APPENDIX B

MORTAR TRAINING STRATEGY

This appendix provides a comprehensive unit training strategy for training mortarmen. Leaders have the means to develop a program for training their mortar units to full mission proficiency. This training strategy applies to all mortars in all organizations of the US Army. Although not prescriptive in nature, it must adapt to a unit's mission, local training resources, commander's guidance, and unit training status.

B-1. TRAINING PHILOSOPHY

This training strategy synchronizes institutional and unit components to produce units that are trained to win on the battlefield. It includes the training documents, institutional training, unit training, and training resources needed to achieve and sustain the required outcome. It covers the skills required for individual, crew, leader, and collective proficiency and ensures that the strategy is linked horizontally within CMF and vertically between officer and enlisted. This strategy integrates information from several publications, including this manual, into a single-source document (see References).

B-2. UNIT MORTAR TRAINING

Technical and tactical proficiency is based on sound training. The importance of skilled and proficient mortarmen must not be overlooked within the context of the battalion's overall training strategy. Unless leaders have a mortar background, they may not understand the distinct training requirements and tactical role of mortars. This ensures they will allocate priorities and resources to mortars, which are required for effective training. Therefore, leaders may also require training. This can be achieved by OPD and NCOPD instruction on mortars, which include both technical and tactical mortar subjects.

a. Once mortarmen have mastered their own tasks, they must be fully integrated into the training exercises of the company, battalion, or both. Only within the context of a full maneuver exercise can the mortar unit's indirect fire support ability be fully trained and evaluated. However, mortars suffer from not having a training device (such as MILES) to simulate the terminal effects of mortar rounds. As a result, maneuver units tend to under-employ their supporting mortars. Despite the current absence of such devices, there are other techniques to assess the effects of indirect fire. (These are outlined in GTA 25-6-7 and Appendix F of FM 25-4.) Fire missions not specifically using enemy targetsXsuch as registration and adjusting final protective fireXshould also be routinely conducted in maneuver exercises.

b. A training plan that employs mortarmen only as OPFOR riflemen is not effective for many reasons. Firstly, mortarmen are not being trained in the technical and tactical tasks pertinent to their mission. Secondly, riflemen are deprived of a valid training experience as OPFOR. Thirdly, maneuver units are not trained to employ their mortar indirect fire support.

B-3. MORTAR TRAINING AT TRAINING BASE

The mortar unit training strategy begins with the training base. Leaders must know what skills mortarmen bring with them when they report to their unit. This forms the base to build mortar training in the unit. The career pattern for NCOs and officers (lieutenants) is depicted in individual training. It entails alternating between the training base and units with progressively advanced levels of training and responsibility. Mortar training in the institution focuses on preparing the soldier for these positions. Depending on the course, the training focus includes technical training in mortar skills, mortar familiarization, and mortar issues update (Table B-1).

COURSE	SKILL LEVEL					COURSE FOCUS
	1	2	3	4	OTHER	
One Station Unit Training	X	X				A
Basic NCO Course		X	X			C,D
Advanced NCO Course				X		C,D
Infantry Mortar Leader Course			X	X	X	B,C,D
Officer Candidate School					X	C
Infantry Officer Basic Course					X	C
Infantry Career Captain Course					X	D
Pre-Command Course					X	C,D

A = MOS-PRODUCING
B = ADDITIONAL SKILL IDENTIFIER FOR OFFICERS
C = FAMILIARIZATION
D = REVIEW/UPDATE

Table B-1. Institution courses.

a. **One Station Unit Training (11C)**. OSUT trains new soldiers for their initial assignment in infantry or mechanized units. Training is divided into two phases. Phase I (seven weeks) teaches common entry-level infantry tasks. Phase II continues to foster the self-discipline, motivation, physical readiness, and proficiency in combat survivability started in Phase I. The 11C soldiers receive instruction in mortar systems to prepare them for their specific unit assignments (light units 60-mm and 81-mm mortars; heavy units 81-mm, 4.2-inch, and 120-mm mortars). Soldiers receive familiarization on FDC and FO procedures and are required to pass a mortar gunner's examination to be awarded their MOS.

b. **Basic Noncommissioned Officer Course (11C)**. BNCOC teaches junior NCOs to lead, train, and direct subordinates in the maintenance, operation, and employment of weapons and equipment. The instruction includes FDC procedures, fire planning, tactical employment of mortars, and maintenance.

c. **Advanced Noncommissioned Officer Course**. ANCOC prepares NCOs to lead a mortar platoon in combat as part of the battalion team. This includes fostering an understanding of the battalion task force concept and how it fights. Training that applies to mortars includes fire planning, FDC, and FO procedures.

d. **Infantry Mortar Leader Course**. IMLC provides lieutenants and NCOs (sergeant through master sergeant) with the working knowledge to supervise and direct the fire of a mortar platoon. Instructions include tactical employment of the mortar platoon, graphics, fire planning, mechanical training, FO procedures, and mortar ballistic computer procedures. Officers are awarded the additional skill identifier of 3Z. Commanders must ensure that IMLC graduates fill mortar leadership positions. The skills personnel have learned are complex and perishable and must be sustained in the unit.

e. **Infantry Officer Basic Course**. IOBC trains lieutenants in weapons, equipment, leadership, and tactics. It also teaches them how to instruct their subordinates in the maintenance, operation, and employment of weapons and equipment for combat. Students receive instruction in mechanical operation of the mortar as well as detailed instruction on FO procedures.

f. **Infantry Career Captain Course**. ICCC trains first lieutenants and captains in leadership, war fighting, and combat service support skills required to serve as company commanders and staff officers at battalion and brigade levels. Mortar training focuses on supervisory tasks.

g. **Pre-Command Course**. PCC is intended for field-grade officers (majors through colonel) designated for battalion and brigade command. Training consists of a review and update on mortar issues such as battle drills and safety.

B-4. TRAINING IN UNITS

A unit training program consists of initial and sustainment training. Both may include individual and collective skills. Resources, such as devices, simulators, simulations, ranges, and ammunition, further develop skills learned in the institution. The critical aspect of unit training is to integrate soldiers into a collective, cohesive effort as a mortar squad or platoon member. Drills, STXs, and live fire drills develop these collective skills.

a. **Training Plan Development**. Training plans are developed at higher headquarters and published in the form of command guidance so that subordinate units can develop their plans. The process begins with identifying the unit's METL. The METL contains all the collective tasks that a unit must perform to be successful in combat. FM 25-100 contains specific information on the METL development process.

(1) Commanders assess the unit's proficiency level in each METL task. Information for this assessment is obtained by reviewing past gunner's and FDC examinations, ARTEP results, and external evaluation AARs, and by observing the execution of current training.

(2) Once the assessment is complete, the commander lists the tasks in priority. Tasks that are identified as untrained (U) and are critical to the mission have training priority, followed by tasks that need practice (P) and tasks that are trained (T) to standard. Resources (ranges, ammunition, equipment, and time) are requested to train those tasks that do not meet the standard (U and P), while sustaining the proficiency of the tasks that do meet the standard (T). The commander refines his plan in the form of a training guidance and training schedules. FM 25-2 contains specific information on the training plan development process.

(a) Initial training trains soldiers and units to a high degree of proficiency. New soldiers have not yet trained on all tasks associated with the mortar. Initial training ensures that each soldier, squad, and platoon has the basic core skills proficiency for their skill levels or their collective team. Initial training must be trained correctly to a rigid standard so that proficiency will be retained longer. Decay in skill proficiency will occur due to available training time, skill difficulty, or personnel turnover.

(b) Sustainment training reduces skill decay and maintains proficiency within the band of excellence described in FM 25-100. Retraining may be required if a long period elapses between initial and sustainment training. Once proficiency is demonstrated in a task or collective event, more difficult scenarios and exercises should be developed to train to a higher level of proficiency, while sustaining previously learned skills.

b. **Integrated Training Strategy**. Figure B-1 outlines a logical progression of events that a mortar platoon can adapt to their training strategy. Mortar squads and the FDC are dual-tracked to focus on their specific training needs. Both tracks must be integrated to develop a mortar platoon that fights as one unit. Individual and collective training must be evaluated against specific standards and discussed in AARs. Objective evaluations provide readiness indicators and determine future training requirements.

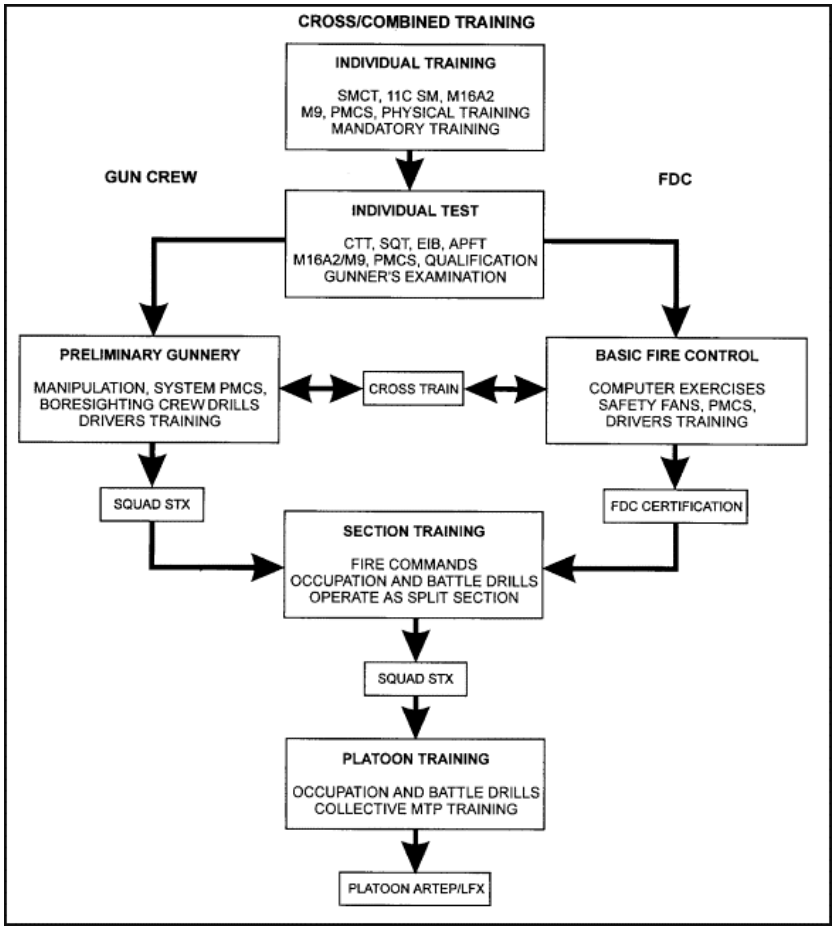

Figure B-1. Integrated training strategy.

(1) *Common tasks*. These tasks are found in STP 7-11-BCHM1-SM, Skill Level 1 and in STP 7-11-BCHM24-SM-TG, Skill Levels 2-4. These manuals contain the common tasks that all soldiers must know, regardless of MOS or duty position, to help them fight, survive, and win in combat. Mastery of these common tasks are a prerequisite for individual training specific to mortars. The communications and land navigation common tasks are vital.

(2) *MOS 11C tasks*. These tasks are found in STP 7-11C14-SM-TG for MOS 11C. This manual contains the individual tasks specific to mortarmen. The trainer's guide provides leaders the information to develop the individual portions of a unit training plan. Each 11C task is listed in this guide along with the following:

(a) Training extension courses (TECs). Service schools use TECs to support their expertise directly to units in the field. This is accomplished through lessons in the form of booklets, video slides, audio tapes, videotapes, and electronic information delivery system (EIDS) machines. These lessons focus on individual tasks and are stocked in unit learning centers and the local training support centers. TEC materials provide standardized instruction, which is helpful to soldiers as they move from unit to unit. Preparation time is also saved. However, trainers must ensure the lessons directly and fully support the training objectives.

(b) Army Correspondence Course Program. The ACCP provides printed training courses through the mail to soldiers. It is a valuable program for training the trainer, skill progression, and functional training for a specific specialty, MOS, or duty position. However, planning is needed. Leaders must identify courses that support the goals of the long-range training plan; soldier's enrollment must then be arranged. (ACCP includes the infantry mortar platoon leaders' course.)

c. **Cross Training**. A soldier's individual training tends to focus on his duty position. The assistant computer concentrates on FDC tasks while the squad leader concentrates on mortar mechanical tasks and leading the squad. However, this focus should not exclude other mortar training. Continuous training in duty-specific tasks can become boring to soldiers and deprive them of gaining broad proficiency in their MOS. Casualties (whether in war or in training) can quickly render the mortars ineffective if key personnel are lost. These variables make cross training essential. For example, cross training ensures that a squad leader can assume the duties of a computer and that subordinates are ready to assume the roles of their supervisors.

d. **Collective Training**. Collective training includes squad, section, and platoon drills and exercises.

(1) *Squad training*.

(a) The core of squad training is crew drills. Squad-level mortar tasks are in the infantry MTP. This training can be performed in garrison (using devices or live ammunition). Once these tasks are mastered, an increased challenge is introduced by performing them under different conditions such as urbanized terrain, limited visibility, or NBC. Cross training is accomplished at this level by rotating soldiers among duty positions, such as squad leader and FDC positions, while providing coaching.

(b) The foundation of squad training is sound individual training. If individual proficiency is effectively sustained, new soldiers can be readily integrated into the unit during collective training. They arrive at the unit proficient in specific tasks learned in the training base. These new soldiers learn additional tasks while training with their experienced peers and their squad leaders.

(2) *Section and platoon training.*

(a) The core section and platoon tasks are found in the ARTEP MTP. This training usually consists of an exercise in the field: LFX, STX (either alone or with a rifle company), or FTX as part of the battalion. LFXs may involve subcaliber, sabot, SRTR, or service ammunition. STXs and FTXs may entail dry fire, live fire, or devices, either alone or in combination.

(b) The FIST must be a part of this training. An LFX must never take place without the FISTs normally associated with the battalion. Trainers may wish to integrate these artillerymen into the mortar unit. This teaches the capabilities, limitations, and unique requirements of operating mortars.

(c) Another important area is the mortar's role in overall task force operations. This collective training mainly involves leaders in an FTX. However, mortars must be considered along with other fire support assets when conducting a MAPEX, CFX, TEWT, or CPX.

(3) *Collective training resources.*

(a) Drill books. Crew and battle drills are published in a pocket-sized ARTEP manual called a drill book for each unit organized under a different TOE. (See ARTEP 7-90-DRILL.)

- Battle drills are a specific category of collective tasks performed at squad, section, or platoon level. They are vital to the mortar's success in combat. Battle drills are mostly independent of METT-T and require minimal leader actions to execute. They are usually executed or initiated on a cue such as an enemy action or a simple leader order. Battle drills are standardized throughout the US Army and may not be modified in training. The mortar unit is required to be proficient in all battle drills contained in the drill book. Less critical drills are published in other sources such as training circulars or field manuals.
- Mortar drills are divided into two general areas. The first are those battle drills that previously were termed "crew drills." These focus on the mechanical manipulation of the mortar such as Lay for Small Deflection Change or Remove Misfire. Full proficiency in these tasks is a prerequisite for performing fire support missions. The second area encompasses those battle drills essential to combat survival. These include such tasks as React to Chemical Attack, React to Indirect Fire, or React to Nuclear Attack.

(b) Mission training plan. The MTP is a descriptive ARTEP document for training mortarmen to critical wartime mission proficiency. It gives the mortar platoon or section a clear description of "what" and "how" to train. This is achieved through comprehensive, detailed T&EOs, guidance on training exercises, and other related training management aids. While its focus is on collective training, the MTP also provides matrixes that identify individual tasks, common 11C SM tasks, and MQS tasks. Like the drill book, the mortar MTP applies to platoons or sections organized under a specific TOE. (See ARTEP 7-90-MTP.)

(c) Standards in training commission. STRAC outlines DA requirements for weapons training programs. It provides weapons standards, strategies, and resourcing for the 60-mm, 81-mm, 4.2-inch, and 120-mm mortars for different levels of unit training readiness. It specifies the amount and type of ammunition allocated to each mortar training event, and the annual frequency of that training event. For TRC A and TRC B units, the STRAC specifies that 90 percent of all squad leaders, gunners, and assistant gunners will have passed the mortar gunner's examination within the past six months and FDC personnel will have passed the FDC examination within the past six months (FM 23-91). Also, it states that all mortar sections and platoons will have received a

satisfactory rating IAW ARTEP MTP standards within the past six months.

(d) Battalion-level training model. BLTM is a means to qualify the cost of maintaining training readiness. This cost is expressed in terms of types of training events, their annual frequency, and the equipment miles/hours expended. This model is used to forecast and resource requirements to support the units specified training readiness level. It does not, however, prescribe what training a unit must conduct to maintain this level. Rather, BLTM provides a basis for understanding the trade-off between a unit's training resources and its training strategy developed. This helps leaders program training alternatives to achieve and maintain combat readiness. The frequency of training events under BLTM are reflected in the battalion's long-range training plan. When fully developed, BLTM encompasses and replaces STRAC.

e. **Example Annual Mortar Training Programs**. Figures B-2 and B-3 are examples of battalion-level programs for training mortar units. Figure B-2 depicts a light infantry battalion in CONUS, and Figure B-3 depicts a mechanized infantry battalion in USAREUR. These examples are consistent with current guidance under the STRAC and BLTM.

JANUARY IND WPN QUAL/SUST CREW WPN QUAL/SUST MAINTENANCE SQD/SEC/FDC DRILL (SRTR) PLT/SEC LFX GUNNER'S EXAM FDC CERTIFICATION	**FEBRUARY** SQD/SEC/FDC DRILL (LITR) PLT FTX CO FTX BN FTX DEPEX MAINTENANCE PLT STX (81-mm ONLY) SUPPORT CO STX	**MARCH** POST SUPPORT/BN CPX SQD/SEC/FDC DRILL (SRTR) ITEP/CMT CO TEWT
APRIL IND WPN QUAL/SUST CREW WPN SUST MAINTENANCE SQD/SEC/FDC DRILL (LITR) SEC/PLT LFX	**MAY** SQD DRILL PLT STXs CO FTXs DEPEX BN FTX MAINTENANCE SUPPORT CO FTX	**JUNE** POST SUPPORT BN CPX CO MAPEX ITEP (EIB) SQD/SEC/FDC DRILL (LITR)
JULY NG & ROTC SUPPORT SQD/SEC/FDC DRILL (SRTR)	**AUGUST** IND WPN QUAL/SUST CREW WPN QUAL/SUST BN FTX	**SEPTEMBER** SQD DRILL MAINTENANCE CO FTXs

	MAINTENANCE FDC EXAM GUNNER'S EXAM SQD/SEC/FDC DRILL (LITR)	BN FTX (EXT EVAL) SQD/SEC/FDC DRILL (SRTR/LITR) PLT STX (81-mm) DEPEX
OCTOBER POST SUPPORT ITEP (CTT) CMT BN TEWT CO MAPEXs CPX (81-mm) SQD/SEC/FDC DRILL (LITR)	**NOVEMBER** IND WPN QUAL/SUST CREW WPN/SUST DEPEX MAINTENANCE SQD/SEC/FDC DRILL (SRTR) GUNNER'S EXAM FDC CERTIFICATION	**DECEMBER** POST SUPPORT ITEP CMT SQD/SEC/FDC DRILL (LITR)

Figure B-2. Example training program for light infantry battalion in CONUS.

JANUARY CMT ITEP BN CPX MAINTENANCE SQD DRILLS PLT STX SQD/SEC FDC DRILL (SRTR) IND WPN QUAL/SUST FDC CERTIFICATION	**FEBRUARY** MAINTENANCE CO FTX BN FTX DEPEX SQD/SEC/FDC DRILL (SABOT) PLT FTX	**MARCH** MAINTENANCE POST SUPPORT/CO MAPEX BN TEWT ITEP CMT IND WPN QUAL/SUST SQD/SEC/FDC DRILL (SRTR)
APRIL GUNNERY QUAL (MTA) CALFEX (MTA) MAINTENANCE GUNNER'S EXAM LFX (M60, .50-CAL, 4.2-INCH) CALFEX/LFX DRILL (SABOT, 60-mm SUBCAL)	**MAY** ITEP BN CPX PLT STX MAINTENANCE SQD/SEC BATTLE DRILLS (SRTR/LITR) GUNNER'S EXAM	**JUNE** CO FTX BN FCX BN DEPEX BN FTX (EXT EVAL [HTA]) MAINTENANCE SQD/SEC/FDC DRILL BN EXT EVAL/LFX
JULY POST SUPPORT ITEP (EIB) BN MAPEX IND WPN QUAL/SUST CMT SQD/SEC/FDC DRILL (SRTR) MAINTENANCE	**AUGUST** IG INSPECTION ITEP BN CPX MAINTENANCE SQD/SEC/FDC DRILL (SABOT, 60-mm SUBCAL) PLT STX FDC EXAM	**SEPTEMPER** CO FTX MAINTENANCE BN DEPEX BN FTX-(REFORGER) SQD/SEC/FDC DRILL (SRTR) PLT STX

	GUNNER'S EXAM	
OCTOBER MAINTENANCE POST SUPPORT CO TEWT ITEP (CTT) CMT SQD/SEC/FDC DRILL	**NOVEMBER** IND WP QUAL/SUST GUNNERY QUAL (MTA) MAINTENANCE BN CFX SQD/SEC/FDC DRILL (SRTR) FDC EXAM GUNNERY QUAL (.50-CAL, M60) LFX	**DECEMBER** MAINTENANCE DEPEX POST SUPPORT ITEP IND WPN QUAL/SUST CMT SQD/SEC/FDC DRILL

Figure B-3. Example training program for mechanized infantry battalion in USAREUR.

B-5. TRAINING EVALUATION

Evaluation cannot be separated from effective training. It occurs during the top-down analysis when planners develop the training plan. Planners use various sources of information to assess their unit's individual and collective training status. Evaluation is continuous during training. Soldiers receive feedback through coaching and AARs. Leaders also assess their own training plan and the instructional skills of their subordinate leaders. After training, leaders evaluate by sampling training or reviewing AARs. Much of this evaluation is conducted informally. Formal evaluations occur under the Individual Training and Evaluation Program (ITEP) and the Army Training and Evaluation Program (ARTEP) to assess individual and collective training respectively.

a. **Individual Training**.

(1) *Commander's evaluation*. The commander's evaluation is routinely conducted in units. Commanders select and evaluate individual tasks that support their unit mission and contribute to unit proficiency. This may be performed through local tests or assessments of soldier proficiency on crucial MOS tasks or common tasks. The commander's evaluation is based on year-round, constant evaluation by the chain of command. It is supported by the MOS 11C soldier's manuals, trainer's guides, and job books.

(2) *Common tasks test*. The CTT is a hands-on test that evaluates basic survival and combat tasks. It is taken directly from STP 7-IIBCHM1-SM, STP 7-11BCHM24-SM-TG, and STP 7-llCl4-SM-TG. The CTT gives the unit commander regular, objective feedback on common task proficiency.

(3) *Gunner's examination*. The gunner's examination is a continuation of the mortar-based drills in which a mortarman's proficiency as a gunner is

established. The examination is contained in Chapter 9 of this manual. It includes tasks, conditions, standards, and administrative procedures. It focuses on the individual qualification of the soldier in the role of a gunner. However, the gunner's success also depends on the collective performance of his assistants. Within these limitations, evaluators should try to standardize the examination. STRAC specify that the squad leader, gunner, and assistant gunner should pass the gunner's exam semiannually. All gunners should have a current qualification before an LFX (whether using service or subcaliber ammunition).

(4) *FDC certification.* This provides commanders a means to verify that their FDC mortarmen have the knowledge and skills for their positions: squad leader, FDC computer, section sergeant, platoon sergeant, and platoon leader. Certification helps ensure that ammunition is widely expended and that training is conducted safely and effectively. Mortarmen are certified when they receive a passing score on the two-part examination (90 percent on the written and 70 percent on the hands-on). (See FM 23-91 for FDC certification.)

b. **Collective Training**.

(1) *Army Training and Evaluation Program*. The aim of collective training is to provide units the skills required to perform unit-level tasks. The ARTEP is the overall program for this collective training. It prescribes the collective tasks that a unit must successfully perform to accomplish its mission and to survive in combat. These tasks include conditions and performance standards, and they are located in MTPs and drill books.

(2) *External evaluation*. The commander formally determines the status of his collective training through external evaluation. The external evaluation gives the commander an objective appraisal of this status by using mortar expertise found outside the normal chain of command. The external evaluation is not a test in which a unit passes or fails; it is a diagnostic tool for identifying training strengths and weaknesses. It must be emphasized that an external evaluation is not a specific training event but a means to evaluate a training event. Mortar units undergo external evaluations during an LFX, FTX, or a combination thereof. The unit may be evaluated alone, as part of its parent unit, or with other mortar units. The MTP provides guidance on planning, preparing, and conducting an external evaluation.

(3) *Evaluation of forward observer*. The mortars can be no more effective than the FOs. It is critical that FIST FOs are present and evaluated during an externally evaluated mortar LFX. If an FO fails to meet his performance standards, the mortars should not be penalized. However, only as a last resort should the fire mission be deleted from the evaluation.

The mortars should be given the opportunity to successfully complete the fire mission. This can be accomplished in the following ways:

(a) Start the fire mission over. Although ammunition constraints during live-fire may not permit this, tasks can be repeated using devices or, less preferably, dry fire.

(b) Correct the call for fire or correction. The mortars should not have to use wrong firing data if the FO has made an incorrect call for fire or correction. This also wastes valuable training ammunition. The FO evaluator at the observation point can change the call for fire or correction to reflect proper procedures.