



## 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**

The faults leading to remove and replace task are grouped by LRU.

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.



## 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

