

**GARMIN GTX SERIES TRANSPONDER SYSTEM - REMOVAL/INSTALLATION**

**1. General**

- A. This section gives the removal and installation procedures for the Garmin GTX-Series Transponders. For a general overview of the Garmin GTX Series Transponder System refer to Garmin GTX Series Transponder System - Description and Operation.
- B. The procedure for removing the Garmin GTX Series Transponder(s) is typical unless otherwise noted by Transponder Series number.
  - (1) The Garmin GTX 327 and GTX 330 Transponder Systems are NOT used with the G1000 Integrated Avionics suite and have different removal/installation instructions.
- C. Some transponder(s) have additional functionality and will only work with a particular G1000 software configuration. Become familiar with the installed software version, refer to Chapter 34, G1000 Integrated Avionics System - Description and Operation.

**2. Tools and Equipment**

**NOTE:** For the supplier publication part number and manufacturer data, refer to the Introduction Supplier Publication List.

- A. Tools and Equipment
  - None.
- B. Special Consumable's
  - This procedure does not require the use of any special consumable materials.
- C. External Reference Material
  - Garmin G1000 Caravan Line Maintenance Manual. Refer to the Introduction, Supplier Publication List.

**3. Setup**

- A. Prepare the Airplane
  - (1) Make sure that the BATTERY switch, found on the circuit breaker switch panel, is in the OFF position.
  - (2) Make sure that the AVIONICS switches on the circuit breaker switch panel, are in the OFF position.
  - (3) Disconnect external electrical power from the airplane.
  - (4) Disengage the applicable circuit breaker given in Table 401.

**Table 401. Circuit Breakers**

Circuit Breaker Name	Circuit Breaker Location
XPDR 1	Avionics Circuit Breaker Panel
XPDR 2 (Optional with second transponder installation)	Avionics Circuit Breaker Panel

- (5) Remove the MFD from the instrument panel. Refer to Garmin Display Unit - Removal/Installation.

**4. GTX Series Transponder Removal (GTX-33, GTX-33ES, GTX-335R and GTX-345R)**

**CAUTION:** Be careful when you remove and install electronic components. Electronic components are extremely sensitive to electrostatic discharge damage. Such damage cannot be seen by visual inspection and can make the component unserviceable. Refer to Chapter 20, Electrostatic Discharge Components - Maintenance Practices and the Model 208 Wiring Diagram Manual Chapter 20, Electrical Safety Precautions - Description and Operation for procedures to correctly work with electronic components.

- A. Remove the GTX Series Transponder (Refer to Figure 401).

**NOTE:** For removal of the GTX-327 and GTX-330, refer to this document, Garmin GTX 327 and Garmin GTX 330 Transponder Removal/Installation.

- (1) For GTX-33/GTX-33ES, loosen the lock lever screw, but do not remove it from the lock lever.
  - NOTE:** The screw is captive to the lock lever.
  - (a) Lift the lock lever to release the transponder from the avionics rack.
- (2) For GTX-335R/GTX-345R, loosen the 3/32" hexhead screw, but do not remove it.
  - (a) Lift the lock tab to release the transponder from the avionics rack.

- (3) Remove the transponder from the airplane.

## 5. GTX Series Transponder Installation (GTX-33, GTX-33ES, GTX-335R and GTX-345R)

**CAUTION:** Be careful when you remove and install electronic components. Electronic components are extremely sensitive to electrostatic discharge damage. Such damage cannot be seen by visual inspection and can make the component unserviceable. Refer to Chapter 20, Electrostatic Discharge Components - Maintenance Practices and the Model 208 Wiring Diagram Manual Chapter 20, Electrical Safety Precautions - Description and Operation for procedures to correctly work with electronic components.

- A. Install the GTX Series Transponder (Refer to Figure 401).

**CAUTION:** Do not use excessive force when inserting the GTX Series in the rack. This can cause damage to occur to the connectors, unit, and/or unit rack. If strong resistance is felt during installation, stop! Remove the GTX Series and identify the source of resistance. The unit is designed with a key and the back plate is designed to float in the unit rack. Check to make sure that the rear plate is not blocked by the connector harness.

- (1) For GTX-33/GTX-33ES, With the lock lever in the up position, carefully install the transponder in the avionics rack..

- (a) Lower the lock lever.

**CAUTION:** Start the handle screw into the hole carefully, to avoid cross-threading. Do not apply torque in excess of 14 in-lbs (1.6 N-m) to the handle screw. The application of torque exceeding 14 in-lbs to this screw will damage the LRU case and/or retaining hardware.

- (b) Tighten the screw in the lock lever and torque to no more than 14 inch-pounds (1.6 N-m).

- (2) For GTX-335R/GTX-345R, install the transponder in the avionics rack and secure lock tab.

- (a) Torque the 3/32" hexhead screws to between 15 and 20 inch pounds (1.70 and 2.26 N-m).

- (3) Install the MFD. Refer to Garmin Display Unit - Removal/Installation.

- (4) Engage the applicable circuit breaker given in Table 401.

## 6. GTX Series Transponder Post-Maintenance Checks (GTX-33, GTX-33ES, GTX-335R and GTX-345R)

- A. Do the GTX Series Transponder Post-Maintenance Checks.

- (1) If a new unit is installed, load the GTX Series option software and configuration. Refer to Garmin G1000 Integrated Avionics System - Adjustment/Test for the applicable sections and do the procedures that follow:

- (a) For the single GTX 33 installation do the Baseline Software/Configuration.

- (b) For the dual GTX 33 installation do the Dual GTX 33 Installation Option Configuration.

- (c) For the GTX33ES do the GTX33ES Option Configuration and the Enable ADS-B Out Unlock Card Configuration.

- (d) For the dual GTX33ES do the GTX33ES Option Configuration and the Enable ADS-B Out Unlock Card Configuration.

- (e) Do the G1000 NXi Transponder Configuration for the installed transponders.

- (2) Do a Garmin GTX Series Transponder System operational check. Refer to Garmin GTX Series Transponder System - Adjustment/Test.

## 7. Garmin GTX 327 and Garmin GTX 330 Transponder Removal/Installation

**NOTE:** The removal and installation procedures for the transponders are typical.

- A. The Garmin GTX-327 and GTX-330, Mode A/Mode C/Mode S transponders are located in the center radio panel.

- (1) The Garmin GTX-327 is installed on Airplanes 208 -00350 thru -00356, and Airplanes 208B -00900 thru -00974 as optional equipment.

- (2) The Garmin GTX-330 is installed on Airplanes 208 -00365 thru -00499 and Airplanes 208B -01010 thru -01999 as optional equipment.

- B. Remove the Garmin Transponder (Refer to Figure 402).

- (1) Disengage the transponder circuit breaker (XPDR 1, CBU02 or XPDR 2, CBU18) on the lower left circuit breaker panel.

- (2) Insert a 3/32 hex wrench through the front panel of the transponder and engage the lock mechanism.

- (3) Turn the lock mechanism counterclockwise to loosen and unlock the transponder from the mounting rack.

- (4) Remove the hex wrench from the transponder.
- (5) Pull the transponder from the mounting rack.
- (6) Remove the transponder from airplane.

C. Install Garmin Transponder (Refer to Figure 402).

- (1) Put the transponder in position in the mounting rack.
- (2) Insert a 3/32 hex wrench through the front panel of the transponder and engage the lock mechanism.
- (3) Turn the lock mechanism counterclockwise and move the transponder forward into the mounting rack until it stops.
- (4) Turn the lock mechanism clockwise until the transponder bezel is flush with the radio panel.

**NOTE:** This will lock the transponder in the mounting rack and engage the connectors.

- (5) Remove the hex wrench from the transponder.
- (6) Engage the transponder circuit breaker (XPDR 1, CBU02 or XPDR 2, CBU18) on the lower left circuit breaker panel.
- (7) Make sure that the transponder configuration and the Mode S Code agree with the instructions in the GTX 330 Configuration Procedure drawing, which is supplied with the airplane.

**NOTE:** For the foreign-registered airplanes, the Mode S Code, for the airplane in which the transponder is installed, must be known in hexadecimal format.

- (8) Do the Transponder Functional Check. Refer to Dependent Position Determining - Inspection/Check.

## 8. Garmin GTX Series Transponder Antenna Removal/Installation

**NOTE:** The airplane can have one or two transponder antennas. The removal and installation procedures for the transponder antennas are typical. For the Model 208 the transponder antennas are located on the bottom of the airplane at FS 237.00, RBL 12.25 for transponder antenna 1, and FS 237.00, LBL 12.25 for transponder antenna 2. For the Model 208B the transponder antennas are located on the bottom of the airplane at FS 285.00, RBL 12.25 for transponder antenna 1, and FS 285.00, LBL 12.25 for transponder antenna 2.

**NOTE:** Antenna installation locations for the GTX-327 and GTX 330 may vary slightly. Figure 403 is used for reference only.

**NOTE:** Antenna sizes and shapes may vary slightly, Figure 202 is used for reference only.

A. Remove the Transponder Antenna (Refer to Figure 403).

- (1) Disengage the transponder circuit breaker (XPDR 1, CBU02 or XPDR 2, CBU18) on the lower left circuit breaker panel.
- (2) Remove the screws from the transponder antenna.
- (3) Carefully pull the transponder antenna away from the skin.
- (4) Disconnect the coax connector from the transponder antenna.
- (5) Remove the transponder antenna from the airplane.

B. Install the Transponder Antenna (Refer to Figure 403).

- (1) Make sure that the mounting surface area and the transponder antenna are clean and free of old sealant and contamination. Refer to Chapter 20, Fuel, Weather and High-Temperature Sealing - Maintenance Practices.
- (2) Put the transponder antenna in position near the skin.
- (3) Connect the coax connector to the transponder antenna.
- (4) Install the screws in the transponder antenna and attach the transponder antenna to the skin.
- (5) Check the electrical bonding, refer to Chapter 20, Electrical Bonding - Maintenance Practices.
- (6) Engage the transponder circuit breaker (XPDR 1, CBU02 or XPDR 2, CBU18) on the lower left circuit breaker panel.
- (7) Do the Transponder Functional Check. Refer to Dependent Position Determining - Inspection/Check.
- (8) Fillet seal the exterior mating surfaces with Type 1 sealant. Refer to Chapter 20, Fuel, Weather and High-Temperature Sealing - Maintenance Practices.

## 9. Garmin GTX Series Transponder Antenna with Cargo Pod Removal/Installation

**NOTE:** The airplane can have one or two transponder antennas. The removal and installation procedures for the transponder antennas are typical. For the Model 208 and the Model 208B the transponder antennas

are located on the bottom of the cargo pod at FS 154.30, LBL 12.25 for transponder antenna 1, and FS 154.30, RBL 12.25 for transponder antenna 2.

**NOTE:** Antenna installation locations for the GTX-327 and GTX 330 may vary slightly. Figure 203 is used for reference only.

**NOTE:** Antenna sizes and shapes may vary slightly, Figure 203 is used for reference only.

- A. Remove the Transponder Antenna (Refer to Figure 404).
  - (1) Disengage the transponder circuit breaker (XPDR 1, CBU02 or XPDR 2, CBU18) on the lower left circuit breaker panel.
  - (2) Open the cargo pod compartments to get access to the transponder antenna.
  - (3) Disconnect the coax connector from the transponder antenna.
  - (4) Remove the screws, washers, and nuts from the transponder antenna.
  - (5) Carefully pull the transponder antenna away from the cargo pod.
  - (6) Remove the transponder antenna from the airplane.
- B. Install the Transponder Antenna (Refer to Figure 404).
  - (1) Make sure that the mounting surface area and the transponder antenna are clean and free of old sealant and contamination. Refer to Chapter 20, Fuel, Weather and High-Temperature Sealing - Maintenance Practices.
  - (2) Put the transponder antenna in position on the cargo pod.
  - (3) Install the screws, washers, and nuts in the transponder antenna.
  - (4) Connect the coax connector to the transponder antenna.
  - (5) Check the electrical bonding, refer to Chapter 20, Electrical Bonding - Maintenance Practices.
  - (6) Engage the transponder circuit breaker (XPDR 1, CBU02 or XPDR 2, CBU18) on the lower left circuit breaker panel.
  - (7) Do the Transponder Functional Check. Refer to Dependent Position Determining - Inspection/Check.
  - (8) Fillet seal the exterior mating surfaces with Type 1 sealant. Refer to Chapter 20, Fuel, Weather and High-Temperature Sealing - Maintenance Practices.
  - (9) Close the cargo pod compartments.

#### 10. Garmin GTX Series Transponder Antenna (Fairing Installation) Removal/Installation (GTX-33, GTX-33ES, GTX-335R and GTX-345R)

**NOTE:** The airplane can have one or two transponder antennas. The removal and installation procedures for the transponder antennas are typical. For the Model 208 the standard transponder antenna is found at FS 154.67, LBL 11.50, the optional second transponder antenna is found at FS 154.67, RBL 11.50.

- A. Remove the Transponder Antenna (Refer to Figure 405).
  - (1) Disengage the applicable circuit breaker for the transponder.
  - (2) Remove the aft fairing. Refer to Chapter 30, TKS Fluid Tank - Maintenance Practices, Remove the Aft Fairing.
  - (3) Disconnect the coax connector from the applicable antenna.
  - (4) Remove the screws, and washers from the applicable antenna.
  - (5) Carefully pull the applicable antenna away from the fairing.
  - (6) Remove the applicable antenna from the airplane.
- B. Install the Transponder Antenna (Refer to Figure 405).
  - (1) Make sure that the mounting surface area and the transponder antenna are clean and free of old sealant and contamination. Refer to Chapter 20, Fuel, Weather and High-Temperature Sealing - Maintenance Practices.
  - (2) Put the transponder antenna in position on the fairing.
  - (3) Install the screws and washers that attaches the transponder antenna to the fairing.
  - (4) Connect the coax connector to the transponder antenna.
  - (5) Check the electrical bonding, refer to Chapter 20, Electrical Bonding - Maintenance Practices.
  - (6) Engage the applicable circuit breaker for the antenna you installed.
  - (7) Do the Transponder Functional Check. Refer to Dependent Position Determining - Inspection/Check.

- (8) Fillet seal the exterior mating surfaces with Type 1 sealant. Refer to Chapter 20, Fuel, Weather and High-Temperature Sealing - Maintenance Practices.
- (9) Install the aft fairing. Refer to Chapter 30, TKS FLUID TANK - Maintenance Practices, Remove the Aft Fairing.

Figure 401 : Sheet 1 : Garmin GTX Series Transponder Installation

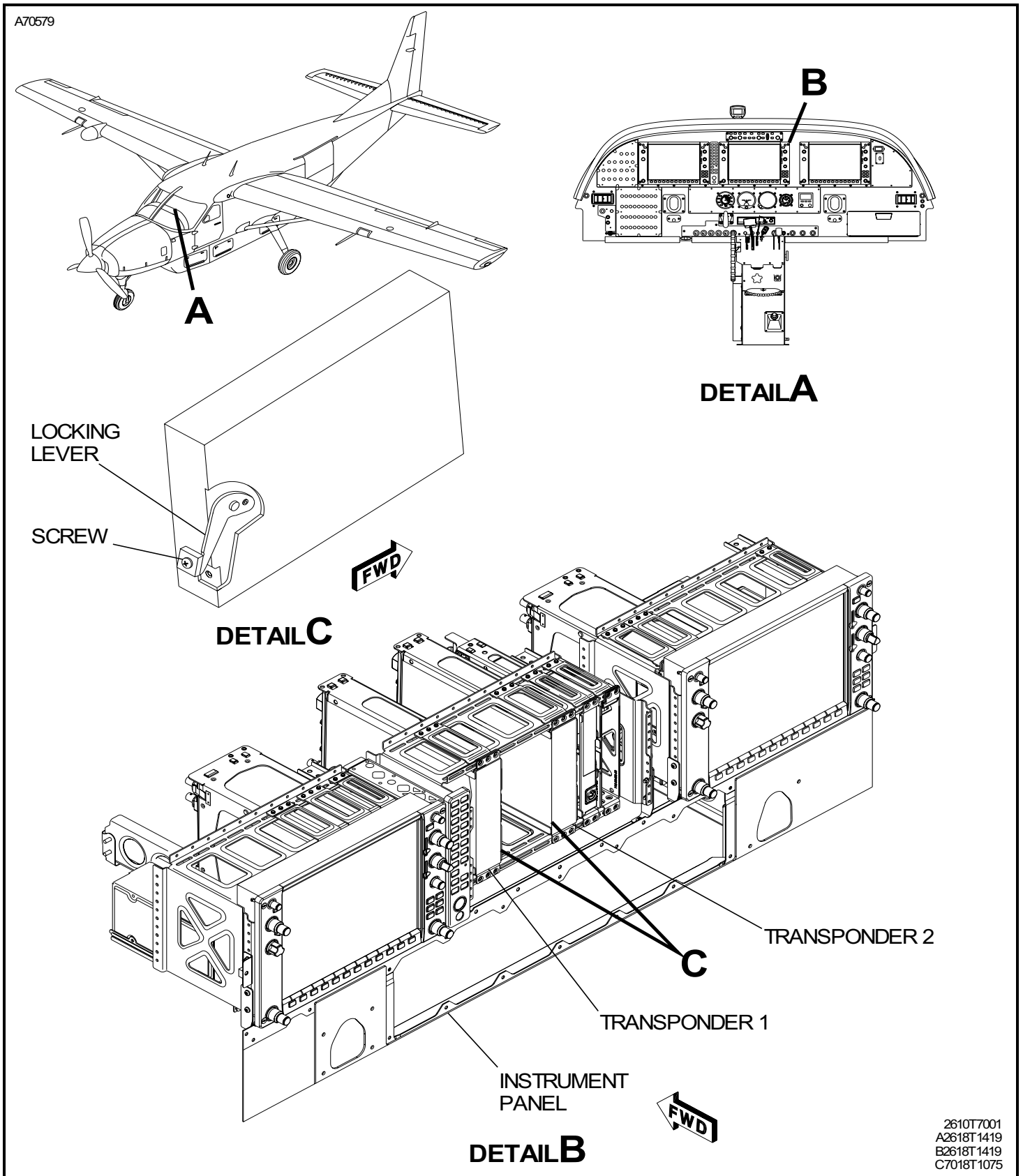


Figure 402 : Sheet 1 : Garmin GTX 327 and Garmin GTX 330 Transponder

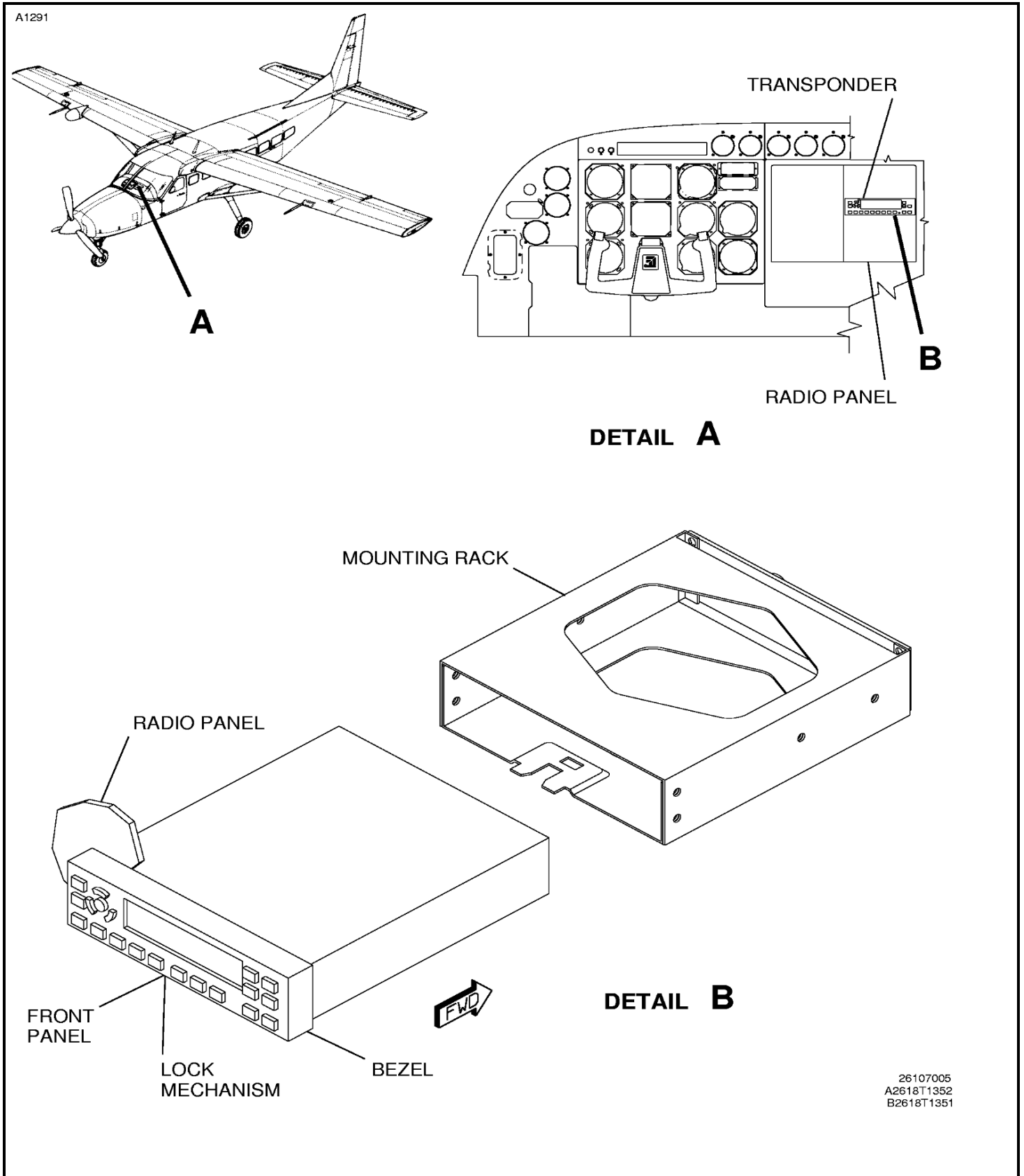


Figure 403 : Sheet 1 : Garmin GTX Series Transponder Antenna without Cargo Pod

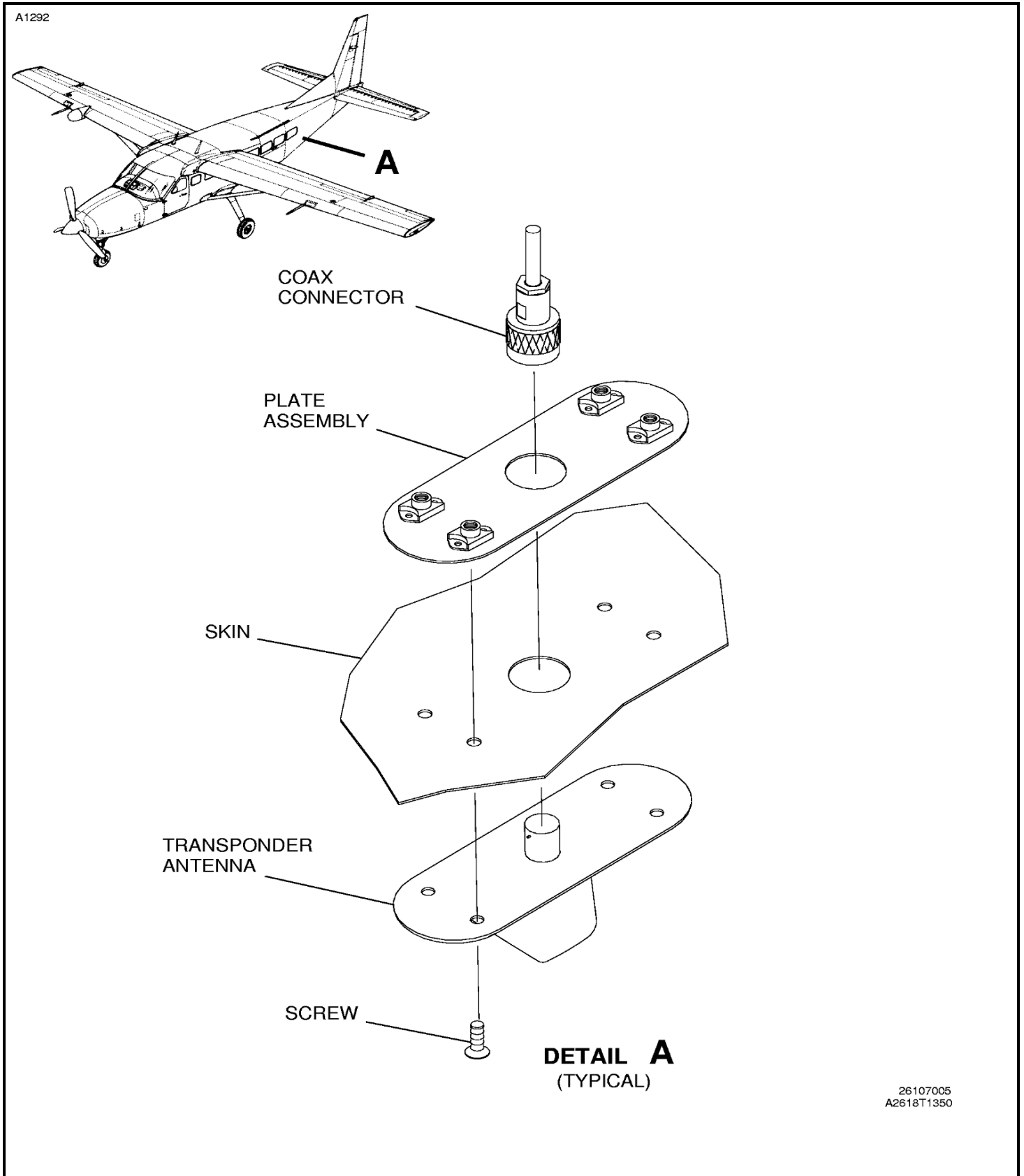




Figure 404 : Sheet 1 : Garmin GTX Series Transponder Antenna with Cargo Pod

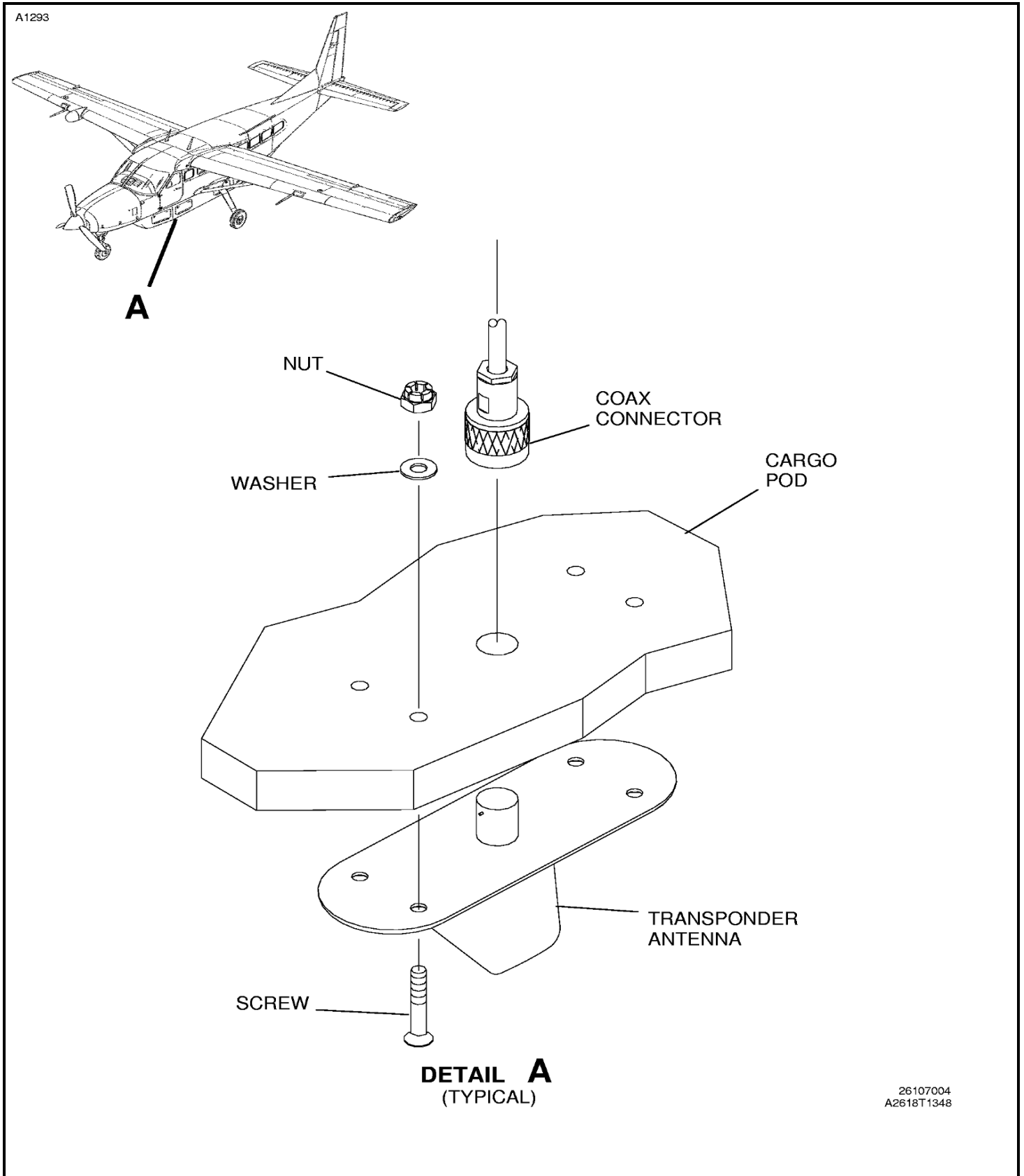


Figure 405 : Sheet 1 : Garmin GTX Series Transponder Antenna (Fairing Installation)

