Apollo GX50 GPS
Apollo GX60/65 GPS/Comm
STC Master Drawing List

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Title:	**Apollo GX50 GPS, GX60/65 GPS/Comm STC Master Drawing List**	Number:	**560-0970**
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1. INTRODUCTION

1.1 PURPOSE

The purpose of this document is to provide the data required to support the installation of the UPS Aviation Technologies Apollo GX50 GPS, GX60 GPS/Comm, or GX65 GPS/Comm in a Partenavia P68 series aircraft in accordance with STC Requirements.

The GX60 is a TSO-C129a Class A1 GPS supplemental navigation system installed for use under VFR (Visual Flight Rules) or IFR (Instrument Flight Rules) conditions for enroute, terminal, and non-precision approach operations and includes a TSO-C37d Class D, TSO-C38d Class 4, TSO-C128 VHF communications transceiver.

The GX65 is a TSO-C129a Class A2 GPS supplemental navigation system installed for use under VFR (Visual Flight Rules) or IFR (Instrument Flight Rules) conditions for enroute and terminal operations and includes a TSO-C37d Class D, TSO-C38d Class 4, TSO-C128 VHF communications transceiver.

The GX50 includes the same GPS navigation functions as the GX60, but does not include the VHF comm functions.

1.2 SCOPE

This document applies to the UPS Aviation Technologies Apollo GX50 GPS, GX60 GPS/Comm, and GX65 GPS/Comm. This document includes general installation information as well as, included by reference, other data required for the installation and STC.

2. STC DOCUMENTS

The documents listed in this section and used with this STC must be of the revision listed or other FAA approved revisions.

2.1 REQUIRED FOR INSTALLATION

The following documents are required for the installation:

- UPS AT P/N 560-0959-04, Apollo GX50 GPS, GX60/65 GPS/Comm Installation Manual or later approved revision of this manual.
- UPS AT P/N 560-1001-05, Apollo GX Series System Configuration Index or later approved revision of this configuration index.

One of the following is required, depending on antenna used.

- UPS AT P/N 560-0949-01, A33 GPS Antenna Installation Guide
- UPS AT P/N 560-5047-00, A34 GPS Antenna Installation Guide

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2.2 RELATED DOCUMENTS

The following documents contain information related to the initial STC but are not required for follow-on installations:

- UPS AT document 560-0969-01, Apollo GX50 GPS Partenavia P68C Installation Description
- UPS AT document PD1063, Rev -, Apollo GX Series VHF Comm / GPS Safety Analysis
- UPS AT document PD1231, Rev -, Apollo GX50/60 GPS Flight Test Plan (Initial Airworthiness - P68C)
- UPS AT document PD1086, Rev C, N3832P, Partenavia P68C Electrical Load Analysis

2.2.1 Reference Documents

The following documents are used as reference for the installation:

- FAA AC 43.13-1A, Acceptable Methods, Techniques, and Practices - Aircraft Inspection and Repair
- FAA AC 43.13-2A, Acceptable Methods, Techniques, and Practices - Aircraft Alterations
- FAA AC 20-138, Airworthiness Approval of Global Positioning System Navigation Equipment for Use as a VFR and IFR Supplemental Navigation System
- FAA AC 20-67B, Airborne VHF Communications Equipment Installation

3. EQUIPMENT CONFIGURATION

The equipment configuration must be verified using the Apollo GX Series System Configuration Index, UPS AT P/N 560-1001-[05] or later FAA approved document. This document also lists proper revisions of the user and installation manuals and appropriate antennas.

4. GENERAL INSTALLATION REQUIREMENTS

4.1 GENERAL

The installation must be done in accordance with all applicable FARs.

Mechanical installation, wiring, cable bundling and routing, and connections to existing aircraft systems must conform the instructions or requirements found in the STC data and/or the installation manual as appropriate. In any area where specific installation instructions or requirements are not provided in the STC data or the installation manual, the installer shall conform to the recommended practices and procedures found in AC 43.13-2A, Chapter 2, *Radio Installations*, and Chapter 3, *Antenna Installations*; AC 43.13-1A, Chapter 11, *Electrical Systems*, sections 2-4 and 7.

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4.2 HARDWARE

Hardware not supplied with the equipment, or otherwise specified in the appropriate installation manuals or other STC data (e.g., screws and nuts) should be selected from standard aircraft hardware as described by AC 43.13-1A, Chapter 5, *Aircraft Hardware*.

4.3 WIRING

All wire used in the installation should be of appropriate standard aircraft quality grade and size as described in AC 43.13 1A, Chapter 11, section 3, *Electric Wire*.

4.4 CIRCUIT PROTECTION

All circuits must be protected in accordance with AC 43.13-1A, Chapter 11, section 2, paragraph 429, *Circuit Protection Devices*.

4.5 ELECTRICAL LOAD ANALYSIS

An electrical load analysis should be performed on each aircraft, as described in AC 43.13-1A, Chapter 11, section 2.

4.6 FLIGHT MANUAL SUPPLEMENT

4.6.1 VFR Installation

The equipment may be installed limited to VFR use only as long as the airworthiness considerations described in AC 20-138, section 7, Airworthiness Criteria for GPS Installations Used as a Supplemental Navigation System Limited to Visual Flight Rules (VFR) Only, have been met.

An AFM supplement or supplemental flight manual is not required for installations limited to VFR use only provided:

a) the complexity of the installation does not require an AFM or supplemental flight manual to describe limitations, and
b) VFR limitation placard, stating “GPS Limited to VFR Use Only,” or an FAA approved equivalent statement is installed in clear view of, and readable by, the pilot.

4.6.2 IFR Installation

An FAA-approved AFM supplement is required for the Apollo GX50 GPS or GX60/65 GPS/Comm when installed for IFR operation. The FAA approved AFM supplement, UPS AT P/N 560-1015-[02] or later FAA approved document, can be used to prepare the AFM supplement for follow-on installations.

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