

TRAINING NOTES



Dragon Training

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Since the Dragon antiarmor weapon is likely to remain in the Army's inventory for approximately the next decade, unit commanders must train their soldiers to use it as effectively as possible. The problem is that the system requires a considerable amount of training to sustain minimum levels of proficiency.

The most important aspects of Dragon training are understanding the system's design characteristics and inherent weaknesses, and then incorporating battlefield conditions into all phases of training to try to offset those weaknesses.

One such weakness is the Dragon's probability of hit (PH), which conservative estimates place at about 20 percent. What is most surprising about this figure is that most of the PH data generated by units and kept by the Missile Command (MICOM) is based on live fires conducted in a sterile environment that seems to be molded to insure a high percentage of target hits. Gunners are therefore given a false impression of the performance characteristics of the weapon. Its true PH remains unknown.

Furthermore, discussions with subject matter experts indicate that 75 percent of all misses can be attributed to the missile's characteristics during launch and to gunner error during the last two or three seconds of tracking.

There appears to be little that can be done about the performance characteris-

tics of the weapon. Because of its design, anything that causes the gunner to flinch will affect the flight of the missile. In most instances, flinching is an involuntary muscle reflex that cannot be trained away. This phenomenon of gunner error can be explained in terms of breath control at maximum range—a gunner must hold his breath for approximately 11 seconds. If a gunner takes a breath during that time, his shoulder tends to rise and drop, which affects the missile's flight. Compounding the problem is the large signature of the weapon, its slow time of flight, and the enemy's response when he recognizes an incoming missile.

LIMIT EFFECTS

Although we cannot totally overcome the weapon's characteristics, we can limit their effects by trying to duplicate a wartime environment during all phases of Dragon training. The effect of this effort will be two-fold: First, gunners will better understand why the system cannot be used against certain targets, and the environment will better condition them to deal with the probability of missing their targets.

Second, if trainers recognize the weapon's characteristics, they can try to ensure that the tactical employment of the weapon is based on the system's weak-

nesses. Commanders must understand that a Dragon gunner's skill and knowledge is far more important than a high percentage of live fire hits. Even in the best case, a high percentage of hits during training is meaningless if those hits are not obtained under realistic combat conditions.

When using Dragon training devices and also when conducting live fire exercises, units should set up their ranges so that the Dragon gunners are placed under stress; for example, MILES (multiple integrated laser engagement system) devices can be used to simulate incoming direct fire from coaxial machineguns while battlefield obscuration can be simulated by using smoke. Artillery and hand grenade simulators should be thrown as close to a gunner as is safe to try to get him to flinch.

To increase his heart rate and therefore his breathing, a gunner should run up to the firing position. For live fire exercises, plywood mock-ups that can move in different directions at varying speeds can be created. Gunnery tables and live fire exercises should also be carried out under these conditions. Initially, the most likely result will be a decrease in gunner qualification scores and live fire hits. But this will be more than offset by more knowledgeable and proficient gunners. Commanders should understand this and not over-react to the statistics.

In addition to duplicating a combat environment, commanders and trainers must understand how to use the training devices currently in the field: the Launch Effects Trainer (LET), the Launch Environment Simulator (LES) and MILES devices. Unfortunately, no tests have proved that training with these devices will improve a gunner's chances of hitting a target. Nevertheless, the Dragon is dependent upon them, and each device must be used on the basis of its limited capability.

The LET and the LES must be used together. The LET gives a gunner a poor sense of blast and only a minor sense of recoil. The LES provides a more realistic sense of blast and recoil, but can be fired only five times during a given day because of safety considerations. Neither device gives a gunner the sense of weight loss associated with a missile leaving the

launch tube. Both are used in conjunction with the monitoring set and an infrared target source, which must move from flank to flank with little variation in speed.

MILES is suitable for force-on-force exercises, but it is not a gunnery trainer. MILES does not duplicate any of the Dragon's characteristics when it is fired.

All training with these devices should be conducted with both the day and the night trackers. Because of the night sight's weight and associated awkwardness, though, many units tend to use it only for night observation and security purposes. As a result, most gunners are not trained on thermal target identification, nor are they trained to cope with the weight of the sight. In this case, gunnery tables should be executed at least twice—once with the day tracker during hours of visibility and once with the night sight

during hours of darkness. Training programs should also include illumination using the day sight tracker.

Other problems associated with the training devices include unit reports of maintenance deficiencies. A review of one study conducted by the Army Training Board pointed out that most maintenance headaches result from improper operator maintenance. In most units, nobody is placed in charge of the equipment when it is not in use. Consequently, the equipment sits idle in unit arms rooms.

To correct this problem, units should sub-hand-receipt training devices to the NCOs in charge of Dragon training and hold them responsible for the appropriate periodic maintenance services and for all operator maintenance checks.

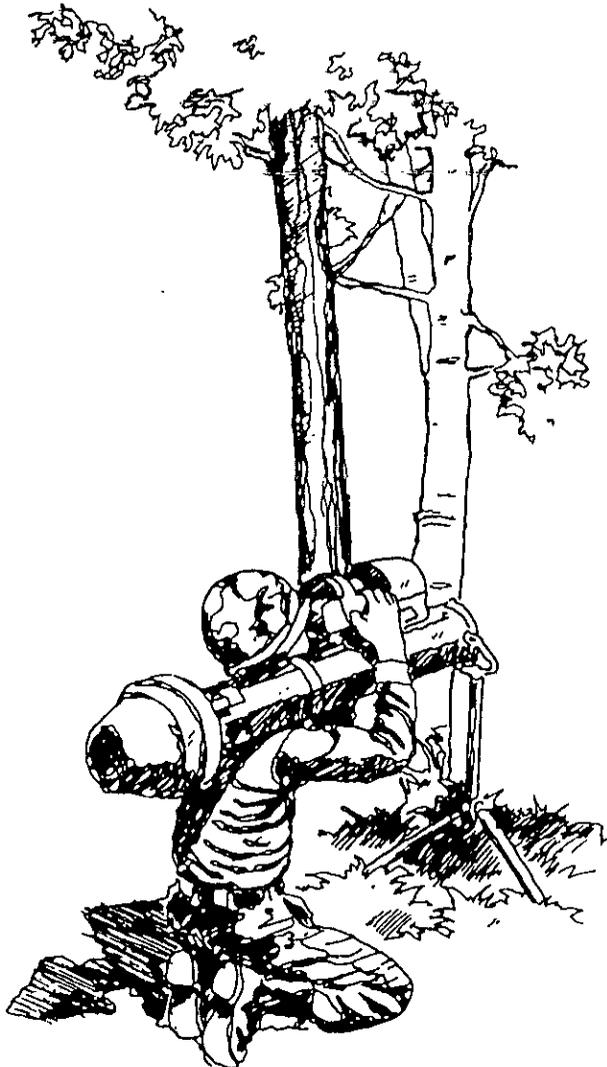
Because of the limited number of training devices available, most units consolidate their Dragon training. Regardless of the level of consolidation, however, first line supervisors should conduct the training. We simply cannot afford to have unit experts, mobile training teams, or civilian contractors conduct the instruction on a common weapon system.

Army and Marine Corps training institutions achieve about the same results as any of these groups. In fact, with the information on the Dragon in Army field manuals and training publications, units themselves can run a comparable program. All the unit trainers have to do is read the references and continually emphasize and execute gunner training.

Nobody knows how often sustainment training has to be conducted to maintain proficiency, but the skill retention curve does drop sharply after extensive training periods. This indicates that training must be conducted continually, not simply for one or two weeks before a live fire exercise.

Finally, the Army must recognize that, even with the improved warhead on the Dragon II, the weapon has only limited killing capability against tanks equipped with reactive armor. Even if its armor penetration could be improved further, the targets would still have to be hit before they could be killed.

Gunners must be trained, therefore, to



determine which vehicles can be killed and which cannot. Moreover, commanders must understand that the Dragon is a system of last resort against concentrated armor formations, and that it should be used more against lightly armored vehicles and stationary non-armored targets such as bunkers and fortifications.

Until the AAWS-M (antiarmor weapon system-medium) is fielded, light infantry units that are deployed in areas with a high armored threat should be reinforced with a more effective tank killing capability. But so long as the Army equips units with the Dragon, the commanders and their soldiers must understand its limitations and train to overcome

them. To do otherwise is to invite destruction.

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The Infantry Spectrum

Crossing from Light to Mech

CAPTAIN THOMAS E. FISH

When I was a lieutenant leading a light infantry platoon, "mech" was a four-letter word, one that I fervently hoped would never be applied to me. I had some pretty fixed ideas about the mechanized infantry, none of them flattering.

Young lieutenants, and other officers, can be very ethno-centric about their own little slice of the infantry spectrum. But those who get to stay on one side or the other of this spectrum are few and far between. Eventually, the great majority of us must cross over.

When I learned I was being assigned to the 3d Armored Division in Germany, I wrote a hasty letter to my former brigade commander who had been a mechanized battalion commander. His first bit of advice was, "Learn the equipment; try to swing a job as the battalion motor officer (BMO) before they give you a company." As it turned out, though, my first job in my new battalion was to command a rifle company, and "on-the-job training" suddenly took on a whole new meaning.

What follows is a distillation of the colonel's advice, that of my current battalion commander, and a few of my own observations. If you are a light leader bound for mech country and company com-

mand, this may serve as a useful guide.

The link between light and mech, and the key to making a successful transition from light platoon leader to mechanized company commander, is our AirLand Battle doctrine. The tenets of this doctrine and the fundamentals explained in Field Manual 100-5 provide the guideposts. An officer, if he has a thorough understanding of this doctrine, can see how light and heavy forces fit together as pieces of a whole. And there is no mistaking the common threads that bind them. The "imperatives of modern combat," for example, are the same for all levels of command in the Army. Once you understand the principles under which the Army as a whole will fight, you can move more easily from one part of it to another.

TECHNIQUES VARY

While light and heavy forces are bound together under AirLand Battle doctrine and the basic infantry tasks, the techniques that leaders in these units use to apply combat power to accomplish their missions vary widely.

In positioning weapons, for example, a light platoon leader replaces his M60

machineguns to cover the most likely dismounted avenues of approach and positions his Dragons to cover the mounted avenue of approach, if there is one. He then assigns sectors to each of his three squads that provide mutual support and protect his key weapons. Within the platoon, the fighting positions are seldom more than 30 meters apart. The mission is usually to retain a piece of ground or to destroy enemy forces in a narrow sector.

A Bradley company commander is usually given much more space than his light counterpart. He has 13 BFVs to position, and each vehicle requires at least two fighting positions 50 meters apart. He uses his dismount troops—armed with squad automatic weapons, M203 grenade launchers, Dragons, and AT-4 antiarmor weapons—to provide flank and rear security, to observe the battlefield while the Bradleys take up hide positions, and to cover the dismounted avenues of approach. Often a mechanized platoon's dismounted elements are lumped together instead of being employed as squads, and a platoon leader must then divide his attention between his mounted and dismounted elements.

Both light and heavy forces must also