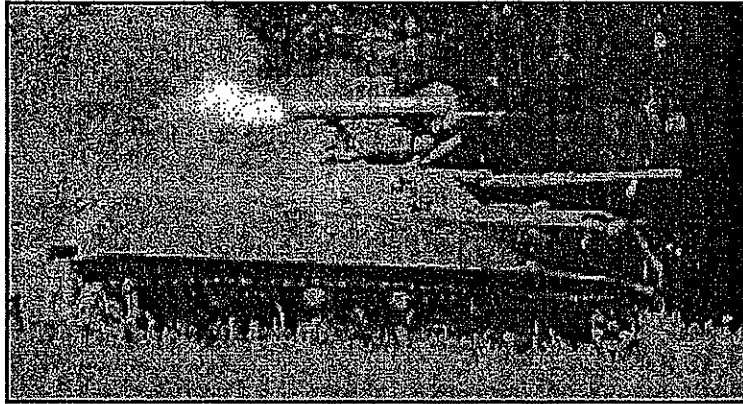


Exhibit 6

9K111 Fagot and 9K111-2 Fagot-M antitank weapon systems



A 9M111M Fagot-M ATGM being fired from the BMD-1P airborne ICV.

The 9K111 Fagot and 9K111-2 Fagot-M man-portable battalion-level ATGM systems appeared in the 1970s as the first Russian tube-launched ATGM weapon systems and were designed by the KBP (Instrument-Making Design Bureau) based in Tula as a replacement for the older Malyutka ATGM systems in the AT platoons of the BTR-equipped motorized rifle battalions as well as for those mounted on the BMP-1 and BMD-1 infantry combat vehicles (the modified vehicles were designated BMP-1P and BMD-1P).

The ATGM platoons of the mechanized infantry battalions and airborne infantry brigades have 6 three-man firing teams armed with these ATGM systems. The operator carries the folded 9P135 firing post as a backpack, and each of the assistant operators carries two missiles in containers as a backpack. Unlike the ATGM teams equipped with the older Malyutka ATGM systems, these teams do not carry a RPG-7 shoulder-fired AT rocket launcher because the Fagot does not have the 500 m. deadspace of the Malyutka. The Fagot ATGM systems are to be replaced by the Metis ATGM systems.

The Fagot ATGMs can also be fired from the BMP-2, BMD-2 and BMD-3 infantry combat vehicles and from the 9P148 BRDM-2 tank destroyers.



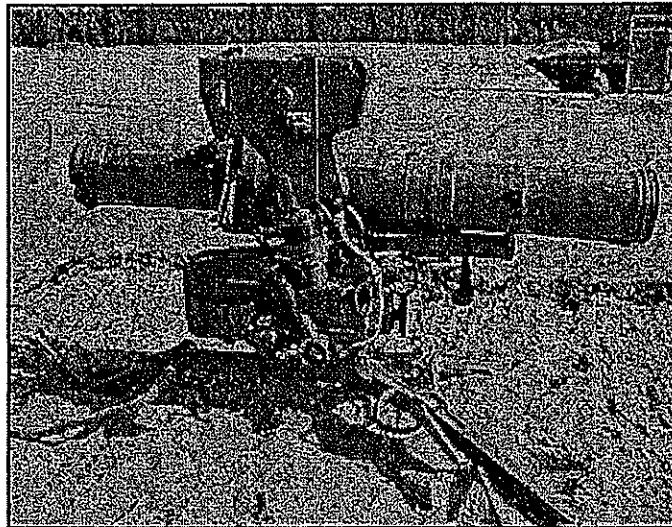
A 9K111 Fagot ATGM system manned by a three-man crew in action. Notice the earlier 9S451 guidance system with the 9Sh119M sight.

9K111 Fagot (AT-4 Spigot A)

The 9K111 Fagot (AT-4 Spigot A) uses the tube-launched 9M111 SACLOS, wire-guided ATGM. The 9M111 missile is stored and carried in a container, which also serves as a launch tube. It has a minimum range of 70 m. and a maximum of 2000 m. and it has a unitary HEAT warhead which can penetrate 400 mm. of steel armor. The missile can engage moving targets efficiently only if their speed is below 60 km./h. and its use is allowed in heights up to 3000 m. above the sea level. When the missile is fired, the gas generator blows it forward out of the tube with a speed of 80 m./s. and, after it has traveled a safe distance from the firing post, the fuze is activated and the missile's own sustained motor powers it on the flight to the target for 11 seconds with a flight speed of 186 m./s. The wire for the missile guidance is located in the container's blow-out lid which opens on the lower left side when the missile is fired.

Technical characteristics for the 9K111 Fagot ATGM system:

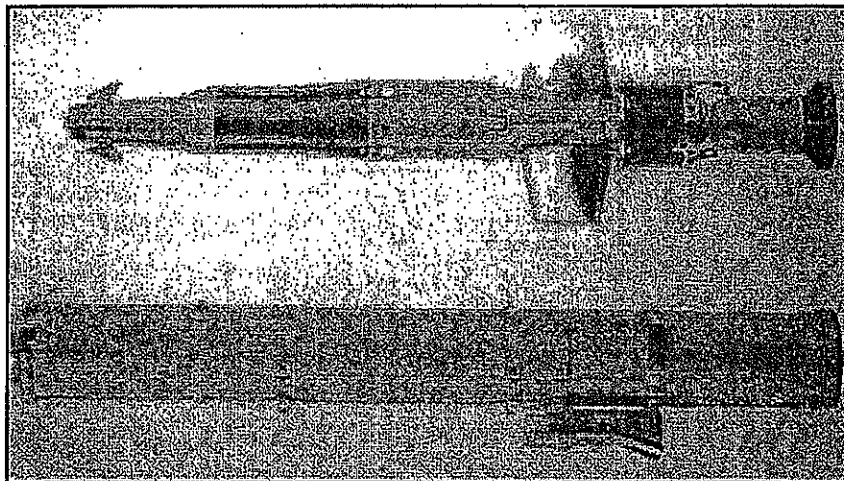
System:	Designations:	Russian Army	9K111
		U.S. Army	AT-4a
		NATO	Spigot A
	Guidance:	SACLOS	
	Weight:	35 kg.	
	Rate of fire:	3 rds./min.	
	Service entry:	1973	
Missile:	Designation:	9M111	
	Dimensions:	Length:	863 mm.
		Diameter:	120 mm.
		Wing span:	369 mm.
	Weight:	Missile only:	11,5 kg.
		Missile in container:	13 kg.
	Warhead:	Type:	HEAT
		Weight:	2,5 kg.
	Range:	Minimum:	70 m.
		Maximum:	2000 m.
	Speed:	at launch:	80 m./s.
		flight speed:	186 m./s.
	Penetration:	400 mm. of armor	
	Propellant:	solid fuel	
	Maximum flight time:	11 s.	
First-round hit probability:	90%+		
Firing Post:	Designation:	9P135	
	Weight:	22 kg.	



The 9K111-2 Fagot-M ATGM system.
Notice the later 9S451M guidance unit with the 9Sh119M1 sight.

9K111-2 Fagot-M (AT-4 Spigot B)

The 9K111-2 Fagot-M (AT-4 Spigot B) uses the 9M111M ATGM with an improved sustained motor which increases the maximum range to 2500 m. and an improved warhead which can penetrate 460 mm. of steel armor. The 9K111-2 ATGM system uses the same 9P135 firing post as the older 9K111 system.

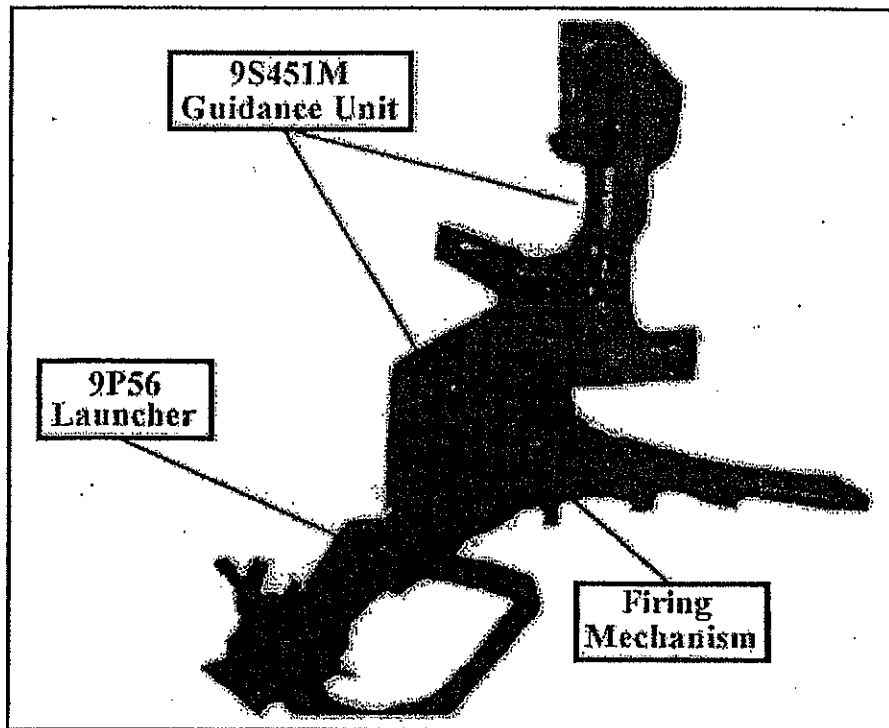


The 9M111M Fagot-M ATGM and its container/launch tube.

Technical characteristics for the 9K111-2 Fagot-M ATGM system:

System:	Designations:	Russian Army	9K111-2
		U.S. Army	AT-4b
		NATO	Spigot B
	Guidance:	SACLOS	
	Weight:	35 kg.	
	Rate of fire:	3 rds./min.	
	Service entry:	1975	

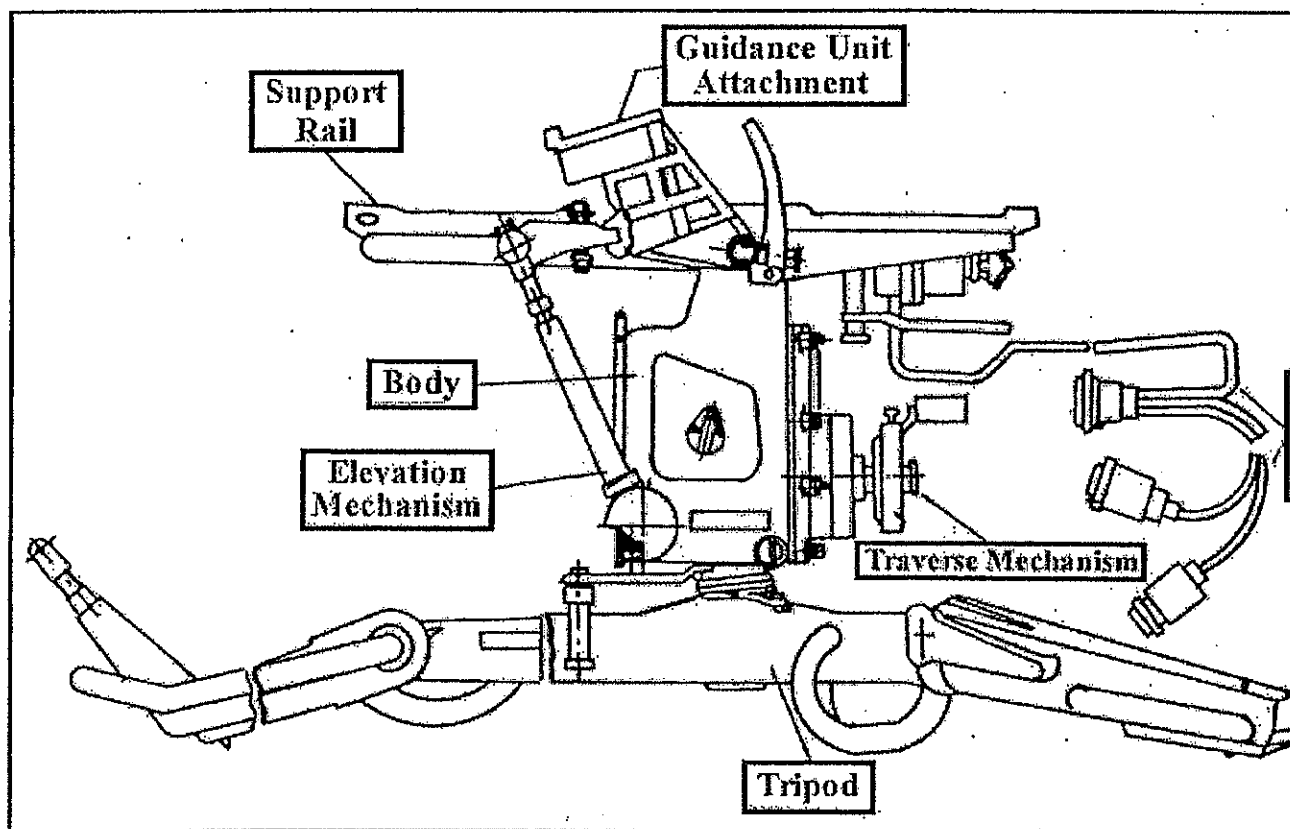
Missile:	Designation:	9M111M	
	Dimensions:	Length:	910 mm.
		Diameter:	120 mm.
		Wing span:	369 mm.
		Container length:	1098 mm.
	Weight:	Missile only:	11,5 kg.
		Missile in container:	13 kg.
	Warhead:	Type:	HEAT
		Weight:	2,5 kg.
	Range:	Minimum:	75 m.
		Maximum:	2500 m.
	Speed:	at launch:	80 m./s.
		flight speed:	186 m./s.
	Penetration:	460 mm. of armor	
Propellant:	solid fuel		
	Maximum flight time:	13,5 s.	
	First-round hit probability:	90%+	
Firing Post:	Designation:	9P135	
	Weight:	22 kg.	



The 9P135 firing post.

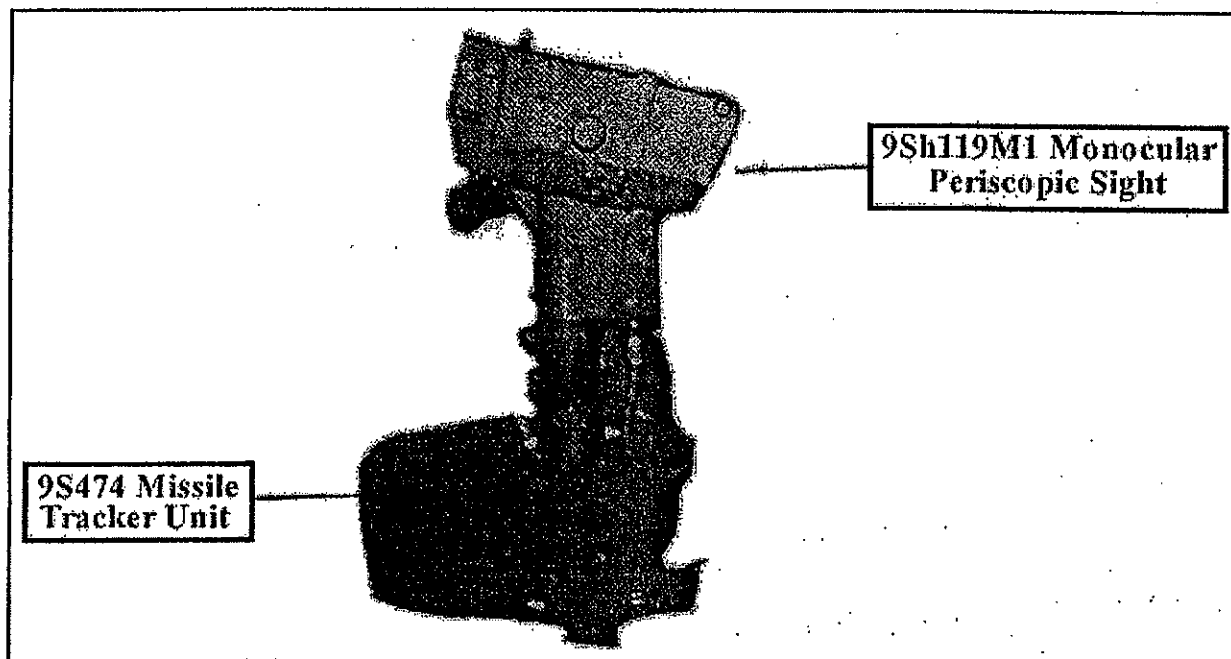
The 9P135 firing post

The 9P135 firing post for ground-launched employment is consisted of a tripod-mounted 9P56 launcher with the 9S451M guidance unit and the firing mechanism attached to it.



The 9P56 launcher.

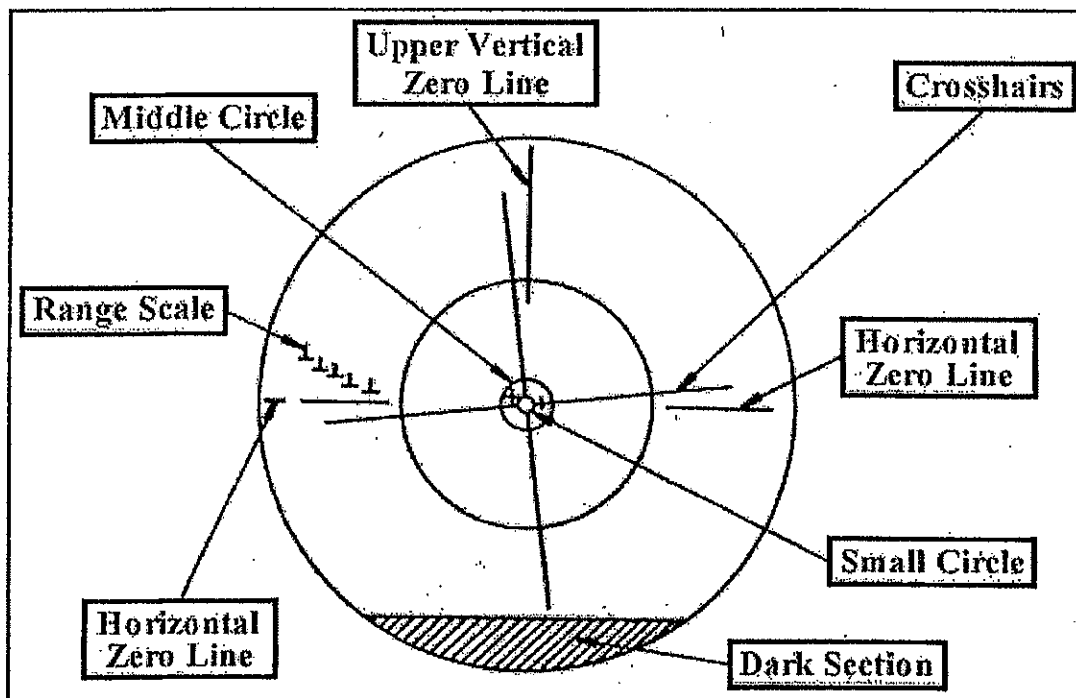
The 9P56 launcher is designed to hold the guidance unit and the missile container. The missile container is loaded on the 9P56 launcher by sliding it on the support rail from the rear until the mechanical catch and the electrical contacts engage. The 9S451M guidance unit is mechanically attached to the rail of the launch tube and moves together with it. A locking lever allows it to be released and rotated into the folded position for transport.



The 9S451M guidance unit.

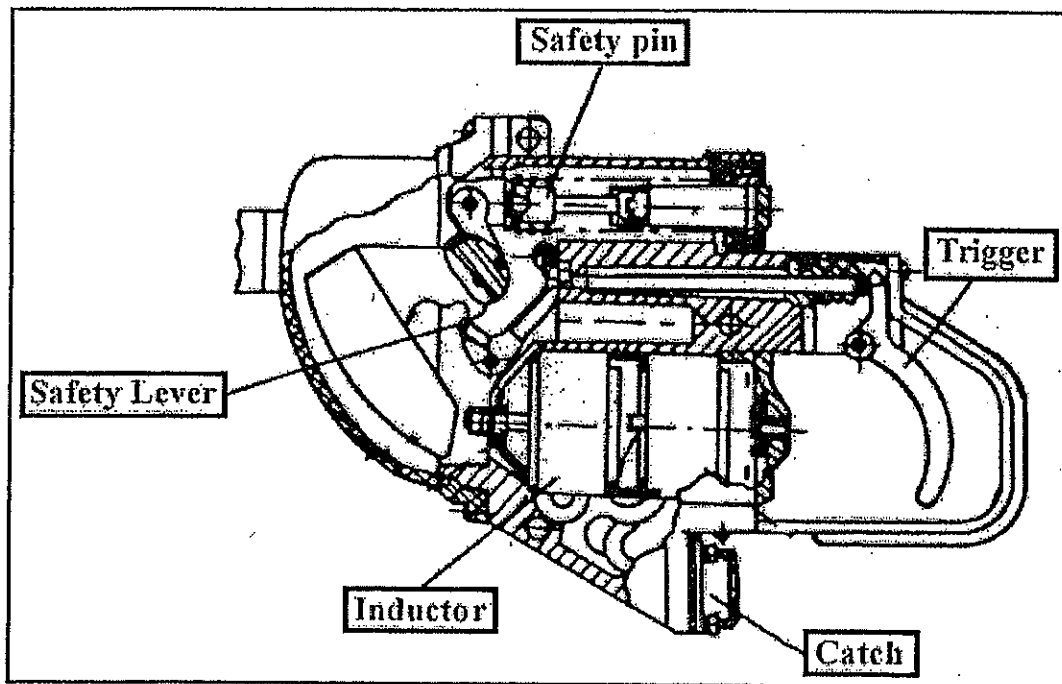
The 9S451M guidance unit is comprised from the 9Sh119M1 monocular periscopic sight and the 9S474 missile tracker unit. The missile tracker unit measures the deviation between the missile and the operator's line-of-sight by an IR tracking apparatus that tracks the IR source located in the tail of the missile and then generates guidance commands which are then transmitted to the missile's guidance unit by a wire, causing it to eliminate the deviation. The tracking unit is very simple and inexpensive and it has an extremely narrow field of view which makes it very difficult to decoy, since the decoy source has to be in inside its field of view.

The 9Sh119M1 monocular optical sight has a x10 magnification and a field of view of 5° and is used together with the 9S469 or 9S469M indicator of IR interferences, which is carried by the gunner. When there is an IR interference in the sight's field of view, an electrical diode reflects a red blinking light in the dark section of the sight just below the crosshairs. The sight has two optical channels with a constant or variable diaphragm. The field of view for channel No.1 with the variable diaphragm is 2,5° and it is marked with the big circle in the crosshairs of the sight. Channel No.2 with the constant diaphragm has a field of view of 30' which is marked by the middle circle, or 6' with the variable diaphragm marked by the small circle. The small circle is used to set the line-of-sight of the firing post before launching the missile and it can also be used to guide it if the target is less then 500 m. away.



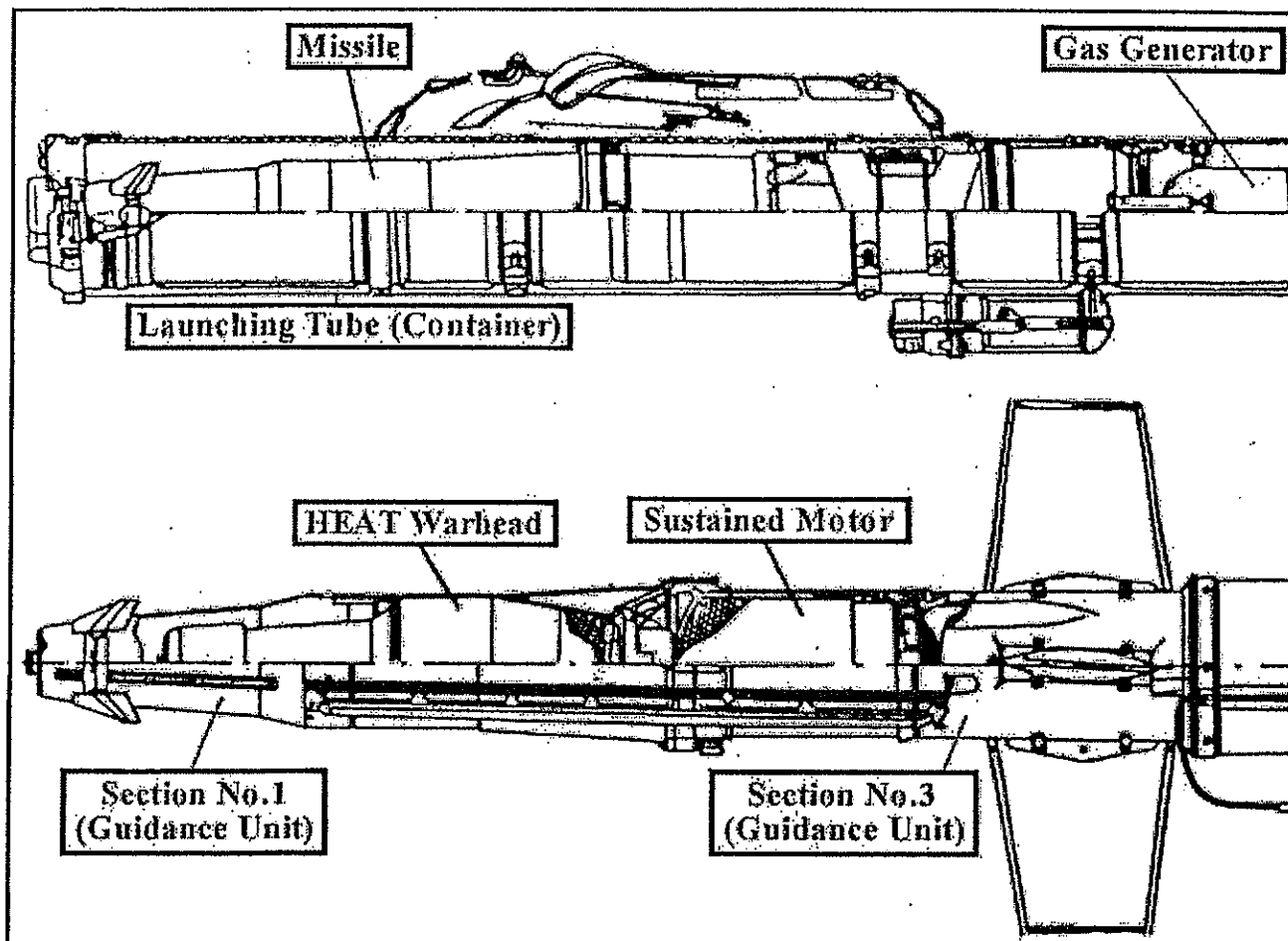
A view of the sighting reticle.

The 9S451 guidance units, which were produced before 1979, had optical sights with a small circle's field of view (that is, of the optical channel No.2 with the variable diaphragm) of 10'.



The firing mechanism.

The firing mechanism is attached on the left side of the 9S474 missile tracker. When the operator pulls the trigger, the inductor generates electrical impulses which activate the electrical charges of the launch tube's second battery, the missile's battery and the gyroscopic coordinator's rotor in the guidance unit of the missile.



A section of the 9M111M Fagot-M ATGM and its container.

Thanks to the SACLOS guidance, the 9K111 Fagot and 9K111-2 Fagot-M ATGM systems have an increased accuracy and reduced training requirements for their operators over the previous 9K11 Malyutka system with MCLOS guidance because the operator no longer needs to track the target and the missile at the same time, but to keep the sight fixed on the target.

Technical characteristics for the 9P135 firing post:

Weight with the backpack and tools:		22,5 kg.
Weight with the transport case:		45 kg.
Dimensions:	Length:	1.098 mm. (with the launch tube)
	Width:	770 mm.
	Height:	707 mm.
Target tracking speed:	in traverse:	1,5°/s. (1st speed) or 0,5°/s. (2nd speed)
	in elevation:	1,5°/s.
Launcher traverse:		360°
Launcher elevation:		from -20° to +20°
Temperature range:		from -50°C to +50°C
Sight's magnification:		x10
Sight's field of view:		5°
Field of view of the optical channel No.1:		6° with the constant diaphragm,

	2,5° with the variable diaphragm
Field of view of the optical channel No.2:	30' with the constant diaphragm, 6' (10') with the variable diaphragm

The TRAKT (1PN65) and MULAT (1PN86) thermal sights

The NPO GIPO (Research and Production Association-State Institute of Applied Optics), one of Russia's leading enterprises for designing optronic systems for the Russian armed forces, has produced the TRAKT (1PN65) and MULAT (1PN86) thermal sight for these ATGM systems. They are fitted without any modifications to the firing post, and the MULAT thermal sight can also be used as an observation and surveillance device. When they are not in use, they are stored in a shockproof protective casings.

Technical characteristics for the MULAT (1PN86) thermal sight:

Detection range:		3600 m.
Identification range:		2000 m.
Field of view:	in target identification mode:	1,8" x 3,6"
	in target detection mode:	3,6" x 7,2"
Spectral band:		8-13 m.
Air bottle lifetime:		2,5 h.
Operation time with a single set of SPTA:		7,5 h.
Power consumption:		3,6 W
Weight (with air bottle and battery):		9 kg.
Temperature range:		-40 to +50 °C
Overall dimensions of the unit: (length x width x height)		530 x 204 x 182 mm.

Remarks

The 9K111 Fagot and 9K111-2 Fagot-M ATGM systems are also manufactured by many other countries from the former Warsaw Pact and mounted on their own vehicles. A good example is Bulgaria which produces these ATGM systems and also mounts them on their own BMP-30 ICV which is based on the chassis of the 2S1 Gvozdika 122 mm. self-propelled artillery system and has a turret from the BMP-2.

