

Armored Anti-Guerrilla Combat In South Lebanon

by Lieutenant Colonel David Eshel

Normally, anti-guerrilla combat is the mission of specially-trained infantry units, not armored forces, but in South Lebanon, the Israeli Defense Force has been fighting a continuous battle against fanatic Islamic guerrillas in which all combat elements are forced to play a role, and armor is very much a part of the fight.

The Terrain in South Lebanon

From a military standpoint, the terrain in South Lebanon seems totally unsuited for armored warfare. It favors the defender, with its rugged, hilly countryside. Rock-covered basalt hills with steep ravines make cross-country movement, even with tanks, extremely difficult, and in most cases armored vehicles are road- or track-bound. As the ridges normally run from east to west, movement is geared through the wadis, between the ridges. These are passable only in part and, with their steep canyon-like walls, make formidable obstacles. Most of the region is pocked with thick shrubs, providing excellent hiding places for tank-hunter teams and ambushes that are very difficult to detect before they are executed.

Furthermore, the area is filled with hundreds of small villages, mostly situated on the high ground, from which guerrilla fighters can mount their surprise attacks and swiftly return to good hiding places amongst the mostly friendly local Shiite population.

The Israeli deployment in the so-called Security Zone in South Lebanon is implemented through a series of strongpoints located widely apart and not always capable of rendering mutual fire support. One of the most difficult tasks is to maintain lines of communications to and from those strongpoints and the supply depots on the Israeli

border. As most of the roads are winding narrow tracks, they provide the attackers with easy access to ambush sites, where they emplace explosive charges and mount rocket attacks on IDF traffic. Most of the costly IDF losses have been caused by such ambushes, and considerable effort is necessary in order to maintain open supply routes to the strongpoints. This is one of armor's major tasks in this continuous war.

Hezbollah Guerrilla Tactics

The Hezbollah, or Party of God, is the major element in the guerrilla warfare in the Security Zone, although there are some other extremist factions also taking part. Over the years, the Iranian-backed Hezbollah has become a substantial military force, capable of taking on the highly trained, battle-experienced, and superbly equipped Israeli Army. It has proved extremely difficult for a regular army to fight against small guerrilla elements that are highly motivated, intimately familiar with the terrain, and capable of hit-and-run attacks.

Hezbollah activity in south Lebanon started about 14 years ago, as the IDF was withdrawing after the 1982 invasion of Lebanon. Originally, the Hezbollah militia operated in small teams, normally attacking Israeli troops from ambush with primitive explosive devices and small arms, and with rocket attacks on Israeli border villages. But since 1989, the Hezbollah has grown considerably and is now operating a far greater number of combat elements. Hezbollah is estimated to include over a thousand men, several hundred of them highly trained fighters.

Currently, several training camps are operating in the Syrian-controlled Beka'a valley in east Lebanon. Here,

the majority of Hezbollah fighters are trained in guerrilla tactics by Iranian Republican Guard instructors. Those Shiites, earmarked as combat leaders, are sent to specialist training camps in Iran, where they undergo professional specialist courses in explosive demolitions, subversive operations, field intelligence and observation, and other military trades.

Hezbollah tactics have become substantially refined over the years. From individual attacks on lone vehicles, night ambushes, and sporadic rocket attacks, the fighting has escalated into highly skilled guerrilla operations, some of which have proved extremely successful against the Israeli Army and its proxy, the South Lebanese Army (SLA). Hezbollah combat engineers fight a running battle with Israeli forces, planting explosive charges against IDF road-bound traffic, as well as attacking day and night patrols.

Iranian demolition experts are studying each and every case, whether successful or not, to find out the best way to mount future attacks. Israeli experts are trying not only to find new means for enhanced protection of vehicles, but also actively preventing attacks through early detection, which is proving more difficult as the Hezbollah hides its explosive charges with great ingenuity, using styrofoam to create rock-like shapes for their sophisticated explosive charges. Frequently, using fougasse and Claymore mines remote controlled from standoff hiding places, the Hezbollah hit foot patrols with deadly effect, and also cause substantial damage to vehi-

cles carrying supplies or troops, which, on dismounting, are hit by volleys of mortar and rocket fire. Since the early nineties, the Hezbollah has also been using, with great skill, Sagger antitank missiles, as well as the second generation AT-4 Spigot ATGMs against tanks and armored personnel carriers. These weapons caused considerable concern initially, until crews were trained to counter the threat, both passively and actively. In many cases, the Hezbollah has also used these weapons against point targets such as outposts and bunkers.

Israeli Counter-Guerrilla Actions

To counter the Hezbollah threat to road traffic and improve the survivability of the various vehicles involved in moving along lines of communication, the Israeli armor experts have devised a variety of enhanced protective measures, some quite ingenious. Some of these techniques have substantially demonstrated their effect in countering attacks by antiarmor weapons of all kinds, and have saved many lives. Tanks and armored personnel carriers are widely used in the fighting in South Lebanon in a variety of combat and support missions. Tanks operate with foot patrols, scanning the operational sector for hostile elements. If detected, tanks can render direct fire support at suspected targets with long range point fire from main guns or machine guns. Some measures counter Sagger ATGM attacks with special drills which have been employed since our first encounter with such weapons during the Yom

Kippur War in 1973. The so-called "Sagger watch" technique envisages tanks operating in teams. Each team member searches key points in the terrain to locate enemy ATGM teams hiding out. If an area is suspected, it is covered by main gun, machine gun, or onboard mortar fire, or blinded by smoke. The watching vehicle will give warning to the rest of the team, which opens fire in that direction. When a Sagger is spotted in flight, the tank fires in the direction of the launcher, hoping to disturb the enemy gunner's concentration during the critical navigation phase, or obscure his vision by smoke. This, of course, applies only to wire-guided missiles, not newer fire-and-forget weapon systems, but there are still many of the older weapons posing a threat to the tanks.

IDF forces are also trained in evasive action drills which are still valid and applied when sufficient warning is given. Israeli tank crews, using their advanced optical instruments and fire control equipment, have become highly proficient in locating and destroying Hezbollah Sagger teams, even during the flight of the missile. The latest addition that Israeli experts have devised is an innovative system which only the Japanese Type 90 tank is known to incorporate. This is an automatic tracker, based on the video output from either a TV camera or thermal imager. The auto-tracker, which has been used successfully in action in Lebanon, locks on target, irrespective of the motion of both tank and target, and brings the sight back on track even when the target has

been temporarily obscured. The auto-tracking device is incorporated into the fire control system and thus enables the tank gunner to engage moving ground targets, as well as helicopters. One of the prime targets are fleeing Hezbollah fighters, who are moving fast between hiding places. These have to be detected by alert tank crews in overwatch positions who constantly scan the countryside for suspected enemy. The procedure is normally carried out by tank teams in hull-down positions, which observe at long range to protect them from Hezbollah Sagger teams lurking in the underbrush.

Another procedure uses tanks in mobile patrols supporting infantry on search-and-destroy missions. Here the tanks are on high alert to open fire not only on suspected enemy targets, but also to give strong fire support from onboard weapons once a firefight starts between the infantry patrol and enemy ambushers. It is in such surprise encounters that the tank commander has to operate under the most stringent conditions, acting fast but taking great care to prevent hitting friendly troops who are sometimes close to the enemy. The Hezbollah fighters usually cover the site with mortar barrages on the ambush area, which is usually highly accurate. If the tank crew, especially the tank commander, is operating from open hatches, casualties can occur from shrapnel or direct hits. Whatever the case, tank commanders prefer to work from open hatches, ignoring the threat, rather than lose their observation capability which is crucial in this kind of

ISRAELI ARMOR INNOVATIONS



Above, an IDF "Puma," a Centurion tank modified as an armored personnel carrier. At right, the Magach-8, an M60 variant with a modular armor suite offering protection similar to the Merkava.



Three Magach-6 tanks rendezvous with a scout helicopter in South Lebanon. The Magach-6 is an M60 modified with reactive armor.

Below right, the Magach-7, another M60 variant with a reshaped turret.

Below left, the Achsarit, a turretless T-55 chassis with redesigned engine compartment, allowing a rear access hatch.



PHOTOS: IDF



combat. The improved versions of IDF tanks fighting in Lebanon, such as the Merkava Mk3 and Magach-8, have improved all-round vision turrets which give the commander enhanced protection from overhead threats, but many tank commanders still prefer to work with their heads outside, scanning the terrain with day or night binoculars rather than optics, however sophisticated. One important advantage of the Merkava, not available in other tanks, is the capability to evacuate wounded infantry through the Merkava's rear doors. The Merkava's engine is in front of the tank, so there is sufficient room in the rear for several casualties which can be transported to safety under fire. This type of MEDEVAC is often performed in Lebanon, and has already saved many lives.

Enhancing Armor Protection

Some highly effective protective measures have been specially developed to counter the growing Hezbollah threat to IDF vehicles, especially those prone to ambushes from hidden guerrillas operating remote control charges. Israeli experts have designed a wide variety of protective measures to armored personnel carriers, uparmoring the older versions of the M113, which were totally unsuited to withstand these explosive attacks. Added protective layers of appliqué armor and dense steel mesh known as TOGA offer improved protection against small arms. Further protection comes from reactive armor, to protect against HEAT rounds, and a variety of shaped add-on armor plates to further protect sensitive areas. To increase the fightability of uparmored M113s, which still make up a large portion of the APCs supporting infantry in Lebanon, steel-plated turrets have been added to protect machine gunners.

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But while these protective measures have increased survivability, other life-saving elements were also introduced. These include a turretless Centurion APC, which is far better armored than an armored personnel carrier. A steel roof is added, rendering very good protection in a firefight. But because of the vehicle's lack of a rear exit, infantry

have difficulty dismounting under fire. The Puma, which is the name for this turretless Centurion, was initially designed for service with armored engineers, but given to infantry as a stopgap solution until a further improvement was introduced, the Acharsit vehicle. This is based on the T-55 hull, with a reworked engine compartment that allows a rear exit hatch that enables the infantry to dismount under cover. The Acharsit, with its crew of two, also carries 10 infantrymen, has enhanced armor protection through add-on reactive armor, and mounts considerable on-board firepower.

So far, although some designs for an IFV have been considered to be built on the hull of the Merkava, none have materialized, as the concept still envisages the tank, with its infantry-carrying capacity in its rear compartment to be the more cost-effective solution in a budget-constrained era. In a recent interview, Major General Israel Tal, the father of the Merkava and Israel's most prominent armor specialist, declared that the uparmored Acharsit APC and the Merkava MBT could defeat the heaviest antiarmor threats, even in a fire-saturated breakthrough battle.

The IDF has also improved the survivability of older Israeli tanks still in service. The M60 Patton, now in its third decade with the IDF, has received Blazer add-on armor as a protective measure against HEAT rounds, but as the struggle in Lebanon progressed — and with the introduction of more lethal weapons by the Hezbollah, especially second generation antitank missiles — further upgrading became necessary. New designs, based on the experience of the modular armor on Merkava Mk3, were introduced to uparmor the Patton with the same technique. The result was the Magach-8, which is the latest version of the M60. It has already seen much action in Lebanon with great success. To prove this case, two separate actions should serve to demonstrate the survivability of the Magach-8 under fire. On two consecutive days of combat in South Lebanon last November, two Israeli Pattons, still with Blazer plates, were hit by a salvo of Hezbollah Sagger missiles and the crew suffered casualties, including one member dead. In another engagement, this time with second-generation Spigot ATGMs, a Magach-8 was hit repeatedly, but none of the missiles penetrated and the crew escaped unhurt. In yet another incident, a Merkava Mk3 took no less than 20 hits from ATGMs, but only a single

warhead penetrated from the top, killing one man, who had his head outside the turret hatch; all the others were unhurt! Finally, in another firefight with Hezbollah ATGM teams, a Merkava took two hits from what is believed to be a Spigot, but this time, the tank commander, standing on his seat but protected by the commander's turret, received only slight burns from the splinters. The rest of the crew was safe, in fact, some infantrymen hiding in the rear compartment did not even notice that the tank had been hit!

These incidents vividly demonstrate the high rate of survivability that the IDF is giving its troops in the anti-guerrilla fighting in Lebanon. A lot of professional thinking and the closest cooperation between the technical experts and the fighting crews has been encouraged and the results speak for themselves. It is indeed very rare, due to these stringent protective measures, that tank crews are being hit and becoming casualties these days, and if such incidents do occur, they usually result not from faulty equipment, but from inexperience or disciplinary lapses. If the crew operates according to the drill and procedure, it can count on its survival, and that is quite a lot in any battle that tanks have to fight in.

Lieutenant Colonel David Eshel was born in Dresden, Germany in 1928, and emigrated to Palestine in 1938. After serving briefly with British forces after WWII, he became one of the founding members of the Israeli Armoured Corps in 1948 and served as a career officer with the IDF for 26 years. Educated at the French Cavalry School at Saumur, he later held various command and staff assignments and fought in all of the Arab-Israeli wars up to and including the 1973 conflict, when he served as the Armoured Corps' chief of signals. He later lectured on tactics at the IDF Command and Staff College. Formerly publisher of a military magazine, he is now a freelance journalist and serves as defense analyst for several military journals.