

# Recent Merkava Attacks Highlight Growing Command Detonated Mine Threat

by Adam Geibel

The Command Detonated Mine (CDM) is quickly becoming a staple of Asymmetrical Warfare. It has been used with deadly effect in both the First and Second Chechen Wars, as well as in Sri Lanka, Lebanon, and the fighting in India's Kargil region. Also known as an Improvised Explosive Device (IED), the standard device is often a 152mm HE artillery shell or its equivalent with a C-4 wad and detonator linked to a cell phone, pager, or radio initiator. Variations on this theme, to include wire-controlled detonation, are as widespread as the conflicts in which they can be found.

The Israeli Defense Forces recently suffered two identical attacks in the same area of the Gaza Strip and yet showed no perceived ability to respond to this threat. Prior to February 2002, the IDF's \$3 million, 60-ton Merkava Main Battle Tanks were considered fairly invulnerable assets, since the Palestinians had no real antitank weapons. So Tel Aviv deployed their armored Goliaths to deal with the Intifada, in the assumption that their tankers were safe, that the tanks' mere presence would dampen any crisis, and that they'd suffer no embarrassing losses.

Wrong assumption. Three Israeli soldiers were killed and one suffered moderate to serious wounds when a bomb went off underneath their Merkava 3 tank on the night of February 14, 2002. This was the first time a roadside CDM managed to seriously penetrate an Israeli tank's armor in the territories. Even roadside CDM and ATGM attacks in Lebanon over the past decade did not hurt an entire tank crew.

The attack occurred at about 2100 hours along the single lane asphalted settlers' road to Netzarim, a main north-south Gaza road at a junction constituting a no man's land. Palestinian orange groves had been leveled on either side of the road because the Israelis claim that snipers were hiding in them, leaving sandy soil that IDF tanks used as shortcuts.

About 30 minutes before the blast, suspected Palestinian fighters had deto-



nated a smaller bomb on a convoy route in front of a civilian bus traveling with army jeeps and opened fire towards the bus from several positions. The convoy was moving along a road between the Netzarim settlement and the Karni checkpoint in the Gaza Strip.

Although this particular road was patrolled every 30 minutes, it was clearly a trap. The 188th Brigade tank was called in to provide fire support and as it was moving to contact on a parallel track, the second charge was detonated when the tank passed on it. The tank was about 50 meters south of the settler's road when it was blown up. The convoy bus driver (identified only as Itzik) remarked that he heard an explosion and saw a blue flash in the orchard area. He continued in the bus toward Karni, while the jeep behind stopped to open fire at the spot where the terrorists were apparently hiding.

A group including the military wings of Hamas and Palestinian Authority Chairman Yasser Arafat's Fatah faction claimed joint responsibility for the attack.

"In response to the killing of five soldiers of the national security forces and in response to the raid on our cities and villages ... Salahudin Brigade detonated two roadside bombs against a Zionist convoy ... then sprayed the convoy with machine gun fire."

The tank was toppled on its side and its 22-ton turret blown off, landing 10 meters away. The front-mounted engine was blown upward by the force of the blast, smashed into the gun barrel and flipped the turret off like a bottle top. Two crewmen were killed immedi-

ately, one died later. The only surviving member of the tank crew was evacuated by helicopter to Beersheba's Soroka Hospital.

The Israeli newspaper *Ha'aretz* quoted an unnamed top security official (involved in both the Merkava's development and the use of the protective plates) who opined that tank operations on field assignments without the plates was "totally stupid." He explained that the plates could have saved lives at the Netzarim junction, but other security officials never unanimously backed the 100 percent use of the protective plates. In muddy conditions, the plates limit the tank's maneuverability.

According to an initial inquiry headed by IDF Chief Armor Officer Brigadier General Avigdor Klein, no amount of armor could have withstood the massive explosion. Klein believed the life of the gunner was saved because the explosion did not detonate the tank's ammunition or ignite its fuel.

The CDM apparently consisted of more than 50 kilograms of the highly explosive CTP, which is made in the Czech Republic and is a favorite of terrorist groups. It was placed inside an empty water boiler. The inquiry concluded that "no additional armor to the underbelly could have prevented the loss of life from the large bomb."

Brigadier General Ze'ev Bargil (former head of the Defense Ministry's Merkava tank project team) told the media that "the tank wasn't developed to operate against terror; it is designed to take part in war. A tank is designed to move forward in an open field, to move quickly and attack the target

swiftly ... Were we to provide a solution to every contingency and threat, the tank would weigh 100 tons, not 60; and that would hamper its speed.”

Apparently, Hamas had executed a similar CDM attack along the Karni-Netzarim road in the Gaza Strip almost one year prior. In February 2001, as a tank-led foot patrol scoured the route for bombs, Hamas guerrillas, lying in wait, set off the charge when the tank halted. Hamas later distributed a video recording of the attack, which moderately wounded one IDF soldier.

Hamas bombers, who triggered four smaller CDMs in 2000, also favor the Netzarim junction. As a convoy of three civilian vehicles escorted by two military vehicles reached the Netzarim junction on the night in September 2000, three roadside bombs were detonated in rapid succession. As the two soldiers stepped out of their vehicle to check whether anyone was hurt, the attackers activated a second roadside CDM loaded with a larger quantity of explosives. The two wounded soldiers were flown by helicopter to Beersheba's Soroka Hospital. One soldier died later. The IDF and the Israel Security Agency believed that Hamas masterminded the attack, but did not rule out the possibility that Palestinian Authority police were involved.

### **Merkava Vulnerabilities**

Even Hezbollah guerrillas (considered much better trained and equipped than Palestinian militants) using roadside CDMs, mines, and ATGMs were unable to destroy a Merkava during 18 years of fighting against Israeli forces in southern Lebanon.

By the end of 1997, Hezbollah had acquired AT-4 “Spigot” ATGMs which significantly strengthened their anti-armor capability. While there were several incidents in Lebanon where tanks were hit with ATGMs, the IDF tanks were never completely destroyed.

In September, 1997, Iranian-backed Hezbollah units had launched a broad offensive, firing mortars and missiles at dozens of Israeli Army and South Lebanon Army militia bases. When LT Eyal Shimoni's Merkava, deployed in the heart of Israel's Southern Lebanon security zone, moved out to provide cover for troops, it took a direct hit from a “Faggot” ATGM. Hezbollah claimed that a Tank Sniper Unit group targeted a Merkava at the Kassaret Al-Oroush post, killing one Israeli officer and wounding two others. Two more

Merkavas were lost in October to ATGM hits.

In another attack in the Mount Dov region on the Israeli-Lebanese border, another soldier was killed in April 2001 when a Hezbollah “Sagger” ATGM damaged a Merkava turret. The driver had warned of the incoming missile, but the soldier in the turret had no time to duck before it impacted on the tank's front.

### **Another Mekava Mined!**

Shortly before 0700 hours, March 14, 2002, Palestinian terrorists triggered a Command Detonated Mine under a Merkava 3 MBT that had been escorting a civilian convoy on the Karni-Netzarim road in the central Gaza Strip. The force of the explosion from the 50-kilogram (110 pound) radio-controlled mine blew the turret off the tank. The terrorists were apparently hiding in or behind a nearby mosque near the settlement of Netzarim.

Three soldiers were killed and two more were wounded. Rescue forces had difficulty freeing the crew's bodies from the tank, while an IDF helicopter evacuated the wounded to Beersheba's Soroka Hospital. One of the two wounded had been standing outside of the vehicle.

Reuters reported that a coalition of Palestinian militant groups (including the Al-Aqsa Martyrs Brigades, the Salahudin Brigade, and the Islamic movement Hamas) took responsibility for the attack. The attack took place one month to the day after the first Merkava was destroyed, on the same road.

The area was closed to traffic when a giant crane was brought in to tow away the Merkava's remains. Some Palestinian witnesses said that IDF troops had searched nearby fields for suspects, while other tanks drove several hundred meters into Palestinian territory during the search. Palestinian Authority security officials and witnesses also insinuated that the IDF had retaliated by sending 15 armored fighting vehicles and three bulldozers towards the nearby Nuseirat refugee camp. There they demolished eight houses and a security post, as well as crops and irrigation systems in the area.

### **CDMs, Speculation and Bad Habits**

On February 15, 2001, the Israeli-based Internet wire service *DEBKAF*le reported that their military sources the-

orized that a hollow, multi-stage (probably magnetic) charge was used, possibly in combination with a powerful magnetic mine or mines. They also advanced that it was a form of sabotage never before seen before in the Middle East. This turned out to be an inflated estimate, as both CDMs were large but apparently not spectacularly sophisticated.

Recent history indicated that Hamas was capable of serial-deployment of CDMs in the Netzarim area, turning each operation into a learning event and improving their tactics for the next attack. What is perhaps most troubling about the two Gaza attacks was that the IDF had fairly recent experience with CDMs and yet seemed to be ignoring their own “lessons learned” from Lebanon. Due to OPSEC considerations, we'll probably never know how often or vigorously the IDF conducted route reconnaissance, but apparently, it wasn't enough.

Could any armored behemoth withstand a 50-kilogram CDM? Not likely, unless one wanted to invest in some waddling 100-ton monster. So what should the U.S. Army do when deploying to a potential CDM arena?

The more useful responses are operational in nature, but expensive and time-consuming. Varied convoy scheduling is the simplest countermeasure. Intelligence operations can use IPB to predict suitable ambush sights and chalk them up as NAIs, as well as track the movement of enemy sappers who can build and deploy these mines. Aggressive countermining engineering reconnaissance can focus on these NAIs, while other reconnaissance efforts are sensitized to search for caches of explosives and/or artillery shells. Furthermore (and topic for a future article), the use of electronic countermeasures should be exploited far more than we're currently doing.

### **Footnotes**

The Israelis should be familiar with how to quickly and stealthily emplace charges. On the night of June 17, 1946, the Jewish resistance blew up 11 bridges linking Palestine to the neighboring countries. Supposedly, they placed close to 300 kg of explosives and were gone in less than 30 minutes, all under the British guards' nose. This operation became known as “The Night of the Bridges” and was the largest the Hagannah launched.

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