BY ORDER OF THE COMMANDER
AIR FORCE MATERIEL COMMAND

AIR FORCE MATERIEL COMMAND
INSTRUCTION 36-2224

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Security

SIMULATED MUNITIONS FOR SECURITY FORCES TRAINING

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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OPR: HQ AFMC/MSFOT (TSgt Jared Skinner)

Certified by: HQ AFMC/MSF
(Col Cheryl L. Dozier)
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This is a new instruction, which establishes policies, procedures, and requirements for the use of simulated munitions during security forces (SF) force-on-force training. This instruction applies to all AFMC installations. Send comments and recommended improvements to this publication on AF Form 847, **Recommendation for Change of Publication**, through channels to HQ AFMC/MSFOT, 4226 Logistics Avenue, Building 266, Room N208, Wright-Patterson AFB OH 45433-5760.

1. Purpose: This operating instruction provides an overview and guidance on the use of simulated munitions as an SF training enhancer during force-on-force and air base defense type exercises. Simulated munitions are a reduced energy, reduced impact, training ammunition that can be safely fired from existing service weapons. Upon impact it produces a detergent-based, water-soluble inert color marking very similar to a paint-ball.

2. Responsibility: All personnel who use, supervise, or manage training using simulated munitions are responsible for complying with this instruction. The 96 Ground Combat Training Squadron is responsible for providing AFMC SF units with certification training (Train-the-Trainer Course). The course is designed to certify trainers and standardize safety and training considerations. Individual SF units are responsible for developing local operating instructions outlining authorized uses of the simulated munitions. These instructions must be coordinated with the local wing safety office and approved by the installation commander.

3. System Overview:

3.1. Incorporation of simulated munitions enhances mission readiness for SF personnel by expanding training capabilities and eliminating most limiting factors (LIMFACs) associated with blank ammunition and laser technology. Elimination of these LIMFACs includes reducing the minimum safe firing distance from 20 feet down to one foot and discouraging the use of unrealistic cover and concealment

practices by applying a pain-penalty associated with simulated munitions. Employing the marking cartridge enables more realistic training in areas which were previously limited or nonexistent. For example, utilization of the simulated munitions enables:

3.1.1. Integration of MILES and simulated munitions technology to reduce artificial training during force-on-force training scenarios. Sample scenarios include: prime nuclear airlift forces exercises; launch facility recapture, weapons storage area protection, convoy exercises, and air base defense.

3.1.2. Patrolman survival/safety training. Allows for more realistic employment of the full use-of-force continuum and enhances firearm retention drills. Helps develop proper judgmental shooting and can be employed in a wide variety of scenarios including: felony traffic stops and hostage situations.

3.1.3. Tactical skills training with emergency service team. Enhances training during exercises involving building/room entries, hostage rescue, and exercises involving aircraft/vehicle/bus/boat assaults.

3.1.4. Military Operations Urban Terrain. Develops techniques during close quarters battle scenarios, employment of room clearing drills, corning drills, and operations in low light environments.

3.2. **Conversion Kits** (**Attachment 2**):

3.2.1. The M4 and M16A2 conversion kits must contain a replacement upper receiver and barrel assembly, a clear magazine, and operator/armorer manual. The conversion kits for the rifles must allow the chambering of 9mm marker ammunition.

3.2.2. The M9 pistol conversion kit must be a single piece barrel that will not chamber a conventional 9mm cartridge.

3.2.3. All barrels will be painted blue or gold and marked “9mm MARKING CTG ONLY NO STANDARD AMMO.”

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

3.2.5. Only certified personnel will conduct unit training and exercises using MAJCOM standardized or approved lesson plans.

3.2.6. Only certified safety supervisors (graduates of an approved training course) are authorized to make the weapon modifications required to fire the simulated munitions.

4. Safety:

4.1. Only approved marking ammunition and properly modified weapons are authorized for use in the SF training area (in accordance with **paragraph 6.1.** of this instruction).

4.2. Weapons and magazines used in training with simulated munitions must be marked with blue tape. The tape must be placed on the weapon in such a manner so it is easy to see and does not interfere with the operation of the weapon. If daily use weapons are used the weapon will be cleaned, inspected, and the blue tape removed before returned to service.

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

4.4. As a minimum, each training session will have a Range Safety Officer (RSO) and Training Cadre (TC) assigned.

4.4.1. Range Safety Officer (RSO) – responsible for ensuring all training is conducted safely and in accordance with established guidelines. RSO will conduct a safety in brief with all trainers and support personnel on:

4.4.1.1. Wear of safety equipment.

4.4.1.2. Assembly and disassembly of the simunitions conversion kits.

4.4.1.3. Trainer and support personnel duties and responsibilities.

4.4.1.4. Safe and unsafe areas during training (use map).

4.4.1.5. Local operational risk assessment approved by SFS/CC or representative.

4.4.2. The RSO must be an E-5 or above and a graduate of one or more of the following courses:

4.4.2.1. 96 GCTS Simulated Munitions Safety Course.

4.4.2.2. Trained by an Air Force certified trainer that has completed the 96 GCTS Simulated Munitions Safety Course.

4.4.2.3. A comparable HQ AFSFC/SFXT approved training course.

4.4.3. The RSO will:

4.4.3.1. Inspect the training area for any objects, obstacles or lethal munitions that pose threat or hazard.

4.4.3.2. Install or supervise the installation of weapon conversion kits.

4.4.3.3. Give the safety brief, to include, a locally developed medical mishap plan. (See **Attachment 3**).

4.4.3.4. Be accountable for the safe storage, verification and issuance of training ammunition.

4.4.3.5. Designate the status of the range as either "HOT" or "COLD".

4.4.3.6. Monitor all training to ensure a safe environment is maintained.

4.4.3.7. Assign range guards, if needed, to control entry/access to the training area.

4.4.3.8. Ensure additional RSO's are appointed (if necessary) when running multiple scenarios.

4.4.4. The Training Cadre (TC) is responsible for running scenarios and verifying that all training objectives are met. TC must work hand in hand with the RSO to ensure training remains realistic without sacrificing safety.

4.4.5. The Training Cadre will:

4.4.5.1. Receive qualification training from the RSO prior to assuming TC duties. Control the flow of the scenario to ensure all training objectives are met. (See **Attachment 7**).

4.4.5.2. Issue the scenario brief to all participants. (See **Attachment 4**).

4.4.5.3. Assign weapon types and ammunition colors to participants. Coordinate with RSO for required equipment.

4.4.5.4. Conduct de-brief with all participants.

4.4.5.5. Ensure additional TC's are appointed (if necessary) when running multiple scenarios.

4.5. The following safety equipment is MANDATORY for wear when using simulated munitions. All personnel in the training area (including RSO and TC) must wear all mandatory safety equipment. (See **Attachment 5**).

4.5.1. Full-face protection (meeting National Safety Institute 87.1 standards)

4.5.2. Throat protection

4.5.3. Gloves

4.5.4. Groin protection

4.5.5. Chest/breast protector

4.6. Other optional safety equipment such as soft body armor should be addressed in the local operating instruction.

4.7. If any mandatory safety equipment becomes dislodged during training immediately cover the area with your hands, drop to your knee and call "cease fire". DO NOT remove any equipment until instructed to do so.

5. Training Areas:

5.1. Training areas will, as a minimum, contain 3 distinctive zones. They are: unsafe zone, semi-safe zone, and safe zone. (See **Attachment 6**).

5.1.1. Unsafe Zone is the area where all unapproved weapons and ammunition are kept. This area must be located away from the semi-safe and safe zones.

5.1.2. Semi-Safe Zone is the area where all briefings, equipment storage, and scenario preparation takes place. This area must be separated from safe zone by physical barrier or located outside the round impact area. (145 meters)

5.1.3. Safe Zone is where all scenarios take place.

5.2. All zones should have controlled entry/access points (doors, range guards, signs etc.)

5.3. Training sites must be identified and approved jointly by SF units and the local Wing Safety Office. A list of approved training sites must be listed in the local operating instruction.

6. Requirements:

6.1. Currently, the only USAF-approved training marker is Simunition FX®. These cartridges are propelled by a standard small pistol primer in combination with a small quantity of propellant (0.243 grains). These cartridges are considered explosive items and have been approved by the Nonnuclear Munitions Safety Board.

6.2. Other manufactured training markers may be used once approved by HQ AFSFC/SFXR. Specific requests must be submitted in writing along with documentation on specifications by the requesting

unit to AFMC/MSFOT for review and possible testing. Contact AFMC/MSFOT for information on previous unit requests tested and approved.

6.3. Because of their limited shelf life, the FX® marking cartridge will not be procured centrally. Units procuring training markers must follow procedures for commercial off-the-shelf (COTS) purchase as outlined in Chapter 32, AFI 21-201, *Management and Maintenance of Non-Nuclear Munitions*.

6.4. Individual units purchasing training markers must follow process in Chapter 32, AFI 21-201 and local operating instructions. Instructions must be approved through installation Munitions Accountable Systems Officer (MASO), Environmental Management, Civil Engineering Explosive Ordnance Disposal, and Weapons Safety prior to purchasing the munitions.

6.4.1. Storage, inspection and handling. Items will be stored in a licensed explosive storage location and handled IAW AFMAN 91-201 *Explosive Safety Standards* and AFI 21-201 para 32.3.4. Training markers will not be maintained, stored, accounted for, or disposed of through the munitions storage area (MSA). Assets will be maintained using guidelines outlined in AFI 21-201, para 32.2.3.3.

6.4.2. Malfunctioned Items (duds). Procedures must be consistent with AFMAN 91-201 and local procedures. Units are cautioned that dud rounds may be regulated as a reactive hazardous waste and must work with the base Environmental Management function to establish local procedures for managing and disposing of malfunctioned items.

6.4.3. Residue. Operating instructions must address proper inspection, certification, and turn-in of munitions residue IAW T.O. 11A-1-60. If a determination cannot be made if the residue is hazardous, consult with the local Environmental Management Office.

6.4.4. Accountability. Units are responsible for cradle-to-grave accountability and must establish strict procedures for issue, turn-in and expenditure of munitions items.

CHERYL L. DOZIER, Colonel, USAF
Chief, Security Forces
Directorate of Mission Support

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 21-201, *Management and Maintenance of Non-Nuclear Munitions*

AFMAN, 91-201, *Explosive Safety Standards*

Abbreviations and Acronyms

AFMC—Air Force Materiel Command

COTS—Commercial Off The Shelf

HQ AFSFC—Headquarters Air Force Security Forces Center

HQ AFMC/MSF—Headquarters Air Force Materiel Command, Directorate of Mission Support, Office of Security Forces

MILES—Multiple Integrated Laser Equipment System

OI—Operating Instruction

RSO—Range Safety Officer

SF—Security Forces

TC—Training Cadre

Attachment 2

CONVERSION KITS AND FX® MARKING CARTRIDGES

Figure A2.1. M4 Conversion Kit.

Figure A2.2. M9 Conversion Kit.

Figure A2.3. Marking Cartridges.

Attachment 3

SAMPLE SAFETY BRIEFING.

(**RSO**) All weapons to be used in this training scenario 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.

All magazines used in this environment will be inspected by me (RSO) and marked with brightly colored blue tape. All magazines not inspected and marked are prohibited in the training area. Simulated munitions will not be loaded into magazines until training is ready to commence. I will observe the loading of all magazines with the training marker (simulated munitions). No marker of any kind will be carried in pockets at any time. I will inspect all weapons and magazines after this brief.

All personnel will wear proper protective gear. Approved full-face helmet, throat and groin protection is MANDATORY. This includes all participants and observers. All clothing must cover the arms, legs and hands. Does everyone have the required safety equipment?

I (RSO) am the only person who can grant permission for the training event 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 event by announcing the range 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 at all times.

At no time will any participating personnel remove any safety equipment until I have called the range "COLD". I will need a full accounting of all personnel and all weapons will be cleared before I call the range "COLD".

If you hear "CEASE FIRE" you will echo the command and immediately stop training, point your weapon in a safe direction, and wait for further instructions. If an unsafe situation arises, shout "CEASE FIRE". All training will stop until the condition is made safe. Do you have any questions?

Attachment 4

SAMPLE SCENARIO BRIEF.

(Training Cadre) Today we will be conducting training using training markers and weapons conversion kits. Prior to entering the SEMI-SAFE zone, you were told by the RSO not to bring anything lethal into the area with you. You should have all required protective equipment and gear. If you leave the SEMI-SAFE zone at any time you must be re-inspected by the RSO.

I will assign the students to teams and issue the scenario brief. Next I will assign role players and support personnel and issue them instructions. The role-players, support personnel and I will accompany the RSO to the entrance of the "SAFE" zone for a pre-training safety inspection by the RSO. After being inspected I will brief you on your assigned duties.

All personnel must be inspected prior to entering the "SAFE" zone. When I complete the safety check, the RSO will make the range "HOT". Students will be issued their weapons and instructed to stand by. I will have students face in a safe direction, load and make ready their weapons. I will then begin the scenario.

Remember to keep alert and treat the scenario as real world. Keep safety in mind at all times. Upon completion of the scenario, you will hear the command "CEASE FIRE". Personnel with weapons, when instructed, will face in safe direction, then clear and safe their weapons. The RSO and I will inspect all cleared weapons. Once the RSO is satisfied all personnel, weapons and equipment are accounted for and safe, he will call the range "COLD" and give permission to remove masks. You may NOT remove your mask until the range is declared "COLD". All weapons will be returned to the RSO prior to leaving the "Safe" area. Debrief will be conducted at my discretion. Are there any questions?

Attachment 5

SAFETY EQUIPMENT.

Figure A5.1. Full Face Protection.

Figure A5.2. Throat Protection.

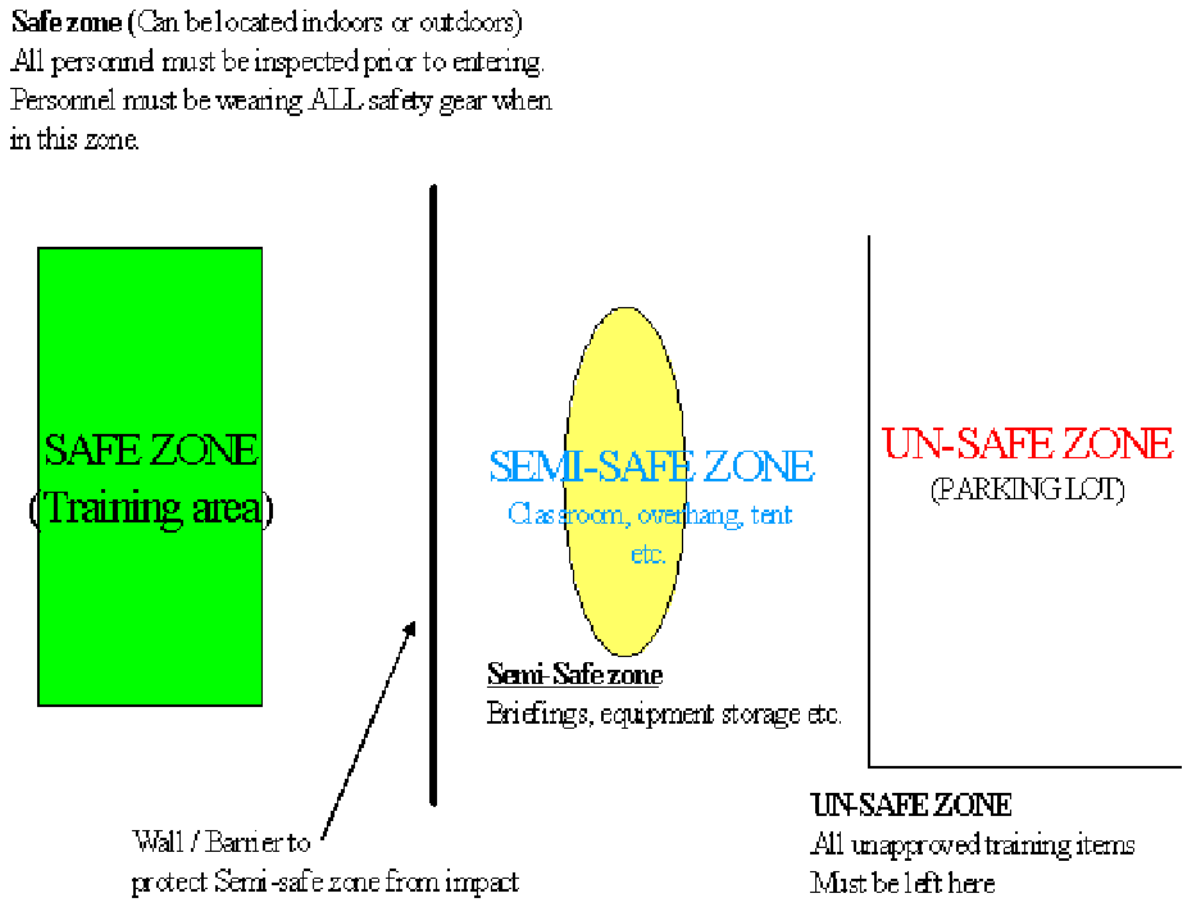
Figure A5.3. Chest Protection.

Figure A5.4. Full Body Protection.

Attachment 6

SAMPLE TRAINING AREA.

Figure A6.1. Safe Zone.



Attachment 7

TRAINING CONSIDERATIONS

Scenarios should be as realistic as possible. Don't waste time on "what if" situations.

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.

Except for safety reasons, do not stop scenarios until complete. Allow students to execute post attack/ shooting follow-up actions. Get them back in the fight.

Clearly define objectives. Give students a standard to meet.

Rehearse scenarios prior to using them on students.

Use the perfect practice approach. Practice does not make perfect. Perfect practice makes perfect!

Accurate debriefs are critical and should be approached in such a manner they don't de-motivate students. Video feedback is an effective tool.

Keep students and role-players focused on the training objective. Reinforce sound practices and keep them motivated.

Attachment 8

SAMPLE SCENARIO EXECUTION CHECKLIST.

Table A8.1. Sample Scenario Execution Checklist.

Who	Item	Completed
RSO	1. Give safety brief.	
TC	2. Conduct scenario brief.	
TC	3. Safety inspection of RSO.	
RSO	4. Conduct safety inspection of TC, students, support personnel and vehicles (if applicable).	
TC	5. Brief personnel on position for scenario.	
RSO	6. Prepare all weapons and issue un-loaded weapons to support if needed.	
TC	7. Bring students to entrance of safe zone for inspection.	
RSO	8. Conduct safety inspection of students and vehicles.	
TC	9. Conduct first safety check. Students 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, RSO will call the range "HOT".	
TC	10. Answer any final questions students may have.	
TC	11. Have students face in a safe direction and load weapons. Begin scenario.	
RSO	12. RSO positions his/herself 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"	
TC	13. TC 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.	
ALL	14. 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 and TC. The RSO will call the range "COLD". All personnel may them remove masks.	
TC	15. Conduct debrief/ after action review.	
RSO and TC	16. Once all training is complete, account for all weapons, magazines, and equipment before personnel leave the Safe zone.	