GARMIN G1000 VHF COMMUNICATION SYSTEM - ADJUSTMENT/TEST

1. General

A. This page block gives the operational test procedures for the Garmin G1000 VHF Communication System. There is a VHF 1 system (COM 1) and a VHF 2 system (COM 2) installed on the airplane. For a general overview of the Garmin G1000 VHF Communications System refer to Garmin G1000 VHF Communications System - Description and Operation.

B. The VHF COM 1, VHF COM 2 receiver/transmitter functions are found in the Garmin GIA 63W/64W Integrated Avionics Units No.1 and No. 2, respectively. For a general overview of the GIA 63W/64W unit refer to Garmin G1000 Integrated Avionics System - Description and Operation.

2. Garmin VHF Communications System Operational Check

A. Tools and Equipment.

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

(1) Tools and Equipment

- Headsets (2).

(2) Special Consumables

- None.

(3) Reference Material

- Chapter 23, Garmin G1000 VHF Communications System - Description and Operation
- Chapter 34, Garmin G1000 Integrated Avionics System - Description and Operation
- Chapter 34, Garmin G1000 Integrated Avionics System - Adjustment/Test.

B. Prepare the Airplane.

(1) Make sure that the switches that follow are in the OFF position:

(a) BATTERY switch.

(b) EXTERNAL POWER switch.

(c) AVIONICS 1 and 2 switches.

(2) Connect external electrical power to the airplane.

(a) Adjust the ground power unit (GPU) to 28Vdc, +0.5 or -0.5 Vdc.

(3) Make sure that all the circuit breakers on the Avionics section of the left circuit breaker panel are engaged.

(4) Put the switches that follow in the positions given:

(a) External POWER switch to the BUS position.

(b) BATTERY switch to the ON position.

(c) Avionics 1 and 2 switches to the ON position.

(5) After the Garmin G1000 system is fully initiated refer to Chapter 34, Garmin G1000 Integrated Avionics System - Adjustment/Test and do the steps that follow:

(a) Do the G1000 Architecture Verification Check and make sure all systems are serviceable.

(b) Make sure that the correct software and configuration has been installed.

C. Garmin VHF Communications System COM 1 and COM 2 Tuning Check.

NOTE: When you do the COM 1 check, make sure that COM 2 is not tuned to the frequency as COM 1, or turn the volume down so it does not interfere with the check.

(1) On PFD 1, tune COM 1 to an ATIS, ASOS, or AWOS station.

(a) Toggle to the active frequency field.

(b) On the GMA 1347/1360D audio panel, use the VOL knob to set the COM 1 volume to a necessary level.

(2) On the GMA 1347/1360D audio panel:

(a) Push the COM 1 button to select COM 1 as the audio source.

(b) Push the SPKR to turn the overhead speakers on.

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(3) If necessary, on PFD 1 and PFD 2, push the COM VOL/PUSH SQ knob to disable automatic squelch to provide maximum sensitivity to weaker signals.

(4) Make sure that the station selected is heard on the overhead speakers.

(5) On PFD 2, tune COM 2 to an ATIS, ASOS, or AWOS station.

(a) Toggle to the active frequency field.

(b) On the GMA 1347/1360D audio panel, use the VOL knob to set the COM 2 volume to a necessary level.

(6) On the GMA 1347/1360D audio panel:

(a) Push the COM 2 button to select COM 2 as the audio source.

(7) Make sure that the station selected is heard on the overhead speakers.

D. Garmin VHF Communications System COM 1 and COM 2 Audio Transmission and Antenna Operational Check

(1) On PFD 1 or PFD 2, tune COM 1 to a known good local two-way communication frequency.

(a) Toggle the standby frequency to the active frequency.

(2) On the GMA 1347/1360D audio panel, push the COM 1 button to select COM 1 as the audio transmission source.

(3) On the Pilot's control wheel, push the PTT button and call the previously selected, known good two-way communication station.

(a) Use the pilots headset MIC and request a signal strength and audio quality report.

1 Make sure that the transmitted signal is strong and the audio is crisp and clear with no evidence of clipping from either headset.

(4) On the copilot's control wheel, push the PTT button and call the previously selected, known good two-way communication station.

(a) Use the copilot's headset MIC and request a signal strength and audio quality report.

1 Make sure that the transmitted signal is strong and the audio is crisp and clear with no evidence of clipping from either headset.

(5) On the GMA 1347/1360D audio panel, push the COM 2 button to select COM 2 as the audio transmission source.

(6) On the Pilot's control wheel, push the PTT button and call the previously selected, known good two-way communication station.

(a) Use the pilots headset MIC and request a signal strength and audio quality report.

1 Make sure that the transmitted signal is strong and the audio is crisp and clear with no evidence of clipping from either headset.

(7) On the copilot's control wheel, push the PTT button and call the previously selected, known good two-way communication station.

(a) Use the copilot's headset MIC and request a signal strength and audio quality report.

1 Make sure that the transmitted signal is strong and the audio is crisp and clear with no evidence of clipping from either headset.

E. Hand Microphone Operational Check

(1) Make sure that the frequency of the known good two-way communication station is the active frequency on COM 1.

(2) On the GMA 1347/1360D audio panel, push the COM 1 button to select COM 1 as the audio transmission source.

(3) Key the hand microphone and make sure that the transmitted signal is strong and the audio is crisp and clear with no signs of clipping.

F. Put the Airplane Back to its Initial Condition.

(1) Put the switches that follow to the OFF position:

(a) BATTERY switch.

(b) EXTERNAL POWER switch.

(c) AVIONICS 1 and 2 switches.

(2) Disconnect external electrical power from the airplane.

3. Garmin G1000 GPS 1 and GPS 2 Operational Test

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A. Do the Garmin G1000 GPS 1 and GPS 2 Operational Test

NOTE: Make sure that the airplane is in a position that is receiving a GPS signal (either by using a GPS repeater in the hangar, or parked outside away from the hangar) before beginning the test.

(1) On the MFD, turn the FMS knobs until the AUX-GPS STATUS page is displayed.

(2) Push the GPS 2 Soft key to highlight that function and make sure that it is showing either 3D NAV or 3d DIFF NAV in the GPS Solution field and that the satellites shown in the constellation view are all showing their signal strengths.

(3) Push the GPS 2 Soft key to highlight that function and make sure that it is showing either 3D NAV or 3D DIFF NAV in the solution field and that the satellites shown in the constellation view are all showing signal strengths.

(4) Make sure the present position and altitude for the GPS 1 and GPS 2 are accurate to two tenths of a minute in location and 100 feet (30.48 meters) for altitude.

(5) See Table 501 for GPS Positions

Table 501. GPS Positions

Location	Latitude	Longitude	Altitude Feet
Pawnee	N 37°38.86'	W 97°14.86'	1397
Wichita (W-2)	N 37°38.52'	W 97°25.08'	1340
Wichita (W-7)	N 37°38.50'	W 97°24.90'	1326

NOTE: Allow at least ten (10) minutes after start up for the system to fully acquire its GPS solution.

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