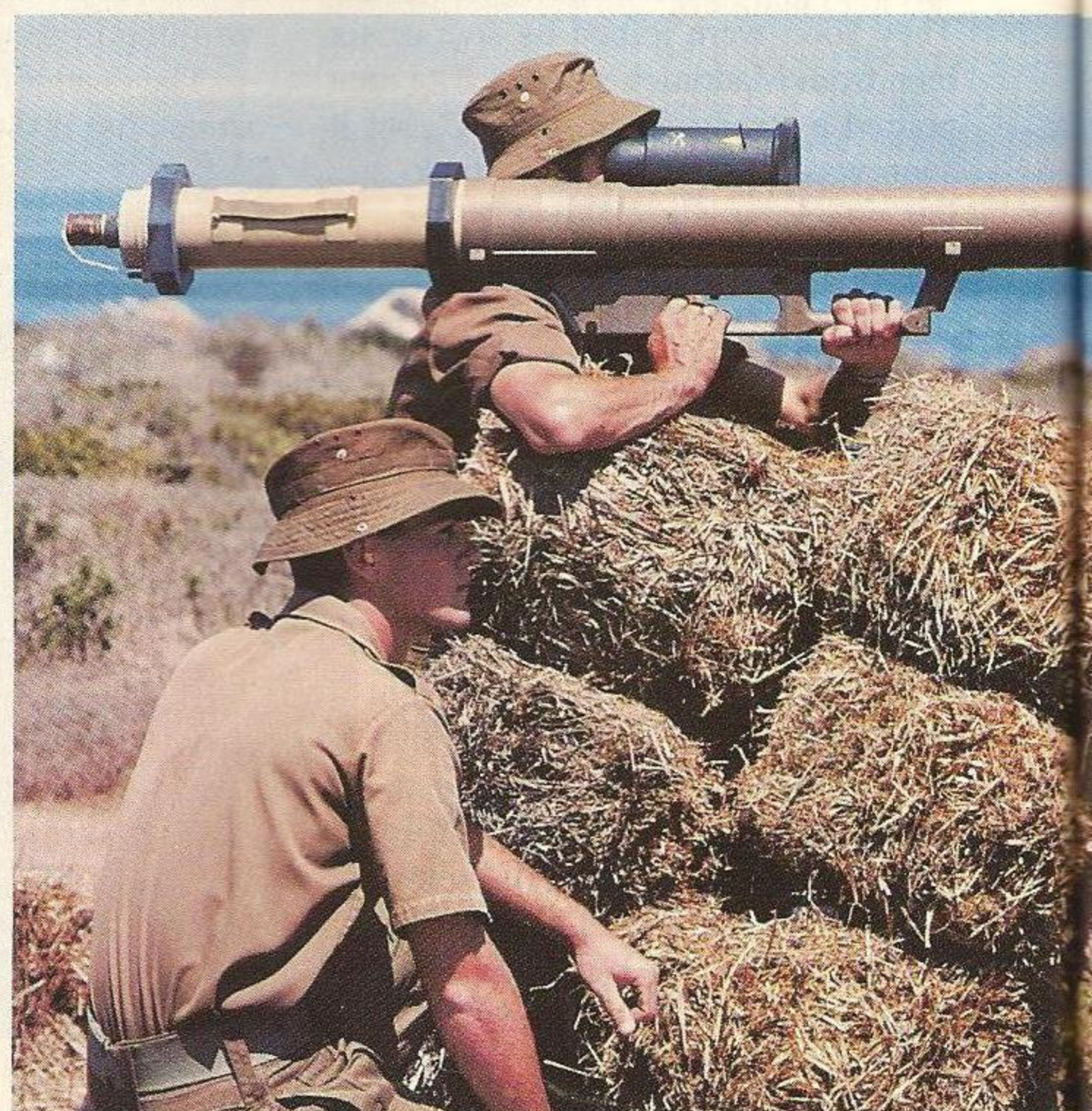


# AFRIKAANS' ARMOR-ANNIHILATOR



(Top) Loading the FT5. (Middle) Preparing to fire the FT5. (Bottom) Firing the FT5. Note smoke signature, a characteristic of shoulder-mounted rocket launchers. Photos: Peter G. Kokalis



**Men started hurling** everything from bullets to Molotov cocktails at tanks ever since the British fielded the first of these tracked monsters in 1917. In the early days, the fire-vomiting iron dragons themselves were armed with little more than Vickers or Maxim water-cooled machine guns. The greatest danger a World War I tank faced was the field gun, such as the German 77mm M1896, with its 15-pound

shell. The first man-portable weapons deployed against tanks with any degree of success were so-called anti-tank rifles. Mauser's "T" rifle, a scaled-up 13mm version of the standard 7.92mm M1898 bolt-action infantry rifle was fielded in 1918 and initiated the concept. It was 67 inches in overall length, weighed 26 pounds and still exhibited severe recoil. It was effective, but certainly not popular with the troops.

## Not Your Grandpa's Bazooka

by Peter G. Kokalis  
Photos: Somchem

Interest in antitank rifles continued throughout the interval between World Wars I and II. The Polish Maroszczek, an enhancement of the Mauser weighing only 19.5 pounds and yet with reasonable recoil, was the first. While the cartridge case was similar to that of the Mauser, it was necked-down to accept a 7.92mm projectile with

a tungsten-carbide core. More notable examples were the .55 caliber British Boys, 20mm Solothurn S18-1000 and Finnish Lahti, German Pzb 38/39 (chambered for the Marosczek round) and Soviet 14.5mm PTRS 41 — all fielded in the late 1930s and very early 1940s. Although the Russians employed the PTRS 41 throughout World War II, by that time tank armor had improved beyond the penetration capabilities of man-portable rifles.

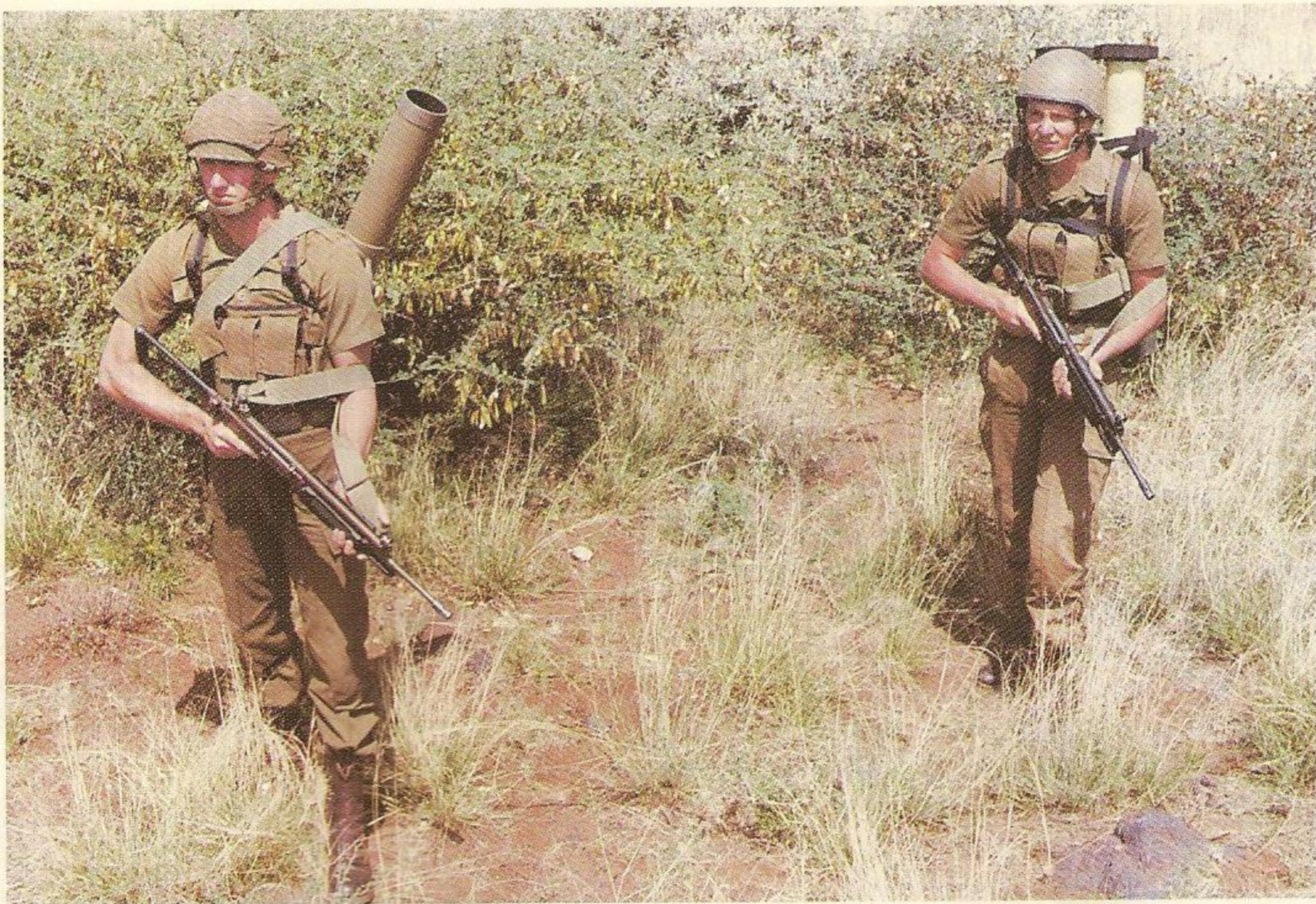
The first really significant development in antitank warfare was the invention of the "Bazooka" by Colonel Skinner of the United States Army Ordnance Corps. In May 1942

the General Electric Company was contracted to produce 5,000 Bazookas in 30 days. This was the beginning of the man-portable, shoulder-mounted antitank

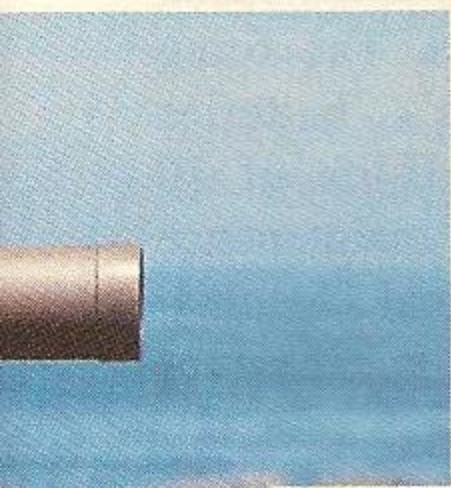
rocket launchers that have become a dominant factor on today's battlefield.

The South African defense industry is a major force among the world's arms producers. Their artillery, armored vehicles and small arms are fielded throughout the globe and overall represent the cutting edge of

advanced technology together with the highest possible quality of production. An outstanding example is the FT5 Light Antitank Weapon (LAW) produced by Somchem, a division of Denel (Pty) Ltd (Dept. SOF, P.O. Box 187, Somerset West 7129, Republic of South Africa;



South African Defense Force troops equipped with R4 rifles deploy with the FT5 LAW.



phone: 011-27-24-850-2680; fax: 011-27-24-850-2955). Somchem, a high-technology company in the truest sense of the word, is noted for its design and manufacture of products

tions. This demanded a weapon with ergonomically enhanced handling characteristics, highly accurate sighting even on moving targets, a consistent rocket trajectory and

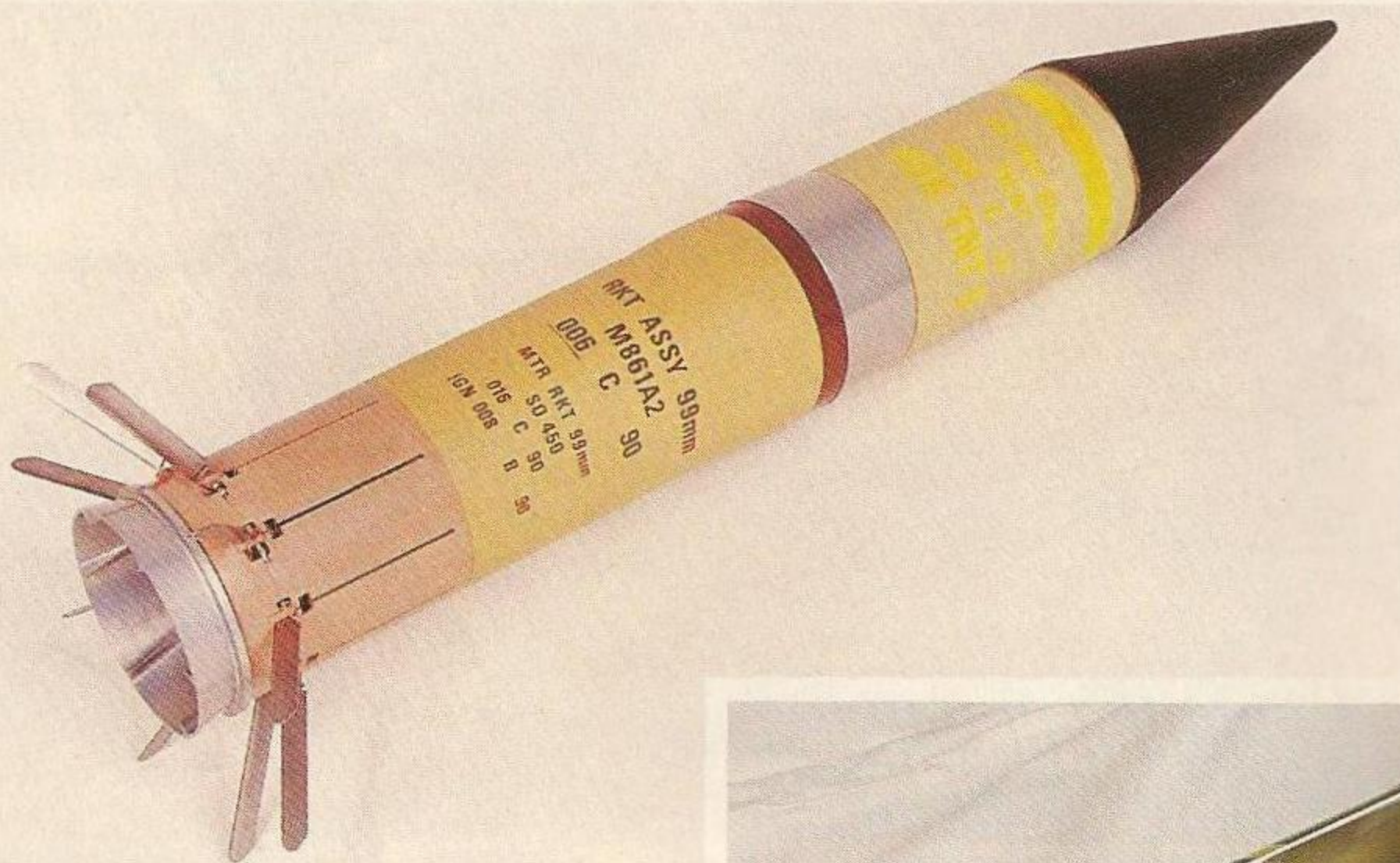
rate and easy-to-use optical sight, low recoil impulse and consistent ballistic performance, the FT5 can, in the hands of a trained operator, place a projectile on a 1.5x1.5-meter target at a range of 400 meters 98% of the time.

The launch tube is a filament-wound, smooth-bore cylinder with an integral, wear-resistant inner liner. Attached to the tube is a padded shoulder rest, front and rear handgrips, an electronic firing mechanism with a thumb trigger and built-in electronic and mechanical safety devices. A bipod is stored inside the front handgrip. The fully equipped launcher weighs only 13 pounds (5.9 kg), empty. When loaded, the weight increases to 24.9 pounds (11.3 kg).

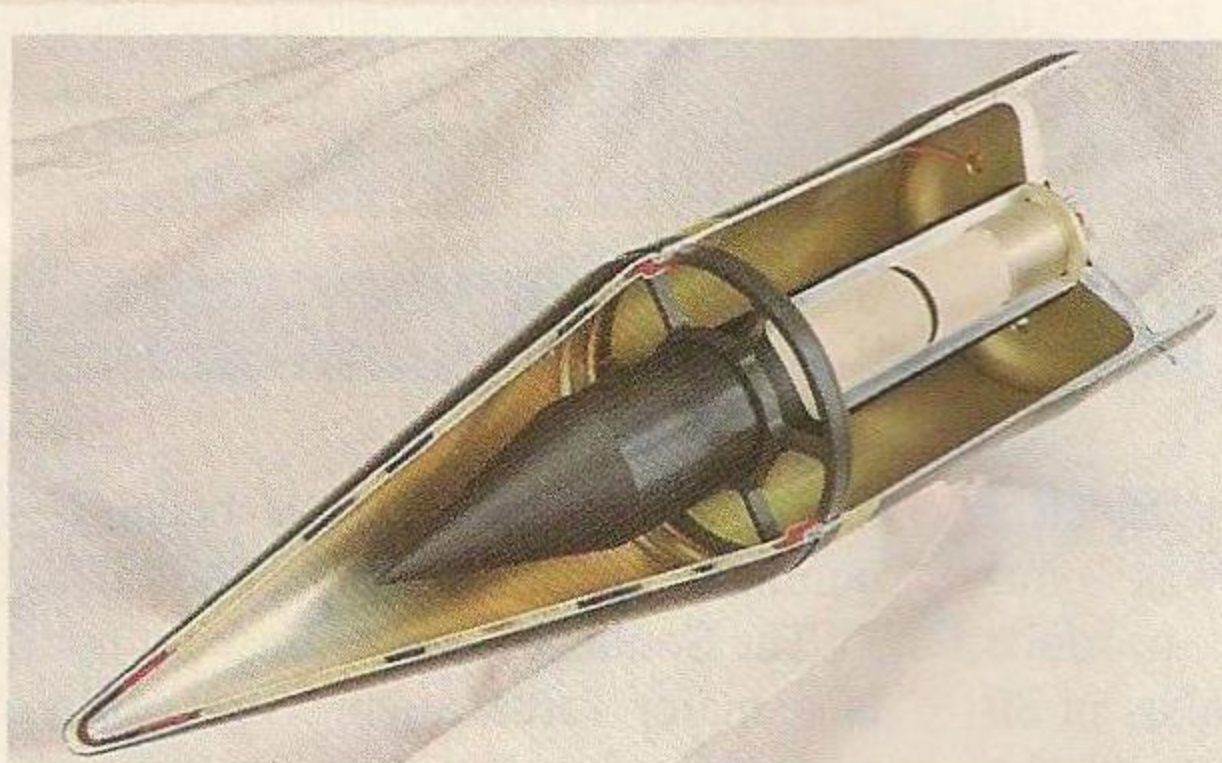
Launch steadiness is a consequence of the low-recoil impulse, the launcher's dynamic balance and a unique trigger design which eliminates most of the launch perturbation commonly associated with conventional firing mechanisms. The firing mechanism's batteries have a shelf-life of 10 years. No maintenance

is required beyond normal cleaning. The launcher can fire in excess of 200 rockets.

The optical sight features 4X magnification and an 8-degree field of view. Its reticle pattern permits accurate range determination of distances up to 400 meters, which is the practical range of the system, although up to 600 meters can be achieved; and the correct lead angle determination for moving targets. The reticle pattern is tritium illuminated for low-light-level operations. A light-emitting diode (LED) within the optical sight indicates correct operation of the firing mechanism, as well as a check on the launcher's electrical circuits. The optical sight's



FT5 HEAT warhead with rocket motor showing the umbrella-type stabilizing fins deployed. (Inset) FT5's HEMP warhead has an explosive-filled penetrator and was designed to detonate inside buildings, bunkers and vehicles, creating a large amount of fragments, flash, pressure and noise.



ranging from propellants through mine-clearing systems. During my most recent visit to South Africa, I was presented with an opportunity to both examine and fire the FT5 LAW. It is a far cry from the World War II Bazooka.

When infantry are forced to confront Main Battle Tanks (MBTs) head-on, short-range, shoulder-fired antitank weapons become their last line of defense. Success depends upon the speed with which the weapon can be deployed, its lethality against armor and its first-shot hit probability. A key concept in the FT5's design was the ability to take out an enemy tank with the first round under all condi-

the highest possible penetration against armor.

The FT5 system consists of a reusable rocket launcher, an optical sight and a rocket inside a disposable launch canister. Both the rocket and canister are attached to the rear of the launcher before firing. With its accu-



FT5's hollow-charge HEAT warhead will penetrate more than 650 mm of rolled homogeneous steel.

mounting bracket is designed to snap on and off both quickly and easily while maintaining zero as set in the factory. When not in use, the optical sight is stored inside the rocket launcher. An emergency, fold-away

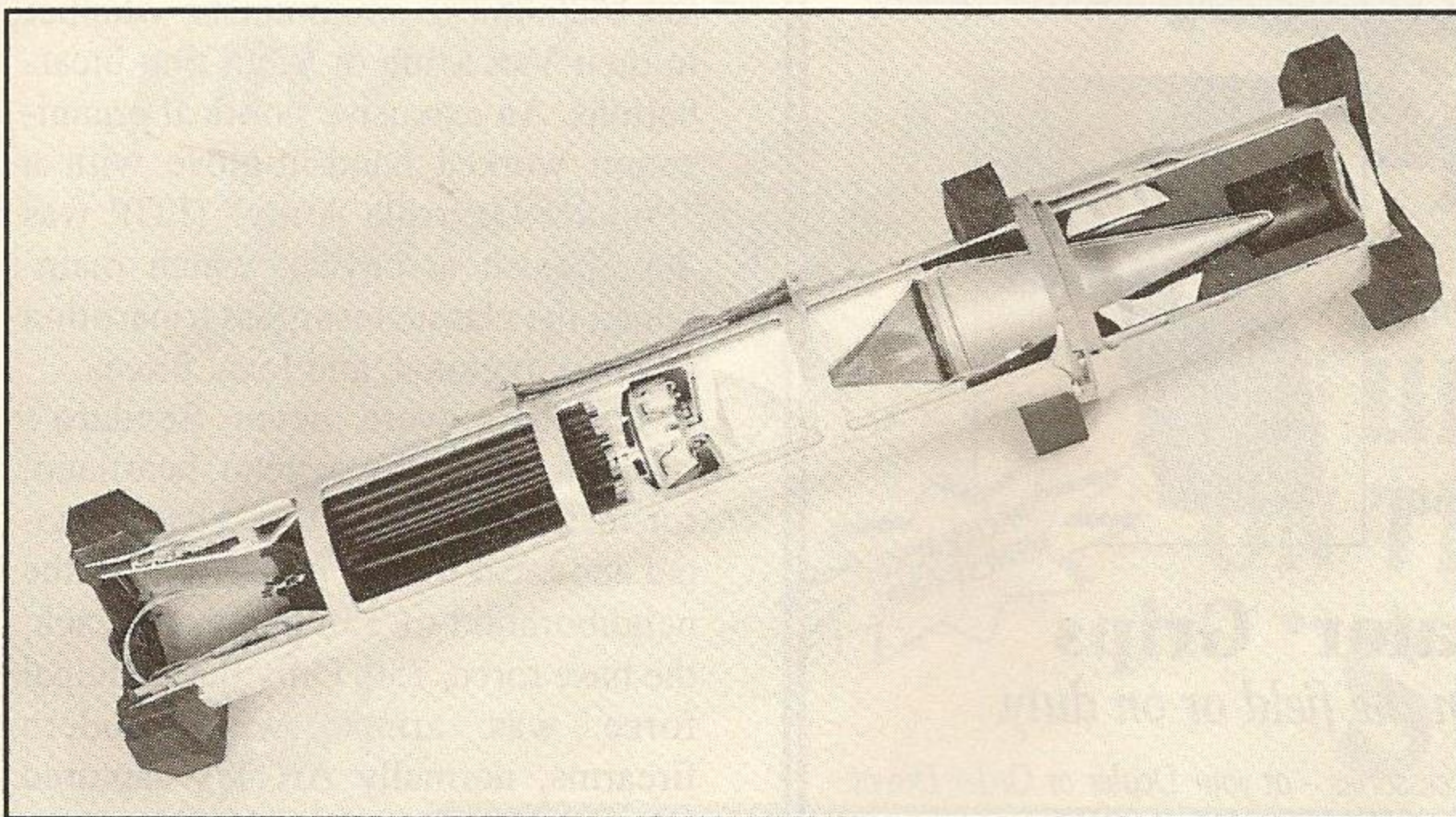
grazing angles as low as 12 degrees to the horizontal.

Three types of munitions are available for the FT5: The hollow-charge HEAT (High-Explosive Anti-Tank) warhead utilizes a shear-formed, trum-

penetrate RHA in excess of 16mm and sandbags in excess of 1.5 meters thick. This warhead has an explosive-filled penetrator and was designed to detonate inside buildings, bunkers and vehicles, creating a large amount of fragments, flash, pressure and noise. Various types of illumination and smoke warheads are also available, as is a 7.62x51mm NATO sub-caliber training device.

Based upon my limited test-firing of the FT5, but considerable experience throughout the world with the admittedly inferior RPG7V, shoulder-mounted rocket launchers are, in my opinion, pretty much "shoot and scoot" weapons because of their significant smoke signature. Therefore, while deploying with weapons of this type from the prone position provides the most stable firing platform, it is also the slowest to get up from before you run like hell to escape the inevitable position disclosure resulting from the cloud of smoke generated during the firing sequence. The standing position is the most unstable and should also be avoided. When there is sufficient cover, the kneeling position should be employed, as it is both stable and permits the team to move quickly after firing a round. The FT5 requires a backblast area of 20 meters.

The result of years of research and development, the FT5 is probably the best shoulder-mounted rocket launcher in the world today and that's exactly what we've come to expect from the South African defense community. ✘

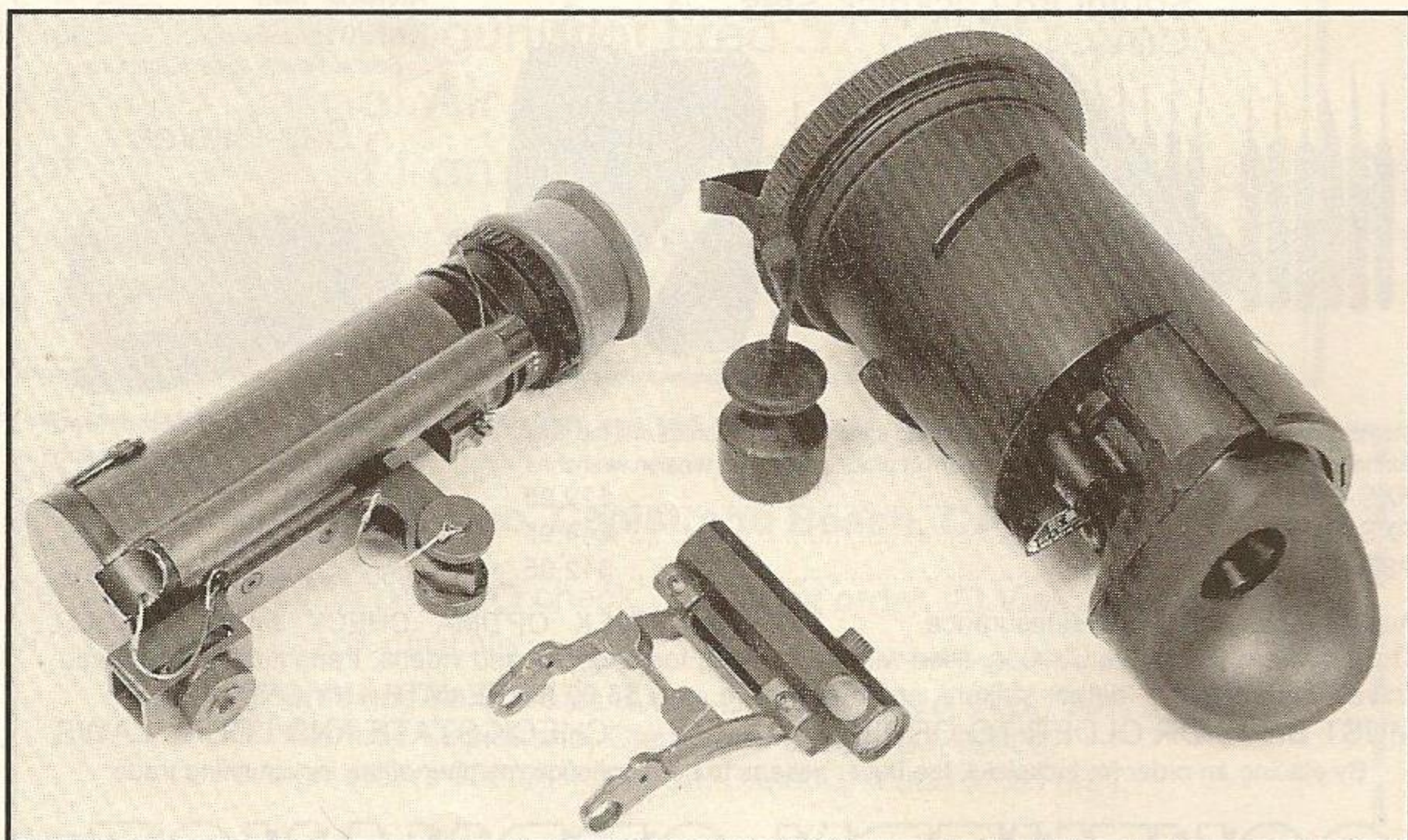


Unique factory cutaway of the FT5 with a loaded HEAT warhead.

battle sight of the Single-Point (occluded eye) type is also included as standard equipment. An interface bracket which allows the attachment of standard small arms passive or active night vision equipment is also supplied.

The rocket itself is contained within a sealed launch canister with a removable front cap. The filament-wound composite canister is discarded after use. Electrical contact is automatically established when the canister is attached to the launch tube. An unfired rocket can be unloaded, resealed with the canister's front cap and stored safely for further use. The rocket motor is electrically ignited. Consistent ballistic performance between one rocket and the next is accomplished through synthesized burn-rate catalysts in the double-base propellant "sticks." A rapid burn time of only 12 milliseconds provides for complete combustion while the rocket is still inside the launch tube. Launch velocity of the rocket is about 900 fps (275 m/s). The warhead is completely armed only after moving more than 20 to 50 meters downrange from the launcher through a five-step process. The fin-stabilized rocket's aerodynamic stability contributes to its small dispersion, which is less than 0.75 mil at 400 meters. A double-ogive-type nose fuze ensures warhead detonation at

pet-shaped copper liner and is filled with a highly homogeneous press-cast RDX/TNT (85/15) explosive. Penetration of this 92mm warhead in rolled homogeneous armor (RHA) is greater than 650 mm. A HEMP (High-Explosive Multipurpose) warhead, designed for use against bunkers (with reinforced concrete walls up to 400mm thick), APCs (Armored Personnel Carriers) and AFVs (Armored Fighting Vehicles), operates on the delayed percussion principle. It will



Three sighting systems are available for the FT5: the standard optical sight (right), the occluded-eye-type battle sight (center) and optional night vision equipment (left).