High-Tech Improvisations
Save Lives in Iraq

KOHLER-POWERED EQUIPMENT CLEARS ROADSIDE DEBRIS

The deadliest weapon in Iraq isn’t the most technically sophisticated. Instead, it’s those infamous low-tech IEDs (improvised explosive devices) hidden in roadside garbage that are exacting a terrible toll: more than 50 percent of U.S. troop casualties.

The American military first responded by ordering nearly 4,000 new armored trucks from a South Carolina company that has cleverly adapted its V-shaped speedboat hulls into a steel truck underbelly that deflects shock waves and shrapnel. But the custom-built new trucks have only begun to arrive in the field at the rate of 100 a month.

Meanwhile, an adaptive enemy is producing even more powerful and deadlier roadside bombs. What to do? Take a page out of the insurgent playbook: improvise. Inspired by an idea that came from former U.S. military personnel working for Buffalo Turbine, the Springville, New York-manufacturer of KOHLER-powered debris blowers, the Army’s problem-solving Rapid Equipping Force has mounted armored versions of industrial debris blowers on the front bumper of convoy-leading trucks.
"Our Cyclone KB3 blows a broad, 180-mph jet of air to expose roadside explosives," says Buffalo Turbine General Manager Paul Syracuse. "The military now has more than 100 Cyclones in use in Iraq and more are on the way."

Stateside, the KOHLER-powered Buffalo Turbine Cyclone KB3 debris blowers are typically used to clear streets and racetracks or by parks as the ultimate debris blowers. "They're rock-solid, world-class blowers and sprayers," says Tom Tiernan, Vice President, Pitt Auto Electric Company, the Pennsylvania-based KOHLER engine distributor serving Buffalo Turbine. "They've also been used at the last eight Super Bowls, and they're an official licensed product of the PGA Tour. But in Iraq, these blowers are literally saving lives!" In two years of use, the machines have exposed or detonated dozens of roadside bombs — no soldiers have been killed while using the debris blowers.

So far, the only "casualties" have been those Cyclones damaged by bombs that they trigger. In a recent incident, a Cyclone was hit by shrapnel, but the following day, after U.S. engineers installed a new fuel tank, the Buffalo Turbine was ready to lead another convoy.

The U.S. military also utilizes thousands of KOHLER towable generators throughout Iraq, but the company takes special pride in the KOHLER-powered Cyclone. "This success story is a result of teamwork among Buffalo Turbine, Pitt Auto and Kohler Engines," says Rich Koehl, director of marketing and quality at Kohler Engines. "Taking a product designed for a consumer or commercial application and using it to protect our troops is a great example of American ingenuity. In this case the KOHLER engines powering the Cyclones are largely off-the-shelf — the Army just adds armor. But Kohler is always ready to help the military develop special applications."

The KOHLER-powered Cyclones are a great example of the dynamics of technology transfer. While many times technology trickles down from the military or NASA — GPS devices, for example — recently commercial technology has been bubbling up to the military in what Koehl calls the "NASA effect."

"It's satisfying to be supporting our troops in such a direct way. Kohler Engines is proud to play a part in protecting the brave men and women in our military."

Previously powered by a KOHLER gasoline engine, the 2008 version of the Buffalo Turbine Cyclone KB3 debris blower now used in Iraq is powered by the new KOHLER diesel KD425-2.

Also new for 2008, Buffalo Turbine introduced two Kohler-powered blowers: the twin-nozzle 20,000 cfm Cyclone 2 (squared) blower upgrades to the new 40 hp KOHLER Command PRO® CH1000, doubling the cubic feet per minute (cfm) of the original Cyclone KB3 at 180 mph. And the new 8000 model powered by the 12.75 hp KOHLER Command® CS is named for its blowing force — 8000 cfm equals that of 10-15 backpack blowers combined.
KOHLER® Diesels Launched in North America

KOHLER OFFERS FULL LINE TO OEMS

With the introduction of its first diesel engine line for the North America market, the Global Power Group of Kohler Co. is again putting distributors and OEM customers first.

“Kohler can immediately use the new diesels in our own generator business and in the growing national fleet of generators and light towers offered by Kohler Rental Power,” says Rich Koehl, director of marketing and quality at Kohler Co.’s engine business. “But the big story here is how diesels open up a whole new realm of OEM applications. That’s our focus. We said we were going to have a full-line offering and now we do — gasoline and diesel engines from 4 to 65 horsepower. Kohler is now a one-stop shop for OEMs.”

With the added choice of single- or multi-cylinder diesel engines from 7 to 65 horsepower (50 kW and under), Kohler now extends its reputation for quality and the full reach of industry-leading parts, service and sales support to KOHLER diesels. KOHLER engines are supplied to equipment manufacturers worldwide in the lawn and garden, commercial and industrial, agricultural and construction markets.

“Kohler is very serious about competing in the non-highway engine market on a worldwide map with this diesel technology at a competitive price point,” says Paul Bartelt, president – Kohler Co.’s engine business.

“We’re seeing a very high level of enthusiasm among everyone at Kohler Engines,” adds Koehl. “KOHLER diesels will be supported by a solid application engineering team that’s ready to work with OEMs in a responsible and creative manner. And Kohler distributors and service technicians are already up to speed and ready to provide sales and service.”

The new emission-compliant KOHLER diesel engines will feature an extensive range of both air- and liquid-cooled units that offer advanced fuel efficiency and low sound levels, plus a myriad of air intake and oil-filtration systems.
Upcoming Factory Schools Class

Sign up for the next Level I course, designed to provide students with a working knowledge of KOHLER® air-cooled, four-cycle engines and engine systems. It is assumed the students will have a basic understanding of small gasoline engines upon enrolling in the class. The classes are filled on a first come, first serve basis.

Information covered will include:
- Using parts and service manual
- Use of measuring instruments
- Electrical/ignition theory
- Warranty information
- Troubleshooting
- Engine tear down/reassembly
- Failure analysis
- Fuel systems

Dates: August 4-8, 2008
Location: Kohler, WI
Information:
920-457-4441, ext. 77172

Upcoming Trade Shows

**August 31 - September 2**
GAFA, Cologne, Germany

**October 23-25**
GIE+Expo,
Louisville, Kentucky (U.S.A.)

**November 12-16**
EIMA International Expo,
Bologna, Italy

**November 25-28**
bauma China, Shanghai, China

**Kohler Enters Walk-Behind Market with Courage XT Engines**

As the Kohler Engines engineering team went about designing the all-new Courage XT-6 (3.5 net hp) and Courage XT-7 (4.5 net hp) engines for the ultra competitive OEM walk-behind market, they asked a simple question: what does the end-user want?

"Kohler has been engineering and manufacturing engines for commercial-ride mowers for more than 80 years," says Dan Luhman, senior product manager – consumer products. "So from the start with the new Courage XTs, our approach was based on the premise that commercial customers and walk-behind consumers actually want the same thing—power and durability. Kohler engineers translated commercial-ride features including an overhead valve design and cast-iron cylinder bores into engines for walk-behind mowers. And with these two U.S.-engineered models, they delivered."

The overhead valve design provides the power, plus efficient combustion for minimal fuel consumption and emissions. And to enhance engine life, Kohler employs cast-iron cylinder bores standard on both models, a first in the engine category.

"The cast-iron bores are a commercial-grade, professional, high-durability feature," says Luhman. "The bores add robustness, especially under high load. And in a dirty operating environment, they’re going to be more forgiving than their aluminum counterparts from other manufacturers."

The Courage XT-6 and XT-7 also employ a forged — not cast — crankshaft, providing superior tensile strength and performance, especially for heavy loads and rough mowing conditions. Kohler also engineered a consumer-friendly wide diameter gas tank opening for refueling convenience.

"Whether it’s a commercial turf feature like cast-iron bores or KOHLER® exclusive no-spill-over refueling," says Luhman, "the Courage XT-6 and XT-7 are in a strong position to become the new engine of choice for today’s OEMs and consumers."