

# INSTRUMENT OVERHAUL SERVICE

1981 N. MARSHALL AVE.  
EL CAJON, CA 92020  
619-449-5565

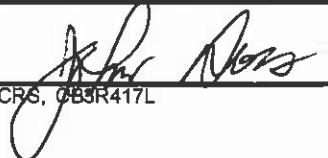
## Weight And Balance

Reg. Number: N4389X  
Make/Model: PIPER PA28R-200  
Year: 1976  
Serial Number: 7635034

Date: 11/30/2017  
Tach:  
Max Weight: 2650  
Work Order:

New A/C Empty Weight: 1672.54      Landing C.G. Range:  
New A/C Empty C.G.: 84.93      Gear Extended C.G. Range:  
New A/C Useful Load: 977.46      Empty Weight C.G. Range:

Description	Serial Number	Weight	Arm	Moment	Installed	Removed
Previous Aircraft Empty	7635034	1681.14	85.17	143182.7	n/a	n/a
<b>Removed</b>						
KI 525A HSI		3.40	59.10	200.9		X
KA 51B SLAVE METER		0.20	61.70	12.3		X
KMT 112 FLUX VALVE		0.50	118.00	59.0		X
KG 102A DIR GYRO		4.80	192.00	921.6		X
KA 57 A/P ADAPTER		0.40	60.00	24.0		X
GDC 31 GPSS CONV		0.50	60.00	30.0		X
HSI WIRING		1.00	54.00	54.0		X
KI 207 NAV INDICATOR		1.00	60.50	60.5		X
<b>Installed</b>						
		0.00	0.00	112.1	X	
		0.00	0.00	62.4	X	
G5 ATTITUDE INDICATOR	4JQ011829	1.00	60.00	60.0	X	
G5 HSI	4JQ009064	1.00	60.00	60.0	X	
GMU 11 MAGNETOMETER	56J004325	0.50	118.00	59.0	X	
GAD 29 B ADAPTER	5DL000225	0.70	61.00	42.7	X	
<b>New Aircraft Values</b>		1672.54	84.93	142042.0		

  
 FAA CRS, 083R417L

# INSTRUMENT OVERHAUL SERVICE

1981 N. MARSHALL AVE.  
EL CAJON, CA 92020  
619-449-5565

## Weight And Balance

Reg. Number: N4389X  
Make/Model: PIPER PA28R-200  
Year: 1976  
Serial Number: 7635034

Date: 11-30-2017  
Tach:  
Max Weight: 2650  
Work Order:

New A/C Empty Weight: 1669.44      Landing C.G. Range:  
New A/C Empty C.G.: 84.98      Gear Extended C.G. Range:  
New A/C Useful Load: 980.56      Empty Weight C.G. Range:

Description	Serial Number	Weight	Arm	Moment	Installed	Removed
Previous Aircraft Empty	7635034	1681.14	85.17	143182.7	n/a	n/a
<b>Removed</b>						
KI 525A HSI		3.40	59.10	200.9		X
KA 51B SLAVE METER		0.20	61.70	12.3		X
KMT 112 FLUX VALVE		0.50	118.00	59.0		X
KG 102A DIR GYRO		4.80	192.00	921.6		X
KA 57 A/P ADAPTER		0.40	60.00	24.0		X
GDC 31 GPSS CONV		0.50	60.00	30.0		X
52D66 ATT GYRO		1.90	59.00	112.1		X
HSI WIRING		1.00	54.00	54.0		X
KI 207 NAV INDICATOR		1.00	60.50	60.5		X
VAC GAUGE,REG,HOSES		1.20	52.00	62.4		X
<b>Installed</b>						
G5 ATTITUDE INDICATOR	4JQ011829	1.00	60.00	60.0	X	
G5 HSI	4JQ009064	1.00	60.00	60.0	X	
GMU 11 MAGNETOMETER	56J004325	0.50	118.00	59.0	X	
GAD 29 B ADAPTER	5DL000225	0.70	61.00	42.7	X	
<i>Superseded 11/30/17</i>						
<b>New Aircraft Values</b>		1669.44	84.98	141867.5		

*John Dean*  
\_\_\_\_\_  
FAA CRS, CBBR417L

# INSTRUMENT OVERHAUL SERVICE

1981 N. MARSHALL AVE.  
EL CAJON, CA 92020  
619-449-5565

## Weight And Balance

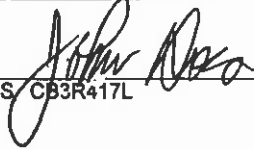
Reg. Number: N4389X  
Make/Model: PIPER PA28R-200  
Year: 1976  
Serial Number: 7635034

Date: 05-24-2017  
Tach:  
Max Weight: 2650  
Work Order:

New A/C Empty Weight:	1681.14	Landing C.G. Range:
New A/C Empty C.G.:	85.17	Gear Extended C.G. Range:
New A/C Useful Load:	968.86	Empty Weight C.G. Range:

Description	Serial Number	Weight	Arm	Moment	Installed	Removed
Previous Aircraft Empty	7635034	1682.34	85.15	143251.3	n/a	n/a
<b>Removed</b> GTX 327 TRANSPONDER		3.10	59.30	183.8		X
STRIKEFINDER DISPLAY		1.20	59.85	71.8		X
<b>Installed</b> GTX 345 ADSB XPRD	3EG006840	3.10	59.30	183.8	X	
<b>New Aircraft Values</b>		1681.14	85.17	143179.4		

Superseded  
10/30/17

  
 FAA CRS CB3R417L





United States of America  
Department of Transportation  
Federal Aviation Administration

# Supplemental Type Certificate

Number: SA01818WI

This certificate issued to: Garmin International, Inc.  
1200 East 151st Street  
Olathe, KS 66062

certifies that the change in the type design for the following product with the limitations and conditions therefore as specified hereon meets the airworthiness requirements of Part 23\* of the Federal Aviation Regulations.

Original Product – Type Certificate Number:  
Multiple - AML STC

Make:  
Model: See Approved Model List (AML) SA01818WI for approved aircraft models and applicable airworthiness regulations

Description of Type Design Change:

Installation of Garmin G5 Electronic Flight Instrument

Data Required:

- (1) Garmin Master Drawing List (MDL) 005-01112-01, Revision 1, dated July 22, 2016
  - (2) Garmin G5 STC Maintenance Manual Including ICA 190-01112-11, Revision 1, dated July 22, 2016
  - (3) Garmin G5 Airplane Flight Manual Supplement 190-01112-13, Revision 1, dated July 22, 2016
- Later FAA-approved revisions to the data listed above are incorporated without amendment to this certificate

Limitations and Conditions:

- (1) Compatibility of this design change with previously approved modifications must be determined by the installer.
- (2) The installation of the G5 requires the retention of the mechanical airspeed indicator, altimeter, and vertical speed indicator.

(continued on Page 3)

*This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, and revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.*

Date of Application: May 5, 2016

Date Reissued:

Date of Issuance: July 22, 2016

Date Amended: April 28, 2017; October 18, 2017

By Direction of the Administrator

Signature

Title

Robert G. Murray  
ODA STC Unit Administrator  
ODA-240087-CE

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both. This certificate may be transferred or made available to third persons by licensing agreements in accordance with 14 CFR 21.47. Possession of this Supplemental Type Certificate (STC) document by persons other than the STC holder does not constitute rights to the design data nor to alter an aircraft, aircraft engine, or propeller. The STC's supporting documentation (drawings, instructions, specifications, flight manual supplements, etc.) is the property of the STC holder. An STC holder who allows a person to use the STC to alter an aircraft, aircraft engine, or propeller must provide that person with written permission acceptable to the FAA. (Ref. 14 CFR 21.120)



United States of America  
Department of Transportation  
Federal Aviation Administration  
*Supplemental Type Certificate*

INSTRUCTIONS: The transfer endorsement below may be used to notify the appropriate FAA Aircraft Certification Office of the transfer of this Supplemental Type Certificate. The FAA will reissue the certificate in the name of the transferee and forward it to him.

*Transfer Endorsement*

*Transfer the ownership of Supplemental Type Certificate Number:*

To (Name and address of transferee)

From (Name and address of grantor)

Extent of Authority (if licensing agreement):

*Date of transfer:*

*Signature of grantor:* \_\_\_\_\_

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Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both. This certificate may be transferred or made available to third persons by licensing agreements in accordance with 14 CFR 21.47. Possession of this Supplemental Type Certificate (STC) document by persons other than the STC holder does not constitute rights to the design data nor to alter an aircraft, aircraft engine, or propeller. The STC's supporting documentation (drawings, instructions, specifications, flight manual supplements, etc.) is the property of the STC holder. An STC holder who allows a person to use the STC to alter an aircraft, aircraft engine, or propeller must provide that person with written permission acceptable to the FAA. (Ref. 14 CFR 21.120).

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United States of America  
 Department of Transportation  
 Federal Aviation Administration

Supplemental Type Certificate

(Continuation Sheet)

Number: SA01818WI

October 18, 2017

Limitations and Conditions (Cont.)

- (3) For Installations in aircraft approved for IFR operations:
  - (a) If the G5 is installed as the primary attitude indicator, the existing rate of turn indicator must be retained.
  - (b) If the G5 is installed as the rate of turn indicator, the existing primary attitude indicator must be retained.
- (4) For Installations in aircraft approved for VFR-only operations, the G5 can be installed as the attitude indicator and rate of turn indicator without retention of either the existing attitude indicator or rate of turn indicator.
- (5) Aircraft modified by this STC must be operated in accordance with the Airplane Flight Manual Supplement (AFMS) identified above.
- (6) Aircraft modified by this STC must be maintained in accordance with the Instructions for Continued Airworthiness (ICA) identified above.
- (7) If the holder agrees to permit another person to use this certificate to alter the product, the holder must give the other person written evidence of that permission.

\*Certification Basis

Based on 14 CFR 21.115 and 21.101, and the FAA policy for significant changes in FAA Order 8110.48, the certification basis for this change is as follows:

- a. The certification basis for parts not changed or not affected by this change remains unchanged from the original approval.
- b. The certification basis for parts changed or affected by this change is:

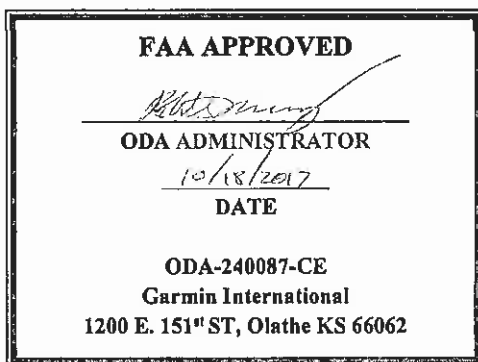
Section	Amdt.	Section	Amdt.
23.301(a)	23-48	23.1322	23-43
23.303	Orig.	23.1323(a)(b)(c)	23-49
23.305(a)(b)	23-45	23.1325(a)(b)	23-49
23.307(a)	Orig.	23.1327(a)(1)(2)	23-20
23.337(a)(b)	23-48	23.1329(g)(h)	23-49
23.561(a)(b)(3)(e)	23-48	23.1331(a)(b)(1)(c)	23-43
23.601	Orig.	23.1351(a)	23-49
23.603	23-23	23.1353(h)	23-49
23.605(a)	23-23	23.1357(a)(b)(c)(d)	23-43
23.607(b)	23-48	23.1359	23-49
23.613(a)(b)	23-45	23.1365(a)(b)(d)(e)	23-49
23.771(a)	23-14	23.1381(a)(b)	Orig.
23.773(a)(2)	23-45	23.1431(a)(b)	23-49
23.777(a)(b)	23-33	23.1529	23-26
23.853(a)	23-49	23.1541	23-21
23.1301	23-20	23.1543(b)	Orig.
23.1303(a)(b)(c)(f)	23-49	23.1545(a)(b)(c)	23-23
23.1307	23-49	23.1555(a)(b)	23-21
23.1309(a)(b)(c)(d)(e)	23-49	23.1581(a)(b)(d)(f)	23-45
23.1311(a)(1)(2)(3)(6)(7)(b)	23-49	23.1585(a)	23-45
23.1321(c)(d)(e)	23-49		

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both. This certificate may be transferred or made available to third persons by licensing agreements in accordance with 14 CFR 21.47. Possession of this Supplemental Type Certificate (STC) document by persons other than the STC holder does not constitute rights to the design data nor to alter an aircraft, aircraft engine, or propeller. The STC's supporting documentation (drawings, instructions, specifications, flight manual supplements, etc.) is the property of the STC holder. An STC holder who allows a person to use the STC to alter an aircraft, aircraft engine, or propeller must provide that person with written permission acceptable to the FAA. (Ref. 14 CFR 21.120).

**FAA Approved Model List (AML)**

**STC Number SA01818WI**

**Installation of Garmin G5 Electronic Instrument System**



Issued Date: July 22, 2016

Revised Date: October 18, 2017  
(See Revision History for full list of revisions)



**FAA Approved Model List (AML) STC Number SA01818WI**

**AML Revision Log**

<b>Date</b>	<b>Description</b>
July 22, 2016	Original
Aug 22, 2016	Add models under the following TCDS: 1A2, 1A4, 1A6, A34CE, A-767
Apr 28, 2017	Add models under the following TCDS: A1EU, A27EU, A-773, A13EU, A67EU, TC 788, A-780, A4PC, A-694, 1A2, 1A13, A-766, 5A2, A-768, 3A21, A-787, A-718, A18EA, A68EU
Oct 18, 2017	Add models under the following TCDS: A17WE, A8SO, A18EU, A22EU, A43CE, A-734, 1A8, TC 628, 3A17, 3A25, A31EU

**FAA Approved Model List (AML) STC SA01818W1**

Aircraft Make (TCDS Holder) [common name or previous make]	Aircraft Model (alias)	Type Certificate Number	TC Cert. Basis*	MDL 005-01112-01 Rev.**	AML Rev. Date	Limitations
Piper Aircraft, Inc. (Piper Aircraft, Inc.)	PA-23, PA-23-160, PA-23-235, PA-23-250, PA-E23-250	1A10	CAR 3	1	July 22, 2016	
Piper Aircraft, Inc. (Piper Aircraft, Inc.)	PA-24, PA-24-250, PA-24-260, PA-24-400	1A15	CAR 3	1	July 22, 2016	
Piper Aircraft, Inc. (Piper Aircraft, Inc.)	PA-28-140, PA-28-150, PA-28-151, PA-28-160, PA-28-161, PA-28-180, PA-28-235, PA-28S-160, PA-28R-180, PA-28S-180, PA-28-181, PA-28R-200, PA-28R-201, PA-28R-201T, PA-28RT-201, PA-28RT-201T, PA-28-201T, PA-28-236	2A13	CAR 3	1	July 22, 2016	
Piper Aircraft, Inc. (Piper Aircraft, Inc.)	PA-38-112	A18SO	FAR 23	1	July 22, 2016	
Piper Aircraft, Inc. (Piper Aircraft, Inc.)	PA-44-180, PA-44-180T	A19SO	FAR 23	1	July 22, 2016	(1)(2) (3)
Piper Aircraft, Inc. (Piper Aircraft, Inc.)	PA-30, PA-39, PA-40	A1EA	CAR 3	1	July 22, 2016	
Piper Aircraft, Inc. (Piper Aircraft, Inc.)	PA-32-260, PA-32-300, PA-32S-300, PA-32R-300, PA-32RT-300, PA-32RT-300T, PA-32R-301(SP), PA-32R-301(HP), PA-32R-301T, PA-32-301, PA-32-301T, PA-32-301FT, PA32-301XTC	A3SO	CAR 3	1	July 22, 2016	
Piper Aircraft, Inc. (Piper Aircraft, Inc.)	PA-34-200, PA-34-200T, PA-34-220T	A7SO	CAR 3	1	July 22, 2016	
Polskie Zakłady Lotnicze Spolka zo.o (Polskie Zakłady Lotnicze Spolka zo.o) [PZL MIELEC]	PZL M26 01	A44CE	FAR 23	1	July 22, 2016	
Revo, Inc. (Revo, Incorporated) [Lake]	COLONIAL C-1, COLONIAL C-2, LAKE LA-4, LAKE LA-4A, LAKE LA-4P, LAKE LA-4-200, LAKE MODEL 250	1A13	CAR 3	5	April 28, 2017	
SOCATA Morane Saulnier Rallye (SOCATA) [SOCATA - Groupe Aerospatiale]	Rallye 100S, Rallye 150ST, Rallye 150T, Rallye 235E, Rallye 235C, MS 880B, MS 885, MS 894A, MS 893A, MS 892A-150, MS 892E-150, MS 893E, MS 894E	7A14	CAR 3	1	July 22, 2016	
SOCATA (SOCATA) [SOCATA - Groupe Aerospatiale]	TB 9, TB 10, TB 20, TB 21, TB 200	A51EU	FAR 23	1	July 22, 2016	
SOCATA, S.A. (SOCATA S.A.) [Grumman]	GA-7 (Cougar)	A17SO	FAR 23	1	July 22, 2016	
Spartan Aircraft Company	Spartan 7W	TC 628	Aero 7A	8	October 18, 2017	
STOL (Sky Enterprises, Inc.) [Republic Sea-Bee]	RC-3	A-769	CAR 3	1	July 22, 2016	
STOL (STOL Aircraft Corporation) [Republic Twin-Bee]	UC-1	A6EA	CAR 3	1	July 22, 2016	
Swift (Swift Museum Foundation Inc.) [Globe Aircraft Company]	GC-1A, GC-1B	A-766	CAR 4a	5	April 28, 2017	
Textron Aviation Inc. (Textron Aviation Inc.) [Cessna Aircraft Company]	140A	5A2	CAR 3	5	April 28, 2017	

FAA APPROVED

AIRPLANE FLIGHT MANUAL SUPPLEMENT  
or  
SUPPLEMENTAL AIRPLANE FLIGHT MANUAL  
for the  
GARMIN G5 ELECTRONIC FLIGHT INSTRUMENT  
as installed in

PA 28R-200  
Make and Model Airplane

Registration Number: N 4389X Serial Number: 7635034

This document serves as an Airplane Flight Manual Supplement or as a Supplemental Airplane Flight Manual when the aircraft is equipped in accordance with Supplemental Type Certificate SA01818WI for the installation and operation of the Garmin G5 Electronic Flight Instrument. This document must be carried in the airplane at all times.

The information contained herein supplements or supersedes the information made available to the operator by the aircraft manufacturer in the form of clearly stated placards or markings, or in the form of an FAA approved Airplane Flight Manual, only in those areas listed herein. For limitations, procedures and performance information not contained in this document, consult the basic placards or markings, or the basic FAA approved Airplane Flight Manual.

FAA APPROVED BY: Paul Mast

Paul Mast  
ODA STC Unit Administrator  
GARMIN International, Inc  
ODA-240087-CE

DATE: 10-26-17

LOG OF REVISIONS				
Rev	Page	Description	Date of Approval	FAA Approval
1	All	Original Issue	7/22/2016	Robert Murray ODA STC Unit Administrator
2	All	Added information regarding G5 DG/HSI	4/28/2017	Robert Murray ODA STC Unit Administrator
3	All	Added interface to 3 <sup>rd</sup> party autopilots	10/18/2017	Robert Murray ODA STC Unit Administrator
4	All	Added note to General section.	See Cover	See Cover

## Section 1. GENERAL

The G5 Electronic Flight Instrument can display the following information to the pilot depending on the installation and location of the G5 instrument.

- Primary attitude
- Primary slip and turn rate information
- Primary heading
- Secondary airspeed
- Secondary altimeter
- Secondary ground track

When installed in place of the attitude indicator, the primary function of the G5 is to provide attitude information to the pilot. When installed in place of the rate of turn indicator, the primary function of the G5 is to provide turn rate and slip ball information to the pilot. When installed in place of the directional gyro, the primary function of the G5 is to provide directional information to the pilot.

### NOTE:

The pilot is reminded to perform appropriate flight and navigation instrument cross checks for the type of operation being conducted.

In case of a loss of aircraft electrical power, a backup battery (optional when installed as a DG/HSI) sustains the G5 Electronic Flight Instrument for up to four hours.

An optional GAD 29B may be installed to provide course and heading datum to an autopilot based on the data selected for display on the HSI.

## Section 2. LIMITATIONS

### 2.1 System Software Requirements

The G5 must utilize the following or later FAA approved software versions for this AFMS revision to be applicable:

Component	Software Version
G5 Electronic Flight Instrument	4.00

### 2.2 Use of Secondary Instruments

The original type design approved instruments for airspeed, altitude and vertical speed remain the primary indications for these parameters.

If the G5 Electronic Flight Instrument is installed in place of the rate of turn indicator, the original type design approved instrument for attitude remains in the primary indication for attitude.

If the G5 Electronic Flight Instrument is installed in place of the directional gyro, the original type design approved instruments for attitude remains the primary indication for attitude.

### NOTE:

For aircraft approved for VFR-only operations, the G5 Electronic Flight Instrument may be installed as an attitude indicator and rate of turn indicator.

### 2.3 Kinds of Operations

No Change.

## Section 3. EMERGENCY PROCEDURES

### 3.1 Emergency Procedures

#### 3.1.1 G5 Failure Indications

If a G5 function fails, a large red 'X' is typically displayed over the instrument(s) or data experiencing the failure. Upon G5 power-up, certain instruments remain invalid as equipment begins to initialize. All instruments should be operational within one minute of power-up. If any instrument remains flagged and it is not likely an installation related problem, the G5 should be serviced by a Garmin-authorized repair facility.



#### Attitude Failure

Attitude failure is indicated by removal of the sky/ground presentation, a red X, and a yellow "ATTITUDE FAIL" on the display.

Rate-of-turn and slip information will not be available.

1. Use standby instruments.
2. Seek VFR conditions or land as soon as practical.

#### Heading Failure, Loss of Magnetometer Data, or Magnetic Field Error

A heading failure, loss of magnetometer data, or magnetic field error is indicated by removal of the digital heading readout, a red X, and a yellow "HDG" on the display.

1. Use standby magnetic compass.

#### NOTE:

If the G5 DG/HSI has a valid GPS signal the G5 DG/HSI instrument will display the GPS track information in magenta.

## GPS Failure

If GPS navigation receivers and/or navigation information are not available or invalid, the G5 will display Dead Reckoning mode (DR) or Loss Of Integrity mode (LOI) on the HSI in the lower left corner.

*If Alternate Navigation Sources (ILS, LOC, VOR) Are Available:*

1. Use alternate navigation source.

*If No Alternate Navigation Sources Are Available:*

*If DR is Displayed on HSI:*

1. Use the amber CDI for course information.
2. Fly toward known visual conditions.

*If LOI is Displayed on HSI:*

1. Fly toward known visual conditions.

For aircraft equipped with a GAD 29B interfaced to an autopilot, GPSS will be displayed in amber text when GPSS emulation has been selected from the G5 menu.

1. Deselect GPSS from the G5 menu and select a different autopilot mode.

### 3.1.2 Attitude Aligning

During system initialization, the G5 displays the message 'ALIGNING' over the attitude indicator. The G5 will typically display valid attitude within the first minute of power-up. The G5 can also align itself while taxiing and during level flight.

If the "ALIGNING" indication occurs during flight and attitude remains displayed, the attitude display is acceptable for use for flight in instrument conditions. The message will clear when the attitude solution is within the systems internal accuracy tolerances. It is recommended to maintain wings level to reduce the time for the system to align.

### 3.1.3 Attitude Aligning / Keep Wings Level

If the "ALIGNING KEEP WINGS LEVEL" indication occurs during flight, the G5 has detected an invalid attitude solution and will not display any attitude information.

1. Use standby instruments to maintain wings level flight. The system will display attitude when internal accuracy tolerances have been met.
2. If attitude does not return, seek VFR conditions or land as soon as practical.

### 3.1.4 Loss of Electrical Power to the G5 Display

In the event of a loss of aircraft electrical power to the G5 attitude display, the indicator will continue to function on its internal battery. If an internal battery is installed on the optional G5 HSI, the indicator will continue to function on the internal battery if aircraft power is lost. Internal battery endurance is indicated on the G5 display in hours and minutes. The charging symbol will be removed and the internal battery will not be charged.

### 3.1.5 Loss of Electrical Power to the GAD 29B (If Installed)

In the event of a loss of aircraft electrical power to the optional GAD 29B, the heading and course datum will be unavailable to the autopilot and the autopilot may deviate from the intended path or may disconnect. GPS flight plan course information may be displayed on the HSI and VFR will be displayed in amber text on the HSI. GPSS will be displayed in amber text, if GPSS mode is selected.



1. Deselect GPSS from the G5 menu and select a different autopilot mode.
2. Lateral GPS course guidance may only be used in VFR conditions.

### 3.2 System messages

The G5 has the capability to display system messages to the crew along the bottom of the display. The following table shows the meaning of each message. System messages are displayed in white text.

<i>Message</i>	<i>Meaning</i>
<b>External Power Lost</b>	Aircraft power has been removed from the G5
<b>Critical battery fault! Powering off...</b>	Battery has critical fault condition and the unit is about to power off to avoid damage to the battery.
<b>Battery fault</b>	Battery has a fault condition - contact Garmin if it persists.
<b>Battery charger fault</b>	Battery charger has a fault condition - contact Garmin if it persists.
<b>Low battery</b>	Battery charge level is low
<b>Hardware fault</b>	Unit has a hardware fault - contact Garmin for service
<b>Power supply fault</b>	Unit power supply fault detected - contact Garmin for service if it persists
<b>Unit temperature limit exceeded</b>	Unit is too hot or too cold
<b>Network address conflict</b>	Another G5 with the same address is detected on the network (most commonly a wiring error on one of the units)
<b>Communication error</b>	General communication error (most commonly appears in conjunction with Network Address Conflict message)
<b>Factory calibration data invalid</b>	Unit calibration data not valid - return to Garmin
<b>Magnetic field model database out of date</b>	Internal magnetic field database is out of date - software update required
<b>Using external GPS data</b>	GPS data from another network LRU is being used. The unit's internal GPS receiver is enabled, but unable to establish a GPS fix

No specific pilot action is required for any of the displayed system messages. As long as attitude is displayed, the system is adequate for flight in instrument conditions.

These messages remain while the condition persists, or until cleared by pressing the knob.



## Section 4. NORMAL PROCEDURES

### 4.1 G5 Power Button and Knob

The G5 display will power on with the application of aircraft power. The G5 power button is used to turn the display on and off. Press and hold the power button to turn the display off.

The knob performs the following functions:

<b>Press</b>	Press to access the Menu  From the Menu, press to select the desired menu item.  Press to accept the displayed value when editing numeric data or selecting from a list  Press to sync the heading or track bug for the HSI.
<b>Turn</b>	From the Menu, turn the Knob to move the cursor to the desired menu item.  For the ADI, rotate to adjust the baro setting on the secondary altitude display.  For the HSI, rotate to adjust the heading or track bug.  Turn to select the desired value when editing numeric data or selecting from a list.

### 4.2 Backlight Intensity Adjustment

The power up state of the G5 backlight is in Auto adjustment mode.

To adjust the backlighting:

#### To select Manual mode from Auto mode:

1. While the unit is turned on, press the Power button.
2. Turn the knob to manually adjust the backlight intensity.
3. Press the knob to close the backlight page.

#### To select Auto mode from Manual mode:

1. While the unit is turned on, press the Power button.
2. Press the Power button again to select Auto.
3. Press the knob to close the backlight page.

### 4.3 Prior to Flight in Instrument Meteorological Conditions

1. Press the Power button on the G5 attitude indicator.
2. Verify the battery status indicator is green on the G5 attitude indicator.



## 4 INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

### 4.1 Airworthiness Limitations

The Airworthiness Limitations section is FAA-approved and specifies maintenance required under §§ 43.16 and 91.403 of Title 14 of the Code of Federal Regulations, unless an alternative program has been FAA-approved.

There are no new (or additional) airworthiness limitations associated with this equipment and/or installation.

FAA APPROVED

  
Robert G. Murray  
STC Unit Administrator  
ODA-240087-CE

  
Date

### 4.2 Servicing Information

This section addresses servicing information for the G5 Electronic Flight Display, Battery, GMU 11 magnetometer and the GAD 29/29B data bus converter.

#### 4.2.1 G5 Electronic Flight Instrument

The G5 unit maintenance is 'on condition' only. See section 6 for equipment removal and installation. No component-level overhaul is required. Reference Table 4-1 for necessary tests or checks and the specific intervals for the G5.

#### 4.2.2 GMU 11 Magnetometer

The GMU 11 unit maintenance is 'on condition' only. See section 6 for equipment removal and installation. No component-level overhaul is required. Reference Table 4-1 for necessary tests or checks and the specific intervals for the GMU 11.



#### NOTE

*After replacing or servicing electrical components near the GMU 11 magnetometer, the Magnetometer Interference Test (reference Section 7.8) and Magnetometer Calibration Procedure (reference Section 7.5.3) must be performed.*

#### 4.2.3 GAD 29/29B Data Bus Converter

The GAD 29/29B unit maintenance is 'on condition' only. See section 6 for equipment removal and installation. No component-level overhaul is required. Reference Table 4-1 for necessary tests or checks and the specific intervals for the GAD 29/29B.



#### 4.2.4 Maintenance Intervals

Table 4-1 shows items installed by this STC which must undergo tests or checks at specific intervals.

Table 4-1, Maintenance Intervals

Item	Description/Procedure	Manual Section No.	Interval
G5 unit	Removal & Installation	6.1	On Condition
	Altimeter System Test	7.7	24 calendar months
G5 battery	Removal & Installation	6.2	On Condition
	Capacity Check	4.2.5	12 calendar months
G5 mounting ring	Removal & Installation	6.3	On Condition
GMU 11 unit	Removal & Installation	6.5	On Condition
GAD 29/29B unit	Removal & Installation	6.6	On Condition

#### 4.2.5 Battery Capacity Check

1. Without power applied to the aircraft, turn on the G5 by pressing the power button in the lower left corner of the unit.
2. Note the remaining battery capacity (%) at the top left corner of the display.
3. After about a minute, the remaining capacity will change from (%) to time (hour:min).
4. If the remaining capacity is less than one hour (1:00), allow the battery to charge until the capacity shows greater than 95% and repeat the check.
5. If the remaining capacity is less than one hour (1:00) after charging, the battery must be replaced.

*This area intentionally blank*

1. Approving Civil Aviation Authority/Country: FAA/United States	2. <b>AUTHORIZED RELEASE CERTIFICATE</b> FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG			3. Form Tracking Number: 135346945-4	
4. Organization Name and Address: GARMIN International 1200 E. 151st St. Olathe, KS 66062 Certificate Number PQ3742CE					
6. Item: 1	7. Description: GAD 29B, PMA	8. Part Number: 010-01172-11	9. Quantity: 1	10. Serial Number: 5DL000225	11. Status/Work: New
12. Remarks: Airworthiness Approval This part is a subcomponent of a PMA article. This PMA part is not a critical component					
13a. Certifies the items identified above were manufactured in conformity to:  <input checked="" type="checkbox"/> Approved design data and are in a condition for safe operation. <input type="checkbox"/> Non-approved design data specified in Block 12.					
14a. <input type="checkbox"/> 14 CFR 43.9 Return to Service <input type="checkbox"/> Other regulation specified in Block 12 Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.					
13b. Authorized Signature: <i>Steven Cummins</i>		13c. Approval/Authorization No.: ODA-240087-CE			14c. Approval/Certificate No.:
13d. Name (Typed or Printed): Steven Cummins		14d. Name (Typed or Printed):			14e. Date (dd/mm/yyyy):
User/Installer Responsibilities  It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article. Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1.  Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.					

1. Approving Civil Aviation Authority/Country: FAA/United States		2. Form Tracking Number: 135346945-5	
<b>AUTHORIZED RELEASE CERTIFICATE</b> FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG			
4. Organization Name and Address: GARMIN International 1200 E. 151st St. Olathe, KS 66062 Certificate Number PQ3742CE			
6. Item: 1	7. Description: Sub-Assy, Conn Kit, GAD 29	8. Part Number: 011-03271-00	9. Quantity: 1
		10. Serial Number: N/A	11. Status/Work: New

12. Remarks:  
**Airworthiness Approval**  
 This part is a subcomponent of a PMA article.  
 This PMA part is not a critical component

13a. Certifies the items identified above were manufactured in conformity to:		14a. <input type="checkbox"/> 14 CFR 43.9 Return to Service <input type="checkbox"/> Other regulation specified in Block 12	
<input checked="" type="checkbox"/> Approved design data and are in a condition for safe operation. <input type="checkbox"/> Non-approved design data specified in Block 12.		Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.	
13b. Authorized Signature: <i>Steven Cummings</i>	13c. Approval/Authorization No.: ODA-240087-CE	14b. Authorized Signature:	
13d. Name (Typed or Printed): Steven Cummins	13e. Date (dd/mm/yyyy): 20/Oct/2017	14c. Approval/Certificate No.:	
		14d. Name (Typed or Printed):	
		14e. Date (dd/mm/yyyy):	

**User/Installer Responsibilities**

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.

Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1.

Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

1. Approving Civil Aviation Authority/Country: FAA/United States	<b>2. AUTHORIZED RELEASE CERTIFICATE</b> FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG				3. Form Tracking Number: 135346945-6
4. Organization Name and Address: GARMIN International 1200 E. 151st St. Olathe, KS 66062 Certificate Number PQ3742CE					
6. Item: 1	7. Description: Sub-Assy, GMU 11, Installation Kit	8. Part Number: 011-04349-90	9. Quantity: 1	10. Serial Number: N/A	11. Status/Work: New
12. Remarks: <b>Airworthiness Approval</b> This part is a subcomponent of a PMA article. This PMA part is not a critical component					
13a. Certifies the items identified above were manufactured in conformity to:  <input checked="" type="checkbox"/> Approved design data and are in a condition for safe operation. <input type="checkbox"/> Non-approved design data specified in Block 12.					
14a. <input type="checkbox"/> 14 CFR 43.9 Return to Service <input type="checkbox"/> Other regulation specified in Block 12. Certifies that unless otherwise specified in Block 12, the work identified in Block 12 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.					
13b. Authorized Signature: <i>Steven Cummins</i>		13c. Approval/Authorization No.: ODA-240087-CE		14c. Approval/Certificate No.:	
13d. Name (Typed or Printed): Steven Cummins		13e. Date (dd/mm/yyyy): 20/Oct/2017		14d. Name (Typed or Printed):	
<b>User/Installer Responsibilities</b>					
It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article. Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1. Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.					

1. Approving Civil Aviation Authority/Country: FAA/United States	2. <b>AUTHORIZED RELEASE CERTIFICATE</b> FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG			3. Form Tracking Number: 135346945-7	
4. Organization Name and Address: GARMIN International 1200 E. 151st St. Olathe, KS 66062 Certificate Number PQ3742CE					
6. Item: 1	7. Description: SMP, G5 ADAPTOR PLATE, WITH LABEL	8. Part Number: 115-02842-00	9. Quantity: 2	10. Serial Number: N/A	11. Status/Work: New
12. Remarks: <b>Airworthiness Approval</b> This part is a subcomponent of a PMA article. This PMA part is not a critical component					
13a. Certifies the items identified above were manufactured in conformity to:  <input checked="" type="checkbox"/> Approved design data and are in a condition for safe operation. <input type="checkbox"/> Non-approved design data specified in Block 12.					
13b. Authorized Signature: <i>Steven Cummins</i>		13c. Approval/Authorization No.: ODA-240087-CE			14a. <input type="checkbox"/> 14 CFR 43.9 Return to Service <input type="checkbox"/> Other regulation specified in Block 12. Certifies that unless otherwise specified in Block 12, the work identified in Block 12 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.
13d. Name (Typed or Printed): Steven Cummins		13e. Date (dd/mm/yyyy): 20/Oct/2017			14b. Authorized Signature:  14c. Approval/Certificate No.:  14d. Name (Typed or Printed):  14e. Date (dd/mm/yyyy):
<b>User/Installer Responsibilities</b>					
It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article. Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1. Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.					

1. Approving Civil Aviation Authority/Country: **2.** **AUTHORIZED RELEASE CERTIFICATE**  
**FAA/UNITED STATES**  
**FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**

3. Form Tracking Number: 135346945-2  
 5. Work Order/Contract/Invoice Number: 135346945  
 11. Status/Work: NEW  
 NEW  
 NEW

4. Organization Name and Address: GARMIN International 1200 E. 151st St. Olathe, KS 66062 TSOA Prod. App. Num. PQ3742CE  
 6. Item: 7. Description: 8. Part Number: 9. Quantity: 10. Serial Number: 11. Status/Work:  
 1 G5, Unit Only 011-03809-00 1 4JQ011829 NEW  
 2 Installation Kit, G5 011-03892-00 1 N/A NEW  
 3 Battery Pack, G5 011-03893-00 1 N/A NEW

12. Remarks:  
 Airworthiness Approval  
 This part is a subcomponent of a PMA article.  
 This PMA part is not a critical component  
 Parts included in Garmin P/N K10-00280-00

13a. Certifies the items identified above were manufactured in conformity to:  
 Approved design data and are in a condition for safe operation.  
 Non-approved design data specified in Block 12.

13b. Authorized Signature: *Steven Cummins*  
 13c. Approval/Authorization No.: ODA-240087-CE  
 13d. Name (Typed or Printed): Steven Cummins  
 13e. Date (dd/mm/yyyy): 20/Oct/2017

14a.  14 CFR 43.9 Return to Service  Other regulation specified in Block 13  
 Certifies that unless otherwise specified in block 13, the work identified in Block 12 and described in Block 13 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

14b. Authorized Signatures: N/A  
 14c. Approval/Certificate No.: N/A  
 14d. Name (Typed or Printed): N/A  
 14e. Date (dd/mm/yyyy): N/A

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.  
 Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s) propeller(s) article(s) from the airworthiness authority of the country specified in Block 1.  
 Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.  
 User/Installer Responsibilities



**2. AUTHORIZED RELEASE CERTIFICATE**  
**FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**

1. Approving Civil Aviation Authority/Country: **2. Form Tracking Number:**  
**FAA/UNITED STATES** 135346945-1


3. Organization Name and Address:  
**GARMIN International** 1200 E. 151st St. Olathe, KS 66062 TSOA Prod. App. Num. PQ3742CE

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number	11. Status/Work:
1	G5, Unit Only	011-03809-00	1	4JQ009064	NEW
2	Installation Kit, G5	011-03892-00	1	N/A	NEW
3	Battery Pack, G5	011-03893-00	1	N/A	NEW

12. Remarks:  
**Airworthiness Approval**  
 This part is a subcomponent of a PMA article.  
 This PMA part is not a critical component

Parts included in Garmin P/N K10-00280-00

13a. Certifies the items identified above were manufactured in conformity to:  
 Approved design data and are in a condition for safe operation.  
 Non-approved design data specified in Block 12.

13b. Authorized Signature:   
 13c. Approval/Authorization No.: **ODA-240087-CE**

13d. Name (Typed or Printed): **Steven Cummins**  
 13a. Date (dd/mm/yyyy): **20/Oct/2017**

14a. Authorized Signature: **N/A**  
 14c. Approval/Certificate No.: **N/A**

14d. Name (Typed or Printed): **N/A**  
 14e. Date (dd/mm/yyyy): **N/A**

14.  14 CFR 43.9 Return to Service  Other regulation specified in Block 13  
 Certifies that unless otherwise specified in block 13, the work identified in Block 12 and described in Block 13 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.  
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 Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

1. Approving Civil Aviation Authority/Country: FAA/United States	2. <b>AUTHORIZED RELEASE CERTIFICATE</b> FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG			3. Form Tracking Number: 135346945-3	
4. Organization Name and Address: GARMIN International 1200 E. 151st St. Olathe, KS 66062 Certificate Number PQ3742CE					
6. Item: 1	7. Description: GMU 11, PMA	8. Part Number: 010-01788-01	9. Quantity: 1	10. Serial Number: 56J004325	11. Status/Work: New
12. Remarks: <b>Airworthiness Approval</b> This part is a subcomponent of a PMA article. This PMA part is not a critical component					
13a. Certifies the items identified above were manufactured in conformity to:  <input checked="" type="checkbox"/> Approved design data and are in a condition for safe operation. <input type="checkbox"/> Non-approved design data specified in Block 12.		14a. <input type="checkbox"/> 14 CFR 43.9 Return to Service <input type="checkbox"/> Other regulation specified in Block 12 Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.			
13b. Authorized Signature: <i>Steven Cummins</i>	14b. Authorized Signature:  14c. Approval/Authorization No.: ODA-240087-CE				
13d. Name (Typed or Printed): Steven Cummins	14d. Name (Typed or Printed):  14e. Date (dd/mm/yyyy): 20/Oct/2017				
<b>User/Installer Responsibilities</b>					
It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article. Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1. Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.					