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Personnel

TRAINING MARKER MANAGEMENT

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This instruction complements AFD 36-26, *Total Force Development*, 27 September 2011. This instruction follows Headquarters Air Force Security Forces Center CLOSE COMBAT MISSION CAPABILITY KIT (CCMK) TRAINING CONOPS, 1 October 2010, and establishes policies, procedures, and requirements for the use of Training Markers (TM) during practical application exercises. This instruction applies to 341 MW and all associate units. Air National Guard and Air Force Reserve personnel are exempt from the provisions of this publication. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using AF Form 847, **Recommendation for Change of Publication**; route the AF Form 847 through the wing publishing office. Waivers to this instruction are not authorized. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with AF Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) This publication may not be supplemented or further implemented/extended. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

- 1. PURPOSE.** This instruction provides an overview and guidance on the use of Training Markers (TM).
- 2. ROLES AND RESPONSIBILITY.** It is the responsibility of all personnel who train with TM or supervise TM training to comply with this instruction.
- 3. SYSTEM OVERVIEW.**

3.1. Training Markers and weapon conversion kits enhance learning throughout the full spectrum of training. Incorporation of TM enhances mission readiness for AF personnel by expanding training capabilities and eliminating most limiting factors (LIMFACs) associated with blank ammunition and laser technology. Elimination of these LIMFACs include reducing the minimum safe firing distance from 20 feet down to 5 meters, encouraging the use of realistic cover and concealment practices by applying a pain-penalty associated with TM. Employing the marking cartridges enables more realistic training in areas which were previously limited or nonexistent. The following conversion kits are authorized for use on Malmstrom Air Force Base ([Attachment 2](#)):

3.1.1. The M4 conversion kits consist of a FX® replacement upper receiver and barrel assembly with a clear magazine and operator/armorer manual or a UTM® replacement bolt carrier group. The conversion kits prevent the chambering of conventional 5.56mm ammunition. FX® and UTM® brand conversion kits and ammunition are not interchangeable. Each kit is only designed to operate with its own branded ammunition.

3.1.2. The M9 pistol conversion kit is a single piece barrel that will not chamber a conventional 9mm cartridge.

3.1.3. The FX® brand marking cartridge consists of a modified 9mm cartridge case, a plastic sabot and a thin-walled plastic projectile containing a detergent-based marking compound.

3.1.4. The UTM® brand marking cartridge consists of a modified 5.56mm cartridge case which fires an aluminum projectile body with a plastic cover containing a detergent-based marking compound.

3.2. Only task certified personnel will install and remove TM modifications to/from M4 and M9 weapons.

4. SAFETY.

4.1. Only approved marking ammunition and properly modified weapons are authorized for use in the training area. The Chief Range Officer (CRO) will secure all operational weapons and ammunition prior to entering the training area until all training is complete. If members must respond to a real-world situation or exercise, the CRO and Range Safety Officers (RSO) will immediately sequester training weapons and marking rounds, then re-issue assigned weapons and ammunition.

4.2. Magazines used in training with TM will be marked with blue tape or blue paint. The tape must be placed on the magazine in such a manner so it is easily observed and does not interfere with the operation of the weapon.

4.3. All weapons, equipment, conversions kits and TM ammunition will be maintained in strict accordance with the manufacturers' operation and maintenance manuals.

4.4. The following safety equipment is MANDATORY for wear when using TMs in force-on-force type scenario training with hostile and friendly forces engaging each other. Additionally, all personnel in the training area must wear all mandatory safety equipment ([Attachment 3](#)).

4.4.1. Single hearing protection (earplugs or earmuffs).

- 4.4.2. Close Combat Mission Capability Kit (CCMK) face mask NSN 8415-99-359-9160 with standard issue combat helmet and Sun, Wind and Dust Goggles NSN 8464-01-328-6268 or suitable substitute meeting American National Safety Institute (ANSI) Z87.1 standards. A suitable substitute for head, face and eye protection is the FX® simunitions full face protection mask.
- 4.4.3. Throat protection if using FX® simunitions face protection. The CCMK face mask has an integral throat protector.
- 4.4.4. Standard gloves (nomex, leather, and winter issue).
- 4.4.5. Groin protection.
- 4.4.6. Long pants and long sleeved shirts.
- 4.4.7. Other optional safety equipment such as soft body armor should be considered, but is not mandatory.
- 4.5. The following safety equipment is MANDATORY for wear when using TMs fired at paper or other non-human targets for marksmanship or shoot, move and communicate training. Range Safety Officials must wear eye protection, all other items are optional.
- 4.5.1. Single hearing protection (earplugs or earmuffs).
- 4.5.2. Sun, Wind, and Dust Goggles NSN 8464-01-328-8268 or suitable substitute eye protection meeting ANSI Z87.1 standards.
- 4.5.3. Individual issued helmet.
- 4.5.4. Standard gloves (nomex, leather, and winter issue).
- 4.5.5. Long pants and long sleeved shirts.
- 4.5.6. Other optional safety equipment such as soft body armor should be considered, but is not mandatory.
- 4.6. If any mandatory safety equipment becomes dislodged during training immediately cover the newly exposed body area with your hands, take a knee and call “cease fire”. DO NOT remove any equipment until instructed to do so.
- 4.7. Each training session will have a CRO assigned. RSOs will also be assigned to meet instructor to shooter ratios identified in the AFSFC SMC Course of Fire for shoot, move and communicate training or as necessary for effective control of the training scenario for force-on-force training. CROs and RSOs for using dye-marking cartridges must be certified by attending a manufacturer’s course, MAJCOM approved dye-marking cartridge course, unit developed train-the-trainer course or comparable. This training must be documented in the individual’s training record on an AF Form 797, **Job Qualification Standard Continuation/Command JQS** and AF Form 1098, **Special Task Certification and Recurring Training**.
- 4.7.1. CRO – responsible for ensuring all training is conducted safely and in accordance with established guidelines ([Attachment 7](#)). The CRO will conduct a safety brief ([Attachment 4](#)) with all trainers and support personnel on:
- 4.7.1.1. Wear of safety equipment.

- 4.7.1.2. Assembly and disassembly of the simunitions conversion kits.
 - 4.7.1.3. Trainer and support personnel duties and responsibilities.
 - 4.7.1.4. Safe and unsafe areas during training (use map).
 - 4.7.1.5. Local operational risk assessment approved by the 341 MW/SEW.
- 4.7.2. The CRO must be an E-6 or above. Certified CROs will be listed on a commander signed CRO/RSO appointment memorandum and will:
- 4.7.2.1. Inspect the training area for any objects, obstacles or lethal munitions that could pose a threat or hazard.
 - 4.7.2.2. Conduct the safety brief (**Attachment 4**).
 - 4.7.2.3. Account for the safe storage, verification and issuance of training ammunition.
 - 4.7.2.4. Designate the training area as either “HOT” or “COLD” verbally and cordon the training area with orange cones.
 - 4.7.2.5. Monitor all training to ensure a safe environment is maintained.
 - 4.7.2.6. Assign range guards, if needed, to control entry/access to the training area.
- 4.7.3. RSOs are responsible for running the scenarios and verifying all training objectives are met. The CRO must work hand-in-hand with the RSOs to ensure training remains realistic without sacrificing safety. The RSO will:
- 4.7.3.1. Receive qualification training and certification prior to assuming RSO duties. Control the flow of the scenario to ensure all training objectives are met (**Attachment 5**).
 - 4.7.3.2. Assign weapon types and ammunition colors to participants. Coordinate with the CRO for required equipment.
 - 4.7.3.3. Ensure all course requirements and safety measures are adhered to.
 - 4.7.3.4. Conduct de-brief with all participants.
 - 4.7.3.5. The RSO must be an E-5 or above. Certified RSOs will be listed on a commander signed CRO/RSO appointment memorandum.
 - 4.7.3.6. Request additional RSOs as necessary for the training scenario.
- 4.8. Emergency action procedures should an accident, incident or injury take place.
- 4.8.1. All dye marking cartridge training events will have a serviceable vehicle dedicated to transporting injured personnel to medical care present. A first aid kit will be available to the CRO and RSOs during training.
 - 4.8.2. Immediately call a cease fire, clear all weapons and make the range cold. RSOs will remove non-essential personnel from the vicinity of the accident, incident or injury then secure and account for all weapons, munitions and personnel.
 - 4.8.3. Perform first-aid as necessary for any injuries. If injured member is ambulatory, move from the incident or accident site to the safe zone for continued treatment. If the

member requires medical treatment beyond first aid, the CRO will determine whether to transport the member to medical care or call for emergency assistance response. All injuries will be reported to 341 MW/SEG.

4.8.4. Notifications for accidents, incidents or injuries will include the Base Defense Operations Center (BDOC), Command Post, Wing Safety, Medical if services are required, Fire Department if services are required, Explosives Ordinance Disposal if services are required, and local authorities if training area is located off base.

5. TRAINING AREAS.

5.1. Training areas for force-on-force training, or courses without pre-identified and controlled vectors of fire, will contain three zones: Training area, surface danger zone, and safe zone ([Attachment 6](#)).

5.1.1. Training Area: Area where dye marking cartridges may be fired during training.

5.1.2. Surface danger zone: Area surrounding the dye marking cartridge firing area and extending 300 meters or the munition manufacturer's listed maximum range, whichever is greater, around the firing area. If the training area is completely surrounded by a wall or other barrier impenetrable by dye marking cartridges with closed access and egress points, the surface danger zone will consist of the wall or barrier.

5.1.3. Safe zone: Area outside of the surface danger zone identified for personnel briefings, parking, equipment storage, etc...

5.2. Entrance to the surface danger zone and the training area will be controlled (doors, range guards, signs etc.).

5.3. For the purposes of shoot, move and communicate courses with controlled vectors of fire (fire always directed from designated locations toward emplaced targets), training areas will adhere to standard Air Force firing range design criteria for surface danger zones per current Engineering Technical Letter governing Air Force firing ranges and applicable maximum range of ammunition.

5.4. Once training sites have been identified and approved by 341 MW/SE, a list of approved training sites will be maintained along with this Operating Instruction.

6. REQUIREMENTS.

6.1. Approved training marker cartridges will be procured through the 341st Munitions Squadron via munitions requirements forecasting and out-of-cycle requests. These cartridges are propelled by a standard small pistol primer in combination with a small quantity of propellant. As such, the training marking cartridges are considered an explosive item which has been approved by the Non-Nuclear Munitions Safety Board.

6.2. Other training markers may only be used once approved by the Air Force Security Forces Center (AFSFC).

6.3. Commercial Off-The-Shelf (COTS) purchases for dye marking cartridges are not authorized.

6.4. Individual units requesting dye marking munitions must coordinate through installation munitions manager for authorization.

6.4.1. Storage, inspection and handling. Items must be stored in an approved explosive storage location and handled IAW AFMAN 91-201, *Explosive Safety Standards*. Individual units are responsible for coordinating storage of authorized TM munitions in approved explosive storage facilities.

6.4.2. Residue. Residue (expended TM cartridges) will be the responsibility of the CRO/RSO personnel to dispose of. Casings are two piece plastic/brass and normal ammunition disposal channels are not equipped to handle the residue, de-milling or recycling. Expended TMs are non-toxic and may be disposed of through normal trash disposal.

6.4.3. Excess and final disposition/demilitarization. Rounds will not be utilized after the shelf life has expired. Once rounds have exceeded their shelf life, they will be disposed of along with any dud rounds through standard munitions channels.

6.4.4. Accountability. Training markers will be accounted for by owning units through standard munitions channels. Weapons conversion kits and safety equipment will be accounted for and maintained by owning units.

ROBERT W. STANLEY II, Colonel, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

Prescribed Forms

None

Adopted Forms

AF Form 847, **Recommendation for Change of Publication**
AF Form 797, **Job Qualification Standard Continuation/Command JQS**
AF Form 1098, **Special Task Certification and Recurring Training**

Abbreviations and Acronyms

AFGSC—Air Force Global Strike Command
CC—Commander
COTS—Commercial Off the Shelf
CRO—Chief Range Officer
EOD—Explosive Ordnance Disposal
HQ—Headquarters
LIMFAC—Limiting Factors
MASO—Munitions Accountability System Officer
MSA—Munitions Storage Area
RSO—Range Safety Officer
SFG—Security Forces Group
TC—Training Cadre
TM—Training Markers
USAF—United States Air Force
WG—Wing

Attachment 2**CONVERSION KITS AND MARKING CARTRIDGES****Figure A2.1. FX® M4 Conversion Kit.****Note:**

Upper Receiver
FX® Marking Cartridge magazine
Clean after use and between scenarios if time allows.

Figure A2.2. FX® M9 Conversion Kit.**Note:**

Replacement barrel & extra spring
Clean after use and between scenarios if time allows.

Figure A2.3. UTM® M4 Conversion Bolt



Figure A2.4. Marking Cartridges



Note:

Detergent-based marking compound
Available in several colors
Average velocity 400 f.p.s.
Minimum safe firing distance 1 foot
Operating temp. 18-105° F
Max effective range 50 feet
Max travel distance 145 yards
Shelf life approx 1 year

Attachment 3
SAFETY EQUIPMENT

Force-on-force Training

Figure A3.1. Full Face Protection



Note:

- One size fits all
- Covers eyes, ears and back of head
- Eye shield MUST meet ANSI 87.1 standards
- Clean with antibacterial wipes after use
- Do NOT use chemicals on eye shield

Figure A3.2. THROAT PROTECTION



Note:

- One size fits all
- Clean with antibacterial wipes between uses
- Machine washable

A3.3. Groin protection must be worn.

A3.4. Leather gloves or an equivalent must be worn.

A3.5. Long pants and long sleeved shirt must be worn.

Marksmanship / Shoot, Move and Communicate Training

Figure A.3.6. SMC Safety Equipment



Note:

Sun, Wind and Dust Goggles, 8464-01-328-8268

Mask, Cold Weather, 8415-99-359-9160

Individual issued helmet

Gloves

Long pants and long sleeved shirt

Attachment 4**SAMPLE SAFETY BRIEFING**

A4.1. (CRO) All weapons to be used in this training will have the proper weapons conversion kits installed. All weapons will be marked with brightly colored blue tape where it is easily visible and doesn't interfere with the functioning of the weapon.

A4.2. All magazines to be utilized in this evolution will be inspected by me (CRO) and marked with brightly colored blue tape or blue paint. All magazines not inspected and marked will be removed from the immediate training area. Ammunition will not be loaded into magazines until training is ready to commence. I will observe the loading of all magazines with the training marker I. No marker of any kind will be carried in pockets at any time. I will inspect all weapons and magazines after this brief.

A4.3. All personnel will wear appropriate MANDATORY protective gear. This includes all participants and observers. Non-duty clothing must cover the arms, legs and hands. Does everyone have the required safety equipment?

A4.4. I (CRO) am the only person who can grant permission for the training cycle to begin. When I am satisfied with the training area, proper clothing, protective equipment, and safety of the intended scenario, I will start the training cycle by announcing the training area is "HOT". When the training cadre tells you to load, point your weapons in a safe direction, charge it, re-holster/sling the weapon and prepare for the scenario. At no time will a loaded weapon leave the training area. All standard weapon safety rules apply while on the range and involved in training.

A4.5. At no time shall any attending personnel remove any safety equipment until I have called the training area "COLD". When complete with all training scenarios, I require a full accounting of personnel and all weapons and personnel will be cleared and "buddy-check" before I call the training area "COLD".

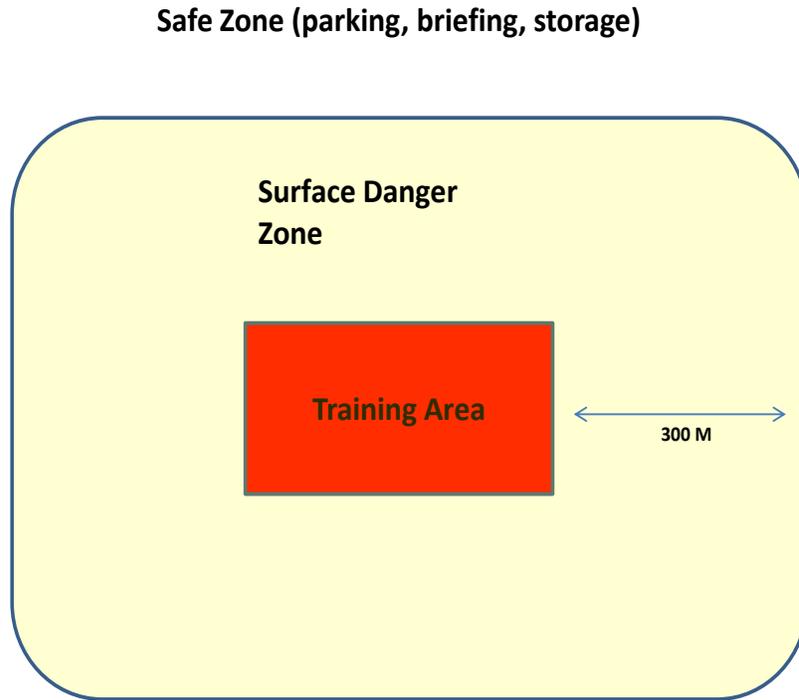
A4.6. If you hear "CEASE FIRE" you will immediately stop training, point your weapon in a safe direction, and wait for further instructions. If anyone sees anything they think is unsafe, shout "CEASE FIRE". All training will stop until the condition is made safe. If you hear "CEASE FIRE" you must echo the command. Do you have any questions?

Attachment 5**TRAINING CONSIDERATIONS**

- A5.1.** Scenarios should be realistic as possible. Don't waste time on "what if" situations.
- A5.2.** Don't abuse the pain penalty. If you do this it will de-motivate students and learning stops. You can get the same training value with five rounds per student per scenario as you can with 15 rounds per student per scenario, and you aren't abusing your students.
- A5.3.** Don't stop scenarios until complete. Allow students to execute post attack/shooting follow-up actions. Get them back in the fight.
- A5.4.** Clearly define objectives. Give students a standard to meet.
- A5.5.** Rehearse scenarios prior to using them on students.
- A5.6.** Use the perfect practice approach. Practice does not make perfect. Perfect practice makes perfect!
- A5.7.** Accurate debriefs are critical and should be approached in such a manner they don't de-motivate students. Video feedback is an effective tool.
- A5.8.** Keep students and role-players focused on the training objective, reinforce sound practices and keep them motivated.
- A5.9.** Some students will progress faster than others. Afford students enough time and repetitions to grasp the technique.

Attachment 6
TRAINING AREAS

Figure A6.1. Sample Training Area.



Attachment 7

SAMPLE EXECUTION CHECKLIST

Table A7.1. Sample Training Checklist

	COMPLETED
1. Secure operational weapons and ammo. (CRO)	
2. Give safety brief. (CRO)	
3. Conduct scenario briefs. (RSO)	
4. Safety inspection of training area. (CRO)	
5. Conduct safety inspection of RSOs, role-players, Support personnel and vehicles (if applicable). (RSO)	
6. Brief role-players and support personnel on positions for scenario. (RSO)	
7. Prepare all weapons and issue un-loaded weapons to role-players if needed. (RSO)	
8. Bring students to surface danger zone entrance for inspection. (RSO)	
9. Conduct safety inspection of students and vehicles. (RSO)	
10. Role-players and support personnel put masks on until range is called cold. Role-players weapons are not loaded yet. When satisfied that everyone is briefed and wearing all necessary protective equipment and the training area is secure, CRO will call the range " HOT ".	
11. Answer any final questions students may have. (RSO)	
12. Have students face in a safe direction and load weapons. Begin scenario. (RSO)	
13. RSO positions himself to monitor the scenario for safety violations. You are not an active participant in the scenario. If you see a safety violation, shout "CEASE FIRE". (RSO)	
14. RSO monitors the scenario for safety issues and ensures training objectives are met. End the scenario by shouting "CEASE FIRE, CEASE FIRE, and EVERYONE COME TO THE SOUND OF MY VOICE." All masks stay on. Check for injuries. (RSO)	
15. Instruct all personnel with weapons to face in a safe direction and clear their weapons. Account for all personnel, weapons and equipment. All items must be accounted for and checked by the RSO . The CRO will call the range " COLD ". All personnel may then remove masks.	
16. Conduct debrief/ after action review. (RSO)	
17. Once all training is complete account for all weapons, magazines, and equipment before personnel leave the Safe Zone. (CRO and RSO)	