

Missile Family



Lethal Against 21st Century Armor



Effective Against Ships, Buildings, and Bunkers



Highly Effective Against Enclosures in Urban Warfare



Combat Proven Against Armor and Threat Systems



Improved Performance • Countermeasure-Hardened • Programmable

WARHEADS

Fold

Fold

LOCKHEED MARTIN
We never forget who we're working for™



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LETHAL
VERSATILE
ADAPTABLE



LOCKHEED MARTIN
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HELLFIRE® Missiles

HELLFIRE® II - HEAT

- High-Explosive Anti-Tank
- Digital autopilot and electronics
- Tandem warheads with electronic safe and arm fuze
- Semi-active laser seeker



HELLFIRE® II - Blast Frag

- Blast frag warhead with electronic safe and arm delay fuze
- Digital autopilot and electronics
- Semi-active laser seeker



HELLFIRE® II - MAC

- Metal Augmented Charge
- Digital autopilot and electronics
- Semi-active laser seeker



Longbow HELLFIRE™

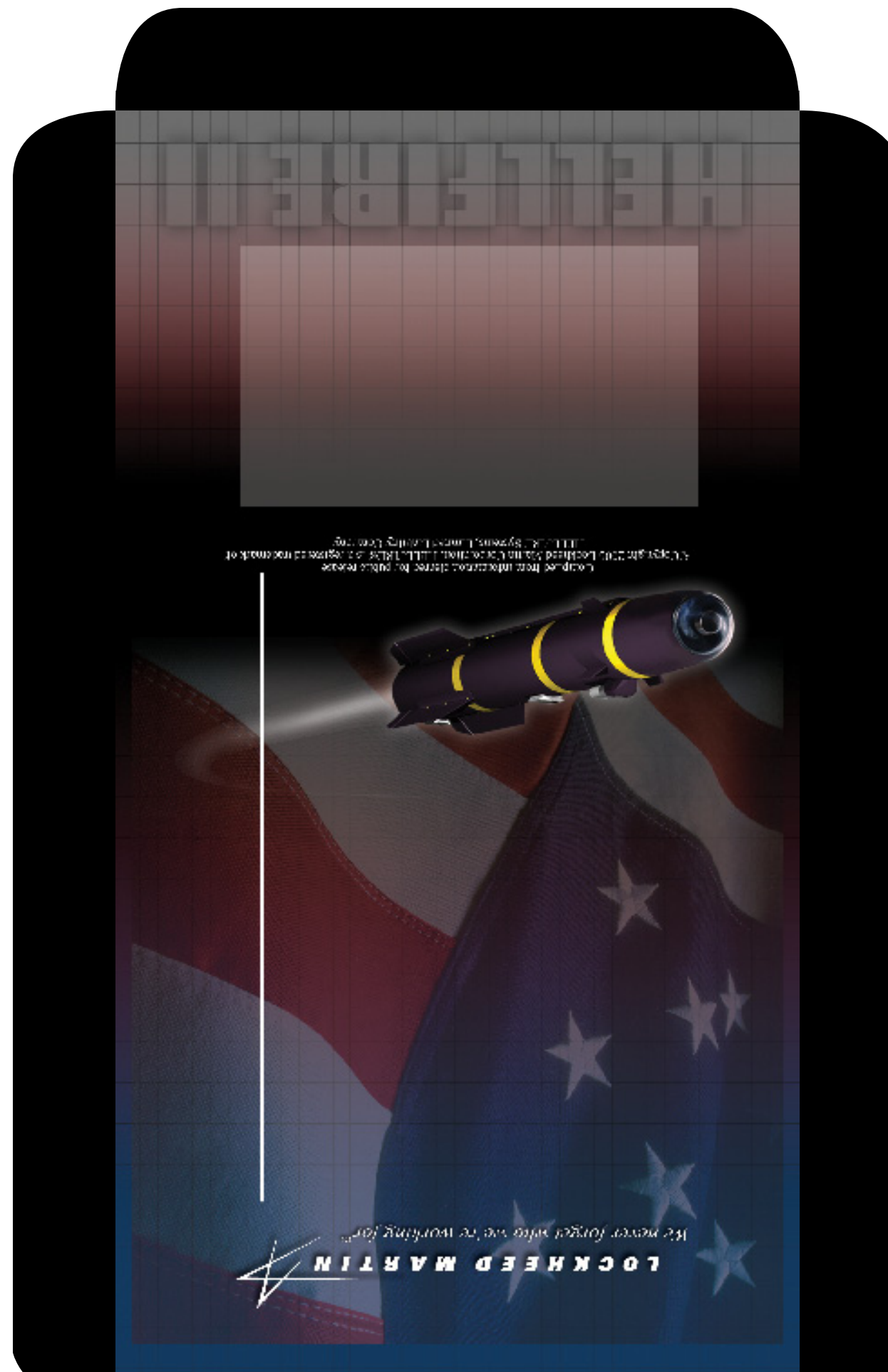
- Dual warhead
- Digital autopilot and electronics
- Millimeter-wave seeker



SEEKERS

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HELLFIRE II is a world class, air-to-ground multipurpose, laser-guided missile system. It is versatile—can fire on various platforms—and adaptable—integrated into numerous fire control systems. In each instance, HELLFIRE II makes a major contribution to the warfighting capability of its platform.

Air-to-Ground HELLFIRE II

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HELLFIRE II is fielded on a wide range of aerial platforms; for example, the Defender (UH-60 series), Kiowa Warrior (OH-58C), Blackhawk (UH-60 series), Apache (AH-64A and AH-64D), Cobalt (AH-1W and AH-1Z), Seahawk (SH-60 series), Australia's Eurocopter Tiger, and the Predator unmanned aerial vehicle (UAV).

HELLFIRE II is also integrated into multi-fuel control systems, such as Lockheed Martin's Anvilhawk (MATDS/FMVS) and Tanager Sight System (ANAAQ-30); Raytheon's Electro-Optical Sensor System (ANZSD-2) and Multi-Spectrum Targeting System (ANAAQ-52 and MTS-2); FLR Systems' BRITE Star 4; Kalsman's Night Targeting System (NTS); and Saab's Datascan Helicopter STRIX.



Vehicle-Launched HELLFIRE II

Vehicle-Mounted HELLFIRE II

The vehicle-mounted version uses the standard M310 HELLFIRE launcher, except that the launcher and missiles are mounted on and fired from a portable attached to the vehicle. The other components (launch control box, electro-optical targeting system, HELLFIRE control box/cables) are identical to those that comprise the tripod-mounted system. The high-mobility multipurpose wheeled vehicle (HMMWV), with modification, is able to carry up to six HELLFIRE II missiles. Other vehicles are capable of similar modification.

The vehicle-mounted variant is very mobile and can be placed in operation faster than the tripod variant. The launch and HELLFIRE control boxes and electro-optical targeting system are transported in the same vehicle and are removed for firing. Power is supplied by the vehicle's 12-volt battery and the self-contained batteries in the launch and HELLFIRE control boxes and electro-optical targeting system. The cables permit the launch and HELLFIRE control boxes to be displaced 200-300 meters from the vehicle, enabling safe launch operations. The vehicle-mounted variant has been successfully fired from the HMMWV and is readily adaptable to similar vehicles. The principal advantages of the vehicle option over the tripod option is a small space to employ and a great distance, increasing crew survivability and efficiency.



Ground-Launched HELLFIRE II

Tripod-Mounted HELLFIRE II

The tripod version consists of:

1. A single-kill HELLFIRE launcher with fire control mounted on a lightweight tripod.
 2. A portable launch control box (LCB).
 3. A small HELLFIRE control box (HCB).
 4. Cables.
 5. An electro-optical targeting system (EOTS) with day/night sensors and laser rangefinder/designator.
- Each component is qualified for use in production and maintenance. The system can be assembled and quickly moved ready to fire HELLFIRE II missiles. Power is provided by a 12-volt battery (vehicle or standard) and batteries included in the launch control box are electro-optical targeting system. The cables enable the boxes to be located a safe distance from the launcher during firing.

The components in the tripod-mounted HELLFIRE system are transportable in a standard HMMWV or similar vehicle or a utility helicopter. As mentioned, tripod systems are currently in service with Swedish and Norway.



The HELLFIRE II missile system is recognized worldwide as the premier rotary-wing air-to-ground missile system. It now brings its lethality to the ground and sea battlefields with the same devastating precision-strike capabilities that have been combat-proven in several operations from multiple airborne platforms.

Ship-Launched HELLFIRE II

Littoral HELLFIRE II

The littoral variant consists of:

1. Boat/launch options.
 2. Launcher (launcher rails and fire control unit).
 3. Stabilize or unstabilized launch platform.
 4. Electro-optical targeting system with laser rangefinder/designator.
 5. Launch control with moving map.
 6. Master controller.
 7. Electro-optical display.
- While the components that comprise the system are qualified, the littoral HELLFIRE system is not yet qualified. However, in mid-2004, the Norwegian Navy, in conjunction with Norwegian and US industry, accomplished a very successful trial firing 12 Hellfire missiles in sea state III at targets on land and sea designated autonomously and remotely.

Features

- Semi-active laser guided missile—It hits the laser spot.
- Operates in extreme temperature environments.
- Electro-optical performance resistance proven by test.
- Fully operational in adverse conditions: field color backscatter (fog, water vapor, smoke, and sea spray).
- Day/night operation.
- Easily modified: modular construction, reprogrammable.
- High survivability: "shoot-and-scoot" capability.



Strategic Considerations

Concept of Operations

Target detection and engagement is remote or autonomous.

Autonomous

A target is detected and designated by the system's electro-optical targeting system using its infrared (thermal) or direct view (day) optics and its laser rangefinder/designator (LRFD).

Remote

Detection and engagement can also be accomplished by targeting systems located on a boat, helicopter, UAV, or handheld. Remote requires two-way radio communications between the launcher and sensor to coordinate operations, but provides excellent flexibility and survivability. The HELLFIRE II missile is armed and fired with the launch control box at single or multiple targets and guided to the target(s) by the laser energy directed on the target by the laser designator.

Summary

The HELLFIRE II missile system is recognized worldwide as the premier rotary-wing air-to-ground missile system. It now brings its lethality to the ground and sea battlefields with the same devastating precision-strike capabilities that have been combat-proven in several operations from multiple airborne platforms. The HELLFIRE's range, precision, mobility, and flexibility give battlefield commanders the ability to decisively impact conventional and unconventional operations—and in an affordable, reliable, maintainable package.

Availability

Ground-launched HELLFIRE and its adverse-weather, extended-range, day/night, precision-attack capability are available through either commercial or Foreign Military Sales (FMS) channels within 18-24 months from receipt of order. The littoral system requires qualification but can be delivered in 24 to 30 months after contract award.



HELLFIRE II Background

Background

The HELLFIRE missile was principally designed as an air-to-ground missile system for the U.S. Army and the US Marine Corps' attack helicopter platforms. Since its original fielding in the mid-1980s, it has seen combat in Panama, the first Gulf War, Kosovo, Afghanistan, and, most recently, Iraq. In each conflict HELLFIRE distinguished itself by its ability to reach out at extended ranges to attack and destroy targets with pinpoint accuracy. To take full advantage of this demonstrated capability, HELLFIRE has been adapted to a number of other platforms beyond the attack helicopter. HELLFIRE has been successfully fired from several wheeled and armored vehicles, various small boats and ships, and ground-mounted tripods. The tripod-mounted system is currently in service with Swedish and Norwegian defense forces.



Performance Characteristics of the HEAT, BFWH, and MAC Missiles

Characteristic	HEAT, BFWH, and MAC Missiles
Range	500-6,000 meters
Locality	Air-to-ground
Targets	Close or standoff support; Dual tandem shaped-charge high-explosive anti-tank warhead; Defends all commonly used targets
Targets	Buildings, light vehicles, urban (soft) targets; Blast fragmentation warhead; Penetrates dual brick wall
Targets	Enclosures, ships, boats; MAC warhead provides high lethality, low collateral damage
Accuracy	Semi-active laser guidance; Precision weapon system; Hit laser spot, low collateral damage
Operations	Day/night operation; Adverse weather; Survivable
	40°C to +71°C; Small size/weight; Standoff range; High mobility; Fits for vehicles



BACKGROUND

AIR-TO-GROUND/VEHICLE

GROUND/SHIP

HELLFIRE II

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