

How Does Aging Manifest Itself?

- O & S Cost Burden
- Readiness Rates
 - Decreased FMC
 - Increased NMC
- Reduced Reliability
- Increasing Maintenance Cost
- Overhaul - Diminished Return on Investment

**Bottomline: Degradation of Readiness;
Increased Cost**

How We Deal With It?

Major End Items

- *Systematic Upgrades*
 - Preplan Product Improvements (P3I)
 - Extended Service Life Programs (ESP)
- *Weapon System Initiatives*
 - RECAP
 - Overhaul
 - PPSS
 - Flying Squads
 - MWO's

Abrams Evolution

M1A2 SEP is NOT Only the Next Generation Abrams, it's the 1st Generation Tank with Avionics



M1 - 1980
New Tank System
Inventory = 2827



M1A1 - 1985
Lethality and Survivability
Inventory = 4327



M1A2 - 1993
Fightability
Inventory = 490



M1A2 SEP - 1999
Increased Capability and Capacity
Planned = 966

FUE 1980

4 Major Upgrades

Last Upgrade 2005

No Upgrades Planned

2030?

25 Years

25 Years

End State
17% of Fleet
Modernized

Bradley Evolution

Bradley A0 1982



- 25MM Cannon
- Basic TOW Subsystem
- Integrated Sight Unit
- IFV 9 Man Total
- CFV 5 Man Total

Bradley A3 2000



- Core Electronic Architecture
- 2nd Gen FLIR Target Acquisition
- Command and Control Software
- CDR Independent Viewer
- Ballistic Fire Control

Bradley A1 1986



- TOW II Subsystem
- Restowage
- MLRS Final Drives
- Fire Suppression Sys
- GPFU System

Bradley A2 1988

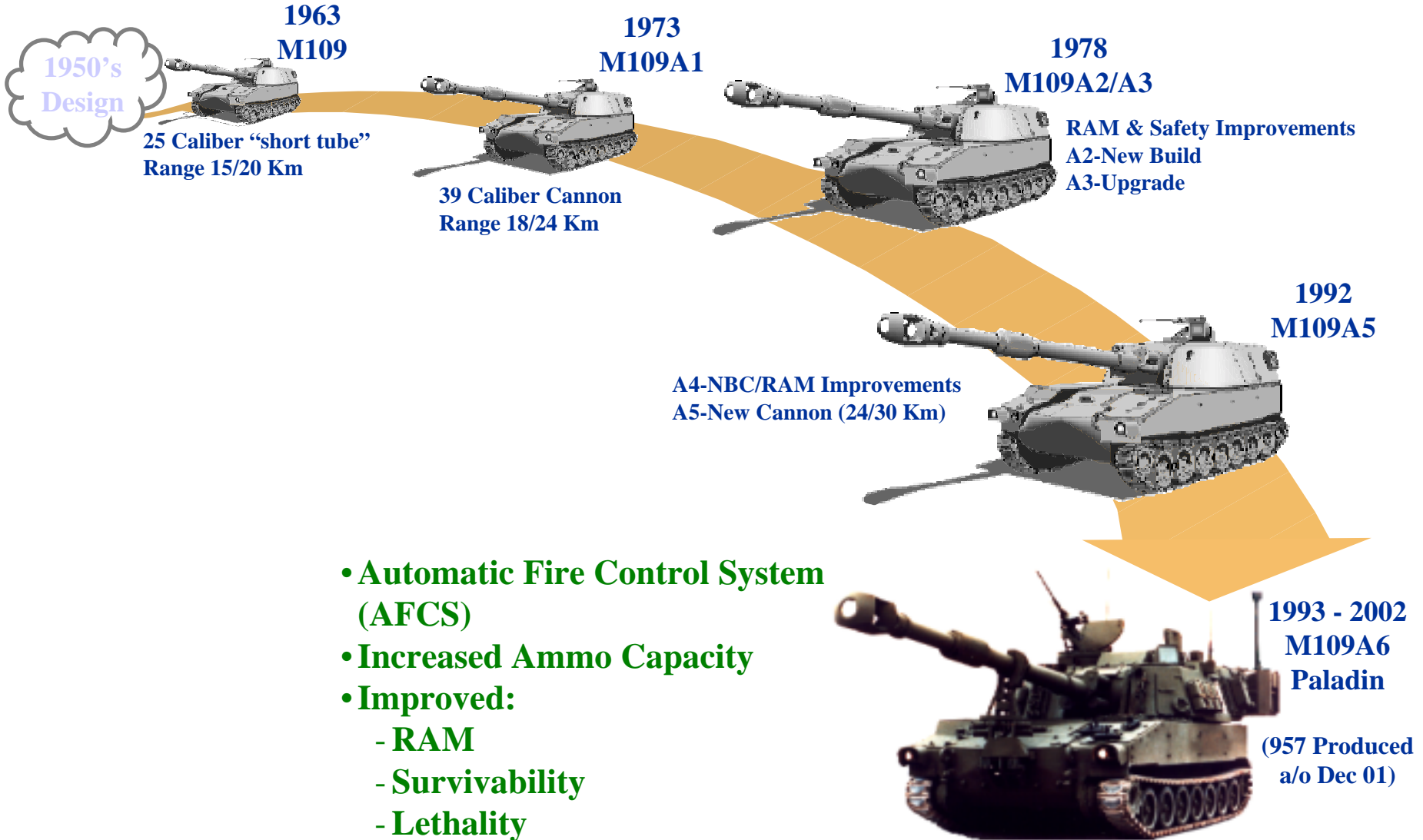


- 600 HP Powertrain
- 30MM Protection
- Spall Liners
- Ammo Restowage
- Armor Tile Ready

ODS

1194 M2/M3 ODS
124 M6/MUA ODS
104 M7 ODS
241 NG ODS

M109 to M109A6 Paladin Evolution



HMMWV EVOLUTION



A0 Series (1984-93)
6.2L diesel engine
3 spd transmission
2,500 lb. payload
(incl. crew)
Up to 3,632 lb. payload
(shelter carrier)
86,237 produced

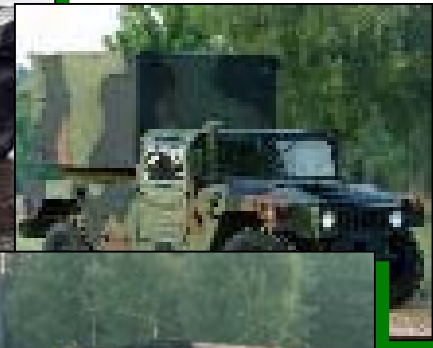


A1 Series (1991-95) ⓘ
Improved drivetrain
Improved suspension
2,500 lb. payload
(incl. crew)
Up to 3,632 lb. payload
(shelter carrier)
8,899 produced



A2 Series (1994-present) ⓘ
6.5L engine
4 spd electronic
transmission
9,000 lb. winch
CTIS ready
4,400 lb. payload
(incl. crew)
6,458 produced

Block upgrades to
increase payload and
versatility



Expanded Capacity Vehicles (1993-present) ⓘ
5,100 lb. payload (M1113, incl. crew)
Heavy Up-Armored HMMWV (M1114)
5,207 produced

Increasing payload

Increasing tradeoffs

HEMTT EVOLUTION



Basic HEMTT 1985-2001

- 8V92 MUI Engine
- HT 740 Transmission
- Hendrickson Suspension
- Air Trans on C130, C141



HEMTT A2

- New Production Under Heavy Family Contract with OTC (FY01-05)
- 8V92 DDEC IV Engine
- Allison Electric Transmission
- Corrosion Protection Upgrades
- 22,000 lbs nominal payload



HEMTT A2R (ESP)

- Extended Service Program (Recapitalization)
- Same Configuration as New Production
- Cost <75% of New
- Technology Insertion
- Funding Projected through FY12
- Reduced Logistic Footprint
- Reduces Fleet Age and Improves Readiness



Future Tactical Truck System

- Same configuration as HEMTT A2/A2R with increased diagnostics to further reduce the Logistics Footprint
- Modernize HEMTT w/focus on safety, FMVSS enhancements
- Technology Insertions – data bus, ETM interface, EPA, FMVSS requirements
- Synergy from other programs
 - Commercially Based Tactical Truck
 - 21st Century Truck
 - Hybrid Electric HEMTT

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How We Deal With It?

Secondary Items

- **Initiatives**
 - **Lot Buys**
 - **Government/Industry Partnerships**
 - **DMSMS (Diminishing Manufacturing Sources & Material Shortages)**
 - **Re-engineering Components**
 - **NMM (National Maintenance Management)**
 - **Stock Positioning**
 - **Perpetual TDP Updates**

Summary

- **In the Short Term**

- **Reinvesting in the legacy force - today's Army of heavy and light forces - is the most cost-effective way to meet the challenge of aging equipment**
- **ACWF Surcharge Increase**

- **In the Long Term**

- **Invest in new technology**
- **Balance limited resources and prioritize**
- **Plan for obsolescence; Eventually buy new**

