



Hone-All Precision... combining lean with green manufacturing



Ceiling-mounted extraction units prevent the build-up of oil mist in Hone-All Precision Ltd's machine shop.

"Our success depends to a large extent on the customer's perception of the quality of the products and service on offer." Andrea Rodney, Director, Hone-All Precision Ltd, and Bedfordshire Businesswoman of the Year.

Deep hole drilling with its requirement for copious amounts of neat cutting oil can be a messy process, contributing to the negative image of engineering as a dirty business that poses a potential risk to health, safety and the environment. However, it doesn't have to be like this, as Hone-All Precision Ltd has shown following the company's decision to relocate its subcontract machining operations to larger refurbished premises in nearby Leighton Buzzard, Bedfordshire.

The move was prompted by the need for increased production capacity and a more efficient process flow from raw material through to finished component, along with easier access to and from the factory. However, relocation has allowed several environmental and related initiatives to be implemented as part of the refurbishment project, all of which have impacted favourably on the company as a whole.

"While the cost of these initiatives does have a direct effect on the bottom line, it is balanced over time by a reduction in our direct costs and by less easily quantified benefits such as a better working environment," says Andrea Rodney, Director. "Our machining capability continues to be components up to 250 mm diameter by 3 m long but doubling our floorspace to 20,000 sq. ft. has allowed additional investment in machine tools. This is a vital part of our lean manufacturing strategy, which has

shortened delivery times and minimised the movement of heavy material and components through the factory. We have also reduced energy usage by installing a new roof with clear panels to let in natural light, and opting for Carbon Trust-approved, highly energy efficient daylight quality lighting throughout the factory."

The expertise to produce high length-to-depth ratio holes, often in difficult to machine materials such as Inconel and Hastelloy, while guaranteeing excellent surface finish and straightness characteristics is key to Hone-All Precision's steady progress over the past decade. In terms of deep hole drilling this equates to a surface finish of 0.8 $\mu\text{m}/32$ CLA and a total run-out (TIR) of 0.025 mm/25.4 mm. Typical components requiring deep hole drilling up to 30 mm diameter include con rods, drive shafts, steering columns, electronic housings, injection mould tools, prosthetics, rotors, actuators and landing gear. For holes with a diameter greater than 30 mm, the alternative is deep hole boring, which is the machining process used on the replica 16th century cannon featured in the Master and Commander film starring Russell Crowe.



Hone-All Precision Limited
Cherrycourt Way
Leighton Buzzard
Bedfordshire LU7 4UH

Telephone 0845 5555 111

Fax 0845 5555 222

E.mail sales@hone-all.co.uk

www.hone-all.co.uk



Hone-All Precision's commitment to maintaining its specialist skills in deep hole drilling, boring and honing, as well as its one-stop-shop machining capability, is backed by an emphasis on good housekeeping, safe working practices and a comprehensive environmental policy. Every machine tool was inspected before the move, re-engineered, re-wired and, when installed in the new 20,000 sq. ft. factory, subjected to a comprehensive safety check.

In practice, a factory-wide clean air blower and filtration system with ceiling-mounted extraction units positioned strategically throughout the machining area prevents the build-up of oil mist, while machine tools are located in drip trays, with billets drained on mesh covered drip trays, to avoid oil spills and minimise wastage. Machine tanks are no longer filled by hand as oil tanks equipped with retractable hoses are situated at one end of the mezzanine floor that runs the entire length of the building. And swarf is removed via the swarf conveyors with integral drip trays that are fitted to some machines; on other machines it is removed to hoppers with drainage facilities. It is then spun to recover the neat oil before being sent off-site for segregation and recycling.

"The recent accreditation to the AS9100 aerospace quality standard, while not directly influenced by health, safety and environmental issues, could not have been achieved had we remained within the restrictions of our previous premises," says Andrea Rodney, who last month was presented with the Bedfordshire Businesswoman of the Year award. "Winning business in advanced technology industries such as aerospace, motorsport, and oil and gas is a major challenge, and our success depends to a large extent on the customer's perception of the quality of the products and service on offer."



Deep hole drilling of holes up to 30 mm diameter is one of Hone-All Precision Ltd's specialist machining skills.

And the increased floorspace has contributed to a shopfloor layout that ensures a smooth and logical workflow, thereby minimising work-in-progress and eliminating potential production bottlenecks.

As regards environmental considerations, Hone-All Precision's publicly stated aim is 'to educate and encourage our employees to realise and understand their responsibilities with regard to conservation; to exceed the requirements of all relevant Government regulations at our site; to minimise our energy consumption; and to recycle waste material from production into new production or transfer it to a recycling company to dispose of in a controlled manner waste materials that cannot be recycled'.



Hone-All Precision Limited
Cherrycourt Way
Leighton Buzzard
Bedfordshire LU7 4UH

Telephone 0845 5555 111

Fax 0845 5555 222

E.mail sales@hone-all.co.uk

www.hone-all.co.uk