the world to best gauge the scope of the market. What our research found was that the industry needed a machine that was specific to woodworking tools and could be configured to suit both large and small production.

The culmination of this effort was the release of the new WGX — Woodworking-tool grinder.

The WGX is an offshoot of the RX7 machine and therefore rides on the excellent reputation that the RX7 already has established in the metal-cutting tool manufacturing market. Where the WGX stands alone as a woodworking-tool grinder, is its software and accessories.

The WGX comes standard with the ANCA Toolroom® software suite, which gives you the capability to manufacture or re-sharpen a diverse range of wood-cutting tools from round shank cutters to complex profile routers or blades.

A key industry area that ANCA needed to get serious about was the manufacturing of profile blade







Cole Clark Guitars



inserts. ANCA software has always had the ability to make this type of tool, but the industry had ideas for improvement, which we used as a basis for the new Profile Blade software that comes with the WGX.

Profile Blade software is solely used for manufacturing replaceable profile blades. The software requires only the final profile shape, as well as the blade holder information, to produce the correct cutting profile on the blade. Distortion of the profile due to hook and shear angles are all calculated within the program. Profile shapes can be drawn directly on the machine or imported as a DXF.

To complement the profile software, ANCA designed an optional, fully-automatic profile blade chuck. The blade chuck is a strong, rigid unit providing exceptional work holding for blades ranging from 8 mm to 80 mm long. The chuck caters for different possible datum features on a wide variety of blade types and is compatible with all WGX loader options

The WGX offers three distinctly different automated loader options: CLX, WLX and Robot.

The CLX is mounted inside the machine and does not increase the machine foot print. It is ideal for small batch loading enabling short periods of unattended operation.

WLX, on the other hand, is a high-volume production loader making extended periods of unattended operation possible. Quick changeover between round shank tooling and profile blades is a feature of this system.

The robot is ideal for handling complex or unusually-shaped tooling such as finger joint cutters.

Another accessory designed specifically for woodworking tools is the spring-loaded collet adaptor. When grinding large-headed routers, it is important to have as much of the shank inside the collet as possible to ensure rigidity. When autoloading, this is not always possible as a certain proportion of the shank is used to grip the tool. The spring-loaded collet enables the tool to be pushed into the collet to its maximum shank length, and then expelled with spring force to allow access for the loader grippers. This smart feature ensures maximum tool insertion in

the collet at all times.

The WGX comes standard with a 10,000 rpm direct-drive motorized spindle. With a constant power of 4.2 kW (5.6 hp) and peak power of 9.5 kW (12.7 hp), the WGX offers sufficient power for producing profile blades, sharpening applications and some new tool production. To meet heavier grinding requirements, the spindle can be upgraded to have a constant power of 8.2 kW (11 hp) and a peak power of 19 kW (26 hp).

And to top it off, the WGX has one extra card up its sleeve. Although designed specifically for making woodworking tools, ANCA also built in the ability to run virtually the whole gamut of metal cutters as well. This means WGX provides the means for diversification into other markets.

A CNC woodworking-tool grinder that offers this much value for money has been hard to find ... until now.







## capability beyond the pack

Ohio-based Denny's Tool has found the ANCA iView system gives them the jump on the opposition. *David Arnesen* tells us how.

**D**ennis A. Wilfong, president of Denny's Tool Mfg, Inc., in Grafton, OH, knows a thing or two about cutting tools for die and mold making. He started out as an apprentice tool maker, then, looking for a chance to do more, he decided that making cutters for the die shops in the area offered possibilities. He launched Denny's Tool in 1980 and has expanded since, keeping many of the same customers he started with. His main customers are screw machine houses, users of some very complex form tools.

Seven years ago, Denny's invested in an ANCA RGX CNC tool and cutter grinder for producing and regrinding step tools. Customer demands for tighter tolerances pushed the

company to CNC grinding. Today, it is common for Denny's Tool to meet tolerances of  $\pm .001$ " on diameter in carbide and high speed steels when grinding inside-outside forming tools, step tools, counterbores and more.

### iView Opens the Door

The ability to produce tools that other shops cannot provides toolmakers with a profitable niche. iView is one of the capabilities ANCA offers tool and cutter grinding companies that opens the door to new, profitable opportunities.

To enhance his shop's ability to produce complex form tools quickly and accurately, Denny's recently connected iView to the RGX to check the special form tools. The iView includes software, which works seamlessly with the machine operating software, and a camera which mounts easily inside the ANCA tool and cutter grinder in less than one minute. iView has a standard magnification of 300:1, other magnifications can be provided, and the accuracy of the system is two microns; more than enough for most tool inspection needs.

In operation, iView software generates the ideal shape for standard tool geometries and projects it over the actual tool image. iView can import





DXF overlay files for complex profiles. A high-visibility image of the ground tool as taken by the iView camera is compared to the ideal as-designed overlay shape. Tolerance bandwidth can be specified and graphically displayed over the tool image. Automatic generation of a tangent to the profile simplifies the measurement process.

“iView makes it very easy to see where the form is right and where it is off before the tool is complete and in time to make adjustments to the machine program,” Wilfong said. “Corrections are made automatically by the machine or may be done manually. In automatic mode, you click on the line and tell the program how far the tool shape is off and then iView quickly adjusts the program.”

Using semiautomatic measurement mode at Denny’s, the tool overlay is automatically positioned over the corresponding point on the ground tool. The operator acknowledges the measured point and the machine advances to the next predetermined point.

“We can also superimpose a 0.005 mm grid or auto shadowgraph over the tool for instant measurement,” Denny said.

Images can be stored in easy to use graphical file formats.

iView is a real time-saver while contributing significantly to accurate tool grinding even the most complex forms.

“We can rapidly measure the shape, profile, and outer diameter of a cutting tool while it is clamped in the grinding machine, and then compare measurements to ideal tool geometry with the system,” Denny said. “That way, we can address discrepancies immediately without removing the tool and measure off-machine. Measured data is fed back into the machine for automatic compensation.

“Previously, we had to take the tool out of the chuck, put it into a comparator, check the tool, make corrections on machine, return the tool to the chuck, and touch-off. With iView, keeping the tools in-machine

saved quite a bit of time plus it’s more accurate. Once set-up, the RGX machine repeats so well, we need to check very few tools during a run.

“It is letting us turn more tools around in a shorter period of time. And the accuracy compared to competitors is superior, particularly regarding concentricity because we are not taking the tools in and out of the machine to check them.”

One of the cutters sharpened at Denny’s presented a tough challenge. An inside rotary recess tool, it has many different angles for its entire length. Inspection by other conventional methods would have taken much longer and would not have revealed all the features completely. According to Denny, it would not have been possible to produce the tool correctly without the iView. The iView overlay technique makes it easy to see whether the

proper clearances on flutes and edges are present. iView can measure three-point angle, three-point radius measurement, and two-point distance measurement.

Because the inspection is now so accurate, the tools are produced consistently and their design has been optimised with the ANCA tool grinding software. The result has been a tool with much improved clearances, thus increasing tool life at the Denny’s customer from just seven hours to more than 100 hours, saving the customer tool change time, tool cost, and scrap and providing Denny’s Tool with a successful niche.

Dennis Wilfong: iView gives superior accuracy because concentricity can be measured on the machine.



Some of the precision tools produced by Denny’s faithful RGX machine.







# at your service

**Customer support is not merely a service. According to Gordon Horrocks, it's an entire experience.**

**S**ales departments, the saying goes, sell the first machine, but customer service departments sell the subsequent machines. The underlying truth in this adage is that a customer unsatisfied with the service extended to a machine is likely to look elsewhere when it comes to buying another machine.

Gordon Horrocks, ANCA's Global Customer Support Manager, has no doubts about the importance of first-class customer service levels and their connection to customer relationships.

"We understand the customers invest a lot of money; it's a capital purchase to buy a CNC tool and cutter grinder. Time is money, so we want to make the experience of owning an ANCA a good experience.

"Our customers are under pressure from their market places for increased uptime, finer tolerances on the product they produce and better

surface finishes, so our challenge is to be very, very close to our customers and be able to assist them in quicker and more efficient ways. We need to be closer to our customers than our competitors are."

Gordon leads ANCA's global customer support team, which includes the Australia-based customer support centre as well as the service engineers who operate from ANCA branches around the world. Their jobs are to provide machine service and warranty repairs as well as critical documentation such as site preparation notes, field notifications and spare parts lists. It is this team that puts into action Gordon's service philosophies that, without their skills, would remain only theory.

"The skill level of our people is very important to us in service: ensuring that we have parts available when things wear out – as they inevitably do – or a machine's crashed, making sure that we're there to look after the machine and look after our customers. We need people that project professional attitudes. It's up to us to ensure that if a problem occurs we close it out quickly."

According to Gordon, ANCA's ability to respond to a customer's needs relies on training and systems. Service people are put through skills analysis every year and training courses are run year-round in Australia. This ensures the team members are competent and familiar with all service





Gordon is not only the man when it comes to customer service, but also has responsibility to ensure the right spare parts are ready to go at the right time.



**"We need people that project professional attitudes. It's up to us to ensure that if a problem occurs we close it out quickly."**

aspects of ANCA CNC grinders, and the diagnostic tools needed to look after them. Gordon explains:

"Issues that do come up with the machines are not in defined little pockets, so we need high-level diagnostic skills from our people."

ANCA's highly-developed diagnostic tools are the key to solving issues quickly. 'Black box' recorders, screen captures, error messages and logs and a modem link to machines all enable the service team to analyse faults and provide solutions quickly. That means less downtime for the customer.

"Importantly we also have an escalation system on service issues, our aim being to close them out as quickly as possible. Also through our data collection processes and product reliability / quality meetings, we endeavour to be proactive in that area. Rather than just stop at fixing a problem, we look closely at preventative measures."

With these successful systems already in place, the ANCA customer service team is well-positioned to handle the new challenges of expanding markets, such as China, Brazil, India and Eastern Europe. As more and more customers choose ANCA machines, Gordon and his team will be on-hand to ensure their ANCA experience is more than satisfying.



## Of Family and Football

It only takes a few words with Gordon Horrocks to realize that, after 20 years in Australia, he still clings tenaciously to his Lancashire accent. Originally from Ainsworth, near Bury, UK, Gordon is quite understandably a passionate supporter of Bolton Wanderers Football club (soccer). The last Bolton Wanderers FA Cup win was in 1958, but last year his adopted Australian Rules team, the Sydney Swans, won the premiership, finally giving Gordon some bragging rights.

Football is, however, only a sidebar to his life. His focus remains his family.

"If I've learned anything from my life experiences, it's been to appreciate what you've got when you've got it. Therefore it goes without saying that I'm very close to my family. Outside ANCA, I am very much family-orientated. I have a great wife, and a daughter [Vanessa, 14] and a son [Mark, 11]. I love spending time with them and getting involved in their lives."

Gordon and his wife, Rhonda, are keen members of their local tennis club and also members of the Kooyong Tennis Club in Melbourne, former home of the Australian Open.





Left to right: Tomoaki Fukuda, Linsey Siede, Pat Boland, Fujita-san (President of CKB) and Chiba-san (Director and General Manager of CKB), moments after cutting the ribbon in traditional Japanese style.

**ANCA Asia Branch  
General Manager *Jeff Foregard* reports on  
ANCA's newest office.**

## another milestone: **ANCA Japan**

**A**NCA reached another milestone in their history on 30 May 2006 with the official opening of an office in Nagoya, Japan. ANCA, together with its long-standing partner, CKB, arranged a full day's schedule for a number of customers and media attendees.

As well as a formal ribbon-cutting ceremony and customer speeches by Aoki-san (from BTT) and Takahashi-san (from Neatech), participants had the opportunity to see machines in action at BTT's nearby factory.

The opening of a Japanese office represents a significant step forward in what has been a long process of establishment in this challenging market.

ANCA was virtually unknown in Japan when it first exhibited at the

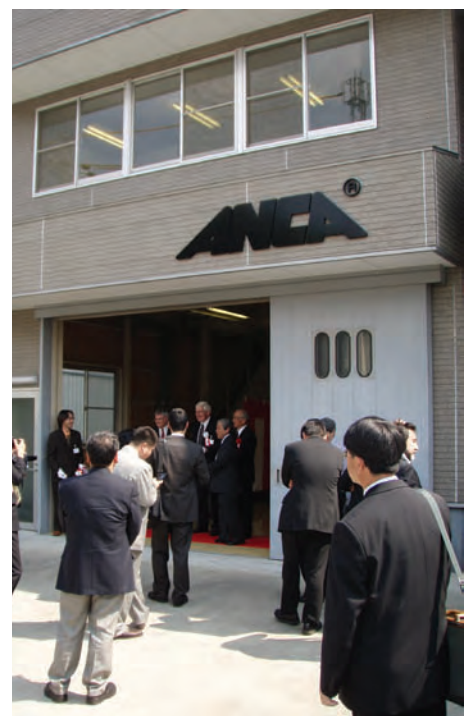
JIMTOF trade fair in 1998. Customers who did see the new machines often had to be told twice that the machine was entirely made in Australia, not Austria! Indeed, ANCA had a lot to learn about Japan as well: Japanese customers demanded the highest levels of accuracy and quality, and their business culture was entirely different.

Japan's machine tool market is one that requires technical excellence and long-term commitment to customer relationships. The soft economic conditions and slow machine sales that persisted in the years after 1998 may have put competitors off, but ANCA used this time as an opportunity to spread its name in the market and establish long-term relations with prospective and active customers.

With the recent upturn in the Japanese economy, this long-term commitment to our Japanese customers is now being rewarded with a significant upturn in orders. In response to this, establishing a technical centre will allow ANCA to better support this customer base, as well as assist our partner and distributor CKB to continue its sales and service efforts.

Tomoaki Fukuda, Japan's Technical Manager, will be supported by Tatsuya Nakazono in ANCA's ongoing commitment to growing its Japanese market.

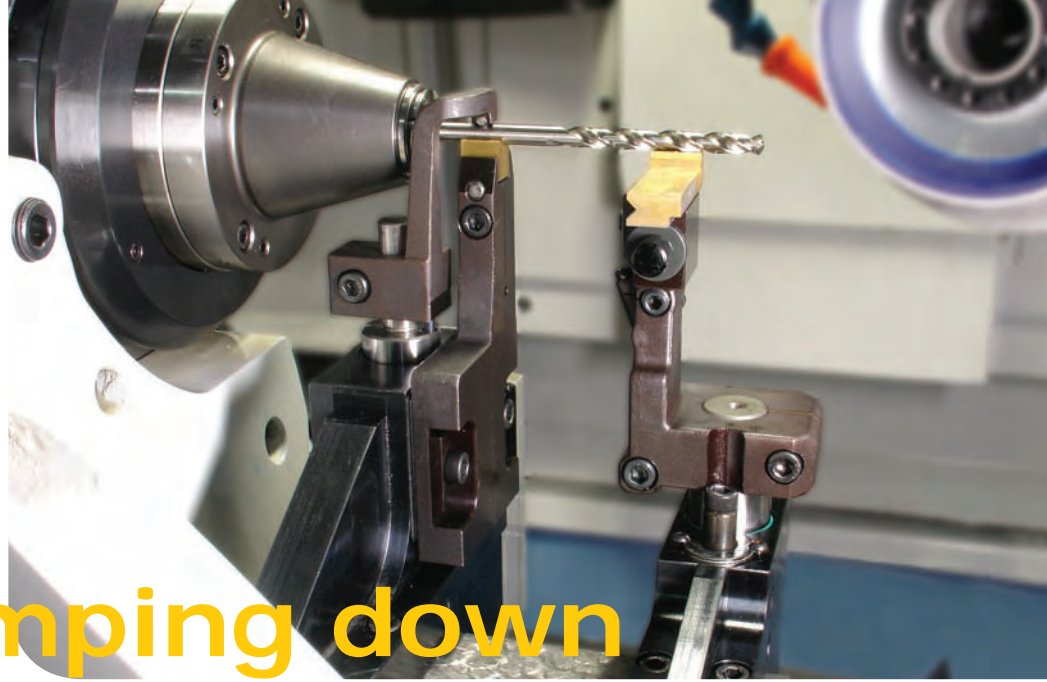
ANCA's new office in Nagoya, Japan



The men for the job: ANCA's Japan team Tomoaki Fukuda and Tatsuya Nakazono.



The Precision V-Block Clamp and Steady system is proving an effective weapon in the battle against run-out and deflection.



## clamping down on inaccuracy

**ANCA's new steady system is producing some amazing results.**

**T**ool run-out and deflection are undesirable facts of grinding. Both result in finished tools that are not within precision specifications and therefore the functionality of the tool is reduced.

ANCA has introduced an effective new weapon in the battle against both run-out and deflection: the Precision V-block Clamp and Steady.

As the name suggests, the unit consists of two distinct items – the V-block Clamp and the Steady – each with its own separate function.

The V-Block Clamp combats both axial and radial run-out, the errors caused by the tool not running normal during rotation. It does this by fixing the tool between an overhead clamping finger and a V-block. Downward pressure by the finger causes the tool to run true to the V-block channel, deterring any tendency for the tool to rotate off-centre.

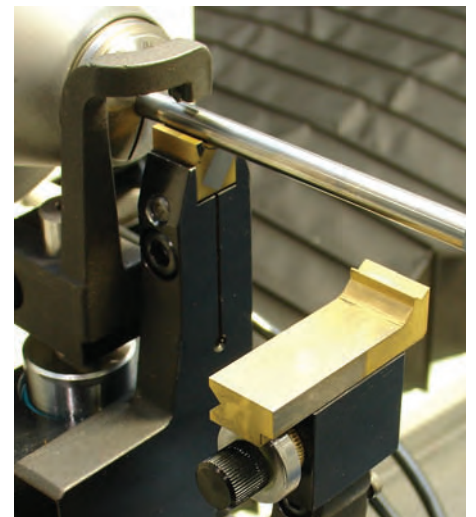
At the other end of the tool, the Steady takes on deflection, the

natural tendency for the workpiece to be pushed away under the load of the grinding wheel. By securing the end of the tool in a V-shaped shoe, the Steady provides the support needed to resist deflection.

Together, the two units make-up a system that has proven to be capable of achieving a consistent run-out of less than 0.004 mm measured at 50 mm from the end of the collet. The great strength of the Precision V-Block Clamp and Steady is that the system is capable of keeping this level of accuracy across an entire batch of tools.

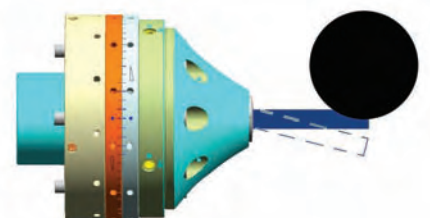
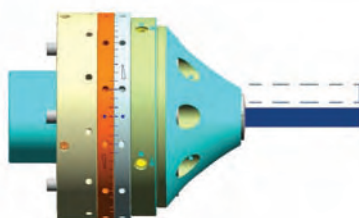
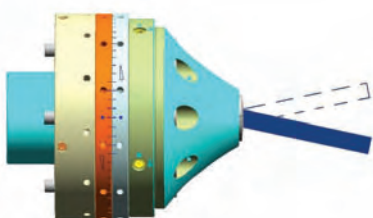
Thanks to fine adjusting mechanisms that ensure complete degrees of freedom and accuracy, the system is very easy to set up and can be used for tools in the diameter range 2 – 16 mm.

If need be, the two separate components can be used independently of each other, which increases the versatility of the system.



The V-shape in the Steady shoe helps with tool alignment

A specially designed collet adaptor is used that provides the necessary clearance to ensure optimum grinding freedom. The collet adaptor is required to only provide drive to the tool as the runout is solely determined by the V-block Clamp. The collet adaptor uses Schaublin W20 80-4 ultra-precision flat nose collets.



The V-Block Clamp reduces axial run-out (left) and radial run-out (centre), whilst the Steady provides a resistance to deflection (right).





# WGX

## technical specifications

### CNC-Data

ANCA 5DX, Pentium 4, min. 512MByte, 15" Touch Screen, Ethernet card, 56kbps modem, CD Read and Write/DVD Read only

### Mechanical axes

	X-axis	Y-axis	Z-axis	C-axis	A-axis
Position feedback resolution	0.0001 mm 0.0000039"	0.0001 mm 0.0000039"	0.0001 mm 0.0000039"	0.0001 deg	0.0001 deg
Programming resolution	0.001 mm 0.000039"	0.001 mm 0.000039"	0.001 mm 0.000039"	0.001 deg	0.001 deg

### Software axes (patented): B, V, U, W

### Work piece

Maximum tool diameter / Maximum weight: 220 mm (9.4") / 20 kg ( 44lbs)

### Drive system

ANCA Digital (SERCOS standard) / Linear axes direct drive ballscrew / Rotary axes direct drive

### Machine data

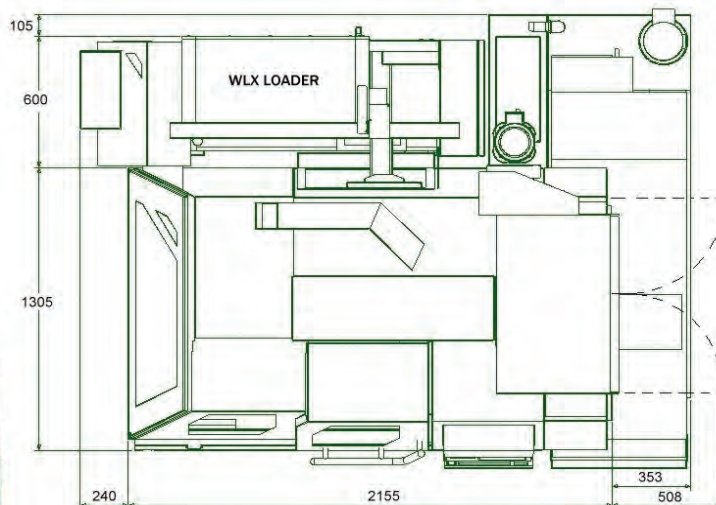
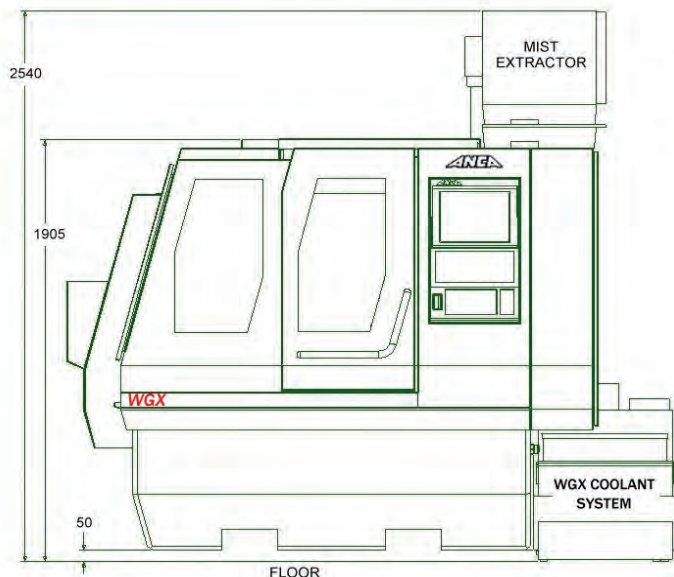
Grinding spindle: ANCA Bi-directional 9.5 kW (Optional 19kW) / 10,000 RPM / Integral Direct Drive / ISO 30 nose taper

Grinding wheel max. diameter 202mm (8") / Wheel bore: 31.75 mm (1.250") / 2 wheel packs with max 4 wheels each

### Other data

Electrical power	13.2KVA (18.2KVA with entry level coolant system)		
Probe system	Renishaw		
Coolant system	External		
Machine base	ANACRETE (Polymer concrete)		
Colour	RAL 7035 / RAL 5014		
Weight	Approximately 4500kg		
Floor plan (including coolants)	Width	Depth	Height
	2508 mm	2010 mm	1905 mm
	99"	79"	75"

ANCA reserves the right to alter or amend specifications without prior notice





the**sharp**edge Issue Four 2006 21



# Grinding woodworking tools used to be hard work

That was until we invented the **WGX**.  
Now, grinding complex wood-cutters has never been easier.

How did we do it?

We listened to what you wanted and developed a CNC grinder to match. You wanted:

- To grind profile blades as well as routers, drills and more
- Short set-up times and easy changeovers
- An extensive software suite for standard or custom shapes
- Workholding that supports your tools
- A variety of loader options to suit your budget.



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Doug Little  
Software Applications Engineer  
ANCA Inc USA

Bachelor of Computing Science and  
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Australian National University

Linux and web-based technologies  
guru

