



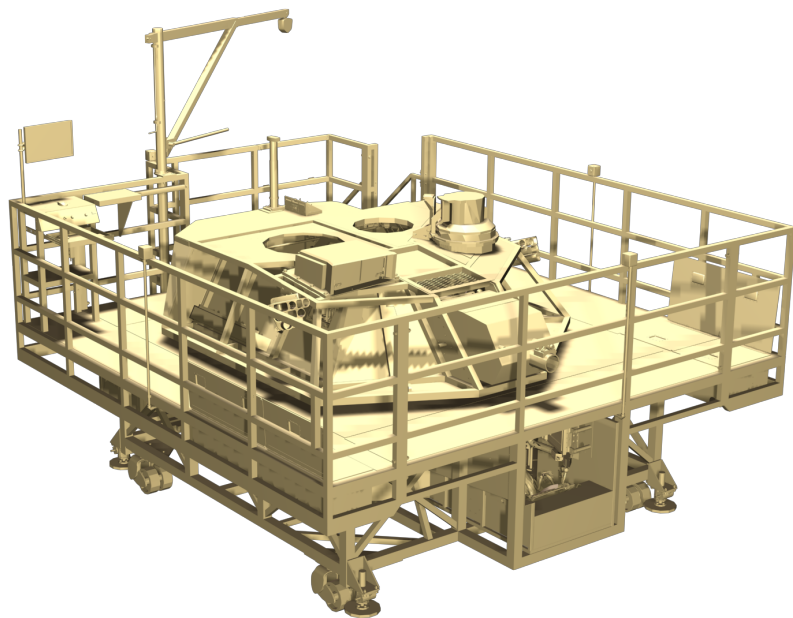
U.S. ARMY M1 MTS

M1A2 System Enhancement Program (SEP) Version 2 (V2) HOT

Kratos has been selected to be a member of the M1 Abrams MTS Team, by CAE to perform a technology refresh and systems upgrade to the U.S. Army M1 Abrams Maintenance Training System (MTS).

Requirements for the MTS include an upgrade of the M1A2 Hands On Trainers (HOT) to the new M1A2 System Enhancement Program (SEP) Version 2 (v2) HOT with Embedded Diagnostics (ED) capability. Kratos, as a major subcontractor to CAE for this effort will be using refurbished TTOMT frames provided by ANAD, onto which will be installed a combination of Kratos-designed and GFE components, provide engineering, mechanical, and electrical design; develops drawing packages; provides fabrication, assembly and testing on a total of 18 Abrams HOTs. The U.S. Army, Program Executive Office for Simulation Training and Instrumentation (PEO STRI), Orlando, Florida, manages the contract for the Army.

The M1 MTS provides training in critical field level maintenance tasks required for the maintenance personnel at the U.S. Army Armor School at Ft Knox KY. The training system is comprised of a Dialogistic and Trouble Shooting device (DT) and a Hands On Training device (HOT). The HOT system provides for hands on skill level development for system operation, fault diagnosis, troubleshooting, adjustments, removal / replacement, servicing and repair tasks.



Kratos will provide new trainers for the existing TTOMT trainer for the SEP v2. The technology refresh includes retrofitting with modern computers, I/O hardware, networking the MTS and an upgraded Instructor Operator Station (IOS). The system upgrades to various redesigned components and structural changes are dictated by the enhanced training tasks. The upgraded HOT will modify the drivers compartment, provide and incorporate simulated components, cables, connectors and mounting hardware to reflect the SEP configuration items. Another upgrade to the HOT is the addition of a dynamic multi-channel visual system to the Gunners Primary Sight Unit and the Commander's Independent Thermal Viewer (CITV), allowing a full visual simulated replica of the actual equipment as required by the training tasks. As an option, a Commander's Remote Operated Weapons Station (CROWS) mockup will be added to the finalized design and tested on the tactical tank for the SEpv2.

Abrams SEP v2 Remove and Replace LRUs with faults leading to the R/R action:

Hull Power Distribution Unit (HPDU)

- NON-CRITICAL TMPU FAULT and CRITICAL HMPU FAULT are displayed

Commander's Independent Thermal Viewer (CITV) Sight

- SYSTEM DATA BUS FAULT and CITV FAULT displayed at CDU

Improved Driver's Integrated Display (iDID)

- ENGINE WILL NOT SHUT DOWN

Remote Switching Module (RSM)

- UTILITY BUS FAULT DISPLAYED AT CDU

Commander's Electronic Unit (CEU)

- CDU FAULT is displayed on the CDU

Hull Power Distribution Unit (HPDU)

- CIRCUIT BREAKER TRIPPED CAUTION IS DISPLAYED CDU DOES NOT POWER UP

Thermal Receiver Unit (TRU)

- SYSTEM DATA BUS FAULT IS DISPLAYED

Improved Turret Mission Processor Unit (iTMPU)

- ALL STATIONS WARNING TONE OR VOICE MESSAGE FAULT IS DISPLAYED

Turret Valve

- AMMO DOOR DOES NOT OPEN PROPERLY

AMMO Door Disable Switch

- AMMO DOOR OPENS AND CLOSES WITH DOOR POWER SWITCH SET TO OFF

GPS Lower Panel Assy

- GUN SELECT SWITCH ON GPS DOES NOT WORK PROPERLY. DOES NOT STAY IN MAIN

Traverse Servo Valve

- TURRET MOVES WITH PALM SWITCHES PRESSED, HANDLES CENTERED

Improved Fire Control Electronics Unit (iFCEU)

- CANNOT FIRE COAX MACHINE GUN MAIN GUN FIRES OK

Main Gun Safety Switch

- MAIN GUN ARMED AND SAFE LIGHTS ARE ILLUMINATED AT THE SAME TIME

Hull/Turret Position Sensor (HTPS)

- HULL / TURRET POSITION SENSOR FAULT IS DISPLAYED

Laser Range Finder (LRF)

- GPS DAYSIGHT RETICLE DOES NOT COME ON OR BRIGHTNESS DOES NOT ADJUST PROPERLY

Commander's Control Handle Assembly (CCHA)

- COMMANDER'S CONTROL HANDLE ASSEMBLY DOES NOT FUNCTION PROPERLY

AMMO Door

- AUX PUMP RUNS CONTINUOUSLY, PRESSURE GAUGE SHOWS LESS THAN 1750 PSI

Analog Input Module (AIM)

- ENGINE DOES NOT CRANK (STARTER ONLY DOES NOT WORK EITHER)

Utility Bus Coupler

- UTILITY BUS FAULT displayed at CDU

Hull Power Distribution Unit (HPDU)

- TURRET POWER TURNS ON WHEN MASTER POWER PUSHBUTTON IS PRESSED

Prime Power Controller (PPC)

- CANNOT TURN ON MASTER POWER

Right Smoke Grenade

- CIRCUIT BREAKER TRIPPED CAUTION DISPLAYED

Improved Fire Control Electronics Unit (iFCEU)

- LIGHTS ON CDU FLASH CONTINUOUSLY AND NEVER STOP

Wiring Harness

- CIRCUIT BREAKER TRIPPED CAUTION DISPLAYED

