



RING SIGHTS PO Box 2108, Salisbury, SP2 2BX, UK

RING SIGHT LC-40-100-NVG

SHOOTING SIDEWAYS FROM HELICOPTERS

Machine guns and cannon are mounted in helicopters to shoot sideways to engage surface targets. The ordinary trajectory of the bullet (a modified parabola) is affected by the forward airspeed of the aircraft, the draught from the rotor, the height of the aircraft, the velocity of the wind relative to the ground and other minor external ballistic parameters.

The outcome of this is that the gunner has to aim off for both lead and elevation. In the past he has made a guess at the aim-off, observed the fire and walked@ the trajectory onto the target. This is not quick due to the time of flight delay (and can cause collateral damage). With the Ring Sight he has a graticule which enables him to aim off taking the various factors into account. This gives an experienced gunner a good chance of first burst hits. If he does not hit straightaway, he can observe the strike of the graticule (he maintains his original aim during the time of flight) and puts this point on the target (burst on target) thus correcting the errors in lead and elevation.

The graticule has lead and elevation marks in mils so applies to any gun. The gunner learns, either by instruction, live firing or on a simulator, the lead and elevation to use for particular circumstances.

All this is ordinarily done in daylight using the graticule lit by the ambient light from above the target. If the target scene is particularly bright he can put a suitable filter in the sight to dim the scene (like wearing sunglasses). If, in low light, the graticule is too dim to see, he can switch on the LED array to light it either bright or dim (the latter to avoid spoiling his night vision). When the light fades even more, he can put on Night Vision Goggles and choose one of the four LED settings for NVG depending on the darkness of the night (if the graticule is too bright the NVG gain will be reduced and the target will not be seen). Otherwise shooting by night is the same as that by day with the same leads and elevations.

The sight can be fitted with a laser illuminator. This helps target acquisition and engagement at night and enables the aircraft commander to know what the gunner is engaging.

If air targets are to be engaged the graticule has radial lines to assist the gunner in choosing a suitable point of aim.