OPTIONAL SERVICE BULLETIN NO. OSB 62-058 REV. 1

SUPERSEDES OSB 62-058 REV. 0

I TECHNICAL DETAILS

I.1 Category

Optional.

I.2 Airplanes Affected

Type: DA 62

S/N: All

I.3 Date of Effectivity

02 October 2025

I.4 Time of Compliance

At the owner's discretion.

I.5 Subject

Installation of the Garmin GTX 345DR Diversity transponder with the top transponder antenna.

ATA Code: 34-50

I.6 Reason

Introduce the Garmin GTX 345DR transponder as an option, along with a compatible baseline Garmin G1000 NXi system software, to allow ADS-B Out Diversity operation.

I.7 Concurrent Documents

None.

I.8 Approval

The technical information and instructions contained in this document relate to Design Change Advisory No. OÄM 62-1033.

Engineering data referenced or contained in this service bulletin is approved as part of the type design.

I.9 Accomplishment/Instructions

I.10 Mass (Weight) and CG

Make the following adjustments to weight and balance:

Item Removed*	Weight kg (lb)	Arm m (in)
P/N 011-03301-00 GTX 335R transponder	0.86 (1.9)	1.26 (49.6)
P/N 011-03303-0( ) GTX 345R transponder	1.00 (2.2)	1.26 (49.6)

* One of the two items is removed according to the airplane configuration.

Items Added	Weight kg (lb)	Arm m (in)
P/N 011-04334-00 GTX 345DR transponder	1.09 (2.4)	1.26 (49.6)
P/N 70-2040 transponder coupler	0.23 (0.5)	0.99 (39.0)
P/N CI 105-16 top transponder antenna	0.09 (0.2)	4.35 (171)

II PLANNING INFORMATION

II.1 Material and Availability

See WI-OSB 62-058, latest effective issue.

II.2 Special Tools

None.

II.3 Labour Effort

Approximately 23 hours will be required to accomplish this service bulletin. The duration may be shorter, depending on the airplane configuration.

This estimate is for direct labour performed by a technician, and it does not include setup, planning, familiarization, cure time, part fabrication, or tool acquisition.

II.4 Credit

None.

II.5 Reference Documents

DA 62 Series Airplane Maintenance Manual, Doc. No. 7.02.25, latest effective issue.

III REMARKS

1. All work must be done by a certified aircraft service station or a certified aircraft maintenance mechanic.
2. All work, in particular which is not especially described in this service bulletin, must be done in accordance with the referenced maintenance manual.
3. Completion of all work must be recorded in the logbook.
4. In case of doubt, contact Diamond Aircraft Industries Inc.

EXECUTION REPORT TO SERVICE BULLETIN OSB 62-058 Rev. 1

AIRPLANE DATA

Airplane serial number	
Airplane registration	
Airplane operator	
Hours of operation of airplane (TSN)	
Typical operation of airplane	private, club, training, other:

MAINTENANCE DATA

Date of maintenance	
Maintenance carried out by	
During scheduled inspection?	Yes No

Name	Signature	Date

Please submit the Execution Report through the Diamond Partner Portal at
https://partners.diamondaircraft.com/

WORK INSTRUCTION WI-OSB 62-058 REV. 1
SUPERSEDES WI-OSB 62-058 REV. 0

I GENERAL INFORMATION

I.1 Subject

Installation of Garmin GTX 345DR Diversity transponder (OÄM 62-1033) for airplanes equipped with GTX 335R/ 345R, with or without Avidyne TAS 6XX(A) system.

ATA code: 34-50

I.2 Reference Documents

- DA 62 Airplane Maintenance Manual, Doc. No. 7.02.25, latest revision.
- FAA AC 43.13-1B Acceptable Methods, Techniques and Practices, Aircraft Inspection and Repair.
- Garmin GTX 3X5 Transponder TSO Installation Manual 190-01499-02, latest revision.
- Garmin GTX 3XX Part 23 AML STC Installation Manual 190-00734-10, latest revision.

I.3 Remarks

1. All work must be done by a certified aircraft service station or a certified aircraft maintenance mechanic.
2. All work, in particular which is not especially described in this work instruction, must be done in accordance with the referenced maintenance manual.
3. In case of doubt, contact Diamond Aircraft Industries Inc.

II DRAWINGS, SPECIAL TOOLS & MATERIALS

II.1 Drawings

None.

II.2 Special Tools

None.

II.3 Material

Item	Quantity	Part Number	Description
1	AR	4011194020121	Aluminum foil
2	2	MS21044N08	Self-locking nut
3	2	NAS1149DN816H	Washer

Item	Quantity	Part Number	Description
4	1	CI 105-16	Top transponder antenna
4a	ALT	071-00221-0010	Top transponder antenna (alternative)
5	1	D67-3110-84-00	Top antenna coaxial cable
6	AR	EMS-A-CO	Tie wrap base
7	AR	MS3367-4-9	Tie wrap
8	1	011-04334-00	GTX 345DR transponder unit
9	1	011-04340-02	Transponder backplate
10	1	132360RP	Protective cap

Additional item, if MÄM 62-1126 is not installed:

Item	Quantity	Part Number	Description
11	1	D67-3453-11-01SB	Grounding plate

Additional items, if MÄM 62-1152 is not installed:

Item	Quantity	Part Number	Description
12	1	D67-3110-77-00_01	Bottom antenna coaxial cable
13	1	D67-3120-62-01_01-SB	Time mark wire

Additional items, if MÄM 62-1001 is not installed:

Item	Quantity	Part Number	Description
14	1	M27500-24TG2T14	Wire, 24 AWG, twisted pair (1000mm) (3.3 ft)
15	1	M27500-24TG2T14	Wire, 24 AWG, twisted pair (2000mm) (6.6 ft)
16	1	M27500-24TG3T14	Wire, 24 AWG, twisted triple (700mm) (2.3 ft)
17	1	E40424	Ethernet wire (1000mm) (3.3 ft)
18	1	E40424	Ethernet wire (2000mm) (6.6 ft)
19	12	3PS-250-2WT-2	Label, Heat shrink
20	25	205089-1	Contact, pin
21	25	205090-1	Contact, socket
22	3	S03-03-R-9035-100	Solder sleeve, braid
23	2	S03-04-R-9035-100	Solder sleeve, braid

Item	Quantity	Part Number	Description
24	3	S02-08-RCS453	Solder sleeve, wire
25	2	M83519-2-10	Solder sleeve, wire
26	5	31886	Ring terminal
27	6	MS51957-42	Screw
28	6	MS35338-137	Lockwasher
29	6	NAS1149CN832R	Washer
30	20	MS3367-5-9	Cable tie
31	15	336-00021-00	Contact Pin
32	1	RNF100-3/8 WHT	Heatshrink (200mm) (8”)

Additional items, if TAS 6XX(A) is installed:

Item	Quantity	Part Number	Description
33	1	D67-3443-10-01	Coupler mounting bracket
34	4	DIN 985-M5-A2	Self-locking nut
35	8	DIN 125A 5.3-A2	Washer
36	4	ISO 7380-M5X12-A2	Hexagon socket screw
37	1	70-2040	Transponder coupler
38	4	MS35206-236	Screw
39	8	NAS1149DN616H	Washer
40	4	MS21044N06	Nut
41	1	221543-2	RF adapter
42	1	D67-3110-82-00	Transponder coupler cable
43	4	GF5-NS35D	Straight plug
44	AR	3PS-500-2W	Heat shrink label (1-2in white)
45	4	AN970-3	Washer

Additional items, if OÄM 62-005 is not installed:

Item	Quantity	Part Number	Description
46	1	D67-2523-17-00X01	Headliner Pax 2 RACC
47	1	D67-5311-61-00_01	Ventilation duct cover

II.3.1 Consumables

Quantity	Part Number	Description
AR	Super 77	3M multipurpose adhesive
AR	See note	Antenna sealant

Note: Refer to AMM Section 34-50 Paragraph 4.

Additional consumable, if TAS 6XX(A) is installed:

Quantity	Part Number	Description
AR	Loctite 495	Instant adhesive

III INSTRUCTIONS

1. Incorporate AMM-TR-OÄM-62-1033 into the Airplane Maintenance Manual or use an AMM revision in which AMM-TR-OÄM-62-1033 has been incorporated.
2. Disconnect the airplane main battery. Refer to AMM Section 24-31.
3. Install the top transponder antenna as follows:

3.1. To get access to the lightning protection strap on top fuselage over the RH third row passenger seat, remove the headliner.

3.2. If MÄM 62-1126 is not installed, do as follows:

A. Mark the holes on the lightning protection strap in accordance with the hole pattern of the grounding plate (item 11), keeping the center hole 20.3 cm (8 in) from the forward-edge of the reward baggage frame.

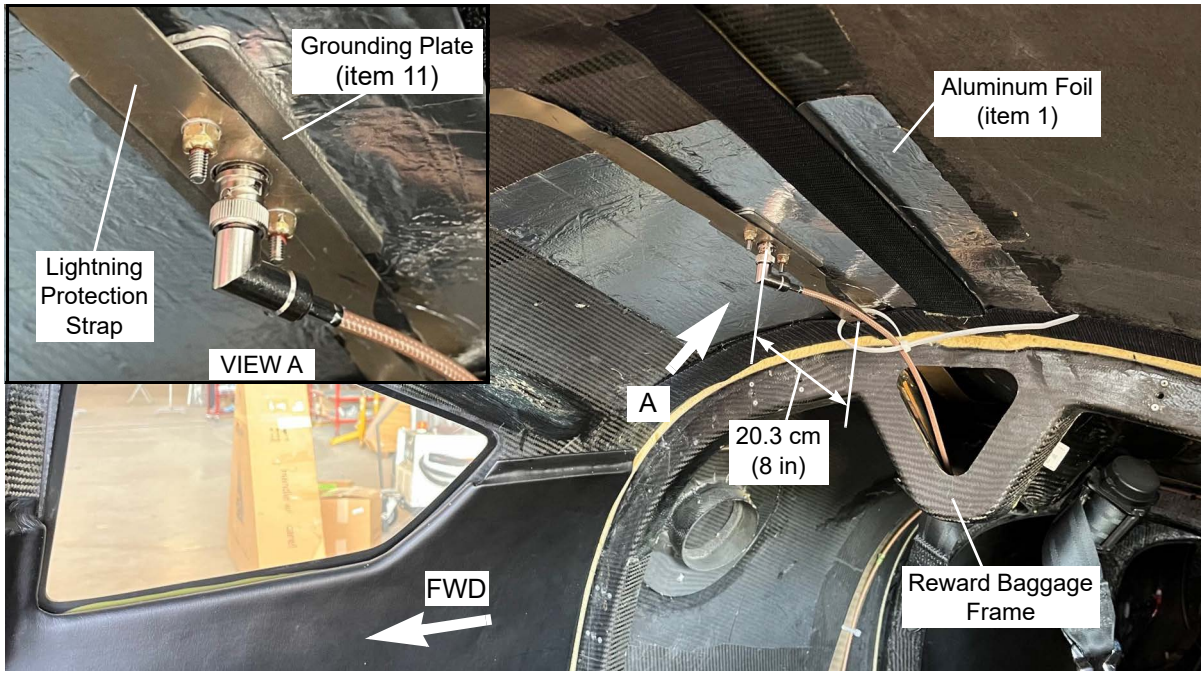


Figure 1.

B. Drill holes in the airplane skins through the lightning protection strap.

3.3. Remove the bonding adhesive/resin from the lightning protection strap to detach it from the airplane skin along the required length to install the aluminum foil (item 1).

3.4. Install a 30.5 cm (12 in) x 30.5 cm (12 in) aluminum foil (item 1) using adhesive 3M Super 77 adhesive. Keep the center hole as the center point of the aluminum foil.

3.5. If MÄM 62-1126 is not installed, put the grounding plate (item 11) in the installation position.

3.6. With the nuts (item 2), washers (item 3) and sealant, install the top transponder antenna (item 4). Refer to AMM Section 34-50.

NOTE: For sealant specification refer to AMM Section 34-50 paragraph 4.

CAUTION: USE THE SPECIFIED LENGTHS OF THE COAXIAL CABLES. USE OF CHANGED LENGTHS MAY HAVE AN ADVERSE EFFECT ON THE DIVERSITY FUNCTION.

4. Make sure that the coaxial cables have the correct lengths as follows:

- Top antenna coaxial cable (item 5): 7000 ± 10 mm

- Bottom antenna coaxial cable (item 12): $5800\ {}_{0}^{+10}$ mm

NOTE: Make loops of the cable extra length and secure it at an appropriate location.

5. Route the top antenna coaxial cable (item 5) from the top transponder antenna (item 4) to the avionics bay as follows:

NOTE:

- Make sure that the route of the coaxial cable is in accordance with Section 3.18 of the Garmin Installation Manual 190-01499-02, latest revision, and FAA AC 43.13-1B, Chapter 11, Section 8.

- If the coaxial cable is damaged during routing, replace the damaged section using P/N GF5-35D.

5.1. Route the coaxial cable to aft through the reward baggage frame (refer to Figure 1). Follow the RH lightning protection strap and into the RH lightning protection conduit.

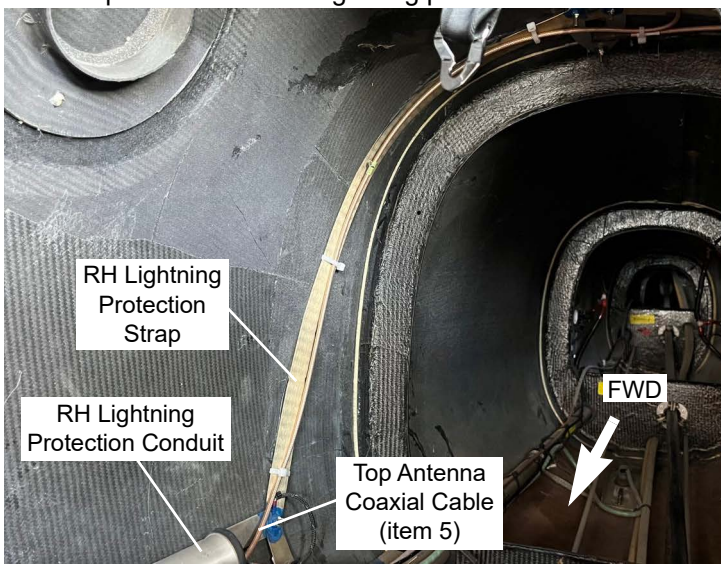


Figure 2.

5.2. Install the tie wrap bases (item 6) and tie wraps (item 7) to tie the top antenna coaxial cable (item 5) securely along the exposed routed length.

5.3. Connect the top antenna coaxial cable (item 5) to the top transponder antenna (item 4).

5.4. Install a tie wrap (item 7) to secure the coaxial cable (item 5) near the top transponder antenna (item 4).

6. If MÄM 62-1152 is not installed, replace the existing coaxial cable of the bottom transponder antenna with the new coaxial cable (item 12). Refer to AMM Section 92-00.

7. If GTX 345R transponder is not installed, do as follows:

7.1. Remove the HIRF box cover. Refer to AMM Section 31-40.

7.2. If MÄM 62-1001 is not installed, install wiring as follows:

NOTE: During the step 7.2 prepare all shielded wires being inserted into a Garmin LRU connector and backshell as follows:

- Cut the insulation of all the shielded wires (items 14, 15, and 16) exactly 3 in and 4.5 in from the end of the wire using a knife. Take care not to cut into the shield braids beneath the insulation of the shielded wire.
- Pull off the 3 in piece of insulation.
- Pull back the remaining 1.5 in piece of insulation by 5 mm, exposing the shield braids.
- Cut the shield braids off between the end of the wire and the floating piece of insulation. Take care when moving the insulation, which can change the 5 mm gap.
- Cap the edge of the cut braids and insulation with a 3/4 in piece of white heat shrink P/N RNF100-1-8 WHT and shrink down.
- Place a braided solder sleeve (items 22 and 23) centered over the 5 mm gap and shrink down until the solder joins the shield braids to the solder sleeve braided wire.
- Cut off 5 cm (2 in) of the braid to make the loop shorter.
- Crimp Garmin pins (item 31) at the end of each wire.
- Crimp ring terminal (item 26) at the end of the solder sleeve braid wire.
- Wire is ready to be inserted into connector.

A. Route wires with existing harnesses.

B. Strip the shielded wires back 3 in, and cut off the shield. Take care to leave 5 mm of the shield still attached, then shrink down a solder sleeve centered over the 5 mm of shield.

NOTE:

- J2413 and J2414 contacts are item 21, and P2413 and P2414 contacts are item 20.

- GMA13XX and GDU 1050 contacts are item 31.

- TAS6XX(A) contacts are item 21. TAS 6XX(A) wires only need to be added if TAS system is installed.

C. Secure USB plug to existing harness under baggage compartment in easily accessible area.

D. Cut wires to required length during installation.

E. Prepare any applicable shielded wire with the wire code identified on the schematic and solder sleeve supplied when installing.

F. Solder sleeve with lead wire used for J2413/P2413 and J2414/P2414 connectors, and add solder sleeve with braid at the GTX 345DR:

- Strip back 2 in of insulation from the supplied USB B cable.

- Cut the shield wire down until 1 in remains.

- Place the small solder sleeve over the shield wire close to the insulation. Refer to the schematic below.

- Shrink down the solder sleeve carefully. Keep the heat gun pointed away from the insulation on the other wires. The insulation melts easily.

- Fold the solder sleeve back once it is joined to the shield wire.

- Crimp the ring terminal (item 26) to solder sleeve shield wire, then fasten to the backshell.

- Crimp the USB B cable wires with the supplied Garmin contacts (item 31).

- Place 1 in long piece of 3/8 in wide white heat (item 32) over the USB B wire and solder sleeve. This will support the solder sleeve to the USB B wire, and also provide a cap & stow for the USB B wire insulation.

- Carefully shrink down, using low heat aimed just over the heat shrink. Take care not to apply heat to the insulation on adjacent wires.

- Insert crimped pins into the GTX 3x5 connector, and connect the ring terminal to the backshell of the GTX 3x5 connector. Use supplied hardware.

- Close the connector, and attach it to the transponder backplate (item 9).

G. Splice the solder sleeve into the existing shields using a D-437-37 splice. Connect to TAS6XX(A) bonding strap location.

H. Attach all remaining ring terminals (item 26) on braided solder sleeves for shield grounds (GMA13XX, GDU 1050 and GTX 345DR). Connect ring terminal (item 26) to backshell with supplied hardware.

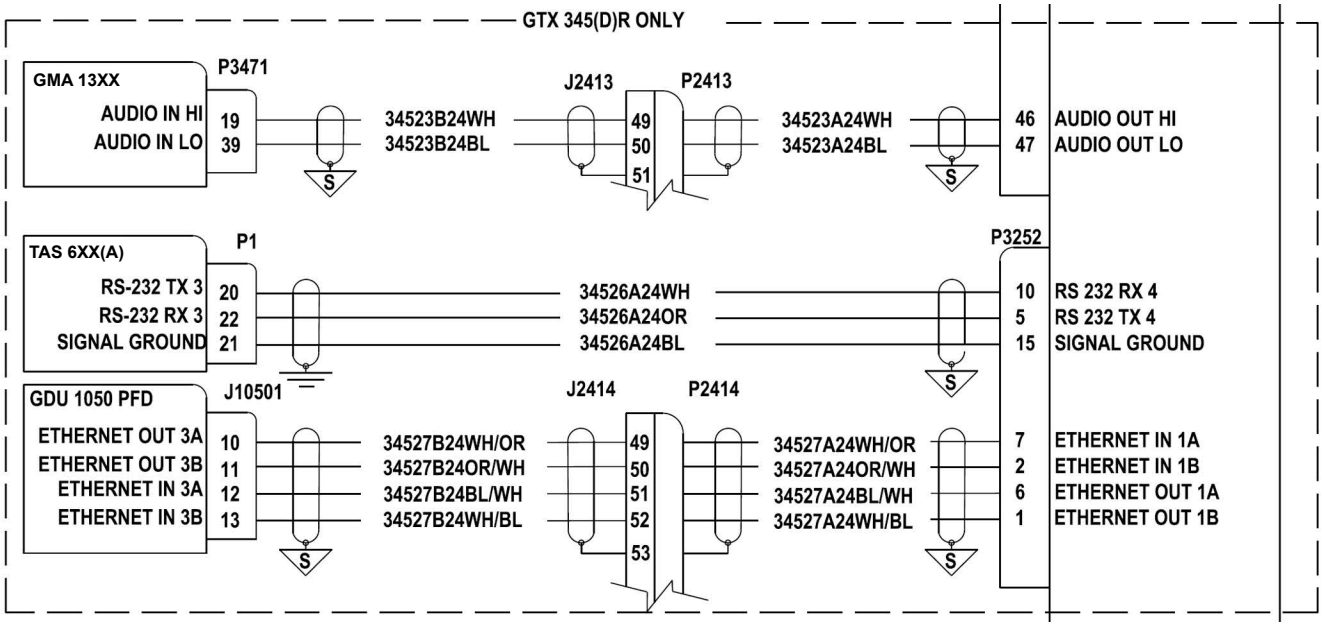


Figure 3.

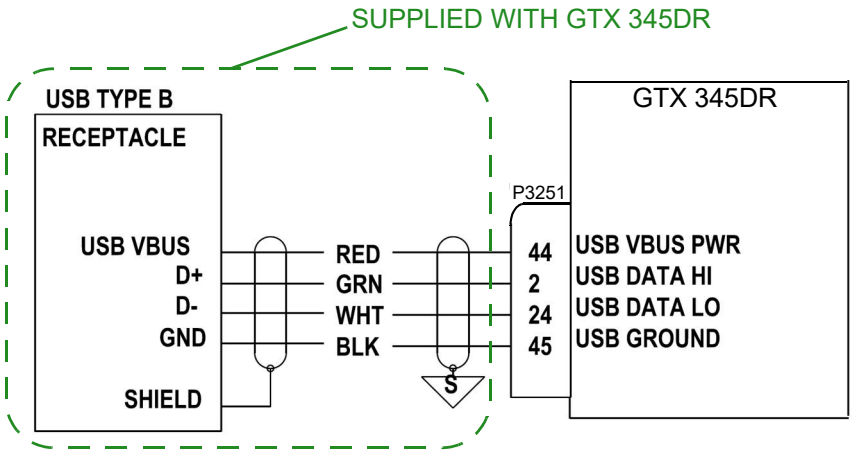


Figure 4.

7.3. Check the connection at the P2414 connector. Pin the capped and stowed Ethernet wire into the P2414 connector.

7.4. If TAS 6XX(A) is installed, do as follows:

A. Cap and stow existing ARINC 429 wire.

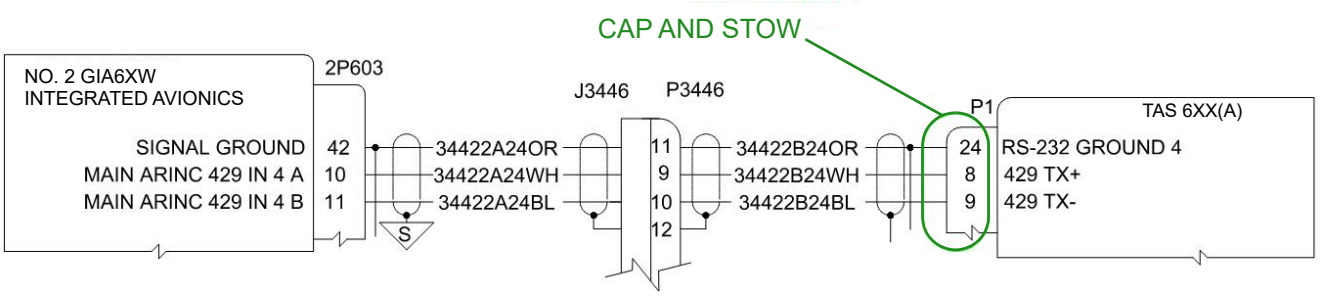


Figure 5.

B. Cap and stow existing AUDIO wire.

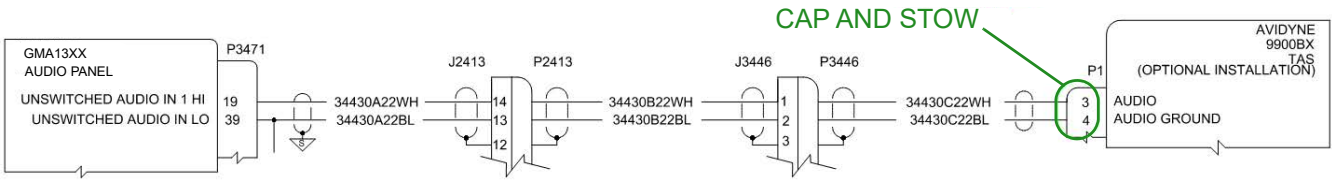


Figure 6.

8. Install the GTX 345DR transponder (item 8) as follows:

8.1. Remove the existing transponder from the mounting rack. Refer to AMM Section 31-40.

8.2. Remove the back cover to get access to the backplates of the No. 1 GIA 6X W and the transponder.

8.3. If MÄM 62-1152 is not installed, with the time mark wire (item 13), connect the Time Mark A interface between No. 1 GIA 6X W 1P603 connector pin 67 and the transponder P3251 connector pin 4.

Figure 7.

8.4. Replace the backplate of the existing transponder with the new transponder backplate (item 9) and reconnect the P3251 and P3252 connectors to the transponder backplate (item 9). Refer to AMM Section 92-00.

8.5. Install the protective cap (item 10) on the unmated Bluetooth coaxial receptacle (BT coax port) of the GTX 345DR transponder (item 8).

8.6. Install the GTX 345DR transponder (item 8) to the mounting rack. Refer to AMM Section 31-40.

8.7. Reconnect the 1P603 connector to the No. 1 GIA 64 W backplate. Refer to AMM Section 92-00.

9. If TAS 6XX(A) is installed, install the coupler mounting bracket (item 33) and transponder coupler (item 37) as follows:

9.1. Remove the TAS processor, its mounting tray and the existing transponder coupler. Refer to AMM Section 34-42.

9.2. Move the new coupler mounting bracket (item 33) into position on the TAS mounting tray. Match-drill holes on the tray assembly using the holes on the coupler mounting bracket (item 33) as reference, aligned with the intended installation position of the transponder couplers.

NOTE: To prevent interference between the TAS mounting tray fasteners and the coupler mounting bracket (item 33), make sure that the coupler mounting bracket (item 33) is at least 15 mm away from any TAS mounting tray hole.

9.3. Install the screws (item 36), washers (item 35), and self-locking nuts (item 34) which attach the coupler mounting bracket (item 33). Refer to Figure 8.

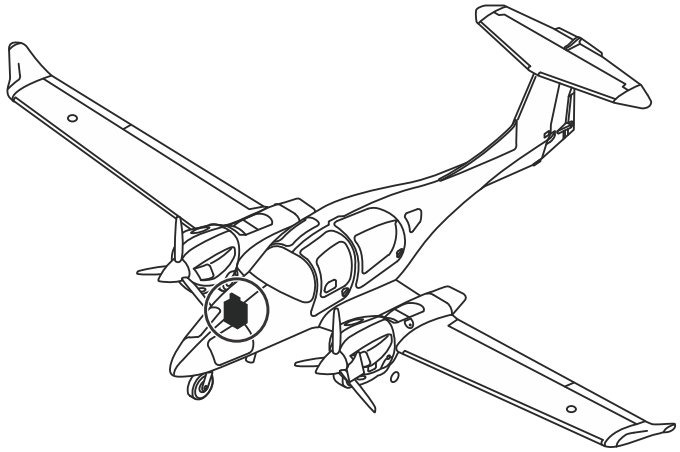
9.4. Install the existing transponder coupler. Refer to AMM Section 34-42.

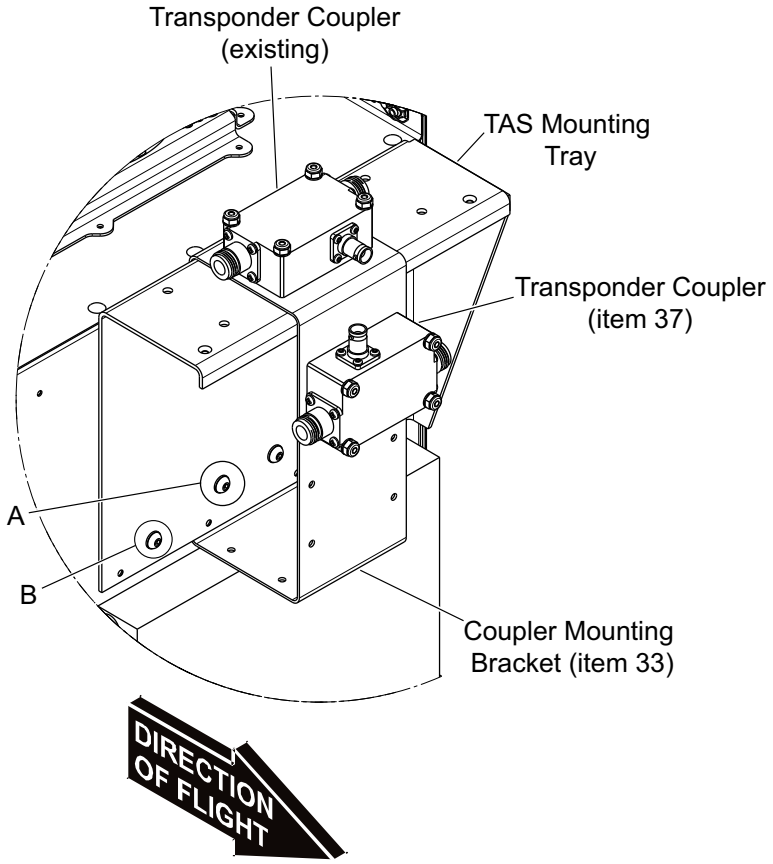
9.5. Install the screws (item 38), washers (item 39), and nuts (item 40) which attach the new transponder coupler (item 37) to the coupler mounting bracket (item 33). Refer to AMM Section 34-42.

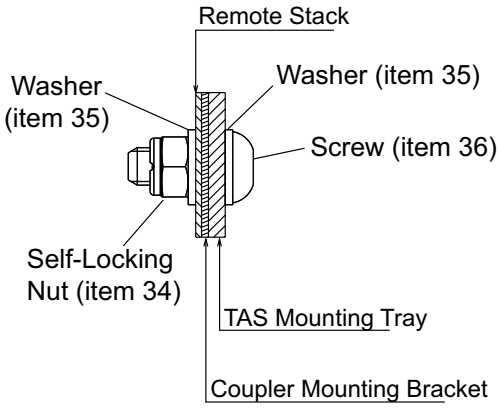
NOTE: Install the transponder coupler in a position which allows proper cable routing with adequate bend radii and clearance.

9.6. With instant adhesive (Loctite 495), attach the washers (item 45) to the backside of the TAS mounting tray. Refer to detail B of the Figure 8.

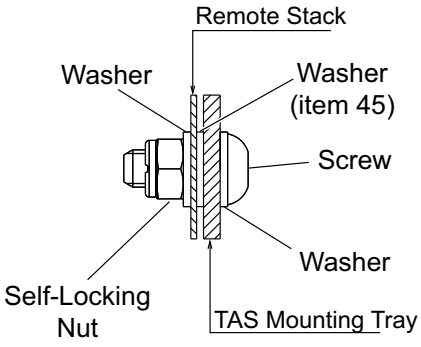
9.7. With the existing TAS mounting tray screws, washers and self-locking nuts, install the TAS mounting tray. Refer to detail B of the Figure 8.







Detail A
4 PLCS



Detail B
4 PLCS

Figure 8.

9.8. Install the TAS processor. Refer to AMM Section 34-42.

9.9. Connect the RF adapter (item 41) to the coupler receptacle on the TAS processor. Refer to Figure 9.

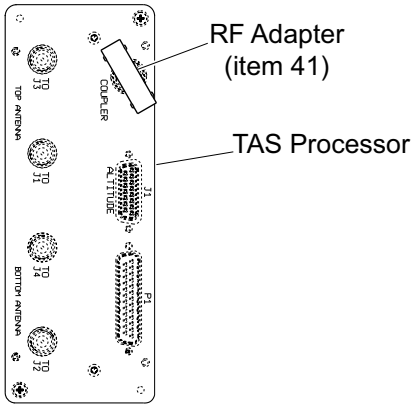


Figure 9.

9.10. Cut the top antenna coaxial cable (item 5) to a length sufficient to interface with the ANT end of the new transponder coupler (item 37).

9.11. Install the heat shrink labels (item 44) on the top antenna coaxial cables (item 5). Record the text on the heat shrink label.

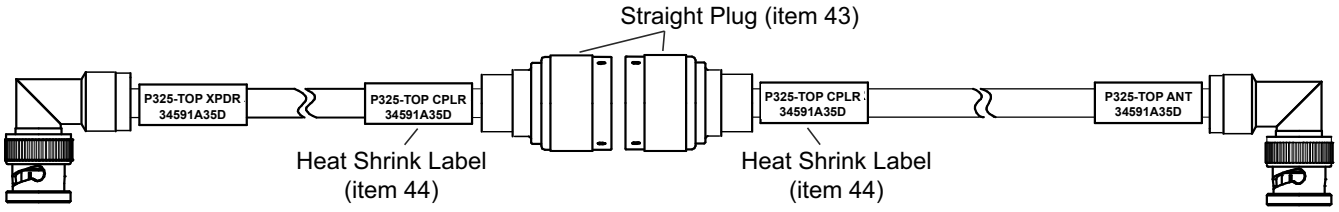


Figure 10.

9.12. Terminate the open ends of the cable with the straight plugs (item 43) according to OEM's instructions.

NOTE: Go to OEM's Internet site to get access to the termination instructions.

9.13. Check for no continuity between center conductor of the straight plugs (item 43) and shield.

9.14. Connect the top antenna coaxial cable (item 5) applicable part to the XPDR interface of the new transponder coupler (item 37) and GTX 345DR transponder (item 8). Refer to AMM Section 92-00.

9.15. Connect the top antenna coaxial cable (item 5) applicable part to the ANT interface of the new transponder coupler (item 37). Refer to AMM Section 92-00.

9.16. Connect the transponder coupler cable (item 42) to the RF adapter (item 41) and TCAD interface of the new transponder coupler (item 37). Refer to AMM Section 92-00.

9.17. Repeat the steps 9.10 to 9.16 for the bottom antenna coaxial cable (item 12), and existing transponder coupler. Refer to AMM Section 92-00 and Figure 11.

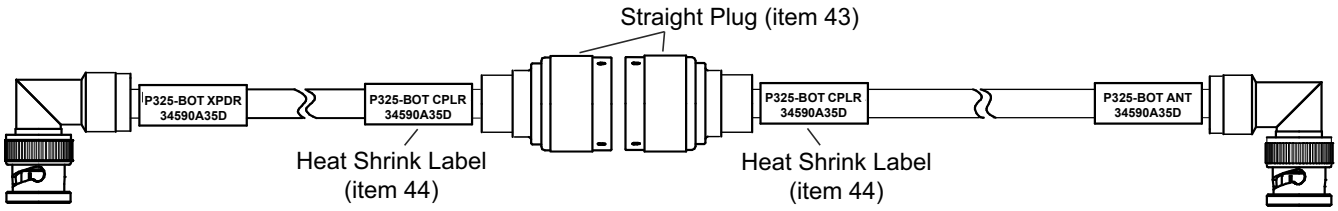


Figure 11.

9.18. Make sure that all interfaces of the TAS processor are connected. Refer to AMM Section 92-00.

9.19. Make sure that routing and clearance of the coaxial cables are in accordance with FAA AC 43.13-1B, Chapter 11.

10. If TAS 6XX(A) is not installed, connect the top antenna coaxial cable (item 5) to the GTX 345DR transponder (item 8). Refer to AMM Section 92-00.

11. Install the headliner Pax 2 RACC (item 46), and the ventilation duct cover (item 47).

NOTE: If OÄM 62-005 is installed, use the previous installed headliner Pax 2 RACC and the ventilation duct cover.

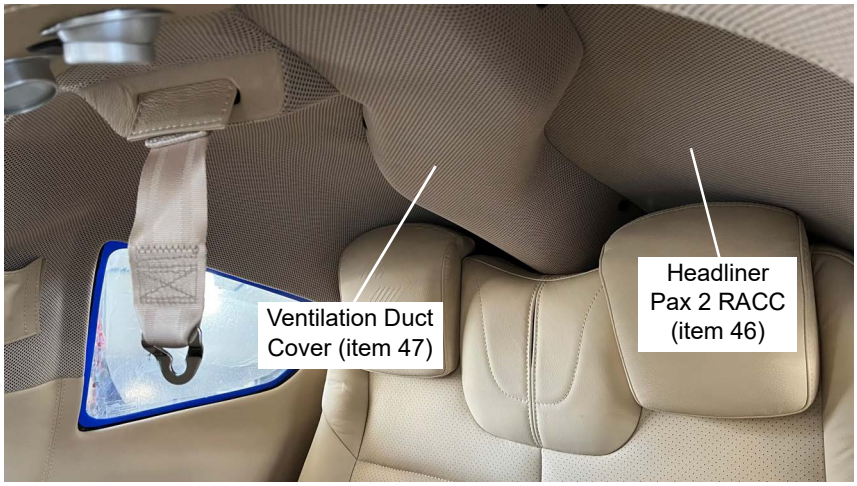


Figure 12.

12. Connect the airplane main battery. Refer to AMM Section 24-31.

13. If MÄM 62-1126 is not installed, install loader card image into top PFD slot (use MSB 62-003 for reference).

006-B2056-03 (or greater) when MÄM 62-254 and MÄM 62-1012 are installed

006-B2056-12 (or greater) when MÄM 62-254 and MÄM 62-1007 are installed.

14. Enter into the Garmin configuration pages by holding enter while applying power to the PFD.
15. On the System Upload page, select the GTX 345 option, and load. If TAS 6XX(A) is installed, select the GTX 345DR with TAS option.
16. After option is installed, update the configuration module by pressing the softkey “UPDT CFG” and selecting OK.
17. Verify PFD1 Port 3 and GTX1 Port 1 to checked condition on GDU page and SYSTEM DATA PATHS subpage. Set if not configured.

NOTE: G1000 images and laptop images are reference only and may not reflect the configuration of your airplane.

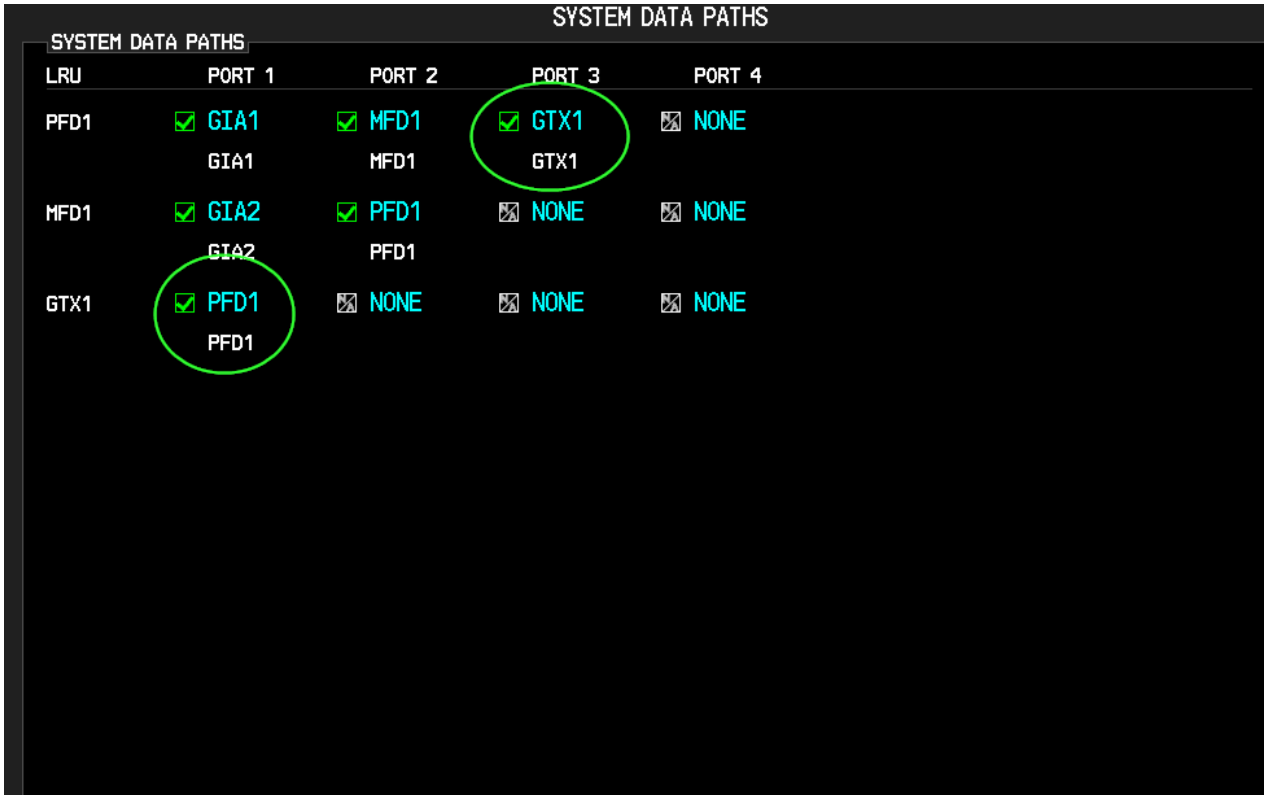


Figure 13.

18. If TAS6XX(A) is installed:

18.1. On the GIA I/O CONFIGURATION page, verify Annun* 14 and Annun* 15 on both GIA 1 and GIA 2 is set to OFF. Set if not configured. Refer to Figure 14.

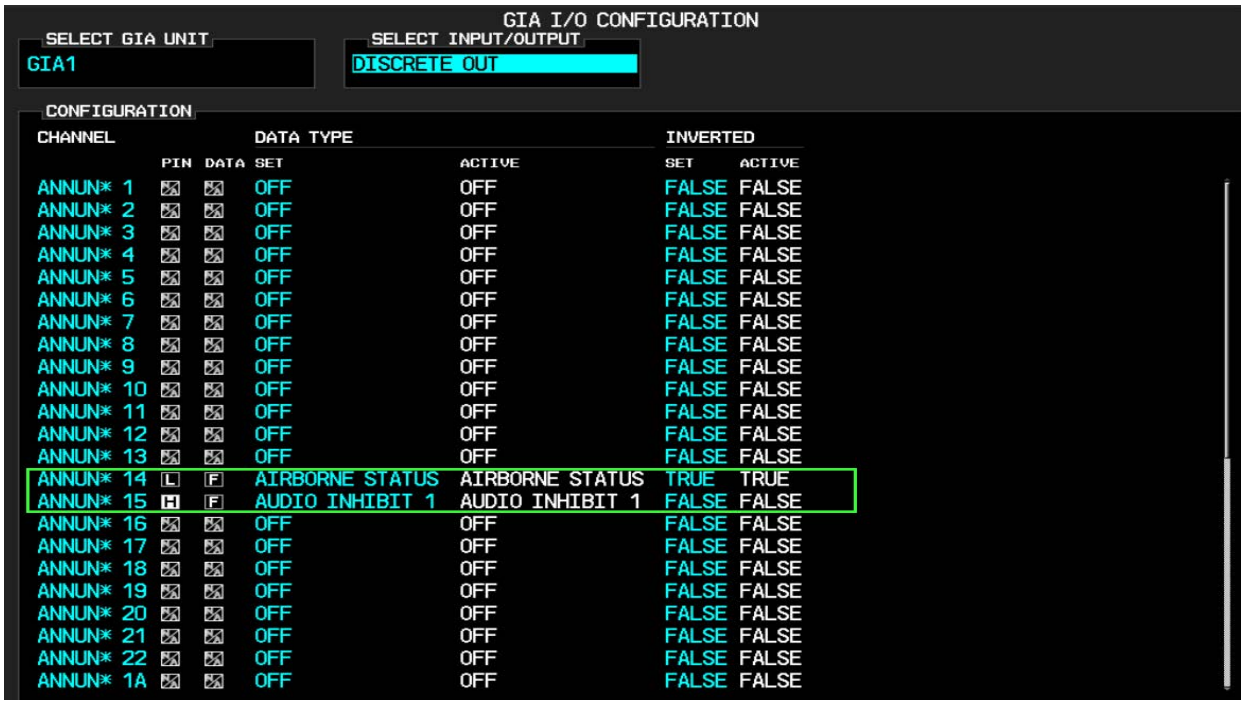


Figure 14.

18.2. On the RS-232/ARINC 429 CONFIGURATION page for GIA 2, verify the Traffic Advisory input ARINC IN 4 to OFF. Set if not configured. Refer to Figure 15.

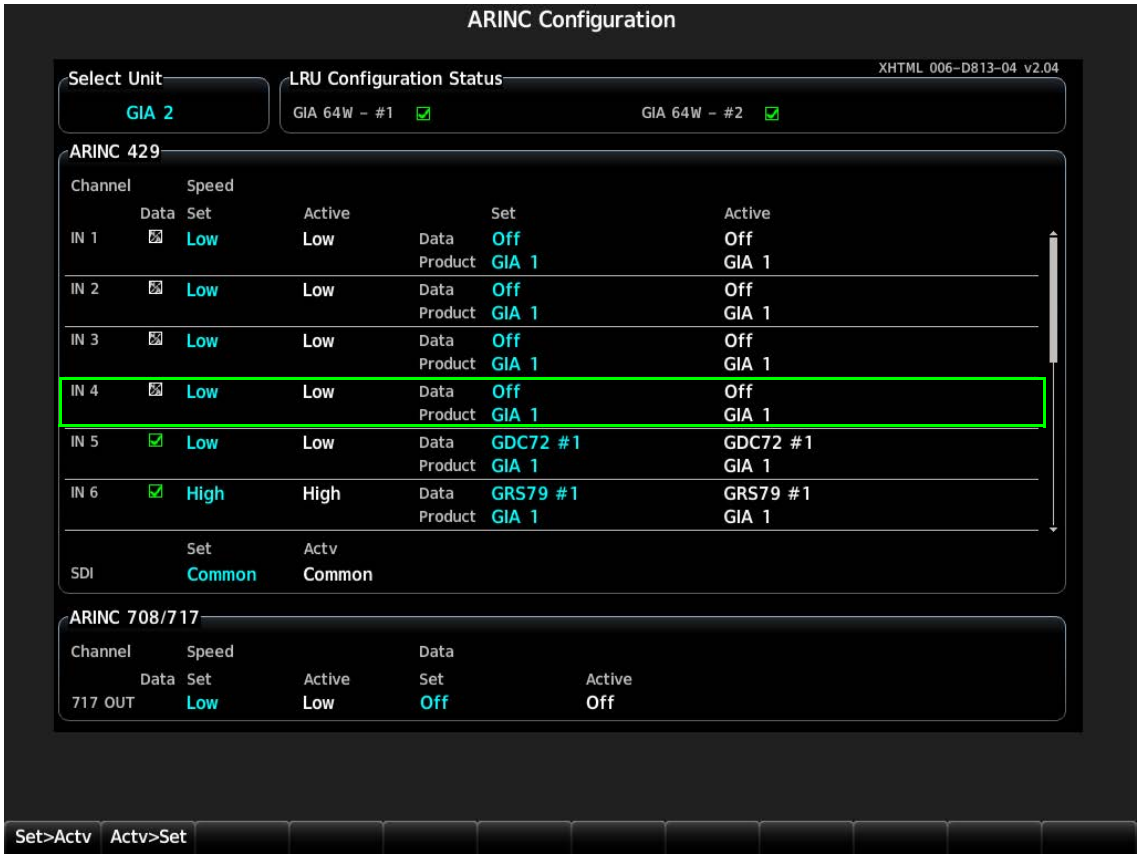


Figure 15.

18.3. On the GTX 3x5 Unit Configuration page for GTX 1, verify Traffic Fmt 4 is set on RS-232 4 (both input and output). Set if not configured. Refer to Figure 16.

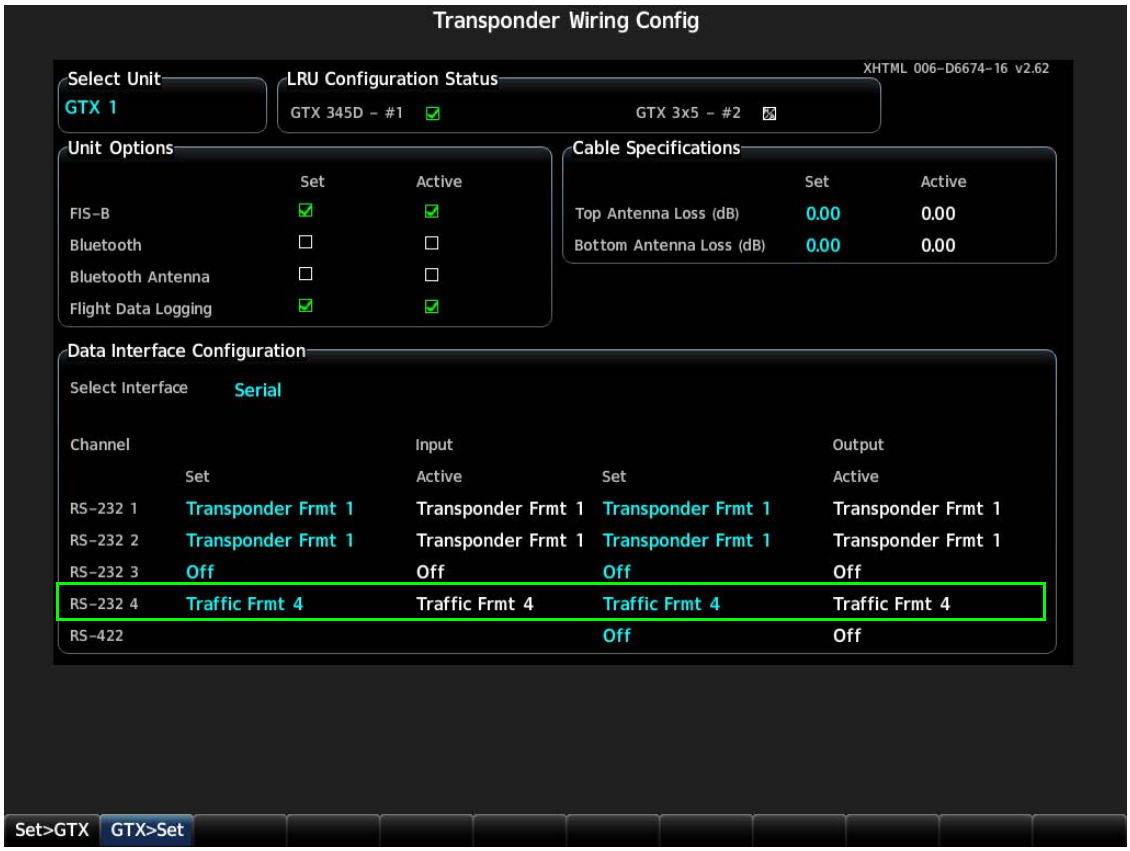


Figure 16.

NOTE: Loader card must be installed to view GTX pages.

19. On the AIRCRAFT CONFIRGURATION page, go to LRU CONFIRGURATION STATUS. Verify that the proper registration is entered. If it is not, enter registration. Press ENTER and the ICAO address will generate automatically. Then press SET GTX1. Refer to Figure 17.

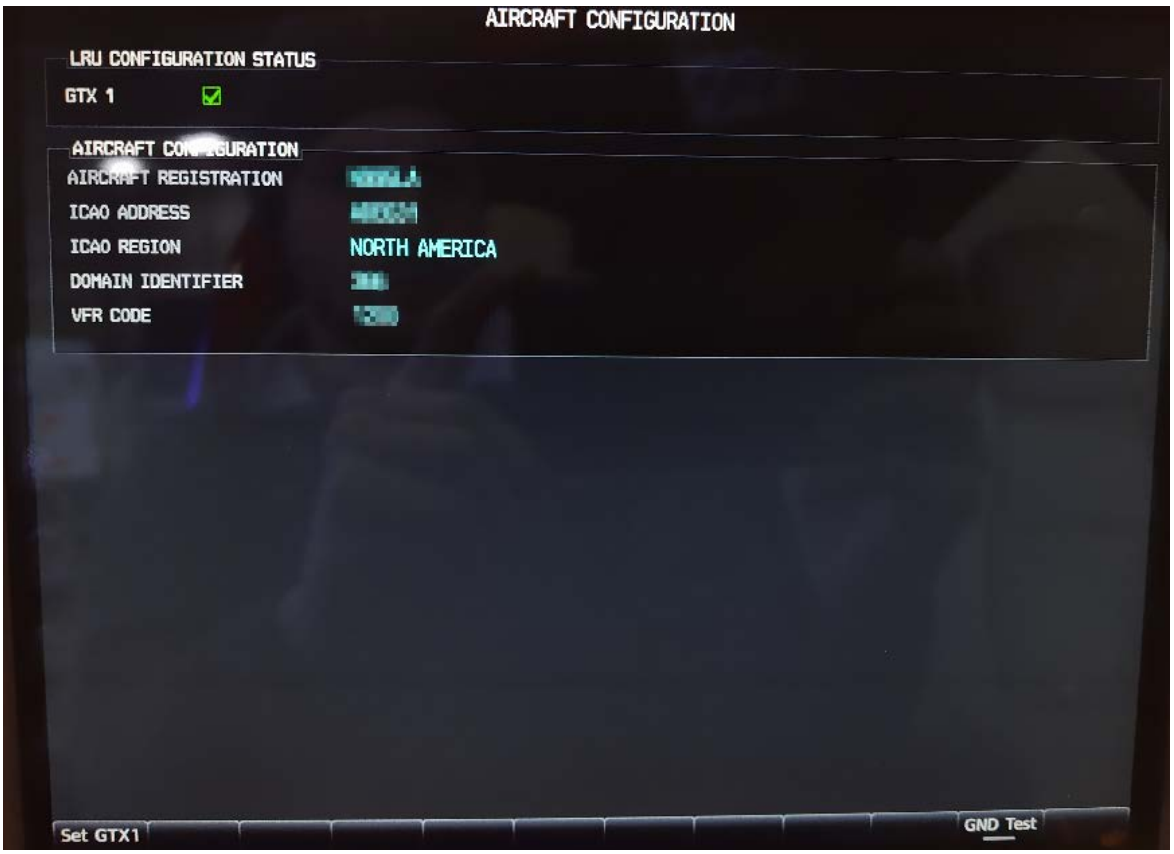


Figure 17.

20. Scroll to the CONFIGURATION MANAGER subpage and press the softkey “CNFM CFG.” Refer to Figure 18.

NOTE: The expected and actual configuration (fleet/aircraft ID) need to match after pressing “CNFM CFG.”

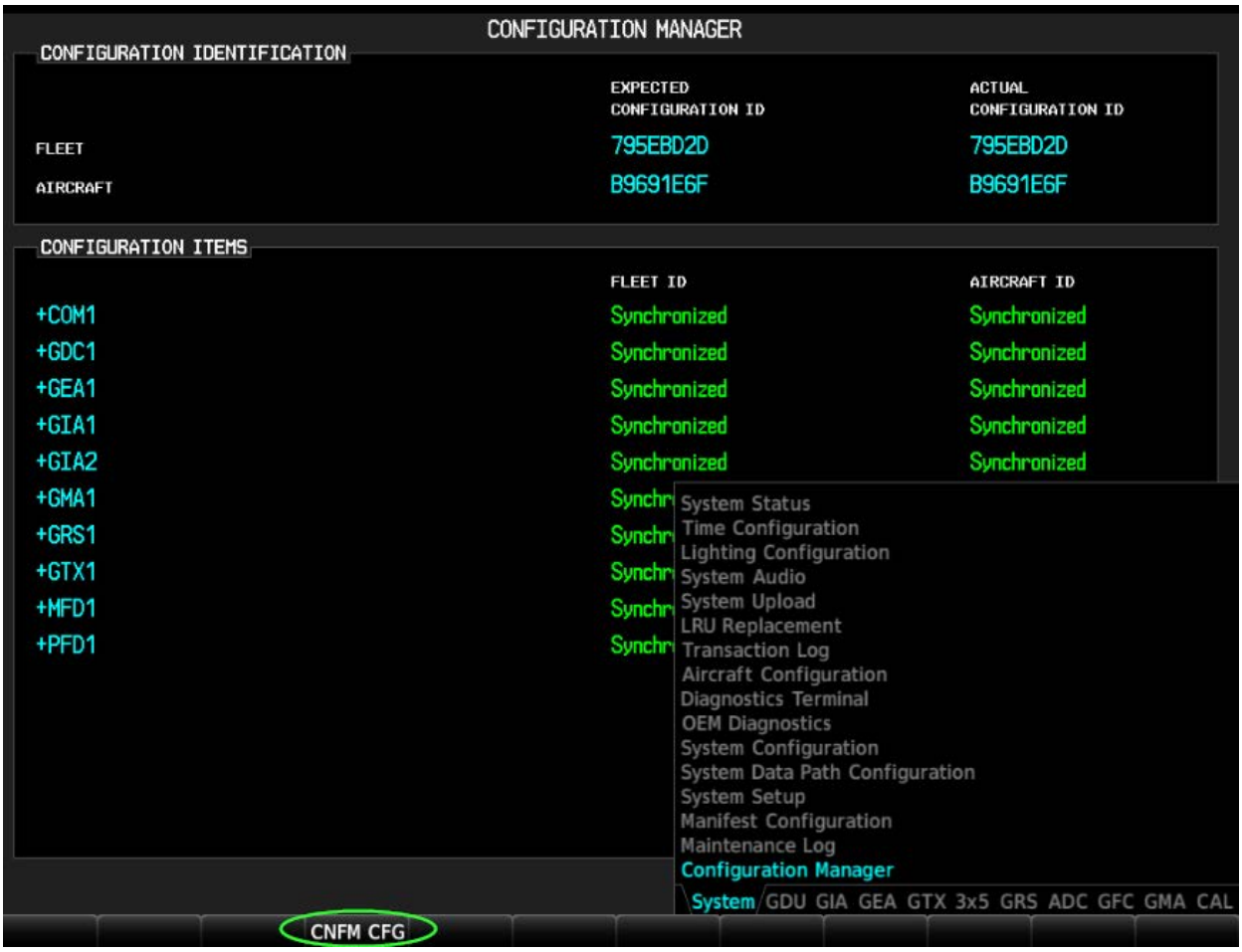


Figure 18.

21. Cycle power.
22. Use VIAVI AVX-10K test set with antenna couplers, or equivalent test set, to check the following:

    - Transponder Mode S operation.
    - ADS-B Out operation for both the top and bottom transponder antennas, tested one at a time. Refer to Garmin Installation Manual 190-00734-10, latest revision.
    - ADS-B In operation for both the top and bottom transponder antennas, tested one at a time. Do as follows:

      Enter below targets and verify they appear on the MFD Traffic page in their corresponding locations and distances.

Targets: 3 UUT HDG: (enter HDG from PFD)

	1	2	3
BRG (deg):	180	10	90
RNG (nm):	3.0	6.0	12.0
ALT (100 ft):	12	-2	9
ALT Rate:	Lvl	Clmb	Dscn
HDG (deg):	300	60	180

UUT ALT: (Enter in altitude on PFD)

Confirm UUT LAT and UUT LON match the latitude and longitude of your location.

23. Do the following regulatory tests:

    - Altitude Reporting Equipment Tests in accordance with 14 CFR Part 91.411 and Part 43 Appendix E.
    - ATC Transponder Tests and Inspections in accordance with 14 CFR Part 91.413, Part 43 Appendix F and Canadian Aviation Regulation (CAR) 571 Appendix F.

24. For aircraft registered in the US carry out a flight within an area of published FAA ADS-B coverage and request an ADS-B performance report from the following website:

    https://adsbperformance.faa.gov/PAPRRequest.aspx

25. For aircraft registered in Canada carry out a flight within an area of published NAV Canada ADS-B coverage and request an ADS-B performance report from the following website:

    https://www.navcanada.ca/en/air-traffic/space-based-ads-b/public-ads-b-performance-report.aspx

26. Make all necessary entries in the logbooks.
27. Update the AFM equipment list and the weight and balance records.
28. Make sure that the AFM-TR-OÄM-62-1033 latest revision is incorporated into the AFM.
29. Make sure that the latest revision of the AFM Supplement A35 is on board the aircraft.
30. Submit the Execution Report through the Diamond Partner Portal at:

    https://partners.diamondaircraft.com/

To obtain satisfactory results, procedures specified in this service bulletin must be accomplished in accordance with accepted methods and current government regulations. Diamond Aircraft cannot be responsible for the quality of work performed in accomplishing the requirements of this service bulletin. Diamond Aircraft reserves the right to void continued warranty coverage in the area affected by this service bulletin if it is not incorporated.

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Diamond Aircraft Industries Inc.
1560 Crumlin Sideroad, London, Ontario, Canada
N5V 1S2

Customer Support:
Phone: (519) 457-4041
Portal: partners.diamondaircraft.com