

Avidyne Corporation
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**FAA Approved Airplane Flight Manual Supplement
For Airplanes listed in AML with
Avidyne AXP340 Transponder p/n 200-00247-XXX or
Avidyne AXP322 Transponder p/n 200-00269-XXX
in**

Make and Model Airplane

Registration No. _____

Serial No. _____

This supplement must be attached to the applicable FAA Approved Airplane Flight Manual when Avidyne 200-00247-XXX AXP340 or Avidyne AXP322 Remote Transponder p/n 200-00269-XXX Transponder is installed in accordance with STC SA00352BO. The information contained herein supplements or supersedes the basic manual only in those areas listed. For limitations and procedures not contained in this supplement consult the basic Airplane Flight Manual.

FAA Approved **WILLIAM P WITZIG** Digitally signed by
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LOG OF REVISIONS

<i>Revision Number</i>	<i>Revised Pages</i>	<i>Description of Revisions</i>	<i>FAA Approval</i>	<i>Date</i>
00	ALL	Initial Release	Robert Mann	APR 09 2015
01	1, 2, 3, 4, 5, 6, 7, 8, 11	Add AXP322	N Faust	Nov 30 2016
02	3	Remove flag note for 9.4 System	W Witzig	APR 19 2018

A vertical black line in the margin shows revised portions of affected pages.

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Section 1 – General

This airplane is equipped with an Avidyne 200-00247-XXX AXP340 Transponder or 200-00269-XXX AXP322 Remote Transponder with ADS-B out capability.

The installed ADS-B OUT system has been shown to meet the equipment requirements of 14 CFR 91.227.

1.2 Configuration

This aircraft is equipped with a

- AXP340 with ADS-B Out or
- AXP322 with ADS-B Out

with the following interfaces/features (check installed/configured equipment):

Position Source(s):

- Avidyne IFD5XX/4XX
- Avidyne Entegra Release 9 (9.3.1 or later)
- GNS 430W ¹
- GNS 530W ¹
- GPS 400W ¹
- GPS 500W ¹

Altitude Source

- Air data computer (ADC)
- Encoder Digital (serial)
- Encoder (Gray/Gillham code)

Ground sense

- Airspeed switch
- Weight on wheels switch
- From navigation source (Release 9 and IFD540 only)
- Auto-switch on Air Data GPS

Note 1: Compatible with AXP340 only

Section 2 – Limitations

1. The Avidyne AXP340 Mode S Transponder Pilot Guide, P/N 600-00302-000, or in the case of AXP322, Avidyne 600-00304-000 IFD440 FMS/GPS/NAV/COM Pilot Guide or 600-00300-001 IFD540 FMS/GPS/NAV/COM Pilot Guide, must be available to the pilot during all flight operations.
1. 91.227 Compliant ADS-B Out requires that the **transponder, GPS position source** and **altitude source** are operable and have been inspected in accordance with the ICA, manufacturer's data, or other approved maintenance data.

Section 3 – Emergency Procedures

Loss of GPS

AXP340

In the event of the loss of the GPS receiver, the AXP340 will display the message; **No ADSB Position**. Services or features reliant on ADS-B out will not be available. Operations requiring CFR14 91.217 compliant ADS-B Out are not permitted.

AXP322

In the event of the loss of GPS receiver the IFD5XX/IFD4XX will display the message; **No ADS-B Position**. Operations requiring CFR14 91.217 compliant ADS-B Out are not permitted.

Loss of Transponder

Loss of AXP340 or AXP322 transponder function should be communicated to ATC as appropriate for the operational requirements of the flight.

Messages

The Caution and Warning panel is not altered as part of this modification and remains the primary means of providing Caution and Warning messages for aircraft operations. Messages provided by the AXP340/AXP322 are supplemental advisory information to the pilot of the status or performance of the AXP340/AXP322.

AXP340 Alert messages are provided in the following table:

Message	Description	Recommended Action
Antenna Fault	The transponder has detected that there is a fault in the antenna cabling or antenna connection.	Have an approved Service Center check antenna cabling and connections.

Output Power Low	The transponder has detected that it transmitted at a lower power level than expected. This may be caused by a poor antenna connection in the transponder tray, or poor antenna cable connections, or a transponder hardware fault.	Have an approved Service Center check the connection at the transponder tray and transmitter cabling.
No ADSB Position	Valid ADS-B position data has not been received for either 180 seconds from system startup, or 2 seconds once GPS position data has been received by the transponder.	Have an approved Service Center check the GPS is operating correctly, including antenna position and cabling. Check the cabling between the GPS and the transponder.

AXP322 Alert messages displayed on IFD4XX/IFD5XX are provided in the following table:

IFD4XX/IFD5XX Message	Description	Recommended Action
No ADS-B Position	AXP322 Lost GPS Position Data	ADS-B position data had previously been valid and then transitions to invalid. Check the ADS-B position source device.
Xpdr Fault	AXP322 Transponder Fault	Any fault other than loss of ADS-B GPS position. Contact the Avidyne Service Center if this persists across power cycles.
No Comm With Xpdr	No Communication with Remote Transponder	No data has been received from the remote transponder for greater than 2 seconds. Contact the Avidyne Service Center if this persists across power cycles.

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Fault Annunciation

If the AXP340 or AXP322 transponders detect certain internal failures, a FAULT will be indicated with a brief statement of the problem. No replies will be made to interrogations when a fault is detected.

Some FAULT indications can be recovered by switching the transponder off and back on again, although in all cases a FAULT message implies that there is a fault with the transponder or the installation and the unit should be inspected by an authorized service center.

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Section 4 – Normal Procedures

See Avidyne AXP340 Mode S Transponder Pilot Guide, P/N 600-00302-000.



Figure 1. AXP340 Mode S ADS-B Out Transponder

Operation of the AXP322 remote transponder are covered in the Avidyne 700-00179-XXX IFD440 and 700-00182-XXX IFD540 Pilot Guides (Avidyne documents 600-00300-001 and 600-00304-000, respectively), which are the compatible FMS/NAV/COM/GPS used for display and control of the AXP322.

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Figure 2. AXP32 Mode S ADS-B Out Transponder IDF4XX / IFD5XX user Interface

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Section 5 – Performance

No change from basic Handbook.

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Section 6 – Weight and Balance

No change from basic Handbook. See POH for current weight and balance for this aircraft.

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Section 7 – Systems Description

Avidyne AXP340 Mode S Transponder Pilot Guide, P/N 600-00302-000, Revision 00 (Rev 02 or later).

or

For AXP322 Remote Transponder:

Avidyne 600-00304-000 IFD440 FMS/GPS/NAV/COM Pilot Guide,
Revision 02 (or later)

or

Avidyne 600-00300-001 IFD540 FMS/GPS/NAV/COM Pilot Guide,
Revision 02 (or later)