## Raytheon

# **Paveway**<sup>™</sup> Laser and GPS/Laser Precision Guided Bombs



Paveway<sup>™</sup> is the world standard for low-cost, highly reliable precision guided bombs to fit any scenario.

#### Benefits

- The Paveway<sup>™</sup> family of weapons includes laser-only or dual-mode GPS/laser guidance
  - GPS/INS guidance for all weather
  - Laser guidance for precision and man-in-the-loop
- Options to fit all MK-80 series warheads as well as BLU-109, BLU-113, BLU-116 and BLU-122 warheads
- Low cost and high reliability
- Accuracy exceeds specifications
- Integrates with any tactical aircraft
- Combat proven

#### Description

The Paveway<sup>™</sup> family of precision guided bombs has been the leader in precision guided weapons for more than a quarter century. Paveway<sup>™</sup> bombs have been put to the test in every major conflict and proved themselves, time and again, as the weapon of choice by the end-users.

Paveway<sup>™</sup> II Laser Guided Bombs (LGB) home on reflected laser energy directed on the target. This proven design drastically reduces the number of munitions required to destroy a target and features accuracy, reliability and cost-effectiveness — previously unattainable with conventional weapons. The universal nature of the laser guidance kits, an added feature, enables general purpose bombs to be readily converted to precision, tactically effective munitions.

Paveway<sup>™</sup> III LGB enhances the Paveway<sup>™</sup> II LGB's proven capability with increased delivery range, low-level release optimization and greater seeker lock-on distance. It flies an adaptive trajectory, which optimizes endgame energy for increased accuracy and enhanced warhead effectiveness.

The latest developments in the Paveway<sup>TM</sup> line are the Enhanced Paveway<sup>TM</sup> II Dual Mode GPS/ Laser Guided Bombs (DMLGB) and the Enhanced Paveway<sup>™</sup> III DMLGB. These are among the world's first dual-mode laser/GPS guided bombs. This innovation combines the accuracy and flexibility of traditional laser-guided weapons with the all-weather capability of GPS guidance. The result is a weapon that decreases the required sortie count and weapon inventory while simultaneously increasing the mission success rate.

Both the Enhanced Paveway<sup>™</sup> II DMLGB and Enhanced Paveway<sup>™</sup> III DMLGB, now in production, were combat proven in Operation Iraqi Freedom and Operation Enduring Freedom.



### Paveway<sup>™</sup> Comparison

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	Paveway™ II LGB	Paveway™ III LGB	Enhanced Paveway™ II DMLGB	Enhanced Paveway™ III DMLGB
Neapons	GBU-10: MK-84, BLU-109 GBU-12: MK-82, BANG 250 GBU-16: MK-83 GBU MK-81, BANG 125 UK MK-13/18/20	GBU-22: MK-82 GBU-24: MK-84, BLU-109, BLU-116, CPE 800 GBU-28: BLU-113	EGBU-10: MK-84, BLU-109 EGBU-12: MK-82 EGBU-16: MK-83 Enhanced Paveway™ II DMLGB Lot 1: MK-13/20 Enhanced Paveway™ II DMLGB Lot 4 (Paveway™ IV)	GBU-24: MK-84, BLU-116, BLU-109 GBU-27: BLU-109 GBU-28: BLU-113, BLU-122 Enhanced Paveway™ III DMLGB (UK): BLU-109
Description	Combat-tested laser guidance features pinpoint accuracy and low cost	Combat-proven design for low-level, long-range delivery	Low cost combined with dual-mode laser/ GPS guidance greatly increases envelope of legacy Paveway™ II LGB. Combat proven	Adds GPS guidance to low-altitude/ long-range capability of Paveway™ III LGB. Flight path optimized for penetrator warhead. Combat proven
Method of Guidance	Laser	Laser	Independent dual-mode laser or GPS/INS (Pre- or post-launch acquisition)	Blended dual-mode updates GPS (Pre- or post-launch acquisition)
Range	15,000–40,000 ft	15,000–100,000+ ft	9,000–80,000 ft	15,000–120,000+ ft
Accuracy	Laser<10m	Laser << 10 m	GPS 10m Laser<10m	GPS 10m Laser<<10m
Target Type	Soft Hard Fixed Mobile Moving Target-of-opportunity	Soft Hard, very hard Fixed Mobile Moving Target-of-opportunity	Soft Hard Fixed Mobile Moving Target-of-opportunity	Soft Hard, very hard Fixed Mobile Moving Target-of-opportunity
mpact Control	None	Angle-of-attack Impact angle	Angle-of-attack Impact angle Impact heading	Angle-of-attack
Release Type	Level Dive Loft Toss	Level Dive Loft Toss	Level Dive Loft Toss	Level Dive Loft Toss
light Profile	Ballistic	Shaped trajectory	Optimized GPS trajectory	Optimized GPS trajectory
Veather Requirements	Clear	Clear	All weather	All weather
Navigation	Bang-bang	Proportional navigation	Optimized bang-bang	Proportional navigation
Aircraft Electrical nterface	None	None	1760/1553: Full interface Partial 1553: Minimal interface Power-only interface	1750/1553: Full interface Partial 1553: Minimal interface Power-only interface
Requirements			Enhanced Paveway™ Avionics Kit (EPAK) option provides capability to non-1760 aircraft	Enhanced Paveway™ Avionics Kit (EPAK) option provides capability to non-1760 aircraft
Aircraft Mechanical nterface Requirements	Limited only by warhead requirements	Limited only by warhead requirements	Limited by warhead requirements plus 1760/1553 interface for full-interface mode	Limited by warhead requirements plus 1760/1553 interface for full-interface mode
Number Produced	More than 200,000	More than 27,000	More than 1,700	More than 1,600
Aircraft Certified	A-4, A-6, A-7, B-52, F-4, F-5, F-14, F-15E, F-16, F/A-18, F-111, F-117, AMX, Buccaneer, Harrier, Hawk, Jaguar, Mirage 2000, Mirage III, Mirage F-1,	B-1, B-52, F-14, F-15E, F-16, F/A-18, F-111, F-117 Harrier, Mirage 2000, Mirage F-1, Tornado	Harrier, Mirage, Tornado Undergoing certification on F-15E, F-16, F/A-18, AMX, Super Etendard	B-2, F-14, F-15, F-16, F/A-18, F-117 Tornado Raytheon Company
Future Crevet	Super Etendard, Tornado			Missile Systems Strike Weapons
<ul> <li>Future Growth</li> <li>JPF compatibili</li> <li>Extended range</li> <li>Data link</li> </ul>		P3 P2	Paveway™ II GBU-16 Paveway™ III GBU-24 Enhanced Paveway™ II EGBU-16	P.O. Box 11337 Tucson, Arizona 85734-1337 USA 520.663.7052 phone 520.663.7755 fax

Paveway™ Family Medium Altitude Range Comparison

Downrange

