

S.U.I.T.

Ministry of Defence

User Handbook

for

SIGHTUNIT INFANTRY TRILUX

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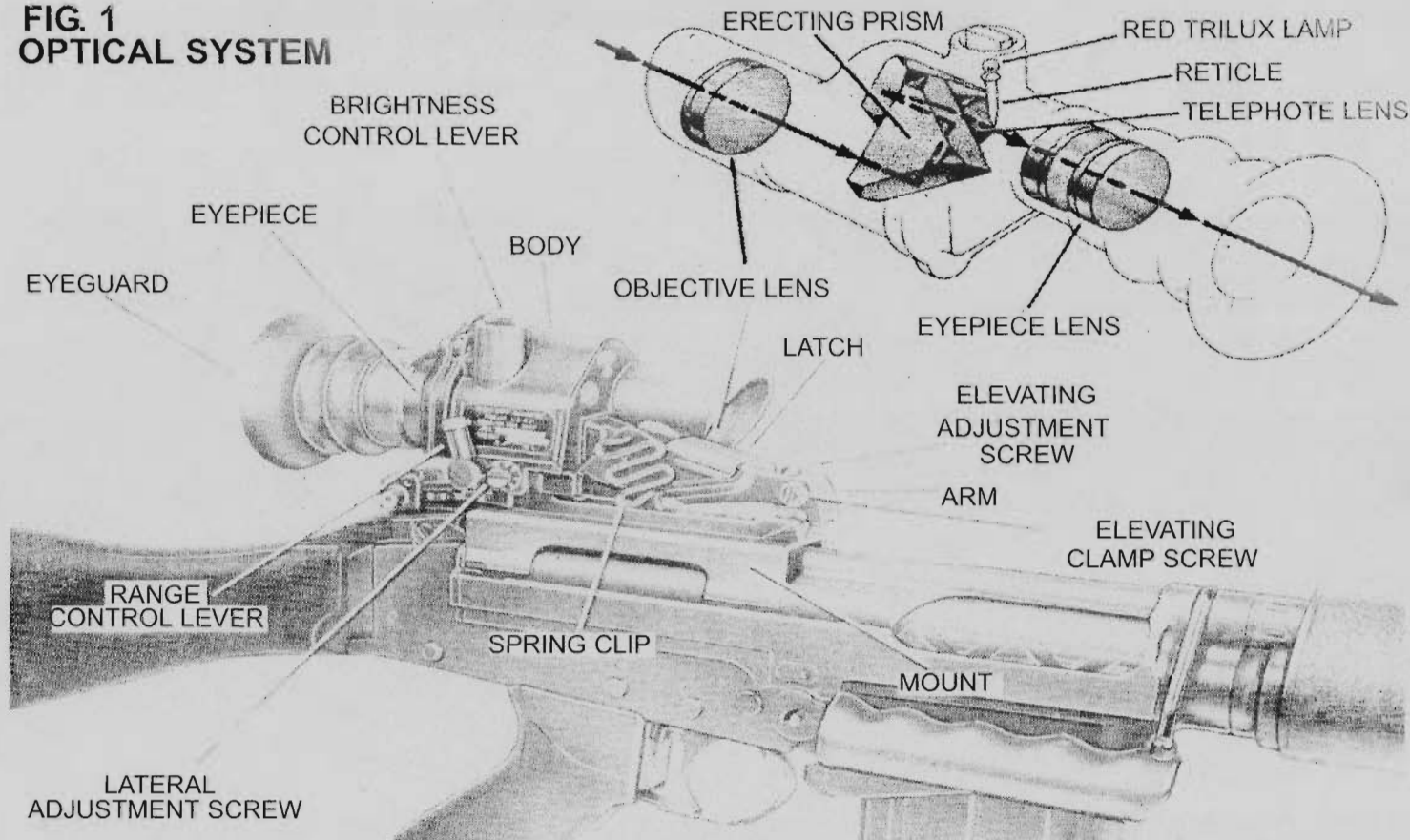
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SIGHTUNIT, INFANTRY, TRILUX OPERATOR'S MANUAL

The Sightunit, Infantry, Trilux L2A2 (Fig 1). A detachable optical sight with a magnification of four, equipped with an internally illuminated inverted aiming pointer. With the sight fitted the Infantryman's night vision capability is extended enabling him to engage targets at longer distances. The amount of improvement depends on the light falling on the target and the target/background contrast. The increase in range varies from two to three times that of conventional open sights. By day, the sightunit assists in the acquisition and engagement of targets with low background contrast at the effective range of the weapon to which it is attached. It also forms a useful surveillance aid. A range control lever provides settings for 300 and 500m. The sight is zeroed by alteration to the elevating and lateral adjustment screws. A Pouch, Sightunit, Infantry LIAI is provided (Fig 2).

Body (Fig 3). The aluminum alloy body is of monocular construction and contains the optical system. It is provided with a cover secured by socket head screws. The eyepiece, placed centrally, enables the sight to be used by right or left handed firers. The objective lens is offset to the left to avoid the iron foresight or rifle muzzle interfering with the field of view. Incorporated in the optical system is an erecting prism and telephoto lens.

FIG. 1
OPTICAL SYSTEM



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An inverted clear plastic pointer with roughened conical tip forms the reticle and is located within a holder in the top of the body. Viewed in daylight, the reticle appears as a darkened pointer containing a clear narrow vertical line. A lamp holder held in position by a circlip and containing an orange/red Trilux lamp, is provided with a knob which enables the operator to vary the degree of illumination from zero to maximum. By rotating the knob the lamp can be either offset, or moved directly over the reticle where the light is reflected down the clear plastic and the tip illuminated. Attached to the eyepiece is a rubber eyeguard which is secured by an adhesive. (See Trilux Lighting Safety.)

The Arm (Fig 3). Fixed to the underside of the sight body the arm is designed to secure and align the sight correctly to the rifle. A latch, mounted on top of the arm and pivoted on a spring pin, facilitates the attachment and removal of the sight. A continuous spring clip, hooked to each side of the latch, passes under the arm and secures the sight to the central attachment point of the mount. Upward rotation of the latch causes the short arm to force the spring clip down and clear of the central attachment point on the mount.

A pin, with cams located each end and held in a recess towards the rear, is attached to the range control lever. With the range control lever in the vertical position



FIG. 2
PROTECTIVE POUCH

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the sight is set for 300m and 500m is obtained by pushing the lever fully forward. A stop on the right side of the body and the flange to which the rear cover is secured, assist in retaining the lever in position when the sight is detached from the weapon.

An internally threaded alignment block, with curved recess to receive the mount locating pin, is attached to a lateral adjustment screw. An inscribed guide R L located above the lateral adjustment screw, indicates the direction of rotation required to move the MPI right or left. Eight graduations each corresponding to an alteration of 100mm (4in) at 100m, are engraved on the arm close to the screw head.

An elevating adjustment screw with conical point for location in the forward cradle of the mount is situated at the front end of the arm. A guide marked E D (elevate and depress), indicates the direction of rotation required to correct any vertical errors.

The eight inscribed graduations each indicate an alteration of 100mm (4in) at 100m. Located in a horizontal boring and placed one either side of the elevating screw, two cones, one with an internal thread, are retained in position by an elevating clamp screw. Clockwise rotation of the elevating clamp screw causes the cones to bear against the forward edge of the elevating screw and retain it in position. Tightness of the elevation clamp screw must be checked periodically.

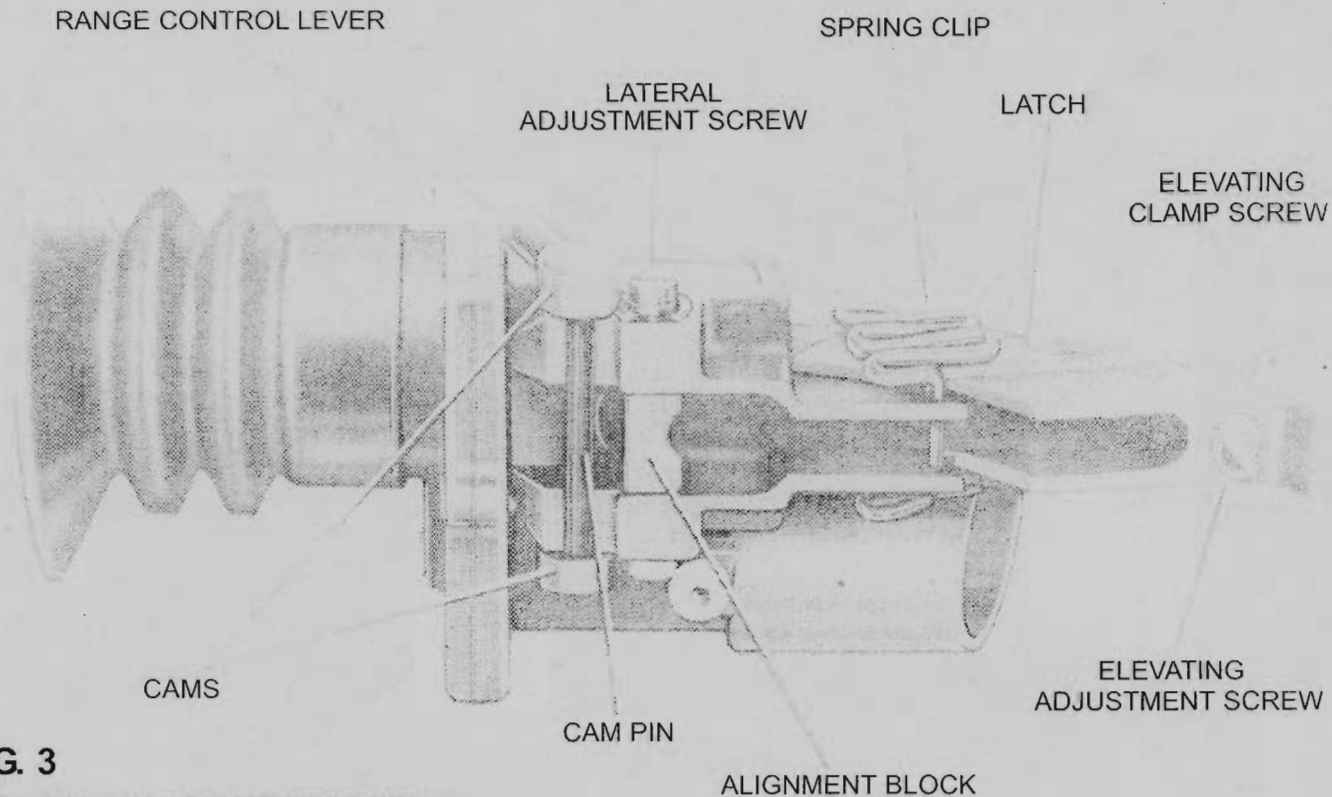
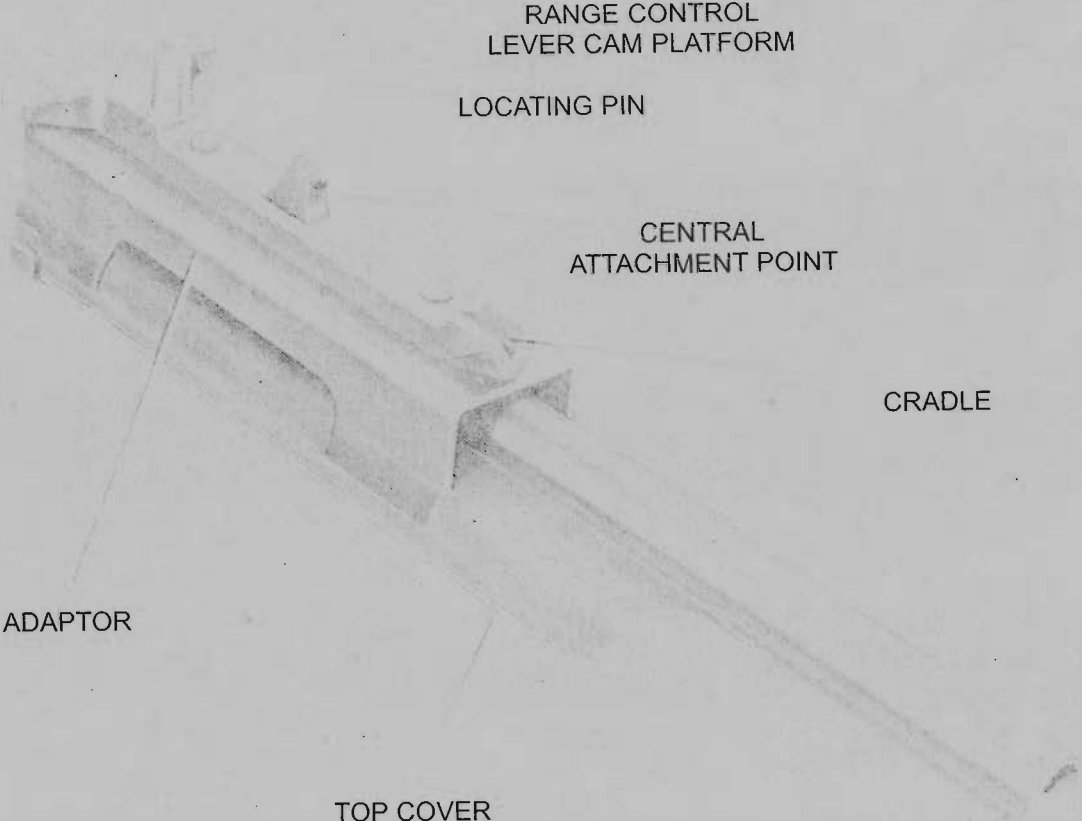


FIG. 3
SIGHTUNIT (BOTTOM VIEW)

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FIG. 4
MOUNT



RANGE CONTROL
LEVER CAM PLATFORM

LOCATING PIN

CENTRAL
ATTACHMENT POINT

CRADLE

ADAPTOR

TOP COVER

The Mount (Fig 4). The mount consists of a rifle top cover and adapter. A locating pin fixed towards the rear of the mount bears against the curved recess of the alignment block. Slightly to the rear of the locating pin is a platform on which the range cam control operates. A V-notched cradle at the front of the mount provides a seating for the elevating screw. Positioned approximately mid-way between the locating pin and the cradle is a central attachment point for the sight spring clip.

Fitting the Sight (Fig 5). Remove the sight from its pouch and raise the latch fully. Position the sight over the mount and locate the conical point of the elevating screw in the V-notch of the cradle. Lower the sight on to the mount so that the locating pin engages the recess in the alignment block. Push the latch fully forward and test the sight for security. An alternative method of fitting is to position the locating pin in the recess of the alignment block first, then lower the front until the elevating screw fits into the cradle.

Removing the Sight. Raise the latch fully, check to see if the spring is disengaged from the attachment point, lift the sight off. If the spring is not disengaged ease the sight up and forward carefully. Failure to take care may cause damage to the rear lugs on the sight and to the spring.

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Using the Sight by Day. Adjust the range control lever as required. Use the 300m position for targets up to 400m. Push the range control lever to the 500m position for targets between 400 - 600m.

Using the Sight by Night. Set the range control lever to 300m. Adjust the brightness of the reticle by rotating the brightness control knob.

Care and Maintenance. The sight is a sealed instrument and must never be opened by other than qualified personnel. The sight should be inspected at frequent intervals and the body wiped over with a dry cloth. Careless cleaning of the lenses may lead to scratches. Particles of dust or grit must therefore be blown clear before the lenses are wiped over with a clean tissue or lint free cloth. Lenses must not be rubbed violently. The cleaning can be assisted by breathing on the lenses. Spots or stains may require the use of methylated spirits on a piece of clean cloth.

CONVERSION KIT, 7.62mm RIFLE SIGHT, TRILUX L5A1, L5A2 AND L5A3

A conversion kit is issued so that the rifle can be fitted with a special sighting system to enable the user to fire with accuracy in the dark.

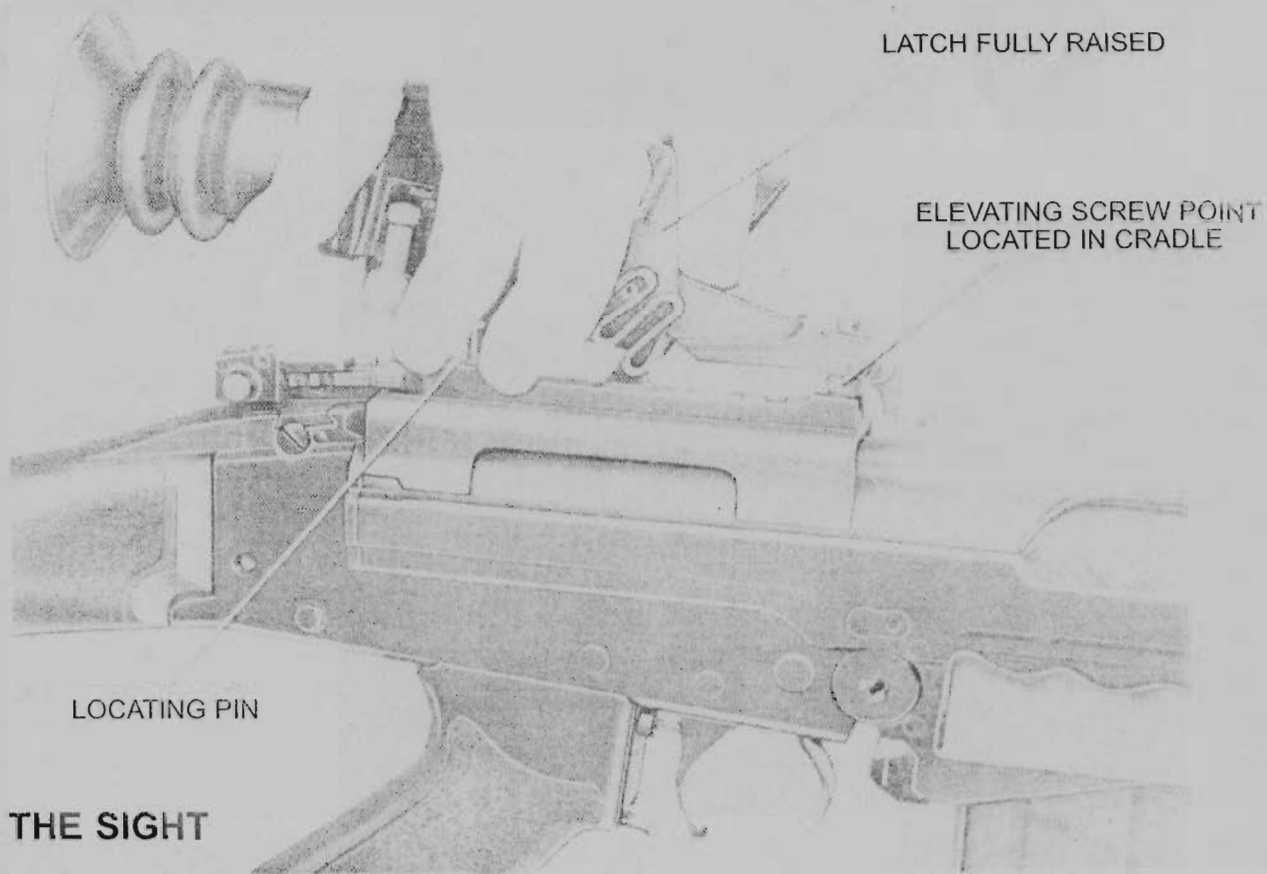


FIG. 5
FITTING THE SIGHT

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DESCRIPTION:

The conversion kit consists of:

- a. Trilux foresight.
- b. Foresight retaining spring (Not L5A3).
- c. Spring retaining screw (Not L5A3).
- d. Front backsight leaf (Day).
- e. Rear backsight leaf (Night).

FORESIGHTS

There are three types of trilux foresights which may be fitted to the rifle.

- a. L5A1. The stem is threaded for about one third of its total length and the remain-

der is squared. There is no change in the shape of the blade and its width is from 1.52mm (0.06in) to 1.65mm (0.065in). A heat resisting glass tube is set in a vertical boring in the blade and filled with a self-energizing luminous compound, presents a 6.35mm (0.25in) luminous line to the firer when turned sideways on; the side of the blade facing away from the firer is painted black. The foresight is held in position by a spring which is secured by a retaining screw.

b. L5A2 (Fig 19). The L5A2 foresight differs from the L5A1 as follows:

(1) The blade is wider, 2.24mm (0.088in) to 2.34mm (0.092in).

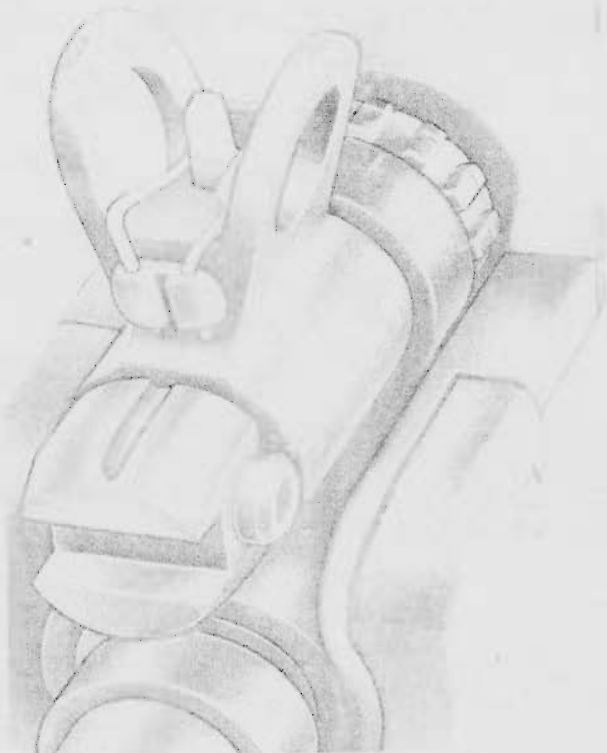
(2) Two portholes in the rear of the blade allow the trilux light to be seen by the firer and thus obviate the necessity to turn the foresight sideways for night firing.

c. L5A3. Similar to the L5A2 except the foresight has a vertical V-notch in the front of the foresight stem. The foresight retaining spring and spring retaining screw are omitted and the existing foresight retaining screw used to secure the sight in position.

BACKSIGHT (Fig 20)

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REAR VIEW



FRONT VIEW



FIG. 6
FORESIGHT

The backsight assembly consists of two leaves which rotate on the same axis. The forward leaf has an aperture of 2mm (0.08in) diameter for use by day and the rear leaf has an aperture of 7mm (0.28in) diameter for use by night. Range adjustments are the same and when not in use both leaves can be folded down. The day aperture is smaller than normal and is set in a wider leaf, thus affording improved accuracy by day. A further aid is the shading of the day aperture by the night aperture.

CONVERSION

To fit the L5A1 or L5A2 Trilux foresight, remove the existing foresight retaining screw and foresight. Screw the Trilux foresight into the block until the threads are below the block face; then fit the new retaining screw to full depth and unscrew a minimum amount to position the two holes vertically; the end of the screw does not engage the foresight. Fit the spring over the foresight until it contacts the block face and insert the end of the spring into the holes of the retaining screw, bend the end of the spring slightly to retain. The foresight is not secured in the block other than by the retaining spring in order that it may be turned easily thus avoiding distortion of the blade and possible damage to the glass tube.

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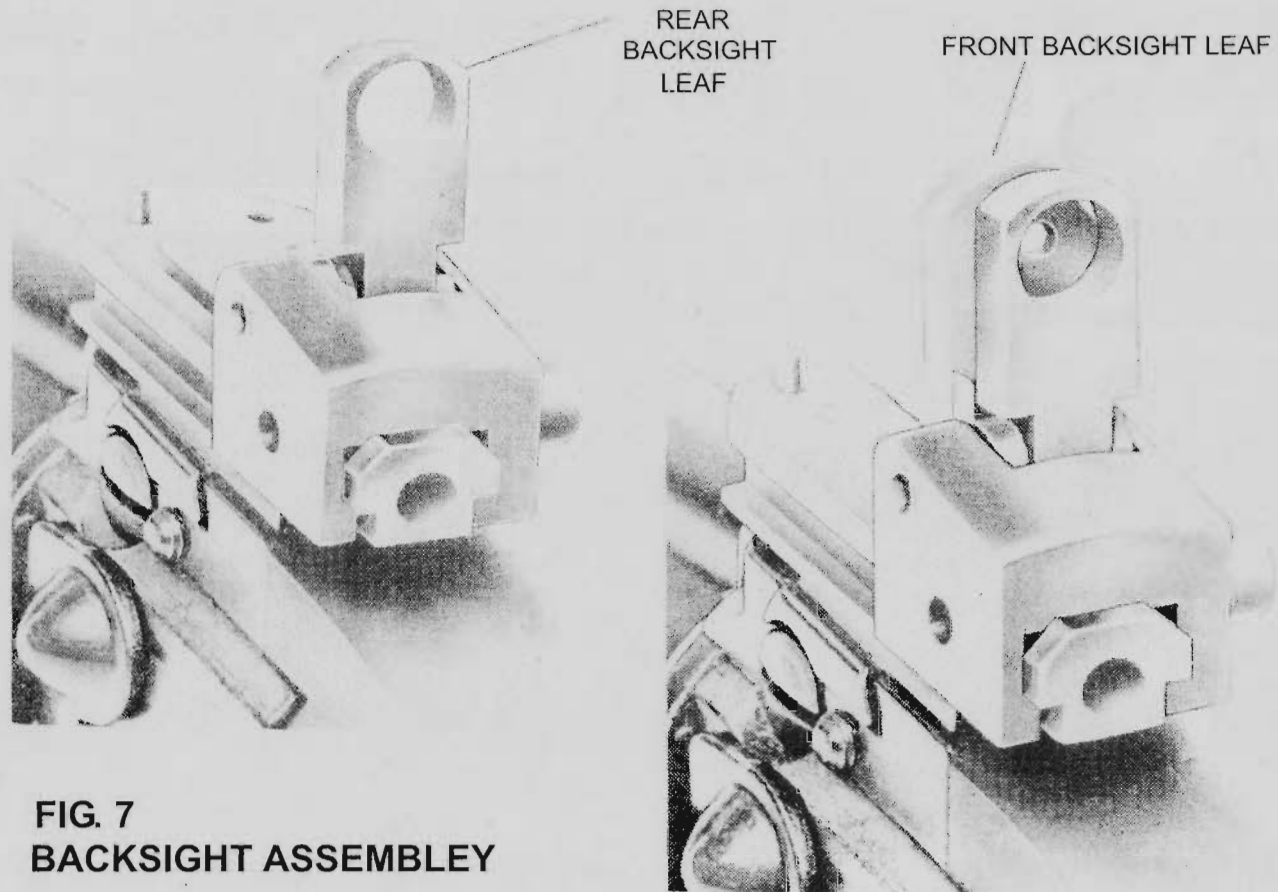


FIG. 7
BACKSIGHT ASSEMBLY

The L5A3 foresight is held in position by the existing foresight retaining screw engaging the notch in the front of the stem. A second V-notch set at 1600 mils (90') to the front V-notch is for venting purposes only.

To fit the backsight assembly. Remove the existing backsight pin and leaf. Fit the dual leaf backsight with the day leaf forward and replace the axis pin.

USE OF SIGHTS

Daylight shooting. For normal daylight conditions raise both backsights to the vertical.

Night shooting. For night firing, L5A1, fit the combination tool over the foresight and turn the foresight broadside on so that the luminous line is towards firer. When the foresight is turned back for day use ensure that it is returned to its correct zeroed position. Night shooting with all converted backsights, lower the day leaf and ensure that the sight is set to 200m.

Night firing technique. Position the eye to see through the large aperture and use both eyes to look at the target. Keeping the head still bring the luminous line up onto the centre of the target and fire. Sights fitted with two portholes require the same technique

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as the holes create the illusion of one line.

TRILUX LIGHTING

GENERAL

The trilux lamp used in the foresight is filled with 0.014 curie of TRITIUM GAS. It is predicted that the lamp will deteriorate by half its original brightness in 10 years but is likely to have a further usable life.

SAFETY

Trilux lamps have no significant level of external radiation and no hazard can arise unless a lamp is broken. Breakage of the lamp and the release of tritium gas can result only from misuse of the equipment. In the event of breakage, the following precautions should be taken.

- a. The escaping gas should not be inhaled.
- b. The broken parts should not be handled with bare hands.
- c. If breakage occurs indoors, doors and windows should be opened to allow gas to clear. There is little danger if breakage occurs outdoors.
- d. Any breakage must be reported immediately.