THE POLICE OFFICER'S GUIDE TO OPERATING AND SURVIVING IN LOW-LIGHT AND NO-LIGHT CONDITIONS

THE POLICE OFFICER'S GUIDE TO OPERATING AND SURVIVING IN LOW-LIGHT AND NO-LIGHT CONDITIONS

How to Prevail in Stressful Situations Through Proper Decision Making and Instruction on the Use and Availability of Illumination Tools

By

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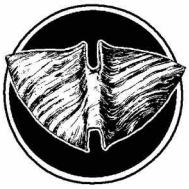

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This book is dedicated to all officers who have in the past
and will in the future operate in darkness fraught with peril and danger.

INTRODUCTION

It is an established fact that the majority of crimes occurs during the hours of darkness and it is also true that the majority of officer involved shootings happen at night. Furthermore, statistics reveal that two-thirds of all shooting incidents in which officers on duty are killed take place during the hours of diminished light. Indeed, studies of police shootings conducted on an annual basis reveal the fact that approximately 60 percent of all police shootings take place during nighttime hours; for example, according to the F.B.I., between 1985 and 1994, 62.9 percent of all police officer deaths occurred between 6:00 p.m. and 6:00 a.m. Further, 71.8 percent of all felonious assaults on police officers occurred during the same time period. Additionally, according to the New York Police Department, 78 percent of all firearms discharges occur in non-daylight hours.

These statistics are even more thought provoking when one adds dim-light conditions found in warehouses, attics, basements, stairwells, industrial areas, etc. One can readily see that most deadly force confrontations occur at night or in poor light conditions. Indeed, many officers will have to rely on the ambient light provided by the moon and stars or artificial lights that may be located some distance from the immediate threat area. There is little doubt, officers who discharge their weapon will more than likely be operating in dim-light or no-light conditions.

These poor light conditions may run the spectrum from completely dark to just dark enough where an officer cannot clearly see their weapons sights or the target. The true danger lies in the fact that the officer cannot identify the face of a suddenly encountered subject or just what he is holding in his hand. The prime commandment relating to low-light encounters that must always be adhered to is that an officer must never fire at a target that has not been positively identified as an assailant.

The deadliness of a situation is even more dramatic when one considers the fact that dim-light or no-light conditions are further exacerbated by stress. For example, officers involved in firefights report such stress responses as tunnel vision (where an officers vision can be reduced by up to 70%),

loss of near vision (making it hard for an officer to focus within four feet), an inability to focus on the target and/or a loss of monocular vision. These vision irregularities, combined with an increased heart rate due to the rush of adrenaline, and the resulting loss of fine motor skills, all contribute to the extreme danger of operating and surviving in dim-light or no-light conditions.

Of course, many criminals realize these handicaps and capitalize on darkness and stealth provided by dim-light or no-light conditions. Indeed, criminals traditionally view reduced lighting as something that inhibits the police from effective detection and apprehension. For example, barricaded suspects often hide in dimly lit premises and tactically, sophisticated suspects take advantage of the hours of darkness to escape.

In conclusion, keeping the above statistics in mind, and considering the fact that two-thirds of traditional patrol scheduling, afternoon and night shift (swings and graves), involves primarily low-light and/or no-light conditions (125 or more days a year), points to the inescapable fact that training under these conditions is paramount to survival. Indeed, in ages past, people feared the night; they knew instinctively that the dark was fraught with peril and danger and today, little has changed. With few exceptions, most officers do not receive an acceptable amount of training under these conditions. More often than not, only a fraction of total training time is dedicated to low-light and/or no-light conditions. Hopefully, this book will increase an officer's awareness that this training is necessary, increase the officers probability in prevailing in low-light conditions, help facilitate correct decision making under these conditions, and help the officer to understand the use of a myriad of illumination tools available on the market today. Indeed, new individual and team techniques must be designed to cope with the dangers of operating in dim-light and/or no-light environments; however, new techniques and accompanying training cannot remain static; they must change in order to follow and adapt to technological innovations.

Finally, there are senses, other than vision, an officer can rely upon when operating in dim-light or no-light conditions; for example, hearing, touch, and smell may all be enhanced when an officer's sight diminishes. Furthermore, there are a number of technological advances which enhance these senses. For example, these include directional microphones that capture sounds from advanced distances, the vibration of a metal detector, or electronic vapor detectors. However, the intent and scope of this book will focus on an officer's ability to see and distinguish threat and no-threat suspects and/or situations either through natural ability or advances in technology.

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Chapter 1

DIM-LIGHT AND NO-LIGHT DOCTRINE

Introduction

Overwhelmingly, every officer, even day-shift officers, will need to use a flashlight and/or dim-light or no-light techniques and equipment in a possible life and death situation sometime during their career. For example, day-shift officers will use a light when searching dimly-lit buildings or other structures, especially in basements, attics, crawl spaces, closets, cabinets, false ceilings, etc. Indeed, lighting conditions may be so poor that the officers won't be able to see the sights on their weapons without the use of a flashlight, when the need for deadly force occurs.

When the lights dim, problems begin. These problems generally include corrected vision, navigation, threat location, threat acquisition, threat identification, and effectively engaging the threat.

Corrected Vision

Some officers have worn eyeglasses since childhood, while others acquired them as the aging process generated an eye condition known as presbyopia (the impaired elasticity of the crystalline lens causes the near point of distinct vision to be removed farther from the eye; in other words, there is a reduced ability to focus). With increasing age, the lens in the eyeball, as well as the muscles that flex the lens, hardens and the ability to focus at closer distances diminishes. Whatever the case, few officers will escape the need to correct their vision at some point during their career. Imperfect eyesight affects not only the clear sight picture essential to precision shooting, but may be detrimental in tactical operations.

Officers have many concerns that complicate eye corrections. Indeed, eyeglasses pose restrictions for officers that go beyond mere inconvenience. For example, officers may give their position away as light reflects off their eye glasses; glasses may break, forcing an officer to operate in a diminished visual environment causing a possible life-threatening disaster (officers should always carry an extra pair of eyeglasses); glasses may fog; glasses may become streaked with sweat and/or dirt; glasses may interfere with the effective operation of the many devices covered in this book; and glasses may alter vision.

Severely curved lenses often alter visual perception unless the officer is looking through the very center of the lens–objects may not be where the officer thinks they are; an optical illusion may be the result. Officers may subconsciously lift their head for a

clearer view and shoot low. Additionally, if the lens corrects vision in close, then officers may have trouble seeing the front sight. If the lens corrects distance vision, an officer may lose the sights but see the target. Further, officers whose eyeglasses are quite strong must look directly through the center of the lens to get the maximum correction. Thus, peripheral vision is diminished, making it difficult to operate in a tactical arena.

Contact lenses are not a very good solution because there is a film of fluid between the wearer's eye and the lens that can distort vision, as can dirty lenses. Contact lenses also cause problems when an officer encounters blowing winds, dust, or is in an area containing chemical agents. This is not to say corrective lenses make an officer non-functional; however, there are some real concerns and limitations abound. Thankfully, answers are also available.

First, when choosing eyeglasses, an officer should ask the optometrist to check the prescription and to test lens clarity by comparing definition in the center to that around the edges. Some officers choose an anti-reflective coating to prevent flashing in the sun. However, anti-reflective lenses may scratch easily especially when used with binoculars, monoculars, and other optics such as night vision devices. Furthermore, anti-fogging preparations often fail to work on coated lenses.

Second, eye relief may be a problem. Eye relief refers to the specific distance between the eye and an optical device's eyepiece (ocular lens) that provides a full field of view (FOV). Too little or too much eye relief means the officer will see only a partial field of what is possible. In order to maintain proper eye relief, many optics are fitted with rubber cups to fix the distance between the eyes and ocular lens; however, eyeglasses positioned too far from an officer's face may prevent the obtainment of optimum FOV. Fortunately, most such eyecups can be folded down to make room for an officer's glasses; however, rubber eyecups positioned in this manner may unexpectedly pop out. A better choice may include telescoping eyepieces such as those found on quality optics; for example, full extension serves "normal" use and the retracted position facilitates eyeglasses. Furthermore, an officer might be more comfortable with eye relief that is slightly shorter than eye relief that is too long. It may be better to sacrifice some of the field of view than fight to keep the optics centered over the exit pupil. Indeed, when eye relief is too long with eyecups completely collapsed, the view often "blacks out" unpredictably.

In general, eyeglass wearers need about 18 to 20mm of eye relief. Indeed, 12 to 15mm of eye relief will only allow an officer to see 70 to 80 percent of the field of view. One way to compensate is to avoid large eyeglasses in favor of a trimmer style, for example a 32mm lens that will fit closer to the face. This may reduce the eye relief requirement from 20mm to 17mm. Another solution includes replacing the optic's rubber eyecups with "O" rings designed to tailor the eyepiece to an officer's exact eye-relief dimension. This means the optic used will always be set at the optimum viewing distance when contacting an officer's eyeglasses; however, this makes sharing the optics with other officers difficult.

Third, everything stated above about eye relief holds true for other optics such as rifle scopes. Furthermore, since rifle scopes, other optics, and eyeglasses all have "vision channels" that produce optimum viewing, alignment becomes even more critical. Improper mounting of the optic is the most common cause of "blacking out." There are two ways to remedy this situation. First, select an optic that affords generous eye relief. Second, shoulder mounted weapons may be fitted

with buttpads designed to keep this critical distance constant. This works because buttpads of different thickness alter the length-of-pull and therefore repositions the operator's eye.

Another reason for "blacking out" occurs when a rifle scope is mounted too high, that is, above the line-of-sight when the officer's cheek rests on the weapons stock. Of course, if optics are held too high, the result is the same. This often happens with high-magnification, large objective scopes, or night vision devices that have to be mounted high above the weapon to clear the barrel. For the eyeglass wearer, the problem is aggravated by the fact that the officer must align the "sight channel" in both the eyeglasses and optic. The solutions in such cases involves remounting the optic, switching to another optic, or adding a cheek piece to the weapons stock in order to raise the officer's face.

Fourth, officers wearing trifocals will often have trouble with open sights; for example, when the front sight is in focus, the rear sight is often indistinct, preventing the proper alignment of the sights. The solution to this problem includes the installation of electronic sights, laser sights, holographic sights, etc. (discussed in detail later).

An additional problem an officer may encounter involves what is known as cross-eye dominance (for example, shooting right-handed, but the left eye is the master eye). When the weapon is raised, the dominant eye has a tendency to take over, shifting the point of impact as much as three yards to one side of a target. Corrective lenses will not correct eye-dominance problems. Fortunately, some manufacturers offer fiber-optic (discussed in detail later) sights that cannot be readily seen except by the "correct" eye. These sights force an officer to look through a thin tube to see the fiber-optic dot. This type of fiber-optic sight acts like a forward mounted peep sight forcing the officer to "see" the fiber-optic dot with the weaker eye.

Finally, some eye problems can be corrected through a number of surgical techniques. However, as a result of these surgical procedures, some officers experience diminishing night vision capabilities, and glare when subjected to bright lights. Furthermore, if an officer is experiencing a condition known as presbyopia, or aging of the eye, distant vision can be corrected, but an officer may still have to wear reading glasses.

Navigation

In all tactical situations, an officer needs to be able to move around (maneuver) in order to seek cover and concealment as required; for example, when searching areas, engaging a threat, or retreating from an area without falling over or into unseen objects. Officers should always move from dark areas to light areas, never the reverse. Officers should also turn off lights located behind them as they move through a structure in order to reduce backlighting.

Some officers have "cat eyes" sewn to the back of their hats or helmet bands. Cat eyes are small pieces of phosphorescent tape, which emit a dull glow visible from a few feet away (perhaps five to six feet). Cat eyes are used to identify and mark an officer's location for those officers traveling behind in dark environments. Some officers will state that cat eyes will compromise the officer's position; however, this is only true if the adversary is directly behind an officer and within a few feet. If this is the case, the officer has already been compromised.

Cat eyes should not be confused with reflective uniform patches. Reflective uniform patches should only be used for operations where high visibility is required, for