

Rapier missile

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Rapier



Rapier FSC

Type SAM Surface-to-air missile

Nationality UK

Era Cold War

Launch platform vehicle

Target aircraft

History

Builder British Aerospace now MBDA (UK) Ltd

Date of design

Production period

Service

<u>duration</u>	
<u>Operators</u>	<u>United Kingdom, Indonesia, Turkey, Malaysia, Switzerland, Singapore, Australia</u>
<u>Variants</u>	<u>Mk1 (Hittile), Mk2B (Missile)</u>
<u>Number built</u>	<u>?</u>
<u>Specifications</u>	
<u>Type</u>	
<u>Diameter</u>	<u>0.133 m</u>
<u>Wing span</u>	<u>0.138</u>
<u>Length</u>	<u>2.235</u>
<u>Weight</u>	<u>45 kg</u>
<u>Propulsion</u>	<u>solid fuel rocket</u>
<u>Steering</u>	<u>control surface</u>
<u>Guidance</u>	<u>GGU</u>
<u>Speed</u>	<u>Mach 2.5</u>
<u>Range</u>	<u>400 - 6,800 m</u>
<u>Ceiling</u>	<u>3,000 m</u>
<u>Payload</u>	
<u>Warhead</u>	<u>Fragmentation explosive close proximity warhead</u>
<u>Trigger</u>	<u>?</u>

Rapier is a British surface-to-air missile developed for the British Army and Royal Air Force.

History

Rapier began development in the 1960s as the ET.316 project which was a back up for the planned purchase of the US Mauler missile system. The project was to combat supersonic, low level, high manoeuvrability craft. The British Aircraft Corporation, as it was at the time, had a private venture Sightline which formed the basis of ET.316. The subsequent cancellation of Mauler meant that ET.316 would be completely developed. Entering service with the British military in 1971, due to its accuracy it was promoted as a "hittile", originally relying on direct impact with the target rather than the large proximity fuzed warheads used by other missiles.

The initial version employed an optical tracker. Later versions added a tracking radar Blindfire (DN181)) and an electro-optical tracker. A cheaper export derivative with a laser tracker was known as Laserfire.

Rapier in its initial outing took the form of a wheeled launcher with four missiles, an optical tracker unit FSB2 and trailer of stores—the whole kit along with crew delivered by three Land Rovers. It was typically used for airfield defence.

With the addition of the tracker radar unit enemy targets could be identified quicker and then the operator could choose an entirely automatic launch, or operate manually.

A mobile tracked version Tracked Rapier was subsequently developed using the US M548 tracked carrier for the Shah of Iran. With the collapse of the Shah's government before delivery BAe had a system which they offered to the Royal Air Force.

Combat history

The original Rapier FSB1 was deployed during the Falklands War but saw very poor performance against low-flying aircraft flying away from the launcher. Fourteen kills were claimed but later reports reveal that just two aircraft were shot down in the whole war. The Falklands proved the general inability of short range missiles (no matter how sophisticated they are) to defend others rather than themselves as long they are not combined with a longer range air defense to shoot down planes that fly at higher altitudes to avoid short range air defence.

The current version, Rapier FSC (Field Standard C), was developed by MBDA (previously Matra BAe Dynamics) and is in service with the Royal

Artillery. There is also an export version of the missile system called *Jernas*. Development of the FSC system began at the end of the 1980s and the systems first entered service in 1996.

It is used in a combined system with the *Blindfire* tracking radar and the *Dagger* surveillance radar. Eight missiles can be carried ready to fire, each with a high explosive warhead and missiles (designated *MK2B*) are now fitted with a proximity fuze. The missile's propulsion system is a two stage enhanced solid-propellant rocket motor capable of around Mach 2.5. The guidance is automatic infrared and radar command to line of sight.

There was also an incident with the B-2 being tracked at Farnborough (2 September 1996), when BAe caused a storm after it released a video showing the Rapier SAM system tracking the B-2 Stealth bomber in IR as it did a fly past. The Rapier had recently been updated with newer radar and tracking systems specifically designed to track such aircraft.

See also

Details from Wikipedia

http://en.wikipedia.org/wiki/Rapier_missile