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AM1304
15 SEPT 2005

STUDENT OUTLINE

MK153 SMAW WEAPONS HANDLING/TARGET ENGAGEMENT

TERMINAL LEARNING OBJECTIVES

1. Given a MK153 SMAW and an encased rocket, while wearing a fighting load, load a MK153 shoulder-launched multipurpose assault weapon (SMAW) by preparing the weapon for firing. (51TR.01.02)

2. Given a MK153 SMAW and a magazine of spotting rounds, while wearing a fighting load, perform immediate action for a MK153 shoulder-launched multipurpose assault weapon (SMAW) spotting rifle by returning the spotting rifle into action. (51TR.01.03)

3. Given a MK153 SMAW launcher and uncased rocket, while wearing a fighting load, perform immediate action for a MK153 shoulder-launched multipurpose assault weapon (SMAW) launcher by returning the launcher into action. (51TR.01.04)

4. Given a boresighted, SL-3 complete MK153 SMAW, an encased rocket, and a vehicle-sized target from 150 to 250 meters, while wearing a fighting load, engage targets with a MK153 shoulder-launched multipurpose assault weapon (SMAW) by achieving a hit on the target. (51TR.01.05)

ENABLING LEARNING OBJECTIVES

1. Given a MK153 SMAW and an encased rocket, while wearing a fighting load, load a MK9 spotting rifle by preparing the weapon for firing. (51TR.01.02c)

2. Given a MK153 SMAW and an encased rocket, while wearing a fighting load, load a MK153 SMAW launcher by preparing the weapon for firing. (51TR.01.02d)

3. Given a list of choices, select the considerations for choosing a firing site in accordance with TM 08673B-10/1. (51TR.01.05b)

4. Given a MK153 SMAW, while wearing a fighting load, demonstrate the four firing positions in accordance with TM 08673A-10/1. (51TR.01.05c)

5. Given a SL-3 complete, MK153 SMAW, and an encased rocket, while wearing a fighting load, prepare a MK153 SMAW for firing in accordance with TM 08673A-10/1. (51TR.01.05d)

6. Given a SL-3 complete, MK153 SMAW, and an encased rocket, and a target, while wearing a fighting load, acquire a target using the open sights in accordance with TM 08673A-10/1. (51TR.01.05e)

7. Given a SL-3 complete, MK153 SMAW, and an encased rocket, and a target, while wearing a fighting load, acquire a target using the telescopic sight in accordance with TM 08673A-10/1. (51TR.01.05f)

8. Given a SL-3 complete, MK153 SMAW, an encased rocket, and a vehicle-sized target from 150 to 250 meters, while wearing a fighting load, fire the spotting rifle by achieving a hit on target with one of six rounds and in accordance with TM 08673A-10/1. (51TR.01.05g)

9. Given a SL-3 complete, MK153 SMAW, and an encased rocket, while wearing a fighting load, unload the MK153 SMAW in accordance with TM 08673A-10/1. (51TR.01.05h)

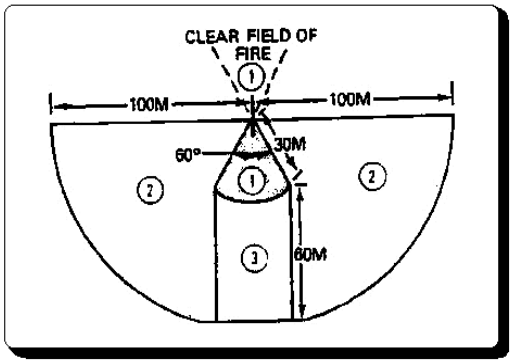
1. SELECT A SMAW FIRING SITE

a. For the selection of an optimum firing site, the gunner must take into consideration the back blast area behind the launcher. It should be clear of obstructions and loose objects for at least 30 meters. Solid obstructions can deflect shock waves and loose objects may be thrown back toward the gunner. Ensure friendly troops are clear of the back blast area.

b. The field of fire (down range) should be clear of obstructions such as trees, heavy brush, or power lines. These obstructions may deflect the rocket, damage fins, or cause premature detonation of the warhead.

c. It is not recommended that the SMAW be fired from inside any enclosure. The blast, concussion, noise, toxic fumes, and fire would be dangerous to the gunner and anyone else inside the enclosure. Furthermore, the building could structurally fail, resulting in injury to personnel inside.

d. The back blast area of the SMAW extends 90 meters to the rear of the launcher and is broken down into two sections. The danger area extends 30 meters to the rear of the launcher at a 60-degrees angle. No personnel should be allowed in this area because severe injury will be sustained. The caution area extends 60 meters beyond the danger area. No personnel should be allowed in this area because of possible injury from flying debris. Hearing protection is mandatory for all personnel within 100 meters of either side of the weapon system. During training, the gunner is allowed to fire only five (5) rockets per day (with single hearing protection) because of the high decibel level.



2. PRE-OPERATIONAL INSPECTION OF THE MK153 SMAW. This pre-operational inspection will be done whenever you take the weapon out of the armory or prior to any live fire.

a. Launcher

(1) Check launch tube inside and out for any dirt, residue, dents, cracks, or other obvious damage.

(2) Check the locking tabs and electrical contact in the aft end of the launch tube for obvious damage cracks, or separation from the tube.

(3) Lay launch tube on a clean dry, padded surface.

b. Open Sights

(1) Check the front and rear open sights for dents, cracks, or other obvious damage.

(2) Check the front and rear open sights for dirt and ensure that the rear open sights U-shaped notch is positioned in the vertical position.

c. Sling Swivel. Ensure that they hold the weight of the launch tube.

d. Telescopic Sight

(1) Check the telescopic sight housing for dirt.

(2) Check the lenses for dirt and smears. Look through the sight for internal moisture and fogging of the lenses. If there are any signs of damage, fogging, or internal moisture, return the sights to the armory.

e. Sight Mount

(1) Check to see if the mount is securely fastened to the launcher.

(2) Pull down on the outer drum and rotate clockwise. As each window lines up with the rear of the mount, it should snap into the

detent position. Rotate past all four windows then repeat the process counter-clockwise. The drum should rotate smoothly and not bind.

(3) Rotate the outer drum to a position so the window lines up with the indicator mark. Rotate the inner drum until the window reads "**450**" and then return to the "**00**". Be sure the knob rotates the full range in each direction without binding.

f. Shoulder Rest. Extend and unfold shoulder rest. Check for damage, pads torn or missing, and metal bracket bent.

g. Bipod

(1) Extend the bipod. At full extension, the legs should spring open.

(2) Check the bipods for bent legs.

(3) Return the bipods to closed position. Bipod should lock into place.

h. Spotting Rifle

(1) Check the exterior of the spotting rifle for damage, and ensure it is mounted securely to the launch tube.

(2) Check the cocking lever track where the bolt/carrier is exposed. Pull back the cocking lever and inspect the chamber for cleanliness or foreign debris.

3. PREPARE THE SMAW FOR ENGAGEMENT

a. Clear a MK153 SMAW. Before loading and after unloading the weapon you should always clear the SMAW to ensure that there is no ordinance in the weapon and that it is a complete safe weapon. This includes clearing both the launch tube and the spotting rifle.

b. Load the MK153 SMAW spotting rifle and Launcher. Whenever loading the SMAW, always ensure that the muzzle is pointed down range.

(1) Clear the MK153 SMAW spotting rifle and launch tube.

(2) Assume a load position with the launcher across lap and the firing mechanism up, ensuring the weapon is on safe.

(3) Grasp the rocket with one hand and remove the end cap with the other hand.

(4) Remove the magazine from the end cap.

(5) Insert the rocket into the launcher, rotating clockwise until it is locked into place.

(6) Insert the magazine into the magazine well, ensuring it is properly seated.

(7) Place the launcher into shoulder.

c. Prepare a SMAW for Firing

(1) Assume a firing position.

(2) Acquire a target using the telescopic sight or open sight.

(3) Estimate range to target.

(4) Set the estimated range on the inner selector drum.

(5) Ensure the temperature on the outer selector drum is set.

(6) Pull the cocking handle to the rear and release.

(7) Place the charging lever to the CHARGE position.

(8) Place weapon on the "fire" position.

d. Unload the SMAW. While unloading the SMAW, always ensure that the muzzle is pointed down range.

(1) Place the weapon on SAFE, remove the magazine, and pull the cocking lever to the rear to inspect the chamber, sound off "clear".

(2) Place your right hand back on the center of the encased rocket and rotate the weapon down into the load position. The telescopic sight should be on the inside of your thigh.

(3) Push in on the shoulder rest. Remove the encased rocket from the launcher by rotating it counterclockwise.

(4) Reinstall the forward end cap on the encased rocket if not fired, or disposed of expended encasement if fired.

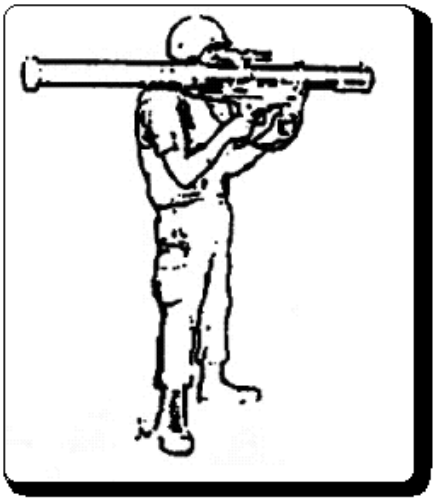
4. FIRING POSITIONS. There are four firing positions used for the MK 153 SMAW: sitting, kneeling, standing, and prone. Any of four positions can be used. Always check the back blast area to be sure it is clear of all personnel.

a. Standing position

(1) Face the target and place the SMAW on your right shoulder, ensuring the shoulder rest is fully seated in your shoulder. Spread your legs at a comfortable distance.

(2) With the left hand, grasp the front pistol grip while the right hand grasps the firing mechanism grip. The elbows should be pressed against your side for added stability.

(3) Aiming is done with the whole body. Ensure your body is square to the target.

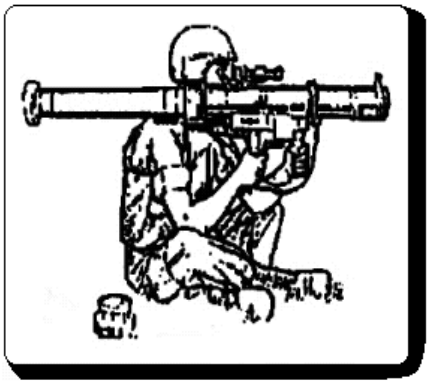


b. Sitting Position

(1) Face the target.

(2) Sit with your legs crossed, leaning slightly forward.

(2) Rest your elbows inside the knees to avoid bone-to-bone contact.



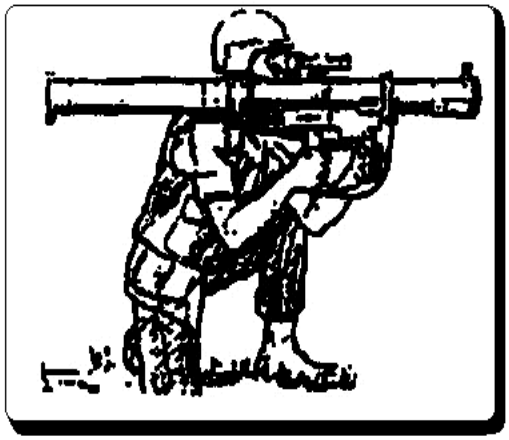
c. Kneeling Position

(1) Face the target.

(2) Point the left leg and foot at the target.

(3) Ensure the position you are in offers a maximum amount of stability.

(4) The fleshy part of the left arm, above the elbow, is placed on the left knee eliminating bone-to-bone contact.



d. Prone Position

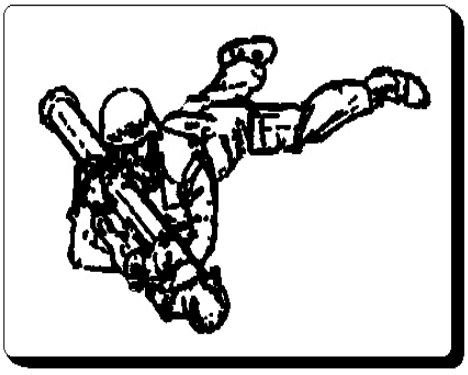
(1) Face the target.

(2) Extend the bipod.

(3) Lay down at an angle as close to 90 degrees to the launcher as possible. This keeps you clear of the back blast area.

(4) Keep your back straight with your right leg directly on line running through the right shoulder.

(5) Place both heels on the ground with your left leg moved out to a comfortable position.



5. ENGAGE TARGETS WITH THE MK153 SMAW

a. Select a firing site clear of obstructions and with a clear back blast area.

b. Assume a firing position.

c. Ensure the drum is set on HE.

d. Acquire a target using the telescopic sight or open sight.

e. Estimate range to target.

f. Set the estimated range on the inner selector drum.

g. Place weapon on the "fire" position.

g. Fire spotting round at the target by squeezing the trigger without depressing the launch lever.

h. Observe tracer impact in relation to the sight reticule and adjust aiming point on target by moving the weapon.

i. Repeat steps 8 and 9 until spotting rounds impact center mass of target.

j. Clear the back blast area by physically observing the area behind the launcher and sounding off with "Back blast area all secure, rocket".

k. Depress the launch lever and squeeze the trigger to fire the rocket.

l. Place the weapon on the "safe" position.

m. Remove the magazine by depressing the magazine release and pulling downwards on the magazine.

n. Pull cocking handle to the rear.

o. Observe the chamber for brass and live ammunition.

p. Release the cocking handle.

q. Rotate the rocket counter clockwise.

r. Remove rocket encasement by pulling it to the rear.

s. Observe the inner portion of the launch tube for serviceability.

6. PERFORM IMMEDIATE ACTION. Sometimes, throughout the course of combat or training, your weapon may fail to function properly. It is important that you are able to clear the malfunction so you can continue the mission. The SMAW is two weapons combined to make one weapon system. Both weapons are fired using the same firing mechanism

and the same sights. However, both weapons have separate misfire procedures.

a. Spotting Rifle. There are several types of malfunction for the spotting rifle. The spotting rifle may fail to fire, fail to extract, fail to feed or the bolt fail to chamber a spotting round. All of these malfunctions should be cleared in the same manner.

(1) Tap the magazine with the palm of the right hand.

(2) Pull the cocking handle to the rear, and ensure a round is ejected.

(3) Observe the chamber for brass and ammunition.

(4) Release the cocking handle, chambering a new round.

(5) Attempt to fire the spotting rifle again.

b. Perform Immediate Action for a SMAW Launcher

(1) Wait 15 seconds to ensure the rocket doesn't launch.

(2) Release the launch lever and trigger and place the weapon on SAFE.

(3) Charge the weapon.

(4) Attempt to fire again.

(5) Wait 15 seconds, if the weapon fails to fire again.

(6) Release the launch lever and trigger, and place the weapon on SAFE.

(7) Assume a kneeling position.

(8) Rotate the SMAW upside down and place on the left knee.

(9) Remove the rocket by turning the rocket counter clockwise and pulling it to the rear.

(10) Rotate the rocket 180 degrees and then replace the rocket into the SMAW, and rotate clockwise until seated.

(11) Charge weapon, place it on FIRE and attempt to fire.

(12) Wait 15 seconds, if the weapon fails to fire again.

(13) Release the launch lever and trigger, and place the weapon on SAFE.

(14) Remove the magazine by reaching around with your right hand and hitting the magazine release.

(15) Pull the cocking lever to the rear to inspect and make sure the round extracts.

(16) The A-gunner will visually inspect the chamber and if its clear, he will sound off "clear", the gunner will also visually inspect the chamber and if its clear he will then sound off "all clear".

(17) Assume a kneeling position.

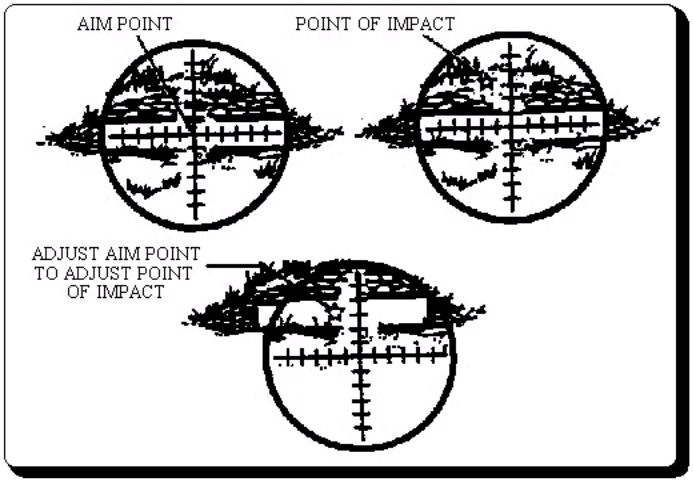
(18) Remove the rocket by rotating counter clockwise.

(19) Replace the forward end cap and place the rocket on the ground pointed down range.

(20) Obtain a replacement rocket and attempt to fire.

(21) If rocket fails to fire, obtain a replacement SMAW and attempt to fire.

7. <u>TELESCOPIC SIGHTS</u>. There are two types of sights used with the SMAW, telescopic and open. When using either the telescopic or open sights, the first step the gunner should do is to identify the target, then estimate range.



a. <u>Telescopic Sight</u>. Once the gunner has estimated the range to the target with the telescopic sight, he will then:

(1) Set the estimated range on the inner drum. The outer drum is also used for determining the temperature and the type of round that you will be using. The white indicator is used for temperatures above 32-degrees F and the blue is used for temperatures below 32-degrees.

(2) Assume a firing position.

(3) Aim by placing the cross hairs center mass on the target.

(4) Fire the first spotting round and observe the impact. If there is no impact point, or a large error is observed, re-estimate the range to the target.

(5) Adjusting the impact

(a) Observe the tracer point of impact on the target in relation to the sight reticule.

(b) This point of impact on the sight reticule is now the adjusted aim point.

(6) Adjusting the subsequent shots

(a) Move the adjusted aim point to the target center by moving the weapon.

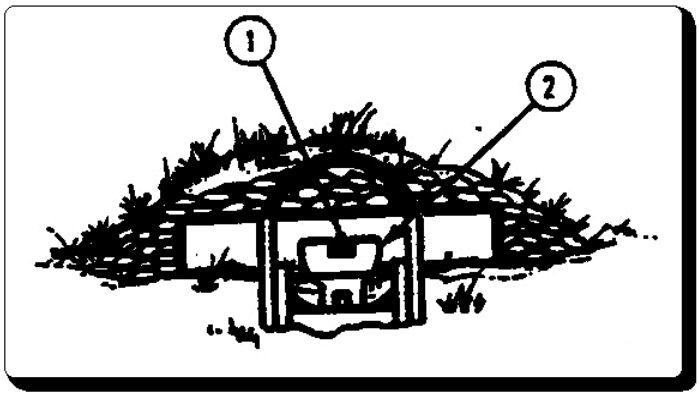
(b) Squeeze the trigger and continue holding the aim point until the tracer strikes the target.

(c) Observe the second tracer point of impact on the target in relation to the sight reticule.

(d) Repeat steps (a) through (c) until desired target impact point is observed. Six spotting rounds are contained in each magazine.

(7) Once the spotting rounds are impacting on the target, fire the rocket and observe the impact.

b. Open Sights. The open sights are provided in case the telescopic sight becomes lost or damaged. Since this sight does not have range adjustment features, the gunner must remember that it is bore-sighted at 250 meters. The only time the gunner will hold the sights at center mass is when the target is actually 250 meters away. If the gunner is closer than 250 meters, the gunner will aim below or short of the target. If the target is further away than 250 meters, the gunner will aim above or over the target. Again, you have six (6) spotting rounds to get on target with. As you can see, the principle of the open sight is the same as a pistol sight. When aiming you should apply marksmanship principles of sight alignment and sight picture. Once your spotting rounds are on target, you may launch the rocket.



REFERENCES: TM 08673A-10/1, Operator's Manual for Launcher Assault Rocket, 83mm, (SMAW) MK153 MOD 0; Page/Chapter: 2-27 through 2-46, 2-49 through 2-54, 4-4, and 4-7 through 4-11.