

TECHNICAL SPECIFICATIONS

HE, Prac, WP and Smoke Burst

- Maximum range of Bomb 6 200 m
- Total length of Bomb 420 mm
- Mass of Bomb (Flight Mass) 2,26 kg

Illumination and Coloured Trailing Smoke

- Max. Application Distance 4 800 m
- Total length of Bomb 572 mm
- Mass of Bomb (Flight Mass) 2,123 kg



TRAINING SIMULATOR

The Simulator is the standard Indirect Fire Trainer (IFT) system from FATS, with modifications to interface with the 60 mm simulated weapon. Computer Generated Imaging (CGI) software support the 60 mm simulated weapon, additional round types, new ballistics, and associated effects.

Components

Main System

- Small Arms Trainer (SAT) that is based on the FATS standard military product to meet the customer's indoor trainer requirement
- FATS Military Indirect Fire Trainer (1-Screen, Floor Mount/ Rack Config)
- 60 mm weapon system, adapted for training purposes - 4 units

Software

- FATS Military Software Package - English (Customized for the 60mm mortar system) unit
- CGI SAT Software (Collective Training)
- Common Software (System Set-up/Configuration) - Updated to support specific 60mm (to be selected by the SANDF) mortar calibration issues
- FATS IFT Software package (English)

Courseware

- Generic CGI Scenario Package (English)
- FATS CGI Terrain Database Library
- FATS CGI Target Model Library

Documentation

Manuals - System O&M Manual (English)

LOGISTICS AND TRAINING

The logistics system address all maintenance, support and information requirements to sustain the Operational Readiness of the 60 mm Long Range Mortar Product System.

A complete and comprehensive training package is part of the 60 mm Long Range Mortar Product System

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60 mm LONG RANGE MORTAR PRODUCT SYSTEM



DENEL LAND SYSTEMS



60 mm LONG RANGE MORTAR PRODUCT SYSTEM

INTRODUCTION

The 60 mm Long Range Mortar Product System provides the Motorised and Parachute Infantry with an integrated, accurate and supportable Indirect Fire Support capability.

This system entails the 60 mm weapon (including H-019 sight), ammunition, fire control (observation and fire directing), training simulator subsystems and products with their associated logistic support. The system is a complete integrated Indirect Fire Support Product System which has two system configurations, the Armoured Personnel Carrier Mortar Variant and the Ground Role IFS-PS.

The 60 mm Long Range Mortar Products System consist of the following:

- 60 mm Weapon:



COMPONENTS

- Barrel assembly
- Base plate (light weight)
- Bi-pod
- H-019 sight
- Carrying harnesses
- Equipment and accessories

TECHNICAL SPECIFICATIONS

• Calibre	60 mm
• Effective range	>6000 m
• Beaten Zone (@6000m)	270 x 70 m
• Elevation	45 - 85°
• Firing Rate	15 rpm
• Barrel length	1 450 mm
• Mass	
Complete	28,3 kg
Barrel	10,0 kg
Bipod	12,2 kg
Base Plate	6,7 kg
Sight	1,5 kg

FIRE DIRECTING SYSTEM

A handheld Personal Digital Assistant (PDA) solution as Mortar Fire Control (MFC) was developed for the 60mm Mortar System, used in conjunction with a Laser Range Finder (LRF). The LRF has an onboard compass to fulfil target acquisition and fire adjustment tasks. The accuracy is based on the magnetic compass and the PDA takes into account the magnetic declination.

The Observer Control Computer is based on the PDA as the MFC, fitted with onboard GPS and a serial communication port adapter for external interfaces.



Fire directing system

COMPONENTS

Command Post Group Computer (PDA with GPS)
 Observation System Computer (PDA with GPS)
 Section Computer (PDA with GPS)
 In-Line DCU (Data)

TECHNICAL SPECIFICATIONS

Microsoft Windows CE.NET 5.0 OS
 128 MB RAM - 128 MB Flash ROM (NAND)
 4" VGA (480 x 640) sunlight readable transfective TFT LCD
 USB Port
 Serial Port
 Resistive Touch Screen (Works with gloves, stylus etc.)
 Army green, protection for vibration/shock

Battery

Primary Lithium-Ion 3,6V 3900 mAh rechargeable smart battery
 28V DC / 220V AC Charger

Dimensions

90 mm (W) x 150 mm (H) x 33 mm (D)

Weight

450 g

OBSERVATION SYSTEM



Observation System

COMPONENTS

LH-41C Laser Range Finder with imbedded digital compass
 Tripod (light weight)
 Interface with the Observation System computer

TECHNICAL SPECIFICATIONS

• Measuring Range	80 to 20 500 m
• Range Resolution	5 m
• Measuring Rate	10 and 20 measurements per min
• Multiple Targets	First, second and last targets
• Laser Type	Erbium glass
• Safety class	Class 1 eye safe
• NOHD	0 m (nominal ocular hazard distance)
• Magnification	6 x
• Field of View	6°
• Eyepiece adjustment	4 to +2
• Laser Safety Filter	Against 1064 nm
• Batteries	8 x AA NiCd, Alkaline, Lithium or NiMH
• Number of Ranges per charge	Approx. 400 (NiCd)
• External power	8 to 30 VDC
• Operating temperature range	-30°C to +55°C
• Mass (incl. Batteries)	<1,65 kg
• Size	170 x 165 x 80 mm
• Interface	RS232 (RS485 optional)
• Tripod weight	2,75 kg
• Working height	Maximum 1 500 mm Minimum 260 mm



Observation System

Compass Module

• Display Standard	mil
• Azimuth Accuracy	± 0,5°
• Elevation Accuracy	± 0,2°
• Elevation Range	± 45°
• Bank Range	± 45°
• Calibration	4 or 12 step menu guided
• Magnetic Declination	User adjustable

60MM LONG RANGE AMMUNITION

Types

- 60 mm Long Range High Explosive
- 60 mm Long Range Practice
- 60 mm Long Range White Smoke Bursting
- 60 mm Long Range White Phosphorous
- 60 mm Long Range Coloured Trailing Smoke -(Red, Yellow, Green, Orange and Blue)
- 60 mm Long Range Illumination



60 mm Long range ammunition