

U.S. ARMY SERGEANTS MAJOR ACADEMY (BSNCOC)

W109

JUN 99

COMBAT FIRE SUPPORT

PRERESIDENT TRAINING SUPPORT PACKAGE

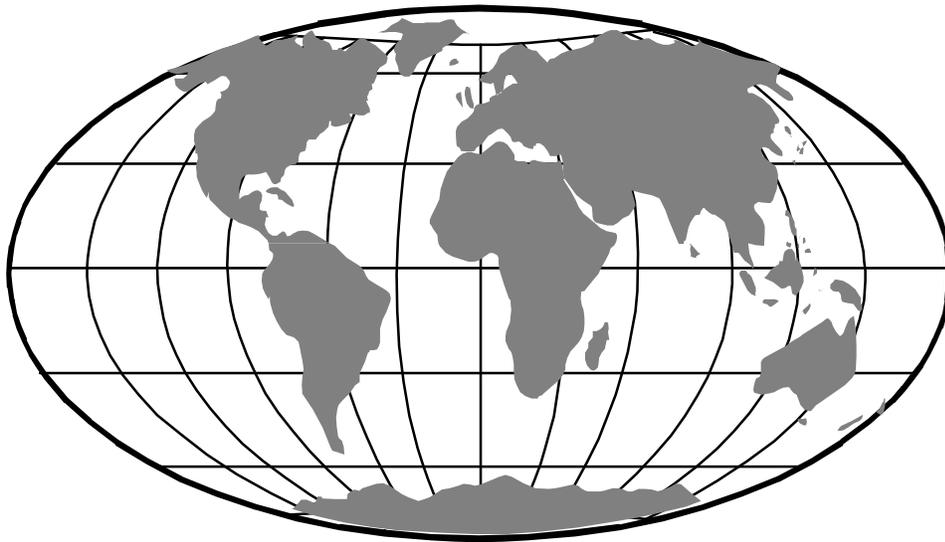
# WAR FIGHTERS



Sergeant Major



Master Sergeant



Sergeant First Class



Staff Sergeant

# OF THE 21ST CENTURY

## PRERESIDENT TRAINING SUPPORT PACKAGE

**TSP Number/  
Title**            W109  
                          Combat Fire Support

**Effective Date**    JUN 99

**Supersedes  
TSP**                This TSP supersedes W109, Combat Fire Support, December 1998.

**TSP User**            The following course uses this TSP: Battle Staff NCO Course.

**Proponent**            The proponent for this TSP is the U.S. Army Sergeants Major Academy.

**Comments and  
Recommendations**    Send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to:

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**Foreign  
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Restrictions**            The Lesson Developer in coordination with the USASMA foreign disclosure authority has reviewed this lesson. This lesson is releasable to foreign military students from all requesting foreign countries without restrictions.

**This TSP  
contains**                The following table lists the materials included in this TSP:

<b>Table of Contents</b>		<b>Page</b>
Lesson	Section I, Administrative Data	2
	Section II, Introduction/Terminal Learning Objective	5
	Section III, Presentation	5
	Section IV, Summary	35
	Section V, Student Evaluation	35

**This TSP  
Contains,  
continued**

Lesson	Section VI, Student Questionnaire	Not Used
Appendixes	A. Lesson Evaluation, Faculty Graded	Not Used
	B. Lesson Exercise and Solutions	B-1
	C. Student Handouts	Not Used

**Gender  
Disclaimer**

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

**SECTION I ADMINISTRATIVE DATA****Task(s)  
Trained**

This lesson trains the task listed in the following table: N/A

**Task(s)  
Reinforced**

This lesson reinforces the tasks listed in the following table:

Task Number	Task Title
71-3-9001	Conduct fire support planning.
71-3-9002	Conduct fire support coordination in support of ground operations.
71-3-9003	Supervise execution of the fire support plan.
71-3-9004	Perform target analysis.
7-1-3907	Employ fire support.
7-1-3908	Operate fire support section.

**Prerequisite  
Lessons**

None

**Clearance and  
Access**

There is no security clearance or access requirement for this lesson.

**Copyright  
Statement**

No copyright material reproduced for use in this lesson.

**References**

The following table lists the reference (s) for this lesson:

<b>Number</b>	<b>Title</b>	<b>Date</b>	<b>Para No.</b>	<b>Additional Information</b>
FM 6-20-40	Tactics, Techniques, and Procedures for Fire Support for Brigade Operations (Heavy)	January 1990	N/A	N/A
FM 71-3	The Armored and Mechanized Infantry Brigade	January 1996	N/A	N/A
FM 101-5	Staff Organization and Operations	May 1997	N/A	N/A
FM 101-5-1	Operational Terms and Symbols	September 1997	N/A	N/A

**Equipment Required**

None

**Materials Required**

None

**Safety Requirements**

None

**Risk Assessment Level**

Low

**Environmental Considerations**

None

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**Lesson Approval**      The following individuals have reviewed and approved this lesson for publication and incorporation into the Battle Staff Course.

<b>Name/Signature</b>	<b>Rank</b>	<b>Title</b>	<b>Date Signed</b>
Roy R. Sanchez	GS-9	Training Specialist, BSNCOB	20 October 1999
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## SECTION II INTRODUCTION

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### Terminal Learning Objective

At the completion of this lesson, you will-

<b>Action:</b>	Assist in the employment of fire support assets.
<b>Conditions:</b>	In a self-study environment using the materials provided in this lesson.
<b>Standard:</b>	In accordance with this lesson and/or FM 6-20-40, FM 71-3, FM 101-5, FM 101-5-1.

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### Evaluation

Prior to being enrolled into Phase II of the Battle Staff Course you must take a Phase I Exam that includes questions on material from this lesson. You must correctly answer 70% of the multiple choice questions to receive a "GO" on the Phase I exam. A "GO" is required for enrollment into Phase II.

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### Instructional Lead-in

Your unit's mission is to establish a fire support element (FSE) section. As a brigade/battalion fire support NCO, you must assist the commander and his staff in the employment of combat fire support assets. This lesson provides instruction on the combat fire support system, components, control measures, planning, coordinating, and employment procedures. By understanding this information you will be able to assist the commander and his staff in the employment of his most deadly combat multiplier—combat fire support.

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## SECTION III PRESENTATION

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### ELO 1

<b>Action:</b>	List the types of combat fire support.
<b>Conditions:</b>	In self-study environment using the material provided in this lesson.
<b>Standard:</b>	In accordance with this lesson and/or FM 6-20-40 and FM 71-3

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### Learning Step/Activity (LS/A) 1, ELO 1, Combat Fire Support

Fire support (FS) is the collective and coordinated use of indirect-fire weapons, armed aircraft, and other lethal and nonlethal means in support of a battle plan. FS includes field artillery, naval gunfire, and air delivered weapons. Force commanders employ FS in their schemes of maneuver to mass fire power and to delay, disrupt, or destroy enemy forces in depth.

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**LS/A 1, ELO 1,**  
**Combat Fire**  
**Support,**  
**continued**

FS enhances the maneuver commander's combat power by:

- Destroying, suppressing, and neutralizing targets.
- Obscuring the vision of enemy forces.
- Isolating enemy formations and positions.
- Slowing and canalizing enemy movements.
- Killing or disabling the enemy at ranges greater than that of direct-fire weapons.
- Screening with smoke or isolating areas with scatterable mines.
- Reducing the effects of enemy artillery by active counterfire.
- Interdicting following threat echelons.
- Providing shock effect and confusion.

**Components of**  
**fire support**

The fire support system supporting the heavy forces consists of:

- Target acquisition and battlefield surveillance.
- Attack (lethal and nonlethal) and munitions.
- Command and control (C2) and coordination systems and facilities.
- Technical support (meteorological and survey).
- Personnel required to provide and manage FS.

**Lethal Fires**

The FS attack could be lethal or nonlethal. Lethal attack systems are those rockets, missiles, bombs, and projectiles which can cause casualties to troops, inhibit mobility, suppress or neutralize weapons systems, damage equipment and installations, and demoralize the enemy. The type of fire used in the attack defines the characteristics of lethal attack. The three types of lethal fire are:

- **Destruction**—Puts a target out of action permanently. Direct hits must destroy hard material targets. Usually, destruction requires large expenditures of ammunition and is not considered economical.
- **Neutralization**—knocks a target out of action temporarily. It does not require an extensive expenditure of ammunition and is the most practical type of mission. Most missions are neutralization fire. Ten percent or more casualties may neutralize a unit.
- **Suppression**—Limits the ability of the enemy personnel in the target area to perform their jobs. The effects of these fires usually last as long as the fires continue. Suppression requires a small amount of ammunition; however, since its effects are not lasting, it is unsuitable for most targets.

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<b>LS/A 1, ELO 1,</b> Nonlethal Attack	Nonlethal attack systems consist of smoke, illumination, and offensive electronic warfare which can exploit, disrupt, and deceive the enemy. Commanders use nonlethal attacks to disrupt the command and control (C2) capability of the enemy.
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Fire Support Assets	<p>FS destroys, neutralizes, and suppresses enemy weapons, enemy formations or facilities, and fires from the enemy rear area. The following assets form a fire support system available to the commander:</p> <ul style="list-style-type: none"> <li>• Field artillery and mortars.</li> <li>• Combat air support.</li> <li>• Communication jammers.</li> <li>• Naval gunfire (NGF).</li> <li>• Attack helicopters.</li> </ul>
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Field Artillery advantages and disadvantages	<p>The field artillery (FA) is the primary means of ground fire support available to the maneuver commander. The field artillery, while considered a combat arms, has a combat support mission. That mission is to destroy, neutralize, or suppress the enemy by cannon, rocket, and missile fire and to help integrate all fire support into combined arms operations. Field artillery is advantageous to the maneuver commander because it:</p> <ul style="list-style-type: none"> <li>• Adds depth to the battlefield. The FA can strike and destroy the enemy deep before he can influence the battle.</li> <li>• Provides first round fire for effect capability.</li> <li>• Provides a variety of ammunition and fuze combinations.</li> <li>• Provides continuous fire under all weather conditions, day or night, and from all types of terrain.</li> <li>• Provides responsive shifting and massing of fires.</li> <li>• Provides cross-country mobility compatible with the task force.</li> </ul> <p>The disadvantages of FA are that it:</p> <ul style="list-style-type: none"> <li>• Is an area fire weapon. However, terminally guided munitions can destroy point targets.</li> <li>• Has a limited ability to survive enemy ground, air, and artillery attacks. There is detection of weapons because of their large signature from communications and firing. Therefore, artillery must displace frequently.</li> <li>• Has limited ability to bring timely and accurate massed fires on moving targets without detailed coordination and planning.</li> <li>• There must be observation of fire to be effective.</li> </ul>
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**LS/A 1, ELO 1, Mortars** Mortars are the only organic indirect fire support assets in the maneuver arms arsenal. Mortars provide the maneuver commander with responsive high-angle fires that can kill the enemy, suppress enemy fires, and conceal the movement of friendly forces. Therefore it is extremely important to integrate mortar fires into the fire support plan. The fire support officer's (FSO) responsibility for control of mortar fire is to recommend the utilization of mortars in the fire support plan.

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**Mortar Employment** The commander has three options in considering how to employ the battalion mortar platoon:

- **Platoon employment**—The platoon operates from one or two firing positions and fires as one unit. The best way to position a platoon with four or more mortars is to place the platoon sections in two separate locations, at least 300 meters apart. However, this distance is terrain based, the ability to cover the sector, and limits in command and control. A platoon located in a single area enhances command and control and local security but is more vulnerable to enemy counterfire. The fire direction center (FDCs) mass fires from separate locations onto a single target.
  - **Section employment**-- This places each section as a separate firing unit. Each section consists of two or three mortars. The employment of the mortar platoon is normally by section to cover wider frontages. Each section positioned so it can provide fires within the zone of action of the supported maneuver element. When employed as a section, each platoon has an FDC or a computer. Depending on the range to target and separation of sections, more than one section may be able to mass fires on the same target.
  - **Squad employment**—This places one single mortar and its crew in the battlefield as separate firing units. This is done to support special requirements, such as one-mortar illumination mission(s), roving mortar adjustments, antiarmor ambushes, support of a very wide front, coverage of a large front by the maneuver element, and support for critical installations during rear combat operations.
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**Combat Air Support** The Air Force, Navy, and Marine Aircraft Wing provide air support if available. The mission is to support Army operations by providing air interdiction (AI) and close air support (CAS) operations. At the brigade, CAS is the primary support mission. CAS involves air actions against hostile targets that are in close proximity to friendly forces and require detailed integration of each air mission with the fire and movement of friendly forces.

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**LS/A 1, ELO 1,**  
**Naval Gunfire**  
**(NGF)**

The mission of naval gunfire is to assist the ground forces by destroying, neutralizing, or suppressing targets that oppose that force. NGF provides limited volumes of FS close to coastal waters. The brigade air and naval gunfire platoon, a part of the air and naval gunfire liaison company (ANGLICO), coordinates naval gunfire. The functional units of the ANGLICO are “supporting arms liaison teams” (SALT). The SALT teams become part of the battalion fire support element and members of the SALT known as firepower control teams are available to the maneuver companies for the purpose of requesting and adjusting naval gunfire. Naval gunfire ships support two types of tactical missions:

- Direct support—Supports a battalion. This ship can deliver both planned and on-call fires. Call (on-call) fires are normally requested and adjusted by the firepower control team of the supported unit or by an air spotter.
- General support—A ship is usually in general support (GS) of combined brigades and divisions. The naval gunfire officer conducts and directs the fires for a GS ship for the supported unit. The primary purpose of a GS ship is to allow the supported commander to add depth to the fires of the DS ships without the necessity for requests to higher echelons.

**Advantages and**  
**Disadvantages**

The advantages of NGF are that it:

- Fires a variety of munitions and fuzes, including HE, WP, and illumination.
- Has a flat trajectory. This makes naval gun particularly effective against vertical-face targets such as coastal fortifications.
- Can deliver a large volume of fire in a relatively short period.

The disadvantages of NGF are that it:

- Has limited caliber available.
- May have a large range error. Always try to ensure that the ship does not fire toward or directly over friendly troops.
- Is less accurate in rough seas.
- Can expend a limited quantity of ammunition. All ships must keep some ammunition to protect themselves from enemy air or surface attacks. Self-preservation and preservation of the fleet are their first priority.
- Has limited interoperability between the ship and ground force communications. The ship’s radios are high frequency (HF) amplitude modulated (AM) and are not compatible with the standard Army frequency modulated (FM) radios.
- Has a flat trajectory so it is less effective than FA against targets on reverse slopes.

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**LS/A 1, ELO 1,** Attack helicopter units do not generally get attached lower than division level, but may come under operational control (OPCON) to a brigade. Attack Helicopters rarely do fire support missions, but are capable of this mission and limited close air support (CAS) because they are both sensors and shooters. As shooters, they possess direct and indirect fire weapons.

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Advantages and Disadvantages

The advantages of attack helicopters are that they—

- Have a variety of munitions including wire guided and laser guided missiles.
- Are capable of attacking targets within 500 meters of friendly troops.
- Can fire aerial rockets indirectly at extended ranges.
- Possess rapid mobility throughout the battlefield.
- Can destroy point targets and moving targets.
- Deliver, guide, and help guide smart laser munitions.

The disadvantages of attack helicopters are that they—

- Are vulnerable to enemy air defense and counterair.
  - Have limited loiter times.
  - Require suppression of enemy defenses (SEAD) and may interrupt FA fires due to the risk to the aircraft.
  - Require large amounts of rocket ammunition for effective attacks if fired directly.
  - Sacrifice antiarmor systems to permit aerial rocket fire.
- 

Joint Air Attack Team Operations (JAAT)

A Joint air attack team operation (JAAT) is an aviation operation capable of adding to the lethality of combined arms operations. The JAAT is a combination of scout and attack helicopters and tactical aircraft supported by field artillery, operating together to attack a single high-priority target or target array. The JAAT may operate either with or independently from ground units. The JAAT is most effective against moving targets in open areas and least effective when attacking targets that are in camouflaged dug-in positions.

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Lesson Exercise 1

Click here to go to [Lesson Exercise 1](#).

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**ELO 2**

<b>Action:</b>	List the inherent responsibilities of the four standard field artillery missions.
<b>Conditions:</b>	In a self-study environment using the material provided in this lesson.
<b>Standard:</b>	In accordance with this lesson and/or FM 6-20-40.

**Learning Step/  
Activity (LS/A)  
1, ELO 2,  
Tactical  
Missions**

The four field artillery standard tactical missions are:

- Direct support.
- Reinforcing.
- General support reinforcing.
- General support.

**Field Artillery  
Responsibilities**

The seven inherent responsibilities of field artillery standard tactical missions are as follows:

<b>An FA unit with a mission of --</b>	<b>Direct Support</b>	<b>Reinforcing</b>	<b>General Support Reinforcing</b>	<b>General Support</b>
<b>Answers calls for fire in priority from--</b>	1. Supported unit. 2. Own observers. <sup>1</sup> 3. Force FA HQ.	1. Reinforced FA. 2. Own observers. <sup>1</sup> 3. Force FA HQ.	1. Force FA HQ. 2. Reinforced unit. 3. Own observers. <sup>1</sup>	1. Force FA HQ. 2. Own observers. <sup>1</sup>
<b>Has as its zone of fire--</b>	Zone of action of the supported unit.	Zone of fire of reinforced FA.	Zone of action of supported unit to include zone of fire of reinforced FA unit.	Zone of action of supported unit.
<b>Furnishes fire support team (FIST) or fire support element (FSE)<sup>2</sup>--</b>	Provides temporary replacements for casualty losses as required.	No requirement.	No requirement.	No requirement.

**LS/A 1, ELO 2,**  
Field Artillery  
Responsibilities,  
continued

<b>An FA unit with a mission of --</b>	<b>Direct Support</b>	<b>Reinforcing</b>	<b>General Support Reinforcing</b>	<b>General Support</b>
<b>Furnishes liaison officer--</b>	No requirements	To reinforce FA unit HQ.	To reinforce FA unit HQ.	No requirement.
<b>Establishes communications with --</b>	FSO's and supported maneuver unit HQ.	Reinforced FA unit HQ.	Reinforced FA unit HQ.	No requirement.
<b>Is positioned by --</b>	DS FA unit commander or as ordered by force FA HQ.	Reinforced FA unit or as ordered by force FA HQ.	Force FA HQ or reinforced FA unit if approved by force FA HQ.	Force FA HQ.
<b>Has its fires planned by -</b>	Develops own fire plans.	Reinforced FA unit HQ.	Force FA HQ.	Force FA HQ.
<sup>1</sup> Includes all target acquisition means not deployed with supported unit (radar, aerial observers, survey parties, and so forth). <sup>2</sup> An FSE for each maneuver brigade, battalion, or cavalry squadron and one FIST with each maneuver company or ground cavalry troop are trained and developed by the FA unit authorized these assets by TOE. After deployment, FISTs and FSEs remain with the supported maneuver unit throughout the conflict.				

Lesson  
Exercise 2

Click here to go to [Lesson Exercise 2](#).

**ELO 3**

<b>Action:</b>	Describe the fire support organization, personnel, and duties.
<b>Conditions:</b>	In a self-study environment using the material provided in this lesson.
<b>Standard:</b>	In accordance with this lesson and/or FM 6-20-40.

**Learning Step/  
Activity (LS/A)  
1, ELO 3,**  
Fire Support  
Team (FIST)

In an armor/cavalry unit the fire support team (FIST) consists of only a headquarters. In the mechanized infantry there are three additional forward observer parties; each consisting of one sergeant and one radio/telephone operator (RATELO). The FIST headquarters organization consists of one company fire support officer (FSO), one fire support sergeant, one fire support specialist, and one radiotelephone operator (RATELO).

**LS/A 1, ELO 3,**

Fire Support  
Officer (FSO)

The FIST's fire support officer (FSO) acts as the maneuver company's fire support coordinator (FSCOORD); as such, he integrates all fires to support the company commander's scheme of maneuver. Although he is not the primary shooter for the company, the FSO must be an expert at locating targets and adjusting fires.

Company Fire  
Support  
Sergeant

The fire support sergeant is the senior enlisted assistant to the FSO. He acts as the company FSCOORD in the FSO's absence. He is responsible for supervising and training all enlisted section members on the maintenance and use of their equipment. He must also be able to perform all duties of his FSO.

Battalion/  
Squadron  
Fire Support  
Element (FSE)

The battalion/squadron fire support element (FSE) collocates with the operations staff element of the maneuver force. Battalion or squadron fire support element personnel are one (CPT) fire support officer, one (LT) fire support plans/targeting officer, one (SFC) fire support sergeant, two (SPC) fire support specialist, and two (PFC) amplitude modulated (AM) radio operators.

Battalion FS  
Cell

In the battalion, the addition of other members of the staff form a fully functional fire support cell. This enhances the fire support coordination and speeds the delivery of needed combat fire support to the maneuver elements of the battalion. These staff members may include:

- S-3 Air.
- Heavy mortar platoon leader.
- Battalion chemical officer.
- Tactical air control party.
- Supporting arms liaison team (SALT).
- Air defense officer.
- Other representatives (engineers, allied forces, or army aviation)

It is important to remember that fire support is only a part of the duties of the members of the staff shown above. All members of the planning staff must continuously and aggressively integrate fire support into every aspect of operational planning.

Brigade/  
Regimental FSE

The brigade or regimental fire support element has one (MAJ) fire support officer, one (1LT) fire support plans/targeting officer, one (SFC) fire support sergeant, two (SPC) fire support specialist, and two (PFC) AM radio operators.

**LS/A 1, ELO 3,**  
Brigade FS Cell

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In the brigade, as in the battalion fire support element, there are additional personnel augmenting the basic fire support element to provide a fully functional fire support cell. These additional personnel and their functions include:

- An air liaison officer (ALO) for matters concerning the coordination and employment of Air Force assets in support of the brigade.
- A Naval gunfire liaison officer (NGLO) for matters concerning the coordination and employment of naval gunfire and naval air in support of the brigade.
- A brigade chemical officer for matters concerning use of chemical agents, riot control agents, obscurants, aerosol agents, and deployment of NBC defense.
- An S-3 air as a maneuver assistant S-3 and to coordinate the employment of TACAIR support with Army aviation with the FSO, ALO, and air defense (AD) platoon leader.
- Other representatives, such as liaison officer of allied forces supporting the operation of an Army liaison officer when using Army aviation as a fire support asset.

In addition to the staff officers described above and at battalion level, a few other staff members may be in the brigade tactical command post (CP). The FSO should have a working knowledge of their duties.

- The brigade air defense officer manages the air defense assets in support of the brigade. He may have valuable information on air space coordination, the enemy air situation, and the location of enemy air defense targets.
  - The brigade engineer manages the engineer assets placed in support of the brigade. He is the person with whom to coordinate the coverage of obstacles, the use of the family of scattered mines (FASCAM), and requirements for general battlefield mobility and countermobility.
  - The intelligence and electronic warfare (IEW) representative from the divisional combat EW and intelligence battalion controls and supervises the IEW assets in support of the brigade. He can provide some targets and information and is the tie-in for the offensive use of jamming. The FSO needs a working knowledge of the IEW assets available and their sources to effectively coordinate their use in the attack of targets.
-

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- LS/A 1, ELO 3,** Fire Support Coordinators (FSCOORD), The DS FA battalion commander is the fire support coordinator for the brigade. He is specifically responsible for all FS planning and coordination for the maneuver brigade. The DS battalion commander provides an assessment of current and near-term capabilities of his unit and of other FS assets supporting the force. Duty location of the DS FA battalion commander at any given time is where he can best execute the maneuver commander's intent for FS. In addition to supporting the brigade, the DS FA battalion commander is responsible for:
- Training the FS system and his battalion to perform successfully all stated and implied missions and task associated with providing FS to a maneuver force.
  - Continuously articulating his assessment of the current and future capabilities and status of all FS assets supporting the maneuver force. This assessment may come from reports or by personal observation, at the FSCOORD's discretion.
  - Providing a knowledgeable, experienced officer as brigade FSO. The FSCOORD must establish a special mentor relationship with this officer since the FSO, in the absence of the FSCOORD, personally represents him to the brigade commander. More than any other officer, the FSO must understand the FSCOORD's intent in supporting the maneuver plan. In addition, the FSCOORD must ensure that his brigade FSO is equally conversant on the FSCOORD's assessment of FS assets supporting the maneuver force.
  - Approving the DS battalion FA support plan.
- 

- Brigade FSO The brigade fire support officer serves as full-time liaison between the DS FA battalion and the maneuver brigade. He helps the maneuver brigade S-3 integrate fire support into the maneuver commander's scheme of operations. The FSO has additional duties as follows:
- Keep the brigade commander informed of the fire support assets, their capabilities and limitations, and their tactical missions.
  - Keep the commander informed of enemy indirect fire capabilities and limitations.
  - Develop the brigade fire support plan on the basis of the commander's intent, and brief the commander.
-

**LS/A 1, ELO 3,**  
 Brigade FSO,  
 continued

- 
- Ensure battalion FSO's plan fires in accordance with the brigade commander's guidance, and establish priority of fires.
  - Consolidate target list from the battalion FSOs, and resolve duplications.
  - Plan targets in depth and other targets that were not planned by subordinate FSOs but are within the brigade zone of action.
  - Coordinate request for additional fire support from battalion FSOs when the fire support means available at company or battalion level are inadequate.
  - Recommend and adhere to fire support coordinating measures.
  - Use commander's guidance as a checklist in preparing fire support plans and briefings.
  - Coordinate with the ALO on brigade use of TACAIR assets.
- 

Battalion FSO

The battalion FSO's primary duty is to plan, coordinate, and execute fires to support the maneuver battalion commander's scheme of maneuver. He must also:

- Advise the maneuver commander and his staff on fire support matters.
  - Keep key personnel informed of pertinent information, such as battlefield intelligence.
  - Train the battalion fire support element (FSE).
  - Supervise all functions of the battalion FS cell.
  - Train the company FSOs.
  - Recommend fire support coordination measures.
  - Write and disseminate the fire support plan and fire support execution matrix.
  - Coordinate with the tactical air control party (TACP) on TACAIR missions and coordinate with close air support (CAS) control personnel, air liaison officer (ALO), enlisted terminal attack controller (ETAC), and airborne forward air controller (AFAC).
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**LS/A 1, ELO 3,  
Plans/Targeting  
Officer**

The artillery commander assigns a plans/targeting officer to both the brigade and the battalion fire support elements. He is the assistant fire support officer and must be knowledgeable of the commander's duties in order to perform them in his absence. The plans/targeting officer gives the fire support element a 24-hour fire support officer capability. He also interfaces with the S-2, providing information and recommendations concerning targeting information. His specific duties include:

- Help the S-2 develop the target acquisition and surveillance plan.
- Help provide staff supervision of the target acquisition (TA) assets attached or organic to and under operational control of the brigade/battalion.
- Develop, recommend to the commander, and disseminate the attack guidance matrix to the FS cell, command post (CP), and subordinate elements.
- Determine, recommend, and process time-sensitive high-payoff targets to the fire support element.
- Coordinate with the maneuver brigade/battalion S-2 for target acquisition coverage and processing of high-payoff assets.
- Work with the battalion/brigade S-2, to produce target selection standards matrix for TA assets.

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**Fire Support  
Sergeant**

The battalion/brigade fire support sergeant is the senior enlisted assistant to the battalion/brigade fire support officer. He acts as the fire support officer in his absence. His responsibilities include:

- Training enlisted personnel of the FSEs, FISTs, and combat observation/laser teams (COLTs).
- Supervising the maintenance of all equipment assigned to these sections.
- Perform all duties of his FSO in his absence.

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**Lesson  
Exercise 3**

Click here to go to [Lesson Exercise 3](#).

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**ELO 4**

<b>Action:</b>	List the types of fire support coordinating measures.
<b>Conditions:</b>	In a self-study environment using the material provided in this lesson.
<b>Standard:</b>	In accordance with this lesson and/or FM 6-2-40 and FM 101-5-1.

**Learning Step/  
Activity (LS/A)  
1, ELO 4,  
Introduction**

Battle staff noncommissioned officers, while functioning in a tactical operations center, will interpret and depict graphically standard fire control coordinating measures. These fire support coordinating measures assist the commander in ensuring that friendly fire will not jeopardize troop safety, interfere with other fire support means, or disrupt adjacent operations. Fire support coordination measures facilitate the rapid engagement of targets while providing safeguard for friendly forces.

**Boundaries**

Commanders use boundaries as the basic maneuver control measure to designate the geographical area for which a particular unit is tactically responsible. Easily recognizable terrain features, both on the ground and the map usually depict boundaries. Boundaries are the only fire control measures that are both restrictive and permissive. These boundaries effect fire support in two ways:

- Restrictive. No fire support means may deliver fires across a boundary without prior coordination with the force having responsibility for the area within that boundary (unless a permissive measure is in effect).
- Permissive. The maneuver commander has complete freedom of fire and maneuver within his boundaries (unless otherwise restricted by higher headquarters).

**NOTE:** For an example of boundaries turn to FM 101-5-1, pages 3-2 and 3-11.

Many times, boundaries negate the need for fire support coordinating measures. In many cases, the maneuver commander may chose not to establish boundaries for his subordinate elements. In that case, the commander's fire support officer is responsible for all fire support coordination within the area of operation. As previously stated, fire support coordination measures facilitate the rapid engagement of targets and at the same time, provide safeguard for friendly forces.

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**LS/A 1, ELO 4,** The definition of permissive measures are those measures which facilitate the attack of targets. Let's look at those measures that fall under permissive measures:

Permissive Measures

- Coordinated fire line (CFL).
  - Fire support coordination line (FSCL).
  - Free fire area (FFA).
- 

Coordinated Fire Line (CFL)

The coordinated fire line (denoted by a broken line) is a line beyond which conventional surface-to-surface fires impact within the zone of the establishing headquarters without additional coordination. Normally established by brigade or higher headquarters, a battalion operating independently may establish the CFL.

An example of the coordinated fire line follows. It shows the area that extends from the CFL forward to the end of the 2d brigade boundary is subject to attack by all surface-to-surface fire support means without coordination with the 2d brigade. This attack includes units in and adjacent to the 2d brigade.

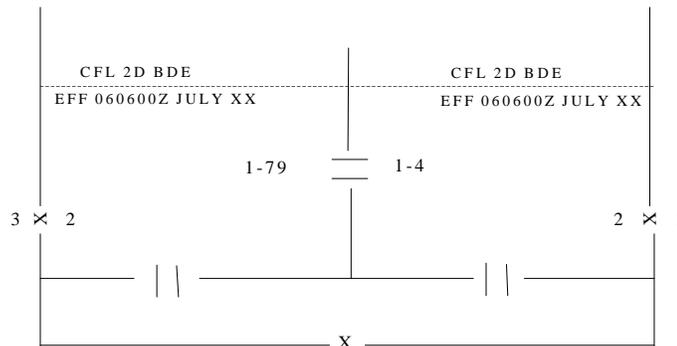


Figure 1. Coordinated fire line.

(REF: FM 101-5-1, p 3-21)

In the offense, the placement of the CFL should be far enough in front of friendly forces to facilitate lifting and/or shifting of the measure to avoid friendly casualties and to allow room for maneuver forces. Always be aware of the time required to lift and /or shift the measure. In the defense, the CFL should be brought in close to friendly forces. Weather, terrain, and munitions effects are the considerations for how close the CFL is brought in to friendly forces.

---

**LS/A 1, ELO 4**  
**Fire Support**  
**Coordination**  
**Line (FSCL)**

Corps establishes the fire support coordination line (FSCL) within its area of operation to support its concept of the operation. The purpose of the FSCL is to coordinate fires of air, ground, or sea weapons systems using any type of ammunition against surface targets. There should be coordination on the location of the FSCL with the appropriate tactical air commander and other supporting elements. Another purpose of the FSCL is to allow the corps and its subordinate and supporting units (such as the Air Force) to expeditiously attack targets of opportunity beyond the FSCL. Army fire support elements attacking targets beyond the FSCL should coordinate with supporting tactical air. This coordination consists of informing and/or consulting with supporting tactical air; however, the inability to effect coordination will not delay the attack. Fire support elements expedite coordination by collocating all air, ground, and naval gun fire support representatives at the fire support cell. The following figure is an example of a fire support coordination line (FSCL):

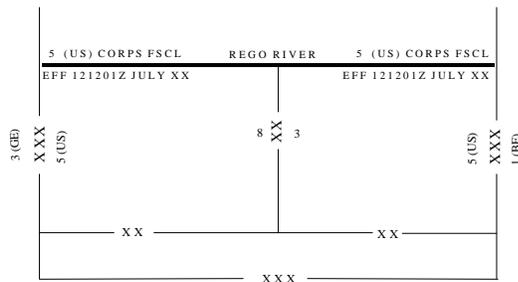


Figure 2. Fire support coordination line

(REF: FM 101-5-1, p 3-21)

**Free-fire Area**  
**(FFA)**

A free-fire area (FFA) is an area into which any weapon system may fire without additional coordination with the establishing headquarters. Normally the division or higher headquarters will establish this area on identifiable terrain. The following figure is an example of a free-fire area:



Figure 3. Free-fire Area

(REF: FM 101-5-1, p 3-21)

---

**LS/A 1, ELO 4,** Restrictive Measures The definition of restrictive measures are those that provide safeguards for friendly forces, facilities, or terrain. Let's look at those measures that fall under restrictive measures:

- Restrictive fire line.
  - Restrictive fire area.
  - No-fire area.
  - Airspace coordination area.
- 

**Restrictive Fire line (RFL)**

A restrictive fire line is a line between converging friendly forces that prohibit fires, or their effects, across the line without coordination, with the affected force. The common commander of the converging forces establishes the RFL on identifiable terrain. The following figure shows an example of the 2d brigade conducting a link up with the 1st brigade. The 8th In Div commander, the common commander for both forces, established the RFL. If the 2d brigade wants to attack a target in the 1st brigade area it must coordinate with the 1st brigade to do that.

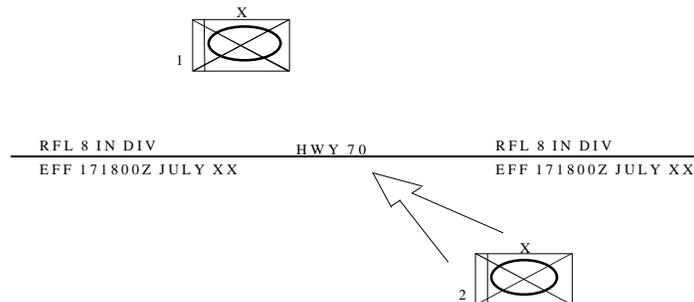


Figure 4. Restrictive fire line (RFL)

(REF: FM 101-5-1, p 3-22)

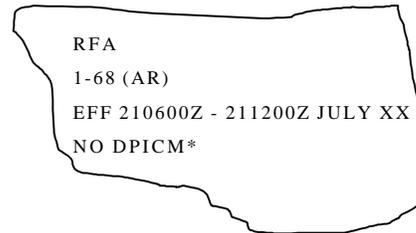
---

**Restrictive Fire Area (RFA)**

This is an area with specific fire support restrictions. Elements desiring to fire munitions which exceed those restrictions must coordinate those fires with the establishing headquarters. Battalion or higher headquarters establishes the RFA; however on occasion a company operating independently may establish it. In the following example of a restrictive fire area, there is no firing of dual purpose improved conventional munitions within the restrictive fire area; however, units may fire smoke, high explosive or other less lethal munitions.

---

**LS/A 1, ELO 4,**  
Restrictive Fire  
Area (RFA),  
continued



\* Denotes no dual purpose improved conventional munitions.

Figure 5. Restrictive fire Area.

(REF: FM 101-5-1, p 3-22)

No-Fire Area  
(NFA)

A no-fire area (NFA) is an area into which no fires or their effects are allowed. Normally a division or higher headquarters will establish the NFA on identifiable terrain in conjunction with a host nation to preclude damage or destruction to a national asset, population center, or shrine. Another reason to establish an NFA is to protect an element of tactical importance, such as a fuel storage area. There are two exceptions to the no-fire rule:

- When the establishing headquarters allows fires on a mission-by-mission basis.
- When an enemy force, located in the NFA, engages a friendly force and the commander returns fire to defend his forces. The amount of fire should not exceed that sufficient to protect the force and continue the mission.

The following figure is an example of a No-fire area:

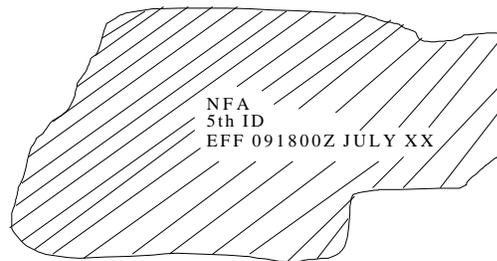


Figure 6. No-fire area (NFA)

(REF: FM 101-5-1, p 3-21)

**LS/A 1, ELO 4,** An airspace coordination area (ACA) is a block of air space in the target area in which friendly aircraft are usually safe from friendly surface fires. Most Airspace Coordination Area (ACA) often commanders use informal ACAs, which are the preferred methods. The following figure is an example of an ACA:

```

A C A
521D (M) (B)
MIN ALT: 500
MAX ALT: 3000
Grids NK 2313 to NK3013 to
NK 2320 to NK 3022
EFF: 281400Z-281530Z APRIL XX
    
```

Figure 7. Airspace coordination area

(REF: FM 101-5-1, p 3-21)

Task force or higher level commands establish an ACA by using lateral, altitude, timed, or lateral and altitude separation and not depicted on charts or maps. ACAs are usually in effect for short periods of time. The amount of time depends on the time required for the air mission to get into and out of the target area. Brigade and higher headquarters occasionally establish a formal ACA. The ALO recommends the size. The expression of altitude is in feet above sea level.

Lesson  
Exercise 4

Click here to go to [Lesson Exercise 4](#).

**ELO 5**

<b>Action:</b>	Describe the fire planning terms, symbols, schedules, and tools.
<b>Conditions:</b>	In a self-study environment using the materials provided in this lesson.
<b>Standard:</b>	In accordance with this lesson and/or FM 6-20-40, and FM 101-5-1.

**Learning Step/  
Activity (LS/A)  
1, ELO 5,**  
Target Terms

One of the most fundamental terms used in fire support planning and coordination is **target**. A target consists of personnel, material, or a piece of terrain designated and numbered for future reference and/or attack. There are targets of opportunity and planned targets.

**LS/A 1, ELO 5,**  
Target Terms,  
continued

- Target of opportunity is a target that appears during combat and against which there are no prearranged attacks.
- A target with prearranged fires is a planned target.

The degree of prearrangement varies, but some prior coordination or action takes place to facilitate its engagement then is subdivided into:

- A scheduled target. A planned target, attacked at a specific time, related to an H-hour or to another time reference.
- On-call target. A planned target not scheduled for attack at a specific time but attacked when requested. The on-call target requires less reaction time than a target of opportunity.
- Priority target. A target attacked when requested, taking priority over all other targets.

Priority Targets

The maneuver commander designates priority targets. He also gives specific guidance as to:

- When the target will become priority.
- Munitions to use.
- Accuracy required.
- Desired effects.

When not engaged in fire missions, firing units lay on priority targets.

Final Protective  
Fires

Final protective fires are a special set of priority targets designed to create a final barrier of steel that keeps the enemy from moving across defense lines. Final protective fires are desperation fires.

Target  
Numbering  
System

To designate nonnuclear targets for fire support operations, the Army adheres to the provisions of NATO standardization agreement (STANAG) 2147 and quadripartite standardization agreement (QSTAG) 221. The target numbering system is an alpha-numeric system comprised of two letters followed by four numbers (i.e., AB0001). Each corps sized force uses this numbering system. The first character is a letter designating a particular nation or a corps associated with a particular nation. The codes for the United States are: A, K, Y, and W. Corps assigns the second letter down to brigade level. There are also second-letter designators made for corps artillery command posts (CPs),

---

**LS/A 1, ELO 5,** corps fire support (FS) cells, division artillery CPs, and division FS cells. The appropriate fire support element coordinates this letter assignment. Fire support elements, assigned the two alpha characters, then assign the four numerical characters to appropriate sub-elements. Listed below are the assignment of numbers and the elements assigned to them:

Target  
Numbering  
System,  
continued

- 0001-1999. FS cell.
- 2000-2999. FSO, lowest numbered maneuver battalion or squadron.
- 3000-3999. FSO, second lowest numbered maneuver battalion or squadron.
- 4000-4999. FSO, third lowest numbered maneuver battalion or squadron.
- 5000-6999. Additional FSOs.
- 7000-7999. Fire direction center (FDC), direct support artillery.
- 8000-8999. Counterfire targets.
- 9000-9999. Toxic chemical targets.

A battalion or squadron size element with a block of numbers may sub-allocate numbers as follows:

- 000-199. FSO.
- 200-299. FIST, Co A.
- 300-399. FIST, Co B.
- 400-499. FIST, Co C.
- 500-699. Additional FISTs and/or COLTS.
- 700-799. Battalion mortar platoon, squadron, or howitzer battery.
- 800-999. As required.

---

Target Symbols Standard symbols identify targets and other elements in the preparation of maps, charts, and overlays to identify targets by type. We will now cover the different type of target symbols:

- Point target.
  - Linear target.
  - Rectangular target.
  - Circular target.
  - Final protective fire.
  - Target reference point.
-

---

**LS/A 1, ELO 5**  
 Point Target

A target of such small dimensions that it requires the accurate placement of ordnance in order to neutralize or destroy it. The following figures shows a point target with relevant information:

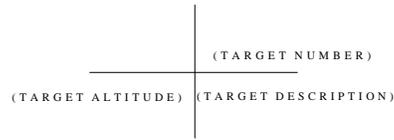


Figure 8. Point target symbol

(REF: FM 101-5-1, p 3-24)

---

**Linear Target**

A linear target is more than 200 meters but less than 600 meters long. Targets longer than 600 meters require fire support assets other than field artillery or further subdivided into multiple targets for attack by field artillery. You designate a linear target on the target list by two grids or a center grid, length, and attitude. The following figure shows an example of a linear target:



FIG 9. Linear target symbol

(REF: FM 101-5-1, p 3-23)

---

**Rectangular Target**

A rectangular target is one which is wider and longer than 200 meters. You designate it on the target list by four grids or by a center grid, length, width, and attitude. The following figure shows an example of a rectangular target:

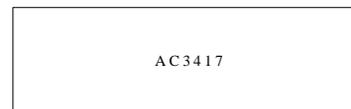


Figure 10. Rectangular target

(REF: FM 101-5-1, p 3-24)

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**LS/A 1, ELO 5,** A circular target is circular in nature or its exact shape is vague. Its target list  
Circular Target designation is by a center grid and a radius. The following figure shows a  
Circular target.

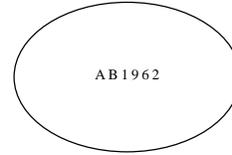


Figure 11. Circular target

(REF: FM 101-5-1, p 3-24)

---

**Final Protective** A final protective fire (FPF) is a type of priority fire which is similar to a  
**Fire** linear target. The symbol used includes the target number, the designation of  
FPF, and the system and/or unit to deliver the fires. The following figure  
shows an example of a final protective fire symbol:

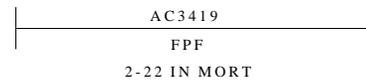


Figure 12. Final protective fire symbol

(REF: FM 101-5-1, p 3-23)

---

**Target** The purpose of target reference points (TRPs) is to orient direct fire weapons  
**Reference Point** systems. All TRPs should have dual identification, both in terms of the direct  
fire system and the target numbering system. The symbol is the same as that  
of a standard target with a target number and a TRP letter. The following  
figure shows an example of a TRP:

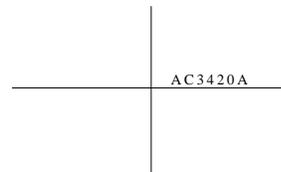


Figure 13. Target reference point

(REF: FM 101-5-1, p 3-24)

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**LS/A 1, ELO 5,**  
Target List  
Work Sheet

Now that you are familiar with how to depict targets, you must become familiar with the listing of targets on the target list work sheet. The target list work sheet is a form that facilitates fire planning by the fire support coordinator (FSCOORD). It is a preliminary listing of all targets and their descriptions from which the FSO can select and plan. The following figure shows an example of a target list work sheet:

TARGET LIST WORK SHEET											
For use of this form see FM 6-20-40 or 6-20-50; the proponent agency is TRADOC.											
										SHEET <u>1</u> OF <u>1</u>	
LINE NO	TARGET NO	DESCRIPTION	LOCATION	ALTITUDE	ATTITUDE	SIZE		SOURCE ACCURACY	REMARKS		
						LENGTH	WIDTH				
1	AA 3411	82mm MORTAR POSITION (4 TUBES)	923435								
2	AA 3412	MECH INF IN TRENCH LINE	918560		1600	400	50				
3	AA 3413	AIRCRAFT LANDING STRIP	920450		4800	1200	200				
4	AA 3414	SUSP REGT CP	947343			(RADIUS 800M)					
5	AA 3415	FPF	875689	340	1650	200			ADJ W/+2 DELAY		
6	AA 3416	ROAD JUNCTION	885670						TRP A3		
7											
8											

Figure 14. Target list work sheet

(REF: FM 6-20-40, p D-5)

The contents of and procedures for preparing a target list work sheet follows:

- Line number—This is an administrative control measure for internal use. Assign each target a line number.
- Target number—Assign each target a target number from the block of numbers given to the planning source. The numbers should be sequential.
- Description—Enter a concise target description that is adequate for a decision on how to attack the target.
- Location—Enter grid coordinates for point, rectangular, and circular targets. For linear targets enter the coordinates of the center point.
- Altitude—Show the altitude of linear and rectangular targets in meters unless otherwise specified.

**LS/A 1, ELO 5,**  
Target List  
Work Sheet,  
continued

- Attitude—Enter the attitude of linear and rectangular targets in grid azimuths.
- Size (length and width)—Enter no dimensions for a point target, one dimension (length) for a linear target, two dimensions (length and width) for rectangular target, or the radius of a circular target.
- Source and accuracy—The information in this column aids in determining how to attack the target. When known enter the source and accuracy of the target data.
- Remarks—Enter any special consideration(s) for attack of the target. You may amplify the target description here.
- Work columns—To indicate targets included in a particular fire support schedule use these columns. Enter one diagonal line under the appropriate column to show that a particular schedule includes the target. After scheduling the target, enter an opposing diagonal line (forming an X) to show the action is complete.

Fire Support  
Overlay

The target overlay (fire support overlay) is a graphical representation of the target list work sheet which also includes some additional information. Symbols and target numbers indicate targets on the target overlay. You will plot fire support assets supporting the maneuver unit as well as all fire support coordinating measures on the overlay. The following figure is an example of a fire support overlay:

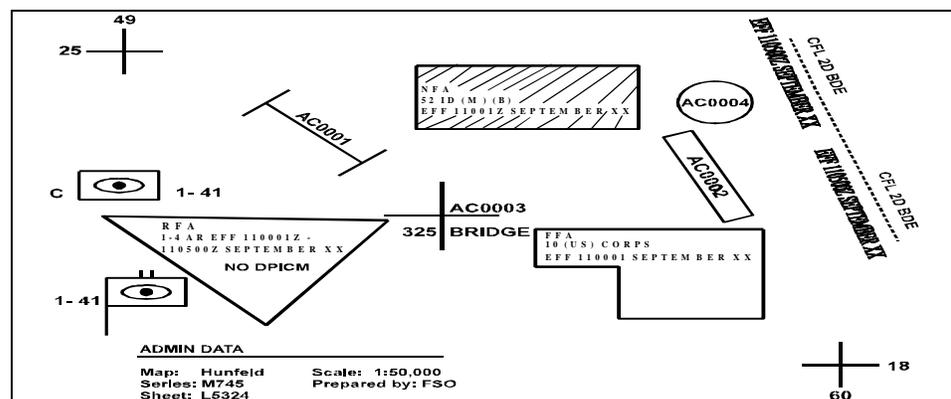


Figure 15. Fire support overlay

(REF: FM 101-5-1, pages 3-21 thru 3-24)

**LS/A 1, ELO 5,** The fire support overlay is a tool for:

Fire Support Overlay, continued

- Resolving duplication of targets.
- Integrating the scheme of maneuver with the plan of supporting fires.
- Determining the most appropriate unit to engage the target.

Fire Support Execution Matrix

The final tool used to assist in the employment of fire support is the fire support execution matrix. The fire support execution matrix is a concise, easy planning and execution tool that shows the many factors of a complicated fire support plan. The matrix is a valuable planning tool for both the offense and defense, because it logically displays how the fire support plan supports the commander's intent. When approved, the fire support execution matrix becomes the fire support element's primary execution tool. All echelons of command prepare fire support execution matrixes. The construction of all fire support execution matrixes is similar. They resemble spread sheets with the maneuver elements shown along the left side and the different phases (phase lines, time lines, or events) shown across the top. The phases should correspond to those in the brigade/division OPORD/OPLAN. The following figure shows an example of a fire support execution matrix:

	AA	LD/LC	PL RED	PL BLUE	PL GREEN		
Team Tank	155 FPF	FA PRI TGT AC3002	FA GP A3C		MORT Series Finish	MORT FPF	4
Team B	155 FPF	MORT B	MORT B MORT PRI TGT AC30008	MORT MORT A PRI TGT AC 3125 MORT B PRI TGT AC 3225		FA FPF	3
Team C	MORT FPF	MORT A	MORT A MORT PRI TGT AC3010	FA GP A6C		FA FPF	2
Battalion Control		FA GP A4C Series Joe	ACA Orange CAS TOT 0800	ACA Apple TOT 0815	FA GP A7C, A8C, A9C ACA Ralsln TOT 0900		1
	A	B	C	D	E	F	G

Figure 16. Battalion fire support execution matrix

(REF: FM 6-20-40, chap 2, p 2-18)

An interpretation of the example of the battalion fire support matrix, that includes the priorities of fires follows: As the units depart the assembly area (AA) toward the LD/LC, the Task Force (TF) FSO picks up the priority of fires. Group A4C and series Joe began in accordance with the guidance of the TF commander. If the FSO loses communication, unit SOP specifies that the

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**LS/A 1, ELO 5,** Click here to go to [Lesson Exercise 5](#).

Lesson  
Exercise 5

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**ELO 6**

<b>Action:</b>	Assist in the conduct of fire support planning.
<b>Conditions:</b>	In a self-study environment using the materials provided in this lesson.
<b>Standard:</b>	In accordance with this lesson and/or FM 6-20-40.

---

**Learning Step/  
Activity (LS/A)  
1, ELO 6,  
Fire Support  
Planning**

An important aspect of effective fire support is planning. While the actual task of fire support planning is the responsibility of the fire support officer, S-3, and commander, it is important that you understand the basic fundamentals of the process. Fire support planning is the continuing process of analyzing and scheduling fire support. Fire support planning determines how to use fire support, what types of targets to attack, and with what means to attack them. The goal of fire support planning is to effectively integrate fire support into battle plans to optimize combat power. In order to accomplish this goal, fire support planning is concurrent with battle planning. Planning must be flexible to accommodate the unexpected in combat and to facilitate rapid change. It anticipates:

- The massing of fire support assets.
  - Changes in the force mission.
  - Realistic movement times.
  - Resupply target acquisition.
  - Technical support (to include survey and meteorological) (met) requirements.
  - The replacement of entire units.
- 

**Vital  
Information**

In fire support planning, the FSO must consider three vital sets of information:

- Commander's intent and/or scheme of maneuver.
- Mission, enemy, terrain and weather, troops, and time available (METT-T).
- Guidance from higher FA headquarters.

Planners must consider all three items concurrently, because they each impact on the others.

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**LS/A 1, ELO 6,**  
Commander's  
Intent

At each level, the FSO plans fires as the commander outlines his scheme of maneuver. The FSO must:

- Know when and where the commander wants fire support.
- Fully understand what the commander wants in the way of effects, duration, and timing.
- Know why the commander wants support.
- Understand how to use the unit direct fire assets so he can supplement, not interfere with, their employment.
- Seek and understand the commander's guidance and intent and prepare to recommend the integration of available fire support.
- Inform the maneuver brigade commander and the S-3 of the FA logistics cost for implementing the fire support battlefield operating system (BOS) for each course of action. Present this information during the war-gaming portion of the command estimate process.

Also, the FSO informs the commander of all changes to the fire support plan he receives through fire support channels.

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Higher  
Headquarters  
Guidance

Higher headquarters will give the FSO information essential to the fire support plan. This information includes:

- The commander's intent at that level.
  - Fire support assets available.
  - Fire support coordinating measures.
  - Target lists.
  - Schedule of fires.
  - Constraints on FA Class V (ammo) consumption, stated in terms of a controlled supply rate (CSR).
  - Technical advice on fire support matters.
- 

Types of  
Planning

The complete process of fire support planning is beyond the scope of this course. However, we will briefly discuss the difference between deliberate fire planning and quick fire planning. Deliberate fire planning is a formal top-down process, with bottom-up refinement as time permits. However, deliberate fire planning begins immediately on receipt of the mission. At no time should any echelon FSO wait for target list from higher headquarters before beginning the basic fire plan. The purpose of quick fire planning is to quickly prepare and execute fire support in anticipation of an impending operation. Quick fire planning differs from deliberate fire planning in that it is a bottom-up process.

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**LS/A 1, ELO 6,** Basically, the FSO quickly:

Types of  
Planning,  
continued

- Conceives the plan.
- Issues warning orders to attack units.
- Briefs the commander.
- Receives approval.
- Executes plan.

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**LS/A 1, ELO 6,** Click here to go to [Lesson Exercise 6](#).

Lesson  
Exercise 6

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## SECTION IV SUMMARY

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### Review/ Summarize Lesson

This lesson introduced you to the combat fire support system, its components, control measures, and the procedures for employment. Regardless of whether you are assisting in the planning of combat fire support as the fire support sergeant or planning the MSR for a brigade as the brigade S-3 sergeant major, you must possess a thorough knowledge of the fire support system to more effectively perform your mission, and at the same time, assist your commander in the employment of his most deadly combat multiplier, **Combat Fire Support**.

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### Check on Learning

The six lesson exercises that you completed during this lesson serve as the check on learning for the TLO.

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### Transition to Next Lesson

None

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## SECTION V STUDENT EVALUATION

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### Testing Requirements

Prior to being enrolled into Phase II of the Battle Staff Course you must take a Phase I Exam that includes questions on material from this lesson. You must correctly answer 70% of the multiple choice questions to receive a "GO" on the Phase I exam. A "GO" is required for enrollment into Phase II.

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## Lesson Exercise 1: Instructions

The following six questions will test your knowledge of the materials covered in ELO 1. There is only one correct answer for each item. When you answer each question, you will be given immediate feedback. If you answer any question incorrectly, study that part of the ELO again.















Fire support is the \_\_\_\_\_ and \_\_\_\_\_ use of indirect-fire weapons, armed aircraft, and other lethal and nonlethal means in the support of a battle plan.

- A. collective, technical
- B. technical, coordinated
- C. collective, coordinated
- D. natural, technical















The two types of fire support attacks are \_\_\_\_\_ and \_\_\_\_\_

- A. permanent, temporary.
- B. lethal, collective.
- C. lethal, nonlethal.
- D. impact, nonimpact.















The three types of lethal fire are neutralization, suppression, and \_\_\_\_\_

- A. canalization.
- B. isolation.
- C. deception.
- D. destruction.















What is the primary means of ground fire support available to the maneuver commander?

- A. Mortars.
- B. Field artillery.
- C. Naval gunfire.
- D. Tactical air support.















Which mortar employment option supports special requirements?

- A. Platoon.
- B. Section.
- C. Squad.
- D. Company.















Which one of the following fire support assets is most effective against moving targets in the open area ?

- A. Tactical air support.
- B. OH-58D helicopters.
- C. Naval gunfire.
- D. Joint air attack team (JAAT).













**INCORRECT**

**The correct answer is C.**

Fire support is the collective and coordinated use of indirect-fire weapons, armed aircraft, and other lethal and nonlethal means in the support of a battle plan. PTP, Page 5













**CORRECT**













**INCORRECT**

**The correct answer is C.**

The two types of fire support attacks are lethal and nonlethal. PTP, Page 6













**CORRECT**













**INCORRECT**

**The correct answer is D.**

The three types of lethal fire are neutralization, suppression, and destruction.  
PTP, Page 6













**CORRECT**













**INCORRECT**

**The correct answer is B.**

Field artillery. PTP, Page 7













**CORRECT**













**INCORRECT**

**The correct answer is C.**

Squad. PTP, Page 8













**CORRECT**













**INCORRECT**

**The correct answer is D.**

Joint air attack team (JAAT). PTP, Page 10













**CORRECT**















## Lesson Exercise 2: Instructions

The following three questions will test your knowledge of the materials covered in ELO 2. There is only one correct answer for each item. When you answer each question, you will be given immediate feedback. If you answer any question incorrectly, study that part of the ELO again.















The four standard field artillery tactical missions are direct support, \_\_\_\_\_, general support reinforcing, and general support.

- A. combat support
- B. tactical support
- C. communications support
- D. reinforcing















When answering calls for fire in priority form; establishing liaisons; and furnishing forward observers are examples of each tactical mission's inherent \_\_\_\_\_.

- A. responsibilities
- B. functions
- C. powers
- D. qualities















An FA unit with a mission of direct support has its fires planned by \_\_\_\_.

- A. reinforced FA unit HQ.
- B. Force FA HQ.
- C. develops own fire plans.
- D. no requirements.













**INCORRECT**

**The correct answer is D.**

The four standard field artillery tactical missions are direct support, reinforcing, general support reinforcing, and general support. PTP, Page 11













**CORRECT**













# INCORRECT

The correct answer is A.

When answering calls for fire in priority form, establishing liaisons; and furnishing forward observers are examples of each tactical mission's inherent responsibilities.  
PTP, Page 11













**CORRECT**













**INCORRECT**

**The correct answer is C.**

An FA unit with a mission of direct support has its fire planned by develops own fire plans. PTP, Page 12













**CORRECT**















## Lesson Exercise 3: Instructions

The following six questions will test your knowledge of the materials covered in ELO 3. There is only one correct answer for each item. When you answer each question, you will be given immediate feedback. If you answer any question incorrectly, study that part of the ELO again.















The fire support \_\_\_\_\_ is responsible for supervising and training all enlisted section members on the maintenance and use of their equipment.

- A. officer
- B. specialist
- C. sergeant
- D. commander















The officer responsible for the coordination and employment of Air Force assets in support of the brigade is the \_\_\_\_\_

- A. brigade chemical officer.
- B. air liaison officer.
- C. naval gunfire liaison officer.
- D. brigade air defense officer.















An additional tasking to the senior artillery officer at each level of command is to perform the duties as the\_\_\_\_\_

- A. fire support coordinator.
- B. forward observer.
- C. plans and targeting officer.
- D. air defense officer.















The battalion fire support officer's primary duty is to plan, coordinate and \_\_\_\_\_ fires to support the maneuver battalion commander's scheme of maneuver.

- A. organize
- B. develop
- C. interpret
- D. execute















Which officer gives the fire support elements a 24-hour fire support officer capability?

- A. Brigade engineer.
- B. Plans and targeting officer.
- C. Air liaison officer.
- D. Air defense officer.















Who acts as the fire support officer in the absence of the fire support officer?

- A. Company Commander.
- B. Plans and targeting officer.
- C. Fire support sergeant.
- D. Air liaison officer.













**INCORRECT**

**The correct answer is C.**

The fire support sergeant is responsible for supervising and training all enlisted section members on the maintenance and use of their equipment. PTP, Page 13













**CORRECT**













**INCORRECT**

**The correct answer is B.**

The officer responsible for the coordination and employment of Air Force assets in support of the brigade is the air liaison officer. PTP, Page 14













**CORRECT**













**INCORRECT**

**The correct answer is A.**

An additional tasking to the senior artillery officer at each level of command is to perform the duties as the fire support coordinator. PTP, Page 15













**CORRECT**













**INCORRECT**

**The correct answer is D.**

The battalion fire support officer's primary duty is to plan, coordinate and execute fires to support the maneuver battalion commander's scheme of maneuver. PTP, Page 16













**CORRECT**













**INCORRECT**

**The correct answer is B.**

Plans and targeting officer. PTP, Page 17













**CORRECT**













**INCORRECT**

**The correct answer is C.**

Fire support sergeant. PTP, Page 17













**CORRECT**















## Lesson Exercise 4: Instructions

The following eight questions will test your knowledge of the materials covered in ELO 4. There is only one correct answer for each item. When you answer each question, you will be given immediate feedback. If you answer any question incorrectly, study that part of the ELO again.















Boundaries are the only fire control measures that are both \_\_\_\_\_ and \_\_\_\_\_

- A. physical and mechanical.
- B. permissive and restrictive.
- C. direct and permissive.
- D. restrictive and critical.















Permissive measures are those measures which \_\_\_\_\_ the attack of targets.

- A. block.
- B. support.
- C. facilitate.
- D. monitor.















Who establishes the fire support coordination line (FSCL) within its area of operation to support its concept of the operation?

- A. Division.
- B. Battalion.
- C. Brigade.
- D. Corps.















An area into which any weapon system may fire without additional coordination with the establishing headquarters is a \_\_\_\_\_

- A. no-fire area.
- B. restrictive fire area.
- C. restrictive fire line.
- D. free-fire area.















Those measures that provide safeguards for friendly forces, facilities, or terrain are \_\_\_\_\_ measures.

- A. permissive
- B. non-objective
- C. restrictive
- D. non-restrictive















A line between converging friendly forces that prohibit fires, or their effects, across the line without coordination with the affected force is a \_\_\_\_\_

- A. fire support coordination line.
- B. airspace coordination line.
- C. coordinated fire line.
- D. restrictive fire line.















An area into which no fires or their effects are allowed is a \_\_\_\_\_

- A. no-fire area.
- B. restricted fire area.
- C. restricted fire line.
- D. free-fire area.















A block of air space in the target area is a \_\_\_\_\_

- A. non-restrictive air space.
- B. free air space area.
- C. airspace permissive area.
- D. airspace coordination area.













**INCORRECT**

**The correct answer is B.**

Boundaries are the only fire control measures that are both permissive and restrictive.  
PTP, Page 18













**CORRECT**













**INCORRECT**

**The correct answer is C.**

Permissive measures are those measures which facilitate the attacks of targets.

PTP, Page 19













**CORRECT**













**INCORRECT**

**The correct answer is D.**

Corps. PTP, Page 20













**CORRECT**













**INCORRECT**

**The correct answer is D.**

An area into which any weapon system may fire without additional coordination with the establishing headquarters is a free-fire area. PTP, Page 20













**CORRECT**













**INCORRECT**

**The correct answer is C.**

Those measures that provide safeguards for friendly forces, facilitates, or terrain are restrictive measures. PTP, Page 21













**CORRECT**













**INCORRECT**

**The correct answer is D.**

A line between converging friendly forces that prohibit fires, or their effects, across the line without coordination with the affected force is a restrictive fire line. PTP, Page 21













**CORRECT**













**INCORRECT**

**The correct answer is A.**

An area into which no fires or their effects are allowed is a no-fire area. PTP, Page 22













**CORRECT**













**INCORRECT**

**The correct answer is D.**

A block of air space in the target area is a airspace coordination area. PTP, Page 23













**CORRECT**















## Lesson Exercise 5: Instructions

The following nine questions will test your knowledge of the materials covered in ELO 5. There is only one correct answer for each item. When you answer each question, you will be given immediate feedback. If you answer any question incorrectly, study that part of the ELO again.















A target with prearranged fires is a \_\_\_\_\_ target.

- A. good
- B. planned
- C. positioned
- D. field















A scheduled target is a planned target attacked at a specific \_\_\_\_\_.

- A. location.
- B. date.
- C. time.
- D. altitude.















Final protective fires are a special set of \_\_\_\_\_ targets.

- A. combat
- B. barrier
- C. expendable
- D. priority















The target numbering system is an alpha-numeric system comprised of two letters followed by \_\_\_\_\_ numbers.

- A. four
- B. five
- C. three
- D. two















The nation designator codes of the United States are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.

- A. B, C, O, and T.
- B. A, K, Y, and F.
- C. E, K, Y, and W.
- D. A, K, Y, and W.















A point target is a target that is less than \_\_\_\_\_ meters wide.

- A. 25
- B. 50
- C. 100
- D. 200















The purpose of target reference points (TRPs) is to \_\_\_\_\_ direct fire weapons systems.

- A. block
- B. orient
- C. enhance
- D. generate















Which target list work sheet block allows you to amplify the target description?

- A. Remarks.
- B. Work column.
- C. Size.
- D. Description.















When approved, the fire support execution matrix becomes the fire support element's primary \_\_\_\_\_ tool.

- A. planning
- B. development
- C. execution
- D. training













**INCORRECT**

**The correct answer is B.**

A target with prearranged fires is planned target. PTP, Page 24













**CORRECT**













**INCORRECT**

**The correct answer is C.**

A scheduled target is a planned target attacked at a specific time. PTP, Page 24













**CORRECT**













**INCORRECT**

**The correct answer is D.**

Final protective fires are a special set of priority targets. PTP, Page 24













**CORRECT**













**INCORRECT**

**The correct answer is A.**

The target numbering system is an alpha-numeric system comprised of two letters followed by four numbers. PTP, Page 24













**CORRECT**













**INCORRECT**

**The correct answer is D.**

The nation designator codes of the United States are A, K, Y, and W. PTP, Page 24













**CORRECT**













**INCORRECT**

**The correct answer is D.**

A point target is a target that is less than 200 meters wide. PTP, Page 26













**CORRECT**













**INCORRECT**

**The correct answer is B.**

The purpose of target reference points (TRPs) is to orient direct fire weapons systems.  
PTP, Page 27













**CORRECT**













**INCORRECT**

**The correct answer is A.**

Remarks. PTP, Page 29













**CORRECT**













**INCORRECT**

**The correct answer is C.**

When approved, the fire execution matrix becomes the fire support element's primary execution tool. PTP, Page 30













**CORRECT**















## Lesson Exercise 6: Instructions

The following five questions will test your knowledge of the materials covered in ELO 6. There is only one correct answer for each item. When you answer each question, you will be given immediate feedback. If you answer any question incorrectly, study that part of the ELO again.















Fire support planning is the continuing process of \_\_\_\_\_ and scheduling fire support.

- A. coordinating
- B. testing
- C. developing
- D. analyzing















The goal of fire support planning is to effectively integrate fire support into battle plans to \_\_\_\_\_ combat power.

- A. complement
- B. optimize
- C. direct
- D. control















In fire support planning, the FSO must consider \_\_\_\_\_ vital sets of information.

- A. five
- B. four
- C. three
- D. two















On receipt of a mission, \_\_\_\_\_ fire planning begins immediately.

- A. deliberate
- B. contingency
- C. mobile
- D. quick















Quick fire planning differs from deliberate fire planning in that it is a \_\_\_\_\_-\_\_\_\_\_ process.

- A. top-down
- B. front-end
- C. bottom-up
- D. straight-forward













**INCORRECT**

**The correct answer is D.**

Fire support planning is the continuing process of analyzing and scheduling fire support.  
PTP, Page 32













**CORRECT**













**INCORRECT**

**The correct answer is B.**

The goals of fire support planning is to effectively integrate fire support into battle plans to optimize combat power. PTP, Page 32













**CORRECT**













**INCORRECT**

**The correct answer is C.**

In fire support planning, the FSO must consider three vital sets of information. PTP,  
Page 32













**CORRECT**













**INCORRECT**

**The correct answer is A.**

On receipt of a mission, deliberate fire planning begins immediately. PTP, Page 33













**CORRECT**













**INCORRECT**

**The correct answer is C.**

Quick fire planning differs from deliberate fire planning in that it is a bottom-up process.  
PTP, Page 33













**CORRECT**











