

## DAVIS POLICE DEPARTMENT

### Patrol Rifle Course

#### Day One – Classroom

- A. Orientation to the Class
  - a. Weapons Check
    - i. The rifles and magazines which will be issued to the students will be checked by at least two instructors prior to the beginning of class and before the students arrive.
    - ii. No ammunition and no other firearms will be allowed in the classroom.
  - b. Classroom Safety Rules
    - i. No ammunition and no firearms (other than rifles) are allowed in the classroom.
    - ii. Safe status of the Rifle
      - 1. No magazine in the well
      - 2. Chamber open
      - 3. Charging handle forward
      - 4. Safety on
  - c. Introductions
    - i. Instructor
    - ii. Students
  - d. Course Overview
    - i. Officer's Expectations
    - ii. Objectives
    - iii. Schedule
    - iv. Instructor's Expectations
    - v. Written Test
    - vi. Qualification
  - e. Pre-Test (Graded but the score is not recorded)
  
- B. Review of Law and Davis Police Department policy and procedure
  - a. Relevant Law
  - b. Policy and Procedure
    - i. PP 3.05a
      - 1. Use of Force
      - 2. Use of Deadly Force
    - ii. PP 3.06a
    - iii. PP 3.07a
  
- C. Basic Operation of the AR-15 Patrol Rifle
  - a. Nomenclature
    - i. Upper Receiver Group
      - 1. Compensator / Flash suppressor
      - 2. Barrel
      - 3. Barrel extension
      - 4. Chamber and Locking Lugs
      - 5. Feed Ramps
      - 6. Front Sight Post and Shield
      - 7. Sling Swivel

8. Upper and Lower Hand Guards
9. Slip Ring
10. Gas Tube
11. Carrying Handle (fixed or removable)
12. Rear Flip Sight Aperture
13. Rear Sight Elevations and Windage Knobs
14. Brass Deflector
15. Forward Assist
16. Ejection Port
17. Dust Cover
- ii. Lower Receiver Group
  1. Butt Stock
  2. Buffer & Buffer Spring
  3. Sling Swivel
  4. Take Down Pin
  5. Pivot Pin
  6. Trigger
  7. Trigger Guard
  8. Hammer
  9. Rifle Grip
  10. Bolt Catch
  11. Selector Lever
  12. Magazine Well
  13. Magazine Catch / Release
- iii. Bolt Carrier Group
  1. Bolt Carrier
  2. Bolt
  3. Bolt Carrier Key
  4. Gas Rings
  5. Extractor
  6. Extractor Spring / Pin
  7. Bolt Cam Pin
  8. Firing Pin
  9. Firing Pin Retaining Pin
  10. Ejector
- iv. Magazine
  1. Body
  2. Floor Plate
  3. Follower
  4. Spring
  5. Feed Lips
- v. Other Items
  1. Tactical Sling
  2. Tactical Light
- b. Cycle of Operation
  - i. Firing
    1. Trigger releases hammer
    2. Hammer hits firing pin
    3. Firing pin strikes the primer
    4. Primer ignites which then ignites the powder
    5. Powder generates gas, which propels the bullet down the barrel

- ii. Unlocking
  1. Gas from the barrel enters the gas tube
  2. Gas travels along the tube and enters the bolt carrier key
  3. Bolt carrier moves backward
  4. Cam pin rotates the locking lugs
- iii. Extracting
  1. Bolt carrier continues backward
  2. Extractor which is gripping the rim of cartridge case withdraws the cartridge from the chamber
- iv. Ejecting
  1. Spring loaded ejector is compressed into bolt by base of the cartridge
  2. Bolt carrier continues backward
  3. When nose of cartridge clears the chamber it is thrown out ejection port
  4. Cartridge is deflected by the brass deflector
- v. Cocking
  1. Bolt carrier continues backward, forcing hammer down into receiver
  2. Hammer spring compressed
  3. Disconnecter engages the lower hammer hook
- vi. Feeding
  1. Bolt carrier clears top of magazine
  2. Magazine spring forces a new cartridge in front of bolt
  3. Buffer spring is compressed
  4. Bolt carrier is forced forward
  5. Cartridge stripped from magazine and pushed onto feed ramps
- vii. Chambering
  1. Moving forward, bolt face forces new cartridge into chamber
  2. Extractor grips rim of the cartridge case
  3. Ejector spring is compressed
- viii. Locking
  1. Bolt carrier continues forward
  2. Locking lugs are forced against barrel extension
  3. Cam pin rotates the locking lugs
- c. Function Check
  - i. Remove magazine and clear rifle
  - ii. Safe Position
    1. Pull charging handle and release
    2. Set selector on safe
    3. Pull trigger (hammer should not fall)
  - iii. Semi Auto Position
    1. Pull charging handle and release
    2. Set selector on Semi Automatic
    3. Pull trigger (hammer should fall)
    4. Keep trigger pulled to the rear
    5. Pull charging handle and release
    6. Slowly release the trigger (you should hear the sear reset)
    7. Pull the trigger (hammer should fall)
    8. If you do not hear the hammer fall, the rifle may be full automatic
  - iv. Magazine
    1. Insert empty magazine into magazine well and lock into place

2. Set selector switch on fire
3. Pull charging handle and release (bolt carrier should be held to rear)
4. Push top of bolt catch (bolt carrier should slam forward)
- v. Safe status of the Rifle
  1. No magazine in the well
  2. Chamber open
  3. Charging handle forward
  4. Safety on

#### D. Characteristics of the AR-15 Patrol Rifle

- a. Type of weapon
  - i. Air cooled
  - ii. Gas operated
  - iii. Magazine fed
  - iv. Semi Automatic
- b. Barrel
  - i. Lengths
    1. 11 ½ inch
    2. 14 ½ inch
    3. 16 inch
    4. 20 inch
  - ii. Twist
    1. 1 in 7 on new rifles
    2. 1 in 12 on early rifles (no forward assist)
    3. 1 in 14 on Vietnam era rifles
- c. Sights
  - i. Front sight is an adjustable post
  - ii. Rear sight is adjustable peep with two aperture sizes
    1. Small – Low light, Long range
    2. Large – Short range, Fast target acquisition
- d. Trigger pull is 5 to 8 pounds
- e. Rate of Fire
  - i. 45 to 65 rounds per minute (one minute in semi automatic)
  - ii. 12 to 15 rounds per minute (sustained fire)

#### E. Cleaning & Maintenance of the AR-15 Patrol Rifle

- a. Disassembly
  - i. Remove magazine, clear rifle and disconnect the sling
  - ii. Disassembly into Groups
    1. Push in takedown pin as far as it will go
    2. Pivot upper receiver away from lower receiver
    3. Push in pivot pin
    4. Separate upper and lower receivers
    5. Pull back charging handle and bolt carrier
    6. Remove bolt carrier and bolt
    7. Remove charging handle by pulling back and up
  - iii. Disassembly of bolt carrier group
    1. Remove firing pin retaining pin
    2. Push bolt to locked position

3. Drop firing pin out rear of bolt carrier
  4. Give cam pin a ¼ turn and lift out
  5. Remove bolt assembly from carrier
  6. Push extractor pin from bolt with a punch
  7. Remove extractor pin and spring
  - iv. Disassembly of lower receiver group
    1. Press in buffer, depress retainer and release buffer
    2. Remove buffer and action spring
  - v. Disassembly of the hand guards is not recommended
- b. Cleaning
- i. Cleaning the bore
    1. Swab out the bore with a patch moistened with “CLP”
    2. Insert end of rod, without brush, through barrel to chamber
    3. Attach bore brush to rod and pull it through the bore to the muzzle
    4. Repeat three or four times
    5. Swab out the bore with a patch
  - ii. Cleaning the upper receiver and bolt carrier group
    1. Clean the chamber using a chamber brush
      - a. Dip it in CLP
      - b. Use at least five plunge strokes
      - c. Use at least three clockwise rotations
      - d. Swab out the chamber and bore
    2. Run a pipe cleaner into the gas tube, bolt carrier key
    3. Clean bolt locking lugs, bolt rings, firing pin, bolt cam pin, etc.
    4. Cleaning the ejector
      - a. Remove bolt from carrier and hold it with the lugs up
      - b. Dribble a few drops of CLP around the ejector
      - c. Using a fired case, place it under the lip of the extractor
      - d. Rock the case against the ejector
      - e. Wipe away excess CLP
  - iii. Cleaning the lower receiver by wiping dirt away from the trigger mechanism, buffer, action spring, etc.
- c. Inspection
- i. Bolt – check for cracks (especially in the cam pin hole area) and pits near firing pin hole
  - ii. Firing pin – Replace if bent, cracked, too blunt or too sharp
  - iii. Firing pin retaining ring – Replace if bent or badly worn
  - iv. Cam pin – If cracked or chipped, replace it
  - v. Extractor and extractor spring – Look for chips, broken edges on the lip that engages the cartridge rim. Rubber insert should be inside the extractor spring.
- d. Lubrication
- i. Upper receiver
    1. Inside upper receiver, bore, chamber, and locking lugs
    2. Front sight
  - ii. Lower receiver
    1. Inside the lower receiver extension, buffer tube and action spring
    2. All moving parts inside the lower receiver
  - iii. Bolt carrier group
    1. Firing pin and firing pin recesses in the bolt

2. Bolt, cam pin area, bolt gas rings, extractor and extractor pin, charging handle
  3. One drop of CLP inside carrier key
- e. Reassembly
- i. Insert action spring and buffer
  - ii. Insert extractor and spring
  - iii. Push in extractor pin
  - iv. Slide bolt into carrier
  - v. Replace bolt carrier cam pin (give cam pin a ¼ turn after insertion)
  - vi. Drop in and seat firing pin
  - vii. Pull bolt out
  - viii. Replace firing pin retaining pin
  - ix. Insert charging handle part way
  - x. Position carrier key in slotted bottom of charging handle
  - xi. Slide in bolt carrier group
  - xii. Join upper and lower receivers
  - xiii. Engage pivot pin
  - xiv. Close upper and lower receiver groups and push in takedown pin
  - xv. Function check the rifle and return it to a safe status
- f. Storage
- i. Armory
    1. No magazine in the well
    2. Chamber open
    3. Charging handle forward
    4. Safety on
  - ii. Patrol vehicle
    1. Magazine in the well
    2. Chamber closed
    3. Chamber empty
    4. Charging handle forward
    5. Safety off

## F. Shooting the AR-15 Patrol Rifle

- a. Marksmanship Fundamentals
  - i. Sight Alignment
    1. The relationship of the front sight to the rear sight
    2. Description of correct alignment for AR-15 iron sights
    3. Errors in alignment and resulting shot placement
  - ii. Sight Picture
    1. The relationship of sight alignment to target
    2. Center hold versus six o'clock hold
    3. Front sight in focus; Rear sight and target out of focus
    4. Minimum arc of movement
  - iii. Breathing
    1. Inhale, Exhale, and Respiratory Pause
    2. Most stable during respiratory pause
    3. About eight seconds
  - iv. Trigger Control
    1. The only dynamic fundamental
    2. Finger off trigger until ready to shoot
    3. Sear reset

- v. Stance
  - 1. Standing
    - a. Strong Side
    - b. Support Side
  - 2. Kneeling
    - a. High (Unsupported)
    - b. Low (Supported)
  - 3. Sitting
    - a. Open Leg
    - b. Crossed Let
  - 4. Prone
    - a. Varied Leg
    - b. Roll Over
- vi. Grip
- vii. Follow Through
  - 1. The commitment of the shooter to continue the application of the fundamentals to the act of shooting until disrupted by recoil.
  - 2. Eyes open throughout shot
  - 3. No anticipation of the shot
  - 4. Immediately prepare for the next shot
- b. Stoppages and Malfunctions
  - i. Stoppage versus Malfunction
    - 1. Stoppage – Unintentional interruption in the cycle of operation
      - a. Failure to Fire
      - b. Failure to Eject
      - c. Failure to Extract
      - d. Failure to Feed
    - 2. Malfunction – Cessation of fire due to a mechanical failure
      - a. Broken gas rings
      - b. Broken firing pin
      - c. Broken extractor
  - ii. Clearing the Stoppage
    - 1. Consider time, distance, and cover
    - 2. Initial Procedure
      - a. Tap – Ensure that the magazine is seated
      - b. Rack – Pull charging handle to the rear and release
      - c. Cover – Return to threat
    - 3. Secondary Procedure
      - a. Lock – Pull charging handle with right hand, lock the bolt back with the left
      - b. Release – Push magazine release with the right hand
      - c. Pull – Remove the magazine from the well with the left hand
      - d. Grip – Reestablish your grip
      - e. Cleanse
        - i. Pull charging handle to the rear and release several times
        - ii. May need to remove round with your fingers
      - f. Insert – Place a magazine in the well
      - g. Pull – Pull charging handle with right hand and release
      - h. Cover – Return to threat

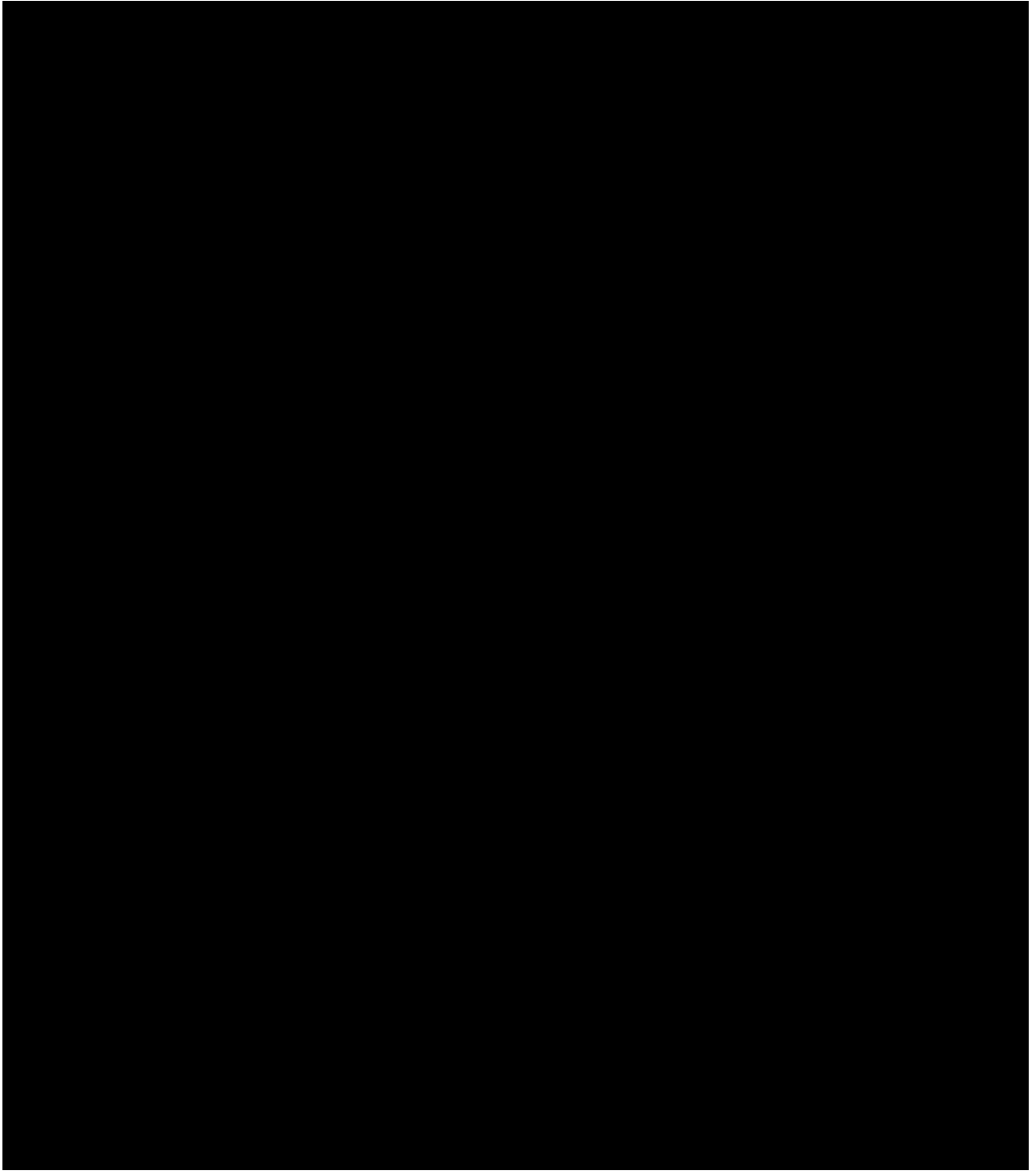
4. Transition to handgun
- c. Magazine Changes
  - i. Administrative
  - ii. Tactical
  - iii. Combat
- d. Press Checks
  - i. Regular
    1. Low Ready
    2. Rotate rifle to left until ejection port is visible
    3. Pull charging handle slightly with left hand just enough to see if a cartridge is chambered
  - ii. Low Light
    1. Low Ready
    2. Rotate rifle to left so that ejection port faces up
    3. Pull charging handle slightly with left hand
    4. Use a finger on the right hand to feel inside the chamber to determine if a cartridge is chambered

#### G. Ballistics of the AR-15 Patrol Rifle

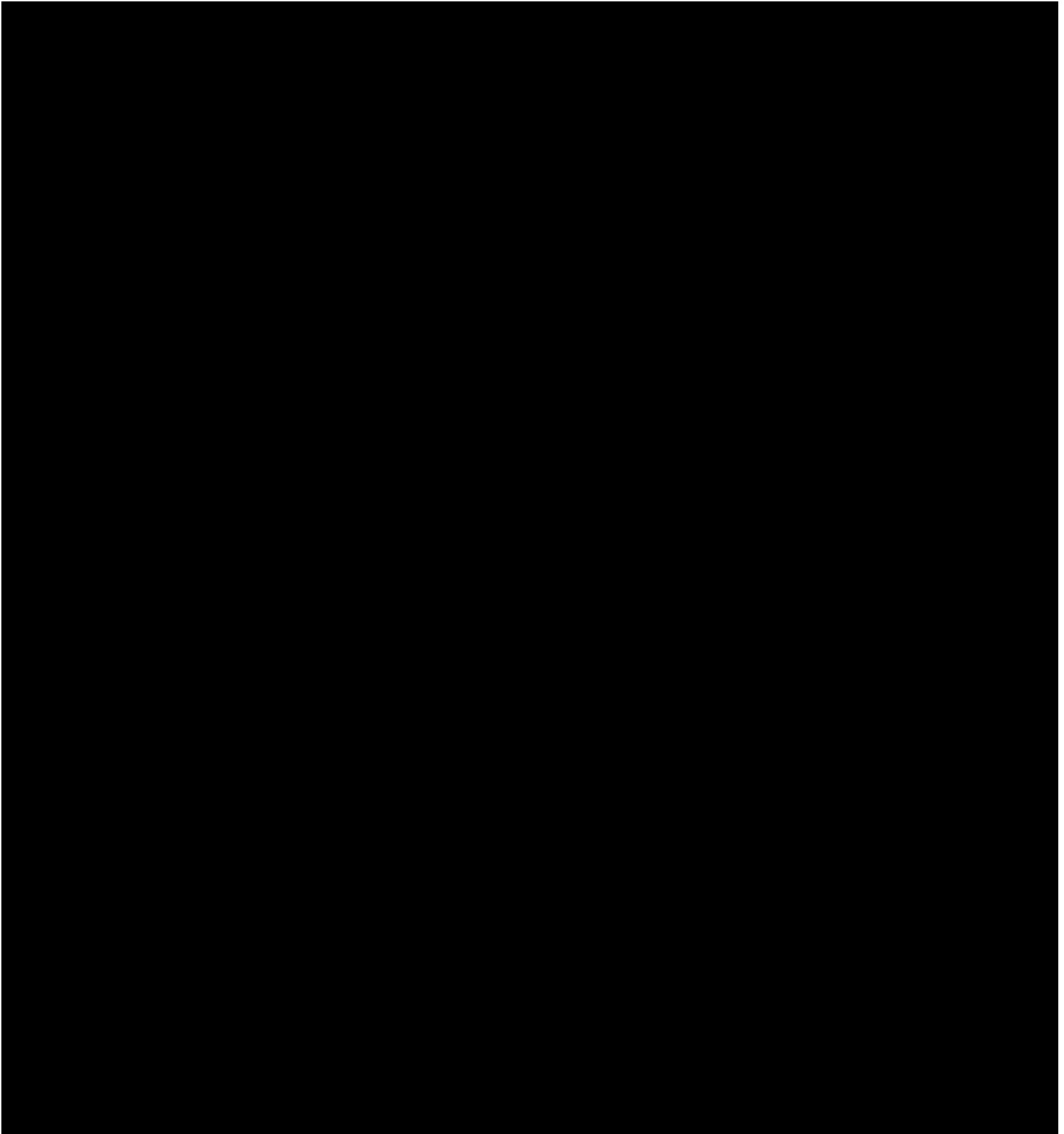
- a. Internal Ballistics – Bullet behavior or motion while within the weapon
  - i. Parts of the Cartridge
    1. Case
    2. Primer
    3. Propellant
    4. Bullet
      - a. Weight
      - b. Shape
      - c. Jacket
  - ii. Authorized Ammunition
    1. Duty
      - a. Winchester Ranger
      - b. 65 grain
      - c. Soft Pont
    2. Practice
      - a. Winchester
      - b. 55 grain
      - c. FMJ
- b. Terminal Ballistics – Bullet behavior or motion after target impact
  - i. Incapacitation
    1. Projectile Wounding
      - a. Penetration – Depth to which the bullet passes through the target
      - b. Permanent Cavitation – The hole left behind in the wake of a passing bullet
      - c. Temporary Cavitation – Reaction of the tissue to move out of the way of the bullet
      - d. Fragmentation – Shattering of the bullet (or bone) on impact
    2. Mechanisms
      - a. Disruption of central nervous system
      - b. Exsanguination

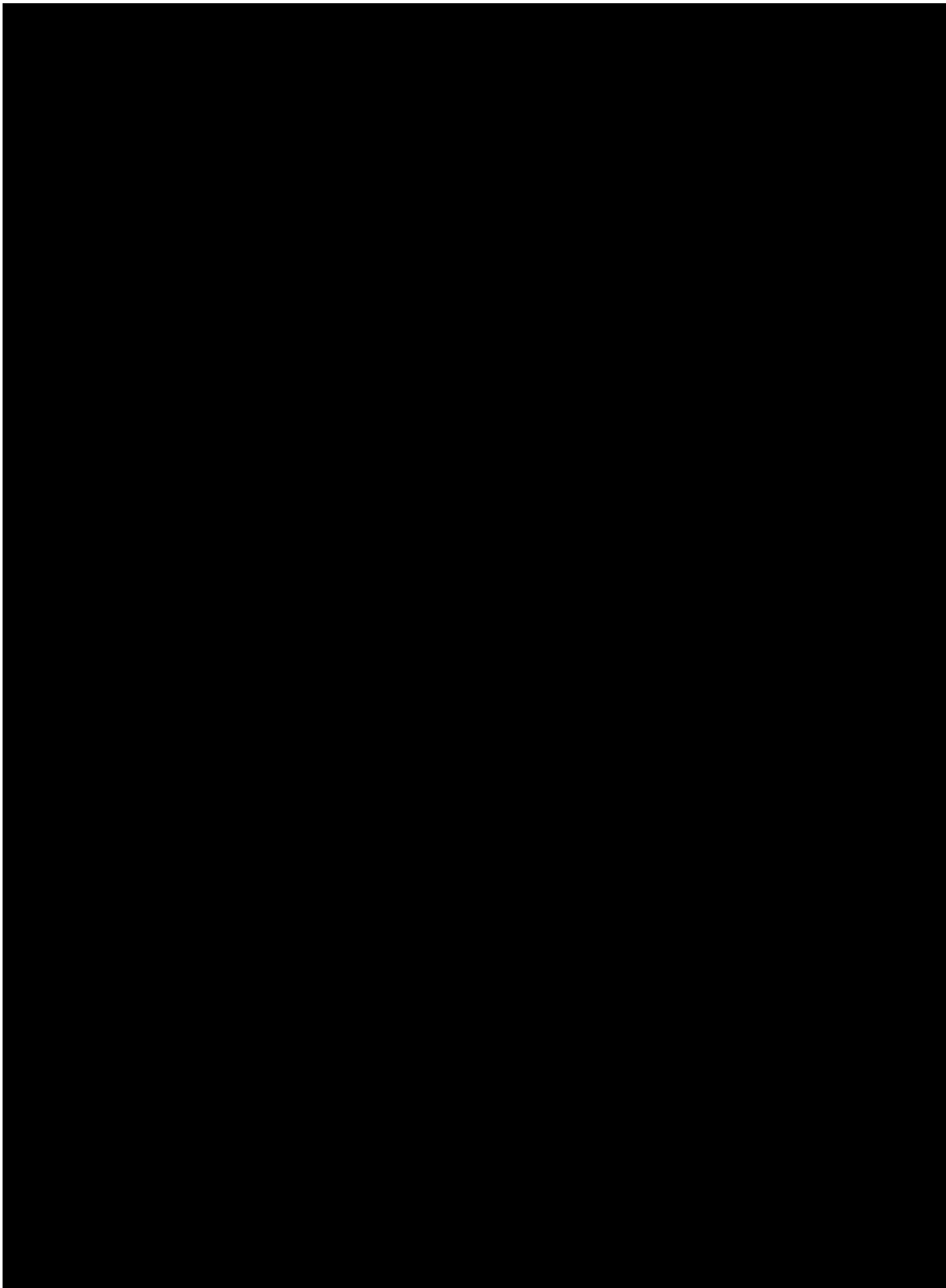


- ii. QIT – Quick Incapacitation Target
- c. External Ballistics – The flight of the bullet after it leaves the gun and before it impacts the target
  - i. Gravity versus Drag
  - ii. Basic Concepts
    - 1. Line of sight
    - 2. Line of departure
    - 3. Trajectory
    - 4. Point of aim
    - 5. Point of impact
    - 6. Drop
  - iii. Zeroing (or “Sighting In”)
    - 1. Definition – Adjusting the sights so that, at a known distance, the point of impact is the point of aim
    - 2. Elevation changes are made by adjusting the front sight post
      - a. Each click moves the point of impact about ½ inch at fifty yards
      - b. Sight mount is marked in the direction of “Up”
      - c. Move sight in the direction you want the bullet holes to move
    - 3. Windage changes are made by adjusting the rear sight
      - a. Each click moves the point of impact about ¼ inch at fifty yards
      - b. Sight wheel is marked with an “R” for right
      - c. Move sight in the direction you want the bullet holes to move
    - 4. Zeroing Procedure
      - a. Zeroing will be done at fifty yards
      - b. Use the ammunition you will carry on duty
      - c. Fire five rounds at the target using the most stable position
      - d. Find the center of the five shot group
      - e. Adjust sights as needed
      - f. Repeat as necessary
    - 5. “Doping” Your Rifle
      - a. Determine what adjustments must be made to your point of aim when shooting from distances other than fifty yards
      - b. Closer than fifty yards, the point of impact will be lower than the point of aim; Aim high
      - c. Further than fifty yards, the point of impact will be higher than the point of aim; Aim low



- I. Post Test
  - a. Review
  - b. Post Test







## 9. Clean Up