

“Roadrunner” Operations in Desert Storm



by Lieutenant Colonel Stephen J. Arntz

In Operation Desert Storm, the 5th Battalion, 18th Field Artillery (5-18 FA) “Roadrunners,” part of the 75th Field Artillery Brigade (75 FA Bde) of III Corps Artillery, thrust across the Iraqi border north with the 1st Infantry Division (Mechanized) and then joined the 1st Armored Division moving east to attack the Republican Guard Forces Command (RGFC). During the war, the 5-18 FA traveled more than 340 miles and fired almost 3,000 rounds.

Under the control of the 42d FA Bde, the 5-18 FA initially provided general support reinforcing (GSR) fires for the 1st Infantry Division, part of VII Corps’ main attack. The battalion crossed the Saudi-Iraqi border marked by 12-foot high berms and participated in the division’s preparation fires. Then the battalion changed missions, reinforcing the 3d Bde’s direct support (DS) battalion for about six hours. After crossing a breach in a large minefield, the battalion reverted to the 75 FA Bde’s control and marched 150 miles to join the 1st Armored Division, which was then embroiled in VII Corps’ main attack. The 5-18 FA provided GS fires for the division for the remainder of the war.

Operations Desert Shield and Storm offered a wide-open environment that significantly changed the way we operated. The desert influenced everything from firing battery operations to logistics—facilitating the former, but complicating the latter. This article describes the procedures and techniques our battalion implemented during our six months of supporting Desert Shield and Storm.

Operations

The 5-18 FA, a 3x8 8-inch howitzer battalion, completed its deployment to Saudi Arabia on 5 October 1990. We were well-trained in conventional movement and occupation techniques, but we weren’t well-practiced in open, cross-country movement.

We quickly recognized the desert wedge formation was the best means to rapidly occupy prepared or unprepared positions and was relatively simple to control with our view unrestricted in the desert. (See Figure 1 on page 36 for the platoon wedge formation.) We learned to open or close the wedge, depending on terrain features and the degree of nighttime illumination. AN/PRC-126 radios, five per platoon, also helped our movement and rapid occupations.

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Each firing battery formed two platoon wedges (see Figure 2), one slightly offset and behind the other, as a part of a larger battalion wedge. Each firing battery commander (BC), equipped with a small lightweight global positioning system (GPS) receiver (SLGR), called a "slugger," preceded his convoy by 300 meters along a series of checkpoints (grids provided by the battalion S3) en route to a limit-of-advance or until told to stop.

The BC deviated from his preselected course when he had to avoid terrain restrictions that would limit his platoons' time to react. In reduced visibility, the commander slowed his convoy long enough to check out possible terrain obstacles.

If the battery had enough warning, platoon leaders and advance parties occupied predetermined positions. When this occurred, the BC returned to lead his convoys to their locations. More often than not, however, platoons practiced occupying unprepared positions—the way we ended up doing business in the rapid pace of Desert Storm, particularly while pursuing the RGFC.

We found two methods worked well for occupying unprepared positions. In one method, the platoon leader, when notified, would speed up with his advance party 300 to 500 meters in front of his main body and drop off his four gun guides to set up an aiming circle. The advance party vehicle then ran communications wire from the aiming circle to a terminal strip in the center of the battery, and gun guides and the fire direction center (FDC) guide would connect to it. We used this option when visibility was restricted (night or bad weather) and when moving forward 300 to 500 meters from the march column was possible.

In the other option, the FDC track signaled the convoy with a flag that it was to occupy immediately. The FDC track oriented on the azimuth of fire, and the guns moved to their relative positions, movements practiced in lots of rehearsal. The platoon leader then set up the aiming circle while his advance party vehicle dropped off advance party personnel to hook up communications wire.

In most cases, we initially laid the platoon using the AN/PRC-126 and sent final lay data over the telephone. The FDC monitored final lay data and could compute the platoon's position information for rapid firing.

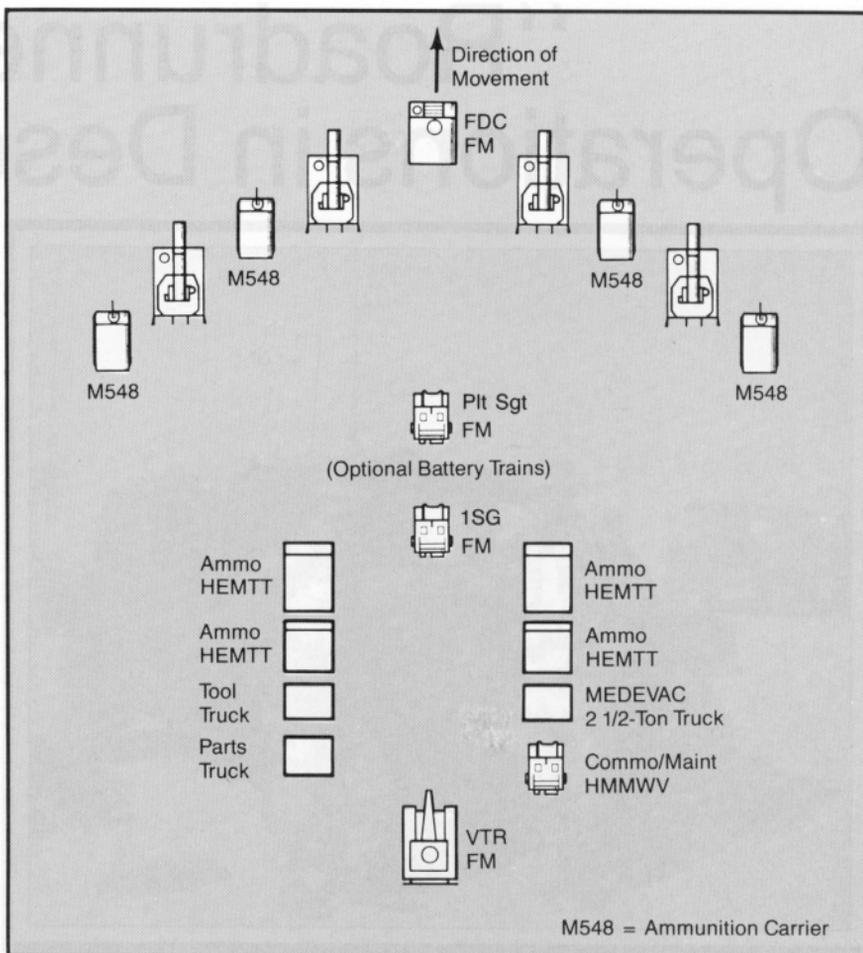


Figure 1. An 8-Inch Howitzer Platoon in a Wedge Formation. The battery trains following the platoon (optional) would make it the battery's heavy platoon.

The position and azimuth determining system (PADS) surveyed, in priority, the lead and rear platoons and then moved to the battery without PADS. A platoon leader awaiting PADS laid on magnetic then updated his azimuth of fire in the battery computer system (BCS) after PADS arrived or after he conducted a simultaneous observation (SIMO). These methods were faster and made more sense than relaying the battery to correct a few mils of difference between PADS and magnetic.

Rapid movement over great distances required us to continuously update our declination constants for our safety circles. On occasion, we ran short of time to establish a true declination station, and we simply used the map's grid magnetic angle to establish the declination constant. If we couldn't get the angle to agree with PADS within 10 mils, we used a survey instrument azimuth gyro lightweight (SIAGL) system in the

daytime and Polaris and Kochab stars at night. The key, however, was to update declination constants. We always used a second circle to safety-check our lay.

Using these procedures, the entire battalion could routinely lay the guns, safety-check the lays, prepare the ammunition and be ready to fire (including survey, meteorological and velocity error data) in 15 minutes or less.

We complemented our movement and firing procedures with some variations during Desert Storm. For example, once we left the 1st Infantry Division, we marched 150 miles cross country in five-battery columns and then reassumed our wedge formation as we joined the 1st Armored Division.

There we fell in behind the lead maneuver brigade's DS artillery. On our left flank was a multiple launch rocket system (MLRS) battalion and A Battery, 6-27 FA MLRS. Because of nonexistent air and negligible counterfire threats, we

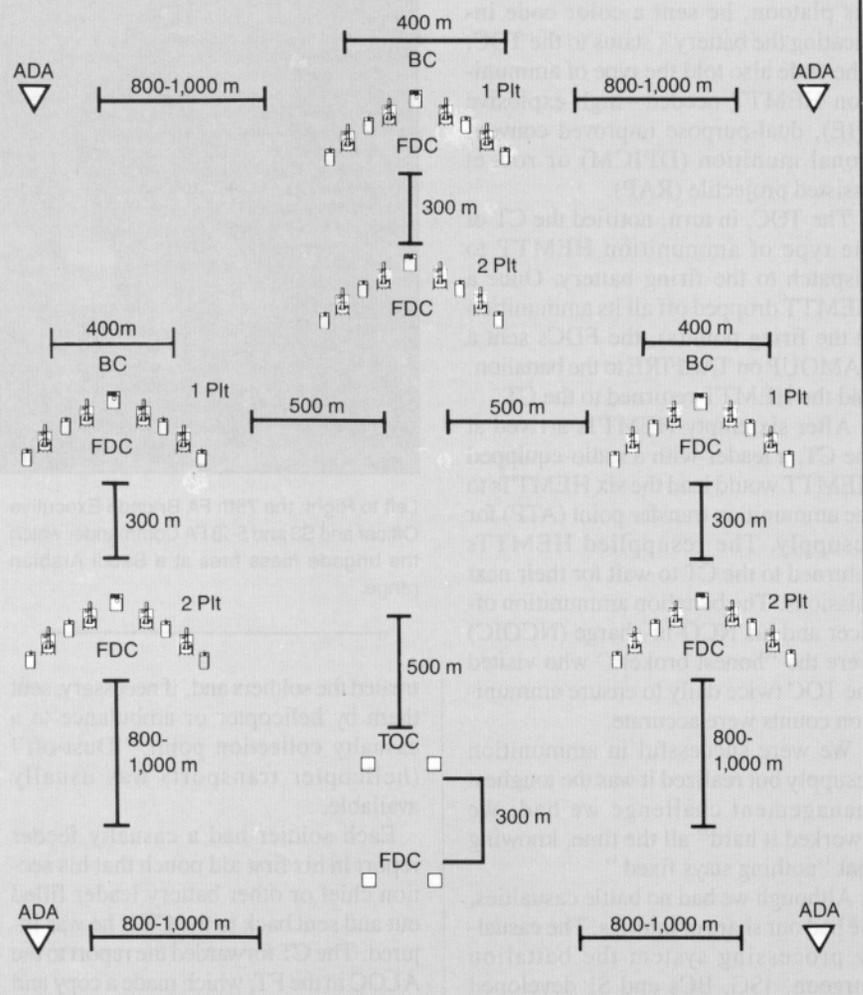


Figure 2: Battalion Wedge Formation. Each battery formed a two-platoon wedge to move in a battalion wedge formation. When the Desert Storm ground war began and it became apparent there was no air or counterfire threat, the battalion formation tightened up considerably and the Air Defense Artillery (ADA) Stinger (or Vulcan) teams were redistributed.

closed our wedge formation to 800 meters wide and 1,500 meters deep. The entire division moved together with the artillery right behind the maneuver elements. If fires were needed, we stopped, shot as a battalion and moved again.

We never fired less than a battalion three-round, and every time we fired, the MLRS units next to us fired. This tight control of the reinforcing artillery enabled our FA brigade and the division artillery to mass our battalion and the MLRS battery and battalion on a tank regiment and destroy it. In that attack, we fired a battalion 10-round.

Combat Service Support

Our firing batteries had only tracks and high-mobility multipurpose wheeled vehicles (HMMWVs) in the firing

platoons. The battery trains consisted of the battery maintenance trucks, the first sergeant's (ISG's) vehicle, four heavy expanded-mobility tactical trucks (HEMTTs) carrying ammunition, an M88 or M578 vehicle track recovery (VTR) and a medical evacuation (MEDEVAC) 2 1/2-ton truck ("coughed up" by each firing battery).

We worked load plans for all vehicles until we were "blue in the face." When we finally determined what worked best, we documented it and provided national stock numbers (NSNs) for each vehicle's contents to our administration and logistics operations center (ALOC) in the event we had to order replacement equipment damaged in war.

The battery trains usually set up 300 to 500 meters behind the firing platoons.

The ISG monitored the administrative/logistics (A/L) radio net and coordinated everything from "beans to bullets" for his battery.

Our tactical operations center (TOC) remained small for rapid displacement. It was 500 to 3,000 meters behind the firing batteries. The TOC consisted of the operations and intelligence (O&I) tracks, the tactical fire direction system (TAC-FIRE) section, a radio repairman and wireman, the survey chief, a radio teletypewriter (RATT) rig, the S3 vehicle, a 2 1/2-ton truck and the battalion commander's vehicle. (We didn't use the RATT because of the perceived Iraqi direction-finding threat.) We had enough personnel for 24-hour operations and defense—approximately 45 folks.

The combat trains (CT) was located from 1,000 to 3,000 meters behind the TOC. That was as far back as the firing batteries ever went for any type of support.

The CT consisted of the headquarters and headquarters battery (HHB) BC and ISG; an operations center (a built-up HMMWV with two VRC-46 radios); the executive officer and command sergeant major; battalion ammunition (-) and radio repair (-) sections; wire teams; a recovery vehicle and the fuel tankers; the battalion maintenance technician (BMT); radio repair and armament contact teams from our support maintenance; the battalion aid station (BAS); two M13 Sanators (vehicle spray-down devices) with two 500-gallon water blivets; and the chaplain.

The CT pushed supplies forward, processed all battery requisitions and relayed log reports to the field trains (FT). It made logistics responsive to the firing batteries, handling everything from mail to sewing up injured soldiers. The CT's proximity to the TOC greatly facilitated ammunition management.

The FT operated 500 meters to 20 kilometers behind the CT, usually 10 to 15 kilometers away and in the vicinity of maneuver brigade support area (BSA). During exploitation operations, it "hugged up" behind the CT.

The FT consisted of the service BC and ISG, the battalion's consolidated mess activity, all supply sergeants, the bulk of our maintenance support contact team and the ALOC, which was manned during different shifts by the S1, battalion motor officer (BMO), S4 and property book officer (PBO).

The FT focused on coordinating water, chow, supply, personnel support and major repair activities. It also served as the liaison with support activities, which changed frequently.

We maintained these logistical procedures throughout Operation Desert Storm.

Training

During Desert Shield, once we established the composition of our various elements, we found that a “crawl-walk-run” approach to training helped us learn the different techniques quickly and helped integrate them into battalion operations. We usually adhered to the following sequence when training a new technique: chart-board drills with key leaders, sand-table rehearsals with leaders, “HMMWV exercises” with leaders and key players, “pedestrian drills” (dismounted operations using drivers and chiefs, for example, positioned relative to one another to replicate wedge formation movement and occupations), platoon evaluations and battery then battalion field training exercises (FTXs).

Another technique that worked especially well for implementing logistics activities was a log command post exercise (CPX). We used half the TOC on AN/PRC-127s as controllers following a master events list (MEL). The rest of the TOC and all key logistics players (BCs, ISGs, platoon sergeants, CT, FT, etc.) responded on the radio, sent reports and delivered ammunition (3x5 card simulations), all using a condensed time clock. We could accomplish a great deal of training with minimum vehicle movement, which helped us balance maintenance and training sustainment.

One difficult area we finally conquered was ammunition management. We had to train hard to determine the best procedures. We came to the conclusion that platoons would only report ammunition on the firing point through their FDCs to the battalion O&I sections on the TACFIRE AFU;BAMOUP (ammunition and fire unit; battalion ammunition update) formats.

The BC or ISG reported the ammunition status in the battery trains directly to the TOC. BCs reported a green, amber or red status for ammunition: green meant four HEMTTs full of ammunition, amber three HEMTTs and red, two or

less. Once a BC dispatched a HEMTT to his platoon, he sent a color code indicating the battery’s status to the TOC. The code also told the type of ammunition HEMTT needed—high explosive (HE), dual-purpose improved conventional munition (DPICM) or rocket assisted projectile (RAP).

The TOC, in turn, notified the CT of the type of ammunition HEMTT to dispatch to the firing battery. Once a HEMTT dropped off all its ammunition at the firing point(s), the FDCs sent a BAMOUP on TACFIRE to the battalion, and the HEMTT returned to the CT.

After six empty HEMTTs arrived at the CT, a leader with a radio-equipped HEMTT would lead the six HEMTTs to the ammunition transfer point (ATP) for resupply. The resupplied HEMTTs returned to the CT to wait for their next missions. The battalion ammunition officer and his NCO-in-charge (NCOIC) were the “honest brokers” who visited the TOC twice daily to ensure ammunition counts were accurate.

We were successful in ammunition resupply but realized it was the toughest management challenge we had; we “worked it hard” all the time, knowing that “nothing stays fixed.”

Although we had no battle casualties, we had our share of injuries. The casualty processing system the battalion surgeon, ISG, BCs and S1 developed couldn’t have been better. This, like other systems, evolved from one FTX to the next. We finally settled on a MEDEVAC 2 1/2-ton truck with a medic, eight litters and water in each firing battery trains, with two such trucks in the CT.

The CT also had the BAS. The BAS consisted of one 2 1/2-ton medical supply cargo truck, the HMMWV ambulance and an M109 van. The medics built up the M109 van to accommodate the most used and critical medical supplies with chests on one wall and a gurney on the opposite side. The M109 van allowed the doctor exceptionally good light to work on patients without violating light discipline. It also facilitated occupation and displacement because there was little to set up—everything the doctor needed to operate with was on wheels.

Our system for processing casualties required firing batteries to bring injured soldiers to the BAS. The MEDEVAC truck in each firing battery was to care for and transport mass casualties, which fortunately, never was necessary. Usually, the ISGs brought injured soldiers to the BAS in their HMMWVs. The doctor



Left to Right: the 75th FA Brigade Executive Officer and S3 and 5-18 FA Commander watch the brigade mass fires at a Saudi Arabian range.

treated the soldiers and, if necessary, sent them by helicopter or ambulance to a casualty collection point. “Dust-off” (helicopter transport) was usually available.

Each soldier had a casualty feeder report in his first aid pouch that his section chief or other battery leader filled out and sent back to the CT if he was injured. The CT forwarded the report to the ALOC in the FT, which made a copy and provided other necessary information through personnel channels.

The toughest “nut for us to crack” was the treatment of contaminated casualties. We finally devised a system to displace the BAS from the CT to a noncontaminated area. We used stakes with red flags or red chemlites to alert in-bound contaminated MEDEVAC trucks where to unload their patients for decontamination and triage before treatment (see Figure 3). Decontaminated patients were then treated upwind from the contaminated site and, if necessary, evacuated.

Although we never had to use this system, we practiced it frequently, and it was simple to implement.

Of course the nuclear, biological and chemical (NBC) threat was a great concern. We trained like everybody else, using M11 and M13 operator spray-down procedures, weathering, etc. Fortunately, we had the two Sanators, which allowed us to practice hasty decontamination. We put each on a HEMTT with two 500-gallon water blivets and would have dispatched another HEMTT with three 500-gallon water blivets to our hasty

decontamination sites if it had become necessary.

Our biggest NBC concern was availability of water. With the limited water we could carry, we could only conduct a hasty decontamination for one or two platoons; the others would have had to have gone through divisional decontamination sites or simply stayed in mission-oriented protective posture level four, (MOPP 4) gear and allowed weathering to remove contamination.

After reading an NBC white paper written at Fort Leavenworth, Kansas, we realized the best way to train to operate and decontaminate in an NBC environment was to truly understand when decontamination was necessary. We adapted the various "tanker" vignettes in the white paper to situations we thought our FA battalion might encounter. Then we took each section through drills to ensure it knew how to react and why. The drills were like an NBC leader's reaction course. This not only facilitated understanding, but also made the leaders and soldiers feel much more confident they could accomplish their mission in an NBC environment.

Keeping soldiers healthy was always a concern. When we first arrived, the temperature usually soared over 100 degrees each day. As soon as the sun came up, the "solar-powered" flies came out as did other disease-infested bugs.

We learned we had to pay very strict attention to hand washing. We ensured that if we used nonpotable ice to cool our water that we washed off the water container bottles before drinking, but we still had some diarrhea problems. The good news was that most diarrhea was bacterial, and our doctor had the antibiotics that could cure almost anybody in 24 hours or less.

Perhaps the greatest concern for most commanders was sustaining morale. During Desert Shield, keeping soldiers productively occupied was the key. We, like several units, balanced training and maintenance with time for personal activities and sports.

We tried to build competition into all our training and recognize winners at monthly formations. We continued "Soldier of the Month" boards, promotion boards and competitions for best mechanic (winners went to see Bob Hope), Top Gun, FDC operations, HEMTT crane operations, etc. We had several double-elimination tournaments in touch football, volleyball, horseshoes and basketball. (This last sport took our best carpenters a week to build the wooden court in between FTXs, but they finally completed it on Christmas Day.) We even had two nonalcoholic beer hails (no farewells) for the officers, courtesy of the field grades.

All leaders pushed for consistent quality chow, mail delivery, newsletters, bulletin boards, a public address system, TVs with nightly videos and, finally, access to telephones to make life as pleasant as possible as we waited for the ground war to start. Additionally, our higher headquarters arranged for soldiers to take three- to four-day breaks by the ocean near Dhahran once every six weeks or so. This, plus live-firing and keeping soldiers informed, helped keep morale on a fairly even keel.

Our experience in Desert Shield and Storm will live with us forever. We certainly didn't have "a corner" on all the good ideas, but we found several that worked for us. Our procedures—devised, refined and practiced in Southwest Asia—allowed us to fight on a winning team and helped bring everybody in the battalion home.

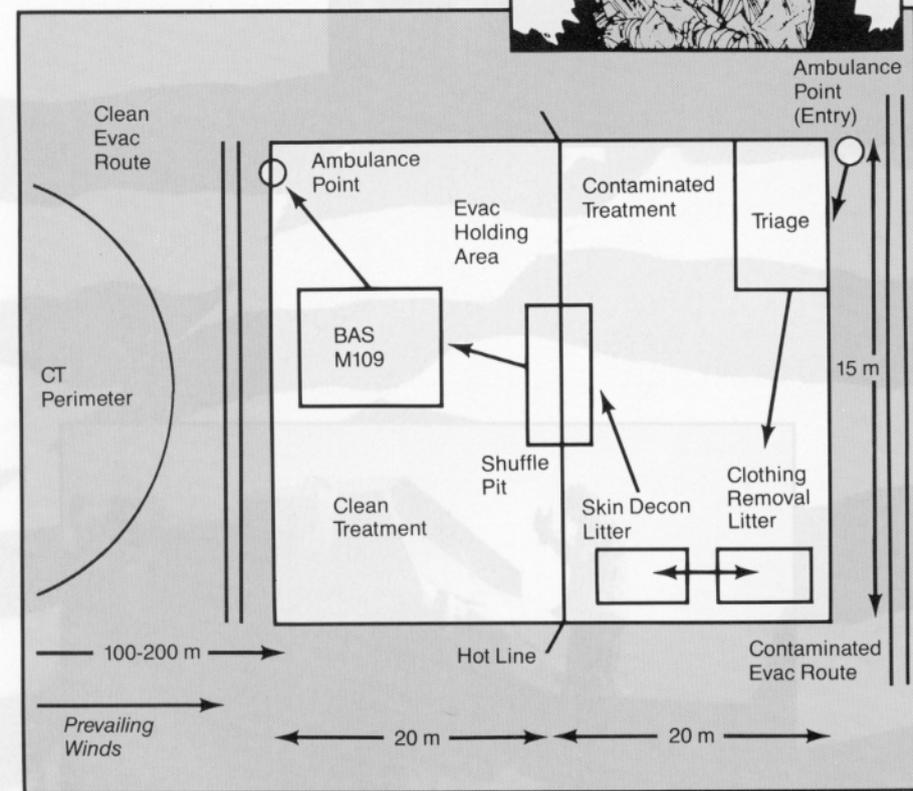


Figure 3: Patient Decontamination Station. To treat NBC contaminated casualties, the 5-18 FA displaced the BAS from the CT. Stakes with red flags or chemlights marked the area for MEDEVAC trucks or ambulances to drop off contaminated casualties for decontamination, triage and treatment.

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