

Fully Integrated Ramming System (FIRS)

Fully Integrated Ramming System (FIRS) provides effective solution for fielded and new Artillery Systems increasing the rate of fire and improving dramatically its performance and survivability in the battlefield.

FIRS is a modular and customizable system. Includes a projectile loading and ramming system, a breech automatic maneuvering system, a revolver type automatic primer magazine and a cannon management system.

FIRS can be adapted to different weapon systems and platforms. It can be installed separately or integrated with the GDSBS system DINAPS (Digital Navigation Aiming and Pointing System) with or without AGLS (Automatic Gun Laying System).

FIRS





FIRS is capable of ramming all NATO ammunition with a maximum length of 1000 mm. FIRS uses on-board hydraulic and electric power.



FIRS is a reliable, easy to install, use and maintain system. It is a well-proven system fielded in several countries around the world.

Description

FIRS integrates four main subsystems

- Hydraulic Motion System (HMS)
- Breech Actuating System (BAS)
- Automatic Primer Magazine (APM)
- Cannon Management System (CMS)

HMS Hydraulic Motion System (HMS)

- Capable of ramming all NATO ammunition
- Uses on-board hydraulic and electric power
- Easy and safe operation due to microprocessor control
- Only minor modifications necessary for installation

Breech Actuating System (BAS)

- Hydraulic breech opening and closing
- Counter recoiling independent of breech opening results in reliable return to battery of cannon
- Fully reliable opening and closing of the breech
- Easy and safe operation due to electronic control

Automatic Primer Magazine (APM)

- 10 M82 primers per loading ring
- Easy and safe handling due to field proven safety features
- Quick loading disc operation
- Only minor breech modification necessary for installation
- Can be adapted for different screw type breeches
- Remote trigger mechanism (Only in M109 version)

Cannon Management System (CMS)

- Chamber Temperature Sensor
- Recoil Meter Sensor
- EFC round counter
- Linkable with existent on-board computers through RS-232 connection

Performances

Installed in 155 mm towed howitzers

- Fire Rate:
 - 3 rounds within 11 sec (*)
 - 10 rounds in 60 sec (with GD SBS 155/52 Howitzer)
- Maximum Fire rate: 10 rounds in one minute (with GDSBS 155/52 Howitzer)
- Loading Elevation: -89 mils to +1209 mils.
- Firing elevation -89 mils to +1209 mils.

Installed in 155 mm M109 (**) Howitzers

- Fire Rate:
 - 3 rounds within 11 sec.
 - 6 rounds within 29 sec.
 - 9 rounds within 56 sec.
- Loading Elevation: -90 mils to +800 mils.
- Firing Elevation: -90 mils to +1280 mils.

(*) Time to start with the first projectile in chamber and the second one in tray.

(**) M109 with M284 Barrel.

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