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**RING SIGHT LC-7-40-M16 - ITS NATURE AND USE**

The LC-7-40-M16 sight is a unit power, solid glass, reflex collimator sight for use by day and night. Only two points have to be aligned: the target and the aiming mark (which is projected to infinity so is always in focus). This is unlike open sights where the target, fore sight, back sight and the eye have to be lined up correctly. With the LC-7-40-M16 eye position does not matter provided the reticle can be seen. Either one or two eyes can be used but, for alertness, both eyes should be open: the same view of the target area is seen by both.

The sight mounts on the handle of the M16 rifle with the sight line at the optimum position for matching the sight line with the trajectory out to 300 metres range so that no elevation adjustment is needed for ordinary military purposes (the strike on the target is correct at about 70 and 270 metres: it is low at the beginning and end of the trajectory and high in the middle but all shots will hit a man).

Zeroing adjustment screws are provided. Clockwise movement raises the strike or moves it to the right (marked on the sight housing). The screws are selflocking. For zeroing at 100 metres the strike should be 65mm (2½ inches) above the aiming mark.

Two reticle patterns are provided. For day use there is a ring (like the Steyr AUG rifle sight). The inside diameter of the ring fits a standing man at 200 metres. The ring is lit by ambient light from the target area so when the target area is bright the ring is bright (so you can shoot from under cover). On a formal range problems may arise when the target is bright but the background is dim: targets have been designed to suit open sights so that they are silhouetted; it is better, with the Ring Sight, to use a brown paper target with a white bull.

For low light and night use there is a separate open T pattern lit by light reflected from an integral tritium light (the pattern has to be separate as the night reticle is reflective and the day one is transmissive). On the top of the sight housing there is an aperture: ambient light from above goes through this, down through the optic to enhance the light from the tritium. This gives better takeover from the ring in low light. The reason for the open T is that, if a ring was used for night shooting, it would obscure the target which is often difficult to observe when the light is low. The open T is clear of the target so does not obscure it. The centre of the open T is the same as the centre of the day ring so zeroing is unaffected. If the tritium light is too bright the eye senses this and closes the pupil down spoiling the night vision.

Shooting is possible with Night Vision Goggles if the layout of the NVG suits the M16 rifle. The sight is viewed using the bottom of the NVG objective lens (this is usually 20 to 25mm in diameter) so the rest of the lens observes the target without obstruction.

Reflex collimator sights necessarily have to reduce the light transmission through the optical system to enable the reticle to be seen: this reduces the visibility of targets in low

light (but the pupil of the aiming eye enlarges to offset this). However the LC-7-40-M16 sight is designed to enable the skilled soldier to avoid this by using “split pupil shooting”. In low light he looks along the top of the optic (left clear of the housing on purpose). Most of his eye sees above the optic and is unimpeded by it; the bottom of the eye (like the NVG) sees the reticle, which appears to be above the optic, and can be put on the target. This does require aptitude and training but using this facility enables the soldier to engage any target he can see with the naked eye, even in starlight.

The reticle can also be used for “burst on target” shooting. The aim is maintained until the bullet strike (or the tracer) is seen at the target. Its position is observed on the reticle. That point is used as the aiming mark for the next shot. This takes out the ballistic error (wind etc.). Moving targets can be engaged using this technique provided that the aim is maintained during the time of flight: the correct lead is established by observing the strike on the reticle. With practice the soldier will be able to estimate lead and hit moving targets first time.

The solid glass design means that the optic cannot mist up internally. The external optical surfaces are flat and play no part in generating the reticle image so care in cleaning is less important than with telescopic sights. In fact the sight can be used if the front is covered with dirt and the back is partly covered.

To sum up:

The LC-7-40-M16 sight enables a soldier to shoot deliberately with accuracy and confidence.

It enables him to engage opportunity targets quickly and easily as he only has to put the ring on the target and fire.

It enables him to hit any target he can see in low light (and on most nights).

It can be used with Night Vision Goggles with no change to the rifle, its sight or its zeroing.

It enables him to aim off for ballistic errors or for lead.

Finally, it is robust and does not require any degradation of the drop test.