



ADVANCED TACTICAL HANDGUN INSTRUCTOR

TABLE OF CONTENTS

PROGRAM GOALS	3
AND OBJECTIVES.....	3
COURSE OUTLINE.....	5
FIREARMS SAFETY RULES	7
INSTRUCTOR DEVELOPMENT.....	8
COACHING SKILL DEVELOPMENT	26
TRAINING CONSIDERATIONS	32
COURSE DEVELOPMENT	40
PHYSICAL CONDITIONING FOR LAW ENFORCEMENT OFFICERS.....	42
RANGE COMMANDS	47
TEACHING BASIC SHOOTING TECHNIQUES	53
WHY SHOOTERS FAIL	59
SHOOTING DRILLS	62
AMMUNITION	63
GETTING THE RIGHT TWIST	89
COVERT CARRY AND PLAIN CLOTHES OPERATION.....	91
TACTICAL HANDGUN.....	107
TRAINING CONSIDERATIONS	109
RANGE EXERCISES.....	116
REDUCED LIGHT TECHNIQUES	119
INTERACTIVE USE OF FORCE TRAINING	138
COVERT CARRY INSTRUCTOR PRACTICAL EXAM.....	145
FIREARMS PREVENTATIVE MAINTENANCE GUIDE	149

PROGRAM GOALS AND OBJECTIVES



Program Goal

To elevate the Firearms Instructor and Range Master above the level previously certified by expanding their knowledge base, operational skills and instructional capability in the areas of officer survival, concealed / covert carry, and range operations. This program will provide both technical and tactical training techniques that are based on duty specific requirements. Therefore, the overall program goal is to develop an Instructor who is capable of teaching both the science of effective handgun shooting at close quarters and the art of concealed carry to their personnel. This will be accomplished with a combination of both classroom and range activity.

Program Objectives

Upon successful completion of this program, the participant will know:

1. The influences that civil litigation, case law, and agency policy have on training and the application of force.
2. Instructional methods specific to long term retention of material.
3. How to conduct safe, effective training.
4. Adult learning theory as it applies to public speaking, classroom presentation, and motor skill development.
5. How to develop course of fire, tactics and techniques specific to concealed carry situations.
6. Coaching principles and effective on – line instruction techniques.
7. Why shooters fail and what to do about it.
8. Understanding standard operating procedures (SOPs) for live fire range training.
9. Understanding advantages and disadvantages of concealed carry options.
10. Backup options.
11. Advancing the fundamentals of marksmanship for concealed carry.
12. Firearms safety in the office, home, and vehicle.
13. Concealed carry handguns - advantages and disadvantages.
14. Holsters and carry systems - advantages and disadvantages.
15. Equipment selection considerations.
16. Optional carry positions.
17. Optional equipment (flashlights, impact weapons).
18. Safe loading and unloading for concealed carry.
19. One-handed and two-handed drawing and re-holstering techniques.

20. CQB techniques for violent encounters.
21. Sighted and unsighted shooting techniques.
22. Dominant and support hand shooting techniques.
23. Justification of multiple shot techniques.
24. Identification and engagement of multiple opponents.
25. Shooting while moving.
26. Engaging moving threats.
27. Identification and utilization of cover.
28. Tactics and techniques in and around vehicles.
29. Diminished light techniques.
30. Inspection and maintenance.
31. Interactive force-on-force training.

The student will be evaluated by the following methods:

1. Oral presentation.
2. Lesson plan development.
3. Practical examination.
4. Live fire courses.
5. Interactive force-on-force.
6. Overall safe weapons handling.

COURSE OUTLINE



DAY 1: A.M.

1. Program introduction
 - a. Program goals and objectives
 - b. Staff and student introductions
 - c. Safety rules, liability waiver
 - d. How students will be evaluated
 - e. Manual overview
 - f. Firearms safety – office, home, vehicle
2. Instructor development
 - a. Principles of adult learning
 - b. Outline and use
 - c. Lesson plan development
 - d. Communication skills
 - e. Public speaking
 - f. Course development

DAY 1: P.M.

1. Instructor development (continued)
 - g. Coaching skill development
 - h. Range commands
 - i. Objective of on-line instruction
 - j. Working with problem shooters
 - k. Function check of handguns
 - l. Live fire exercises
 - i. One hole drill / sighted versus unsighted shooting
 - m. Review of practical exam

DAY 2: A.M.

2. Review of coaching techniques
 - a. Support equipment
3. Understanding standard operating procedures
4. CQB techniques for violent encounters

DAY 2: P.M.

5. Range operations and setup
6. Review of practical examination

DAY 3: A.M.

7. Advanced tactics and techniques
 - a. Movement
 - b. Seated
8. Utilization of cover
9. Multiple threats / targets

DAY 3: P.M.

10. Introduction to diminished light techniques and tactics (classroom)
11. Range:
 - a. Flashlight techniques
 - b. Tactical light techniques
12. Review of Practical Examination

DAY 4: A.M.

13. Range:
 - a. Shooting in, around, and from vehicles
 - b. Vehicles, cover? and concealment

DAY 4: P.M.

14. ASIS – 3000 judgment shooting / prep for classroom presentations

DAY 5: A.M.

15. Classroom presentations and feedback

DAY 5: P.M.

16. Practical Exam coach / student
17. Final qualification course
18. Closing, critiques and graduation

A. CARDINAL RULES OF FIREARMS SAFETY:

1. Treat all firearms as though they are loaded.
2. Point the muzzle in a safe direction at all times.
3. Keep your finger outside the trigger guard until you are on target and have decided to fire.
4. Be sure of your target and what is beyond it.

B. SPECIFIC RULES:

1. Do you have any physical disability, limitation, illness or other condition that would affect your ability to participate safely in any aspect of this program? Yes ____ No ____ (Initials)
2. Are you under the influence of any prescription/non prescription drug or alcohol that would influence your safe participation in any aspect of this program? Yes ____ No ____ (Initials)
3. Ear protection, wrap around eye protection and hat with brim are required to be worn at all times while shooting on the range. This applies to shooters, instructors and observers.
4. When you pick up a firearm, keep your finger off of the trigger, point the muzzle in a safe direction, open the action and check both visually and physically to see that it is unloaded.
5. Check a second time.
6. Never give or take a firearm from anyone unless the action is open for inspection.
7. Load/reload/unload only after position is taken at the firing point and on command.
8. Keep the firearm pointed down range at all times.
9. Never draw a handgun from the holster on the range unless instructed.
10. Never draw/re-holster with your finger in the trigger guard or on the trigger.
11. NEVER holster a cocked weapon (cocked and locked weapons excluded). ____ (Initials)
12. Always wash hands and face after leaving the range and shower & change clothing at the end of a shooting day to reduce the possibility of lead contamination.
13. Never go forward of the firing line unless instructed.
14. Never step back from the firing line unless your handgun is safely holstered, and the instructor directs you to do so.
15. While on the firing line, never bend over to retrieve dropped articles until instructed to do so.
16. No talking on the firing line except by, or with an instructor.
17. No eating, chewing tobacco or smoking on the firing line.
18. Pay strict attention to the instructor and the tower.
19. Never anticipate a command.
20. Never permit the muzzle of a firearm to touch the ground.
21. Conduct a proper safety check of the weapon before and after a training session.
22. Never dry fire on the range unless instructed to do so.
23. All safety precautions must be adhered to and will be enforced. .
24. You are expected to use good judgment, and to refrain from attempting any exercise, which you may not be able to perform safely, based upon your own ability, equipment, prior training or physical condition. ____ (Initials)
25. Eye protection MUST be worn when cleaning any firearm. ____ (Initials)
26. Females who are pregnant or breast feeding should not participate in firearms training or be allowed on the range.
27. REMEMBER: Everyone has the responsibility for range safety.

It's not just how much
you know or how well
you can shoot.
It's how much your student
ends up knowing and how
well they can do it based
upon your instruction



Know Your Audience

- Audience Analysis
- Needs Analysis
- Incorporate this into your
Training Development /
Management

Four Categories of
"Shooters" / "Students"
in terms of ability & attitude

- Willing and Able
- Willing and Unable
- Unwilling and Able
- Unwilling and Unable

Three Types of Attendees
to a professional development
course

- The "Prisoner" / "The Hostage"
- The "Vacationer" / "The Coaster"
- The "Volunteer"

Principles of Adult Learning

- Learning Theory
- Planning the Learning Sequence
- Teaching by Objectives
- The Outline and Its Uses
- Lesson Plan Development
- Communications Skills
- Lecture Skills Model
- Using the Lecture Model Effectively
- Preparation and Use of Audiovisual Materials

Learning Theory

- **Conditions Under Which People Learn Best (try to incorporate these)**
 - Motivation
 - Active Participation
 - Practical
 - Knowledge of Progress
 - Direct Application

Learning Theory

- **Learning Plateaus (watch for these)**
 - Consolidation
 - Lack of Understanding
 - Fatigue or Boredom

Planning the Learning Sequence

- Goal Clarity and Learning Effectiveness
- People Learn What they Practice
- Learning is Increased by Knowledge of Results
- Nothing Motivates like success
- Most Students Never Reach their Potential
- Learning Must Be Organized for Best Effects

Teaching By Objectives

- **Definition of An Objective**-statement of a what the officer will be able to do after instruction that could not be done prior to that instruction
- Uses
- Performance Objectives

Example of a *Performance Objective*



- With issued 12 gauge shotgun loaded to capacity in firing condition, the shooter will **engage multiple targets** with all ammunition from the low ready position at a range of less than 7 yards, then safety **transition to handgun** to **reengage** each target from an exposed duty or tactical rig, with all shotgun rounds hitting the upper chest or head, and at least one handgun round on each target, within 20 seconds from the time that the targets turned.

The Outline and Its Use

- Research Methods
- Applications-organizes information in a logical sequence, provides an overview of research, organizes classroom presentations
- Structure (Introduction, Presentation, Summary, Critique)

Lesson Plan Development

- Preparation of Text - to include purpose, scope/audience analysis, relevancy, and feedback
- Formulation of Performance Objectives
- Composition of Lesson Plan Objectives
- Structure of the Lesson Plan

Communications Skills

- **VERBAL**
 - "There is no index of character so sure as the voice" - Benjamin Disraeli
 - Eliminate or reduce defective speech
 - Train the Ear - find out what works
- **NON-VERBAL**
 - Appearance
 - Facial Expressions
 - Proxemics
 - Pauses
 - Gestures

To Improve your Speech Patterns, the three main areas of concern are:

- Articulation (distinct, accurate, harmoniously spoken and blended words)
 - Pronunciation
 - Enunciation
- Voice Tones (tone)
 - Loudness
 - Pitch
 - Voice Quality
 - also-nasality, denasality, breathiness, hoarseness,
- Rhythm (rate, phrasing, pausing)

Nonverbal Communication

- Appearance - dress the part / be aware of how you will be perceived
- Facial Expressions
- Proxemics - eye contact, posture, distance, and spatial environment
- Pauses - filled and unfilled
- Gestures - deliberate movements to transmit messages or reinforce verbal ideas

Lecture Skills Model

- General Preparation
- Specific Preparation
- Delivery
 - Introduction
 - Body
 - Summary, Conclusions
 - Critique

Using the Lecture *Effectively*

- Best used to convey enthusiasm, share insights, give an introduction or summary, or when teaching situations where there is a large class or where interaction is difficult
- May be the least effective method - *not to be used if desired result is long term memory (can be enhanced through)*
- Easily adapted to specialized audiences

Lectures-how to be more *effective*

- Preparation
- Personal Style
- Delivery
- Use in conjunction with other methods
- Narrow it down to what is most important to be presented in this method
- Use and master visual aids
- Back up your lecture with a handout



Preparation & Use of Visual Aids

- Lesson Plan
- Handout
- Whiteboard / Chalkboard
- Acetates / Overheads
- Video
- Props
- Flip Charts
- LCD / TV projection of slideshows

Improving Public Speaking and Instructor Skills

- Instructor Courses
- Public Speaking Class
- Speech Groups
- Videotape self teaching
- Assist with training and watch other instructors
- Plan Ahead / Know Topic



Liability Issues



Training Program Requirements and Defensibility

Training Program Requirements

- Staff Instructor Credibility
- Program Content (Frequent, Realistic, Relevant, and Recorded)
- Trainer Liability
- Reducing Liability
- Applied Concepts in Lethal Force Training (Case Law / Litigation that affects policy and firearms instructors)
- Sources of Research
- Documentation of Training

Coaching

Coaching Skill Development

- Introduction
- Cold Range Procedure
- Hot Range Procedure
- Range Commands
- Objectives of On-Line Instruction
- Evaluation of Physical Skills
- Problem Areas
- Target Analysis
- Physical Conditioning for LEOs

Designing Courses of Fire

RELEVANT COURSE
DESIGN
through
CRITICAL INCIDENT REVIEW

TOPICAL AREAS

- INTRODUCTION, BASIS, AND JUSTIFICATION FOR THE COURSES
- CRITICAL INCIDENT REVIEW
- PRINCIPLES AND CONSIDERATIONS IN COURSE OF FIRE DESIGN
- DETERMINE REFERENCES/ SOURCES OF INFORMATION

INTRO - APPROACHES

- LESSONS LEARNED-those who do not know their history may be doomed to repeat it- HISTORY REPEATS ITSELF
- CRIMINAL CULTURE-growing more complex and sophisticated than ever
- SCRIMAGE or REHEARSAL
- "IT HAPPENS SOMEWHERE ELSE"
- SQUARE RANGES AND BULLEYES THAT DON'T SHOOT BACK
- GOOD TRAINING IN GENERAL (ods-cp)

MAJOR INCIDENTS

AND THEIR IMPACT
ON FIREARMS TRAINING

- 70'S -NEWHALL INCIDENT
CALIF. TRUCKSTOP
- 80'S - FBI MIAMI INCIDENT
FELONY CAR STOP
- 90'S - LA/NORTH HOLLYWOOD
BANK HEIST/RIFLES
- 90'S - COLEBROOK, NH (Carl Drega)

JUSTIFICATION

FOR REALISTIC COURSES OF FIRE

- | | |
|--|--|
| • PREVIOUS INCIDENTS | • Popow vs. Margate |
| • REPORTS | • City of Oklahoma vs. Tuttle |
| • OFFICER SAFETY | |
| • PUBLIC SAFETY | • Zuchel vs. City and County of Denver |
| • CASE LAW - HAS BEEN MANDATED BY THE COURTS | |

**WHAT THE COURTS ARE SAYING
OUR TRAINING SHOULD INCLUDE....**

- MORE FREQUENT TRAINING
- MOVING TARGETS
- DIMINISHED LIGHT
- JUDGEMENTAL SHOOTING
- USE OF COVER
- TRAINING IN RESIDENTIAL AREAS
- SIMULATORS OR FILMS TO TEACH POLICY
- TRAINING THAT SUPPORTS AND REENFORCES POLICY
- DISCIPLINE AND RETRAINING FOR IMPROPER USE OF FORCE
- INTEGRATION OF DT AND OTHER SURVIVAL SKILLS

**RELEVANCE AND TAILORING THE
COURSE OF FIRE**

- UNIFORMED PATROL (and type)
- PLAINCLOTHES
- UNDERCOVER OPERATIONS
- TACTICAL OPERATIONS*
- CORRECTIONAL RESPONSE
- OFF/DUTY* (concealed carry/wpn)
- OTHER-DIGNITARY PROTECTION, ARMORED COURIER, ARMED SECURITY, NUCLEAR PROTECTION, ETC.

**CRITICAL INCIDENT
REVIEW-General Sources**

- Incident Reports
- Cruiser Cams and CCTV
- Written After Action Reports/Lessons Learned/Professional Reviews
- Official Documentaries (FBI, DEA, LETN, etc)
- Interviews and Briefs
- Reporting Systems (NIJ, FBI, POST, etc.)
- Professional Publications
- Open Source Publication (clippings)

**CRITICAL INCIDENT
REVIEW-what to look for**

- Tactics or Techniques that were used successfully/what they did to win
- What went wrong and shortfalls that may relate to shortfalls in your training
- Was it tactics, physical skills/techniques, judgement, mindset, equipment*, etc.?
- Incidents that relate to your personnel's position, equipment, type of situations, etc.
- Times, distance, cover, movement, obstacles, lighting, no. opponents, no. officer, etc.

PRINCIPLES OF TRAINING
as they relate to course of fire design

- SAFETY (practical, tactical, range)
- PRACTICALITY
- REALISM
- ASSESSMENT-STANDARDS-GOALS
- RELEVANT TO JOB DESCRIPTION, MODE, AND LIKELY EVENTS

**CONFRONTATION
RESPONSE
or
Body
Alarm
Reaction**

"BODY ALARM" REACTION

possible physiological and psychological reactions to life threatening encounters

- Perceptual Narrowing (tunnel vision)
- Loss of Visual Acuity
- Auditory Exclusion
- Muscular Tightening
- Loss of Fine Motor Skills, Coordination, Digital Dexterity
- Time-Space Distortion
- Unreliable Mental Track
- Impaired Decisionmaking

STIMULI



- RANGE VS. STREET
- RELATIONSHIP TO THE SHOOTER
- CONDITIONING
- TIME LAGS
- REALISTIC TARGETRY
- VOICE
- WHISTLES
- HORNS
- TURNING / POP-UP TARGETS
- DOWNRANGE SOUNDS, CUES, THREAT OF FORCE?

RANGE & FACILITY LIMITATIONS

- ANGLES OF FIRE (vertical/horizontal, shooter position vs. target position/rng)
- DIRECTIONS OF FIRE (vs. shooters)
- NUMBER OF TARGETS
- PROXIMITY TO TARGET
- REACTIVE TARGETRY (downrange feedback or just 'paper shooting'?)

OTHER CONSIDERATIONS

- "SHOOTING IN THE SHOOTER'S TIME OR THE TARGET'S TIME?"
- WAS THE COURSE BASED MORE ON CONVENIENCE OR WHAT REALLY COULD HAPPEN?
- ARE THEY *TRUE OFFICER SURVIVAL DRILLS* OR ARE THEY JUST SHOOTING DRILLS?

COURSE OF FIRE:

OPTIONS AND LEVELS

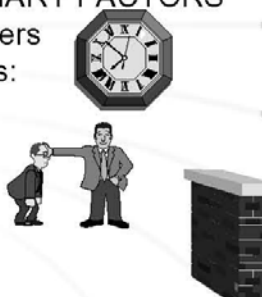
- LIVE FIRE-STATIC-NON-REACTIVE STATIC TGT*
- LIVE FIRE-STATIC-REACTIVE STATIC TGT
- LIVE FIRE-STATIC-NON REACT. MOVER
- LIVE FIRE-MOVING-NON REACTIVE/REACTIVE
- LIVE FIRE-MOVING-NON REACTIVE OR REACTIVE MOVER (HIT OR MYTH)
- LIVE FIRE-MULTIPLE OFFICER (ANY OF ABOVE)
- LIVE FIRE-MULTIDIRECTIONS*
- LIVE FIRE-INTERACTIVE (COMPUTER/VIDEO)
- INTERACTIVE-FORCE ON FORCE (SIMUNITION)
- INTERACTIVE-INTEGRATED USE OF FORCE

TRAINING, TACTICS, and TECHNIQUES must be suitable for the real world:

- ADOPT TECHNIQUES THAT ARE DESIGNED SPECIFICALLY FOR CLOSE QUARTERS CONFRONTATIONS
- ESTABLISH "MUSCLE MEMORY" AND *SUBCONSCIOUS PROGRAMMING* ON THESE THROUGH MULTIPLE, PROPER, IDENTICAL REPETITIONS ON A PERIODIC BASIS

THREE PRIMARY FACTORS
in close quarters
confrontations:

- TIME
- DISTANCE
- COVER

An illustration featuring a round clock with Roman numerals at the top. Below it, two men in suits are shown; one is pointing towards the other. To the right, there is a brick wall. The entire scene is set against a background of light rays emanating from the top right.

**THE COURSE OF FIRE
QUESTION**

DO YOUR FACILITIES, SKILL SETS,
POLICIES, AND RESOURCES
ALLOW YOU TO REASONABLY
REPLICATE WHAT YOUR OFFICERS
MAY ENCOUNTER ON OR OFF
DUTY?

**COURSE OF FIRE
COMPONENTS-formatting**

- ADMIN-WHO, WHAT, WHEN, WHERE,
WHY/REFERENCE, HOW, HOW WELL
- TITLE AND OBJECTIVE (TASK /
CONDITIONS / STANDARDS)
- SUPPORTING TASKS*
- COURSE OF FIRE DESCRIPTION
- COURSE OF FIRE DIAGRAM

COURSE OF FIRE
DIAGRAMMING AND
DOCUMENTING

ASSIGNMENT OF
COURSE OF FIRE
PROJECTS

THE IMPORTANCE OF....

MINDSET

.... In preparing for and
surviving confrontations



**CHANCE
FAVORS
THE
PREPARED
MIND**

POWER, STRENGTH, SIZE

- Its not necessarily the *size of the person* in the fight that matters, it's the *size of the fight* in the person !



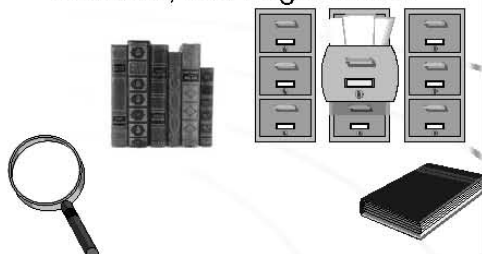
COMPONENTS of the MINDSET

- **SITUATIONAL AWARENESS** - this includes *alertness* and *diligence*
- **POSITIVE DEFENSIVE MINDSET** or the "*Winning Mind*" - the commitment and *will to survive* and win.
- **COMMON SENSE** and **GOOD JUDGEMENT**

Color Codes of Alertness – Where Do YOU Train?

- WHITE – No PERCEPTION of danger
- YELLOW – Relaxed AWARENESS
- ORANGE – ALERTED – high level of sensory awareness
- RED – Armed Encounter
- BLACK – Assault in progress (someone is trying TO KILL YOU)

Develop an Instructor File on
Techniques, Tactics, Training
Methods, and Legal Issues



I. OBJECTIVES OF ON-LINE INSTRUCTION

The prime objectives for an instructor while coaching the line are two-fold. First, the instructor must be the comparative model for all skills and techniques to be developed in order to provide the student with a suitable visual learning experience.

It is necessary that the instructor demonstrate the skill at no more than one-half speed or power to reduce the incidence of student error associated with moving too fast. Additionally, the instructor must be able to separate each skill into three component parts - beginning, middle and end - to demonstrate each motor skills stage and reinforce expected student behavior.

Secondly, the instructor must provide immediate individual feedback on performance to those being coached. A critique or evaluation that is delayed has limited training value. Further, constant criticism or attempting to indicate to the student everything that was in error all at once is counterproductive to student success. When the instructor/student ratio of 1 to 5 is maintained, an ample opportunity for individual growth is presented for the student.

The instructor must take an active approach in coaching in order to prevent the habituation of improper technique. This requires that the coach correct for deficiencies at the time they are observed rather than remanding the student to a remedial training program for adjustment. In all but extreme cases, remedial training that separates the student from the main body stereo types the student as one who cannot be depended upon in a shooting situation. However wrong this is, it sets up individual failure.

For the instructor to assume an active role, the instructor must:

- A. Completely understand the skill or technique being presented to be able to separate it into its three component parts for proper instruction.
- B. Be able to relate the technique to the overall structure of training to demonstrate a building block approach for learning and student success.
- C. Become a focused observer to single out the components of the technique demonstrated by the student.
- D. Understand the principles of developing motor skills by undertaking a basic study of anatomy and physiology.
- E. Know the standard for each skill or technique presented for instruction, coaching and evaluation.

There may be circumstances which will require that a deficient student be remanded to a scheduled remedial training program. If this is necessary, the instructor/student v ratio should be one to one. This type of instruction should be provided within 72 hours of program failure in order to build upon all successes noted in the earlier "- program. It is important that the instructor return to the basics for this type of instruction as this is likely where the fault lies.

Remedial training programs should not be rehearsals for qualification courses or performance evaluations. Rather, they should be fully structured training programs with specific objectives to reduce the incidence of student error. Remedial programs that are copies of assessments to be performed do a major disservice to the student, and the agency.

II. EVALUATION of PHYSICAL SKILLS

In the verbal communication section of this manual, reference was made to the practice of a prepared statement every day, a minimum of five times. This continued practice "educates" the palate and polishes your communicative style. So it is with physical skills.

The threshold of performance for developing any motor skill is a minimum of 25 repetitions. At the static level of development, this number of slow-motion repetitions anchors the skill or technique not only in the mind of the student but also in the muscle memory of the affected muscle groups. Additional repetitions reinforce the neural connection pathway between the motor center of the brain and the last muscle group to be activated.

Certainly it is important for your students to do their repetitions in numbers exceeding 25 as time allows. It is more important, however, for you to commit to daily practice of those techniques you teach in order to become, intimately aware of the technique and its physical requirements. You should video tape your practice sessions and, just like professional teams viewing game films, critique your performance and study ways to improve.

The video camera should also be used to video tape classes in motor skill development. Time needs to be allocated by you to the study of these films, as this study is your practice time in developing your coaching skills. If you do not study your students, your capacity as a coach is severely diminished.

Three things thus become apparent:

- A. Physical skills that you teach should be practiced every day. Set aside enough time to perform 25 repetitions of each skill. Log your practice sessions and time expended.
- B. Viewing your personal "game films" should be a weekly occurrence to structure your practice sessions for achievement.
- C. Viewing film footage of your students performing what they have been taught should be done frequently. For new instructors, viewing raw footage (ex. a two minute tape of the same student performing a specific task) should be studied five times per day. As you become more skilled in your powers of observation, the number and frequency of these sessions will diminish but should never be eliminated.

When evaluating the physical skills of others, you will find it helpful to carry a pocket recorder to note your observations. This allows your visual focus to remain on the student as you record your thoughts. Certainly a note pad will work in lieu of a recorder, but the down side is that you will spend more time looking at the pad than at the student.

Your range set-up will have a major impact on your ability to evaluate individual physical skills. Barriers such as indoor shooting booths or extreme distances between shooters outdoors (so no one gets hit by flying brass!?) create both observation and coaching problems for the instructor. When performing static drills, the maximum distance between each of your five students should be no more than 5 feet shoulder to shoulder. This allows you to see everyone and more importantly, respond to a problem immediately.

When you watch, you should walk the line. A slow paced walk, pausing when necessary, should continue from one end of your section of the line to the other at a distance of 3 feet from the backs of the students. This will allow you to study each student from both their open (support) and closed (dominant) sides. Additionally, it causes you to focus more on each student as opposed to standing in a fixed position behind the line watching the targets down range.

There will be times when you must work with an individual on the line. Where possible, have the range master delay the start of the next sequence until you have had the time to provide whatever corrective information was necessary. Under no circumstances should you delay line operations longer than 20 seconds.

Remember, that when you work with an individual you should focus on singular problems and correct them one at a time rather than trying to do everything at once. When you coach an individual, you need to be mindful that you have other individuals you are responsible for on the line. Show them the same courtesy in attention that you would with any student you stop to help.

When you are coaching a specific individual, there are three locations that you can work from. It is recommended that you use all three. The positions are:

- A. To the outside rear of the student's dominant shoulder and no farther away than 2 feet. Here, you can mirror the student's activity and remain close enough to make immediate physical correction.
- B. On line with the student, to the dominant side and facing, 1 foot to 2 feet away. This position gives you a lateral view and is the optimum position to determine weapon/eye alignment and dominant arm skills.
- C. On line with the student, to the support side and facing, 1 foot to 2 feet away. This position also provides a lateral view and is the optimum position to observe trigger control and support arm skills.

Safety is the most important factor when you use any of these positions. The lateral positions may cause your back to be laterally facing another shooter. Use the lateral coaching positions only during dry fire activities,

staying behind the line during live fire.

Unless it is necessary to physically stop a student from turning around, always make verbal contact with the student BEFORE making physical contact. Make sure that you do this from a position that allows you to stop the student if they are startled by you and start to turn around. The best position for this is the outside rear of the student's dominant shoulder.

Finally, you must be sensitive to gender issues when coaching physical skills. Since this type of training requires a "hands-on" approach, it is best to, secure permission, to touch before you attempt to do so.

Much of what you can do on the line to help those students assigned to you evolves from your developed one on one coaching skills. The more adept you become with individual coaching the easier and more time efficient line coaching will be. Consider the following aspects of coaching:

1. Complete mental and physical preparation checklist
2. Components
 - a. check safety procedures - eyes and ears
 - b. inspect weapon and ammunition
 - c. check equipment
 - d. mental review of fundamentals
 - e. establish zero for the weapon/ammunition combination
3. Planning the Shot Sequence - Dry Fire Activity
 - a. Minimize movement to the shooting position
 - b. Pick up sight picture quickly
 - c. Take up trigger slack
 - d. Begin trigger pressure
 - e. Anchor shooting position
 - f. Concentrate on front sight
 - g. Follow through (recoil - reset - recover)
4. Relaxation
 - a. Relax the shooter's mind and body
 - b. Watch for unnecessary body tension
 - c. Reinforce student efforts positively and immediately
5. Deliver the Shot
 - a. Awareness of every step of the shot sequence (B., above)
 - b. Be assertive with the shot delivery
 - c. Deliver shot exactly as planned
6. Shot Analysis
 - a. Analyze each shot
 - b. Use "call the shot" technique and instructor feedback
 - c. Success must be reinforced immediately
 - d. Error must be corrected immediately
7. Shot Correction
 - a. Agreement between instructor and student of identified problem
 - b. Remedial information/drill provided
 - c. Immediately reinforce success

III. PROBLEM AREAS

A. Bad Habits

1. As a result of improper or ill fitting equipment
2. From improper or lacking initial instruction
3. Caused by refusing to correct identified problems

4. Created when performance standards do not exist
5. As a result of media influence (TV, movies)
6. Caused by instructors who do not coach

B. Fundamental Deficiencies

1. Stance
 - a. balance must be constant, fluid and sustained
 - b. demonstration of an inappropriate mix of stances
 - c. arms positions to stabilize shooting platform
 - d. inappropriate rigidity of body
 - e. inappropriate movements - squatting, stepping, leaning to rear
2. Grip
 - a. poor fit of weapon size to hand size
 - b. incorrect positioning of hands to each other and to circumference of grip frame
 - c. failure to lock dominant wrist
 - d. inappropriate grip tension
 - e. inability to completely encircle grip frame
3. Trigger control
 - a. too much or too little finger on the trigger
 - b. jerking or slapping the trigger
 - c. staging the trigger
 - d. loss of finger contact with the trigger during firing sequence
 - e. full flexing of the dominant hand during operation, i.e., "milking" the grip
4. Sight alignment/sight picture
 - a. lack of understanding of terms
 - b. vision focus at incorrect location
 - c. eye focusing difficulties (physiological)
 - d. use of inappropriate colors to distinguish front and rear sights (nail polish, etc.)
 - e. failure of student to bring weapon to line of sight

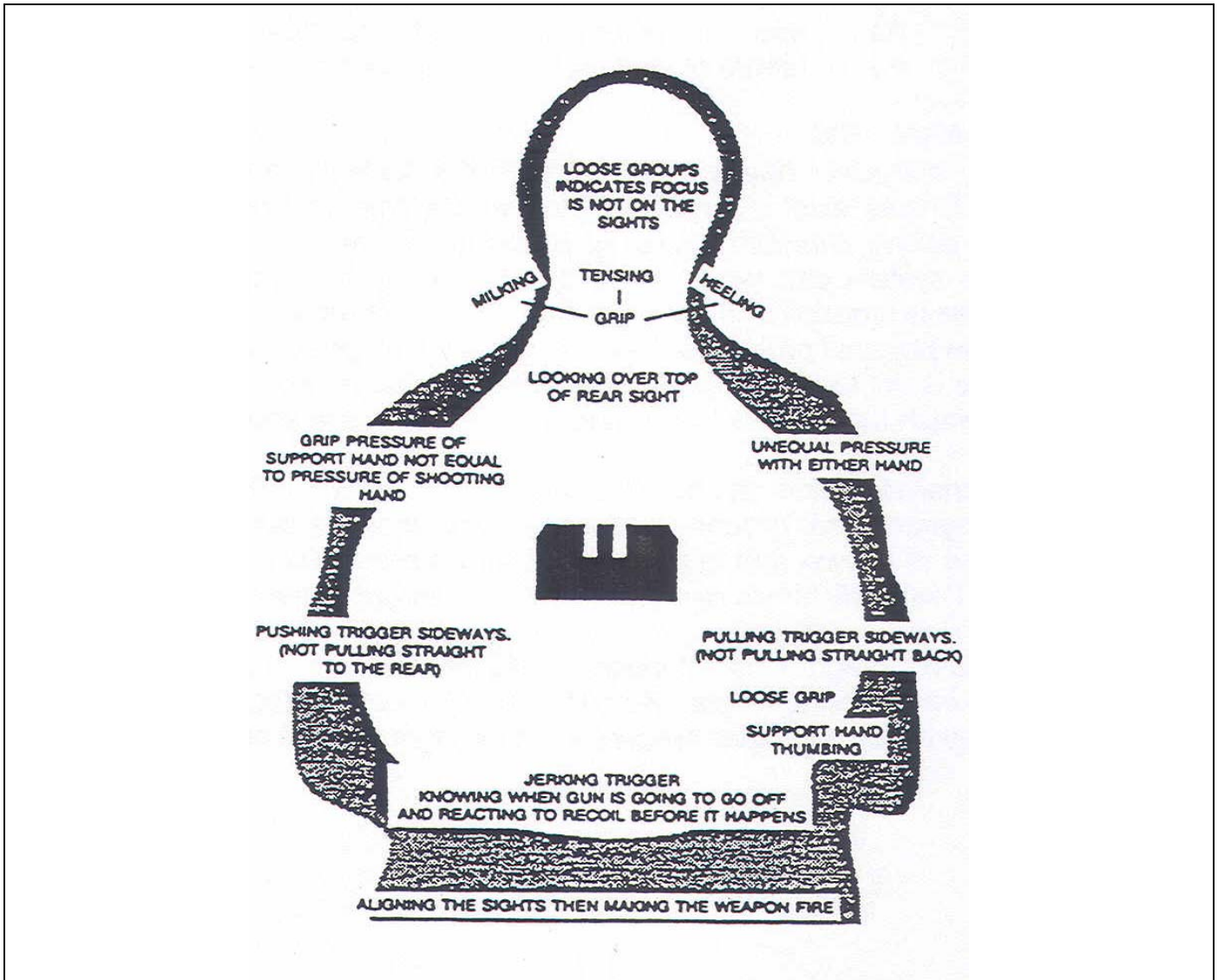
IV. TARGET ANALYSIS

Too often, instructors rely upon an analysis of a student's target to determine what, if any, deficiencies exist. Targets displaying asymmetrical patterns can classify the errors as jerking, thumbing, milking, breaking, heeling, etc., as causative factors.

While the system can work, using a target analysis guide to determine shooter deficiencies is a crutch and not a solution. If the instructor paid close attention to the student the physical problems would be apparent before viewing the end result. The issue here is not to look at a target, determine what is wrong and shoot better. The issue is, watch the student, determine what is wrong and shoot better.

A target analysis guide can be of benefit to an instructor if the student is capable of shooting symmetrical groups. For those shots that are outside of the main group, their cause is known and impact on the target predicted by virtue of watching the shooter. The prediction is reinforced when the target is analyzed.

The following diagram is intended to be only one of your diagnostic tools for analyzing shots on the target. Note that the silhouette is for a right handed shooter. For the left handed shooter simply switch the right and left side vertical captions.



This information can be reduced to the following general guidelines:

- A. High Shots on Target
 1. Looking over the sights
 2. Heeling
 3. Milking or tensing up on the grip
- B. Shots to the Right or Left
 1. Improper grip
 2. Too much or too little finger on the trigger
 3. Incorrect pressure on and movement of the trigger
 4. Improper sight alignment or sight posture
- C. Low Shots on Target
 1. Jerking the trigger
 2. Pushing weapon forward and down in anticipation of recoil
 3. Unequal tension of the gripping hands
- D. Shots Widely Dispersed
 1. Indicates concentration on target and not on the fundamentals

Handgun Shooting Positions – What to Look for:

1. Standing:
 - A. Traditional or bladed
 - B. Tactical (movement / reactive?)
2. Kneeling:
 - A. Speed (single knee)
 - B. Double knees
 - C. Supported or braced
3. Sitting
 - A. Crossed ankles
 - B. Open legs
4. Prone
 - A. In line
 - B. Roll over
 - C. Horizontal or dynamic
5. Ready positions
 - A. Universal Cover / Low Ready?
 - B. Ready Gun

Range Operations:

1. Backstops
2. Target systems
 - A. Steel considerations
3. Berms
4. Angles of fire
5. Break areas
6. Storing of firearms and ammunition
7. Maintenance
 - A. Function check
 - B. Cleaned and lubricated to manufacturer's guidelines
8. Ammunition
9. Zeroing
 - A. Definition of zero
 - B. What distance?

I. Static Training

- A. Begins the formative process for developing needed motor skills. Concepts and techniques are studied.
- B. Consistency in repetition for each skill to be learned is important to establish the basic neural connection pathways responsible for action.
- C. Does not effectively bridge the gap in competency between the sterile range environment and the patterns of violence encountered in the field.
- D. In acts of personal violence is considered inadequate due to the components of mental processing time and physical motor initiation.

II. Fluid Training

- A. Slow motion static repetitions based upon a specific stimulus or assault cue.
- B. Programs basic neuromuscular response associated with a threat stimulus.
- C. Reinforces static training and provides the means to apply the concepts in the field.

III. Dynamic Training

- A. Training at full speed and power designed to reinforce the response as a product of the stimulus and not a conscious thought process.
- B. Deals in the simplest of motions identified as gross motor skills which are reproducible during periods of high stress.

IV. Methods of Reducing Reaction Time

- A. Identify cues and subject actions which indicate the potential for an assault.
- B. When available, maintain a minimum reactionary gap of 6'. An increase in distance generally provides an officer with more time to react.
- C. Preprogram a response based upon identification of specific assault cues.

V. Procedure

- A. At the dynamic level, your body is pre designed to coordinate symmetrical activities. Chief among these in shooting is the positioning of the arms. Fully extended and locked (isotonic activity) is favored over push/pull (isometric activity).
- B. Application of the fundamentals is a core issue since speed emanates from continued practice of learned skills and techniques.
- C. When you are the object of the attack, several important physiological conditions occur. Two are "involuntary lid lift" and "pupil dilation". In lay terms, both eyes are open as wide as possible and the pupils dilate to accept the maximum amount of information available. This is a demand of the brain.

- D. To fire effectively and without delay, you must mentally:
 - 1. Identify the threat.
 - 2. Recognize the assault cue.
 - 3. Download a response option.
 - 4. Initiate motor activity.
- E. To fire effectively and without delay, you must physically:
 - 1. Keep both eyes open, firing the weapon at the moment it stops with the front sight interrupting line of sight to the threat.
 - 2. The weapon is kept on the centerline of your body and always elevated to eye level.
 - 3. Trigger manipulation begins as the weapon moves to the target to ensure the shot breaks when the weapon stops

ANALYSIS OF MULTIPLE THREAT SITUATIONS

I. Threat Determination

- A. Proximity: How close and how devastating is the threat? Generally, the closer the threat is to you, the greater the opportunity to do significant damage before any effective defense is mounted. Since action is always faster than reaction, the threat's offensive activity must first be countered (defense) and then a plan of action must be put in motion to control the situation.
- B. Level of Threat: In addition to distance, threat level is determined by weapon type and whether or not the officer is the object of the attack. The attacker must have the means to cause physical harm, be given the opportunity to do so and desire to carry out the threat. Ultimately, a disadvantaged officer can succeed through surprise and forceful action. Consider that threats need not take the form of impact weapons, edged weapons, or even firearms to be considered dangerous. The criminal element is known to use chemicals of all types, explosives, bow and arrow combinations, vehicles and animals to accomplish their mission. How the level of force is perceived by the officer directly determines the type of response and the order of engagement.

II. Principles of Engagement

- A. Any threat that is classified by the officer as the "most immediate threat" must be dealt with forcefully and without hesitation. Statistics indicate that there is a potential for a secondary threat 65 percent of the time an officer is involved in an incident of active aggression. Whether or not the threat chooses to engage the officer is of secondary importance. The most important task that the officer must undertake is to effectively neutralize or control the identified immediate threat.
- B. Each threat must be dealt with to the exclusion of all others at the time of engagement. From a practical standpoint, this means focusing on the immediate threat while employing tactics such as movement to get out of the fatal funnel of any remaining adversary.
- C. A plan of action to alter the flow of the "initial attack is required to reduce officer risk. Pre-planning, working closely with a partner and the use of distractions are methods that can immediately change the focus and intensity of the attack.

III. Threat Acquisition

- A. Immediate Threat Targeting Locations: Shot(s) should be fired into those available areas of the body that will likely cause instantaneous damage to life sustaining organs. Consideration must be given to the amount of time that may be required for incapacitation if cardio respiratory areas of the body are selected. Specific targeting locations that share cardio respiratory and neurological regions should be chosen. Additionally, these areas should be close to the surface of the skin. The most viable areas are:
1. The head-frontally-below the brow line
 2. The throat-from any angle-the center line
 3. Upper center chest-above the bottom of the sternum-the centerline

The targeting zone should reflect a focus on the centerline of the body envisioned as a 5 inch diameter tube extending down from the top of the head to the center of the sternum. This tube will contain the motor center of the brain, brain stem, carotid sinus, trachea, heart, aorta, superior vena cava and the spinal column.

- B. Secondary Threat Targeting Locations: Identification of secondary threats while moving to or from cover is of prime importance. As the distance from these threats should be increasing, shots to upper body mass in sufficient volume to cause trauma and hemorrhaging are appropriate. Distance and cover reduce the necessity for a neurological attack that is pronounced with a proximity threat.
- C. Follow-Through Assessment: Consideration must be given after engagement to evacuate the area to a more suitable cover location and assess the operation. Specifically, to secure the area and observe the condition of the threat(s) providing whatever force or assistance is required to control the situation.

IV. Technique

- A. The first step in the process is to scan the immediate area to determine:
1. Number of subjects
 2. Cover
 3. Escape routes
 4. Potential lines of attack
 5. The immediate threat and the proximity of secondary subjects
- B. Identification of the threat leads to an application of the first phase of the process - LOOK.
- C. Next, the officer must TURN to bring his weapon into alignment with the threat. This can be accomplished in one of two ways:
1. Traversing: moving the torso through its full range of extensibility without requiring movement of the feet. Generally, traversing can cover 200 degrees from right to left in lateral movement.
 2. Pivoting: movement by repositioning the feet to face those areas not accessible by traversing. Generally, to the rear or off of the support side shoulder.
- D. The officer must now LOCK-IN to stabilize the weapon on the target and ensure hits. All too frequently in multiple target engagement, the weapon continues to move through and by the target, compromising accuracy. Do not move the weapon to the next target until you are sure of your effect on the first.

The speed with which you can dispatch the threats is predicated upon where in the body your shots are placed and what tactics you are employing to escape. To aid you in the LOCK-IN process, keep your head erect and behind the gun in all shooting movements. Your shoulders should remain in front of your hips for proper body balance and an increased range of motion or flexibility.

MULTIPLE SHOT TECHNIQUES

I. Justification for Use

A. Multiple shot techniques are designed to immediately incapacitate a threat based upon resultant massive damage to the cardio respiratory system when applied. Techniques of this sort best lend themselves to close proximity situations where the officer is at most risk. Defense for the application of multiple shots is tied directly to:

1. Clearly stated departmental policy on the use of Deadly Force.
2. Documented individual officer understanding of departmental Deadly Force Policy.
3. Observation of an incident of violence so severe that if it is not immediately neutralized, loss of life would occur.
4. A critical analysis of the officer involved situation that would lead a reasonable man to believe that if controlled multiple shots were not applied, innocent life would be lost.
5. Graham vs. Connor, 109 S. CT. 1865 (1989)

The Court held that "the reasonableness of the particular use of force, therefore, is to be judged from the perspective of the Reasonable Officer on the scene". Under this theory, the Court says that an "officer's malicious state of mind or intentions will not make a Fourth Amendment violation out of an objectively reasonable use of force, nor will an officer's good intentions make an objectively unreasonable use of force constitutional".

B. Purpose: To accurately destroy designated areas of a threat through increased numbers of rounds.

II. Sequencing Shots

A. The officer must be taught to assess the severity of each threat encountered (proximity, level and type of violence, multiple threats) and fire as many rounds as necessary to immediately dispatch the threat.

B. Volume of Fire

1. Size of target area: The greater the size of the available target mass, the more appropriate the application of sequenced shots. Set size should range from 2-4 rounds.

2. Number of threats: Multiple threats reduce the number of rounds fired per target and require specific targeting zones to be effective in the time frame afforded the officer. Immediate threats are neutralized through neurological shot application while secondary threats are incapacitated through cardio respiratory shot trauma.
3. Rate of fire: The closer the threat, the more pronounced the need to deliver increasing numbers of rounds. This requires motor skill dexterity in trigger manipulation and the control of recoil. The speed with which subsequent shots are fired is predicated on proper trigger reset sequences and weapon stability on target.
4. Targeting vital areas: Primary locations in the human body for the delivery of multiple shots from any angle are:
 - a. Cardio respiratory areas of the neck and upper chest
 - b. Neurological centers controlling motor function
 - c. Combination neurological / cardio respiratory areas. Each of these areas can be attacked with success from any angle by visualizing a five inch diameter cylinder that starts just below the brow line and extends vertically to the bottom of the sternum. The cylinder should contain the spinal cord along this line and extend toward the anterior portion of the body.

III. Incapacitation Time Frames

- A. Neurological (motor point) hit away from spinal column - loss of motor control of affected limb (motor dysfunction) - likely immediate.
- B. Neurological hit to spinal column - loss of motor control of legs and possibly control and bodily functions - likely immediate.
- C. Neurological damage to brain (medulla oblongata) or brain stem - loss of motor control and bodily functions - likely immediate.
- D. Cardio respiratory hit to center chest - hemorrhagic effect with loss of cavity pressure - potentially immediate but likely delayed to 15+ seconds.
- E. Cardio respiratory/Neurological hit to throat - hemorrhagic effect with loss of motor function if penetration terminates in spine - likely immediate.

IV. Terminal Ballistics

- A. Definition: The study of the projectile's impact on the target and the subsequent damage that occurs. Aggressive action by a determined adversary can only be stopped reliably and immediately with a handgun by a shot that disrupts the brain or upper spinal cord. Even the most disruptive heart wound cannot be relied upon to prevent aggression before 10 to 15 seconds has elapsed.

Given this limitation, massive bleeding from holes in the heart or major blood vessels of the torso causing circulatory collapse is the fastest and only other reliable mechanism available to the handgun user.

The anatomic location of these vessels must be well known for appropriate shot placement and the bullet used must be capable of reaching and disrupting them regardless of body position - this includes shots that may have to pass through an arm before striking the torso.

The blood vessels of the abdomen are six inches from the front abdominal skin even in a slender person. In the upper chest they are at least that deep when approached from the side.

Add to this a possible four inches for the thickness of an arm or a large abdomen and it becomes obvious that ten inches must be the absolute minimum penetration depth capability of any bullet that could be considered acceptable. Angles, fat, the arm as an intermediate target, etc., will increase the depth a bullet must go to get to these vessels - and when it gets there it must have energy left to go through them.

The critical consideration is that the bullet produces permanent tissue disruption to sufficient depths to insure major vessel disruption from any angle. Of the bullets that attain this goal, common sense would dictate that the largest one would be the most effective since it would put a larger hole in the heart or vessels.

V. Procedure

- A. Designed to be used against any of the following types of threats:
 - 1. That person who poses an immediate life threatening situation at close proximity.
 - 2. When an immediate stoppage of the adversary by conventional means has failed.
 - 3. When it is believed that conventional means will fail if applied.
- B. Shot Types:
 - 1. Multiple shots to thoracic centerline (cardio respiratory).
 - 2. Multiple shots to the neck centerline (neurological).
- C. Shot Placement
 - 1. Multiple shots must go to body centerline or heart area to accelerate bleeding, trauma and depressurization.
 - 2. Multiple shots may be directed toward the throat to inhibit breathing and motor function.
 - 3. Rounds to thoracic cavity from high centerline (mid-sternum) to lower jaw line with specific attention to the throat. Nerve as well as vascular damage will be in evidence here.
 - 4. Shots of immediate incapacitation due to high level of neurological damage are located:
 - a. anterior view - either eye
 - b. lateral view - just behind the ear, level with the bottom of the ear lobe
 - c. posterior view - directly at the base of the skull

VI. Instructor Considerations

There are two principles here, one mental and one physical. The mental principle focuses on understanding enough about how the body works to allow a minimum number of shots to be fired to neutralize. This avoids claims of unnecessary force when multiple shots are required.

The physical principle stresses “the fundamental elements of sight picture and trigger control with the added component of recoil control. A system of “recoil reset - recover” must be established for each shot fired to maximize time on target with minimal effort.

12 Critical Elements of a Modern Firearms Training Program

The information for this analysis was obtained from several surveys conducted by the California Commission on Peace Officers Standards and Training (POST) and the FBI. The FBI has collected data on officers killed and assaulted since 1945, and POST started collecting such data in 1980. The surveys cited in this study encompass those conducted by the FBI or POST from 1974 through 1997. After summarizing these studies, the following guidelines were drawn for police firearms training.

1. Prepare officers for immediate, spontaneous, lethal attacks.
2. Prepare officers for assaults by multiple threats and uninvolved subjects
3. Integrate transitional training from arrest and control techniques, including searching and handcuffing.
4. Base training on the fact that most officers are killed at short distances.
5. Base training on the fact that officers will have limited fine and complex motor control.
6. Integrate two-person contact and cover teams involved in realistic scenarios.
7. Emphasize the will to live in all skills training./
8. Integrate one-handed firing of a handgun. (both strong and support hands, plus reloading)
9. Integrate close-quarter structure searching and clearing plus indoor combat tactics.
10. Emphasize dim or no light situations as much as daylight training.
11. Integrate moving then shooting, and moving while shooting techniques.
12. Integrate engagement techniques for moving targets, both laterally and charging.

Training programs that do not include the elements outlined above may not be preparing officers for the types of situations they will encounter on the street. The consequences are obvious.

COURSE OF FIRE FORMAT

Organization: _____

Course Title: _____ Course Number: _____

Author: _____ Date Created: _____

Reference: _____

Incident / Case Basis: _____

Course Type: _____

Weapon(s) needed: _____

Ammunition needed: _____

Time required per person: _____

Total time required: _____

Scoring: _____

COURSE DESCRIPTION:

COURSE DIAGRAM:

LEGEND:

Backstop	Side Berm	Rear Berm
Starting Point	Ending Point	Stage(s)
Loading / Handling Area	Holding Area	Vehicle(s)
Lighting	Paper Target	Reactive Target
Moving target	No-Shoot Target	Doorway
Window	Furniture (type)	Vegetation
Obstacle	Cover item	Concealment Item

PHYSICAL CONDITIONING FOR LAW ENFORCEMENT OFFICERS



A. Attitudes and Perceptions Toward Health and Physical Fitness

A great variety of psychological benefits are attributed to improved health and physical fitness. Law enforcement officers who participate in a structured physical fitness training program experience significant increases in their estimation of physical ability. This is a desirable and positive mental state, since the way one feels about his own body is known to influence self-control.

B. Perception of State of Personal Health

An officer's perception of his own state of health can be quite revealing. The majority of all officers rate their health as better than the average officer their own age. Additionally, most officers are at least moderately concerned about their health and the effects stress is having on their bodies. Most believed that an individual can control his general state of health. A majority also believe that there is a likelihood that someone in their age group could suffer from a heart attack; however, they also believe that it is unlikely that they themselves would suffer a heart attack. To a certain degree, this may indicate that the majority of officers are out of touch with reality and are burying their heads in the sand.

C. Principles of Exercise

1. Cardio-respiratory fitness

The overall determinant of endurance fitness is the ability of the body to transport oxygen from the atmosphere to the working muscle.

Aerobic capacity or maximum oxygen intake (V_{O_2} max) is the parameter commonly used to evaluate the oxygen transport system of the body. Improvement in endurance fitness is dependent upon the total work or energy cost of the exercise program. Energy cost can be measured by the number of calories expended and is dependent upon the intensity, duration and frequency of the exercise program. Additionally, improvement is related to the initial level of fitness, status of health, mode of exercise, regularity of exercise and age.

- a. intensity - improvement in cardio-respiratory fitness is relative to the level of energy expenditure per minute, or intensity of training. Intensity can be expressed as a percentage of maximum heart rate.
- b. duration - duration is the amount of time that the prescribed intensity load should be performed to elicit the desired training response.
- c. frequency - how often one should train is dependent upon the needs and goals of that individual. Maximum gains in cardio respiratory fitness are seen with 4 - 5 sessions per week.

An improvement in cardio-respiratory fitness can be shown by regular participation in one of four distinct aerobic programs. (Running as an example)

- a. continuous running - *in which the individual exercises at a moderate and relatively steady intensity for long periods (15 minutes to several hours)*
- b. brief-interval running - *the individual undertakes short bursts of maximum activity (30 seconds to 1 minute), interspersed with recovery periods of corresponding length when only light activity is allowed*
- c. prolonged-interval running - *where the intervals are prolonged to 2 1/2 minutes and the recovery periods are correspondingly extended*
- d. circuit training - *in which the individual moves around a circuit to various exercises or machines.*

2. Muscular strength and endurance

Strength is defined as *the force a muscle group can exert against a resistance in one maximum effort*. Muscular strength is proportional to the cross-sectional dimension of the muscle or muscle group being studied. The larger the muscle, the greater the strength. There are basically two types of muscular contractions used when examining strength. One type is static or isometric contraction, when the muscle may be contracting maximally but the limb does not move. The other type is dynamic or isotonic contraction. Here the length of the muscle changes during the contraction as the limb goes through a range of motion.

There are two types of isotonic contractions: concentric and eccentric. Concentric contraction means the muscle shortens and usually positive work against gravity is done. Eccentric contraction refers to the muscle lengthening and negative work is performed.

Muscular endurance is defined as repeated contractions against the same resistance until failure occurs. Performing an exercise until it is no longer possible constitutes muscular endurance. Energy stores in the muscle cells plus the supply of blood to the muscles limit muscular endurance exercise. Strength of the muscles is also inherent in the ability to perform muscle endurance activities. Generally, the stronger the muscle, the better the muscle endurance.

Strength training of high intensity using both isometric and isotonic methods generally increases muscle mass. The stimulus of the large weight resistance causes muscle mass to increase. This is referred to as hypertrophy. Isotonic training causes an increase in the number of capillaries supplying the muscle which improves the blood supply for nourishment and elevates energy storage. The actual speed of muscle contraction is increased with strength training regimens, i.e. faster movements are possible. The power of the muscles is therefore improved since power is defined as the work of the muscles done at a high rate of speed.

Weight training on an alternate day basis will result in strength gains that average two to six percent each week. The day between weight training workouts is beneficial for recuperating from the strenuous activity.

In order to improve muscular strength and endurance, the principle of overload must be followed. Overload means that the amount of weight or resistance must be gradually increased each week. When this extra work is gradually introduced, the muscles respond physiologically by adding more protein, energy stores and blood supply. Thus, their function is improved. The introduction of the overload stress must be gradual to allow the muscles to adapt and improve. If the overload stress is too great, the muscles fatigue rapidly and performance is reduced.

3. Flexibility

Flexibility is defined as *the range of possible motion in a joint or group of joints*. Joint range of motion is limited by two factors: (1) Bony structures of the joint, and (2) Extensibility of the surrounding ligaments, tendons and muscles. The bony structure of the joint basically cannot be altered, but the extensibility of ligaments, tendons and muscles can be greatly affected by stretching exercises. Stretching these tissues gradually lengthens them and the joint range of movement is therefore improved.

Benefits derived from flexibility exercises include:

- a. injury reduction - *the chance of overstretching and injuring a muscle is lessened when the muscle possesses great extensibility.*
- b. muscle relaxation - *tight, stiff muscles from inactivity are relaxed by stretching.*
- c. skill enhancement - *sufficient flexibility is needed in certain joints before skill can be mastered.*
- d. graceful movement - *coordination of common movements is enhanced by having flexible joints. Individuals who lack flexibility move stiffly while walking, running, lifting or reaching. This leads to inefficiency of movement.*

There are two methods of stretching to prompt flexibility in the body. The first, ballistic stretching, involves bouncy, jerky movements where a body part is put into motion and the momentum carries it through to the muscle's stretched limit. Ballistic stretching is often discouraged because it tends to cause soreness in the muscles the day following the stretch. The second method, static stretching, is recommended because a firm, steady stretch eliminates soreness and improves muscle extensibility.

Factors affecting flexibility:

- a. activity - active individuals tend to be more flexible than inactive individuals. Connective tissues shorten from disuse, thus, range of motion is decreased.
- b. age - flexibility usually decreases with age partly because connective tissue shortens and partly because people become more sedentary.
- c. sex - females are generally more flexible than males due to some joint structure differences.
- d. temperature - warming a muscle joint will increase range of motion 10 to 20 percent.

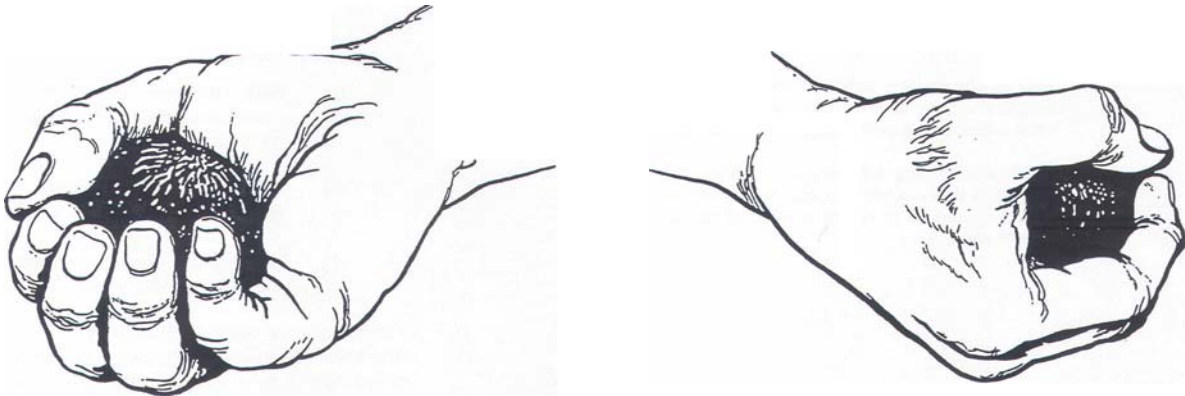
D. Finger, Arm and Shoulder Exercises

The following physical exercises, if performed regularly as described, should prove helpful by increasing strength in the fingers, arms and shoulders. Although this list is not all inclusive, these exercises are suggested as a means to better prepare yourself to successfully complete required firearms training.

Prior to any physical activity, it should be standard procedure for you to do simple stretching exercises as a warm-up. The purpose of warming up is to raise elasticity and extensibility. This minimizes the chance of injury.

When weight lifting is being used in conjunction with your fitness program, it is best to use weights that can be handled without too much strain. The emphasis should be on the number of repetitions, rather than on a single maximum lift.

When performing the following exercises, all motions should be slow and deliberate. Arms should have a burning sensation when repetitions are completed and the last few repetitions of each set should be difficult to perform. If 10 repetitions do not accomplish these reactions, increase the number of repetitions for each set. Complete at least 3 to 4 sets each time you perform these exercises. It is also recommended that these exercises be done daily. Maximum effort should be exerted to accomplish each series of repetitions for each individual exercise.



HAND TENSION EXERCISE

A hand grip is available at most sporting goods stores, and may be purchased in varying tensions.

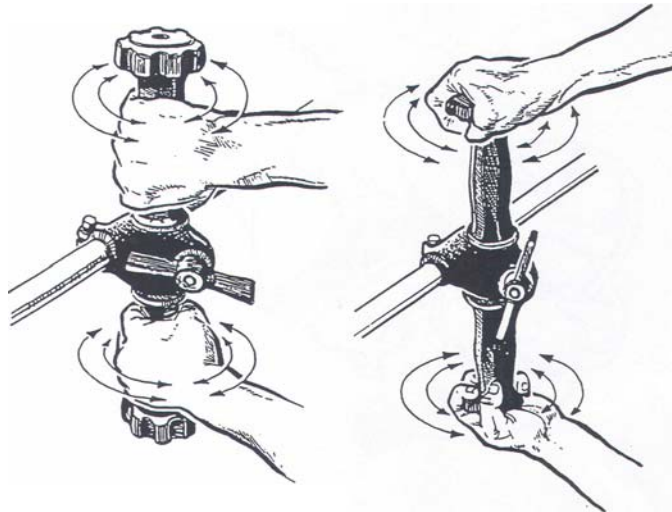
ACTION: Extend the right arm away from body and squeeze grip until handles touch. Complete as many repetitions as possible. Attempt to increase number of repetitions each time. On the last repetition, hold spring closed for at least 10 seconds. Do the same exercise with the left hand.



WRIST ROLLER

POSITION: Standing, feet slightly spread, facing wrist roller.

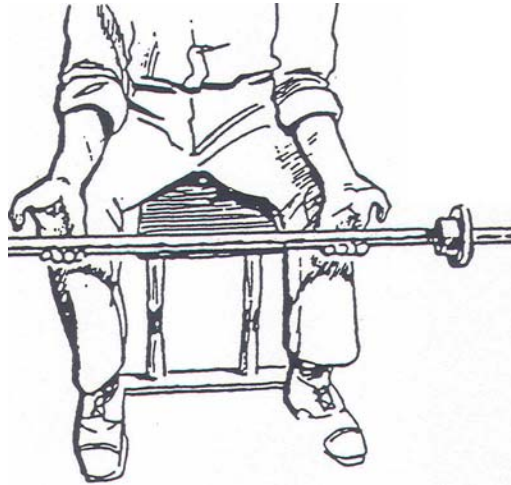
ACTION: There is a setting for tension on this piece of equipment. Tension should be set where individual will be able to rotate each roller approximately 15 to 20 partial turns for each set. Take a deliberate grip, planted firmly; press palms of hand firmly against roller and close fingers to complete grip. Use pressure of palms to rotate roller back and forth. Do not break the wrist as you rotate the roller. Motion should be slow and deliberate.



WRIST CURLS

POSITION: Sitting, with thighs and calves of legs at right angles, place forearms on thighs, with palms up; wrists and hands will be positioned just in front of knees.

ACTION: Relax wrists, dropping hands against the front of knees. Weights will be held by fingers. Without lifting forearms off thighs, *curl* fingers and hands up and back toward body. Return hands to *original* position. Motion *should* be slow and deliberate. Complete at least 10 repetitions, using weights that allow individual to complete not more than 14 repetitions, exerting maximum effort.



A. OVERALL SUBJECT OBJECTIVES

Upon completion of this course the student will be able to verbally control a live fire range operation by the use of Range Commands that will promote safety and efficiency and avoid confusion.

B. INTERIM SUBJECT OBJECTIVES

In order to successfully achieve the requirements of the overall objective, the student must demonstrate the ability to:

1. Explain the procedures for the operation of a hot and cold range.
2. Understand the difference between hot and cold range commands.
3. Demonstrate understanding of range commands for a hot and cold range.
4. Demonstrate an understanding of traditional range commands and the use of Combat / Tactical course command options.
5. Understand alternative commands for dry fire and live fire drills.

ITEMS AND MATERIALS

A. ARTICLES

1. Instructor:
Semi auto pistol with three magazines or revolver with three speed loaders
Holster and Magazine / speed loader pouch
Firing Range with Barricade
2. Student:
Semi auto pistol with three magazines or revolver with three speed loaders
Holster and Magazine / speed loader pouch
Firing Range with Barricade
3. Quiz

B. AUDIO / VISUAL AIDS

1. Optional slide / Power Point presentation

C. HANDOUT MATERIAL

D. OTHER

INSTRUCTOR'S MANUSCRIPT

A. INTRODUCTION

Range Commands are extremely important. When used properly, they avoid confusion and promote both safety and efficiency.

B. COLD RANGE PROCEDURE

On a "Cold Range" firearms are only loaded on the command of the range officer, given when a relay of shooters on the line are about to fire. The range officer then commands the shooters on the line to load, usually specifying the number of rounds with which they may load. ("Shooters on the line, with one magazine of 13 rounds, load and holster.")

Immediately upon the conclusion of the string of fire, the line is commanded to unload. ("Shooters on the line, unload, make your weapon safe, decock and holster an empty weapon.")

On a Cold Range, all firearms are in an unloaded condition when moving from one distance to another, when posting and scoring target, and during breaks in the training. The use of a Cold Range is most appropriate for new shooters and others unfamiliar with firearms, and in training or qualifying unusually large numbers of shooters at one time. It is also generally necessary when dealing with shoulder weapons, which cannot be made safe by being holstered.

When conducting a Cold Range, it is still essential that all firearms, nevertheless, be treated as loaded.

C. HOT RANGE PROCEDURES

On a Hot Range, once the initial command to load is given, shooters maintain their guns in a loaded condition at all times, including interval~ between firing drills. (As opposed to a Cold Range, where shooters are commanded to "Unload and holster an empty weapon" at the end of each string of fire.)

On a Hot Range, it is the responsibility of each shooter to keep his own firearm loaded at all times, and there will be no commands or reminders to reload. Reloading may be performed at any safe opportunity, but the best time to reload is normally at the end of a string of fire (or end of a series of sort firing strings), before holstering. Most holsters allow magazines of semi-auto pistols to be changed while the pistol remains holstered. Changing magazines in this manner is permitted, even behind the firing line, **PROVIDED THAT THE HANDGUN STAYS HOLSTERED**. Magazines may, and, should, be recharged at any convenient opportunity. If you run out of ammunition while firing, RELOAD IMMEDIATELY, even if you have finished the string of fire in progress.

GET OUT OF THE HABIT OF HOLSTERING AN EMPTY WEAPON except during designated dry practice, a handgun carried in a holster should be loaded and ready for use. To emphasize this, on some Hot Ranges, you are PROHIBITED from holstering a handgun which will not completely exhaust your supply of loaded magazines during firing drills, you will be able to recharge a magazine, load your gun and holster it.

The following rule is the key to safety on a Hot Range:

HANDGUNS WILL REMAIN HOLSTERED AT ALL TIMES, except on the firing line when the command to draw and/or fire is given, or in the designated safe handling area, if there is one. **There will be NO handling of un holstered or uncased weapons ANYWHERE else (parking lot included)**, even so much as to take them out of the gun box and holster them - this must be done on the firing line or in the designated safe handling area.

DO NOT MOVE FORWARD OF THE FIRING LINE OR BEND OVER THE FIRING LINE TO PICK UP ANYTHING FROM THE GROUND, UNTIL THE RANGE OFFICER ANNOUNCES THAT "THE LINE IS SAFE - YOU MAY PICK UP YOUR GEAR." DO NOT BEND OVER AT ANY TIME WITH A WEAPON IN YOUR HAND, OR WHILE ANYONE HAS A WEAPON DRAWN.

D. TRADITIONAL COMMANDS

"Shooters on the firing line, load and holster!"

(Brief Pause)

"Shooters, is the firing line ready?"

(3 sec. Pause)

"The firing line is ready."

(3 sec. Pause)

"Ready on the right."

(3 sec. Pause)

"Ready on the left."

(3 sec. Pause)

"Ready on the firing line."

(3 sec. Pause) Signal to fire (facing targets, sound of horn, whistle, bell, buzzer, etc.)

The above commands have been associated with many competitive events, Bullseye, PPC, and are still used today on many police firing ranges.

"Shooters, Is the Firing Line Ready?"

This one command by the Range Officer is asking the following:

1. Shooters, are you loaded and holstered?
2. Do you understand the course of fire and are you prepared to shoot this course?
3. Does everything look safe to continue on, to both STUDENT and the LINE INSTRUCTOR?

If all of these questions cannot be answered to the affirmative by each shooter, he should raise his non-firing hand and call out "Not ready." The line commands will stop until the problem has been corrected and the course can be continued.

"The Firing Line Is Ready"

This confirms that everyone on the firing line is ready to continue.

"Ready on the Right?"

The range is divided in half, on a ten point firing range, we are asking both the students and the Line Instructors, once again, all of the above questions. However, the line Instructors, now have the responsibility to signal the Range Officer that all is well, and to continue.

"Ready on the Left?"

The same objective as "ready on the right," however, addressing both students and the line Instructor on the left side of the range.

"Ready on the Firing Line?"

This is the final check of all students and instructors, to be certain that everything is all right and it is safe to continue.

The signal to fire is then given.

Students/Classes should be instructed that if they need assistance or if they observe an unsafe situation, they should raise their non-firing hand, call out, or both, while maintaining their own weapon in a safe manner.

Remember, everyone has a responsibility for range safety.

The above commands are usually associated with a "Cold" firing line operation. This indicates that the Range Officer will give the command to load and unload each time there is a phase of firing.

At the conclusion of firing a particular string:

Hot line – "Shooters, cease fire, de cock and holster all weapons."

Cold line – "Shooters cease fire, unload and holster an empty weapon; making sure that the firing line is safe (check again)."

"Shooter, Is the Firing Line Safe?"

Cold line – "Are your weapons unloaded and holstered, does everything look safe to move down range?"

Hot line – "Are all weapons holstered? After all weapons are holstered, does everything look safe to move down range?"

"The Firing line is Safe, MOVE FORWARD"

At this time, shooters / instructors may move forward of the firing line.

E. TRADITIONAL COMMAND OPTIONS (Hot or Cold Line)

"Shooters, Load and Make Ready."

This one command is expressing the following:

1. Draw your weapon, safely load, decock and holster.
2. Do you understand the course of fire and are you prepared to shoot this course?
3. Does everything look safe to continue, to both students and Line Instructors?

"Shooters, Is The Firing line Ready?"

This is asking the same as questions 2 & 3 above. If any of these questions cannot be answered to the affirmative by each shooter, he should raise his non-firing hand and call out "Not Ready: The line commands will stop until the problem has been corrected and the course can be continued.

"The line is Ready!"

This confirms that everyone on the firing line is ready to continue.

The signal to fire is then given.

At the completion of firing: "Cease fire, decock and holster, or, unload and holster an empty weapon."

NOTE: *Be sure all weapons have been decocked and holstered before moving from one position to another.*

F. SILENT COMMANDS

When using the silent command method of conducting a course of fire, shooters are called to the firing line, instructed to put on their safety equipment, then load and secure their weapons. Once it has been verified that all shooters are loaded and ready, there will be no talking on the range by anyone until the course of fire is completed and the Command to cease fire is given. The single exception to this rule is in the event of a safety hazard or violation.

Silent commands should be used on ranges with stationary firing lines. Targets are situated at varied distances and may be moved, faced and edged from a remote location. The shooters may be pre-briefed as to the course of fire before actual firing or may be called upon to use their judgment in engaging the targets presented to them. Except in unusual circumstances, a hot line is required for Courses using silent commands.

Procedure to run a course of fire using silent commands:

Safety briefing and discussion concerning the course of fire will be addressed with everyone before moving to the firing line. Once the shooters are in position on the firing line the Range Officer will announce:

"Shooters, load and make ready!"

The shooters will face down range, check their safety equipment, load and holster their weapons.

"Is the line ready?"

Shooters are asked one final time before proceeding:

1. "Is your safety equipment in place?"
2. "Are you loaded and holstered?"
3. "Are you prepared to shoot this course of fire?"
4. "Is it safe to continue?"

No response is necessary if each person can answer each question in the affirmative. If the shooter is not ready to continue, they should remain in place and raise his/her non-firing hand until recognized. In low light exercises, the affected shooter's flashlight should be turned on and directed behind his / her feet to alert the Line Instructors and Range Officer.

"The line is ready"

This is the last verbal command given and confirms that everyone is ready to continue.

The course of fire will start and continue to completion with only visual or audible signals (no verbalization).

Signals to fire may include: explosions, gunfire, horns, whistles, bells, lights, flares or the exposure of a target.

At the conclusion of the course, the Line Instructor will command:

"Cease fire!"

This tells the shooters to stop shooting, de cock, and holster their weapons.

"Is the line safe?"

At this time, both shooters and Line Instructors will verify that the line is safe.

If the line is not safe, it will be loudly verbalized by the shooter(s) affected so that the Line Instructors can attend to the problem.

"The line is safe."

Declares that all agree that the line is safe.

After the line has been declared safe, shooters will be given instructions what they should do next:

- Retrieve your equipment
- Police your brass
- Record your score
- Replace your targets
- Prepare for the next course of fire

G. COMBAT / TACTICAL COURSE COMMAND OPTIONS (Hot or Cold Line)

Several courses may be conducted on one range at one time, if safety permits.

The Range Officer should describe the course and procedures used to the group shooting, as well as reviewing SAFETY REQUIREMENTS or procedural penalties.

"Load and Make Ready"

Shooter will face targets, fit ear and eye protection, load weapon, de cock and holster.

"Are you Ready?"

If the student is not ready at this time, he / she must shout "Not Ready."

If student is ready by giving no response they are indicating that they understand the course of fire and are prepared to shoot it and can do so safely.

"Standby"

This will be followed by the cue to commence firing within five (5) seconds. Cues may be verbal, audible, visual or self-starting.

When shooter is finished:

Hot Line: Shooter de cocks and holsters, or the shooter may wish to top-off before holstering.

Cold Line: Once shooter has completed the course the Range Officer will say:

"Unload and Show Clear"

Here the shooter unloads the weapon, locks the slide to the rear, keeps the weapon pointed down range in a safe direction and waits until the line instructor checks the weapon. Once the weapon has been checked (cleared and safe), the Line Instructor will tell the shooter to holster.

"Range is Clear"

No student/shooter or other person may move forward of, or from the firing line before this command is given by the range officer or line instructor. Once the command is given, you may move forward for scoring, target analysis, replacement or to pick up anything you may have dropped.

H. ALTERNATE COMMANDS FOR DRY FIRE AND LIVE FIRE DRILLS

Draw and Challenge Drills vs. Draw and Fire Drills

Many officers are conditioned to draw and fire, this conditions the officer to think every time he/she draws the weapon, it must be fired.

Run a Hot Line at seven yards.

On the command of "Challenge!" the student draws the weapon and covers the target.
Keeps the target covered until hearing "Recover".

NOTE: While drawing to cover the target, students should command target to "Police, Don't Move!" Keep the target covered until hearing the command to "Recover".

CAUTION: Be sure target/suspect is covered with finger OFF the trigger.

"Recover" means to de cock if necessary and return the weapon to the holster. Be sure weapon has been de cocked and the finger is OFF the trigger. On command of "Fire" student draws and fires at the target, student keeps the target covered until the command to "Recover" is given.

TEACHING BASIC SHOOTING TECHNIQUES



I. MARKSMANSHIP FUNDAMENTALS

A. Components of the Stance

1. Balance and Mobility

Balance is enhanced by equally distributing the body mass over the balls of both feet. The feet should be separated by a distance equal to, or slightly greater than the width of the shoulders. When in the shooting position, the shoulders should be slightly ahead of the hips and in direct vertical alignment with the feet.

Mobility is enhanced through equal weight distribution and foot positioning that brings the shoulders more square to the target area.

2. Stabilization of the shooting platform

Regardless of shooting style, the shooting position is stabilized by the activity of the arms in one of two ways:

a. symmetrical control - arms locked forward at the wrists, elbows and shoulders. Most readily used under stress as the body tends to respond symmetrically (Isosceles Stance). Open motor skill.

b. non-symmetrical - arms pushing and pulling in opposition creating an isometric tension (Weaver Stance).

3. Types

a. The Isosceles Position - straight forward or squared approach

to the target. Body is slightly crouched; shoulders forward of hips. Both arms are thrust forward to lock at the shoulders, elbows and wrists when at eye level. Weight is equally distributed over the balls of the feet. The knees should be relaxed and not locked.

b. The Natural Position - lower body is bladed to the target at an angle of about 20 degrees. This is accomplished by stepping back with the dominant foot 6" from fully square. The upper body turns into the target and the arms are thrust forward. Note that the arms are not locked out but are slightly bent. Commonly identified as a cross between the Isosceles and the Weaver.

c. The Weaver Position - the entire body blades away from the target at an angle of about 45 degrees. The position of the arms in the shooting position shows that the dominant arm is thrust forward, slightly flexed at the elbow and rotated down. The support arm positions the elbow pointing directly to the ground with an interior angle of 90 degrees and about 4" away from the torso.

B. Establishing the Grip

1. Fitting the weapon to the dominant hand

Ideally, the weapon should be placed in the hand so that a straight line is formed starting at the front sight and extending rearward through the wrist and forearm.

The webbing of the hand between the thumb and index finger should be high enough on the grip of the weapon to cause a marked compression of the flesh by the tang of the backstrap.

Grip the weapon with the thumb, middle, ring and little fingers, pulling against the front strap with the fingers to seat the backstrap in the palm of the hand. Compression force should be applied to cause the weapon to vibrate in the hand, then gradually released until the vibration ceases.

The index finger is the trigger finger and operates independently of the gripping action.

Its only activity is to press the trigger straight to the rear and control the movement of the trigger forward after firing.

To fit the weapon, perform the following exercise:

- a. Make a lateral mark across your index finger 1/8" from the crease of the first joint and toward the tip. This line will overlap an imaginary vertical line that dissects the trigger when the weapon is properly gripped.
- b. Follow the directions provided above and position the weapon in the hand.
- c. With the empty weapon in double-action mode, place the trigger finger on the trigger as indicated in a.) The crease of the first digit should rest against the outside edge of the trigger allowing the lateral mark to overlap the imaginary vertical line of the trigger
- d. Note if there is any space between the index finger and the frame of the weapon.
 1. If there is, the trigger may be pressed rearward without interference.
 2. If there is not, the weapon will be pushed laterally in the hand until a mechanical advantage is gained at some point during the rearward travel of the trigger. While the weapon can be fired effectively, training will be very fatiguing for those with small hands or limited forearm strength.

2. The support hand and its use

The premise behind the two hand grip is to completely encircle the grip of the weapon in order to control its recoil. The degree to which this is accomplished depends upon hand size and the gripping method used. When gripping the dominant hand and weapon with the support hand, it is important that the heels of both hands connect allowing a complete encirclement of the grip surface. Using this method will improve weapon control, but eliminate for most individuals the use of the squared trigger guard as a rest for the index finger. The thumbs may overlap or overlay on the same side of the weapon. The support thumb must not extend to the back of the dominant hand as is common with revolver shooting methods. The support hand should grip with the same amount of compression as referenced for the dominant hand and should not vary its position once established.

C. Sight Alignment and Sight Picture

Sight alignment is the relationship of the front sight to the rear sight described as " front sight centered in the rear sight notch, level on the top with an equal amount of spacing on either side."

Sight picture is the relationship of the existing alignment of the sights to the target as seen by the eye.

1. Targets of opportunity – static marksmanship

Targets identified in this category require the application of precise sight alignment and sight picture described above. Monocular vision (closing the non-dominant eye) is used and the shooter has the luxury of "time" to take the shot. Targeting in this category may occur at any distance as long as the shooter is not compromised during the time it takes to align the sights and fire the shot.

2. Targets of imminent danger - dynamic marksmanship

Stereoscopic vision is used on targets inside 12 yards where time is of the essence. The approach is to position the front sight within the boundaries of the target and fire at the moment the weapon is stabilized. There is not time for the type of precise alignment described in 1., rather, a referencing of the weapon within the target shape focusing on the front sight is required.

D. Trigger Control

1. DA/SA weapons,

Steady pressure exerted to the rear on the face of the trigger to cause the weapon to discharge and immediately allow the trigger to push the trigger finger forward only to the point of reset for the next shot single-action.

2. DAO weapons

Steady pressure exerted to the rear on the face of the trigger to cause the weapon to discharge and immediately allow the trigger to push the trigger finger forward to reset for the next shot double-action.

For both types of weapons, the trigger finger maintains contact with the trigger throughout this front-to-rear / rear-to-reset cycle.

II. ANALYSIS OF PROPER DRAWING TECHNIQUE

A. Presentation to Ready or Shooting Position

The major emphasis in drawing the weapon is to bring it to an exposed and useful position as quickly as possible. This is accomplished by minimizing motion necessary to move the weapon in a straight line from the holster to the predetermined location. The following procedure eliminates all unnecessary movement and presents the weapon in an efficient manner:

Access

Simultaneously release the holster strap or securing device and grasp the weapon with the proper grip. Make sure your dominant elbow is directed to your rear to enhance the straight line concept. The arm is kept close to the body and does not "wing" outward. Your support hand should remain at waist level and body center.

Withdraw

Simultaneously withdraw the weapon from the holster only far enough to clear and straighten and lock your wrist forward. Keep your finger off of the trigger. Do not allow your dominant shoulder to drop and keep your upper body erect. Do not bend at the waist while drawing. The support hand should be open (waist level, body center) and ready to intercept the dominant hand on its push forward.

Present

Push the weapon forward to engage support hand. This should take place within 1' of your body. Do not allow the weapon to drop below its withdrawn position as it is moved forward. Presentation is not a looping or hooking motion; it is a straight line movement from the position achieved in withdraw to the predetermined location. Place your finger on the trigger after the hands have been brought together and as the weapon is moved upward to eye level and the shooting plane. The finger remains off of the trigger if drawing to a ready position.

Drawing the weapon must be done in one fluid motion.

Each time you draw to the shooting plane, try to imagine a straight line from the top of your holster to a point at eye level with your arms extended. Think about the draw as if you were throwing a straight punch from your dominant side directly to an eye level target in front of you. You can compare this movement to a locomotive engine's connecting or drive arm -it moves in a direct fashion front to rear, but never out to the side.

B. Ready Positions

1. Universal Cover Mode (a.k.a. Tactical Ready or High Cover)

Based upon the distance to an observed threat, the weapon is lowered from the shooting position only as far as necessary to observe the hands and waistline of the threat. The arms are kept in an extended position and the muzzle is depressed from horizontal. The trigger finger is off of the trigger and rests along the side of the frame. This position is best used for:

- a. covering a subject and issuing verbal commands at distances exceeding 6'.
- b. approaches to areas where contact with an adversary is anticipated.

2. Ready Gun - two hand

The weapon is held at body center, just above the beltline and extended no further forward than the length of the forearms. This places the elbows in contact with the torso. When necessary for safety, the muzzle can be depressed 30 degrees from horizontal and the trigger finger is off of the trigger, resting along the side of the frame. This position is best used for:

- a. searching in a confined environment
- b. moving with the weapon
- c. approaching obstacles
- d. final scan before re holstering

3. Ready Gun - one hand:

The weapon is held at body center, just above the beltline. The inside of the wrist and heel of the hand contact the body at this point, directing the muzzle to the support side. The muzzle should be depressed 30 degrees to 45 degrees to avoid covering an object or persons not intended. This position is best used for:

- a. searching techniques where a free hand is required
- b. diminished light flashlight techniques
- c. K-9 handlers

C. Reholstering Guidelines

From the shooting position, the weapon is depressed to the Universal cover Mode, finger off of the trigger. An assessment of the environment is made by scanning. If re holstering is to continue, decock DA / SA weapons, and lower to Ready Gun. If reholstering is desired, the dominant thumb moves to the back of the slide adjacent to the hammer and pushes forward. This checks to see that DA/SA weapons are decocked and ensures that the slide will not be pushed rearward during reholstering. The support hand comes away from the grip and moves to the chest at body center. The dominant hand moves the weapon to the holster, inserts the weapon and snaps in.

III. INSTRUCTOR CONSIDERATIONS

There is no more critical block of instruction operationally for the new or seasoned shooter than the presentation on fundamentals. A variety of things are linked together here - weapon operation and control, safe weapon handling, management of equipment and marksmanship. Excluding physical injury and psychological trauma, officers who experience problems with their shooting ability during their careers do so because of a flaw at this level.

Unless you are attached to a basic academy as the firearms instructor for recruits, someone else has "laid the foundation" in physical skills and intellectual awareness that you must work with. If the instructor was less than attentive and only concerned with running the numbers, you will have before you a student already in a state of compromise.

The goal of the in-service instructor is to reinforce the foundation and add survival skills. This breeds officer competency and, more importantly, officer confidence. If you find that an officer does not have the fundamental tools to work with, you will continually chase the symptoms of poor performance until you correct the problem by presenting and reinforcing basic shooting techniques.

There is no embarrassment in poor shooting performance; only in failing to correct it.

You must study how both the human body and the equipment the officer will use work. You must distill your knowledge to the most basic and simple level and rely upon teaching those techniques that have a real likelihood of being applied. For many veteran instructors this means putting a leash on their egos and eliminating their "bag of many tricks". An endless supply of techniques will be confusing for the average officer. This confusion can create a mental stall if the officer has so many options to choose from that he or she hesitates.

When you teach or review the fundamentals, fully explain each concept and demonstrate at one half speed. You want your students to be absorbed by your presentation, not intimidated by it. Break each skill down into a beginning, a middle and an end, Have your students perform slow motion repetitions at least 25 times at each phase before moving to the next skill and always correct substandard performance.

For the training to stick, the adult learner must see the relationship of what is being taught to an application for it in the real world. If this fundamental relationship is not present, students will participate in training because they must, but are not likely to apply their training

Your presentations should follow a very basic philosophy:

- A. Create a need for the technique. You must be able to show a correlation between what your students are learning and what they must be able to do in the field.
- B. The techniques must be simple and based in the application of gross motor skills where possible. Techniques that are complex are not practiced.
- C. Your students must be able to learn the skill quickly. You can apply the "three minute rule" here. To paraphrase, the longer it takes to learn a technique the less likely it will be applied under conditions of stress. If you can teach a skill in 3 minutes and have your students meet the performance standard after the 25 required static repetitions, you will accomplish your objectives and they will have a positive learning experience.
- D. Your students must have a positive field experience. Any use of the firearm in the field can be that experience. For the effective trainer, operations in the field are mirror images of skills and techniques learned during training. It is imperative that your students believe and see that what they have learned is applicable and will work when needed (Siddle, 1994).

Fundamentals:

When you begin your live fire exercises you will find that your students will rush. This is often observed as jerking the gun down to a ready position the instant after firing. It can be more subtle by observing the trigger finger to come away from the trigger and rest along the frame after the last required shot. Whatever the example, you must slow your students down. Teach the concept that for each shot they, shoot, they must see the front sight three times - before the shot, during the shot, and after the shot. It is hard to miss when that principle is applied, and it will slow them down!

Drawing:

The human body works more efficiently if the work done is symmetrical. This means involving both the right and left halves in a coordinated manner. During the draw, it is important that the support hand and arm get involved early in the presentation. If they do, the dominant hand will be intercepted closer to the body while driving the handgun forward. If they do not, you will see the support hand simply "along for the ride" while in the shooting position, really adding nothing to the stability or recoil control of the shooting platform.

It is important that those aspects of the draw that must be performed simultaneously be performed that way from the start. If this is not done, unnecessary movements will be made.

Watch closely the forward movement of the dominant arm and hand after withdrawal and during presentation. Reinforce the straight line concept to deliver the weapon to the predetermined location. Pay particular attention to the wrist to ensure that it is locked forward.

Ready Position Method:

There are many more "ready" position methods than those presented here. The intent, however, is to provide you with simple and easily reproduced methods based upon need. Understanding must be stressed not only of the body position for each, but also the usefulness of the position. Pay particular attention to ready positions that may cause the elbows and wrists to lock, and / or allow the handgun to proceed the shooter around a corner in close quarters. Both can lead to handgun retention issues.

Reholstering:

The reholstering process is just as important as the drawing process as it can be a point of major risk if done improperly. Tactically, to look at your holster during reholstering means you are not scanning the environment. Physically, to reholster with two hands means you are likely covering some portion of your body / non-dominant hand with the muzzle of your weapon.

Reholstering is a skill to be learned, just like drawing. It requires a certain discipline to perform the procedure the same way each time. Watch closely for decocking if the weapon is of that type regardless of whether firing has taken place. Reinforce the dominant thumb's position on the back of the slide to prevent movement of the slide during holster insertion. Finally, ensure that the trigger finger is clear of the trigger during the process.

Do not allow the learner to present the handgun from an unsnapped / unsecured holster. Require them to present the handgun every time in training from a fully secured holster. What is being reinforced is the complex motor skill of releasing retention devices while attaining a secure grip on the handgun. Learners who are allowed to "cheat" by not securing their handguns will more than likely forget to release the holster's retention devices when under stress.

WHY SHOOTERS FAIL



The concepts and ideas conveyed in Why Shooters Fail came from many people and many years of training experience, both giving and receiving. The research comes from medical professionals working in concert with staff instructors in the firearms field to prove the theories formulated as success was achieved with a variety of subjects.

Each segment, from the instructor to the equipment to mental or physical maladies came from practical experience and/or case histories. The fix for each of these situations came from a combination of sources that intertwined but occurred over and over again. Each fix was validated medically when the question, "Why does this work?" would arise. As the objectives were being met on a consistent basis when working with the so called "problem shooters" a standard regime was developed that would increase the shooter's performance immediately and dramatically.

The program is designed in a logical sequence of events so that the experienced Range Master can detect and correct deficiencies in his subordinates or self diagnose individual problems for self improvement. Each individual segment can be further broken down in to smaller parts however keeping matters short and simple enhances the likelihood of success. By following the outline, spending time where it is needed, and being aware of the parts that aren't used a shooter that has had difficulty in the past can be elevated to a level of acceptability not previously thought possible.

Start the process, enjoy the success.

WHY SHOOTERS FAIL (And what to do about it!)

SCOPE: All Firearm Instructors
OBJECTIVE: Identify and eliminate common practical problems that face all firearm instructors.
GOAL: Elevate instructor and student proficiency with firearms used in law enforcement operations.

I. PROGRAM INTRODUCTION

- A. Attendance / Registration
- B. Safety Considerations / Expected Levels of Competence
- C. Course Overview

II. WHY SHOOTERS FAIL; FROM THE BEGINNING

- A. The Firearms Instructor
 - 1. Unstated Objectives
 - 2. Unclear Instructions
 - 3. Minimal Attention
 - 4. Flawed Diagnostics
 - 5. Giving Up on the Challenged
- B. Equipment
 - 1. Firearm Fit
 - 2. Support Equipment
- C. Handicaps
 - 1. Visual Impairments
 - 2. Hearing Impairments
 - 3. Physical Limitations
 - 4. Physical Conditioning

- D. Personal Beliefs
 - 1. Societal Influences
 - 2. Moral and Religious Convictions
 - 3. Legal and Political
 - 4. Administrative

III. WHY SHOOTERS FAIL, EXPLORING THE MECHANICS

- A. Reintroduction to the Weapon System
 - 1. Programming Expectations / Positive Suggestion
 - 2. Eliminating Misconceptions
 - 3. Conscious Awareness / Subconscious Programming
 - 4. Dry Drills for Technical Refinement
 - 5. Live Fire Drills for Performance Evaluation
 - 6. Skill Maintenance and Improvement Techniques
- B. Lack of Subconscious Awareness
 - 1. Sound of the Weapon
 - 2. Recoil Characteristics
 - 3. Muzzle Lift
 - 4. Muzzle Flash
- C. Establishing "The Feel" (Aspects of the Grip)
 - 1. Hits on Target through Hand-Eye Coordination
 - 2. Maintaining Muzzle Stability Before, During and After the Shot
 - 3. Manipulations of the Operating Levers
 - 4. Trigger Operation
 - 5. Operational Weapon Storage (Re-holstering, etc.)
- D. Operating the Trigger
 - 1. Acceptable Terminology
 - 2. How we Define Trigger Operation for Success
 - a. Finger placement
 - b. Constant contact
 - c. Linear movement
 - d. Subconscious discharge
 - 3. Why Trigger Control is the Most Important Fundamental of Combative Shooting Skills
- E. Concepts of Aiming
 - 1. Reflexive Shooting
 - 2. Sight Alignment
 - 3. Sight Picture
 - a. Close proximity, short time duration events
 - b. Precision placement events
 - 4. What the eye needs to see to trigger the shot
 - a. Understanding parameters of acceptability
 - b. Eye / trigger finger coordination

F. Exploring the Shooting Platform

1. Stance
 - a. Balance
 - b. Mobility
 - c. Stability
2. Optional Positions
 - a. Kneeling
 1. High
 2. Low
 - b. Prone
 1. Roll over
 2. In line
 3. Supine
3. Grip
 - a. Two hands
 - b. One hand

1. Wall drill (dry fire)
 - a. Work the fundamentals of grip, sight alignment, trigger control, follow through. Look for bad habits such as anticipation, etc.
2. One hole drill (live fire at 3 yards - amount of ammo up to instructor)
 - a. Have student shoot one hole into a blank area on the target (no aiming point) then pause
 - b. On next command, student fires 4 more rounds into THE SAME HOLE
 - c. Can be done 2 handed, dominant hand only, support hand only, sighted and unsighted
3. Watching the gun fire
 - a. Student aims the gun into the target and fires 1 round
 - b. Student then locks into the position with the upper body, cants head to the left and looks at the slide while firing 3-4 rounds
 - c. Student cants head to right, looks at the slide, fires 3-4 rounds
 - d. Student returns head to center, looks at the rear of the slide, fires 3-4 rounds
 - e. Student closes eyes and listens to pistol, fires remaining rounds into backstop
4. Locking in, look to the left - look to the right
 - a. Student aims in, fires several rounds into the target
 - b. Student locks upper body into position, then turns head to the left 45 degrees and fires several more rounds
 - c. Student turns head to the right 45 degrees and fires several more rounds
5. Rhythm shooting
 - a. 6 rounds fired unsighted at different distances. Listen for consistent timing or rhythm between shots, look for proper trigger reset coinciding with stabilizing the muzzle on the target.
 - b. An electronic shot timer can be useful in fine-tuning the experienced shooter's rhythm (can be intimidating to the new shooter)
6. COB - Hip to point - point to hip
 - a. Student starts extremely close to the target
 - b. Draw gun from hip to point, as gun comes up student steps back.
7. Ready gun to present and back
 - a. Student starts shooting as soon as hands come together in the ready gun position, all the way up to the final shooting platform, and then reverses (shoots from present position back down to ready gun position)
8. Movement
 - a. Proactive - heel toe, heel toe, rolling through the foot
 - b. Reactive - toe heel, toe heel feeling with the toe before committing with the weight
9. Ground fighting
 - a. Rollover prone
 - b. Rollover prone dominant hand only
 - c. Horizontal prone left and right
 - d. Sit up, control muzzle, stand up
10. Ground fighting on back, tucked position
 - a. Sit, lay back, crunch up (make certain that legs and feet clear muzzle), fire between legs
 - b. Roll to left, fire between legs
 - c. Roll to right, fire between legs

Estimated total rounds: about 350

OBJECTIVES:

A. OVERALL PERFORMANCE OBJECTIVES:

Firearms Instructors have the responsibility to teach students safe weapons handling, both on and off duty, as well as care and maintenance of the weapon. Along with firearms training, Firearms Instructors and students must have an understanding of ammunition.

The objective of this block of instruction is to provide the student with an understanding of pistol ammunition, its individual characteristics, components and general information relating to the selection.

B. INTERIM PERFORMANCE OBJECTIVES:

1. Establish an understanding of internal, external and terminal ballistics.
2. Familiarize with accepted law enforcement calibers for pistols.
3. Understand the critical wounding components for handgun ammunition in order of importance.
4. Understand other considerations for evaluating ammunition.
5. Establish guidelines for handling and storing ammunition.
6. Understand inspection procedures for ammunition quality.
7. Disposition of defective ammunition.
8. Understand why reloaded ammunition is not recommended.

ITEMS AND MATERIALS:

A. ARTICLES

B. AUDIO / VISUAL AIDS Overhead and/or slides

C. HANDOUT MATERIAL Ammunition Specifications

D. OTHER Defective ammunition examples

PISTOL AMMUNITION FOR LAW ENFORCEMENT INSTRUCTOR 'S MANUSCRIPT

A. INTRODUCTION

Ammunition and firearms are a team, one cannot perform without the other. When choosing ammunition for Department or Agency use, high quality, factory loaded cartridges meeting NATO or Sporting Arms and Ammunition Manufacturers Institute (SAAMI) specifications should be used.

NOTE: Reloaded ammunition extends from very poor to excellent; since there are no means to control the quality of reloaded ammunition, we do not recommend the use of any reloaded ammunition.

B. CARTRIDGES AND CALIBERS

1. A cartridge is defined as a single unit of ammunition consisting of the case, primer and propellant, with or without one or more projectiles.

- a. primer: the ignition component of a cartridge
- b. case: the metal container which holds all the other components which make up a cartridge
- c. propellant: the chemical composition which, when ignited by the primer, generates gas which propels the projectile(s)
- d. bullet: a non spherical projectile for use in a rifled barrel

Types include:

- Full metal jacketed
- Jacketed soft point
- Jacketed hollow point
- Frangible
- Lead round nose
- Lead hollow point

2. Law Enforcement Calibers:

- a. .380 ACP
Introduced in 1912 for use in semiautomatic handguns. Generally used in backup or undercover weapons. Thought by some to be the minimum effective caliber for law enforcement usage.
- b. 9mm Para.
Most widely used military and police pistol cartridge in the world. Since its introduction in 1902, most major firearms manufacturers have chambered weapons for this cartridge.
- c. 40 S&W
New cartridge developed by Winchester and Smith and Wesson, introduced in 1990. Designed to provide a compromise between those that favor large caliber handguns and those that favor high capacity handguns.
- d. 10mm Auto
This cartridge has been around for several years, but was popularized by the FBI in an effort to improve the effectiveness of law enforcement handgun ammunition. It is loaded in two power ratings, one for sporting purposes and one for law enforcement.
- e. .357 SIG
This cartridge is rapidly gaining popularity in Law Enforcement pistol applications. The .357 SIG was designed to duplicate the internal, external, and terminal ballistics of the well respected .357 Magnum revolver caliber without the recoil characteristics. The cartridge is based on the .40 S&W case, which allows high capacity in a standard sized duty semi automatic pistol.

f. .45 ACP

Developed in 1905 as a military cartridge to be used in revolvers and semiautomatic pistols. This cartridge has been widely used throughout the world in military and law enforcement organizations and is experiencing a resurgence in popularity among the law enforcement communities.

All the listed cartridges are excellent for military and law enforcement applications. It is up to the individual organization to weigh the pros and cons of each one and decide on what cartridge is best for their needs.

C. BALLISTIC DEFINITIONS

1. Internal Ballistics - The study of the motion of the projectile(s) within the firearm from the moment of ignition until it leaves the barrel.
2. External Ballistics - The study of the motion of the projectile(s) after it leaves the barrel of the firearm.
3. Terminal Ballistics - The study of the projectile's impact on the target.

D. AMMUNITION SELECTION CRITERIA

1. The critical wounding components for handgun ammunition, in order of importance are penetration and permanent cavity. The bullet must penetrate sufficiently to pass through vital organs and be able to do so from less than optimal angles. For example, a shot from the side through an arm must penetrate at least 10 - 12 inches to pass through the heart. A bullet fired from the front through the abdomen must penetrate about 7 inches in a slender adult just to reach the major blood vessels in the back of the abdominal cavity. Penetration must be sufficiently deep to reach and pass through vital organs, and the permanent cavity must be large enough to maximize tissue destruction and subsequent hemorrhaging.

Several design approaches have been made in handgun ammunition which are intended to increase the wounding effectiveness of the bullet. Most notable of these is the use of a hollow point bullet designed to expand on impact.

Expansion accomplishes several things. On the positive side, it increases the frontal area of the bullet and thereby increases the amount of tissue disintegrated in the bullet's path. On the negative side, expansion limits penetration. It can prevent the bullet from penetrating to vital organs, especially if the projectile is of relatively light weight and the penetration must be through several inches of fat, muscle or clothing.

Increased bullet mass will increase penetration. Increased velocity will increase penetration, but only until the bullet begins to deform, at which point increased velocity decreases penetration. Permanent cavity can be increased by the use of expanding bullets and/or larger diameter bullets, which have adequate penetration. However, in no case should selection of a bullet be made where bullet expansion is necessary to achieve the desired performance. Handgun bullets expand in the human target only 60-70% of the time, at best. Damage to the hollow point by hitting bone, glass or other intervening obstacles can prevent expansion. Clothing fibers can wrap the nose of the bullet in a cocoon-like manner and prevent expansion. Insufficient impact velocity caused by short barrels and/or longer range will prevent expansion, as will simple manufacturing variations. Expansion must never be the basis for bullet selection, but considered a bonus when, and if, it occurs. Bullet selection should be determined based on penetration first, and the unexpanded diameter of the bullet second, as that is all a shooter can reliably expect.

It is essential to bear in mind that penetration remains the single most critical factor. While penetration up to 18 inches is preferable, a handgun bullet **MUST** reliably penetrate 12 inches of soft body tissue at a minimum, regardless of whether it expands or not. If the bullet does not reliably penetrate these depths, it is not an effective bullet for law enforcement use.

Given adequate penetration, a larger diameter bullet will have an edge in wounding effectiveness. It will damage a blood vessel the smaller projectile barely misses. The larger permanent cavity may lead to faster blood loss. Although such an edge clearly exists, its significance cannot be quantified.

An issue that must be addressed is the fear of over penetration widely expressed on the part of law enforcement. The concern that a bullet would pass through the body of a subject and injure an innocent bystander is clearly exaggerated. Any review of law enforcement shootings will reveal that a large number of shots fired by officers do not hit any subjects at all. It should be obvious that the relatively few shots that do hit a subject are not somehow more dangerous to bystanders than the shots that miss the subject entirely.

Also, a bullet that completely penetrates a subject will give up a great deal of energy doing so. The skin on the exit side of the body is tough and flexible. Experiments have shown that it has the same resistance to bullet passage as approximately four inches of muscle tissue.

Choosing a bullet because of relatively shallow penetration will seriously compromise weapon effectiveness, and needlessly endanger the lives of the law enforcement officers using it. No law enforcement officer has lost his life because an bullet over-penetrated his adversary, and virtually none have ever been sued for hitting an innocent bystander through an adversary. On the other hand, tragically a number of officers have been killed because their bullets did not penetrate deeply enough.

2. Other considerations when choosing duty ammunition:

- a. Does the ammunition function in the pistol, loading, unloading, reloading and firing?
- b. Is the slide operation during live fire correct; extraction, ejection, chambering, locking back on the last round fired?
- c. Is the magazine operation correct; up and down movement and forward release from the follower?
- d. How dirty is the ammunition used; excessive powder build up, fouling in the barrel after firing a few rounds (ten)?
- e. Control of the weapon by your officers/agents during live fire, their accuracy and performance abilities.
- f. Terminal ballistics, stopping power, what was your deciding factor; information from previous shootings or other agency testing procedures, manufacturers testing or combination of all.
- g. Cost should not be a deciding factor when selecting duty/street ammunition.
- h. Does public opinion affect your department's decisions on ammunition selection?
- i. Based on your training and experience, are you satisfied with your agency's ammunition; if you are not, what will you do to change that situation?

3. Instructor consideration for practice ammunition:

- a. All of the considerations that apply for selecting duty ammunition should also be looked at carefully for selecting practice ammunition.
- b. Reliability of the practice ammunition is essential for the officer/agent to maintain confidence in the weapon system.
- c. Similar points of impact on the target are extremely important when selecting a practice cartridge. This will eliminate sight adjustments or use of "Kentucky Windage" when changing from practice to duty ammunition.
- d. The desirable characteristics include felt recoil and muzzle flash similarities.
- e. Cost may be a consideration when selecting practice ammunition, since more practice ammunition is fired in a given time period than duty ammunition.

E. AMMUNITION HANDLING AND STORAGE

1. Handling

Ammunition should be inspected upon receipt to ensure the shipping cartons have not been damaged in transit. Lot number, purchase order number and any other pertinent data should be logged before assigning the shipment a storage location. Care should be taken when moving ammunition to be certain that neither the containers nor the cartridges are damaged.

2. Storage in Buildings
 - a. Secure area, meeting fire and building codes.
 - b. Separate from other materials, particularly corrosives, flammables and mechanical equipment.
 - c. Climate controlled area - cool, dry, out of direct light.
 - d. Stack cases of ammunition only as high as they can be comfortably lifted. General rule of thumb is about five cases high.
 - e. Rotate ammunition inventory continually.
3. Storage in Vehicles
 - a. Carry only what is authorized.
 - b. Carry in approved containers away from moisture, heat and sunlight.
 - c. Ammunition should be cushioned against damage caused by impact.
 - d. Ammunition stored in the trunk of an automobile should be frequently replaced, especially during the extreme heat of summer.
4. Individual Storage
 - a. Keep ammunition in the original container until ready for use.
 - b. Keep magazines fully loaded.
 - c. Carry only what is allowed by regulation.

F. AMMUNITION INSPECTION, MAINTENANCE AND REPLACEMENT

1. Inspection
 - a. When to inspect:
 - 1) upon receipt
 - 2) once a week
 - 3) daily during adverse conditions of service
 - b. How to inspect:
 - 1) check primers for correct seating.
 - 2) check cartridge case for dents, splits or other damage, and the head stamp for brand and caliber.
 - 3) check overall length and proper bullet seat by placing the cartridge upright and inline on a flat surface. Then compare the bullet configurations and overall cartridge lengths.
 - 4) check the entire cartridge over for signs of corrosion, discoloration or deterioration.
 - 5) after removing the barrel from the gun, each cartridge may be placed in the chamber to assure proper fit (aka, "chamber checking" or "drop testing")
 - 6) when on a range firing, inspect fired cartridge cases for firing pin indent, extractor markings, pressure signs, etc.
2. Maintenance
 - a. The only maintenance required for ammunition is to wipe each round off with a clean, dry cloth.
 - b. Under NO circumstances should lubricant, solvent or metal polish be used on ammunition.
 - c. Replacement:
 - 1) consider replacing duty ammunition every six (6) months, or more often if operating in an extreme environment.
 - 2) any ammunition found or suspected of being defective should immediately be replaced.
 - 3) in a magazine fed firearm, the top several rounds are regularly rotated within the weapon during the loading and unloading procedures. These rounds must be inspected every time they are out of the gun and replaced at the first sign deterioration.

G. DISPOSITION OF RETURNED SERVICE AMMUNITION

1. Serviceable ammunition that has been inspected could be used for practice or qualification.
2. Damaged, corroded or otherwise defective ammunition must be disposed of by department / agency approved method. This could be accomplished by:
 - a. A Military Explosive Ordnance Disposal (EOD) Unit.
 - b. A Law Enforcement Agency Bomb Squad.
 - c. A civilian contractor.

H. GLOSSARY OF BALLISTIC TERMS

ACCURACY	The measure of a bullet's precision; the term describing a firearm's ability to shoot consistently where aimed.
AIR RESISTANCE	The decelerating action of the atmosphere on the forward movement of a projectile.
BALLISTICS	The science of projectiles in motion.
BALLISTIC	The index of a bullet's ability to overcome air resistance in COEFFICIENTflight relative to the performance of a standard projectile.
BORE	The inside of a firearm's barrel; the bore diameter of a rifled barrel is the inside diameter of the barrel before rifling was cut.
BULLET	The projectile shot from a rifle or pistol.
CALIBER	The diameter of a bullet or other projectile expressed in decimals of an inch or millimeters.
CANNELURE	An identification, crimping or lubricant groove on a bullet.
CARTRIDGE	The metal container which holds all other components of fixed CASEammunition; modern metallic cartridges are of five basic case head designs: belted, rebated, rimless, rimmed or semi-rimmed.
CHAMBER	The breech portion of a firearm which contains and supports the cartridge.
DROPT	The fall of the bullet due to the effect of gravity measured from its line of departure.
ELEVATION	Vertical sight adjustment to bring the point of aim up or down to coincide with the point of impact.
ENERGY	The capacity to perform work; in ballistics, energy is measured in foot pounds.
FOOT POUND	The amount of energy required to lift one pound one foot.
FREEBORE	The unrifled portion of the bore of a firearm directly in front of the chamber (sometimes referred to as lead or throat).
GRAIN	A unit of measure of weight; one pound equals 7,000 grains.
GROOVES	Swaged impressions or cuts spiraled through the bore of a firearm to impart rotation to projectiles.
GROUP	The distribution of bullets on a target fired with a single aiming point and a single sight setting; group size is expressed as the distance between centers of the farthest holes.
HANGFIRE	Term describing an inordinate delay between the striking of the primer and cartridge ignition.

HEADSPACE	The fit of a cartridge in a firearm chamber measured as the distance from the breech face to that part of the chamber which stops the cartridge's forward movement.
KEYHOLE	The imprint of an unstable bullet on a target.
LANDS	Those portions of the bore not cut away by rifling grooves.
LINE OF DEPARTURE	A straight line projected through the center of the bore of a weapon and continuing ad infinitum. Representing the path a bullet would follow if not for the effects of gravity and air resistance.
LINE OF SIGHT	A straight line through the sights of a weapon to the aiming point.
MID-RANGE TRAJECTORY	The height of the trajectory at a point halfway between the muzzle and the point of impact.
MINUTE OF ANGLE	The arc subtended by an angle of one minute (1/60 of a degree) at any range; at one hundred yards, one minute of angle equals 1.0471680 inches.
MISFIRE	Term used to describe the failure of a cartridge to ignite after its primer is struck.
MUZZLE ENERGY	Kinetic energy of a projectile at the muzzle of the weapon from which it is fired.
MUZZLE VELOCITY	The speed of a projectile at the muzzle of the weapon from which it is fired.
OGIVE	The curve of a bullet's forward portion.
POINT OF AIM	That point at which the sights of a firearm are aimed or aligned on.
POINT OF IMPACT	That point which a bullet strikes, usually considered in relation to the Point of Aim.
ROTATION	The spin of a projectile imparted to it by the rifling of the weapon from which it is fired.
SECTIONAL DENSITY	The ratio of a bullet's weight in pounds to the square of its diameter in inches; the higher the sectional density, the better the bullet's ability to retain its velocity and energy.
SIGHT RADIUS	The distance between front and rear iron sights.
SPIN	See ROTATION.
TIME OF FLIGHT	The time it takes a projectile to cover a given distance.
TRAJECTORY	The flight path of a projectile.
TWIST	The rate of spiral of the grooves of a barrel expressed in length of barrel per revolution.
VELOCITY	The speed of a projectile at a given point along its trajectory.
WINDAGE	Horizontal or lateral sight adjustment.
WIND DEFLECTION	The lateral deflection of a projectile caused by crosswinds.
YAW	Term used to describe the condition wherein a bullet rotates on its axis at a small angle to the line of flight.
ZERO	Term used to describe the sight setting at which point of aim and point of impact coincide at a given range.

I. SUMMARY

As stated earlier, firearms and ammunition operate as a team, one has little use without the other. In order to fill the needs of Law Enforcement Organizations, ammunition performance requirements must be defined. Once defined, procurement in sufficient quantities to meet organizational needs is the next step. Proper handling, storage and maintenance of ammunition will ensure maximum service life of the cartridges. Once issued, regular inspection should satisfy serviceability of cartridges until the rotation date. Defective cartridges must be destroyed by approved methods to prevent mixing them with serviceable ammunition.

NOTE: Any time there is a change in ammunition by brand name, type, etc., be certain to check each weapon for zero and overall operation before allowing an officer to carry it on the street.

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HANDGUN AMMUNITION FOR LAW ENFORCEMENT CRITERION QUESTIONS

1. Define internal ballistics: _____

2. Define external ballistics: _____

3. Define terminal ballistics: _____

4. What are the two critical wounding components for handgun ammunition in order of performance?

5. What is considered to be the minimum penetration of a semiautomatic cartridge to be considered effective for Law Enforcement use?

6. What are four conditions required for proper ammunition storage? _____

7. Is firing quality reloads in duty handguns acceptable? _____

8. Define weapon zero. _____

9. What type of lubricant or solvent should be used on ammunition to clean it? _____

10. When changing brands or types of ammunition, what should be done before the issue of an allotment to an officer?

TESTING, SELECTION AND ADMINISTERING ORGANIZATIONAL AMMUNITION

The Range Master and his staff have the responsibility of testing and evaluating all small arms ammunition for field and training use in most agencies. After testing, the selection process leads to the purchase of an inventory which will be the standard for the agency. The Range staff will then administer the inventory from receiving through disposal of the residue. On the surface this all sounds simple but a closer look reveals a multitude of decisions that must be made to maintain a quality ammunition program.

Ammunition selection criterion must be discussed and recorded by agency personnel prior to the actual product test procedure. It would waste time and money to test ammunition that obviously would not meet the agencies need in the first place.

The test protocol must be accepted as valid within the law enforcement community. The tests and test results must be carefully documented should questions arise in the future.

By comparing the test results with the needs and objectives of the agency, a selection can be made that will have the confidence of the field user.

Using test results from other agencies with the same or similar requirements is acceptable only if their testing has been validated by multiple agencies. It is always beneficial to validate segments of any test individually for the experience and documentation for the file.

There are three categories of ammunition that should be tested to determine serviceability of the selected products in their respective uses. There is usually some overlap in these categories subject to the perceived needs and uses determined by the agency. Service ammunition, training ammunition and specialty ammunition should all be individually studied even if the same answer is found to be applicable for more than one area.

Service ammunition is what each individual operator carries during the normal duty tour. This includes pistol, shotgun, sub-gun and rifle ammunition common to the assigned weapons of the job.

For most agencies terminal projectile performance receives the most attention. The amount of bullet penetration and bullet expansion in a multitude of mediums is where the ammunition interest starts and usually stops. Secondary is a verification of the desired accuracy at a pre-determined distance.

Several other characteristics of service ammunition should be considered however. The color and volume of muzzle flash in service ammunition should be of real concern to those that work in conditions of less than ideal light.

Felt recoil and muzzle blast are areas of ammunition that are mostly ignored simply because their existence and variations are largely unknown by the test personnel.

A physical check of the test ammunition should be conducted initially to verify manufacturing consistency. This is done by inspecting the head stamps for consistency, primers for correct seating, cartridge case continuity, and projectile form and seating. A spot check of cartridge and cartridge case dimensions compared to original design specifications is important as well as it will indicate product quality and consistency.

Testing of ammunition can vary from exhaustive studies internally, to relying on some other agencies findings. At the very least vendor provided results of ammunition fired under controlled conditions should be studied. If possible have the vendor come to your range to demonstrate and compare ammunition samples selected previously for testing. This will provide physical evidence of the findings and documented verification of the test procedure validating the selection effort.

The International Wound Ballistics Association is one of the leaders in the world regarding small arms projectile impact and terminal result in a variety of mediums. Their information primarily comes from professionals in the medical and forensic fields. These men and women have studied scientifically, actual cases of wound trauma to arrive at their conclusions. In addition, they have conducted closely controlled experiments designed to duplicate terminal impact and wound ballistics with real world results. Their information is largely irrefutable because of the quality and thorough documentation of each separate event.

The Federal Bureau of Investigation established a test protocol in the late 1980's by which most of the ammunition used in the law enforcement community today is judged. This protocol is based on shooting calibrated gelatin under

a wide variety of conditions. The gelatin represents the human tissue resistance used to determine bullet penetration and expansion. Intermediate mediums such as clothing, building materials, and glass among other items are also tested for their effects on projectiles prior to impacting the test gelatin. These results with their variables are compiled in a comprehensive document maintained by the FBI firearms training unit at Quantico, Virginia. A copy of this document may be obtained by contacting the FBI Firearms Training Unit at Quantico, Virginia.

Evan Marshall has compiled an enormous amount of information regarding the wounding of criminals by police in real world situations. He has to his credit a number of writings describing law enforcement shooting events and their ultimate result. Perhaps the most interesting information is Marshall's rating of cartridges and calibers against a preset standard regarding one shot stop capability.

Evan approaches the study of wound ballistics from a unique perspective. This adds yet another angle to be looked at in the search for the best ammunition to serve the agencies needs.

Forensic Labs and independent tests conducted by Agencies in the immediate region are also excellent sources for data to be factored in to the selection process.

Individual local testing should be done to evaluate the acceptability of felt recoil, muzzle blast, and flash of the test ammunition. These three items may be evaluated somewhat subjectively, however, they must be taken into consideration before making a final selection.

Ideally recoil is felt as a push rather than a sharp strike to the shooter. If the muzzle blast is greater than normally expected with the test gun several problems may appear. Shooter intimidation or being afraid of the weapon and ammunition combination usually manifests itself immediately upon firing the first round. At this point hit probability of the intended target diminishes rapidly as does shooter confidence in their equipment and ability to use it.

Internal and external ballistics may suffer as well simply because of the erratic combustion of the propellant which causes the blast. This effect itself results in less than an ideal accuracy potential.

Flash is related to, but not the same as blast. Ideally service ammunition will have a low volume, dark orange muzzle flash. The less flash, the more tactically sound. The shooter retains night adapted vision better and there is less signature to attract the attention of the opposition.

Typically, generic ammunition has little or no flash retardant added to its propellant. This provides us with a high volume emission of bright white light at the moment of firing. This often will distract the shooter, specifically in less than ideal lighting conditions.

Wide variations in muzzle blast and muzzle flash between service and training ammunition have the potential of confusing the shooter. Under the stress of a hostile confrontation this confusion very well may induce the shooter to momentarily hesitate or stop altogether. Neither case is acceptable in combat.

Training ammunition falls into several sub categories by itself. This makes it necessary to study the varieties available to meet the goals of our training programs. Ideally the only ammunition needed would be service ammunition. Unfortunately service ammunition is priced at three times the cost of generic practice ammunition. Service ammunition is often less range friendly than training ammunition due to ricochet and target equipment damage.

When the need for non-toxic ammunition, which is used more and more on indoor ranges, or marking ammunition, which is used in force on force role playing scenarios is realized, service ammunition is out of the question for training purposes.

More often than not it is perceived that the simplest solution to a training round selection is to choose a generic brand that goes bang and is inexpensive. There is more to consider however if we are dedicated to realistic training. The training ammunition should closely mirror the service ammunition in felt recoil, muzzle blast, muzzle flash and impact point on target.

This allows the shooters of the service and training ammunition not to make the distinction between the two at either a conscious or subconscious level. This in turn reinforces training by instilling confidence in ones equipment and the ability to use that equipment.

New on the scene is non-toxic training ammunition. This ammunition by definition has no trace of lead or any other heavy metals in its composition. The primers are devoid of any material considered hazardous to humans. The projectile contains no lead what so ever and is usually composed of a copper alloy, jacketed zinc, jacketed tin, or synthetic composite. Since the brass case and the propellant have not been declared hazardous, the cartridge is listed as non-toxic as long as the primer and projectile are free of heavy metals.

A variant of non-toxic is lead free ammunition. This simply means that there is no lead in the primer, projectile or elsewhere the cartridge. Other heavy metals such as barium, and strontium are likely to be present in the primary compound even in the absence of lead. These primer residues disqualify lead free ammunition from a nontoxic classification in the opinion of most.

Another variant is encapsulated ammunition which has a lead projectile that is sealed by plating or jacketing. As long as no lead is exposed before, during or after firing, these projectiles could be classified as non-hazardous. Primers vary with this type of ammunition making it necessary to thoroughly research what residues may remain from firing this ammunition before deciding suitability for use.

Frangible ammunition is not new but is being perfected to meet today's needs in training and duty applications. Unfortunately, a definitive description of frangible ammunition has yet to be agreed upon by the ammunition manufacturers. It is generally accepted that frangible projectiles will disintegrate to uniform particulate matter when striking surfaces of similar hardness at velocities commensurate with the discharging weapon. As might be expected target hardness, projectile velocity, projectile hardness, and projectile composition all play a part in the terminal performance of frangible ammunition.

Of all the ammunition tested advertised as frangible, those likely to disintegrate are mixtures of copper powder and a polymer or polyester bonding agent. Some brands have powdered tungsten added to the copper powder mix solely to increase bullet weight.

Sintered metal frangible bullets rarely disintegrate to the particle size expected of the composite bullets. This is acceptable as long as considerations are given to splash back and ricochet potentials.

Jacketed frangibles pose the same dangers of splash back and ricochets as the sintered metal bullets. This is not solely from the core but from the jackets themselves.

Ideally, frangible projectiles disintegrate to a uniform particulate where splashback is unlikely. Additional precautions against secondary splash back should be considered when training with the various types of frangible ammunition.

Specialty ammunition must be tested in its working environment if at all possible to validate its usefulness. Specialty ammunition is used to describe non-standard or unconventional shells or cartridges. A few of the many varieties available will be described as to weapon and application for law enforcement use.

Less than lethal projectiles commonly known as bean bag rounds are used in shotguns to control violent subjects. The characteristics of this type of ammunition reduces the chance of serious injury to all parties involved. This ammunition is produced in several versions which vary in payload and velocity. Testing of manufacturers claims must be done to verify that the selected round will meet the objectives set by the users. Many other specialty rounds have been developed for delivery by the shotgun. Most are used as a means of influencing uncooperative individuals to do things they did not intend to do. Each ammunition selection must be tested against the agencies selection criterion to determine suitability for the intended application.

Subsonic rifle ammunition has an application in the special operations world. Not only must it be compatible with the rifle/suppressor combination for sound attenuation but it must have the accuracy potential desired by the operator for effective target engagement. Since the trajectory is significantly different from conventional ammunition, incremental testing must be done from muzzle to maximum intended distance to verify points of impact. Projectile terminal performance must be verified as well to ensure the expected outcome upon impact with a selected target.

As with the shotgun there are a multitude of specialty rifle cartridges available. Available is everything from plastic limited range projectiles to the super penetrator rounds designed to perforate glass at any angle with no change in trajectory. As always, before use, they must be tested against an objective of expected results.

FX marking cartridges from Simunition are designed exclusively for training in pistols, shotguns and sub-machine guns. These cartridges must be tested for function and range in order to plan for realistic training scenarios. Zeros must be established and verified for successful engagements in these training events.

Safety must also be addressed when using this ammunition. The ramifications of unprotected direct impact on a role player and the subsequent first aid needed have to be considered. What is considered a safe distance from the training site before safety equipment is no longer needed? The answer to that question with test documentation is a must with respect to safety.

A perpetual awareness of the condition of all weapons and magazines on the training site by all participants is mandatory to ensure that no live weapons or ammunition enter the training area.

Weapon maintenance and cleaning cycles must be established and followed to ensure that more time is spent training than working on guns. Regular barrel cleaning and lubrication of the moving parts with a light oil is absolutely necessary to ensure weapon reliability.

Other special cartridges for handgun/sub-gun application include penetrator, tracer, and shot charges. These and others have narrow areas of application and should be tested in their areas of specificity for the expected outcome before use.

An ongoing record of ammunition test results should be kept in a permanent file for informational purposes and as a litigation hedge. A sample of each lot of ammunition received should be tested to ensure the expected result will be as it was with the previous lot. This is made necessary by manufacturing changes that take place without notification causing unexpected differences in terminal results.

The administration of the newly selected product begins once an ammunition selection has been made and the price has been agreed upon.

The responsibility of the Range Master is to forecast what type and how much ammunition will be needed for a specified time period. This figure is forwarded to the purchasing branch of the organization for procurement and the ammunition is ordered.

Ammunition storage must be given significant consideration. Security, safety and environmental concerns must be addressed.

Security among other things should mean limited recorded access to the ammunition by specified personnel.

An accurate accounting system will help manage the inward and outward flow of the various types of ammunition.

The secure area must be approved by the local building inspector and fire officials to verify the proper building codes for explosives and hazardous material are met. Storage methods and any separate storage containers should undergo the same approval. The inside atmosphere of the storage area has to be regulated to ensure a cool, low humidity environment that is properly ventilated and maintained.

Material Safety Data Sheets, O.S.H.A. Standards and EPA Regulations should be followed explicitly with copies of each maintained on file in the Range Masters administrative office. Any local regulations pertaining to ammunition storage must be recognized and followed as well. Agency policies and procedures are the final tier of regulations that govern the administration of ammunition assets.

Once the ammunition storage area meets the standards required, organizing the shipment so that stock rotation will be easily accomplished. Each manufacturer provides recommendations regarding stacking, storing, climate control and rotational time frames. A program implemented using the manufacturers published recommendations is well insulated from criticism and litigation.

All ammunition should be rotated perpetually using the oldest lots first. Duty ammunition issued to the members of the force should be replaced on a semiannual basis. This ensures that fresh product is available when the need arises. Each individual should fire his or her full duty load in a meaningful course of fire as a training or qualification event to reinforce their confidence in the ammunition and their equipment.

Once firing is completed there must be a clean up and turn in of brass and other range residue. Specific regulations must be established and enforced pertaining to the handling of range residue. Simple examples are; never collect brass in your hat, (because of lead contamination to the head) and always wash your hands before leaving the range. Paper, boxes, targets, etc. all have a place to go separate from the ammunition. Brass should be removed from the range, accounted for, and stored in an environmentally safe area awaiting disposal.

Money can be added to the Range Masters budget by recycling. Brass can be sold to commercial reloaders for reloading and resale or to scrap dealers for the metal value itself.

Bullet residue can be sold for scrap prices as well. The bullet composition dictates the value and the method of recovery for the recycling process. Residue containing lead must be treated as hazardous waste whereas other materials such as copper, zinc or tin may simply be swept up, packaged and transported. In sufficient volume even cardboard and paper targets may be recycled.

The Range Master is looked upon with favor by the agency administration when responsible leadership is demonstrated. By having a plan in place, implementing that plan effectively, and perpetuating that plan, a model of efficiency is put in place to be second guessed by none. The Range Masters continuing research keeps him and his staff current on the latest discoveries and breakthroughs in the world of ammunition. A continuing program of test and evaluation maintains the confidence of the agencies users that they are carrying the very best ammunition available for the job they are sworn to do.

The Range Master has accomplished a near impossible feat with the ammunition program by making the Administrators and the Operators both happy. Their mutual approval of the Range Masters ammunition program will validate the success of the time and effort expended on its creation.

SAAMI Is An Accredited Standards Developer For The American National Standards Institute (ANSI)

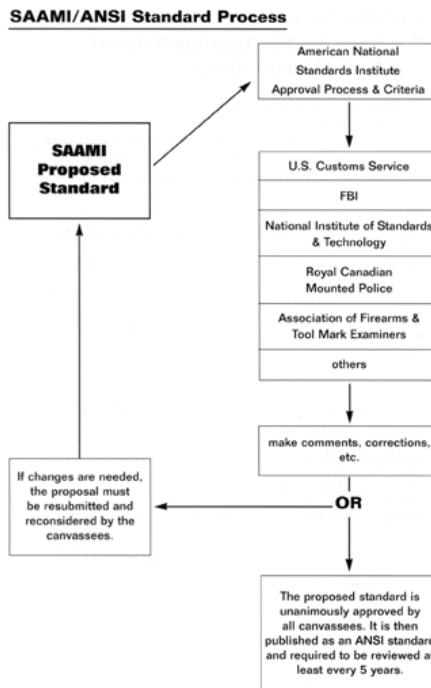
As an accredited standards developer, SAAMI's standards for industry test methods, definitive proof loads, and ammunition performance specifications are subject to ANSI review and various ANSI criteria.

According to the American National Standards Institute, "Approval of an American National Standard requires verification by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer.

"Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made toward their resolution."

Standards are developed when the governing body, SAAMI, proposes a new standard and circulates the draft to canvasses. Canvasses for each standard include government agencies (such as the Federal Bureau of Investigation and the U.S. Customs Service), non-SAAMI member companies, and interested parties (such as the National Institute of Standards and Technology). Once the draft standard has been reviewed and returned to SAAMI with comments or corrections, the canvass group votes on whether or not to accept the standard. If there is disagreement and a canvasee opposes the standard but the standard is accepted by the other members of the canvass group, there is an ANSI appeals process that decides the matter.

It is ANSI and SAAMI policy that every five years the standards be revised or reaffirmed. Even if the standards remain the same, they must go through the approval process outlined above. Simply stated, the standards accepted by ANSI and promulgated by SAAMI are reviewed and accepted by outside experts, and every five years the validity of the standards are re-affirmed.



In 1996, SAAMI was audited by ANSI and received exemplary marks for technical expertise, professionalism, and competency. The audit concluded that, "SAAMI staff is competent and knowledgeable concerning the SAAMI standards process and ANSI requirements. The standards are processed in a professional manner."

Over the years, there have been attempts to put firearms and ammunition under the Consumer Safety Protection Act. Recognizing that firearms are not traditional "consumer products", Congress exempted the firearms and ammunition industries in 1972 saying, "The Consumer Product Safety Commission shall make no ruling or order that restricts the manufacture or sale of firearms, ammunition, including black powder or gun powder, for firearms." Congress was correct because numerous anti-gun advocates have since argued that the CSPA should be allowed to regulate firearms and ammunition in the name of safety. Numerous industries in addition to firearms and ammunition were exempted from the CSPA, including automobiles, boats, and aircraft. Congress has not wavered from its initial position.

Since 1926 SAAMI has been the principle organization in the United States actively engaged in the development and promulgation of product standards for firearms and ammunition. The U.S. military, the Federal Bureau of Investigation, and many other state and local agencies frequently require that their suppliers manufacture to SAAMI specifications. SAAMI is the only trade association whose member companies manufacture and set standards for high-performance law enforcement ammunition.

SAAMI Sets Product Standards for Firearms and Ammunition

The primary work of SAAMI is done by its Technical Committee in the setting of industry standards. Product standards for firearms and ammunition are developed by two Product Standards Task Forces, one for ammunition and one for firearms. Recommendations of the task forces are submitted for review by the entire Technical Committee. Other key areas of technical expertise and standardization include pressure measurement, muzzle loading, and working toward universal, internationally recognized standards by working with the Commission Internationale Permanente (CIP). In Europe, proof houses or testing facilities for firearms and ammunition, have set European standards since the 1800s. The CIP is an international association of proof houses. By working together, the CIP and SAAMI are working towards the development of international standards.



SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE, INC.

UNSAFE ARMS AND AMMUNITION COMBINATIONS

Ammunition used in a firearm must be the same caliber or gauge as that marked on the firearm by its manufacturer. If the firearm is not marked as to the caliber or gauge, or if it appears that the original marking has been overprinted or changed, it is the responsibility of the gun user to have a qualified person determine what cartridge or shell can be safely used in the firearm.

The firing of a cartridge or shell other than that for which the firearm is chambered can result in the cartridge or shell rupturing and releasing high pressure gas that can damage or destroy the firearm and kill or seriously injure the shooter and persons nearby.

There are countless combinations of specific cartridges and firearms which are unsafe. Many of these unsafe combinations are recognizable because of specific differences between the similar chamber and cartridge dimensions. It is not possible to list every unsafe combination; therefore, in the interest of safety, use only the cartridge (or shell) designated by the firearm or ammunition manufacturer for use in a specific firearm. The cartridge caliber or shotshell gauge must be marked on the firearm frame, receiver or barrel by its manufacturer.

The practice of rechambering firearms is not guided by industry standards. It is possible that a firearm which has been rechambered may not be rechambered properly or the rechambered caliber may not be marked on the firearm. The firearm user is responsible to find out from a qualified person the cartridge caliber or shell gauge for which the firearm has been rechambered.

RIMFIRE

In Firearms Chambered For

Do Not Use These Cartridges

22 WRF

- 22 BB
- 22 CB
- 22 Short
- 22 Long
- 22 Long Rifle
- 22 Long Rife Shot

22 Winchester Magnum

- 22 BB
- 22 CB
- 22 Short
- 22 Long
- 22 Long Rifle
- 22 Long Rifle Shot

22 Winchester Automatic

- 22 BB.
- 22 CB
- 22 Short
- 22 Long
- 22 Long Rifle
- 22 Long Rifle Shot

In Firearms Chambered For
5mm Remington RF Magnum

Do Not Use These Cartridges

22 BB
22 CB
22 Short
22 Long
22 Long Rifle
22 Long Rifle Shot
22 Winchester Automatic

25 Stevens Long

5mm Remington RF Magnum

SHOTGUN

In Shotgun Chambered For

Do Not Use These Shells

10 Gauge
12 Gauge
12 Gauge
16 Gauge
20 Gauge

12 Gauge
16 Gauge
20 Gauge
20 Gauge
28 Gauge

In Shotgun Chambered For

Do Not Use These Centerfire Metallic Cartridges

410 Bore

Any

Shotshells of a given nominal length should not be fired in a gun the chamber of which is shorter than the fired cartridge length, e.g. a 3" (75mm) shell fired in a 2 ¾" (70mm) chamber.

CENTERFIRE PISTOL & REVOLVER

In Firearms Chambered For

Do Not Use These Cartridges

9mm Luger (Parabellum)

9mm NATO (Military)
40 Smith & Wesson
9x18 Makarov

9mm Winchester Magnum

9x18 Makarov

9x18 Makarov

9mm Luger
38 Automatic
38 Super Automatic
380 Automatic

9x23 Winchester

38 Super Automatic
380 Automatic

In Firearms Chambered For

32 H&R Magnum

32 Smith & Wesson

32-20 Winchester

357 Sig

38 Automatic

38 Super Auto +P

38 Smith & Wesson

38 Special

38-40 Winchester

44-40 Winchester

45 Automatic

45 Colt

45 Winchester Magnum

Do Not Use These Cartridges

32 Long Colt

32 Automatic

32 Long Colt

32 Short Colt

32-20 High Velocity

9mm Luger

38 Super Auto +P*

9mm Luger

9mm Luger

9x18 Makarov

38 Automatic

38 Long Colt

38 Short Colt

38 Special

9x18 Makarov

357 Magnum

380 Automatic

38-40 High Velocity

44-40 High Velocity

38-40 Winchester

44 Remington Magnum

44 Special

44-40 Winchester

38-40 Winchester

44 Remington Magnum

44 Smith & Wesson Special

44-40 Winchester

454 Casull

45 Automatic

454 Casull

+P ammunition is loaded to a higher pressure, as indicated by the +P marking on the cartridge case headstamp. This ammunition is for use only in firearms specially designed for it and so recommended by the manufacturer of the firearm.

CENTERFIRE RIFLE

<u>In Rifle Chambered For</u>	<u>Do Not Use These Cartridges</u>
6mm Remington (244 Rem)	250 Savage 7.62x39
6.5mm Remington Magnum	300 Savage
6.5x55 Swedish	7mm BR Remington 7.62x39 300 Savage
6.5x06 A-Square	7.62x39
6.5x08 A-Square	7.62x39
7mm Express Remington	7mm Mauser (7x57) 270 Winchester 30 Remington 30-30 Winchester 300 Savage 308 Winchester 32 Remington 375 Winchester 38-55 Winchester
7mm Mauser (7x57)	7.62x39 300 Savage 30-30 Win
7mm Remington Magnum	7mm Express Remington 7mmMauser (7x57) 7mm Weatherby Magnum 8mm Mauser
7mm Remington Magnum	270 Winchester 280 Remington 303 British 308 Winchester 35 Remington 350 Remington Magnum 375 Winchester 38-55 Winchester

In Firearms Chambered For
7mm Shooting Times Westerner

Do Not Use These Cartridges

30-06 Springfield
30-40 Krag
350 Remington
300 Winchester Magnum

7mm Weatherby Magnum

7mm Express Remington
7mm Mauser (7x57)
7mm Remington Magnum
8mm Mauser
270 Winchester
280 Remington
303 British
308 Winchester
35 Remington
350 Remington Magnum
375 Winchester
38-55 Winchester

7mm-08 Remington

7.62x39

8mm Mauser (8x57)

7mm Mauser (7x57)
35 Remington

8mm Remington Magnum

338 Winchester Magnum
350 Remington Magnum
358 Norma Magnum
375 Winchester
38-55 Winchester

17 Remington

221 Remington Fireball
30 Carbine

17-223 Remington

17 Remington
221 Remington Fireball
30 Carbine

220 Swift

7.62x39

223 Remington

5.56mm Military
222 Remington
30 Carbine

240 Weatherby Magnum

220 Swift
225 Winchester

In Firearms Chambered For
243 Winchester

Do Not Use These Cartridges

7.62x39
225 Winchester
250 Savage
300 Savage

25-06 Remington

7mm BR Remington
7.62x39
308 Winchester

257 Roberts

7.62x39
250 Savage

257 Weatherby Magnum

25-06 Remington
25-35 Winchester
6.5mm Remington Magnum
284 Winchester
7mm-08 Remington
7mm Mauser
7.62x39
308 Winchester
300 Savage
303 Savage
307 Winchester
30-30 Winchester
32 Winchester
32-40 Winchester
35 Remington

350 Remington Magnum
356 Winchester
358 Winchester
375 Winchester
38-55 Winchester

264 Winchester Magnum

270 Winchester
284 Winchester
303 British
350 Remington
375 Winchester
38-55 Winchester

In Firearms Chambered For
270 Weatherby Magnum

Do Not Use These Cartridges

25-06 Remington
270 Winchester
284 Winchester
7mm-08 Remington
7-30 Waters
30 Remington
30-30 Winchester
308 Winchester
300 Savage
303 Savage
307 Winchester
32 Winchester
32 Winchester Special
32-40 Winchester
35 Remington
35 Remington Magnum
356 Winchester
358 Winchester
375 Winchester
38-55 Winchester

270 Winchester

7m Mauser (7x57)
7.62x39
30 Remington
30-30 Winchester
300 Savage
308 Winchester
32 Remington
375 Winchester
38-55 Winchester

280 Remington

7mm Mauser (7x57)
7.62x39
270 Winchester
30 Remington
30-30 Winchester
300 Savage
308 Winchester
32 Remington
375 Winchester
38-55 Winchester

In Firearms Chambered For
284 Winchester

30-06 Springfield

30-40 Krag (30 Govt)

300 Holland & Holland Magnum

300 Savage

300 Weatherby Magnum

300 Winchester Magnum

303 British

303 Savage

308 Winchester

338 Winchester Magnum

Do Not Use These Cartridges

7mm Mauser (7x57)
300 Savage

7.62x39
8mm Mauser (8x57)
32 Remington
35 Remington
375 Winchester
38-55 Winchester

303 British
303 Savage
32 Winchester Special

8mm Mauser (8x57)

30-06 Springfield
30-40 Krag
375 Winchester
38-55 Winchester

338 Winchester Magnum

338 Winchester Magnum

8mm Mauser Rd. Nose Magnum

303 British
350 Remington Magnum
375 Winchester
38-55 Winchester

30-30 Winchester
32 Winchester Special

30-30 Winchester
32 Winchester Special
32-40 Winchester

7.62x39
300 Savage

375 Winchester
38-55 Winchester

In Firearms Chambered For
338-06 A-Square

340 Weatherby Magnum

348 Winchester

358 Shooting Times Alaskan

375 Winchester

378 Weatherby Magnum

375 H&H Magnum

38-55 Winchester

415 Rigby

416 Weatherby Magnum

45-70 Government

460 Weatherby Magnum

Do Not Use These Cartridges
35 Remington

350 Remington Magnum

375 Winchester

38-55 Winchester

444 Marlin

35 Remington

7mm Shooting Times Westerner

338 Winchester Magnum

8mm Remington

350 Remington

375 Winchester

38-55 Winchester

38-55 Winchester

41 Long Colt

444 Marlin

45-70 Government

375 Winchester

38-55 Winchester

375 Winchester

41 Long Colt

416 Remington

416 Remington

416 Rigby

45-70 Government

454 Casull

458 Winchester



SAAMI Proposes and Reviews International and Domestic Shipping Regulations

The SAAMI Logistics & Regulatory Affairs Committee (SLARAC) performs some of the most important functions of SAAMI. SLARAC participates in reviewing and proposing both domestic and international regulations so that products offered by SAAMI members can be distributed economically and safely, without unreasonable restrictions, throughout the world. Working with the U.S. Department of Transportation, U.S. Treasury Department (Bureau of Alcohol, Tobacco, and Firearms) on a domestic basis and internationally through the United Nations Sub-Committee of Experts on the Transportation of Dangerous Goods, SAAMI is intimately involved in the development of domestic and global standards for the safe transportation and distribution of products manufactured by SAAMI-member companies.

The Logistics and Regulatory Affairs Committee regularly offers its expertise to agencies on such important matters as the classification, labeling, placarding, and packaging of small arms ammunition. The Committee conducts tests in support of their views concerning the limited hazards associated with the storage and transportation of small arms ammunition and components. The harmonization of domestic and international regulations is a high priority and is an ongoing project.

One important product of the SLARAC Committee is a video, *Sporting Ammunition and the Firefighter*, which was produced by the Committee many years ago. The video analyzes the characteristics associated with the small arms ammunition when it is subjected to severe impact and fire. When a primer ignites, it causes the propellant to burn which creates gases which, when under pressure in a firearm, send the bullet down the barrel. Pressure created by the propellant being burned is what discharges a bullet. As such, loose ammunition in a fire does not result in bullets being discharged because the propellant is not burning under pressure. The video, which has been widely circulated to fire departments, concludes that while ammunition produces a popping sound when it burns, there is no mass detonation of the ammunition, any projectiles are of low velocity, and there is no threat to firefighters in their standard turn-out gear.

GETTING THE RIGHT TWIST

By **LAYNE E. SHULTETUS**

Seems that each time I instruct a Patrol Rifle, Tactical Rifle or Basic Rifle skill class one question always comes up.

On a Standard AR-15 or variation of the AR-15, what barrel twist rate is best to stabilize what bullet weight? This question seems to go on and on and there seems to be as much misinformation about the answer as there was about the bullet stopping power controversy of a few years ago.

At a recent IALEFI conference, I was at one of the corporate sponsor tables and overheard a couple of instructors discussing the benefits of one twist over another and neither seemed to understand the concept being discussed. In a nutshell, here is the rationale.

Rate of Twist:

All rifle barrels have lands and grooves, which are scored or forged into the barrels inside diameter. The barrel can vary on the number of grooves depending on the manufacturer's specifications. The average is 6. The rifling grooves are usually twisted to the right. The twist rate is the number of times the rifling completes a 360-degree turn in a given number of inches of barrel. A standard M 16A2 Full Automatic with 20 inch barrel has a rifling twist rate of 1 turn in 7 inches of barrel.

Military Application:

Basically, the Military is interested in stabilizing one of two primary cartridges - the U.S. Standard 5.56x45 grain M16/M4 or the NATO Cartridge (SS109), also known as the U.S. M855 62 grain 5.56x45. They have adopted or accepted that the M16A2 barrel twist of 1:7" to be acceptable for that purpose and meets required combat accuracy.

Rule of Thumb:

The basic rule in rifle twists is that "The heavier the bullet - the faster the twist rate." A 1:6" is faster than a 1:12" rate and so on. The SS109 or M855 is a typical bullet design and is a longer, heavier bullet (Full Metal jacket Boat Tail) and a fast twist rate is required.

Accuracy:

The goal of all this is to achieve the best overall accuracy you can get with the bullet you are shooting. Over- or under-stabilization can erode accuracy. We must remember however that there is a big difference between combat accuracy and the pinpoint precision accuracy required in match shooting or sniper application. If you give the average law enforcement officer a rifle and three boxes of different ammo at 100 yards you will probably not notice any depreciable accuracy difference between the rounds. With a stable shooting platform and perhaps some optics and a very experienced shooter, however, you will find some differences.

Here is the breakdown:

Barrels with 1:12" twist are best used to stabilize bullets in the 40 to 55 grain weights. Although bullets from 40 to 60 grains may be shot, the accuracy of the heavier bullets may erode. Barrels in the 1:9" twist are just about as middle of the road as you can get for bullets from 55 to 70 grains. Lighter bullets can be used, but due to over-stabilization, may not be as accurate. A barrel twist of 1:6" or 1:7" is the best for cartridges in the 62 to 80 grain range, with accuracy falling off with bullets lighter than 68 grains.

Conclusion:

There is a wide overlap between bullet weights and twist rates. My own personal AR-15 National Match 11Bar has a 1:9" twist rate. I shoot everything from 55 grain to the 69 grain Match Boat Tail. I am well served by that twist rate and shoot enough to know what to expect from each type of bullet I am firing. The key is trigger time - getting to know your gun and the ammo you use. As far as it goes with the average street officer, the combat accuracy he/she needs to do his/her job is directly related to how much he/she trains with his/her weapon and ammo. In case you're one of those instructors who goes to the finite degree, now you have some insight as to how to determine the right twist.

Layne E. Schultetus is a member of IALEFI Board of Directors, and is a NRA Certified Rifle Instructor.



COVERT CARRY AND PLAIN CLOTHES OPERATION

COVERT CARRY AND PLAIN CLOTHES OPERATION



DAY 1: A.M.

- I. Student Registration
 - A. Range Safety Rules
 - B. Liability Waiver
 - C. Range commands
 - D. Review Course outline
- II. Guidelines on Judicious Use of Deadly Force
 - A. Definitions and Terminology
 - B. Justification for Deadly Force
- III. Understanding Support Equipment & Selection of Concealed Carry Handguns
 - A. Concealed Carry Systems / Options / Advantages and Disadvantages
 - B. Habits/ Actions to Avoid when Carrying Concealed
 - C. Places to Avoid when Carrying Concealed
 - D. Home / Office / Vehicle Firearms Safety
 - E. Optional Carry Positions (backup)
- IV. Handgun Operation
 - A. Function Check
 - B. Preventative Maintenance
 - C. Final Safety Check
 - D. Back up gun (optional)

DAY 1: P.M.

- V. Equipment Check
 - A. Handguns, ammo pouches
 - B. Other support equipment
 - C. Flashlight
- VI. Handgun Marksmanship Fundamentals
 - A. Stance
 - B. Grip
 - C. Trigger Control
 - D. Back up gun differences
- VII. Baseline Performance
 - A. Wall Drill
 - B. Trigger Rest Drill
 - C. One Hole Drill
 - D. Static Shooter Baseline
- VIII. Principles of Speed Shooting
 - A. Understanding the Quarter Second Rule
 - B. Sighted versus Unsighted Shooting
 - C. Economy of Motion / Speed
 - D. Access, Withdraw, Present
 - E. Loading / Reloading / Unloading
- IX. Immediate Action Drills
- X. Seated Shooting Positions
- XI. Identification and Use of Cover

DAY 2: A.M.

- I. Safety Review
- II. Review Principles of Speed Shooting
 - A. Understanding the Quarter Second Rule
 - B. Sighted versus Unsighted Shooting
 - C. Economy of Motion / Speed
 - D. Access, Withdraw, Present
 - E. Loading / Reloading / Unloading
 - F. Discuss Diminished Light Techniques
- III. Wall Drill (optional)
 - A. Trigger Rest Drill
 - B. One Hole Drill
 - C. Static Shooter Baseline
- IV. Movement
 - A. Pivots and Turns
 - B. Proactive / Reactive
 - C. Lateral Side Step

DAY 2: P.M.

- V. Dominant and support hand techniques
 - A. Loading / Reloading / Unloading
 - B. Immediate Action / Stoppage Clearing
- VI. Multiple Shots on One Target
 - A. Dominant hand only
 - B. Support hand only
- VII. Multiple Targets / Multiple Shots
- VIII. Diminished Light Operations
- IX. Alternate Shooting Positions
 - A. Kneeling
 - B. Prone / horizontal / dominant hand
 - C. Ground fighting
- X. Moving Drills
 - A. Shooting While Moving
 - B. Engaging Moving Threats
 - C. Techniques in and Around Vehicles
 - D. Interactive (optional)

PREPARATION AS A PLAIN CLOTHES / U.C. OFFICER:

When planning your defense or defense of another, we recommend that you research and train yourself in:

USE OF FORCE:

- Back up gun policy?
- Knife policy?
- Home / safe storage policy?

Non-lethal and Less Lethal Methods:

These can aid in dealing with those situations where a firearm or deadly force would not be necessary, or appropriate, to deal with the given threat.

- Empty Hand Defensive Tactics
- Aerosol Sprays, such as OC
- Impact weapons
- Edged Weapons

Get trained and certified on everything you carry. Know how, and when, to use it!

Lethal Methods:

This is your "last resort". None of the above force options are available, or appropriate given the nature of the attack. Some factors to consider:

- gun fit to the hand, including ability to operate with either hand
- reliability,
- controllability,
- accuracy,
- size and weight

You must be completely familiar with your chosen handgun and be able to make hits and keep the handgun up and running with either hand.

In general, we do not recommend pistols smaller than 9mm as a primary defensive tool or revolvers smaller than .38 Special. The most common pistol calibers are .45 ACP, .40 S&W, .357 SIG, and 9mm.

THE CONCEALED CARRY SYSTEM:

- HANDGUN
- BELT
- HOLSTER
- SPARE AMMUNITION (minimum 1 reload; recommended 2)
- MAGAZINE OR SPEED LOADER POUCHES
- CONCEALING GARMENT(S)
- HIGH INTENSITY FLASHLIGHT WITH SPARE BATTERIES AND LAMP
- OTHER USE OF FORCE TOOLS (OC, IMPACT TOOLS, ETC.)
- ID (DEPENDING ON ASSIGNMENT)
- COMMUNICATIONS DEVICES (cell phone, dedicated team commo)
- PHONE CALLING CARD
- LOCKING / SECURING DEVICE(S)

HANDGUN SELECTION:

- FIT TO THE DOMINANT HAND
- RELIABILITY
- POINT ABILITY (must point as naturally as your forefinger)
- CONTROLLABILITY (relates to caliber)
- ACCURACY
- SIZE AND WEIGHT

HANDGUN OPTIONS:

FULL-SIZE HANDGUNS:

- Easier to aim and control
- Higher ammunition capacity
- Harder to conceal

COMPACT:

- Can be more challenging to aim and control
- Can have lower ammunition capacity
- Easier to conceal

SUBCOMPACT OR POCKET SIZE:

- Can be very challenging to aim accurately and control
- Can have lower ammunition capacity
- Easiest to conceal
- May be appropriate as a back up firearm or when deep concealment is required (tropics)

RECOMMENDATION:

- Carry the largest caliber that you can control with one hand
- Carry a handgun that fits your hand and that you can reliably hit with
- Then find techniques and garments to conceal your chosen handgun

CHOOSING A HOLSTER:

CONCEALMENT: This is most important, but it depends on:

- Your physical build (females typically have a more difficult time with belt mounted holsters)
- Your mode of dress / cut of clothing

ACCESSIBILITY: You must be able to get to the handgun, grip it properly, and get it into action quickly

- How do you spend the majority of your time? Will your rig work while you are belted into a vehicle?

COMFORT: A noted firearms instructor once said, "The whole idea of a handgun is that is comforting, not necessarily comfortable."

RETENTION: The gun must not get loose if you are involved in vigorous physical activity (running, using empty hand techniques, etc.)

SAFETY FEATURES:

- Reinforced opening that allows rapid, one – handed re holstering
- Covered trigger guard
- Does not catch on any operational controls (safety levers, magazine releases, etc.)

OTHER THINGS TO THINK ABOUT:

- Climate and garments
- Limitations such as range of motion in the shoulder, elbows, etc.
- If the holster is belt mounted, get the matching belt and ammo pouches from the same manufacturer

THINGS TO BE AWARE OF WHEN CARRYING:

PRINTING: Wear thick enough garment so outline of handgun doesn't show. The old Mae West quote is not what

you want to hear!

EXPOSING: Usually happens when you bend over, reach for something high, etc.

TOUCHING: New operators have this need to reassure themselves that the handgun is “still there”. Could also result from an uncomfortable / improperly positioned rig.

LOOKING: At the position of the handgun. Normal people do not go about looking at their dominant side hip or armpits. Subtly find a reflective surface (Glass store fronts are good) and subtly glance at your reflection as you walk by.

TELEGRAPHING, including:

- body language
- noise that your gear makes
- clothing which flags you as carrying. The one-size-too-large khaki canvas photographer’s vest; manufacturer’s emblems; training school patches or stickers; the list is endless. Who else wears handcuff tie tacks?

MAKING NOISE when contacting a hard surface (bus seats, plastic seats in a fast food restaurant, etc.

MAKING CONTACT: A “stranger” (usually attractive, of the opposite gender) may inadvertently bump or brush against you to see if they can feel the handgun on your body, or watch to see if you move to protect the handgun from contact.

FORGETTING: Occurs most often when a plain clothes / U.C. officer transitions from a long career that allowed open carry (uniformed patrol, military)

DROPPING: All of your protective tools (spare ammo carrier, flashlight, comms, aerosols, folding knife, etc. should be properly secured out of view. If you see someone drop a pistol magazine in front of you, what would be a reasonable conclusion?

SOME THOUGHTS ON CONCEALMENT GARMENTS:

- Consider buying one size jacket larger than your normal size
- Jackets / coats must hang straight from the shoulders
- Trousers must be at least 4 – 6” larger in the waist if your option is an inside the waistband holster
- Pay particular attention to the lining of jackets and coats – there should be nothing that will hang up or catch on your gear. Sew inside pockets shut. Consider having a tailor sew in some extra lining material.
- Pay attention to your shirts / blouses – again, nothing that will hang up or catch.
- Look for outer garments such as coats, parkas, etc. that can be closed with hook and loop (Velcro) closures instead of zippers and buttons – they take too long!

IF YOU ABSOLUTELY HAVE TO CHECK YOUR GEAR:

First choice, locked, private room such as private office or hotel room – make sure the curtains / blinds are drawn first! Second choice, locked restroom stall with a solid wall on your gun side

Don’t even think about:

- Inside your vehicle
- Department store dressing room
- Elevator
- Stairwell
- Why? There are more and more (and more hidden) surveillance cameras popping up everywhere as well as real-time “web cams”. Almost everyone has a cell phone / camera (which is something to be aware of – if you see anyone pointing a cell phone at you, assume that you are being photographed for some reason or another)

THE REALITIES OF A LIFE-THREATENING ENCOUNTER:

You should always be aware of your surroundings as they relate to the following variables:

- Time: Start thinking in quarter second increments. On average, a skilled handgun operator can fire and accurately hit with a handgun at real world fight distances every .25 second. So, .25 second = 1 bullet. 1 second = 4 bullets. Also, you will be reacting to a situation thrust upon you, so your response has to be coordinated, practiced, effective, and FAST!
- Distance: Your attackers will attempt to get as close as possible to you in order to get inside your reactionary gap. (The time it takes for you to recognize the threat, react, and execute a planned exit.) Remember, the closer it is, the greater the possible threat, as the clock is working against you. Your goal is to maintain the maximum distance possible between you and potential threats.
- Cover: Once you have clearly identified a threat, your priorities are (1) to increase distance, (2) put hard cover between you and the threat, and (3) regain control of the situation. As you move, you should be continually identifying what is cover and what is concealment. How? How are you going to get there? If the threat is still engaging you with gunfire in an attempt to pin you down and move up on your blind side (flank you), how are you going to move to the next piece of cover?

OTHER FACTORS TO CONSIDER:

- Reduced light: Your attackers may use reduced light to mask their movements and get inside your reactionary gap.
- Multiple Threats: Expect multiple threats. It may not look like a direct frontal assault, but may start with an innocuous distraction.
- Varying threat types: Nationally, 25% of all violent crimes are now committed by females. International terrorists have long used young females and children to carry out suicide attacks as they are more likely to close distance and get within the "reactionary gap". The threat may start with an unarmed female or child getting your attention or distracting you while the armed threat closes distance. Today, threats come in all shapes, sizes, colors, ages and genders. NEVER LET YOUR GUARD DOWN!

HOW YOUR BODY WILL REACT:

Realize that you have no control over the involuntary adrenaline dump into your blood stream. But you can train under realistic conditions and learn to function under the effects of the adrenaline dump. Here are some of the more probable effects. You may or may not experience them all, depending on your training and the situation.

- Tunnel vision (Recommended response – after dealing with the most immediate threat, scan 360 to break out of tunnel vision)
- Loss of close or intermediate distance eye focus
- Temporary loss of hearing (makes it difficult to communicate with your team members and others)
- Muscular Tightening and Clenching (tendency to squat in place, "take root" and try to "duke it out" in one place)
- Loss fine motor skills and coordination (fumbling with the handgun, magazine, etc.)
- Distorted perception (slow-motion effect)
- Distorted recall / memory (your mind will automatically re-construct what your brain perceived in a way that makes sense to your mind. It may not be how things actually happened!)

MINDSET:

Your mindset is probably your greatest tool. It costs nothing, but does require self-discipline to develop and use. Components of a proper mindset include:

- Situational awareness: Be aware of everything! We tend to focus on our vision and downplay the other senses. Hearing, touch, even smell can give you important cues about your environment. Scan everything and everyone within your perceptive capabilities and be aware of everything!
- Positive Mindset: Decide well in advance that if a situation degrades to physical use of force, you will “win” by protecting yourself. Failure is not an option and often individuals “pre-load” themselves for failure by not committing mentally to winning. Remember, you cannot protect anyone if you are taken out of the fight!
- Common Sense and Good Judgment: Your job is to protect yourself! Don’t let ego, pride, preconceived notions of what an “officer” is and does keep you from accomplishing this goal. Often, small subtle actions will signal to a threat that they have been identified and now they have to react and change their plan!
- Finally, DON'T UNDERESTIMATE THE THREAT. Recent history has shown us that threats are intelligent, patient, and will plan and position to accomplish their goals. ASSUME THAT THE THREAT IS AT LEAST AS INTELLIGENT AS YOU ARE AND AS MOTIVATED.

HOW YOU SHOULD TRAIN:

- Learn techniques that work under high stress, in close quarters. A lot of handgun techniques today are borrowed from competitive disciplines where the cardboard or paper target just doesn’t shoot back. Most of these skills are complex in nature and will fall apart rapidly under the real stress of an attack.
- Repeat proper repetitions of the new technique hundreds or even thousands of times. Sports physiologists refer to this process as training “muscle memory”. If your body knows how to move, how to get good hits and how to keep the handgun up and running, your mind is freed up to plan the next steps to win the confrontation.
- Master and integrate all of your physical skills like threat and threat level ID, verbalization, movement, and appropriate use of force.
- Devote more of your training time toward interactive, force-on-force training scenarios that simulate actual encounters. Interactive training quickly points out any gaps in training that need to be addressed.

INTEGRATED DEFENSIVE DEVELOPMENT:

The three elements of integrated defensive development for armed professionals are:

- Mindset Tactically
 - Physical Skills
 - Tactics Medically
- EQUALS? Legally CORRECT?

BASIC SHOOTING TECHNIQUES:

FIVE FUNDAMENTALS:

1. STANCE
2. GRIP
3. SIGHT ALIGNMENT
4. TRIGGER CONTROL
5. FOLLOW THROUGH

1. STANCE:

Too much emphasis is put on static (stationary) marksmanship skills and not enough on dynamic (moving, moving target) marksmanship skills. If you were to come under a well planned, coordinated attack from multiple attackers the one thing you do not want to do is to stand in one place and “grow roots” because you will be “planted” at that same location! A good dynamic shooting stance has the following components:

- BALANCE

You must be in balance when the handgun is fired to control the lift and recoil. This allows for faster follow up shots if necessary or quick transitioning to other threats.

- MOBILITY

Your stance must allow you to move in any direction on demand with equal ease and without crossing the feet or ankles.

- STABILITY

Your stance must allow you to stabilize the muzzle of the handgun on the target area long enough for you to press the trigger and get a good hit on the target.

Something else to think about: We do the majority of our practicing / training with a good, solid two handed grip on the handgun. Yet, in the great majority of real world use of defensive handguns, the operator shoots one – handed. Why would this skill be particularly applicable?

2. GRIP:

- GRIP ALIGNMENT: The handgun should fit the operator’s dominant hand. The handgun should be gripped so that you can visualize a straight line from the front sight, through the rear sight, through the wrist and forearm. You should be able to look at a target downrange, close your eyes, raise the handgun rapidly (with finger off trigger), open your eyes, and the sights should be reasonably in the target area.

- GRIP POSITION:

- Dominant Hand: The dominant hand middle, ring, and little fingers should be as high as possible on the front strap of the handgun grip while the web of the hand should be as high as possible on the rear strap of the handgun. Most shooters (particularly new shooters) grip the handgun too low and actually enhance recoil. A high grip on the handgun provides maximum leverage, mechanical advantage, recoil control, and puts the trigger finger in the proper position to reach the trigger. The trigger finger operates independently of the gripping action. It’s only movement will be to either remain in a safe location high on the outside of the trigger guard or to press the trigger straight to the rear and control timing and movement of the trigger forward after firing.
- Non-Dominant Hand: Both hands should completely encircle the pistol, with the heels of both hands connecting. Maximum pistol grip surface should be covered. This improves recoil control. The index finger of the non-dominant hand should not be placed on the front of the trigger guard. Under stress, this finger will compress para-sympathetically with the trigger finger and actually pull the muzzle off target! The non-dominant hand is generally straight up and down with the wrist locked and the fingers of this hand together and as high as possible on the front strap. The index finger of the non-dominant hand should be wedged tightly against the bottom of the trigger guard. This will prevent the unintentional downward pulling of the gun during the trigger press.
- Thumb Placement:
- Depends upon the location of safeties, slide stop levers, decocking levers, magazine releases, cylinder release latches, hammer spurs, etc.

- How the pistol fits that particular shooter's hand
- Which thumb placement allows for optimum recoil control and trigger control. Moving the thumbs between shots can result in changes in shot placement, much like moving the sights. The optimal thumb position will need to be determined by each shooter in order to achieve the best results.
- When firing single handed, the shooter should determine which thumb position yields the best results. The shooter has lost over 50% of the strength of the two handed grip, so the thumb's placement is critical to successful shot placement.
- GRIP TENSION consists of the following:
 - Lock the wrist!
 - Tension: Grip the handgun just to the point where the hands and handgun begin to tremble, then "back off" on the tension a little to the point where the handgun and hands no longer tremble. Get use to the fact that you can hit effectively with a trembling / moving handgun, because if you are faced with a real confrontation, we guarantee that the handgun will be trembling!
 - Two Handed Grip: Depending upon the shooter's stance and shooting platform, this may be a "push-pull" isometric tension or an evenly wrapped grip that "clamshells" the pistol, with the heels pressing together. In either case, remember to grip the handgun more firmly with the non – dominant (support) hand than with the dominant hand!

3. SIGHT ALIGNMENT:

- You may not see the sights at all, due to:
 - Lack of time
 - Low Light
 - Loss of visual acuity and close eye focus due to adrenaline in the bloodstream. Also, the human eye cannot focus on more than one object at a time.
- Sight Focus:
 - You may likely focus your eyes on:
 - Your opponent's weapon or hands
 - Your opponent's head or eyes
 - The silhouette of the your handgun
 - In the dark, night sights if your weapon is equipped with them

A common phenomenon is for the shooter to focus upon the object in opponent's hands while firing. Due to eye-hand coordination, the projectiles end up hitting at or near the hands of the opponent, not necessarily in areas that will quickly incapacitate the threat. Once threat identification is positive and the decision is to shoot, focus your eyes (both eyes open) on the chest, head or on the front sight depending on the visual cues the eyes see:

- If the silhouette of the attacker is larger (overlaps) than the silhouette of the handgun as you bring the handgun to eye level, focus both eyes on where you want the projectile to go and press the trigger smoothly.
- If the silhouette of the attacker is smaller than (falls within) the silhouette of the handgun as you bring the handgun to eye level, focus the dominant eye on the front sight and press the trigger smoothly.
- Regardless of eye focus, always bring the handgun UP to eye level. Keep the head level and squared to the threat. Do not dip the head down to meet the sights.

4. TRIGGER CONTROL:

- Proper trigger control is defined as smooth steady pressure on the face of the trigger, directly toward the rear of the handgun, while maintaining handgun stability on target until the shot is fired.
- Continue to hold the trigger to the rear as the gun cycles / recoils. **DO NOT REMOVE YOUR FINGER FROM THE TRIGGER WHEN THE GUN DISCHARGES!**
- As the gun recovers from recoil, assess the threat, and if follow-up shots are required, THEN allow the trigger to go forward in a controlled manner until you feel the trigger reset "CLICK" under your trigger finger.
- Stabilize the handgun/sights with the target and repeat this process until the threat goes away.
- Trigger speed: The trigger should move at the same speed, backward (to fire the handgun) and forward (to reset the trigger).
- **DO NOT** allow the trigger finger to come off the trigger until you are all done shooting (the threat is stopped / gone).

5. FOLLOW THROUGH:

- Can be defined as changing nothing (grip, sight alignment, trigger control) when the handgun discharges.
- After the gun settles down from recoil, you should have (or take) a second sight picture relatively in the same place as before the gun discharged.
- If the second sight picture is in a very different location from the first, then you changed something as the gun discharged and will have to re-find the sights in order to shoot follow up shots (wasting precious time).

BEFORE RE-HOLSTERING:

- SCAN 360 – remember to look up as well as down before re-holstering. **ODDS ARE THAT THERE WILL BE MORE THAN ONE THREAT**, so don't be in a hurry to re-holster!
- **BREATHE!** Conscious, deep inhalation through the nose, hold the breath for a 4 count, then long, conscious complete exhalation through the mouth. Repeat several times.
- Consider, if you have time, distance, and cover from the neutralized threat, have scanned 360 and not detected any other potential threats, bring the handgun up to full capacity (tactical reload, etc.) before re-holstering.

ONGOING TRAINING:

- As you train, start at the static level (stationary stance, stationary target(s)) until you can shoot multiple shot strings on target on demand with no misses.
- As you progress, start training at the fluid level, using slow movement and alternate shooting positions.
- At the highest level, dynamic training, both you and the target(s) are moving at full, realistic speed.
- Realize that in order to get good hits at any level of training, all of the fundamentals must come together at the instant the gun discharges, if even for a fraction of a second!
- At the highest level of skill, the entire process of presenting the handgun and making the shot(s) becomes subconscious. Your conscious mind decides whether or not to present the handgun and whether or not to shoot. At the highest level, once you have made the conscious decision to shoot, the rest should happen without your having to consciously think, "STANCE...GRIP...SIGHT ALIGNMENT...TRIGGER CONTROL...FOLLOW THROUGH." If you have to consciously remind yourself of these fundamentals on the practice range, what do you think will happen under the stress of a real threat?

OPERATIONAL SKILLS: SHORT TIME DURATION / CLOSE PROXIMITY TECHNIQUES

Principles of Unsighted Shooting:

Unsighted shooting has been called point shooting, instinct shooting, reflex shooting and many other things. Although definitions may vary, in general, most instructors agree that the eyes are not focused on the sights while shooting. Research has established that the majority of people will exhibit the following under stress:

- Square off to the threat (hips, shoulders, head)
- Look at the object of threat (weapon) with both eyes wide open
- Extend one or both hands toward the threat

Even those who have been extensively trained in and use an asymmetric, bladed shooting position (i.e., Weaver) have been shown to square off to the threat and push the handgun straight toward the threat under stress.

Your hands will move toward the direction that your eyes are looking. In short time duration, close proximity situations this eye / hand coordination allows you to hit the target quickly and reliably.

Most important is the fit of the handgun to the dominant hand. Ideally, the muzzle should point as naturally as the index (trigger) finger.

Again,

- If the silhouette of the attacker is larger (overlaps) than the silhouette of the handgun as you bring the handgun to eye level, focus both eyes on where you want the projectile to go and press the trigger smoothly.
- If the silhouette of the attacker is smaller than (falls within) the silhouette of the handgun as you bring the handgun to eye level, focus the dominant eye on the front sight and press the trigger smoothly.
- Regardless of eye focus, always bring the handgun UP to eye level. Keep the head level and squared to the threat. Do not dip the head down to meet the sights.

PRINCIPLES OF SIGHTED SHOOTING:

Sighted shooting should be used when time, distance, and cover are available. If you have the time, then transitioning your dominant eye focus from the threat to the front sight will allow for more precise shot placement. Remember that the eye can only focus on one depth at a time, so your rear sight will be slightly blurred and the threat will be slightly blurred.

Use the most stable shooting position available, and use whatever stationary objects are available to brace or stabilize the handgun. Realize that cover comes in all different shapes and sizes so you have to be flexible enough to conform to the available cover. In the infamous North Hollywood bank shootout, the first two responding officers took cover behind a parking curb after they ran out of ammunition. They stayed in this position for several minutes until other responding officers were able to maneuver and use a vehicle for cover and withdraw with the wounded officers.

SINGLE HAND SHOOTING TECHNIQUES:

The same principles apply when shooting single handed. Real world research indicates that in the vast majority of defensive use of the handgun, the operator shoots the handgun single handed. This is a particularly important skill to master, as the non-shooting hand can be occupied with a flashlight, blocking another attacker, etc. Of particular importance is the placement of the shooting hand thumb – do not let the thumb lose contact with the grip of the handgun!

ANALYSIS OF MULTIPLE THREAT SITUATIONS:

I. Threat Determination

- A. Proximity: How close and how devastating is the threat? Generally, the closer the threat is to you, the greater the opportunity to do significant damage before any effective defense is mounted. Since action is always faster than reaction, the threat's offensive activity must first be countered (defense) and then a plan of action must be put in motion to control the situation.
- B. Level of Threat: In addition to distance, threat level is determined by weapon type and whether or not the officer is the object of the attack. The attacker must have the means to cause physical harm, be given the opportunity to do so and desire to carry out the threat. Ultimately, a disadvantaged officer can succeed through surprise and forceful action.

Consider that threats need not take the form of impact weapons, edged weapons, or even firearms to be considered dangerous. The criminal element is known to use chemicals of all types, explosives, bow and arrow combinations, vehicles and animals to accomplish their mission. How the level of force is perceived by the officer directly determines the type of response and the order of engagement.

II. Principles of Engagement

- A. Any threat that is classified by the officer as the “most immediate threat” must be dealt with forcefully and without hesitation. Statistics indicate that there is a potential for a secondary threat 65 percent of the time an officer is involved in an incident of active aggression. Whether or not the threat chooses to engage the officer is of secondary importance. The most important task that the officer must undertake is to effectively neutralize or control the identified immediate threat.
- B. Each threat must be dealt with to the exclusion of all others at the time of engagement. From a practical standpoint, this means focusing on the immediate threat while employing tactics such as movement to get out of the fatal funnel of any remaining adversary.
- C. A plan of action to alter the flow of the initial attack is required to reduce officer risk. Pre-planning, working closely with a partner and the use of distractions are methods that can immediately change the focus and intensity of the attack.

III. Threat Acquisition

- A. Immediate Threat Targeting Locations: Shot(s) should be fired into those available areas of the body that will likely cause instantaneous damage to life sustaining organs. Consideration must be given to the amount of time that may be required for incapacitation if cardio respiratory areas of the body are selected.

Specific targeting locations that share cardio respiratory and neurological regions should be chosen. Additionally, these areas should be close to the surface of the skin. The most viable areas are:

1. The head-frontally-below the brow line
2. The throat-from any angle-the center line
3. Upper center chest-above the bottom of the sternum-the centerline

The targeting zone should reflect a focus on the centerline of the body envisioned as a 5 inch diameter tube extending down from the top of the head to the center of the sternum. This tube will contain the motor center of the brain, brain stem, carotid sinus, trachea, heart, aorta, superior vena cava and the spinal column.

- B. Secondary Threat Targeting Locations: Identification of secondary threats while moving to or from cover is of prime importance. As the distance from these threats should be increasing, shots to upper body mass in sufficient volume to cause trauma and hemorrhaging are appropriate. Distance and cover reduce the necessity for a neurological attack that is pronounced with a proximity threat.
- C. Follow-Through Assessment: Consideration must be given after engagement to evacuate the area to a more suitable cover location and assess the operation. Specifically, to secure the area and observe the condition of the threat(s) providing whatever force or assistance is required to control the situation.

IV. Technique

- A. The first step in the process is to scan the immediate area to determine:
 - 1. Number of subjects
 - 2. Cover
 - 3. Escape routes
 - 4. Potential lines of attack
 - 5. The immediate threat and the proximity of secondary subjects
- B. Identification of the threat leads to an application of the first phase of the process - LOOK.
- C. Next, the officer must TURN to bring his weapon into alignment with the threat. This can be accomplished in one of two ways:
 - 1. Traversing: moving the torso through its full range of extensibility without requiring movement of the feet. Generally, traversing can cover 200 degrees from right to left in lateral movement.
 - 2. Pivoting: movement by repositioning the feet to face those areas not accessible by traversing. Generally, to the rear or off of the support side shoulder.
- D. The officer must now LOCK-IN to stabilize the weapon on the target and ensure hits. All too frequently in multiple target engagement, the weapon continues to move through and by the target, compromising accuracy. Do not move the weapon to the next target until you are sure of your effect on the first. The speed with which you can dispatch the threats is predicated upon where in the body your shots are placed and what tactics you are employing to escape. To aid you in the LOCK-IN process, keep your head erect and behind the gun in all shooting movements. Your shoulders should remain in front of your hips for proper body balance and an increased range of motion or flexibility.

MULTIPLE SHOT TECHNIQUES:

I. Justification for Use

- A. Multiple shot techniques are designed to immediately incapacitate a threat based upon resultant massive damage to the cardio respiratory system when applied. Techniques of this sort best lend themselves to close proximity situations where the officer is at most risk. Defense for the application of multiple shots is tied directly to:
 - 1. Clearly stated departmental policy on the use of Deadly Force.
 - 2. Documented individual officer understanding of departmental Deadly Force Policy.
 - 3. Observation of an incident of violence so severe that if it is not immediately neutralized, loss of life would occur.
 - 4. A critical analysis of the officer involved situation that would lead a reasonable man to believe that if controlled multiple shots were not applied, innocent life would be lost.
 - 5. *Graham vs. Connor*, 109 S. CT. 1865 (1989)
The Court held that "the reasonableness of the particular use of force, therefore, is to be judged from the perspective of the Reasonable Officer on the scene". Under this theory, the Court says that an "officer's malicious state of mind or intentions will not make a Fourth Amendment violation out of an objectively reasonable use of force, nor will an officer's good intentions make an objectively unreasonable use of force constitutional".
- B. Purpose: To accurately destroy designated areas of a threat through increased numbers of rounds.

II. Sequencing Shots

- A. The officer must be taught to assess the severity of each threat encountered (proximity, level and type of violence, multiple threats) and fire as many rounds as necessary to immediately dispatch the threat.
- B. Volume of Fire
 - 1. Size of target area: The greater the size of the available target mass, the more appropriate the application of sequenced shots. Set size should range from 2-4 rounds.
 - 2. Number of threats: Multiple threats reduce the number of rounds fired per target and require specific targeting zones to be effective in the time frame afforded the officer. Immediate threats are neutralized through neurological shot application while secondary threats are incapacitated through cardio respiratory shot trauma.
 - 3. Rate of fire: The closer the threat, the more pronounced the need to deliver increasing numbers of rounds. This requires motor skill dexterity in trigger manipulation and the control of recoil. The speed with which subsequent shots are fired is predicated on proper trigger reset sequences and weapon stability on target.
 - 4. Targeting vital areas: Primary locations in the human body for the delivery of multiple shots from any angle are:
 - a. Cardio respiratory areas of the neck and upper chest
 - b. Neurological centers controlling motor function
 - c. Combination neurological / cardio respiratory areas

Each of these areas can be attacked with success from any angle by visualizing a five inch diameter cylinder that starts just below the brow line and extends vertically to the bottom of the sternum. The cylinder should contain the spinal cord along this line and extend toward the anterior portion of the body.

III. Incapacitation Time Frames

- A. Neurological (motor point) hit away from spinal column - loss of motor control of affected limb (motor dysfunction) - likely immediate.
- B. Neurological hit to spinal column - loss of motor control of legs and possibly control and bodily functions - likely immediate.
- C. Neurological damage to brain (medulla oblongata) or brain stem - loss of motor control and bodily functions - likely immediate.
- D. Cardio respiratory hit to center chest - hemorrhagic effect with loss of cavity pressure - potentially immediate but likely delayed to 15+ seconds.
- E. Cardio respiratory/Neurological hit to throat - hemorrhagic effect with loss of motor function if penetration terminates in spine - likely immediate.

IV. Terminal Ballistics

- A. Definition: The study of the projectile's impact on the target and the subsequent damage that occurs.

Aggressive action by a determined adversary can only be stopped reliably and immediately with a handgun by a shot that disrupts the brain or upper spinal cord. Even the most disruptive heart wound cannot be relied upon to prevent aggression before 10 to 15 seconds has elapsed.

Given this limitation, massive bleeding from holes in the heart or major blood vessels of the torso causing circulatory collapse is the fastest and only other reliable mechanism available to the handgun user.

The anatomic location of these vessels must be well known for appropriate shot placement and the bullet used must be capable of reaching and disrupting them regardless of body position - this includes shots that may have to pass through an arm before striking the torso.

The blood vessels of the abdomen are six inches from the front abdominal skin even in a slender person. In the upper chest they are at least that deep when approached from the side.

Adding to this a possible four inches for the thickness of an arm or a large abdomen and it becomes obvious that ten inches must be the absolute minimum penetration depth capability of any bullet that could be considered acceptable. Changing angles, fat, the arm as an intermediate target, etc., will increase the depth a bullet must go to get to these vessels - and when it gets there it must have something left to go through them.

The critical consideration is that the bullet produces permanent tissue disruption to sufficient depths to insure major vessel disruption from any angle. Of the bullets that attain this goal, common sense would dictate that the largest one would be the most effective since it would put a larger hole in the heart or vessels.

V. Procedure

A. Designed to be used against any of the following types of threats:

1. That person who poses an immediate life threatening situation at close proximity.
2. When an immediate stoppage of the adversary by conventional means has failed.
3. When it is believed that conventional means will fail if applied.

B. Shot Types:

1. Multiple shots to thoracic centerline (cardio respiratory).
2. Multiple shots to the neck centerline (neurological).

C. Shot Placement

1. Multiple shots must go to body centerline or heart area to accelerate bleeding, trauma and depressurization.
2. Multiple shots may be directed toward the throat to inhibit breathing and motor function.
3. Rounds to thoracic cavity from high centerline (mid-sternum) to lower jaw line with specific attention to the throat. Nerve as well as vascular damage will be in evidence here.
4. Shots of immediate incapacitation due to high level of neurological damage are located:
 - a. anterior view - either eye
 - b. lateral view - just behind the ear, level with the bottom of the ear lobe
 - c. posterior view - directly at the base of the skull

There are two principles here, one mental and one physical. The mental principle focuses on understanding enough about how the body works to allow a minimum number of shots to be fired to neutralize. This avoids claims of unnecessary force when multiple shots are required.

The physical principle stresses the fundamental elements of sight picture and trigger control with the added component of recoil control. A system of "recoil - reset - recover" must be established for each shot fired to maximize time on target with minimal effort.



TACTICAL HANDGUN

DAY 1: A.M.

Classroom:

- I. Student Registration
 - A. Range Safety Rules
 - B. Range commands
- II. Handgun Safety and Handling
- III. Understanding Support Equipment
- IV. Principles of Speed Shooting
 - A. Economy of Motion
 - B. Trigger prep
- V. Sighted versus Unsighted Shooting

Range - Dry Drills:

- VI. Equipment checks
 - A. Function check of handgun
 - B. Access, Withdraw, Present
 - C. Dominant and support hand techniques
 - D. Speed reloading
 - E. Economy of Motion
- VII. Wall Drill
- VIII. Trigger Reset Drill

DAY 1: P.M.

Range - Live Fire Drills:

- IX. One Hole Drill
- X. Trigger Reset Drill
- XI. Sighted versus Unsighted Fire at Varying Distances
- XII. Multiple Shots on One Target
 - A. Dominant hand only
 - B. Support hand only
- XIII. Multiple Targets / Multiple Shots
- XIV. One Handed Only Techniques (dominant and support hand)
 - A. Drawing
 - B. Firing
 - C. Reloading
 - D. Stoppage clearance

DAY 2: A.M.

Range:

- I. Review
 - A. Safety
 - B. Review Day 1
- II. Function Check of Handguns

Live Fire:

- III. One Hole Drill
- IV. Pivots and Turns
- V. Draw, Challenge, Lateral Movement
- VI. Shooting on the Move
 - A. Proactive / Reactive
 - B. Lateral Escape
 - C. Movement to Cover

DAY 2: P.M.

- VII. Engaging moving targets (range permitting)
- VIII. Shooter moving, Target moving (range permitting)
- IX. Seated positions
- X. Alternate and Disadvantaged Shooting Positions
 - A. Use of Cover
- XI. Shooting in and Around Vehicles (range permitting)
- XII. Low Light Options
- XIII. Room Clearing
- XIV. Weapon Retention Issues
- XV. Final Performance Evaluation and Critique
- XVI. Maintenance and function check

I. Static Training

- A. Begins the formative process for developing needed motor skills. Concepts and techniques are studied.
- B. Consistency in repetition for each skill to be learned is important to establish the basic neural connection pathways responsible for action.
- C. Does not effectively bridge the gap in competency between the sterile range environment and the patterns of violence encountered in the field.
- D. In acts of personal violence is considered inadequate due to the components of mental processing time and physical motor initiation.

II. Fluid Training

- A. Slow motion static repetitions based upon a specific stimulus or assault cue.
- B. Programs basic neuromuscular response associated with a threat stimulus.
- C. Reinforces static training and provides the means to apply the concepts in the field.

III. Dynamic Training

- A. Training at full speed and power designed to reinforce the response as a product of the stimulus and not a conscious thought process.
- B. Deals in the simplest of motions identified as gross motor skills which are reproducible during periods of high stress.

IV. Methods of Reducing Reaction Time

- A. Identify cues and subject actions which indicate the potential for an assault.
- B. When available, maintain a minimum reactionary gap of 6'. An increase in distance generally provides an officer with more time to react.
- C. Preprogram a response based upon identification of specific assault cues.

V. Procedure

- A. At the dynamic level, your body is pre designed to coordinate symmetrical activities. Chief among these in shooting is the positioning of the arms. Fully extended and locked (isotonic activity) is favored over push/pull (isometric activity).
- B. Application of the fundamentals is a core issue since speed emanates from continued practice of learned skills and techniques.
- C. When you are the object of the attack, several important physiological conditions occur. Two are "involuntary lid lift" and "pupil dilation". In lay terms, both eyes are open as wide as possible and the pupils dilate to accept the maximum amount of information available. This is a demand of the brain.

- D. To fire effectively and without delay, you must mentally:
 - 1. Identify the threat.
 - 2. Recognize the assault cue.
 - 3. Download a response option.
 - 4. Initiate motor activity.
- E. To fire effectively and without delay, you must physically:
 - 1. Keep both eyes open, firing the weapon at the moment it stops with the front sight interrupting line of sight to the threat.
 - 2. The weapon is kept on the centerline of your body and always elevated to eye level.
 - 3. Trigger manipulation begins as the weapon moves to the target to ensure the shot breaks when the weapon stops

ANALYSIS OF MULTIPLE THREAT SITUATIONS

I. Threat Determination

- A. Proximity: How close and how devastating is the threat? Generally, the closer the threat is to you, the greater the opportunity to do significant damage before any effective defense is mounted. Since action is always faster than reaction, the threat's offensive activity must first be countered (defense) and then a plan of action must be put in motion to control the situation.
- B. Level of Threat: In addition to distance, threat level is determined by weapon type and whether or not the officer is the object of the attack. The attacker must have the means to cause physical harm, be given the opportunity to do so and desire to carry out the threat. Ultimately, a disadvantaged officer can succeed through surprise and forceful action.

Consider that threats need not take the form of impact weapons, edged weapons, or even firearms to be considered dangerous. The criminal element is known to use chemicals of all types, explosives, bow and arrow combinations, vehicles and animals to accomplish their mission. How the level of force is perceived by the officer directly determines the type of response and the order of engagement.

II. Principles of Engagement

- A. Any threat that is classified by the officer as the "most immediate threat" must be dealt with forcefully and without hesitation. Statistics indicate that there is a potential for a secondary threat 65 percent of the time an officer is involved in an incident of active aggression. Whether or not the threat chooses to engage the officer is of secondary importance. The most important task that the officer must undertake is to effectively neutralize or control the identified immediate threat.
- B. Each threat must be dealt with to the exclusion of all others at the time of engagement. From a practical standpoint, this means focusing on the immediate threat while employing tactics such as movement to get out of the fatal funnel of any remaining adversary.

- C. A plan of action to alter the flow of the “initial attack is required to reduce officer risk. Pre-planning, working closely with a partner and the use of distractions are methods that can immediately change the focus and intensity of the attack.

III. Threat Acquisition

- A. Immediate Threat Targeting Locations: Shot(s) should be fired into those available areas of the body that will likely cause instantaneous damage to life sustaining organs. Consideration must be given to the amount of time that may be required for incapacitation if cardio respiratory areas of the body are selected. Specific targeting locations that share cardio respiratory and neurological regions should be chosen. Additionally, these areas should be close to the surface of the skin. The most viable areas are:
 - 1. The head-frontally-below the brow line
 - 2. The throat-from any angle-the center line
 - 3. Upper center chest-above the bottom of the sternum-the centerline

The targeting zone should reflect a focus on the centerline of the body envisioned as a 5 inch diameter tube extending down from the top of the head to the center of the sternum. This tube will contain the motor center of the brain, brain stem, carotid sinus, trachea, heart, aorta, superior vena cava and the spinal column.

- B. Secondary Threat Targeting Locations: Identification of secondary threats while moving to or from cover is of prime importance. As the distance from these threats should be increasing, shots to upper body mass in sufficient volume to cause trauma and hemorrhaging are appropriate. Distance and cover reduce the necessity for a neurological attack that is pronounced with a proximity threat.
- C. Follow-Through Assessment: Consideration must be given after engagement to evacuate the area to a more suitable cover location and assess the operation. Specifically, to secure the area and observe the condition of the threat(s) providing whatever force or assistance is required to control the situation.

IV. Technique

- A. The first step in the process is to scan the immediate area to determine:
 - 1. Number of subjects
 - 2. Cover
 - 3. Escape routes
 - 4. Potential lines of attack
 - 5. The immediate threat and the proximity of secondary subjects
- B. Identification of the threat leads to an application of the first phase of the process - LOOK.
- C. Next, the officer must TURN to bring his weapon into alignment with the threat. This can be accomplished in one of two ways:
 - 1. Traversing: moving the torso through its full range of extensibility without requiring movement of the feet. Generally, traversing can cover 200 degrees from right to left in lateral movement.
 - 2. Pivoting: movement by repositioning the feet to face those areas not accessible by traversing. Generally, to the rear or off of the support side shoulder.

- D. The officer must now LOCK-IN to stabilize the weapon on the target and ensure hits. All too frequently in multiple target engagement, the weapon continues to move through and by the target, compromising accuracy. Do not move the weapon to the next target until you are sure of your effect on the first. The speed with which you can dispatch the threats is predicated upon where in the body your shots are placed and what tactics you are employing to escape. To aid you in the LOCK-IN process, keep your head erect and behind the gun in all shooting movements. Your shoulders should remain in front of your hips for proper body balance and an increased range of motion or flexibility.

MULTIPLE SHOT TECHNIQUES

I. Justification for Use

- A. Multiple shot techniques are designed to immediately incapacitate a threat based upon resultant massive damage to the cardio respiratory system when applied. Techniques of this sort best lend themselves to close proximity situations where the officer is at most risk. Defense for the application of multiple shots is tied directly to:

1. Clearly stated departmental policy on the use of Deadly Force.
2. Documented individual officer understanding of departmental Deadly Force Policy.
3. Observation of an incident of violence so severe that if it is not immediately neutralized, loss of life would occur.
4. A critical analysis of the officer involved situation that would lead a reasonable man to believe that if controlled multiple shots were not applied, innocent life would be lost.
5. *Graham vs. Connor*, 109 S. CT. 1865 (1989)

The Court held that "the reasonableness of the particular use of force, therefore, is to be judged from the perspective of the Reasonable Officer on the scene". Under this theory, the Court says that an "officer's malicious state of mind or intentions will not make a Fourth Amendment violation out of an objectively reasonable use of force, nor will an officer's good intentions make an objectively unreasonable use of force constitutional".

- B. Purpose: To accurately destroy designated areas of a threat through increased numbers of rounds.

II. Sequencing Shots

- A. The officer must be taught to assess the severity of each threat encountered (proximity, level and type of violence, multiple threats) and fire as many rounds as necessary to immediately dispatch the threat.

B. Volume of Fire

1. Size of target area: The greater the size of the available target mass, the more appropriate the application of sequenced shots. Set size should range from 2-4 rounds.
2. Number of threats: Multiple threats reduce the number of rounds fired per target and require specific targeting zones to be effective in the time frame afforded the officer.

Immediate threats are neutralized through neurological shot application while secondary threats are incapacitated through cardio respiratory shot trauma.

3. Rate of fire: The closer the threat, the more pronounced the need to deliver increasing numbers of shots. The speed with which subsequent shots are fired is predicated on proper trigger reset sequences and weapon stability on target.
4. Targeting vital areas: Primary locations in the human body for the delivery of multiple shots from any angle are:
 - a. Cardio respiratory areas of the neck and upper chest
 - b. Neurological centers controlling motor function
 - c. Combination neurological / cardio respiratory areas. Each of these areas can be attacked with success from any angle by visualizing a five inch diameter cylinder that starts just below the brow line and extends vertically to the bottom of the sternum. The cylinder should contain the spinal cord along this line and extend toward the anterior portion of the body.

III. Incapacitation Time Frames

- A. Neurological (motor point) hit away from spinal column - loss of motor control of affected limb (motor dysfunction) - likely immediate.
- B. Neurological hit to spinal column - loss of motor control of legs and possibly control and bodily functions - likely immediate.
- C. Neurological damage to brain (medulla oblongata) or brain stem - loss of motor control and bodily functions - likely immediate.
- D. Cardio respiratory hit to center chest - hemorrhagic effect with loss of cavity pressure - potentially immediate but likely delayed to 15+ seconds.
- E. Cardio respiratory/Neurological hit to throat - hemorrhagic effect with loss of motor function if penetration terminates in spine - likely immediate.

IV. Terminal Ballistics

- A. Definition: The study of the projectile's impact on the target and the subsequent damage that occurs. Aggressive action by a determined adversary can only be stopped reliably and immediately with a handgun by a shot that disrupts the brain or upper spinal cord. Even the most disruptive heart wound cannot be relied upon to prevent aggression before 10 to 15 seconds has elapsed.

Given this limitation, massive bleeding from holes in the heart or major blood vessels of the torso causing circulatory collapse is the fastest and only other reliable mechanism available to the handgun user.

The anatomic location of these vessels must be well known for appropriate shot placement and the bullet used must be capable of reaching and disrupting them regardless of body position - this includes shots that may have to pass through an arm before striking the torso.

The blood vessels of the abdomen are six inches from the front abdominal skin even in a slender person. In the upper chest they are at least that deep when approached from the side.

Add to this a possible four inches for the thickness of an arm or a large abdomen and it becomes obvious that ten inches must be the absolute minimum penetration depth capability of any bullet that could be

considered acceptable. Angles, fat, the arm as an intermediate target, etc., will increase the depth a bullet must go to get to these vessels - and when it gets there it must have energy left to go through them.

The critical consideration is that the bullet produces permanent tissue disruption to sufficient depths to insure major vessel disruption from any angle. Of the bullets that attain this goal, common sense would dictate that the largest one would be the most effective since it would put a larger hole in the heart or vessels.

V. Procedure

- A. Designed to be used against any of the following types of threats:
 - 1. That person who poses an immediate life threatening situation at close proximity.
 - 2. When an immediate stoppage of the adversary by conventional means has failed.
 - 3. When it is believed that conventional means will fail if applied.
- B. Shot Types:
 - 1. Multiple shots to thoracic centerline (cardio respiratory).
 - 2. Multiple shots to the neck centerline (neurological).
- C. Shot Placement
 - 1. Multiple shots must go to body centerline or heart area to accelerate bleeding, trauma and depressurization.
 - 2. Multiple shots may be directed toward the throat to inhibit breathing and motor function.
 - 3. Rounds to thoracic cavity from high centerline (mid-sternum) to lower jaw line with specific attention to the throat. Nerve as well as vascular damage will be in evidence here.
 - 4. Shots of immediate incapacitation due to high level of neurological damage are located:
 - a. anterior view - either eye
 - b. lateral view - just behind the ear, level with the bottom of the ear lobe
 - c. posterior view - directly at the base of the skull

VI. Instructor Considerations

There are two principles here, one mental and one physical. The mental principle focuses on understanding enough about how the body works to allow a minimum number of shots to be fired to neutralize. This avoids claims of unnecessary force when multiple shots are required.

The physical principle stresses "the fundamental elements of sight picture and trigger control with the added component of recoil control. A system of "recoil reset - recover" must be established for each shot fired to maximize time on target with minimal effort.

12 Critical Elements of a Modern Firearms Training Program

The information for this analysis was obtained from several surveys conducted by the California Commission on Peace Officers Standards and Training (POST) and the FBI. The FBI has collected data on officers killed and assaulted since 1945, and POST started collecting such data in 1980. The surveys cited in this study encompass those conducted by the FBI or POST from 1974 through 1997. After summarizing these studies, the following guidelines were drawn for police firearms training.

1. Prepare officers for immediate, spontaneous, lethal attacks.
2. Prepare officers for assaults by multiple threats and uninvolved subjects
3. Integrate transitional training from arrest and control techniques, including searching and handcuffing.
4. Base training on the fact that most officers are killed at short distances.
5. Base training on the fact that officers will have limited fine and complex motor control.
6. Integrate two-person contact and cover teams involved in realistic scenarios.
7. Emphasize the will to live in all skills training./
8. Integrate one-handed firing of a handgun. (both strong and support hands, plus reloading)
9. Integrate close-quarter structure searching and clearing plus indoor combat tactics.
10. Emphasize dim or no light situations as much as daylight training.
11. Integrate moving then shooting, and moving while shooting techniques.
12. Integrate engagement techniques for moving targets, both laterally and charging.

Training programs that do not include the elements outlined above may not be preparing officers for the types of situations they will encounter on the street. The consequences are obvious.

I. Safety Considerations

- A. Slide Manipulation Drills
- B. At administration inspection location
- C. At eye level shooting position} Methods 1, 2, 3

II. Nomenclature & Function

- A. Disassembly Drills
 - 1. Demonstration of take down of student guns
 - 2. Student disassembly/assembly

III. Equipment

- A. Display and Analysis of Student's Equipment

IV. Stoppages

- A. Student Drills to Set Up to Fail (Dry) EACH CATEGORY

V. Fundamentals

- A. Fitting of Weapons to Hands
- B. Dry trigger control drills
- C. Check student balance in stance used and correct any identified problems

VI. Loading & unloading

- A. Dry Drills (Dummies)
- B. Administrative loading/unloading Speed exchanges
- C. While moving (compress gun to body) Tactical
- D. One hand techniques

VII. Drawing

- A. One and Two Hand Techniques

VIII. Reloading

- A. One and Two Hand Techniques

IX. Beginning live fire

Shot Break Drill	3 meters 20 rds
Targets of opportunity	5 meters 30 rds
Full size	10-15-20 meters (holster) 30 rds
Head only	15-20 meters (holster) 20 rds
Diagonal [rt]	10-15 meters 20 rds
Overlap [left]	12 meters 10 rds

X. Live Fire

Shot Break Drill	3 meters 20 rds
Full size (opportunity)	20 meters 10 rds
Head (smaller)	10 meters 10 rds
Diagonal [left]	10 - 15 meters 20 rds
Overlap [right]	12 meters 10 rds

A. Multiple Shot Techniques (all READY position):	
Doubles - full target	3 meters 20 rds
Doubles - head target	4 meters 20 rds
Triples - full target	4 meters 24 rds
Doubles - diagonal [right]	3 meters 20 rds
Vertical track	3 meters 25 rds
Doubles (fold target)	3 meters 20 rds
B. Multiple Target Engagement	
Side to side	5 meters 30 rds
Near to far	5 - 8 meters 24 rds
Far to near	10 - 5 meters 24 rds
Protected far/near	6 - 10 meters 24 rds
Near to far (fold target)	3 - 6 meters 24 rds
C. Alternative Shooting Positions (Cover)	
Standing/Dominant side	12 meters 30 rds
Kneeling/Dominant Side	
Speed: High	15 meters 30 rds
Prone (no cover)	22 meters 30 rds
Crossover	5 meters 30 rds
Stepping out	7 meters 30 rds
D. Engagement While Moving	
Shooting, then moving	20 rds
Shooting while moving	20 rds
Shooting while moving to cover	20 rds
Shooting after reaching cover	20 rds
E. The Subconscious	
From ready/stress drill	4 meters 40 rds
F. Reduced Light	
Flash sight picture	4 meters 20 rds
	8 meters 20 rds
Flashlight use	12 meters 20 rds
G. Range Exercises	
Marksmanship / Timed:	
Targets of opportunity	5 meters/1.2 10 rds
	8 meters/1.8 10 rds
(HOLSTER)	15 meters/3.0 10 rds
Speed Drills - Shot Break:	
Ready at	4 meters < .70 sec 10 rds
Holster at	4 meters < .70 sec 10 rds
Man vs. man (relay winners)	30 rds
Moving targets - cover for both	8 meters 30 rds
H. Student Evaluation Drills	
Marksmanship	15 rds
Technique	12 rds
	12 rds



REDUCED LIGHT TECHNIQUES

DAY 1: A.M.

Classroom:

- I. Student Registration
 - A. Range Safety Rules / Liability Waiver
 - B. Range commands
- II. Reduced Light Presentation
- III. Handgun Safety and Handling
- IV. Understanding Issued Equipment

Range:

- IV. Equipment Checks
 - A. Function check of handgun
 - B. Function check of flashlight
 - C. Support Equipment
 - D. Flashlight / handgun Method 1 demo
 - E. Flashlight / handgun Method 2 demo
- V. Wall Drill with Flashlight
 - A. Method 1 / Method 2
- VI. One Hole Drill with Flashlight
 - A. Method 1 / Method 2
- VII. Trigger Reset Drill with Flashlight
 - Method 1 / Method 2

DAY 1: P.M.

Range:

- IX. Sighted and Unsighted Shooting
 - A. Multiple Shots on One Target
 1. Bright ambient light
 2. Reduced ambient light
 3. Flashlight Methods 1 and 2
 - B. Multiple Shots / Multiple Targets
 1. Bright ambient light
 2. Reduced ambient light
 3. Flashlight Methods 1 and 2
- X. Dominant Handed Only Techniques
 - A. Drawing
 - B. Firing
 - C. Reloading
 - D. Stoppage clearance

DAY 2: A.M.

Range:

- I. Review
 - A. Safety
 - B. Review Day 1
- II. One Hole Drill (Lights On / Off)
- III. Movement
 - A. Lateral
 - B. Proactive / Reactive
 - C. Pivots and Turns
 - D. Lateral Escape
- IV. Reduced Light Shooting – Ambient Light
 - A. Static
 - B. Fluid – use of cover if available
- V. Reduced Light Shooting – with flashlight
 - A. Static
 1. Method 1
 2. Method 2
 - B. Fluid - use of cover if available
 1. Method 1
 2. Method 2

DAY 2: P.M.

Range:

- VI. Engaging moving targets (range permitting)
- VII. Shooter moving, Target moving (range permitting)
- VIII. Team Lighting Tactics
- IX. Room Clearing
- X. Alternating Lighting Sources
 - A. Cyalume sticks
 - B. Strobe lights
 - C. Distraction devices
- XI. Night Vision Devices (Optional)
- XII. Final Performance Evaluation and Critique
- XIII. Maintenance and function check

WHY THIS COURSE?

(CALIFORNIA P.O.S.T. DATA)

Of all Law Enforcement Officers killed by attackers in the line of duty:

- 91% of the time the engagement was within 20 feet;
- 67% of the time the engagement was within 10 feet;
- Average time of engagement from start to finish, 2.5 seconds;
- 80% occurred during hours of darkness.

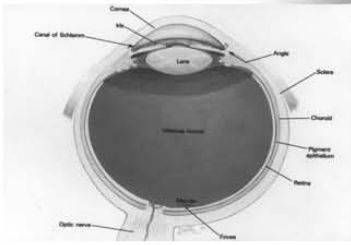
There is an 80% probability that if you are killed by an attacker in the line of duty, it will be in the dark, up close, and fast!

**REDUCED LIGHT
TECHNIQUES**
Bank Miller, Director of Training

**YOUR EYES AND
DIMINSHED LIGHT**

Understanding how your eyes behave under reduced light conditions and how this knowledge can increase your probability of success

YOUR EYE'S STRUCTURE



IN GENERAL, WHEN LOOKING STRAIGHT FORWARD, YOU SEE:

- 90 degrees to the outside (180 degree peripheral vision)
- 60 degrees to the inside (depth perception)
- 70 degrees downward
- 50 degrees upward

TIME AND EYES

To adapt from bright light to very dark:

- 30 minutes on average

To adapt from very dark to bright light:

- 3 minutes on average

WHAT IMPLICATION DOES THAT INFORMATION HAVE FOR OPERATING IN A POTENTIALLY DANGEROUS ENVIRONMENT?

WHAT HAPPENS TO YOUR VISION IN THE DARK

In less than 10 foot candles of ambient light, you will lose:

- Ability to distinguish colors
- Ability to accurately estimate distances (depth perception)
- Ability to see detail (20/20 vision degrades to 20/300 or worse – you are legally blind)

WHAT DO YOU NEED TO MAKE POSITIVE THREAT IDENTIFICATION?

Everything you lose under reduced light conditions:

- Detail vision (what's in the hands)
- Depth perception (how far away are they)
- Color (subject / suspect description)

BUT THAT'S NOT ALL...

You develop a "blind spot" right in the center of your field of vision!

Why?

Because that's where the "cone" receptors are, and they need light to function!

RODS AND CONES

There are about 120 million rods per eye, and they are evenly distributed over the entire retina. They "see":

- Shape / outline
- Movement:
 - Direction
 - Speed

They cannot detect anything else!

RODS AND CONES (continued)

There are about 6 million cone receptors per eye, and they are all located in the small area of the macula. They "see":

- Detail
- Depth Perception
- Color

BUT THAT'S NOT ALL...

- 80% of all information that the brain receives comes through the eyes!
- The eyes aid in balance
- The eyes lead the head / body
- The eyes determine eye / hand coordination (such as firing a weapon)

NOW, LET'S ADD **STRESS** TO THE MIX:

When you experience the involuntary adrenaline dump, the first part of your body to be affected will be your eyes!

- Pupils dilate to maximum possible
- Both eyes will be wide open ("lid lift")
- Eyes' lenses flatten through ciliary muscle contraction
- Eye focus is usually on the object of attack

OTHER EYE RELATED DISORDERS:

- Near Sightedness
- Far Sightedness
- Astigmatism
- Color Blindness
- Cataracts
- Advanced Retinal Macular Degeneration (ARMD)

WHAT YOU CAN DO TO IMPROVE YOUR ODDS:

Annual eye exam:

- Check visual acuity at different light levels!
- Color vision
- Binocularity / Convergence (Depth Perception)
- Peripheral vision
- Any unusual disorders

WHAT YOU CAN DO TO
IMPROVE YOUR ODDS
(continued):

Reduce:

- Alcohol
- Caffeine
- Nicotine
- High sugar and fats

A.K.A., the "cop" diet

WHAT YOU CAN DO TO
IMPROVE YOUR ODDS
(continued):

Add to your diet:

- Vitamin A (no more than 15K - 20K I.U. / day)
- Vitamin C
- Vitamin E
- Vitamin B-2
- Selenium
- Zinc
- Copper
- Bilberry herbal
- Lutien

WHAT HAPPENS IN THE DARK:
(CALIFORNIA P.O.S.T. DATA)

"Average" officer killed in the line of duty:

- Male, Mid career, 37 years old, 5' 10", 200 lbs.
- Primary factors: Poor tactics, overconfidence, complacency, "rushing in" without a plan
- 91% - within 20 feet, 67% within 10 Feet
- Average Engagement Time: 2.5 Seconds
- 80% - occurred during the hours of darkness

**MORE INFO ON OFFICERS
KILLED:**

- 39%: Light (or lack of) was a contributing factor
- 4.6 Months: Since last reduced light training
- 94%: Killed with a Firearm
- 67%: Handguns
- 27%: Long guns

APPLICABLE CASE LAW:

**Zuchel v. City of Denver, 997 F. 2d 730
(10th Cir. 1993)**

The 10th Circuit Court of Appeals upheld a jury verdict that the City of Denver, Colorado, was deliberately indifferent to the rights of its citizens because of the inadequate deadly force training provided to its police officers.

APPLICABLE CASE LAW:

**Russo v. City of Cincinnati,
953 F.2d 1038 (6th Cir. 1992)**

The Court rejected the notion "that a municipality may shield itself from liability for failure to train its police officers in a given area simply by offering a course nominally covering the subject, regardless of how substandard the content and quality of that training is."

APPLICABLE CASE LAW:

**Harris v. City of Canton Supreme Court
Decision 489 U.S. 378, 109 S. Ct.
1197, 103 L. Ed. 2d 412 (1989)**

Officers must be provided with training that is "adequate to the task(s) that may have to be performed".

APPLICABLE CASE LAW:

**Popow v. City of Margate, 476 F. Supp
1237 (1979)**

Brief states that a "complete failure to train" by the agency occurred because the training given was too basic.

Specifically, moving targets and photographic and simulation training did not occur. This decision mainly focused on deadly force decision-making or "shoot/don't shoot" scenario training.

**SO WHAT CAN YOU DO TO
IMPROVE YOUR ODDS?**

Something to think about:

"No amount of cool gear will make up for a fundamental lack of skill."

- Noted Use of Force Instructor



BOYD'S CYCLE:

1. Observe
 - Before / without being observed

BOYD'S CYCLE:

1. Observe
 - Before / without being observed
2. Orient
 - Yourself / partner(s), weapons systems toward the threat(s)

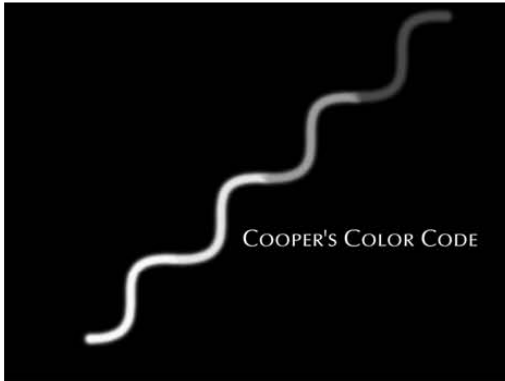
BOYD'S CYCLE:

1. **Observe**
 - Before / without being observed
2. **Orient**
 - Yourself / partner(s), weapons systems toward the threat(s)
3. **Decide**

BOYD'S CYCLE:

1. **Observe**
 - Before / without being observed
2. **Orient**
 - Yourself / partner(s), weapons systems toward the threat(s)
3. **Decide**
 - What you are going to do, how and when you are going to do it!
4. **Act!**





IF YOU LEARN NOTHING ELSE:

Proper use of powerful, white light is an effective use of force tool!

In darkness, it is THE MOST EFFECTIVE use of force tool, as is "enables" proper use of other tools!

USES OF LIGHT:

1. Navigate
2. Locate
3. Identify
4. Communicate
5. Control subject behavior

OPERATIONAL PRINCIPLES:

1. "Read" the light before committing!
2. Move / operate from the lowest level of light
3. "See" yourself from the opposite perspective
4. Light and Move
5. Power with Light
6. Align three things

**OPERATIONAL PRINCIPLES
(continued):**

6. Avoid or traverse "fatal funnels" quickly!
7. Don't allow yourself to be backlit
8. Don't self-blind

THREAT / TARGET INDICATORS:

- Color
- Shape
- Contrast
- Movement
- Shine
- Texture
- Symmetry

Every potential threat gives off at least one of these indicators –
AND SO DO YOU!

HAND HELD FLASHLIGHTS

Advantages:

Disadvantages:

**WEAPON MOUNTED
FLASHLIGHTS:**

Advantages:

Disadvantages:

WEAPONS MOUNTED LASERS:

Advantages:

Disadvantages:

RECOMMENDATIONS:

- Carry two lights – a primary and a smaller backup
- Carry a spare set of batteries / lamp in your gear bag
- Minimum output, 65 lumens (building interiors)
- Outdoors or in large buildings, 100+ lumens

FLASHLIGHT / HANDGUN TECHNIQUES:

- Method 1

- Method 2

- Techniques for both sides of cover

REDUCED LIGHT TECHNIQUES:

I. SEARCHING TECHNIQUES

A. Principles of Flash Illumination

The most frequent use of the flashlight is navigation in diminished light and to locate and identify objects and / or threats. Constant beam on is often used for area illumination. This should be avoided if there is any potential for violence.

Flash illumination means depressing the pressure switch to activate the beam and then immediately releasing the switch to deactivate the beam. Since the human eye can focus an illuminated image in as little as milliseconds, a sufficient amount of illumination will be present for you to see.

The objective is to illuminate an area much as you would in taking a picture with a camera to get a retinal imprint of what was illuminated. This method minimizes use of the flashlight and gives you a greater tactical advantage when used with movement.

B. Reading the Retinal Print

Your retina functions the same way as a piece of film behind a camera lens. An object is temporarily "imprinted" on your retina for a second or two if the object was illuminated with sufficient intensity.

To try this, sit in a darkened room with your flashlight. Flash illuminate the area into which you are looking. Pause briefly. What you will "see" is a visual print of what you illuminated, temporarily imprinted on the maculae of your eyes. This condition does not occur during daylight light levels, but is pronounced during reduced light when high intensity flashlights are used.

You can become quite skilled at reading the retinal print by performing the following exercise. Have someone set up a series of totally dark rooms. Each room will be different in what it contains and each will be unknown to you. Using a high intensity flashlight, open the door to a room, flash illuminate the area (one time) and pause to "read" the retinal imprint. You should be able to immediately sketch the room and everything in it.

Consider carrying a small, red LED "task" light if you need a low level of light to navigate or work with small objects. Low levels of red light will preserve your night adapted vision. Low levels of any other color of light, although low in intensity, bleach the retina of the enzyme that sensitizes the eye to low light. Again, the same principals of flash illumination apply if you are operating in a potentially violent environment.

C. Constant-on Use

Use this only when there is no danger or when holding a subject under control with the weapon drawn. When firing, the light stays on until you have neutralized the threat. Practice from different positions behind different shapes of cover. Never switch the light on and place it on the ground. Retrieval can be disastrous.

D. Distraction Methods

Most common among distraction methods is using the flashlight like a strobe. This disorients anyone in the area who may look in your direction.

If working with a partner, rapid alternating "pulses" of light can confuse potential threats as they are unaware of the exact number or location.

Do not set up a pattern of lighting and moving, either by using the light in a predictable pattern, moving in a straight line, or illuminating at the same time intervals (every three seconds, for instance).

II. FLASHLIGHT METHODS

A. Flashlight Methods

The exact method of how you grip the flashlight and activate it depends on (1) The size and design of the flashlight; (2) Where the "on" button is and how it works; and (3) how rapidly you have to identify and if necessary, engage with gunfire (proximity / level of threat). Additionally, flashlight techniques should take into account shooting around both sides (left and right) of available cover while minimizing exposure.

Method 1:

In general, if the perceived threat is in close quarters (7 yards or less), it takes too much time and loses mobility if the officer attempts to adopt a two handed flashlight / handgun technique. Here, speed of identification and appropriate response is critical, so the upper body becomes a single unit and where the flashlight beam points, so does the upper body. Remember to keep the flashlight away from your head, the lens in front of your torso, and the handgun in a single handed retention or "ready gun" position until positive threat identification is made.

When you illuminate the subject, put the "hot spot" of the beam in the subject's eyes BUT LOOK FOR THE HANDS! Human nature is such that your eyes will want to follow the beam of the flashlight. The subject will not hurt you with their eyes, but can with their hands.

Dry fire (NO AMMO) practice a minimum of 25 repetitions of lighting an object downrange using method 1, then extending the empty handgun up to eye level and pressing a shot. Immediately follow up by retracting the flashlight to the movement position (retention or ready gun, finger off trigger) after a flash illumination from the shooting position.

Method 2:

At greater distances where time and cover are available, then it might be appropriate to adopt a two handed technique that stabilizes the flashlight and the handgun and allows for more precise shot placement.

Repeat the above drill with a minimum of 25 repetitions of extending the weapon and flashlight (two handed technique) in Method 2. It might be well to practice two different Method 2 techniques, one appropriate for the right side of cover, one appropriate for the left side.

B. Flashlight Carry Methods

Our suggestion is to carry the flashlight in a non dominant side belt holster or loop, or if the flashlight is compact, a front trousers pocket or outer garment pocket. If a dedicated belt holster / loop is used, take care not to locate the holster / loop near any ammo holders. Under stress, an operator can grab the flashlight by mistake and attempt to reload with it! The flashlight should have a retention device attached (like a lanyard) which can be looped over the flashlight hand, time permitting. Then if the flashlight hand is needed to reload, perform a defensive tactic, etc., the flashlight stays on the hand and is not lost.

C. Emergency storage

If the flashlight is not equipped with a retention device or the operator did not have time to loop it over the hand and it is necessary to have both hands free to perform a reload, stoppage clearance, or defensive tactic, we suggest the following locations for securing the flashlight while performing these tasks.

First, MAKE CERTAIN THAT THE FLASHLIGHT IS TURNED OFF! Next, MOVE! Don't stay in the last location that you illuminated / fired from.

Secure the flashlight in:

- The dominant (gun) side armpit
- The waistline only if the waistline is snug enough to secure the light and you do not accidentally turn the flashlight on in the process!
- DO NOT PUT THE FLASHLIGHT BETWEEN THE KNEES OR THIGHS! Your ability to move is greatly hindered if you do so.



INTERACTIVE USE OF FORCE TRAINING

INTERACTIVE USE OF FORCE TRAINING



INTERACTIVE USE OF FORCE TRAINING:

Training Scenario Development, Policy, Equipment Selection, and Conduct of Firearms Specific and Integrated Interactive Use of Force Scenarios

Introduction

For the armed professional, very few training opportunities can adequately simulate the actual dangers and phenomena of a deadly force encounter. Very few training mechanisms can completely simulate an actual gunfight. Firearms instructors and range masters are often faced with not only the challenge of delivering realistic, relevant, and effective training, but must often deal with limited training resources and logistical means that do not allow for the organization to "go to the next level" in their pursuit of training that can enhance officer or agent survivability. Many new technologies and methodologies are available that allow the organization to meet these needs. In most cases, these are cost effective. Considering the training value and potential dividends in terms of officer survivability, such an investment in this type of training can be dramatically exceeded by the costs of potential civil liability, insurance costs, and worst of all, armed professionals who are injured or killed in the line of duty due to inadequate or insufficient use of force training.

Topical areas that should be understood, considered, and applied in planning and conducting interactive use of force training are:

- > Types and uses of interactive training
- > Types of Event Based Scenarios that can be performed with interactive training
- > The psychological and physiological responses to life threatening situations that can affect officer performance and skill retention/activation
- > What skills and abilities can deteriorate in confrontations?
- > Principles of training which should be inherent especially in this level of training
- > Logistics of interactive training
- > Interactive training systems
- > How to create a safe interactive training environment
- > Interactive training site selection
- > Interactive training equipment
- > Areas of the body that must to be protected during interactive training
- > How to plan and conduct interactive training
- > Principles of scenario development
- > Sources of information and references for scenarios
- > Interactive scenario writing and scripting
- > Rules: Engagement and Safety Guidelines in Interactive Training
- > Roles: Preparation and Management of Personnel in Interactive Training
- > Evaluation of performance during scenarios
- > Remediation of the scenario participant
- > Documentation of scenarios

INTERACTIVE TRAINING:

There are an emerging number of training opportunities and training doctrine available to train our personnel to be more effective in use of force encounters. With the existing interactive products and other force-on-force training technology, we are now able to go the extra step towards realistic training. In many cases, we often must fall short of our common goal to provide realistic and practical training due to budget limitations or the physical limitations of our range facilities. Interactive training with dye marking cartridges is something that can be conducted nearly anywhere and for less cost and effort in the long term than some live fire alternatives. It can be conducted as training in itself or as a natural extension of a specific firearm or other use of force skill training.

Interactive training can provide you with a safe way to conduct such shooting techniques with live opponents and incorporate pepper sprays, batons, defensive tactics, and other less lethal force measures, safely and realistically. It is during interactive training and with use of dye marking cartridges that officer survival training for both firearms engagement under 5 yards and employment of defensive tactics and impact weapons can be safely conducted. This type of training also gives the officer the opportunity to experience other factors that we cannot always simulate in live fire firearms training:

- > The onset of body alarm reaction and the stress of a close quarter confrontation
- > The opportunity to contact, evaluate and deal with a live individual versus a piece of paper or steel
- > Moving opponents, who may appear from any direction
- > 360 degrees of training environment, instead of engaging in only one direction
- > Shooting up or down, and from the ground (how many ranges allow us to do this?)
- > Shoot/No-shoot training (an area that there is not enough emphasis on)
- > Confrontations in diminished light conditions, indoors
- > Use of vehicles as part of a scenario (i.e.: vehicle stops)
- > The ability to react to, control, disengage from, or dominate an encounter.

Our firearms and confrontations training sessions do not enforce such critical areas as verbalization, movement, use of cover, proper low light techniques. With the incorporation of sound tactical principles and your agency policy it is understandable that this is often difficult to conduct with the resources given. But, both the actions of our potential assailants and the courts mandate that we do such training. (For further information, refer to the recent FBI UCR and the case law involving Popow vs. Margate and City of Oklahoma vs. Tuttle)

Some applications of interactive training for the firearms and academy instructor may be:

- > Evaluation of Specific Firearms Techniques or Physical Skills
- > Evaluate Judgment
- > Evaluate Compliance and Proper Application of Policy
- > Evaluate or Teach specific officer survival tactics
- > Add realism to training, such as verbalization and multiple assailants at varying levels of intent, resistance, and force
- > Integrate various levels of force and give the officer the ability to practice going from one level of force and response to another in a fluid manner
- > As a screening procedure (to test for adoption, assimilation, and proper application of skills and policy)

Types of interactive training that can be conducted are:

- > Force on Force with no projectiles or physical contact (role playing)
- > Force on Force using a computer or video simulator system (CAPs, or other)
- > Force on Force with dye marking cartridges and no physical contact
- > Force on Force with dye marking cartridges and limited physical contact
- > Force on Force with dye marking cartridges and physical contact, use of inert pepper sprays, simulated batons, non-marking edged weapons, defensive tactics, and handcuffing. (This is as real as it gets, but requires special training, equipment, and trained role players to do this effectively and with no injuries)

Two particular aspects of confrontation readiness that you can always incorporate and reinforce in such training are situational awareness and the potential for a disarm attempt. Your trainees can "live" every bit of the "21 foot rule" or reactionary gap and also see how well their firearms skills translate from a range environment to a realistic confrontation with real people and real (modified) guns.

Here at the Action Target Academy, we have been recently incorporating much more interactive training with dye marking cartridges with great intensity and usefulness to the attendees of our scheduled courses. We feel that this realm of use of force training is so necessary that during our Rangemaster program, over 8 hours of both classroom and hands-on training on both interactive and scenario training design are conducted.

We must issue a warning to all instructors that consider this training, no live firearms or ammunition should ever be used in interactive training, no matter what the reason. There have already been a number of fatalities in law enforcement agencies that did not "go the extra mile" in terms of safety procedure and having the right equipment.

Create a contained "safe-zone" and inspect your people for live ammo and any type of weapon and use the right simulated equipment and facilities. Some agencies have followed the recommendation of Simunition's, Air Munitions, AirSoft training divisions and actively use the Garrett handheld metal detector to inspect each officer entering a scenario. If you are serious about doing such training, you will need to purchase proper protective equipment and get the training on how to use it. It is highly recommended that the agency conducting training with Simunition's, Air Munitions and Air Soft products attend their instructor certification course. It is our position (as well as that of a number of other reputable schools) that instructors should seek professional training in how to conduct scenario driven and integrated use of force training from a certificate granting professional or government institute. There is literally no replacement for this training and equipment. This can aid you in developing some of the most effective, high intensity, safe, and realistic officer survival training for your organization.

One area that can be experienced and tested in interactive scenarios is that of Extremely Close Quarters Shooting Techniques. This is a skill area that is very difficult to simulate without either very competent instruction and/or the use of interactive training. If you are interested in developing and teaching shooting techniques for situations where the officer is within 1-3 yards of the opponent, on the ground, or during a disarm attempt, then it is during interactive training that you can verify the effectiveness of such a technique on a real person. This would of course follow proper, safe instruction in the live fire environment to build the physical skills. It is also a skill area that interactive scenarios will show you that you may need for real.

An additional area, mentioned earlier, which deserves some further attention, is that of enabling the officer to be competent in performing multiple use of force tasks in a short time frame. This is particularly needed during an escalation of force or when the officer must deal with varying levels of force, such as defensive tactics, baton, OC, and firearms.

Adoption of interactive training in the organization's use of force training, when properly and safely done, will yield significant benefits in terms of officer survival and operational effectiveness. We should all find and implement the best training possible.

INTERACTIVE TRAINING SCENARIO

Scenario Script

AUTHOR(S):

DATE:

TITLE OF SCENARIO:

SCENARIO NUMBER:

REFERENCE:

TYPE OF INTERACTIVE SCENARIO:

- Force on Force-Simulated Firearms and/or Weapons Only-No projectiles or contact
- Force on Force-Simulated Firearms and/or Weapons with projectiles, no physical contact
- Force on Force-Simulated Firearms and/or Weapons with projectiles, light physical contact
- Force on Force-Integrated Use of Force with physical contact, no projectiles
- Force on Force-Integrated Use of Force with physical contact and projectiles

MODE OF OFFICER/AGENT:

- | | | |
|--|---|--|
| <input type="checkbox"/> Uniformed Patrol | <input type="checkbox"/> Plainclothes on duty | <input type="checkbox"/> Protective Services |
| <input type="checkbox"/> Tactical Officer(s) | <input type="checkbox"/> Plainclothes off duty | <input type="checkbox"/> Armored Courier |
| <input type="checkbox"/> Special Unit | <input type="checkbox"/> Undercover/Drug Enforcement | <input type="checkbox"/> Military |
| <input type="checkbox"/> Plainclothes | <input type="checkbox"/> Corrections/Cell Environment | <input type="checkbox"/> Other |

GENERAL TYPE OF EVENT:

- | | | |
|---|---|---|
| <input type="checkbox"/> Suspicious Person | <input type="checkbox"/> Suicide by Cop | <input type="checkbox"/> Emotionally Disturbed Person |
| <input type="checkbox"/> Home Invasion | <input type="checkbox"/> Robbery | <input type="checkbox"/> Criminal Trespass |
| <input type="checkbox"/> Disturbing the Peace | <input type="checkbox"/> Routine Traffic Stop | <input type="checkbox"/> High Risk Traffic Stop |
| <input type="checkbox"/> Warrant Service | <input type="checkbox"/> Escaped Prisoner | <input type="checkbox"/> Non-compliant prisoner |
| <input type="checkbox"/> Pursuit (vehicle) | <input type="checkbox"/> Pursuit (foot) | <input type="checkbox"/> Civilian Down / distress |
| <input type="checkbox"/> Civil Disturbance | <input type="checkbox"/> Officer Down | <input type="checkbox"/> Other (see description) |

SCENARIO ENVIRONMENT:

- | | | |
|---|--|----------------------------------|
| <input type="checkbox"/> Daytime/Outdoors | <input type="checkbox"/> Night-Ambient Street/Urban light | <input type="checkbox"/> Urban |
| <input type="checkbox"/> Daytime/Diminished Light | <input type="checkbox"/> Night-Low Light/Low Ambient Light | <input type="checkbox"/> Rural |
| <input type="checkbox"/> Daytime/indoors | <input type="checkbox"/> Night-Extreme Low light | <input type="checkbox"/> Traffic |

SPECIAL CONSIDERATIONS:

- | | | |
|--|--|---|
| <input type="checkbox"/> Vehicle(s) in use / does not move | <input type="checkbox"/> Close Quarters | <input type="checkbox"/> Off-Limits Areas |
| <input type="checkbox"/> Vehicle(s) in use / may move | <input type="checkbox"/> Simulated Disarm | <input type="checkbox"/> Furniture static |
| <input type="checkbox"/> Live Pepper Spray Authorized | <input type="checkbox"/> Handcuffs/Restraints Available / Authorized | |
| <input type="checkbox"/> Actual Radio Use | <input type="checkbox"/> Inert Pepper Spray Authorized | |
| <input type="checkbox"/> Handcuffs / Restraints Not Authorized | <input type="checkbox"/> Costumed Role Players | |
| <input type="checkbox"/> Role Players noncompliant | | |
| <input type="checkbox"/> Role Players must be compliant | <input type="checkbox"/> Actual Cover Rule Applies | |

NUMBER OF PERSONNEL NEEDED FOR SCENARIO:

Officers/Agents:

Role Players:

Safeties / Evaluators:

BRIEF DESCRIPTION OF SCENARIO:

Time needed:

INTERACTIVE TRAINING SCENARIO

Site Descriptions

THIS IS TO ACCOMPANY THE SCRIPT ENTITLED:

AUTHOR(S):

DATE:

SKETCH OF SCENARIO:

LEGEND:

ADMIN AREA

VEHICLE

FIRE EXTINGUISHERS

OUT OF PLAY

WALLS

MEDICAL PERSONNEL

FIRST AID

SITE LIMITS

DOORS

INTERACTIVE TRAINING

Personnel Instructions

AUTHOR(S):

DATE:

TITLE OF SCENARIO:

SCENARIO NUMBER:

REFERENCE:

TYPE OF INTERACTIVE SCENARIO:

___ Force on Force-Simulated Firearms and / or Weapons Only-No projectiles or contact

___ Force on Force-Simulated Firearms and / or Weapons with projectiles, no physical contact

___ Force on Force-Simulated Firearms and / or Weapons with projectiles, light physical contact

___ Force on Force-Integrated Use of Force with physical contact, no projectiles

___ Force on Force-Integrated Use of Force with physical contact and projectiles

EVALUATOR GUIDELINES:

OFFICER/AGENT PARTICIPANT(S) GUIDELINES:

ROLE PLAYER(S) INSTRUCTIONS:

INTERACTIVE TRAINING SCENARIO

Performance Evaluation

OFFICER/AGENT:

EVALUATOR(S):

DATE:

TITLE OF SCENARIO:

SCENARIO NUMBER:

REFERENCE:

TYPE OF INTERACTIVE SCENARIO:

- Force on Force-Simulated Firearms and / or Weapons Only-No projectiles or contact
- Force on Force-Simulated Firearms and / or Weapons with projectiles, no physical contact
- Force on Force-Simulated Firearms and / or Weapons with projectiles, light physical contact
- Force on Force-Integrated Use of Force with physical contact, no projectiles
- Force on Force-Integrated Use of Force with physical contact and projectiles

MODE OF OFFICER/AGENT:

- | | | |
|--|---|--|
| <input type="checkbox"/> Uniformed Patrol | <input type="checkbox"/> Plainclothes on duty | <input type="checkbox"/> Protective Services |
| <input type="checkbox"/> Tactical Officer(s) | <input type="checkbox"/> Plainclothes off duty | <input type="checkbox"/> Armored Courier |
| <input type="checkbox"/> Special Unit | <input type="checkbox"/> Corrections/Cell Environment | <input type="checkbox"/> Other (see description) |

SPECIFIC OBJECTIVE/PRIMARY GOAL OF THE SCENARIO:

PERFORMANCE GRITIQUE:

VERBALIZATION:

PHYSICAL SKILLS/USE OF FORCE METHOD(s) EMPLOYED:

- | | | |
|---|--|--|
| <input type="checkbox"/> Firearm | <input type="checkbox"/> Impact Weapon | <input type="checkbox"/> Spray |
| <input type="checkbox"/> Open Hand Technique | <input type="checkbox"/> Closed Hand Technique | <input type="checkbox"/> Active Countermeasure |
| <input type="checkbox"/> Edge | <input type="checkbox"/> Retention Technique | <input type="checkbox"/> Disarming Technique |
| <input type="checkbox"/> Handcuffing / Restraint Device | <input type="checkbox"/> Taser | <input type="checkbox"/> Expedient Weapon |
| <input type="checkbox"/> Did not use force | | |

COMMENTS:

SITUATIONAL JUDGEMENT:

TACTICAL JUDGEMENT:

PROPER APPLICATION / TIMELY DEPLOYMENT OF WEAPON / DEVICE / SKILL NEEDED:

- | | | |
|-----------------------------------|--------------------------------------|-----------------------------------|
| <input type="checkbox"/> COVER | <input type="checkbox"/> DISTANCE | <input type="checkbox"/> OBSTACLE |
| <input type="checkbox"/> MOVEMENT | <input type="checkbox"/> DISTRACTION | |

COMPLIANCE/EXECUTION OF AGENCY POLICY AND/OR TECHNIQUES: - Yes - No

- SUCCESSFULLY MET ALL OBJECTIVES OF THE SCENARIO
- SUCCESSFULLY MET SOME OF THE OBJECTIVES OF THE SCENARIO
- WAS NOT SUCCESSFUL IN MEETING OBJECTIVES OF THE SCENARIO
- PARTICIPANT WAS INFORMED VERBALLY OF THEIR PERFORMANCE
- PARTICIPANT WILL REQUIRE CORRECTIVE TRAINING ON THE FOLLOWING:

COVERT CARRY INSTRUCTOR PRACTICAL EXAM



NAME: _____

AGENCY: _____

DATE: _____

SCORE: (Circle one) **PASS** **FAIL**

TESTED BY: _____

RATING GUIDELINES:

SUPERIOR: **Demonstrated skill on first attempt**

ADEQUATE: **Demonstrated skill after given verbal feedback**

FAIL: **Failed to demonstrate acceptable skill after three attempts**

The following Practical Examination is the testing instrument for the physical skills phase of the Advanced Covert / Concealed Carry Handgun Instructor program. I hereby understand that the passing criteria for the practical exam must meet a minimum of an adequate score for every component of each technique.

Signature: _____

Date: _____

I do hereby acknowledge that the above individual has passed the practical examination for Advanced Covert / Concealed Carry Handgun Instructor according to the standards established by the Action Target Academy.

Instructor's Signature: _____

Date: _____

Function checks:

Safety check	S	A	F
Locking slide to rear – right and left hand	S	A	F
Safety lever / decocking lever (if applicable)	S	A	F
Double action function	S	A	F

Single action function / push – off (DAO pistols excluded)	S	A	F
Interruption of trigger function or disconnecter	S	A	F
Recoil spring	S	A	F
Explanation of magazine checks	S	A	F

Comments:

Equipment:

Proper positioning of holster	S	A	F
Proper positioning of magazine pouches	S	A	F
Proper positioning of magazines	S	A	F

Comments:

Basic Shooting Techniques

Observation of proper stance	S	A	F
Observation of proper grip			
One hand	S	A	F
Two hands	S	A	F
Dry fire – observation of proper trigger control			
1. One Hand	S	A	F
2. Two Hands	S	A	F

Comments:

Drawing / Reholstering

A. Examination of the draw to the shooting position

1. Access	S	A	F
2. Withdraw	S	A	F
3. Present	S	A	F

B. Use of Universal Cover Mode (reholstering)

- | | | | | |
|--|---|---|---|--|
| 1. Awareness of environment (scanning) | S | A | F | |
| 2. Finger off trigger | S | A | F | |
| 3. Decock (if applicable) before movement to Ready Gun | S | A | F | |

C. Use of Ready Gun (reholstering)

- | | | | | |
|--|---|---|---|--|
| 1. Awareness of environment (scanning) | S | A | F | |
| 2. Finger off trigger | S | A | F | |
| 3. Decock (if applicable) before movement to Ready Gun | S | A | F | |

D. Reholstering

- | | | | | |
|--|---|---|---|--|
| 1. Thumb at back of slide next to hammer | S | A | F | |
| 2. Support hand at body center | S | A | F | |
| 3. Dominant hand holsters and resets retention devices | S | A | F | |

E. Dominant Hand Only

- | | | | | |
|---|---|---|---|--|
| 1. Draw to shooting position | S | A | F | |
| 2. Reholster using Universal Cover Mode and ready Gun | S | A | F | |

Comments:

Loading / Unloading – inert training round exercise or live at Instructor's option

Initial load:

- | | | | | |
|----------------------|---|---|---|--|
| 1. Slide closed | S | A | F | |
| 2. Slide locked open | S | A | F | |
| Topping off | S | A | F | |
| Unloading | S | A | F | |
| Emergency reload | S | A | F | |
| Tactical reload | S | A | F | |

Comments:

Immediate Action

Demonstration of set-up and clearing

1. Primary method S A F

Comments:

Live fire assessment

Single shots – static position S A F

Multiple shots

Trigger control S A F

Recoil control S A F

Dynamic (moving) marksmanship S A F

C. Diminished Light Proficiency

1. Without flashlight S A F

2. With flashlight S A F

Comments:

FIREARMS PREVENTATIVE MAINTENANCE GUIDE



The following Preventative Maintenance Guide has been prepared to assist you in the professional care of your handgun.

WARNING: Individual manufacturer's instruction on the care, cleaning and lubricating of your handgun should be strictly adhered to. Refer to the owner's or Armorer manual specific to the weapon system being maintained for the manufacturers' recommendations.

The Action Target Academy strongly recommends that protective eye glasses or goggles be worn at all times when cleaning your weapon.

Preventative Maintenance is a systematic procedure of cleaning, inspecting, lubricating and verifying the functioning of the pistol.

The objective is to establish and maintain maximum operational readiness of the user's handgun.

The user's role in the performance of preventative maintenance is to:

- Be sure the handgun has been safely unloaded ("check twice") and all ammunition has been removed from the work area before performing any preventative maintenance.
- Properly clean, lubricate and preserve the handgun and magazines (if a semi automatic pistol) each time the handgun is fired or exposed to adverse environmental conditions.
- Safely inspect, troubleshoot and perform any routine maintenance on a regular schedule.
- Safely perform a "function check" to determine operational readiness.
- Understand the department's policy on the maintenance, repair, or replacement of unserviceable weapons.
- Understand any liability issues related to improper maintenance, unauthorized repair, or unauthorized modifications to the weapon system.
- Use the appropriate tools, lubricants and solvents in the recommended manner when performing weapon maintenance.

CLEANING EQUIPMENT

Cleaning Rod

The cleaning rod is used to push cleaning attachments, i.e., brushes, patches or jags through the barrel. The cleaning rod should be inserted from the chamber end of the barrel when possible. It should be long enough to pass completely through the barrel and strong enough to resist bending when pressure is applied. Cleaning rods are made from various materials: however, brass, aluminum or coated metal are the most desirable. Regardless of the type of cleaning rod selected, improper use may cause excessive wear on the barrel, especially at the muzzle end. Continual wear on the muzzle is detrimental to the accuracy of the weapon.

Bore Brush

Bore brushes can be of several types: nylon, brass or bronze, and stainless steel. The brass or bronze brush is recommended for cleaning the bore. Nylon bristles are rarely strong enough to loosen bore fouling and stainless steel bristles are overly abrasive due to their hardness. The bore brush used should be of the same caliber in size as your handgun. The bore brush is most effective when used with solvent. Use a bore brush only in the barrel of the weapon; do not use it as a general purpose scrub brush. Do not reverse direction while the brush is actually in the barrel. Instead, push the brush slowly all the way through the barrel before reversing direction. This will maximize the cleaning potential of the bore brush, as well as maintain its usefulness over a longer period of time.

Slotted Patch Holder and Patch Jag

These devices are used for pushing the patches through the barrel. Care should be exercised when using either to ensure that they do not mar the lands and grooves of the barrel. The slotted tip allows the patch to be moved through the bore primarily for solvent distribution. The jag allows for a more precise fit of the patch in the bore to enhance removal of firing residue. Use the correct caliber jag to ensure a tight fit of the patch in the bore.

Patches

Patches are either round or square and should be made of soft, absorbent material. Some patches have a woven side and a fibrous side. The woven side may assist in introducing solvent into the barrel and provides a scrubbing surface, while the fibrous side may be used to remove the residue left by the solvent's chemical action. Patches may also be used to dry the bore and lightly lubricate the entire handgun.

Cleaning Solvent

There are many commercially available cleaning solvents that do an excellent job of removing both powder residue and metal fouling. Cleaning solvents should be used to loosen and remove powder residue, and copper or lead fouling. Use cleaning solvents that are manufactured for weapons use only. If a cleaning solvent is used, be sure all solvent is removed before applying any lubricant, as the solvent will reduce the effectiveness of the lubricant. **WARNING:** Some cleaning solvents and treated cloths may be detrimental to the finish of your handgun. Always read the manufacturer's recommendation for use and the warning label before using.

Wet Brush

A nylon toothbrush with a lubricant, preservative or similar material to dissolve and remove firing residue can be used to clean areas of the weapon that are hard to reach. For optimum results, this brush should have bristles located at each end similar to today's issue military style brush. A moistened toothbrush works well on the interior of the frame, the underside and face of the breechblock, behind the extractor, the exterior of the slide, and any other location where firing residue may accumulate. It is not recommended that solvent be used in areas where it may collect and cannot be removed.

Dry Brush

A dry nylon brush, such as a toothbrush, makes the cleaning process easier in areas where solvent is not desired such as the grips, and when removing lint and minor fouling from the front and rear sights, trigger, etc.. Lint and fuzz that accumulates in the holster can also be removed using a dry brush. A military style brush not yet used with lubricant or solvent will best satisfy this requirement.

Screwdriver

A screwdriver of proper size should be used for tightening all screws. Correct blade size prevents mutilation of screw head slots. For best results, the blade must fit the slot snugly in both width and length.

Cleaning Cloth

A clean, absorbent, lint free cloth is necessary for cleaning the weapon and protecting it from hard surfaces during the cleaning process. Cheese cloth is one of the most widely recommended. Too often the effort to keep the weapon clean is defeated by the contamination of dirt, grease, fouling, etc., from a soiled cloth. Once the cloth becomes soiled discard it. A mechanical stoppage while firing is less likely to occur if a clean lint free cloth is used.

Treated Cloth

There are a number of separate applications for the treated cloth. This makes it extremely important to read the instructions on the packaging concerning both use and storage. The most widely used cloths are impregnated with a finish preservative. Silicon, microscopic solids, or petroleum-based substances are used to cover surface areas of pistols to prevent deterioration of the finish due to oxidation and corrosion. Other types of cloths are designed for lead removal in the bore as well as fouling accumulation elsewhere. These cloths may be harmful to the weapons finish and should only be used following the manufacturer's recommendations.

Air Hose

Advantages:

- Excellent for blowing out dirt particles or excess cleaning solvent from areas hard to reach with the soft brush or cloth.
- Excellent for blowing out holster and magazine pouches.

Disadvantages:

- May blow solvent, dirt particles or lubricants into the face, the pores of the skin, or the clothing of the user or other persons.
- Dirt particles may be blown back into the mechanism rather than out, contributing to a stoppage.
- Condensation may accumulate in the air tank and hose, which, in turn, will introduce moisture to the surfaces being cleaned causing rust (consider using dry air).
- Pressurized air blows contaminants back into the breathable air and over all exposed surfaces in the immediate area.
- Can be detrimental to hearing. Air-hose nozzles should be OSHA approved for noise reduction.
- Ear protection may be required depending on the number of air hoses being used at one time.

WARNING: Continuous dipping of handguns into strong chemical solutions, such as a part cleaner, and then blowing the mechanisms dry with an air hose will remove the protective lubricants from the handguns, particularly the internal parts. This will require an armorer to completely disassemble the handgun to inspect and lubricate the entire weapon.

Lubrication

The purpose of lubricating a handgun is to provide a molecular barrier between metal parts to reduce friction and prevent solidification of firing residue. A lubricant / preservative is used to maintain the integrity of the finish through a similar molecular barrier between the handgun's surface area and its environment. Semiautomatic pistols require lubrication in order to ensure consistent, reliable functioning. Conversely, excessive lubrication may affect reliable function of the weapon. Excessive lubrication is recognized as lubricant moving on the weapon under the influence of gravity. Manufacturer's guidelines on lubrication should be strictly adhered to. The specifics of the guidelines may be found in the owner's manual, Armorer manual or through correspondence with the manufacturer. Environmental extremes such as coastal salt air, humidity and broad shift in temperatures expose unprotected metal to attack, requiring frequent attention with a lubricant / preservative versus a desert environment where the natural attraction of dust and grit to the lubricant becomes a negative factor. Lubricant /preservative products are available in a number of different consistencies that range from grease, to liquid, to dry, all of which have application. Be sure you read the manufacturer's directions for use and evaluate your own needs pertaining to the actual application of the handgun. A weapon is not considered properly lubricated unless the lubricant's presence can be visually and physically verified by the operator. (You should be able to see it and feel it on the treated surface.)

CLEANING AND LUBRICATION PROCEDURES

Frame

Use a nylon brush with a lubricant, preservative or similar material to dissolve and remove any firing residue in or on the frame. Pay particular attention to the magazine well, frame rails, and surfaces that interlock with the barrel. Once the frame is clean it should be lubricated by saturating a cleaning patch with a lubricant / preservative and wiping all exposed metallic surfaces. Give emphasis to lubricating the frame rails and the surfaces that interlock with the barrel. Wipe exterior of the frame with a clean patch to remove any excess lubrication.

Barrel

Thoroughly clean the barrel using a bore brush of the correct diameter that has been moistened with cleaning solvent. Use a cleaning rod long enough to reach all the way through the bore. The brush should pass completely through the barrel, starting from the chamber end, at least ten (10) times in a reciprocating fashion. Emphasis should be placed on the cartridge seat located at the forward edge of the chamber. Cleaning the cartridge seat can be enhanced by twisting the cleaning rod and turning the brush while it rests against the forward edge of the chamber.

NOTE: Always clean the barrel from the chamber end when possible. Allow the cleaning solvent sufficient time in the barrel for the chemical action to dissolve the fouling. Read and apply the solvent manufacturer's recommendations.

Replace the bore brush with a slotted patch holder or jag and affix a clean, dry patch. For maximum effect the cleaning patches should fit the bore snugly. Push the patch slowly and carefully through the barrel. Repeat this

process with clean patches until the barrel is clean and dry. Brush any remaining residue from the barrel giving specific attention to the feed ramp, forcing cone, and chamber mouth areas. Most manufacturers recommend that the barrel be lubricated on its interior and exterior for friction reduction and surface preservation. This may be accomplished by saturating a cleaning patch with a lubricant/preservative and wiping all surfaces of the barrel. Finish the barrel by pushing a final clean, tight fitting patch through the bore to remove any excess lubricant, which may contribute to ammunition failure.

Recoil spring and guide (semi-automatic pistols)

The recoil spring and guide may be cleaned and lubricated by the operator either separated or together. In either case firing residue should be brushed from the surface areas of both parts. Lubrication is accomplished by saturating a cleaning patch with an appropriate lubricant / preservative and wiping down all exposed surfaces of the recoil spring and guide.

Slide (semi-automatic pistols)

Clean the interior and exterior of the slide with a nylon brush and an appropriate lubricant / preservative to dissolve and remove all firing residue. The slide rails and locking surfaces should be thoroughly cleaned as should the breech face (SPECIAL ATTENTION MUST BE GIVEN TO CLEANING THE EXTRACTOR). Foreign material and firing residue around the breech face and extractor can cause extraction related stoppages as well as failures to feed. After cleaning, wipe all exposed surfaces of the slide with a lubricant / preservative-saturated patch. Wipe the exterior surfaces of the slide with a clean patch to remove any excess material.

Magazine (semi-automatic pistols)

The magazine is the most neglected part of the semi-automatic pistol, It is the ammunition feeding device, and if it fails, the semi-automatic pistol can experience a stoppage. The Action Target Academy strongly recommends that each time you disassemble, clean, lubricate, and function test your semi-automatic pistol you do the same to the pistol's magazines. The magazine is easily disassembled and may be cleaned with a nylon brush and / or soft lint free cloth. In addition, the metal surfaces may be treated lightly with a commercially available lubricant/preservative. Finalize the cleaning and lubrication by wiping all surfaces with a clean cloth. This will prevent ammunition contamination, but allow the metal surfaces to be protected from the environment. NOTE: The pistol is not considered clean unless the magazine is clean also.

Operator Responsibilities

It is the weapon operator's responsibility to maintain the weapon in a state of maximum operational readiness. This requires cleaning and lubrication at regular intervals. Frequent checks by visually and physically verifying the operational state of the weapon should be performed between maintenance intervals.

Holster and Ammunition Pouches

Holster, ammunition pouches and ancillary equipment should be inspected regularly to assure serviceability.

Inspect for:

1. Safety / retention devices that retain and release correctly (snaps, velcro or inserts).
2. Accumulation of lint, dirt, oil, or other foreign material.
3. Overall appearance and shape, inside and outside.
4. Moisture build-up.

NOTE: Separate your handgun from the holster and ammunition devices from the pouches regularly, especially if the holster and magazine pouches are made of leather. This will help the holster and pouches to dry out and not trap moisture. This also provides an opportunity for regular visual inspection.

You should use the air hose (dry air) to blow out pouches and holster. A clean dry cloth would be sufficient when compressed air is unavailable.

INSPECTION

Be sure that the pistol is safely unloaded ("check twice") before inspection. The following should be part of that inspection:

Sights

Are they properly configured and positioned correctly? Do they fit tight on the slide?

Barrel

Is it clean? Barrel and chamber should be inspected for fouling and other firing residue that may be accumulating. Is the feed ramp smooth and contoured correctly? Are there pits inside the barrel? Pits may weaken the metal and allow gas to escape around the bullet reducing accuracy and velocity. The crown/muzzle end of the barrel should be inspected for wear, nicks or any damage that could affect accuracy. Does it match the slide and frame by proper fit and/or serial number?

Recoil Spring and Guide

Inspect the spring for straightness, continuity of the wire wraps, equal separation of the individual coils and proper fit on the recoil spring guide. Inspect the spring guide for smoothness, straightness and flange integrity.

Frame/Slide

Inspect the frame and slide for the appropriate serial numbers. Check the sights for visible damage and proper fit in the dovetails of the slide. Verify that there are no abnormally protruding pins from the slide or frame. Visually check for cracks, excessive wear or stress marks. Verify that all screws are in place and tight. Check the grips for proper fit and damage.

FUNCTION INSPECTION – SEMIAUTOMATIC PISTOLS

Safety is the first order of priority when performing a function check. A function check is used to verify the proper working order of all mechanical features of an unloaded firearm. This may be accomplished by proper weapon handling and the removal of all ammunition from the work area. Check the firearms and the work area a second time before proceeding.

The magazine, frame and slide will be checked simultaneously. The magazine should be inspected as previously described for serviceability. The first step in the function inspection is to insert the magazine into the pistol, ensuring interlock with the magazine catch. The automatic lock back of the slide is verified by pulling the slide completely to the rear to verify proper engagement of the magazine follower and slide catch lever.

The magazine should fall free from the pistol of its own weight when the magazine catch is depressed. This verifies the correct relationship of the magazine, magazine catch and frame of the pistol. The slide should spring forward without hesitation as the slide catch lever is depressed. This verifies correct engagement and release of the slide catch lever in the arresting notch of the slide. Additionally, it checks that the slide moves freely on the frame and that the recoil spring has the strength to close the action.

Moderate thumb or finger pressure should be exerted on the spur of the hammer while in a cocked state in an attempt to push it forward. The hammer should remain cocked. This shows that correct hammer/sear engagement is being maintained. If the pistol is so equipped, check the decocking lever by thumbing it in the appropriate direction and visually observing the hammer as it moves forward to its rest position. This verifies the action of the decocking lever.

The double action function of the pistol may be checked with the hammer starting forward in the rest position. By pulling the trigger and observing the hammer, the cocking and releasing of the hammer should be accomplished with one full compression of the trigger. This verifies that the pistol may be fired from its normal rest position.

One of the internal safeties found on all semiautomatic firearms is the disconnecter. The disconnecter may be checked by depressing the trigger and holding it to the rear while retracting and releasing the slide. The trigger should have to be released forward in order to allow the firing of the next cartridge. Another way of checking the disconnecter is to retract the slide until the barrel and slide are no longer locked together. Movement of the trigger should have no effect on the hammer.

What has been accomplished in performing these operations is to verify that the pistol will only fire one shot per pull of the trigger and that it will not fire in an unlocked condition. If the pistol has single action capabilities, cocking the hammer and then releasing the hammer by pulling the trigger ensures that the single action function of the pistol is working, as it should.

A firing pin function check may be incorporated into the overall weapon inspection. First force the firing pin forward. No protrusion should be observed at the breech face. Next operate the firing pin blocking mechanism to release the firing pin. The firing pin should now protrude through the breech face when forced forward. The firing pin spring is tested for strength by releasing the safety mechanism and then firing pin. After the firing pin resets itself force it forward to ensure its interlock with the safety mechanism.

AMMUNITION

Ammunition should be inspected for the following:

- Overall length of the cartridge
- Bullet seating: tightness and depth
- Deformed or inverted bullet
- Defective jacket or core
- Crimp in the mouth of the case
- Damage to the cartridge case
- Condition of the extraction groove
- Condition of the case rim
- Condition of the primer
- Corrosion or discoloration

Consideration should be given to replacing carry ammunition at least semi-annually or at each qualification or training session. Job conditions and climate may require a more frequent replacement.

CAUTION: Continuous loading and unloading the same cartridge into your semiautomatic pistol may cause the bullet to work loose from the cartridge case causing an unintentional stoppage in the cycle of operation. In order to avoid this, rotate your ammunition regularly.

The recommended procedure for loading magazines with service/street ammunition is as follows:

1. Go to a safe, authorized loading area.
2. Visually inspect the ammunition that will be loaded into and carried with the weapon.
3. With the pistol disassembled and the barrel out of the weapon, drop each cartridge into the chamber, making sure that it drops in easily and fully seats. Then invert the barrel allowing the cartridge to drop from the chamber into the hand. This proves proper fit of each cartridge into the chamber of the pistol that it will be used in. Immediately return any cartridges that do not pass this inspection to the issuing authority for safe disposal.
4. Load your magazine to capacity with the inspected ammunition.
5. Load your pistol and top off the magazine with an inspected cartridge.
6. This procedure will eliminate the possibility of having rounds in your magazine which will not chamber.

WARNING: Ammunition should be kept clean and dry at all times. Never lubricate or oil ammunition. Immediately replace any ammunition that has been in contact with solvent, spray lubricant or oil. Solvent and oil can penetrate the sealant around the primer, contaminating the priming compound and creating a potential for misfire.

"BLOOD LESSONS" FROM OFFICER INVOLVED IN FATAL OFF-DUTY SHOOTOUT IN A CROWDED McDONALD'S

I had taken my family to a McDonald's Restaurant on our way to a pool party. I was off-duty, in civilian clothes, and armed. I was standing in line and oblivious (like all the other patrons) to the fact that an armed suspect had taken the manager hostage and was forcing her to open the safe in the restaurant's office. One of the cashiers had seen this and I overheard her telling another employee that the business was being robbed.

At that time, I had approximately 15 years of experience and was a SWAT team member and use-of-force/firearms instructor. I had talked to my wife about such an occurrence and we had a preplanned response. When I told her to take the children and leave the building, she did not hesitate. I began quietly telling employees and patrons to leave. My thinking was to remove as many innocent bystanders as possible and then leave myself.

I thought that because I did not see the suspect enter he must have come in from a side door or employee entrance and I assumed (wrongly) that he would go out the same way. As I was standing near the front counter trying to get some of the kitchen help to get out, the suspect came from the office area and began running in my direction.

I immediately noted the large semi-automatic pistol in his hand. The distance was about 15 to 20 yards. I drew my weapon, announced myself and took a kneeling position behind the counter. Unfortunately, the suspect raised his weapon at me and the gunfight erupted. The suspect fired a total of 2 rounds in my direction. I fired 11, striking him 10 times.

My weapon was now empty and I ran from the line of fire to reload my spare magazine. I then approached the downed suspect and could tell that he was seriously wounded. It was right then that I considered that there might be more than one "bad guy" (the thought had not crossed my mind before this) and I began to scan the 360 to check. I immediately noticed a small child lying behind me. I saw blood pooling under her head and knew at a glance she was dead. One of the bullets fired at me had struck this child. Unbeknownst to me, my family had tried to exit out the fire door, which was locked. My wife was still trying to get out when the shooting started and she pushed my kids under a table where they all witnessed the gunfight.

The end result was that the suspect died, I survived, but a 9-year-old girl did not. I tell you this story because I think that this topic is of utmost importance. It is largely ignored in mainstream police training. I want to tell you some of the lessons I learned from this incident.

1. If you are going to carry a firearm off-duty, you should carry extra ammo. Security camera video of this incident revealed that I fired all 11 rounds from my Glock 26 in about 2 seconds. My extra mag held 17 rounds. Words cannot describe the emotion I felt when I slammed that mag into my weapon and was able to still be in the fight. Mostly because of circumstances (distance) and my training, my rounds were on target. It could have happened differently and the reality is that most of us miss more than we hit when involved in a gun battle.

2. You cannot have the typical police mind-set in an off-duty situation. I ended up in this incident without a radio, without backup, without body armor, handcuffs, other force options and without taking the time to think it through. I was truly most frightened when the gunfight was over and I was standing there covering the suspect with my weapon in my T-shirt and shorts. I was really worried that one of my own guys might not recognize me. I was worried too that there might be some other off-duty copper around who would think I was the bad guy.

The smartest, most responsible thing I could have done would have been to take care of my family first. I should have seen personally to their safety. If I had grabbed them and gone outside, I would have spared them this entire experience and that little girl would probably still be alive today.

Again, words cannot describe the emotions that we all went through after this incident. I recognized afterward that it could have been one of my children lying dead because of my actions. When you are off-duty your first responsibility is to your family. You should never forget this.

3. I survived this incident. Partly due to my training and tactics. Partly due to God's grace and blind luck. But the other side of the coin is that I got into this incident because of my training. I switched immediately into "cop" mode without stopping to consider that I was at a great tactical disadvantage. Most of us are driven and dedicated to the

point of self destruction and I think good cops die because we are taught to place our personal safety second when others are in danger. Because I had never trained realistically for a situation like this, I was unprepared. Most of the guys I worked with then and now carry off-duty weapons. But few of them, if any, have really taken the time to engage in realistic training and preparation for how to handle an off-duty incident. Training can be as simple as discussing these types of situations with your coworkers. Since this shooting, I have devoted at least one quarterly range session with my students to off-duty encounters and the associated considerations.

4. The responsibility of carrying a firearm is huge. I had devoted countless hours to training for the fight, but was not fully prepared for the aftermath. None of the training scenarios, books, films, etc. that I learned from touched upon the fact that when you take that gun out and decide to take action, 9-year-old kids can get killed. Even if you do everything by the book, use good tactics, and are within policy and the law, the outcome can still be negative. You have to remember that the suspect does not go to the range and he does not practice rules of weapons safety. He does not care about what's in his line of fire. If it's you or him, you gotta do what you gotta do, but whether you're on-duty or off-duty we need to train to look at the totality of the incident. Letting the bad guy go because doing otherwise would place innocent people in grave danger needs to be more "socially acceptable" amongst our ranks. I think we're starting to see more of this in the pursuit policies of most agencies and I have tried to carry this message over into my training and teaching.

I guess the bottom line here is that it's good to be on "auto pilot" when it comes to tactics in these situations, but we can't go on auto pilot in our assessment and examination of the environment and circumstances leading up to and during the event. On-duty mind-set and off-duty mind-set need to be strongly separated and the boundaries clear.

A California Sergeant