

## Artillery TTPs for the Danger-Close Fight:

# Preventing Fratricide in the LID

by Captain David D. Hollands, USAR

*This article is the last of Captain Hollands' three-part series on artillery tactics, techniques and procedures (TTPs) for the light infantry division (LID). The first two articles covered TTPs for the LID in the movement-to-objective and initial contact in February's edition and the LID in the attack in April's.*

**T**he lessons of Operation Desert Storm have placed fratricide prevention at the forefront of current tactical considerations. No where is this concern greater than among light forces where combat generally occurs in the realm of danger-close fires and troops have nothing more than battle dress uniforms (BDUs) and a Kevlar helmet for protection.

Fear of fratricide often paralyzes commanders into abandoning fire support in all but the safest situations. Company commanders (and even inexperienced fire supporters) often treat danger close (600 meters) as the minimum safe distance for indirect fires. This type of thinking effectively eliminates engaging any enemy firing small arms as the engagements invariably will occur at ranges less than 500 meters. Lightfighters must adopt the mindset that danger-close fires are the norm at the company level and train accordingly.

Executing minimum safe distance (MSD) fires is an inherently risky activity. The friction of war usually ensures the circumstances existing when you need danger-close fires in combat are far less

than perfect. Therefore, commanders and their fire support officers (FSOs) or forward observers (FOs) must analyze the risks before executing a mission. Considerations include the weapon systems available, proficiency of the firing unit, certainty of the target location, certainty of the friendly location and urgency of the tactical situation.

The accuracy of weapon systems decreases with the size of the weapon as does the lethal range of their munitions. Weighing first-round accuracy against the blast effects of a round is a delicate balancing act.

Commanders and fires support teams (FISTs) should assess the reliability of firing units before crossing the line of departure (LD). An unfamiliar artillery battalion or a mortar platoon attached from another unit (which happened to me during Operation Just Cause) may cause concern until it establishes its proficiency.

Preventing enemy and friendly location problems depend on sound map-reading skills and constant awareness of the surrounding terrain. There's no substitute for an alert FO who knows his location and the spot where he most expects the enemy

to appear. These elements are critical to determining whether or not to fire and how close to bring the initial rounds.

Tactical urgency is assessing the need for fires. It includes the likely effect of not using fires and establishes the acceptable level of risk for the situation. The pressures of tactical urgency are also the greatest hindrance to assessing the factors clearly and coming to an appropriate decision.

While sounding ponderous, this assessment must take place in a few seconds or minutes, depending on the intensity of the situation. This process also competes for the commander's attention with all other tactical considerations. During training, FIST chiefs and FOs must force their commanders and platoon leaders to make these decisions under conditions approximating those of combat. Only through constant, realistic drill will this process become routine.

The following techniques are those FOs and FIST headquarters can use to reduce risks to friendly troops during danger-close fire missions. Whether in Central America or at a Combat Training Center (CTC), mastering these techniques will greatly expand your commander's options.

**Converged Sheaf.** Specifying converged sheaf during the distribution portion of the method of engagement will reduce the size of the battery's pattern on the ground. The standard battery computer system (BCS) sheaf assumes a circular target with a 100-meter radius. The BCS then selects aim points for maximum coverage of the target. A converged sheaf places all rounds on a single point. This reduces the spread of the rounds and, therefore, allows greater confidence the rounds called in as danger close won't land on friendlies. The mortar ballistic computer uses a linear sheaf as a default solution. Directing mortars to fire a converged sheaf will have the same effect as it does on artillery. This technique is simple to direct. It isn't time-intensive, requires no coordination and only slightly degrades the effectiveness of fires (if the target is small or dug in, it may enhance effectiveness). It provides real safety margins for friendly troops. Units can establish converged sheaf as a fire order standard for all danger-close missions.

**Fuze Delay.** Using the delay setting on point detonating (PD quick) fuzes greatly reduces the effectiveness of the shrapnel pattern and radius for high-explosive (HE) munitions under some conditions. When firing into prepared defenses, forested areas or soft ground, the reduced radius

allows you to fire closer to friendly troops and still provide shock and suppressive effects on the enemy.

This technique is simple to execute (request "Fuze Delay" during method of engagement), isn't time-intensive, requires no coordination and provides real safety margins for friendly troops. Units can establish fuze delay as a fire order standard for all danger-close missions.

The drawbacks of this technique are reduction in munitions effectiveness and the possibility of ricochets. When firing a high charge at a small angle of impact on a hard surface, ricochets are possible. The .05-second delay will result in low airbursts. The gun-target line's relationship



A mortar platoon sets up for operations in Desert Shield. Specifying mortars use a converged sheaf reduces the size of the platoon's pattern on the ground.

to friendlies becomes critical when evaluating the risk of ricochets.

**Non-Lethal Munitions.** A non-lethal munition substituted for HE can greatly assure a unit's ability to deliver accurate fires at a given point. Under circumstances where locations are in question or if a unit is erratic in its firing, this substitution avoids exposing friendly troops to friendly fires. But FISTs should not routinely use non-lethal munitions as the first round in a mission. Proper training should mitigate the need under most circumstances.

**HC.** Shell HC (smoke) is ballistically similar to HE and, except for possible square-weight differences, is fired using the same data as HE for a given point. After observing an HC round landing at the appropriate spot, the correction "Shell HE, Repeat" is fired using the same data, ensuring minimal fire direction center (FDC) and gun delay. The HC round is visible, even using night-vision goggles (NVGs), provides a significantly safer alternative to HE and a faster and more reliable spotting than any other non-lethal round.

**Airbursts.** Using an illumination round as the first round fired during a danger-close mission is also effective. This technique works best when the friendly location is uncertain or firing units are erratic or untested and when HE fires aren't needed immediately. Working with the FDC, you select a height of burst (HOB) appropriate for the terrain and vegetation. In open terrain, a 100-meter HOB will indicate where HE fires will land and minimize any distortion from wind.

Another option is using a white phosphorous (WP) airburst. You select the

HOB that gives the best visibility while avoiding unwanted target obscuration. A HOB of 300 meters should minimize ground smoke and still clearly indicate where the next volley of HE will land. This is a good alternative to illumination at night if you fear lighting up friendlies. WP will "white out" NVGs for about four seconds, so consider that factor. If special munitions are unavailable, an HE round with a 200- to 300-meter HOB also provides a safety check before firing for effect.

These techniques require some coordination with the firing unit and may catch units off guard if they haven't practiced them during training. The techniques guarantee no safety margin for troops but provide safe "check rounds" before firing HE. The drawbacks include warning the enemy early without any suppressive effects and causing a delay in lethal-munition support. Also, using munitions not ballistically similar to HE requires recomputation of data and shifting guns when HE is fired. This reduces the assurance that the first rounds will impact safely.

**Conclusion.** Using these techniques alone or in combination can provide increased safety margins under a variety of situations. They can increase confidence in the use of danger-close fires and keep the specter of fratricide from casting its shadow over future operations.

Failing to master these skills will either cause danger-close fires to disappear from light infantry operations or expose soldiers to needless risk. The infantry troops we support expect these skills from us, and as fire supporters, we must demand them from our FIST soldiers.



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Marines fire an M198 howitzer. A non-lethal munition substituted for HE can greatly assure delivery of accurate danger-close fires.