



TACOM

Lethality, Survivability, Mobility and
Sustainment for America's Army

OBJECTIVE CREW SERVED WEAPON

Original OCSW ATD Technology Objective

Define, Develop And Demonstrate a Lightweight, Two-man Portable, Ground Mounted Crew Served Weapon System with High Explosive Air Bursting Capability Out to 2000 Meters

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OCSW SYSTEM

Muzzle Device

- Flash Suppression
- Inherently Reliable

Fuze Setter Contacts

Fire Control System (FCS)

- Direct View Optics (DVO)
- Range Finder/CIDDS/MILES/Pointing Lasers
- CCD Video/FLIR/Tracker module
- Full Solution Ballistic Calculation/Reticule Aimpoint
- Fuze Programming/Powers and sets Fuze
- Digital Compass/Environmental Sensors

Weapon

- Light Weight, 27 lbs.
- 25mm, 220 spm
- Soft Recoil
- Gas Operation

FCS Controls

- Grip mounted switches
- FCS Rear Panel switches
- Lase & Menu select
- Increment/Decrement

Ammo Can

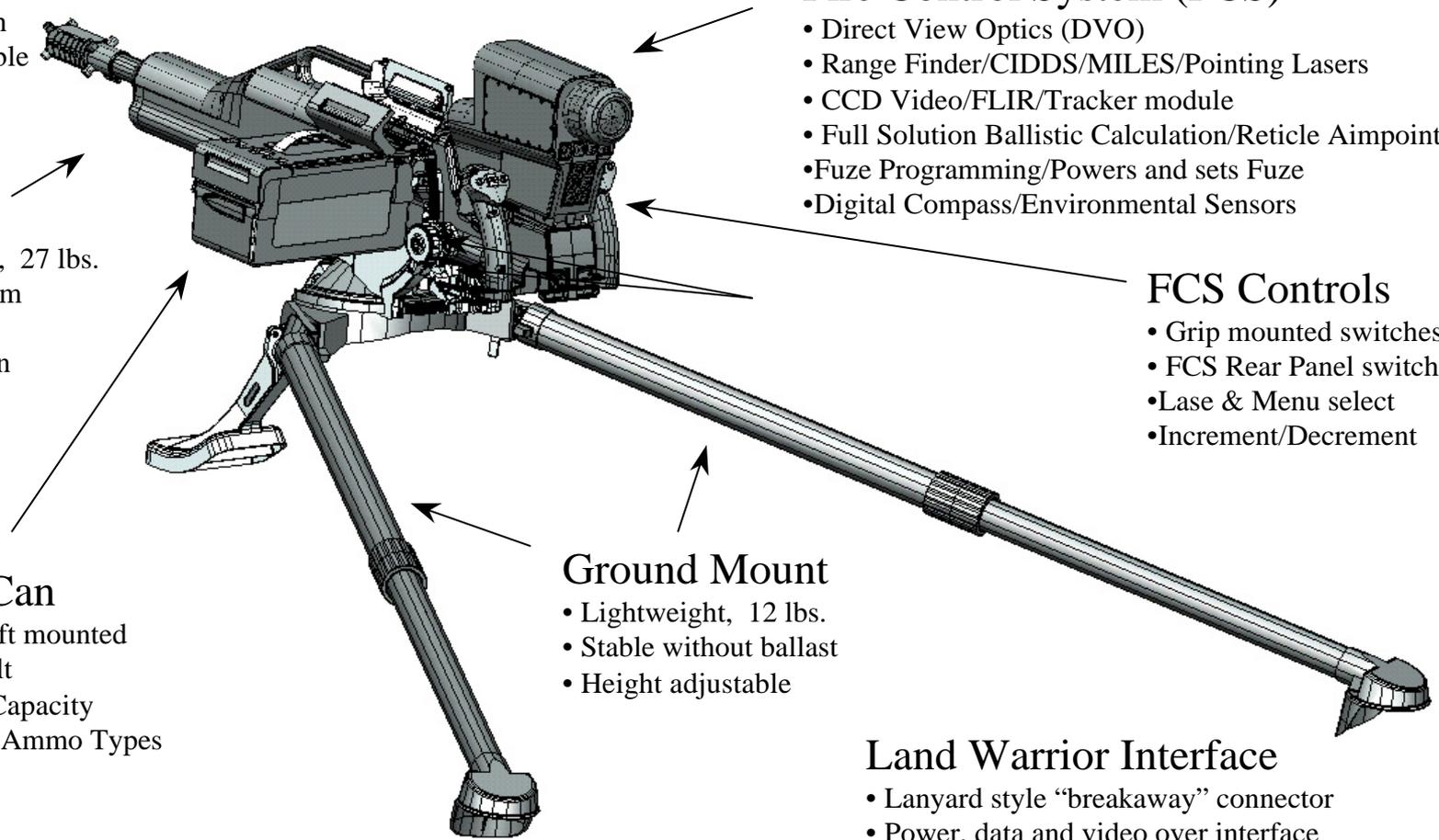
- Right or left mounted
- Linked Belt
- 31 Round Capacity
- All OCSW Ammo Types

Ground Mount

- Lightweight, 12 lbs.
- Stable without ballast
- Height adjustable

Land Warrior Interface

- Lanyard style “breakaway” connector
- Power, data and video over interface
- Compliant to LW requirements



**Camp Pendleton Firing
Video Clip**

Revolution in Small Arms Performance

OCSW
Equiv.
Performance
Weight

Future Capability

Revolutionary!

Max Effective Range (25 mm):

- Defilade Target to 1,000 m
- Area Targets to 2,000 (8 men 10 m x 50 m)
- Airburst, Point Detonation (PD) & Self Destruct Capabilities
- Defeats Targets in Defilade
- Armor Piercing Round 2" HHA/RHA



OCSW - 64 lbs



M240 MG - 64.8 lbs



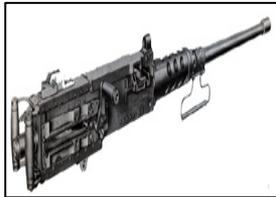
7.62mm KE
Ball & Tracer

31 X

98%



OCSW Airburst



M2 50 cal. HMG - 171 lbs



.50 cal KE
Ball, Tracer & SLAP

50X

37%



Mk19 Grenade MG - 208.5 lbs



40mm HE (M433)

Weight = Weapon & Ammo

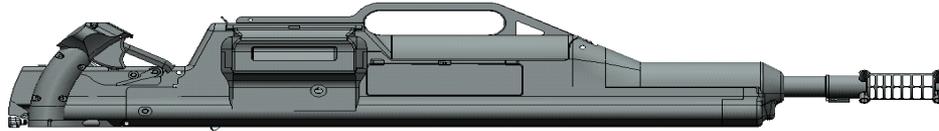
13 X

30%

Evolutionary

Current Capability

Weapon Initiatives



- **Simplified receiver casting** - Production Investment Cast aluminum construction
- **Parts Reduction** - 283 parts versus 500 (Mk19) and 397 (M2)
- **Reliability Testing** - Rounds Fired to Date: 10,266
- **Impulse Averaging Soft Recoil System** –
Barrel Returns to Same Location After Every Shot
Mass not Required to Stabilize Gun
- **Ammunition Velocity Correction System** –
Compensates for Round-to-Round Velocity Variation
Increases Airbursting Accuracy



OCSW Fire Control

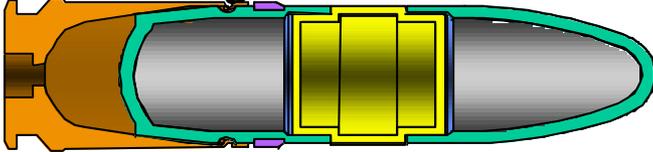


- Full Solution Fire Control
 - 2.2 km range performance
 - ± 1 meter laser rangefinder
 - Ballistic processor
 - Single reticle
 - Fuze setter
 - Digital compass
 - Embedded training
 - MILES/CIDDS
 - Thermal Interface
 - Direct view optics 5x9.5° FOV
 - Land Warrior ready
 - Full FOV laser steering
 - Motion tracker

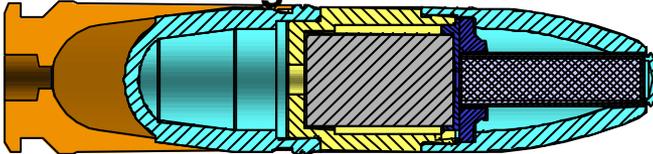
OCSW BALLISTIC MATCHED 25mm AMMUNITION FAMILY

- Aluminum Cartridge Case
- Standard Ball Propellant
- Standard Percussion Primer

HE Cartridge

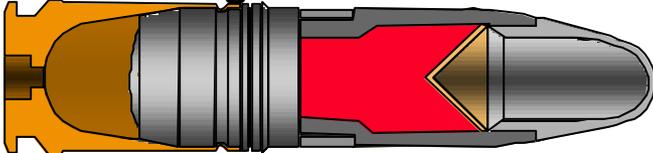


TP-S Cartridge

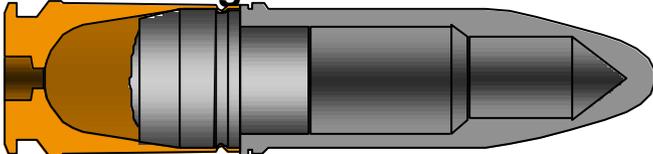


Mini Electronic Time
Fuze w/ Point
Detonating/Self
Destruct Capability

AP Cartridge



TP Cartridge



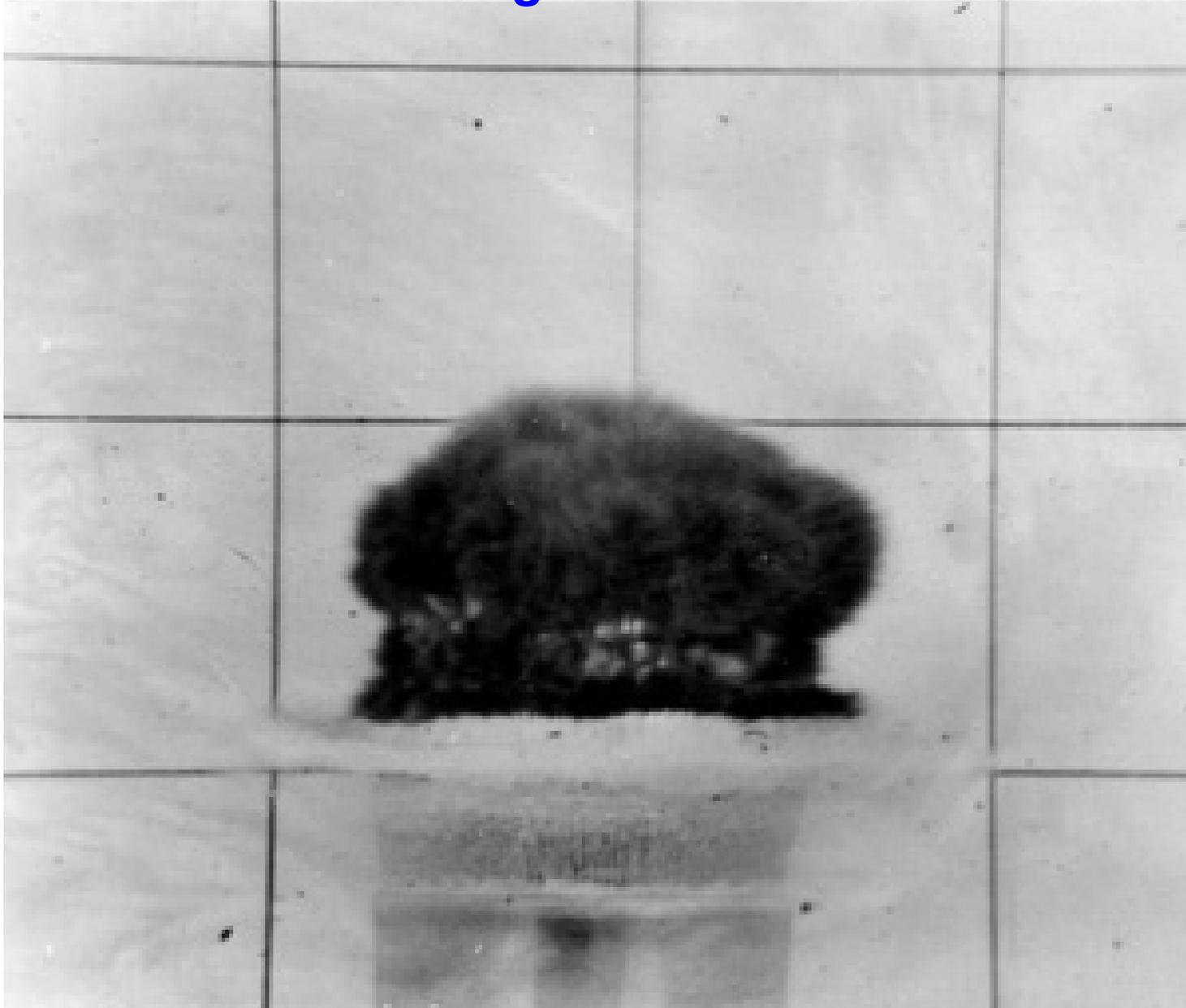
- Precision Air-Bursting @ 2K
- LX-14 High Explosive
- Defeats PASGT Vest & Helmet
- Controlled Fragmentation Warhead

- Flash Bang Training

- 51mm RHA (Threshold)
- 51mm HHA (Goal)

- Two-Piece Projectile
- Integral Rotating Band

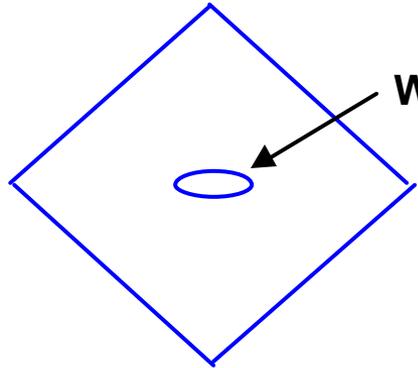
Controlled Fragmentation Warhead



Committed To Excellence

Fragmentation Tests

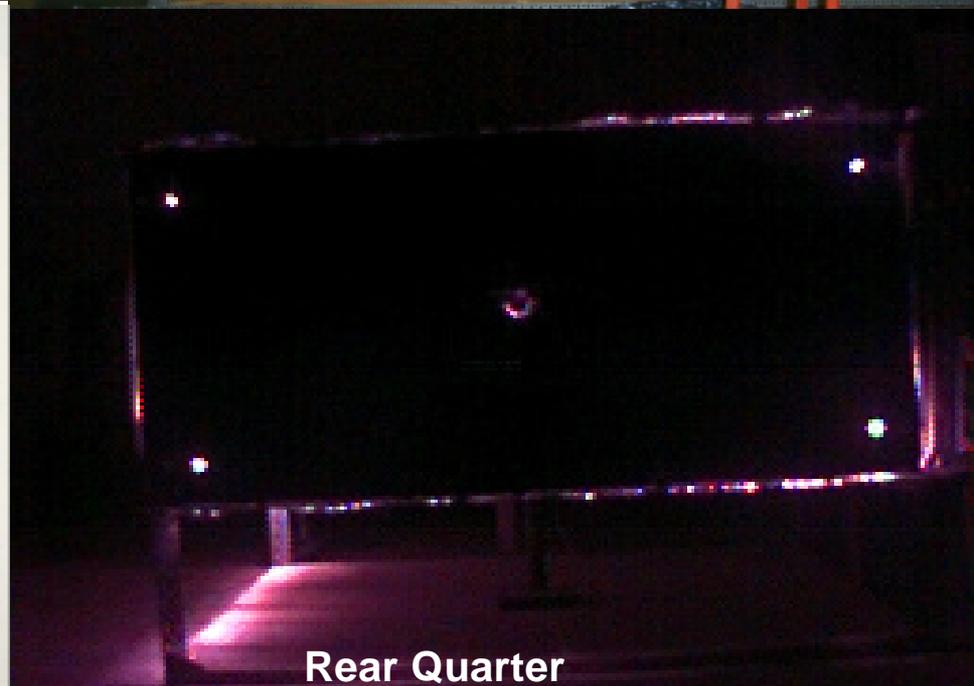
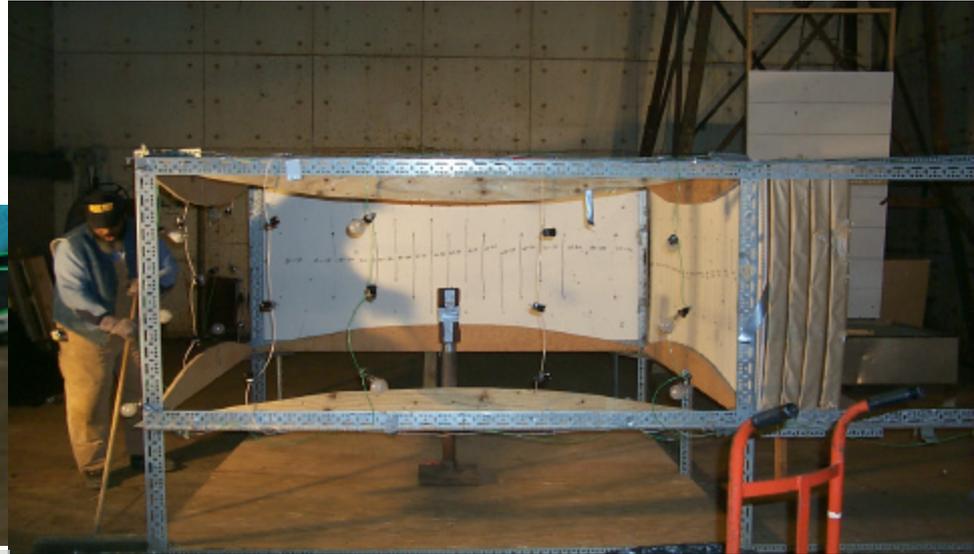
Celotex Packs



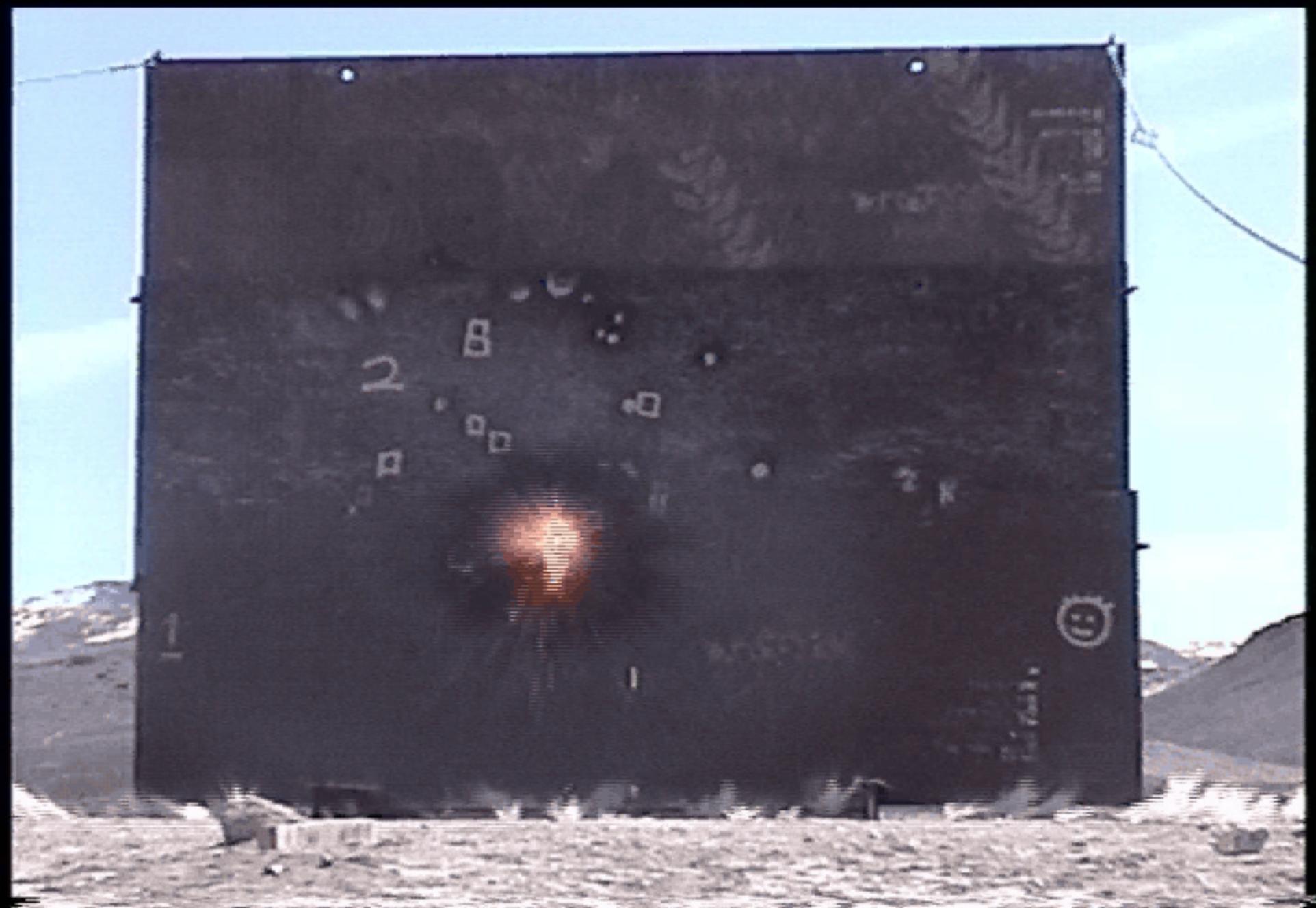
Warhead



Velocity Screens



Rear Quarter



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ATD Status - Accomplishments

- **Fired remotely at 5 successful System Integration Tests**
- **Demonstrated TA/FCS target ranging and ballistic solution calculation**
- **Demonstrated ability to feed Ballistic solution to ammo-fuze at 250 rounds per minute**
- **Demonstrated velocity correction capability**
- **Demonstrated ammunition airburst accuracy (<4 meters at 600 meters)**
- **Demonstrated weapon reliability growth (100 MRBS)**
- **Demonstrated armor piercing capability**

First Manned Firing

26 April 2002



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OCSW As Remotely Operated Secondary Armament

Programs Expressing Interest in Remote Operation:

- ✓ Future Combat Systems
- ✓ Future Tactical Truck Systems
- ✓ Active Protection System
- ✓ Multi-Role Ammunition Armament System
- ✓ Crusader
- ✓ Abrams
- ✓ US Coast Guard Deepwater Program
- ✓ Unmanned Combat Armed Rotorcraft

OCSW As Remotely Operated Secondary Armament

Integration Tasks for Remote Operation:

- ✓ Add Solenoid For Remote Firing
- ✓ Route Cable And Integrate Weapon Controls With Operator's Station
- ✓ Provide Fire Control Display And Controls At The Operator's Station
- Identify & Select Stabilized Mount
- Install Large Capacity Ammo Container On Mount
- Add Actuators And Resolvers For Laying OCSW Independent Of Main Gun



Potential Armament in Common Remote Operated Weapon Station (CROWS)



Candidate Secondary Armament for Future Infantry Vehicles



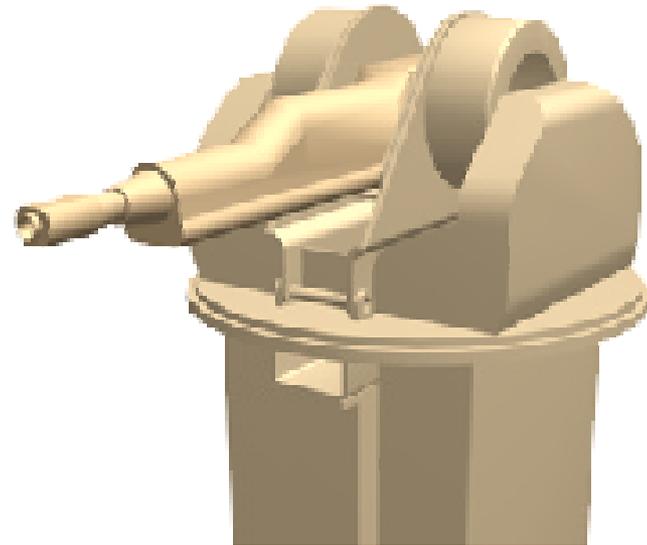
Track Vehicle Application



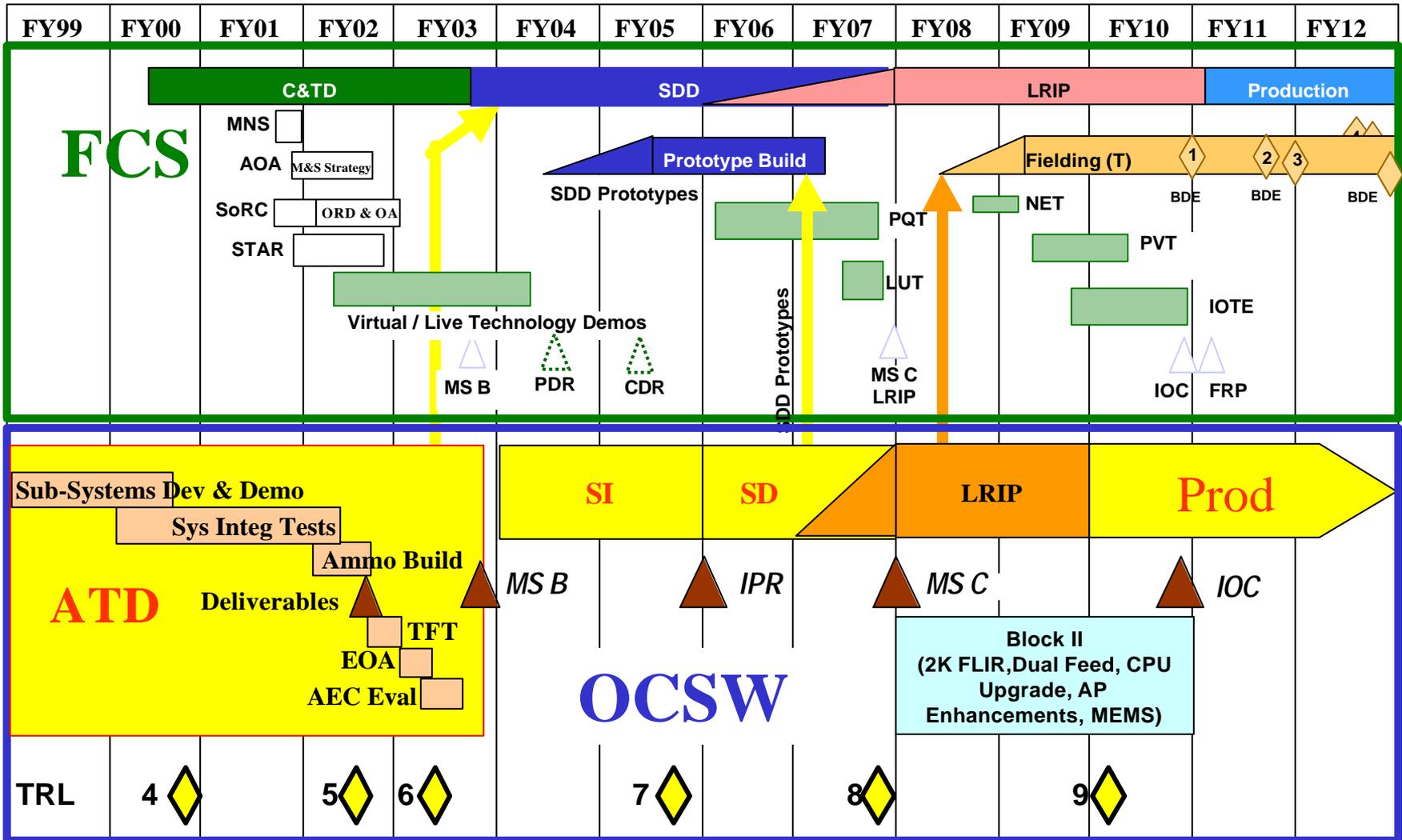
Potential Application as Defensive Armament for Crusader SPH and RSV

Objective Crew Served Weapon System LSI Discussion

- OCSW on All Vehicles Except Commander Vehicle and Recon Vehicle (Med Cal Cannon) in Proposed Baseline
- OCSW MS B to be a part of FCS MS B (Align MS B on Charts)
- OCSW Should Continue ORD and AoR, AoA included in FCS AoA



Tie-in with FCS Schedule



OBJECTIVE CREW SERVED WEAPON SUMMARY

- ATD Technologies On-Track to Meet Exit Criteria
- PM On-Board for Transition Planning
- Work On-Going to Close Gap Between ORD and Exit Criteria
- OCSW is Prime for Vehicle Applications

