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FAA-APPROVED

AIRPLANE FLIGHT MANUAL SUPPLEMENT

for the

uAvionix tailBeaconX

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 tailBeaconX is installed in accordance with Approved Model List Supplemental Type Certificate SA04568CH.

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: Charles Wilcox for Monica Merritt,

Manager, Southwest Flight Test Section, AIR-713
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Fort Worth, TX

Charles Melvin Wilcox Jr
Digitally signed by Charles Melvin Wilcox Jr
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Log of Revisions

Revision No.	Pages Affected	Description	FAA Approved	Date
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1 GENERAL

1.1 tailBeaconX

tailBeaconX is a tail mounted unit that contains a Mode S transponder with extended squitter, GPS/SBAS receiver, Wi-Fi, and LED rear navigation light. This device transmits ownship Automatic Dependent Surveillance-Broadcast (ADS-B) and Mode-S data through a 1090 MHz data link.

tailBeaconX performs the following functions:

- Position determination
  - An internal TSO-C145e GPS/SBAS receiver allows the unit to function as its own position source.
  - Pressure altitude used in position reporting is received from the AV-30-C control head.
- Transmission of ADS-B Out data on 1090 MHz (TSO-C166b)
  - Integrated data from internal and external sources is transmitted for compliance with 14 CFR 91.227.
- Transmission of Mode A/C/S transponder replies on 1090 MHz (TSO-C112e)
  - tailBeaconX is a Class 1 Level 2els transponder.
- Failure Annunciations
  - tailBeaconX annunciates failures. Refer to AV-30-C FMS for displayed failure annunciations.
- White rear position light (TSO-C30c)
  - A TSO-C30c Type III (white) LED position/navigation light replaces or supplements existing lighting.
- 802.11 Wi-Fi
  - Used for configurating tailBeaconX. Wi-Fi is available only in Standby mode.

1.2 Capabilities

The tailBeaconX 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.

1.3 Installation Configuration

This aircraft is equipped with a tailBeaconX with the following installation configuration:

Power Circuit

Depending on the installation method, tailBeaconX may be installed on the existing navigation light circuit, or on a dedicated breaker and/or switch. That method must be considered when taking the actions noted in procedures below.

☐ Existing Navigation Light Circuit ☐ Dedicated Circuit

2 LIMITATIONS

2.1 Required Equipment

AV-30-C must be installed and operational for full tailBeaconX functionality and to be compliant with the requirements for 14 CFR 91.227 ADS-B Out operations:

Interfaced Equipment	Number Installed	Number Required
AV-30-C (Static Pressure Source)	1	1

2.2 Navigation Lights

If the tailBeaconX is installed on the existing navigation light circuit, as noted in Section 1.3, then the navigation lights must remain on whenever ADS-B Out operation is required. In that case, the following placard should be installed:

NAVIGATION LIGHTS MUST REMAIN ON FOR ADS-B OUT

If installed on a dedicated power circuit, tailBeaconX must remain on whenever ADS-B Out operation or aircraft lighting are required.

2.3 Altitude

tailBeaconX is not approved for use above 18,000 ft. Flight above 18,000 ft must use another transponder/ADS-B Out source.

3 EMERGENCY PROCEDURES

No Change.

4 ABNORMAL PROCEDURES

4.1 ADS-B Transmission Incomplete

When GPS position information is unavailable or the transmitter is experiencing a broadcast failure, the tailBeaconX will deliver a failure annunciation to the AV-30-C control head. tailBeaconX will continue attempting to transmit, but the ADS-B messages will be incomplete and non-compliant.

tailBeaconX Location . . . . . **ENSURE CLEAR VIEW OF SKY. NOTE INITIAL GPS FIX CAN TAKE UP TO 20 MINUTES**

4.2 Device Failure

When the device experiences a self-test failure or has not been properly configured, tailBeaconX will deliver a failure annunciation to the AV-30-C control head. Resolution may require a maintenance action, but the pilot may attempt cycling power once to clear the failure.

tailBeaconX . . . . . **CYCLE POWER ONCE**

4.3 Loss of Aircraft Electrical Power Generation

In the event of the electrical charging system becoming inoperative, attention must be paid to aircraft battery power. tailBeaconX uses minimal electric power, considerably less than a traditional incandescent navigation light, but the pilot should be familiar with electrical load-shedding methods and equipment requirements for various phases of flight. If an electrical emergency exists, the pilot should consider turning off the tailBeaconX to preserve operation of essential avionics.

Subject to aircraft equipment electrical load-shedding priorities,

tailBeaconX or Navigation Lights Circuit Breaker Position . . . . **CONSIDER**

4.4 tailBeaconX Unit Disable

Turning off the tailBeaconX disables the rear navigation light. 14 CFR 91.209 requires navigation lights to be turned on when on the surface and while in flight from sunset to sunrise. Consideration should be given to the consequences of disabling aircraft lighting. Depending on the installation configuration as noted in Section 1.3, tailBeaconX power may be disabled either by the existing navigation light or a dedicated power circuit.

tailBeaconX . . . . . **OFF**

5 NORMAL PROCEDURES

See AV-30-C FMS for detailed transponder control instructions.

Additional configuration and control may be provided through the "uAvionix skyBeacon Installer" app.

5.1 tailBeaconX Unit Power On

The tailBeaconX should be powered on after starting the engine and prior to entering an airport movement area. This is typically part of the TAXIING or BEFORE TAKEOFF procedure, or when avionics power is enabled. Depending on the installation, tailBeaconX power may be enabled either by the existing navigation light or a dedicated power circuit.

tailBeaconX . . . . . **ON**

AV-30-C Transponder Mode. . . . . .**ALT, Mode A Code set**

NOTE

In addition to in-flight use requirements, any time the aircraft is positioned on any portion of an airport movement area, AIM 4-1-20. a. 3. encourages pilots to operate with the transponder in the altitude reporting mode and with ADS-B Out enabled.

After power on, the tailBeaconX may deliver momentary failure annunciations as the unit performs self-test and begins to receive input from systems, including the GPS/SBAS position source.

tailBeaconX failure annunciations must be **EXTINGUISHED** for the system to meet the requirements specified in 14 CFR 91.227. This system must be operational in certain airspaces as specified by 14 CFR 91.225.

5.2 Call Sign / Flight ID

See AV-30-C FMS for instructions on adjusting Call Sign/Flight ID.

5.3 tailBeaconX Unit Power Off

The tailBeaconX 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. Depending on the installation configuration as noted in Section 1.3, tailBeaconX power may be disabled either by the existing navigation light or a dedicated power circuit.

tailBeaconX . . . . . **OFF**

6 PERFORMANCE

No change.

7 WEIGHT AND BALANCE

No change.

8 RELATED DOCUMENTATION

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

Part Number	Revision	Title
UAV-1004270-001	A (or subsequent)	tailBeaconX TSO User and Installation Guide
UAV-1003599-001	A (or subsequent)	tailBeaconX STC Installation Manual
UAV-1003600-001	B (or subsequent)	tailBeaconX STC Instructions for Continued Airworthiness and Maintenance Manual

UAV-1004044-001	C (or subsequent)	AV-30-C Flight Manual Supplement