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**FAA-APPROVED
AIRPLANE FLIGHT MANUAL SUPPLEMENT
for the
uAvionix tailBeacon
as installed on**

Airplane Make and Model per AML

Registration Number: _____

Serial Number: _____

This supplement must be attached to the FAA-approved Airplane Flight Manual when the tailBeacon is installed in accordance with Approved Model List Supplemental Type Certificate SA04427CH.

The information contained herein supplements the basic manual only in those areas listed. For limitations, procedures, performance and loading information not contained in this supplement, consult the FAA-approved Airplane Flight Manual, markings, or placards.

FAA Approved By: _____ for

Manager, Southwest Flight Test Section, AIR-713
Federal Aviation Administration
Ft. Worth, TX

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Log of Revisions

Revision No.	Pages Affected	Description	FAA Approved	Date
A	All	Initial release		9/12/2019

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1 GENERAL

1.1 tailBeacon

tailBeacon is a tail mounted unit that contains a 978 MHz transmitter, powerline transponder monitor, GPS/SBAS receiver, and LED rear navigation light. This device transmits ownership Automatic Dependent Surveillance-Broadcast (ADS-B) data through the UAT data link.

tailBeacon performs the following functions:

- Position determination
 - An internal GPS/SBAS receiver allows the unit to function as its own position source.
- Transmission of ADS-B Out data on 978MHz UAT
 - Integration of data from internal and external sources to transmit data in compliance with 14 CFR 91.227.
- Transponder monitoring
 - The integrated Power Transcoder ensures proper synchronization of data elements between Secondary Surveillance Radar (SSR) replies and ADS-B transmissions. These elements include Mode A squawk code, Mode C altitude, and IDENT status. In remote areas where you may not be interrogated by Secondary Surveillance Radar, aircraft Mode A squawk code may be broadcast as unavailable.
- Altitude encoder with Continuous Calibration™
 - The integrated altitude encoder provides pressure altitude information and is continuously adjusted for correspondence with the transponder's altitude encoder.
- "Anonymous" mode
 - "Anonymous" mode transmits a temporary randomized address instead of the aircraft's FAA assigned ICAO address, and "VFR" instead of the aircraft's call sign. When this option is configured during installation, it may be enabled by selecting a squawk code of 1200 on the installed transponder. The temporary address and

Call Sign are disabled if the operator selects a non-1200 squawk code on the transponder.

- When enabled, and after January 1, 2020, the operator will be unable to operate on an IFR flight plan, unable to receive IFR or VFR separation services, and may experience other effects such as potential loss of enhanced search and rescue benefits.
- Annunciator LED
 - A red annunciator LED is visible beneath the lens cover on the device, indicating the operating status of the tailBeacon. This indicator is not visible in flight and is advisory in nature only.

Red LED	Status	Meaning
On (Steady)	Failed	Internal self-test failure, Invalid ICAO configured
Blinking On/Off (each second)	Failed	No GPS fix, ADS-B broadcast failure
Off	Normal	No Failure **

- NOTE: ** It is possible that the OFF indication could be a rare failure of the LED annunciator. To confirm proper LED operation, illumination may be observed immediately after navigation lights being powered on.
- White rear position light
 - A TSO-C30c Type III (white) LED position/navigation light replaces or supplements existing lighting.

1.2 Required Equipment

The tailBeacon must have the following system interfaced equipment fully functional to be compliant with the requirements for 14 CFR 91.227 ADS-B Out operations:

Interfaced Equipment	Number Installed	Number Required
Mode A/C or Mode S Transponder	1	1

In remote areas where you may not be interrogated by Secondary Surveillance Radar, aircraft Mode A squawk code may be broadcast as unavailable.

1.3 Capabilities

The tailBeacon as installed on this aircraft has been shown to meet the equipment performance requirements of 14 CFR 91.227, when operating in accordance with this supplement.

2 LIMITATIONS

2.1 Navigation Lights

The navigation lights must remain on at all times that ADS-B Out operation is required. The following placard should be installed:

NAVIGATION LIGHTS MUST REMAIN ON FOR ADS-B OUT

2.2 Maximum ADS-B Operating Altitude

In accordance with 14 CFR 91.225, operation of tailBeacon ADS-B Out UAT on 978 MHz is prohibited at altitudes of 18,000 feet MSL and above.

2.3 Anonymous Mode Operation

Anonymous Mode must not be enabled when tailBeacon is installed on an aircraft with a Mode S transponder. Doing so will present an ICAO code mismatch to ATC.

After power on, the tailBeacon Annunciator LED may illuminate momentary as the unit begins to receive input from external systems, including the GPS/SBAS position source.

The configured Mode A/C transponder must be set to ALT and the tailBeacon Annunciator LED must be **EXTINGUISHED** for the system to meet the requirements specified in 14 CFR 91.227. This system must be operational in certain airspaces after January 1, 2020 as specified by 14 CFR 91.225.

5.2 Call Sign

The configured aircraft call sign may be adjusted on the ground using the “uAvionix skyBeacon Installer” app. It may not be adjusted in flight. If an aircraft will use identification other than an N-number for a given flight (as referred to by ATC or in flight plans), the configured call sign must be adjusted. Example applications are commercial, medical, or volunteer flight operations.

Within five minutes of tailBeacon being powered on, connect to the device with the app. Adjust the Call Sign field but not the ICAO Number. When changing the Call Sign ensure no other installation parameters are adjusted. The configured Call Sign persists through power cycles.

If necessary after the flight, cycle power to the device, connect with the app, and adjust the Call Sign field to back to the appropriate (N-number) value.

For more information on using the app, see the “tailBeacon TSO User and Installation Guide”.

5.3 tailBeacon Unit Power Off

The tailBeacon should remain powered during flight and when in airport movement areas. The unit should be powered off immediately prior to stopping the engine, or may be powered off upon exiting the airport movement area.

Navigation Lights **OFF**

6 PERFORMANCE

No change.

7 WEIGHT AND BALANCE

No change.

8 RELATED DOCUMENTATION

The uAvionix tailBeacon documents, part numbers, and revisions listed below contain additional information regarding tailBeacon system description and function.

Part Number	Revision	Title
UAV-1002185-001	B (or subsequent)	tailBeacon TSO User and Installation Guide
UAV-1002514-001	B (or subsequent)	tailBeacon STC Installation Manual
UAV-1002513-001	A (or subsequent)	tailBeacon STC Instructions for Continued Airworthiness and Maintenance Manual