

PRESS RELEASE

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Matchmaker supports aerospace requirements on quality and delivery

Based in Hayes, Middlesex, **Murray Productions** is a small company with some pretty big customers. With 11 staff and a turnover of around £1 million it is a direct supplier to companies that include GE Aviation and AgustaWestland.

Managing Director Warren Bell attributes the company's success to the high level of quality and delivery service it provides. To support and enhance this service, Murray Productions has invested in two new machine tools from **Matchmaker: a Mini Mill 610** vertical machining centre and a **Matchmaker Super Slant 200S** two-axis CNC turning centre.

Westland has been a customer since 1960 and Smiths Aerospace – now GE Aerospace – since 1968, and as Mr Bell explains, "They don't stay with the same people unless they have a good relationship with them. What we offer is that we can deliver on time to the quality they require. For GE, for example, we

have to deliver 98% on time and in full within a five day working window – no lates and a maximum of five working days early – with a minimum of 99% on quality."

The company started in business as a toolmaker, and offers both machining and presswork to its customers – all of whom are in the aerospace and defence sectors. The work for GE includes both pressings and machined parts, with some components pressed and then machined to final tolerances.

As Mr Bell says, "The machined parts we do for GE are fairly small items, maybe 12mm by 15mm, with some as small as 6mm by 8mm, and some of the tolerances are pretty hairy. Some of the instrument parts we make are eventually fitted with ruby bearings and they have to be in line within microns across the part, and we are doing these in batches of 300 at a time – we can do multiple setups of that kind of job on the Matchmaker Mini Mill.

"A lot of the machines on the market that call themselves mini mills are just mill/tap centres, but the Matchmaker Mini Mill 610 is a powerful three axis vertical machining centre. We are very impressed with it. And although it is a small machine it is big enough for us. With the work we are doing you can get two or three fixtures on the table. The Mini Mill can hold 16 tools, but we have never needed to have the carousel full yet."

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Combining a small footprint with a big capacity, the Mini Mill 610 has traverses of 610mm (X) by 305 (Y) by 460 (Z) and an 8,000 rpm BT 40 spindle. It has a cast construction with hardened and ground slideways and Fanuc control.

The majority of the work that Murray Productions is currently doing for Westland is parts such as liners, bushes, plugs and inserts for the repair and maintenance of helicopter gearboxes. These are turned on the Matchmaker Super Slant 200S lathe, with second ops such as cross-hole drilling and slot milling carried out on the Mini Mill 610. With the increased number of flying hours resulting from deployments in Iraq and Afghanistan, combined with operations in sandy and dusty conditions, demand for these components is high.

The helicopter gearbox casings are magnesium castings around the size of a car and cost around £1/4 million pound each. Rather than replace the whole gearbox, when a bearing seating is worn it is bored out and a steel liner inserted into which the new bearing is fitted. With successive replacement cycles the bored out holes get bigger and bigger, so the liners come in a number of sizes.

The biggest gearbox component is a 9 1/2 in diameter ring that is faced and machined on the internal and external diameters on the new Matchmaker lathe. This is fitted with an 8 in chuck as standard, but on this machine the

jaws have been extended to take larger diameters.

Warren Bell says that there is plenty of clearance to swing even larger parts, and adds that it is a powerful machine. It needs to be. The liners are made from aircraft steel, with the blanks cut by water jet. The parts are rough machined to within 3mm of the final size all over the surface and then heat treated before final machining in the hardened state.

The Matchmaker Super Slant 200S turning centre has a 462mm working length, 52mm through spindle bar capacity and features a hydraulic tool turret, programmable tailstock and Fanuc controller. It was supplied with a magazine bar feed that means the machine can run unmanned, leaving the operator free to do another job.

"When we invested in these machines we were looking to upgrade our equipment and reinvesting profit in the business," says Warren Bell. "We analysed our shortlist of possible suppliers and Matchmaker came up with the best package from every consideration. Not just the price and specification, but also the size of the machines, the warranty, the support and the training. We also wanted the Fanuc control because that what we already had on our other machines. We have been dealing with Matchmaker since the 1970s. What we like about them is that when they say something is going to happen it does happen.

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“What we wanted were straightforward, modern machines that were easy to use. And while these are fairly straightforward machines they are supporting a very high level of service and quality.”



Matchmaker Mini Mill 610

The Matchmaker Mini Mill 610 is a powerful three axis vertical machining centre



Matchmaker Super Slant 200

Components for helicopter gearboxes are turned on the Matchmaker Super Slant 200S lathe

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