

Master Craftsman

With the recent announcement of significant new orders for Craftsman Tools, Steed Webzell visited the company to discover the secrets of its success

Craftsman Tools, the Yorkshire-based provider of workholding equipment, toolholding products and contract machining services, is doing a roaring trade. Turnover now stands at £4.5 million, with 60 per cent of this generated by UK customers. Employee count is up 10 per cent on last year (now standing at 54) and investment is at record levels.

Craftsman Tools was established in 1953 and today operates out of two centres: Otley in Yorkshire and Chicago

in the US (trading as Chevin Tools). All products are designed and manufactured at Otley but the US is increasingly important as an export destination. Chevin Tools, for the first time ever, achieved \$1 million turnover in 2006.

Craftsman Tools has many business streams but it is arguably best known for its workholding prowess, having supplied products to a host of prestigious customers in recent years, including Boeing, Nissan, Yamazaki Mazak, Sandvik Coromant, Hyde Aerospace, and BOC

Edwards. Workholding products include the company's precision cubes, expanding mandrels and collet chucks, as well as special-purpose fixtures, rotating centres, special chuck jaws, and other items such as vices.

SUCCESS CUBED

Today workholding remains a prominent part of the company's business. In fact, Craftsman Tools has just been putting the finishing touches to orders for its cube workholding systems for major



The 2005 extension at Craftsman Tools is beginning to fill. The newly set up North cell – focused on development work – is housed here

clients in the UK and US.

A contract worth over £80,000 for the aerospace industry has seen the company supplying both standard and bespoke tee and tri-form workholding systems. Using specifications based on customer requirements, Craftsman Tools has now designed and manufactured 22 units, and the company is hopeful of further orders in the future.

Over in the US, engine manufacturer Dresser Waukesha, based near Milwaukee, Wisconsin, has been a Craftsman Tools customer for almost three years. It is also prominent in the design, manufacture and marketing of highly engineered equipment and services sold primarily to customers in the flow control, measurement systems, and compression and power systems segments of the energy industry.

Craftsman Tools' managing director, Robert Johnson, says: "Dresser Waukesha is in the process of replacing its entire manufacturing stock and this is being carried out as it improves or



Total quality, continuous improvement

The application of total quality management at Craftsman Tools permits continuous improvements in all aspects of customer service.

"We have many years of successful experience in design, manufacture and installation of high quality equipment," says managing director Robert Johnson. "We are proud of the reputation that has been forged during this period, although we are ever conscious of the constant attention that is needed in order to preserve our manufacturing integrity. To ensure that the quality is maintained and continuously improved we adhere to the requirements of ISO9001:2000.

"To this end we are committed to our Quality Policy – to attain and maintain a standard of quality equivalent to the best levels of engineering practice. The company is committed to a programme of quality awareness that demands the co-operation and involvement of top management and all our employees.

"In achieving the objectives set out in our Quality Policy we aim to exceed the customer's expectations in terms of quality and service."

launches new products. As with the aerospace contract in the UK, we were chosen because of the stability and accuracy of our cube holding which falls into two categories, plain-faced and lightweight with interchangeable plates."

The plain-faced type mounts directly to a standard machine pallet so its faces are ready to take fixturing items. The faces are supplied finish-machined, perpendicular to the integral base and edge locations, with assured parallelism.

The plain faced cubes can also be used to apply the Crafticube system which gives flexibility in the application of fixtures to horizontal machining centres. At its heart is the cube – a high quality hollow casting, stress relieved and precision-machined. Its strong construction and integral base ensure dimensional stability and a capacity for arduous work. Two precise dowels on each face guarantee permanent datums and interchangeability of fixture plates.

Other members of the family, including hollow tee brackets, tri-forms and angle brackets, can also accept fixture plates by applying the same principles. These are well suited to the mounting of a series of vice units and

Components produced on Mazak Integrex machines in Aire cell – focused on sub-contract manufacturing

other modular arrangements.

"We've worked with Dresser Waukesha intensively over the past three years to put together a product that best suits their needs," adds Mr Johnson. "Our representatives in the US recently met their chief buyer who paid us the ultimate compliment of stating that the company will not go anywhere else for its cube systems."

AND TOOLHOLDING TOO

In the toolholding sector too, Craftsman Tools is flourishing, having just delivered the major part of an order of specialised Coromant Capto toolholders for export to US. The bespoke units, for cutting tool manufacturer Sandvik Coromant, have brought on to the market a series of cutting tools that enhance a machine tool's performance.

The contract for the quick-change tooling system is worth around £750,000 over two years, and has seen Craftsman Tools come up with a workable and efficient design which, in addition to high overall accuracy and an improved workspace envelope, reduces set-up times, eliminates machine re-programming and reduces vibration. Craftsman Tools' has held a worldwide licence agreement with Sandvik Coromant since 1998.

The reasons for the company's



An assortment of workholding plates manufactured by Craftsman Tools. The US' Dresser Waukesha won't go anywhere else for its cube fixturing requirements

impressive recent success lie within the company's manufacturing facility in Otley.

Since the late 1990s, Craftsman Tools' production area has been divided into five manufacturing cells named after rivers. The Severn cell concentrates on toolholding products and rotating centres, 80 per cent of which is for export. The Aire cell focuses on sub-contract machining, largely for the oil field sector. The Delaware cell is responsible for workholding products, and the latest cell – provisionally called the North cell – is responsible for development work with new customers.

The major exception to the river names is the Sulzer cell that is permanently contracted to Sulzer Pumps UK of Leeds (since 1995). The Sulzer cell produces a wide range of products including bearing housings and associated parts up to 1,200 mm in diameter in some instances. Principal machines in this cell include three Haas SL turning centres of various capacities which are all overseen by a single operator.

Each cell has its own manager who acts as a single point of contact for its customers. While in the past different cells have been busy at different times, marketing manager Tim Thorburn believes this year has set a new precedent.

"For the first time in my five years with the company, all of our

manufacturing cells are flat-out," he says. "The oil field and machine tool sectors are particularly buoyant at present." Regarding the latter, Craftsman Tools has a long-standing working relationships with Mazak, Mori-Seiki, Okuma and Doosan Daewoo. New release machines from any of these suppliers equates to a busy time for Craftsman, making sure it has sufficient appropriate toolholders.

It comes as no surprise to find that most of the machine tools in the company's manufacturing cells are supplied by these manufacturers. For instance, Aire cell is dominated by two multi-axis Mazak Integrex machines and a Puma 400M turning centre. Severn cell features two Mazak Nexus turning centres and a Mazak FH6000 twin pallet horizontal machining centre with fourth axis (there is also a Studer S33 universal CNC grinding machine).

Shift patterns are 06:00-14:00 and 14:00-00:00, but the FH6000 is left to run unattended overnight whenever possible.

NORTH – A NEW DIRECTION

Located in the company's 2005 extension, which doubled Craftsman Tools' manufacturing area, North cell is the newest addition to the production capacity and boasts a new Puma 2500SY three-axis turning centre (another is on order), a new Charmilles Robofil wire EDM (the company's first EDM – this

work was previously sub-contracted) and a Haas EC1600 horizontal machining centre (the first Haas EC1600 in Europe when it was installed in late 2005).

"Our cellular manufacturing system, with the deployment of cell managers, has had a big impact on our success," says Mr Thorburn. "Having a single point of contact is very important to our customers and allows long-standing business relationships to develop. It provides quality, delivery and satisfaction, and sets us apart from competitors both here in the UK and those in less expensive economies such as India and China."

In terms of the future, Mr Thorburn believes that the oil field sector will remain strong for the next five or six years, while a big growth area is the provision of bespoke fixtures for the aerospace industry. On the machine tool side of the business, he says the trend is very much towards supplying products for larger and more powerful machines.

So can Craftsman Tools maximise these opportunities and, perhaps more importantly, can the company continue to manufacture here in the UK? "Yes, definitely," Mr Thorburn responds affirmatively, "providing we can find the operators."

This comment is reference to the skills drought that has hit many parts of the manufacturing sector, a problem exacerbated at Craftsman Tools by a number of recent retirements. To combat this difficulty the company has now established its own apprenticeship scheme which currently has three youngsters enrolled.

"It's all part of ensuring our long-term viability," says Mr Thorburn. "By investing in our staff and new technology we are investing in our future. We are constantly seeking to maintain and improve our position as a world leader in the provision of workholding and toolholding equipment by developing innovative products using the best engineering design and practices, and by investing in state-of-the-art machinery and IT systems." □