BLUE90

# The new TSO-C121b. Or simply: Blue 90.

# EASA issued Opinion No.1 in 2014 requiring all aircraft to switch to 90 day beacons meeting FAA's TSO-C121b as of January 1, 2018

**Two years and millions of dollars**

► Air France Flight #447 crashed on June 1, 2009 over the Mid-Atlantic in very deep water. Debris was found within days but the black boxes could not be found within the 30 days battery life of the underwater locater beacons (ULB's). It took 2 years to find the black boxes due to the difficult terrain and extreme depth.

**90 days instead of 30 days**

► BEA (Bureau d'Enquêtes et d'Analyses) immediately initiated a drive to extend as rapidly as possible the regulatory transmission time for ULB's installed on flight recorders on aircraft performing public transport flights over maritime areas to 90 days.

**A new TSO with the FAA**

► As a result, a committee of aviation and ULB experts was formed under the umbrella of ARINC. They created the SAE AS8045A as a baseline for a new TSO (Technical Standard Order) which the FAA released in 2012 under TSO-C121b.

**Novega in accordance with TSO-C142a**

► The new TSO- C121b is effective March 1, 2015 and requires all new ULB's manufactured as of that date have a 90 days battery life and meet the TSO's technical and testing requirements. The testing requirement also requires batteries to be tested in accordance with TSO-C142a.

**New minimum performance standard**

► TSO-C121b further stipulates that previous TSO's for 30 day beacons (TSO- C121 and C121a) will automatically be withdrawn, effective Feb. 28, 2015.

**Experts against the old TSO**

► After consulting with a number of experts, we interpret this to mean that no Airworthiness tags can be issued against the old TSO's after February 28, 2015.

**2018 all aircraft switch to a beacon with an operating life of 90 days**

► EASA issued Opinion No. 1 in 2014 requiring all aircraft in CAT to switch to 90 day beacons meeting TSO-C121b as of January 1, 2018.

**Make your own determination**

► We suggest that you review this independently in order to make your own determination as to any effects of this new regulation.

# The answer to TSO-C121b: Blue90.


**The 90 days underwater locating device**


- Please note: Following the new FAA-EASA TIP Rev 5, duly signed September 15, 2015, we are allowed to export our equipment without the need for a LODA against FAA TSO – when ETSOA is granted.
- ETSO-C121b
- ETSO-C142a
- SAE AS8045A
- Patent pending



# Minimum performance standards:

## Dimensions installation/overall

**Installation length**
3.845 inches (97.7 mm)
**Overall length**
3.920 inches (99.6 mm)
**Diameter**
1.300 inches (33 mm)
**Weight**
6.7 ounces (190g)

## Operating Details

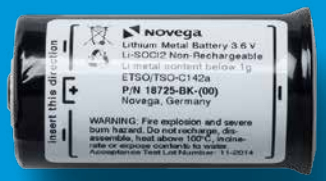
**Actuation**
Automatically by both, fresh and salt water, at all depths from 0.15 m (0.5 ft) to 6096 m (20000 ft) within 4 hours after immersion
**Operating Depth**
Surface to 6096 m (20000 ft)
**Operating Temperature**
–2°C (28°F) to +38°C (100°F)
**Radiation Pattern**
80 % of a spherical pattern
**Operating Frequency**
37.5 ± 1 kHz
**Pulse Length**
9.0 ms minimum
**Repetition Rate**
0.9 pulse/s minimum
**Operating Life**
90 days

## Acoustic Outputs on Activation

**Initial Operation**
106 N/m2
(1060 dyne/cm2) r.m.s.
(during the pulse)
pressure normalized
to 1 metre range,
that is, at a level of
160.5 dB vs 1 µPa at 1 metre

**Immediately after 90 days continuous operation**
70 N/m2 (700 dyne/cm²)
r.m.s. (during the pulse)
pressure normalized
at 1 metre range,
that is, at a level of
157 dB vs 1 µPa at 1 metre

# Full ETSO-C142a approval: Lithium content less than 1 gram.





**The Blue 90 Power Source**

A self-contained, lithium metal battery. Field replaceable and non-restricted for transport! (UN3091/PI970)

**Please note:**

► Following the new FAA-EASA TIP Rev 5, duly signed September 15, 2015, we are allowed to export our equipment without the need for a LODA against FAA TSO – when ETSOA is granted.



# Keep your Blue90 running. Quick and safe.


4


1


2

3

5

## The Blue 90 Periphery

1 **Pressure Dispense Clamp**
Facilitates opening of the ULB

2 **Torque 3.0**
3 Nm torque wrench for a safe opening and closing of the ULB

3 **Battery Replacement Kit**
Battery plus greased O-Ring for Blue90

4 **TAG 2550 Beacon Tester**
For acoustic test of the ULB

5 **DC-Meter**
Facilitates the measurement of sleep mode current during battery replacement

6 **Tunnel mount bracket**
1:1 replaceable with existing designs

7 **Top mount bracket**
Where top installation/removal is required


6


7

BLUE90

# Locate the difference

Novega
Produktionssysteme GmbH
Gewerbepark 2
87477 Sulzberg (See)
Germany
Tel +49/8376/92990-0
Fax +49/8376/92990-20
info@novega.de
www.novega-sky.com



Concept & Design: Mader-Design.com
Photography: Hermann Rupp,
Fotolia (Nosonjai, Hennie Kissling,
Dudarev Mikhail)