

Optical



1 Object prism housing

2 Trunnions

3 Ocular prism

Fig 4 Episcope, Tank
No.8 Mk I

16. Place the episcope in its housing and rotate the catch until it is fully engaged with the catch housing.

PERISCOPE NO.15, MK I

17. The periscopes (Fig 5) can be elevated, depressed and traversed. Each can also be extended upwards for a distance of approximately $2\frac{3}{4}$ in. by means of a rack and pinion operated by a star nut on the front of the periscope. A handle (3) is provided for operating the periscope and a knurled clamping screw (6) is fitted to the side of the periscope for clamping it at any angle of elevation or depression.

To remove the periscope object prism

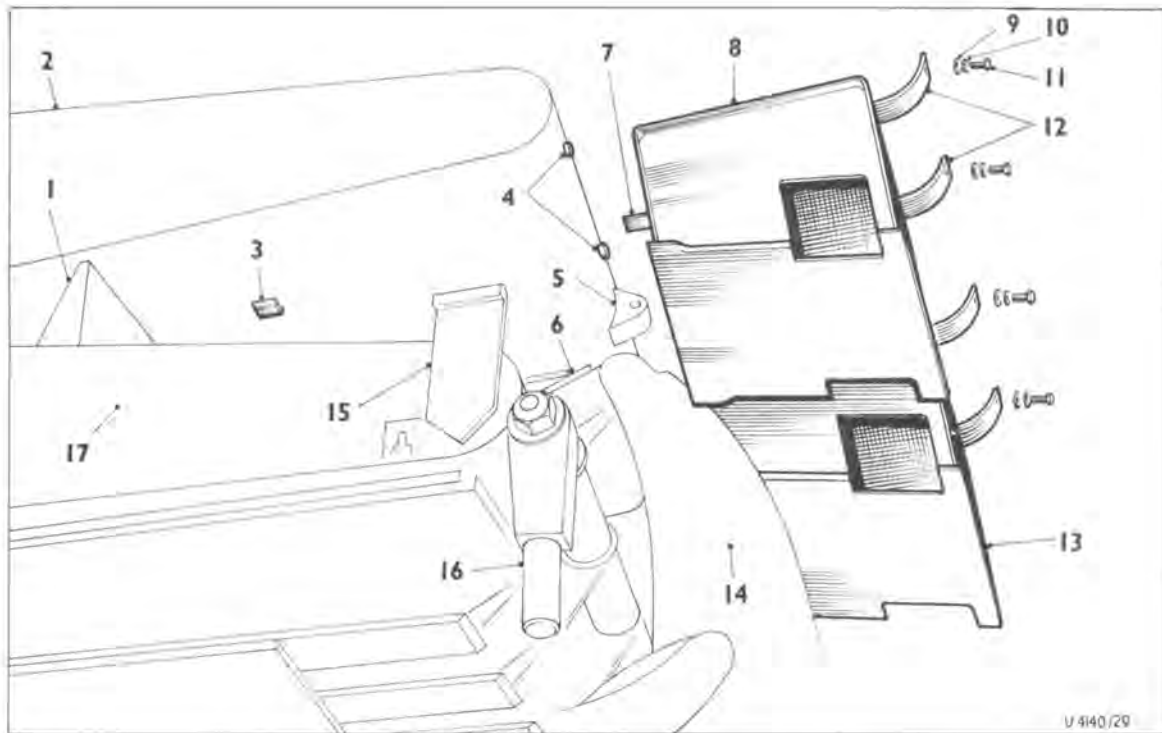
18. Rotate the browpad (5) 90 deg clockwise to unlock the ocular prism (4) housing, swing the assembly forward and remove the ocular prism.

19. Carefully remove the cork washer between the upper and lower parts of the periscope.

20. Pull the star nut forward to disengage the rack gear and withdraw the object prism from the housing.

To replace the periscope object prism

21. Ensure that the inside of the housing is clean and lightly oiled. In dusty conditions the housing is best left dry.



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|-------------------------------------------------------------|--------------------------------------------------------------------------------|
| 1 Ramp tail section support | 10 Spring washer |
| 2 Ramp tail section | 11 Screw |
| 3 Slotted lug | 12 Arms which bear against (4) to which they are secured by (9), (10) and (11) |
| 4 Internally screwed bosses | 13 Outer crusher box |
| 5 Lug used for attachment of preventer rope during recovery | 14 Banana lever |
| 6 Ramp lever | 15 Ramp hinged end extension support bracket |
| 7 Tongue which fits in (3) | 16 Recovery spigot |
| 8 Inner crusher box | 17 Ramp main section (inverted) |
| 9 Washer | |

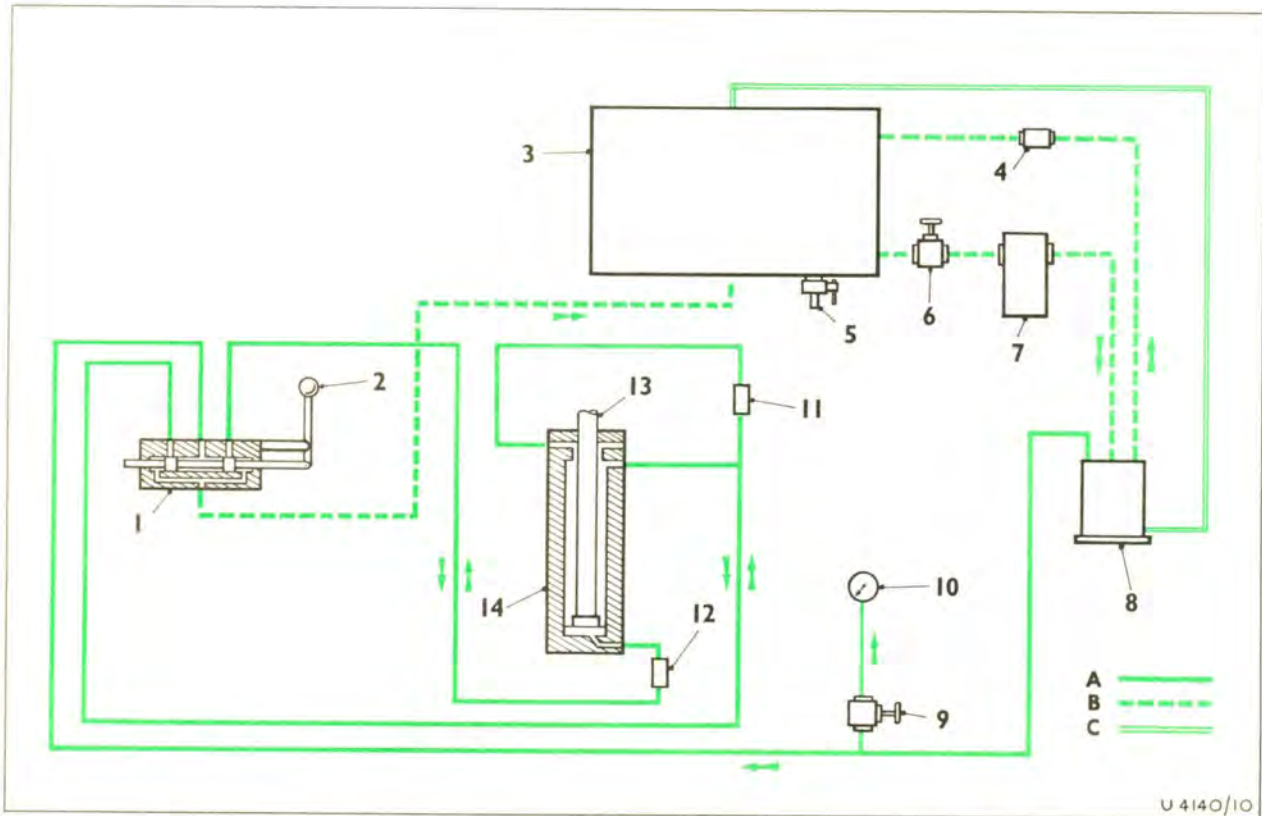
Fig 14 Crusher boxes

Crusher boxes

62. Crusher boxes (Fig 14) which are expendable, are provided for fitting under the ends of the ramp tail sections. As their name implies, they are crushed as the ramps fall to the ground and so act as shock absorbers and prevent the ramps from being unduly stressed when a high drop is necessary. Fig 2 illustrates a case where the ramps on the right of the sketch have had a high drop and would have been over-stressed without the use of a crusher box. Crusher boxes fitted to a ramp are shown in Fig 14.

Note: *Crusher boxes will always be used wherever the ramps will fall on hard ground from whatever height, and when the ramps will fall on soft ground below deck level.*

Hydraulic system



- | | | |
|-----------------------------------------|-------------------------|-----------------------|
| 1 Control valve block | 5 Drain tap | 10 Gauge |
| 2 Control valve handle | 6 Shut-off valve | 11 Restrictor valve |
| 3 Hydraulic reservoir | 7 Filter | 12 Restrictor valve |
| 4 Non-return valve (mounted on pump) | 8 Pump | 13 Hydraulic ram |
| | 9 Gauge isolating valve | 14 Hydraulic cylinder |
- A Pressure lines
 B Pump feed and by-pass lines and system return line
 C Pump leak off line

Fig 36 Hydraulic circuit diagram

OPERATION OF THE HYDRAULIC SYSTEM

144. Fig 36 is a diagram of the hydraulic circuit. With the engine running there is always pressure in the pipe drawn in heavy line from the pump (8) to the control valve (1) centre top port. The control handle (2) is shown in the neutral or off position.

145. To raise the ram (13) the control handle is pushed forwards (i.e. to the left looking at the diagram). This moves the valve spool connected to the bottom of the handle shaft to the right, connecting the top centre and right ports. Fluid flows out of the right pipe, through the restrictor (12) into the bottom of the ram cylinder (14) and raises the ram at a rate controlled by the restrictor. Oil displaced from the top of the cylinder by the rising ram leaves it via the top right cylinder pipe which directs it to the control valve

- 1 Internal expanding circlip
- 2 Spindle
- 3 Groove
- 4 Guide
- 5 Hairpin type circlip
- 6 Union
- 7 'O' ring
- 8 Discharge outlet
- 9 'O' ring
- 10 'O' ring
- 11 Hole in nut at right angles to axis
- 12 Hollow tension pin
- 13 Sealing washer
- 14 Nut connecting indicator to CO₂ cylinder
- 15 Annular groove in body
- 16 Piston
- 17 Body

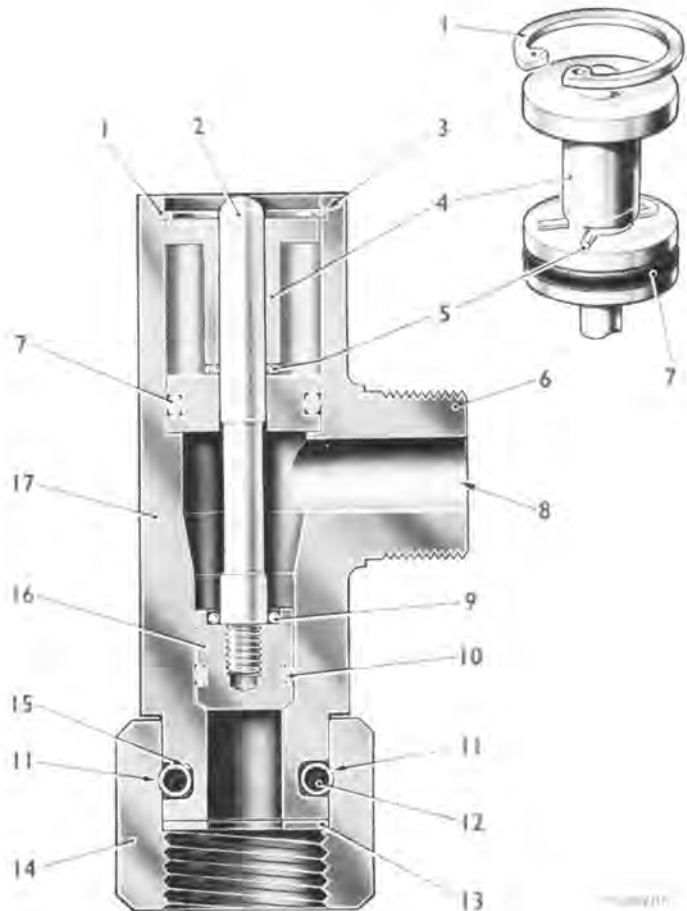


Fig 49 CO₂ leak indicator

255. The CO₂ leak indicator is foolproof inasmuch that a deliberate attempt must be made to restore the spindle to its original position, see para 258.

To service the fixed fire extinguishing system

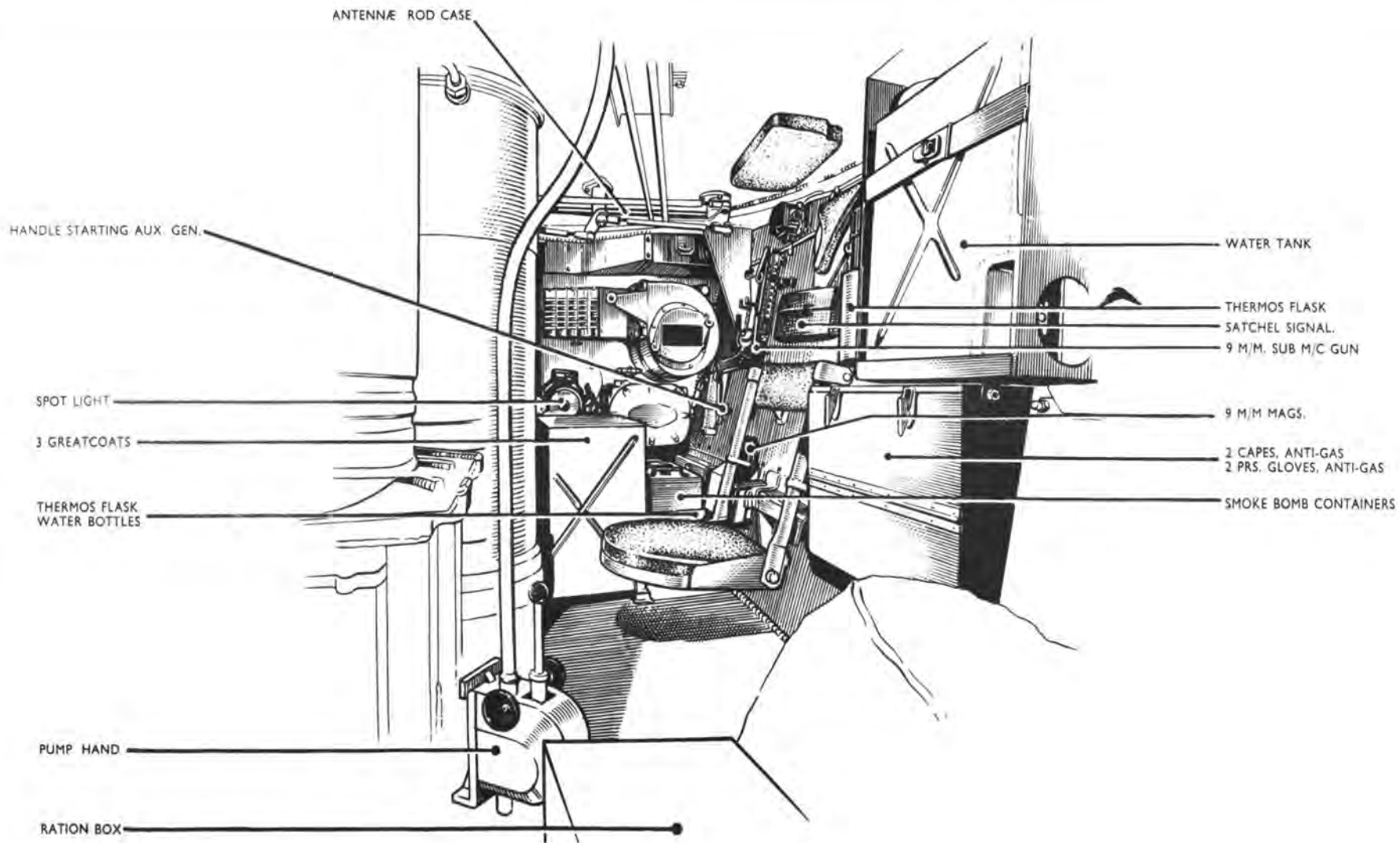
256. As the fire extinguisher system is for emergency use, it must be efficient at all times. To ensure this the following checks must be made:-

- (1) Check that the shear wire on the face of each cylinder head is intact; if not report.
- (2) Check that the safety locking screw has been removed and that the safety spring is in position on the striker lever, (para 251).
- (3) Clear away any foreign matter from the spray nozzles.
- (4) Check that the leak indicator tell-tale spindle is not protruding past the end of the indicator. If the spindle is protruding, the cylinder must be replaced as soon as possible.

Warning: Great care must be taken in handling the cylinder. Cylinders must never be dropped, struck, handled roughly or exposed to heat.

(Amdt.1)

135



CENTURION ARK (F.V. 4016)
STOWAGE SKETCH
INTERIOR L.H. OF CREW COMPT.

| | |
|-----------|----------|
| 6 SHEETS. | SHEET 4. |
|-----------|----------|

F.V. 587600