

## CHAPTER 4

### EMPLOYMENT CONSIDERATIONS

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**28. General.** The purpose of the Starlight Scope is to provide an efficient, secure viewing capability for friendly forces during the conduct of night combat operations. Although the Starlight Scope does not give the soldier the width, depth, or clarity of vision enjoyed during daylight, he can see well enough at night to aim and fire his weapon, to observe the effect of fires, and to observe the terrain, the enemy, and his own forces, and perform numerous other tasks that confront a soldier in the field at night. Consideration of the factors affecting the employment and proper use of the Starlight Scope will permit more effective execution of night offensive and defensive operations, aid in coordination and control within unit, boost morale, and promote troop confidence.

**29. Factors Affecting Employment.** This paragraph discusses the factors that may affect the employment of the Starlight Scope. The degree to which these factors aid or limit the operational capabilities of the Starlight Scope will vary depending on the light level, weather conditions, operator eye fatigue, and the terrain over which the Starlight Scope is being employed at that particular moment of the night.

*a. Light.* Since the Starlight Scope is designed to function using the ambient light of the night sky, the most effective operation can be expected under conditions of bright moonlight and starlight. As the ambient light level decreases, the viewing capabilities of the Starlight Scope diminish proportionately. When the sky is overcast and the ambient light level is low, the viewing capabilities of the Starlight Scope can be greatly increased by the use of flares or illuminating shells on the flanks, left or right front, and by using visible light such as that produced by searchlights. When the Starlight Scope is employed with artificial illumination, the depth and clarity

of vision is vastly superior to that experienced by the naked eye under similar light conditions. Infrared illumination may also be used to provide increased viewing capabilities under very low ambient light conditions.

*b. Weather Conditions.* Clear nights provide the most favorable operating conditions for the Starlight Scope. Just as rain, sleet, snow, smoke, or fog affects the viewing capabilities of the individual, so will they affect the range capabilities of the Starlight Scope. Even so, the Starlight Scope can be expected to provide some degree of viewing capability in most adverse weather conditions.

*c. Terrain.* To adequately describe the effects of terrain on the employment of the Starlight Scope, it is necessary to approach the subject using different types of terrain under varying ambient light conditions.

- (1) When viewing from open terrain into densely wooded terrain, penetration of the wood line, even under the most favorable ambient light conditions, is limited to a few meters. The operator will experience difficulty in detecting targets against a very dark background.
- (2) When viewing from open terrain into sparsely wooded terrain under moonlight and starlight conditions, penetration into woods is greatly improved depending on the depth of the woods, height and location of moon, and the range of the Starlight Scope to the woods.
- (3) When viewing from sparsely or densely wooded terrain into open terrain under moonlight and starlight conditions, viewing capabilities are excellent. When operating under these conditions, the starlight Scope should not be employed

at a depth inside the woods that would limit its field of view.

- (4) When moving through densely wooded terrain, under all ambient light conditions, viewing capabilities may be limited to a few meters.
- (5) When moving through sparsely wooded terrain under moonlight conditions, viewing capabilities are good. As the ambient light level decreases down to and below starlight, effectiveness is decreased.
- (6) When operating in dense or sparse woods, the operator may experience difficulty in depth perception due to the closeness of objects being viewed plus the magnification of the objects by the Starlight Scope.
- (7) The operator should experience little difficulty in following trails or roads under moonlight or starlight conditions.
- (8) When operating in open terrain under moonlight and starlight conditions, viewing capabilities are limited only by the ambient light level and the range at which the Starlight Scope is capable of resolving a target.
- (9) When using the Starlight Scope to view on or across rivers, streams, or lakes under moonlight and starlight conditions, the reflection of light off the water provides for maximum viewing capabilities.

*d. Operator Eye Fatigue.* Most operators will initially experience eye fatigue after 5 or 10 minutes of continuous observation through the Starlight Scope. After several periods on the scope, he should be able to observe for longer periods of time. To aid in maintaining a continued viewing capability and lessen eye fatigue, the operator may alternate eyes during the viewing period.

**30. Employment Considerations.** The employ-

ment of the Starlight Scope in night offensive or defensive operations is not limited to the uses suggested below. The actual employment of the Starlight Scope will be limited only by the imagination of the user.

*a. Offensive Operation.* The Starlight Scope may be used in night offensive operations to—

- (1) Maintain direction and control of attacking troops.
- (2) Provide supporting weapons with a means of delivering accurate fires.
- (3) Select targets for supporting weapons, including mortars and artillery, and aid in the adjustment of fires.
- (4) Speed up the advancement of attacking troops by aiding in locating and overcoming obstacles en route.
- (5) Assist patrols or parties in night reconnaissance activities.
- (6) Improve efficiency in embarking, crossing, debarking, and control during river crossings or other types of amphibious operations.

*b. Defensive Operations.* The Starlight Scope may be used in night defensive operations to—

- (1) Make possible the early detection and placing of effective fires on an attacking enemy.
- (2) Detect and destroy enemy patrols, infiltration teams, and guerrilla-type troops.
- (3) Identify friendly patrols and aid in their passage of lines.
- (4) Select targets for direct and indirect fire weapons and to aid in the adjustment of these fires.
- (5) Aid in the location and evacuation of casualties.
- (6) Promote the confidence of troops holding defensive positions by providing them with a night-seeing capability.