KRATOS

HIMARS UFCS AMTS

High Mobility Artillery Rocket System
Universal Fire Control Systems
Advanced Maintenance Training System

The HIMARS UFCS AMTS provides unit and intermediate skill-level development for entry level and MLRS transitioning technicians for HIMARS system familiarization and operation, fault recognition, troubleshooting and diagnosis; remove, replace and adjustment of LRU's

The M142 HIMARS launcher is the newest in-direct fire launcher wheeled variant of the Multiple Launch Rocket System (MLRS) family capable of firing the entire MLRS Family Of Munitions (MFOM).

The HIMARS UFCS AMTS Mockup is designed to:

- **Identify and recognize a symptom**
- **Locate and execute appropriate fault isolation procedure**
- **Run built-in diagnostics and analyze fault messages**
- **Follow up procedures**
- **Select troubleshooting procedure through symptom judgement**
- **Perform troubleshooting procedures and identify faulty units**
- **Verify problem**

CAE, with Kratos Defense & Security Solutions Inc. as a major sub contractor, is under contract with U.S. Army Program Executive Office for Simulation, Training and Instrumentation (PEO-STRI), is designing and fabricating and upgrading eight M142 HIMARS UFCS AMTS maintenance training vehicles.

8601 Transport Drive
Orlando, FL 32832

Email: Training@KratosDefense.com
www.KratosTraining.com

AMTS Functionally Simulated Subsystems:

Launcher Control & Drive System, Azy
Launcher Control & Drive System, Elv
Boom Extension System
Hydraulic System
Cab Elevation & Locking System
Power Distribution & Control System
Universal Launcher Interface
Weapons Interface
Position & Navigation System
Cables & Interconnects
Driver Display System
Safety Interlock System

AMTS Functionally Simulated LRU's with associated faults:

Azimuth Drive Motor
- Launch module fails to rotate clockwise or counter-clockwise using boom controller

Azimuth Resolver
- Launch module fails to rotate clockwise using boom controller
- Launch module fails to rotate counter-clockwise using boom controller
- Resolvers out of tolerance

Boom-in Limit Switch
- Booms extend - stow override required

Curbside Elevation Travel Lock Actuator
- Curbside elevation travel lock failure

Curbside Jury Strut Retracted Switch
- Jury struts extended

Elevation Actuator
- Launch module fails to raise or lower using boom controller

Elevation Hydraulic Manifold Assembly
- Hydraulic warm-up disabled

Elevation Manifold
- Elevation solenoid drive failure

Elevation Manifold Servo Valve
- Elevation servo valve failure

HIMARS Universal Launcher Interface Unit (HULIU)
- All boom controller functions are inoperable
- Hoist up solenoid driver failure
- Boom out solenoid driver failure
- Hydraulic warm up disabled
- Un-commanded pressure
- Curbside elevation travel lock failure
- Roadside elevation travel lock failure
- Azimuth solenoid driver failure
- Elevation servo valve failure
- Azimuth travel lock failure
- Elevation travel locks failed
- Rocket pod hold down locked when unlocked

Hydraulic Reservoir
- Fluid level low

Position/Navigation Unit (PNU)
- Global Position System (GPS) satellite count remains at zero

Power Distribution Box (PDB)
- Boom out solenoid driver failure
- Boom will not retract using boom controller
- Azimuth travel lock failure

Power Supply Unit (PSU)
- Stow failure

Reload Manifold
- Hoist down solenoid driver failure
- Boom out solenoid driver failure

Reservoir Low Pressure Switch
- Un-commanded pressure

Roadside Elevation Travel Lock Actuator
- Roadside elevation travel lock failure

Roadside Jury Strut Extend Switch
- Jury strut not extended override
- Jury struts status unknown

Rocket Pod Hold Down Status Switch
- Rocket pod hold down locked when unlocked

System Fluid Sensor
- Fluid over temperature sensor failure

System Pressure Sensor
- Launcher drive system pressure failure

Weapon Interface Unit (WIU)
- Arm command not received

W312 Harness
- Global Position System (GPS) satellite count remains at zero

W510 Cable
- Boom In Solenoid Driver Failure

W513 Cable
- SNVT results: right pod not run

W515 Cable
- Fire command not received

W520 Cable
- Bay 2 W20 cable failure

W525 Cable
- Jury strut not extended override
- Jury struts status unknown

W526 Cable
- Launch module position failure
- Power take off status failure

W529 Cable
- Rocket fuze malfunction, or incorrect number of weapons
- Rocket fuze malfunction, or incorrect number of weapons

W530 Cable
- Bay 2 WNEW cable failure
- Umbilical cables not properly connected

W537 Cable
- Squib activate failure

W539 Cable
- Un-commanded pressure

W539 Cable
- Fluid level low
- Return filter clogged
- Launcher drive system pressure failure
- Launcher drive system over pressure caution

W540 Cable
- Hoist down solenoid driver failure
- Hoist up solenoid driver failure
- Resolvers out of tolerance
- Azimuth travel lock failure
- Elevation travel locks failed
- Rocket pod hold down locked when unlocked

W541 Cable
- Hydraulic warm up disabled

W543 Cable
- Power take off status failure
- Stow failure

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FROM STRENGTH TO SUCCESS

8601 Transport Drive
Orlando, FL 32832

Phone: 407.678.3388
Fax: 407.678.8008

Email: Training@KratosDefense.com
www.KratosTraining.com