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Report on Inspections of
Jotron 40S 406 MHz EPIRB
Labelling and activation controls

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Issue	Date	Details of Change
1.0	May 2000	First issue

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1. Introduction

1.1. The Jotron Tron 40S EPIRB was assessed in early 1999 by the US Coastguard and certain observations were made about the labelling and activation mechanism. Letter from Mr B Markle of the USCG dated 22 February 1999 refers.

1.2. This report details the changes that Jotron Electronics AS, have made to improve the activation and comply with the observations of the USCG.

2. Equipment under Inspection

2.1. Jotron Ltd supplied the following items on 16 Dec 99 for the duration of type testing at the DERA Fraser Test Laboratory. This inspection and the photographs contained in Annex A were taken in April 2000 once the beacon had completed testing.

ITEM	Type	ID Number
406 MHz EPIRB	TRON 40S	9KP05404
Foat free bracket	FB4	4507

3. Configuration of the EPIRB sample

3.1. The beacon was built to production standards.

4. Form of activation

4.1. Since EPIRB Beacons are capable of accessing global emergency services and will trigger search and rescue activities in the location reported, they are required to be equipped with a form of activation that minimises the likelihood of false alarms.

4.2. In the opinion of the USCG the original form of activation did not constitute the "two independent actions" required by IMO Resolutions. Jotron Electronics AS, have revised the activation mechanism and the new form of activation is as described below. Photographs were taken at each stage of the activation to illustrate the procedure, these can be found adjacent to the referenced text.

4.3. EPIRB activation can take two forms, Manual and automatic. Manual activation should be designed to minimise the chance of false alarms and is Required by IMO to involve two deliberate actions by the user. Automatic activation should detect the presence of water when the EPIRB is floating free of the mounting bracket

4.4. The standard condition for the Tron 40S EPIRB beacon mounted in the FB4 float-free bracket are:-

a) manual switch set in "ready" position, split pin inserted through switch to prevent any movement towards the "on" position, wire seal threaded though split pin and adjacent lugs to show non activated.

b) automatic, reed switch inside the EPIRB held "off" by a magnet located in the FB4 bracket to inhibit the sea water terminals from reacting to green sea or other conditions of water spash.

Photograph 1, shows switch in initial condition.

4.5. The first stage of activation is to break the wire seal, this can be done by twisting and pulling on the wire/orange seal. The split pin is then pulled up by the chain and removed from its hole the pin will stay attached via the chain.

Photograph 2, first stage activation completed, note lever does not move.

4.6. The major component redesigned by Jotron Electronics to improve the switch action is the orange, lever slide. This now has a spring section to the left hand side of the lever which latches against the black housing and stops the lever from moving into the "on" position.

Photograph 3, shows lever slide, sprung section latched against black housing.

4.7. Pressure on the spring section (marked "Push") will allow the lever to move into the "on" position.

Photograph 4, shows thumb applying pressure to lever slide.

4.8. The lever is spring loaded and once un-latched will automatically move to the "on" position.

Photograph 5, shows lever slide in the "on" position.

4.9. The lever is also used to access the test facility and at any time may be moved into the test position, even if the split pin is still inserted. It has to be held in the "test" against a spring loading that will return it to the "ready" position when released.

Photograph 6, shows lever slide in the "test" position.

5. Conclusions

5.1. The activation mechanism of the Tron 40S EPIRB has been inspected as detailed in this report and is considered to meet the requirements of the IMO Resolutions A812(19), appropriate parts of A814(19) and RTCM Paper 4-97/SC110-STD Clause 2.3.1.2.

5.2. In this respect the Jotron 40S EPIRB controls are recommended for acceptance in the type approval process.

6. Distribution List

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