

# Guarantee a rapid response

Improvised explosive devices are a major threat in today's theatres of war, requiring active handling by explosive ordnance disposal teams. **Paul Haydon** explains how **Armag** has developed limited arc magazines to help bomb disposal experts better meet the challenge.

**T**oday, even the world's most advanced militaries are at risk from crude homemade bombs, a favourite weapon of militias and other irregular fighting forces. While custom armour-plated vehicles and improved detection techniques have helped mitigate this threat, in many cases, suspicious devices must still be disarmed or detonated by explosive ordnance disposal (EOD) teams.

In an environment where rapid reaction can prevent disruption to an operation and potentially save the lives of soldiers and civilians, EOD units cannot afford to be bound by the operating hours of ammo supply points. In the 1990s, the US Navy recognised the importance of storing EOD munitions in readily accessible locations.

The navy turned to Armag, which has been manufacturing magazines for the US military since 1969, to develop a solution. Paul Haydon, the company's executive vice-president explains the problem: "A standard magazine is not designed to contain a blast, it's only designed to prevent theft and reduce the risk of an explosion in the first place. But if something does blow up, the magazine can be destroyed, sending shrapnel into the atmosphere and putting people in harm's way."

This risk made storing explosives anywhere near personnel and occupied buildings unacceptably dangerous and the challenge was to find a way to do this safely. Pressure vessels had long been used by bomb disposal teams to contain blasts from controlled detonations and could, in theory, have been used for longer-term storage. However, their high cost and incredible weight makes them unsuitable for general deployment.

The navy engineers and Armag's answer was to store rounds in pumice-filled containers so that if one item were to detonate, it would not trigger a sympathetic detonation of other items stored in the magazine. The magazine itself was then designed to withstand a single blast of the most powerful item – a 1.25lb block of C4.

The result was a cost-effective way to provide EOD teams with ready access to their explosives. The magazines were approved by the US Department of Defense Explosives Safety Board with a 10ft quantity distance arc, meaning they can be located within 10ft of inhabited buildings, roadways and other facilities.

During the commissioning and design process, it was not clear what a critical role bomb disposal teams would come to play in the conflicts of the 21st century and Haydon praises the navy's foresight.

"It was very good contingency planning on their part to develop this," he says, "It took a couple of years to produce the final product and right now we don't have that time. The teams need this today."



Armag's magazines have been approved by the US Department of Defense Explosives Safety Board.

Haydon adds that before 2001, Armag sold between two and three of the limited arc magazines each year. Since then, annual sales have topped 50 units. The company is presently filling a multiple magazine order for US EOD teams in the Middle East and there has been significant international interest in the product.

Haydon sees the attraction of the system as being threefold: it provides immediate access, is portable, and low maintenance.

As troops are redeployed to different combat zones, it is important that EOD teams can be easily relocated with them. The magazine, which weighs approximately 10,000lb can be easily loaded into a truck and moved to a new position and as it requires no electrical connections it will be ready for use immediately.

Combined with this mobility is the need for only minimal upkeep. "They are so low maintenance that all you need to do with them over the course of several years is touch up the paint and grease the door hinges."

Haydon admits that in the company's four decades in the business they have not always got everything right first time. "You don't do something for that long without making a few mistakes along the way," he says, "but we pride ourselves on correcting every mistake. We send people into the field to correct our mistakes. It's expensive, but it's the right thing to do."

The combination of portability and its limited arc capability means Armag's magazine fits with the way modern wars are fought. The company's depth of experience, commitment to quality and broad base of more conventional storage products make it a reliable partner for militaries around the world. ■

## Further information

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