

CHAPTER SIX

MISSILE MAINTENANCE

6-1. MAINTENANCE SUPPORT

Maintenance support of missiles and air defense gun systems includes the following services:

- Repair and modification.
 - Missiles (less Class V components, warheads, and adapter kits).
 - Missiles and gun-peculiar fire control, launching, test, and handling equipment.
 - System-peculiar training devices.
 - System-peculiar power generation and environmental control systems.
 - Man-portable common thermal night sights (MCTNS).
 - Maintenance alignment of missile-peculiar test and handling equipment.
 - Technical assistance and training to supported units.
- Missile support team to provide on-site maintenance when required.

6-2. ARMY MISSILE SYSTEMS

Army missile systems within the heavy division are divided into two classes: land combat missile systems (LCMS) and air defense missile systems. The term “missile systems” as used in this chapter also applies to radar controlled air defense gun systems and to free-flight rocket systems.

6-3. LAND COMBAT SYSTEMS

Land combat systems are those missile systems used to engage ground targets. They include antitank missiles, nuclear, and conventional missile-delivered artillery. These are TOW (several versions exist; for example, ground TOW, Improved TOW Vehicle (ITV), jeep-mounted TOW, and Bradley Fighting Vehicle (BFV) TOW subsystem), DRAGON, Multiple Launch Rocket System (MLRS), and Man-Portable Common Thermal Night Sights (MCTNS).

6-4. AIR DEFENSE SYSTEMS

Air defense systems are those systems used to engage airborne targets (aircraft and helicopters).

They include man-portable missile systems, SHORADS, and medium to high altitude air defense systems. They are Stinger, REDEYE, Chaparral, Vulcan, and Forward Area Alerting Radar (FAAR).

6-5. MISSILE MAINTENANCE SUPPORT

The maintenance support structure of missile systems is based on the same principles of conventional maintenance. The relative low density of missile systems, combined with their sophistication and complexity, place high work loads on all missile support units. All missile systems require unit, direct support, general support, and depot-level maintenance. The extent to which repairs are done at the direct support level depends to a large degree on the capabilities of the personnel, test equipment, and availability of materiel at the missile support unit. DA maintenance provides for the repair and return to the user of their missile systems and major components. A large percentage of work is repair of chassis to support RX assets. GS maintenance performs repairs requiring more time or more sophisticated test equipment. GS and depot level repairs are completed and the equipment is then returned to the supply system.

Missile and air defense systems in the division are supported by the missile support maintenance company organic to the DISCOM MSB and located in the rear. LCMSs organic to brigades are supported by the FSB maintenance company. The support provided by the missile company is divided into two categories: base shop and MSTs.

6-6. BASE SHOP

The base shop of the company provides DS maintenance and RX and supply support. It is equipped with sufficient manuals or automated test equipment (ATE) to enable it to perform all required DS maintenance tasks and perform electro-optical alignment on LCSS and air defense missile systems. Repair of any component that requires more than 24 hours effort becomes the base shop's responsibility. The base shop is equipped with the LCSS shop set.

6-7. MAINTENANCE SUPPORT TEAM

MSTs for SHORADS are deployed with the tactical unit. MSTs for LCMS and MCTNS are deployed with the division engineer battalion, armored cavalry squadron, and the MLRS battery. MSTs will be

equipped with tools and test equipment appropriate to the system being supported.

6-8. MAINTENANCE RESPONSIBILITIES

The operator/crew is responsible for cleaning/servicing and lubricating the system. They tighten all bolts and nuts and spot paint the system as outlined in the -10 level technical manual. They are responsible for maintaining all fluid levels and any other maintenance authorized by the MAC.

Unit maintenance personnel perform PM including visual inspections, testing, cleaning, tightening, and other minor adjustments; make external adjustments on equipment and perform operational checks using appropriate tools and test equipment. Further, they make continuity and operational checks, analyze the causes of equipment failure to the module, using built-in test equipment (BITE) and other diagnostic and fault isolation equipment; repair end items by replacing modules which are authorized by the MAC chart, and evacuate unserviceable beyond unit repair capability to the designated DS support unit.

DS maintenance units can perform, supervise, and inspect all maintenance functions authorized at lower levels of maintenance, although normally they will only supervise or inspect unit maintenance. DS units--

- Repair and replace end items of equipment and replace modules with the use of complex tools and test equipment.
- Troubleshoot, inspect, test, adjust, and align those modules that are authorized by the MAC.
- Replace defective modules that are beyond the capability of unit maintenance.
- Evacuate unserviceable items to the level of maintenance prescribed by appropriate publications.
- Repair equipment using conventional piece-parts such as transistors, capacitors, diodes, transformers, relays, and so forth.

These units also provide quick reaction maintenance support through the use of RX. They provide forward maintenance support and technical assistance through the use of mobile missile support teams. Support services for items evacuated by the

user requiring repair are handled by use of the RX system, where possible, or on a repair and return to user basis. The DS unit also provides technical supply support, technical assistance, maintenance calibration, and load testing and performs modifications when specified by MWOs. Unit and support maintenance are provided for organic system-peculiar test and handling equipment. DA units can provide support services for missile repair when required by Class V activities such as ASPs or special ammunition supply points (SASPs).

Any maintenance which is beyond the capability of those levels described above will be performed by GS units.

6-9. MISSILE MAINTENANCE INTERFACE WITH AMMUNITION UNITS

Most smaller missiles are Class V items and, as such, are not routinely handled by missile support units. This particularly applies to the TOW, Dragon, Chaparral, MLRS, HAWK, and Patriot missiles. Missile support units do, in some cases, stock Class IX components of the missiles that are required for unit repair or checkout (fins, wings, nuts, bolts, screws, desiccant, and so forth). Should any missile require repair or fail a confidence test, it will be transported by the firing unit to the ASP for repair or exchange.