

## Chapter 1

# LIFE JACKET LAMP, SEA-ACTIVATED, TYPE B

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### LEADING PARTICULARS

<b>Life jacket lamp, sea-activated, Type B</b> .. .. .	<b>Ref. No. 5A/4216</b>
<i>Incorporating—</i>	
<i>Lamp housing, cable and plug assembly</i> .. .. .	<i>Ref. No. 5A/4930</i>
<i>Weight of lamp housing, cable and plug assembly</i> .. .. .	30 grams
<i>Weight of battery</i> .. .. .	75 grams
<i>Size of battery case</i> .. .. .	4 $\frac{3}{8}$ in. × 1 $\frac{1}{4}$ in. × $\frac{7}{8}$ in.

#### Introduction

1. The Type B lamp is smaller than the Type A lamp described in Chap. 3 of this section, and is intended for use in life jackets such as the Mk. 4, where there is no room for the larger lamp. Its function is to indicate, for the duration of one or part of two nights, the position of the wearer of the life jacket when floating in water.

#### DESCRIPTION

2. The lamp (*fig. 1*) comprises a water tight lamp housing connected by a 49 in. length of twin P.V.C. covered flexible cable to a water-activated battery. The connection between the lamp and the battery may be broken by removing the 2-pole plug, which terminates the lead from the lamp, from the socket in the top end of the battery.

3. The battery is a conventional two-cell water type, as described in A.P.4343, Vol. 1, Sect. 3, activated by the introduction of fresh or salt water which acts as the electrolyte. Each cell comprises two plates of magnesium and one of silver chloride. The two cells are separated within the case by a polythene partition and are connected in series. The life of the battery with a 3V, 0.5W lamp load is nominally ten hours at full brilliance, but an extra two to three hours of life at a reducing brilliance level may be expected. The life is similar for interrupted use within a period of about 36 hours from initial immersion, but after this the battery will deteriorate.

4. The lamp housing comprises a filament lamp in a watertight, transparent plastic

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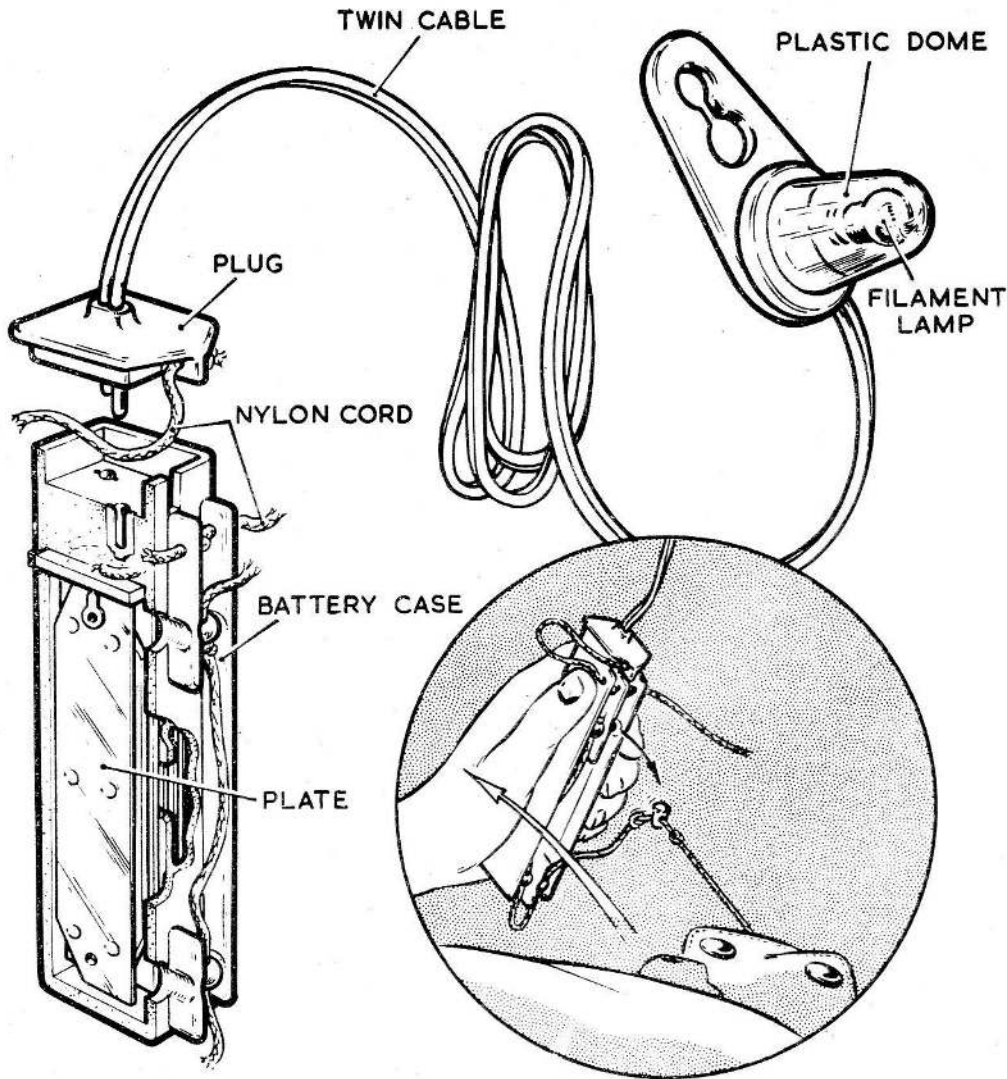


Fig. 1. Part section view, with inset showing removal of studs

dome which is secured to a polythene tab. This tab incorporates a double hole which permits the lamp to be secured to a button on the life jacket.

5. A nylon cord is threaded through four studs, which form part of the battery case moulding, and knotted in a metal eyelet in the pocket of the life jacket. The length of cord between the pocket and the battery case is  $3\frac{1}{2}$  in. and this length is sufficient to permit the battery to be withdrawn from the pocket prior to tearing out the studs (*para. 7*). A second cord, 54 in. long, is knotted through

the same eyelet in the pocket and through a hole in the battery case moulding to act as a retaining lanyard. A short extension of the same cord retains the plug close to the battery when the plug is removed.

#### Packing in the pocket

6. The battery is packed in the pocket with the stud side forward. The retaining lanyard is looped across the bottom of the battery so that when the battery is removed no snagging occurs. The cable is packed down the side of

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the pocket between the battery and the pocket wall, and the lamp assembly sits on top of its cable with its flat surface facing outwards.

#### Instructions for use

7. The following instructions are typical but not particular to any one life jacket, and the reader is referred to A.P.1182E, Vol. 1, where instructions are given for each life jacket. The procedure is as follows:—

- (1) Open the pocket.
- (2) Withdraw the lamp housing and its cable.
- (3) Remove the battery (this is facilitated by pushing it up from the bottom of the pocket).
- (4) Holding the battery in the left hand and the lamp in the right hand, tear out the four studs by tugging the battery away from the life jacket.
- (5) Drop the battery in the water.
- (6) Attach the lamp to the button provided on the life jacket.

8. When the user requires to conserve the battery, he should remove the plug by pulling on the lamp cable, which is strong enough to take the pull without parting from the plug. The battery may be left in the water as there is nothing to be gained by removing it.

#### SERVICING

9. At prescribed servicing periods the life jacket lamp should be subjected to the following tests:—

- (1) Inspect the lamp housing visually to ensure that no moisture has entered the dome.
- (2) Inspect the battery visually to ensure that it has not been activated. This state is indicated by traces of white powder formation around the edges of the plates.
- (3) Inspect the cords, cable, lamp housing and battery for outward signs of damage.
- (4) Remove the plug from the battery, connect a high resistance voltmeter across the sockets and ensure that there is no potential difference across them. If there is, it is an indication that moisture has entered and the battery must be scrapped.
- (5) Connect a 3-volt battery to the plug pins and ensure that the lamp lights. If it does not, or lights only dimly, the lamp housing, cable and plug assembly must be scrapped. No attempt should be made to replace the filament lamp, which is sealed in its housing.

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