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UTS100 Ultrasonic ULB TESTER Operational Manual

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1. Introduction:

This section provides description of UTS100 Ultrasonic ULB (Underwater Locator Beacon) Tester, operational instructions, maintenance, equivalency and warranty information.

Glossary terms:

- PWR : Power
- VOL: Volume
- ULB : Underwater Beacon Locator

About the UTS100 ULB Tester

The ULB tester is a hand-held device developed using a PCB board to detect ultrasonic frequencies between 20 KHZ and 100 KHZ. ULB tester has 1 volume knob and 1 gain knob for tuning into the ULB that will be tested. The test set includes a self-contained box with a loudspeaker, ultrasonic microphone and a 9-volt battery. The ULB tester can be utilized to perform functional checks while ULB beacon is still installed in the aircraft.

2. Operation of ULB tester:

- A. Take 9VDC battery out and check voltage with a calibrated voltage meter prior to use. A full capacity battery is recommended to perform the test correctly. If the battery voltage is below 8.0 VDC, replace the battery with a new unit. A log should be kept with the unit of battery voltage checks and pretest functional checks. Turn PWR / VOL knob clockwise to about the mid position. Turn gain control about 1/3 counterclockwise to start. If there is excessive feedback turn the volume and gain down slightly. This is normal depending on what electrical environment you are currently surrounded by. Check for audible noise coming from the speaker by rubbing 2 fingers together in front of the Microphone. A rubbing noise should be heard coming from the loudspeaker. This is the ultrasonic frequency being detected from the friction between fingers. Once the device has produced audible noise from above pre-test proceed to testing the ULB requiring functional check for transmission output.
- B. Refer to your Underwater Beacon Locators component maintenance manual or aircraft maintenance manual for actuation and functional test requirements. To actuate underwater beacon, immerse the unit in water or short the center silver pin to the case of the ULB. Shorting the device is the preferred method if the ULB is installed in the aircraft. Point the ULB tester at the ULB installed in the aircraft. Once the unit is shorted there should be an audible pulsing sound from the loudspeaker of the ULB tester. Adjust the gain control / volume as required to produce the best tone suited for the technician. Once the technician is satisfied with the test results turn VOL/PWR counterclockwise to off position. Turn gain control counterclockwise to off position.

3. Maintenance

- A. Insure the 9-volt battery is at capacity prior to use. Replace with a new battery when the load voltage is dropped below 8 Volts. It is recommended to replace the battery every 6 months or after 30 hours of usage depending on the type and manufacturer of the. To replace the battery, remove rear battery access door and replace the battery. The Test set can hold an extra spare battery.
- B. Contact ULBTEq for functional test and recalibration of the UTS100 ULB test set.
- C. Equivalency of this box is up to the end user to determine. The ULB Tester PCB board receives the same frequency as the Original Manufactures Model 42A12 test equipment and operates in the same manner for the test procedure. There are no adjustments to the box for calibration purposes. All values on the PC board are set values. Typical beacons to test ARE DK100, DK120, Dk130, Dk140 or any underwater beacon that transmits on 37KHZ frequency.



4. Warranty

ULBTEq hereby warrants that the US100 ULB Test Set (referred to as the unit) shall be devoid of defects in materials and workmanship when utilized under standard operating conditions, as determined exclusively by ULBTEq, for a duration of one (1) year commencing from the date of shipment from ULBTEq Corporation.

As the exclusive recourse for any breach of the aforementioned warranty, ULBTEq shall, at its option, undertake the repair or replacement of any unit, component, or part thereof found to be defective or nonconforming during the specified one (1) year period from the date of shipment. The customer is required to provide ULBTEq with notice of any such defect or nonconformity and, if directed by ULBTEq Corporation, shall be responsible for the shipment of the unit, component, or part at its own expense and after receipt of the Return Material Authorization (RMA).

Upon verification of the actual defect or nonconformity by ULBTEq, the Company shall, at its expense, repair and dispatch the repaired unit (or a new or rebuilt unit) to the customer. It shall be the customer's responsibility to conduct any necessary installation work related to the defective or nonworking unit, component, or part at its own expense.

The functionality and operational performance of the unit is contingent upon its adherence to the specified standards and is reliant on the customer's diligent adherence to the required maintenance tasks.

ULBTEq shall not be held liable for any expenses or damages resulting from interruptions in the unit's operation.

Any repairs carried out by the customer or any third party without the prior written authorization of ULBTEq shall not be the responsibility of ULBTEq, and the company shall not bear the cost of such repairs.

ULBTEq shall not be held liable for any incidental, special, consequential, or exemplary damages arising from the installation, use, testing, servicing, or maintenance of any unit, component, or part. This warranty supersedes all other warranties, whether expressed or implied, including but not limited to the warranties of merchantability or fitness for a particular purpose.

The total liability of ULBTEq under this warranty shall be limited to the remanufacture or replacement of the unit, component, or part as stated above.



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