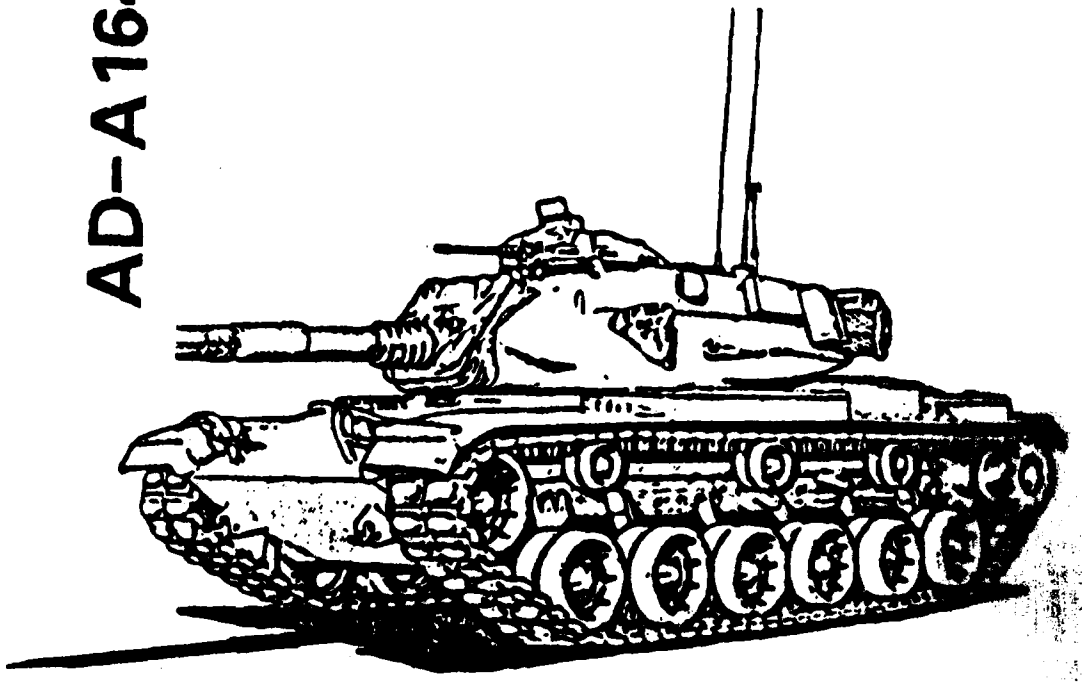
FIRE COMMANDS FOR THE M60A3 TANK

BOOKLET 1

OVERVIEW OF FIRE COMMANDS



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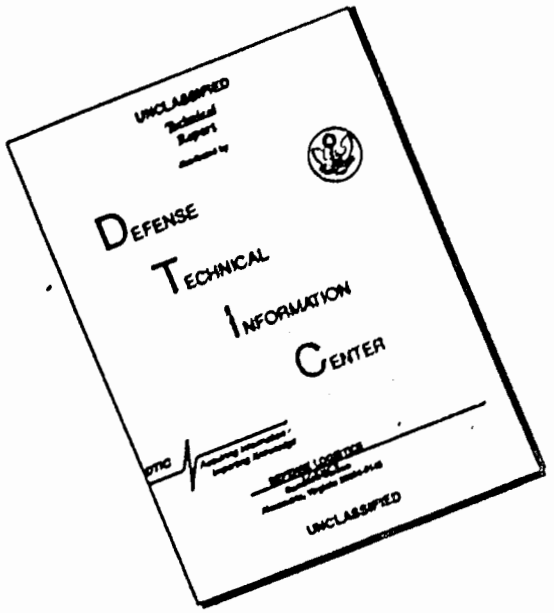

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Research was performed to develop tank gunnery sustainment training materials for M60A3 armor crewmembers. This research product consists of 6 booklets for use by tank commanders in maintaining their knowledge and skill in issuing basic fire commands. The first booklet (RP 83-01A) provides an overview of fire command knowledges and contains training notes. The remaining five booklets provide practice in: classifying threats (RP 83-01B); selecting ammo/weapons (RP 83-01C); sequencing fire command elements (RP 83-01D); issuing fire commands for single engagements (RP 83-01E); and issuing fire commands for multiple and (continued)

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simultaneous engagements (RP 83-01F).

TABLE OF CONTENTS

BOOKLET NUMBER 1

M60A3 TANK FIRE COMMANDS

USER'S GUIDE

This is booklet 1 in a set of 6 booklets. The set deals with issuing fire commands on the M60A3 tank. When you have finished the complete set, you will be able to:

> ISSUE A CORRECT FIRE COMMAND FOR THE MAIN GUN OR ANY MACHINEGUN IN EITHER SINGLE, MULTIPLE, OR SIMULTANEOUS TARGET ENGAGEMENTS.

BACKGROUND

In order to prepare a correct fire command, a Tank Commander (TC) must be aware of certain kinds of target and gunnery information. Also, he must know what statements to make, and his crew's responses, if a fire command is to be useful. With that information, he will be able to prepare and announce a fire command which results in target destruction.

THIS BOOKLET

This booklet will provide the general information required to prepare a fire command. It will also tell you how to announce a fire command, including crew responses, for the following kinds of engagements:

- M35E1/TTS PRECISION,
- M35E1/TTS BATTLESIGHT,
- M105D PRECISION, and
- M105D BATTLESIGHT.

HOW TO USE THIS BOOKLET

1. Read each section within the booklet carefully.
2. Pay special attention to the examples provided.
3. Many pages in the booklet have questions on them. Be sure you answer the questions and check your answers.
4. Refer to FM 17-12-3 if you have any questions.

BEFORE YOU USE THIS SET OF BOOKLETS

Before using this set of booklets, you should have some existing knowledge related to fire commands. You should have:

- Knowledge of Threat weapon capabilities
- Knowledge of M60A3 systems and nomenclature
- Familiarity with FM 17-12-3

A COMMENT ON THE BOOKLET SET

The fire commands discussed in this set of booklets are considered to be the most commonly used on the battlefield. There are other fire command variations which are not discussed. These other variations include:

1. **Where the tank commander cannot quickly lay the main gun for direction and elevation.**
2. **Where estimated range is manually input into the Ballistic computer when firing M35E1/TTS precision engagements.**
3. **Where weapon stoppages occur.**

These variations, and others, are discussed in FM 17-12-3.

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TANK COMMANDER TRAINING NOTES

GENERAL INFORMATION

This set of booklets deals with fire commands for the M60A3 tank. There are six booklets in the set. When a crewmember has finished the complete set he will be able to:

> ISSUE THE CORRECT FIRE COMMANDS FOR THE MAIN GUN OR ANY MACHINE GUN IN EITHER SINGLE, MULTIPLE OR SIMULTANEOUS ENGAGEMENTS

OVERVIEW OF THE BOOKLETS

The set of booklets has been organized from simple to complex. That is, the first booklet provides general information about M60A3 fire commands. The rest of the booklets provide increasingly difficult fire command problems which require solution. The booklets are as follows:

BOOKLET 1 - Overview of Fire Commands
BOOKLET 2 - Classifying Threats
BOOKLET 3 - Ammunition/Weapon Selection
BOOKLET 4 - Sequence of Initial Fire Command
BOOKLET 5 - Single Target Engagements
BOOKLET 6 - Multiple/Simultaneous Engagements

PURPOSE OF THE BOOKLETS

The set of booklets has been designed to help you train. The booklets may be used to:

- SUSTAIN YOUR OWN SKILLS
- CROSS-TRAIN OTHER PERSONNEL

These booklets have not been designed as initial training. In other words, crewmen using them must have certain skills. These skills are:

- Knowledge of Threat weapon systems capabilities
- Knowledge of M60A3 system and nomenclature
- Familiarity with FM 17-12-3, Tank Gunnery

When a crewmember has these existing skills, he will be ready to use this set of booklets.

USING THE BOOKLETS

There are a number of different ways you can use these booklets:

1. FOR INDIVIDUAL STUDY - You can give the booklets to a crewmember and require that they be completed. The instructions at the beginning of the booklets will explain how they are to be used.

2. AS A TEST OF PERFORMANCE - You can select scenarios from booklets 2, 3, 4, 5 and 6. Modify those scenarios by changing the picture or the situation. Provide the modified scenario to one of your crewmembers. When he has selected or provided answers, check the answers with your correct answers (you must also decide on the correct answers for your modified scenario).

3. AS A METHOD OF COMPETITION - You might choose to have crewmembers within your crew, or within different crews, compete on the scenarios. To do this, provide the same scenario to each crewmember. Keep a record of who is able to correctly answer the most questions.

SECTION 1

PREPARING FOR FIRE COMMANDS

Before constructing fire commands, a tank commander requires specific information on targets and tank gunnery. The information is needed to construct each fire command. This section reviews that information. In this section you will find brief descriptions of:

A. THE FIRE COMMAND
B. CLASSES OF TARGETS
C. AMMUNITION/WEAPON CHOICES
D. PERSONNEL TO OPERATE WEAPONS
E. SINGLE, MULTIPLE, AND SIMULTANEOUS ENGAGEMENTS
F. INITIAL AND SUBSEQUENT FIRE COMMANDS
G. ENGAGEMENT TECHNIQUES

PREPARING FOR FIRE COMMANDS

A. THE FIRE COMMAND

A fire command is used to provide information to the tank crew. The TC issues a fire command to tell the crewmembers:

- WHAT IS GOING TO HAPPEN
- WHO IS EXPECTED TO DO WHAT

His crew's responses during and after the fire command help him to decide:

- IF THE PREPARATIONS FOR THE ENGAGEMENT ARE COMPLETE
- WHEN THE ENGAGEMENT SHOULD BE ENDED

With a well-stated and understood fire command, the crew's chances of success (survival) are high. With a poorly-stated fire command, the crew's chances of success (survival) are reduced.

The issuing of a fire command is not difficult. The difficult part is assessing the battle situation so that you can prepare the best fire command.

QUESTIONS

1. A purpose of the fire command is to:

   A. Detect the most dangerous threat.
   B. Tell the crew what they are to do.
   C. Identify and kill the enemy.
   D. Describe the status of gunnery.

2. If the crew does not understand the fire command:

   A. They may not know which target to engage.
   B. They may not know who will engage the target.
   C. They may not survive the battle.
   D. All of the above.

3. The difficult part of a fire command is:

   A. Issuing the fire command.
   B. Preparing the fire command.
   C. Assuring its survival.
   D. All of the above.

4. Crew responses to a fire command help you decide:

   A. If the engagement should begin.
   B. If engagement preparations are complete.
   C. Who will do what in the engagement.
   D. Whether your tank will survive.

Answers: 1.B 2.D 3.B 4.B

PREPARING FOR FIRE COMMANDS

B. CLASSES OF TARGETS

Targets are classed as one of three kinds. The first kind is MOST DANGEROUS THREAT. A MOST DANGEROUS THREAT is one which:

- CAN KILL YOU
- HAS SEEN YOU
- IS PREPARING TO ENGAGE YOU

The TC must identify the MOST DANGEROUS THREAT without hesitation.

The second kind of target is DANGEROUS THREAT. A DANGEROUS THREAT is one which:

- CAN KILL YOU
- HAS NOT SEEN YOU, or
- IS NOT PREPARING TO ENGAGE YOU

The third kind of target is LEAST DANGEROUS THREAT. A LEAST DANGEROUS THREAT is one which:

- CANNOT KILL YOU, but
- CAN OBSERVE AND REPORT YOUR POSITION

As a general rule, the TC should identify and engage:

- FIRST - MOST DANGEROUS THREAT(S)
- NEXT - DANGEROUS THREAT(S)
- LAST - LEAST DANGEROUS THREAT(S)

QUESTIONS

1. A DANGEROUS THREAT is one which:

   A. Can kill you and has not seen you.
   B. Cannot kill you and has not seen you.
   C. Is preparing to engage you.
   D. None of the above.

2. A LEAST DANGEROUS THREAT is one which:

   A. Cannot kill you but sees you.
   B. Can engage you.
   C. Can kill you and has seen you.
   D. None of the above

3. As a general rule, the threat you engage first is:

   A. MOST DANGEROUS.
   B. DANGEROUS.
   C. LEAST DANGEROUS.
   D. None of the above.

4. You must identify the MOST DANGEROUS THREAT:

   A. After issuing a fire command.
   B. After other possible targets.
   C. Without hesitation.
   D. None of the above.

ANSWERS: 1.A 2.A 3.A 4.C

PREPARING FOR FIRE COMMANDS

C. AMMUNITION/WEAPON CHOICES

The M60A3 tank is armed with a variety of weapons and ammunition types. Each weapon and ammunition type has been designed to defeat specific targets at specific ranges.

> TO SURVIVE, YOUR FIRE COMMAND MUST USE THE BEST AMMUNITION/WEAPON FOR EACH TARGET!

AMMUNITION FOR THE MAIN GUN

For the main gun, you have a choice of four kinds of ammunition:

- SABOT
- HEAT
- HEP
- BEEHIVE

The selection of ammunition is based upon the target and the target range. The following chart presents each main gun ammunition type and the rules for its selection.

> YOU MUST MEMORIZE THE CONTENTS OF THIS CHART

MAIN GUN

BEST CHOICE AGAINST TARGETS

(BASED ON FULLY UP LOADED TANK FOR EACH TARGET DESCRIPTION)

AMMUNITION/ WEAPON	MAX RANGE	TANKS	APC	ANTI-TANK		TRUCKS	TROOPS	FORTS BUNKERS	CHOPPER	AIRCRAFT
				VEHICLE	DISMOUNTED*					
SABOT	3000M	BEST	2d BEST	-	DO NOT USE	-	DO NOT USE	USE 2 SHOTS, 1st SABOT, THEN HEAT ROUND	2d BEST	DO NOT USE
HEAT	3000M	2d BEST	BEST	BEST	2d BEST	2d BEST	DO NOT USE	-	BEST	DO NOT USE
HEP**	-	DO NOT USE	2d BEST	2d BEST	-	BEST	2d BEST	DO NOT USE	DO NOT USE	DO NOT USE
BEEHIVE**	4000M WITH TIMER	DO NOT USE	DO NOT USE	DO NOT USE	2d BEST	2d BEST	BEST	DO NOT USE	DO NOT USE	DO NOT USE

*This includes: Manpack SAGGER, APG, RPG, etc.
**BEING PHASED OUT

MACHINE GUNS

There are two machine guns on the M60A3 tank:

- M240 COAX at the gunner's station
- M85 CAL .50 at the TC's station

Each machine gun is effective against certain targets at certain ranges. The following chart presents information on each machinegun and the rules for its selection.

YOU MUST MEMORIZE THE CONTENTS OF THIS CHART

MACHINEGUNS

BEST CHOICE AGAINST TARGETS

AMMUNITION/ WEAPON	MAX EFFECT RANGE	TANKS	APC	ANTI-TANK VEHICLE	ANTI-TANK DISMOUNTED*	TRUCKS	TROOPS	FORTS BUNKERS	CHOPPER	AIRCRAFT
CALIBER 50 (TC)	1200-1800M TRACER BURNOUT	DO NOT USE	BEST (ONLY WHEN MAIN GUN IN USE AGAINST TANK)	BEST (ONLY WHEN MAIN GUN IN USE AGAINST TANK)	BEST	BEST	DO NOT USE	DO NOT USE	2d BEST (BEST WEAPON IS YOUR MAIN GUN)	BEST
COAX (GUNNER)	900M	DO NOT USE	DO NOT USE	DO NOT USE	2d BEST	2d BEST	BEST	DO NOT USE	DO NOT USE	DO NOT USE

*This includes: Manpack SAGGER, APG, RPG, etc.

QUESTIONS

MAIN GUN

1. What type of ammunition should you use against a T-72 at 2200 meters?

   A. Beehive.
   B. COAX.
   C. Heat.
   D. Sabot.

2. What kind of ammunition should you use against a T-72 at 2200 meters if you were out of your primary round?

   A. Beehive.
   B. COAX.
   C. Heat.
   D. Sabot.

3. What kind of ammunition should you use against an anti-tank vehicle at 2500 meters?

   A. Beehive.
   B. M240.
   C. Heat.
   D. Sabot.

4. What kind of ammunition should you use against troops at 2000 meters?

   A. Beehive timed.
   B. CAL. 50.
   C. Heat.
   D. Sabot.

MACHINEGUNS

5. What is the best machinegun to use against troops at 800 meters?

   A. CAL. 50.
   B. COAX.

6. What is the best machinegun to use against trucks at 800 meters?

   A. CAL. 50.
   B. COAX.

7. What is the best machinegun to use against aircraft?

   A. CAL. 50.
   B. COAX.

Answers: 1.D 2.C 3.C 4.A 5.B 6.A 7.A

PREPARING FOR FIRE COMMANDS

PERSONNEL TO OPERATE WEAPONS

Under normal conditions, specific crewmembers are responsible for firing specific weapons:

> GUNNER -- fires the main gun and COAX
> TANK COMMANDER -- fires the CAL. 50

Under some conditions, a TC may choose to fire the main gun or COAX instead of the gunner. These conditions are:

- THERE IS A FAILURE AT THE GUNNER'S STATION
- THE GUNNER CANNOT ENGAGE THE TARGET

QUESTIONS

1. Under normal conditions, the COAX is fired by the:

   A. Loader.
   B. Gunner.
   C. Tank commander.

2. The tank commander might fire the main gun if:

   A. There is a failure at the gunner's station.
   B. The loader is injured.
   C. The COAX is not operating properly.
   D. The tank is hull or turret down.

3. The gunner is usually responsible for firing the:

   A. COAX or CAL. 50.
   B. Main gun and CAL. 50.
   C. COAX and main gun.

Answers: 1.B 2.A 3.C

PREPARING FOR FIRE COMMANDS

E. SINGLE, MULTIPLE AND SIMULTANEOUS ENGAGEMENTS

The modern day battlefield will be very complex. A tank may be up against a single target. More likely, it will be up against many targets.

> YOU MUST BE PREPARED FOR ENGAGEMENTS WITH SINGLE TARGETS OR MANY TARGETS IF YOU ARE TO SURVIVE

SINGLE TARGETS

Engagements with single targets are called SINGLE engagements. When conducting single engagements, a crew will be able to focus their attention on the single target.

MANY TARGETS

There are two ways in which a crew can engage more than one target. They are SIMULTANEOUS engagements and MULTIPLE engagements.

> SIMULTANEOUS ENGAGEMENTS - Where a tank must fire at two or more targets at the same time with different weapons. For example, the main gun against a SAGGER ATGM, and the CAL .50 against a TRUCK.

> MULTIPLE ENGAGEMENTS - Where a tank crew must fire at two or more targets with the same weapon. For example, the main gun against a T-72 and then the main gun against another T-72.

QUESTIONS

1. When you must engage two tanks with the main gun, you will use a:

   A. Single engagement.
   B. Simultaneous engagement.
   C. Multiple engagement.

2. When you must engage a truck and troops at the same time, you will use a:

   A. Single engagement.
   B. Simultaneous engagement.
   C. Multiple engagement.

3. When you must engage only an anti-tank vehicle, you will use a:

   A. Single engagement.
   B. Simultaneous engagement.
   C. Multiple engagement.

4. Using the CAL. 50 and main gun against two different targets would be a:

   A. Single engagement.
   B. Simultaneous engagement.
   C. Multiple engagement.

Answers: 1.C 2.B 3.A 4.B

PREPARING FOR FIRE COMMANDS

F. INITIAL AND SUBSEQUENT FIRE COMMANDS

There are two kinds of fire commands. They are INITIAL fire commands and SUBSEQUENT fire commands. They are defined as follows:

> INITIAL FIRE COMMAND - This is used to first engage a specific target. If your gunnery is accurate, only the initial fire command will be needed for an engagement.
>
> SUBSEQUENT FIRE COMMAND - This fire command follows an initial fire command. It is used only if the initial fire command did not end the engagement (the target was not destroyed).

QUESTIONS

1. A subsequent fire command:

   A. Follows every initial fire command.
   B. Follows some initial fire commands.
   C. Never follows an initial fire command.
   D. None of the above.

2. An initial fire command:

   A. Is used only for the first battlefield target.
   B. Is used for every new battlefield target.
   C. Is used only for main gun engagements.
   D. Is used only for machinegun engagements.

3. If the first fire command did not destroy a target, you would usually issue:

   A. An initial fire command.
   B. A subsequent fire command.
   C. A mixed initial/subsequent.
   D. None of the above.

Answers: 1.B 2.B 3.B

PREPARING FOR FIRE COMMANDS

G. ENGAGEMENT TECHNIQUES

There are four engagement techniques. Each is named and briefly described below:

1. M35E1/TTS PRECISION - When actual or estimated range to the target is input to the ballistic computer. M35E1/TTS Precision gunnery is considered the normal mode for the M60A3 tank. For this set of booklets, it is automatically input using the laser rangefinder. An exception occurs when the estimated range is manually input into the computer. That exception is discussed in FM 17-12-3.

2. M35E1/TTS BATTLESIGHT - When M35E1/TTS is being used with preindexed battlerange input to the ballistic computer.

3. M105D PRECISION - When M105D (telescope) is being used with estimated range.

4. M105D BATTLESIGHT - When M105D is being used with battlesight range.

QUESTIONS

1. The kind of gunnery used for normal mode is:

   A. M35E1/TTS Precision.
   B. M35E1/TTS Battlesight.
   C. M105D Precision.
   D. M105D Battlesight.

2. If range cannot be measured with the laser, and target is beyond battlesight range, use:

   A. M35E1/TTS Precision.
   B. M35E1/TTS Battlesight.
   C. M105D Precision.
   D. M105D Battlesight.

3. If range cannot be measured with the laser, M35E1/TTS not working, and target is within battlesight range use:

   A. M35E1/TTS Precision.
   B. M35E1/TTS Battlesight.
   C. M105D Precision.
   D. M105D Battlesight.

4. If range can be measured with the laser, use:

   A. M35E1/TTS Precision.
   B. M35E1/TTS Battlesight.
   C. M105D Precision.
   D. M105D Battlesight.

5. If range cannot be measured with the laser, target is within battlesight range, and TTS view is present, use:

   A. M35E1/TTS Precision.
   B. M35E1/TTS Battlesight.
   C. M105D Precision.
   D. M105D Battlesight.

Answers: 1.A 2.C 3.D 4.A 5.B

SECTION 2

FIRE COMMANDS FOR MACHINEGUN ENGAGEMENTS SINGLE TARGETS

This section will present general information on fire commands for single target machinegun engagements. It will review the following key points:

A. THE INITIAL FIRE COMMAND
B. CREW RESPONSES TO INITIAL FIRE COMMANDS
C. YOUR REACTIONS TO CREW RESPONSES
D. ENDING A MACHINEGUN ENGAGEMENT

SINGLE TARGET MACHINEGUN ENGAGEMENTS

A. THE INITIAL FIRE COMMAND

A correctly stated initial fire command has four elements (parts). They are:

- ALERT (or WEAPON if TC is to fire CAL. 50)
- AMMUNITION/WEAPON
- TARGET DESCRIPTION
- EXECUTION

Each element helps the TC explain the engagement to his crew.

THE ALERT ELEMENT

The ALERT element is announced by naming a crewmember. For example, the TC might announce:

GUNNER or
CALIBER
FIFTY

The ALERT element serves two purposes. The first purpose is to tell the crew that an engagement is going to take place. The second purpose is to tell which crewmember will be involved in the engagement.

For example:

IF the TC announces GUNNER--and wants the gunner to fire the weapon, he has told the crew who will fire the engagement.

IF the TC announces CALIBER FIFTY--he has told the crew he will be using his weapon for the engagement.

THE AMMUNITION/WEAPON ELEMENT

This element tells the crew which ammunition/ weapon will be used for the engagement. For example, the TC might announce:

> COAX

On tanks equipped with a passive sight, this element also designates the sight to be used during night operations and, if the target is to be illuminated, what illumination to use.

THE TARGET DESCRIPTION ELEMENT

The TARGET DESCRIPTION element tells the crew which target will be engaged. Enough information must be provided to make that target clear. For example, "TANK", "PC", "CHOPPER." TANK descriptions include all tank-like targets such as howitzers.

Sometimes the TC only announces the name of the target. For example:

> TRUCK

Other times, many targets are on the battlefield. If the TC has a specific target in mind, he must state the TARGET DESCRIPTION in more detail. For example:

> THREE TRUCKS, LEFT TRUCK

There may be cases when the target is moving. Then the target description MUST include the word MOVING. For example:

MOVING TANK

In cases where there are many targets on the battlefield, and the TC wants the crewmember conducting the engagement to select the target, he would announce:

TARGETS OF OPPORTUNITY

THE EXECUTION ELEMENT

This element tells the crew who will engage the target and when the target will be engaged. The following four examples show all possible EXECUTION elements.

EXECUTION ELEMENT	WHO	WHEN
FIRE	The crewmember named in the alert element.	NOW
FIRE AND ADJUST	The crewmember named in the alert element. He will also adjust his own fire and continue firing until target is destroyed or until told to end the engagement.	NOW
AT MY COMMAND	The crewmember named in the alert element.	Upon hearing FIRE or FIRE AND ADJUST
FROM MY POSITION	The TC will make the engagement.	NOW

FIRE COMMAND ELEMENT SEQUENCE

The sequence followed when issuing an initial fire command is usually:

FIRST	ALERT
SECOND	AMMUNITION/WEAPON
THIRD	TARGET DESCRIPTION
FOURTH	EXECUTION

For example:

GUNNER, SABOT, MOVING TANK . . . FIRE

QUESTIONS

1. For the ALERT element of main gun engagements, the TC would:

   A. Select a weapon.
   B. Name a crewmember.
   C. Execute the fire command.
   D. End the engagement.

2. If four trucks were on the battlefield, the best target description might be:

   A. Trucks.
   B. Four trucks, left truck.
   C. Four trucks.
   D. Left truck.

3. TARGETS OF OPPORTUNITY is always announced when:

   A. Many targets are available.
   B. More than four targets are present.
   C. Engaging crewmember can select a target.
   D. All of the above.

4. FIRE AND ADJUST means:

   A. Crewmember is to conduct engagement on his own.
   B. A subsequent fire command will be issued.
   C. A new ALERT element will be given.
   D. The target description is incorrect.

ANSWERS: 1.B 2.B 3.D 4.A

SINGLE TARGET MACHINEGUN ENGAGEMENTS

B. CREW RESPONSES TO INITIAL FIRE COMMANDS

Certain crewmembers are required to respond to certain fire command elements. Two kinds of responses are made. These are:

- During the fire command
- After the fire command (after the execution element)

RESPONSES DURING THE INITIAL FIRE COMMAND

Crew responses during the initial fire command helps the TC make sure the crew is preparing for the engagement. For machinegun engagement there are three possible responses during the initial fire command. The first is the LOAD response.

1. The LOAD response is given by the loader to tell the TC and gunner that the machinegun is loaded and ready to fire. The response by the loader is:

   UP

   For example:

   GUNNER
   COAX
   TROOPS
   UP (LOAD response)

2. The IDENTIFICATION response is made by the crewmember named in the alert element. The response indicates whether or not the target has been located. For example:

GUNNER COAX TROOPS

If the gunner located the troop target, he will respond by saying:

IDENTIFIED

If the gunner cannot identify the target or has identified a target different from that announced in the target description, he must announce:

CANNOT IDENTIFY

For example, the TC announces:

GUNNER COAX TROOPS

If the gunner located a truck instead of troops, he will respond by saying:

CANNOT IDENTIFY

The IDENTIFICATION response always occurs before the TC gives the execution element of the fire command.

Putting the LOAD response and IDENTIFICATION response with the initial fire command, this might occur:

GUNNER
COAX
TROOPS

UP (loader)
IDENTIFIED (gunner)

3. The third response is the LASING response. It too is announced by the crewmember named in the alert element. This response indicates that the laser rangefinder (LRF) is going to be used to determine the range to the target. For example:

GUNNER
COAX
RPG TEAM

UP (loader)
IDENTIFIED (gunner)
LASING

This tells the TC that the gunner has IDENTIFIED the RPG team and is LASING using the LRF to determine the range to it. LASING must always be announced when using the LRF.

EXCEPTION TO RESPONSES DURING INITIAL FIRE COMMAND

The coax and Cal .50 machineguns are used to engage AREA or POINT targets. A POINT target is an ATGM team, RPG team, truck, thin-skinned armored vehicles, or lightly constructed covered positions. An AREA target is usually dismounted infantry or troops.

On POINT targets, the gunner should lase to the target and use the primary sight. On AREA targets, the gunner can lase or estimate range to the target and fire using the infinity sight in the unity power window.

Depending on the tactical situation, the TC can estimate range to the target and use the ballistic reticle to ensure the first burst is in the target area or determine range using the LRF.

Also, when firing the CAL .50 the TC does not make the LOAD or IDENTIFICATION response.

RESPONSES AFTER THE INITIAL FIRE COMMAND

There are three responses after the initial fire command. They are:

1. ENGAGEMENT START response - following the TC's execution element, the crewmember engaging the target will announce:

ON THE WAY

   This tells the TC the engagement will now start by the crewmember firing.

2. OBSERVATION response - the only machinegun round observation made by the TC or gunner is when the target is hit. They would announce:

TARGET

3. ADJUSTMENT response - a fire adjustment response may be given by any crewmember if he thinks the person firing needs assistance. The adjustment may be for range and/or deflection.

FOR THE COAX - the adjustment is given by the TC. This adjustment is optional. It is given if he thinks the gunner needs assistance. For example, if he observes the burst as over, he might then issue an adjustment response of:

BRING IT DOWN (range adjustment)

If he observes the burst as left, he might announce:

BRING IT RIGHT (deflection adjustment)

FOR THE TANK COMMANDER'S MACHINEGUN - the adjustment is given by any crewmember and is optional. As with the COAX, it is given if a crewmember thinks the TC needs assistance.

EXCEPTION TO THE RESPONSES AFTER THE INITIAL FIRE COMMAND

When firing the TC's machinegun, he does not make the engagement start or round observation response.

COMBINED RESPONSES

If the during and after responses are combined with the initial fire command, it might sound like this:

GUNNER
COAX
TROOPS
UP (loader)
(load)
IDENTIFIED (gunner)
(identification)
LASING (gunner)
(lasing)
FIRE
ON THE WAY (gunner)
(engagement start)
BRING IT DOWN (TC) (range adjustment)
BRING IT RIGHT (TC) (deflection (azimuth) adjustment)

QUESTIONS

1. During the fire command, crew response comes right after the:

   A. ALERT element.
   B. AMMUNITION/WEAPON element.
   C. TARGET DESCRIPTION element.
   D. EXECUTION element.

2. The IDENTIFICATION response tells the TC that:

   A. The ammunition has been selected.
   B. The gunner is ready to fire.
   C. The target has been found.
   D. None of the above.

3. ON THE WAY is the:

   A. ENGAGEMENT START response.
   B. OBSERVATION response.
   C. IDENTIFICATION response.
   D. None of the above.

4. The LASING response tells the TC that:

   A. The gunner has located the target.
   B. The gunner is using the LRF.
   C. There are multiple range returns.
   D. None of the above.

5. For the COAX, the adjustment response is usually made by the:

   A. Loader.
   B. Gunner.
   C. Tank Commander.
   D. Any crewmember.

6. The only observation response for machinegun engagements is:

   A. TARGET only.
   B. SHORT.
   C. OVER.
   D. DOUBTFUL.

7. The adjustment response may include:

   A. Range adjustment only.
   B. Deflection adjustment only.
   C. Range and/or deflection adjustments.
   D. None of the above.

8. The TC command to rerange to a target is:

   A. RERANGE.
   B. FIRE.
   C. RELASE.
   D. CEASE FIRE.

ANSWERS: 1.C 2.C 3.A 4.B 5.C 6.A 7.C 8.C

SINGLE TARGET MACHINEGUN ENGAGEMENTS

C. REACTION TO CREW RESPONSES AFTER THE FIRE COMMAND

In machinegun engagements, the TC's reactions to crew responses after the initial fire command are limited. If the crewmember conducting the engagement announces an observation response of:

TARGET

The TC would check the gunner's observation to assure its accuracy. If the target was destroyed, he would end the engagement.

If the TC does not think the target was destroyed, he would:

- Remain silent (and the engagement will continue)

or

- Make an adjustment response

or

- End the engagement

QUESTIONS

1. If the TC disagrees with the crewmember's observation of TARGET, he can:

   A. Remain silent or give a subsequent fire command.
   B. End the engagement or give a subsequent fire command.
   C. Remain silent or end the engagement.
   D. Give a subsequent fire command.

2. For machine gun engagements, subsequent fire commands:

   A. Are always given.
   B. Are sometimes given.
   C. Are never given.
   D. Are given by loader.

3. The OBSERVATION response of "TARGET" means:

   A. The target has been identified.
   B. The target has been hit.
   C. The target has disappeared.
   D. None of the above.

Answers: 1.C 2.C 3.B

SINGLE TARGET MACHINEGUN ENGAGEMENTS

D. ENDING A MACHINEGUN ENGAGEMENT

If the target has been destroyed, the TC's command to end the engagement would be:

> TARGET, CEASE FIRE

If the target has not been destroyed, and the TC decides to end the engagement, his command would be:

> CEASE FIRE

The above applies to all machinegun engagements except when FIRE AND ADJUST is given. In this case the crewmember firing the machinegun may also end the engagement if he believes the target has been destroyed. He ends the engagement by announcing:

> •TC COMPLETE (if TC machinegun is used)
>
> or
>
> •TARGET CEASE FIRE (if gunner is using COAX)

QUESTIONS

1. TARGET CEASE FIRE means:

   A. Target destroyed, stop firing.
   B. Target hit, stop firing.
   C. Target lost, stop firing.
   D. None of the above.

2. CEASE FIRE means:

   A. Target destroyed, stop firing.
   B. Stop firing.
   C. Prepare for subsequent fire command.
   D. None of the above.

Answers: 1.A 2.B

SECTION 3

M35E1/TTS PRECISION MAIN GUN ENGAGEMENTS SINGLE TARGET

The next three sections will provide general information on fire commands for main gun engagements. This section will focus on single target M35E1/TTS precision gunnery. It will review the following key points:

A. THE INITIAL FIRE COMMAND
B. CREW RESPONSES TO INITIAL FIRE COMMANDS
C. THE INITIAL FIRE COMMAND - SPECIAL CASES
D. SUBSEQUENT FIRE COMMANDS
E. ENDING THE ENGAGEMENT

SINGLE TARGET
M35E1/TTS PRECISION MAIN GUN ENGAGEMENTS

A. THE INITIAL FIRE COMMAND

ELEMENTS AND SEQUENCE OF THE INITIAL FIRE COMMAND

The basic elements and sequence of the initial fire command for M35E1/TTS precision main gun engagements are the same as for machineguns:

- ALERT
- AMMUNITION/WEAPON
- TARGET DESCRIPTION
- EXECUTION

For example, an initial fire command might be announced as:

GUNNER
SABOT
TANK
FIRE

Notice that for M35E1/TTS precision main gun engagements:

1. The type of main gun ammunition is named in the AMMUNITION/WEAPON element.
2. The GUNNER is always named in the ALERT element.

QUESTIONS

1. Which of these fire commands is in the proper order:

   A. GUNNER
      SABOT
      TANK
      FIRE
   B. TANK
      GUNNER
      SABOT
      FIRE
   C. SABOT
      TANK
      GUNNER
      FIRE
   D. None of the above

2. For M35E1/TTS, precision main gun engagements, when is the gunner in the alert command:

   A. Seldom
   B. Usually
   C. Always
   D. None of the above

Answers: 1.A 2.C

SINGLE TARGET
M35E1/TTS PRECISION MAIN GUN ENGAGEMENTS

B. CREW RESPONSES TO INITIAL FIRE COMMANDS

As with machinegun engagements, there are responses during and after the initial fire command.

RESPONSES DURING THE INITIAL FIRE COMMAND

There are four responses during the initial fire command. They are the LOAD response, the IDENTIFICATION response, the LASING response, and the RELASE response.

1. LOAD - This response is given by the loader to tell the TC that the main gun is loaded according to his command. The response by the loader is:
   UP

2. IDENTIFICATION - The identification response for precision main gun engagements is the same as that for machinegun engagements. The response is:
   IDENTIFIED
   or
   CANNOT IDENTIFY
   and is announced by the gunner.

3. LASING - This response is given by the TC or gunner to indicate that the LRF is being "fired" to determine target range. Also, it is a response to RELASE. The response is:
   LASING

4. RELASE - This response is given by the TC to tell the gunner that there are multiple returns, and he must rerange to the target. The response is:

   RELASE

   When the LRF is used, there is the possibility of a MULTIPLE RETURN. What this means is that more than one target range has been returned to the LRF unit. When this occurs, the TC must decide whether to use the FIRST, SECOND or LAST return or rerange to the target. If he decides to use one of the range returns, he will announce:

   FIRE

   If he decides to rerange to the target, he will announce:

   RELASE

An example of an initial fire command for M35E1/TTS precision main gun engagements, including the responses during the command, would be:

```
GUNNER
SABOT
TANK
                UP (loader)
                IDENTIFIED (gunner)
                LASING (gunner)
RELASE
                LASING (gunner)
FIRE
```

For additional information on multiple returns refer to FM 17-12-3.

RESPONSES AFTER THE INITIAL FIRE COMMAND

There are three responses after the initial fire command. They are: the ENGAGEMENT START response, the OBSERVATION response, and the RELOAD response.

1. ENGAGEMENT START - The engagement start response is the same as for machinegun engagements. The person conducting the engagement (gunner or TC) announces:

ON THE WAY

   This tells the TC and the crew, that the main gun is going to fire and the engagement will start.

2. OBSERVATION - The observation response occurs during an engagement after each round is fired. An observation is a mental notation of where the round strikes in relation to the target. Observations are always announced during direct fire engagements. The five observations are:

   - TARGET - Any portion of target is hit
   - OVER - Round, tracer or effects are observed above the target
   - SHORT - Round, tracer or effects fall between firing tank and target
   - DOUBTFUL - Round, tracer or effects are seen passing to the left or right of target, but at the correct range
   - LOST - Neither round nor effects are observed in relation to target

3. RELOAD - After the main gun is fired, the loader reloads the main gun. When the reloading is finished, he announces:
   UP

COMBINED RESPONSES

If the during and after responses are combined with the initial fire command for M35E1/TTS precision main gun engagements, it might sound like this:

```
GUNNER
SABOT
TANK
                UP (loader)
                IDENTIFIED (gunner)
                LASING (gunner)
FIRE
                ON THE WAY (gunner)
                TARGET (gunner)
                UP (loader)
```

or

```
GUNNER
HEAT
TRUCK
                UP (loader)
                IDENTIFIED (gunner)
                LASING (gunner)
FIRE
                ON THE WAY (gunner)
                LOST (gunner)
                UP (loader)
```

QUESTIONS

1. After giving the first three elements of the fire command, what would the TC expect to hear from his crew?

   A. UP (gunner)
      IDENTIFIED (loader)
   B. UP (driver)
      IDENTIFIED (gunner)
      LASING (gunner)
   C. IDENTIFIED (loader)
      UP (gunner)
   D. UP (loader)
      IDENTIFIED (gunner)
      LASING (gunner)

2. Compared to machinegun engagements, which of the following "responses during initial fire command" is new:

   A. UP.
   B. IDENTIFIED.
   C. LASING.
   D. RELASE.

3. After the execution element has been given, what does the gunner say to indicate that he will fire the gun?

   A. FIRING
   B. ON THE WAY
   C. READY
   D. None of the above

4. When the main gun is reloaded what should the TC expect to hear?

   A. UP (loader)
   B. REFIRE (gunner)
   C. STANDING BY (driver)
   D. None of the above

5. Which of the following is an observation response:

   A. DOUBTFUL LEFT
   B. OVER
   C. RIGHT
   D. OVER RIGHT

Answers: 1.D 2.D 3.B 4.A 5.B

SINGLE TARGET
M35E1/TTS PRECISION MAIN GUN ENGAGEMENTS

C. THE INITIAL FIRE COMMAND - SPECIAL CASES

The ammunition loaded in the main gun may or may not be the best for the target the crew is engaging. Depending on whether it is best, the way in which the TC gives the initial fire command may vary. Three ammunition situations are possible:

1. THE BEST AMMUNITION IS LOADED
2. THE BEST AMMUNITION IS NOT LOADED, YOU CHOOSE TO FIRE AND THEN CHANGE AMMUNITION
3. THE BEST AMMUNITION IS NOT LOADED, YOU CHOOSE TO RELOAD WITH THE BEST AMMUNITION

1. The BEST AMMUNITION IS LOADED.

The initial fire command and responses, described earlier, are used without change. For example:

```
GUNNER
SABOT
TANK
                UP (loader)
                IDENTIFIED (gunner)
                LASING (gunner)
FIRE
                ON THE WAY (gunner)
                TARGET (gunner)
                UP (SABOT reloaded)
```

In this case, SABOT was already loaded in the main gun.

2. THE BEST AMMUNITION IS NOT LOADED, YOU CHOOSE TO FIRE AND THEN CHANGE AMMUNITION.

For example, the TC is going to engage a T-72 tank. HEAT is loaded in the main gun. He decides to engage with HEAT and then change to SABOT. The initial fire command and responses might be:

```
GUNNER
HEAT
TANK
          UP (loader)
          IDENTIFIED (gunner)
          LASING (gunner)
FIRE
FIRE SABOT
          ON THE WAY (gunner)
          TARGET (gunner)
          SABOT UP (loader)
```

Notice the difference in this fire command. In the AMMUNITION/WEAPON element the TC announces HEAT, which is already loaded in the main gun. After his execution command, he announces:

```
FIRE SABOT
```

This tells the loader to load SABOT in preparation for a next engagement. Here is another example:

```
GUNNER
SABOT
PC
                UP (loader)
                IDENTIFIED (gunner)
                LASING (gunner)
FIRE
FIRE HEAT
                ON THE WAY (gunner)
                OVER (gunner)
                HEAT UP (loader)
```

3. THE BEST AMMUNITION IS NOT LOADED, YOU CHOOSE TO RELOAD WITH THE BEST AMMUNITION.

For example, the tank is going to engage a T-72 tank. HEAT is loaded in the main gun. With time available, the TC wants SABOT to be used for the engagement. He decides that the HEAT round should be unloaded and SABOT loaded before the engagement. His initial fire command might be:

```
GUNNER
SABOT
TANK
                SABOT UP (loader)
                IDENTIFIED (gunner)
                LASING (gunner)
FIRE
                ON THE WAY (gunner)
                SHORT (gunner)
                UP (SABOT reloaded)
```

In this example, the loader's response during the initial fire command is:

```
SABOT UP
```

This response tells that the loader has removed the HEAT round and replaced it with SABOT.

QUESTIONS

1. You're facing a T-72 tank and you have a HEAT round in your main gun. You want to fire and <u>then</u> change to the best ammunition. What would your initial fire command be?

   A. GUNNER
      SABOT
      TANK
      FIRE
   B. GUNNER
      HEAT
      SABOT
      TANK
   C. GUNNER
      HEAT
      TANK
      FIRE
      FIRE SABOT
   D. None of the above

2. You're waiting to ambush a T-72 tank and you have a HEAT round in your main gun. You want to change to the best ammunition <u>before</u> firing. What would the initial fire command and "during" responses be?

   A. GUNNER
      SABOT
      TANK

      SABOT UP (loader)
      IDENTIFIED (gunner)
      LASING (gunner)

      FIRE

B. GUNNER
HEAT
TANK

LASING (gunner)
UP (loader)
IDENTIFIED (gunner)

FIRE
FIRE SABOT

C. GUNNER
HEAT
SABOT
TANK

UP (loader)
IDENTIFIED (gunner)

FIRE

D. None of the above

Answers: 1.C 2.A

SINGLE TARGET
M35E1/TTS PRECISION MAIN GUN ENGAGEMENTS

D. SUBSEQUENT FIRE COMMANDS

Two conditions must exist for a TC to issue a subsequent fire command. They are:

1. He thinks the gunner needs help in achieving target destruction or disagrees with the gunner's observation.
2. He did not announce FIRE AND ADJUST (which permits the gunner to continue firing with no command from him).

THE SUBSEQUENT FIRE COMMAND

Each subsequent main gun firing on a fully operational M60A3 tank is considered a new engagement. Therefore, the ONLY subsequent fire command given by the TC for M35E1/TTS precision main gun engagements is REENGAGE. This command specifies his observation and the laser fire correction needed to achieve target destruction. For example:

SHORT (observation)
REENGAGE (method of fire adjustment)
AIM (HIGHER)(LOWER)(laser-fire correction)

RESPONSES TO THE SUBSEQUENT FIRE COMMAND

The responses given after the TC's command to REENGAGE are the same as responses given both during and after an initial fire command.

These responses are:

1. LASING response - The LASING response is announced by the gunner to tell the TC that he is using the LRF to determine target range. In response to the TC's command REENGAGE, it includes the correction to aim higher or lower on the target. The response is:

LASING

2. RELASE response - The TC has the option to accept or reject laser range returns. If he accepts a range he decides is correct, he will say:

FIRE

   If he rejects the range returns, and wants the gunner to rerange to the target, he will say:

RELASE

3. ENGAGEMENT START response - This response follows the TC's execution element (FIRE or AT MY COMMAND FIRE) and is announced by the gunner. The response is:

ON THE WAY

   This response tells the crew that the main gun will be fired and the engagement started.

4. OBSERVATION response - The OBSERVATION response occurs during the engagement. It is the same as the OBSERVATION response after the initial fire command.

5. RELOAD response - The RELOAD response is announced by the loader. The response tells that the main gun has been reloaded. The RELOAD response is:

UP

A complete subsequent fire command with responses might be:

```
SHORT
REENGAGE (TC's subsequent fire command)
AIM HIGHER
            LASING (lasing response)
FIRE
            ON THE WAY (engagement start
               response)
            TARGET (observation response)
            UP (reload response)
```

or

```
OVER
REENGAGE (TC subsequent fire command)
AIM LOWER
            LASING (lasing response)
RELASE (relase response)
            LASING (lasing response)
FIRE
            ON THE WAY (engagement start
               response)
            TARGET (observation response)
            UP (reload response)
```

QUESTIONS

1. If the TC decides on a subsequent fire command, he might announce:

   A. SHORT
      AIM LOWER
      REENGAGE
   B. SHORT
      AIM HIGHER
      FIRE
   C. SHORT
      REENGAGE
      AIM HIGHER
   D. None of the above

2. Immediately after a subsequent fire command, which response should the TC hear:

   A. ON THE WAY
   B. SHORT
   C. LASING
   D. None of the above

3. What command does the TC give to tell the gunner to rerange:

   A. RELASE
   B. AIM HIGHER
   C. LASE
   D. None of the above

Answers: 1.C 2.C 3.A

SINGLE TARGET
M35E1/TTS PRECISION MAIN GUN ENGAGEMENTS

E. ENDING THE ENGAGEMENT

Ending a main gun engagement is the same as ending a machinegun engagement. If the target has been destroyed, the TC command to end the engagement is:

TARGET CEASE FIRE

If the target has not been destroyed and he decides to end the engagement, his command is:

CEASE FIRE

QUESTIONS

1. If the target has not been destroyed but the TC wants to end the engagement, what is his command?

   A. HOLD FIRE
   B. RECALL FIRE
   C. CEASE FIRE
   D. None of the above

2. If the target has been destroyed and the TC wants to end the engagement, what is his command?

   A. KILL HOLD FIRE
   B. RECALL TERMINATE FIRE
   C. TARGET CEASE FIRE
   D. None of the above

Answers: 1.C 2.C

SECTION 4

FIRE COMMANDS FOR BATTLESIGHT MAIN GUN ENGAGEMENTS

SINGLE TARGET

This is the third of three sections which provide general information on fire commands for main gun engagements. This section will focus on single target battlesight gunnery. It will review the following key points:

A. THE INITIAL FIRE COMMAND
B. CREW RESPONSES TO THE INITIAL FIRE COMMAND
C. THE INITIAL FIRE COMMAND SPECIAL CASES
D. SUBSEQUENT FIRE COMMANDS
E. ENDING THE ENGAGEMENT

SINGLE TARGET BATTLESIGHT MAIN GUN ENGAGEMENTS

A. THE INITIAL FIRE COMMAND

ELEMENTS AND SEQUENCE OF THE INITIAL FIRE COMMAND

A correctly stated initial fire command for a main gun battlesight engagement is similar to that for machinegun and single target precision main gun engagements. The difference is that the AMMUNITION/WEAPON element is replaced by a BATTLESIGHT element. BATTLESIGHT engagements are primarily used when the LRF is not operational, but can be used when firing on most dangerous surprise targets. The BATTLESIGHT element is always announced as:

BATTLESIGHT

For example:

GUNNER BATTLESIGHT TANK . . . FIRE

or

GUNNER BATTLESIGHT TRUCK . . . FIRE

QUESTIONS

1. Which of these fire commands is in the proper order?

   A. GUNNER
      BATTLESIGHT
      TANK . . .
      FIRE
   B. GUNNER
      TANK
      BATTLESIGHT . . .
      FIRE
   C. BATTLESIGHT
      GUNNER
      TANK . . .
      FIRE
   D. None of the above

2. What do you state for the AMMUNITION/WEAPON element in main gun battlesight engagements fire commands?

   A. Ammunition or
      BATTLESIGHT
   B. Weapon or
      BATTLESIGHT
   C. Always
      BATTLESIGHT
   D. None of the above

Answers: 1.A 2.C

SINGLE TARGET BATTLESIGHT MAIN GUN ENGAGEMENTS

B. CREW RESPONSES TO THE INITIAL FIRE COMMAND

As with machinegun and single target precision main gun engagements, there are crew responses during and after the initial fire command.

RESPONSES DURING THE INITIAL FIRE COMMAND

There are two responses during the initial fire command for single target battlesight main gun engagements. They are the:

1. LOAD response
   and
2. IDENTIFICATION response

Both responses are the same as for single target precision main gun engagements. Since the LRF is not used, the LASING and RELASE responses are omitted. For example:

```
GUNNER
BATTLESIGHT
TANK
        UP (loader)
        IDENTIFIED (gunner)
FIRE
```

RESPONSES AFTER THE INITIAL FIRE COMMAND

Responses after the initial fire command are almost the same as for single target precision main gun engagements:

1. ENGAGEMENT START response
2. OBSERVATION response
3. RELOAD response

The only difference is that the gunner will not apply the REENGAGE technique of fire adjustment. He must apply one of three alternate methods:

- Standard Mil
- Range Change
- Target Form

STANDARD MIL ADJUSTMENT. This method of fire adjustment is used only with non-ballistic reticles (M35E1/TTS, Rangefinder). The standard adjustment for SABOT and HEAT is 1 mil for both elevation and deflection at all ranges. For example:

FIRE
ON THE WAY (gunner)
SHORT (gunner)
UP (loader)

In the above example, the gunner has indicated that his observation of the round was SHORT of the target. If the TC does not issue a subsequent fire command, the gunner would ADD 1 mil on the vertical range line, lay that aiming point on target center of mass, announce ON THE WAY, and fire. For example:

(ADD ONE) (stand. mil adjust. for range)
ON THE WAY (gunner)

If the gunner also observed that the round was left (or right) of target, he would make a 1 mil adjustment in deflection before firing.

For example:

(RIGHT ONE) (stand. mil adjust. for deflection)
ON THE WAY

RANGE CHANGE ADJUSTMENT. This method of fire adjustment is used only when firing from the M105D telescope because the vertical range line is graduated in meters. The standard adjustment for range is 200 meters. For example:

(DROP TWO HUNDRED) (stand. range change for range)
ON THE WAY (gunner)

TARGET FORM ADJUSTMENT - This form of adjustment is used with the ballistic or non-ballistic reticles. One FORM is the visible height or width of the target. Target form changes are made in one-half form increments. For example, if the gunner observed the round to strike short and left of the target, he might:

(RIGHT ONE FORM) (range adjustment)
(ADD ONE-HALF FORM) (deflection adjust)
ON THE WAY (gunner)

NOTE: TARGET FORM is being reviewed by Weapons Department personnel and may be discontinued as a method or technique of fire adjustment. Consult FM 17-12-3 for current changes.

QUESTIONS

1. Which method of fire adjustment cannot be used when firing battlesight?

   A. Standard Mil
   B. Range Change
   C. Reengage
   D. Target Form

2. What is the Standard Mil adjustment for both range and deflection?

   A. 1 mil
   B. 2 mils
   C. 3 mils
   D. None of the above

3. What is the Range Change adjustment for range?

   A. 2 mils
   B. 200 meters
   C. 1 mil
   D. 100 meters

4. What is Target Form?

   A. Visible height of M60A3 tank
   B. Visible height and width of target
   C. Standard height and width of target
   D. None of the above

5. Target forms changes are made in increments of:

A. one-half mil
B. one mil
C. one-half meter
D. one meter

ANSWERS: 1.C 2.A 3.B 4.B 5.A

SINGLE TARGET BATTLESIGHT MAIN GUN ENGAGEMENTS

C. THE INITIAL FIRE COMMAND-SPECIAL CASES

The same three special cases apply to battlesight gunnery as they did to precision gunnery. Situations could be as follows:

1. THE BEST AMMUNITION IS LOADED
2. THE BEST AMMUNITION IS NOT LOADED, YOU CHOOSE TO FIRE AND THEN CHANGE AMMUNITION
3. THE BEST AMMUNITION IS NOT LOADED, YOU CHOOSE TO RELOAD WITH THE BEST AMMUNITION

The modifications to the TC's fire command, and to the loader's responses, are the same as for single target precision main gun engagements for the first two situations.

For the situation where "the best ammunition is not loaded, the TC chooses to reload with the best ammunition" there is a difference. He announces the ammunition he wants loaded immediately after announcing BATTLESIGHT. For example, suppose he had SABOT loaded but wanted HEAT. He would announce:

GUNNER
BATTLESIGHT HEAT
PC

SINGLE TARGET BATTLESIGHT MAIN GUN ENGAGEMENTS

D. SUBSEQUENT FIRE COMMANDS

After the initial fire command, the TC may take one of three actions:

1. END THE ENGAGEMENT
2. REMAIN SILENT
3. ISSUE A SUBSEQUENT FIRE COMMAND

1. END THE ENGAGEMENT

The engagement is ended if the TC believes that the target has been destroyed or if he wishes to end the engagement for other reasons.

2. REMAIN SILENT

The TC would remain silent if:

A. The target was not hit
and
The TC agrees with the gunner's round observation
and
The TC believes the gunner can correctly adjust his fire

B. The target was hit
and
The TC wants to hit it again without adjustment

The TC's silence tells the gunner to fire when ready.

The crew responses after the gunner fires are the same as those following the initial fire command.

An example of an initial fire command and subsequent firing where the TC remains silent might be:

```
GUNNER
BATTLESIGHT
TANK
          UP (loader)
          IDENTIFIED (gunner)
FIRE
          ON THE WAY (gunner)
          SHORT (gunner)
          UP (loader)
          (TC silent)
          (Standard Mil adjustment)
                (gunner)
          ON THE WAY (gunner)
          TARGET (gunner)
          UP (loader)
```

or

```
GUNNER
BATTLESIGHT
TRUCK
          UP (loader)
          IDENTIFIED (gunner)
FIRE
          ON THE WAY (gunner)
          OVER (gunner)
          UP (loader)
          (TC silent)
          (Range Change adjustment)
          (gunner)
          ON THE WAY (gunner)
          TARGET (gunner)
          UP (loader)
```

3. ISSUE A SUBSEQUENT FIRE COMMAND

The TC will announce a subsequent fire command if:

A. The target was hit and he wants to fire again with adjustment

or

B. The target was not hit

and

The gunner responds LOST and the TC has a short or over observation

or

The TC's observation does not agree with the gunner's

or

The TC's observation agrees with the gunner's but he wants to specify a firing adjustment

ELEMENTS OF THE SUBSEQUENT FIRE COMMAND

A subsequent fire command for battlesight main gun engagements has four elements. They are:

- ALERT
- DEFLECTION CORRECTION
- RANGE CORRECTION
- EXECUTION

ALERT ELEMENT

The ALERT element in the subsequent fire command differs from the alert element in the initial fire command. Instead of only getting the gunner's attention, it tells the gunner the TC's observation (which may be the same or different than the gunner's). Of course, it also alerts the rest of the crew that the

engagement will continue. Examples of the ALERT element for a subsequent fire command are:

OVER

or

DOUBTFUL

or

SHORT

or

TARGET

DEFLECTION CORRECTION ELEMENT

The DEFLECTION CORRECTION element tells the gunner how far right or left to place his next round. It is stated in mils or increments of one-half target forms. For example:

RIGHT TWO MILS or RIGHT ONE FORM

or

LEFT ONE MIL or LEFT ONE-HALF FORM

The DEFLECTION CORRECTION element is optional, you will not need to use it when your observation is "LINE."

RANGE CORRECTION ELEMENT

The RANGE CORRECTION element tells the gunner how much higher or lower to place the next round. It is stated in mils, meters or target forms. For example:

ADD ONE MIL or ADD 200 METERS or ADD ONE FORM

or

DROP TWO MILS or DROP 200 METERS or DROP TWO FORMS

The RANGE CORRECTION element is also optional and will not be used when the observation is "DOUBTFUL."

EXECUTION ELEMENT

The EXECUTION element is stated exactly as with all other fire commands:

FIRE

or

AT MY COMMAND . . . FIRE

CREW RESPONSES AFTER THE SUBSEQUENT FIRE COMMAND

The three crew responses after the subsequent fire command are as follows:

1. REENGAGEMENT START
2. OBSERVATION
3. RELOAD

The TC should be very familiar with these responses. An example of the responses after a subsequent fire command might be:

```
FIRE
      ON THE WAY (reengagement start)
      OVER (observation)
      UP (reload)
```

or

```
FIRE
      ON THE WAY (reengagement start)
      TARGET (observation)
      UP (reload)
```

COMBINED SUBSEQUENT FIRE COMMAND AND CREW RESPONSES

An example of a subsequent fire command and crew responses might be:

```
GUNNER
BATTLESIGHT
TRUCK
          UP (loader)
          IDENTIFIED (gunner)
FIRE
          ON THE WAY (gunner)
          LOST (gunner)
          UP (loader)
SHORT           (Alert)
LEFT ONE MIL    (Deflection correction)
ADD TWO MILS    (Range correction)
FIRE            (Execution)
          ON THE WAY (reengagement start)
                     (gunner)
          TARGET (observation) (gunner)
          UP (reload) (loader)
```

or

```
GUNNER
BATTLESIGHT
TANK
          UP (loader)
          IDENTIFIED (gunner)
FIRE
          ON THE WAY (gunner)
          OVER     (gunner)
          UP (loader)
OVER
DROP TWO HUNDRED METERS
FIRE
          ON THE WAY (gunner)
          LOST (gunner)
          UP (loader)
```

In the last example, the TC would have to announce at least one more subsequent fire command if he had an observation.

Here is another example:

```
GUNNER
BATTLESIGHT
TANK
          UP (loader)
          IDENTIFIED (gunner)
FIRE
          ON THE WAY (gunner)
          TARGET (gunner)
          UP (loader)
TARGET
RIGHT ONE-HALF FORM
FIRE
          ON THE WAY (gunner)
          TARGET (gunner)
          UP (loader)
```

SINGLE TARGET• BATTLESIGHT MAIN GUN ENGAGEMENTS

E. ENDING THE ENGAGEMENT

Ending a battlesight engagement is announced the same as in machine gun and precision main gun engagements.

QUESTIONS

1. If the gunner announces TARGET and the TC wants to hit the target again, he would probably:

   A. Announce TARGET FIRE.
   B. Announce REENGAGE.
   C. Announce REPEAT.
   D. Remain silent.

2. Gunner announces observation response. TC agrees with gunner and would probably:

   A. End the engagement.
   B. Issue subsequent fire command.
   C. Remain silent.
   D. Issue initial fire command.

3. TC is going to give a subsequent fire command. His alert element is DOUBTFUL. His range correction would be:

   A. UP _____ forms.
   B. ADD _____ forms.
   C. DOWN _____ forms.
   D. None of the above.

4. TC is going to give a subsequent fire command. His alert element is SHORT. His range correction would be:

   A. ADD _____ meters.
   B. ADD _____ forms
   C. ADD _____ mils
   D. All of the above.

Answers: 1.D 2.C 3.D 4.D

• SECTION 5

FIRE COMMANDS
FOR M105D PRECISION MAIN GUN ENGAGEMENTS
SINGLE TARGET

This is the last of three sections dealing with main gun engagements. The section will focus on single target M105D (Telescope) precision gunnery. As with the other main gun engagement sections of this booklet, it will discuss the following points:

A. THE INITIAL FIRE COMMAND
B. CREW RESPONSES TO INITIAL FIRE COMMANDS
C. THE INITIAL FIRE COMMAND - SPECIAL CASES
D. SUBSEQUENT FIRE COMMANDS
E. ENDING THE ENGAGEMENT

SINGLE TARGET
M105D PRECISION MAIN GUN ENGAGEMENTS

A. THE INITIAL FIRE COMMAND

The initial fire command for M105D precision main gun engagements contains one additional element. That element is:

RANGE

The RANGE element is announced immediately after the TARGET DESCRIPTION element. For example:

```
GUNNER
SABOT
TANK
TWO THOUSAND (estimated range)
FIRE
```

or

```
GUNNER
HEAT
TRUCK
ONE FIVE HUNDRED (known range)
FIRE
```

• QUESTIONS

1. The range estimation for M105D precision main gun engagements comes <u>directly</u>:

   A. Before ammunition/weapon.
   B. After alert.
   C. After execution.
   D. After target description.

Answers: 1.D

B. CREW RESPONSES TO INITIAL FIRE COMMANDS

RESPONSES DURING THE INITIAL FIRE COMMAND

The two crew responses during the initial fire command are:

1. LOAD response
   and
2. IDENTIFICATION response

These responses were described in earlier sections of this booklet.

CREW RESPONSES AFTER THE INITIAL FIRE COMMAND

The three crew responses after the initial fire command are the same as those for battlesight gunnery:

1. ENGAGEMENT response
2. OBSERVATION response
3. RELOAD response

With battlesight gunnery, the gunner cannot apply the REENGAGE technique of fire adjustment. He must use STANDARD MIL, RANGE CHANGE, or TARGET FORM methods.

COMBINED RESPONSES

The during and after responses, combined with the initial fire command for 105D precision main gun engagements, might sound like this:

GUNNER •
SABOT
TANK
ONE SEVEN HUNDRED

UP (loader)
IDENTIFIED (gunner)

FIRE

ON THE WAY (gunner)
SHORT (gunner)
UP (loader)

or

GUNNER
HEAT
TRUCK
ONE THREE HUNDRED

UP (loader)
IDENTIFIED (gunner)

FIRE

ON THE WAY (gunner)
TARGET (gunner)
UP (loader)

• SINGLE TARGET
M105D PRECISION MAIN GUN ENGAGEMENTS

C. THE INITIAL FIRE COMMAND - SPECIAL CASES

The special cases for M105D precision main gun engagements are the same as those for other forms of main gun engagements:

1. THE BEST AMMUNITION IS LOADED
2. THE BEST AMMUNITION IS NOT LOADED, YOU CHOOSE TO FIRE AND THEN CHANGE AMMUNITION
3. THE BEST AMMUNITION IS NOT LOADED, YOU CHOOSE TO RELOAD WITH THE BEST AMMUNITION

The way in which the TC modifies his initial fire command, and the responses he receives from the crew, are also the same as for other forms of main gun engagements.

• SINGLE TARGET
M105D PRECISION MAIN GUN ENGAGEMENTS

D. SUBSEQUENT FIRE COMMANDS

Possible actions following the initial fire command are the same as those for battlesight gunnery. Rather than detail those actions, only a review will be provided.

After the initial fire command, the TC may take one of three actions:

A. End the engagement B. Remain silent C. Issue a subsequent fire command

1. He would end the engagement if he believes the target has been destroyed or if he wishes to terminate for other reasons.

2. He would remain silent if:

A. The target <u>was</u> <u>not</u> hit and He agrees with the gunner's observation and He believes the gunner will correctly adjust his fire B. The target <u>was</u> hit and He wants to hit it again

His silence tells the gunner to fire when ready.

3. He would announce a subsequent fire command if:

A. The target was hit and he wants to adjust fire to assure target destruction

or

B. The target was not hit

and

The gunner responds LOST and he has an observation of SHORT, OVER, or DOUBTFUL

or

The TC's observation does not agree with the gunner's

or

The TC's observation agrees with the gunner's but he wants to specify a firing adjustment

The subsequent fire command for M105D precision main gun engagements is the same as subsequent fire commands for battlesight main gun engagements. The subsequent fire command includes the elements of:

- ALERT
- DEFLECTION CORRECTION
- RANGE CORRECTION
- EXECUTION

A subsequent fire command might sound like this:

OVER
RIGHT TWO FORMS
DROP TWO FORMS
FIRE

The crew responses after the subsequent fire command are identical to those after the subsequent fire command for battlesight gunnery. The responses are:

- REENGAGEMENT START
- OBSERVATION
- RELOAD

If the initial and subsequent fire commands are combined with the crew responses, it might sound like this:

```
GUNNER
SABOT
TANK
TWO THOUSAND (estimated range)
                    UP (loader)
                    IDENTIFIED (gunner)
FIRE
                    ON THE WAY (gunner)
                    SHORT (gunner)
                    UP (loader)
SHORT
LEFT ONE FORM       (subsequent
UP ONE FORM          fire command)
FIRE
                    ON THE WAY (responses
                    TARGET      to subse-
                    UP          quent
                                command)
```

- SINGLE TARGET

M105D PRECISION MAIN GUN ENGAGEMENTS

E. ENDING THE ENGAGEMENT

Ending a M105D precision main gun engagement is done in the same manner as all other main gun engagements.

SECTION 6

ENGAGEMENTS INVOLVING MANY TARGETS

The next battlefields will probably be quite complex. Instead of a single target, the crew may have to engage many targets, some at the same time. This section will discuss fire commands for engagements involving many targets. The section will focus on the following key points:

A. MULTIPLE ENGAGEMENTS
B. SIMULTANEOUS ENGAGEMENTS
C. COMBINED MULTIPLE AND SIMULTANEOUS ENGAGEMENTS

ENGAGEMENTS INVOLVING MANY TARGETS

A. MULTIPLE ENGAGEMENTS

If the crew must fight many targets, the TC may choose to use a:

MULTIPLE ENGAGEMENT or SIMULTANEOUS ENGAGEMENT

KINDS OF MULTIPLE ENGAGEMENTS

There are two kinds of multiple engagements. The first kind is where there are many targets and the TC wants the gunner to pick the targets and their order of engagement. That kind of multiple engagement is called an:

OPPORTUNITY MULTIPLE ENGAGEMENT

The second kind of multiple engagement is where the TC will pick the targets and their order of engagement. That kind of multiple engagement is called a:

SEQUENCED MULTIPLE ENGAGEMENT

Multiple engagements refer to the presence of more than one main gun target. Depending on the status of the tank the gunner may fire either:

1. M35E1/TTS Precision 2. M35E1/TTS Battlesight 3. M105D Precision 4. M105D Battlesight

OPPORTUNITY MULTIPLE ENGAGEMENT - M35E1/TTS

The only difference between this engagement and any of the single target engagements is that the TC announces:

> TARGETS OF OPPORTUNITY

for the target description element of the initial fire command. All other parts of an OPPORTUNITY MULTIPLE ENGAGEMENT are identical to a single target engagement. For example (using M35E1/TTS precision with no malfunctions):

```
GUNNER
SABOT
TARGETS OF OPPORTUNITY
                    UP (loader)
                    IDENTIFIED (gunner)
                    LASING (gunner)
FIRE
                    ON THE WAY (gunner)
                    SHORT (gunner)
                    LASING (gunner)
                    UP (loader)
                    ON THE WAY (gunner)
                    TARGET (gunner)
                    UP (loader)

TARGET CEASE FIRE
```

An OPPORTUNITY MULTIPLE ENGAGEMENT ends when the TC announces CEASE FIRE or TARGET CEASE FIRE.

1. SEQUENCED MULTIPLE ENGAGEMENTS - PRECISION

Issuing the fire command for a SEQUENCED MULTIPLE ENGAGEMENT is easy. For M35E1/TTS precision, the initial fire command (including during and after responses) remain the same. However, the TC must make sure that:

A. The target description includes two or more targets and that one of the targets is named as your first engagement target. For example:

> THREE TANKS, LEFT TANK

B. During the gunner's identification response, saying IDENTIFIED means that he sees all three targets and has the first engagement target in his sights.

For SEQUENCED MULTIPLE ENGAGEMENTS, the subsequent fire commands and engagements are also the same.

The only different actions taken for a SEQUENCED MULTIPLE ENGAGEMENT are the following: The TC must announce the next target to be engaged and an execution command after the initial target has been destroyed. The gunner then announces that he has identified the next target. For example:

```
GUNNER •
SABOT
TWO TANKS,              (2 or more targets,
 LEFT TANK              target for engagement
                        named)
          UP
          IDENTIFIED    (seen two targets
          LASING        and will engage
                        left tank first)
FIRE
          ON THE WAY
          TARGET
          UP
TARGET                  (first target de-
 RIGHT TANK             stroyed, next target
                        named)
          IDENTIFIED    (next target
                        identified)

FIRE                    (execution)
```

NOTE: When the targets are at approximately the same range, the gunner should NOT lase to the next target. Given that the first target has been destroyed, the range indexed into the computer will be accurate to destroy the next tank target.

Here is an example of a complete fire command for a SEQUENCED MULTIPLE ENGAGEMENT using M35E1/ TTS precision (with no malfunction).

```
GUNNER •
HEAT
TWO TRUCKS,
 LEFT TRUCK          UP (loader)
                     IDENTIFIED (gunner)
                     LASING (gunner)
FIRE
                     ON THE WAY (gunner)
                     TARGET (gunner)
                     UP (loader)

TARGET, RIGHT TRUCK
                     IDENTIFIED (gunner)
FIRE
                     ON THE WAY (gunner)
                     TARGET (gunner)
                     UP (loader)
TARGET, CEASE FIRE
```

In the above example, both trucks were destroyed and the tank commander ended the engagement.

2. SEQUENCED MULTIPLE ENGAGEMENTS - BATTLESIGHT

SEQUENCED MULTIPLE ENGAGEMENTS for M35E1/TTS battlesight are the same as for M35E1/TTS precision. Use the normal initial and subsequent fire commands and add the additional commands and responses. For example:

```
GUNNER •
BATTLESIGHT
TWO TRUCKS, LEFT
 TRUCK
                        UP (loader)
                        IDENTIFIED (gunner)
FIRE
                        ON THE WAY (gunner)
                        TARGET (gunner)
                        UP (loader)
TARGET RIGHT
 TRUCK
                        IDENTIFIED (gunner)
FIRE
                        ON THE WAY (gunner)
                        SHORT (gunner)
                        UP (loader)
SHORT
RIGHT ONE FORM
ADD ONE FORM
FIRE
                        ON THE WAY (gunner)
                        TARGET (gunner)
                        UP (loader)
TARGET CEASE FIRE
```

Notice in the above example that a subsequent fire command was necessary in order to destroy the right truck.

3. SEQUENCED MULTIPLE ENGAGEMENTS - BATTLESIGHT

SEQUENCED MULTIPLE ENGAGEMENTS for M105D battlesight are also the same as for M35E1/TTS BATTLESIGHT. For an example of a SEQUENCED MULTIPLE ENGAGEMENT using M105D battlesight, refer to the example for M35E1/TTS battlesight. The format is the same.

GUNNER •	
SABOT	
TWO TANKS,	
RIGHT TANK	
TWO THOUSAND	(estimated range for first target)
	UP (loader)
	IDENTIFIED (gunner)
FIRE	
	ON THE WAY (gunner)
	TARGET (gunner)
	UP (loader)
TARGET	
LEFT TANK	
ONE NINE HUNDRED	(estimated range for next target)
	IDENTIFIED (gunner)
FIRE	
	ON THE WAY (gunner)
	TARGET (gunner)
	UP (loader)
TARGET CEASE FIRE	

• QUESTIONS

1. The two types of multiple target engagements are:

   A. Opportunity and sequenced.
   B. Opportunity and battlesight.
   C. Sequenced and battlesight.
   D. Battlesight and precision.

2. In a sequenced multiple engagement, the targets are selected by:

   A. The gunner.
   B. The tank commander.
   C. Either the gunner or tank commander.
   D. None of the above.

3. The difference between M105D precision sequenced multiple engagements and other sequenced multiple engagements is that:

   A. M105D precision has range announced.
   B. M105D precision has more gunner responses.
   C. M105D precision has no range.
   D. None of the above.

Answers: 1.A 2.B 3.A

B. SIMULTANEOUS ENGAGEMENTS

Simultaneous engagements occur when more than one weapon must be used at the same time. The most common simultaneous engagement is when the main gun and the TC's machinegun must be used together. In this case the TC gives control of the main gun to the gunner. He then announces that he is going to fire his machinegun. For example

```
GUNNER
SABOT
TANK
          UP (loader)
          IDENTIFIED (gunner)
          LASING (gunner)
FIRE AND ADJUST
CAL. 50
```

The FIRE AND ADJUST command means that the gunner has control of the main gun target engagement until the TC completes his engagement. CAL. 50 means that the TC is going to fire his machinegun.

In a simultaneous engagement, the initial fire command is the same as for single target engagements except for "FIRE AND ADJUST" and "CAL. 50." The response for the initial fire command also remains the same.

When a simultaneous engagement is conducted, the gunner continues to fire until his target is destroyed. When he believes the target is destroyed he will announce:

```
TARGET, CEASE FIRE
```

In the same way, the TC continues firing his machinegun until the target is destroyed. When he believes it is destroyed, he announces:

TC COMPLETE

If the TC announces TC COMPLETE before the gunner has destroyed his target, he automatically resumes control of the main gun engagement. The engagement then becomes a normal single target or multiple target engagement.

An example of a simultaneous engagement firing command (using M105D battlesight) might be:

GUNNER	
BATTLESIGHT	
TRUCK	
	UP (loader)
	IDENTIFIED (gunner)
FIRE AND ADJUST	
CAL. 50	
	ON THE WAY (gunner)
	SHORT (gunner)
	UP (loader)
	ON THE WAY (gunner fires without TC command)
	TARGET CEASE FIRE (gunner)
TC COMPLETE	(TC target destroyed)

In the above example, the gunner destroyed his target before the TC was complete. The gunner then announced his own end of engagement.

Another example, using M35E1/TTS precision might be:

GUNNER •	
SABOT	
TANK	
	UP (loader)
	IDENTIFIED (gunner)
	LASING (gunner)
FIRE AND ADJUST	
CAL. 50	
	ON THE WAY (gunner)
	SHORT (gunner)
	LASING (gunner)
	UP (loader)
	ON THE WAY (gunner)
TC COMPLETE	
	SHORT (gunner)
	UP (loader)
TARGET CEASE FIRE	

In this example, the TC announced TC COMPLETE before the gunner had destroyed the target. The TC then resumed control of the main gun engagement.

• QUESTIONS

1. In a simultaneous engagement, the main gun is controlled by:

   A. The tank commander.
   B. The gunner.
   C. Either the gunner or tank commander.
   D. None of the above.

2. When the TC has finished his CAL. 50 engagement, he:

   A. Announces TC COMPLETE.
   B. Takes control of main gun.
   C. Both a and b.
   D. Neither a nor b.

3. The execution command for a simultaneous engagement is:

   A. FIRE.
   B. FIRE AND ADJUST.
   C. CONTINUE FIRING.
   D. REENGAGE.

ANSWERS: 1.B 2.A 3.B

ENGAGEMENTS INVOLVING MANY TARGETS

C. COMBINED MULTIPLE AND SIMULTANEOUS ENGAGEMENTS

COMBINING THE MULTIPLE AND SIMULTANEOUS ENGAGEMENTS

Sometimes the battlefield becomes so complicated that the TC must conduct both a MULTIPLE and SIMULTANEOUS ENGAGEMENT at the same time. The following example will help explain:

(CONDITION - M35E1/TTS precision)

```
GUNNER
SABOT
TWO TANKS,                    (multiple engagement)
 RIGHT TANK
                    UP
                    IDENTIFIED
                    LASING
FIRE AND                      (simultaneous
 ADJUST                       engagement)
CAL. 50
                    ON THE WAY
                    TARGET
                    UP
                    LASING (gunner lases and
                           fires at remaining
                           tank)
                    ON THE WAY
TC COMPLETE                   (TC resumes control)
                    SHORT
                    UP

SHORT
REENGAGE
AIM HIGHER
                    LASING
FIRE
                    ON THE WAY
                    TARGET
                    UP
TARGET,
 CEASE FIRE
```

In the above example, a SEQUENTIAL MULTIPLE ENGAGEMENT was used.

Following is a possible example of an OPPORTUNITY MULTIPLE ENGAGEMENT and a SIMULTANEOUS ENGAGEMENT (using M105D battlesight):

```
GUNNER •
BATTLESIGHT
TARGETS OF              (opportunity multiple)
 OPPORTUNITY
              UP
              IDENTIFIED
              LASING
FIRE AND
 ADJUST
CAL. 50
              ON THE WAY
              SHORT
              UP
              ON THE WAY
              TARGET
TC COMPLETE             (TC target destroyed)
              UP
              ON THE WAY
              SHORT
SHORT
RIGHT ONE FORM
ADD ONE FORM
FIRE
              ON THE WAY
              TARGET
              UP
TARGET,
 CEASE FIRE             (end of engagement)
```

Notice that the tank commander can resume control of the engagement at any time.

• SECTION 7

REPEATING/CORRECTING FIRE COMMANDS

In a tank the TC may announce the wrong fire command or a crewmember will not hear his correct fire command. This section will review those problems. It will review the following key points:

A. REPEATING ELEMENTS OF THE FIRE COMMAND B. CORRECTING ERRORS IN FIRE COMMAND ELEMENTS C. CORRECTING ERRORS IN FIRE COMMAND SEQUENCE

A. REPEATING ELEMENTS OF THE FIRE COMMAND.

Any time a crewmember does not hear an element of the fire command, he will ask the TC to repeat it. He will do that by announcing the element he did not hear, in the form of a question. For example, suppose the TC was going to announce this fire command:

GUNNER HEAT TRUCK

and the gunner did not hear the target description. The gunner would say:

TARGET DESCRIPTION?

which would tell the TC to repeat the target description (TRUCK).

B. CORRECTING ERRORS IN FIRE COMMAND ELEMENTS.

To correct an element in the fire command the TC first announces:

> CORRECTION

Then he repeats the entire fire command from where he made the error.

For example, suppose the TC announced the following fire command:

> LOADER
> HEAT
> TANK

After he gave the target description, he decided that he had made a mistake in the alert element. Instead of LOADER he wanted to announce GUNNER.

To correct the error, the TC must announce CORRECTION and then repeat everything in the fire command from where he made the error. In the above example, he would correct the error by announcing:

> CORRECTION
> GUNNER
> HEAT
> TANK

Remember, when the TC corrects an error in a fire command element, he repeats the entire fire command <u>from where he made the error</u>.

There is one exception to correcting an error in a fire command element. It is:

IF AN ERROR IN AMMUNITION IS MADE AND THE WRONG AMMUNITION IS LOADED, THEN FIRE IT. MAKE A CORRECTION IN THE NEXT OR SUBSEQUENT FIRE COMMAND.

C. CORRECTING ERRORS IN FIRE COMMAND SEQUENCE.

Sometimes a TC might issue a fire command in which one or more elements are out of sequence. For example, he might announce:

GUNNER TANK SABOT

when he meant to announce:

GUNNER SABOT TANK

When this kind of "sequence" error occurs, he only makes a correction if he believes the error has confused his crew. Crewmembers will question commands that confuse them. If a correction must be made, announce CORRECTION and repeat the entire fire command.

• QUESTIONS

1. Your planned fire command was GUNNER, HEAT, TRUCK. By accident you announce GUNNER, SABOT, TRUCK and then realize you have made a mistake. SABOT is loaded. You should now:

   A. Announce HEAT, TRUCK, GUNNER.
   B. Announce GUNNER, HEAT, TRUCK.
   C. Announce CHANGE TO HEAT.
   D. Fire the SABOT round.

2. You have just announced a fire command in the wrong sequence. Your crew understands what you meant. You should:

   A. State the correct fire command.
   B. Announce MISTAKE.
   C. Do nothing.
   D. None of the above.

3. The gunner did not hear your ammunition element. He should:

   A. Announce AMMUNITION.
   B. Announce REPEAT?
   C. Fire the round.
   D. Watch the loader.

4. If you have to correct an error in fire command sequence, you should:

   A. Announce CORRECTION, and state the entire correct fire command.
   B. State the elements out of sequence.
   C. Ask who does not understand.
   D. None of the above.

Answers: 1.D 2.C 3.A 4.A

The M60A3 Fire Command Booklets are prototype training documents. For comments or questions contact:

Mr. Ronald F. Kraemer
ARI Field Unit-Ft. Knox
ATTN: PERI-IK
Steele Hall
Fort Knox, KY 40121

Autovon: 464-4932
Commercial: (502) 624-4932