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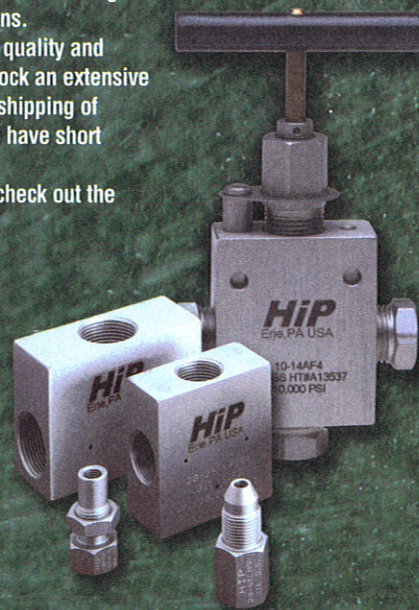
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Jet News

AUGUST 2005

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Radiological Decontamination Of Armored Vehicles



This photograph shows radiological decontamination of an armored vehicle with VLN's rotating forced pulsed waterjets at a military test site in Umea, Sweden, (small inset: at a facility in Ottawa, Canada). The investigation continues under a new contract from CBRN/CRTI (Chemical, Biological, Radiological and Nuclear Research and Technology Initiative) of National Defense of Canada. Picture sent in by VLN Advanced Technologies Inc., a company demonstrating at the 2005 WJTA American Waterjet Conference.

Throughout this issue of the *Jet News* you will find more photographs contributed by companies that will be performing live demonstrations at the 2005 WJTA American Waterjet Conference.

Hydrodemolition On An Austrian Bridge

Austrian hydrodemolition specialist contractor Röhlsler & Co. is using an Aqua Cutter HVD6000 to remove more than 300 m³ of concrete to expose rebar for installation of new impact barriers on a 300 m elevated live highway in Vienna.

Vienna's North Bridge is considered to be one of the busiest bridges in Central Europe with approximately 100,000 vehicles a day.

Much of this traffic, from the northern suburbs, is causing major traffic congestion with more than 42,000 vehicles daily using the A22 junction in the area of the city's B7, B3 and Brünner Strasse in the suburb of Floridsdorf.

As a result, construction is underway constructing an elevated 1.2 km extension of the A22 at Prager Strasse to alleviate the heavy traffic away from the suburb centre and improve access to the nearby shopping centre and industrial area.

Construction work started on the new extension project by German contractor Dywidag at the beginning of the year in a 20-month contract and a contract value of €100 million.

As part of the project, the opportunity was taken by the city's Highway Authority to upgrade the impact barriers along the existing 300 m long elevated section of the A22.

Hydrodemolition techniques were the specified preferred option to expose the bridge rebar by the contractor with Austrian specialist Röhlsler & Co appointed as the main sub-contractor responsible for the work.

Röhlsler & Co opted to use its HVD6000 Aqua Cutter to cut an 80 cm wide channel to a depth of 25 cm to expose the rebar, removing all the concrete along the outer edge of the highway platform.

Using a high pressure jet of water, the diesel-powered Aqua Cutter robot 'blasts' the concrete without causing any damage to the structure or the reinforcement bars.

In a second adjacent cut, Röhlsler & Co prepared a further channel 1 m x 5 cm to expose the top rebar without causing any damage. New rebar was then embedded into the 1 m section and across to the new extended bridge edge, further reinforcing the exposed rebar.

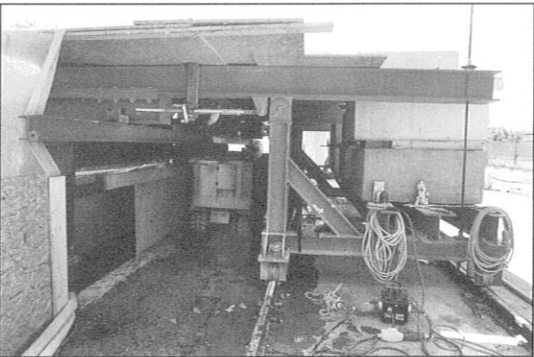
A new 1.4 m – 1.6 m wide concrete platform was formed with a 20 – 30 cm thickness and supported by temporary formwork scaffolding.

By the completion of the project, Röhlsler & Co expect to have cleared more than 2,500 m² without any damage to the rebar or adjacent concrete.

Crossing over the Prager Strasse interchange



Temporary scaffolding utilizing Doka formwork supports the new 1.4 m – 1.6 m wide concrete platform extending the elevated highway.



A special steel gantry protects demolition procedures from passing traffic and pedestrians below the elevated section, enclosing the Aquajet cutter robot.



The compact size of the Aquajet robot allows it to work in confined areas not accessed by competitive hydrodemolition systems.




Tank cleaning. Picture sent in by Universal Minerals, a company demonstrating at the 2005 WJTA American Waterjet Conference.



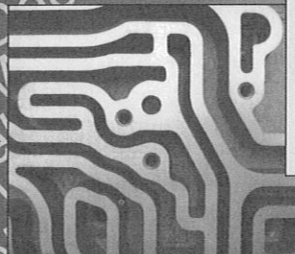
Waterjets remove paint from steel. Picture sent in by Universal Minerals, a company demonstrating at the 2005 WJTA American Waterjet Conference.

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Live Demos Performed at WJTA show.

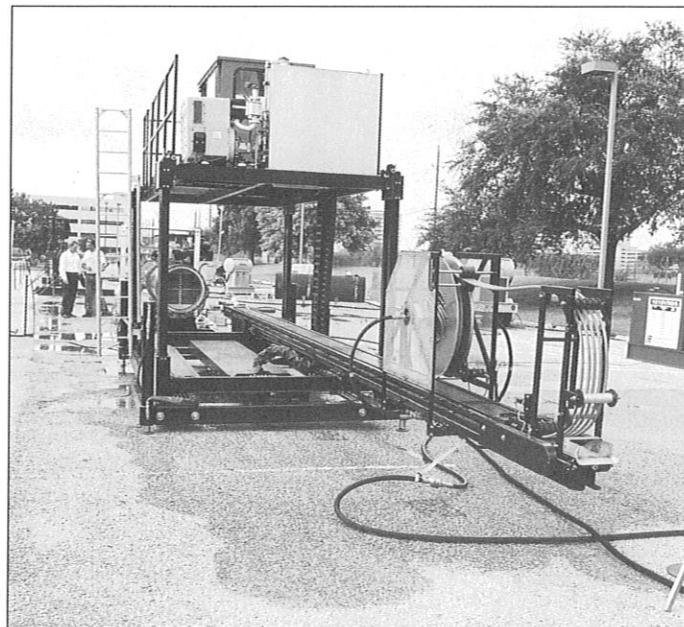
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Peinemann lancer. Picture sent in by Gardner Denver Water Jetting Systems, a company demonstrating at the 2005 WJTA American Waterjet Conference.

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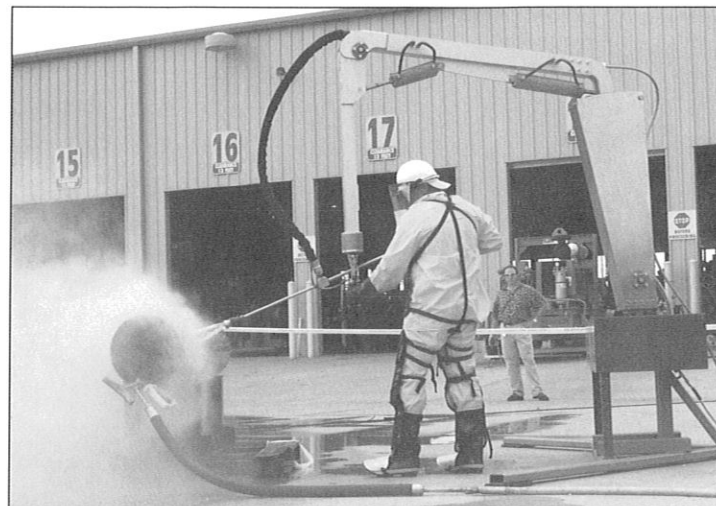


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"MAX ARMSTRONG" is a new product concept from Jetstream that will be demonstrated at the WJTA Conference. It is a pneumatic "arm" designed to minimize thrust on the operator while waterblasting. It would be the industry's first intuitive, non-robotic manipulating device to support the weight and thrust of waterblasting guns.

The device adapts to any nozzle, flow and pressure selected, and allows a wide range of motion – up, down, side-to-side and rotation. Picture sent in by Jetstream of Houston, LLP, a company demonstrating at the 2005 WJTA American Waterjet Conference.



Waterjets remove paint. Picture sent in by Gardner Denver Water Jetting Systems, a company demonstrating at the 2005 WJTA American Waterjet Conference.

Viper 40™ Features Self-Rotating UHP Waterjet

With NLB's new Viper 40™, a powerful combination of UHP waterjets and rotating action can be achieved with a standard lance. This innovative accessory rotates by the reaction energy of the water, eliminating the expense of a specially designed lance and an air source to power the rotation.

The Viper 40™ represents a new generation of SPIN-NOZZLE® heads, whose rotating action produces a wider spray path that increases speed and productivity. It is the first SPIN-NOZZLE® to operate at pressures of up to 40,000 psi and can be repaired in the field in less than five minutes with a simple rebuild kit. Previous models had to be returned to the factory.



Viper 40™ Rotating Waterjet Head

The new head features two carbide and sapphire nozzle inserts, rotating at up to 5,000 rpm. Both are recessed to minimize knocks and damage. The round design of the precision-machined, stainless steel body also contributes to long life.

The Viper 40™ is rated for pressures between 24,000 and 40,000 psi (1,650 and 2,800 bar) with a

maximum flow of 6 gpm (22.7 lpm). It weighs just 3.6 lbs. (1.6 kg) and has an inlet connection of 9/16" (14.3 mm) H/P.

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Rotating Line Moles

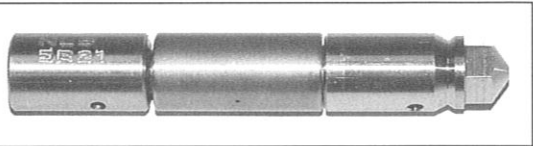
NLB Corp. has introduced three new 20,000 psi water jet nozzles for clearing blocked pipes and tubes. Called Rotating Line Moles, they are self-propelling and field-repairable in less than five minutes.

The RLM-2-20K, RLM-4-20K and RLM-6-20K offer different sizes and flow rates (4 to 18 gpm, or 15 to 68 lpm), to suit different applications. All feature integrated backward-facing orifices that propel them through hard deposits on the I.D. of pipes and tubes. At the same time, part of the

nozzle rotates and polishes the pipe's I.D.

NLB RLM nozzles are made of durable stainless steel and can be purchased pre-drilled or custom-drilled, depending on customer needs. Worn parts can be replaced in the field in less than five minutes with a simple rebuild kit, minimizing downtime.

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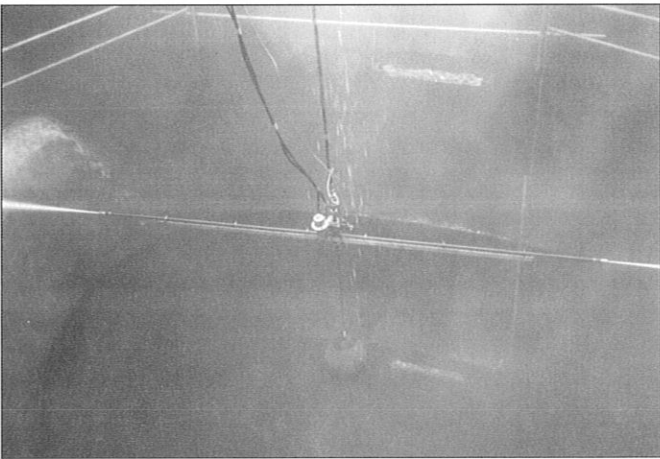


quality water jetting systems and accessories for many uses, including surface preparation, industrial cleaning, tank cleaning, descaling, paint and sludge removal, concrete demolition, concrete and pipe cutting, and more.

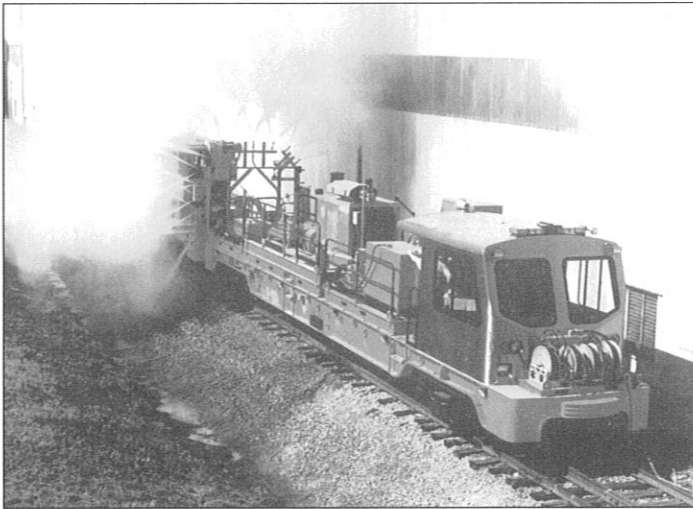
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Water jet safety gear. Picture sent in by TurtleSkin WaterArmor by Warwick Mills, a company demonstrating at the 2005 WJTA American Waterjet Conference.



Tank cleaner. Picture sent in by StoneAge, Inc., a company demonstrating at the 2005 WJTA American Waterjet Conference.



Subway Cleaner. Picture sent in by StoneAge, Inc., a company demonstrating at the 2005 WJTA American Waterjet Conference.

Onsite Live Demonstrations Being Held At The Conference

Onsite Live Demonstrations are being held at the 2005 WJTA American Waterjet Conference on Monday, August 22, and Tuesday, August 23, in the rear parking lot of the Marriott Westchase Hotel in Houston, Texas. An assortment of photos contributed by companies performing demos that depict waterjets in action appear throughout this issue of the *Jet News*. A list of participating companies and their display descriptions available at press time appear below:

Aqua-Dyne, L.P.

Aqua-Dyne, Inc. will demonstrate 40,000 PSI surface preparation blasting to bare metal using the latest GA 200 DS Vacuum System and Robotic Cleaner for vertical and horizontal walls, ship hulls/bottoms and vessels. Aqua-Dyne's rotary gun, mini scrubber and Dyna Mo (grate and floor cleaner) are also being demonstrated.

Gardner Denver Water Jetting Systems, Inc.

Gardner Denver will demonstrate the 800 Series Contractor Unit plus the single TLE hand-held trans line cleaner and the Nitrogen PRS Unloader System with three guns. Gardner Denver will also demonstrate the 50,000 PSI unit with a 50K wet abrasive cutting track demo,

followed by a 50K rotary hand gun surface preparation demonstration.

Hammelmann Corp.

Hammelmann will be demonstrating our HDP-74 triplex pump which will deliver 2.5 gpm @ 50,000 psi. The pump is fitted with our 1 wire technology, which allows use of a spray pistol without using a tumble box. The 1 wire systems allows for instant bypass of a tool at any distances with the bypass water to be re-circulated at the pump instead of dumping to the ground near the operator. Among other tools we will demonstrate will be our reaction force-adjustable brake rotaries, Ergoblast spray pistol and the Flexlance tube bundle and pipe cleaner.

(continued on page 7)

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Hydrodemolition On An Austrian Bridge, from page 2

presented several problems for the contractor, not least the height of tramlines below the bridge.

According to Project Manager, Herr B L Ludwig, "Working with a maximum heading of just 15 cm – almost nothing – was a particular concern."

He continued, "We could not close the road or halt the trams."

A special steel gantry designed by Röhsler & Co in collaboration with Dywidag, solved the problem protecting the passing traffic and pedestrians, and enclosing the Aqua Cutter robot.

Röhsler maintained a working section of 12 m/day determined by the repeated repositioning of the rail-

mounted covered steel gantry over the edge of the highway, with live traffic including cars, trams and pedestrians below.

Impact barriers

The new improved steel impact barrier meets with the latest EU regulations and an outer steel and fibreglass infill canopy provides an aesthetic finish and noise damping.

The HVD6000 robot from Swedish specialist manufacturer Aquajet Systems AB was coupled to a 800 hp Woma pump supplying water at a pressure with 1200 bar and a flow rate of 200 litres/min.

Austrian hydrodemolition contractor Röhsler is no stranger to Aquajet, with

more than 10 years experience with the Swedish company's Aqua Cutter systems.

Currently, in addition to the HVD6000 the company also has an HVD6000 TC and an older HV550.

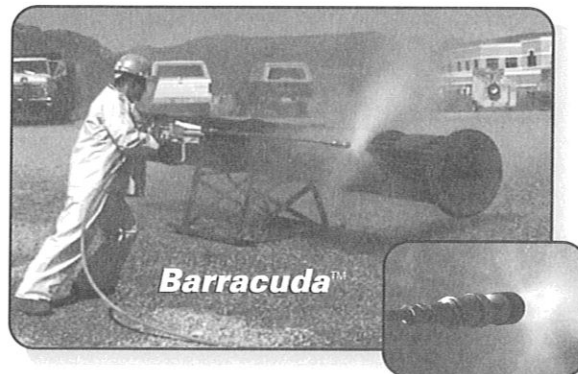
According to Ing. Rainer Röhsler, all three are in constant use throughout the hydrodemolition season – determined by the end of frosts – throughout Europe as well as in special jobs in the Middle East.

For more information, contact: Stefan Hilmersson, Aquajet Systems AB, Brunnsvägen 15, SE-570 15 Holsbybrunn, Sweden, Tel: int +46 (0)383 508 01, Fax: int +46 (0)383 507 30, email: aquajet@aquajet.se

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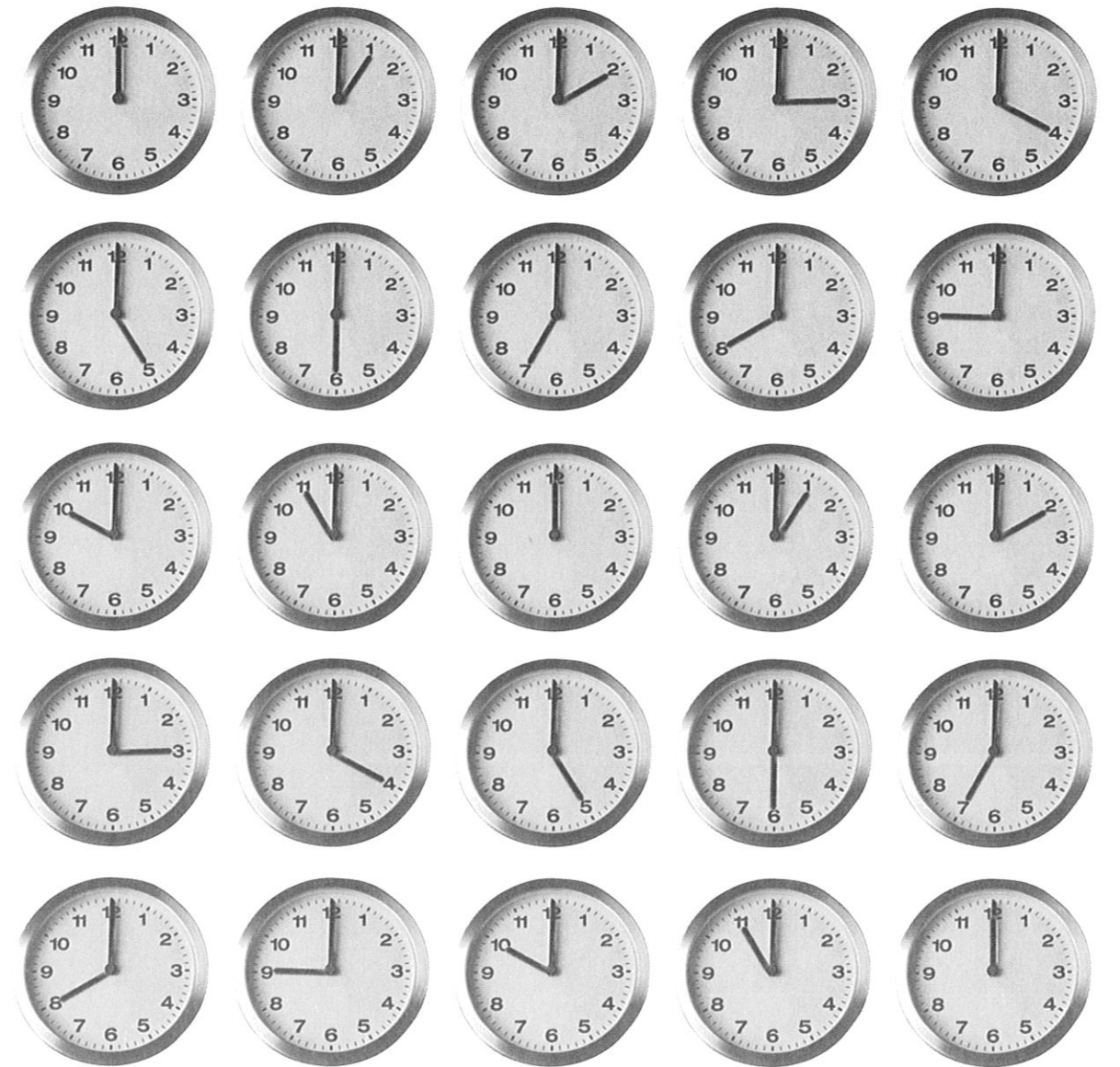
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Scott Bentley Joins SPIR STAR

Scott Bentley has joined the SPIR STAR Ltd. team as director of sales. Mr. Bentley was previously in the oil and gas service sector, having spent twenty-five years in domestic and international well site geology, instrumentation and data transmission.

As director of sales, Mr. Bentley's primary responsibilities will be to enhance company sales strategies, develop new markets and applications for proven product lines. "Listening to customer's needs and understanding what is needed combined with extensive research and dedication to the project results in superior performance for the client. This is the philosophy I apply to every project," Mr. Bentley says.

Boride Recognized By ISO

Congratulations to the Boride Products business unit of Kennametal, Inc., whose Quality Management System (QMS) has been certified to the ISO 9001:2000 standard. Boride seeks re-verification of the QMS certification every six months.

Boride, located in Traverse City, Michigan, has been involved in the production of abrasive waterjet focusing tubes for many OEM customers since the late 1980s. The introduction of ROCTEC 100 composite carbide focusing tubes provided "enabling technology" allowing the early abrasive waterjet cutting processes the ability to grow

over competing technologies. In 1996 Boride introduced ROCTEC 500, a premium grade of abrasive waterjet focusing tube made from the same patented "ROC" (Rapid Omni-directional Compaction) manufacturing process.

Boride attributes steady growth in the abrasive waterjet focusing tube market to productive quality management principles and to the Boride "Team" working together and focusing on the customer's needs and delivering a quality product.

For more information about Boride's abrasive waterjet focusing tubes, visit www.boride.com or call (231) 946-2100.

Onsite Live Demonstrations Will Be Held At The Conference,

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Jetstream of Houston, LLP

Max Armstrong is an intuitively controlled device, which supports all the weight (11 lbs.) of a control gun and thrust (60-100 lbs.), while providing a wide range of motion. Intuitive control is proportional and compensates for the direction of thrust wherever the operator points the gun. The device operates on air logic, eliminating the need for electronics and electrical connections. This model is a platform mount and can be relocated with a fork lift or pallet jack device. Additional configurations will be available for truck, wall and gantry mount. At present, similar products do not exist in the waterblast industry.

The Guzzler NX is a powerful and efficient industrial vacuum system designed to clean up and recover numerous materials - from solids and dry bulk powders to liquids, slurries and thick sludges. The Guzzler NX will be on display during the live demonstrations. It can operate effectively in remote or inaccessible locations more than 1,000 feet from the truck. The NX offers patented vacuum recovery technology and low noise levels of 88 db, making it ideal for fast, efficient cleanup.

NLB Corp.

NLB Corp. will be demonstrating coating removal and water jet cutting up to 40,000 psi. Featured equipment includes the NLB Abrasive Pipe Cutter Model 40K-APC-1A, ideal for pipe cutting in explosion-proof areas. Also featured is the Viper 40™ UHP self-rotating SPIN-NOZZLE, designed for tough coating removal applications.

(continued on page 9)

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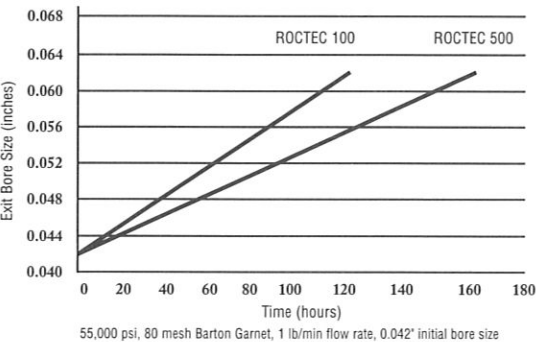
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Waterjet Cutting Techniques Course

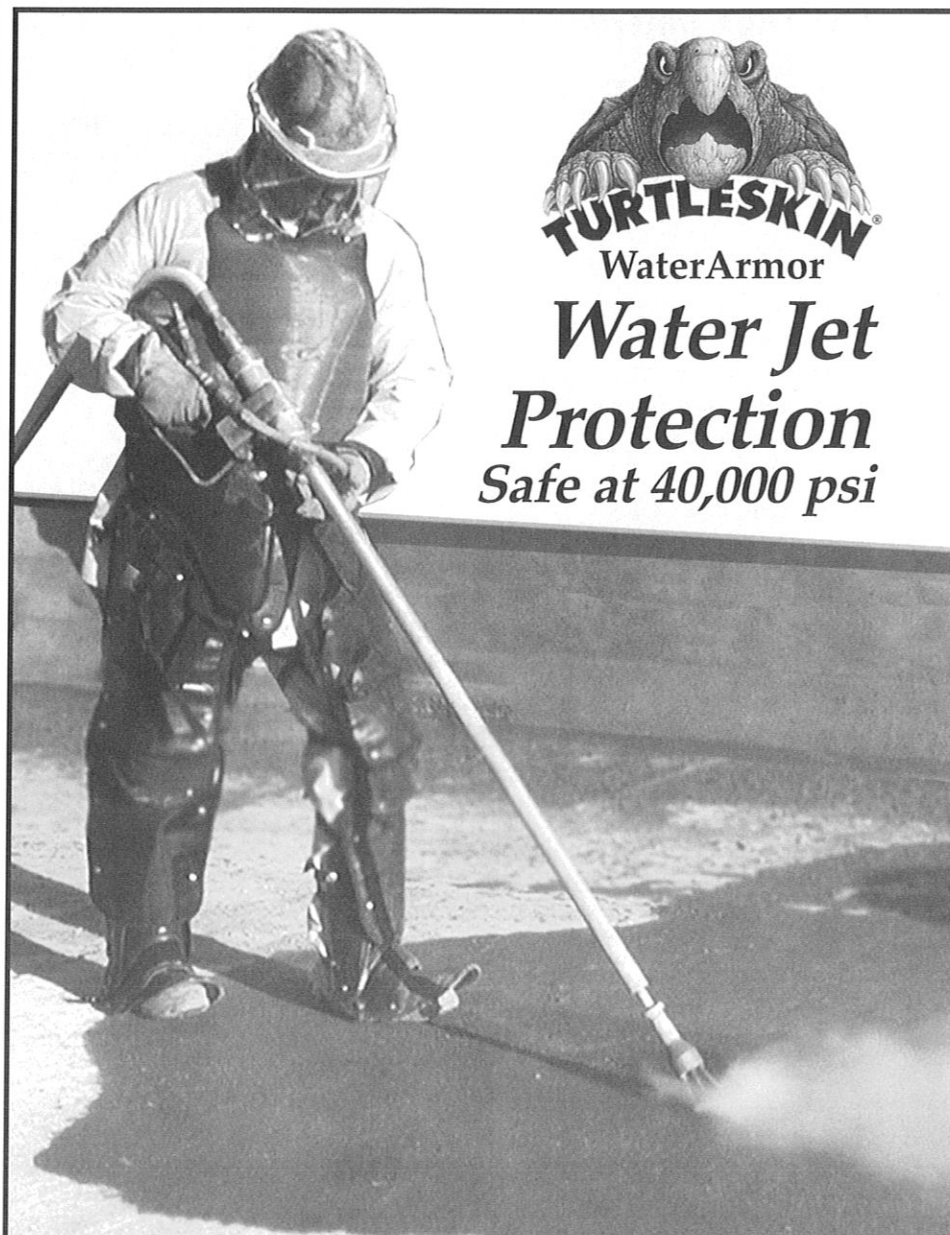
The 44th Waterjet Cutting Techniques Course will be held Sunday-Tuesday, September 11-13, 2005, at RICHEL, Inc., in Kent, Ohio.

All existing waterjet operators and owners will want to attend as well as anyone looking to buy or install a system but is not sure if waterjet is the solution for the application. RICHEL, Inc. is a world leader in the field of reselling used waterjets, which are more accessible as the industry matures. Learn what one needs to keep up with the changes in hardware and software.

Many practical solutions to standard issues are discussed throughout the course with other attendees who operate various models of waterjets. Attendees will strip and rebuild an intensifier in our shop; discover the advantages of multiple head cutting along with when to and when not to use multiple heads; prepare and program a job for waterjet cutting (raster to vector conversion and CAD/CAM); find shortcuts to make the cutting process easier and more efficient; physically run a waterjet system (loading a program, clamping and fixturing, changing nozzles and orifices) and perform general maintenance on the machine.

To register call Jamie Carder at 330-677-9100 or e-mail richel@richel.com. The instructor, Richard Ward, is a professional engineer who has specialized in waterjet cutting since 1992. He has conducted over 40 seminars worldwide on waterjet cutting and has authored dozens of articles for publication. More information at: www.richel.com.

Visit TurtleSkin WaterArmor by Warwick Mills at Booth #59



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TurtleSkin WaterArmor suits have saved many operators from injuries on the job. The patented material is flexible yet has been tested to prevent injuries at flows as high as 11 gpm at 20,000 psi or 5.5 gpm at 40,000 psi.

See a live demo of TurtleSkin WaterArmor at the 2005 WJTA Conference in Houston, where we're a sponsor of Casino Night.

TurtleSkin WaterArmor
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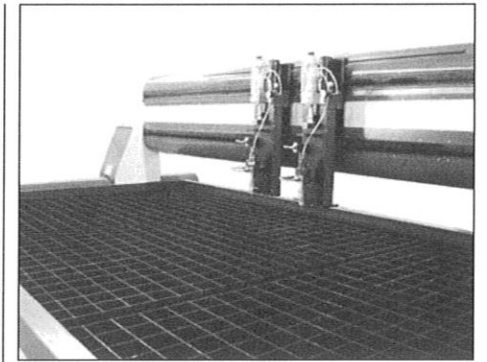
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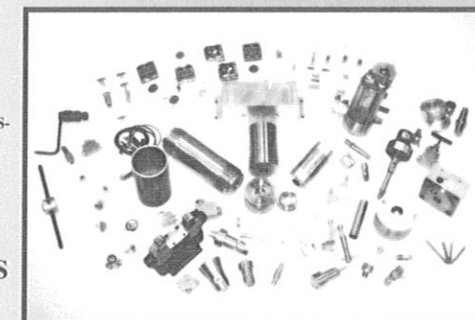
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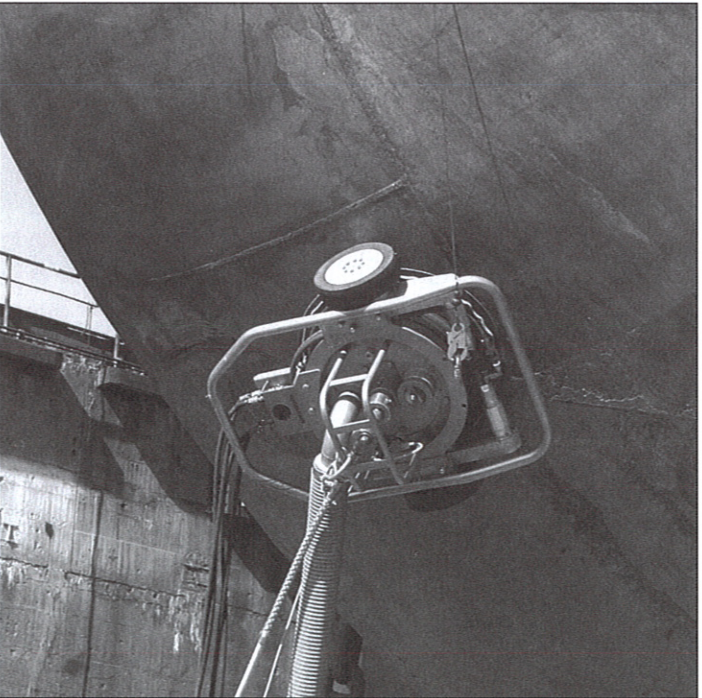
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Spider jet 8.5 gpm at 43, 500 psi removing paint from a very tough location on a ship. Picture sent in by Hammelmann Corp., a company demonstrating at the 2005 WJTA American Waterjet Conference.

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Safety Committee Solicits Comments On Improvements To *Recommended Practices*

The WJTA Safety Committee hereby solicits comments regarding improvements to the publication, *Recommended Practices for the Use of Manually Operated High Pressure Waterjetting Equipment*. While *Recommended Practices* is reviewed periodically at the biennial conferences of the WaterJet Technology Association, your comments and suggestions for improving the publication are invited and welcome anytime.

Please address your comments and suggestions to:
Safety Committee, c/o WJTA, 906 Olive Street, Suite 1200, St. Louis, MO 63101-14134, fax: (314)241-1449, e-mail: wjta@wjta.org, web site: www.wjta.org.

The *Jet News* is published by the WaterJet Technology Association (WJTA) and is a benefit of membership in the Association.

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Onsite Live Demonstrations Will Be Held At The Conference, from page 7

StoneAge, Inc.

StoneAge Inc. is a leading manufacturer of rotary nozzles for pipe cleaning applications. We are introducing our next generation of rotary tube nozzles called the Mighty Moles. These Mighty Mole nozzles are designed with the purpose of having the best jetting action possible. They will be initially offered in two different sizes. Our demonstration will illustrate the ease and speed of removing difficult materials from small tubes.

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TurtleSkin Water Armor by Warwick Mills

TurtleSkin Water Armor is a multiple-panel protective suit that is designed to prevent accidental swipe injuries from ultra-high-pressure water jets at pressures up to 40,000 psi. But since seeing is believing, we invite you to come watch a live demonstration of individual TurtleSkin panels being swiped at various UHP and high-flow rates. The results will show that damage is limited to the panel's surface and does not go deep enough to reach the wearer's body.

Universal Minerals

Universal Minerals will be demonstrating the RIP 4000 rotating profiler nozzle and the MaxxClean 15 degree fan profile head. Both heads will be demonstrating the capabilities of removing epoxies and mill scale while leaving a profile at the same time.

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VLN Advanced Technologies Inc. has revolutionized the waterjetting industry by introducing ultrasonically forced pulsed waterjets into many applications. This exceptional technology is the most cost effective, environmentally sound method in the cleaning and coatings removal industry today. The technology has been taken from the lab and into the field where it proves itself time after time in aerospace, decontamination, concrete demolition, and coatings removal industries. Please join us while we demonstrate our new 20,000 ksi machine and/or visit our booth #57 & #58.

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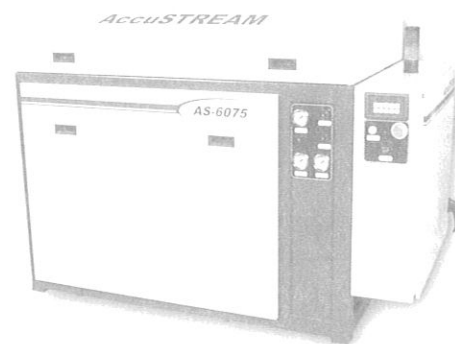
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Ergoblast gun removing graffiti from a wall using a high pressure fan tip, 4 gpm at 40,000 psi. Picture sent in by Hammelmann Corp., a company demonstrating at the 2005 WJTA American Waterjet Conference.

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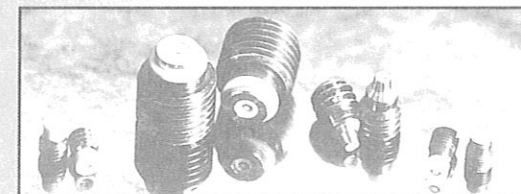
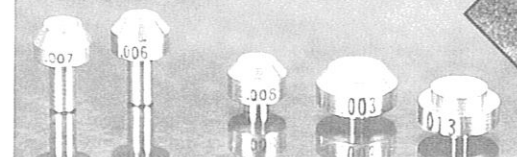
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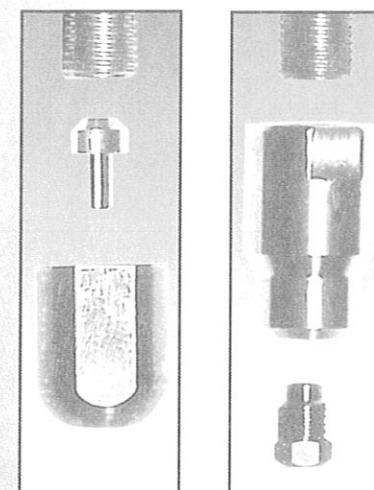
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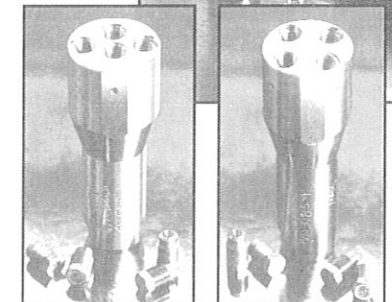
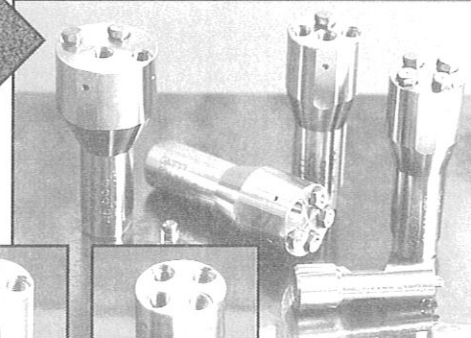
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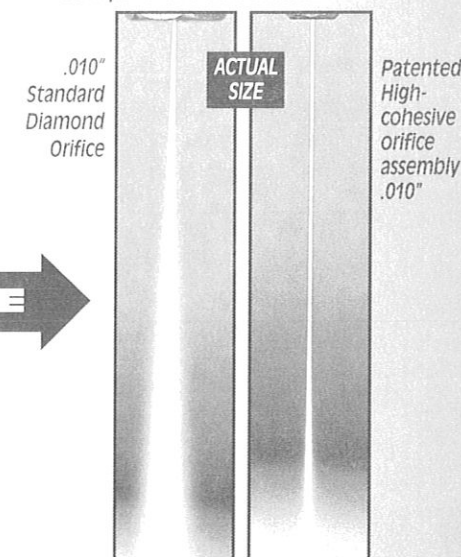


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