

# New Training Ammunition Concepts

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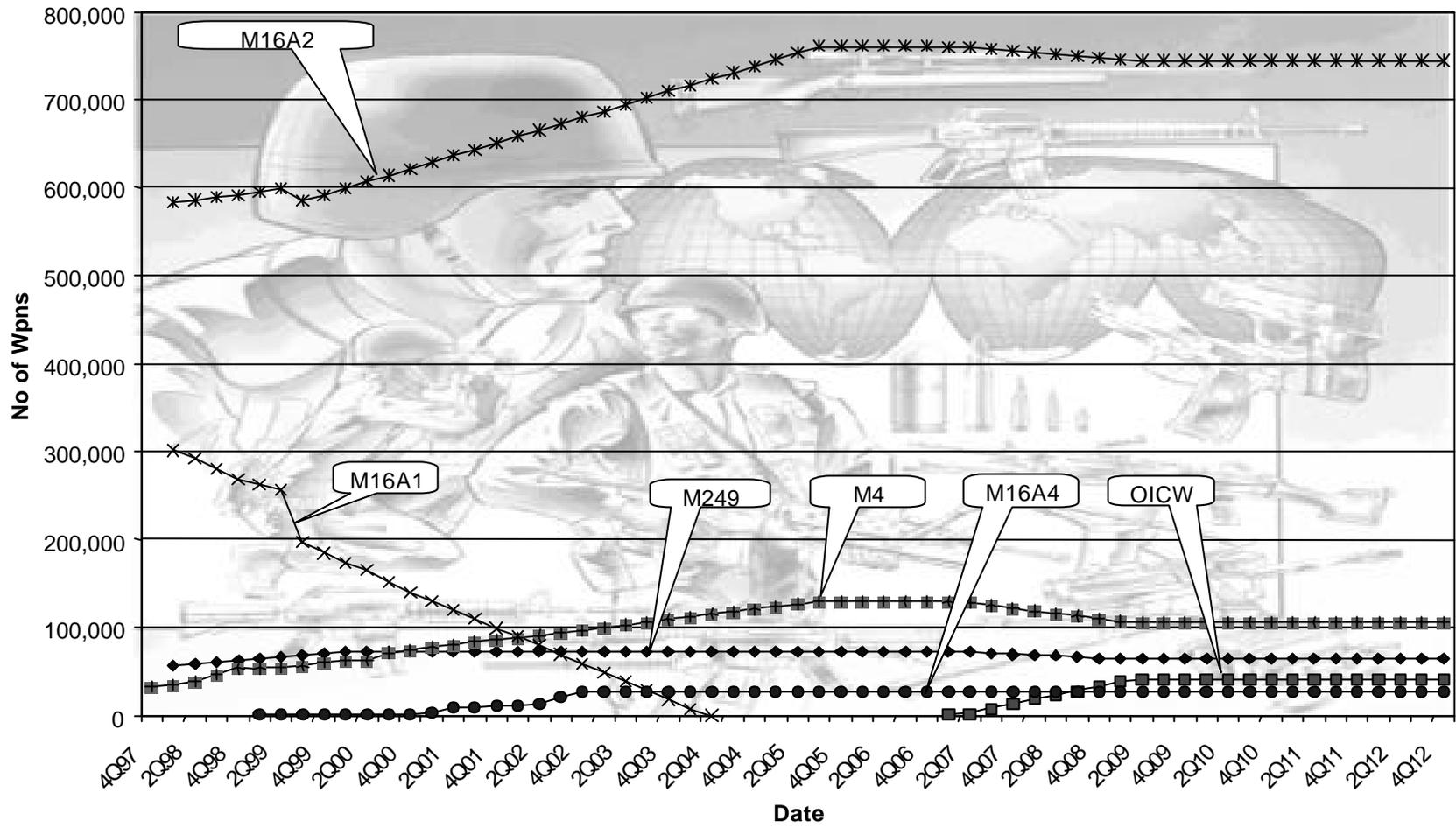
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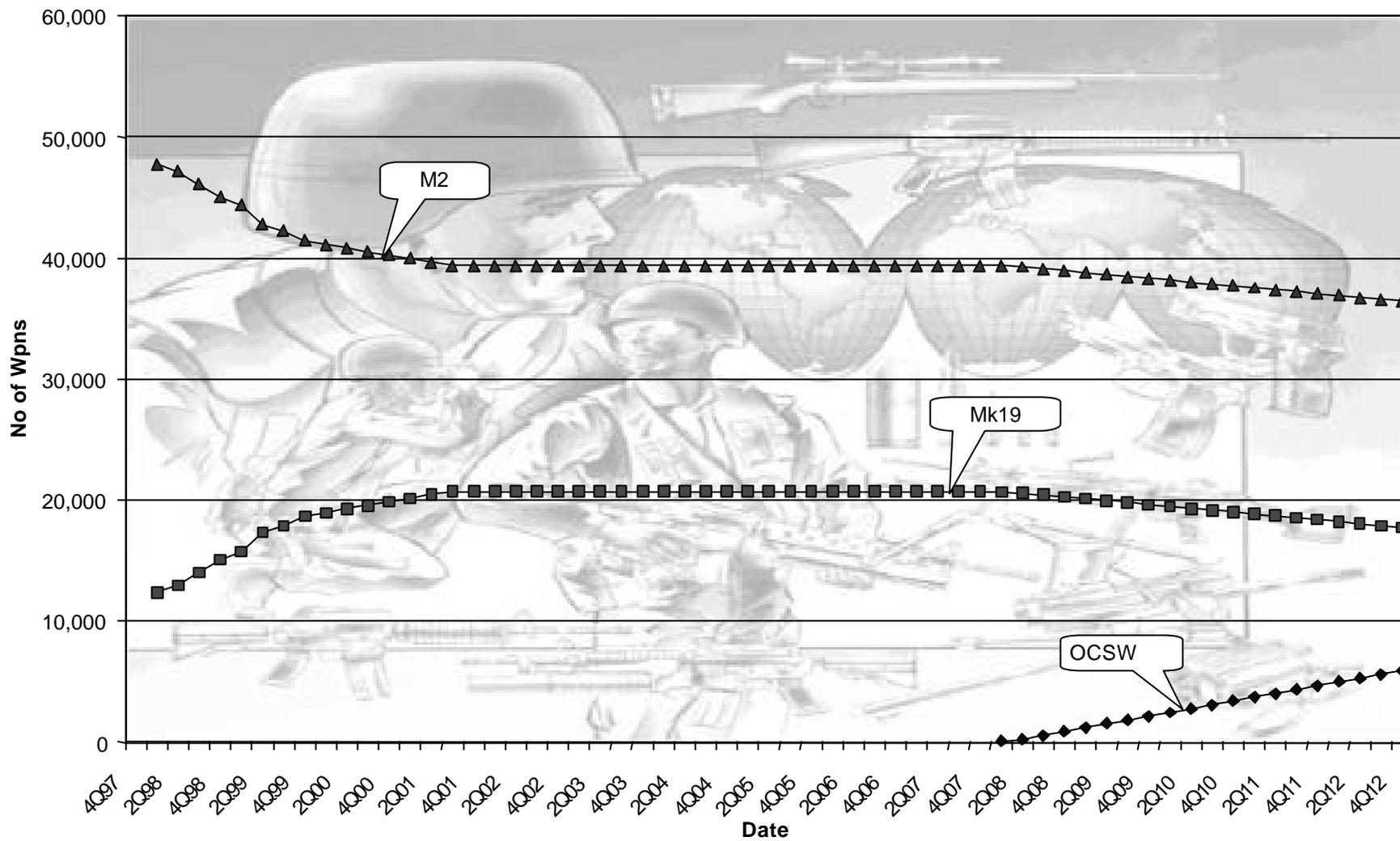
## Briefing Outline:

- Purpose
- Current Weapon Fielding Plans
- STRICOM A-TES
- M203
  - Blank
  - Low Cost Training
  - Night Training
  - MOUT Training
- MK19
  - Blank
  - Low Cost Training
  - Limited Range Training/MOUT Training
  - Non-Lethal Cartridges and Other Payload Cartridges
- Objective Individual Combat Weapon (OICW)
- Objective Crew Served Weapon (OCSW)
- Summary

## Purpose:

- Raise awareness of new ammunition concepts
- Obtain User feedback
- Identify requirements/generate requirements documents
- Identify industry partners
- Initiate efforts to develop, produce and field appropriate concepts



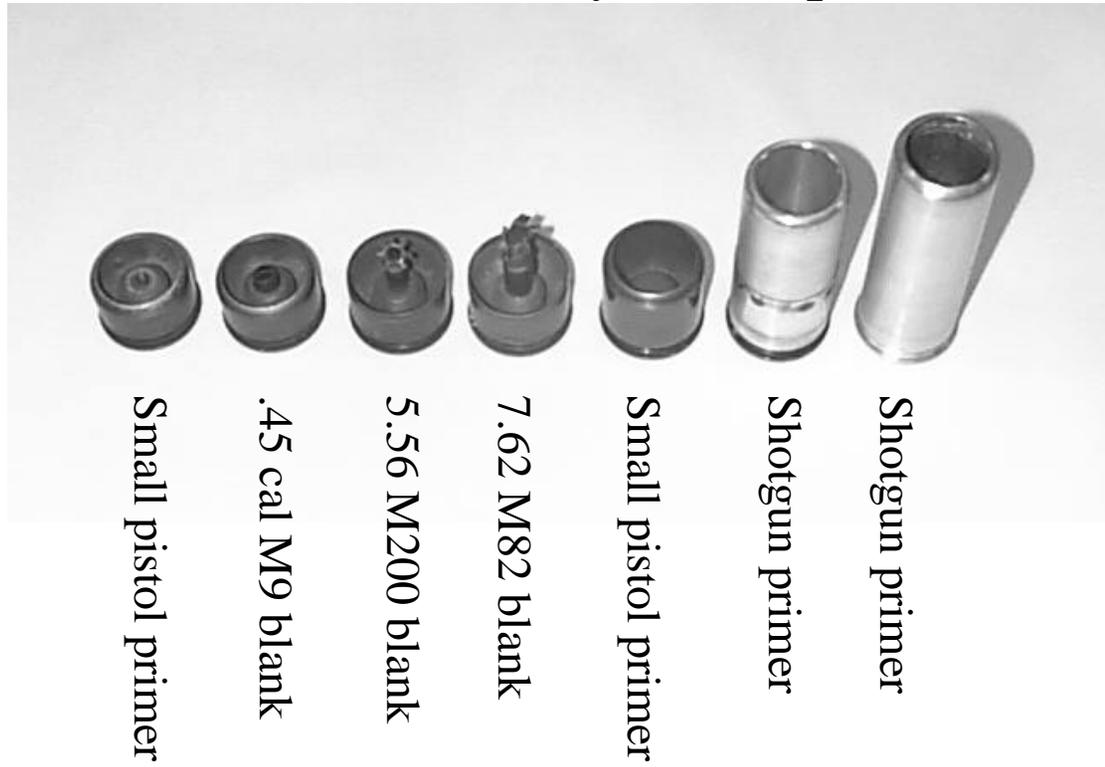


## STRICOM Advanced Tactical Engagement Simulation (A-TES) STO

- Provide future “MILES” capability with bursting munitions
- Addresses defilade targets
- Compliments blank cartridge for the M203, MK19, OICW and OCSW
- Need to start the process to adopt blank cartridges to be ready for fielding with the future MILES device

## 40mm Blank Cartridge for the M203

- Fort Lewis and Fort Irwin interest in Blank Ammunition
- Interim MILES device already developed for the M203



### Prototype Performance Observations:

- Modifying cases to provide press fit for existing blanks easily accomplished and cases are readily reloaded
- Cartridge chambering requires roll crimp or other means for reducing case mouth diameter to facilitate chambering
- Unsupported case mouth of the 5.56mm M200 and 7.62mm M82 blanks “banana peeled”
- Impressive report from existing blanks
- Report from small pistol primer and shotgun primers not as impressive, but probably more realistically represent M203 report

## M203 Blank (continued)

### Perceptions:

- Preference for using an existing blank from the Army inventory
- Reluctance to spend scarce funding for Type Classification
- Desire to fabricate “blank firing devices” locally or buy locally from commercial market?

## Alternative M203 blank concepts:

40mm 5.56mm M200 blank firing fixture for the M203

- Simple chamber insert
- Type Classification not required; adopt as an ancillary piece of equipment for the M203
- Commercially available

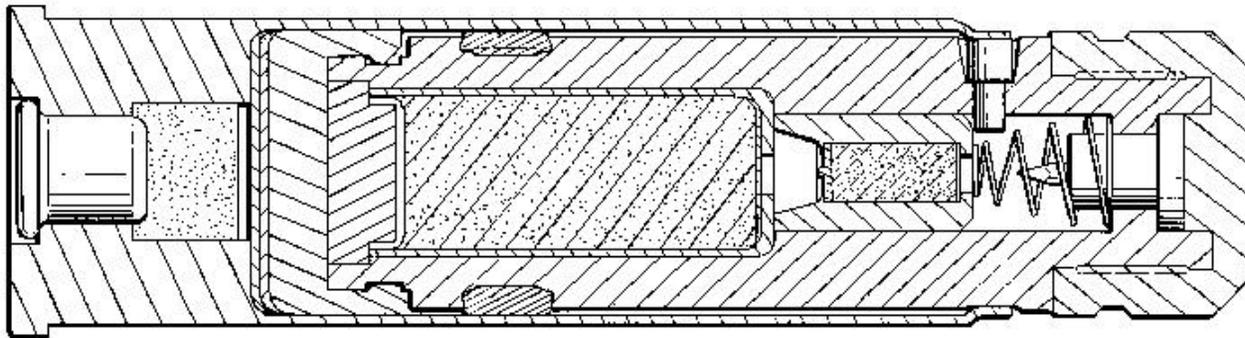
## Additional alternatives (continued):

40mm 12 gauge blank firing fixture for the M203

- Also a simple chamber insert; Type Classification not required; adopt as an ancillary piece of equipment for the M203
- Commercially available
- Also allows for firing a variety of other 12 gauge cartridges, including non-lethal, door breaching, sub-caliber training, MOUT, etc.

## M203 Low Cost Training Cartridge

- Sub-caliber cartridge configuration
- Chamber insert will allow firing lower cost 14.5mm or 12 gauge sub-caliber projectiles
- More realistic flash/bang on target with night training capability



14.5mm Training Ammunition Image taken from US Patent 4,008,665;  
Gawlick, Stahlmann and Jensen/Dynamit Nobel

## M203 Night Training Ammunition

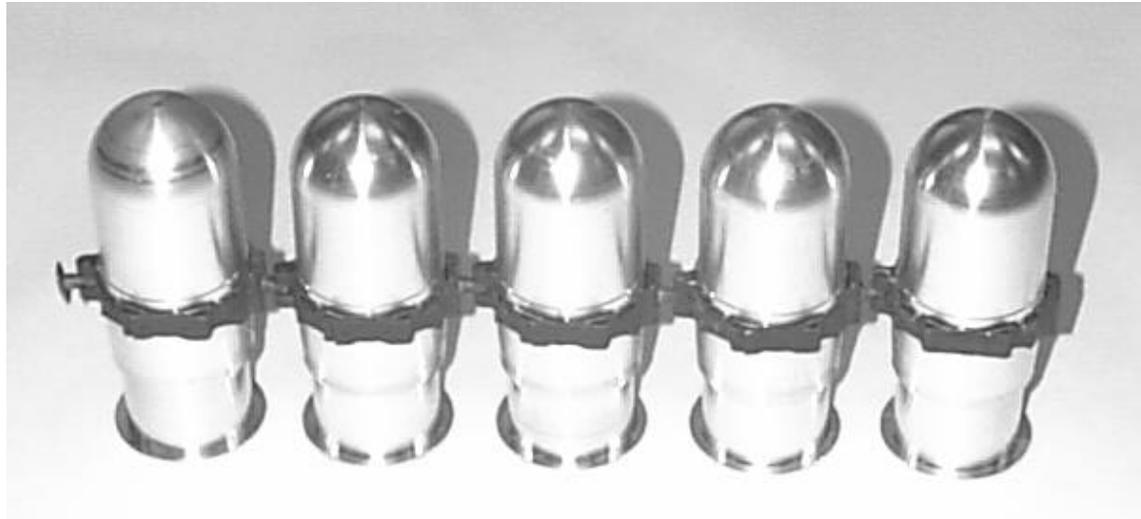
- M781 TP cartridge does not provide night training capability
- Initial experiments based on adding inexpensive tracer to the base of the M781 projectile
- Adding luminescent material to the dye marker potential alternative approach
- Commercially available products

## M203 MOUT Training Ammunition

- Current M781 TP cartridge of limited use for MOUT training
- MOUT ammunition would allow training while producing minimal target damage or safety hazards

## 40mm MK19 Blank Ammunition

- MK19 requirements specified the need for an “automatic weapons effect signature simulator”
- Inexpensive 40mm blanks have been fired from the MK19 in fully automatic burst firings



## MK19 Low Cost Training Cartridge Concept

- Based on the Blank Cartridge
- Fires small caliber projectile similar to the 14.5mm M181/M182/M183 sub-caliber artillery training cartridges
- Requires sub-caliber barrel insert
- Trajectory matches the 40mm M430 HEDP cartridge out to ~1200 meters
- Flash/bang signature upon target impact

## MK19 Limited Range Training/MOUT Cartridge Concept

- Full caliber, lightweight projectile with marking payload or
- Sub-caliber marker projectile with or without barrel insert depending on the effective range required
- Full automatic weapon function
- Minimizes target damage to allow economical, realistic MOUT training, indoor training, and shipboard training
- Low cost

## MK19 Non-Lethal and Other Payload Ammunition Concepts

The low impulse payload cartridge configuration allows firing solid, liquid or powder payloads such as:

- rubber balls or rubber ball grenades
- wood or foam batons
- flash/bang distraction projectiles
- irritants
- obscurants

The same payloads currently fired from the M203 grenade launcher, 12 gauge weapons, and the LVOSS can now be fired from the MK19 using the payload cartridge configuration

Objective Individual Combat Weapon (OICW) and  
Objective Crew Served Weapon (OCSW)  
Training Ammunition Requirements currently  
include:

- Blank
- Training Practice
- Training Practice with airburst
- Non-lethal

*Initial investigation indicates all are feasible*

***SUMMARY:***

- Numerous opportunities exist for significantly reducing the cost of training and increasing training realism
- Blanks, low cost training, night training, limited range training, MOUT training, non-lethal, and other cartridge configurations are all feasible for the M203, MK19, OICW and OCSW
- Need user proponents and industry partners to pursue development, production and fielding