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Helicopter Tire Cage Deployed To Iraq

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On an October day in 2003, two soldiers were doing routine maintenance on a UH-60 Black Hawk helicopter in Iraq when the tire they were inflating with high-pressure nitrogen exploded.

The explosion sent pieces of the shattered rim flying, severing parts of the arms of Army Sgt. Peter Damon of Brockton, Mass., and killing 19-year-old Army Spec. Paul Bueche of Daphne, Ala. Damon survived the explosion but has prosthetic arms and hands.

Shortly after the incident, Hawk Enterprises, a firm based in Huntsville, Ala., that works with Glastonbury-based HABCO to identify safety and maintenance issues for the U.S. Army, made HABCO aware of the tire safety issue. HABCO, a firm that manufactures and supplies aerospace, industrial testing and ground support equipment for military and commercial aircraft, immediately got to work on an inflation cage and safety device that not only would prevent overinflation of Black Hawk tires but would also stop any wayward pieces of shrapnel.

"It was a terrible thing," Kristen Muschett, CEO of HABCO, said of the incident in Iraq. "We made it our top priority."

On Jan. 26 - after 18 months spent tangled in the Army's red tape - HABCO was finally able to ship out the first 16 of 50 tire cages for the U.S. Army in Iraq, Bosnia and Afghanistan. Last week, the company received an additional order for 250 cages valued at \$625,000. The order will supply all Army units and bases, both within the United States and overseas. Muschett said there is a potential for her company to get orders for 1,000 cages over the next five years - worth up to \$2.5 million in business for HABCO.

"We took on a challenge outside our realm," Muschett said. "We had doubts in the beginning. But we were able to make a product that has the potential of saving people's lives. It gives you some satisfaction."

Although the tire cages are not technologically complex, the company faced an arduous task bringing them to the soldiers.

In February 2004, it started work on a prototype for the tire cage.

"We needed it strong yet light enough for personnel to carry it around," said David A. Plis, the company's general manager. "We could make it strong enough to stop the debris, but no one would be able to lift it."

"We didn't want to make a concrete bunker," Muschett added.

The first prototype failed miserably with a design that was too lightweight with particles flying everywhere, Muschett said. The second one also didn't contain pieces of the rim. By the third try, the company came up with a successful tire cage - a heavy stainless steel mesh product weighing 88 pounds.

"By the third attempt, we knew we were on to something. And then it was kind of 'hurry up and wait' for us," she said.

After the tire cages were ready for commercial use, she began receiving e-mail from Army personnel stationed in Iraq desperately looking to acquire the cages.

"We have UH-60s and are in dire need of a tire cage to safely inflate our tires," wrote SFC Stephen A. Miller, who was stationed in Iraq and found the cage through a Google search in January 2006. "It looks like what we need."

But Miller was unable to acquire the cage because he needed a special order number known as a National Stock Number. Unable to cut through the bureaucratic morass to acquire a number, Muschett began writing letters to U.S. Sen. Chris Dodd, U.S. Rep. John B. Larson and then-U.S. Rep. Rob Simmons in July to make HABCO's tire cage accessible to the military. Muschett's perseverance sparked a congressional investigation into the delay, and in November, the company received the stock number needed to allow the Army to order the units.

"It's kind of a remote thing to send a letter to your congressman," Muschett said. "But I was amazed by the results."

The Army is happy with the final product.

"This tire inflation cage provides two additional levels of protection for the soldier that he has not had before," said Army spokeswoman Barb Willenberg. "The perseverance and dedication of HABCO and Hawk Enterprises in bringing this device to completion and making it available to the soldier is to be applauded and appreciated by all. ... They both worked tirelessly to get this cage designed, tested and approved for use ... in hopes of preventing another catastrophe like the one in Iraq in 2003."

Now Muschett is hoping the tire cage will also assist mechanics with Apache helicopters and corporate jets.

"I am glad we took a chance on a product that can protect so many lives," Muschett said.

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