



# CURTIS E. LEMAY CENTER

FOR DOCTRINE DEVELOPMENT AND EDUCATION



## ANNEX 3-03 COUNTERLAND OPERATIONS

### LINEAR COORDINATION MEASURES

Last Updated: 16 April 2014

Various boundaries and coordination measures are used for [airspace control](#) and fire support coordination when planning and executing [counterland](#) operations. The measures help to integrate air and ground maneuver, ensure deconfliction, avoid fratricide, and identify which parts of the [operational area](#) require specialized control procedures. The [joint force commander](#) (JFC) may define lateral, rear, and forward boundaries to define [areas of operation](#) (AOs) for the various surface components.

The following discussions center on [linear](#) boundaries and coordination measures that play a significant role in counterland operations.

#### **Forward Boundary (FB)**

The forward boundary defines a component's outer AO and is the farthest limit of an organization's responsibility. The organization is responsible for deep operations to that limit. Within the [joint operations area](#) (JOA), the next higher headquarters is responsible for coordinating deep operations beyond the FB. In offensive operations, the forward boundary may move from phase line to phase line, depending on the battlefield situation.

#### **Forward Line of Own Troops (FLOT)**

The FLOT is a line that indicates the most forward positions of friendly forces during linear operations at a specific time. The FLOT normally identifies the forward location of covering and screening forces. The zone between the FLOT and the [fire support coordination line](#) (FSCL) is typically the area over which friendly ground forces intend to maneuver in the near future and may also be the area within which ground force organic [fires](#) are employed. This zone is the area where air operations are normally executed through the [air support operations center](#) (ASOC).

#### **Fire Support Coordination Measures**

[Fire support coordination measures](#) (FSCMs) are necessary to facilitate the rapid engagement of targets and simultaneously provide safeguards for friendly forces. FSCMs are divided into two categories: permissive and restrictive. Permissive FSCMs

facilitate attacks and include [coordinated fire lines](#) (CFLs), [free fire areas](#) (FFA), and FSCL. Restrictive measures safeguard friendly forces and include [no-fire areas](#) (NFA), [restrictive fire areas](#) (RFA), [restrictive fire lines](#) (RFL), and airspace coordination areas (ACA). When [supporting](#) the land component commander, [airpower](#) operates within the confines of all [joint force land component commander](#) (JFLCC) FSCMs. In order to reduce the risk of fratricide and still take advantage of airpower's inherent flexibility and versatility, FSCMs should be clearly defined, easily controlled, and not overly restrictive. For detailed information on FSCMs, see JP 3-09.3, [Close Air Support](#).

Historically, linear operations have used linear FSCMs such as the FSCL. However, as operations move towards being [nonlinear](#), dispersed component AOs necessitate the need for nonlinear FSCMs such as [kill boxes](#). Advancements in data link technology and digital information have increased the potential for combat forces to effectively coordinate and conduct nonlinear operations. Nonlinear operations require [Airmen](#) to continually evaluate the capabilities of the controlling ASOC to ensure adequate resources (manning, radios, frequencies, computer support, etc.) are available to meet the [command and control](#) (C2) needs of aircraft operating in ever-increasing dispersed AOs in the JOA. During kill box operations, the [air operations center](#) (AOC) maintains C2 of aircraft outside of the AO while the ASOC typically maintains responsibility for aircraft inside the AO. The following section describes the most significant FSCM that pertains to major counterland operations—the FSCL.

**Fire support coordination line.** The FSCL is a permissive FSCM established and adjusted by appropriate land or amphibious force commanders within their boundaries in consultation with superior, subordinate, supporting, and affected commanders. FSCLs facilitate the expeditious attack of surface targets of opportunity beyond the coordinating measure. The FSCL does not divide an AO by defining a boundary between close and deep operations or a zone for CAS. However, the air component will use the FSCL to divide sectors of control between the ASOC and [Airborne Warning and Control System](#) (AWACS)/[control and reporting center](#) (CRC) with the ASOC's sector of control being beneath the [coordinating altitude](#), from rear boundary or FLOT to the FSCL and AWACS/CRC controlling forward of the FSCL. The FSCL applies to all fires of air, land, and sea-based weapons systems using any type of ammunition. Forces attacking targets beyond a FSCL must inform all affected commanders in sufficient time to allow necessary reaction to avoid fratricide. Supporting elements attacking targets beyond the FSCL should ensure the attack will not produce adverse attacks on, or to the rear of, the line. Short of an FSCL, the appropriate land or amphibious force commander controls all air-to-ground and surface-to-surface attack operations. The FSCL should follow well-defined terrain features or use a common reference system. Coordination of attacks beyond the FSCL is especially critical to commanders of air, land, and [special operations forces](#). In exceptional circumstances, the inability to conduct this coordination will not preclude the attack of targets beyond the FSCL. However, failure to do so may increase the risk of fratricide and could waste limited resources. The purpose, establishing authority, employment, and placement of the FSCL should be understood to effectively execute counterland operations within a surface AO.

The purpose of the FSCL is to ensure the coordination of fires not under the surface commander's control but which may affect his current tactical situation. The land component commander typically sets the FSCL after coordinating with all affected component commanders. All attacks short of the FSCL are coordinated with the establishing component, primarily to ensure proper integration and prevent fratricide.

### **OPERATION IRAQI FREEDOM (OIF) FIRE SUPPORT COORDINATION MEASURES (FSCMs)**

OIF employed traditional FSCMs. Because of the Army's extensive process required for changing linear FSCMs, moving the FSCL proved to be a time-consuming process. Therefore, the initial FSCL was placed well beyond the range of land fires in order to accommodate the anticipated rapid movement of land forces into Iraq.

The deep placement of the FSCL hampered the efficiency of airpower. Ground forces, and their associated TACPs, were incapable of detailed integration beyond the range of their organic fires because no one was able to observe adversary targets. Aircrews were still required to comply with coordination procedures short of the FSCL. The time-consuming clearance process hindered the expeditious attack of fleeting targets beyond the range of the organic artillery. As a result, the area between the maximum range of land fires and the established FSCL created a sanctuary for enemy forces.

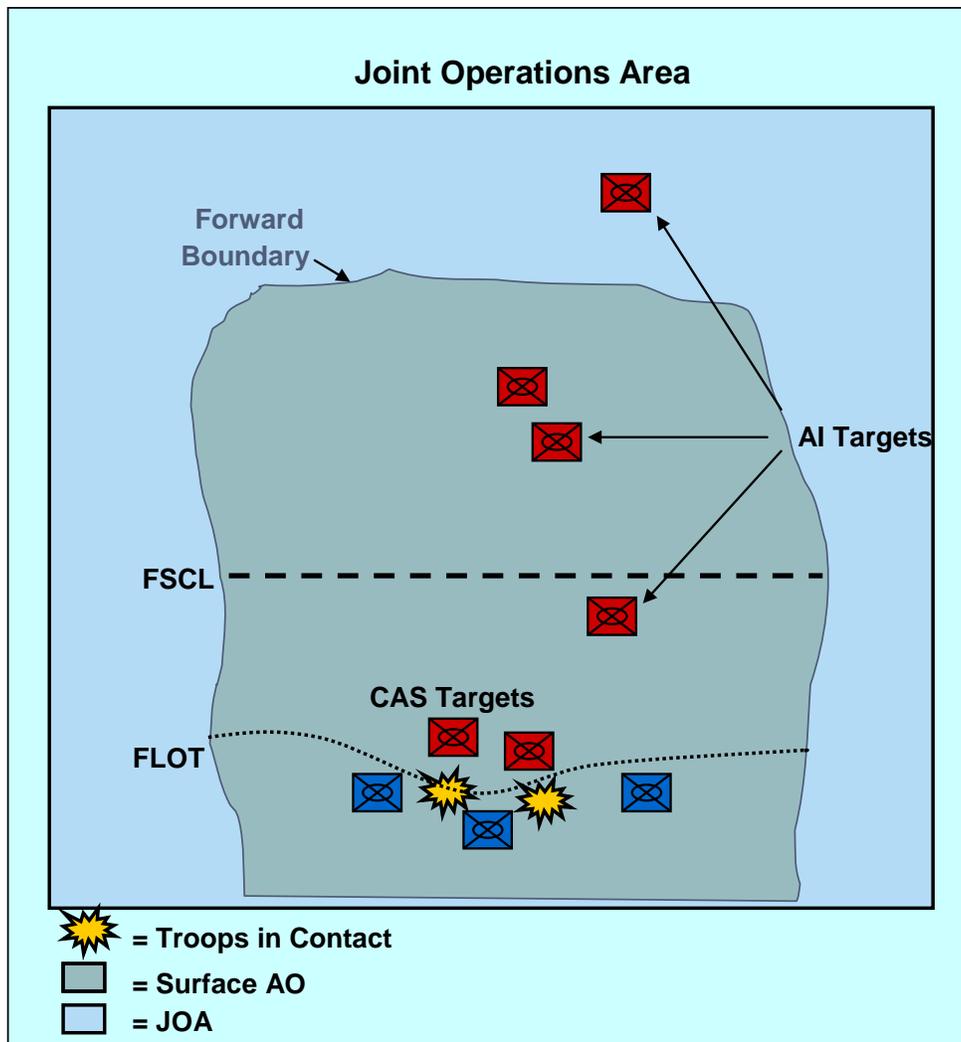
The FSCL should be near the maximum operating range of organic tube artillery since beyond that point air and space power provides the preponderance of effects.

Because of this, the FSCL is often used as the forward limit of the airspace controlled by the ASOC. This mandates the various ASOCs and other [theater air control system](#) (TACS) components that have the required connectivity to monitor not only air activity out to the FSCL but also be able to monitor friendly and enemy ground positions, surface-to-air threats, and all other key aspects of situational awareness. Likewise, when the ground component attacks targets beyond the FSCL, it is required to coordinate with the air component to ensure deconfliction and prevent multiple assets attacking the same target.

**The optimum placement of the FSCL varies with specific circumstances, but typically it should be placed where the preponderance of effects on the battlefield shifts from the ground component to the air component.** In this way, the FSCL placement maximizes the overall effectiveness of the joint force, and each component suffers only a small reduction in efficiency. To place the FSCL so deep or shallow that

one component is given complete freedom to operate usually results in the other components being so restricted that overall joint effectiveness suffers. The proper location for the FSCL may also shift from one phase of the operation to the next, depending on the scale and scope of each component's contribution during that phase. FSCL placement should take into account the ground [scheme of maneuver](#) and should be based on anticipated, not current, ground force positions at the time the FSCL will be active. History has shown that placing the FSCL too deep is detrimental to overall joint force effectiveness and may even provide the enemy a sanctuary from effective air attack.

**The preponderance of lethal effects shifts from landpower to airpower near the maximum range of organic field artillery. Therefore, under all but the most rapid ground maneuvers, the FSCL is normally placed near the maximum range of tube artillery because airpower provides the most expeditious attack of surface targets beyond that point.** To facilitate a rapidly moving battlefield, components may establish "on-call FSCLs" in advance that can be activated as the ground force moves. In the past, establishing the FSCL along an easily identifiable terrain feature has been critical to success. Modern digitization, along with advanced navigation equipment such as GPS, has reduced the importance of this factor. When possible, however, using obvious terrain features for FSCLs can still prevent errors from happening in the heat and confusion of battle.



**Notional JOA with Surface AO and FLOT/CL/FB Relationship**

Although normally thought of as a JFLCC responsibility, FSCCL placement should be part of the [joint targeting coordination board](#) (JTCB) process. This ensures all components are able to integrate and maximize effects in support of JFC objectives. Joint doctrine does not define a depth or range for placing the FSCCL in relation to the FLOT or [forward edge of the battle area](#) (FEBA). This permits the theater commander to tailor FSCCL placement according to specific battle conditions that optimize joint operations. Theater commanders may employ the FSCCL to achieve different desired effects.

**The FSCCL is primarily used to establish C2 procedures for planning and execution purposes—it does not define mission types.** Missions flown beyond the FSCCL typically do not use the ASOC, as they are beyond the distance where [detailed integration](#) is required. However, CAS missions can be flown in the portions of the operational area beyond the FSCCL when friendly troops are operating there and require support. Ground forces such as SOF teams that often operate deep should include the appropriate TACS element for CAS control and have a liaison element at the AOC. Short of the FSCCL, all missions typically require check-in with the ASOC while en route

to the target for an update on potential targets, surface-to-air threats, and friendly troop locations. CAS missions are normally handed off to a [joint terminal attack controller](#) (JTAC) or [forward air controller–airborne](#) [FAC(A)] for TAC. Even those short-of-the-FSCL missions that usually do not directly support the ground component, such as counterair or [strategic attack](#), normally contact the ASOC/airborne C2 for situation updates and deconfliction while in the ASOC’s airspace.

When the land component attacks targets beyond the FSCL, it is required to coordinate with the AOC to ensure deconfliction and to prevent multiple assets from attacking the same target. Land forces that often operate deep such as special operations teams should include the appropriate TACS element for terminal attack control and have contact with the [special operations liaison element](#) (SOLE) at the AOC.

The Marines put in place a supplementary battlefield coordination line (BCL) to speed “expeditious attack of surface targets of opportunity” between the BCL and the more distant FSCL as Marine doctrine defined it. A typical BCL extended 18.6 [kilometers] out from the FLOT—roughly the range of [155] mm artillery. Air strikes short of this line were typically Type I, II, or III CAS calling for varying degrees of control. Beyond the battlefield coordination line, the “kill boxes” could be opened more easily, and the DASC was able to put its brisk procedures into play.... All levels monitored the air requests and intervened only to stop them. The DASC was co-located with [the fire support coordination center], who updated the ground picture as the DASC personnel worked the air picture.... The Marines used procedural control with aircraft checking in at control points to give route headings which the DASC controller cross-referenced.... Aircrews quickly caught on to the fact that the DASC could give them targets fast.... Soon the flow of coalition strike sorties, planned and unplanned, far exceeded anything the Marine air planners thought the JAOC would give them.

—Dr. Rebecca Grant,

“Marine Air in the Mainstream,” *Air Force Magazine*, June 2004

### **Battlefield Coordination Line (BCL)**

The Marine Corps has used an additional FSCM for a Marine-controlled AO, called a [battlefield coordination line](#) (BCL), roughly equivalent to the FSCL for an Army-controlled AO. The BCL is a supplementary FSCM that facilitates the expeditious attack of surface targets of opportunity. Unlike the FSCL, the BCL is used to help delineate CAS and AI procedures, and may be highly effective when used in conjunction with kill boxes. Because the BCL is set at the maximum range of organic tube artillery, any sorties flown short of the BCL are typically designated as CAS. This allows counterland

airpower to attack surface targets beyond the BCL using minimal coordination procedures with ground forces.

---