

TRAINING NOTES



Dragon Maintenance Management

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The Dragon missile system is the primary antiarmor weapon in all infantry rifle companies, yet it and its related training equipment are among the most neglected items when it comes to organizational maintenance. All too often, services are behind schedule, maintenance records are nonexistent, and Dragon training equipment sits untouched in a corner of the arms room.

There is a significant lack of understanding of how to maintain missile equipment at company level. This is compounded by the fact that none of the schools that company-grade infantry officers attend — IOBC, IOAC, and the Maintenance Officer Course — teach anything about managing missile maintenance.

Dragon organizational maintenance includes many component tasks, and there is a great deal for a company commander to check to see that all the necessary tasks are accomplished.

First, commanders must be aware that the Dragon missile system is a "pacing item," which is defined by AR 220-1 (Unit Status Reporting) as "a major weapon system that is central to an organization's capability to perform its designed TOE/MTOE mission," an item that is "subject to continuous monitoring and management at all levels of

command." A pacing item is a limiting factor in determining a battalion's equipment status rating on the Unit Status Report. Thus, that rating cannot be higher than a unit's lowest rating on a pacing item. This makes a pacing item one of the most critical in a rifle compa-



ny, but it is surprising how many captains and lieutenants have never heard the term.

The reportable components of the Dragon system are the tracker (GM Infrared SU-36/P); the night vision sight (AN/TAS-5); the guided missile and launcher (M222/223); and, for mechanized infantry units, the night sight vehicle power conditioner and the mount (M175).

These components are reported to Department of the Army through the Missile Materiel Readiness Report (DA Form 3266-1). If any of them become inoperative, the entire system must be reported as "not mission capable" for that period.

Dragon training equipment—the monitoring set (AN/TSQ-T1); the launch effects trainer (GM M54); the infrared transmitting set (M89E1); and the field handling trainer (M57) — is not reportable to DA. Nevertheless, managing training equipment is as important as managing the weapon itself because effective training cannot take place without it.

One of the biggest misunderstandings regarding missile systems involves organizational maintenance, which for the Dragon is performed at company level and consists of the following activities:

- Keeping historical records (TAMMS).
- Performing preventive maintenance checks and services (PMCS).
- Scheduling required direct support (DS) maintenance services.
- Making repairs within the scope of the owning unit.
- Evacuating inoperative equipment to direct support maintenance units.

To manage his Dragon maintenance program efficiently, a company com-

Dragon Maintenance Management Tasks

Dragon Organizational Maintenance Activities	Company Commander Checks	Reference
Maintain historical records.	Inspect records.	DA Pam 738-750.
PMCS.	Check equipment returned to arms room after training.	Operator's Manual.
Schedule semiannual/annual services to be performed by DS maintenance unit.	Ensure that services are scheduled and completed services are recorded.	DS External SOP.
Evacuation of equipment to DS maintenance.	Ensure that items are evacuated in a timely manner.	DS External SOP.
Stock parts and supplies authorized for organizational maintenance.	Check parts/supplies on hand. Verify document numbers for items on order.	Expendable Supplies Appendix of Operator's TM, Repair Parts Manual.
Readiness reporting.	Ensure that not-mission-capable systems are promptly reported by component to battalion.	AR 750-40.

mander must check several things to make sure the critical organizational maintenance activities are being performed (see checklist). And before any maintenance can be performed on the Dragon or its equipment, the unit must have the following publications:

- TM 9-1425-484-10 (operator's manual for the Dragon weapon system)
- TM 9-6920-484-12 (operator/organizational maintenance manual for Dragon training equipment).
- TM 9-6920-480-24P-1 (repair parts manual for Dragon training equipment).
- TM 11-5585-254-14&P (operator's manual for battery charger (PP-7382/TAS)).
- DA Pamphlet 738-750 (The Army Maintenance Management System).
- AR 750-40 (Missile Materiel Readiness Report).
- External SOP of the company's direct support maintenance battalion.

Certain records also must be maintained for each component of the Dragon system, and the unit armorer is the man who should maintain them. He must read and understand DA Pamphlet 738-750. (The records required are listed in Appendix E of that pamphlet.) The company executive officer should supervise the entire company maintenance program and make sure all records are accurate and up to date.

DS MAINTENANCE

Periodic services on the Dragon must be performed by the DS missile maintenance unit. Again, the unit armorer is the key man in making sure these services are not overdue, and the company XO should closely monitor the scheduling of services for all weapons.

Operational tests must be performed quarterly on the tracker, the night tracker, the monitoring set, and the launch effects trainer (LET). In addition, the LET must be disassembled and cleaned semi-annually.

If the DS contact team performs these services at the unit, the armorer must make sure the team notes the services on the appropriate TAMMS form. Although no DS services are required for the transmitting set, it should also be

checked by DS at least semiannually or before training. It should also be noted that the transmitting set and its power supply modulator are a matched pair; their power output must be adjusted and matched to each other by the DS unit at least semiannually or before training. Once they have been matched, both components should be labeled so that they remain matched. If one of the pair is turned in for repair or exchange, the other must accompany it for readjustment.

Organizational maintenance, by definition, is done at company or battalion level. The DS unit cannot be expected to perform repairs that are authorized at organizational level or to order parts. Certain expendable supplies (desiccant to absorb moisture in the monitoring set, air filters for the IR transmitter) can be ordered and stocked at company level. These items are listed in an appendix in every operator's manual and must be on hand or on order at all times. PMCS cannot be performed properly without them.

As for the Dragon training equipment, it is among the most expensive, yet neglected items in any infantry unit.

Typically, this is what happens: The equipment sits in the arms room, sometimes in the HHC, until a company must run a Dragon training range. (The armorer does not maintain it, because he has no publications or no training in how to maintain it — or he does not even know what the equipment is.) The equipment goes to the range where it is found to be inoperative, and the cry goes out for the DS missile maintenance contact team. The team rushes out to the range only to find that the monitoring set's batteries have not been charged, it is full of moisture because the desiccant has not been changed, the LET has not been cleaned since the last firing, and the IR transmitter is not putting out signals because its air filters are clogged.

The way to correct this situation is simple. The commander must see that the manuals are read and followed, designating personnel to maintain the equipment and holding them responsible by checking periodically.

Before he can hold them responsible, however, he must see that everyone involved has been properly trained, especially the pivotal man, the armorer. (The average armorer, MOS 76Y, has

received no training in maintaining missile system equipment.) Obviously, operators and supervisors also must be trained before they can do any PMCS, and the company executive officer must be trained in missile equipment maintenance if he is to supervise the unit's program.

Maintaining missile system equipment is not essentially different from maintaining vehicles, small arms, or radios in regard to publications, records, repair parts, personnel, training, and time. The most important factor, however, is command emphasis, which brings all the other factors together to produce an

effective maintenance program and a combat-ready unit.

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Light Infantry Weapons Squads

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Over the past two or three years, various agencies and subject matter experts have been developing organizations and doctrine for the Army's new light infantry divisions.

The 7th Infantry Division (Light), which converted to the new configuration toward the end of 1985, has become a member of the Rapid Deployment Force and has been involved in an extensive one-year certification process to validate light division concepts.

For light infantry units, one of the most important certification issues is to determine the most effective organization for employing M60 machineguns and medium antiarmor weapons (Dragons) in the rifle companies.

Eight of the nine infantry battalions of the 7th Division are formally organized under the current table of organization and equipment (TOE), with the Dragons consolidated in an antiarmor section under the company headquarters and with two machineguns assigned to each platoon headquarters. During its train-up period before receiving 333 graduates from One Station Unit Training (OSUT), the other battalion—the 4th Battalion, 17th Infantry—was chosen to implement the weapons squad concept instead.

A weapons squad consists of nine men

with two Dragon teams and two machinegun teams under the control of a staff sergeant squad leader. Each of a company's three rifle platoons has one weapons squad.

The personnel and equipment to form the weapons squad came from the current antiarmor section and the rifle platoon machinegun crews. The weapons squad does require two additional staff sergeant squad leaders per company over the existing personnel authorizations.

SQUAD LEADERS

In organizing their weapons squads, the company commanders chose their weapons squad leaders carefully, looking for maturity, experience, initiative, and technical proficiency in both the M60 machinegun and the Dragon. The NCOs selected for these positions included former antitank platoon and section sergeants, a two-time captain of the winning team in an M60 machinegun competition, and several Vietnam veterans.

These weapons squad leaders, as members of the COHORT battalion cadre, then attended the Light Leader Course taught by Fort Benning's Ranger Division. The program of instruction, which was based

on Field Circular 7-15, Light Infantry Squad and Platoon Operations and ARTEP Mission Training Plan, had to be modified slightly to work with the weapons squad in platoon missions. This was an easy adjustment, however, because Ranger companies have weapons squads in their TOE.

By the time the course ended, several things were clear:

- The leader-to-led ratio was obviously better with the two additional NCOs. The weapons squad leader was responsible for only eight men instead of 12 as in the antiarmor section configuration.

- The weapons squad made NCO supervision of the M60 machinegun crews easier, thereby freeing the platoon sergeant to help the platoon leader lead the platoon.

- The internal configuration of the weapons squad could be arranged into mutually supporting teams, which had one machinegun crew and one Dragon crew each.

- The weapons squad leader became the assistant platoon sergeant.

The selection of soldiers to man the weapons squad was competitive. Before they graduated from OSUT, their individual training records were screened for their weapon qualification and Army Phy-