

PROJECT MANAGER SOLDIER WEAPONS



THE BEST
FOR THE BEST

Product Manager Crew Served Weapons Overview

For the

Small Arms Symposium & Exhibition

National Defense Industrial Association

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M240E6, Medium Machine Gun Weight Reduction Program





Background



- **M240B Selected In 1996**
 - Superior Reliability Performance Compared To The M60
 - Weight Of 27.5 lbs
 - MANPRINT And Human Factors Engr Assessments Identified Weight As A Corrective Action
- **IMMG ORD -- Approved Oct 1999**
 - 24 lb Threshold / 20 lb Objective Weight
 - P3I for Weight Reduction
 - 4 lb (T) / 7 lb (O) Weight Reduction
 - No Decrease In Weapon Reliability
- **Post Combat Surveys Continually Note Weight Of The M240B As The Only Point Of Dissatisfaction With Performance**



M240E6 Comparison



- **M240E6 Weight Reduction Focused Upon:**
 - Receiver Assembly (Riveted Titanium / Steel)
 - Barrel Assembly (Reduced Contour; Lightweight Gas System, Sight & Handle)
 - Trigger Housing (Composite Construction; Swing-Down Trigger Guard)
- **Weapon Weights: (Measured)**
 - M240B: 27.4 lb
 - M240E6: 22.3 lb

	Weight Savings
Receiver	3.2 lb
Barrel	1.4 lb
Trigger Frame	0.5 lb



Program Milestones



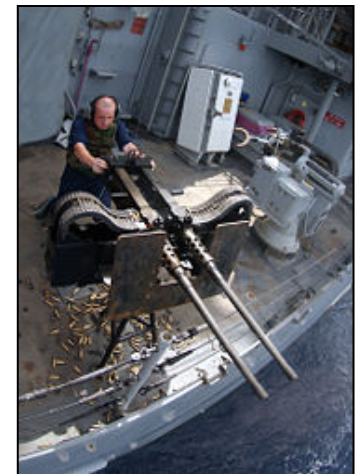
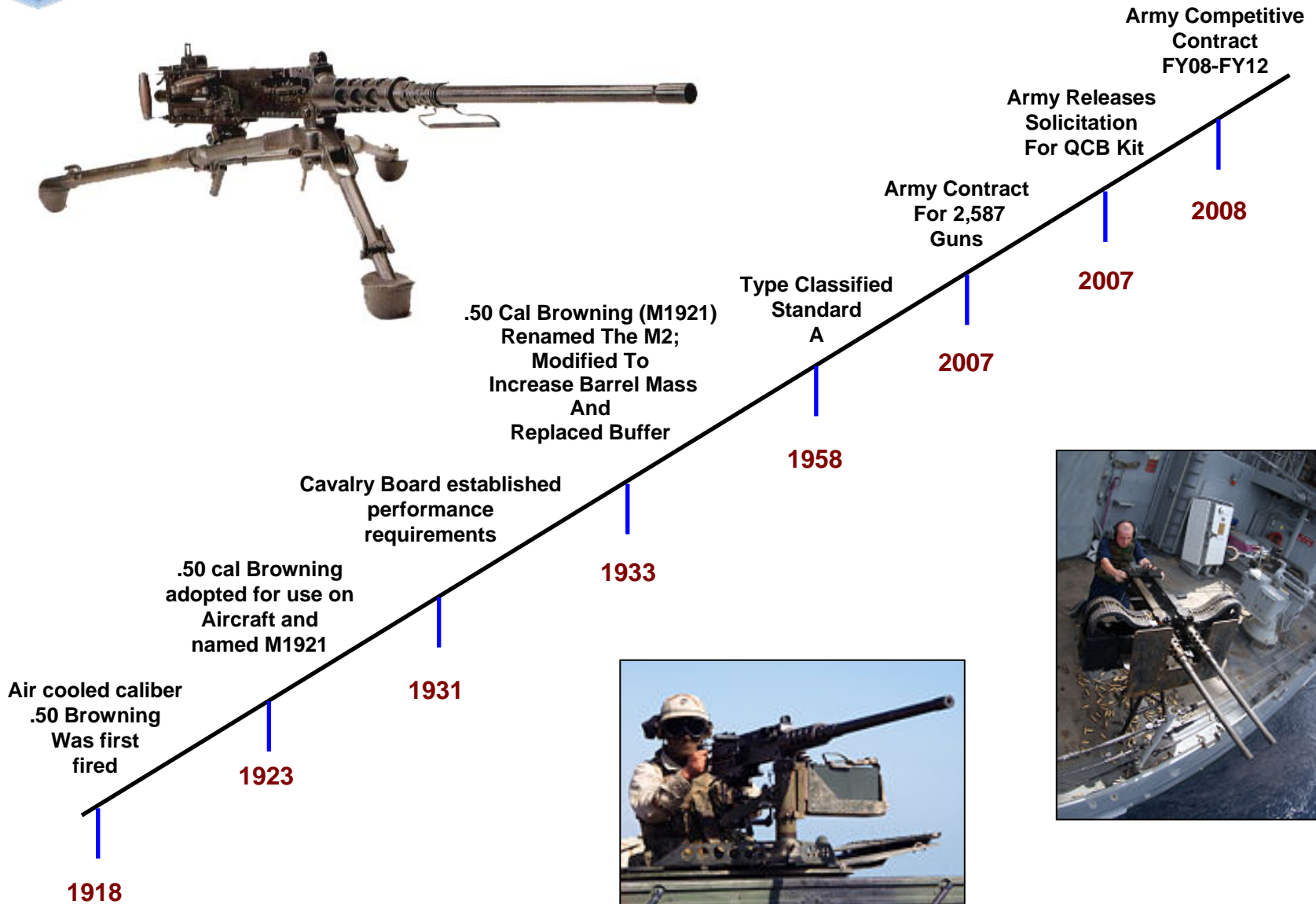
- **Milestone B Approved 22 March 2005**
- **System development and demonstration contract award in Sep 2005**
- **Test and evaluation 2007 through Mar 2008**
- **Type Classification Limited Procurement – 3QFY08**
- **Type Classification Standard / Materiel Release – 3QFY10**
- **First Unit Equipped – 3QFY10**



M2 Machine Gun Enhancements



Legacy System: M2 Brief History





Legacy System: M2 Machine Gun



- **The M2 MG Is An Automatic, Recoil-operated, Link-Belt-Fed, Air-Cooled Weapon That Has Been Standard Issue Since 1923**
 - **Weapon Remained Relatively Unchanged Since 1933**

- **Current M2 Has Several Limitations:**
 - **Requires Soldiers To Manually Set Headspace And Timing Every Time A Barrel Is Inserted**
 - **Improper Adjustment Can Damage The Weapon And Injure The User**
 - **Barrel Changing Procedures Negatively Impact Survivability**
 - **Soldiers Are Exposed To Enemy Fire For Extended Time Periods**

- **Increase In M2 Incidences Resulting In Soldiers Improperly Setting Headspace And Timing On The Weapon**
 - **45 H&T Malfunctions Out Of 77 Between 2007-May 2008**



Near Term Solution: M2E2



- **An Enhancement To The .50 Cal M2 To Include A Fixed Headspace And Timing Configuration And Be As Reliable (If Not Better) Than Current M2**
- **Upgrades Can Be Fitted On Existing M2 Weapons During M2 Overhaul SARET Fieldings, Etc.**
- **New Production Weapons To Include Proven Design**
- **The M2A1 (The Type Classified M2 w/QCB) May Include (Not Limited To) Several Enhancements:**
 - **Modified Barrel**
 - **Barrel Extension**
 - **Barrel Support**
 - **Barrel Carrying Handle**
 - **Flash Suppressor**
 - **Fixed Headspace And Timing Configuration**



M2E2 Program Status



- Requirement Is Currently Being Competed
- Bid Sample Hardware Is Undergoing Testing At Aberdeen Proving Grounds, MD
- Government Will Down Select To One Vendor- July 2008
- Government Will Award RDT&E Contract For Kits (35) For Production Qualification Testing And User Assessments
- Type Classification–standard/FRP Decision – August 09

Path Forward:

- Production Kits To Be Introduced Thru Overhaul
- Kits To Be Cut Into New Weapon Production
- New Configuration (M2A1) To Be Fielded To Brigade Sets



M2E2 Program Milestones



Approved Capabilities Production Document	December 2006
Release Request for Proposal	October 2007
Receive Bid Samples	November 2007
Perform Bid Sample Testing	November – June 2008
Down Select	July 2008
Contract Award for DT/LUE hardware	October 2008
Production Verification Test	December–May 2009
Safety Release	November 2008
Limited User Evaluation	January 2009
Test Reports/ SER	June-July 2009
MS C / Type Classification	August 2009
Production Contract Award	October 2009
FUE	July 2010



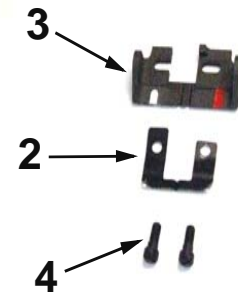
Additional M2 Enhancements



Current Enhancements:

1. Incorporating A Trigger Block To The Back Plate Assembly To Prevent Inadvertent Firings

- 1= Backplate
- 2= Flatspring
- 3= Trigger Block
- 4= Shoulder Screw



2. Trigger And Bolt Latch Release Will Be Replaced On Back Plates With Interference
3. Engineering Change Proposal (ECP) Approved For FY07 M2 Gun Production
3. All Future Production To Contain Trigger Blocks



Additional M2 Enhancements (cont.)



Near Term Enhancements:

- Thermal Weapon Sight Brackets (TWS With Side Rails) Provided To PM Sensors And Lasers For Fielding
- Investigating Material Change Of Headspace And Timing Gages To Lower Cost, Increase Corrosion Resistance And Dimensional Stability
- Change M2 Rear Sight Markings From Yards To Meters



Additional Near Term Solution: Lightweight/Low Recoil 50 Cal Machine Gun



Description:

- Lightweight, Low Recoil, 2-man Portable, Vehicle And Ground Mounted .50 Caliber Crew Served Weapon System

Capabilities:

- Provides The Warfighter The Ability To Bring Heavy Machine Gun Lethality In A Medium Machine Gun Form/Weight Factor
- Fires All .50 Caliber Service Ammunition With M9 Links
- 50-60% Lower Weight And 60-75% Lower Recoil Than M2
- Fixed Headspace And Timing
- Quick Change Barrel <15 sec



Program Status:

- Contract Awarded To General Dynamics Armament And Technical Products To Complete Objective Weapon Design And Build 3 Weapons.
- Early User Assessment For SOCOM Completed 9 May. Two Prototype Weapons Fired 10,000 Rounds Over Three Days



CROWS



CROWS Background



- Capability Production Document Approved August 2005

- Currently 243 CROWS In Operation
 - M1114
 - M93 FOX
 - M1A2 TUSK

- Competitive Contract Awarded August 2007
 - Five Year ID/IQ Contract For Up To 6,500 Systems
 - Includes Interim Contractor Logistics Support (ICLS) And Depot Capability





CROWS System Description



- Weight: W/O Weapon And Ammo
 - Above The Roof: 320 Lbs (w/o Armor Kit)
- Total System Weight: 430 Lbs
- Rate Of Production: 120/month (capable of 300/month In early 09) if required
- Supported Weapons:
 - MK19 (96 rds), - M2 (400 rds),
 - M240 (1000 rds), - M249 (2000 rds)
- Platforms: M114/M1151, M93 FOX, RG-31, RG-33, Buffalo, JERRV, M1A2 TUSK, FCS, JLTV, Stryker

Capabilities:

- Four-axis targeting system
- Three-axis vector stabilization
- Day camera: 27X w/47 degree FOV
- Thermal dual FOV (3 & 11 degrees) w/ 2X E-zoom
- Auto focus (day and thermal)
- Auto tracker/auto lead/auto scan
- Laser range finder
- User programmable inhibits



Control Grip (CG)



Fire Control Unit (FCU)



CROWS - Lightning



System Description:

A Lightweight Stabilized Remote Weapon Station (RWS) Which Provides Day And Night Operations. Includes A Laser Range Finder And Ballistic Fire Control System For Accurate Engagements. System Is Capable Of Mounting The M240B Or M249 Machine Gun.

Objective:

Procure Four Systems In Support Of An Operational Assessment To Evaluate The Effectiveness Of A Lightweight RWS For Future Use On Various Combat And Support Vehicles.

Future:

Requirement For A Lightweight RWS Is TBD Pending Evaluation, Analysis And Approval.



M110 Semi-Automatic Sniper System (SASS) Overview



Description:

- Addresses M24 Sniper System & M144 Spotting Scope Shortcomings
- Rapid Fire/Rapid Reload, Suppressed Sniper Rifle
- Effective Against Personnel and Light Materiel Targets Out To 800m
- Supplements Sniper's Role To Support Combat Operations
- Greater Firepower, Configurability/Versatility, Improves Sniper Survivability



Capabilities:

- Greater, Quicker, Focused Firepower with Increased Flexibility
- Ability to “stay on the scope/stay on the gun” for target rich (urban) environments and against moving/fleeting targets
- Additional Responsiveness and Versatility
- Easily Adaptable RSTA Systems For All-Weather, Day/Night Operation
- Increases Sniper Team Lethality, Survivability and Mission Flexibility



Program History:

- HQDA Approved Requirements: 23 Jun 04
- Contract Award: 26 Sep 05
- First Unit Equipped: 14 Nov 07

Basis of Issue: 1:1 replacement for every Sniper Team M24 SWS

Contractor: Knight's Armaments Company, Titusville, FL



Upcoming Competitive Opportunities



- XM205 Lightweight Tripod for Heavy Machine Guns
 - Modified COTS/NDI approach
 - Performance based competition
 - 100% small business set aside
 - Anticipate 1Q09 award

- M2 .50 Caliber Machine Gun
 - Compete the Gov't owned M2 Technical Data Package
 - Anticipate multiple contract awards
 - 20% small business set aside
 - Anticipate 4Q08 award

- MK93 Mod 2 Dual Mount
 - Compete the Gov't owned MK93 Technical Data Package
 - Anticipate multiple contract awards
 - 100% small business set aside
 - Anticipate 1Q09 award

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