

Epsilon - Electric Fuel Ltd.**SP 102926**

Rev: 0

Date: 04/08/2011

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The conditions and tests for TSO approval of this article are minimum performance standards. Those installing this article, on or in a specific Type or class of aircraft, must determine that the aircraft installation conditions are within the TSO standards. TSO articles must have separate approval for installation in an aircraft. The article may be installed only according to 14 CFR part 43 or the applicable airworthiness requirements.

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1. Purpose

This Manual is intended to provide descriptive information of the Survivor Locator Light WAB-H18-FR, information for its maintenance and overhaul, instruction concerning the proper mounting of the light on the life vests or life rafts to ensure continued compliance with prescribed minimum performance standards and pertinent operating instructions and limitations for the device.

2. Description of Device

The Survivor Locator Light WAB-H18-FR consists of a water-activated battery and a light assembly, connected by an electrical wire.

The battery consists of a cuprous chloride cathode flanked by magnesium alloy anodes in an injection-molded plastic case. The case contains two holes, one on the bottom and one on the side near the top. The holes allow water to enter the cavities between the cathode and flanking anodes and act as an electrolyte.

The holes are covered with a water-soluble film which protect the battery from the introduction of moisture or humidity, which allows automatic activation when the battery is immersed in fresh water or seawater.

The light assembly consists of a lamp mounted in a plastic bulb holder and covered by a clear plastic lens.

The WAB-H18-FR is constructed from materials that comply with the flammability requirements stated in Appendix 1a and 1b of TSO-C85B.

3. Operating Instructions

The battery of the WAB-H18-FR is activated automatically after immersion of the battery in fresh water or seawater, and the light will illuminate automatically, it will reach the minimum required light output within 5 minutes in saltwater, or 10 minutes in fresh water as required by TSO-C85B.

4. Maintenance and Overhaul Information

1. No maintenance is required.
2. Periodic overhaul is not required. Overhaul at end of life is not possible. Defective or passivated units must be returned to the manufacturer or otherwise disposed of.
3. Inspection of light assembly
 - a) Lamp Electrical Test:
 - i) Pierce the electric wire with two pins connected to a 1.5 VDC power supply. A zinc alkaline battery may be used in place of the power supply.
 - ii) Check that the lamp lights up. An inoperative light should be rejected and the light assembly replaced.
 - b) Battery test:
 - i) Replace light assembly if the battery thickness exceeds 0.60" at any point in the area of the markings.

5. Instructions for Mounting on Life Vests

1. NOTE: If the battery is supplied with plugs which will be used once the battery is installed, they must be installed and rigged in such a way as to be automatically removed from the battery upon removal of the host equipment from its primary packaging or upon inflation of the buoyancy chambers.
2. The recommended method for mounting the WAB-H18-FR on life vests is (see [DW102928](#) attached):
 - a) Attach light assembly to vest at the fabric attachment point ring provided on vest, by first inserting lens through fabric attachment point ring and then pushing upper ring on plastic bulb holder through fabric attachment ring.
 - b) Attach battery firmly to vest harness by wrapping around several times with adhesive strip or other attachment means recommended by vest manufacturer. The battery must be positioned so as to be totally immersed in water.
3. An alternative method for mounting the WAB-H18-FR on life vests is:
 - a) Sew light assembly to vest light attachment point, attaching at any four of eight holes provided in lower ring of plastic bulb holder.
 - b) Continue as 5.1.b.

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6. Instructions for Mounting on Life Rafts

1. NOTE: If the battery is supplied with plugs which will be used once the battery is installed, they must be installed and rigged in such a way as to be automatically removed from the battery upon removal of the host equipment from its primary packaging or upon inflation of the buoyancy chambers.
2. The recommended method for mounting the WAB-H18-FR on life rafts is (see [DW102928](#) attached):
 - a) Insert light assembly in raft light holder.
 - b) Insert battery in battery holder opposite the light holder. The battery must be positioned so as to be totally immersed in water.
3. Other means provided by raft manufacturer.

7. Storage Instructions

1. Lights, whether in containers, cartons or other, should be kept in an environment with a minimum of humidity. Humidity below 40% and moderate temperatures below 30°C are recommended.
2. Containers/Cartons should not be stored directly on a floor or anywhere else where there is a concern that they might get wet.
3. Lights should be kept in the original packing cartons until needed.
4. When supplied with plugs, plugs should remain attached to batteries at all times.

8. Limitations of the Device

1. The device is designed to provide light intensity of at least one (1.0) candlepower (cd) in all of the directions required by TSO-C85b, for a minimum of eight (8) hours after activation.
2. Once activated by immersion in water or any other conductive liquid, even if subsequently removed and dried, the device should not be used again as a safety appliance under TSO-C85b or equivalent.
3. The device is considered usable as a safety appliance under TSO-C85B as long as the battery does not show signs of swelling and the light bulb is operative.