



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY MANEUVER CENTER OF EXCELLENCE
1 KARKER STREET
FORT BENNING, GEORGIA 31905-5000

Policy Memorandum 385-63-13

IMBE-PLT-R

3 DEC 2014

MEMORANDUM FOR SEE DISTRIBUTION

Subject: Use of Simunitions in Marksmanship and Maneuver Training

1. REFERENCES:

- a. Army Regulation 385-10, The Army Safety Program, 27 Aug 13.
- b. Department of the Army Pamphlet 385-63, Range Safety, 30 Jan 12.
- c. Army TM 9-6920-3700-10, Operators Manual for Close Combat Mission Capability Kit (CCMCK), 29 Nov 13, w/change 1.
- d. Ammunition Information Notice (AIN) 081-12, MINIMUM SAFE ENGAGEMENT DISTANCE FOR CLOSE COMBAT MISSION CAPABILITY KITS (CCMCK) – CTG 5.56MM M1042, 5.56MM M1071, AND 9MM M1041, 08 Jun 12.
- e. Ammunition Information Notice (AIN) 077-11, Non-Standard Marking Ammunition (Ultimate Training Ammunition (UTM) and Simunitions), 09 Feb 11.
- f. MCoE Regulation 350-19, Installation Range and Terrain Regulation, 1 Mar 13.

2. PURPOSE: To prescribe the safety guidance and procedures to allow the use of simunitions in basic and advanced marksmanship and maneuver training on ranges, training facilities, and within training compartments on Fort Benning, Georgia for the following weapon systems: 9mm pistols, 5.56mm rifles, and 5.56mm M249 Squad Automatic Weapon (SAW).

3. BACKGROUND: The CCMCK Weapon Conversion System allows force-on-force close combat training by temporarily converting service weapons (M16A2/M16A3/M16A4 Rifles, M4/M4A1 Carbines, M249 SAW, and M9 and M11 Pistols) to fire low-velocity marking ammunition. The CCMCK ammunition includes 5.56mm bulk marking ammunition for the M16A2/M16A3/M16A4 Rifle and M4/M4A1 Carbine, 5.56mm linked marking ammunition for the M249 SAW, and 9mm marking ammunition for the M9 and M11 Pistols. Marking ammunition, manufactured in red, blue, and yellow is loaded into the magazine of the converted weapon in the same manner as service ammunition. Once loaded, the weapon cycles and functions the same as service ammunition and marks the target with minimal hazard to personnel wearing appropriate safety equipment. The system allows normal weapon employment cues such as aiming, firing, force-on-force training, and interactive live-fire scenario task and mission execution.

a. Theory of Operation: For the M16A2/M16A3/M16A4 Rifle and M4/M4A1 Carbine, the service bolt assembly is replaced with CCMCK training bolt assembly to allow the firing of CCMCK marking ammunition. For the M249 SAW, the service bolt assembly and ejector blade

assembly are replaced with CCMCK training bolt assembly and ejector blade assembly to allow the firing of CCMCK marking ammunition. The M249 kit also contains a training feed tray adapter. In the M9 and M11 Pistols, the service barrel is replaced with a training barrel assembly. The M11 also contains a feed ramp. The 5.56mm CCMCK marking cartridge consists of a two-piece cartridge case (front section, back section), and an aluminum projectile. The cartridge case contains a rim fire primer with a plastic ball in the back section of the cartridge and an additional primer in the front section. Upon functioning, the rear primer propels the plastic ball forward where it initiates the primer in the front section of the cartridge case. The rear primer also propels the back section rearward, which cycles the operating group of the weapon. The functioning of the primer in the front section propels the projectile. The projectile consists of an aluminum projectile body, a metal applicator ball, and a plastic cover that contains the marking compound. Upon impact, the metal applicator ball pushes the marking compound out through the plastic cover marking the target. The 9mm CCMCK marking cartridge consists of a two-piece cartridge case (front section, back section), a primer, a small quantity of propellant, and a plastic projectile. Upon functioning, the primer ignites the propellant, which propels the plastic projectile from the weapon. The projectile is designed to "mushroom" upon impact, force the marking compound out of the projectile, and mark the target. Cycling of the weapon occurs because the back section of the cartridge case telescopes to slide rearward allowing the weapon to function in a straight blow-back action.

b. Equipment Characteristics, Capabilities, and Features: The CCMCK temporarily converts service weapons (M16A2/M16A3/M16A4 Rifles, M4/M4A1 Carbines, M249 Squad Automatic Weapon (SAW, and M9 and M11 Pistols) to fire low velocity marking ammunition. The CCMCK marking ammunition is manufactured in three colors (red, blue, and yellow) and three different ammunition types. They include: 5.56mm Bulk for M16A2/M16A3/M16A4 Rifles or M4/M4A1 Carbines; 5.56mm Linked for M249 SAW; 9mm for M9 and M11 Pistols. The marking compound material is either wax or detergent based, nontoxic, and inert. The CCMCK Weapon Conversion System consists of four training kits, each containing one weapon conversion kit and one CCMCK face mask. The system allows normal weapon employment cues such as aiming, firing, force-on-force training, and interactive live-fire scenario task and mission execution. CCMCK weapon conversion kits will not allow service ammunition to be fired when a service weapon is converted. The safety feature is achieved with all 5.56mm weapons by moving the CCMCK firing pin by 3mm off center, in effect turning the method of firing into a rim-fire style of operation. This ensures that the CCMCK firing pin is sufficiently moved to prevent initiation of the standard 5.56mm ammunition primer. The safety feature used in the CCMCK 9mm conversion of the M9 and M11 Pistols is that the barrel is less than 9mm to ensure that a standard service round will not chamber. ALL CCMCK bolts and barrels are identified by blue markings. The CCMCK marking ammunition is loaded into the standard magazine for the host weapon fed into the converted weapon and operated IAW the normal operating procedures for that weapon. Converting the weapon to use CCMCK ammunition does not cause any undue effects or degradation of the live weapon components or the weapon itself.

4. POLICY: The following procedures will be followed to ensure the safety of Soldiers in training when using Simunitions in Marksmanship and Maneuver Training at Fort Benning, Georgia.

a. Scheduling Requirements: Scheduling of training compartments, facilities, or ranges for the use of simunitions will be processed as you would normally do for a live fire event through

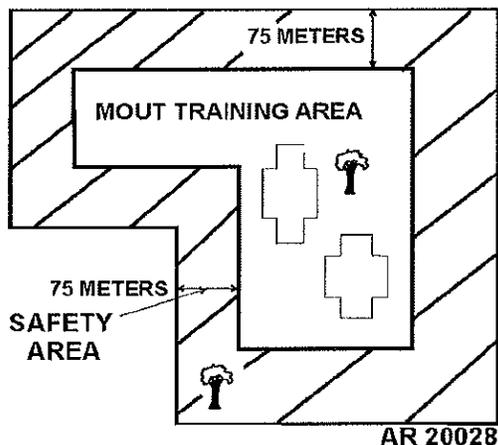
Range Facilities Management Support System (RFMSS). When using simunitions, no co-uses will be authorized or approved in the same compartment, facility, or range due to safety designation zones (SDZs) associated with the simunitions. We will also require a gun-line that depicts a time frame during the day/night that you will be executing this firing event.

b. The unit commander will ensure a Risk Management Worksheet has been approved by the Installation Safety Office for this training event. The commander will also ensure that coordination with Range Operations has been conducted and a certified SDZ for this training event has been completed and is on hand for the days' training that depicts the training area, safe zone, and any roadblock or guard positions that may be required to safely execute this training exercise.

c. The Officer in Charge (OIC) shall brief all personnel on the boundaries of the exercise area in accordance with the approved Range Operations Survey SDZ and will ensure all personnel within those boundaries meet minimum safety requirements for CCMCK Weapon Conversion System as spelled out in the next paragraph. The OIC shall verify that all weapons used for force-on-force training are clear and unloaded, that the appropriate CCMCK Weapon Conversion System is properly installed, and that only CCMCK ammunition is allowed in the safety and training area. The OIC will ensure the unit calls in for a "HOT" opening code prior to exercise commencement and upon completion of training, calls in for a "HOT" closing code while executing simunition training on the installation.

d. Exercise Area: No personnel will be allowed within a radius of 75 meters (246 ft) of the scheduled CCMCK training area when force-on-force training is being conducted without meeting the minimum safety requirements for CCMCK use and applicable uniform rules. Serious injury could occur if a participant is struck by a CCMCK projectile in the eyes or on exposed skin.

CCMCK SAFETY AND TRAINING AREAS



NO weapons are to be fired outside of the Training Area.

While inside the Safety and Training Areas, all required CCMCK safety equipment must be worn at all times until training has ceased.

NOTE

The 75 meter radius outside the Training Area is designated as the Safety Area.

e. The Range Safety Officer (RSO) shall enforce the rules of engagement established and reviewed prior to the start of the training exercise. The RSOs will inspect and ensure chamber and bore of weapons are clear, cleaned, and lubricated prior to CCMCK use as well as during

the exercise. The RSOs will inspect the CTG 5.56MM (M1042 AND M1071) to ensure the plastic tips are secure and cannot be removed by hand. The RSOs will ensure all personnel within 75 meters (246 FT) of the CCMCK training area when force-on-force training is being conducted are required to wear all CCMCK safety equipment at all times until training has ceased. Minimum engagement distance when using CCMCK ammunition in converted weapons is 1.52 meters (5 ft) as personnel injury may occur if shots are taken at less than 1.52 meters (5 ft). See below for specific rules on CCMCK usage for various events.

SAFETY NOTE: CARTRIDGES FIRED WITH LOOSE OR MISSING PLASTIC TIPS HAVE HIGHER VELOCITIES AND THE PROJECTILE CAN BE EXPECTED TO PENETRATE THE ACU FABRIC AND SKIN. THE PROTECTIVE FACE MASKS DID STOP THE HIGHER VELOCITY PROJECTILES.

(1) Force-on-Force Training Rules:

(a) Users will wear approved safety equipment for protection of the eyes, head, neck, and groin. The simunition FX 9000 face mask or eyes tactical protective face masks must be worn in connection with the Army Combat Helmet (ACH). Failure to wear approved safety equipment can result in permanent partial disability due to projectiles impacting the unprotected head, eyes, face, neck, or groin.

(b) Head shots are prohibited. Users must aim for the target's body center of mass.

(c) Users will not conduct force-on-force training with any CCMCK weapon or cartridges without all skin covered by a minimum of one layer of clothing (including combat gloves). Users training without complete safety equipment will incur bruising, welts, and possible broken skin.

(d) Users will wear single hearing protection when training with CCMCK weapon or cartridge.

(2) Force-on-Target Training: Users will wear approved safety equipment for protection of the eyes and single hearing protection when training force-on-target with any CCMCK weapon or cartridge.

f. The CCMCK system allows force-on-force close combat training using ammunition that marks the target and presents minimal hazard to personnel wearing appropriate safety equipment. Safety equipment must be worn at all times while inside the CCMCK safety and training areas to prevent personnel injury from projectile impact. Safety equipment includes the CCMCK face mask. Other required safety equipment is included in the Soldier and organizational clothing and individual equipment (OCIE) CTA 50-900 items and will include gloves, standard issued sun, wind, and dust goggles (NSN 8465-01-328-8268), and groin protection. Single hearing protection is also required. Alternate approved face masks with integrated goggles safe for use with CCMCK are listed at enclosure.



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5. The commander is ultimately responsible for the safety of all training. The OICs/RSOs will be certified by the commander when using Simunitions in Marksmanship and Maneuver Training. Commanders will establish standard operating procedures (SOPs) and specific composite risk assessments to address the inherent hazards associated with shooting simunitions.

6. APPLICABILITY. This policy memorandum provides guidance that applies to all ranges, facilities, and training compartments on Fort Benning when using simunitions within the Fort Benning Range/Training Complex. Training units desiring to use CCMCK training kits and associated ammunition will: (1) submit RFMSS requests through normal channels IAW MCoE Regulation 350-19, (2) ensure they obtain an approved SDZ for this training event/munitions from the Range Operations Survey Section, and (3) submit a commander's risk management worksheet to Installation Safety Office for approval.

7. SUPERSESSION: This policy supersedes MCoE Policy Memorandum 385-63-9, 8 May 2014, same subject.

8. PROPONENT: Mr. Douglas M. Greenway, Installation Range Management Officer, 706-545-4619/3542 or e-mail douglas.m.greenway.civ@mail.mil.

FOR THE COMMANDER:

Encl
Approved Face Mask List



PATRICK J. DONAHOE
Colonel, Armor
Chief of Staff

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Enclosure – List of Approved CCMCK Safety Equipment

NSN	Description
4240-01-612-0702	Helmet Mounted Training Facial Protection Systems: Eye tactical CM121, black, CM121-43 (1G6Y3)
4240-01-612-0696	Helmet Mounted Training Facial Protection Systems: tactical CM121, tan, CM121-44 (1G6Y3)
4240-01-612-0690	Helmet Mounted Training Facial Protection Systems: tactical CM121, green, CM121-43 (1G6Y3)
8415-20-007-2260	Helmet Safety Simunitions FX9003, black, 8971960 (0YAE9)
8415-20-007-2548	Helmet Safety: Simunitions FX9003, tan, 8971962 (0YAE9)
8415-20-007-2548	Mask, Cold Weather (Standard CCMCK Face Mask), 69-0304 (KE396)
8415-20-007-2548	