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LOYAL JET ULB TESTER V1.0 Operational Manual

Revision A Dated 04/26/2023 DOC#032514-1

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1. Introduction:

This section provides description of ULB (under water locator beacon) tester, Operational instructions, maintenance and warranty information / equivalency instructions.

Description of ULB tester:

The ULB tester is a hand-held device developed using a PCB board to detect ultra sonic 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 PCB board, Loud speaker, ultra sonic 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. The ULB tester is equivalent to Manufactures required test equipment.

2. Operation of ULB tester:

1. A. Take 9v battery out and check voltage prior to use. A full capacity battery is required to perform the test correctly. Turn PWR / VOL knob clock wise to about the mid position. Turn gain control about 1/3 counter clock wise to start. Check for auditable noise coming from the speaker by rubbing 2 fingers together in front of the Microphone. A rubbing noise should be heard coming from the loud speaker. This is the ultrasonic frequency being detected from the friction between fingers. Once the device has produced auditable noise from above pre-test proceed to testing the ULB requiring functional check for transmission output.

B. Testing beacon refer to your ULB beacons Component maintenance manual actuation / functional test requirements. To actuator under water beacon immerse unit in water or Short the center silver pin to the case of the ULB. Shorting the device is the preferred method installed in the aircraft. Point the ULB tester at the ULB installed in the aircraft. Once the unit is shorted there should be an auditable pulsing sound from the loud speaker 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 test results turn Vol/PWR knob counter clockwise to off position. Turn gain control counter clockwise to off position.

3. Required Maintenance / Functional check of ULB tester/Equivalency

A. Required maintenance for the ULB **tester** is to insure the 9-volt battery is at full capacity prior use or replace battery with new 9-volt battery. Recommended to replace battery every 6 months depending on usage. To replace battery, remove rear battery access door and replace battery. Functional check of ULB tester is included in the document as part of the operational check of ULB in aircraft. Currently there are no required calibration or abilities to calibrate the ULB tester. IF the user feels the ULB tester is not

functioning correctly.. Each ULB tester is checked after assembled with a digital spectrogram to insure it receives signals at the proper frequency ranges. 20 KHZ to 100 KHZ.

B. Equivalency of this box is up to the end user to determine. The ULB Tester PCB board receives the same frequency as the Original Dukane 42A12. There are no adjustments to the box for calibration purposes. All values on the PC board are set values. On request wiring diagrams and additional values can be provided to user. If the user feels the box needs to be functional checked with the digital spectrogram meter. The ULB Tester can be sent in at customers cost for shipping to be tested. Testing will be at no charge unless a repair is required.



4. Warranty / Liabilities

A. Loyal Jet will warranty test box from any manufacturing defects for a period 1 year from shipment date. Includes workmen ship and defects under normal operation procedures from above document.

Loyal Jet within the 1-year warranty will repair or replace a defective unit. The customer will need contact Loyal Jet and shipping cost will be the responsibility of the customer. Once the unit is evaluated and if found defective. A refund for shipping cost will be sent with a new or repaired box.

Cost for repair after 1 year warranty should not exceed \$50 USD depending on parts pricing increases.

Loyal Jet will not be liable for any expense or damages resulting from interruptions in the operation of the unit.

Loyal Jet will not be liable for any incidental, special consequential or exemplary damages arising out of the installation, use, testing, servicing or maintenance of any unit, component or part. Loyal Jet's total liability under this warranty is limited to the remanufacture or replacement of the unit, component or part.