



Leader Checks on the Gun Line: *Teaching New Dogs Old Tricks*

by Captain Michael J. Forsyth and Sergeants First Class
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First Platoon, Alpha Battery, part of a 155-mm towed howitzer battalion, is deployed to Cortina for combat operations. At 0715, the platoon receives a fire mission and a fire order is sent to the gun line: “Platoon, one round, shell HE [high explosive], charge six white bag, fuze quick, deflection 3386, quadrant 361.” The platoon fires the mission.

Forty-five seconds later, the fire direction center (FDC) receives a frantic call over the net—“Checkfire!” Two rounds had fallen short; one round unobserved had wounded three friendly soldiers.

What happened? An investigation—conducted in accordance with AR 15-6 Procedures for Investigating Officers and Boards of Officers revealed that the First Platoon failed to follow proper procedures at the guns. First, one gun section did not have its spade key retainer pins locked in place, resulting in one short round when the pins slipped. Second, one gun was 250 mils off the azimuth of fire because the gunner recorded the wrong data for his aiming references on the gunner’s reference card after the gun was laid. Finally, one gun fired quadrant 316, resulting in one short round. All the problems were systemic—

were functions of leaders failing to check and verify soldier actions on the line of metal before and during firing.

“Safety and verification of tasks by leaders are disciplines that exist in the Field Artillery, regardless of whether operations are performed in combat or in peacetime. For every task that is performed, there is another person in a leadership position (section chief, platoon sergeant, platoon leader or executive officer, fire direction officer [FDO], or battery commander) who verifies the accuracy of the action performed...**performing independent checks is a continuous process and must be rigidly enforced to ensure fires are timely, accurate and safe**” (Paragraph 4-25, *FM 6-50 Tactics, Techniques and Procedures for the Field Artillery Cannon Battery*; bold type quoted from the field manual).

This article reiterates the importance of leaders habitually checking the line of metal. At the Joint Readiness Training Center (JRTC), Fort Polk, Louisiana, we’re witnessing the disturbing trend of firing batteries failing to perform independent checks. Unit leaders become so engrossed with other tasks, such as force protection, that they are forgetting the most important part of their job: ensuring the guns use sound gunnery procedures.

The leaders' challenge is to manage the unit timeline, incorporating their independent verification into the priorities of work. This article offers an example timeline and leaders' checklist and simple techniques to assist battery leaders—The Big Three on the Line of Metal: platoon leader/executive officer, gunnery sergeant and chief of smoke—to do their jobs.

The Challenge: Juggling the Tasks.

There are a lot of tasks a battery must accomplish in conjunction with the occupation of a position. These include establishing a firing capability, force protection (with or without engineers), and facilitating 6400-mil operations. Accomplishing these functions can take hours, and the battery leadership must establish realistic priorities of work to ensure they can be completed.

Priorities of work may be standardized in unit standing operating procedures (SOP). If the unit doesn't have an SOP stating the priorities of work, the leaders should establish the priority as a part of the battery operations order. Each task should have a target time as to when the leaders expect it to be completed. The times are "targets" the leaders can slip when the situation dictates.

Once battery leaders establish the timeline to accomplish the work, the leaders must then enforce the execution of their priorities. Leaders must follow-up on their guidance.

For example, if the platoon leader gave guidance to establish a 6400-mil firing capability and eight hours after occupation, the guns still have only site-to-crest for their primary azimuth, then the platoon failed to perform. Further, the platoon leader failed to ensure they performed in a reasonable amount of time. The platoon Big Three must actively walk the gun line, pushing for all tasks to be accomplished and checking the accuracy of the data.

Systematic Verification: Checking the Line of Metal. To ensure priorities are accomplished, the leaders should incorporate systematic verification checks into the work timeline. These checks begin with occupation of the position and continue throughout field operations. Leaders check for safety, accuracy, and task completion at significant points during the operation. (See Figure 1 "Sample Priority of Work with Leader Checks Incorporated.") This list outlines a method for the Big Three to systematically check their line of metal.

Establish firing capability.
<ul style="list-style-type: none"> • Lay the howitzer: TLABSPAP—Trails, Lay, Aiming Point (Identified), Boresight (Verified), Safe (Verification of Lay), Pre-Fire Checks Performed and Position Improvement. • Establish voice communications. • Prepare minimum of one round. • Sandbag primary aiming reference. • Verify the cant. • Conduct leader checks (see Figure 2 on Page 32).
Begin howitzer position improvement.
<ul style="list-style-type: none"> • Verify site-to-crest. • Establish aiming references. • Measure max elevation. • Emplace azimuth markers. • Establish digital communications. • Prepare ammunition racks. • Prepare howitzer range card. • Dig survivability positions. • Erect camouflage net. • Dig in communications wire. • Conduct leader checks (Figure 2).
Establish 6400-mil firing capability.
<ul style="list-style-type: none"> • Determine site-to-crest. • Establish terrain gun position corrections (TGPCs) for all octants. • Establish/verify aiming references for all octants. • Ensure howitzer can traverse all octant unimpeded. • Dig trails in for all azimuths. • Conduct leader checks (see "Double Checking Your Gunner," Page 33).
Protect and segregate ammunition.
<ul style="list-style-type: none"> • Segregate the ammunition by lots. • Cover the ammunition with tarps but allow for ventilation. • Dig ammunition bunker. • Store ammunition on six inches of dunnage. • Conduct leader checks.
Harden the position (force protection).
<ul style="list-style-type: none"> • Emplace crew-served weapons. • Emplace concertina wire. • Establish listening/observation posts. • Identify defensive targets. • Emplace early warning devices. • Dig fighting positions with overhead cover. • Harden key pieces of equipment. • Leaders draw a sector sketch to verify the defense (check each fighting position). If Engineers are available, designate a NCOIC to ensure all positions are dug to standard and battery/platoon specifications.
Prepare alternate and supplemental positions.
<ul style="list-style-type: none"> • Designate gun positions. • Provide survey. • Record initial data. • Sketch the sector. • Conduct leader checks.

Figure 1: Sample Priority of Work with Leader Checks Incorporated. This is but one example of priority of work. Mission, enemy, terrain, troops and time available (METT-T) dictate the priorities in any given situation.

Verify Gun Data. When the battery (or platoon) is laid, safe and in order, leaders move to the guns to verify the data. An old timer's system is to have the executive officer/platoon leader start at one flank checking the guns and the smoke or gunny start checking at the other. They meet in the middle.

Next, the two leaders compare their findings with the leader checklist (Figure 2) to determine what tasks remain or

require correction. They allot a reasonable time for correction and then re-check the guns for the deficiencies.

Determine 6400-Mil Firing Capability Established. Leaders check the completion of preparation for 6400 mil firing (see the math steps in "Double Checking Your Gunner's Sights for an Alternate Aiming Reference"). When the guns report to the FDC that they've completed their tasks, the battery lead-

ers employ the same methods, once again, to verify the tasks are completed to standard.

The key to the effectiveness of leader checks is to conduct them habitually for every major task to validate the data.

Conduct Checks for Changes. Battery leaders also conduct checks any time something changes in the position. For example, if the battery or platoon relays on a new azimuth, the leaders walk

Howitzer Checks	1	2	3	4	5	6
1. Firing platform properly emplaced.						
2. Collimator emplaced in accordance with (IAW) the -10 manual with legs sandbagged, bubble level and azimuth recorded accurately on gunner's reference card.						
3. Verify lay of the piece. Refer to aiming circle with howitzer on primary aiming reference. Deflection counter should read 3200 mils. Azimuth properly recorded on gunner's reference card.						
4. Lay of howitzer within tolerance for center of traverse.						
5. Direct fire telescope mounted.						
6. Lay of howitzer checked by safety circle or safe howitzer to within tolerance of +/- 2 mils.						
7. Aiming posts at zero mils displacement. Azimuth properly on gunner's reference card. Emplaced at an azimuth of at least 1600 mils difference from the collimator. Poles equal distance. Far pole 100 meters away, if possible.						
8. Distant aiming point selected and described on gunner's reference card. Azimuth properly recorded.						
9. Fire direction center (FDC) fire order standards, priority targets and position corrections recorded on gunner's reference card.						
10. Boresight verified using alignment device.						
11. Prefire checks performed IAW -10.						
12. Ammunition segregated by lot, fuze, weight and type. Fuze properly mated with projectile. Ammo protected from elements.						
13. Powder thermometer placed in canister and marked.						
14. Powder pit of adequate size dug 20 meters from howitzer.						
15. Range cards properly filled out for howitzer and crew-served weapons.						
16. Camouflage net emplaced and windshields covered on trucks.						
17. Voice and digital communications established with FDC. Wire buried.						
18. Gun display unit (GDU) set up and running off vehicle power. Ring established with FDC.						
19. Section knows location of and route to alternate and supplementary positions.						
20. Preventive maintenance checks and services (PMCS) performed on howitzer IAW -10.						
21. All sensitive items accounted for.						

Figure 2: Howitzer Leader Checks

the line again, using the checklist to verify the validity of the data recorded on the gunner's reference card and set on the pieces.

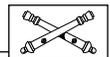
Establish Leader Presence. The Big Three also establish a presence on the gun line during firing. Too many times, units conduct fire missions without the benefit of a key leader on the line of metal. This sometimes leads to sections' cutting corners on crew drill, resulting in firing incidents.

The presence of one or two members of the Big Three strategically located on the line can, in many instances, shortstop a potential problem. It also puts them in the right place when quick, critical decisions are required. For example, when one gun calls itself out of action due to a sudden maintenance problem, shuffling the out-of-action gun's ammunition can cause confusion and be disruptive. The Big Three leader on the spot can bring this kind of situation under control quickly.

Continue Leader Checks. After a position area is fully established with all priorities of work complete, checks don't stop. The leaders periodically check to ensure the data remains valid.

During extended firebase operations, a good time to verify the data on the gun line and from the FDC is after the firing unit is re-laid daily. Leaders actively supervising their subordinates and ensuring high standards are met prevent complacency on the line of metal.

To ensure their fires are fast, accurate and safe to friendly forces, leaders must check their firing units continuously from the beginning to the end of operations. Catching a mistake and correcting it before rounds go down range saves the firing unit and supported maneuver unit unwanted grief. An established system of leader checks habitually conducted in an uncompromising manner is the key.



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Double Checking Your Gunner's Sight for an Alternate Aiming Reference

Here's a simple way for any section chief, chief of smoke, gunnery sergeant or platoon leader/executive officer to check the gunner when he has changed from his primary to alternate aiming references. These simple math checks are not written in any book, yet many "old dogs" use them to ensure their gunners have used the correct steps when releasing and engaging the 100 series sights. These steps should be used every time the gunner changes his aiming reference before and during live firing.

1. Set the bottom scale on the fire mission deflection as given by the fire direction center (FDC).
2. Determine the difference between the fire mission deflection and the common deflection (3200).

Example

Fire Mission Deflection:	3919
Common Deflection:	<u>-3200</u>
	719 mils

- 3a. Because the fire mission deflection increased 719 mils from the common deflection, you ADD 719 mils to your aiming post deflection.

Aiming Post Deflection:	1700
Increased Mils:	<u>+719</u>
	2419 mils

- 3b. Open the azimuth counter cover; it must read 2419 mils. If not, the gunner didn't follow the correct steps on setting the sight.

Example

Common Deflection:	3200
Fire Mission Deflection:	<u>-2800</u>
	0400 mils

- 4a. If the fire mission deflection decreased by 400 mils from the common deflection, you SUBTRACT 400 mils from the aiming post deflection.

Aiming Post Deflection:	1700
Decreased Mils:	<u>-0400</u>
	1300 mils

- 4b. Open the azimuth counter cover; it must read 1300 mils. If not, the gunner didn't follow the correct steps.

This math process can be used on any aiming reference the gunner has recorded on his gunner's reference card. Just remember that if the fire mission deflection increases from 3200 mils, you add the difference to the alternate aiming reference. If the fire mission deflection decreases from 3200 mils, you subtract the difference from the alternate aiming reference.