
Part Two
FIRE DIRECTION CENTER

CHAPTER 3
INTRODUCTION

This chapter contains information on the principals of fire direction procedures, organization of FDCs, and duties and responsibilities of FDC personnel. Mortar leaders should use this information as a guide to help prepare and conduct training for combat.

3-1. PRINCIPLES OF FIRE DIRECTION

Fire direction is the tactical and technical employment of firepower, the exercise of tactical command of one or more units in the selection of targets, the massing or distribution of fire, and the allocation of ammunition for each mission. Fire direction also includes the methods and techniques used in FDCs to convert calls for fire into proper fire commands.

a. Tactical fire direction is the control by the FDC over the mortars in the selection of targets, the designation of the units to fire, and the allocation of ammunition for each mission,

b. The FDC is the element of the mortar platoon headquarters that controls the fire of the mortar section and relays information and intelligence from the observers to higher headquarters, Fire direction methods must ensure—

(1) Close, continuous, accurate, and timely indirect fire support under all conditions of weather, visibility, and terrain.

(2) Flexibility to engage all types of targets within the company or battalion area of responsibility.

(3) The ability to engage two or more targets at the same time.

(4) The ability to implement independent gun operation.

3-2. ORGANIZATION

The FDC is the element of the indirect fire team that receives the call for fire from the FO, FIST chief, or higher headquarters; determines firing data; and announces the fire command to the firing section. The FDC also determines and applies corrections to chart data and to standard firing table values to achieve accuracy in firing. Firing data

normally are produced in the FDC. However, they may be produced by a squad leader when the section is firing without an FDC. Accuracy, flexibility, and speed in the execution of fire missions depend on—

- a. Accurate and rapid computation of firing data from the MBC and plotting board.
- b. Clear transmission of commands to the mortar section.
- c. Accurate and rapid verification of firing data.
- d. Efficient division of duties.
- e. Adherence to standard techniques and procedures.
- f. Efficient use of FDC plotting equipment, MBC, and other data-determining devices.
- g. Teamwork and operating in a specified sequence.
- h. Efficient use of communications, including the FDC switchboard.

3-3. PERSONNEL DUTIES

The FDC of the 4.2-inch mortar section consists of: one SFC who is the section sergeant, one SSG who serves as the chief computer, one SGT who is the check computer, and one PFC who is the driver/RATELO. The FDC of the 81-mm mortar platoon consists of: one SSG who serves as the section sergeant; and two sergeants who are the computers (one trained as a driver); and one PFC who is the driver/RATELO.

a. Fire Direction Chief/Section Sergeant. The fire direction chief (chief computer/section sergeant), as the senior enlisted member of the FDC, plans, coordinates, and supervises the activities of the FDC and is responsible for the training of all FDC members. The fire direction chief must operate all FDC equipment as well as supervise their operation. The fire direction chief/section sergeant also performs but is not limited to the following duties:

(1) Makes the decision to fire. When a target is reported, examines its location relative to friendly troops, boundary lines, no-fire lines, and fire coordination lines. Using that information, along with the nature of the target, the ammunition available, and the policy of the commander, decides whether to fire. If the decision is to engage the target, uses that same information in deciding how to do so.

(2) Issues the FDC order. Once the decision has been made to engage a target, issues the FDC order to inform the other members of the FDC how the mission will be conducted.

(3) Verifies corrections and commands. Verifies firing corrections obtained from a registration or a MET message before they are applied. Ensures that all firing data and fire commands sent to the mortar section are cross-checked to eliminate errors. Resolves discrepancies.

(4) Determines the altitude of a target from the map and announces it immediately after the FDC order so that the computers may compute and apply any altitude correction.

(5) Maintains records for all fire missions and all corrections to be applied.

(6) Evaluates and relays target surveillance data and intelligence reports from observers.

(7) Coordinates with the FIST chief regarding sectors of responsibility and up-to-date tactical information. If the FDC gets a call-for-fire for a target it cannot

engage immediately or effectively, it must inform the FIST chief so the mission can be assigned to another firing element.

b. **Section Sergeant.** The section sergeant is responsible for the same duties for the 81-mm mortar FDC as the chief computer for the 4.2-inch/120-mm mortar platoon. The section sergeant also has the following duties:

- (1) Supervises tactical deployment of the mortar squads.
- (2) Selects sites for tactical employment of mortar squads.
- (3) Supervises the laying of the mortar section.
- (4) Supervises the section during fire missions.

c. **Computers.** Two fire direction computer personnel are in the FDC of each type of mortar section, with the exception of the 60-mm mortar. Reasons for having two computers in the FDC are many. There is not only a vastly reduced possibility of error but also an increase in speed and efficiency of operation. Also, the platoon or section may be split to fire multiple missions. Members of the FDC should be cross trained in computing to allow rotation for round-the-clock operations. In the 81-mm/120-mm mortar section, one computer acts as RATELO for communications with the observers, while the other computer relays fire commands to the section.

(1) The MBC is the main means of fire control for all mortars. The FDC uses the MBC to convert observer data to fire commands to inform the firing section. It uses the M16 plotting board as the alternate means of fire control for all mortars. The FDC also uses the M19 plotting board as an alternate means of fire control for the 60-mm mortar section. The FDC should use two MBCs or two M16/M19 plotting boards at all times, one to cross-check the other, to prevent errors.

(2) The computer's duties include preparing and maintaining an MBC or plotting board for the plotting of targets and production of firing data. The computer plots target locations called in by an observer and updates them with observer corrections. He then determines and announces gun(s) to fire, number of rounds, deflection, charge, and elevation.

(3) The computer determines the size of angle T and announces it when required. This team member numbers and replots targets for future reference, and computes and applies registration and MET corrections. He also plots information as to the location of friendly elements, supported unit boundaries, observers, no-fire lines, and safety limits in the MBC or on the M16/M19 plotting board. The computer maintains the data sheet with current firing information on all targets.

d. **Driver/Radiotelephone Operator.** The RATELO in the FDC is also the driver for the FDC vehicle. He must be trained in communications procedures as well as in the duties of the computers. Specific duties are to operate the telephones and radios within the FDC, to repeat calls for fire received from an observer, and to issue the message to the observer.