

COMPANIES GEARING UP

Scram Jet project a technology first for HMG

SCRAM JETS are air-breathing, supersonic, combustion ramjet engines that could make it possible for two-hour flights from Sydney to London.

Together with the University of Queensland; HMG Hardchrome has aided in the development of the technology for the Scram Jet by building a specialised wind tunnel testing device, designed to test (among other things) the effects of re-entry on materials and designs for the Scram Jets.

The tunnel however, does not use air; it uses high-pressurised, super-heated helium. The Scram Jet wind tunnel is more than 30 metres long and weighs more than 25 tonnes.

This project was a first for HMG Hardchrome outside of the standard scope for hydraulic cylinders and it broke several records for machining size and weight.

At more than 500mm internal diameter, it was the largest job ever machined, bored and

honed within company history. The attaching thread for the joinery of the piece was the largest thread ever cut at HMG Hardchrome.

The job was delivered (with no complications) and has been commissioned within the mechanical engineering department at the University of Queensland's St Lucia campus.

The University of Queensland and its alliance partners will research and build advanced Scram Jet prototypes to undertake prolonged flight tests at speeds of more than Mach 8 or 8000km/hour.

HMG Hardchrome worked with the engineers at the University on their designs and assisted to improve the life and effectiveness of components.

With the talents and experience of the HMG team, some components that otherwise would need to be re-manufactured were able to be reclaimed. Specialised tooling was required

for some of the machining for the project, which was designed and manufactured in-house and HMG's custom-built Deep Hole Borer was used, setting a new record for ID and length.

"The mining industry has always been at the forefront of technology and design, by thinking outside of the box and applying our years of industry experience, we are able to offer a service that goes beyond simple repair and return," HMG Hardchrome CEO Lincoln Gibbons said. "We don't just fix cylinders and pumps, we repair problems, and deliver solutions."

Although HMG Hardchrome has no immediate plans for any more wind tunnels, the experience of this project along with new knowledge of its own capabilities, will enable better service for its customers in the future.

HMG Hardchrome is leading a new project on a new bore measuring device using a laser

range-finder to precisely map the inside of hydraulic and pneumatic cylinders, along with researchers from the private sector. This new technology will give faster, more accurate readings than conventional micrometers.

Real life story promotes safety message

URGING real-life safety messages to workplaces throughout the country, CNBSAFE provides occupational health and safety presentations across Australia and New Zealand.

James Wood is the story behind CNBSAFE.

One day in 1985, James went to work as a mechanic on a mine site in NSW and came home nine months later.

He had had an accident that left him in a wheelchair for the rest of his life.

The accident was caused by the choices he had made.

For the last 10 years, James has visited workplaces throughout Australia and

shared his story.

He asks employees to think about the choices they make.

"The beauty of James turning up on-site is that it allows employees to see the real results of a workplace accident," CNBSAFE business manager Vanessa Gay said.

"James tells them how it not only changed his life but affected many people around him.

"In a simple way, James can tie in any safety initiatives at a site, and his message can be tailored to suit a current safety focus."

The company has now geared up to take its message on the road by building a

custom-made home and office.

"We will now travel to sites via road around Australia," Ms Gay said.

"This will make it much easier for more workplaces to benefit from James's story."

As the company's business manager, Ms Gay's role involves helping businesses prepare for James's visit as well as maximising the impact of his session.

She can also arrange the supply of safety posters to create interest prior to and post James's visit, making sure that his message fits every business's individual safety objectives.



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A real life safety message for your workplace.
Let James visit your workplace and see the real results of a workplace injury.
Are YOU interested in having James visit your site to reinforce your safety message?
YES, then email Vanessa at ontheroad@cnbsafe.com.au to secure your dates for 2009/2010 now.



Learn more about James Safety Message by visiting www.cnbsafe.com.au

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