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# Support by Fire

## Live Fire Exercise

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One of the most ignored collective tasks at platoon and company level is the execution of the overwatch/support by fire (SBF). With the most significant and powerful weapon systems organic or attached to a platoon or company, the SBF can accomplish several critical tasks that are essential to the success of an attacking element—*isolate, suppress, neutralize, and fix*. A correctly performed SBF, synchronized with indirect fires, enables an assault force to move safely through an assault position; it reduces an opponent's ability to mass fires, and hence is an effective force multiplier.

### Overview and Training Objectives

In our unit, the Support by Fire Live Fire Exercise (SBF LFX) concept evolved from an exercise that was initially a realistic method of training weapons squads—in particular machinegun crews—in tactical crew drills (gun in action), target acquisition and adjustment, fire control and distribution, marksmanship, movement as a tactical element, seizure and establishment of the SBF position, and tactical withdrawal or consolidation and reorganization. Instead of the standard machine-

gun competition, in which gunners usually conduct shoot-offs on a static pop-up range, the SBF LFX places the weapons squad and all task organized attachments in a tactical situation, beginning with tactical movement and concluding with a platoon or company consolidation and reorganization. The support element reconnoiters a position, secures the area, seizes the terrain (whether covertly and unopposed or fighting into the position), tactically places weapons into action, and prepares for the direct fire support planned by the platoon leader.

With a few more resources and additional support, the SBF LFX expanded into a combined arms and coordination exercise. By adding the battalion's 81mm mortar platoon and all company 60mm sections in offset mortar firing positions, this training event accomplished many of the objectives specified in the battalion commander's training guidance. Companies and platoons also used the SBF LFX to develop solid tactics, techniques, and procedures (TTPs) for coordinating direct and indirect fire support, and the weapons squad leader's task of organizing M240B and M249 fires and controlling an antiarmor team

(M47 Dragon). Finally, the addition of organic indirect fire assets provided an outstanding leader development tool for platoon leaders in echelonment of fires—from artillery to mortars to direct-fire systems. The following are the training objectives used for the final product:

### Leader Tasks:

- Train the task of *Develop and communicate plan*—platoon leader (PL), fire support officer (FSO), weapons squad leader (WSL).
- Train planning and coordination of indirect fires (PL, FSO, WSL).
- Train echelonment and synchronization of indirect and direct fires (PL).
- Train fire control and distribution (PL, WSL).
- Train synchronization of supporting fires with maneuver (PL).

### Collective Tasks:

- Train tactical movement of support element (weapons, mortars).
- Develop TTPs for tactical seizure and establishment of SBF position (weapons).
- Train crew drill during establishment and execution (weapons, mortars).
- Train section tactical displacement (weapons, mortars).

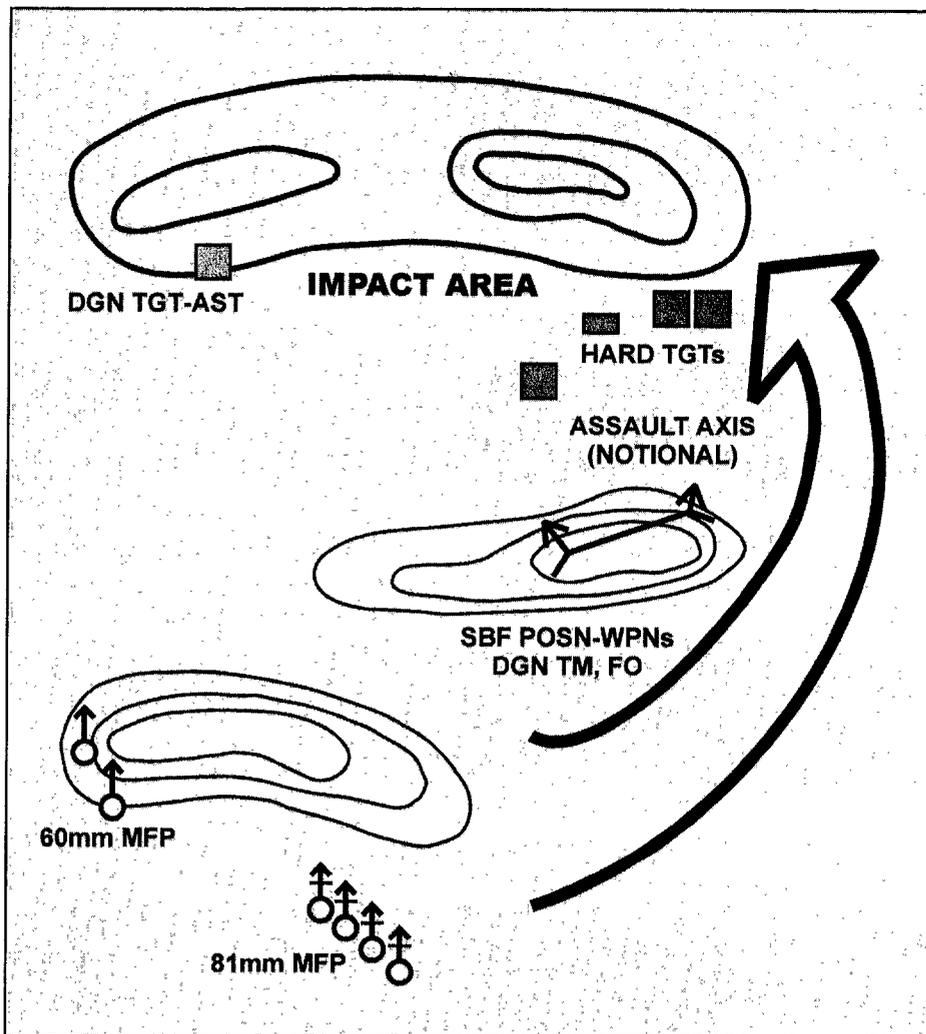


Figure 1

and establishment of SBF position (weapons).

- Train crew drill during establishment and execution (weapons, mortars).
- Train section tactical displacement (weapons, mortars).

**Individual Tasks:**

- Train individual movement techniques with M240B weapons.
- Train gunner acquisition skills in a tactical environment under daylight and limited visibility conditions.
- Fire, engage armor stationary target with M47 Dragon.

**Range Setup**

The type of range best suited for the SBF LFX is a dedicated impact area with hard targets or permanent silhouettes, as shown in Figure 1. The impact area permits the engagement of all mortar fire, M203 high-explosive, Dragon, and AT4, as well as the usual

complement of crew-served and individual fires. Mortars must be positioned so the gun-target line does not overfly the SBF or any offset positions (such as Dragon firing position). For our range, we employed one designated 81mm position and two 60mm positions, allowing the 60mm sections to train displacement during blank-fire and dry-fire iterations and concurrent training time. The platoon forward observer (FO) in this scenario is best suited for the SBF since no assault force could physically occupy the dedicated impact area. We positioned additional observers on an adjacent observation post (OP).

The existing hard targets—usually tank and APC silhouettes—were the only targetry available in the impact area. Once the weapons squad leader had seized the position, he designated hulks as bunkers or stationary armor

targets. We added stationary, fixed E-type silhouettes on the very front edge of the impact area to serve as targets of opportunity. Although this target array met the training objectives of the exercise, we recommend using target lifters and movers in the scenario (range and impact area constraints prevented this for our LFX). Target feedback was provided only through visual confirmation on hard targets and down-range feedback from E-type silhouettes on the close-in targets of opportunity.

For tactical control of the exercise, the platoon leader and platoon sergeant moved with the SBF element to a security halt position. After confirming the location, the platoon leader established a release point, and the SBF element, under the direction of the weapons squad leader, moved tactically, reconnoitered, and seized the SBF position. The platoon leader and platoon sergeant, observing from well behind the SBF location, called in checkpoints and locations for a notional assault force maneuvering into its assault position. The platoon leader ordered shift signals by FM while his radiotelephone operator (RTO) used visual signals (green star cluster, smoke, etc.) to simulate the advance of the assault element onto and across the objective. The platoon leader also designated counterattack targets and vehicular targets during the simulated assault; the weapons squad leader employed his antitank teams in accordance with the threat and the platoon leader's planning guidance.

Administrative and safety control of the exercise required many safety officers and NCOs, evolving into a battalion-level, week-long event. Two company commanders served as SBF safeties—one with the machineguns and one at the Dragon firing point (unfortunately, the Dragon firing point was offset about 50 meters from the machineguns, again due to range constraints). The 81mm mortar platoon leader and sergeant were safety personnel for their firing point; a company executive officer and the respective section leaders supervised the 60mm mortar firing points. Platoon sergeants acted as NCOICs and training supervisors at the Dragon firing point; the weapons squad

leader served as machinegun safety NCO. In order to maximize the training value for each platoon, one weapons squad from each company rotated through the range each day. This organization left one weapons squad in reserve, enabling the other two weapons squads in a company to conduct concurrent training and prepare. Rifle squads provided all the details for the range.

### **Tactical Observations and TTPs**

**Task Organization.** A realistic and workable task organization evolved during the exercise. The weapons squad leader has many tasks to accomplish, direct, and supervise. With the addition of armor-killer teams (on our range, a Dragon team), the weapons squad leader has plenty to do when responsible for the SBF. We added the FO team to the SBF to help with fire coordination between indirect and direct systems and to help the weapons squad leader with command and control. A well-trained FO team can help in providing security for the SBF position (FO RTO), while also manning all FM systems and relaying information to the weapons squad leader.

One TTP that worked particularly well was the use of the weapons squad leader on the gun line to control all direct fires and antitank teams. The FO verbally, or using arm and hand signals, passed all information from the company fires net (FO PRC-119) to the weapons squad leader—shifting of targets and weapon systems, and announced the shot/splash “last round” from both the 60mm and 81mm crews. Additionally, the weapons squad leader passed off his PRC-126 to the FO, charging the FO team with relaying all information from the platoon leader to the weapons squad leader. This technique required many rehearsals but also yielded the best results. The SBF position now had a nerve center, and all information filtered through one location. The coordination of direct and indirect fires improved, and communication between SBF and the platoon leader improved because the FO team was far enough back off the gun line that FM transmissions were not drowned out by the M240Bs.

For tactical purposes, task organizing one or more line squads with the weapons squad on the SBF line assists the weapons squad leader in the occupation, fire distribution, and security. With one line squad, the weapons squad leader can tactically seize the SBF position without committing his platoon’s heavy weapons. Once in the position, he can use the riflemen in the squad for flank and rear security. The weapons squad leader must incorporate the M203s into the direct fire plan, on the basis of range to the objective. The M249 light machineguns from the line squad can be used to cover sectors of fire during barrel changes or malfunctions from the M240B. Finally, the weapons squad

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leader, the senior squad leader in the platoon, can use the line squad leader as an additional command and control element, controlling the security elements or the displaced AT section.

**Coordination of Direct and Indirect Fires.** The coordination between direct and indirect fires, commonly referred to as echelonment of fires, was a critical leader training objective of the SBF LFX. All platoon leaders developed good TTPs for planning and executing echeloned fires during an attack. This exercise also showed a need for planning company and platoon fires and identified the critical players necessary to accomplish that. During the platoon fires planning, the attendees included the following (as a minimum):

- Company commander (if available).
- Company FSO (or FSNCO).
- Platoon FO and RTO.
- 60mm mortar section leader.
- WSL.
- PSG.

The platoon leader expressed his in-

tent for fires in specific, doctrinal terms and quantifiable results; the platoon FO and company FSO transposed this intent into the tasks necessary tasks to accomplish it. The mortar section leader, FO, and platoon leader determined how much continuous fire would be required in terms of time; for example, “10 minutes of 60mm mortar suppression.” The company FSO and mortar section leader then calculated firing frequency and determined a firing schedule to support the platoon’s tactical scheme.

The technique that was simplest for platoon leaders to employ and weapons squad leaders and FOs to coordinate was to set a specific time for each type of indirect fire-system. For example, the FSO/FSNCO or company commander coordinated the number of minutes of firing for assets above company level (“15 minutes of 155mm suppression, followed by 15 minutes of 81mm mortar suppression”). Time was the easiest quantifiable measure for platoon leaders to work with. Time-phasing indirect fire support with movement and maneuver, platoon leaders initiated 155mm fires when departing the security halt/release point. Platoon leaders learned to initiate 81mm fires *only* after the weapons squad leader had reconnoitered and confirmed a suitable SBF position. The 60mm fires were best reserved during the seizure of the SBF position, allowing the support element to establish its position with all weapon systems (all machineguns on tripods, antitank teams positioned, fields of fire hastily cleared, etc.). Upon receiving “shot last round”—always a white phosphorus round as a backup signal—the weapons squad leader initiated fires from the SBF.

**Seizure of the Support-by-Fire Position.** During the preparation phase—beginning with leader professional development sessions and including weapons squad rehearsals—company leadership must stress that the SBF LFX is more than just shooting targets from the SBF line.

Leaders stressed the “Silent-Violent-Silent” technique. This technique emphasizes tactical movement to and establishment of the SBF position; violent, planned, sustained suppressive

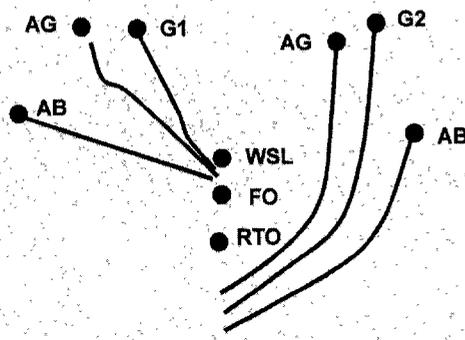
## TRAINING NOTES

SBF, not an "occupation." The difference in terminology was critical, as one of the training objectives was to develop TTPs for tactically seizing an overwatch or SBF position. Also important is the connotation of the term "seize," which implies a direct-fire engagement or an attack to secure and occupy terrain. It was a significant teaching point for the weapons squads to eradicate the common notion that SBF and support elements casually walk into position, set up tripods, and prepare to fire. If the company has task organized a rifle squad to the SBF, the weapons squad leader can properly use the rifle squad in seizing the position to allow the machineguns security until they have to initiate fires onto the objective itself.

Assuming the SBF position was not held by an enemy OP, the TTPs that yielded the smallest tactical signature and proved to be the most efficient are shown in Figure 2. After reconnoitering and confirming the position, the weapons squad leader signals security (FO RTO and two ammunition bearers (ABs) and gun #1 (gunner) to move into position. Low crawling with the M240B, the gunner establishes on bipod. The next two men into position are the two assistant gunners (AGs), low crawling with tripod/traversing and elevation mechanism/flex mount assembled. AG #2 moves into position and sets in the tripod system; AG #1 takes a position next to gunner #1. The weapons squad leader now signals gunner #2 to move into position; he executes and immediately sets up on tripod (AG #2 already in position). When gun team #2 is up and scanning a hasty sector of fire, the weapons squad leader signals gun team #1 to set up on tripod. Once both guns are ready and on tripods, the weapons squad leader moves ABs into position to adjust rounds and the FO team to a position to observe and report.

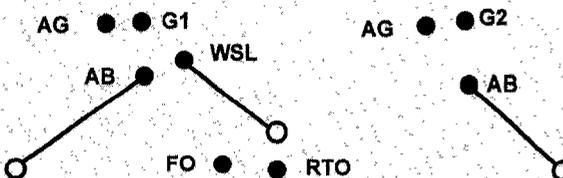
Not shown in Figure 2 is the positioning of the antitank teams. The weapons squad leader and antitank team reconnoitered positions that provided adequate fields of fire and had minimal obstacles in which Dragon system wires could be entangled. Backblast was also

### Setting up position from last covered and concealed position:



G-1 moves into position, sets up on bipods to pull security. AG sets up to his left, AB sets up to left rear to pull rear/flank security. AG signals to WSL when team is set. WSL signals for G-2 to set up. AG moves first to set up tripod/T&E, then moves to the left of the position. G-2 moves up and sets up gun. AB moves to position to drop off ammo, then moves to right rear to pull rear/flank security. AG gives signal to WSL when team is up. WSL gives signal to AG (G-1) to set up on tripod. AG sets up tripod/T&E, then G-1 sets up the gun. AG gives signal to WSL when team is up.

### Setting up position from last round inbound to firing position:



When the last indirect round is inbound, the FO signals the WSL. The WSL either signals the AB (G-1) when to fire (daylight hours). Or the WSL moves to the right of the G-1 and taps the gunner when to commence firing. When the WSL gets the signal from the FO, he directs the ABs to take position behind the gunners. From here the ABs will direct the impact of the rounds. The FO and RTO will pull rear/flank security. If antitank assets are available, the WSL will position them where they can get a good shot. The Dragon AG will pull rear/flank security for that element.

All movements on the support position will be low crouch, high crawl, or low crawl, depending on which movement technique is required to minimize detection by the enemy.

Figure 2

a consideration, and antitank positions for our range were not close enough to the SBF position for easy command and control. The weapons squad leader could not issue a fire command to the antitank team while controlling the gun line. Instead, he issued specific engagement criteria to the team and identified targets both verbally and with tracer rounds. Other options for a displaced antitank position include wire communications, although it increases the team's load.

**Fire Control and Distribution.** One of the hallmark training objectives of this exercise was fire control and distribution—the ability of the platoon leader

to communicate and the weapons squad leader to execute direct fires that are focused, distributed across the target, shifted as required, and massed to maximize support and protection of the assaulting element. The first step is planning; the platoon fires planning and rehearsal (discussed above) provided the PL an excellent method of defining exactly what he wanted and how best to accomplish his intent. Additionally, the exercise allows the platoon and company leaders to observe the weapons squad leader's distribution of fires on the objective based on the platoon leader's intent. Observer-controllers watched carefully for target fixation and

exercise allows the platoon and company leaders to observe the weapons squad leader's distribution of fires on the objective based on the platoon leader's intent. Observer-controllers watched carefully for target fixation and the weapons squad leader's execution of the *suppress* task.

For control of direct fires between assault and support elements, the platoon leader, platoon sergeant, and weapons squad leader determined specific engagement priorities. Platoon leaders employed M240Bs first against bunkers, then light-skinned vehicles, then personnel targets of opportunity; antitank teams against APCs, then light-skinned vehicles; M16/M4s against dismounted targets of opportunity, then to mark with tracers.

platoons had to plan and diligently rehearse shift signals. Striving for redundancy, we found that visual signals of pyrotechnics worked best as a primary means. Alternate signals included a hand-tossed rock with VS-17 strip and three-chemlight bundle (can be used day or night), and FM (never employed as primary due to unreliability). All platoons learned to plan for triple redundancy to ensure that signals were received by the SBF. For confirmation signals (from SBF back to assault), weapon squad leaders returned pyrotechnics. The alternate confirmation signal was usually FM. A tertiary signal was the weapons squad leader firing a tracer burst on the newly established limits, allowing both the SBF element and the maneuver element to identify the SBF's limits of fire.

At the SBF, weapons squad leaders used many different techniques for fire control. A combination of specific target reference points (TRPs), sectors, modified fire commands, and tracer fire yielded the most efficient and responsive fires. For fratricide prevention measures, weapons squad leaders assigned the machinegun closest to the assault element a right or left limit (metal to metal on tripod)—*no* fires from the entire gun line exceeded this limit. Weapons squad leaders also assigned specific TRPs on hard targets to reduce fire commands and shift fires more easily. Sectors were normally

employed during occupation and as alternate means of control, again to minimize fire commands. For all targets of opportunity, the weapons squad leader or ABs either engaged or the weapons squad leader directed machinegun fires by marking targets with tracers. While engaging targets from the SBF, the weapons squad leader directed searching, traversing, or other types of fire to sufficiently cover the target. ABs adjusted rounds onto target with specific adjustments ("up one, left three"), and adjusted guns for traversing and searching.

The M68 Close Combat Optic (CCO) worked very well with the M240B; many weapons squad leaders and gunners commended its accuracy. We recommend the following equipment ensembles during daylight hours:

- Gunner—M240B with M68 optic on rail mount, 4:1 tracer mix.
- AB—M4 with M68 CCO, binoculars, all tracer rounds.
- AG—M16.
- WSL—M4 with M68 CCO, binoculars, all tracer rounds.
- FO/FO RTO—M16 or M4 with CCO and binoculars.

At night, infrared (IR) laser discipline was a concern. Although this was not a problem during our exercise, IR lasers might have been confusing if an assault element had been on the ground. To discriminate between AN/PAQ-4Cs from weapons and target identification, one company experimented with a visible red-beam laser pointer. The pointer was a great success, as soldiers with night vision goggles could easily differentiate between the pointer and a PAQ-4C. Establishing an SOP at company level for marking with lasers was a successful technique. For this example, the base of fire element moves its lasers horizontally, allowing the machinegunners to mark targets with the traversing wheel. Members of the assault element mark targets by moving lasers vertically. During the SBF live fire, the platoon leader uses his PAQ-4C in the vertical fashion to simulate the assault force's marking while members of the SBF element mark targets by moving the laser horizontally.

We recommend the following en-

sembles for night operations:

- Gunner—M240B with M68 CCO and PVS-14 mounted on rail mount, 4:1 tracer mix, *or* M240B with PAQ-4C and PVS-7 or PVS-14 mounted on helmet.
- AB—M4 with PAQ-4C and PVS-7 mounted on helmet, tracer only.
- AG—M16 with PVS-14 (where available; night vision not required here).
- WSL—M4 with PAQ-4C, PVS-14 (or PVS-7) mounted on helmet with 3-power magnifier, laser pointer, tracer only.
- FO—M16 or M4, PVS-14 (or PVS-7) mounted on helmet.
- FO RTO—M16 or M4, night vision goggles if available.

These TTPs simplified fire commands and minimized confusion, especially for night iterations, during the SBF LFX.

In summary, a well-trained, lethal SBF is critical to the success of a platoon or company attack and must be trained under those tactical conditions. The SBF LFX is an effective and realistic training exercise for all platoon leadership and for machinegun crews and antitank teams, and will ensure that a deployed force can shoot straight, hit hard, and seize the initiative before the enemy can recover.

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