

hard to manipulate.

- Despite its qualitative improvements, the AK74 is a volume-of-fire weapon.
- No windage adjustment is possible below the unit armorer level.
- Firing studies have proved that the battlesight zero of the AK74 can change 1.65 inches between firings without any rough handling.

The AK74 can be identified by its muzzle flash, the characteristic light green color of its tracer round, and its loud report. It can be distinguished from the AKM and the AK47 by its muzzle brake compensator, its relatively straight magazine, and the magazine's burnt orange color.

The accompanying table shows how the AK74 compares with the U.S. M16A2 rifle. Both weapons have strong and weak points, of course. Neither is

STANDARD DATA COMPARISON		
	AK74	M16A2
Caliber	5.45x39mm	5.56x45mm
Kinds of Bullets	Ball/tracer/blank	Ball/tracer/blank
Rifle Length	940mm	1,000mm
Practical Rate of Fire	100-150 rounds per minute	90-120 rounds per minute
Muzzle Velocity	900 meters per second	970 meters per second
Magazine Capacity	30 or 40 rounds	20 or 30 rounds
Magazine Weight (loaded)	.6 kilograms	.46 kilograms
Effective Range	450-500 meters	550 meters (point), 800 meters (area)
Loudness	164 decibels	151 decibels
Weight Empty	3.3 kilograms	3.53 kilograms
Weight Full	3.9 kilograms	3.99 kilograms
Basic Load	180-200 rounds	210 rounds in 7 30-round magazines

capable, for example, of penetrating standard construction materials (one layer of concrete blocks), and this means heavier

weapons must be used in urban environments. But overall, they are basically comparable.

Range Operations Checklist

As an aid to planning, coordinating, and conducting range operations, the National Guard Marksmanship Training Unit (NGMTU), Nashville, Tennessee, developed a range operation checklist. The checklist was adapted from an article by Captain Eric E. Holdeman that appeared in the September-October 1979 issue of *INFANTRY* ("Everything You Wanted to Know About Ranges," pages 27-30).

The checklist is reproduced here, reduced in size from standard page-size sheets. The actual pages are plastic covered so that a grease pencil can be used and then rubbed off, and are punched for use in a three-ring binder.

The instructions on the first page (illegible in the reduced version shown here) read as follows:

This checklist consists of eight sections, each covering a different topic relating to range operations.

Before using the checklist on the job, always call higher headquarters safety office to find out if there are any recent



changes to the regulations or SOP.

Then report to the person who must answer the questions in each section. Ask

that person each question in order.

Record each "Yes" answer by placing a check in the GO column. Record a "No" or "Don't Know" by checking the NO GO column. Refer now to the checklist to find the GO and NO GO columns.

When you have asked all the questions in a section, advise the person who answered with NO GOs that the problems exist and ask him to correct them. When you have completed the entire checklist, look back over the NO GOs. Contact the people who reported them and ask if they have corrected each problem. If so, change the answer to GO.

If any NO GO remains for any reason, analyze the safety hazard it presents. Then design and implement a countermeasure for the hazard. Afterwards, check that your countermeasures work.

Before range operations start, be sure that you have a workable countermeasure implemented for each hazard presented

How to Use This Checklist

This checklist consists of 9 sections, each covering a different topic relating to Range Operations.

Before using the checklist on the job, always call higher headquarters Safety Office to find out if there are any recent changes to the regulations or SOP.

Then report to the person who must answer the questions in each section. Ask that person each question in order.

Record each "Yes" answer by placing a check in the YES column. Record a "No" or "Not Sure" by checking the NO or NS column. Refer now to the checklist to find the NO and NS columns.

When you have asked all the questions in a section, advise the person who answered with YES's that the problems exist and ask him/her to correct them. When you have completed the entire checklist, look back over the NO'S. Contact the people who reported them and ask if they have corrected each problem. If so, change the answer to YES.

If any NO'S remain for any reason, analyze the safety hazard it presents. Then design and implement a countermeasure for the hazard. Afterwards, check that your countermeasures work.

Before Range Operations start, be sure that you have a workable countermeasure implemented for each hazard presented by a NO'S answer.

Now glance over the checklist to be sure you understand how to use it. If you have any questions, review these instructions.

SUGGESTED USES: This checklist has been designed for use with a green check. It is suggested that additional copies be made, and once the training is complete transcribe the information to a "hard copy" for your unit's training files. Any problems encountered, along with their solutions, will be available for reference the next time range firing is conducted.

This checklist is adapted from "ON TARGET", the unit Marksmanship Newsletter, Unit Marksmanship Support Center, Nashville, Tennessee.

The Unit Marksmanship Support Center adapted their checklist from an article by Captain Eric E. Hildebrand in the Sep-Oct '79 issue of "Infantry" magazine.

Section 1 - Mission Analysis

- Who will be firing on the range ?

No. of Personnel		Units	
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- What weapons and courses will be used ?

Weapon		Course	
- Where will the training be conducted ?

Range	
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- When is the range scheduled for operations ?

Date		Opens		Closes	
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Section 2 - Double Check

	GO	NO GO	REMARKS
1. Has sufficient ammunition been requested for the number of personnel ?			
2. Are the range facilities adequate for the type of training to be conducted ?			
3. Has enough time been scheduled to complete the training ?			
4. Have conflicts that surfaced been resolved ?			

Section 3 - Become an Expert

	GO	NO GO	REMARKS
1. Review TM's and FM's on the weapons to be fired.			
2. Talk with the armorers and other personnel experienced with the weapons to be fired.			
3. Review AR 385-63.			
4. Visit range control and read installation range instructions.			
5. Reconnoiter the range (preferably while it is in use).			
6. Check ARTEP's and SQT manuals to see if training tasks can be integrated into the range training plan.			

Section 4 - Determine Requirements

PERSONNEL:	GO	NO GO	REMARKS
1. OIC			
2. Safety Officer			
3. Assistant Safety Officer			
4. NCOIC			

Section 4 - Determine Requirements

PERSONNEL: (Cont.)	GO	NO GO	REMARKS
5. Ammunition NCO			
6. Ammunition Personnel (determined by type of range)			
7. Target detail and target operators			
8. Tower operator			
9. Concurrent training instructors			
10. Assistant instructors			
11. RTOs			
12. Guards (range requirements)			
13. Medic(s)			
14. Air guard			
15. Armorer			
16. Truck driver (range personnel and equipment)			
17. Mechanic for vehicles			
18. Have you overstaffed your range ?			
EQUIPMENT:			
1. Range packet and clearance form			
2. Safety fan and diagram if applicable			
3. Other safety equipment (aiming circle, compass)			
4. Appropriate publications pertaining to the training that will be conducted			
5. Lesson plans, status reports, and reporting folder			
6. Range flag and light (night firing)			
7. Radios			
8. Field telephones and wire			
9. 292 antenna, if necessary			
10. PA set with back-up bull horn(s)			
11. Concurrent training markers			

Section 4 - Determine Requirements (Cont.)

EQUIPMENT: (Continued)	GO	NO GO	REMARKS
12. Training aids for concurrent training stations			
13. Sandbags			
14. Tentage (briefing tent, warm-up tent)			
15. Space heaters, if needed			
16. Colored helmets for control personnel			
17. Safety paddles and vehicle flag sets or lights			
18. Ambulance or designated vehicle			
19. Ear plugs			
20. Water for drinking and cleaning			
21. Score cards			
22. Master score sheet			
23. Armorers' tools and cleaning equipment for weapons			
24. Brooms, shovels, and other cleaning supplies and equipment			
25. Tables and chairs, if needed			
26. Target accessories			
27. Fire extinguishers			
28. Tarp, stakes, and rope, to cover the ammunition			
29. Toilet paper			
30. Spare weapons and repair parts as needed			
31. Tow bar and slave cables for vehicles			
32. Fuel and oil for vehicles and target mechanisms			

Section 5 - Determine Available Resources

	GO	NO GO	REMARKS
1. Fill personnel spaces			
2. Keep unit integrity			
3. Utilize NCOs			
4. Effect coordination with supporting organizations:			
Ammunition			
Transportation			
Training Aids			
Medics			
Mess			
Weapons			
Other equipment			

Section 6 - Foolproofing

	GO	NO GO	REMARKS
1. Write an overall lesson plan for the range			
2. Organize a plan for firing:			
Determine range organization			
Outline courses of fire to be used			
Have fire commands typed for use on range			
Set rotation of stations			
3. Rehearse concurrent training instructors and assistants			
4. Brief RTO on unique range control radio procedures			
5. Brief and rehearse reporting NCO on range operation and all his duties			
6. Collect and concentrate equipment for use on the range in one location			

Section 6 - Foolproofing (Cont.)

	GO	NO GO	REMARKS
7. Obtain training aids			
8. Pick up targets from range warehouse, if required			
9. Report to range control for safety briefing (if required) and sign for any special items			
10. Publish LOI:			
Uniform of range and firing personnel (helmets and earplugs)			
Mode of transportation, departure times and places			
Methods of messing to be used			
Any special requirements being placed on units			

Section 7 - Occupying the Range & Conducting Training

OCCUPY THE RANGE:	GO	NO GO	REMARKS
1. Request permission to occupy the range			
2. Establish good communications			
3. Have designated areas prepared:			
Parking			
Ammunition point			
Medical station			
Water point			
Concurrent training			
Mess			
Helipad			
Armorer			
4. Inspect range for operational condition			

Section 7 - Occupying the Range & Conducting Training (Cont.)

	GO	NO GO	REMARKS
5. Raise flag when occupying or firing, according to the local SOP			
6. Check ammunition to insure it is correct type and quantity			
7. Insure that range personnel are in proper uniform and the equipment is in position			
8. Receive firing units			
9. Conduct safety checks on weapons			
10. Check for clean, fully operational weapons			
11. Conduct safety briefing (to include administrative personnel on range)			
12. Organize personnel into firing orders (keep unit integrity if possible)			
13. Request permission to commence firing from range control			
CONDUCT OF FIRING:			
1. Are communications to range control satisfactory			
2. Commands from tower clear and concise			
3. Range areas policed			
4. Ammunition accountability maintained			
5. Master score sheet updated			
6. Personnel accountability maintained			
7. Vehicles parked in appropriate areas			
8. Air guard on duty and alert			
9. Personnel in proper uniform			
10. Ear plugs in use			

Section 7 - Occupying the Range & Conducting Training (Cont.)

CONDUCT OF FIRING:	GO	NO GO	REMARKS
11. Troops responding properly to commands			
12. On the spot corrections being made when troops use poor techniques or fail to hit the target			
13. Conservation of ammunition enforced			
14. Weapons cleared before they are taken from the firing line			
15. Personnel checked for brass or ammunition before they leave the range			
16. Anyone standing around not involved in training or support			

Section 8 - Closing of Range

	GO	NO GO	REMARKS
1. Close down range control according to the local SOP			
2. Remove all equipment and ammunition from range			
3. Police range			
4. Repaste and resurface targets as required by range instructions			
5. Perform other maintenance tasks as required by local SOP			
6. Request a range inspector from range control when ready to be cleared			
7. Submit after action report to headquarters			
8. Report any noted safety hazards to proper authorities			