## INTRODUCTION TO THE SERVICE RIFLE



#### **LEARNING OBJECTIVES**

Please read the Terminal & Enabling Learning Objectives

# QUESTIONS

#### THE FOUR SAFETY RULES

During combat, you must react quickly, safely, and be mentally prepared to engage targets. To ensure that only the intended target is engaged, you must apply the following safety rules at all times.

#### THE FOUR SAFETY RULES

When you take charge of a rifle in any situation, you must treat the weapon as if it were loaded, determine its condition, and continue applying the safety rules.

#### TREAT EVERY WEAPON AS IF IT WERE LOADED

This rule is intended to prevent unintentional injury to personnel or damage to property from an individual handling or transferring possession of a weapon to another.

#### TREAT EVERY WEAPON AS IF IT WERE LOADED

- Never trust your memory or make assumptions about a weapon's safety status
- Check your weapon for ammunition whenever it has been out of your possession.

#### TREAT EVERY WEAPON AS IF IT WERE LOADED

- Never hand a weapon to anyone without clearing it.
- Whenever you assume control of a weapon from someone, your first action is to clear it, even if you've witnessed it being cleared.

#### TREAT EVERY WEAPON AS IF IT WERE LOADED

- Never move in front of a weapon held by someone else.
- Never engage in or tolerate horseplay with or around weapons.

# NEVER POINT A WEAPON AT ANYTHING YOU DO NOT INTEND TO SHOOT

This rule reinforces the importance of muzzle awareness.

# NEVER POINT A WEAPON AT ANYTHING YOU DO NOT INTEND TO SHOOT

- Always be aware of muzzle direction and your surroundings.
- Be aware of the maximum range of your weapon.

# NEVER POINT A WEAPON AT ANYTHING YOU DO NOT INTEND TO SHOOT

 Never allow the muzzle of your weapon to point at any part of your body.

# KEEP YOUR FINGER STRAIGHT AND OFF THE TRIGGER UNTIL YOU ARE READY TO FIRE.

This rule is intended to minimize the risk of firing the weapon accidentally.

# KEEP YOUR FINGER STRAIGHT AND OFF THE TRIGGER UNTIL YOU ARE READY TO FIRE.

- Never be guilty of a negligent discharge.
- If your finger is off the trigger, you will eliminate the potential for firing a shot accidentally.

#### <u>KEEP</u> WEAPON ON SAFE UNTIL YOU INTEND TO FIRE.

This rule enforces the use of the weapon's own safety feature.

### KEEP WEAPON ON SAFE UNTIL YOU INTEND TO FIRE.

 The SAFE position on the selector lever is a built in feature that prevents inadvertent firing of the rifle.

### KEEP WEAPON ON SAFE UNTIL YOU INTEND TO FIRE.

 When patrolling or walking, it is possible for the trigger to be unintentionally depressed by objects (e.g. branches, wire, gear) encountered.

### KEEP WEAPON ON SAFE UNTIL YOU INTEND TO FIRE.

- Keeping the weapon on safe ensures the weapon will not fire if the trigger is accidentally engaged.
- Never trust anyone else regarding a weapon's safety status.

# QUESTIONS

- Light Weight
- 5.56 mm
- Magazine Fed
- Gas-operated
- Air-cooled
- Shoulder-fired
- Selector Switch
  - Semi-automatic
  - 3-Round Burst

- Maximum Effective Range:
  - Point Target: (550 meters)
  - Area Target: (600 meters)

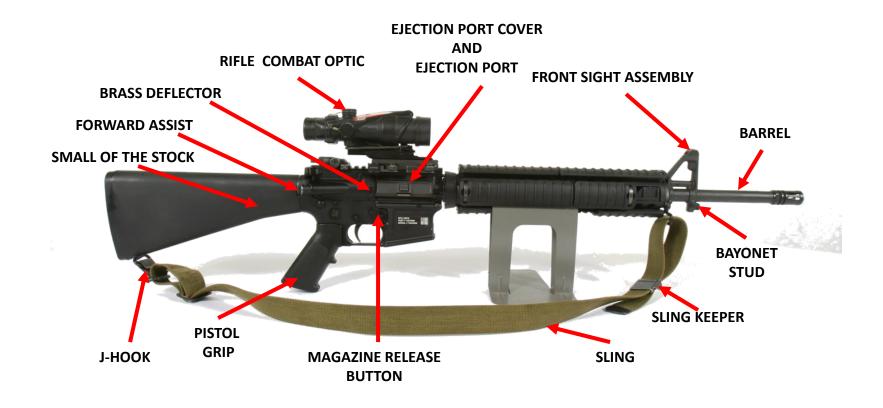


- The bore and chamber are chrome-plated to reduce wear and fouling.
- An aluminum receiver helps reduce the overall weight of the rifle.
- A forward assist on the right rear of the upper receiver permits manual locking of the bolt when this is not done by the force of the action spring.

- The trigger guard is equipped with a spring-loaded retaining pin that, when depressed, allows the trigger guard to be rotated out of the way for access to the trigger while wearing heavy gloves.
- An ejection port cover prevents dirt and sand from getting into the rifle through the ejection port. This ejection port cover should be closed when the rifle is not being fired. It is automatically opened by the action of the bolt carrier.
- The muzzle compensator has been designed to serve as a flash suppressor and assists in reducing muzzle jump.

M16A4		M4 Carbine
5.56 mm	Caliber	5.56 mm
8.79 pounds	Weight (w/30 round magazine)	6.9 pounds
39 5/8 inches	Length (w/compensator)	29.75 inches w/butt stock closed 33 inches w/butt stock open
800 rounds per minute (approximately)	Cyclic rate of fire	800 rounds per minute (approximately)
	Maximum effective rates of fire:	
45 RPM	Semiautomatic	45 RPM
90 RPM	Burst	90 RPM
12 - 15 RPM	Sustained rate of fire	12 - 15 RPM
	Maximum effective range:	
550 meters	Individual/point targets	500 meters
800 meters	Area targets	600 meters
3534 meters	Maximum range	3600 meters

## M16A4 SERVICE RIFLE NOMENCLATURE





**Upper Receiver and Barrel Assembly**. Provides support for the bolt carrier assembly. The barrel chambers the cartridge for firing and directs the projectile (Figure 1, Item 1).



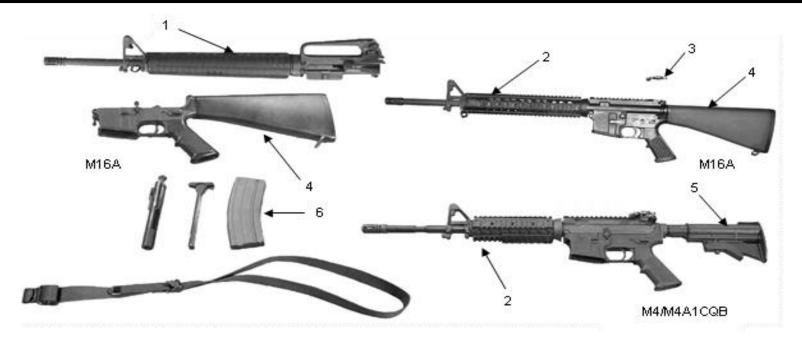
Rail Adapter System (RAS). (M16A4, M4, and M4A1 CQBW) Provides four additional mounting rails for the attachment of accessories to mission tailor the weapons (Figure 1, Item 2).



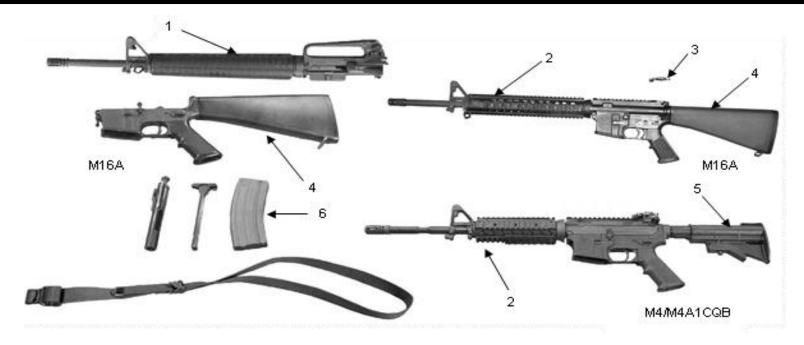
Back-Up Iron Sight (BUIS). (M16A4, M4, and M4A1 CQBW) Provides and adjustable rear sight to the weapons. Detachable from upper receiver accessory rail to allow for attachment of various sighting devices and other accessories (Figure 1, Item 3).



Lower Receiver and Buttstock Assembly. (M16A2 and M16A4 only) Provides firing control for the weapons and storage for the basic cleaning materials (Figure 1, Item 4).



Collapsible Buttstock. (M4 and M4A1 CQBW) Adjusts to four different positions (Figure 1, Item 5).



Cartridge Magazine. Holds cartridges ready for feeding. Provides a guide for positioning cartridges for stripping and feeding. Provides reload capabilities for sustained firing (Figure 1, Item 6).



**Small Arms Sling**. Provides a means for carrying the weapon (Figure 1, Item 7).



Charging Handle Assembly. Provides initial charging of the weapon. The charging handle locks in the forward position during firing to prevent injury to the operator (Figure 1, Item 8).



**Bolt and Carrier Assembly**. Provides feeding, chambering, locking, firing, extraction, and ejection of cartridges using the drive springs and projectile-propelling gases for power (Figure 1, Item 9).

## SERVICE RIFLE OPERATIONAL COCNTROLS

#### Selector Lever:

<u>Safe</u>: When the selector lever is set on safe, it prevents the rifle from firing.



## SERVICE RIFLE OPERATIONAL COCNTROLS

#### Selector Lever:

<u>Semi</u>: Semiautomatic fire; when the trigger is pulled, the rifle will fire once (single shot mode).



## SERVICE RIFLE OPERATIONAL COCNTROLS

#### Selector Lever:

Burst: Three-round burst; the rifle fires three times with each single trigger pull.



# SERVICE RIFLE OPERATIONAL COCNTROLS

- Magazine Release Button: The magazine release button releases the magazine from the magazine well.
- Charging Handle: When the charging handle is pulled to the rear, the bolt unlocks from the barrel extension locking lugs and the bolt carrier moves to the rear of the receiver.

# SERVICE RIFLE OPERATIONAL COCNTROLS

• <u>Bolt Catch</u>: If the charging handle is pulled to the rear when the lower portion of the bolt catch is depressed, the bolt will lock to the rear. When the bolt carrier group is locked to the rear and the upper portion of the bolt catch is depressed, the bolt carrier group will slide forward into the firing position.

# QUESTIONS

 A weapon's readiness is described by one of four conditions. The steps in the loading and unloading process take the rifle through four specific conditions of readiness for live fire.

- CONDITION 1: SAFETY ON, MAGAZINE INSERTED, ROUND IN CHAMBER, BOLT FORWARD, EJECTION PORT COVER CLOSED.
- CONDITION 2: NOT APPLICABLE TO THE M16A4 RIFLE.

- CONDITION 3: SAFETY ON, MAGAZINE INSERTED, CHAMBER EMPTY, BOLT FORWARD, EJECTION PORT COVER CLOSED.
- CONDITION 4: SAFETY ON, MAGAZINE REMOVED, CHAMBER EMPTY, BOLT FORWARD, EJECTION PORT COVER CLOSED.

### DETERMINING THE CONDITION OF A RIFLE:

You must know the condition of your weapon at all times. Any time you take possession of a weapon, you must determine its condition.

- DETERMINING THE CONDITION OF A RIFLE:
  - Determine if a magazine is present
  - Ensure the weapon is on safe

### DETERMINING THE CONDITION OF A RIFLE:

- Conduct a Chamber Check. A chamber check may be conducted at any time to determine if ammunition is present:

-Bring your left hand back against the magazine well so the slip ring rests in the "V" of the hand.

-Extend the fingers of your left hand and cover the ejection port.

### DETERMINING THE CONDITION OF A RIFLE:

- Grasp the charging handle with the index and middle fingers of your right hand. Control the weapon by applying tension against the stock with the palm of the hand or fingers.
- Pull the charging handle slightly to the rear and visually inspect the chamber.

### DETERMINING THE CONDITION OF A RIFLE:

- Release the charging handle and observe the bolt go forward.
  - Tap the forward assist

# QUESTIONS

# CLEARING THE SERVICE RIFLE PRIOR TO DISASSEMBLY

- >ATTEMPT TO PLACE SELECTOR LEVER IN SAFE, IF YOU CAN'T THE FOLLOWING NEEDS TO BE ACCOMPLISHED
  - > REMOVE MAGAZINE IF INSERTED
  - >PULL CHARGING HANDLE TO REAR & LOCK BOLT
  - >PLACE SELECTOR ON SAFE
  - >LOOK INTO CHAMBER TO ENSURE IT'S EMPTY
  - >LET THE BOLT GO FORWARD ON AN EMPTY CHAMBER
  - >CLOSE EJECTION PORT COVER

# DISASSEMBLE INTO THREE MAIN GROUPS

- Upper Receiver



- Bolt Carrier Group



- Lower Receiver



### UPPER RECEIVER DISASSEMBLY

- Upper Receiver: No further disassembly is conducted on the upper receiver group. The components of this group beginning at the tip of the rifle's barrel are:
  - Muzzle compensator
  - Adjustable front sight
  - Bayonet stud
  - Gas tube
  - Slip ring
  - Rifle, Combat Optic (RCO)
  - Ejection Port
  - Ejection Port Cover
  - Brass Deflector
  - Forward Assist

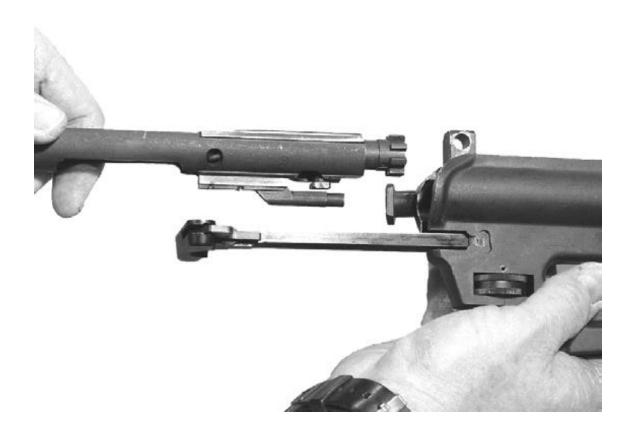
# **UPPER RECEIVER DISASSEMBLY**

**LOWER HAND GUARD** 

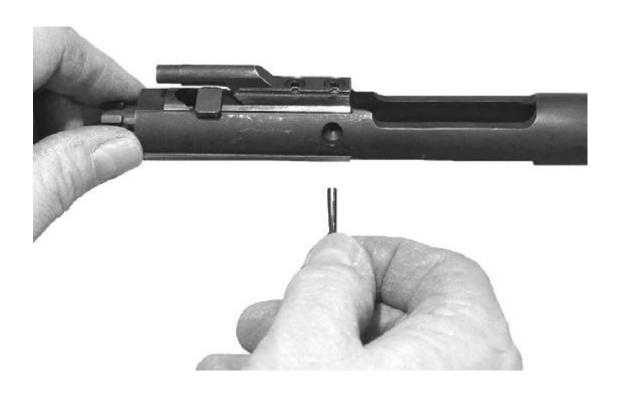


# **UPPER RECEIVER DISASSEMBLY**

### > REMOVE BOLT CARRIER GROUP



> REMOVE FIRING PIN RETAINING PIN



>PUSH BOLT TO THE LOCKED POSITION



> DROP FIRING PIN OUT THE REAR OF BOLT CARRIER



To remove the bolt cam pin, turn the bolt carrier upside down, and tap the bolt carrier against the palm of your hand

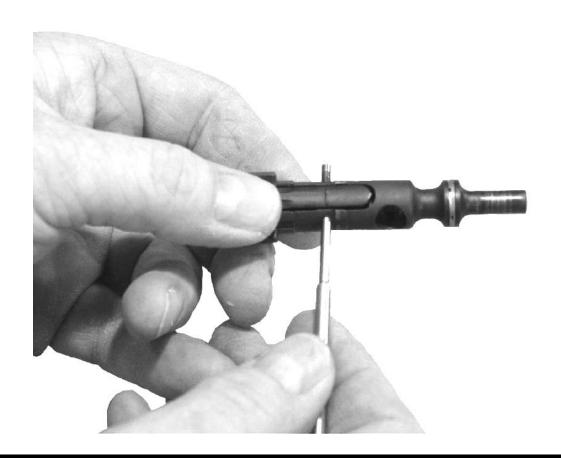


>Remove bolt assembly from bolt carrier





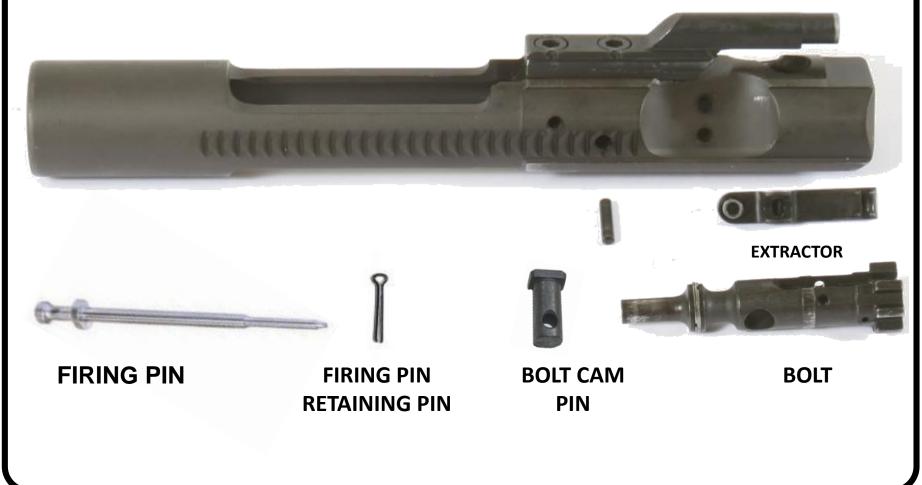
> REMOVE EXTRACTOR WITH FIRING PIN



>REMOVE EXTRACTOR & SPRING AS A UNIT



**BOLT CARRIER** 



# LOWER RECEIVER DISASSEMBLY

>BUFFER ASSEMBLY

# M16A4 W/RCO DISASSEMBLED



# QUESTIONS

- Normal Care and cleaning
  - Results in proper functioning
  - Use only issue-type cleaning materials
  - Improper maintenance can cause stoppages
- Inspection
  - During cleaning, inspect each part for cracks and chips
  - Report any damages to the armorer



- CLEANING MATERIALS:
  - BRUSHES: BORE, CHAMBER, AND GENERAL PURPOSE
  - CLEANING ROD: 3 SECTIONS AND HANDLE
  - PATCH HOLDER, SWABS, PATCHES PIPE CLEANERS, RAGS

- CLEANING MATERIALS:
  - CLP (CLEANER, LUBRICANT, AND PRESERVATIVE)
    - CONTAINS SOLVENTS TO DISOLVE RESIDUE & CARBON
    - PUTS ON A LAYER OF TEFLON TO LUBRICATE
    - PREVENTS RUST FROM FORMING

- Attach the three rod sections together but leave each one about two turns short of being tight.
- Attach the patch holder onto the rod.
- Point the muzzle down and insert the non-patch end of the rod into the chamber. Attach the handle to the cleaning rod section and pull a CLP-moistened 5.56mm patch through the bore.

- Attach the bore brush to the rod but leave it two turns short of being tight. Put a few drops of CLP on the bore brush. Insert the rod into the barrel from the chamber end, attach the handle, and pull the brush through the bore.
- Inspect the bore for cleanliness by holding the muzzle to your eye and looking into the bore.

- Repeat the above steps until patches come out of the bore clean.
- Attach the chamber brush and one section of the cleaning rod to the handle. Moisten it well with CLP and insert it into the chamber.
- Scrub the chamber and bolt lugs using a combination of a plunging and clockwise rotating action.

- Clean the interior portion of the upper receiver with the general purpose brush and CLP.
- Dry the bore, chamber, and the interior of the receiver with rifle patches until they come out clean.
- Wipe the barrel, gas tube, carrying handle and rails clean with a rag.

### **CLEANING RCO**

- Use clean or soapy water to rinse foreign material from the external surfaces and lenses of the RCO
- Dry with dry, clean, soft cloth
- When drying lenses ensure no dirt is on lenses or cloth
- Ensure Adjustor Caps are in place
- Do not use any type of solvent or harsh chemicals

### **CLEANING RCO**

 To clean the RCO utilizing the LENSPEN first depress and push forward the Lens Brush Slider, exposing the Lens Brush. Use this brush to remove all foreign material from the unit if fresh water is not available. Pay special attention to the lenses.

### **CAUTION**

Remove all foreign material from the lenses before cleaning them with the LENSPEN. This will prevent damage to the lenses.

### **CLEANING RCO**

 Next, remove the cap from the opposite end of the Lens Pen to expose the Felt Lens Cleaner. Ensure there is NO foreign material on the felt surface. Starting in the center of the lens, press the felt surface of the lens cleaner against the lens and in a spiral motion, work from the center to the outside edge of the lens. Repeat if necessary.

### **CLEANING BOLT CARRIER GROUP**

- Clean the outer and inner surfaces of the bolt carrier with a general purpose brush.
- Clean the bolt carrier key with a pipe cleaner.
- Clean the locking lugs, gas rings, and exterior of the bolt with the general purpose brush.
- Insert a swab into the rear of the bolt and swab out the firing pin recess and gas ports.

### **CLEANING BOLT CARRIER GROUP**

- Clean the extractor with the general purpose brush, ensuring all the carbon is removed from underneath the extractor lip.
- Clean the firing pin, firing pin retaining pin, and extractor pin using the general purpose brush and CLP.
- (7) Clean the charging handle assembly with the general purpose brush and patches.

### **CLEANING LOWER RECEIVER**

- Wipe dirt from the firing mechanism with a clean patch and general purpose brush/pipe cleaners.
- Clean the outside of the receiver with the general purpose brush and CLP. Clean the butt plate and rear sling swivel, ensuring the drain hole is clear of dirt.
- Wipe the inside of the buffer tube, buffer, and action spring.

# **CLEANING LOWER RECEIVER**

- Wipe the inside of the magazine well with a rag.
- Wipe out the inside of the pistol grip, ensuring it is clean.

- HOT, WET TROPICAL
  - PERFORM NORMAL MAINTENANCE
  - CLEAN & LUBRICATE MORE OFTEN
  - USE LUBRICANT MORE LIBERALLY
  - UNLOAD AND CHECK INSIDE OF MAGAZINE MORE FREQUENTLY
  - WHEN PRACTICAL KEEP THE RIFLE COVERED

- HOT, DRY DESERT:
  - HOT DRY CLIMATES ARE USUALLY AREAS
     THAT CONTAIN BLOWING SAND & FINE
     DUST. DUST & SAND WILL GET INTO THE
     RIFLE & MAGAZINES CAUSING STOPPAGES
  - CORROSION IS LESS LIKELY TO FORM IN THESE ENVIRONMENTS, AND LUBRICATION WILL ATTRACT MORE DIRT. USE LUBRICATION MORE SPARINGLY.
  - WHEN PRACTICAL KEEP RIFLE COVERED

- ARCTIC OR LOW TEMPERATURES:
  - CLEAN & LUBRICATE IN A WARM ROOM IF POSSIBLE. LUBRICATING OIL, ARTIC WEAPONS (LAW) MAY BE USED BELOW ZERO DEGREES AND MUST BE USED BELOW -35 DEGREES.
  - WHEN MOVING RIFLE FROM WARM TO COLD ALLOW GRADUAL COOLING TO PREVENT CONDENSATION.
  - UNLOAD & HAND FUNCTION RIFLE EVERY 30 MIN IF POSSIBLE TO HELP PREVENT FREEZING OF MOVING PARTS.

- HEAVY RAIN OR FORDING:
  - WHEN PRACTICAL, KEEP THE RIFLE DRY AND COVERED.
  - ALWAYS TRY TO KEEP WATER OUT OF THE BARREL.
  - IF WATER GETS IN THE BARREL, DRY WITH A PATCH.
  - BREAK THE SEAL BY PULLING BACK ON THE CHARGING HANDLE SO THE WATER WILL DRAIN.
  - MAKE SURE THE DRAIN HOLE IN THE STOCK IS CLEAR SO THE WATER CAN RUN OUT.

# QUESTIONS

LUBRICATION IS PERFORMED AS PART OF THE DETAILED PROCEDURE FOR PREVENTIVE MAINTENANCE

- LUBRICANT: CLP
  - LIGHTLY LUBE MEANS THAT A FILM OF CLP BARELY VISABLE TO THE EYE SHOULD BE APPLIED
  - GENEROUSLY LUBE MEANS THAT THE CLP SHOULD BE APPLIED HEAVILY ENOUGH THAT IT CAN BE SPREAD WITH THE FINGER

- UPPER RECEIVER GROUP:
  - LIGHTLY LUBE THE INSIDE OF THE UPPER RECEIVER, BORE, CHAMBER, OUTER SURFACES OF THE BARREL, SURFACES UNDER THE RAILS
  - DEPRESS THE FRONT SIGHT DETENT AND APPLY TWO OR THREE DROPS OF CLP TO THE FRONT SIGHT
  - LUBRICATE THE MOVING PARTS AND ELEVATION SCREW SHAFT OF THE REAR SITE.

- BOLT CARRIER GROUP:
  - GENEROUSLY LUBE THE OUTSIDE OF THE CAM PIN AREA, BOLT RINGS, AND OUTSIDE THE BOLT BODY
  - LIGHTLY LUBE THE CHARGING HANDLE AND THE INNER AND OUTER SURFACES OF THE BOLT CARRIER

- LOWER RECEIVER GROUP:
  - LIGHTLY LUBE THE INSIDE OF THE LOWER RECEIVER EXTENSION
  - GENEROUSLY LUBE THE MOVING PARTS OF THE LOWER RECEIVER AND THEIR PINS

# QUESTIONS

- Return all cleaning gear into the buttstock of the rifle and close the butt plate.
- Connect the buffer and action spring and insert into the buffer tube/stock.

Insert action spring



INSTALL EXTRACTOR TO BOLT WITH PIN



# ENSURE RINGS ARE STAGGERED ON BOLT



SLIDE BOLT INTO BOLT CARRIER

**INSTALL BOLT CAM PIN** 

**PULL BOLT FORWARD** 





DROP FIRING PIN FROM THE REAR OF THE BOLT CARRIER AND SEAT IT



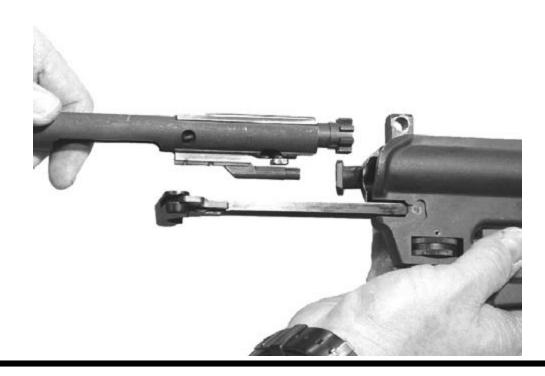
ENSURE THE FIRING PIN IS SEATED AND INSTALL THE RETAINING PIN



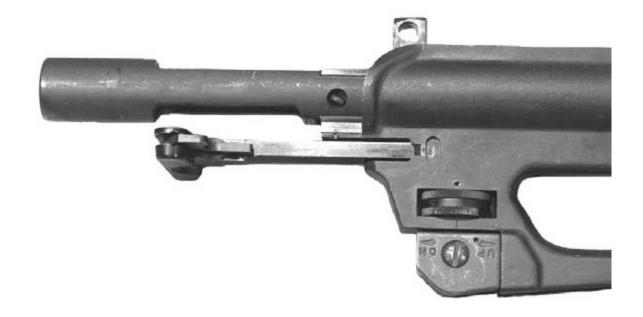
INSTALL CHARGING HANDLE PART WAY IN THE UPPER RECEIVER



SLIDE IN THE BOLT CARRIER GROUP



PUSH BOLT CARRIER GROUP & CHARGING HANDLE COMPLETELY INTO THE UPPER RECEIVER



JOIN THE UPPER & LOWER RECEIVER GROUPS AND ENGAGE THE RECEIVER PINS





- REATTACH THE RAILS BY APPLYING PRESSURE TO THE SPRING LATCH AND SLIDE INTO DESIRED POSITION
- ENSURE THE SELECTOR LEVER IS ON SAFE BEORE CLOSING THE UPPER RECEIVER
- CLOSE THE UPPER AND LOWER RECEIVER GROUPS. PUSH IN THE TAKEDOWN PIN
- REPLACE THE SLING.

# QUESTIONS

# FUNCTION CHECK THE SERVICE RIFLE

- A FUNCTION CHECK IS PERFORMED TO ENSURE THE RIFLE OPERATES PROPERLY AFTER THE RIFLE HAS BEEN REASSEMBLED
  - ENSURE MAGAZINE IS REMOVED, CHAMBER IS EMPTY, SAFETY IS ON AND EJECTION PORT IS CLOSED
  - PULL CHARGING HANDLE TO THE REAR AND RELEASE. ENSURE SELECTOR IS ON "SAFE" & PULL THE TRIGGER. THE HAMMER SHOULD NOT FALL

# FUNCTION CHECK THE SERVICE RIFLE

 PLACE THE SELECTOR ON "SEMI". PULL THE TRIGGER & HOLD IT TO THE REAR. THE HAMMER SHOULD FALL. PULL THE CHARGING HANDLE TO THE REAR AND RELEASE IT. RELEASE TRIGGER AND PULL AGAIN. THE HAMMER SHOULD FALL.

# FUNCTION CHECK THE SERVICE RIFLE

- PULL THE CHARGING HANDLE TO THE REAR &
  RELEASE IT. PLACE THE SELECTOR ON "BURST".
  PULL THE TRIGGER & HOLD IT TO THE REAR. THE
  HAMMER SHOULD FALL. PULL THE CHARGING
  HANDLE TO THE REAR THREE TIMES AND RELEASE.
  RELEASE THE TRIGGER AND PULL AGAIN. THE
  HAMMER SHOULD FALL.
- PULL THE CHARGING HANDLE TO THE REAR AND RELEASE. PLACE THE SELECTOR LEVER ON "SAFE".

# USER SERVICEABILITY INSPECTION

- THIS INSPECTION IS PERFORMED PRIOR TO FIRING TO ENSURE THE RIFLE IS IN AN ACCEPTABLE OPERATING CONDITION. THIS INSPECTION IS DONE PRIOR TO ANY COMBAT OPERATIONS SUCH AS A PATROL, BEING POSTED FOR GUARD DUTY, ETC.
  - CONDUCT A FUNCTION CHECK

# USER SERVICEABILITY INSPECTION

- CHECK THE RIFLE TO ENSURE THE FOLLOWING:
  - THE COMPENSATOR IS TIGHT
  - THE BARREL IS TIGHT
  - THE RAILS ARE SERVICEABLE
  - THE STOCK IS TIGHT ON THE LOWER RECEIVER
  - THE WEAPON IS PROPERLY LUBRICATED FOR THE OPERATIONAL CONDITIONS

# USER SERVICEABILITY INSPECTION

- THE BARREL IS CLEAR OF OBSTRUCTIONS
- LOAD EMPTY MAGAZINE TO ENSURE IT CAN SEAT. PULL CHARGING HANDLE TO REAR. ENSURE THAT THE BOLT LOCKS TO THE REAR. DO THIS WITH ALL YOUR MAGAZINES

# QUESTIONS

**BY HAND** 

**MAGAZINE FILLER** 





#### BY HAND

- Remove a magazine from the magazine pouch
- Place a round on top of the follower
- Press down on the round until the round is held between the follower and the feed lips of the magazine

#### BY HAND

- Repeat steps b) and c) until the desired number of rounds are inserted
- Tap the back of the magazine to ensure the rounds are seated against the back of the magazine

BY STRIPPER CLIP AND MAGAZINE FILLER

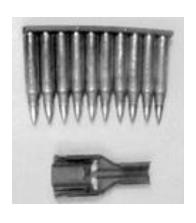
- Remove a magazine from the magazine pouch
- Slide the magazine filler into place
- Place a ten-round stripper clip into the narrow portion of the magazine filler.

#### BY STRIPPER CLIP AND MAGAZINE FILLER

- Using thumb pressure on the rear of the top cartridge, press down firmly until all ten rounds are below the feed lips of the magazine
- Remove the empty stripper clip while holding the magazine filler in place
- Repeat until the desired number of rounds are inserted

#### BY STRIPPER CLIP AND MAGAZINE FILLER

- Remove the magazine filler and retain it for future use
- Tap the back of the magazine to ensure the rounds are seated against the back of the magazine





# M16A4 SERVICE RIFLE EMPTYING THE MAGAZINE

**BY HAND** 

**MAGAZINE FILLER** 





# M16A4 SERVICE RIFLE EMPTYING THE MAGAZINE

#### BY HAND

- Using your thumb, push on the cartridge base of the top round, forcing it forward and out of the magazine
- Continue this procedure until the magazine is empty

# M16A4 SERVICE RIFLE EMPTYING THE MAGAZINE

#### WITH STRIPPER CLIP

- With the front of the magazine parallel to the deck, press the second round in the magazine with a stripper clip, relieving the tesnion on the top round and allowing it to fall out of the magazine
- Continue this procedure until the magazine is empty

# M16A4 SERVICE RIFLE STOWING THE MAGAZINE

- Careless misuse or improper storage of magazines can result in lost or damaged rounds. Store rounds:
- In a MAGAZINE POUCH; rounds down and projectiles pointing away from the body

 EMPTY OR PARTIALLY FILLED MAGAZINES: store with the follower up to allow the selection of filled magazines by touch

# QUESTIONS

#### WEAPONS COMMANDS

- Weapons commands dictate the specific steps to safely load and unload the service rifle/carbine.
- Six commands are used in weapons handling

#### WEAPONS COMMANDS

"Load"

TAKES THE WEAPON FROM CONDITION 4 TO CONDITION 3

"Make Ready"

TAKES THE WEAPON FROM CONDITION 3 TO CONDITION 1

"Fire"

**ENGAGE TARGET(S)** 

"Cease Fire"

**CEASE TARGET ENGAGEMENT** 

"Unload"

TAKES THE WEAPON FROM ANY CONDITION TO CONDITION 4

"Unload,
Show Clear"

REQUIRES A SECOND INDIVIDUAL TO INSPECT THE WEAPON BEFORE THE WEAPON IS PLACED INTO CONDITION 4

# QUESTIONS

Each command has its own procedures to take the weapon through the Weapons Conditions in order to ensure safe operations and handling.

- LOAD: On the command, "Load," perform the following steps to take the rifle from Condition 4 to Condition 3:
- Ensure the rifle is on safe
- Withdraw a magazine from the magazine pouch
- Observe the magazine to ensure it is filled

- LOAD (cont.)
- Fully insert the magazine into the magazine well and without releasing the magazine, tug downward on the magazine to ensure it is seated
- Fasten the magazine pouch

- MAKE READY: On the command, "Make Ready," perform the following steps to take the rifle from Condition 3 to Condition 1:
- Pull the charging handle fully to the rear and release

- MAKE READY: (Cont.)
- There are two methods for chambering a round:
  - Grip the pistol grip with the right hand an pull the charging handle with the left hand
  - OR
  - Grip the hand guards with the left hand and pull the charging handle with the right hand

- Make Ready: (Cont.)
- To ensure ammunition has been chambered, conduct a chamber check
- Close the ejection port cover (if time and the situation permits)
- Check the sights. (This check is to ensure proper BZO setting, correct rear sight aperture, etc.)

- FIRE: On the command, "Fire," perform the following steps:
- Aim the rifle, take the rifle off safe, and pull the trigger

- CEASE FIRE: On the command, "Cease Fire," perform the following:
- Place your trigger finger straight along the receiver
- Place the weapon on safe

- UNLOAD: On the command, "Unload," perform the following steps to take the rifle from any condition to Condition 4:
- Ensure the rifle is on safe.
- Remove the magazine from the rifle and retain it on your person

- UNLOAD: (Cont.)
- Bring your left hand back against the magazine well so the slip ring rests in the "V" of the hand. While cupping the left hand under the ejection port, rotate the rifle so the ejection port is facing the deck
- Pull the charging handle to the rear and let the round eject on the deck

- UNLOAD: (Cont.)
- Lock the bolt to the rear
- Put the rifle on safe now if it would not go on safe earlier
- Ensure the chamber is empty and no ammunition is present
- Release the bolt catch and observe the bolt going forward on an empty chamber

- UNLOAD: (Cont.)
- Close the ejection port cover
- Check the sights. (This check is to ensure proper BZO setting, correct rear sight aperture, etc.)
- Return the ejected round to the magazine
- Return the magazine to the magazine pouch and fasten the pouch

- UNLOAD, SHOW CLEAR: On the command, "Unload, Show Clear," perform the following steps to take the rifle from any condition to Condition 4:
- Ensure the rifle is on safe.
- Remove the magazine from the rifle and retain it on your person

- UNLOAD, SHOW CLEAR: (Cont.)
- Bring your left hand back against the magazine well so the slip ring rests in the "V" of the hand. While cupping the left hand under the ejection port, rotate the rifle so the ejection port is facing the deck
- Pull the charging handle to the rear and let the round eject on the deck

- UNLOAD, SHOW CLEAR: (Cont.)
- Lock the bolt to the rear
- Put the rifle on safe now if it would not go on safe earlier.
- Inspect the chamber to ensure it is empty and no ammunition is present
- Have a second party inspect the rifle to ensure no ammunition is present

#### SECOND PARTY INSPECTION

- The second party inspection is conducted by a second party as follows:
  - The second party visually inspects the rifle's chamber to ensure it is empty, no ammunition is present, and the magazine is removed
  - The second party ensures the weapon is on safe
  - The second party acknowledges the rifle is clear

- UNLOAD, SHOW CLEAR: (Cont.)
- After receiving acknowledgement that the rifle is clear, release the bolt catch and observe the bolt going forward on an empty chamber
- Close the ejection port cover
- Check the sights. (This check is to ensure proper BZO setting, correct rear sight aperture, etc.)

UNLOAD, SHOW CLEAR: (Cont.)

- Return the ejected round to the magazine
- Return the magazine to the magazine pouch and fasten the pouch

# QUESTIONS

# TYPES OF AMMUNITION M16A4 RIFLE



**Green Tip** 

5.56 MM BALL M855



**Red Tip / Orange Tip** 

5.56 MM TRACER M196 (Red Tip) M856 (Orange Tip)



6 Groves on side of case

5.56 MM DUMMY M199



**Violet Tip** 

5.56 MM BLANK M200

# QUESTIONS

Every weapon performs basic steps in order to operate efficiently. A minor deviation from any of these steps can cause a malfunction or deficiency in the weapon's ability to fire the round.

- FEEDING
- CHAMBERING
- LOCKING
- FIRING
- UNLOCKING
- EXTRACTING
- EJECTING
- COCKING

### FEEDING:

Once rearward motion causes the bolt carrier group to clear the top of the magazine, the expansion of the magazine spring forces a round into the path of the bolt. After the action spring overcomes and absorbs the rearward motion of the bolt carrier group, it expands and sends the buffer assembly and bolt carrier group forward with enough force to strip a round from the magazine.

### CHAMBERING:

 As the bolt carrier group continues to move forward, pushing a fresh round in front of it, the face of the bolt thrusts the new round into the chamber. The extractor claw grips the rim of the cartridge case. The ejector is forced into its hole, compressing the ejector spring

### LOCKING:

 As the bolt carrier group continues to move forward, the bolt-locking lugs are forced against the barrel extension and the bolt cam pin is forced along the cam track. The bolt rotates and aligns the bolt locking lugs behind the barrel extension locking lugs. The weapon is ready to fire

### FIRING:

 The hammer releases and strikes the head of the firing pin, driving the firing pin into the round's primer. The primer ignites the powder in the cartridge. Gas generated by the rapid burning of powder propels the projectile through the barrel. After the projectile passes the gas port, a portion of the expanding gas enters the gas port and gas tube. The gas tube directs the gas rearward into the bolt carrier key and causes the bolt carrier to move rearward

### UNLOCKING:

 As the bolt carrier moves to the rear, the bolt cam pin follows the path of the cam track located in the bolt carrier. This causes the bolt assembly to rotate until the bolt-locking lugs are no longer aligned behind the barrel extension locking lugs

### EXTRACTING:

 As the bolt carrier group continues to move to the rear, the extractor claw withdraws the cartridge case from the chamber

### EJECTING:

 The ejector, located in the bolt face, is compressed into the bolt body by the base of the cartridge case. The rearward movement of the bolt carrier group allows the nose of the cartridge case to clear the front of the ejection port. The cartridge case is thrown out by the action of the ejector and spring

### COCKING:

 Continuing its rearward travel, the bolt carrier overrides the hammer, forces it down into the receiver, compresses the hammer spring, and causes it to disconnect or to engage the lower hammer hook

# QUESTIONS

- Malfunctions: when a part of the rifle fails to operate according to the specification. Any time a rifle has a malfunction, it will need to be fixed by an armorer or other qualified individual.
- Stoppage: when something interrupts the cycle of operation. A stoppage can easily be fixed by the individual and does not require an armorer or qualified individual to fix it.

- Indicators: visually or physically observe the ejection port to identify the problem. Then clear the weapon based on one of the following three indicators:
- Bolt is forward or ejection port cover is closed
- Brass is obstructing chamber area
- Bolt is locked to the rear

- Corrective Action: The process of investigating the cause of the stoppage, clearing the stoppage, and returning the weapon to operation.
- Use the three indicators to determine the type of stoppage
- Clear the stoppage and reload

- Using the indicators to perform corrective action:
- Bolt is forward or ejection port cover is closed
  - This type of stoppage can occur when a weapon fails to feed the round from the magazine or feeds it improperly. When the weapon fails to fire the individual should first observe the ejection port cover.

- Bolt is forward or ejection port cover is closed:
  - Seek cover
  - Tap: Tap the bottom of the magazine
  - Rack: Pull the charging handle to the rear and release it
  - Bang: Sight in and attempt to fire

- Brass is obstructing the chamber:
  - When the weapon fails to fire, observe the ejection port cover. When the ejection port cover is observed and the bolt is slightly separated from the chamber due to a round not seated properly- this can indicate a double feed or a failure to eject.

### Double feed:

- A stoppage that occurs when two rounds are stripped from the magazine by the bolt and are forced into the chamber at the same time
- Failure to eject:
  - A stoppage that occurs when the expelled brass casing does not sufficiently eject out of the chamber. This causes the feeding process to be interrupted.

- When brass is obstructing the chamber:
  - Seek cover (if the situation permits)
  - Attempt to remove the magazine
  - Attempt to lock the bolt to the rear
  - If the bolt will not lock to the rear, rotate the rifle so the ejection port is facing down; hold the charging handle to the rear as far as it will go and shake the rifle to free the round(s).

- When brass is obstructing the chamber:
  - If the rounds don't shake free, hold the charging handle to the rear and strike the butt of the rifle on the ground or manually clear the round.
  - Conduct a reload
  - Sight in and attempt to fire

- Bolt locked to the rear. Although a dry weapon is not considered a true stoppage or mechanical failure, you must take action to return the weapon to operation:
  - Seek cover (if the situation permits)
  - Conduct a dry reload
  - Sight in and attempt to fire

- Brass is stuck over and behind the bolt face.
   This stoppage will prevent the bolt from moving and is caused by the weapon failing to feed or extract properly. To return the weapon to operation:
  - Attempt to place the weapon on safe
  - Remove the magazine and place the butt stock on the deck

- Brass is stuck over and behind the bolt face
  - Hold the bolt face to the rear with a sturdy, slender object (e.g., stripper clip, knife, Multi-Tool). Maintain rearward pressure on the bolt and simultaneously push forward on the charging handle to remove the obstructing round.

- Brass is stuck over and behind the bolt face
  - Check the chamber area to ensure it is clear
  - Conduct a speed reload
  - Sight in and attempt to fire

## QUESTIONS

## **AUDIBLE POP**

- Occurs when only a portion of the propellant is ignited. Identifiable by reduced recoil and/or excessive smoke escaping from the chamber.
- Audible Pop on the range:
  - Keep weapon pointed down range and in your shoulder
  - Attempt to place the weapon on safe
  - Raise your firing hand and ask for assistance from the Range Coach.

### **AUDIBLE POP**

- Audible Pop in a combat environment:
  - Place the weapon in Condition 4
  - Move the take down pin from left to right as far as it will go to allow the lower receiver to pivot
  - Remove the bolt carrier group
  - Inspect the bore for an obstruction from the chamber end

### **AUDIBLE POP**

- Audible Pop in a combat environment:
  - Insert a cleaning rod into the bore from the muzzle end and clear the obstruction
  - Reassemble the rifle
  - Conduct a reload
  - Sight in and attempt to fire

## QUESTIONS

### **COMBAT SLING**

- Essential piece of gear
  - Allows the carry of condition 1 & 3 weapons
  - Provides the capability of going from a carry of no enemy contact to a carry of imminent enemy contact quickly, smoothly and effectively

- Sling system- I.B.D. Products, E-Z sling system:
  - •Flexible Swivels for attaching to the front of the rifle
    - Nomex
    - Nylon
  - •1-inch webbing strap with tri-glide
  - Transition Release Buckle (TRB)
  - Emergency Release Buckle (ERB)
  - Rear Stock Strap
  - Non-Nomex Flexible Swivel

Assembling a 3-Point Sling to a Weapon:







### Attaching the Sling System:

- Take the permanently attached front keeper with 1" webbing and feed it through the front side or bottom sling mount; feed the webbing through the buckle
- Remove the rear stock strap from the sling system and disassemble it by sliding the short end of the rear stock strap off the long end. You should have an L shape afterwards

- Remove the rear keeper from the tri-glide; set the rear keeper with 1" webbing to the side- you don't need it anymore.
- Place the weapon ejection port cover down and pistol grip is closest to you
- Flip the sling over and lay it flat across the weapon with the quick release buckles facing down.
- Slide the middle tri-glide to where it sits on the butt stock approximately 1 ½ " from the edge of the butt stock, the side of the tri-glide with 1 bar should be facing you.

- Place the rear stock strap on the butt stock where the long side is up and short side is to the right.
   Feed the short end through the middle tri-glide.
   Pull it to the right until the stitching prevents it from going any further.
- Flip the sling over so that the quick release buckles are facing up. Wrap the short end around the back of the butt stock. Feed the long end of the stock strap through the slot in the short end.

# 3-POINT TACTICAL SLING

- Feed the coarse end of the Velcro through the slot closest to the material of the stock strap, then through the other slot on the buckle. Fasten it down tightly ensuring the triangular grommet is facing down.
- Pull sling hard to ensure it is secure.

# Assembling a 3-Point Sling To a Weapon

Attaching the Sling to the Butt Stock





Front of Sling and Tri-Glide with Body Loop





# QUESTIONS

- Take the weapon and hold the pistol grip in your firing hand and place the butt stock in your shoulder.
- Then take the non-firing hand and with your thumb separating the sling, creating a triangle.
- Insert head and non-firing hand and arm into the triangle ensuring to keep control of your weapon system.

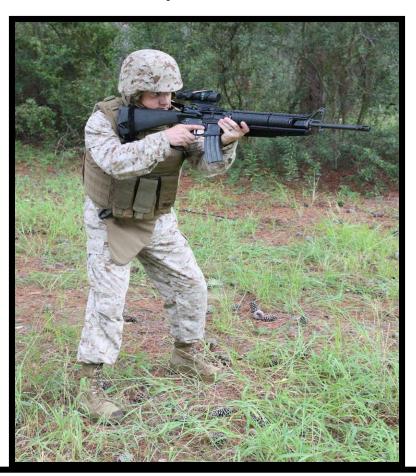
### Sling Adjustment:

- A properly adjusted 3-point sling with correct stance will create sling tension.
- Incorporating the support arm with the sling and then pushing the elbow and forearm underneath the weapon will cause the sling to tighten.
- This forces the buttstock into the pocket of the shoulder aiding in both stability and recoil management

- To adjust the sling use the tri-glide so that it is adjusted to fit and ensures the weapon can be smoothly and efficiently presented into action while keeping the sling tight
- Then once the sling is adjusted, let the weapon hang naturally while maintaining muzzle awareness.

- To ensure proper sling adjustment when adjusting the sling, ensure you have the following:
  - Your body must be squared with the target
  - The sling must be tensioned properly
  - The forward hand may be placed into the sling to create additional tension.

Proper wear of a 3-Point sling





# QUESTIONS

### Tactical Sling Carries:

- Weapons carries are tied to threat conditions
- Assumed in response to threat situations
- Prepares you mentally and physically for target engagement
- •Three types:
  - Controlled
  - Alert
  - Ready

### Controlled Carry:

- Allows the weapon to hang down while you still have a firing grip on the pistol grip.
  - Finger straight and off the trigger
  - Thumb on safety
- Allows you to have positive control while the sling does most of the work
- Use the controlled carry if no immediate threat is present

### Alert Carry:

- Enemy contact is likely
- Moving in close terrain
- You can engage the enemy faster than from the controlled carry
- This carry is more tiring than the controlled carrymore physically demanding

### Assume the Alert Carry:

- Place the left hand on the hand guards, the right hand around the pistol grip, the trigger finger straight along the receiver and the right thumb on top of the selector lever
- Place the buttstock in the shoulder
- •Angle the muzzle downward about 45 degrees and point it in a safe direction or the general direction of likely enemy contact

### Ready Carry:

- Contact with the enemy is imminent
- Allows immediate target engagement
- Very tiring to maintain over a long period of time

### Assume the Ready Carry:

- Place the left hand on the hand guards, the right hand around the pistol grip, the trigger finger straight along the receiver and the right thumb on top of the selector lever
- Place the buttstock in the shoulder
- Point the muzzle in the direction of the enemy
- Lower the optic to just below eye level so that a clear field of view is maintained

# Tactical Sling Carries

Controlled Carry



Alert Carry

Ready Carry





# QUESTIONS

# **WEAPONS TRANSFERS**

### Show Clear Transfer:

- The individual handing off the rifle must:
  - Ensure the rifle is on SAFE
  - •Remove the magazine, if present
  - Lock the bolt to the rear
  - Visually inspect the chamber to ensure there is no ammunition present
  - •Leave the bolt locked to the rear and hand the weapon to the receiving individual, stock first

# **WEAPONS TRANSFERS**

### Show Clear Transfer:

- The individual receiving the weapon must place the rifle in condition 4 by:
  - Ensuring the rifle is on SAFE
  - Visually inspect the chamber to ensure there is no ammunition present
  - •Release the bolt catch and observe the bolt going forward on an empty chamber
  - Close the ejection port cover

# **WEAPONS TRANSFERS**

### Condition Unknown Transfer:

- Condition of the rifle is unknown:
  - Ensuring the rifle is on SAFE
  - Conduct a chamber check to determine the condition of the weapon
  - •Remove the magazine and observe if ammunition is present in the magazine (if time permits, count the rounds)
  - Insert the magazine into the magazine well

# QUESTIONS

- Used to carry the rifle over the back or shoulders when moving for long periods
- Only used when no immediate threat is present or imminent
- Used when one or both hands are needed for other work requirements

### Strong Side Sling Arms (Muzzle Up):

- Release the pistol grip of the rifle.
- Lower the butt stock of the rifle and bring the rifle to a vertical position.
- With the right hand, grasp the sling above the left forearm

### Strong Side Sling Arms (Muzzle Up):

- Guide the rifle around the right shoulder with the left hand and extend the right arm through the sling.
- Place the sling on the right shoulder and apply downward pressure on the sling with the right hand to stabilize the rifle on the shoulder.
- Release the hand guard.

- Weak Side Sling Arms (Muzzle Down):
  - Used when enemy contact is unlikely
  - Mainly used in inclement weather (to keep moisture out of the bore of the rifle)

### Weak Side Sling Arms (Muzzle Down):

- Release the pistol grip of the rifle.
- Lower the butt stock of the rifle and bring the rifle to a vertical position.
- Rotate the rifle outboard until the pistol grip is pointing toward the body.
- Reach over the left forearm and grasp the sling with the right hand.

### Weak Side Sling Arms (Muzzle Down):

- Rotate the muzzle down with the left hand while sliding the right hand up the sling. Place the sling on the left shoulder.
- Grasp the sling with the left hand and apply downward pressure to stabilize the rifle on the shoulder.
- Release the hand guard.

- Cross Body Sling Arms (Muzzle Up or Down):
  - Used when both hands are required for work
  - Rifle is slung across the back with muzzle up or down

# QUESTIONS

# INTRODUCTION TO THE SERVICE RIFLE



# BACKUP SLIDES

# !!! STUDY !!!

