



1615 W NASA Blvd | Melbourne, FL 32901-2613

Prod Pack Slip: 50076  
50076

## Production Packing Slip

Page: 1 of 2

**Ship To:**

Avionics Source  
6700 N Linder RD STE 156A-244  
Meridian ID 83646 United States

**Fax:**

ap@avidyne.com, learls@avidyne.com

**Sold To:**

Avidyne  
710 North Drive  
Melbourne FL 32934 United States

**Fax:**

ap@avidyne.com, learls@avidyne.com

F.O.B.: FOB Origin

Ship Via: FedEx Standard Over

Pack Slip Date: 6/24/21

Pack Line	PO Line	PO Rel	Part Number/Description	Shipped Qty	Rev
1	21		700-00006-000  PFD Unit	1.00	

Reference:  
Our Part:

Classification: 7A994

Schedule B: 9014.20.8080

Serial Number: 20610116

Export Authorization:  
HTS:

Fedex overnight 032900690

----- Components -----

Your PO: 121993-21



Sales Order: 32081  
Line: 1

Special Shipping  
Requirements:

☐ Test Data  
☐ First Article  
☒ 8130

☐ Export License  
☒ FAR/Repair Report  
☒ EASA

Site Inspection: N/A  
I/A Location: Dest

2 21

MOD 55



MOD 55 UPGRADE

1.00

Reference:  
Our Part:

Classification:  
Schedule B:

Export Authorization:  
HTS:

Fedex overnight 032900690

----- Components -----

Your PO: 121993-21



Sales Order: 32081  
Line: 3

Special Shipping  
Requirements:

☒ Test Data  
☐ First Article  
☒ 8130

☐ Export License  
☒ FAR/Repair Report  
☒ EASA

Site Inspection: N/A  
I/A Location: Dest



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Prod Pack Slip: 50076  
50076

## Production Packing Slip

Page: 2 of 2

Pack Line	PO Line	PO Rel	Part Number/Description	Shipped Qty	Rev
-----------	---------	--------	-------------------------	-------------	-----

### CERTIFICATE OF COMPLIANCE

We certify that the workmanship on the articles listed above, shipped in satisfaction of your Purchase Order mentioned, have been inspected and/or tested and found to be in full conformance to the requirements of said Purchase Order and all drawings or specifications applied to the order, and that all pertinent inspection and/or test data is on file available for review. We additionally certify no mercury has been intentionally added during Extant Aerospace's production processes for manufacturing the parts provided under this C of C.

Quality Assurance



# Avidyne EXP5000 Test Data Sheet

Attach this form to the EXP5000 (PFD) traveler. This form must be completed in permanent ink.

## Ambient Air Data Drift Check

	Serial number #
PFD	20416116

COPY

Technician: 2421 Date: 6-23-21

Time	Displayed Airspeed	Displayed Altitude	Pass	Fail
Power up	N/A	N/A	N/A	N/A
30 seconds	Ø	-109	✓	
1 minute	Ø	-109		
2 minutes	Ø	-106		
3 minutes	Ø	-105		
4 minutes	Ø	-105		
5 minutes	Ø	-103		

Warm up time = 30 seconds

### Pass criteria

#### Altitude:

Not to exceed +/- 10 feet altitude change after warm up to the end of the 5 minute monitoring period

#### Airspeed:

HASS Code: After warm not to exceed 2 kts until the end of the 5 minute monitoring period

Flight Code: not to break the yellow tape

## Vibration Test

	6-24-21 Serial number #
PFD	3205 20610116

COPY

**Technician:** 2421 **Date:** 6-24-21

During the vibration test, the UUT is to be monitored for the following pass/fail criteria.

Parameter	Setting	Pass/Fail Criteria and Data	Pass	Fail
Altitude	11,000ft	Max 11,035ft Min 10,965ft	✓	
Airspeed	100kts	Max 102kts Min 98kts	✓	
Attitude	Level	The attitude display should remain level during the test. Fail = Movement of the attitude from level >2°	✓	
Heading	Varies per MAG	Heading at start = <u>331</u> Not to exceed +/- 5° from initial heading	✓	
Outside Air Temperature (OAT)	Site Ambient	OAT Temperature at start = <u>22</u> Not to exceed +/- 2° during the course of the test. <b>Note:</b> N/A for PFD 700-00006-003 or when using HASS Code	✓	
Bezel Lights	Default Brightness	Pass = Even illumination Fail = Flicker, uneven/darkened areas	✓	
Display	Default Brightness	Pass = Clear image remaining at default brightness Fail = Flicker, line outs, bands, unusual dimming, white lines across screen, flashing backlight, loss of video data, etc.  Note: Under high vibration, LCD printing may be observed, this is normal and acceptable. LCD printing is a localized change in brightness caused by physical stress on the liquid crystal cell of the display. Printing can easily be distinguished from other flickering anomalies (i.e. loose backlight or video connections) by the fact that the center of the display is far more affected then the edges. In contrast, backlight and video data connection issues will affect the entire display or particular rows/columns of the display. Printing is temporary and will only be observable during vibration exposure.	✓	

**\*\*\*Note: This is an Electronic Work Order. All Names and Stamp Numbers You See On this Document Were Applied Electronically, And Then Acknowledged By the Individuals Represented**

**RS**

## Repair Station Work Order

Repair Station: 5S5R934B

ASM: 0

Job: 32081-25957RS

Page: 3 of 3

Date: 6/24/2021



70 Production Control

bflores 06/24/2021

PC COMPLETE, READY TO SHIP

Activity  
Performed:

PC COMPLETE. READY TO SHIP.

\*\*\*Note: This is an Electronic Work Order. All Names and Stamp Numbers You See On this Document Were Applied Electronically, And Then Acknowledged By the Individuals Represented

RS

## Repair Station Work Order

Repair Station: 5S5R934B

ASM: 0

Job: 32081-25957RS

Page: 2 of 3

Date: 6/24/2021



30 RS - Repair

cwietechna 06/23/2021

PERFORM REPAIR PER PMM.

IF TORQUE WRENCH IS USED; RECORD TORQUE WRENCH USED.

Activity  
Performed:

Installed MOD 55 and activated DFC90 to address customer squawk. All testing done per PMM 600-00128-004 Rev 06 Dated 09/20/16 Dated 09/20/16.



40 RS - Inspection

sandrews 06/15/2021

IN PROGRESS INSPECTION (AS REQUIRED)

Activity  
Performed:

Performed preliminary inspection and found no issues. Found AD 2009-05-05. Note: Unit has Rev 38. Mods 34, 40, 43, 45, 47, 51, 57 & 58. RCVD with warranty/quality seal. (Performed FOD test). Reason returned: MOD 55.



50 RS - Test

cwietechna 06/24/2021

PERFORM FINAL ASSEMBLY AND RE-TEST PER PMM.

"Load customer software as defined by Purchase Order into unit. Photograph product screen while displaying loaded software and save image to shared area as PartNumber\_SN\_Date. Record software part number listed on screen 530-00214-002 REV 06

N/A MFD only:

Ensure customer settings recorded on form 630-00919-000, are configured into unit \_\_\_\_\_.  
Ensure all options are enabled in OEM setup \_\_\_\_\_:  
TAWS- enabled \_\_\_\_\_  
XM-Sirius Radio both enabled \_\_\_\_\_  
CMAX enabled \_\_\_\_\_  
NarrowCast - Avidyne MLX770 enabled \_\_\_\_\_  
Serial Number entered correctly \_\_\_\_\_  
Ensure Navigation Data is up to date \_\_\_\_\_

CX PFD only:

Populate properly and ensure the following customer settings are configured into unit ✓:  
Correct aircraft type selected ✓  
Software 530-00214-002\_REV06 is displayed ✓  
Software Revision 8.0.6 is displayed ✓  
MOD 55 enabled (if required) ✓

IF TORQUE WRENCH IS USED; RECORD TORQUE WRENCH USED.

Activity  
Performed:

Performed Final ATP per PMM 600-00128-004 Rev 06, Dated 09/20/16. Unit passed all tests and added warranty labels. Torque Wrench used PC 10290.



60 RS - Inspection

thoang 06/24/2021

PERFORM FINAL INSPECTION

INSPECT, VERIFY AND GENERATE RELEASE FOR SERVICE TAG

Validation of "WARRANTY VOID LABEL" placement and record label sequential number.

Unit "WARRANTY VOID LABEL" photographs complete and filed.

Check for AD's

04130 Initial T.H

Activity  
Performed:

Performed final inspection and found no issues. Verified sequential number 04130 Warranty Void Label. (Performed FOD test).



65 RS - Test

rsimmons 06/24/2021

"Return to Service (RTS) technician: power up unit and confirm customer software load matches Sales Order and settings, recorded in previous step, are configured into unit \_\_\_\_\_".

Activity  
Performed:

Settings verified and 8130 - Done.

**\*\*\*Note: This is an Electronic Work Order. All Names and Stamp Numbers You See On this Document Were Applied Electronically, And Then Acknowledged By the Individuals Represented**

**RS**

## Repair Station Work Order

Repair Station: 5S5R934B

ASM: 0  
Job: 32081-25957RS  
Page: 1 of 3  
Date: 6/24/2021

Job: 32081-25957RS

ASM: 0

Part: 700-00006-000

S/N: 20610116



**PFD Unit**

**011Repair**

### Comments:

Job: CUSTOMER: AVIDYNE - Avionics Source  
PO NUMBER: 121993-21  
Serial Number: 20610116  
Reason for return: MOD55 AVSO 5100290 and 5100285  
Software: 530-00214-002 Cirrus SR20  
Warranty Status: Warranty MOD 55  
RMA Type: Repair & Return  
Autopilot Type: DFC90  
A/C Make: Cirrus  
A/C Model: SR20  
Aircraft Tail Number: N110BW  
Aircraft Serial Number: 1538  
If expired CMOS battery is found, does the customer want it replaced? No  
NAV map data: Americas – North, Central, and South  
Funding Not Required

<u>Seq</u>	<u>Operation</u>	<u>Signoff</u>	<u>Date</u>
	10 RS - Incoming Inspection	sandrews	06/15/2021

PERFORM PRELIMINARY INSPECTION.  
VERIFY ARTICLE IS IN REPAIR STATION CAPABILITY LIST.  
VERIFY AD'S ARE APPLICABLE AND RECORD.

NOTIFY CUSTOMER SERVICE IF BEZEL IS DAMAGED.

<b>Activity Performed:</b>	<b>Performed preliminary inspection and found no issues. Found AD 2009-05-05. Note: Unit has Rev 38. Mods 34, 40, 43, 45, 47, 51, 57 &amp; 58. RCVD with warranty/quality seal. (Performed FOD test). Reason returned: MOD 55.</b>
----------------------------	--

	20 RS - Evaluation	cwietechna	06/16/2021
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PERFORM EVALUATION AND VERIFICATION OF FAILURE PER PMM.  
RUN EVALUATION TEST USING UNITS CURRENT REVISION ON LABEL  
VERIFY AND RECORD LATEST REVISION OF PMM.  
VERIFY SOFTWARE AND MOD STATUS.

\_\_\_\_\_"MFD only: Record customer settings on form 630-00919-000, include received software in 'NOTES:' at incoming evaluation section".

CIRLCE APPROPRIATE NAV MAP DATA NAV map data: Americas – North, Central, and South OR Rest of the World

<b>Activity Performed:</b>	<b>Evaluated PFD unit per PMM 600-00128-004 Rev06, Dated 09/20/16. Incoming software is 530-00214-002 Rev 06. Based on TSO label and PMM unit requires MOD 52. However, MOD 52 does not need to be performed per SB 601-00006-096 Rev 01, dated 7/14/2008 A.D. 2009-05-05 is N/A as per unit S/N. Customer squawk is "MOD 55..". Will install MOD 55 and activate DFC 90.</b>
----------------------------	---

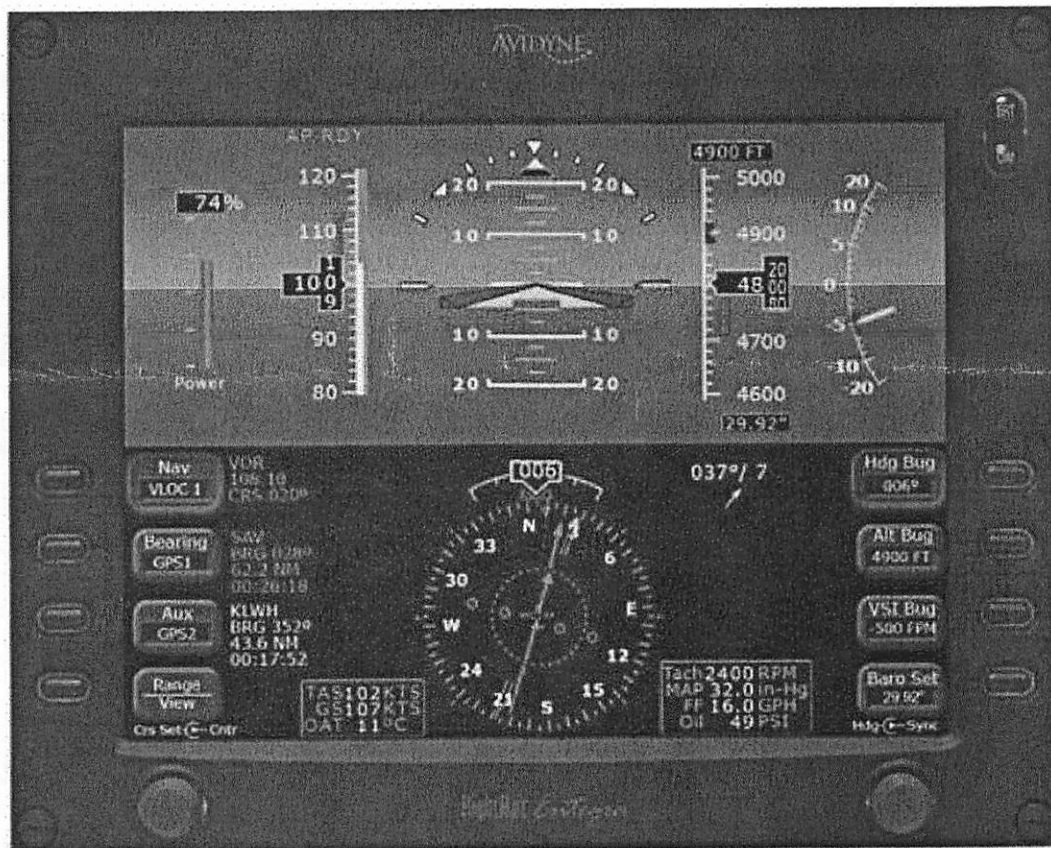
1. Approving Civil Aviation Authority/Country: FAA/United States		2. <b>AUTHORIZED RELEASE CERTIFICATE</b> FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG			3. Form Tracking Number: 32081-25957RS	
4. Organization Name and Address: Extant Aerospace, 1615 W. NASA Blvd, Melbourne, FL. 32901 (5S5R934B)					5. Work Order/Contract/Invoice Number: 32081-25957RS	
6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:	
1	Primary Flight Display	700-00006-000	1	20610116	Repaired	
12. Remarks:  Repaired in accordance with PMM 600-00128-004, Rev. 06, Dated 09/20/16. See attached W/O: 32081-25957RS "Extant Aerospace certifies that the work specified in Blocks 11 and 12 was carried out in accordance with EASA Part-145 and in respect to that work the component(s) is considered ready for release to service under EASA Part-145 Approval Number EASA. 145.6489".  "Direct Shipment Authorization"						
13a. Certifies the items identified above were manufactured in conformity to:  <input 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 checked="" type="checkbox"/> 14 CFR 43.9 Return to Service <input checked="" 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:		13c. Approval/Authorization No.:		14b. Authorized Signature:		14c. Approval/Certificate No.:
						5S5R934B
13d. Name (Typed or Printed):		13e. Date (dd/mm/yy):		14d. Name (Typed or Printed):		14e. Date (dd/mm/yy):
				Richard Simmons		24/JUN/2021
<b>User/Installer Responsibilities</b>						
<p>It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.</p> <p>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.</p> <p>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.</p>						

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: AR210525-09	
4. Organization Name and Address: Avidyne Corporation, 710 North Drive, Melbourne, FL. 32934. Certificate: PT3844CE					5. Work Order / Contract / Invoice Number: SO:5100290 /PO:IFD440_MBown	
6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:	
1	INTEGRATED FLIGHT DISPLAY, IFD440, BLACK BEZEL	700-00179-000	2	M211697043, M211696990	NEW	
12. Remarks:  Airworthiness Approval  FAA TSO C113A applies						
13a. Certifies the items identified above were manufactured in conformity to:			14a. <input checked="" 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 <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: 		13c. Approval/Authorization No.: PT3844CE		14b. Authorized Signature:		14c. Approval/Certificate No.:
13d. Name (Typed or Printed): Ana Rocha		13e. Date (dd/mm/yyyy): 25/May/2021		14d. Name (Typed or Printed):		14e. Date (dd/mm/yyyy):
<b>User/Installer Responsibilities</b>						
<p>It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.</p> <p>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.</p> <p>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.</p>						

# Entegra

## EXP5000

### Primary Flight Display Pilot's Guide Addendum



## Software Release 8

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## Document Revision History

Date	Revision	Description
April 27, 2010	00	Initial Release
December 20, 2011	01	Added note for dual PFD, DFC90 configurations
September 19, 2012	02	Edited dual PFD/DFC90 alt bug note to reflect changes made in Rel 8.0.6

This document is applicable to the following Software Part numbers:

Part Number	Title
530-00214-000, -001, -002, and -100	Release 8

This document is applicable to Hardware Part Numbers 700-00006-000, -002, -003, -004, and -100.

This Pilot Guide Addendum supplements the information in the following Release 7 pilot guides which must be retained:

Part Number	Title
600-00104-001	Entegra EXP5000 PFD Pilot's Guide – Piper Meridian
600-00104-002	Entegra EXP5000 PFD Pilot's Guide – Piper Mirage
600-00104-003	Entegra Piper Seneca V and Seminole EXP5000 PFD Pilot's Guide
600-00138-000	Entegra Symphony 160E EXP5000 PFD Pilot's Guide
600-00139-000, -001	Entegra Adam A500 EXP5000 PFD Pilot's Guide
600-00140-000	Entegra Lancair Kit EXP5000 PFD Pilot's Guide
600-00142-000, -001	Entegra Cirrus EXP5000 PFD Pilot's Guide
600-00143-000	Entegra Piper PA28 and PA32 EXP5000 PFD Pilot's Guide
600-00157-000	Envision EXP5000 PFD Pilot's Guide (Aftermarket)
600-00173-000	Entegra Columbia EXP5000 PFD Pilot's Guide

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# **1. Introduction**

## **1.1 About this Guide**

This guide includes information related to the changes in EXP5000 PFD Release 8, or later software from previous software releases. Unless described in this pilot guide addendum, all functions of the EXP5000 PFD remain unchanged. If there are conflicts between the data in the previous pilot's guides and this Release 8 pilot's guide addendum, the data in this addendum should be used.

**Note:** All images contained within this document, including screenshots and other displays, are for reference use only and are subject to change. The images contained herein may differ slightly from your actual equipment or display.

## **2. Avidyne DFC90 Autopilot**

If the EXP5000 Primary Flight Display (PFD) is installed with an Avidyne DFC90 autopilot this pilot guide section applies. See the *DFC90 Digital Autopilot Pilot Guide* (Avidyne part number 600-00252-000) for more information on autopilot functionality.

The EXP5000 provides the following when installed with an Avidyne DFC90 autopilot:

- Autopilot Annunciations
- Heading and Altitude bugs controlled via the EXP5000
- Indicated Airspeed (IAS) bug controlled via the DFC90
- Vertical Speed (VS) bug controlled via either the EXP5000 or the DFC90
- Flight Director steering command bars

### **2.1 Avidyne DFC90 Autopilot Annunciations**

Autopilot annunciations display left to right across the top of the EXP5000. See *DFC90 Digital Autopilot Pilot Guide* for information on the annunciations displayed.

### **2.2 Avidyne DFC90 Autopilot Bugs**

With the Avidyne DFC90 autopilot, four bugs can be used to control the autopilot. The heading bug and altitude bugs can be controlled via the Hdg Bug and Alt Bug buttons on the PFD. The vertical speed bug can be controlled via the VSI Bug button on the PFD or the DFC90 control head. The Indicated Airspeed (IAS) bug can be controlled only through the DFC90 control head.

The IAS bug is displayed on the airspeed tape in a similar fashion to the altitude bug on the altitude tape. Like the altitude, vertical speed, and heading bugs, the IAS bug is solid when the autopilot is coupled to the bug and hollow when the autopilot is not coupled to the bug.

Bugs are hollow until connected to AP. then solid.

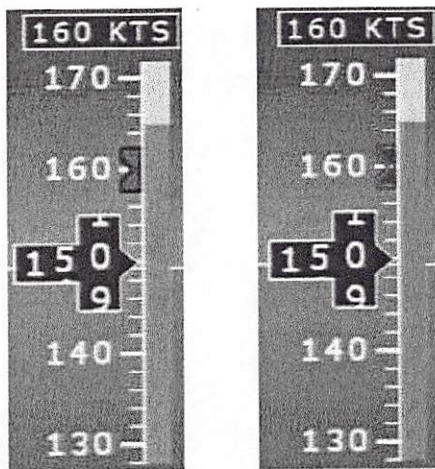


Figure 1: IAS Bug coupled (solid) and uncoupled (hollow)

The current IAS bug value is displayed above the airspeed tape as seen in Figure 1.

With the DFC90 installed, the EXP5000 will have buttons for the heading bug, altitude bug, vertical speed bug, and barometric pressure settings along the right side of the PFD as seen in Figure 2.



Figure 2: Right side buttons with DFC90

## 2.3 Avidyne DFC90 Autopilot Modes

See the DFC90 Digital Autopilot Pilot Guide for details on autopilot modes.

**Note:** In aircraft equipped with dual PFDs and the DFC90 autopilot, due to PFD-to-PFD synching/communication, it may take a 2<sup>nd</sup> press of the ALT button on the DFC90 control head for the DFC90 to hold current altitude. Altitude captures of target altitudes other than current aircraft altitude are unaffected. This issue was resolved and not longer present in PFD Release 8.0.6 and later.

## **2.4 AP (Autopilot) and FD (Flight Director) Modes**

In Flight Director only mode, "FD" will be displayed in the autopilot annunciation field, the command bars will be visible and green, and you are expected to use the flight controls as required to track the bars until the Aircraft Reference Symbol (ARS) is tucked into the steering command bars.

In full autopilot mode, "AP" will be in the autopilot annunciation field, the command bars will be visible and magenta, and the autopilot will steer the airplane towards the command bars until the ARS is tucked into the steering command bars.

See the *DFC90 Digital Autopilot Pilot Guide* for more details.

## **2.5 Flying Approaches with the Avidyne DFC90 Autopilot**

See the *DFC90 Digital Autopilot Pilot Guide* for details on how to fly approaches with the DFC90 autopilot.

## **3. Other Pilot Guide Changes**

In the 600-00157-000 *Envision EXP5000 PFD Pilot's Guide (Aftermarket)* in Section 3.9, "Using Other Autopilots with the EXP5000 (PFD 530-00200-() software only)" also applies to 530-00214-() software.

### **WARRANTY**

AVIDYNE WARRANTS THE PRODUCT MANUFACTURED BY IT AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF TWENTY-FOUR (24) MONTHS FROM DELIVERY TO THE INSTALLER. A COMPLETE COPY OF THE WARRANTY DATA IS ACCESSIBLE VIA THIS WEB ADDRESS:  
[HTTP://WWW.AVIDYNE.COM/PRODUCTS/ENVISION/WARRANTY](http://www.avidyne.com/products/envision/warranty)

### **SOFTWARE LICENSE**

AVIDYNE CORPORATION ("AVIDYNE") IS WILLING TO LICENSE THIS SOFTWARE, PILOT'S GUIDE, AND RELATED MATERIALS (THE "SOFTWARE") ONLY ON THE CONDITION THAT YOU AGREE TO THE TERMS OF THE PUBLISHED SOFTWARE LICENSE WHICH CAN BE ACCESSED VIA THIS WEB ADDRESS:  
[HTTP://WWW.AVIDYNE.COM/PRODUCTS/ENVISION/LICENSES](http://www.avidyne.com/products/envision/licenses)

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[www.avidyne.com](http://www.avidyne.com)

P/N 600-00259-000 Rev: 02, September 19, 2012

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United States of America  
Department of Transportation  
Federal Aviation Administration

# Supplemental Type Certificate

Number SR00387BO

This certificate issued to:

Avidyne Corporation  
4 Middlesex Green, Suite 221  
561 Virginia Road  
Concord, MA 01742

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 27 of the Federal Aviation Regulations.

Original Product - Type Certificate Number: See attached FAA Approved Model List (AML), Document No. AVIFD-503, Revision 00, dated December 11, 2017, or later FAA approved revision, for the list of approved helicopter models.  
Make: applicable installation data requirements, and specific limitations.  
Model:

## Description of Type Design Change:

Installation of Avidyne 700-00182-XXX IFD5XX and 700-00179-XXX IFD4XX Series Integrated Flight Displays (IFD) in accordance with Avidyne Corporation Master Document List (MDL), Document Number AVIFD-495, Revision 02, dated December 6, 2017, or later FAA approved revision.

Limitations and Conditions: See Page 2

*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: November 10, 2016

Date reissued: January 3, 2018

Date of Issuance: December 13, 2017

Date amended:

By direction of the Administrator

Signature Kevin Dickert  
Kevin Dickert

Title Manager, Boston ACO Branch

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).

**SUPPLEMENTAL TYPE CERTIFICATE, FAA FORM 8110-2  
(CONTINUED)**

**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 of transferee)*

*(Address of transferee)*

*(Number and street)*

*(City, State, and ZIP Code)*

**From** *(Name of  
grantor)*

*(Address of grantor)*

*(Number and street)*

*(City, State, and ZIP Code)*

**Extent of Authority** (if licensing agreement):

*Date of Transfer:*

*Signature of grantor:*



IFD

United States of America  
Department of Transportation  
Federal Aviation Administration

# Supplemental Type Certificate

Number SR00387BO

December 13, 2017

## Limitations and Conditions:

1. Operation must be in accordance with the Avidyne Corporation Rotorcraft Flight Manual Supplement (RFMS) Document Number 600-00324-000, Revision 01, FAA approved on December 12, 2017, or later FAA approved revision.

The RFMS must be carried in the aircraft during all flights.

2. Maintenance must be in accordance with Instructions for Continued Airworthiness (ICA), Document Number AVIFD-500, Revision 02, dated November 16, 2017, or later FAA accepted revision.

The ICA must be made available to the operator at the time of installation.

3. This STC only covers the installation of the IFDs, the IFD trays, and associated wiring. It does not cover the installation of antennas, annunciators, or switches that may be required to make a fully functional system.
4. Compatibility of this design with previously approved modifications must be determined by the installer.

## Certification Basis:

Based on 14 CFR § 21.115 and § 21.101, and the FAA policy for design changes that are identified as not significant in FAA Order 8110.48, the certification basis for the aircraft listed on the AML is as follows:

- a. The type certification basis for parts **not changed or not affected** by the change is shown on the applicable TCDS.
- b. The modification certification basis for parts **changed or affected** by the change since the reference application date, November 10, 2016, is based upon part 27 as amended by Amendment 27-47 as follows:

### Regulations at the latest amendment 23-0 through 27-47

27.1(a)(b), 27.301, 27.303, 27.305, 27.307(a), 27.337, 27.561(a)(b)(3), 27.601, 27.603, 27.605(a), 27.607(b), 27.609, 27.610, 27.611, 27.613, 27.771(a), 27.773(a)(1)(b), 27.777(a)(b), 27.853(a), 27.1301(a)(b)(c)(d), 27.1309(a)(c), 27.1316, 27.1317.

(continued on Page 4)

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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

Number SR00387BO

December 13, 2017

Certification Basis: (continued from Page 3)

27.1321(a)(c)(d), 27.1322, 27.1351(a), 27.1357(a)(c), 27.1365(a), 27.1367, 27.1381,  
27.1501, 27.1523, 27.1525, 27.1529, 27.1541, 27.1555(a), 27.1559, 27.1581(a)(b)(d),  
27.1583(e), 27.1585(a)

**Regulations at an intermediate amendment**

none

**Regulations at the amendment level in the applicable TCDS**

None

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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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September 20, 2011

This letter hereby grants permission for Avidyne's authorized Distributors, Dealers, and Limited Service Centers to use any of the Avidyne-owned Supplemental Type Certificates (STCs) that are catalogued on the Avidyne dealer-only website (<http://dealers.avidyne.com/>).

A handwritten signature in black ink, appearing to read "Thomas P. Harper". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Thomas P Harper

Director, Marketing

Avidyne Corporation

United States Of America  
Department of Transportation - Federal Aviation Administration

# Supplemental Type Certificate

Number SA00296BO

This Certificate issued to Avidyne Corporation  
55 Old Bedford Road  
Lincoln, Massachusetts 01773

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

Original Product Type Certificate Number : A00009CH

Make : Cirrus Design Corporation

Model : SR20, SR22

## Description of Type Design Change:

### Installation of:

- Model DFC90, p/n 700-00170-000, loaded with Release 2 software (or later FAA approved release)  
OR
- Model DFC100, p/n 700-00170-001, loaded with Release 2 software (or later FAA approved release)

Avidyne Corporation Autopilot as a replacement for the S-TEC System Autopilot, see Limitations and Conditions 3, in accordance with the Avidyne Corporation Master Document List, Document AVDFC-019, Rev 10, dated June 24, 2013, or later FAA-approved revision.

### Limitations and Conditions:

1. Operation must be in accordance with Avidyne Corporation Aircraft Flight Manual Supplement (AFMS) as follows:  
For DFC90: Document 600-00249-000, Rev 03, FAA approved on June 27, 2013, or later FAA-approved revision.  
For DFC100: Document 600-00271-000, Rev 02, FAA approved on December 22, 2011, or later FAA-approved revision.

The AFMS must be carried in the aircraft during all flights.

(Limitations and Conditions continued on Page 3 of 4)

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

Date of application : October 16, 2009

Date reissued :

Date of issuance : June 18, 2010

Date amended : July 21, 2010; February 03, 2011,  
March 04, 2011, December 22, 2011,  
June 27, 2013



By direction of the Administrator

*Robert G. Mann*  
FOR  
(Signature)

Robert G. Mann  
Manager  
Boston Aircraft Certification Office

United States Of America  
Department of Transportation - Federal Aviation Administration

# Supplemental Type Certificate

(Continuation Sheet)

*Number* SA00296BO

June 27, 2013

INSTRUCTIONS: The transfer endorsement below may be used to notify the appropriate FAA Regional Office of the transfer of the Supplemental Type Certificate.

The FAA will reissue the certificate in the name of the transferee and forward it to him.

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## TRANSFER ENDORSEMENT

Transfer the ownership of Supplemental Type Certificate Number \_\_\_\_\_

to (Name of transferee) \_\_\_\_\_

(Address of transferee) \_\_\_\_\_  
(Number and street)

\_\_\_\_\_  
(City, State, and ZIP code)

from (Name of grantor) (Print or type) \_\_\_\_\_

(Address of grantor) \_\_\_\_\_  
(Number & street)

\_\_\_\_\_  
(City, State, and ZIP code)

Extent of Authority (if licensing agreement): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date of Transfer: \_\_\_\_\_

Signature of grantor (In ink): \_\_\_\_\_

United States Of America  
Department of Transportation - Federal Aviation Administration

# Supplemental Type Certificate

(Continuation Sheet)

*Number* SA00296BO

June 27, 2013

*Limitations and Conditions:* (continued from Page 1 of 4)

2. Maintenance must be in accordance with Instructions for Continued Airworthiness (ICA), Document AVDFC-030, Rev 04, dated May 22, 2013, or later FAA accepted revision.

The ICA must be made available to the operator at the time of installation.

3. Aircraft must be configured with an existing S-TEC Manual Electric Trim (MET) System and with an existing S-TEC Autopilot as follows in order to accomplish this STC:

Avidyne Corporation Autopilot	Existing S-TEC	S-TEC Part Number
For DFC90	System 20 with 30ALT	01260-( ), 01261-( )
	System 30	1260-( ), 1261-( )
	System 55(x) or 55(SR)	01192-( )
For DFC100	System 55(x) or 55(SR)	01192-( )

4. Aircraft must be configured with an existing Flight Display System as follows in order to accomplish this STC:

Avidyne Corporation Autopilot	Existing Flight Display System
For DFC90	Aspen Avionics, Inc. EFD1000 Primary Flight Display, p/n 910-00001-XXX, loaded with Release 2.6 software (or later FAA approved release).
	Avidyne Primary Flight Display, p/n 700-00006-( ), loaded with Release 8.0.4 software (or later FAA approved release) with Modification 55 installed.
For DFC100	Avidyne Integrated Flight Display, p/n 700-00083-( ) loaded with Release 9.2.1 software (or later FAA approved release).

5. Compatibility of this design with previously approved modifications must be determined by the installer.

*Certification Basis:*

Based on 14 CFR §§ 21.115 and 21.101, and the FAA policy for design changes that are identified as not significant in FAA Order 8110.48, the certification basis for the Cirrus Design Corporation SR20 and SR22 aircraft is as follows:

- a. The type certification basis for parts **not changed or not affected** by the change is shown on TCDS A00009CH.

(Certification Basis continued on Page 4 of 4)

United States Of America  
Department of Transportation - Federal Aviation Administration

# Supplemental Type Certificate

(Continuation Sheet)

*Number* SA00296BO

June 27, 2013

*Certification Basis:* (continued from Page 3 of 4)

- b. The certification for parts **changed or affected** by the change since the reference amendment date, June 27, 2013, is based upon part 23 as amended by Amendment 23-57 as follows:

**Regulations at the latest amendment 23-0 through 23-57**

23.301, 23.303, 23.305, 23.307(a), 23.337(a)(1)(b)(1), 23.341(a), 23.473(d)(g), 23.561(a)(b)(3)(e), 23.601 - 23.613, 23.771(a), 23.773(a)(2), 23.777(a)(b), 23.867(b), 23.1301, 23.1308(c), 23.1309(a)(1)(2)(b)(e), 23.1311(a)(2)(3)(4)(6), 23.1322, 23.1329, 23.1335, 23.1351(a)(1)(2)(i)(b)(1)(e)(f), 23.1357(a)(2)(b)(c)(d), 23.1359(c), 23.1365(a)(b)(d)(e)(f), 23.1367, 23.1381(a)(b), 23.1431(a)(b)(c), 23.1501, 23.1523, 23.1525, 23.1529, 23.1541(a), 23.1549(a), 23.1555(a)(b), 23.1581(a)(b)(2)(3)(f), 23.1583(m), 23.1585(j)

**Regulations at an intermediate amendment**

None

**Regulations at the amendment level in TCDS A00009CH**

None

If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

-----END-----



# STC Permission

## DFC90 Installation

September 03, 2010

Avidyne Corporation hereby grants to all National Aviation Authority (FAA, CAA, JAA) approved installers the use of data from STC SA00296BO to install the Avidyne DFC90 Autopilot Computer. Copies of the STC data are available on the Avidyne website Technical Publications page or upon request. The latest data revisions are listed in Avidyne 700-00170-000 Master Document List, AVDFC-019.

Installers must adhere to the conditions and limitations stated in both the STC and in the Installation Manual, Part Number 600-00251-000, in order to maintain compliance. The use of this data by itself does not constitute installation approval.

Fly Safely,

A handwritten signature in black ink, appearing to read "Mike Keirnan", written over a horizontal line.

Mike Keirnan  
Director of Aircraft Certification and Integration  
Avidyne Corporation



September 20, 2011

This letter hereby grants permission for Avidyne's authorized Distributors, Dealers, and Limited Service Centers to use any of the Avidyne-owned Supplemental Type Certificates (STCs) that are catalogued on the Avidyne dealer-only website (<http://dealers.avidyne.com/>).

A handwritten signature in black ink, appearing to read "Thomas P. Harper". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Thomas P Harper

Director, Marketing

Avidyne Corporation

**NOTE: ALL CORES MUST BE RETURNED WITHIN 90 DAYS TO RECEIVE FULL CREDIT**

AIR PARTS OF LOCK HAVEN, INC.  
1084 E. WATER ST., HANGAR #3, P.O. BOX 418  
LOCK HAVEN, PA 17745

## WARRANTY REGISTRATION

AIRCRAFT OWNER INFORMATION	IMPORTANT
NAME _____	THIS WARRANTY REGISTRATION MUST BE COMPLETED AND RETURNED WHEN INSTALLATION OCCURS ON OR BEFORE ONE YEAR SHELF LIFE OF THIS OVERHAULED PART/GAUGE IN ORDER TO VALIDATE WARRANTY.
COMPANY _____	
ADDRESS _____	
CITY _____ ST _____	
ZIP _____ PHONE _____	
NAME OF MAINTENANCE FACILITY/MECHANIC _____	

AIRCRAFT

MAKE \_\_\_\_\_  
MODEL \_\_\_\_\_  
REGISTRATION \_\_\_\_\_  
TACH TIME \_\_\_\_\_ HRS

UNIT INSTALLED

PART NO \_\_\_\_\_  
SERIAL NO \_\_\_\_\_  
DATE INSTALLED \_\_\_\_\_  
W.O. # Ref \_\_\_\_\_  
DESCRIPTION \_\_\_\_\_

THIS WARRANTY REGISTRATION MUST BE PROPERLY COMPLETED AND ON FILE AT  
AIRPARTS OF LOCK HAVEN, INC., LOCK HAVEN, PA FOR WARRANTY CONSIDERATION.

PLEASE MAIL TO:

AIR PARTS OF LOCK HAVEN INC.  
P.O. BOX 418, 1084 E. WATER ST.  
WM. T. PIPER AIRPORT, HGR #3  
LOCK HAVEN, PA 17745

**NOTE: ALL CORES MUST BE RETURNED WITHIN 90 DAYS TO RECEIVE FULL CREDIT**

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: 240651	
4. Organization Name and Address: AIR PARTS OF LOCK HAVEN P. O. BOX 418 1084 EAST WATER STREET LOCK HAVEN, PA 17745 (QK1R429K)					5. Work Order/Contract/Invoice Number: 240651	
6. Item: 1.	7. Description: DUAL FUEL QTY GAUGE	8. Part Number: 12615-002 FQ4030-12034	9. Quantity: 1 EA.	10. Serial Number: 559	11. Status/Work: REPAIRED	
12. Remarks: REPAIRED IN ACCORDANCE WITH AP 91. FULL DETAILS OF WORK CARRIED OUT PER WORK ORDER NO:240651.						
AIR PARTS OF LOCK HAVEN, INC. certifies that all work specified in block 11/12 was carried out in accordance with FAA 145 and in respect to that work the aircraft component is considered ready for release to service under FAA Acceptance Certificate Number: FAA QK1R429K						
13a. Certifies the items identified above were manufactured in conformity to:  <input 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 checked="" 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:		13c. Approval/Authorization No.:		14b. Authorized Signature:		14c. Approval/Certificate No.: QK1R429K
13d. Name (Typed or printed):		13e. Date (dd/mm/yyyy):		14d. Name (Typed or Printed): GEORGE F. MCKINNEY SR		14e. Date (dd/mm/yyyy): 01 APR 2024
<b>User/Installer Responsibilities</b>						
<p>It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.</p> <p>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 Block1.</p> <p>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.</p>						

# CUSTOMER COPY

## PRODUCT WARRANTY INFORMATION

AIRPARTS OF LOCK HAVEN INC. WARRANTS HEATED PITOTS, INSTRUMENTS OR FUEL SENDERS OVERHAULED BY IT TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF SIX (6) MONTHS FROM THE DATE OF INSTALLATION OR ONE YEAR SHELF LIFE, WHICHEVER OCCURS FIRST. AN EXCEPTION TO THE ABOVE PERIOD SHALL EXIST AS TO D.G.'S, AND ARTIFICIAL HORIZONS, WHICH SHALL BE WARRANTED FOR A PERIOD OF ONE (1) YEAR IF WITHIN THE APPLICABLE PERIOD. A HEATED PITOT, INSTRUMENT OR FUEL SENDER IS PROVEN TO APLH'S SATISFACTION TO BE DEFECTIVE DUE TO A DEFECT IN MATERIAL OR WORKMANSHIP, SAID HEATED PITOT, INSTRUMENT OR FUEL SENDER SHALL BE REPAIRED OR REPLACED, OR THE OVERHAUL PRICE REFUNDED, AT APLH'S SOLE OBLIGATION HEREUNDER SHALL BE LIMITED TO SUCH REPAIR OR REPLACEMENT. FOB APLH'S HEAD-QUARTERS, OR TO A REFUND OF PURCHASE PRICE, AND SHALL BE CONDITIONED UPON APLH'S RECEIVING NOTICE OF ANY ALLEGED DEFECTS WITHIN THIRTY (30) DAYS AFTER ITS DISCOVERY, AND AT APLH'S OPTION, RETURN OF SUCH PRODUCTS PREPAID TO ITS HEADQUARTERS. THIS WARRANTY SHALL NOT APPLY OR EXTEND TO ANY MATERIALS OR SERVICES THAT WERE NOT PARTS OF APLH'S OVERHAUL, OR TO ANY OVERHAULED HEATED PITOT, INSTRUMENT OR FUEL SENDER THAT WAS MISUSED OR MISHANDLED AFTER THE OVERHAUL, WERE IMPROPERLY INSTALLED OR WERE DISASSEMBLED, ADJUSTED, OR OPENED AFTER OVERHAUL OR SUBJECT TO OTHER THAN NORMAL USE AND SERVICE. THIS WARRANTY IS STRICTLY LIMITED TO THE UNDERTAKING BY APLH SET FORTH ABOVE AND IN NO EVENT SHALL APLH BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, PUNITIVE, OR SPECIAL DAMAGES, NOR SHALL APLH BE LIABLE FOR LOST REVENUES OR PROFITS, LOSS OF USE OF ANY EQUIPMENT, DAMAGE TO ANY EQUIPMENT OR FACILITIES. COST OF SUBSTITUTE PRODUCTS, DOWNTIME, LOSS OF GOODWILL, COSTS ASSOCIATED WITH THE PRODUCT REMOVAL OR REPLACEMENT, CLAIMS OF THIRD PARTIES RELATING THERETO, OR ANY OTHER DAMAGES WHETHER BASED ON BREACH OF WARRANTY, NEGLIGENCE, TORT OR ANY STRICT LIABILITY THEORY EXCEPT AS SPECIFICALLY GRANTED HEREIN.

FOR THIS WARRANTY TO BE VALID THE WARRANTY REGISTRATION (PAGE 2) MUST BE FILLED OUT AND RETURNED UPON COMPLETION OF THE OVERHAUL AND PAYMENT FOR SAME. FOR WARRANTY CONSIDERATION THE CUSTOMER WARRANTY REGISTRATION MUST BE COMPLETELY FILLED OUT AND RETURNED WITH THE DEFECTIVE UNIT BEING CONSIDERED FOR WARRANTY REPAIR OR REPLACEMENT.

THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER EXPRESS WARRANTIES (EXCEPT WRITTEN WARRANTIES SPECIFICALLY LABELED AS "WARRANTIES" AND FURNISHED BY APLH) AND ARE IN LIEU OF ALL IMPLIED WARRANTIES, INCLUDING WITH LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. APLH SHALL NOT BE SUBJECT TO ANY OTHER OBLIGATION OR LIABILITIES WHATSOEVER WITH RESPECT TO UNITS OVERHAULED IN CONNECTION WITH THE REBUILDING, THE PRODUCTS OF THE SERVICES FURNISHED BY IT, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO.

WARRANTY VOID IF HEATED PITOT, INSTRUMENT OR FUEL SENDER HAS BEEN OPENED OR DISASSEMBLED OR TAMPERED WITH.

### CUSTOMER WARRANTY REGISTRATION

OWNER  
NAME Mark Brown + Jill Judy  
COMPANY \_\_\_\_\_  
ADDRESS 402 W. 18th St  
CITY Little Rock AR. ST  
ZIP 72206 PHONE 501 247-4439

IMPORTANT  
THIS CARD MUST BE COMPLETED  
AND RETURNED FOR WARRANTY  
CONSIDERATION.

### AIRCRAFT

MAKE CIRRUS  
MODEL SR 20  
REGISTRATION \_\_\_\_\_  
TACH TIME ON \_\_\_\_\_ HRS.  
TACH TIME OFF \_\_\_\_\_ HRS.

### UNIT INSTALLED

PART NO. \_\_\_\_\_  
SERIAL NO. \_\_\_\_\_  
DATE INSTALLED \_\_\_\_\_  
DATE REMOVED \_\_\_\_\_  
PURCHASED FROM \_\_\_\_\_