

Restrictive FSCMs

Restricted Fire Line (RFL): An RFL is a line established between converging friendly forces (one or both may be moving) that prohibits fires, or effects of fires, across the line without coordination with the affected force.

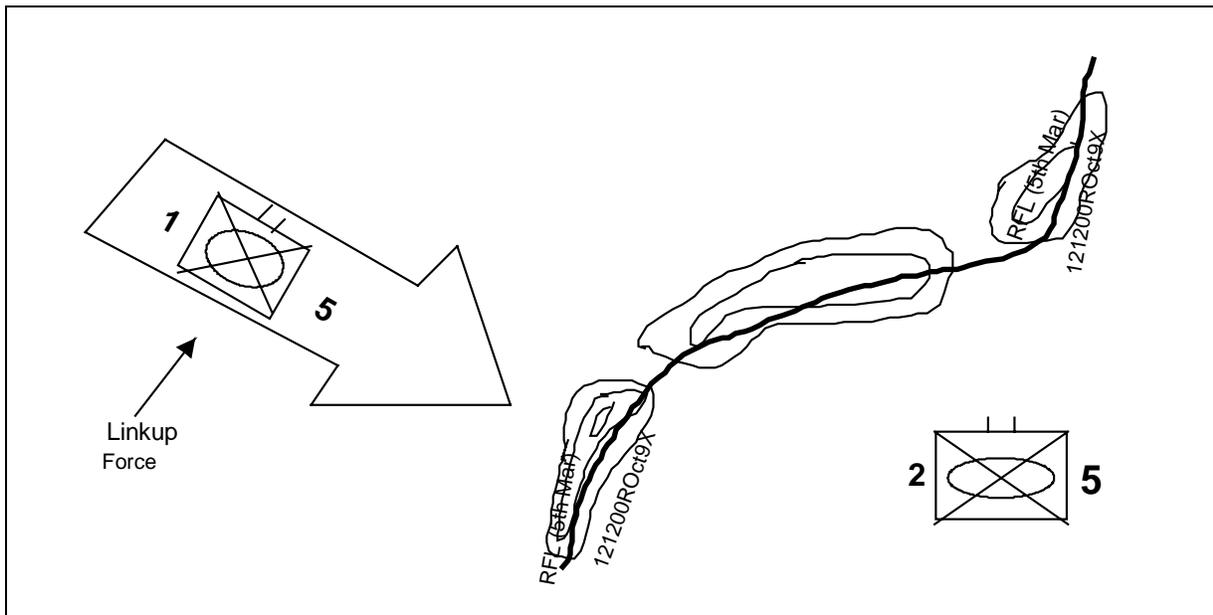
Purpose. The purpose of the RFL is to regulate all fires occurring between converging forces.

Establishment. The common commander of the converging forces establishes the RFL. He may delegate establishing authority to the senior commander of the two converging forces or to the commander of the maneuvering force in a linkup operation between a moving and stationary force.

Location. The RFL should be located on identifiable terrain. In linkup operations, the RFL is moved as close as possible to the stationary force to allow maximum freedom of action for the maneuver and fire support of the linkup force.

Dissemination. Upon arrival, it is disseminated by the FSCC to the subordinate, adjacent, and higher headquarters, as required. It is further disseminated at each level of command, to include the establishing command, and to all concerned fire control agencies and other services as may be applied.

Graphic Portrayal. The location of the RFL is graphically portrayed on maps, charts, and overlays by a solid black line with the letters "RFL" followed by the establishing headquarters in parentheses above the line and the effective DTG below the line.



Answer the following questions.

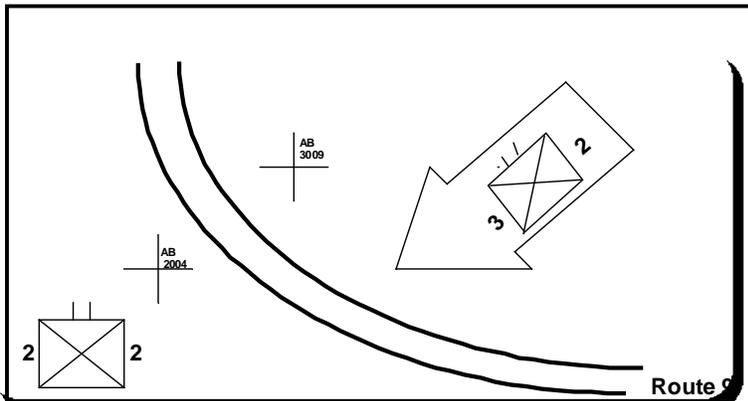
1. What is the purpose of the RFL? _____

2. To which of the following fire support means does the RFL apply?

- a. NGF, F/W CAS, & R/W CAS
- b. artillery & surface-to-surface missiles
- c. tank, TOW, and Dragon fires
- d. All of the above

3. Should the RFL be established on identifiable terrain?

4. Graphically portray an RFL with the proper labeling on the diagram below. Effective DTG is 080800RNov9X.



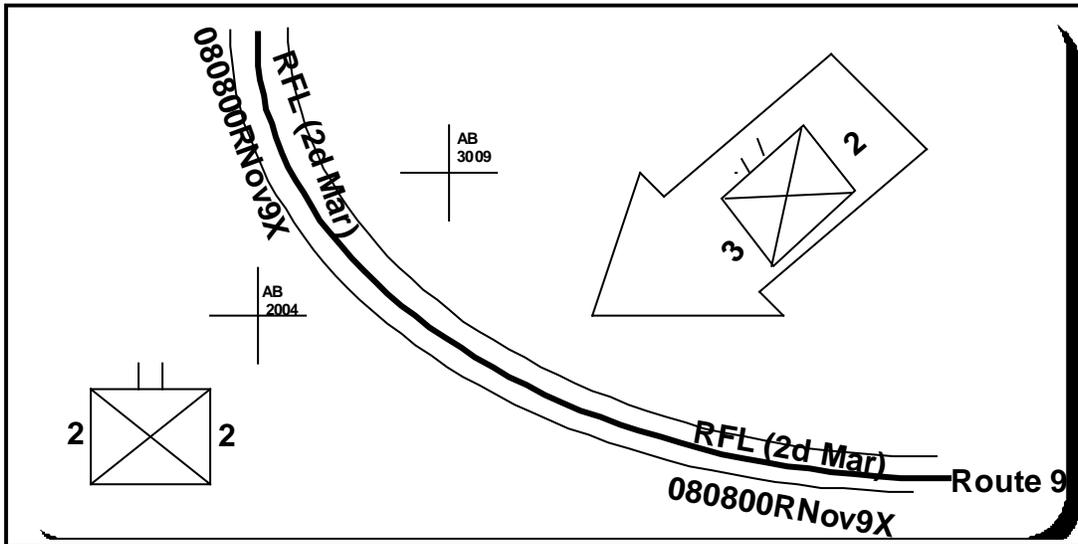
5. Which specific commander would establish the RFL? _____

6. Once the RFL has been established, target AB2004 can be attacked by the 3d Bn after coordination has been made with _____.

7. Target AB3009 may be engaged by elements of the 2d Bn after coordination has been made with _____.

Answers.

1. The purpose of the RFL is to regulate all fires occurring between converging friendly forces.
2. d
3. Yes
- 4.



5. 2d Marine Regiment Commander
6. 2d Bn
7. 3d Bn

Restrictive Fire Area (RFA): An RFA is an area in which specific firing instructions are imposed and into which fires in excess that exceed those restrictions will not be delivered without coordination with the establishing headquarters.

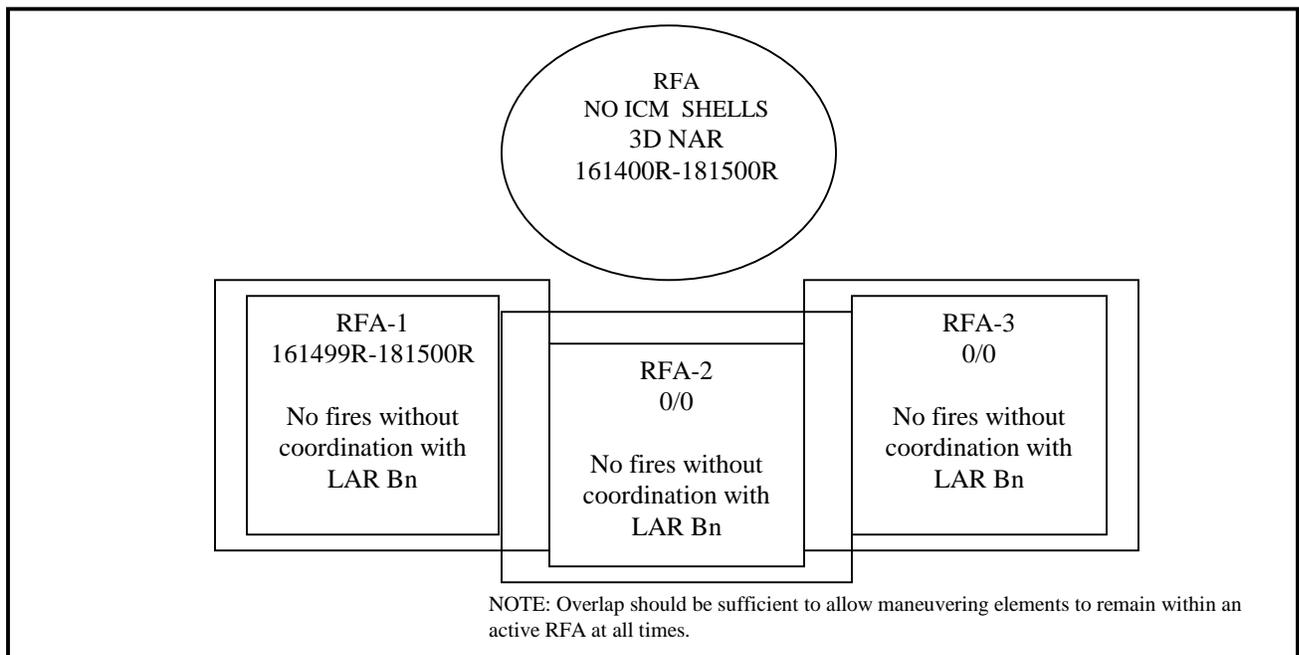
Purpose. The purpose of the RFA is to regulate fires into an area according to the stated restrictions. This means that fires or certain types of ordnance (e.g., limitations on ICM or FASCAM) can be controlled in an area where friendly forces are or will be located.

Establishment. An RFA may be established by any ground unit commander within his zone, however, it is not normally established below the battalion level. When RFA's are used to protect a unit from friendly fires (e.g., LAR unit), the size of the RFA should be sufficient to allow the maneuver of the unit but not so large as to needlessly restrict fire support in other areas. To facilitate the rapidly changing maneuver areas, on-call RFA's may be used. The dimensions, location, and restrictions of the on-call RFA are prearranged. The RFA is activated and deactivated when requested by the maneuvering unit or scheduled by time or event.

Location. An RFA may be on recognizable terrain, expressed by grid coordinates, or by radius from a point.

Dissemination. An RFA is disseminated by the establishing commander to the FSCC's of subordinate, adjacent, and higher headquarters, as required. It is further disseminated to each level of command, including the establishing command, and to all concerned fire support agencies.

Graphic Portrayal. The RFA is graphically portrayed on a map, chart, or overlay by an area bounded by a black line with letters "RFA", the designation of the unit establishing the area, and the effective DTG's inside the line.



No Fire Area (NFA): An NFA is an area into which no fires or effects of fire are allowed. There are two exceptions. The establishing headquarters may approve fires temporarily within the NFA on a mission-by-mission basis. Also, if any enemy force within the NFA engages a friendly force and the engaged unit leader determines there is no time for coordination, he may order fires in the NFA.

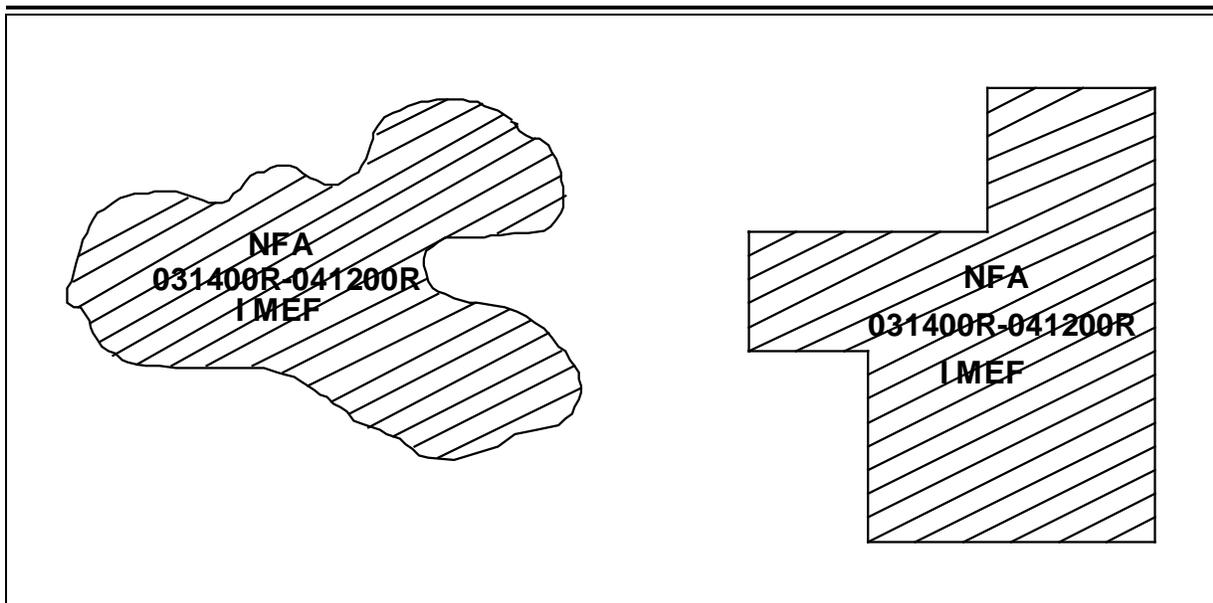
Purpose. The purpose of the NFA is to prohibit fires or their effects in the area, normally to protect civilians.

Establishment. Typically, the host nation establishes an NFA. On arrival of military forces, the force commander coordinates the location of an NFA with local authorities.

Location. Normally, an NFA is on recognizable terrain, but its location may also be expressed by grid coordinates, or by radius from a center point.

Dissemination. The force commander disseminates the NFA to all units of the force.

Graphic Portrayal. An NFA is graphically portrayed in black with diagonal lines drawn through the enclosed area. The letters "NFA" are written inside the enclosed area, along with the effective DTG and the headquarters of the establishing unit.



Answer the following questions.

1. Who establishes an NFA?
2. What are the two exceptions when fires may be delivered into an NFA?
3. It is preferable to have an NFA located _____.

Answers.

1. Typically, the host nation establishes an NFA. On arrival of military forces, the force commander coordinates the location of an NFA with local authorities.
2. The establishing headquarters may approve fires temporarily within the NFA on a mission-by-mission basis. Also, if an enemy force within the NFA engages a friendly force and the engaged unit leader determines there is no time for coordination, he may order fires in the NFA.
3. on easily identifiable terrain

Airspace Coordination Area (ACA): An ACA is a three-dimensional block of airspace in which friendly aircraft are reasonably safe from friendly surface fires. ACAs are normally referred to as either formal or informal. Formal ACAs require detailed planning. When time for coordination is limited, an informal ACA is used. Informal ACAs are temporary and are not as widely disseminated as formal ACAs. ACAs can vary from physically defined areas or locations to various methods of separation or deconfliction. Physical areas can include routes (control point to IP, HA to AP) or areas (over the target, IP, AP). Methods of separation or deconfliction include lateral separation, altitude separation, timed separation, or a combination of these.

Purpose. The purpose of an ACA is to act as a safety measure for friendly aircraft while allowing the other supporting arms to continue fire in support of the ground force.

Establishment. The commander of the unit requesting air support will decide whether or not to employ an ACA based on the recommendations of his FSC. Normally, guidance will have been provided by the MAGTF commander regarding the degree of allowable risk to aircraft from friendly forces and any conditions which would permit disregard of that rule. The extent of the ACA used is dependent on the time available. ACAs, like other FSCMs and the air operations they support, are scheduled, on-call, or immediate. Scheduled ACAs will state the time they are to be effective. On-call ACAs are promulgated without an effective time. The dimensions of the ACA are prescribed by SOP. When it is desired to activate the on-call ACA, a verbal message is sent. An immediate ACA, one which supports an immediate air mission, is promulgated with an effective period.

Location. The ACA may be located above the target area (e.g., a rectangular box), along the route of the aircraft (e.g., a corridor), or a combination.

Size and Shape. The ACA is a three-dimensional block of airspace which can be of any shape. Its shape is determined by the path of the aircraft and the need to provide protection from friendly fires. Some ACAs are rectangular, others based on altitudes. The dimensions of an ACA can be published in any form which provides the supporting arms agencies with sufficient information to plan their fires around the aircraft's flight path. For a rectangular ACA, the instructions which describe the ACA may include the ACA's code name, minimum and maximum altitudes, length (by grid coordinate points), width (on either side of the center line), and the effective DTG.

Altitude is mean sea level (MSL) unless otherwise stated. Altitude may be above ground level (AGL) when the desire to restrict the aircraft to relatively low altitudes above the ground. AGL may be particularly useful for helicopters. The vertical space between the ground and the top (or base) of an ACA based on MSL or AGL often differs significantly.

Dissemination. Scheduled and on-call ACAs are usually disseminated by the GCE and/or MAGTF FSCC as appropriate in a written document, such as an overlay. Immediate ACAs are usually disseminated as a verbal message by the FSCC of the organization requesting the air mission. Scheduled and on-call air support is via the chain of command. The requests for this support are usually submitted 18-24 hours before the mission. The period is long enough for the ACAs associated with these missions to be collected by the GCE or MAGTF FSCC, reviewed, adjusted, put into a document, and disseminated to the agencies which need it.

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Since immediate air missions are executed within hours, if not minutes after they are requested, the ACAs for such missions cannot be handled in the deliberate manner scheduled and on-call ACAs are handled. Rather, as stated previously, immediate ACAs are disseminated by the FSCC of the unit requesting the air support.

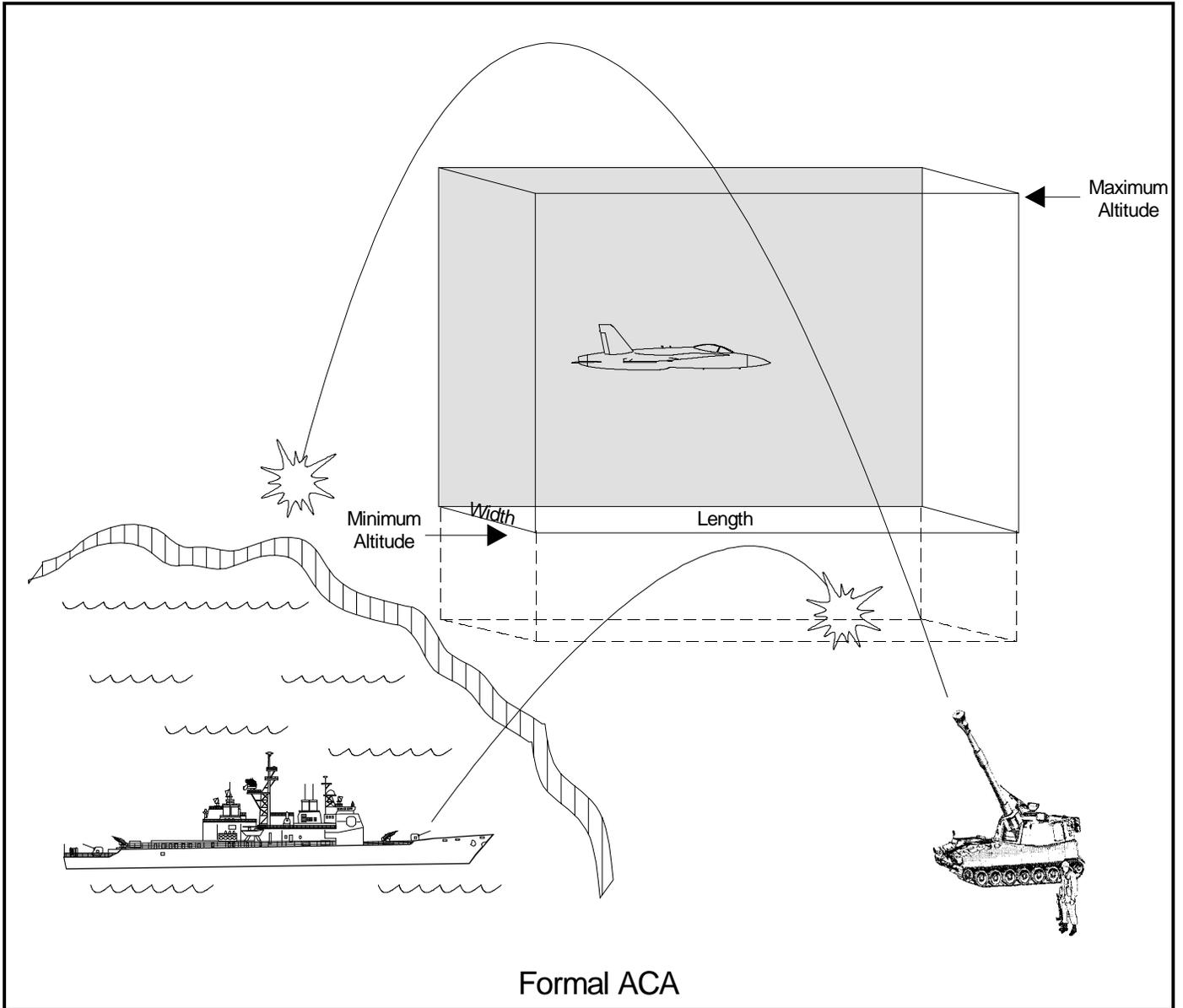
ACAs should be disseminated as early as possible. ACAs designate the airspace in which mortar, artillery, and NGF elements are to fire around. There are several different techniques for keeping the rounds from these weapons outside of the ACA. Among these techniques are the selection of firing units, the moving and positioning of firing units, and the selection of powder charges. Most of these techniques involve actions taken while the firing units are preparing to fire. If a firing unit receives an ACA after it has already prepared the weapons and ammunition for firing, nothing can be done to change the trajectory of the rounds. If the trajectory will pass through an effective ACA, the firing unit usually has the option of not firing or of firing through the ACA. The promulgation of an ACA should not be delayed because it is feared that the air mission's time will be changed. If the time is changed, a correction is promulgated.

ACAs must be coordinated when possible. Substantial air operations in forward areas can result in:

- w Two aircraft attempting to occupy the same airspace simultaneously.
- w Aircraft repeatedly following the same route, which helps the enemy plan his air defenses.
- w Aircraft masking the fires of artillery and NGF.

To minimize such problems, ACAs for scheduled and on-call missions should be reviewed by the GCE and/or the MAGTF FSCC, as appropriate. Immediate ACAs usually cannot be coordinated in detail because the time between the request and the execution of the mission is too short. Immediate air missions generally involve few aircraft and are very short in duration.

Graphic Portrayal. An ACA is outlined in black with black letters. Data will include a code name, the originating headquarters, minimum and maximum altitudes, and effective DTG.



Answer the following questions "T" or "F" with respect to an ACA.

1. T F Creates a block of airspace that surface-to-surface fires or their effects may not penetrate.
2. T F Is used as a coordination measure to separate the use of airspace in the vicinity of a target or target area that is being simultaneously engaged by air-delivered and surface-delivered weapons.
3. T F The formal ACA is graphically portrayed on maps, charts, and overlays as an area outlined in red, with the letters "ACA", code name, the effective DTGs, the minimum and maximum altitudes, and the establishing headquarters inside the rectangle in black.
4. T F The size of the ACA depends primarily on the type of aircraft and type of ordnance employed.

Answers.

1. T

2. T

3. F: It is outlined in black.

4. T: Some aircraft need more room to maneuver than others.

Integrating Air Support With Surface Fire Support

One of the most difficult functions performed by an FSCC is integrating air support with surface fires. The goal is to integrate air with the other supporting arms and with maneuver to achieve the effect desired from the air strike without suspending the use of the other supporting arms or unnecessarily delaying the scheme of maneuver. An additional goal is to offer a reasonable measure of protection to the aircraft from the unintended effects of our own surface fire. This section deals with techniques which can be used in frequent situations which require integration of air with other supporting arms.

Inform Supporting Arms Units. When an air strike is requested, the FSC of the originating unit informs other concerned FSCCs and all supporting arms units as quickly as possible of details of the mission. The aircraft's time of arrival on station and tentative time on target (TOT) or time to target (TTT) is passed. TOT is normally used for preplanned or scheduled CAS and is expressed in terms of a synchronized clock (i.e., 1505) or an established H-hour. To clearly delineate that the TOT refers to the delivery of ordnance on the target by the aircraft, TOT should be stated as aircraft TOT. TTT is a technique that can be used for immediate or on-call CAS and is expressed as the number of minutes and seconds to elapse from a HACK/MARK (HACK when talking to aircraft, MARK when talking to artillery) until ordnance impacts on the target. TOT is the preferred technique and is easier to use.

Determine If Surface Fires Are Needed to Support the Air Strike. There are two primary forms of support: marking rounds and suppression of enemy air defense (SEAD).

Target Marking. Targets can be marked by various means, including laser, artillery, mortars, NGF, direct fire, or another aircraft. Since tanks no longer have white phosphorous (WP) rounds, they should not be used for marking. The target may also be described by narrative description. While a mark is not mandatory, it should be provided whenever possible. Backup marks should also be planned.

The mark is best coordinated directly by the FO and FAC working together, with the FO relaying instructions directly to the firing unit. Usually, it is desirable to have the marking round burst 20-30 seconds before the aircraft's bombs impact on the target. WP usually provides an adequate mark, although it quickly dissipates in high winds. Illumination is also used as a mark. Illumination can be set to detonate slightly above ground level for certain conditions. The most effective marks are within 300 meters of the target.

SEAD. The need for SEAD is assessed after evaluating the options for routing the aircraft away from known antiair threats. SEAD is that activity which neutralizes, destroys, or temporarily degrades enemy air defenses in a specific area by physical attack and/or by EW. It may be accomplished through destructive means, disruptive means, or a combination of the two.

The primary objective of SEAD is to increase air, land, and naval operations by reducing enemy surface-to-air defense capabilities, thereby increasing survivability of air resources. SEAD operations are conducted to permit the primary objective of other missions to be accomplished. Specific SEAD operation objectives will vary with the MAGTF's mission. SEAD involves planning and coordination by FSCCs and at the company level.

SEAD is most frequently delivered in support of a specific air strike. This involves the suppression of air defense weapons which can threaten friendly aircraft during an air strike in the immediate vicinity of the target and on ingress and egress routes. It is fired during the time the aircraft is most exposed to these weapons. These fires may be delivered as continuous SEAD or interrupted SEAD.

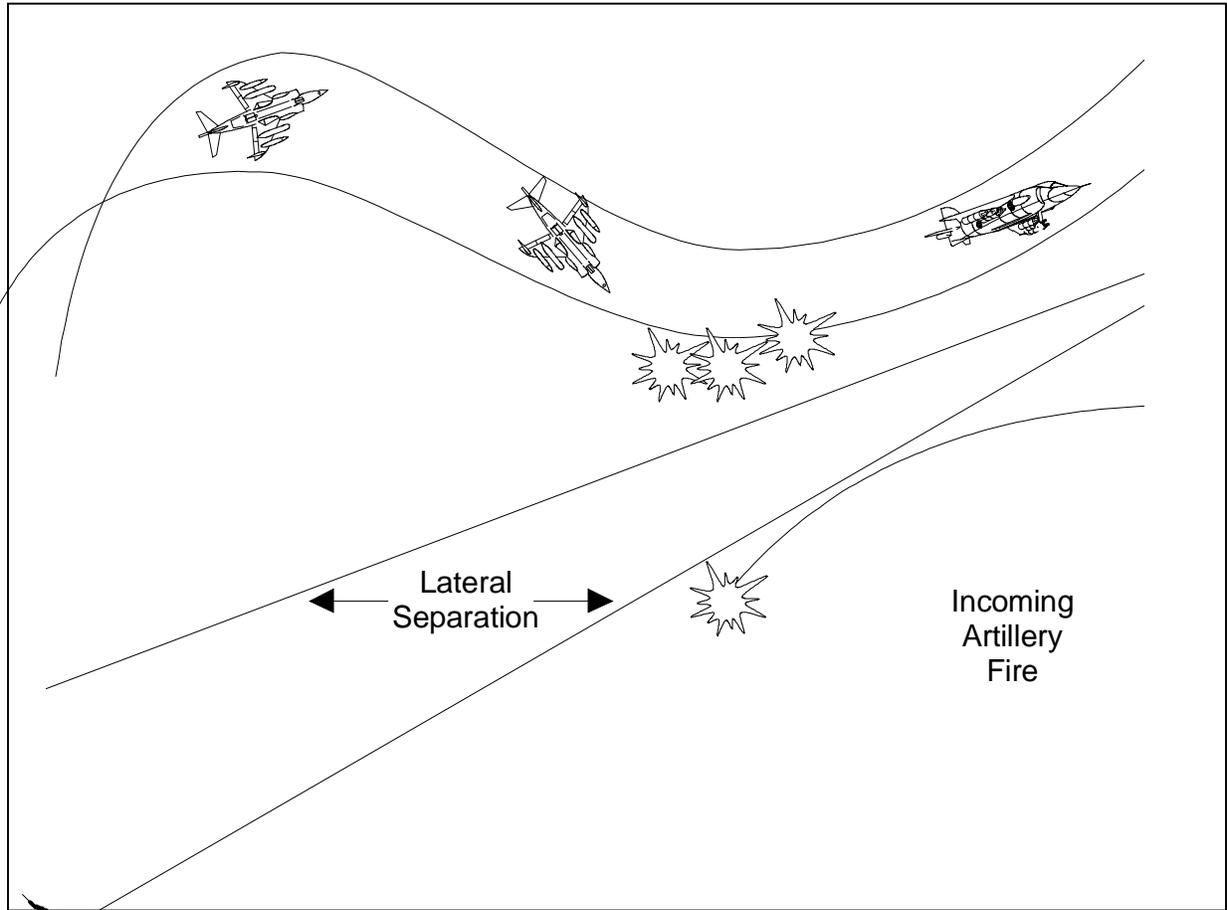
Like other suppression mission, SEAD normally requires minimum guns per target, firing at the maximum rate of fire for a short period. It is only as effective as the intelligence on enemy antiaircraft weapons. The FSC, working with the FAC and FO, usually coordinates SEAD with target marking.

Determine Required Airspace Coordination. Both indirect fire weapons and aircraft require the use of airspace to perform their missions. The possibility for simultaneous usage can create interference. A function of fire support coordination is to deconflict airspace usage when required. There are several techniques which may be employed in this role. The method selected is dependent on the time available, tactical situation, unit SOP, and state of training.

Airspace Coordination Area (ACA). The formal ACA requires detailed planning. A formal ACA is not always necessary, but should always be considered. The upper and lower limits of the ACA should be designed to allow the freedom of action for air and surface fire support for the greatest number of foreseeable targets. Since only the FDC can determine the trajectory for a specific battery firing at a specific target, each target must be evaluated in the FDC to determine if it is safe to fire while an ACA is in effect. The FSC should consult the FDC when deciding the altitude of an ACA to determine if that altitude would allow the majority of targets to be attacked without interference problems.

Separation Plans. Separation plans are known as informal ACAs. There are four standard separation plans and coordination procedures which may be used to achieve airspace coordination. They are on the following four pages.

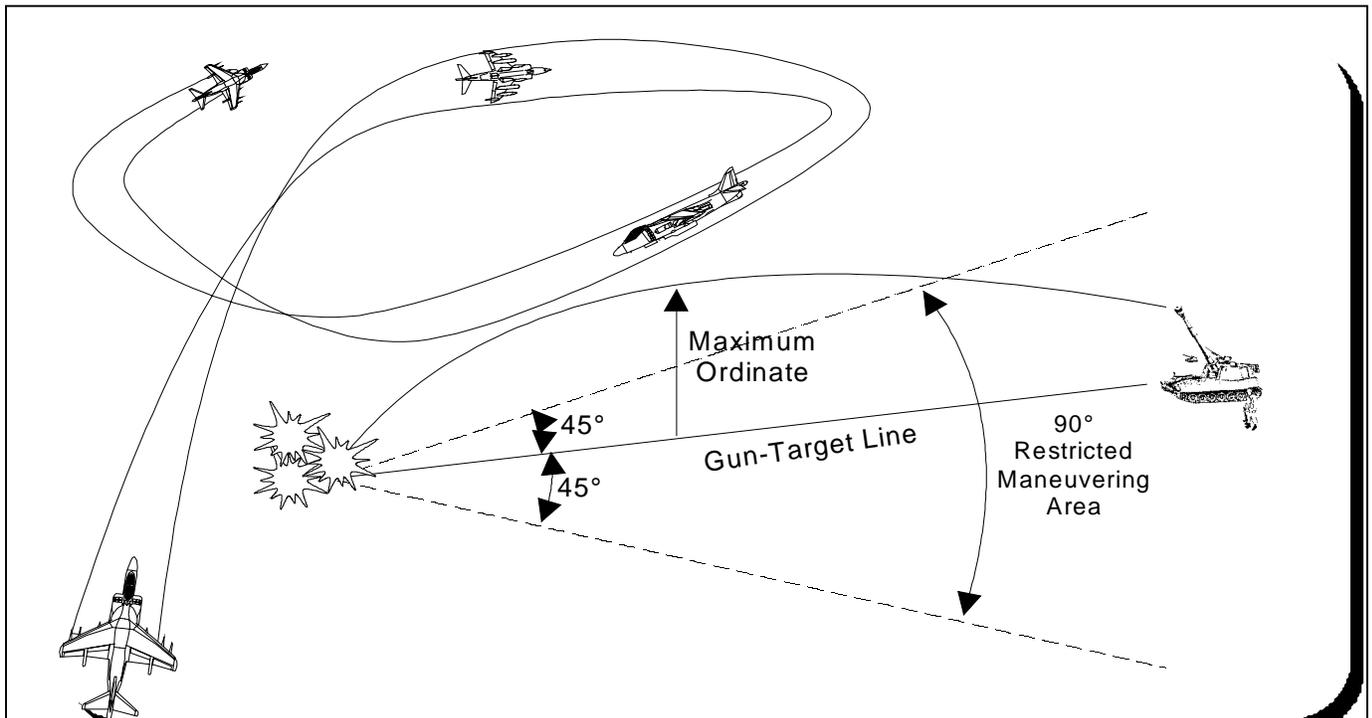
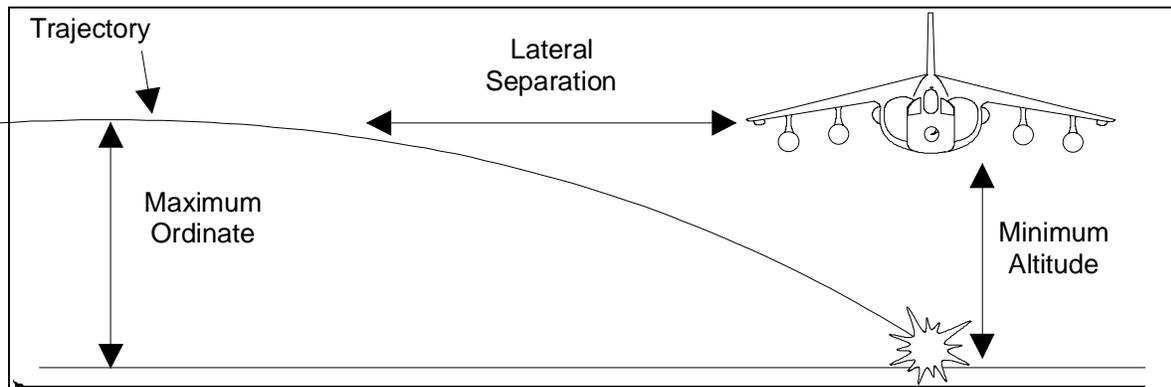
- 1. Lateral Separation (Adjacent Targets).** Lateral separation plans for the coordinating attacks against two targets that are close together. The coordinator (FAC/AirO) needs to know the gun-target line (GTL) so he can restrict any aircraft run-in through this line. Establishing a temporary, informal ACA is one way to do this. The CAS aircraft are kept away from indirect supporting fires by lateral separation. For example, "aircraft stay north of artillery fires at grid 561240." The ACA should be large enough so that aircraft can operate over the target, yet small enough so that supporting fires are not too restricted. The ACA can be defined by grid coordinates, geographical features, or time.



2. Altitude Separation (Same Target). Altitude separation plans apply when both CAS and indirect supporting fires are employed on the same target and the supporting fires are delivered at a low angle (artillery low angle or NGF full charge). Lateral separation and recovery altitude restrictions ensure clearance from the indirect fire weapon's trajectory and fragmentation pattern. (NOTE: 155mm frag pattern = 2,000 ft AGL, 1,000 ft safety buffer, 3,000 ft AGL total for minimum altitude.) Other restrictions normally include:

- w No change in trajectories.
- w No overflight of the GTL by the CAS aircraft, except at the impact point.
- w Restricted final attack headings.

When CAS pilots cannot adhere to their restrictions, they must be instructed to recover above the maximum ordinate altitude/summit or frag pattern, whichever is higher. Normally, aircraft will restrict their attack headings to within 45° of a line perpendicular to the GTL.



3. **Time Separation (Same Target).** Time separation plans specify the intervals during which indirect fire weapons (artillery, mortars, and NGF) fire. The FAC determines these intervals in conjunction with the FSC. The call for fire specifies the desired firing times for the indirect fire weapons. The aircraft is controlled by instructions in the CAS briefing. A timed separation is ensured between the aircraft and the indirect supporting fires on the same target or target area. Time separation may be accomplished in two ways:

- w Surface fires are timed so that their impact on the target does not interfere with the aircraft attack. These fires may be in flight during the attack; therefore, the aircraft is restricted from flying near the GTL.
- w Surface fires may be ceased while the aircraft is in the target area. This is the least preferred method and should be used only when no other method will suffice.

