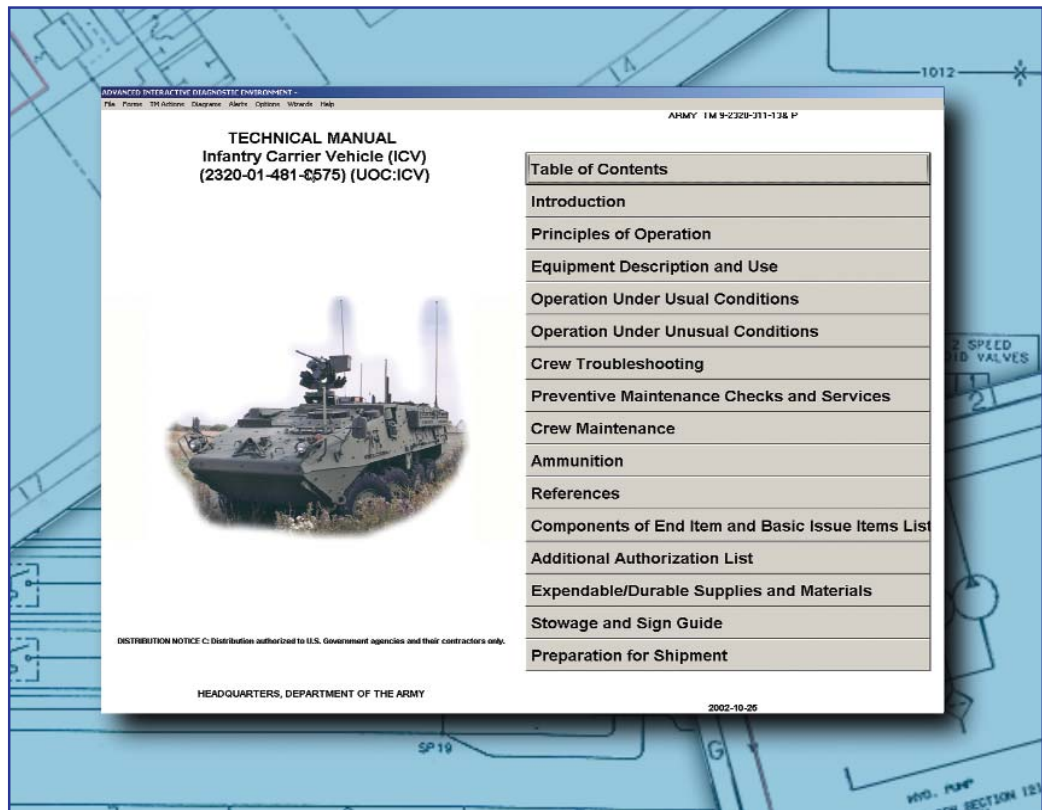


Electronic Maintenance System (EMS)

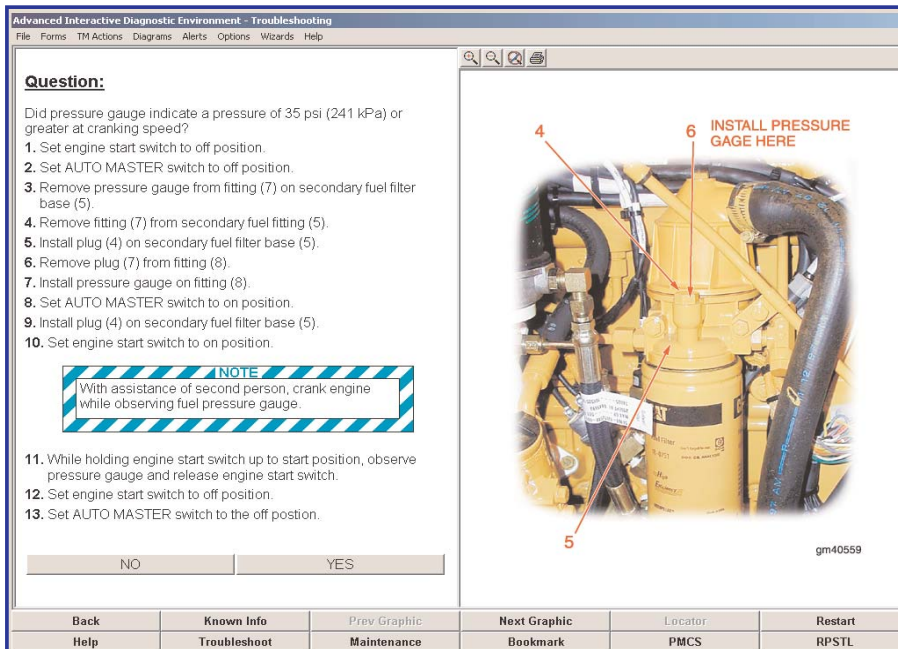
Class 5+ IETM with Intrusive Diagnostics



EMS At A Glance

- Complete Integrated Electronic Technical Information System with real-time diagnostics
- Interfaces to system sensors and data buses
- Combines all operator/maintenance manuals and parts data in one system
- Reduces time spent seeking and retrieving maintenance information
- Incorporates external applications, including animated schematic diagrams and computer-based training
- Increases the effectiveness of less-highly-skilled technicians in supporting the system
- Enables automatic parts requisition and linking
- Provides automatic failure data logging
- Reduces repair and supply costs by increasing the probability of fixing the real problem - reduces No Evidence Of Failure (NEOF) events
- Currently fielded on U.S. Army and U.S. Marine Corps vehicle systems
- Program database is easily updated

Electronic Maintenance System (EMS)



*Typical EMS user screen, showing a troubleshooting procedure in progress.
Text is displayed on the left screen pane, graphics on the right.*

Description and Purpose

The Electronic Maintenance System (EMS) is a portable maintenance expert, with a unique intrusive diagnostics capability. With EMS, accurate maintenance and repair no longer depend solely on the knowledge of individual repair personnel.

EMS provides real-time interaction between the unit level soldier and the equipment by acquiring data from embedded sensors and buses in the system. The malfunction and fix are quickly determined, accelerating the troubleshooting process. On-line instructional videos guide the technician through the entire maintenance process - from diagnostic troubleshooting and repair procedures to automated parts requisition. EMS was developed in cooperation with the U.S. Army Tank-automotive and Armaments Command (TACOM) to reduce No Evidence Of Failure (NEOF) events and Mean Time To Repair (MTTR). EMS records all maintenance actions in a database for failure analysis and prognostics.

The EMS Process

- EMS is connected directly to the system sensors and data buses for access to electronic built-in test data
- This data is instantaneously passed to EMS for analysis
- EMS begins diagnosing the problem by automatically taking electronic measurements, or providing the technician with measurement instructions
- Based on the results, EMS determines the next diagnostic step
- If no fault is detected, the technician can enter a symptom to begin troubleshooting
- When the actual problem is isolated, EMS finds the appropriate place in the on-line technical manual to begin troubleshooting
- EMS guides the technician through repair procedures with text, images, audio instruction, and video clips
- Required replacement parts are displayed with National Stock Number (NSN) and other necessary electronic ordering information
- A history of tests, adjustments, results, and procedures is automatically recorded. Acquired data can be transmitted to a failure analysis system
- EMS can also be used off-vehicle to provide training in the field or in a classroom

A Real-Time, On-Vehicle Maintenance System

When a vehicle or aircraft is down in the field, repair time is critical. Typically it falls to the unit level repair personnel to diagnose the problem and make repairs. EMS provides fast and accurate help as it automates diagnosis and repair through the use of a rugged PC-based system.

Considered the most mature and highly integrated real-time data acquisition and diagnostic system ever devised, EMS puts troubleshooting, maintenance procedures and parts information online. Information is always current because maintenance and parts information is updated electronically.

EMS interacts with both the system and the technician to quickly identify a fault and walk the technician, step by step, through repair procedures to the solution of the problem.

For more information, please contact:
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