issue three 2005

thesharpedge

innovation with Renishaw
iBalance for wheel balancing
down the line efficiency
the Irish connection Formtech
China office opens

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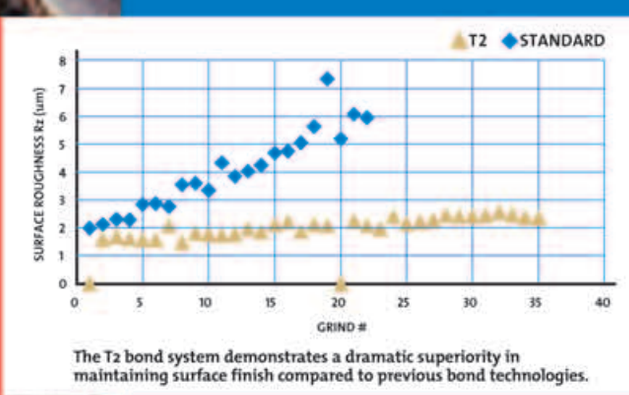
T2 Technology Bond Delivers Up to 10 Times More Parts Per Wheel

Tests at the Oak Ridge National Laboratory confirm you can increase your productivity and lower per part grinding cost with the new Universal T2 vitrified bond system in combination with premium CBN abrasives. In lab and field tests, Universal T2 technology lasted three times longer on cast iron and 10 times longer on aerospace alloys.



The T2 bond system demonstrates a dramatic superiority in maintaining surface finish compared to previous bond technologies.

NORTON UNIVERSAL WINTER

Abrasive Technology Driving Optimum Results

SAINT-GOBAIN ABRASIVES

contents

cover image: PLX loader

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Know someone who would like their own copy of The Sharp Edge?
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international presence

The only constant inside ANCA is change, and the rate of change seems to be ever-increasing. As global technologies advance, consumer requirements and expectations become more exacting, and something that couldn't possibly be done even two years ago now becomes not only possible but is expected.

These ever-increasing customer demands mean that ANCA machines, software, automation and processes are continually changing at a rapidly increasing pace.

During the past three years, ANCA has designed and released the SBG, RX7, GX7 and the TapX machines, plus an upgrade to the extremely popular TX7. ANCA has written and released new software, new drum and pallet loaders for the GX7 and RX7, new options including iView, iContact and iBalance, and of course another great step forward with our new advanced 5DX CNC control with USB, DVD and touch-screen.

We are continually looking towards the future not only with our well respected and world renowned technologies and innovations, but also where we should locate people to support our customers who are also in the midst of many changes. A number of our existing customers are moving into the manufacture of new tool designs or starting up operations in new countries, and our customer base is continuing to increase at more than fifty a year.

In order to continue to support our customers, ANCA is following these trends, as demonstrated by our new 600 m^2 facility in Shanghai China, and new employees and partner networks in India, Poland and the Czech Republic. To better support our customers in North America we have also recently moved into a new facility in Wixom, Michigan that is double the size of our previous offices in Farmington Hills.

Our objective is to continue to offer world leading machines, services and support to our customers wherever they may be located in the world, and to be the worlds best at what we do.

Linsey Siede
Group General Manager

cutting edge

How ANCA has made the manufacture of the fir tree cutter simpler

Tomoaki Fukuda, Grinding Center technician

Anyone who's been involved in grinding fir tree cutters will agree that they are one of the most complex and expensive tools to make. Yet their importance in the aerospace and heavy electrical industries opened the way for an ANCA solution.

As Thomson Mathew, ANCA Grinding Centre technician explains, a fir tree cutter, whilst basically a cutting tool, has a profile that is required to be extremely accurate – typically under five microns.

With the advent of the ANCA TX7+ and industry innovations such as iView, iGrind and iBalance, ANCA now offers the means to grind fir tree cutters in a single set-up and a single machine.

"No other company in the world can make helical tools in this way," Thomson tells us. "They are complex tools which, because of the high tolerances required, can take two to five hours of grinding."

In addition, Thomson says, other companies have to use a combination of machines to make a tool that ANCA can now grind in the TX7+. "It's a matter of having the right software and the right mechanical components to make the task easier," he says.

Every customer who purchases a TX7+ machine for applications including grinding fir tree tools is provided with special comprehensive training. This intensive training takes about three to four days and by the end of the course, customers have the knowledge and expertise to create fir tree cutters to individual specifications.

"We don't leave it there, of course," Thomson said. "We're always available to provide back-up support for customers grinding these complex tools."

As Thomson explains, it's the magic of the software that goes much of the way to creating this special tool. Using iView – ANCA's internal tool measuring system, the fir tree tool can be formed precisely on-screen. ANCA iGrind profile software then enables multi-digitizing for the multiple flutes of the tool. This one-set-up approach means that once you have the parameters right, there will be no rejects. You can be confident that the TX7+ will grind the fir tree cutter tool – including machining and compensating – without ever having to take the tool out of the machine.

What is a fir tree cutter?

A fir tree cutter, as the name suggests is a helical tool in the shape of a "Christmas tree". That's a simple description for a tool that is traditionally one of the most complex and time-consuming to produce. A fir tree cutter is used to create the matching form in a turbine engine for the mounting of turbine blades. As you would expect, this requires exceptionally high accuracy, as well as a high-end and powerful CNC machine to grind it.

The Renishaw QC10 ballbar

innovation at work

ANCA applying Renishaw innovation

It's said that a machine is only as good as the sum total of its parts. In the case of ANCA we're happy to acknowledge the importance of the Renishaw probe in our CNC machines. David McPherson, ANCA Engineering Manager is in a good position to describe the relationship between the two companies and Renishaw's contribution to ANCA's engineering process.

"The relationship between ANCA and Renishaw goes back some years," David told us. "Initially it was set up through a distribution they had with ANCA solely for probing systems – and more recently for encoders as well."

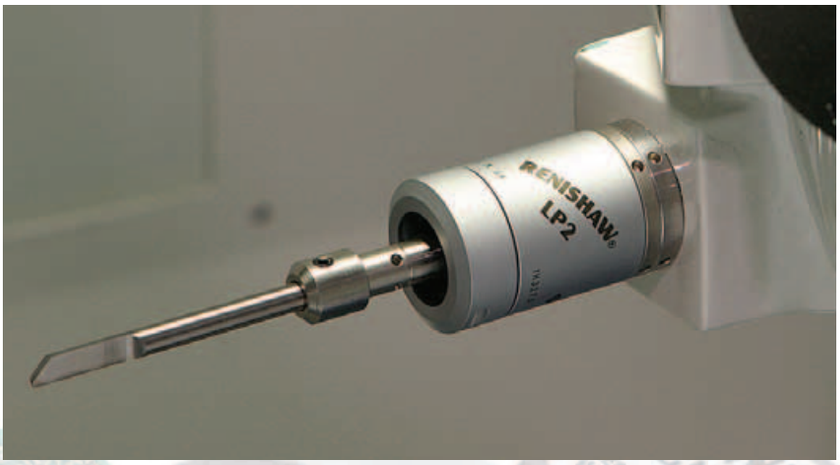
Renishaw has been around about 25 years. It's a sophisticated company known for the quality of its probes. The probe is the key to the accuracy of tooling machines and has made the company what it is today. Renishaw probes were originally made for Rolls Royce and have since found applications all around the world.

The Renishaw probe is a high tech measurement sensor used to ensure accurate setting and digitizing of tools during a grinding process.

The strength of the Renishaw probe is its robustness proven over the years. In the last five years of supply to ANCA, only two have been returned for repair. With Renishaw shipping around 160 probes a year, it's a track record renowned throughout the machine tool industry. Part of this reputation is due to the way Renishaw backs its product. ANCA, for example, receives complete support, back-up stocks and instant response to any problem – including an engineer on-site if needed.

The newest ANCA machines all come with the latest version of Renishaw's famous LP2 probing system fitted as standard. The combination of coolant and fine grinding dust is particularly harsh on accurate metrology equipment, but Renishaw has refined its probes over the years to ensure that even this environment poses few problems. Improvements to the LP2 such as double diaphragm protection, break-protection stylus joints and IP68 sealing provide impressive on-machine reliability and robustness.

Renishaw innovation also applies to machine performance calibration. Each ANCA grinder is tested prior to sign-off using the Renishaw QC10 Ballbar system. By performing a simple 10-minute test, the QC10's software is capable of assessing the machine's



Renishaw probe

capable of assessing the machine's dynamic performance, and this can then be corrected and re-tested to ensure ANCA maintains the highest performance specifications.

Likewise, Renishaw encoders are utilized on ANCA CNC machines. Available in a range of sizes, Renishaw encoders are fundamental to the ANCA design where large numbers of cables and pneumatic supplies need to pass through the centre of the positional encoding system. It all adds up to a successful and innovative partnership between ANCA and Renishaw.

RENISHAW

Mike Brown, Renishaw
Managing Director – Australia

Lucas Hale installs iBalance hardware

perfect balance

How ANCA iBalance becomes the new solution for wheel balancing

Ever since humans invented the wheel, the need to keep the wheel in balance and stop vibration has been an age-old challenge. It's the same with tool and cutter grinders, as The Sharp Edge discovers in this issue.

ANCA Product Specialists Greg Perry (Mechanical) and Lucas Hale (Software) know a thing or two about wheel balancing. After all, they were given the joint responsibility by ANCA engineering for overseeing the development of a workable balancing solution for ANCA 5DX machines. iBalance (patent filed) is the ingenious result.

The need has always been there, Greg points out. But wheel balancing in our industry is traditionally expensive, requiring the customer to invest heavily in additional third party equipment to handle wheel-balancing issues.

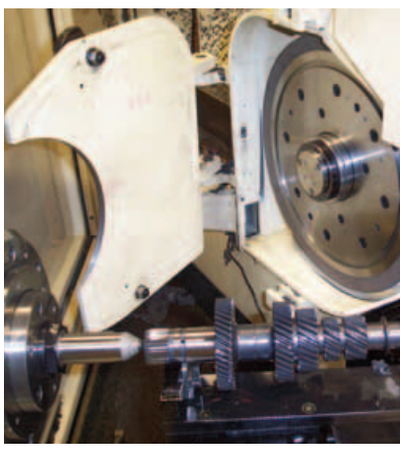
"The challenge for us, therefore, was to find a solution that would be cost effective and easy to use. Whilst working on an R&D project which required high-speed grinding and high quality surface finish the need for balanced wheels was critical to meet the requirements. ANCA felt that the existing solution didn't provide the customer with the best value for money and a cost effective balancing solution that was affordable to everybody was required. This demanded a new kind of wheel-balancing solution, hence iBalance."

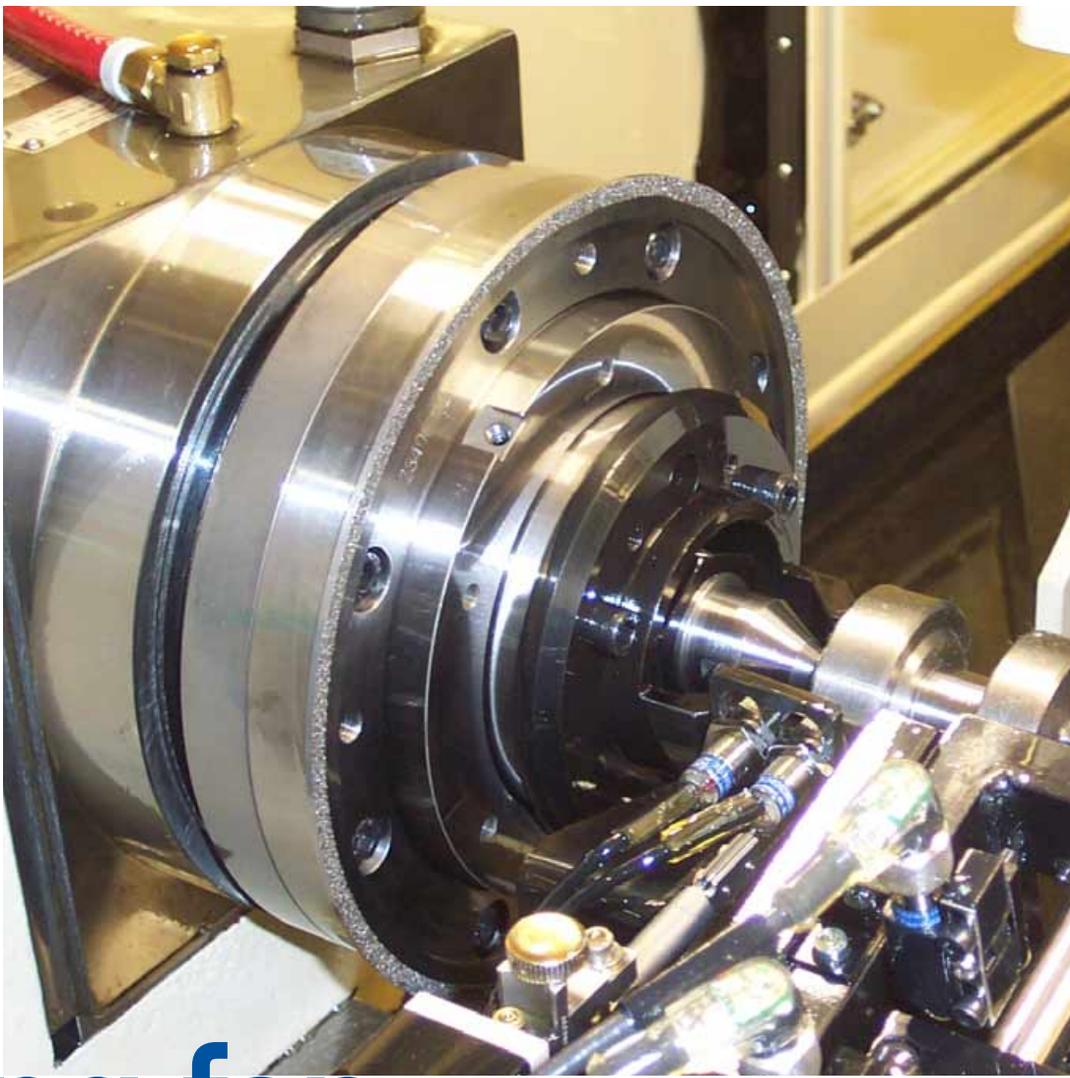
ANCA iBalance is a real breakthrough because it uses the technology already built into our range of 5DX machines," Lucas explained. "Basically, iBalance is a software assistant that will determine whether or not a wheel is out of balance then prompt and guide the operator through a series of steps to bring the wheel into balance."

In use, iBalance brings tangible benefits. When a wheel is out of balance, the vibration is felt throughout the spindle assembly of the machine, in severe cases wheel imbalance can be felt through the entire machine. The hardware used in ANCA's 5DX machines has the ability to detect and measure the amount of vibration and the direction of imbalance of the wheel.

The software user interface of iBalance then shows precisely where to add weight and how much is required. It also enables a wheel pack to be put in balance for the life of the wheel.

As good as the software is now, Greg and Lucas are looking to make it better. The next step they're tackling is to improve the user interface of the software assistant to add additional features such as the balance quality in conventional balancing units. They will also be enhancing the software suggested weight correction and providing a kit of pre determined weights to make the balance procedure quicker and easier. It promises to make iBalance even more practical and useful in the industry.





High speed grinding of cast iron balance shafts with vitrified CBN wheels in oil coolant 140 m/s

SAINT-GOBAIN

bonding for productivity

A new vitrified bond technology helps manufacturers improve productivity and lower costs

Mike Tracey of Saint-Gobain explains how their new vitreous (glass) bond system together with new, aggressive cubic boron nitride (CBN) grains can help makers of automotive cams, crankshafts and fuel injectors make substantial gains in productivity.

Formulated with the Universal Superabrasives T2 technology the system enables Universal Superabrasives to customize the vitrified CBN wheels to meet user requirements by specific application and material type. The technology is designed for high-volume, ultra-precision ID and OD grinding of a range of parts manufactured from a variety of ferrous materials, including cast iron, steel and high-nickel alloys.

The combination of the Universal Superabrasives T2 technology bond system and premium abrasives provides 50 to 200 percent improvements in wheel life over wheels with standard bond systems, as measured by total parts ground per wheel.

The T2 technology-based CBN wheels were developed through the R&D collaboration of units of Saint-Gobain Corporation.

"Our Superabrasives R&D team worked with the R&D team from the Flat Glass Branch in Paris, and the result was a far deeper understanding of glass chemistry," said Mike Tracy, Vice President of Industrial Superabrasives Worldwide. "The successful R&D collaboration for these new vitrified CBN products will help us further develop new glass technology and enable us to further broaden the Saint-Gobain superabrasives product line."

The products, which are being manufactured at Saint-Gobain Abrasives manufacturing locations in Massachusetts and Illinois in the USA, can typically help users grind up to three times the stock with half the force, compared with conventional grinding processes. To maximize grinding efficiency, metal removal is conducted in a very small width, turning the wheel into the equivalent of a single point cutting tool. Users contour-grind the part as if the wheel was being used in machining.

"Where yesterday's most advanced technology might have produced 50,000 components per wheel, this T2 generation technology will produce 80,000 components per wheel," Mike explained.

Only two operators are required to oversee the production of six machines

making tablets made easy

Natoli Engineering Company, Inc, St Charles, Missouri, is a leader in the tablet compression tooling and equipment industry. And increasingly it relies on ANCA's PGX punch grinding machines – six and counting – to shape its tools and size them to microns.

Precision and consistency in its tool production are essential: the volume or dosage represented by the pressed tablet or pill is specified to the milligram. Working six days a week, 20 hours a day, Natoli ships 20,000 sets – that's three tools per set – every day to customers around the world, including pharmaceutical firms, fireworks, cosmetics and watch battery manufacturers.

Service is paramount at Natoli. Customers can get all that is required to keep their production going—not only tools but tablet presses, parts, oils, and, importantly, training. "That's the kind of service we value and have built our company on," said Mike Natoli, manufacturing engineer.

And that's the level of service that this industry leader receives from ANCA. Mike has evaluated many types of machine tools over the past 30 years – and he knows how to run them all. He has had other grinding machines in the shop, but likes the ANCAs due to their productivity, of course, but also likes the support he has received from the crew at ANCA. "They show me what they want to do for us; that's where they shine. ANCA stood with us and helped us work through some problems we had."

"The new generation PGX are really fine machines. I can't say enough about how well the ANCAs hold size," Mike said. "That's extremely important because pharmaceutical dosages are tightly controlled. Tooling and machines must be qualified by the federal government. Tolerances in our tooling is in microns."

The first step in tablet production utilizes the Natoli-developed TabletCAD to create a unique tablet design with the precise dosage volume, density, and other factors. Natoli creates more than 20 new products a day. And there are more than 65000 different master customer designs in inventory. "With so many tablets on the market, it is important to be able to tell what a tablet is just by looking at it, so the designs must be easy to recognize," Mike Natoli pointed out.

The next step is to make a hardened tool steel master hob with a design embossed into one end. These tools are used to press a reverse of the design into the end of a 1" round, 6" long blank, which becomes the punch that is installed in a tableting machine. Each press may use 80 or more tools.

The next step has been to mill around the coined end of the punch to give it the necessary shape, and then grind

The Natoli Training Center

it to the required finish. But with the ANCAs, Natoli decided it could eliminate the milling step and grind the punch instead. "This will save time – and allow us to serve our customers more quickly."

The ANCA PGX at Natoli use CBN and vitrified wheels. "The finish we get with the CBN wheel and oil is just spectacular," Mike Natoli said. Part of the reason for that is the stability and rigidity of the machine; if you don't have a solid machine, you will never get good parts." Because the ANCA PGX takes a larger grinding wheel than any other machine, Natoli enjoys cooler grinding and high quality finishes.

Each machine is setup for certain products using vitrified or CBN wheels, keeping changeover time to a minimum. Only two operators manage the six machines. Two more new PGX are expected shortly.

At Natoli, ANCA precision and service are helping to keep an industry leader on top.

Natoli inspects each punch it grinds, confirming the consistency of the ANCA process in achieving tolerances in microns

NATOLI

Vasu Srinivasan, ANCA Production Planning, Logistic and Systems Manager

efficiency right down the line

Production system efficiency doesn't happen overnight. In the last four years, ANCA have made determined steps in implementing a world-class end-to-end value chain system. It's in place and working for ANCA branches and customers.

Vasu Srinivasan is a man on a mission. As ANCA Production Planning, Logistic and Systems Manager, he is determined to continually improve the value chain process in ANCA. As Vasu says, "It is a journey."

To appreciate the journey, one has to travel back four years to when Vasu embarked on the system overhaul. "What we had," he recalls, "were in effect four different companies, all speaking different languages. If we wanted a particular part number, it was coded differently in the branches. Accurate communication was extremely challenging."

The solution was to put in place a central system that would integrate all the databases and bring all ANCA branches together. It was a major challenge, Vasu says. As ANCA had grown to become an international company with offices around the world, it had become critical to develop a value chain system that could accommodate the company's growth and ever changing supply and demand.

"The aim was to have an end-to-end value chain system with the ability to control inventory and stock in transit – from the warehouse to the branches to the customer. It's something that just doesn't happen overnight. Processes have to be streamlined, data has to be refined and people have to be trained and supported."

From the outset, Vasu saw the system as not only managing stock but an integral part of an end-to-end value-adding system. That's in effect what he has been refining over the last three years.

"Analyzing it," he says, "We have come very close to the goals we originally set. "Four years down the track, we're all talking the same language and we have the financial system in place."

Vasu identified two key stages in the development of the system. The first stage was to identify and work with the major stakeholders such as branch offices and customers to develop the core value chain process. "You don't get there immediately," Vasu stresses. "You have to keep going back and looking at it, get people familiar with the process and so on. You need to work on the process, data and people.

The second stage was process automation though the implementation of EDI (Electronic Data Interchange)/ e commerce. ANCA's new processes and the MFG/Pro ERP system have enabled ordering and value efficiencies unattainable four years ago. Before the advent of EDI, Vasu says, an overseas purchase order would have to be manually faxed to ANCA head office. The order would then be manually entered in the Australian system. The lead time from purchase order to processing could be as much as a week to ten days, resulting in loss of time to manufacture and satisfy the customer demand swiftly.

"Now with EDI an overseas branch can raise the purchase order and the e commerce system turns it into a demand almost instantaneously at Australia. If all the business rules are satisfied the order fulfillment action can start within an hour of order from the other end.

Vasu likens it to an electronic conveyor belt. And with no less than 37,000 part numbers in the system it's having a profound impact on ANCA's ability to plan, supply and ship stock.

"It's not just with ordering, but also with receiving at the other end. The nature of the machinery and options that ANCA supplies means that the whole package can be a huge box of multiple items. Where previously someone had to manually receive the order, it can now be done electronically. That's a huge saving in time and human resources."

ANCA's EDI system is also vastly improving the information being

ANCA machines are shipped out

relayed to customers. Previously when a customer telephoned to enquire when their part was coming, the response would invariably need to be a return telephone call, now the information can be brought up on-screen immediately.

Vasu stresses that EDI is a tool, not an answer in itself. "We still have to create the process and apply the logic. EDI helps us convert data into meaningful information that we can use and understand."

There is no doubt Vasu's passion will continually take ANCA's value chain system to new horizons. In the process, customers will gain better and more accurate information with shorter lead time. "We appreciate the feedback we receive from customers which assist us in providing better information to them. It's all about providing our customers with the best service we possibly can".

Outside of work, Vasu has an equally busy life, with major interests being Indian philosophy and classical carnatic music. Those interests see him involved with non-profit community groups, organizing lectures, concerts and so on. It allows him to reflect on his life a great deal. In philosophy as in his commitment to improving ANCA systems, it is a journey, he says.

Kathakali is one of the classical dance-dramas of South India, dating back to the seventeenth century, and is one of Vasu's passions.

This unique art form is based on themes from Indian mythology Ramayana and Mahabharatha, combining literature, music, painting, acting and dance.

The ANCA large hydraulic chuck, with the top and side clamping cylinders

the one and only

When US automotive gear manufacturers sought a solution to stick blade grinding, they found it in the Australian-designed and made ANCA SBG. Keith Grillot, ANCA Sales Manager USA, provides an insight into the exceedingly successful development of the ANCA SBG.

"The ability to manufacture and recondition stick blades for milling hypoid gears is critical in the automotive industry," Keith explained. "But until the ANCA SBG or Stick Blade Grinder, there was no single machine that could undertake the task with high level of flexibility."

"American Axle (AA&M) came to ANCA in 1998 when all stick blades were made of HSS. Whilst their gear-cutting machines utilized a "dry cut" process requiring carbide blades, their in-house equipment could only grind HSS. As a result they looked at ANCA TG7s which they were already using to grind carbide drills and endmills."

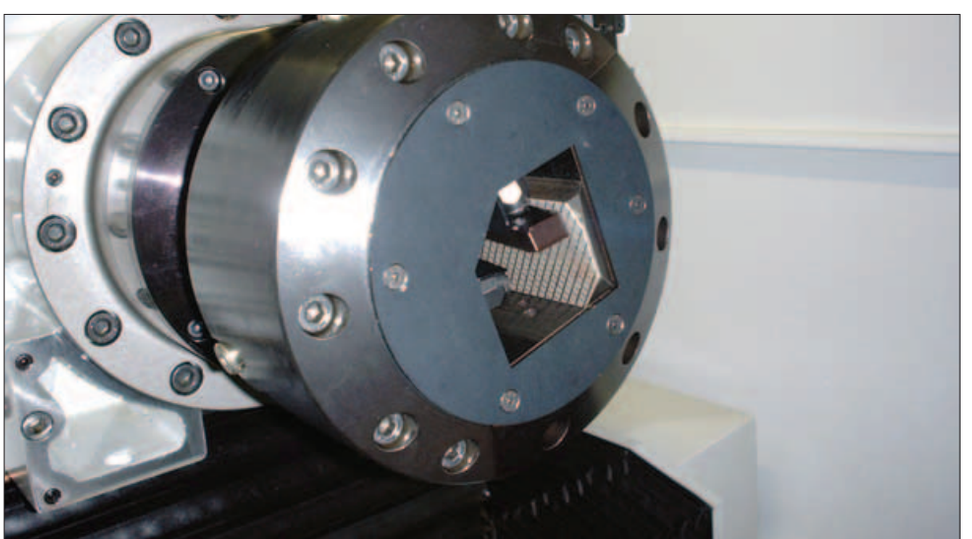
It was a similar situation at DANA, another big US customer. They had purchased a machine and contracted ANCA to work with them to develop a more in-depth software package. This is how the ANCA SBG began.

Prior to the ANCA SBG, there were two main US suppliers of cutting machines who basically had a captured market. However these machines were difficult to work with and didn't output sufficient information. They were, in effect, a closed-loop system with little adjustments. If a customer wanted to try something different they had to go back to the manufacturer and wait.

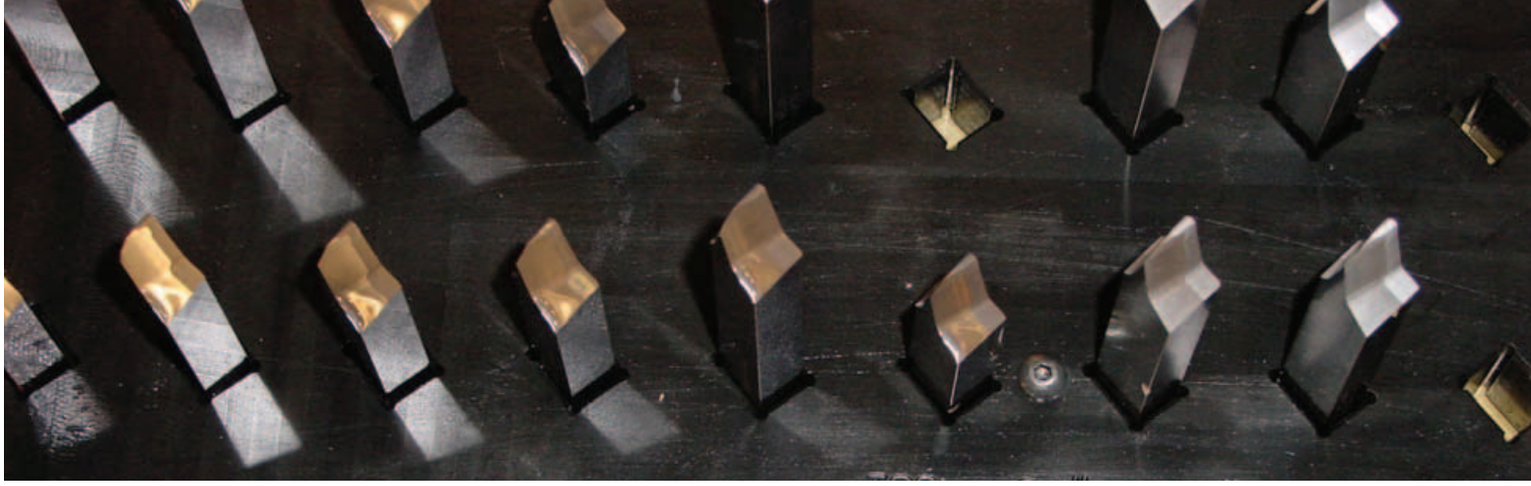
US manufacturers similar to DANA wanted a machine with the flexibility of allowing them to make changes whenever needed so they could develop their own gear designs. This is precisely what the ANCA SBG gave them.

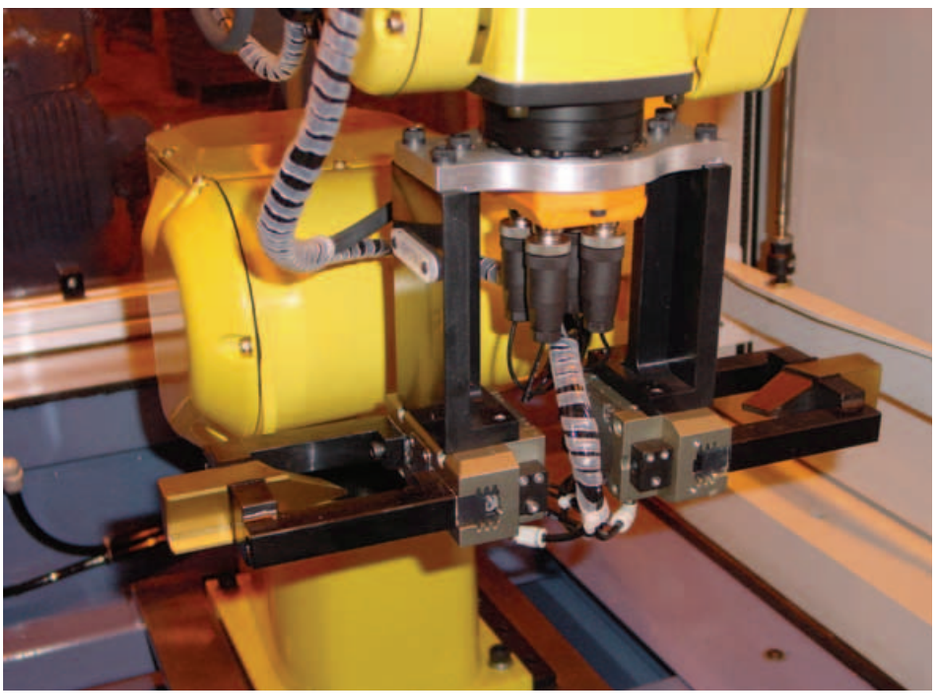
With the SBG, ANCA has produced a stick blade grinder with very high accuracy and manufacturing efficiency due to its fast cycle times. It can grind parts to +/-5 microns, and includes a chuck and palletized auto load system specially designed to handle gear cutting blades. Software is another vital part of the equation. The control software is Windows XP™ based and is very easy to use but also highly flexible. Files can be loaded from memory or uploaded from the Stick Blade administrator software. Users can also enter information from a remote location and make geometry compensations locally.

Automation is also a special feature of the ANCA SBG. The rigid pick-and-

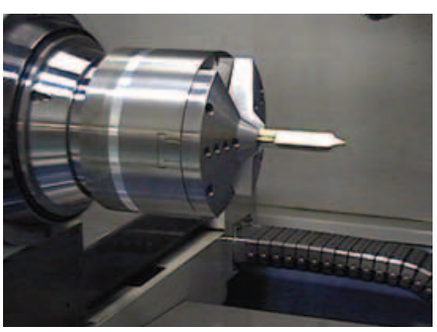


The ANCA hydraulic chuck for stick blades





FANUC robot with a worn and resharpened stick blade



place style loader is capable of a tool change in just seven seconds. There is an extended pallet capacity option, with up to five additional pallets able to be queued and ready for loading. ANCA's flexible palletized loading system doesn't require any presetting of the stick blades. The stick blades can be manually loaded for short runs as the loader is not required to position the part for grinding.

How well has the SBG been accepted in the giant US marketplace? Keith reports that demand is growing despite the fact that outside DANA and AA&M, ANCA has a modest profile.

"However, within DANA we have SBG machines in four different plants as well as three different AA&M plants," he says. "In addition we have recently met with other suppliers and are receiving high number of enquiries on the ANCA SBG. A comment made to us by the people in an automotive company was that it was nice to know there was another option besides the big two."

The overwhelming success of the SBG is the result of extensive and close collaboration between ANCA and the customer. This is a philosophy which will ensure the continual enhancements of the SBG in keeping with developments in gear cutting methods.

The Formtech production factory and offices overlook beautiful Galway

first for Ireland

How a tooling company is helping the fastest growing city in Europe to grow even faster

Since Formtech Tooling and Design opened its doors 17 years ago, it's been one of the Ireland's premier manufacturers of specialty tools. Tom Creaven, Managing Director, believes investing in the best equipment and machinery has been a key component to the success of the company.

Galway, on the west coast of Ireland, is one of the fastest growing cities in Europe. It is home to Formtech Tooling and Design, the first company in the UK and Ireland to have ordered and installed the new ANCA RX7 CNC tool and cutter grinding machine.

Tom Creaven explained that the project was started 18 months ago when Formtech looked at every five axis machine on the market. After exhaustive research, trials and demonstrations, they settled on the RX7.

"It offered the company not only the most in terms of value for money but we also felt the machine gave us the most power and flexibility in terms of software and working envelope".

Tom and his team did their homework, asking around the market place about which suppliers of CNC grinding machines offered a great package in terms of after sales service and support. "Each time ANCA was mentioned, it was in extremely favorable terms due to machine reliability and service back up."

The RX7 is the latest in tool grinding development. It has a 19 kW (peak power) direct drive spindle with 10,000 rpm. All axes provide direct-drive digital technology, including a 600 rpm A-axis that can also be used for cylindrical grinding. The 19 kW motor power gives Formtech enormous capability

Scenes from Galway, the home of Formtech

Tom Creaven (right) and James Qualter at work on the factory floor

for fluting large diameter tools which will enhance the productivity of the company. The design offers the most in terms of ergonomics with unrestricted access for the dual-ended spindle, which can accept a maximum of 202 mm (8") diameter grinding wheels.

James Qualter, Workshop Supervisor at Formtech, believes the range of tooling that Formtech supplies is vast, ranging from a basic standard end mill to multi step tools drills and reamers in HSS & Carbide. "We need to be able to respond to our customers demands quickly and easily, and with the ANCA Toolroom software with iGrind we get that capability, plus complete flexibility."

James said that even though the company has only had the RX7 a short time, the company's productivity has increased by around fifty percent.

Tom Creaven hopes that his partnership with ANCA will enable his company to grow along side Ireland's fastest growing city and give customers the fastest tooling turnaround in the country.

FORMTECH

Greg Perry, Product Specialist – Mechanical

sharpening the market

Sometimes the industry requires a machine that specializes in a particular function, without the frills and extras of a more expensive machine. ANCA listened and the GX7 CNC tool and cutter grinder is the result.

The ability to read the market and produce a machine tailored to industry needs is very much part of ANCA operating philosophy. To see it in action you need look no further than the new GX7 machine.

ANCA Mechanical Product Specialist, Greg Perry has been involved in the development of the GX7 and gave us a run-down on how it came about and how it meets an industry need.

"Basically the GX7 is an entry-level CNC machine dedicated to tool sharpening as opposed to tool production." Greg explained. "The industry told us there was a place for a machine that was not over specified for tool sharpening". Greg cites end mills, drills, woodworking tools, blades and profile cutters as typical applications.

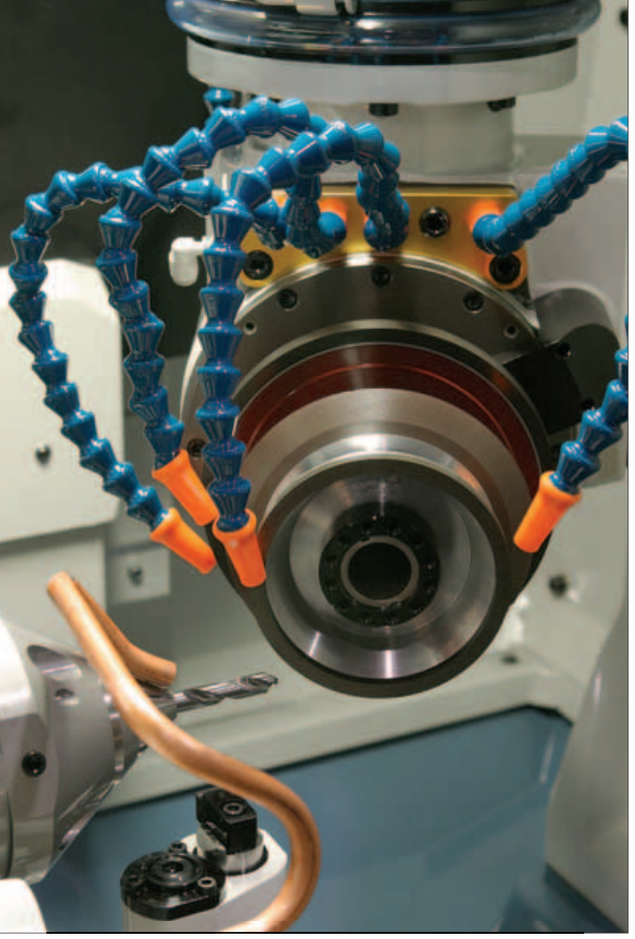
By producing a machine with only the features required for sharpening, ANCA have been able to trim the price of the GX7 to offer a very well-priced package.

The GX7 might be entry level, but it's still a very strong and robust machine, Greg stresses. It incorporates ANCA's proven polymer concrete base for stability and direct-drive technology for reliability.

Software is a critical feature of the GX7, complemented by features such as a Touch Screen user interface and familiar Windows XP operating system. It also fully utilizes all the features of the ANCA Toolroom® software suite.

The other big feature complementing the GX7 is the 52-tool drum loader. Once again, it's been designed to be cost-effective and tailored to the needs of the industry.

"The flexibility of the ANCA Loadermate software allows a customer to put in 52 totally different tools if they want to,"



Inner view of the GX7

The DLX 52 tool drum loader

Greg says. “They can then walk away and the GX7 will sharpen them entirely unmanned.” This offers automation for both long and short job runs.

The final word, Greg says, is that the ANCA GX7 is a machine that’s inexpensive, fast and intelligent. And that’s exactly what the tool sharpening industry requires.

Greg waters it down

He’s not just a great product specialist, he’s a clever water saver too. Greg decided to enter the competition run by the Victorian government to find "Water Heroes" in a campaign to publicize inventive but simple ways for people to save water. His simple technique won him some terrific prizes, including a washing machine, plus the chance to make a television commercial about his idea.

Greg's idea was to use his children’s bathwater on the garden. He just empties the bathwater using a hose that runs through the bathroom window and then puts the water onto his garden. In the TV commercial Greg, the Water Saver Hero describes his tip, and shows how simple it is.

"I thought it was too simple an idea to win anything," Greg explained. "But that was exactly what they wanted." Simple, cheap and easy ideas that anyone could use to save water.

Action!

Greg's kids were stars with Dad, too

Receiving his award from local Australian TV presenter Geoff 'Coxy' Cox

The Honorable Bob Charles, Australian Consul-General in Chicago, officially opens the new premises

moving ahead in the USA

ANCA Inc moves to big new headquarters in Michigan

For an Australian technology-based company to establish a strong market foothold in the USA is a credible achievement. For it to experience continuing growth in its sector, where US companies have declined or gone out of business, is remarkable.

That's the ANCA story in the USA where growth has been such that we've recently opened a new American headquarters in Michigan double the size of our previous building.

The new building in Wixom, Michigan will support a growing customer base in North America in terms of applications assistance, software engineering, machine rebuilding and training. It's a 100% increase in floor space over ANCA's previous location in Farmington Hills, Michigan, housing more than 35 ANCA Inc staff.

As Russell Riddiford, ANCA Vice President, explains, "ANCA is a high-tech company and we are growing steadily in this market. This expansion is a natural response to that positive change."

This is significant given that not all machine tool builders in the US have experienced growth. Some, dependent on the automotive industry, have declined or gone out of business. Others have failed to develop technology the way the market required.

However, ANCA's sophisticated computer-controlled grinding machines and software, supported by an aggressive R&D program at the factory, are finding applications not only in power train applications but also in the medical device field, special tool grinding, gear grinding, aerospace and other industries.

"We're proud of this new ANCA facility," Russell says. "Our people here worked hard to modify the building for our needs. It includes a state-of-the-art demonstration room, with a TX7+, GX7, RX7 and many new ANCA software developments on show."

The new facility will allow ANCA to act quickly to prepare equipment for delivery to customers, and to offer complete machine reconditioning and rebuilding. It's an investment that reflects Russell's conviction that ANCA will have significant growth in this market over the next five years, including North and South America.

"We expect a year-over-year 20% growth to occur partly through an improving market generally and also by taking share from competitors by providing more productive technology and efficient customer service."

Guests sign in

ANCA China

official opening

With China now ranked as the world's number one consumer of CNC machine tools, and the world's fourth largest producer of CNC machine tools the demand and market potential for ANCA is enormous. The importance of China in ANCA's corporate global strategy was never more evident than by the official opening of our office in Shanghai's Waigaoqiao Free Trade Zone.

In a market like China, it was always going to be important to have an official opening that could gain widespread machine tool industry support and attendance. Prior to the opening, a press interview was held with a number of influential magazines throughout China, including journalists from aerospace, automotive, cutting tool and machine tool magazines.

As a result ANCA received excellent support from this group which showed a keen interest in ANCA's technology as well as being fascinated by the design and concept of ANCA as a major machine tool manufacturer from Australia.

ANCA founders and owners Pat Boland and Pat McCluskey travelled to Shanghai for the official opening ceremony. They were joined by Jeff Foregard, Linsey Siede and other senior ANCA team members. Sam Gerovich, Australian Consulate General in Shanghai, also officiated, while local industry was represented by the China Machine Tool Builders Association and Waigaoqiao officials.

ANCA sees major flow-on benefits for customers from its establishment in Shanghai's Waigaoqiao Free Trade Zone. International companies such as ANCA have been setting up in this zone for a number of strategic reasons. There are outstanding logistics in terms of transport and access. A vast Waigaoqiao infrastructure is already in place in addition to the large industry base around Shanghai.

Full support capabilities will be provided from the ANCA Shanghai office, including sales, service, and distribution of spare parts and accessories. There will be training facilities and the ability to conduct sample tool grinding for customers at short notice. For the machine tool industry in China, this means ANCA service and application support is right on their doorstep.

The ANCA vision for this new office is very clear: it will become a central hub for communications, not only for China but across the Asian region. This will encompass technical, sales, service and customer applications to better service the business flow that is expected to grow into major importance in the coming years.

With the support already given by customers, government, the business community and the machine tool industry alike, ANCA is assured of a dynamic future for its new Shanghai office and the Chinese market in general.

Linsey Siede, Group General Manager, welcomes guests to the new China office

GX7

The ANCA GX7 is an entry-level sharpening machine, suitable to tackle a wide range of different high precision cutting and drilling tools, in one setup.

GX7 technical data

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	0.0001 mm	0.0001 mm	0.0001 deg	0.0001 deg
	0.0000039″	0.0000039″	0.0000039″		
Programming resolution	0.001 mm	0.001 mm	0.001 mm	0.001 deg	0.001 deg
	0.000039″	0.000039″	0.000039″		

Software axes (patented): B, V, U, W, A'

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 (12.7 hp) peak power (S1 at 6000 rpm) / 9000 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	ANCACRETE (Polymer concrete)		
Color	RAL 7035 / RAL 5014		
Weight	Approximately 4500kg		
Floor plan (including coolants)	Width	Depth	Height
	2508 mm	2010 mm	1905 mm
	99″	79″	75″

SBG

The ANCA SBG is designed to achieve high accuracy in stick blade cutters, along with manufacturing efficiency due to its fast cycle times.

SBG technical data

CNC data
CNC System ANCA 5DX. Pentium 4, 2.8 GHZ, Min. 512 Mb, Touch Screen, Ethernet, 56 Kbps, CD Read and Write/DVD Read only

Mechanical axes					
	X-axis	Y-axis	Z-axis	C-axis	A-axis
Axes travel	555 mm	410 mm	254 mm	264 deg	360 deg
	22.2″	16.4″	10.1″		
Position feedback resolution	0.0001 mm	0.0001 mm	0.0001 mm	0.0001 deg	0.0001 deg
	0.0000039″	0.0000039″	0.0000039″		
Programming resolution	0.001 mm	0.001 mm	0.001 mm	0.001 deg	0.001 deg
	0.000039″	0.000039″	0.000039″		

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

Work piece: Maximum tool diameter / Maximum weight 220 mm (8″) / 25 kg (55lbs)

Drive system: ANCA Digital (SERCOS standard) / Linear axes direct drive ball screw / Rotary axes direct drive

Machine data			
Grinding spindle: ANCA bi-directional / 37 kW / 49 hp / 10 000 (Optional 15,000) / Integral direct drive / Big Plus BT40			
Grinding wheel max. diameter 200 mm (7.87″) / Wheel bore 50.8 mm (2″) / 2 wheel packs with max 4 wheels each			
Other data			
Electrical power	25 KVA		
Probe system	Renishaw		
Coolant system	External		
Machine base	ANCACRETE (Polymer concrete)		
Color	RAL 7035 / RAL 5014		
Weight	Approximately 8 200 kg / 18 040 lb		
Floor plan (including coolants)	Width	Depth	Height
	1550 mm	2520 mm	2250mm
	61″	100″	89″

ANCA world wide

This information is correct at time of print

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I Tool Inc	IN	USA	(574) 583 3032
Innovative Machine Solutions Inc.	WI	USA	(262) 547 6448
Koch Machinery Co Inc	TX	USA	(281) 720 8500
Machine Tool Marketing Inc	OK	USA	(918) 369 7065
Machinery Sales Company	AZ	USA	(480) 357 2957
	UT	USA	(435) 901 0287
Machines & Methods Inc	WA	USA	(425) 746 1656
	OR	USA	(503) 617 1992
McDaniel Machinery Inc	AL	USA	(205) 403 9900
Metalworking Technologies Limited	IL	USA	(847) 434 1440
Modern Tools Inc	MA	USA	(781) 438 3211
North-South Machinery	CA	USA	(562) 690 7616
Productivity Inc	MN	USA	(763) 476 8600
	IA	USA	(319) 632 4288
	NE	USA	(402) 330 2323
Smith Industrial Machine Sales	NY	USA	(585) 738 8323
Walker Machinery	OH	USA	(513) 271 3380

South America

Vollmer Do Brasil	Curitiba	Brazil	+55 41 286 2321

Who said one CNC tap grinding machine can't do everything?

Not ANCA. Our engineers have created an industry-breaking tap grinding solution - in one single set-up, on one machine.

Introducing the **ANCA TapX CNC tap grinder.** Until now you've needed multiple machines to perform those tap-grinding operations that the **ANCA TapX accomplishes on one machine.**

It's a revolutionary CNC grinder in more ways than one. ANCA TapX performs all tap grinding operations, from a blank to a finished product in one set up and one machine, offering dramatically **reduced production costs** and **improved production efficiency**. The ANCA TapX is also ideal for small batch tap production due to its **quick changeover time** and **ease of set up** due to specially designed tap grinding tooling.

It's complemented by the **ANCA iTap software** which allows complete and flexible tap design and manufacture for both standard and special tap geometries. The on-screen interface guides the user through the tap configuration process simply and logically. The software suite also includes ANCA iBalance for **precise wheel balancing** and ANCA iFlute for wheel and flute shape design.

ANCA TapX also offers two different types of loaders, including a pallet loader for up to 220 tools and a robotic loader with a capacity of up to 800 tools. The ANCA TapX machine comes equipped with two dresser units to ensure all wheel dressing requirements.

Complete tap production in one machine? Talk to ANCA about how TapX can be tailored precisely to suit your requirements.

Paul Bocchi

ANCA TapX Engineer

Bachelor of Mechanical Engineering, Bachelor of Computer Science- Melbourne University (Australia)

Motorcycle enthusiast and aspiring tennis champion

ANCA® TapX

TOTAL PRECISION

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