

**TECHNICAL MANUAL
OPERATOR'S MANUAL FOR**

CLOSE COMBAT MISSION CAPABILITY KIT (CCMCK)

**TRAINING DEVICE, FIRE DYE MARKING AMMO: M16/M4
NSN 6920-01-564-9657**

**TRAINING DEVICE, FIRE DYE MARKING AMMO: M249
NSN 6920-01-564-9655**

**TRAINING DEVICE, FIRE DYE MARKING AMMO: M9
NSN 6920-01-564-9656**

**TRAINING DEVICE, FIRE DYE MARKING AMMO: M11
NSN 6920-01-564-9658**

DISTRIBUTION STATEMENT A - Approved for public release; distribution is unlimited.

HEADQUARTERS, DEPARTMENT OF THE ARMY

13 MARCH 2009

WARNINGS

The Officer in Charge (OIC) shall brief all personnel on the boundaries of the exercise area and will ensure all personnel within those boundaries meet minimum safety requirements for CCMCK Weapon Conversion System.

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 Range Safety Officer (RSO) shall enforce the Rules of Engagement established and reviewed prior to the start of the training exercise.

To prevent serious injury, **NO** head shots will be taken by any participant.

Minimum engagement distance when using CCMCK ammunition in converted weapons is 5 meters (16.4 ft). Personnel injury may occur if shots are taken at less than 5 meters (16.4 ft).

No personnel will be allowed within a radius of 75 meters (246 ft) of the CCMCK Training Area when Force-On-Force training is being conducted without meeting the minimum safety requirements for CCMCK use. Serious injury could occur if a participant is struck by a CCMCK projectile in the eyes or on exposed skin.

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

Safety equipment must be worn at all times while inside the CCMCK Safety and Training Areas to prevent personnel injury from projectile impact. Ensure all exposed skin is covered.

Personnel using CCMCK marking ammunition are required to follow good personal hygiene practices (i.e., hand washing, cleaning of contaminated clothing and equipment), following exposure/contamination with marking compounds. Seek medical care in the event of acute eye contamination, skin irritation, or ingestion of marking compound.

Personnel injury can occur if safety requirements are not met when using the CCMCK Weapon Conversion System with CCMCK ammunition during Force-On-Force training.

To prevent serious eye injury, the **ONLY** approved eye protection for use with CCMCK is the standard issued Sun, Wind and Dust Goggles (NSN 8465-01-328-8268) which must be worn until all training has ceased.

Failure to inspect and clean the chamber and bore before firing service ammunition can result in personnel injury or catastrophic damage to the weapon if a CCMCK marking projectile remains lodged in the bore.

To prevent personnel injury, **DO NOT** interchange service bolts between weapons. Take appropriate steps to ensure that the same service bolt is put back in the weapon from which it was removed.

Before performing any conversion procedures or troubleshooting procedures, ensure weapon is clear/unloaded.

To prevent personnel injury, ensure M249 bolt is in **FORWARD** position before removing return rod and transfer mechanism assembly and spring.

Wear approved goggles and use care when removing recoil spring and spring guide. Due to the amount of compression, assembly will be released under spring tension and could cause injury to personnel or become damaged or lost.

Seek qualified medical care in the event of acute eye contamination, skin irritation, or ingestion of marking compound.

LIST OF EFFECTIVE PAGES

Date of issue for original pages is:

Original 0 13 March 2009

TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 141, CONSISTING OF THE FOLLOWING:

Page No.	*Change No.	Page No.	*Change No.	Page No.	*Change No.
Front Cover.....	0	7-1 thru 7-16.....	0		
a and b	0	8-1 and 8-2	0		
A and B.....	0	A-1 and A-2.....	0		
i and ii.....	0	B-1 and B-2	0		
1-1 thru 1-18.....	0				
2-1 thru 2-12.....	0				
3-1 thru 3-14.....	0				
4-1 thru 4-28.....	0				
5-1 thru 5-20.....	0				
6-1 thru 6-20.....	0				

*Zero in this column indicates an original page

THIS PAGE INTENTIONALLY LEFT BLANK

**Operator's Maintenance Manual
for
CLOSE COMBAT MISSION CAPABILITY KIT (CCMCK)
TRAINING DEVICE, FIRE DYE MARKING AMMO: M16/M4
NSN 6920-01-564-9657
TRAINING DEVICE, FIRE DYE MARKING AMMO: M249
NSN 6920-01-564-9655
TRAINING DEVICE, FIRE DYE MARKING AMMO: M9
NSN 6920-01-564-9656
TRAINING DEVICE, FIRE DYE MARKING AMMO: M11
NSN 6920-01-564-9658**

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Logistics Research and Engineering Directorate (AMSRD-AAR-EIL-LS), U.S. Army RDECOM, Armament Research, Development and Engineering Center, Picatinny Arsenal, NJ 07806-5000. You may also send in your recommended changes via electronic mail or by fax. Our e-mail address is PICAPubChanges@conus.army.mil. Our fax number is DSN 880-4633, Commercial (973) 724-4633. A reply will be furnished to you.

	Page	
CHAPTER 1	INTRODUCTION	1-1
Section I	General Information	1-1
Section II	Equipment Description and Data	1-5
Section III	Theory of Operation	1-18
CHAPTER 2	OPERATOR INSTRUCTIONS FOR CCMCK	2-1
Section I	CCMCK Range Safety	2-1
Section II	CCMCK Marking Ammunition	2-3
Section III	Safety Equipment	2-5
Section IV	Special Cleaning Instructions	2-11
CHAPTER 3	OPERATOR INSTRUCTIONS FOR M16A2/A3/A4 RIFLES AND M4/M4A1 CARBINES	3-1
CHAPTER 4	OPERATOR INSTRUCTIONS FOR M249 SQUAD AUTOMATIC WEAPON (SAW) . . .	4-1
CHAPTER 5	OPERATOR INSTRUCTIONS FOR M9 PISTOL	5-1
CHAPTER 6	OPERATOR INSTRUCTIONS FOR M11 PISTOL	6-1
CHAPTER 7	CCMCK TROUBLESHOOTING PROCEDURES	7-1
Section I	Introduction.	7-1
Section II	Troubleshooting Procedures for M16A2/A3/A4 Rifles and M4/M4A1 Carbines	7-2
Section III	Troubleshooting Procedures for M249 Squad Automatic Weapon (SAW)	7-5
Section IV	Troubleshooting Procedures for M9 Pistol.	7-10
Section V	Troubleshooting Procedures for M11 Pistol.	7-13
CHAPTER 8	CLEANING SAFETY EQUIPMENT AND PERSONAL HYGIENE	8-1
Section I	Cleaning Safety Equipment	8-1
Section II	Personal Hygiene	8-2
APPENDIX A	REFERENCES	A-1
APPENDIX B	EXPENDABLE AND DURABLE ITEMS LIST.	B-1

CHAPTER 1 INTRODUCTION

SECTION I GENERAL INFORMATION

1.1 SCOPE.

These instructions, for use by operator personnel, apply to the Close Combat Mission Capability Kit (CCMCK).

Type of Manual: Operator Maintenance.

Model Number(s) and Equipment Name(s): Training Device, Fire Dye Marking Ammo: M16/M4; Training Device, Fire Dye Marking Ammo: M249; Training Device, Fire Dye Marking Ammo: M9; Training Device, Fire Dye Marking Ammo: M11.

Purpose of Equipment: 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 Squad Automatic Weapons (SAW), and M9 and M11 Pistols) to fire low-velocity marking ammunition. 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.

1.2 FORMS, RECORDS AND REPORTS.

Department of the Army forms and procedures used for equipment maintenance will be those prescribed (as applicable) by DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual per AR 700-138, Army Logistics Readiness and Sustainability. Accidents involving injury to personnel or damage to material will be reported on DA Form 285 (U.S. Army Accident Report) in accordance with AR 385-10, The Army Safety Program. Explosives and ammunition malfunctions will be reported in accordance with AR 75-1, Malfunctions Involving Ammunition and Explosives.

1.3 REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR).

If your CCMCK needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. If you have Internet access the fastest way to report problems or suggestions is to go to <https://aeps.ria.army.mil/aepspublic.cfm> (scroll down and choose the "Submit Quality Deficiency Report" bar). The Internet form lets you choose to submit an Equipment Improvement Recommendation (EIR), a Product Quality Deficiency Report (PQDR) or a Warranty Claim Action (WCA). You may also submit your information using an SF Form 368 (Product Quality Deficiency Report). You can send your SF Form 368 via e-mail, or facsimile using the addresses/facsimile numbers specified in DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual. We will send you a reply.

1.4 CORROSION PREVENTION AND CONTROL (CPC).

Corrosion Prevention and Control (CPC) of Army materiel is a continuing concern. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items.

Corrosion specifically occurs with metals. It is an electrochemical process that causes the degradation of metals. It is commonly caused by exposure to moisture, acids, bases, or salts. An example is the rusting of iron. Corrosion damage in metals can be seen, depending on the metal, as tarnishing, pitting, fogging, surface residue, and/or cracking.

Plastic, composites, and rubbers can also degrade. Degradation is caused by thermal (heat), oxidation (oxygen), solvation (solvents), or photolytic (light, typically UV) processes. The most common exposures are excessive heat or light. Damage from these processes will appear as cracking, softening, swelling, and/or breaking.

SF Form 368 (Product Quality Deficiency Report) should be submitted to the address specified in DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual.

1.5 PREPARATION FOR STORAGE OR SHIPMENT.

All CCMCK Weapon Conversion Kits must be clean and serviceable prior to storage or shipment. Any unused CCMCK 5.56mm marking ammunition must be repacked with the tip up to prevent marking compound from coming out.

1.6 LIST OF ABBREVIATIONS/ACRONYMS.

Abbreviation/Acronym Definition

ACU	Army Combat Uniform
CCMCK	Close Combat Mission Capability Kit
CLP	Cleaner, Lubricant, and Preservative
CPC	Corrosion Prevention Control

Abbreviation/Acronym Definition

DA	Department of the Army
IAW	In Accordance With
OIC	Officer In Charge
RSO	Range Safety Officer
SAW	Squad Automatic Weapon
TAMMS	The Army Maintenance Management System
TM	Technical Manual

1.7 SAFETY, CARE, AND HANDLING.

Use CCMCK only in accordance with instructions. Observe all warning and cautions in this manual.

Personnel using CCMCK marking ammunition are required to follow good personal hygiene practices (i.e., hand washing, cleaning of contaminated clothing and equipment), following exposure/contamination with marking compounds. Seek medical care in the event of acute eye contamination, skin irritation, or ingestion of marking compound.

To prevent serious eye injury, the **ONLY** approved eye protection for use with CCMCK is the standard issued Sun, Wind, and Dust Goggles (NSN 8465-01-328-8268) which must be worn until all training has ceased.

Load only authorized CCMCK marking ammunition in weapons that have been configured with the appropriate CCMCK Weapon Conversion Kit. Equipment damage is possible if marking ammunition is interchanged.

CCMCK conversion kits and safety equipment must be cleaned before turn-in IAW procedures outlined in this TM.

All CCMCK Weapon Conversion Kits have built-in safety features that will not allow service ammunition to be fired.

Converting the weapon to use CCMCK marking ammunition does not cause any undue effects or degradation of the normal service components, its overall longevity or the general function of the weapon.

SECTION II EQUIPMENT DESCRIPTION AND DATA

1.8 EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.

The Close Combat Mission Capability Kit (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.

CCMCK marking ammunition is manufactured in three colors (red, blue, 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, non-toxic, 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.

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 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.

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. CCMCK marking ammunition is loaded into the standard magazine for the host weapon, fed into the converted weapon and operated in accordance with 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.

1.9 LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

1.9.1 M16A2/M16A3/M16A4 Rifle and M4/M4A1 Carbine Weapon Conversion Kit.

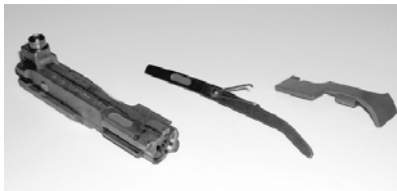
The CCMCK Weapon Conversion Kit for M16A2/M16A3/M16A4 Rifles and M4/M4A1 Carbines contains a training bolt and carrier assembly that is identified by a blue marking.



AR 19373

1.9.2 M249 SAW Weapon Conversion Kit.

The CCMCK Weapon Conversion Kit for the M249 SAW contains a training bolt and slide assembly and an ejector blade assembly, each identified by a blue marking, and a blue feed tray adapter.



AR 19370

1.9.3 M9 Pistol Weapon Conversion Kit.

The CCMCK Weapon Conversion Kit for the M9 Pistol contains a blue “drop in” training barrel.



1.9.4 M11 Pistol Weapon Conversion Kit.

The CCMCK Weapon Conversion Kit for the M11 Pistol contains a blue “drop in” training barrel and a training feed ramp.



1.9.5 CCMCK Face Mask.

The CCMCK Face Mask is a black nylon mask that protects the lower face and neck area.



1.10 EQUIPMENT DATA.

CCMCK Training Kit for M16A2/M16A3/M16A4 Rifles and M4/M4A1Carbines:

Consisting of One (1) CCMCK Weapon Conversion Kit and one
(1) CCMCK Face Mask

NSN 6920-01-564-9657

Training Device Number (DVC) 07-164

CCMCK Weapon Conversion Kit for M16A2/ M16A3/M16A4 Rifles and M4/M4A1Carbines:

Consisting of Training bolt and carrier assembly with a blue mark-
ing

NSN..... 1005-99-132-2616

Ammunition used 5.56mm Bulk marking ammunition in three colors

Cartridge, 5.56mm, Practice: M1042, Bulk, Blue NSN 1305-01-536-5822; P/N 13008767-1

Cartridge, 5.56mm, Practice: M1042, Bulk, Red NSN 1305-01-536-5827; P/N 13008767-2

Cartridge, 5.56mm, Practice: M1042, Bulk, Yellow..... NSN 1305-01-536-5829; P/N 13008767-3

Cartridge case..... Metallic telescopic case with Rimfire primer

Projectile:

Material Plastic, aluminum, and marking compound

Color Silver base with translucent cup

Weight 6.95 gr

Marking compound	Non-toxic, inert, wax-based compound in colors of red, blue, and yellow
Velocity:	
M16	499.50 ft/sec
M4	473.21 ft/sec
Shelf life	24 months from date of manufacture with proper storage
Recommended storage	Cool and dry environment (approx 70°F)
Temperature Limits:	
Firing:	
Lower limit.....	+32°F (0°C)
Upper limit	+120°F (+49°C)
Storage:	
Lower limit.....	-40°F (-40°C)
Upper limit	+145°F (+63°C)
Packing Data:	
Packing.....	1800 cartridges per wirebound box; 30 cartridges per carton; 30 cartons per M2A1 container; two M2A1 containers per wirebound box

Wirebound box for M2A1:

Dimensions 14.44 x 12.53 x 8.13 in.

Weight 7.5 lb

Shipping and Storage Data:

UN number..... 0012

DOD hazard class/div/SCG 1.4S

DOT class..... C

DOT designation SMALL ARMS AMMUNITION

DODAC:

Cartridge, 5.56mm, Practice: M1042, Bulk, Blue 1305-AB09

Cartridge, 5.56mm, Practice: M1042, Bulk, Red 1305-AB10

Cartridge, 5.56mm, Practice: M1042, Bulk, Yellow..... 1305-AB11

CCMCK Training Kit for M249 Squad Automatic Weapon

(SAW):

Consisting of One (1) CCMCK Weapon Conversion Kit and one
(1) CCMCK Face Mask

NSN 6920-01-564-9655

Training Device Number (DVC) 07-165

CCMCK Weapon Conversion Kit for M249 Squad
Automatic Weapon (SAW):

Consisting of	Training bolt and slide assembly and ejector blade assembly, each with blue markings, and a blue feed tray adapter
NSN.....	1005-99-848-0609
Ammunition used	5.56mm Linked marking ammunition in three colors
Cartridge, 5.56mm, Practice: M1071, Linked, Blue.....	NSN 1305-01-537-1521; P/N 13008770-1
Cartridge, 5.56mm, Practice: M1071, Linked, Red.....	NSN 1305-01-537-1522; P/N 13008770-2
Cartridge, 5.56mm, Practice: M1071, Linked, Yellow ...	NSN 1305-01-536-9289; P/N 13008770-3
Cartridge case.....	Metallic telescopic case with Rimfire primer
Projectile:	
Material	Plastic, aluminum, and marking compound
Color	Silver base with translucent cap
Weight	6.95 gr
Marking compound.....	Non-toxic, inert, wax-based compound in colors of red, blue, and yellow
Velocity	467.63 ft/sec
Shelf life.....	24 months from date of manufacture with proper storage
Recommended storage	Cool and dry environment (approx 70°F)

Temperature Limits:

Firing:

Lower limit.....	+32°F (0°C)
Upper limit.....	+120°F (+49°C)

Storage:

Lower limit.....	-40°F (-40°C)
Upper limit.....	+145°F (+63°C)

Packing Data:

Packing.....	2400 cartridges per wirebound box; 100 cartridges per belt, M27; 1 belt per M249 container; 12 containers per PA108 box; 2 PA108 boxes per wirebound box
--------------	--

Wirebound box for PA108:

Dimensions	17.0 x 13.37 x 9.37 in.
Weight	6.0 lb

Shipping and Storage Data:

UN identification number	0012
DOD hazard class/div/SCG	1.4S
DOT class.....	C
DOT designation	SMALL ARMS AMMUNITION

DODAC:

Cartridge, 5.56mm, Practice: M1071, Linked, Blue..... 1305-AB16
Cartridge, 5.56mm, Practice: M1071, Linked, Red..... 1305-AB17
Cartridge, 5.56mm, Practice: M1071, Linked, Yellow ... 1305-AB15

CCMCK Training Kit for M9/M11 Pistol:

Consisting of One (1) CCMCK Weapon Conversion Kit and one
(1) CCMCK Face Mask

NSN:

M9 6920-01-564-9656
M11 6920-01-564-9658

Training Device Number (DVC):

M9 07-162
M11 07-163

CCMCK Weapon Conversion Kit for M9/M11 Pistol:

Consisting of Blue training barrel (M9);
Blue training barrel and training feed ramp (M11)

NSN:

M9 1005-20-003-2362
M11 1005-20-003-2361

Ammunition used	9mm marking ammunition in three colors
Cartridge, 9mm, Practice: M1041, Blue	NSN 1305-01-536-7721; P/N 13008817-1
Cartridge, 9mm, Practice: M1041, Red	NSN 1305-01-536-7722; P/N 13008817-2
Cartridge, 9mm, Practice: M1041, Yellow	NSN 1305-01-536-7720; P/N 13008817-3
Cartridge case	Brass with polymer sabot and polymer projectile filled with marking compound
Projectile:	
Material	Polypropylene and marking compound
Color	Marking compound (blue, red, or yellow)
Weight	7.25 gr
Marking compound	Non-toxic, inert, water-soluble, detergent-based compound in colors of red, blue, and yellow
Marking cartridges per magazine	Maximum of 10 or less
Velocity	574.80 ft/sec (M9) 491.06 ft/sec (M11)
Recommended storage	Cool, dry environment (approx 70°F)
Shelf life	24 months from date of manufacture with proper storage
Temperature Limits:	
Firing:	
Lower limit	+25°F (-32°C)
Upper limit	+120°F (+49°C)

Storage:	
Lower limit.....	-40°F (-40°C)
Upper limit.....	+145°F (+63°C)
Packing Data:	
Packing.....	2000 cartridges per wirebound box; 50 cartridges per carton; 20 cartons per M2A1 can; two M2A1 cans per wirebound box
Wirebound for M2A1:	
Dimensions	14.44 x 12.53 x 8.13 in.
Weight	7.5 lb
Shipping and Storage Data:	
UN number.....	0012
DOD hazard class/div/SCG	1.4S
DOT class.....	C
DOT designation	SMALL ARMS AMMUNITION
DODAC:	
Cartridge, 9mm, Practice: M1041, Blue	1305-AB13
Cartridge, 9mm, Practice: M1041, Red	1305-AB14
Cartridge, 9mm, Practice: M1041, Yellow	1305-AB12
<u>CCMCK Face Mask:</u>	
NSN.....	8415-99-359-9160

SECTION III

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 Squad Automatic Weapon (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.

CHAPTER 2

OPERATOR INSTRUCTIONS FOR CCMCK

SECTION I CCMCK RANGE SAFETY

2.1 EXERCISE AREA.



The Officer in Charge (OIC) shall brief all personnel on the boundaries of the exercise area and will ensure all personnel within those boundaries meet minimum safety requirements for CCMCK Weapon Conversion System.

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 Areas.

The Range Safety Officer (RSO) shall enforce the Rules of Engagement established and reviewed prior to the training exercise.

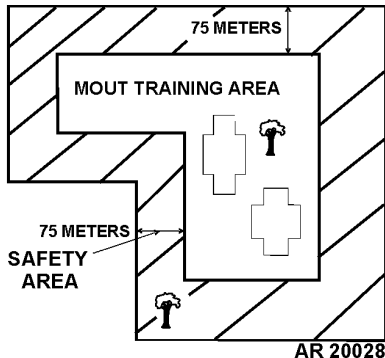
To prevent serious injury, **NO** head shots will be taken by any participant.

Minimum engagement distance when using CCMCK ammunition in converted weapons is 5 meters (16.4 ft). Personnel injury may occur if shots are taken at less than 5 meters (16.4 ft).

WARNING

No personnel will be allowed within a radius of 75 meters (246 ft) of the CCMCK Training Area when Force-On-Force training is being conducted without meeting the minimum safety requirements for CCMCK use. 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



WARNING

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.

2.2 RULES OF ENGAGEMENT.

The Range Safety Officer (RSO) shall enforce the Rules of Engagement established and reviewed prior to beginning training exercises when using CCMCK.

SECTION II CCMCK MARKING AMMUNITION

2.3 INSPECT CCMCK MARKING AMMUNITION.



Personnel using CCMCK marking ammunition are required to follow good personal hygiene practices (i.e., hand washing, cleaning of contaminated clothing and equipment), following exposure/contamination with marking compounds. Seek medical care in the event of acute eye contamination, skin irritation, or ingestion of marking compound.

CCMCK marking ammunition is manufactured in three colors: Red, Blue, and Yellow. CCMCK includes: 5.56mm Bulk marking ammunition for the M16A2/M16A3/M16A4 Rifle and M4/M4A1 Carbine; 5.56mm Linked marking ammunition for M249 Squad Automatic Weapon (SAW); and 9mm marking ammunition for the M9 and M11 Pistol. The 5.56mm Bulk and 5.56mm Linked CCMCK marking ammunition are **NOT** interchangeable due to different rear primers.

WARNING

Personnel injury can occur if safety requirements are not met when using the CCMCK Weapon Conversion System with CCMCK ammunition during Force-On-Force training.

CAUTION

DO NOT use corroded ammunition, dented cartridges, damaged cartridges or projectiles (i.e., pushed in), or cartridges that have been jammed in a weapon.

- a. Ensure ammunition is clean and dry.
- b. Inspect CCMCK marking ammunition to assure that cartridge cases and projectiles are intact. **DO NOT** use corroded ammunition, dented cartridges, or damaged cartridges or projectiles. Turn in damaged ammunition to Range NCO.
- c. Ensure projectiles are properly seated in the cartridge case prior to loading into weapon. Damaged projectiles can cause weapon jams/lodged projectiles.
- d. Inspect magazine for serviceability. An unserviceable magazine can cause damaged projectiles.

SECTION III SAFETY EQUIPMENT

2.4 PROCEDURES FOR SAFETY EQUIPMENT.

This section covers the proper procedures for putting on the safety equipment required to perform training using the CCMCK Weapon Conversion System and CCMCK ammunition. Safety equipment must be worn at all times while inside the CCMCK Safety and Training Areas to prevent personnel injury from projectile impact. Required safety equipment when using CCMCK in Force-On-Force training consists of: Single hearing protection, CCMCK Face Mask, standard Combat Helmet or Advanced Combat Helmet, standard gloves, standard issued Sun, Wind and Dust Goggles, groin protection, and a single layer of clothing (Army Combat Uniform (ACU)) with sleeves rolled down.



Personnel injury can occur if safety requirements are not met when using the CCMCK Weapon Conversion System with CCMCK ammunition during Force-On-Force training.

Minimum engagement distance when using CCMCK ammunition in converted weapons is 5 meters (16.4 ft). Personnel injury may occur if shots are taken at less than 5 meters (16.4 ft).

Safety equipment must be worn at all times while inside the CCMCK Safety and Training Areas to prevent personnel injury from projectile impact. Ensure all exposed skin is covered.

To prevent serious eye injury, the ONLY approved eye protection for use with CCMCK is the standard issued Sun, Wind and Dust Goggles (NSN 8465-01-328-8268) which must be worn until all training has ceased.

2.4.1 Hearing Protection.

Insert single hearing protection.

2.4.2 Groin Protection.

Protect groin area with athletic cup or use padding.

2.4.3 CCMCK Face Mask.

Put on face mask, secure around the back of the neck with hook and loop fastener, tuck neck protection inside ACU shirt collar, and button collar so that no skin is exposed.



AR 19365

2.4.4 Helmet.

Put on Standard Combat Helmet or Advanced Combat Helmet and adjust chin strap.



AR 19369

2.4.5 Gloves.

Put on standard gloves.



AR 19367

2.4.6 Sun, Wind, and Dust Goggles.

NOTE

Use of anti-fogging compound is recommended to prevent fogging of lenses.

Adjust Sun, Wind, and Dust Goggles ensuring there are no exposed areas between helmet, face mask and goggles that would allow CCMCK projectiles to enter.



AR 18368

2.4.7 Final Check.

Check to ensure all exposed skin is covered. Make adjustments as necessary.



AR 19366

SECTION IV SPECIAL CLEANING INSTRUCTIONS

WARNING

Failure to inspect and clean the chamber and bore before firing service ammunition can result in personnel injury or catastrophic damage to the weapon if a CCMCK marking projectile remains lodged in the bore.

CAUTION

Before installing CCMCK Weapon Conversion Kit, weapon must be cleaned and lubricated with CLP IAW the appropriate weapon TM.

During CCMCK use, weapon must be cleaned in accordance with the following cleaning instructions after the firing of every Ammunition Basic Load for the particular weapon.

2.5 CLEANING INSTRUCTIONS FOR M16A2/M16A3/M16A4 RIFLE, M4/M4A1 CARBINE, M249 SQUAD AUTOMATIC WEAPON (SAW), M9 PISTOL OR M11 PISTOL.

a. Prior to and during CCMCK use:

- (1) Inspect, clean, and lubricate weapon using CLP IAW appropriate weapon TM (TM 9-1005-319-10, TM 9-1005-201-10, TM 9-1005-317-10, or TM 9-1005-325-10).

- (2) Weapon chamber and bore must be cleaned and wiped **DRY** to properly fire CCMCK ammunition.
- (3) Inspect, clean, and **lightly** lubricate CCMCK components using CLP.
- (4) For M16 Series Rifles, M4/M4A1 Carbine, and M249 SAW, face of CCMCK training bolt must be wiped **DRY**.

b. After CCMCK use:

- (1) **ROD THE WEAPON BORE FOR POSSIBLE STUCK PROJECTILES.**
- (2) Inspect, clean, and lubricate weapon using CLP IAW appropriate weapon TM (TM 9-1005-319-10, TM 9-1005-201-10, TM 9-1005-317-10, or TM 9-1005-325-10), paying special attention to chamber and bore, ensuring all CCMCK marking compound is removed.
- (3) Before turn-in of CCMCK Weapon Conversion Kit, thoroughly clean all components with CLP. Use a suitable cloth to clean any dirt, debris, carbon deposits, or marking compound.

CHAPTER 3

OPERATOR INSTRUCTIONS FOR M16A2/A3/A4 RIFLES AND M4/M4A1 CARBINES

WARNING

Before performing any conversion procedures, ensure weapon is clear/unloaded.

Minimum engagement distance when using CCMCK marking ammunition in converted weapons is 5 meters (16.4 ft). Personnel injury may occur if shots are taken at less than 5 meters (16.4 ft).

To prevent serious injury, **NO** head shots will be taken by any participant.

CAUTION

Although the design of the CCMCK Weapon Conversion System prevents the firing of service ammunition, loading of service ammunition into a converted weapon may cause weapon damage.

To prevent possible weapon damage from a CCMCK projectile becoming lodged in bore, ensure that any new weapon barrel has fired a minimum of 200 standard 5.56mm service rounds before converting for the first time to use CCMCK marking ammunition.

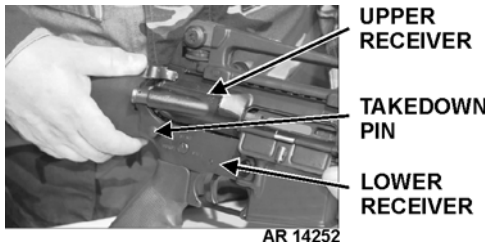
3.1 REMOVE M16/M4 SERVICE BOLT.

- a. Point weapon in a safe direction. Ensure weapon is clear/unloaded IAW TM 9-1005-319-10.

CAUTION

Only use hand pressure to push takedown pin far enough to disengage upper receiver from lower receiver. Excessive force may cause weapon damage.

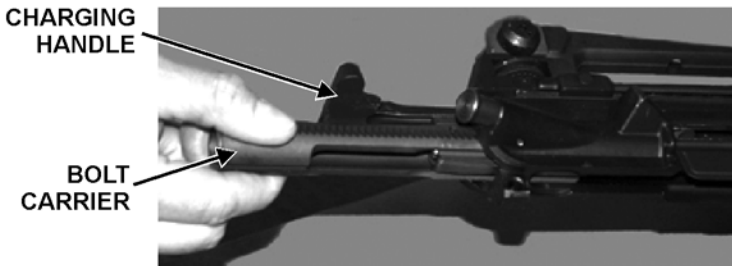
- b. Push takedown pin as far as it will go. Pivot upper receiver from lower receiver.



WARNING

To prevent personnel injury, **DO NOT** interchange service bolts between weapons. Take appropriate steps to ensure that the same service bolt is put back in the weapon from which it was removed.

- c. Pull charging handle part way back and remove service bolt carrier from weapon. Set bolt carrier aside.



AR 14251

3.2 INSTALL CCMCK M16/M4 CONVERSION KIT.



CAUTION

Before installing CCMCK Weapon Conversion Kit, weapon must be cleaned and lubricated with CLP.

Weapon chamber and bore, and face of CCMCK training bolt must be cleaned and wiped **DRY** to properly fire CCMCK ammunition.

NOTE

As a safety design feature, the ejection port cover of the service weapon will not close when the CCMCK bolt is installed.

- a. Ensure weapon is clean and lubricated with CLP IAW TM 9-1005-319-10. Ensure chamber and bore are **DRY**.
- b. Using CLP, **lightly** lubricate CCMCK bolt and carrier assembly surface. Ensure face of bolt is **DRY**.

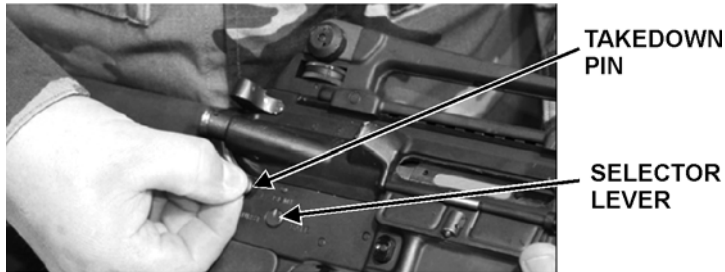
- c. With upper and lower receivers pivoted away from each other, slide CCMCK bolt and carrier assembly into upper receiver.
- d. Push charging handle and bolt and carrier assembly together into upper receiver until fully seated.



CAUTION

To prevent weapon damage, selector lever must be on SAFE before closing upper receiver.

- e. Ensure selector lever is on SAFE. Close upper and lower receiver and, using hands only, push IN takedown pin as far as it will go.



AR 14250

- f. Perform function check IAW TM 9-1005-319-10. The weapon is now converted to use CCMCK marking ammunition.
- g. Go to Chapter 2, Section III, Safety Equipment, to put on mandatory safety equipment required for CCMCK training.

3.3 LOAD CCMCK M16/M4 MARKING AMMUNITION.

CAUTION

Equipment damage is possible if marking ammunition is interchanged. Load only authorized CCMCK marking ammunition in weapons that have been configured with the appropriate CCMCK Weapon Conversion Kit.

The 5.56mm Bulk marking ammunition for the M16A2/M16A3/M16A4 Rifle and the M4/M4A1 Carbine is **NOT** interchangeable with 5.56mm Linked ammunition for the M249 SAW.

- a. Ammunition is **NOT** interchangeable. See table 3-1 for approved CCMCK marking ammunition.

**Table 3-1. Approved Marking Ammunition for CCMCK Conversion Kit
Used in M16A2/M16A3/M16A4 Rifle and M4/M4A1 Carbine.**

MARKING AMMO TYPE	NSN
CARTRIDGE, 5.56MM, PRACTICE: M1042, BULK, BLUE	1305-01-536-5822
CARTRIDGE, 5.56MM, PRACTICE: M1042, BULK, RED	1305-01-536-5827
CARTRIDGE, 5.56MM, PRACTICE: M1042, BULK, YELLOW	1305-01-536-5829

CAUTION

Use extreme care when handling and loading CCMCK marking ammunition. Marking ammunition is more susceptible to damage than service ammunition. **DO NOT** exert pressure on projectile as damage may occur. Damaged projectiles can cause bullet-in-bore and jammed weapons.

DO NOT use corroded ammunition, dented cartridges, or damaged cartridges or projectiles (i.e., pushed in), or cartridges that have been jammed in a weapon.

Projectiles may break or become lodged in the bore or misfeeds may occur if CCMCK marking ammunition is not properly loaded into the magazine and firmly inserted into the weapon, or if projectiles are skewed or loose at time of loading or handling.

To prevent weapon jams, after the firing of every Ammunition Basic Load (approximately 200 CCMCK marking cartridges for M16/M4), the weapon must be cleaned and lubricated IAW this TM.

Ensure all weapon magazines are serviceable before loading CCMCK ammunition. **DO NOT** use a damaged magazine. An unserviceable magazine can cause damaged CCMCK projectiles.

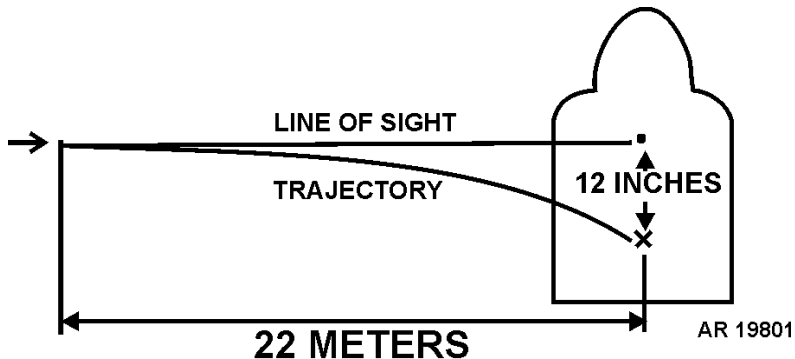
Any unused CCMCK 5.56mm marking ammunition must be repacked with the tip up to prevent any marking compound from coming out.

- b. Carefully load M16A2/M16A3/M16A4 Rifle or M4/M4A1 Carbine with CCMCK marking ammunition IAW TM 9-1005-319-10. Ensure projectiles do not become dislodged or damaged.

NOTE

Once the authorized CCMCK marking ammunition has been loaded into the magazine of a converted weapon it will cycle the weapon and function in the same manner as service ammunition.

The 5.56mm CCMCK marking ammunition may drop up to 12-inches from line-of-sight at 22 meters (approx 72 ft).



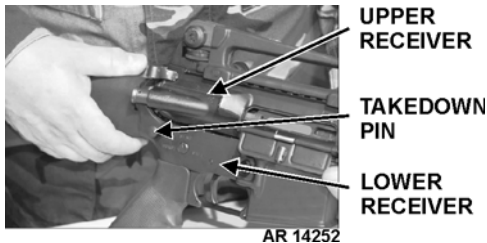
3.4 REMOVE CCMCK M16/M4 CONVERSION KIT.

- a. Point weapon in a safe direction. Clear/unload weapon IAW TM 9-1005-319-10.

CAUTION

Only use hand pressure to push takedown pin far enough to disengage upper receiver from lower receiver. Excessive force may cause weapon damage.

- b. Push takedown pin as far as it will go. Pivot upper receiver from lower receiver.



- c. Pull charging handle part way back and remove CCMCK bolt and carrier assembly. Set aside for cleaning.



WARNING

Failure to inspect and clean the chamber and bore before firing service ammunition can result in personnel injury or catastrophic damage to the weapon if a CCMCK marking projectile remains lodged in the bore.

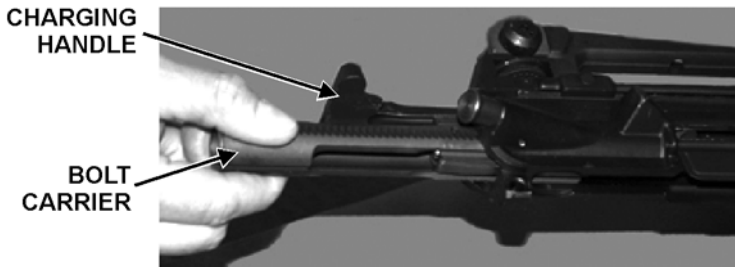
- d. **ROD THE BORE FOR POSSIBLE STUCK PROJECTILES.**
- e. Inspect, clean, and lubricate weapon IAW TM 9-1005-319-10, paying special attention to chamber and bore, ensuring all CCMCK marking compound is removed.
- f. Before turn-in of CCMCK Weapon Conversion Kit, thoroughly clean all components with CLP. Use a suitable cloth to clean any dirt, debris, carbon deposits, or marking compound.

3.5 REINSTALL M16/M4 SERVICE BOLT.

WARNING

To prevent personnel injury, **DO NOT** interchange service bolts between weapons. Take appropriate steps to ensure that the same service bolt is put back in the weapon from which it was removed.

- a. With upper and lower receivers pivoted away from each other and charging handle inserted part way, slide service bolt carrier assembly into upper receiver.



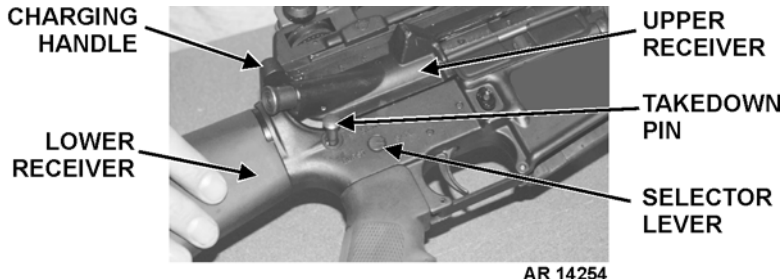
AR 14251

- b. Push charging handle and bolt carrier assembly together into upper receiver until fully seated.

CAUTION

To prevent weapon damage, selector lever must be on SAFE before closing upper receiver.

- c. Ensure selector lever is on SAFE. Close upper and lower receiver and, using hands only, push IN takedown pin as far as it will go.



- d. Perform function check IAW TM 9-1005-319-10. The weapon is now converted back to service use.

THIS PAGE INTENTIONALLY LEFT BLANK

CHAPTER 4

OPERATOR INSTRUCTIONS FOR M249 SQUAD AUTOMATIC WEAPON (SAW)



WARNING

Before performing any conversion procedures, ensure weapon is clear/unloaded.

Minimum engagement distance when using CCMCK marking ammunition in converted weapons is 5 meters (16.4 ft). Personnel injury may occur if shots are taken at less than 5 meters (16.4 ft).

To prevent serious injury, **NO** head shots will be taken by any participant.



CAUTION

Although the design of the CCMCK Weapon Conversion System prevents the firing of service ammunition, loading of service ammunition into a converted weapon may cause weapon damage.

To prevent possible weapon damage from a CCMCK projectile becoming lodged in bore, ensure that any new weapon barrel has fired a minimum of 200 standard live service rounds before converting for the first time to use CCMCK marking ammunition.

4.1 REMOVE M249 SERVICE BOLT AND EJECTOR BLADE.

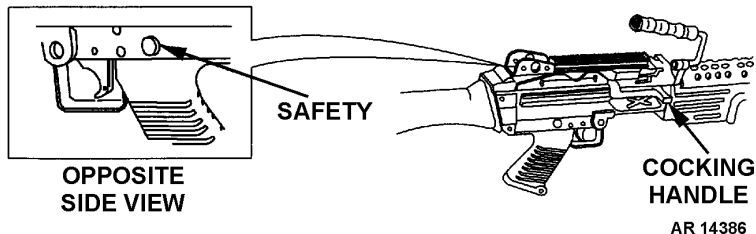
- a. Point weapon in a safe direction. Ensure weapon is clear/unloaded IAW TM 9-1005-201-10.

WARNING

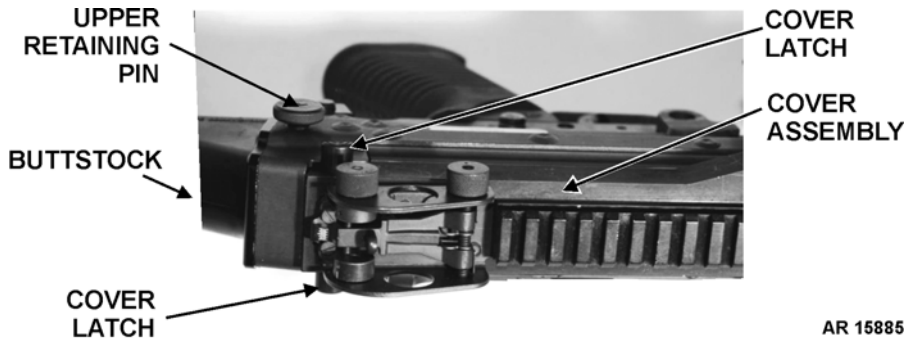
To prevent personnel injury, **DO NOT** interchange service bolts between weapons. Take appropriate steps to ensure that the same service bolt is put back in the weapon from which it was removed.

To prevent personnel injury, ensure M249 bolt is in FORWARD position before removing return rod and transfer mechanism assembly and spring.

- b. If bolt is situated at the rear, push safety to LEFT (RED BAND will be visible). Pull cocking handle to the rear. Hold cocking handle with one hand, press trigger and ride the bolt slowly FORWARD.

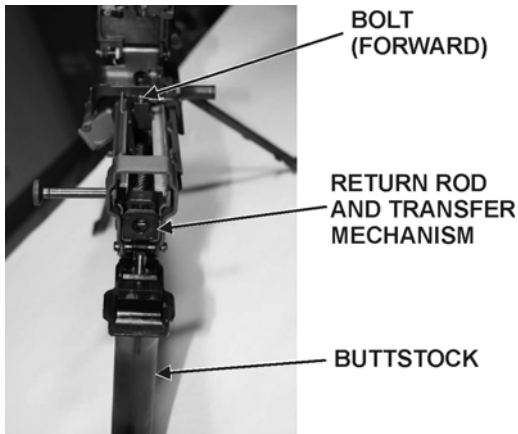


- c. Squeeze cover latches together and raise cover assembly.
- d. Check to ensure bolt is in FORWARD position.
- e. Pull upper retaining pin at rear of receiver to the LEFT. Let buttstock and buffer assembly pivot DOWNWARD so that rear opening on receiver is completely free.



AR 15885

- f. Holding weapon with one hand on the buttstock, simultaneously push IN and UPWARD on rear of return rod and transfer mechanism assembly with thumb of other hand. Return rod and transfer mechanism assembly is now released from positioning groove inside receiver. Withdraw the return rod and transfer mechanism assembly with spring and set aside.



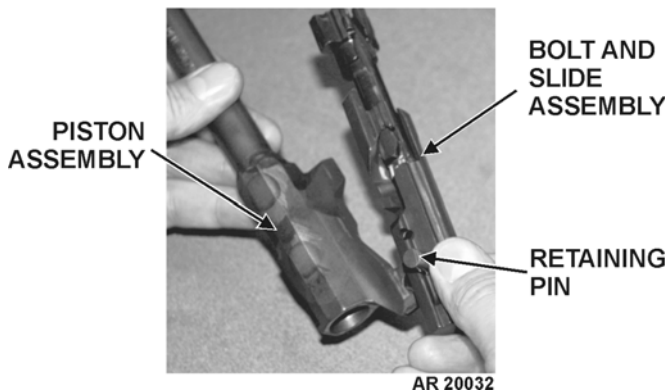
AR 15884

- g. Pull cocking handle REARWARD and remove bolt and slide assembly and operating rod assembly from rear of receiver.

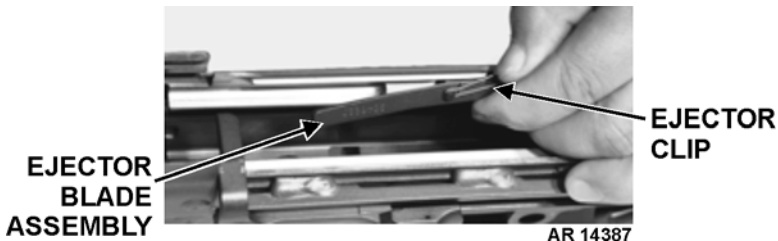


AR14473

- h. To separate M249 bolt and slide assembly from piston assembly, press retaining pin on bolt and slide assembly and lift off. Set M249 service bolt and slide assembly aside.



- i. Compress both legs of ejector clip together and pull M249 service ejector blade assembly from receiver. Set M249 service ejector blade assembly aside.



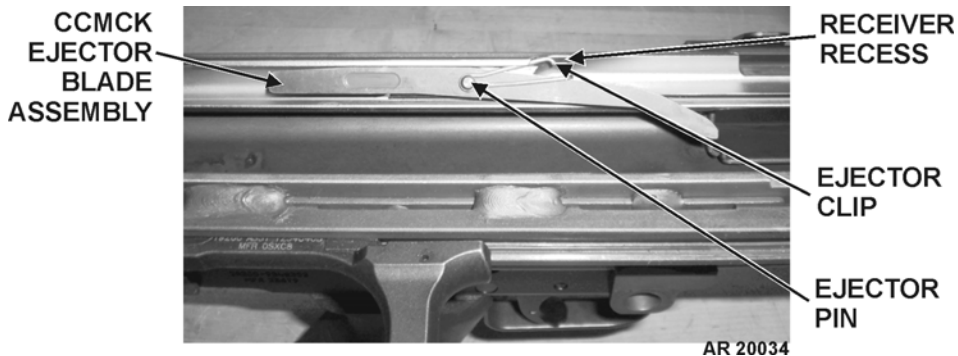
4.2 INSTALL CCMCK M249 CONVERSION KIT.

CAUTION

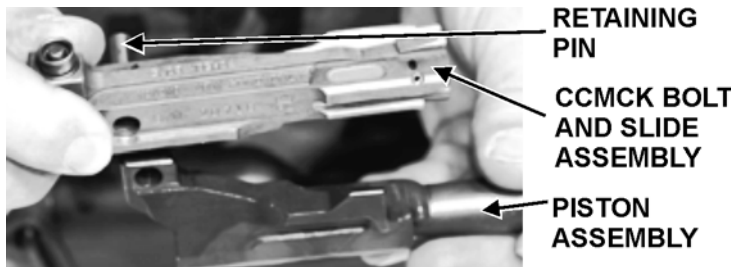
Before installing CCMCK Weapon Conversion Kit, weapon must be cleaned and lubricated with CLP.

Weapon chamber and bore and face of CCMCK training bolt must be cleaned and wiped **DRY** to properly fire CCMCK ammunition.

- a. Ensure weapon is cleaned and lubricated with CLP IAW TM 9-1005-201-10. Ensure chamber and bore are **DRY**.
- b. Position cartridge ejector end of CCMCK ejector blade assembly to the front of the receiver and position hooked end of ejector clip behind ejector blade.
- c. Install ejector pin into hole in left side of receiver, compress short leg of ejector clip, and install CCMCK ejector blade assembly in receiver recess.



- d. Using CLP, **lightly** lubricate CCMCK bolt and slide assembly surface. Ensure face of bolt is **DRY**.
- e. Place CCMCK bolt and slide assembly onto piston assembly in exactly the same manner as the service bolt and slide assembly. Align both holes and push in retaining pin to secure them together.



AR 14388

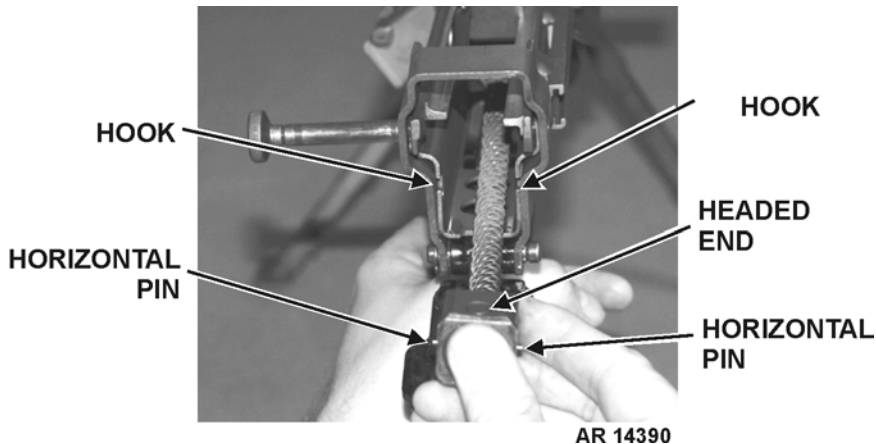
- f. Put bolt into receiver with feed cover open. Locate the piston into the rear of the gas cylinder. Press the trigger so that the sear does not prevent the moving parts from going forward.

CAUTION

Improper assembly of the transfer mechanism can cause damage to the receiver and/or the assembly itself. If the horizontal pins of the transfer assembly are not placed in the hooks inside the receiver, when the buttstock is pivoted in the UP position for pinning, the receiver hooks can be bent.

Ensure that headed end of vertical pin in transfer mechanism assembly is up (on top). If horizontal pins of transfer assembly are rotated to a vertical position and bottom pin is hooked into the lightening hole in bottom of receiver, the pin can be sheared, damaged or lost when the weapon is fired.

- g. Hold pistol grip with one hand. Use other hand to place return rod and transfer mechanism assembly, with headed end UP, into the housing in the rear of the piston. Use thumb to press IN and DOWN on the rear of the return rod and transfer mechanism assembly until both horizontal pins are positioned in the receiver hooks.



- h. Pivot buttstock and buffer assembly UPWARD into position and push upper retaining pin to the RIGHT to secure.

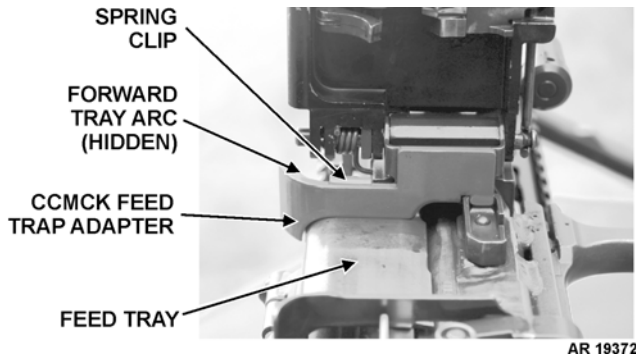


- i. Check to ensure bolt is fully FORWARD.

CAUTION

If CCMCK feed tray adapter is not installed correctly, forcing cover assembly to close will damage feed tray adapter.

- j. Place blue CCMCK feed tray adapter onto weapon feed tray. Place spring clip over groove on the forward tray arc located on the side of the weapon that the ammunition feeds from.



- k. Close cover assembly.
1. Perform function check IAW TM 9-1005-201-10. The weapon is now converted to use CCMCK marking ammunition.
- m. Go to Chapter 2, Section III, Safety Equipment, to put on mandatory safety equipment required for CCMCK training.

4.3 LOAD CCMCK M249 MARKING AMMUNITION.

CAUTION

Equipment damage is possible if marking ammunition is interchanged. Load only authorized CCMCK marking ammunition in weapons that have been configured with the appropriate CCMCK Weapon Conversion Kit.

The 5.56mm Bulk marking ammunition for M16A2/A3/A4 Rifles and M4/M4A1 Carbines is **NOT** interchangeable with 5.56mm Linked marking ammunition for M249 Squad Automatic Weapons.

DO NOT de-link CCMCK M249 marking ammunition. **DO NOT** use M16/M4-type magazine with the M249. CCMCK marking ammunition will not feed properly.

- a. Ammunition is **NOT** interchangeable. See table 4-1 for approved CCMCK marking ammunition.

Table 4-1. Approved Marking Ammunition for M249 CCMCK Conversion Kit.

MARKING AMMO TYPE	NSN
CARTRIDGE, 5.56, PRACTICE: M1071, LINKED, BLUE	1305-01-537-1521
CARTRIDGE, 5.56, PRACTICE: M1071, LINKED, RED	1305-01-537-1522
CARTRIDGE, 5.56, PRACTICE: M1071, LINKED, YELLOW	1305-01-536-9289

CAUTION

Use extreme care when handling and loading CCMCK marking ammunition. Marking ammunition is more susceptible to damage than service ammunition. Do not exert pressure on projectile as damage may occur. Damaged projectiles can cause bullet-in-bore and jammed weapons. Do not reuse CCMCK marking cartridges that have been jammed in a weapon.

To prevent weapon jams, after the firing of every Ammunition Basic Load (approximately 600 CCMCK M249 marking cartridges), the weapon must be cleaned and lubricated with CLP IAW this TM. Pay special attention to chamber and bore area.

Any unused CCMCK 5.56mm marking ammunition must be repacked with the tip UP to prevent marking compound from coming out.

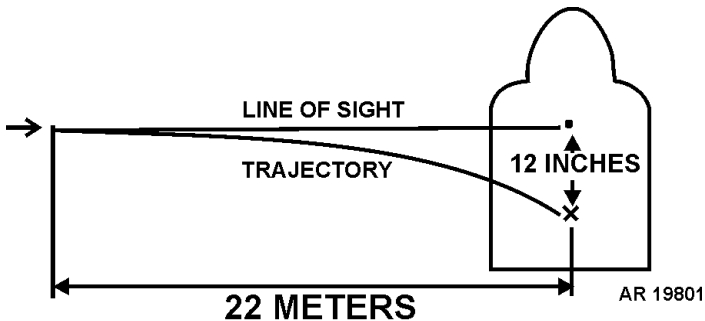
NOTE

Once the authorized CCMCK marking ammunition has been loaded into a converted weapon, it will cycle the weapon and function in the same manner as service “live” ammunition.

- b. Carefully load M249 SAW with approved CCMCK marking ammunition IAW TM 9-1005-201-10. Ensure projectiles do not become dislodged or damaged.

NOTE

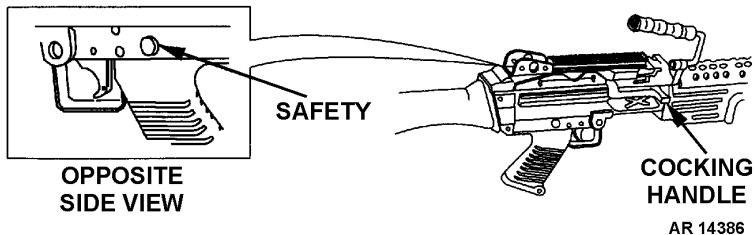
The 5.56mm CCMCK marking ammunition may drop 12-inches from line-of-sight at 22 meters (approx 72 ft).



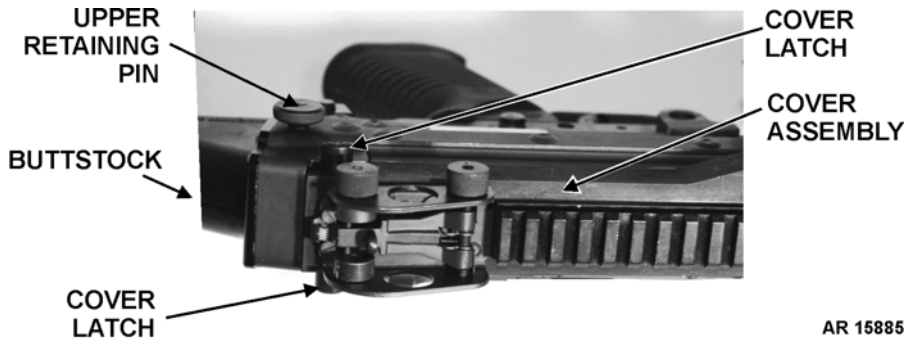
4.4 REMOVE CCMCK M249 CONVERSION KIT.

- a. Point weapon in a safe direction. Clear/unload weapon IAW TM 9-1005-201-10.

- b. If bolt is situated at the rear, push safety to LEFT (RED BAND will be visible). Pull cocking handle to the rear. Hold cocking handle with one hand, press trigger and ride the bolt slowly FORWARD.

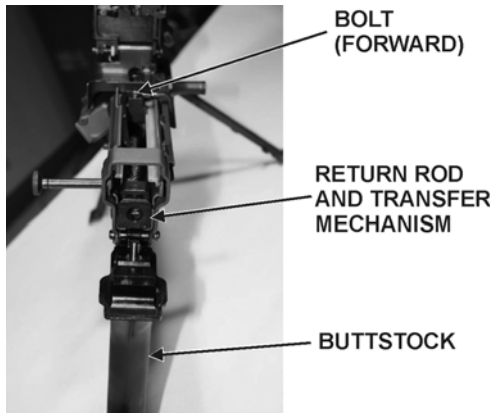


- c. Squeeze cover latches together and raise cover assembly.
- d. Remove blue CCMCK feed tray adapter.
- e. Check to ensure bolt is in FORWARD position.
- f. Pull upper retaining pin at rear of receiver to the LEFT. Let buttstock and buffer assembly pivot DOWNWARD so that rear opening on receiver is completely free.



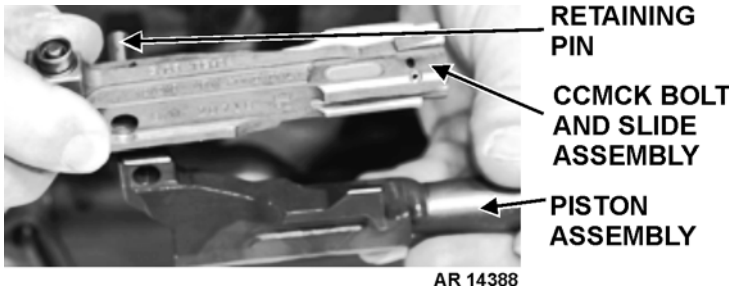
AR 15885

- g. Holding weapon with one hand on the buttstock, simultaneously push IN and UPWARD on rear of return rod and transfer mechanism assembly with thumb of other hand. Return rod and transfer mechanism assembly is now released from positioning groove inside receiver. Withdraw return rod and transfer mechanism assembly with spring and set aside.

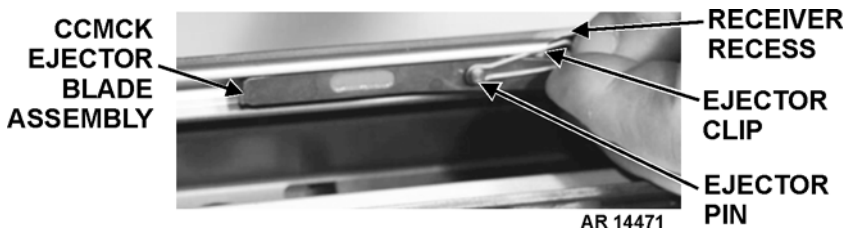


AR 15884

- h. Pull cocking handle REARWARD and remove CCMCK bolt and slide assembly and operating rod assembly from rear of receiver.
- i. To separate M249 CCMCK bolt and slide assembly, press retaining pin on slide assembly and lift off. Set M249 CCMCK bolt and slide assembly aside.



- j. Compress both legs of ejector clip together and pull M249 CCMCK ejector blade assembly from receiver. Set M249 CCMCK ejector blade assembly aside.



WARNING

Failure to inspect and clean the chamber and bore before firing service ammunition can result in personnel injury or catastrophic damage to the weapon if a CCMCK marking projectile remains lodged in the bore.

- k. **ROD THE BORE FOR POSSIBLE STUCK PROJECTILES.**
- l. Inspect, clean, and lubricate weapon IAW TM 9-1005-201-10 paying special attention to the chamber and bore, ensuring all CCMCK marking compound is removed.

- m. Before Turn-in of CCMCK Weapon Conversion Kit, thoroughly clean all components with CLP. Use a suitable cloth to clean any dirt, debris, carbon deposits, or marking compound.

4.5 REINSTALL M249 SERVICE BOLT AND EJECTOR BLADE.



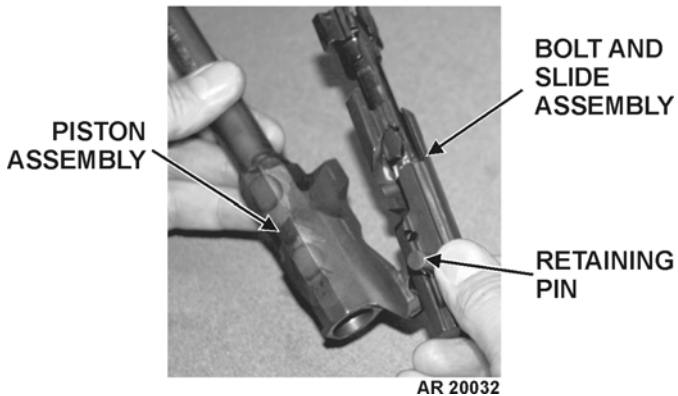
To prevent personnel injury, **DO NOT** interchange service bolts between weapons. Take appropriate steps to ensure that the same service bolt is put back in the weapon from which it was removed.

- a. Position cartridge ejector end of M249 service ejector blade assembly to the front of the receiver and position hooked end of ejector clip behind ejector blade.

- b. Install ejector pin into hole in left side of receiver, compress short leg of ejector clip, and install ejector blade assembly in receiver recess.



- c. Place M249 service bolt and slide assembly onto piston assembly. Align holes in both and push IN retaining pin to secure them together.



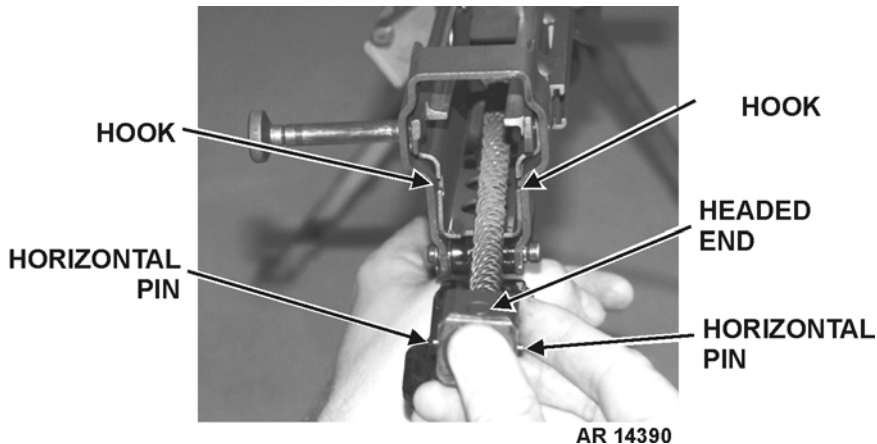
- d. Put bolt into receiver with feed cover open. Locate the piston into the rear of the gas cylinder. Press the trigger so the sear does not prevent bolt from going forward.

CAUTION

Improper assembly of the transfer mechanism can cause damage to the receiver and/or the assembly itself. If the horizontal pins of the transfer assembly are not placed in the hooks inside the receiver, when the buttstock is pivoted in the UP position for pinning, the receiver hooks can be bent.

Ensure that headed end of vertical pin in transfer mechanism assembly is up (on top). If horizontal pins of transfer assembly are rotated to a vertical position and bottom pin is hooked into the lightening hole in bottom of receiver, the pin can be sheared, damaged or lost when the weapon is fired.

- e. Hold pistol grip with one hand. Use other hand to place return rod and transfer mechanism assembly, with headed end UP, into the housing in the rear of the piston. Use thumb to press IN and DOWN on the rear of the return rod and transfer mechanism assembly until both horizontal pins are positioned in the receiver hooks.



- f. Pivot buttstock and buffer assembly UPWARD into position and push upper retaining pin to the RIGHT to secure. Check to ensure bolt is fully FORWARD.



- g. Close cover assembly.
- h. Perform function check IAW TM 9-1005-201-10. The weapon is now converted back to service use.

THIS PAGE INTENTIONALLY LEFT BLANK

CHAPTER 5

OPERATOR INSTRUCTIONS FOR M9 PISTOL

WARNING

Before performing any conversion procedures, ensure weapon is clear/unloaded.

Minimum engagement distance when using CCMCK marking ammunition in converted weapons is 5 meters (16.4 ft). Personnel injury may occur if shots are taken at less than 5 meters (16.4 ft).

To prevent serious injury, **NO** head shots will be taken by any participant.

CAUTION

Although the design of the CCMCK Weapon Conversion System prevents the firing of service ammunition, loading of service ammunition into a converted weapon may cause weapon damage.

5.1 REMOVE M9 SERVICE BARREL.

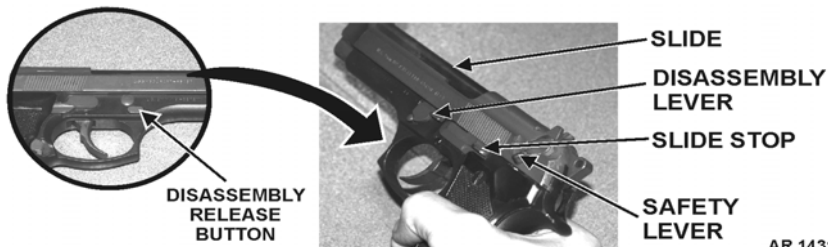
- a. Point weapon in a safe direction. Clear/unload weapon IAW TM 9-1005-317-10.

- b. Allow slide to return fully FORWARD.

CAUTION

Ensure decocking/safety lever is on SAFE (down) position before disassembly and reassembly of M9 Pistol.

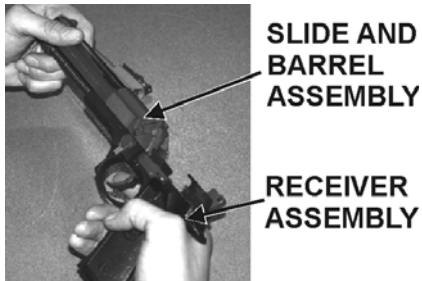
- c. Hold pistol in the right hand with muzzle slightly elevated. With forefinger of right hand, press disassembly release button, and with thumb of left hand, rotate disassembly lever DOWNWARD until it stops.



CAUTION

DO NOT allow hammer to fall with full force by pulling the trigger when the slide is removed as damage to the receiver will occur. If necessary, the hammer should be manually lowered.

- d. Pull the slide and barrel assembly FORWARD and remove. Set receiver assembly aside.



AR 14315

WARNING

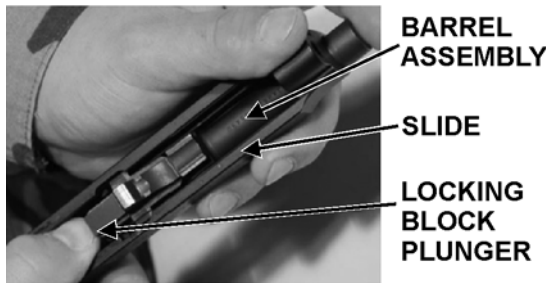
Wear approved goggles and use care when removing recoil spring and spring guide. Due to the amount of compression, assembly will be released under spring tension and could cause injury to personnel or become damaged or lost.

- e. Slightly compress recoil spring and spring guide. Allow recoil spring to expand slowly and, at the same time, lift and remove recoil spring and spring guide from slide recoil housing. Set recoil spring and spring guide aside.



AR 14316

- f. Push IN on locking block plunger while pushing M9 barrel assembly slightly FORWARD. Lift and remove barrel assembly from slide. Set M9 service barrel aside.

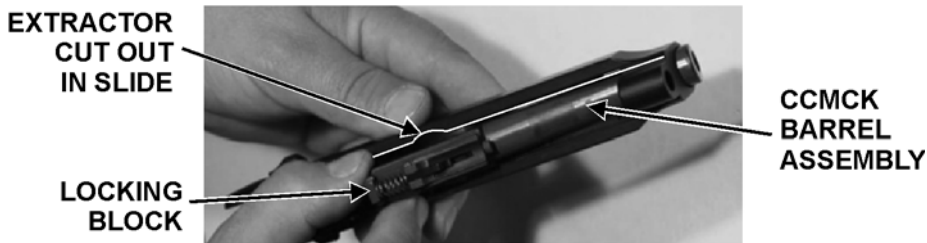


AR 14317

5.2 INSTALL CCMCK M9 CONVERSION KIT.

- a. Ensure slide assembly, recoil spring, recoil spring guide, and receiver assembly are inspected, cleaned and **lightly** lubricated with CLP IAW TM 9-1005-317-10.

- b. Ensure CCMCK barrel assembly is cleaned and lightly lubricated with CLP and bore and chamber area are cleaned with CLP and wiped dry. Use a suitable cloth if needed.
- c. Grasp slide with bottom facing UP.
- d. Insert muzzle of blue CCMCK barrel assembly into forward open end of slide. At the same time, lower rear of CCMCK barrel assembly by aligning extractor cutout with extractor. Ensure barrel assembly is fully seated on lip inside slide.



AR 14318

CAUTION

During spring insertion, spring tension must be maintained until spring guide is fully seated onto the cutaway on the locking block.

- e. Insert end of recoil spring and recoil spring guide into slide recoil spring housing. At the same time, compress recoil spring and lower spring guide until fully seated onto locking block cutaway.



AR 14319

CAUTION

Be sure hammer is uncocked and firing pin block lever is in the DOWN position.

DO NOT pull trigger while placing slide onto receiver.

Ensure decocking/safety lever is on SAFE (down) position before disassembly and reassembly of M9 Pistol.

- f. Check to ensure hammer is uncocked and firing pin block lever is in the DOWN position. If hammer is cocked, manually lower the hammer.
- g. Grasp slide and barrel assembly with sights UP and align slide onto receiver assembly guide rails.



AR 14320

- h. Push until rear of slide is a short distance beyond rear of receiver assembly and hold. At the same time, rotate disassembly lever UPWARD to lock it in place. A click indicates a positive lock.



- i. Perform function check IAW TM 9-1005-317-10.
- j. The weapon is now converted to use CCMCK marking ammunition.
- k. Go to Chapter 2, Section III, Safety Equipment, to put on mandatory safety equipment required for CCMCK training.

5.3 LOAD CCMCK M9 MARKING AMMUNITION.

A rectangular icon with a thick black border and the word "CAUTION" in bold, black, uppercase letters centered inside.

To prevent damage to CCMCK marking ammunition, **DO NOT** load more than 10 CCMCK marking cartridges in the magazine of the M9 Pistol.

Projectiles may break or become lodged in the bore or misfeeds may occur if CCMCK marking ammunition is not properly loaded into the magazine, firmly inserted into the weapon, or if projectiles are skewed or loose at time of loading or handling.

To prevent weapon jams, after firing approximately 250 CCMCK marking cartridges, the weapon must be cleaned and lubricated, paying special attention to the chamber and bore area.

Use extreme care when handling and loading CCMCK marking ammunition; marking ammunition is more susceptible to damage than service ammunition. **DO NOT** exert pressure on projectile as damage may occur. Damaged projectiles can cause bullet-in-bore and jammed weapons. **DO NOT** reuse CCMCK marking ammunition that has been jammed in a weapon.

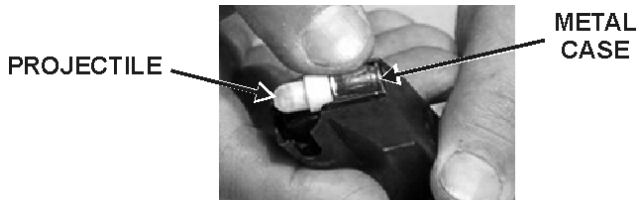
Ensure all weapon magazines are serviceable before loading CCMCK ammunition. **DO NOT** use a damaged magazine. An unserviceable magazine can cause damaged CCMCK projectiles.

- a. Ammunition is **NOT** interchangeable. See table 5-1 for approved CCMCK marking ammunition.

Table 5-1. Approved Marking Ammunition for CCMCK Conversion Kit Used in M9 Pistol.

MARKING AMMO TYPE	NSN
CARTRIDGE, 9MM, PRACTICE: M1041, BLUE	1305-01-536-7721
CARTRIDGE, 9MM, PRACTICE: M1041, RED	1305-01-536-7722
CARTRIDGE, 9MM, PRACTICE: M1041, YELLOW	1305-01-536-7720

- b. Carefully load M9 Pistol with CCMCK approved marking ammunition IAW TM 9-1005-317-10. Using thumb, push **DOWN** on metal case of cartridge being loaded so that it is seated on the sabot portion of the previously loaded cartridge. **DO NOT** exert pressure on projectile. Ensure projectiles do not become dislodged or damaged.

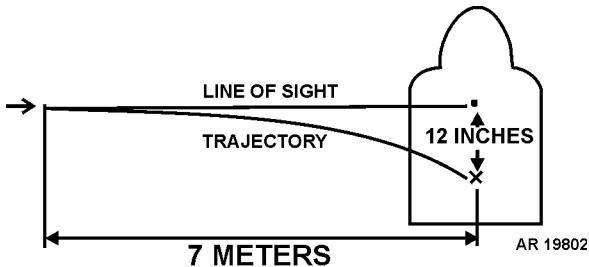


AR14786

NOTE

Once the authorized CCMCK marking ammunition has been loaded into a converted weapon, it will cycle the weapon and function in the same manner as service “live” ammunition.

When fired from the M9, the 9mm CCMCK marking ammunition may drop up to 12-inches from line-of-sight at 7 meters (approx 23 ft).



5.4 REMOVE CCMCK M9 CONVERSION KIT.

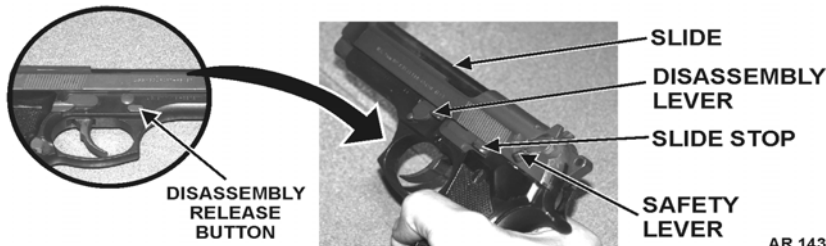
- Point weapon in a safe direction. Clear/unload weapon IAW TM 9-1005-317-10.

- b. Allow slide to return fully FORWARD.

CAUTION

Ensure decocking/safety lever is on SAFE (down) position before disassembly and reassembly of M9 Pistol.

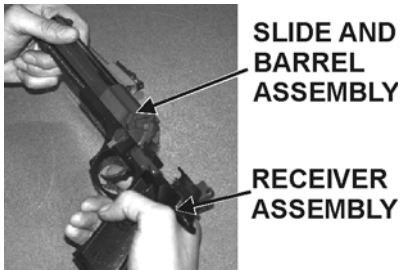
- c. Hold pistol in right hand with muzzle slightly elevated. With forefinger of right hand, press disassembly release button and, with thumb of left hand, rotate disassembly lever DOWNWARD until it stops.



CAUTION

DO NOT allow hammer to fall with full force by pulling the trigger when the slide is removed as damage to receiver will occur. If necessary, the hammer should be manually lowered.

- d. Pull slide and barrel assembly FORWARD and remove. Set receiver assembly aside.



AR 14315

WARNING

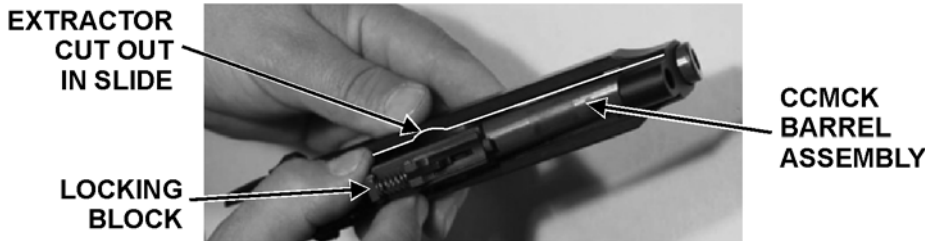
Wear approved goggles and use care when removing recoil spring and spring guide. Due to the amount of compression, assembly will be released under spring tension and could cause injury to personnel or become damaged or lost.

- e. Slightly compress recoil spring and spring guide. Allow recoil spring to expand slowly and, at the same time, lift and remove recoil spring and spring guide from slide recoil housing. Set recoil spring and spring guide aside.



AR 14316

- f. Push in on locking block plunger while pushing CCMCK barrel assembly slightly FORWARD. Lift and remove CCMCK barrel assembly from slide. Set barrel aside.

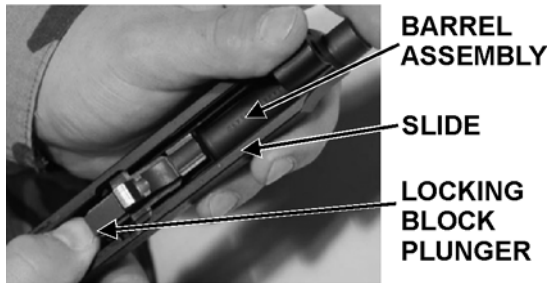


AR 14318

- g. Inspect, clean and lubricate weapon components IAW TM 9-1005-317-10, ensuring all marking compound is removed.
- h. Before Turn-in of CCMCK Weapon Conversion Kit, thoroughly clean all CCMCK components with CLP. Use a suitable cloth to wipe any dirt, debris, carbon deposits, or marking compound.

5.5 REINSTALL M9 SERVICE BARREL.

- a. Grasp slide with bottom facing UP.
- b. Insert muzzle of M9 service barrel into forward open end of slide. At the same time, lower rear of M9 service barrel by aligning extractor cutout with extractor.



AR 14317

CAUTION

During spring insertion, spring tension must be maintained until spring guide is fully seated onto the cutaway on the locking block.

- c. Insert end of recoil spring and recoil spring guide into slide recoil spring housing. At the same time, compress recoil spring and lower spring guide until fully seated onto locking block cutaway.



AR 14319

CAUTION

Be sure hammer is uncocked and firing pin block lever is in the DOWN position.

DO NOT pull trigger while placing slide onto receiver.

Ensure decocking/safety lever is in SAFE (down) position before disassembly and reassembly of M9 Pistol.

- d. Check to ensure hammer is uncocked and firing pin block lever is in the DOWN position. If hammer is cocked, manually lower the hammer.
- e. Grasp slide and barrel assembly with sights UP and align slide onto receiver assembly guide rails.



AR 14320

- f. Push until rear of slide is a short distance beyond rear of receiver assembly and hold. At the same time, rotate disassembly lever UPWARD to lock it in place. A click indicates a positive lock.



- g. Perform function check IAW TM 9-1005-317-10.
- h. The weapon is now converted back to service use.

CHAPTER 6

OPERATOR INSTRUCTIONS FOR M11 PISTOL

WARNING

Before performing any conversion procedures, ensure weapon is clear/unloaded.

Minimum engagement distance when using CCMCK marking ammunition in converted weapons is 5 meters (16.4 ft). Personnel injury may occur if shots are taken at less than 5 meters (16.4 ft).

To prevent serious injury, **NO** head shots will be taken by any participant.

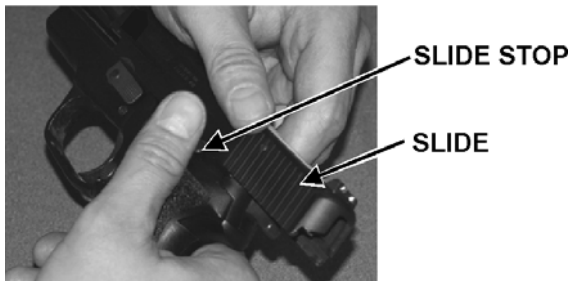
CAUTION

Although the design of the CCMCK Weapon Conversion System prevents the firing of service ammunition, loading of service ammunition into a converted weapon may cause weapon damage.

6.1 REMOVE M11 SERVICE BARREL.

- a. Point weapon in a safe direction. Clear/unload weapon IAW TM 9-1005-325-10.

- b. Hold pistol in right hand with muzzle slightly elevated. Push slide REARWARD and hold. Push slide stop UP to lock it in place.



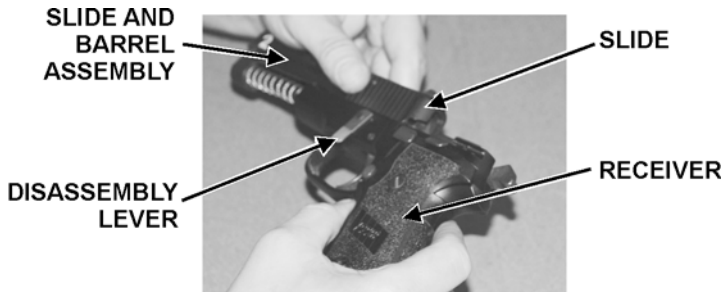
AR 14243

- c. Use thumb to rotate disassembly lever **DOWN** until it stops.

CAUTION

DO NOT allow the hammer to fall with full force by pulling the trigger when the slide is removed as damage to the receiver will occur.

- d. To remove the slide and barrel assembly, push slide slightly **REARWARD** releasing the slide stop, and then pull **FORWARD** and remove. Set slide assembly down.
- e. Press decocking lever **DOWN** to release the hammer. Set receiver down.

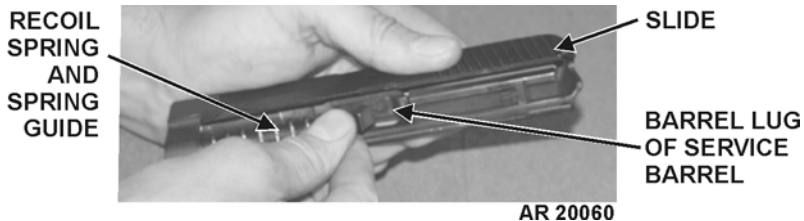


AR 14242

WARNING

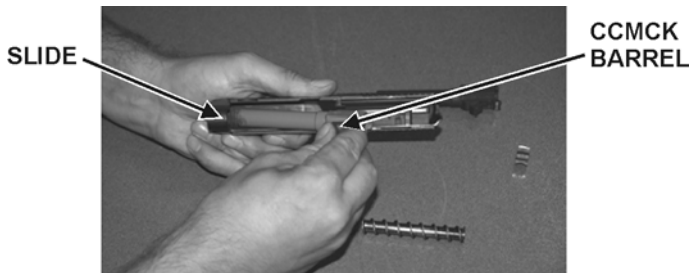
Wear approved goggles and use care when removing recoil spring and spring guide. Due to the amount of compression, assembly will be released under spring tension and could cause injury to personnel or become damaged or lost.

- f. Slightly compress recoil spring and spring guide. Allow recoil spring to expand slowly and, at the same time, lift and remove recoil spring and spring guide from the slide recoil housing. Set recoil spring and spring guide aside.
- g. Lift and remove service barrel from slide by the barrel lug. Set service barrel aside.



6.2 INSTALL CCMCK M11 CONVERSION KIT.

- a. Ensure that slide assembly, recoil spring, recoil spring guide, and receiver assembly are inspected, cleaned, and lightly lubricated with CLP IAW TM 9-1005-325-10 before installing conversion kit.
- b. Ensure CCMCK barrel is cleaned and lightly lubricated with CLP and bore and chamber area are cleaned with CLP and wiped dry. Use a suitable cloth, if needed.
- c. Grasp slide with bottom facing UP.
- d. Hold blue CCMCK barrel by barrel lug and insert muzzle into forward open end of slide. At the same time, lower rear of CCMCK barrel into slide.

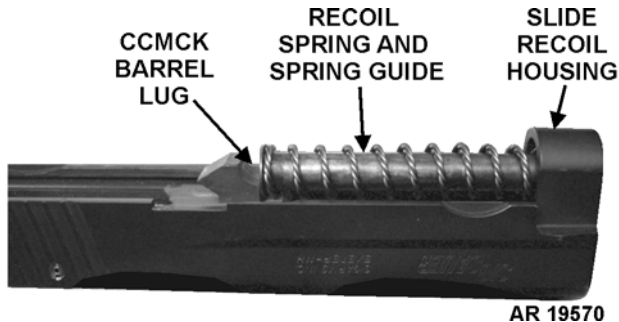


AR 14245

CAUTION

During spring insertion, spring tension must be maintained until spring guide is fully seated onto the cutaway on the barrel lug to prevent damage or loss of spring.

- e. Insert end of recoil spring and recoil spring guide into slide recoil housing. At the same time, compress recoil spring and lower the spring guide until fully seated in front of CCMCK barrel lug. Set slide assembly aside.

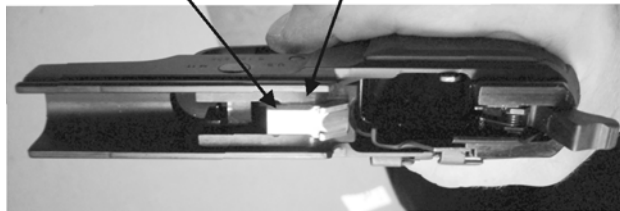


f. Place curved end of CCMCK training feed ramp on locking insert on frame of pistol as shown below.



**CURVED END
OF CCMCK
FEED RAMP**

AR 20033



**CURVED END
OF CCMCK
FEED RAMP**

**LOCKING
INSERT**

AR 20031

CAUTION

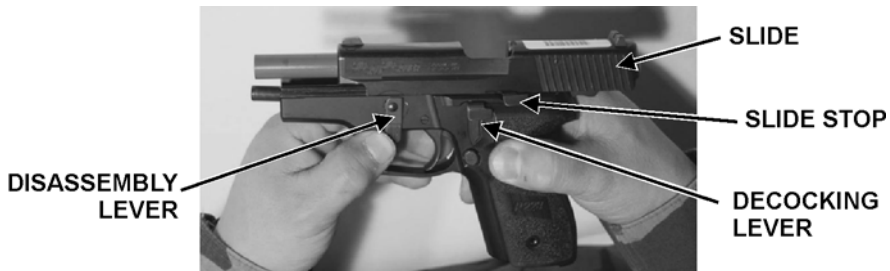
CCMCK training feed ramp must remain in the correct position during reassembly.

- g. Grasp slide and barrel assembly with sights UP and align slide onto receiver assembly guide rails ensuring that the CCMCK training feed ramp remains in place on the locking insert.



AR 14248

- h. Push slide to rear and hold. Push slide stop UP to lock slide in place.
- i. Holding weapon in right hand, use left thumb to rotate disassembly lever UPWARD until it stops. Press DOWN slide stop to release slide.



AR 19574

- j. Press decocking lever DOWN to release the hammer.
- k. Perform Function Check IAW TM 9-1005-325-10.
- l. The weapon is now converted to use CCMCK marking ammunition.
- m. Go to Chapter 2, Section III, Safety Equipment, to put on mandatory safety equipment required for CCMCK training.

6.3 LOAD CCMCK M11 MARKING AMMUNITION.

A rectangular box with a thick black border containing the word "CAUTION" in bold, black, uppercase letters.

To prevent damage to CCMCK marking ammunition, **DO NOT** load more than 10 CCMCK marking cartridges in the magazine of the M11 Pistol.

Projectiles may break or become lodged in the bore or misfeeds may occur if CCMCK marking ammunition is not properly loaded into the magazine, firmly inserted into the weapon, or if projectiles are skewed or loose at time of loading or handling.

To prevent weapon jams, after firing approximately 250 CCMCK marking cartridges, the weapon must be cleaned and lubricated, paying special attention to the chamber and bore area.

Use extreme care when handling and loading CCMCK marking ammunition; marking ammunition is more susceptible to damage than service ammunition. **DO NOT** exert pressure on projectile as damage may occur. Damaged projectiles can cause bullet-in-bore and jammed weapons. **DO NOT** reuse CCMCK marking ammunition that has been jammed in a weapon.

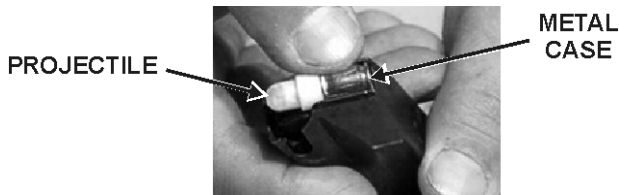
Ensure all weapon magazines are serviceable before loading CCMCK ammunition. **DO NOT** use a damaged magazine. An unserviceable magazine can cause damaged CCMCK projectiles.

- a. Ammunition is **NOT** interchangeable. See table 6-1 for approved CCMCK marking ammunition.

Table 6-1. Approved Marking Ammunition for CCMCK Conversion Kit Used in M11 Pistol.

MARKING AMMO TYPE	NSN
CARTRIDGE, 9MM, PRACTICE: M1041, BLUE	1305-01-536-7721
CARTRIDGE, 9MM, PRACTICE: M1041, RED	1305-01-536-7722
CARTRIDGE, 9MM, PRACTICE: M1041, YELLOW	1305-01-536-7720

- b. Carefully load M11 magazine with CCMCK approved marking ammunition IAW TM 9-1005-325-10. Using thumb, push **DOWN** on metal case of cartridge being loaded so that it is seated on the sabot portion of previously loaded cartridge. **DO NOT** exert pressure on projectile. Ensure projectiles do not become dislodged or damaged.

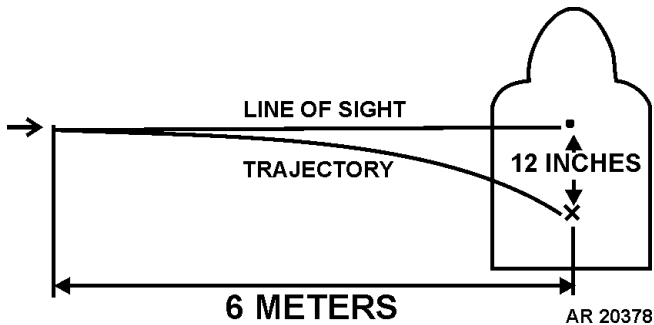


AR14786

NOTE

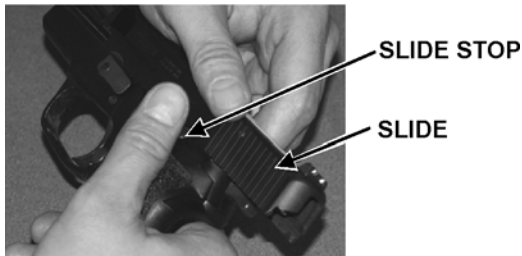
Once authorized CCMCK marking ammunition has been loaded into a converted weapon, it will cycle the weapon and function in the same manner as service “live” ammunition.

When fired from the M11, the 9mm CCMCK marking ammunition may drop up to 12 inches from line-of-sight at 6 meters (approx 20 ft).



6.4 REMOVE CCMCK M11 CONVERSION KIT.

- a. Point weapon in a safe direction. Clear/unload weapon. IAW TM 9-1005-325-10.
- b. Hold pistol in right hand with muzzle slightly elevated. Push slide REARWARD and hold. Push slide stop UP to lock it in place.



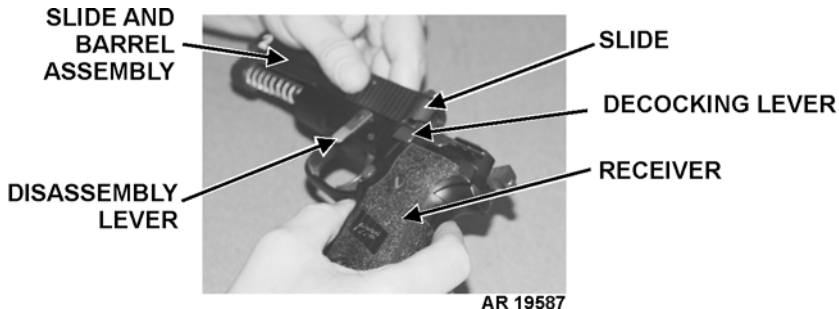
AR 14243

- c. Use thumb to rotate disassembly lever **DOWN** until it stops.

CAUTION

DO NOT allow the hammer to fall with full force by pulling the trigger when the slide is removed as damage to the receiver will occur.

- d. To remove the slide and barrel assembly, push slide slightly **REARWARD** releasing the slide stop, and then pull **FORWARD** and remove. Set slide and barrel assembly aside.
- e. Press decocking lever down to release the hammer.



- f. Remove CCMCK feed ramp and set it aside.
- g. Set receiver aside.



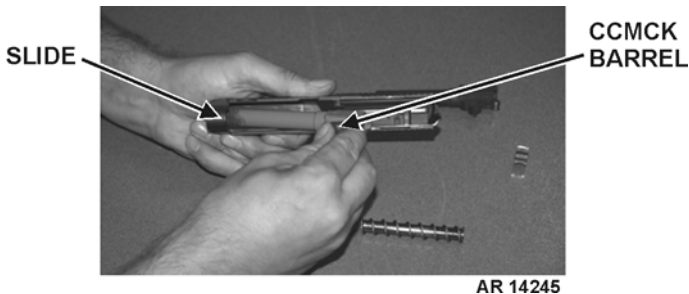
Wear approved goggles and use care when removing recoil spring and spring guide. Due to the amount of compression, assembly will be released under spring tension and could cause injury to personnel or become damaged or lost.

- h. Slightly compress recoil spring and spring guide. Allow recoil spring to expand slowly and, at the same time, lift and remove recoil spring and spring guide from slide recoil housing. Set recoil spring and spring guide aside.



AR 14246

- i. Lift and remove blue CCMCK barrel from slide by the barrel lug. Set CCMCK barrel aside.



- j. Inspect, clean and lubricate weapon components IAW TM 9-1005-325-10 to ensure all CCMCK marking compound is removed.
- k. Before Turn-in of CCMCK Weapon Conversion Kit, thoroughly clean all CCMCK components with CLP. Use a suitable cloth to wipe any dirt, debris, carbon deposits, or marking compound.

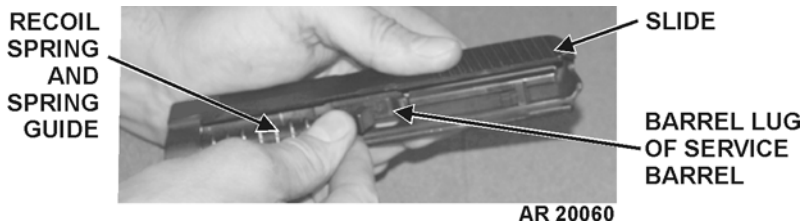
6.5 REINSTALL M11 SERVICE BARREL.

- a. Grasp slide with bottom facing UP. With other hand, grasp M11 service barrel by the barrel lug.
- b. Insert muzzle of M11 service barrel into forward open end of slide. At the same time, lower rear of barrel into slide.

CAUTION

During spring insertion, spring tension must be maintained until spring guide is fully seated onto the cutaway on the barrel lug to prevent damage or loss of spring.

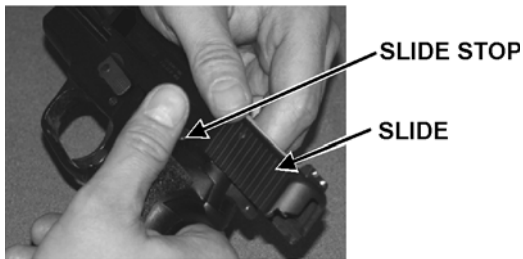
- c. Insert end of recoil spring and recoil spring guide into slide recoil housing. At the same time, compress recoil spring and lower the spring guide until fully seated onto barrel lug.



- d. Grasp slide and barrel assembly with sights UP and align slide onto receiver assembly guide rails.



- e. Push slide to rear and hold. Push slide stop UP to lock slide in place.
- f. Holding weapon in right hand, use left thumb to rotate disassembly lever UPWARD until it stops. Press slide stop DOWN to release the slide.



AR 14243

- g. Press decocking lever DOWN to release the hammer.
- h. Perform function check IAW TM 9-1005-325-10.
- i. The weapon is now converted back to service use.

THIS PAGE INTENTIONALLY LEFT BLANK

CHAPTER 7

CCMCK TROUBLESHOOTING PROCEDURES

SECTION I INTRODUCTION

This chapter contains tables listing the malfunctions, tests or inspections, and corrective actions required to return the CCMCK to normal operation. Perform the test, inspections, and corrective actions in the order they appear in the tables.

These tables cannot list all malfunctions that may occur, or all tests or inspections and corrective actions. If the equipment malfunction is not listed or is not corrected by listed corrective actions, notify and return to Field Maintenance. If common malfunctions that are not a direct result of conversion occur, refer to the appropriate operator's manual for that weapon.



Before performing any Troubleshooting Procedures, ensure weapon is clear/unloaded.

SECTION II TROUBLESHOOTING PROCEDURES FOR M16A2/A3/A4 RIFLES AND M4/M4A1 CARBINES

Table 7-1. Troubleshooting Procedures for M16A2/A3/A4 Rifles and M4/M4A1 Carbines .

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. Rifle/Carbine does not fire CCMCK marking ammunition.	1. Check primer for light/no indentation. 2. Check if firing pin is damaged. 3. Check firing pin and firing pin recess for debris, marking compound or excess oil. 4. Check for dirty or damaged CCMCK ammunition.	Return CCMCK bolt and carrier assembly to Field Maintenance. Return CCMCK bolt and carrier assembly to Field Maintenance. Clean IAW Chapter 2. Clean or replace ammunition.
2. Bolt does not open and/or cycle in the weapon.	Check bolt for dirt and damage.	1. Clean bolt IAW Chapter 2. 2. Return CCMCK bolt and carrier assembly to Field Maintenance.

Table 7-1. Troubleshooting Procedures for M16A2/A3/A4 Rifles and M4/M4A1 Carbines - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
3. CCMCK marking ammunition does not feed.	<ol style="list-style-type: none"> 1. Check magazine for misaligned CCMCK marking ammunition. 2. Check for dirty or damaged CCMCK marking ammunition. 3. Check magazine for damage. 	<p>Ensure marking ammunition is loaded IAW Chapter 3.</p> <p>Clean or replace marking ammunition.</p> <p>Replace magazine.</p>
4. CCMCK marking ammunition does not chamber.	<ol style="list-style-type: none"> 1. Check for dirty or damaged CCMCK marking ammunition. 2. Check chamber for debris and CCMCK marking ammunition. 	<p>Clean or replace marking ammunition.</p> <p>Clean chamber and bore IAW Chapter 2.</p>
5. Bolt does not seat.	<p>Check bolt and carrier assembly for dirt, corrosion, carbon buildup, marking compound and damage.</p>	<ol style="list-style-type: none"> 1. Clean IAW Chapter 2. 2. If problem still exists, return to Field Maintenance.
6. Cartridge does not extract.	<ol style="list-style-type: none"> 1. Check for damaged CCMCK marking ammunition. 2. Check extractor spring function. 	<p>Remove damaged marking ammunition from chamber IAW TM 9-1005-319-10.</p> <p>Return CCMCK bolt and carrier assembly to Field Maintenance.</p>

Table 7-1. Troubleshooting Procedures for M16A2/A3/A4 Rifles and M4/M4A1 Carbines - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
7. Bolt carrier hangs up.	<p style="text-align: center;"><u>WARNING</u></p> <p>Point weapon in a safe direction. Keep clear of muzzle.</p> <p>Check for round(s) jammed between bolt and charging handle and/or double feed.</p>	<p>1. Remove magazine.</p> <p style="text-align: center;"><u>WARNING</u></p> <p>If round is removed, bolt is under spring pressure and may cause personnel injury.</p> <p>2. Remove round(s). If round(s) cannot be removed, notify Field Maintenance.</p>
8. CCMCK marking projectile lodged in bore.	<p>Unload/clear weapon and inspect bore for stuck projectile.</p>	<p>1. Rod and clean bore to remove stuck projectiles IAW Chapter 2.</p> <p>2. If projectile(s) cannot be removed, notify Field Maintenance.</p>

SECTION III TROUBLESHOOTING PROCEDURES FOR M249 SQUAD AUTOMATIC WEAPON (SAW)

Table 7-2. Troubleshooting Procedures for M249 SAW .

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. CCMCK marking ammunition does not feed.	<ol style="list-style-type: none"> 1. Check for damaged or missing feed tray adapter. 2. Check for dirty or damaged CCMCK marking ammunition. 3. Check for obstruction in receiver. 4. Check for long/short rounds. 5. Check for inverted link belt. 6. Check for damaged, weak, or worn CCMCK components. 	<p>Replace/install feed tray adapter IAW Chapter 4.</p> <p>Clean or replace ammunition IAW Chapter 2.</p> <p>Clean IAW TM 9-1005-201-10.</p> <p>Align rounds in link belt.</p> <p>Reinstall link belt with open end of link facing down.</p> <p>Return CCMCK components to Field Maintenance.</p>

Table 7-2. Troubleshooting Procedures for M249 SAW - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
2. CCMCK marking ammunition double feeds.	1. Check for dirty CCMCK marking ammunition. 2. Check that chamber is clean. 3. Check for broken extractor/spring.	Clean IAW Chapter 2. Clean chamber IAW Chapter 2. Return CCMCK components to Field Maintenance.
3. CCMCK marking ammunition does not chamber.	1. Check for dirty or damaged CCMCK marking ammunition. 2. Check receiver for debris and marking compound. 3. Check that chamber is clean.	Clean or replace ammunition. Clean receiver IAW Chapter 2. Clean chamber IAW Chapter 2.

Table 7-2. Troubleshooting Procedures for M249 SAW - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
4. Weapon does not fire CCMCK ammunition.	<ol style="list-style-type: none"><li data-bbox="593 174 1055 210">1. Check for defective round.<li data-bbox="593 256 1055 324">2. Check primer for light/no indentation.<li data-bbox="593 339 1055 407">3. Check that link belt is loaded properly.<li data-bbox="593 422 1055 490">4. Check for faulty CCMCK ammunition.<li data-bbox="593 505 1055 572">5. Check if firing pin is broken or damaged.	<p data-bbox="1072 174 1514 241">Eject round and attempt to fire again.</p> <p data-bbox="1072 256 1514 324">Return CCMCK components to Field Maintenance.</p> <p data-bbox="1072 339 1514 407">Remove and install link belt properly.</p> <p data-bbox="1072 422 1514 490">Clear weapon. Replace ammunition.</p> <p data-bbox="1072 505 1514 572">Return CCMCK components to Field Maintenance.</p>

Table 7-2. Troubleshooting Procedures for M249 SAW - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
5. Cartridge does not extract.	<ol style="list-style-type: none"> 1. Check for damaged CCMCK ammunition. 2. Check for stuck cartridge case. 3. Check if chamber/bolt and slide assembly are dirty. 4. Check for frozen or damaged extractor/spring. 	<p>Remove damaged CCMCK ammunition from chamber IAW TM 9-1005-201-10.</p> <p>Return to Field Maintenance.</p> <ol style="list-style-type: none"> 1. Clean chamber and/or clean bolt and slide assembly IAW Chapter 2. 2. If problem still exists, return to Field Maintenance. <p>Return CCMCK components to Field Maintenance.</p>
6. Cartridge does not eject/short recoil.	<ol style="list-style-type: none"> 1. Check if chamber or bolt and slide assembly are dirty. 2. Check for damaged ejector/clip. 3. Check for stuck cartridge case. 	<p>Clean and lubricate bolt and slide assembly IAW Chapter 2.</p> <p>Return CCMCK components to Field Maintenance.</p> <p>Return to Field Maintenance.</p>

Table 7-2. Troubleshooting Procedures for M249 SAW - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
7. Weapon stops firing CCMCK ammunition.	<ol style="list-style-type: none"> 1. Check for defective round in chamber. 2. Check primer for light/no indentation. 3. Check if bolt is jammed in barrel socket. 	<p>Eject round and attempt to fire again.</p> <ol style="list-style-type: none"> 1. Eject round. 2. If problem continues, return to Field Maintenance <p>Return to Field Maintenance.</p>
8. CCMCK projectile(s) lodged in bore.	<p>Unload/clear weapon and inspect bore for stuck projectile.</p>	<ol style="list-style-type: none"> 1. Rod and clean bore to remove stuck projectile(s). 2. If projectile(s) cannot be removed, notify Field Maintenance.

SECTION IV TROUBLESHOOTING PROCEDURES FOR M9 PISTOL

Table 7-3. Troubleshooting Procedures for M9 Pistol .

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. CCMCK ammunition does not feed.	1. Check for dirty or damaged CCMCK ammunition.	Clean or replace ammunition IAW Chapter 2.
	2. Check magazine for misaligned CCMCK ammunition.	Ensure ammunition is loaded IAW Chapter 5.
2. CCMCK ammunition does not chamber.	1. Check for dirty or damaged CCMCK ammunition.	Clean or replace ammunition IAW Chapter 2.
	2. Check for bore obstruction.	Clean chamber and bore IAW TM 9-1005-317-10.
	3. Check CCMCK barrel for damage or broken parts.	Return CCMCK barrel to Field Maintenance.

Table 7-3. Troubleshooting Procedures for M9 Pistol - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
3. Slide does not lock fully forward.	<ol style="list-style-type: none"> 1. Check for bore obstruction. 2. Check for dirty or damaged ammunition. 3. Check CCMCK barrel for damage or broken parts. 	<p>Clean chamber and bore IAW TM 9-1005-317-10.</p> <p>Clean or replace ammunition IAW Chapter 2.</p> <p>Return CCMCK barrel to Field Maintenance.</p>
4. Pistol does not fire CCMCK ammunition.	<ol style="list-style-type: none"> 1. Check for bore obstruction. 2. Check for dirty or damaged CCMCK ammunition. 3. Check CCMCK barrel for damage or broken parts. 	<p>Clean chamber and bore IAW TM 9-1005-317-10.</p> <p>Clean or replace ammunition IAW Chapter 2.</p> <p>Return CCMCK barrel to Field Maintenance.</p>
5. Slide does not unlock.	<ol style="list-style-type: none"> 1. Check for bore obstruction. 2. Check for dirty or damaged CCMCK ammunition. 3. Check CCMCK barrel for damage or broken parts. 	<p>Clean chamber and bore IAW TM 9-1005-317-10.</p> <p>Clean or replace ammunition IAW Chapter 2.</p> <p>Return CCMCK barrel to Field Maintenance.</p>

Table 7-3. Troubleshooting Procedures for M9 Pistol - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
6. Cartridge does not extract.	1. Check for bore obstruction. 2. Check for damaged ammunition.	Clean chamber and bore IAW TM 9-1005-317-10. Remove damaged ammunition from chamber IAW TM 9-1005-317-10.

SECTION V TROUBLESHOOTING PROCEDURES FOR M11 PISTOL

Table 7-4. Troubleshooting Procedures for M11 Pistol .

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. CCMCK ammunition does not feed.	<ol style="list-style-type: none"> 1. Check if feed ramp is missing. 2. Inspect feed ramp for damage. 3. Check if feed ramp is installed correctly. 4. Check for dirty or damaged CCMCK ammunition. 5. Check CCMCK barrel for damage or broken parts. 6. Check magazine for misaligned CCMCK ammunition. 	<p>Return CCMCK components to Field Maintenance.</p> <p>Return CCMCK components to Field Maintenance.</p> <p>Properly install feed ramp.</p> <p>Clean or replace ammunition IAW Chapter 2.</p> <p>Return CCMCK barrel to Field Maintenance.</p> <p>Ensure ammunition is loaded IAW Chapter 6.</p>

Table 7-4. Troubleshooting Procedures for M11 Pistol - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
2. CCMCK ammunition does not chamber.	<ol style="list-style-type: none"> 1. Check for bore obstruction. 2. Check for dirty or damaged CCMCK ammunition. 3. Check CCMCK components for damaged or broken parts. 	<p>Clean chamber and bore IAW TM 9-1005-325-10.</p> <p>Clean or replace ammunition IAW Chapter 2.</p> <p>Return CCMCK components to Field Maintenance.</p>
3. Slide does not lock fully forward.	<ol style="list-style-type: none"> 1. Check for dirty or damaged CCMCK ammunition. 2. Check for bore obstruction. 3. Check if feed ramp is installed correctly. 4. Check CCMCK components for damaged or broken parts. 	<p>Clean or replace ammunition IAW Chapter 2.</p> <p>Clean chamber and bore IAW TM 9-1005-325-10.</p> <p>Properly install feed ramp.</p> <p>Return CCMCK components to Field Maintenance.</p>

Table 7-4. Troubleshooting Procedures for M11 Pistol - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
4. Pistol does not fire CCMCK ammunition.	1. Check for bore obstruction.	Clean chamber and bore IAW TM 9-1005-325-10.
	2. Check for dirty or damaged CCMCK ammunition.	Clean or replace ammunition IAW Chapter 2.
	3. Check CCMCK components for damage or broken parts.	Return CCMCK components to Field Maintenance.
5. Slide does not unlock.	1. Check for bore obstruction.	Clean chamber and bore IAW TM 9-1005-325-10.
	2. Check for dirty or damaged CCMCK ammunition.	Clean or replace ammunition IAW Chapter 2.
	3. Check CCMCK components for damage or broken parts.	Return CCMCK components to Field Maintenance.
6. Cartridge does not extract.	1. Check for bore obstruction.	Clean chamber and bore IAW TM 9-1005-325-10.
	2. Check for dirty or damaged CCMCK ammunition.	Clean or replace ammunition IAW Chapter 2.

THIS PAGE INTENTIONALLY LEFT BLANK

CHAPTER 8 CLEANING SAFETY EQUIPMENT AND PERSONAL HYGIENE

SECTION I CLEANING SAFETY EQUIPMENT

8.1 CLEAN CCMCK FACE MASK.

BEFORE AND AFTER each use, the CCMCK Face Mask **MUST** be cleaned according to manufacturer's care instructions attached to the item.

8.2 CLEAN ARMY COMBAT UNIFORM (ACU).

Clean ACUs according to manufacturer's care instructions attached to the item.

8.3 CLEAN SUN, WIND AND DUST GOGGLES.

CAUTION

Lenses are made of plastic and will easily scratch if abused. Use care when cleaning.

DO NOT use gasoline or hot water for cleaning lenses.

- a. Wash goggles with water when possible to remove CCMCK marking compound or steam by breathing on them. Wipe with a dry soft cloth or tissue.

b. Keep goggles clean and protect them from hard objects. Lenses are easily scratched.

8.4 CLEAN GLOVES.

Wash gloves with soap and water according to manufacturer's care instructions attached to the item.

8.5 CLEAN ADDITIONAL EQUIPMENT OR CLOTHING.

Any additional clothing, personal protective equipment, or additional equipment that is soiled by CCMCK marking ammunition should be cleaned in accordance with the standard procedures for cleaning that item.

SECTION II PERSONAL HYGIENE



Seek qualified medical care in the event of acute eye contamination, skin irritation, or ingestion of marking compound.

Following exposure/contamination with marking compounds, personnel using CCMCK marking ammunition must follow good personal hygiene practices (i.e., hand washing, laundry/cleaning of contaminated clothing and equipment).

APPENDIX A REFERENCES

A.1 SCOPE.

This appendix lists all Army regulations, forms, pamphlets, and technical manuals referenced in this manual. The publication index (DA Pam 25-30) should be consulted frequently for latest changes or revisions of references given in this appendix and for new publications relating to the material covered in this manual.

A.2 ARMY REGULATIONS.

Malfunctions Involving Ammunition and Explosives	AR 75-1
The Army Safety Program	AR 385-10

A.3 FORMS.

U.S. Army Accident Report	DA Form 285
Recommended Changes to Publications and Blank Forms	DA Form 2028
Product Quality Deficiency Report	SF Form 368

A.4 PAMPHLETS.

Consolidated Index of Army Publications and Forms	DA Pam 25-30
The Army Maintenance Management System (TAMMS) Users Manual.....	DA Pam 750-8

A.5 TECHNICAL MANUALS.

Operator's Manual for Machine Gun, 5.56mm, M249 with Equipment.....	TM 9-1005-201-10
Operator's Manual for Pistol, Semiautomatic, 9mm, M9	TM 9-1005-317-10
Operator's Manual for Rifle, 5.56mm, M16A2 with Equipment; Rifle, 5.56mm, M16A3; Rifle, 5.56mm, M16A4; Carbine, 5.56mm, M4 with Equipment; Carbine, 5.56mm, M4A1.....	TM 9-1005-319-10
Operator's Manual for Pistol, Compact, 9mm, M11; Pistol, Compact, 9mm, M11 with Tritium Sights.....	TM 9-1005-325-10

APPENDIX B EXPENDABLE AND DURABLE ITEMS LIST

SECTION I INTRODUCTION

B.1 SCOPE.

This appendix lists expendable and durable items you will need to operate and maintain the CCMCK. This listing is for information purposes only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

B.2 EXPLANATION OF COLUMNS.

B.2.1 Column (1) - Item Number. This number is assigned to the entry in the listing for reference when required.

B.2.2 Column (2) - Level. This column identifies the lowest level of maintenance that requires the listed item (C = Operator/Crew Maintenance).

B.2.3 Column (3) - National Stock Number. This is the national stock number assigned to the item; use it to request or requisition the item.

B.2.4 Column (4) - Description. Indicates the federal item name and, if required, a description to identify the item. The last line for each item indicates the Commercial and Government Entity Code (CAGEC) in parentheses followed by the part number.

B.2.5 Column (5) - Unit of Measure (U/M)/Unit of Issue (U/I). This measure is expressed by a two-character alphabetical abbreviation (e.g., EA, IN, PR). If the unit of measure differs from the unit of issue as shown in the Army Master Data File (AMDF), requisition the lowest unit of issue that will satisfy your requirements.

SECTION II EXPENDABLE AND DURABLE ITEMS LIST

Expendable and Durable Items List

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) (U/M/ U/I)
1	C	6850-01-526-3487	ANTIFOGGING KIT: OP DROPS, 1/4 OZ BOTTLE AND CLEANING CLOTH (4W867) 40725	EA
2	C	9150-01-102-1473	CLEANER, LUBRICANT AND PRESERVATIVE (CLP): 1/2 OZ BOTTLE (81349) MIL-PRF-63460	OZ
3	C	7920-00-205-1711	RAG, WIPING: 50 LB BALE (80244) 7920-00-205-1711	LB

By Order of the Secretary of the Army:

Official:

Handwritten signature of Joyce E. Morrow in black ink.

JOYCE E. MORROW

*Administrative Assistant to the
Secretary of the Army*

0900808

GEORGE W. CASEY, JR.
*General, United States Army
Chief of Staff*

DISTRIBUTION: To be distributed in accordance with the initial distribution number (IDN) 401253 requirements for TM 9-6920-3700-10.

TM 9-6920-3700-10