

N375MK

1964 Cessna 210D

FAA Form 337

Aircraft S/N: 21058252



RidgeAire
WORLDWIDE
aviation specialists

Prepared by the worldwide aviation specialists at RidgeAire, Inc.



U.S. Department of

MAJOR REPAIR AND ALTERATION

Form Approved
OMB No. 2120-0020
11/30/2007

Electronic Tracking Number

For FAA Use Only

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. 1421). Failure to report can result in a civil penalty not to exceed \$1,000 for each such violation (Section 901 Federal Aviation Act 1958)

1. Aircraft	Nationality and Registration Mark USA N375MK	Serial No. 21058252	
	Make Cessna	Model 210D	Series -----

2. Owner	Name (As shown on registration certificate) Morrow Renewables	Address (As shown on registration certificate) PO Box 61447	
		City Midland	State Texas Country UNITED STATES

3. For FAA Use Only

4. Type		5. Unit Identification			
Repair	Alteration	Unit	Make	Model	Serial Number
<input type="checkbox"/>	<input checked="" type="checkbox"/>	AIRFRAME	_____	(As described in Item 1 above)	_____
<input type="checkbox"/>	<input type="checkbox"/>	POWERPLANT			
<input type="checkbox"/>	<input type="checkbox"/>	PROPELLER			
<input type="checkbox"/>	<input type="checkbox"/>	APPLIANCE	Type		
			Manufacturer		

6. Conformity Statement

A. Agency's Name and Address		B. Kind of Agency	
Name Keith Issac Thomas		<input checked="" type="checkbox"/> U.S. Certificated Mechanic	<input type="checkbox"/> Manufacturer
Address 8888 Jack Bates Ave.		<input type="checkbox"/> Foreign Certificated Mechanic	C. Certificate No.
City Tulsa	State OK	<input type="checkbox"/> Certificated Repair Station	3370165
Zip 74132	Country UNITED STATES	<input type="checkbox"/> Certificated Maintenance Organization	

D. I certify that the repair and/or alteration made to the unit(s) identified in item 5 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Extended range fuel per 14 CFR Part 43 App. B <input type="checkbox"/>	Signature/Date of Authorized Individual 11/21/2017 Keith Thomas
--	---

7. Approval for Return to Service

Pursuant to the authority given persons specified below, the unit identified in item 5 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED

BY	FAA Fit Standards Inspector	Manufacturer	Maintenance Organization	Person Approved by Canadian Department of Transport
	FAA Designee	Repair Station	<input checked="" type="checkbox"/> Inspection Authorization	Other (Specify)

Certificate or Designation No. 3370165IA	Signature/Date of Authorized Individual 11/21/2017 Keith Thomas
--	---

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished

(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

USA N375MK

11/21/2017

Nationality and Registration Mark

Date

Removed attitude indicator.

Installed Garmin G5 in accordance with STC SA01818WI, and Garmin G5 Installation Manual P/N 190-01112-10 Rev. 2.

An approved flight manual supplement document # 190-01112-13, Rev. 1 Dated 07/22/2016, was installed in the aircraft Pilot Operating Handbook.

Power for the G5 was supplied through a 5 amp breaker on the aircraft main buss, and the aircraft structure was used for ground.

All equipment affected during the install was checked and found to be operating properly.

All work was performed using manufacturer's maintenance manual and the above listed STC SA01818WI.

Weight and balance was negligible.

END

Additional Sheets Are Attached



U.S. Department
of Transportation
Federal Aviation
Administration

MAJOR REPAIR AND ALTERATION (Airframe, Powerplant, Propeller, or Appliance)

Form Approved
OMB No.2120-0020

For FAA Use Only

Office Identification

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. 1421). Failure to report can result in a civil penalty not to exceed \$1,000 for each such violation (Section 901 Federal Aviation Act of 1958).

1. Aircraft	Make CESSNA	Model 210D
	Serial No. 21058252	Nationality and Registration Mark N375MK
2. Owner	Name (As shown on registration certificate) SOUTH TEX TREATERS INC.	Address (As shown on registration certificate) P.O. BOX 60480 MIDLAND, TEXAS 79711-0480

3. For FAA Use Only

4. Unit Identification

5. Type

Unit	Make	Model	Serial No.	Repair	Alteration
AIRFRAME	_____ (As described in item 1 above) _____				X
POWERPLANT					
PROPELLER					
APPLIANCE	Type				
	Manufacturer				

6. Conformity Statement

A. Agency's Name and Address	B. Kind of Agency	C. Certificate No.
EL PASO AERO, INC. 7305 BOEING DRIVE EL PASO, TEXAS 79925	<input type="checkbox"/> U.S. Certificated Mechanic	CRS# VL1R562K
	<input type="checkbox"/> Foreign Certificated Mechanic	
	<input checked="" type="checkbox"/> Certificated Repair Station	
	<input type="checkbox"/> Manufacturer	

D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Date 01/09/2007	Signature of Authorized Individual 	A. CHENUSKY #2436697
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7. Approval for Return To Service

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED

BY	FAA Flt. Standards Inspector		Manufacturer	Inspection Authorization	Other (Specify)
	FAA Designee	X	Repair Station	Person Approved by Transport Canada Airworthiness Group	
Date of Approval or Rejection 01/09/2007		Certificate or Designation No. CRS# VL1R562K		Signature of Authorized Individual 	
				A. CHENUSKY #2436697	

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished

(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

Installed S-TEC Corporation ST-901 GPSS Arinc 429/RS232 Converter/Interface to existing S-TEC System 50 Autopilot. Installation was in accordance with STC# SA6027SW-D. Installation hardware provided by S-TEC as part of the installation kit. Weight and balance updated. Ops checked system okay.

***** NOTHING FOLLOWS *****

Additional Sheets Are Attached

SYSTEM 40/50

SA7186SW-D	SA5232SW-D	SA7213SW-D
SA5171SW-D	SA5302SW-D	SA7214SW-D
SA5194SW-D	SA5230SW-D	SA8381SW-D
SA5184SW-D	SA5254SW-D	SA7804SW-D
SA5185SW-D	SA5246SW-D	SA7806SW-D
SA5190SW-D	SA6034SW-D	SA8361SW-D
SA5199SW-D	SA5261SW-D	SA7818SW-D
SA5196SW-D	SA5283SW-D	SA7820SW-D
SA5202SW-D	SA5250SW-D	SA8362SW-D
SA5326SW-D	SA5243SW-D	SA8364SW-D
SA5200SW-D	SA5306SW-D	SA8369SW-D
SA5383SW-D	SA5236SW-D	SA8370SW-D
SA5384SW-D	SA5300SW-D	SA8371SW-D
SA7196SW-D	SA5290SW-D	SA8372SW-D
SA09161AC-D	SA5301SW-D	SA8375SW-D
SA5195SW-D	SA5307SW-D	SA8383SW-D
SA5314SW-D	SA5351SW-D	SA09136AC-D
SA5315SW-D	SA5242SW-D	SA09349AC-D
SA5316SW-D	SA5332SW-D	SA09364AC-D
SA5192SW-D	SA5317SW-D	SA8387SW-D
SA5284SW-D	SA5318SW-D	SA09128AC-D
SA5285SW-D	SA5319SW-D	SA09147AC-D
SA5286SW-D	SA5344SW-D	SA09148AC-D
SA09202AC-D	SA5343SW-D	SA09150AC-D
SA5209SW-D	SA5355SW-D	SA09162AC-D
SA5215SW-D	SA5345SW-D	SA09163AC-D
SA5210SW-D	SA5367SW-D	SA09167AC-D
SA5240SW-D	SA6057SW-D	SA09200AC-D
SA5239SW-D	SA7785SW-D	SA6041SW-D
SA5203SW-D	SA5388SW-D	SA09528AC-D
SA5222SW-D	SA5386SW-D	SA09443AC-D
SA5211SW-D	SA6028SW-D	SA09502AC-D
SA5281SW-D	SA6037SW-D	
SA5208SW-D	SA6075SW-D	
SA5225SW-D	SA6027SW-D	
SA5229SW-D	SA7207SW-D	
SA5269SW-D	SA7774SW-D	
SA5270SW-D	SA7775SW-D	
SA5255SW-D	SA7197SW-D	
SA5260SW-D	SA6073SW-D	
SA5227SW-D	SA6040SW-D	
SA5220SW-D	SA7784SW-D	
SA8378SW-D	SA7125SW-D	
SA5218SW-D	SA7786SW-D	
SA5216SW-D	SA7162SW-D	
SA5223SW-D	SA7175SW-D	
SA5259SW-D	SA7814SW-D	



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<input type="checkbox"/>	<input type="checkbox"/>	APPLIANCE	Type		
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Zip 74132	Country UNITED STATES	<input type="checkbox"/> Certificated Maintenance Organization	

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Extended range fuel per 14 CFR Part 43 App. B <input type="checkbox"/>	Signature/Date of Authorized Individual 11/21/2017 Keith Thomas
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POWERPLANT					
PROPELLER					
APPLIANCE	Type				
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SA5192SW-D	SA5317SW-D	SA8387SW-D
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SA5286SW-D	SA5344SW-D	SA09148AC-D
SA09202AC-D	SA5343SW-D	SA09150AC-D
SA5209SW-D	SA5355SW-D	SA09162AC-D
SA5215SW-D	SA5345SW-D	SA09163AC-D
SA5210SW-D	SA5367SW-D	SA09167AC-D
SA5240SW-D	SA6057SW-D	SA09200AC-D
SA5239SW-D	SA7785SW-D	SA6041SW-D
SA5203SW-D	SA5388SW-D	SA09528AC-D
SA5222SW-D	SA5386SW-D	SA09443AC-D
SA5211SW-D	SA6028SW-D	SA09502AC-D
SA5281SW-D	SA6037SW-D	
SA5208SW-D	SA6075SW-D	
SA5225SW-D	SA6027SW-D	
SA5229SW-D	SA7207SW-D	
SA5269SW-D	SA7774SW-D	
SA5270SW-D	SA7775SW-D	
SA5255SW-D	SA7197SW-D	
SA5260SW-D	SA6073SW-D	
SA5227SW-D	SA6040SW-D	
SA5220SW-D	SA7784SW-D	
SA8378SW-D	SA7125SW-D	
SA5218SW-D	SA7786SW-D	
SA5216SW-D	SA7162SW-D	
SA5223SW-D	SA7175SW-D	
SA5259SW-D	SA7814SW-D	

S-TEC

AIRCRAFT ELIGIBILITY STATEMENT

Kit Part Number: ST-901

Description: GPSS CONVERTER, 14V

Eligibility: CESSNA 210D

ACCEPTANCE
STAMP



For a listing of additional aircraft eligibilities other than specified herein, please contact S-TEC Corporation Sales at: 1-800-USA-S^TEC (872-7832).

SERVICE LETTER - SL 00-003R3PN: 7745
DATE: 10-05-06TO: S-TEC Dealers
FROM: Vice President of Flight Operations and Certification**1. SUBJECT**

GPSS ARINC 429 / RS 232 Converter / Interface. This is the third revision to the document. It contains additional STCs, each of which is indicated by an asterisk.

2. EFFECTIVITY

S-TEC autopilot models 60/65, 55/55X, 40/50, 20/30 installed by S-TEC STCs shown on the attached list when installed with heading system and a GPS unit with ARINC 429 / RS 232 roll steering output.

3. REASON

To provide S-TEC autopilots with the capability of accepting GPS roll steering outputs and using them to control aircraft track through the autopilot heading mode.

4. COMPLIANCE

Optional

5. DATA

FAADAS approved S-TEC Bulletin 901

6. KIT

Model ST-901

7. PUBLICATIONS

A Pilot's Operating Handbook (POH) is provided with each kit that explains detailed normal operating procedures. There is no change to the DAS/FAA approved POH/AFMS for the autopilot.

Instructions for Continued Airworthiness are included in Bulletin 901.

6. APPROVAL

Bulletin 901 is FAADAS approved as a minor change to type design under FAR 21.95 for all the STCs on the attached list. S-TEC considers this optional installation to be a minor alteration in accordance with FARs 1.1, 43.5, 43.7, 43.9, and Appendix A to Part 43. Therefore, return of the airplane to service could be accomplished with a log book entry. Should the person returning the airplane to service prefer to execute an FAA Form 337 for a major alteration, the data is FAA approved.

SL 00-003R3

FRM 8.3 02-03 Rev. C

MEGGITT



INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

S-TEC GPSS ARINC 429/RS232 CONVERTER/INTERFACE

1. Introduction

This installation is an optional addition to S-TEC autopilots Models 60/65, 55, 40/50, and 20/30 when installed with a heading system and a GPS unit with ARINC 429/RS232 roll steering output. It is installed in accordance with S-TEC Installation Bulletin 901 which is included in the General Installation Bulletin for each autopilot system. Bulletin 901 contains Master Drawing List 921170, dated December 6, 2001 or later FAA approved revision. There is a Pilot's Operating Handbook, P/N 8799.

2. Description

This installation provides S-TEC autopilots with the capability of accepting GPS roll steering outputs and using them to control aircraft track through the autopilot heading mode. It consists of a panel mounted combination switch/annunciator/converter unit or a panel mounted switch/annunciator with a remote mounted converter and connecting cabling to the autopilot and the aircraft heading sensor. Installation data for all components is included in Bulletin 901.

3. Controls, Operation Information

Operation of the GPSS 429/RS232 Converter/Interface Unit is described in S-TEC Pilot's Operating Handbook P/N 8799 that supplements the approved AFMS for each autopilot installation.

4. Servicing Information

All servicing of the GPSS 429/RS232 Converter/Interface must be accomplished by approved S-TEC dealers using S-TEC Dealer Maintenance Manuals and S-TEC Test Equipment. Locations and access to the components of this installation are described and depicted in the installation drawings and Installation Manual. Removal and replacement of components should be determined by functional checks indicated in the Pilot's Operating Handbook and the Post Installation and Functional Tests section of Installation Bulletin 901.

5. Maintenance Instructions

Condition and/or airworthiness inspections required under FAR Part 43, or other FAA approved programs, should include the items shown below for the GPSS 429/RS232 Converter/Interface when installed in the aircraft.

1. Perform functional checks indicated in the Pilot's Operating Handbook and the Post Installation and Functional Tests section of Installation Bulletin 901.
2. Component installations should be checked against Installation Bulletin 901 to confirm integrity and condition.

6. Trouble Shooting Information

Trouble-shooting this equipment should only be accomplished by authorized S-TEC Dealers with required test equipment and service data. System function should be determined through functional checks indicated in the Pilot's Operating Handbook and the Post Installation and Functional Tests section of Installation Bulletin 901.

7. Removal and Replacement Information

All components can be removed with common tools and practices. Installation of components required for this alteration must be in accordance with the approved data contained in Installation Bulletin 901.



INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

S-TEC GPSS ARINC 429/RS232 CONVERTER/INTERFACE

8. Diagrams

See Installation Bulletin 901.

9. Special Inspection

N/A

10. Application of Protective Treatments

GPSS 429/RS232 Converter/Interface components should not be exposed to these treatments.

11. Structural Fasteners

See parts list in the Installation Bulletin 901 for TSO, PMA, and standard hardware information.

12. Special Tools

N/A

13. The following additional information is being supplied (required for Commuter category airplanes):

Electrical loads are described in the Component Weights and Current Drain section of Installation Bulletin 901.

14. Overhaul Time Limitations

N/A

15. Airworthiness Limitations

None.

16. Revisions

The S-TEC Service Letter/Bulletin program will be utilized to inform aircraft operators of significant changes to this ICA. Contact S-TEC Corporation at 1-800-USA-STEC.

A MEMBERSHIP SERVICE PROVIDED BY



Warranty Application Form

To use, you may print this form.

REGISTERED OWNER INFORMATION

NAME
 ADDRESS
 CITY/STATE/POSTAL CODE
 COUNTRY
 OPERATOR IF OTHER THAN OWNER
 CONTACT
 PHONE / FAX NO

INSTALLING AGENCY

NAME
 LOCATION (CITY/STATE/POSTAL CODE)
 ACCOUNT NUMBER OR DEALER CODE
 WORK ORDER/REFERENCE
 SELLING AGENCY IF OTHER THAN INSTALLER
 EQUIPMENT MANUFACTURER

AIRCRAFT INFORMATION

MANUFACTURER
 SERIAL NO.
 WARRANTY START DATE D/M/Y
 INSTALLATION DATE D/M/Y

MODEL
 REGISTRATION
 AIRCRAFT HOURS
 AIRCRAFT HOURS

CHECK ONE: NEW RETROFIT DEMO SPARE
 FIXED-BACKUP-RESERVE PORTABLE-INDEPENDENT-BACKUP

AVIONICS EQUIPMENT

MODEL NO.	PART NO.	SERIAL NO.
<input type="text" value="GNS-430"/>	<input type="text" value="010-00139-11"/>	<input type="text" value="97135404"/>
<input type="text" value="GI-106A"/>	<input type="text" value="013-00049-00"/>	<input type="text" value="J06-10470"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>



Warranty Application Form

To use, you may print this form.

REGISTERED OWNER INFORMATION

NAME	South-Tex Treaters, Inc
ADDRESS	P. O. Box 60480
CITY/STATE/POSTAL CODE	Midland, TX 79711
COUNTRY	USA
OPERATOR IF OTHER THAN OWNER	
CONTACT	
<input type="radio"/> PHONE / <input type="radio"/> FAX NO	

INSTALLING AGENCY

NAME	El Paso Aero, Inc.
LOCATION (CITY/STATE/POSTAL CODE)	El Paso, TX 79925
ACCOUNT NUMBER OR DEALER CODE	C000440
WORK ORDER/REFERENCE	WO#55912
SELLING AGENCY IF OTHER THAN INSTALLER	
EQUIPMENT MANUFACTURER	S-TEC

AIRCRAFT INFORMATION

MANUFACTURER	Cessna	MODEL	210D
SERIAL NO.	58252	REGISTRATION	N375MK
WARRANTY START DATE D/M/Y	09/01/07	AIRCRAFT HOURS	5240.04
INSTALLATION DATE D/M/Y	09/01/07	AIRCRAFT HOURS	5240-04

CHECK ONE: NEW RETROFIT DEMO SPARE
 FIXED-BACKUP-RESERVE PORTABLE-INDEPENDENT-BACKUP

AVIONICS EQUIPMENT

MODEL NO.	PART NO.	SERIAL NO.
ST-901 Assy, 429 GPSS sw.	03975	0649-5074
ST-901 Assy,429 GPSS intf.	03976	0643-9339E/A

INVOICE

EL PASO AERO, INC.
AVIONICS ASSOCIATES
7305 BOEING DRIVE • INTERNATIONAL AIRPORT
EL PASO, TEXAS 79925 • PHONE (915) 779-3481

PR

SOLD TO

South-Tex Treaters, Inc.

SHIPPED TO

PO Box 60480

MAF, TX 79711


DATE	DATE SHIPPED	SHIPPED VIA	YOUR ORDER NO.	F.O.B.	TERMS	INVOICE NO.
01/09/07	01/09/07	N375MK(210D)	WO#55912B	El Paso	Net 10	94829

QUANTITY	DESCRIPTION	PRICE	AMOUNT
Item#1	Auto-pilot altimeter annunciator inoperative		
Item#2	Autopilot heading inoperative		
Item#3	Remove all wiring from handheld GPS unit		
Item#4	Avionics master intermittent ops		
1.	Checked and confirmed pirep. Troubleshoot and confirmed lamp faulty. Replaced lamp and final ops ok.		
2.	Ramp checked and confirmed pirep, autopilot heading mode inoperative. Inspected and found directional gyro unplugged recured plug and ops checked ok.		
3.	Deleted wires from yoke as required and secured.		
4.	Checked and noted avionics master would not turn on until cycled several times-replaced switch and checked as ok.		
	1 ea. 037-00041-0005 Alt Lamp	\$	20.35
	1 ea. W31XM35 Master Switch	\$	39.95
	Sub-Total	\$	60.30
	Tax	\$	4.97
	Item#1 Labor	\$	135.00
	Item#2 Labor	\$	45.00
	Item#3 Labor	\$	45.00
	Item#4 Labor	\$	90.00
	Pilot Service	\$	100.00
	Total	\$	480.27

Thank You!

ORIGINAL

GPS

 U.S. Department of Transportation Federal Aviation Administration	MAJOR REPAIR AND ALTERATION (Airframe, Powerplant, Propeller, or Appliance)	Form Approved OMB No.2120-0020
		For FAA Use Only
		Office Identification

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. 1421). Failure to report can result in a civil penalty not to exceed \$1,000 for each such violation (Section 901 Federal Aviation Act of 1958).

1. Aircraft	Make CESSNA Serial No. 21058252	Model 210D Nationality and Registration Mark N375MK
2. Owner	Name (As shown on registration certificate) SOUTH TEX TREATERS INC.	Address (As shown on registration certificate) P.O. BOX 60480 MIDLAND, TEXAS 79711-0480

3. For FAA Use Only

"The data identified herein complies with the applicable airworthiness requirements and is approved for the above described aircraft, subject to conformity inspection by a person authorized by 14 CFR Part 43, Section 43.7"

SW-01 21 DEC 2006 *Arnon L Robinson*
 District Office Date Signature of FAA Inspector

4. Unit Identification				5. Type	
Unit	Make	Model	Serial No.	Repair	Alteration
AIRFRAME	(As described in item 1 above)				X
POWERPLANT					
PROPELLER					
APPLIANCE	Type				
	Manufacturer				

6. Conformity Statement

A. Agency's Name and Address EL PASO AERO, INC. 7305 BOEING DRIVE EL PASO, TEXAS 79925	B. Kind of Agency <input type="checkbox"/> U.S. Certificated Mechanic <input type="checkbox"/> Foreign Certificated Mechanic <input checked="" type="checkbox"/> Certificated Repair Station <input type="checkbox"/> Manufacturer	C. Certificate No. CRS# VL1R562K
--	---	--

D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Date: 12/14/2006 Signature of Authorized Individual: *[Signature]* A. CHENAU SKY #2436697

7. Approval for Return To Service

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED Other (Specify)

BY	<input type="checkbox"/> FAA Fit. Standards Inspector <input type="checkbox"/> FAA Designee	X	<input type="checkbox"/> Manufacturer <input checked="" type="checkbox"/> Repair Station	<input type="checkbox"/> Inspection Authorization <input checked="" type="checkbox"/> Person Approved by Transport Canada Airworthiness Group	
Date of Approval or Rejection: <i>1/9/07</i>		Certificate or Designation No.: CRS# VL1R562K		Signature of Authorized Individual: <i>[Signature]</i> A. CHENAU SKY #2436697	

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished

(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

Removed existing NAV/COM Narco MK-12D, ID-825 Indicator and Apollo 800 Loran. Installed new Garmin International GNS-430 VHF COM Transceiver/ GPS/VOR/ILS Receiver and GI-106A Indicator. The installation was in accordance with Garmin Installation Manual p/n 190-00140-02 Rev.Q dated 10/05 adapted as required using AC 43.13-2A paragraph 21 guidelines.

The GPS was installed in the #1 position of the center panel utilizing AN hardware using the factory provided installation kit and mil spec wire. The original COM, NAV, and Glideslope antennas were utilized. The GNS-430 was displayed on the GI-106A Indicator located in the upper RHS of the pilot's instrument panel in accordance with Figure F-10 of the GNS-430 installation manual. The GNS-430 was wired to the aircraft avionics bus with 2 mil 22759 18 gauge wires through a 10 amp circuit breaker labeled COM1 and 2 mil 22759 20 gauge wires through a 5 amp circuit breaker labeled GPS1.

The GPS antenna Garmin p/n GA-56 was installed on top of the cabin in place of the removed Apollo 800 Loran antenna in accordance with Section 3.5 of the installation manual and in accordance with AC 43.13-2A paragraph 36 and 38 guidelines. The Apollo 800 Loran coax was utilized.

Certified the Garmin International GNS-430 VHF Com/VOR & ILS Rx/GPS Rx installation for IFR Enroute, Terminal Area and Non-Precision Approach use. The system as installed complies with the provisions of AC 20-138A for follow on IFR Airworthiness Installation Approvals, original STC# SA00705WI. The GNS-430 installation meets the requirements contained in AC 20-138A paragraphs 15-19 and the installation complies with the requirements of AC 20-138 A paragraphs 21 and 22 as applicable. The GNS-430 installation has been ground checked in accordance with Section 5 of the installation manual and found to operate properly. An operational flight check of the installation is required as described on 14CFR 91.407(B) to include verification of the GPS installation to meet the requirements of AC 20-138A paragraph 23 and to verify that the GPS as installed performs its intended function and is compatible with any previous modifications. The results of the flight will be logged in the aircraft records.

The FAA Approved Flight Manual Supplement part number EPA121406 dated 21 DEC 2006 was installed in the Airplane Flight Manual for this aircraft and must be accessible to the flight crew when the GNS-430 is used for IFR navigation. The Equipment List has been updated and the Weight and Balance Record has been revised.

See attached sheets for "Instructions for Continued Airworthiness".

***** NOTHING FOLLOWS *****

Additional Sheets Are Attached



6825 Convair Road
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GARMIN GNS 430
CESSNA 210D
S/N 21058252 N375MK

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
- ATTACHMENT TO FAA FORM 337 -
DATED 12/14/06

1. INTRODUCTION

Content, Scope,

Purpose and Arrangement: This document identifies the Instructions for Continued Airworthiness for the modification of the above aircraft by installation of a Garmin GNS-430.

Applicability: Applies to aircraft altered by installation of the Garmin GNS-430.

Definitions & Abbreviations: None, N/A

Precautions: None, N/A

Units of Measurement: None, N/A

Referenced Publications: Garmin 400 Series Installation manual, p/n 190-00140-02
Garmin GNS-430 Maintenance Manual, p/n 190-00140-05
Garmin STC# SA00705WI
Garmin Sample Flight Manual Supplement, p/n 190-00140-04
Garmin GNS-430 Pilot's Guide, p/n 190-00140-00

Distribution: This document should be a permanent aircraft record.

2. DESCRIPTION OF THE ALTERATION

Installation of the Garmin GNS-430, with interface to external altitude encoder and CDI. Refer to Section 1.2, and Sections 4.x.1 of the installation manual for interconnect information. Antenna installation, removal and replacement should be in accordance with applicable provisions of AC 43.13-1B and 43.13-2A.

3. CONTROL, OPERATION INFORMATION

Refer to the GNS-430 Pilot's Guide.

4. SERVICING INFORMATION

N/A

5. MAINTENANCE INSTRUCTIONS

Maintenance of the GNS-430 is 'on condition' only. Periodic maintenance is not required. Refer to the 400 Series Maintenance Manual.

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DATED 21 DEC 2006

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CESSNA 210D
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6. TROUBLESHOOTING INFORMATION

Refer to the 400 Series Maintenance Manual.

7. REMOVAL AND REPLACEMENT INFORMATION

Refer to Section 3.8 of the installation manual. If the unit is removed and reinstalled, a functional check of the equipment should be conducted in accordance with Section 5.3 of the installation manual.

8. DIAGRAMS

Refer to Sections 3 and 4 of the installation manual.

9. SPECIAL INSPECTION REQUIREMENTS

N/A

10. APPLICATION OF PROTECTIVE TREATMENTS

N/A

11. DATA: RELATIVE TO STRUCTURAL FASTENERS

Antenna installation, removal and replacement should be in accordance with applicable provisions of AC 43.13-1A and 43.13-2A. Also, refer to Section 3.7 of the installation manual.

12. SPECIAL TOOLS

N/A

13. THIS SECTION IS FOR COMMUTER CATEGORY AIRCRAFT ONLY

A. Electrical loads: Refer to Section 1.3.2 of the installation manual.

B. Methods of balancing flight controls: N/A

C. Identification of primary and secondary structures: N/A

D. Special repair methods applicable to the airplane: Antenna installation, removal, and replacement should be in accordance with applicable provisions of AC 43.13-1B and 43.13-2A.

14. OVERHAUL PERIOD

No additional overhaul time limitations.

15. AIRWORTHINESS LIMITATION SECTION

Refer to the GNS-430 Sample Flight Manual Supplement.

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DATED 21 DEC 2006

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16. REVISION

To revise this ICA, a letter must be submitted to the local FSDO with a copy of the revised FAA Form 337, and revised ICA. The FAA inspector accepts the change by signing Block 3 and including the following statement:

“The attached revised/ new Instructions for Continued Airworthiness (date _____) for the above aircraft or component major alteration have been accepted by the FAA, superseding the Instructions for Continued Airworthiness (date _____).”

17. ASSISTANCE

Flight Standards Inspectors have the resources to respond to questions regarding the ICA.

18. IMPLEMENTATION AND RECORD KEEPING

For major alterations performed in accordance with FAA field approval policy, the owner/operator operating under Part 91 is responsible for ensuring that the ICA is made part of the applicable section 91.409 inspection program for their aircraft. This is accomplished when a maintenance entry is made in the aircraft's maintenance record in accordance with Section 43.9. This entry records the major alteration and identifies the original ICA location (e.g., Block 8 of FAA Form 337, dated _____) along with a statement that the ICA is now part of the aircraft's inspection/maintenance requirements.

19. TERRAIN DATABASE

Refer to the “400/500 Series Garmin Optional Displays Pilot's Guide Addendum” for terrain database update, regionalization, and status information.

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GARMIN GNS-430
CESSNA 210D
S/N 21058252 N375MK

**FAA APPROVED FLIGHT MANUAL SUPPLEMENT
GARMIN GNS 430 VHF COMMUNICATIONS TRANSCEIVER/ VOR/
ILS RECEIVER/ GPS RECEIVER**

AIRCRAFT MAKE: CESSNA
AIRCRAFT MODEL: 210D
AIRCRAFT SERIAL NO.: 21058252
AIRCRAFT REGISTRY: N375MK

This document must be carried in the aircraft at all times. It describes the operating procedures for the GARMIN GNS 430 navigation system when it has been installed in accordance with GARMIN Installation Manual 190-00140-02 Rev. Q and FAA Form 337 dated 12/15/06.

For aircraft with an FAA Approved Airplane Flight Manual, this document serves as the FAA Approved Flight Manual Supplement for the GARMIN GNS 430. For aircraft that do not have an approved flight manual, this document serves as the FAA Approved Supplemental Flight Manual for the GARMIN GNS 430.

The information contained herein supplements or supersedes the basic manual only in those areas listed herein. For limitations, procedures, and performance information not contained in this supplement; consult the basic Airplane Flight Manual.

FAA Approved:

Federal Aviation Administration, SW-01
1601 Randolph Road S.E.
Suite 200 North
Albuquerque, New Mexico 87106

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DATED: 21 DEC 2006

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SECTION I - GENERAL

1. The GNS 430 System is a fully integrated, panel mounted instrument, which contains a VHF Communications Transceiver, a VOR/ILS receiver, and a Global Positioning System (GPS) Navigation computer and a terrain awareness system (TERRAIN Option). The system consists of a GPS antenna, GPS Receiver, VHF VOR/LOC/GS antenna, VOR/ILS receiver, VHF COMM antenna and a VHF Communications Transceiver. The primary function of the VHF Communication portion of the equipment is to facilitate communication with Air Traffic Control. The primary function of the VOR/ILS Receiver portion of the equipment is to receive and demodulate VOR, Localizer, and Glide Slope signals. The primary function of the GPS portion of the system is to acquire signals from the GPS system satellites, recover orbital data, make range and Doppler measurements, and process this information in real-time to obtain the user's position, velocity, and time. The primary function of the TERRAIN portion of the system is to provide terrain situational awareness.

2. Provided the GARMIN GNS 430's GPS receiver is receiving adequate usable signals, it has been demonstrated capable of and has been shown to meet the accuracy specifications for:

- * VFR/IFR enroute, terminal, and non-precision instrument approach (GPS, Loran-C, VOR, VOR-DME, TACAN, NDB, NDB-DME, RNAV) operation within the U.S. National Airspace System in accordance with AC 20-138.
- * One of the approved sensors, for a single or dual GNS 430 installation, for North Atlantic Minimum Navigation Performance Specification (MNPS) Airspace in accordance with AC 91.49 and AC 120-33.
- * The system meets RNP5 airspace (BRNAV) requirements of AC 90-96 and in accordance with AC 20-138, and JAA AMJ 20X2 Leaflet 2 Revision 1, provided it is receiving usable navigation information from the GPS receiver.
- * The equipment as installed has been found to comply with the requirements for GPS primary means of navigation in oceanic and remote airspace, when used in conjunction with the 400 Series Trainer Program incorporating the FDE Prediction Program. This does not constitute an operational approval.

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Navigation is accomplished using the WGS-84 (NAD-83) coordinate reference datum. Navigation data is based upon use of only the Global Positioning System (GPS) operated by the United States of America.

- NOTE:** For reference to the Pilot's Guide Addendums, appropriate document and revision levels are as follows:
- 400/500 Series Garmin Optional Displays Addendum p/n 190-00140-13 Rev. B, dated September 2004, or later for Weather Datalink or Traffic Information Service (TIS) interfaces < or >
 - 400/500 Series Garmin Optional Displays Addendum p/n 190-00140-13 Rev. D, dated April 2005, or later for TERRAIN interface < or >
 - 400/500 Series Display Interfaces Addendum p/n 190-00140-10 Rev. D, dated March 2003, or later for lightning detection and Traffic Advisory System (TAS) interfaces.

SECTION II - LIMITATIONS

1. The GARMIN GNS 430 Pilot's Guide, P/N 190-00140-00, Rev. A, dated October 1998, or later appropriate revision, must be immediately available to the flight crew whenever navigation is predicated on the use of the system. In addition to the Pilot's Guide, the appropriate Pilot's Guide Addendum (as defined in the note on page 4 of 10) also must be immediately available to the flight crew if lightning detection, Weather Datalink, Traffic Advisory System (TAS), Traffic Information Service (TIS), or TERRAIN are interfaced to the system or if primary means oceanic/remote navigation is conducted.
2. The GNS 430 must utilize the following or later FAA approved software versions:

Function	Sub-System Version				
	Main	GPS	COM	VOR/LOC	GS
Initial Approval	2.00	2.00	2.00	1.25	2.00
Traffic / Weather Interface	2.08	2.00	2.00	1.25	2.00
Primary Oceanic/ Remote	3.00	3.00	2.00	1.25	2.00
TIS Interface	4.00	2.00	2.00	1.25	2.00
TERRAIN Option	5.01	3.01	6.00	3.01	2.03

The Main software version is displayed on the GNS 430 self test page immediately after turn-on for 5 seconds. The remaining system software versions can be verified on the AUX group sub-page 2, "SOFTWARE / DATABASE VER".

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3. IFR enroute and terminal navigation predicated upon the GNS 430's GPS Receiver is prohibited unless the pilot verifies the currency of the data base or verifies each selected waypoint for accuracy by reference to current approved data.

4. Instrument approach navigation predicated upon the GNS 430's GPS Receiver must be accomplished in accordance with approved instrument approach procedures that are retrieved from the GPS equipment data base. The GPS equipment database must incorporate the current update cycle.

- (a) Instrument approaches utilizing the GPS receiver must be conducted in the approach mode and Receiver Autonomous Integrity Monitoring (RAIM) must be available at the Final Approach Fix.
- (b) Accomplishment of ILS, LOC, LOC-BC, LDA, SDF, MLS or any other type of approach not approved for GPS overlay with the GNS 430's GPS receiver is not authorized.
- (c) Use of the GNS 430 VOR/ILS receiver to fly approaches not approved for GPS require VOR/ILS navigation data to be present on the external indicator.
- (d) When an alternate airport is required by the applicable operating rules, it must be served by an approach based on other than GPS or Loran-C navigation, the aircraft must have the operational equipment capable of using that navigation aid, and the required navigation aid must be operational.
- (e) VNAV information may be utilized for advisory information only. Use of VNAV information for Instrument Approach Procedures does not guarantee Step-Down Fix altitude protection, or arrival at approach minimums in normal position to land.

5. If not previously defined, the following default settings must be made in the "SETUP 1" menu of the GNS 430 prior to operation (refer to Pilot's Guide for procedure if necessary):

- (a) **dis, spd** $\frac{n}{m} \frac{k}{t}$ (sets navigation units to "nautical miles" and "knots")
- (b) **alt, vs**ft fpm (sets altitude units to "feet" and "feet per minute")
- (c) **map datum** ..WGS 84 (sets map datum to WGS-84, see note below)
- (d) **posn**deg-min (sets navigation grid units to decimal minutes)

NOTE: In some areas outside the United States, datums other than WGS-84 or NAD-83 may be used. If the GNS 430 is authorized for use by the appropriate Airworthiness authority, the required geodetic datum must be set in the GNS 430 prior to its use for navigation.

6. Navigation must not be predicated upon the use of TERRAIN.

NOTE: The terrain display is intended to serve as a situational awareness tool only. It may not provide either the accuracy or fidelity, or both, on which to solely base decisions and plan maneuvers to avoid terrain or obstacles.

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7. To avoid giving unwanted alerts, TERRAIN must be inhibited when landing at an airport that is not included in the airport database.
8. The TERRAIN databases have an area of coverage as detailed below:
 - (a) The Terrain Database has an area of coverage from North 75* Latitude to South 60* Latitude in all longitudes.
 - (b) The Airport Terrain Database has an area of coverage that includes the United States, Canada, Mexico, Latin America, and South America.
 - (c) The Obstacle Database has an area of coverage that includes the United States.

NOTE: The area of coverage may be modified, as additional terrain data sources become available.

NOTE: Pilots are NOT authorized to deviate from their current ATC clearance to comply with terrain/obstacle warnings from a TERRAIN unit except as allowed by 14 CFR Part 91.3(b). TERRAIN warnings are advisory only and are not equivalent to warnings provided by a TAWS unit.

SECTION III - EMERGENCY PROCEDURES

ABNORMAL PROCEDURES

1. If GARMIN GNS 430 navigation information is not available or invalid, utilize remaining operational navigation equipment as required. If the TERRAIN option is installed, TERRAIN will not be available. A white 'TER N/A' or red 'TER FAIL' annunciator will be displayed in the lower left corner of the GNS 430 display.
2. If "RAIM POSITION WARNING" message is displayed the system will flag and no longer provide GPS based navigational guidance. The crew should revert to the GNS 430 VOR/ILS receiver or an alternate means of navigation other than the GNS 430's GPS Receiver. If the TERRAIN option is installed, TERRAIN will not be available. A white 'TER N/A' annunciator will be displayed in the lower left corner of the GNS-430 display.
3. If "RAIM IS NOT AVAILABLE" message is displayed in the enroute, terminal, or initial approach phase of flight, continue to navigate using the GPS equipment or revert to an alternate means of navigation other than the GNS 430's GPS receiver appropriate to the route and phase of flight. When continuing to use GPS navigation, position must be verified every 15 minutes using the GNS 430's VOR/ILS receiver or another IFR-approved navigation system.

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4. If "RAIM IS NOT AVAILABLE" message is displayed while on the final approach segment, GPS based navigation will continue for up to 5 minutes with approach CDI sensitivity (0.3 nautical mile). After 5 minutes the system will flag and no longer provide course guidance with approach sensitivity. Missed approach course guidance may still be available with 1 nautical mile CDI sensitivity by executing the missed approach.
5. In an in-flight emergency, depressing and holding the Comm transfer button for 2 seconds will select the emergency frequency of 121.500Mhz into the "Active" frequency window.
6. If the white "TER N/A" status annunciator is displayed by the GNS 430, the system will no longer provide TERRAIN alerting or display relative terrain elevations. The crew must maintain compliance with procedures that ensure minimum terrain separation.
7. If the red "TER FAIL" status annunciator is displayed by the GNS 430, the system will no longer provide TERRAIN alerting or display relative terrain elevations. The crew must maintain compliance with procedures that ensure minimum terrain separation.
8. If a "TERRAIN has failed" message is displayed by the GNS 430, the system will no longer provide TERRAIN alerting or display relative terrain elevations. The crew must maintain compliance with procedures that ensure minimum terrain separation.

SECTION IV - NORMAL PROCEDURES

1. DETAILED OPERATING PROCEDURES

Normal operating procedures are described in the GARMIN GNS 430 Pilot's Guide, P/N 190-00140-00, Rev. A, dated October 1998, or later appropriate revision. Normal operating procedures for the lightning detection, Traffic Advisory Service (TAS), Traffic Information Service (TIS) interface, Weather Data Link interface, and TERRAIN interface are described in the applicable 400/500 Series Pilot's Guide Addendum, p/n 190-00140-10 or 190-00140-13. (Refer to note on Page 4 of 10 for appropriate document and revision level.)

2. PILOT'S DISPLAY

The GNS 430 System data will appear on the GI-106A Indicator. The source of data is either GPS or VLOC as annunciated on the display above the CDI key.

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NOTE: It is the pilot's responsibility to assure that published or assigned procedures are correctly complied with. Course guidance is not provided for all possible ARINC 424 leg types. See the GNS 430 Pilot's Guide for detailed operating procedures regarding navigation capabilities for specific ARINC 424 leg types.

3. AUTOPILOT / FLIGHT DIRECTOR OPERATION

Coupling of the GNS 430 System steering information to the autopilot can be accomplished by engaging the autopilot in the NAV or APR mode.

For detailed autopilot/flight director operational instructions, refer to the FAA Approved Flight Manual Supplement for the autopilot/flight director.

4. CROSSFILL OPERATIONS

For dual GNC 400 Product Series installations, crossfill capabilities exist between the number one and number two GNC 400 Systems. Refer to the Garmin GNS 430 Pilot's Guide for detailed crossfill operating instructions.

5. AUTOMATIC LOCALIZER COURSE CAPTURE

By default, the GNS 430 automatic localizer course capture feature is enabled. This feature provides a method for system navigation data present on the external indicators to be switched automatically from GPS guidance to localizer/ glide slope guidance as the aircraft approaches the localizer course inbound to the final approach fix. If an offset from the final approach course is being flown, it is possible that the automatic switch from GPS course guidance to localizer/ glide slope course guidance will not occur. It is the pilot's responsibility to ensure correct system navigation data is present on the external indicator before continuing a localizer based approach beyond the final approach fix. Refer to the GNS-430 Pilot's Guide for detailed operating instructions.

6. DISPLAY OF LIGHTNING STRIKE DATA

Pertaining to installations that interface the BF Goodrich WX-500 Stormscope and does not apply to this aircraft.

7. DISPLAY OF TRAFFIC ADVISORY DATA

Pertains to installations that interface with the TAS System and does not apply to this aircraft.

8. DISPLAY OF TRAFFIC INFORMATION SERVICE DATA

Pertains to TIS surveillance data uplinked by Air Traffic Control (ATC) radar through the GTX 330 Mode S Transponder and does not apply to this aircraft.

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9. TERRAIN AWARENESS CAUTION

When a terrain awareness CAUTION occurs, take positive corrective action until the alert ceases. Stop descending or initiate either a climb or a turn, or both, as necessary, based on analysis of all available instruments and information.

10. TERRAIN AWARENESS WARNING

If a terrain awareness WARNING occurs, immediately initiate and continue a climb that will provide maximum terrain clearance, or any similar approved vertical terrain escape maneuver, until all alerts cease. Only vertical maneuvers are recommended, unless either operating in visual meteorological conditions (VMC), or the pilot determines, based on all available information, that turning in addition to the vertical escape maneuver is the safest course of action, or both.

11. TERRAIN INHIBIT

The TERRAIN Forward Looking Terrain Avoidance (FLTA) and Premature Descent Alerts (PDA) functions may be inhibited to stop alerting for acceptable flight conditions (such as below glideslope maneuvers). For detailed operating instructions regarding the GNS 430 TERRAIN interface, refer to the 400/500 Series Garmin Optional Displays Pilot's Guide Addendum, p/n 190-00140-13, Rev. D, or later revision.

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DATED: 21 DEC 2006

Acr

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P/N EPA121506



6825 Convair Road
El Paso, Texas 79925-1059
International Airport
(915)779-3481

GARMIN GNS-430
CESSNA 210D
S/N 21058252 N375MK

SECTION V - PERFORMANCE

No change.

SECTION VI - WEIGHT AND BALANCE

See current weight and balance data.

SECTION VII - AIRPLANE & SYSTEM DESCRIPTIONS

See GNS 430 Pilot's Guide for a complete description of the GNS 430 system.

See 400/500 Series Garmin Display Interfaces Pilot's Guide Addendum, p/n 190-00140-13 information pertaining to the Traffic Information Service (TIS), Weather Data Link, and the TERRAIN Option interfaces. (Refer to the note on Page 4 of 10 for appropriate revision level.)

See 400/500 Series Display Interfaces Pilot's Guide Addendum, p/n 190-00140-10, Rev. D, dated March 2003, or later for information pertaining to the lightning strike data and Traffic Advisory System (TAS) interface.

FAA APPROVED
DATED: 21 DEC 2006

AR

PAGE 10 OF 10
P/N EPA121506

FLAP INDICATOR



MAJOR REPAIR AND ALTERATION (Airframe, Powerplant, Propeller, or Appliance)

Form Approved
OMB No. 2120-0020
For FAA Use Only
Office Identification

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. 1421). Failure to report can result in a civil penalty not to exceed \$1,000 for each such violation (Section 901 Federal Aviation Act of 1958).

1. Aircraft	Make Cessna	Model 210D
	Serial No. 21058252	Nationality and Registration Mark N375MK
2. Owner	Name (As shown on registration certificate) South Tex Treaters Inc.	Address (As shown on registration certificate) P O Box 60480 Midland TX 79711-0480

3. For FAA Use Only

4. Unit Identification				5. Type	
Unit	Make	Model	Serial No.	Repair	Alteration
AIRFRAME	(As described in item 1 above)				X
POWERPLANT					
PROPELLER					
APPLIANCE	Type				
	Manufacturer				

6. Conformity Statement

A. Agency's Name and Address	B. Kind of Agency	C. Certificate No.
Thomas A Hubble DBA Odessa Aviation 414 E. Hillmont #91 Odessa TX. 79765	<input checked="" type="checkbox"/> U.S. Certificated Mechanic	457377586
	<input type="checkbox"/> Foreign Certificated Mechanic	
	<input type="checkbox"/> Certificated Repair Station	
	<input type="checkbox"/> Manufacturer	

D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Date 5-16-2006	Signature of Authorized Individual
-------------------	--

7. Approval for Return To Service

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED

BY	FAA Fit. Standards Inspector	Manufacturer	<input checked="" type="checkbox"/>	Inspection Authorization	Other (Specify)
	FAA Designee	Repair Station		Person Approved by Transport Canada Airworthiness Group	
Date of Approval or Rejection 5-16-2006		Certificate or Designation No. 457377586		Signature of Authorized Individual 	

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished

(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

Installed Visual Instruments flap position indicator system model 6000 per. STC SA00819SE and manufactures instructions B-6000-CAW. Weight change negligible. Instructions for continued airworthiness- system requires no maintenance other than specified in Cessna maintenance manual for this system.

***** NOTHING FOLLOWS *****

Additional Sheets Are Attached

.....

Visual Instruments, Inc.
4201 Riverside Drive
McMinnville, OR 97128

Visual Instruments Inc.

Supplemental Type Certificate Permission Statement

By purchasing this Flap Position Indicator from Visual Instruments or one of our authorized distributors, the registered owner of the aircraft is authorized to utilize STC SA00819SE to alter the aircraft listed below

Registered owner South Tex Treuters

Aircraft make Cessna

Aircraft model 210 D

Serial number 21058252

Flap Position Indicator serial number 535

Date of install 5-16-06


Signature of authorized agent of Visual Instruments

Steve Mahoney
Name

Visual Instruments Inc.
Company

The aircraft owner must maintain this Permission Statement with the aircraft records to demonstrate proof of authorization as required by section 403 of the Federal Aviation Authorization Act of 1996 (public law 104-264)

.....

Department of Transportation—Federal Aviation Administration

Supplemental Type Certificate*Number* SA00819SE*This certificate, issued to*

Visual Instruments, Inc.

33120 N. Hwy. 99W

McMinnville, OR 97128

*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 * of the * Regulations.*

Original Product—Type Certificate Number:

*See attached FAA Approved Model List (AML)

Make:

No. SA00819SE for list of approved airplane

Model:

models and applicable airworthiness regulations.

Description of the Type Design Change: Installation of Visual Instruments flap position indicating system in accordance with Visual Instruments, Inc. Drawings listed on AML SA00819SE, dated July 18, 2000, or later FAA approved revision.

Limitations and Conditions: Approval of this change in type design applies to the airplane models listed on the AML only. This approval should not be extended to other aircraft of these models on which other previously approved modifications are incorporated unless it is determined that the relationship between this change and any of those other previously approved modifications, including changes in type design, will introduce no adverse effect upon the airworthiness of that aircraft. A copy of this certificate, FAA Approved Model List (AML) No. SA00818SE and Airplane Flight Manual Supplement (AFMS) for Visual Instruments Flap Indicating System dated July 18, 2000, or later FAA Approved revision must be maintained as part of the permanent records for the modified aircraft.

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.

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: May 25, 1999*Date reissued:**Date of issuance:* July 18, 2000*Date amended:*

By direction of the Administrator
Adrian J. As...
(Signature)

Acting Manager, Seattle Aircraft
Certification Office

(Title)

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 in accordance with FAR 21.47.

FAA APPROVED MODEL LIST (AML) NO. SA00819SE

VISUAL INSTRUMENTS, INC.
FOR
FLAP POSITION INDICATOR

ISSUE DATE: July 18, 2000

ITEM	AIRCRAFT MAKE	AIRCRAFT MODEL	ORIGINAL TYPE CERTIFICATE NUMBER	CERTIFICATION BASIS FOR ALTERATION	FAA APPROVED DRAWING		AML AMENDMENT DATE
					NUMBER	REVISION and DATE	
1.	CESSNA	172F, 172G, 172H, 172I, 172K, 172L, 172M	3A12	FAR 23	Installation Instructions: B-6000-CAW Master Drawing List: B-6000-0000-1	Rev D, dated 7/14/00 Rev. C, dated 6/1/00	
2.	CESSNA	182E, 182F, 182G, 182H, 182J, 182K	3A13	CAR 3	Installation Instructions: B-6000-CAW Master Drawing List: B-6000-0000-1	Rev D, dated 7/14/00 Rev. C, dated 6/1/00	
3.	CESSNA	205, 205A, 210, 210D, 210E, 210F T210F	3A21	CAR 3	Installation Instructions: B-6000-CAW Master Drawing List: B-6000-0000-1	Rev D, dated 7/14/00 Rev. C, dated 6/1/00	
4.	CESSNA	206, P206, P206A, P206B, TP206A, TP206B, TU206A, TU206B, U206, U206A, U206B	A4CE	CAR 3	Installation Instructions: B-6000-CAW Master Drawing List: B-6000-0000-1	Rev D, dated 7/14/00 Rev. C, dated 6/1/00	

FAA Approved: 
Acting Manager, Seattle Aircraft
Certification Office

Date: July 18, 2000

**FAA APPROVED
AIRPLANE FLIGHT MANUAL SUPPLEMENT**

For Cessna Model 172F through M, 182E through K, 205, 205A, 206, P206 through P206B, TP206A and B, U206 through U206B, TU206A and B, 210, 210D through F and T210F airplanes.

Registration Number _____

Serial Number _____

This supplement must be attached in the FAA approved Airplane Flight Manual (AFM) when the airplane is modified with the Visual Instruments Flap Position Indicator in Accordance with STC SA00819SE. The information contained herein, supplements, or supercedes the basic manual, only in those areas listed in this supplement. For limitations, procedures and performance not contained in this supplement, consult the Basic AFM

FAA Approved: Donald B. Wilson
for Lester H. Berven
Manager, Flight Test Branch
Seattle Aircraft Certification Office
Renton, Washington 98055

Dated: July 18, 2000

Visual Instruments Inc.
3120 North Hwy. 99W
McMinnville, Oregon
97128

General

The Visual Instrument Flap Position Indicator is an electronic indicator utilizing an LED bar graph display to show the position of the wing flaps. The indicator replaces the original flap indicator and is located in the same position on the instrument panel. The LED bar graph on the display instrument is comprised of 9 LED's arranged vertically. The top LED is illuminated when power is supplied to the instrument from the main bus. The second LED is illuminated as the flaps move to the 5 degree position and each succeeding LED illuminates with each additional 5 degrees of flap position, until all 9 LED's are illuminated at the 40 degree position.

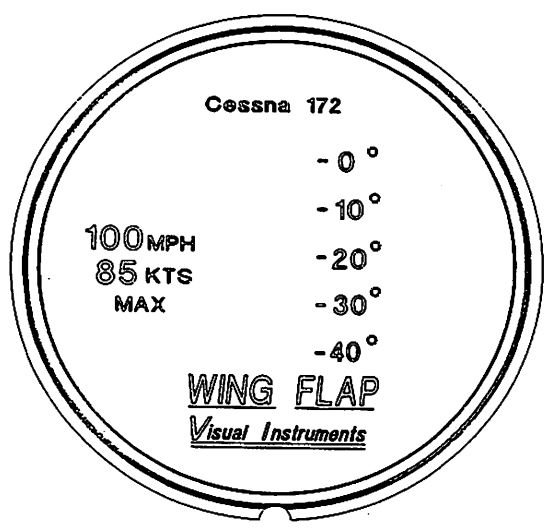
The indicator incorporates an auto dimmer circuit which reduces the brightness of the LED display when the natural light in the cockpit is reduced during night or IFR operations.

FAA Approved: Donald B. Wilson

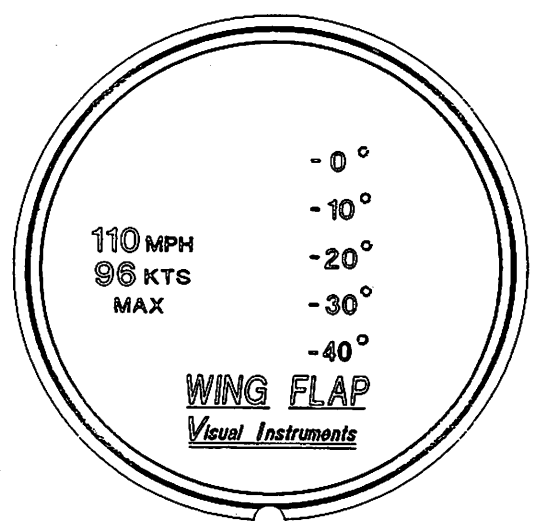
Dated: July 18, 2000

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3120 North Hwy. 99W
McMinnville, Oregon
97128

LIMITATIONS



Placard
CESSNA 172



Placard
CESSNA 182, 205, 206, 210

FAA Approved: Donald B. Wilson

Dated: July 18, 2000

**Visual Instruments Flap Position Indicator
Installation Instructions
Instructions for Continued Airworthiness**

- a. DESCRIPTION**
- b. INSTALLATION AND RIGGING**
- c. INSTRUCTIONS FOR CONTINUED AIRWORTHINESS**
- d. TROUBLESHOOTING**

a. Description

The Visual Instrument Flap Position Indicator is an electronic indicator utilizing an LED bar graph display to show the position of the wing flaps. The display instrument is similar in size to the OEM instrument and uses the original mounting position and hardware. The flap position transmitter is also similar to the OEM transmitter and is mounted in the right wing using the same mounting bracket and hardware. The electrical wiring for the unit uses existing wiring in the airframe. The LED bar graph on the display instrument is comprised of 9 LED's arranged vertically. The top LED is illuminated when power is supplied to the instrument from the main bus. The second LED is illuminated as the flaps move to the 5 degree position and each succeeding LED illuminates with each additional 5 degrees of flap application, until all 9 LED's are illuminated at the 40 degree position.

b. Installation and Rigging

Please read before installing and wiring your new flap indicating system. Cessna used two different flap indicating systems during the manufacture of aircraft to which this STC is applicable. One system used two wires from the position transmitter to the indicator the other used only one. Even if the system you removed used only one wire there may be two wires installed in the airframe. It is preferred that two wires be used with the Visual Instrument system but if only one is available the airframe can be used as a ground between the transmitter and indicator. Check your airframe to determine if one or two wires are available then check continuity of the wires with an ohmmeter. Refer to figure 1 while performing the transmitter Installation.

Installation of Transmitter

1. Disconnect aircraft battery.
2. Remove flap transmitter access panel from right wing.
3. Remove courtesy light, on aircraft so equipped.
4. Remove cotter pin from clevis pin and remove clevis pin from transmitter arm.
5. Remove two 3/16 bolts holding transmitter to bracket on wing rib. Disconnect wire(s) and remove transmitter from wing.
6. Install the new transmitter assembly to the wing rib bracket using the 3/16 bolts just removed. If your installation is only using one wire from the transmitter to the indicator leave one bolt finger tight.
7. Attach the new transmitter arm to flap pulley arm using the clevis pin removed in step 3 and a new cotter pin.
8. Attach the large end of the transmitter arm and retaining washer to the potentiometer spindle using 6-32 socket head cap screws and lock washers (supplied). Do not tighten screws at this time.
9. If using two wires, remove factory terminals from airframe wires and install a male blade terminal on one wire and a female blade terminal on the other wire. Connect airframe wires to transmitter lead wires.

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503-472-3350

10. If using one wire, remove factory terminal from the airframe wire and install a male (Scotch Lok) terminal on the wire. Connect airframe wire to the transmitter lead wire. Remove the other Scotch Lok connector from the transmitter and install a #10 ring terminal. Install this ring terminal under the mounting bolt left finger tight in step 6. Tighten bolt.

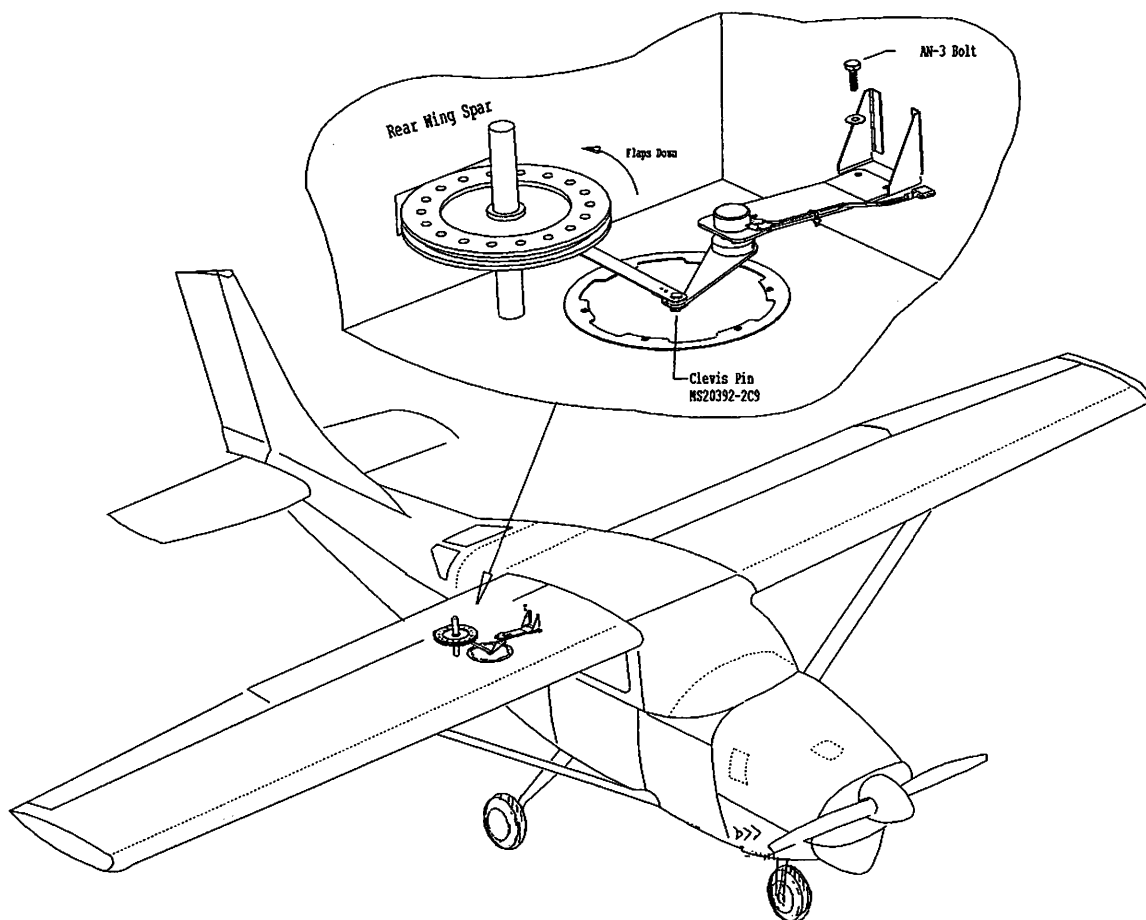


Figure 1

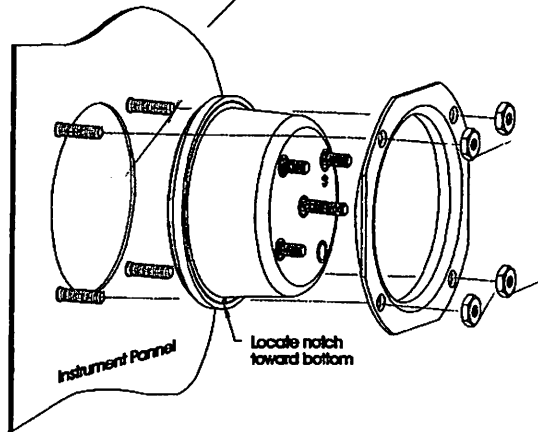
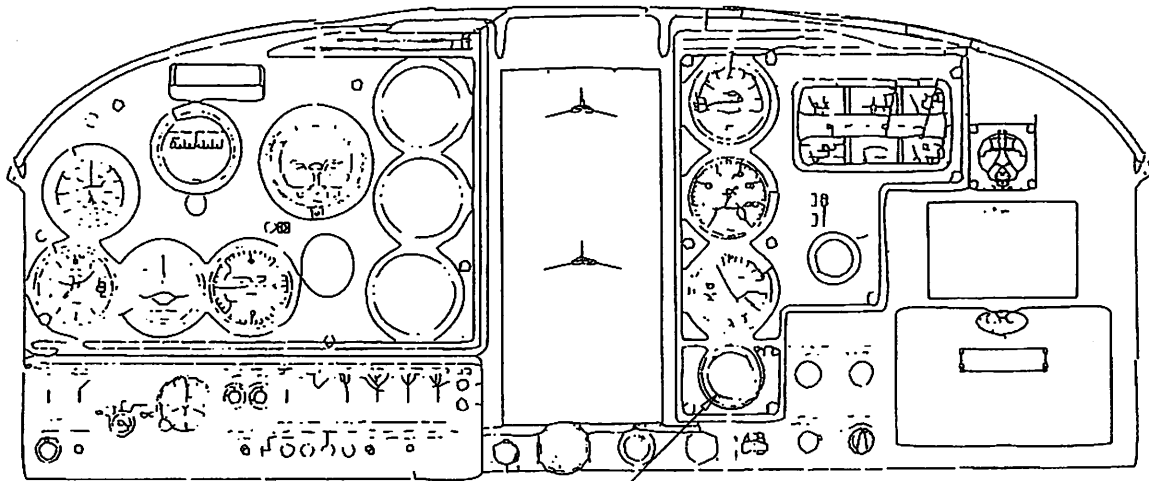


Figure 2

Refer to Figure 2 while performing the indicator installation on 200 series Cessna's

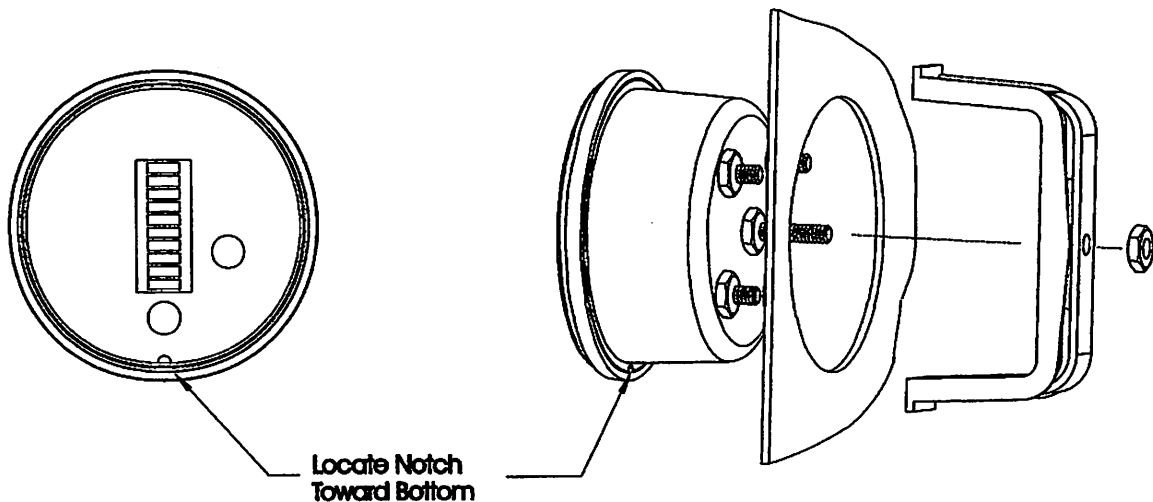


Figure 3

Refer to Figure 3 while performing the indicator installation on 100 series Cessna's

Installation of Indicator

11. Gain access to rear of indicator and remove wires.
12. Remove 4 nuts holding retaining ring and indicator (Cessna 200 series)
- 12a. Remove one or two nuts from the back of the indicator and remove the retaining bracket (Cessna 100 series)
13. Remove indicator.
14. Position the new indicator using retaining ring and nuts just removed. Do not tighten nuts. (Cessna 200 series) see figure 2
- 14a. position the new indicator using the 3000-2300 Retaining Bracket and nylon insert stop nut supplied with the unit. Do not tighten the nut. (Cessna 100 series) see figure 3

NOTE: indicator will have to be removed after rigging to apply label

15. Using voltmeter, locate and verify airframe power wire. Wire may be marked DB1, DB7 or DB11. Attach this wire to + terminal on new indicator.
16. Using ohmmeter, locate and verify airframe ground wire. Wire may be marked DB6 or DB10. Attach this wire to - terminal on new indicator.
17. To the S terminal of the new indicator, attach airframe signal wire DB5. On aircraft having a two wire system, connect the DB2 wire to the – terminal of indicator. On these aircraft there will be two wires connected to the – terminal. Refer to Drawings B-6000-0700 and B-6000-0800.

Rigging

18. Reconnect battery and turn master switch on. Verify that at least the top LED is lit. If no LED's are lit, turn master off and recheck wiring.
19. Extend flaps to flaps to the 5 degrees position. Use a protractor to confirm flap position.
20. At transmitter, rotate retaining washer until only the top LED is lit. Rotate the washer the opposite direction until the second LED is lit. Tighten 3 sender assembly retaining screws.
21. Extend flaps to the full-down position, then retract 1 degree.
22. Using a small screwdriver inserted in the bottom hole of the indicator face, adjust trim pot until the second from bottom LED just lights up.
Note the bottom LED is not used.

Note. For Cessna 172 with 180hp conversion and 30 degree max travel on flaps.

Adjust trim pot until the forth from bottom LED just lights up.

Note the bottom 3 LED's will not be used

23. Retract flaps fully. Verify only top LED is lit. Extend flaps to full-down position and verify that 9 LED's are lit. If 9 are not lit repeat steps 18 through 23.
24. Remove indicator from panel, and apply applicable self-adhesive label to front. Reinstall indicator, tighten nuts and secure wires. Remove thin protective film from the face of the label. On 100 series Cessna's use the nylon insert stop nut to install the retaining bracket.

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25. Reinstall the courtesy light on aircraft so equipped. Reinstall wing access cover.
26. Make appropriate entry in aircraft maintenance log. Complete enclosed FAA Form 337 and file with your local FSDO. Insert flight manual supplement in aircraft POH.

c. Instructions for Continued Airworthiness

This product requires no maintenance other than that specified in the Cessna maintenance manual for this system.

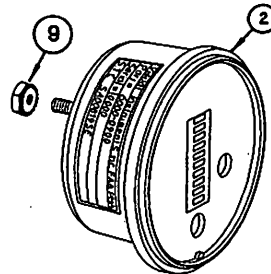
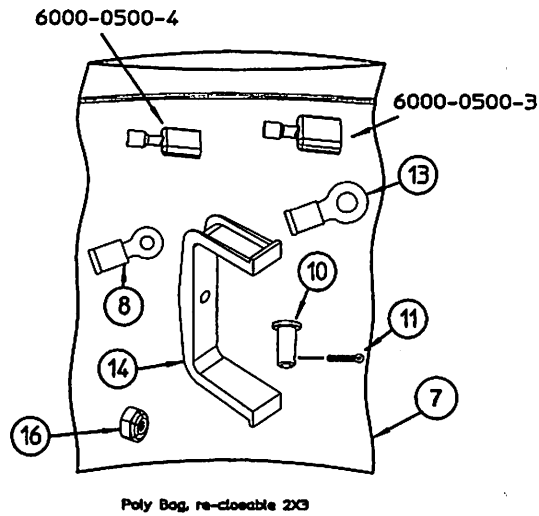
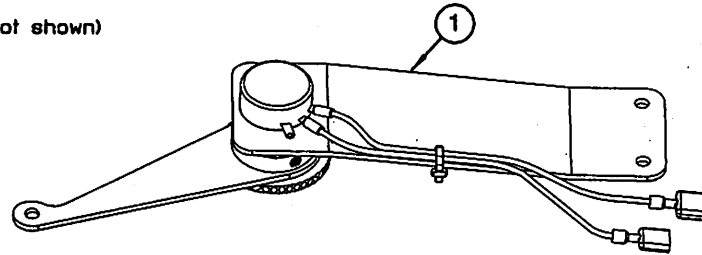
d Troubleshooting

1. No LED's lit in any flap position.
 - Check circuit breaker and reset if necessary.
 - Check for power to the back of the instrument.
 - Check ground wire on back of the instrument.
2. LED's do not correspond to actual flap position.
 - Check mechanical connection between transmitter and flap control arm or pulley.
 - Check security of transmitter on bracket.
 - Check rigging of transmitter (see installation and rigging instructions).
 - Check signal wire from indicator to transmitter for a short to ground.
3. One or more LED's do not illuminate.
 - If lower LED's do not illuminate check rigging of transmitter
 - If one or more LED's are not lit with others lit below it, replace indicator.
 - Check signal wire from indicator to transmitter for open circuit.

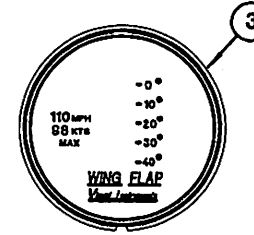
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503-472-3350

NOTES: (UNLESS OTHERWISE SPECIFIED)

- Both labels are included with all units. The user will install the appropriate label.
- Eligibility Tag (6000-0050-15) (not shown)

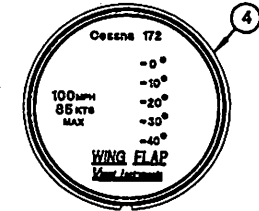


B-6000-0050-1			
SYM	REVISIONS	APPROVED	DATE
E	Corrected illustration on item 16 PCO 2000-9	SAM	12-19-00



6000-0600

Cessna models 182 E-G
 Cessna models 205 - 205A
 Cessna model 206
 Cessna models P206-P206B, TP206A, TP206B
 Cessna models U206-U206B, TU206A, TU206B
 Cessna models 210-210D-F, T210F



6000-0610

Cessna 172 models F-M

16	1	6-32 Nylon Stop Nut 18-8 stainless	Portland Screw	06NS188	6000-0050-16
15	1	Eligibility Tag			6000-0050-15
14	1	Retaining Bracket	Huston Plastic	3000-2300	3000-2300
13	1	Ring terminal #10 22-18 AWG	Dgl-Key	920010-03-ND	6000-0050-13
12	1 ea	B-6000-CAW, AFMS, B-6000-0500-1 B-6000-0700-1 B-6000-0800-1 B-6000-0050			Noted
11	1	Cotter Pin 1/16"	Columbia Airotive	MS 24665-132	6000-0050-11
10	1	Clive Pin 3/16 dia MS 20392-2C9	Columbia Airotive	MS 20392-2C9	6000-0050-10
9	3	6-32 Keps Nut 1/4 AP 18-8 SS	Portland Screw		6000-0050-9
8	3	Ring terminal #6 22-18 AWG	Dgl-Key	920010-01-ND	6000-0050-8
7	1	Poly Bag, re-closable 4X6	Uline	S-1294	6000-0050-7
	1	Terminal 3M Male .187 wide 22-18 AWG	Dgl-Key	920044-01-ND	6000-0500-3
	1	Terminal 3M Female .187 wide 22-18 AWG	Dgl-Key	920044-01-ND	6000-0500-4
4	1	Label Cessna 172	Precision Printing		6000-0610-1
3	1	Label Cessna 182, 205, 206, 210	Precision Printing		6000-0600-1
2	1	Display Assembly			6000-0900
1	1	Sender Assembly			6000-0500
ITEM	QTY.	PART/MATERIAL-DESCRIPTION	Vendor	Vendor Part Number	Visual Part Number

UNLESS OTHERWISE SPECIFIED

- DIMENSIONS ARE IN INCHES
- THIRD ANGLE PROJECTION
- TOLERANCES

J00a.02
 J00a.005

DO NOT SCALE THIS DRAWING

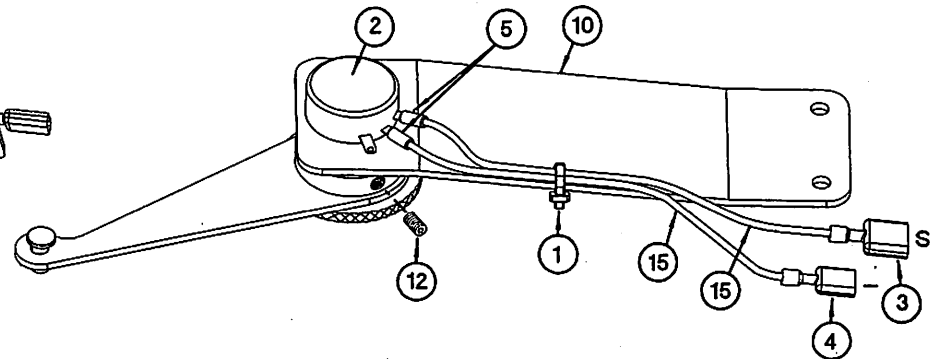
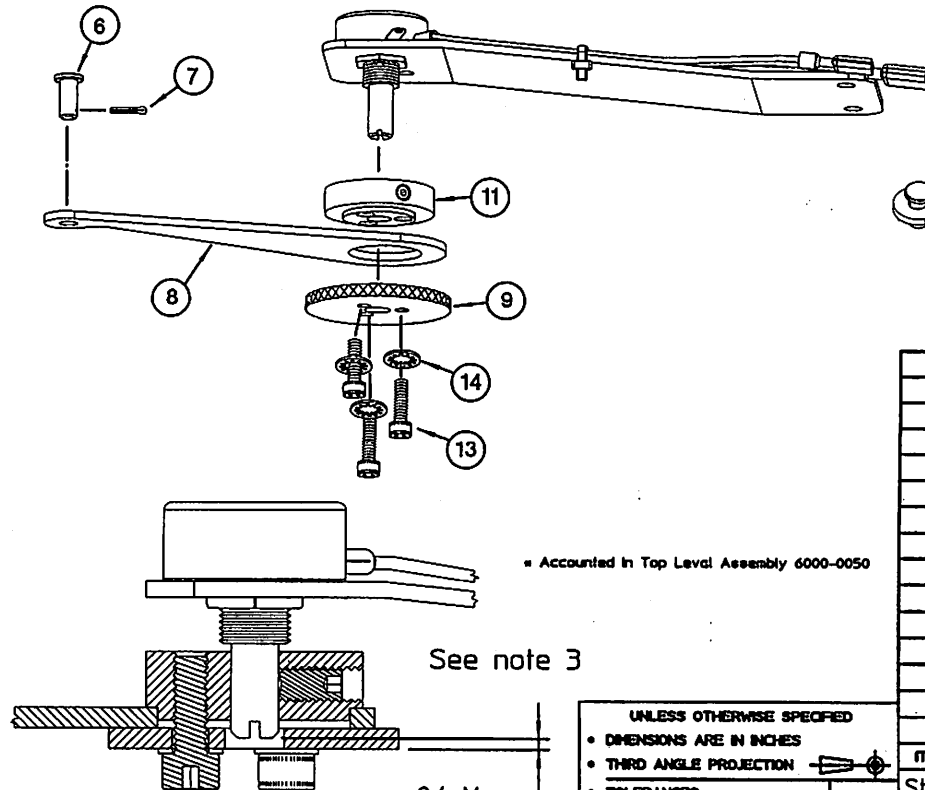
STRIKE OUT OR FILL IN AS NEEDED

Steve Mahoney DRAWN BY	09/22/99 DATE	Wing Flaps Top Level Assembly	<i>Visual Instruments Inc</i>
Steve Mahoney ENGINEER/CHECKER	09/22/99		
RELEASE TO PROD.	TITLE	PART NUMBER 6000-0050	
6000-0050_rev_E FILE	SCALE	1 SHEET	1 OF B-6000-0050-1

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NOTES: (UNLESS OTHERWISE SPECIFIED)

1. Torque all 6-32 cap screws (Item 13) 8-12 inch-lbs
2. Torque 6-32 set screw (Item 12) to 6-10 inch-lbs
3. Position spindle (Item 11) so that it is flush to .04" from the end of the Potentiometer shaft.
4. Length of wires, Item 15, are 11" before stripping.



B-6000-0500-1			
SYM	REVISIONS	APPROVED	DATE
B	PCO #2000-1 Item 9 Retaining washer part number 6000-0150 was 6000-0300	SAM	04/03/00

ITEM	QTY.	PART/MATERIAL-DESCRIPTION	Vendor	Vendor Part No.	Price
15	22'	Wire #20 AWG 80deg UL1015 300vall White	DigiKey	A2102W-100-ND	
14	3	Internal Lock Washer #6 410ss or zinc plated steel	Any satisfactory source	06w410	
13	3	6-32 X 3/8" socket head cap screw	Any satisfactory source		
12	1	6-32 X 1/4 socket set screw - cup point	Any satisfactory source		
11	1	Spindle	Fabricated	6000-0100	
10	1	Mounting Bracket	Fabricated	6000-0400	
9	1	Retaining Washer	Fabricated	6000-0150	
8	1	Flap Arm	Fabricated	6000-0200	
7	1e	Cotter pin 1/16"	Columbia Alternative	MS 24665-132	
6	1e	Clevis Pin 3/16 dia MS 20392-2C9	Columbia Alternative	MS 20392-2C9	
5	A/R	Heat Shrink 1/8 dia	DigiKey	SPTW2018K-X-ND	
4	2	Terminal 3M Female .187 wide	DigiKey	920044-01 ND	
3	1	Terminal 3M Male .187 wide	DigiKey	920046-01-ND	
2	1	Potentiometer 3852A 2 watt Cermet	DigiKey	3852A-282-102A-ND	
1	1	Tie Wrap	Columbia Alternative	TY 523H	

* Accounted in Top Level Assembly 6000-0050

See note 3

.04 Max

UNLESS OTHERWISE SPECIFIED	
• DIMENSIONS ARE IN INCHES	 STRIKE OUT OR FILL IN AS NEEDED
• THIRD ANGLE PROJECTION	
• TOLERANCES	
.00±.02	
.000±.005	
DO NOT SCALE THIS DRAWING	

Steve Mahoney DRAWN BY	09/22/99 DATE	Wing Flaps Sender Assembly		Visual Instruments Inc	
Steve Mahoney ENGINEER/CHECKER	09/22/99				
RELEASE TO PROD.		TITLE	1	1	PART NUMBER 6000-0500-1
6000-0500_REV_B_1 FILE		X .8 SCALE	SHEET	OF	

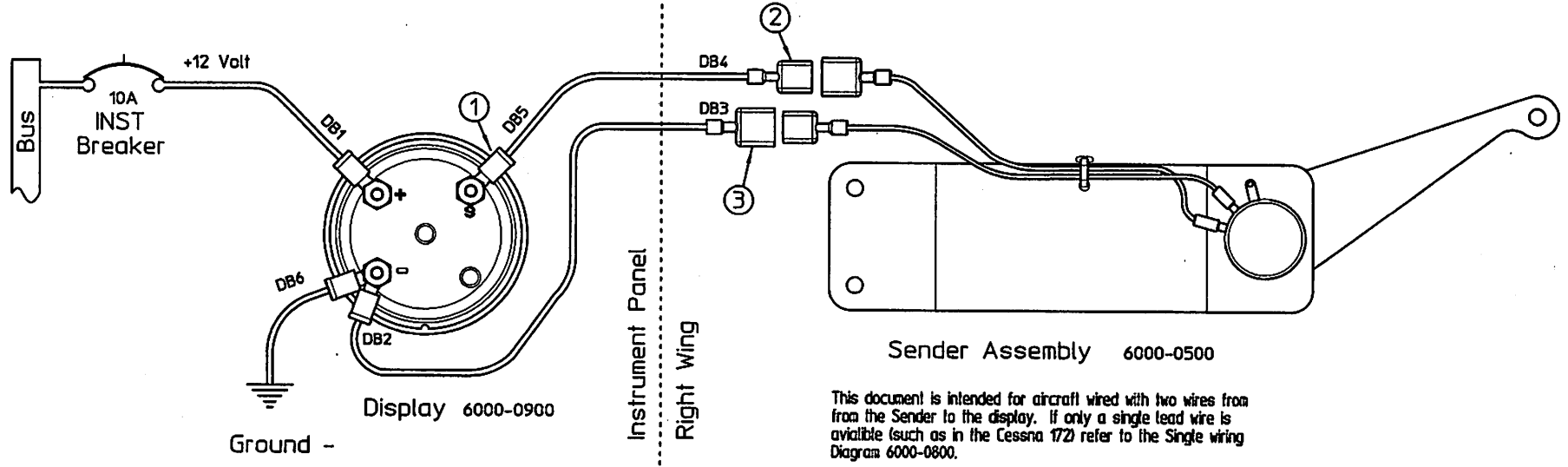
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NOTES: (UNLESS OTHERWISE SPECIFIED)

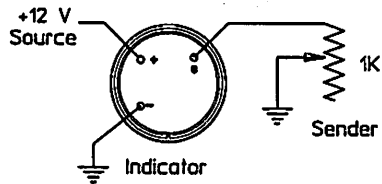
- At 4.9 deg flaps the 1K sender is mechanically set such that the 5 deg LED is barely off
- At 39 deg Flaps the trim pot is adjusted so that the 40 deg led is barely on.

B-6000-0700-1

SYM	REVISIONS	APPROVED	DATE
B	Corrected illustration PCO 2000-8	SAM	10/10/00



This document is intended for aircraft wired with two wires from the Sender to the display. If only a single lead wire is available (such as in the Cessna 172) refer to the Single wiring Diagram 6000-0800.



Simplified Schematic

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• Accounted for in top level assembly 6000-0050

UNLESS OTHERWISE SPECIFIED	
• DIMENSIONS ARE IN INCHES	
• THIRD ANGLE PROJECTION	
• TOLERANCES	
.004+.02	STRIKE OUT OR FILL IN AS NEEDED
.000+.005	
DO NOT SCALE THIS DRAWING	

ITEM	QTY.	PART/MATERIAL-DESCRIPTION	Vendor	Vendor Part No.	Price
3	1	Terminal 3M Male .187 wide 22-18 AWG	Dgl-Key	920046-01-ND	
2	1	Terminal 3M Female .187 wide 22-18 AWG	Dgl-Key	920044-01-ND	
1	4*	Ring Terminal #6 22-18 AWG	Dgl-Key	920010-01-ND	

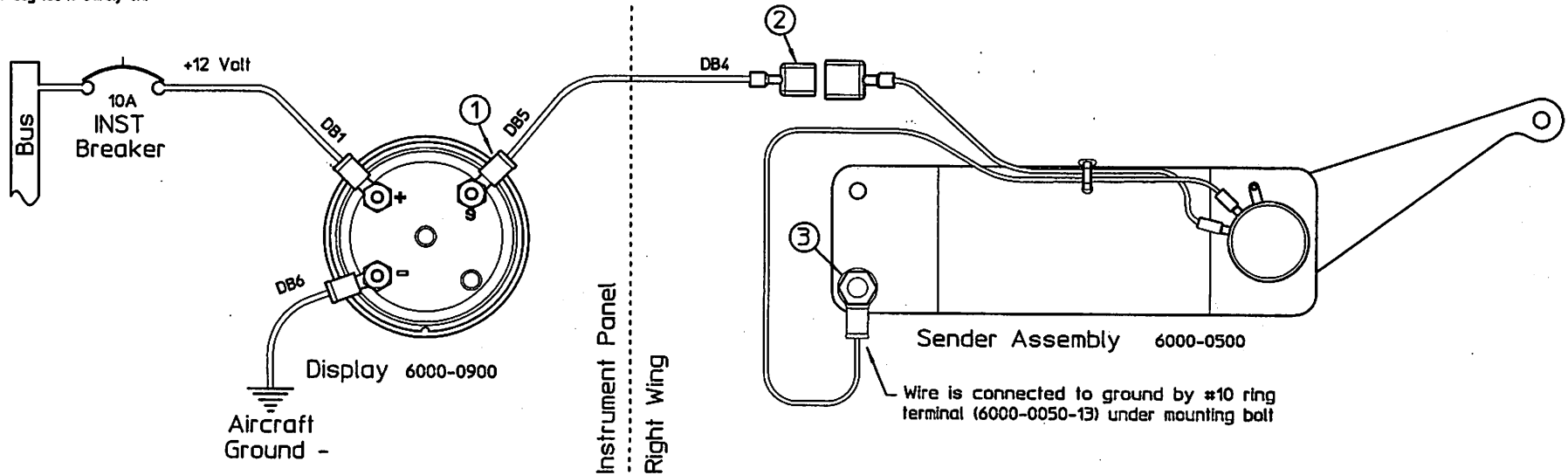
Steve Mahoney DRAWN BY	03/07/96 DATE	Wing Flap Indicator Wiring Diagram Double Wire	Visual Instruments Inc		
Steve Mahoney ENGINEER/CHECKER	03/07/96		PART NUMBER 6000-0700		
RELEASE TO PROD.		TITLE			
6000-0700_rev_b FILE		X .75 SCALE	1 SHEET	1 OF	B-6000-0700-1

B-6000-0800-1

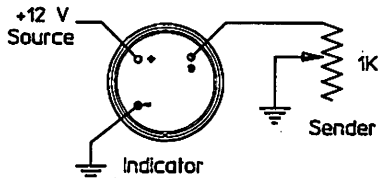
NOTES: (UNLESS OTHERWISE SPECIFIED)

1. At 4.9 deg flaps the 1K sender is mechanically set such that the 5 deg LED is barely off
2. At 39 deg Flaps the trim pot is adjusted so that the 40 deg led is barely on.

SYM	REVISIONS	APPROVED	DATE
B	Corrected illustration PCO 2000-8	SAM	10/10/00



This Drawing is intended for aircraft wired with a single lead wire from the sender to the instrument. If the Aircraft is equipped with two leads refer to the Double wire Diagram 6000-0700



Simplified Schematic

THIS DOCUMENT CONTAINS CONFIDENTIAL, PROPRIETARY INFORMATION THAT IS VISUAL INSTRUMENTS (VI) PROPERTY. DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS EXCEPT AS AUTHORIZED BY VI.

* Accounted for in top level assembly 6000-0050

UNLESS OTHERWISE SPECIFIED	
• DIMENSIONS ARE IN INCHES	
• THIRD ANGLE PROJECTION	
• TOLERANCES	
J00A.02	STRIKE OUT OR FILL IN AS NEEDED
J00A.005	
DO NOT SCALE THIS DRAWING	

3	1*	#10 ring Terminal 3M 920010-03-ND	Dgl-Key	6000-0050-13	
2	1	Terminal 3M Female .107 wide 22-18 AWG	Dgl-Key	920044-01-ND	
1	3*	Ring Terminal #6 22-18 AWG	Dgl-Key	920010-01-ND	
ITEM	QTY.	PART/MATERIAL-DESCRIPTION	Vendor	Vendor Part No.	Price
DRAWN BY		Steve Mahoney	DATE		
ENGINEER/CHECKER		Steve Mahoney	03/07/96		
RELEASE TO PROD.			TITLE		
FILE		6000-0800_rev_b	SCALE	X .75	
			SHEET	1	
			OF	1	
				PART NUMBER	6000-0800
				Visual Instruments Inc	
				B-6000-0800-1	

N375111K 210 58252

210A

South Tex Traders Inc

Po Box 60480

M T 79711-0480



U.S. Department
of Transportation
Federal Aviation
Administration

MAJOR REPAIR AND ALTERATION (Airframe, Powerplant, Propeller, or Appliance)

Form Approved
OMB No.2120-0020

For FAA Use Only

Office Identification

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. 1421). Failure to report can result in a civil penalty not to exceed \$1,000 for each such violation (Section 901 Federal Aviation Act of 1958).

1. Aircraft	Make CESSNA	Model 210D
	Serial No. 21058252	Nationality and Registration Mark N375MK
2. Owner	Name (As shown on registration certificate) SOUTH TEX TREATERS INC	Address (As shown on registration certificate) P.O. BOX 60480 MIDLAND TX 79711-0480

3. For FAA Use Only

4. Unit Identification				5. Type	
Unit	Make	Model	Serial No.	Repair	Alteration
AIRFRAME	_____ (As described in item 1 above) _____			X	
POWERPLANT					
PROPELLER					
APPLIANCE	Type				
	Manufacturer				

6. Conformity Statement

A. Agency's Name and Address	B. Kind of Agency	C. Certificate No.
LLOYD E MUNOZ AERO MOD SERVICE P.O. BOX 60314 MIDLAND, TEXAS 79711	<input checked="" type="checkbox"/> U.S. Certificated Mechanic	A&P 1920045
	<input type="checkbox"/> Foreign Certificated Mechanic	
	<input type="checkbox"/> Certificated Repair Station	
	<input type="checkbox"/> Manufacturer	

D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Date 13 APR 05	Signature of Authorized Individual <i>Lloyd E Munoz</i> LLOYD E MUNOZ
-------------------	---

7. Approval for Return To Service

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED

BY	FAA Fit. Standards Inspector	Manufacturer	X	Inspection Authorization	Other (Specify)
	FAA Designee	Repair Station		Person Approved by Transport Canada Airworthiness Group	
Date of Approval or Rejection 13 APR 05		Certificate or Designation No. 1920045		Signature of Authorized Individual <i>Lloyd E Munoz</i> LLOYD E MUNOZ	

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished

(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

TACH 5080.39

Replaced belly skin P/N 1210701-2 and belly doubler P/N 1210701-5 between FS 26 and FS 82. Manufactured P/N1210401-8 and -9 landing gear leg cutout reinforcement doublers (Cessna Customer Service provided material information) and installed. Replaced P/N 190-356-14-1 and -2 air deflectors forward of main landing gear well. Left and right exhaust tail pipes repaired/overhauled by Knisley Exhaust Systems RS#NJ3R712L and installed with new clamps P/N120259-1 (2 ea.) and new support assemblies P/N 1250258-1 (4 ea.). Replaced DME, ADF, transponder, and marker beacon antennas.

Reference:

Cessna Maintenance Manual Section 19 (structural repair) Para 19-57 thru 19-61 (fuselage) and Para 19-61 thru 19-63 (bulkheads).

Continued Airworthiness:

Maintenance and inspection to be complied with in accordance with Cessna scheduled inspection program.

***** NOTHING FOLLOWS *****

Additional Sheets Are Attached



U.S. Department
of Transportation
Federal Aviation
Administration

MAJOR REPAIR AND ALTERATION (Airframe, Powerplant, Propeller, or Appliance)

Form Approved
OMB No. 2120-0020

For FAA Use Only

Office Identification

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. 1421). Failure to report can result in a civil penalty not to exceed \$1,000 for each such violation (Section 901 Federal Aviation Act of 1958).

1. Aircraft	Make Cessna	Model 210D
	Serial No. 21058252	Nationality and Registration Mark N375MK
2. Owner	Name (As shown on registration certificate) South-Tex Treaters	Address (As shown on registration certificate) P.O. Box 60480 Midland, Tx. 79711-0480

3. For FAA Use Only

4. Unit Identification				5. Type	
Unit	Make	Model	Serial No.	Repair	Alteration
AIRFRAME	_____ (As described in item 1 above) _____				X
POWERPLANT	Teledyne Continental	IO 520 A1B	112656-R		X
PROPELLER					
APPLIANCE	Type				
	Manufacturer				

6. Conformity Statement

A. Agency's Name and Address	B. Kind of Agency	C. Certificate No.
Ronald D. Wallin P.O. Box 15101 Odessa, Tx. 79768-5101	<input checked="" type="checkbox"/> U.S. Certificated Mechanic	215762487
	<input type="checkbox"/> Foreign Certificated Mechanic	
	<input type="checkbox"/> Certificated Repair Station	
	<input type="checkbox"/> Manufacturer	

D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Date 7-11-01	Signature of Authorized Individual
-----------------	--

7. Approval for Return To Service

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED

BY	FAA Fit. Standards Inspector	Manufacturer	<input checked="" type="checkbox"/>	Inspection Authorization	Other (Specify)
	FAA Designee	Repair Station		Person Approved by Transport Canada Airworthiness Group	
Date of Approval or Rejection 7-11-01		Certificate or Designation No. 215762487		Signature of Authorized Individual 	

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

6. Description of Work Accomplished

(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

A. The following components were installed:

PRECISE FLIGHT STANDBY VACUUM SYSTEM, MODEL SVS V, P/N 04055.

Installation performed in accordance with Engine STC SE1780NM and STC SA2162NM.

B. The unit was installed on the forward side of the left hand firewall according to instructions in the PRECISE FLIGHT INSTALLATION MANUAL STANDBY VACUUM SYSTEM MODEL SVS V, P/N 08072 dated 12/22/99, and guidance in FAA Advisory Circulars 43.13.1B, chapter 11, and 43.13 2A, chapter 1 & 2.

C. Complete ground and flight operational tests were performed according to instructions in the PRECISE FLIGHT STANDBY VACUUM SYSTEM MODEL SVS V INSTALLATION MANUAL P/N 08072 dated 12/22/99. The equipment performed satisfactorily and did not adversely affect existing components or systems in the aircraft, as required by FAR 23.1301, FAR 23.1431. The operating placard was filled out and placed on the aircraft instrument panel next to the control cable.

D. The aircraft equipment list was revised to reflect these changes; weight and balance data was revised and placed in the aircraft records. A Precise Flight Inc. Standby Vacuum System Aircraft Flight Manual Supplement was placed in the aircraft.

***** End Report *****

Additional Sheets Are Attached

Department of Transportation—Federal Aviation Administration

Supplemental Type Certificate

Number SE1780NM

This certificate, issued to **Precise Flight, Inc.**
63120 Powell Butte Rd.
Bend, OR 97701

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 33 of the Federal Aviation Regulations.

Original Product—Type Certificate Number: *See attached FAA Approved Model List (AML)
Make: No. SE1780NM for list of approved airplane models
Model: and applicable airworthiness regulations

Description of the Type Design Change: Installation of Precise Flight, Inc. Standby Vacuum System SVS III, in accordance with Engineering Drawing 000V0000, Revision -, dated March 10, 2000, and Installation Report No. 50050, Revision 25, dated August 26, 1999, or later approved revision. Or Installation of Precise Flight, Inc. SVS V, in accordance with Precise Flight, Inc. Engineering Drawing 000V0000, Revision -, dated March 10, 2000 and Installation Instructions 08072, Revision -, dated December 12, 1999, or later FAA approved revision. Or Installation of Precise Flight Inc. SVS VI, in accordance with Precise Flight, Inc. Installation manual 08074, dated January 7, 2000, or later FAA approved revision.

Limitations and Conditions: Approval of this change in type design applies to the above model aircraft only. This approval should not be extended to other aircraft of this model on which other previously approved modifications are incorporated unless it is determined by the installer that the relationship between this change and any of those other previously approved modifications, including changes in type design, will introduce no adverse effect upon the airworthiness of that aircraft. A copy of this certificate, Continuation Sheet, and FAA approved AML No. SE1780NM, dated May 28, 1991, or later FAA approved revision, must be maintained as part of the permanent records for the modified aircraft.


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.

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: December 13, 1982
Date of issuance: December 28, 1982

Date reissued:
Date amended: December 30, 1983; January 31, 1985;
July 22, 1988; July 25, 1990;
January 31, 1991; April 21, 2000



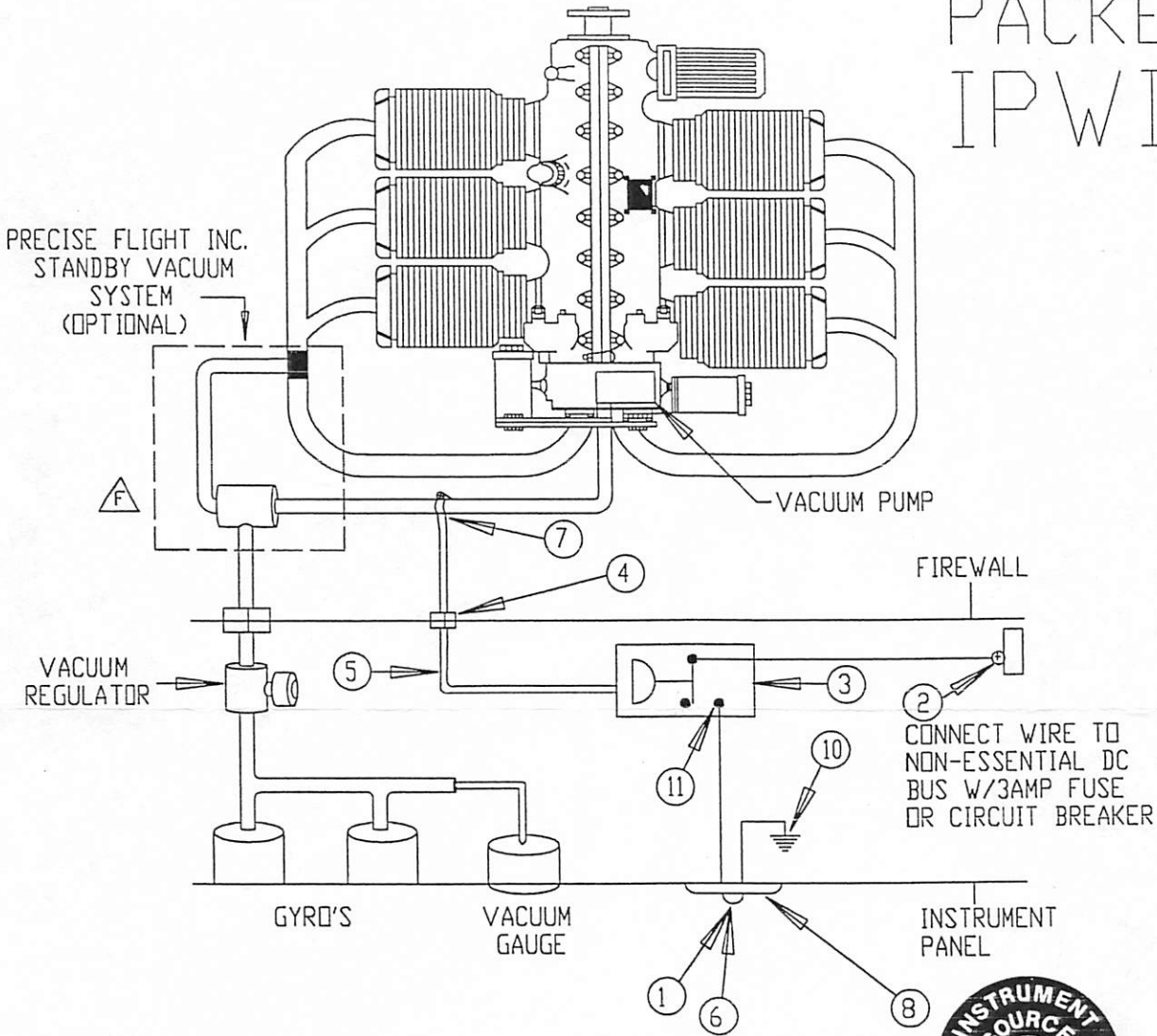
By direction of the Administrator

(Signature)
Acting Manager, Seattle Aircraft Certification Office
(Title)

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 in accordance with FAR 21.47.

F	DELETE ITEM 9: HEAT SHRINK TUBING	DJC	BDL	STP
		12/02/99	12/02/99	12/02/99
G	CORRECT SHUTTLE VALVE DIAGRAM	DJC	SMG	STP
		01/11/00	01/11/00	01/11/00


PACKET 3 IPWI-V



NOTE: USE 12V OR 24V LIGHT AS REQUIRED.



SYM	P/N	QTY	DESCRIPTION	ITEM PACK	INSP
1	30010	1	LIGHT ASSEMBLY 24V		
2	30020	1	WIRE CONNECTOR		
3	30030	1	SWITCH		
4	00687	1	BULKHEAD FITTING		
5	30050	1	HOSE		
6	01887	1	LIGHT 12V		
7	30070	1	HOSE TAP		
8	30080	1	PLACARD		
9	-----	-	-----		
10	02052	1	RING TERMINAL		
11	30010-5	1	SLIP ON TERMINAL(FEMALE)		
		1	INSTALLATION INSTRUCTIONS		


	PRECISE FLIGHT, INC. 63120 POWELL BUTTE ROAD BEND, OREGON 97701 USA 1-800-547-2558	
	TITLE: INSTRUMENT PUMP INOP WARNING INDICATOR	
DWG.NO. IPWI-1-V		REV: G
DRAWN DLP	DATE 8-9-90	REV: G
CHECKED CGL	DATE 8-9-90	
APPRVD. CGL	DATE 8-9-90	

FAA APPROVED MODEL LIST NO. SE1780NM

PRECISE FLIGHT STANDBY VACUUM SYSTEM (SVS)

LIST OF ACTIVE PAGES

PAGE	AMMENDMENT DATE
2	12/28/82
3	07/21/88
4	04/01/91
5	04/11/83

FAA APPROVED: 
Acting Manager, Special Certification Branch
Seattle Aircraft Certification Office

Amendment Date: May 28, 1991

FAA APPROVED MODEL LIST (AML) NO. SE1780NM

FOR

INSTALLATION OF STANDBY VACUUM SYSTEM (SVS)

Issue Date: December 28, 1982

ITEM	ENGINE MAKE	ENGINE MODEL	ORIGINAL TYPE CERTIFICATE NUMBER	CERTIFICATION BASIS FOR ALTERATION	FAA APPROVED DRAWING NO.	REVISION NO. AND DATE	AFM SUPPLEMENT NUMBER/DATE	AML AMENDMENT DATE
1	TELEDYNE CONTINENTAL	A-65 Series	E-205	CAR 13	Cont. SVS 0010			
2		A70,-2	ATC 32	CAR 13	Cont. SVS 0010			
3		A75	E-213	CAR 13	Cont. SVS 0010			
4		A80	217	CAR 13	Cont. SVS 0010			
5		A-100	E-241	CAR 13	Cont. SVS 0010			
6		C-75	E-233	CAR 13	Cont. SVS 0010			
7		C-90, 0-200	E-252	CAR 13	Cont. SVS 0010			
8		C-115, C-125	E-236	CAR 13	Cont. SVS 0010			
9		C-145, 0-300	E-253	CAR 13	Cont. SVS 0010			

FAA APPROVED MODEL LIST (AML) NO. SE1780NM

FOR

INSTALLATION OF STANDBY VACUUM SYSTEM (SVS)

Issue Date: December 28, 1982

ITEM	ENGINE MAKE	ENGINE MODEL	ORIGINAL TYPE CERTIFICATE NUMBER	CERTIFICATION BASIS FOR ALTERATION	FAA APPROVED DRAWING NO.	REVISION NO. AND DATE	AFM SUPPLEMENT NUMBER/DATE	AML AMENDMENT DATE
10	TELEDYNE CONTINENTAL	E-165 E-185	E-246	CAR 13	Cont. SVS 0010			
11		E-225	E-267	CAR 13	Cont. SVS 0010			
12		GO-300	E-298	CAR 13	Cont. SVS 0010			
13		IO-346	E-3CE	CAR 13	Cont. SVS 0010			
14		TSIO-360 LTSIO-360	E9CE	CAR 13	Cont. SVS 0010			04/11/83
15		GIO-470-A	E2CE	CAR 13	Cont. SVS 0010			
16		O-470	E-269	CAR 13	Cont. SVS 0010			
17		O-470	E-273	CAR 13	Cont. SVS 0010			07/21/88
18		IO-470	3E1	CAR 13	Cont. SVS 0010			

FAA APPROVED MODEL LIST (AML) NO. SE1780NM

FOR

INSTALLATION OF STANDBY VACUUM SYSTEM (SVS)

Issue Date: December 28, 1982

ITEM	ENGINE MAKE	ENGINE MODEL	ORIGINAL TYPE CERTIFICATE NUMBER	CERTIFICATION BASIS FOR ALTERATION	FAA APPROVED DRAWING NO.	REVISION NO. AND DATE	AFM SUPPLEMENT NUMBER/DATE	AML AMENDMENT DATE
19	TELEDYNE CONTINENTAL	IO-550	E3SO	FAR 33	Cont. SVS 0010			04/01/91
20		FSO-470	E-281	CAR 13	Cont. SVS 0010			
21		TSIO-470	3E3	CAR 13	Cont. SVS 0010			
22		IO-520	E5CE	CAR 13	Cont. SVS 0010			
23		FSO-526	E-292	CAR 13	Cont. SVS 0010			
24		GSO-526-A	E-303	CAR 13	Cont. SVS 0010			
25		GTSIO-520	E7CE	CAR 13	Cont. SVS 0010			
26		TSIO-520	E8CE	CAR 13	Cont. SVS 0010			
27		6-260-A	E11CE	FAR 33	Cont. SVS 0010			

FAA APPROVED MODEL LIST (AML) NO. SE1780NM

FOR

INSTALLATION OF STANDBY VACUUM SYSTEM (SVS)

Issue Date: December 28, 1982

ITEM	ENGINE MAKE	ENGINE MODEL	ORIGINAL TYPE CERTIFICATE NUMBER	CERTIFICATION BASIS FOR ALTERATION	FAA PROVED DRAWING NO.	REVISION NO. AND DATE	AFM SUPPLEMENT NUMBER/DATE	AML AMENDMET DATE
28	TELEDYNE CONTINENTAL	6-285	E12CE	FAR 33	Cont. SVS 0010			
29		6-320-B	E1SO	FAR 33	Cont. SVS 0010			
30		T6-320-A	E2SO	FAR 33	Cont. SVS 0010			
31		IO-360	E1CE	FAR 33	Cont. SVS 0010			04/11/83

22/10

Department of Transportation—Federal Aviation Administration

Supplemental Type Certificate

Number SA2162NM

This certificate, issued to **Precise Flight, Inc.**
63120 Powell Butte Rd.
Bend, OR 97701

*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 * of the * Regulations.*

Original Product—Type Certificate Number: *See attached FAA Approved Model List (AML)
Make: No. SA2162NM for list of approved airplane models
Model: and applicable airworthiness regulations

Description of the Type Design Change: Installation of Precise Flight, Inc. Stand-By Vacuum System (SVS) in accordance with the appropriate Precise Flight, Inc. Engineering Drawing listed on FAA Approved Model List No. SA2162NM, dated April 14, 2000, or later FAA approved revision.

NOTE: As a prerequisite to this change, the engine must be modified in accordance with Precise Flight, Inc. STC No. SE1779NM or SE1780NM, dated December 28, 1982, or later FAA approved revision. Also, modified aircraft must be equipped with a vacuum indicator.

Limitations and Conditions: Approval of this change in type design applies to the above model aircraft only. This approval should not be extended to other aircraft of this model on which other previously approved modifications are incorporated unless it is determined by the installer that the relationship between this change and any of those other previously approved modifications, including changes in type design, will introduce no adverse effect upon the airworthiness of that aircraft. A copy of this certificate, AML No. SA2162NM and the appropriate FAA Approved Flight Manual Supplement (AFMS) listed on AML No. SA2162NM must be maintained as part of the permanent records for the modified aircraft.

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.

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 31, 1983
Date of issuance: November 7, 1983

Date reissued:
Date amended: December 16, 1983; December 7, 1984;
July 25, 1990; April 14, 2000



By direction of the Administrator

(Signature)

Acting Manager, Seattle Aircraft Certification Office
(Title)

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 in accordance with FAR 21.47.

FAA APPROVED MODEL LIST NO. SA2162NM
PRECISE FLIGHT STANDBY VACUUM SYSTEM
LIST OF ACTIVE PAGES

PAGE	AMENDMENT DATE
2	April 14, 2000
3	April 14, 2000
4	April 14, 2000
5	April 14, 2000
6	April 14, 2000
7	April 14, 2000
8	April 14, 2000
9	April 14, 2000
10	April 14, 2000
11	April 14, 2000

~~AMENDED DATE:~~ April 14, 2000

FAA Approved: 

Acting Manager, Seattle Aircraft
Certification Office

FAA APPROVED MODEL LIST (AML) NO. SA2162NM
PRECISE FLIGHT, INC.

For

INSTALLATION OF PRECISE FLIGHT STANDBY VACUUM SYSTEM

Issue Date: May 23, 1988

Item	Aircraft Make	Aircraft Model	Original Type Certificate Number	Certification Basis for Alteration	FAA Approved Airplane Flight Manual Supplement*	FAA Approved Drawing*		AML Amdt. Date
						Number	REV	
1	Cessna	120, 140	A768	CAR 4a	Supplemental Flight Manual for SA2162NM dated 8/11/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev.-, dated 3/10/2000 Rev. 25, dated 8/26/99	4/14/2000
2	Cessna	120, 140	A768	CAR 4a	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08072	Rev.-, dated 3/10/2000 Rev.-, dated 12/22/1999	4/14/2000
3	Cessna	140A	5A2	CAR 3, (CAR 4a)	Supplemental Flight Manual for SA2162NM dated 8/11/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev.-, dated 3/10/2000 Rev. 25, dated 8/26/99	4/14/2000
4	Cessna	140A	5A2	CAR 3, (CAR 4a)	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08072	Rev.-, dated 3/10/2000 Rev.-, dated 12/22/1999	4/14/2000

* or later FAA Approved Revision

FAA APPROVED MODEL LIST (AML) NO. SA2162NM
PRECISE FLIGHT, INC.

For

INSTALLATION OF PRECISE FLIGHT STANDBY VACUUM SYSTEM

Issue Date: May 23, 1988

Item	Aircraft Make	Aircraft Model	Original Type Certificate Number	Certification Basis for Alteration	FAA Approved Airplane Flight Manual Supplement*	FAA Approved Drawing*		AML Amdt. Date
						Number	REV	
5	Cessna	150, 150A, 150B, 150C, 150D, 150E, 150F, 150G, 150H, 150J, 150K, 150L, A150L, 150M, 152, A152, A150K, 150M	3A19	CAR Part 3	Supplemental Flight Manual for SA2162NM dated 8/11/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev.-, dated 3/10/2000 Rev. 25, dated 8/26/99	4/14/2000
6	Cessna	150, 150A, 150B, 150C, 150D, 150E, 150F, 150G, 150H, 150J, 150K, 150L, A150L, 150M, 152, A152, A150K, 150M	3A19	CAR Part 3	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08074	Rev.-, dated 3/10/2000 Rev.-, dated 12/22/1999	4/14/2000

* or later FAA Approved Revision

FAA APPROVED MODEL LIST (AML) NO. SA2162NM
PRECISE FLIGHT, INC.

For

INSTALLATION OF PRECISE FLIGHT STANDBY VACUUM SYSTEM

Issue Date: May 23, 1988

Item	Aircraft Make	Aircraft Model	Original Type Certificate Number	Certification Basis for Alteration	FAA Approved Airplane Flight Manual Supplement*	FAA Approved Drawing*		AML Amdt. Date
						Number	REV	
7	Cessna	170, 170A, 170B	A799	CAR Part 3	Supplemental Flight Manual for SA2162NM dated 8/11/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev.-, dated 3/10/2000 Rev. 25, dated 8/26/99	4/14/2000
8	Cessna	170,170A, 170B	A799	CAR Part 3	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08072	Rev.-, dated 3/10/2000 Rev.-, dated 12/22/1999	4/14/2000
9	Cessna	172, 172A, 172B, 172C, 172D, 172E, 172F, (USAF T-41A) 172I, K, L, M, N, P, 172Q	3A12	Part 23	Supplemental Flight Manual for SA2162NM dated 8/11/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev.-, dated 3/10/2000 Rev. 25, dated 8/26/99	4/14/2000
10	Cessna	172, 172A, 172B, 172C, 172D, 172E, 172F, (USAF T-41A) 172I, K, L, M, N, P, 172Q	3A12	Part 23	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08072	Rev.-, dated 3/10/2000 Rev.-, dated 12/22/1999	4/14/2000

* or later FAA Approved Revision

FAA APPROVED MODEL LIST (AML) NO. SA2162NM
PRECISE FLIGHT, INC.

For

INSTALLATION OF PRECISE FLIGHT STANDBY VACUUM SYSTEM

Issue Date: May 23, 1988

Item	Aircraft Make	Aircraft Model	Original Type Certificate Number	Certification Basis for Alteration	FAA Approved Airplane Flight Manual Supplement*	FAA Approved Drawing*		AML Amdt. Date
						Number	REV	
11	Cessna	175, 175A, 175B, 175C, P172D, R172E, (USAFT-41B, USAFT41-3,-41D) R172F, (USAFT-41D, -41C) R172G, (USAFT-41D), R172H, (USAFT-41D), R172J, R172K, 172RG	3A17	CAR Part 3	Supplemental Flight Manual for SA2162NM dated 8/11/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev.-, dated 3/10/2000 Rev. 25, dated 8/26/99	4/14/2000
12	Cessna	175, 175A, 175B, 175C, P172D, R172E, (USAFT-41B, USAFT41-3,-41D) R172F, (USAFT-41D, -41C) R172G, (USAFT-41D), R172H, (USAFT-41D), R172J, R172K, 172RG	3A17	CAR Part 3	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08072	Rev.-, dated 3/10/2000 Rev.-, dated 12/22/1999	4/14/2000
13	Cessna	177,177A,177B 177RG	A13CE A20CE	FAR 23	Supplemental Flight Manual for SA2162NM dated 8/11/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev.-, dated 3/10/2000 Rev. 25, dated 8/26/99	4/14/2000
14	Cessna	177, 177A, 177B 177RG	A13CE A20CE	FAR 23	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08072	Rev.-, dated 3/10/2000 Rev.-, dated 12/22/1999	4/14/2000

* or later FAA Approved Revision

FAA APPROVED MODEL LIST (AML) NO. SA2162NM
PRECISE FLIGHT, INC.

For

INSTALLATION OF PRECISE FLIGHT STANDBY VACUUM SYSTEM

Issue Date: May 23, 1988

Item	Aircraft Make	Aircraft Model	Original Type Certificate Number	Certification Basis for Alteration	FAA Approved Airplane Flight Manual Supplement*	FAA Approved Drawing*		AML Amdt. Date
						Number	REV	
15	Cessna	180, 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, 180J, 180K	5A6	CAR Part 3	Supplemental Flight Manual for SA2162NM dated 8/11/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev.-, dated 3/10/2000 Rev. 25, dated 8/26/99	4/14/2000
16	Cessna	180, 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, 180J, 180K	5A6	CAR Part 3	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08072	Rev.-, dated 3/10/2000 Rev.-, dated 12/22/1999	4/14/2000
17	Cessna	182, 182A, 182B, 182C, 182D, 182E, 182F, 182G, 182H, 182J, 182K, 182L, 182M, 182N, 182P, 182Q, 182R, 182RG, T182, T182RG, T182R	3A13	CAR Part 3	Supplemental Flight Manual for SA2162NM dated 8/11/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev.-, dated 3/10/2000 Rev. 25, dated 8/26/99	4/14/2000
18	Cessna	182, 182A, 182B, 182C, 182D, 182E, 182F, 182G, 182H, 182J, 182K, 182L, 182M, 182N, 182P, 182Q, 182R, 182RG, T182, T182RG, T182R	3A13	CAR Part 3	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08072	Rev.-, dated 3/10/2000 Rev.-, dated 12/22/1999	4/14/2000

* or later FAA Approved Revision

FAA APPROVED MODEL LIST (AML) NO. SA2162NM
PRECISE FLIGHT, INC.

For

INSTALLATION OF PRECISE FLIGHT STANDBY VACUUM SYSTEM

Issue Date: May 23, 1988

Item	Aircraft Make	Aircraft Model	Original Type Certificate Number	Certification Basis for Alteration	FAA Approved Airplane Flight Manual Supplement*	FAA Approved Drawing*		AML Amdt. Date
						Number	REV	
19	Cessna	185, 185A, 185B, 185C, 185D, 185E, A185E, A185F	3A24	CAR Part 3	Supplemental Flight Manual for SA2162NM dated 8/11/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev.-, dated 3/10/2000 Rev. 25, dated 8/26/99	4/14/2000
20	Cessna	185, 185A, 185B, 185C, 185D, 185E, A185E, A185F	3A24	CAR Part 3	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08072	Rev.-, dated 3/10/2000 Rev.-, dated 12/22/1999	4/14/2000
21	Cessna	188, 188A, 188B, A188A, A188B, T188C	A9CE	FAR Part 21	Supplemental Flight Manual for SA2162NM dated 8/11/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev. , dated 3/10/2000 Rev. 25, dated 8/26/99	4/14/2000
22	Cessna	188, 188A, 188B, A188A, A188B, T188C	A9CE	FAR Part 21	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08072	Rev.-, dated 3/10/2000 Rev.-, dated 12/22/1999	4/14/2000

* or later FAA Approved Revision

FAA APPROVED MODEL LIST (AML) NO. SA2162NM
PRECISE FLIGHT, INC.

For

INSTALLATION OF PRECISE FLIGHT STANDBY VACUUM SYSTEM

Issue Date: May 23, 1988

Item	Aircraft Make	Aircraft Model	Original Type Certificate Number	Certification Basis for Alteration	FAA Approved Airplane Flight Manual Supplement*	FAA Approved Drawing*		AML Amdt. Date
						Number	REV	
23	Cessna	206, P206, -A, -B, -C, -D, -E, TP206A, -B, -C, -D, -E, U206-A, -B, -C, -D, -E, -F, -G, TU206A, -B, -C, -D, -E, -F	A4CE	CAR Part 3	Supplemental Flight Manual for SA2162NM dated 8/11/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev.-, dated 3/10/2000 Rev. 25, dated 8/26/99	4/14/2000
24	Cessna	206, P206, -A, -B, -C, -D, -E, TP206A, -B, -C, -D, -E, U206-A, -B, -C, -D, -E, -F, -G, TU206A, -B, -C, -D, -E, -F	A4CE	CAR Part 3	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08072	Rev.-, dated 3/10/2000 Rev.-, dated 12/22/1999	4/14/2000
25	Cessna	207, 207A, T207, T207A	A16CE	Part 23	Supplemental Flight Manual for SA2162NM dated 8/11/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev.-, dated 3/10/2000 Rev. 25, dated 8/26/99	4/14/2000
26	Cessna	207, 207A, T207, T207A	A16CE	Part 23	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08072	Rev.-, dated 3/10/2000 Rev.-, dated 12/22/1999	4/14/2000

* or later FAA Approved Revision

FAA APPROVED MODEL LIST (AML) NO. SA2162NM
PRECISE FLIGHT, INC.

For
INSTALLATION OF PRECISE FLIGHT STANDBY VACUUM SYSTEM

Issue Date: May 23, 1988

Item	Aircraft Make	Aircraft Model	Original Type Certificate Number	Certification Basis for Alteration	FAA Approved Airplane Flight Manual Supplement*	FAA Approved Drawing*		AML Amdt. Date
						Number	REV	
27	Cessna	210, 210A, 210B, 210C, 210D 210E, 210F, 210-5 (205), -5A, (205A), T210F, 210G, T-210G, 210H, T-210H, 210J, 205P, T-210J, 210K, T210L, 210L, 210M, T210M, 210N, P210N, T210N, 205T, 210R	3A21	CAR Part 3	Supplemental Flight Manual for SA2162NM dated 8/11/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev.-, dated 3/10/2000 Rev. 25, dated 8/26/99	4/14/2000
28	Cessna →	210, 210A, 210B, 210C, 210D 210E, 210F, 210-5 (205), -5A, (205A), T210F, 210G, T-210G, 210H, T-210H, 210J, 205P, T-210J, 210K, T210L, 210L, 210M, T210M, 210N, P210N, T210N, 205T, 210R	3A21	CAR Part 3	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08072	Rev.-, dated 3/10/2000 Rev.-, dated 12/22/1999	4/14/2000

* or later FAA Approved Revision

FAA APPROVED MODEL LIST (AML) NO. SA2162NM
PRECISE FLIGHT, INC.

For
INSTALLATION OF PRECISE FLIGHT STANDBY VACUUM SYSTEM

Issue Date: May 23, 1988

Item	Aircraft Make	Aircraft Model	Original Type Certificate Number	Certification Basis for Alteration	FAA Approved Airplane Flight Manual Supplement*	FAA Approved Drawing*		AML Amdt. Date
						Number	REV	
29	Cessna	P210R, 205U, T210R, 210-5, 210-5A	3A21	CAR Part 3	Supplemental Flight Manual for SA2162NM dated 8/11/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev.-, dated 3/10/2000 Rev. 25, dated 8/26/99	4/14/2000
30	Cessna	P210R, 205U, T210R, 210-5, 210-5A	3A21	CAR Part 3	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08072	Rev.-, dated 3/10/2000 Rev.-, dated 12/22/1999	4/14/2000
31	Cessna	305A (USAF 0-1A) 305C(USAF 0-1E) 305D(USAF 0-1F) 305F	5A5	Part 23	Supplemental Flight Manual for SA2162NM dated 8/11/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev.-, dated 3/10/2000 Rev. 25, dated 8/26/99	4/14/2000
32	Cessna	305A (USAF 0-1A) 305C(USAF 0-1E) 305D(USAF 0-1F) 305F	5A5	Part 23	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08072	Rev.-, dated 3/10/2000 Rev.-, dated 12/22/1999	4/14/2000

* or later FAA Approved Revision

FAA APPROVED MODEL LIST (AML) NO. SA2162NM
PRECISE FLIGHT, INC.

For
INSTALLATION OF PRECISE FLIGHT STANDBY VACUUM SYSTEM

Issue Date: May 23, 1988

Item	Aircraft Make	Aircraft Model	Original Type Certificate Number	Certification Basis for Alteration	FAA Approved Airplane Flight Manual Supplement*	FAA Approved Drawing*		AML Amdt. Date
						Number	REV	
33	Cessna	305B (USAF T0-1D) 305E (0-1D OR 01F)	3A14	CAR Part 3	Supplemental Flight Manual for SA2162NM dated 8/11/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev.-, dated 3/10/2000 Rev. 25, dated 8/26/99	4/14/2000
34	Cessna	305B (USAF T0-1D) 305E (0-1D OR 01F)	3A14	CAR Part 3	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08072	Rev.-, dated 3/10/2000 Rev.-, dated 12/22/1999	4/14/2000
35	Cessna	321 (NAVY OE-2)	3A11	Part 23	Supplemental Flight Manual for SA2162NM dated 8/11/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev.-, dated 3/10/2000 Rev. 25, dated 8/26/99	4/14/2000
36	Cessna	321 (NAVY OE-2)	3A11	Part 23	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08072	Rev.-, dated 3/10/2000 Rev.-, dated 12/22/1999	4/14/2000

* or later FAA Approved Revision

mwm



MAJOR REPAIR AND ALTERATION (Airframe, Powerplant, Propeller, or Appliance)

LBB FSI 66
Form Approved: OMB
No. 2120-0029
For FAA Use Only
2009 Identification mwm
SW-FSDO-1305 2000

JUL 03 2009

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. 1421). Failure to report can result in a civil penalty not to exceed \$1,000 for each such violation (Section 901 Federal Aviation Act 1958)

1. Aircraft	Make CESSNA	Model C210D
	Serial No. 21058252	Nationality and Registration Mark N375MK
2. Owner	Name (As shown on registration certificate) South Tex Treaters, Inc.	Address (As shown on registration certificate) Box 60480 Midland, TX 79701

3. For FAA Use Only

4. Unit Identification				5. Type	
Unit	Make	Model	Serial No.	Repair	Alteration
AIRFRAME	~~~~~ (As described in item 1 above) ~~~~~			X	X
POWERPLANT					
PROPELLER					
APPLIANCE	Type				
	Manufacturer				

6. Conformity Statement

A. Agency's Name and Address	B. Kind of Agency	C. Certificate No.
W. H. Lipham 812 Newcastle Ct. Odessa, Tx. 79764	<input checked="" type="checkbox"/> U.S. Certificated Mechanic	463729366
	<input type="checkbox"/> Foreign Certificated Mechanic	
	<input type="checkbox"/> Certificated Repair Station	
	<input type="checkbox"/> Manufacturer	

D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Date 06/24/00	Signature of Authorized Individual <i>[Signature]</i>
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7. Approval for Return To Service

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED

BY	FAA/FIL Standards Inspector	Manufacturer	<input checked="" type="checkbox"/>	Inspection Authorization	Other (Specify)
	FAA Designee	Repair Station		Person Approved by Transport Canada Airworthiness Group	
Date of Approval or Rejection 06/24/00	Certificate or Designation No. 2962880341A	Signature of Authorized Individual <i>[Signature]</i>			

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished

(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

1. Modify aircraft in accordance with STC SA 3612 SW to remove main landing gear doors and associated operating parts and change nose gear door operation to mechanical and removing associated hydraulic system.

2. Replace Rt. and Lt. side doublers on bulkhead aft of landing gear pivot mounting at Sta. 68.3 due to cracks along outboard bolt holes. Installed using 6 AN970-3 washers on each side under outboard bolts and correct length bolts.

3. Install new guide brackets at main gear uplock latches, part #s 1211467-1 & 2 due to damage from improper alignment. Adjust per Cessna 200 service manual.

4. Perform retract check for proper clearance and operation.

5. New parts painted to match aircraft.

6. Weight and Balance change per STC as follows:

Old empty weight 1992.97	minus change 7.2	= New empty wt. 1985.77
Old Moment 74173.55	minus change 712.1	= New moment 73461.45
Old arm 37.22		New arm 36.99
Old usefull load 1107.3		New usefull load 1114.5

7 All work performed using the methods, procedures and materials as prescribed in FAR 43-13 1B.

8. Instructions for continued airworthiness shall be the same as required by Cessna service manual plus visual inspection for security of parts added by STC.

***** End Report *****

Additional Sheets Are Attached



U.S. Department of Transportation
Federal Aviation Administration

MAJOR REPAIR AND ALTERATION (Airframe, Powerplant, Propeller, or Appliance)

Form Approved OMB
No.2120-0020

For FAA Use Only
Office Identification

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. 1421). Failure to report can result in a civil penalty not to exceed \$1,000 for each such violation (Section 901 Federal Aviation Act 1958)

1. Aircraft	Make CESSNA	Model C210D
	Serial No. 21058252	Nationality and Registration Mark N375MK
2. Owner	Name (As shown on registration certificate) South Tex Treaters, Inc.	Address (As shown on registration certificate) Box60480 Midland, TX 79701

3. For FAA Use Only

The Alteration/Date identified herein complies with the applicable airworthiness requirements and is approved for the above described aircraft, subject to conformity inspection by a person authorized by FAR Part 43, Section 43.7

SW-FSDO-13 4-27-2000 Stanley P. [Signature]
District Office Date Signature of FAA Inspector

4. Unit Identification				5. Type	
Unit	Make	Model	Serial No.	Repair	Alteration
AIRFRAME	~~~~~ (As described in item 1 above) ~~~~~			X	
POWERPLANT					
PROPELLER					
APPLIANCE	Type				
	Manufacturer				

6. Conformity Statement

A. Agency's Name and Address	B. Kind of Agency	C. Certificate No.
W. H. Lipham 812 Newcastle Ct. Odessa, Tx. 79764	<input checked="" type="checkbox"/> U.S. Certificated Mechanic	463729366
	<input type="checkbox"/> Foreign Certificated Mechanic	
	<input type="checkbox"/> Certificated Repair Station	
	<input type="checkbox"/> Manufacturer	

D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Date 04/25/00	Signature of Authorized Individual <u>[Signature]</u>
------------------	--

7. Approval for Return To Service

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is X APPROVED REJECTED

BY	FAA Fit. Standards Inspector	Manufacturer	<input checked="" type="checkbox"/>	Inspection Authorization	Other (Specify)
	FAA Designee	Repair Station		Person Approved by Transport Canada Airworthiness Group	

Date of Approval or Rejection 05/01/00	Certificate or Designation No. 2982880341A	Signature of Authorized Individual <u>[Signature]</u>
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NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished

(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

1. Replace cracked upper nose bowl panels, parts number 1252410-3 & -4 by fabricating a fiberglass skin replacement as the original metal skin is continually breaking and is no longer repairable or available from Cessna parts supply.
2. Replacement parts are made by using the original parts from this aircraft to make a mold and then a fiberglass copy is made in the mold.
3. All the doublers, fittings and attachment parts are removed from the original parts and installed on the new fiberglass skin parts.
4. Final fit of the parts is accomplished on the aircraft for proper alignment with other cowl parts and to assure proper clearance from other parts.
5. Attachment to aircraft is the same as on original parts except for large A3235-SS-020 washers under screws.
6. Parts are painted to match aircraft.
7. All work is accomplished IAW the customary methods and procedures of FAR 43-13 1B
8. Instructions for continued airworthiness shall consist of visual inspection for cracking or looseness of attachments prior to each flight.
9. Replacement parts weigh same as original so no change in weight and balance is required.

***** End Report *****

Additional Sheets Are Attached



US Department of Transportation
Federal Aviation Administration

MAJOR REPAIR AND ALTERATION (Airframe, Powerplant, Propeller, or Appliance)

Form Approved
OMB No. 2120-0020

For FAA Use Only

Office Identification

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. 1421). Failure to report can result in a civil penalty not to exceed \$1,000 for each such violation (Section 901 Federal Aviation Act of 1958).

1. Aircraft	Make Cessna	Model 210D
	Serial No. 210-58252	Nationality and Registration Mark USA 375MK
2. Owner	Name (As shown on registration certificate) Rains and Morrow Aviation LTD Morrow David	Address (As shown on registration certificate) 1203 Harvard Ave Midland, Texas 79701

3. For FAA Use Only

4. Unit Identification				5. Type	
Unit	Make	Model	Serial No.	Repair	Alteration
AIRFRAME	~~~~~ (As described in Item 1 above) ~~~~~				
POWERPLANT	Teledyne Continental	IO-520A1B	112656-R		X
PROPELLER					
APPLIANCE	Type				
	Manufacturer				

6. Conformity Statement

A. Agency's Name and Address Alan Pakcyk Plane Action 7000 Andrews Hwy. Odessa, Texas 79762	B. Kind of Agency <input checked="" type="checkbox"/> U.S. Certified Mechanic <input type="checkbox"/> Foreign Certified Mechanic <input type="checkbox"/> Certified Repair Station <input type="checkbox"/> Manufacturer	C. Certificate No. <div style="text-align: center; font-size: 1.2em;">1580072</div>
--	--	---

D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Date 1-16-97	Signature of Authorized Individual
------------------------	--

7. Approval for Return To Service

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED

BY	FAA Fit. Standards Inspector	Manufacturer	<input checked="" type="checkbox"/>	Inspection Authorization	Other (Specify)
	FAA Designee	Repair Station	<input type="checkbox"/>	Person Approved by Transport Canada Airworthiness Group	

Date of Approval or Rejection 1-16-97	Certificate or Designation No. 1580072 IA	Signature of Authorized Individual
---	---	--

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished

(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

1. Remove air filter assembly, install brackett as per STC SA71GL List#1, assembly part# BA-2210L and BA-2210R.
2. Followed instructions for installation part# BA-2210L and BA-2210R dated 8-23-88 provided in kit.
3. No change in weight and balance.

Additional Sheets Are Attached

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

Number SA71GL

This certificate, issued to Brackett Aircraft Company, Inc.
 7045 Flightline Drive
 Kingman, Arizona 86401

*certifies that the change in the type design for the following product with the limitations and conditions therefor as specified herein meets the airworthiness requirements of Part 21 of the **

Regulations

Original Product — Type Certificate Number * *See attached FAA Approved Model List (AML)
Make * No. SA71GL for list of approved aircraft
Model * models and applicable airworthiness regulations.

Description of Type Design Change Installation of air filters in accordance with AML No. SA71GL, dated April 17, 1995, or later FAA approved revision.

Limitations and Conditions: Approval of this change in type design applies to the above aircraft model(s) only. This approval should not be extended to aircraft of this model on which other previously approved modifications are incorporated unless it is determined that the interrelationship between this change and any of those other previously approved modifications will introduce no adverse effect upon the airworthiness of that aircraft. A copy of this Certificate and FAA Approved Model List (AML) No. SA71GL dated April 17, 1995, or later FAA approved revision must be maintained as part of the permanent records for the modified aircraft.

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

Federal Aviation Administration

Date of application January 9, 1975

Date received March 3, 1983

Date of issuance February 21, 1975

Date amended April 17, 1995



By direction of the Administrator

Stephen A. ...
 (Signature)

Manager, Propulsion Branch
 Los Angeles Aircraft Certification Office
 (Title)

Any violation 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 in accordance with FAR 21.17.

FAA Form 8130-1 (10-1-80)

**FAA APPROVED MODEL LIST (AML) NO. SA71GL
 BRACKETT AIRCRAFT CO., INC.
 FOR
 INSTALLING AIR FILTERS**

ITEM	AIR FILTER MODEL NUMBER	TOP DRAWING NUMBER	REVISION & DATE	AIRCRAFT MAKE	AIRCRAFT MODEL	ORIGINAL TYPE CERTIFICATE NUMBER	CERT BASIS	AML AMENDMENT DATE
10	BA-130	BA-130-00	N/C 4/17/80	Cessna	404	A25CE	FAR 23	---
11	BA-2010	BA-2010	N/C 9/18/91	Beechcraft	77	A30CE	FAR 23	---
12	BA-2110	BA-2110	B 8/1/85	Cessna Cessna	210(A)/B/C, 210-SA (206) 310(A)/B	3A21 3A10	CAR 3 CAR 3	---
13	BA-2210L & R	BA-2210R & BA-2210L	A 10/1/85	Cessna Cessna	210D/E/F/G/H/J/K/L/M/N (thru SN 21064636 without air conditioner) *SN 21099200 thru 2106103B require both right and left filters 207/A P206/A/B/C/D/E/ L2206/A/B/C/D/E/F/G	3A21 A18CE A4CE	CAR 3 FAR 23 CAR 3	---
*** END OF DATA ***								



US Department of Transportation
Federal Aviation Administration

MAJOR REPAIR AND ALTERATION (Airframe, Powerplant, Propeller, or Appliance)

Form Approved
OMB No. 2120-0020

For FAA Use Only

Office Identification

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. 1421). Failure to report can result in a civil penalty not to exceed \$1,000 for each such violation (Section 901 Federal Aviation Act of 1958).

1. Aircraft	Make <p style="text-align: center;">Cessna</p>	Model <p style="text-align: center;">210D</p>
	Serial No. <p style="text-align: center;">21058252</p>	Nationality and Registration Mark <p style="text-align: center;">N375MK</p>
2. Owner	Name (As shown on registration certificate) Rains and Morrow Aviation LTD Morrow, David; Rains, Ronnie	Address (As shown on registration certificate) 1203 Harvard Ave., Midland Texas, 79701

3. For FAA Use Only

4. Unit Identification				5. Type	
Unit	Make	Model	Serial No.	Repair	Alteration
AIRFRAME	~~~~~ (As described in Item 1 above) ~~~~~				X
POWERPLANT					
PROPELLER					
APPLIANCE	Type				
	Manufacturer				

6. Conformity Statement

A. Agency's Name and Address	B. Kind of Agency	C. Certificate No.
Basin Aviation Midland Airpark Midland, Texas 79705	<input type="checkbox"/> U.S. Certificated Mechanic	GYWR 560E
	<input type="checkbox"/> Foreign Certificated Mechanic	
	<input checked="" type="checkbox"/> Certificated Repair Station	
	<input type="checkbox"/> Manufacturer	

D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Date <p style="text-align: center;">Nov 13, 1995</p>	Signature of Authorized Individual <p style="text-align: center;"><i>Lester A. Bannan</i></p>
	2356328

7. Approval for Return To Service

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED

BY	FAA Fit. Standards Inspector		Manufacturer	Inspection Authorization	Other (Specify)
	FAA Designee	X	Repair Station	Person Approved by Transport Canada Airworthiness Group	
Date of Approval or Rejection		Certificate or Designation No.		Signature of Authorized Individual	
Nov 13, 1995		GYWR 560E		<i>Lester A. Bannan</i>	
				2356328	

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished

(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

Installed: S-Tec System 50 Auto Pilot system consisting of:

6405-14L Turn Coor.
0131-11-1 Controller
0105-R9 Roll Servo
0107-P4 Pitch Servo
0111 Transducer
HK-310-50 Install kit.

Installation in accordance with STC SA6027AW-D issued to S-Tec Corp used as reference on this installation. Used factory supplied installation kit HK-310-50. Installation manual ST-310. Drawings 1013,76304,76326,9919,1014,7624,7602,76295,76266,76360,508,7601,76137,and 503. All work conforms to acceptable methods, techniques, and practices contained in AC 43.131A Chapert 11 Electrical systems and equipment installations and wire and aircraft,alterations per sections: AC 43.13 2A-22,-23, and -27. This alteration complies with FAR 23.1301 and 23.1431 and doesnt interfere with any other operations in the aircraft. Ground and flight tested aircraft per sections IV pages 3-3 to 3-5 in BSEC Manual. FAA approved airplane manual p/n 89618 dated 7/18/85 provided and made part of pilots operating manual on aircraft. Weight and Balance recalculated and all log book entries made as required part of W/O A6704.

-----END-----

Additional Sheets Are Attached



S-TEC Corporation

TEC LINE Avionics and Flight Control Systems

50# 20 5453

WARRANTY CERTIFICATE APPLICATION

CERTIFICATE No.

WARRANTY START DATE

NOV 13 1995
Mo Day Year

(Leave Blank)

CESSNA

210 D

21058252

N 375MK

(AIRCRAFT MAKE)

(MODEL)

(SERIAL NUMBER)

(REG NO)

AIRFRAME HOURS WHEN SOLD

(AIRPORT BASE)

(CITY)

(STATE/COUNTRY)

(Leave Blank)

OEM INSTALLATION

RETROFIT

SPARE

(2) SOUTH TEX TREATERS

POB 60480

MIDLAND

(OWNER'S NAME)

(ADDRESS)

(CITY)

TX

79711

(STATE/COUNTRY)

(ZIP)

(3) BASIN AVIATION

POB 50547

MIDLAND

(INSTALLER'S NAME)

(ADDRESS)

(CITY)

TX

79710

(STATE/COUNTRY)

(ZIP)

NOV 13 1995

(DATE INSTALLED)

Mo

Day

Year

IF AIRCRAFT SOLD BY OTHER THAN THE INSTALLER:

(4)

(NAME)

(ADDRESS)

(CITY)

(STATE/COUNTRY)

(ZIP)

(DATE SOLD)

ST 50

SYSTEM TYPE

50

EQUIPMENT P/N

EQUIPMENT TYPE

SERIAL NO

EQUIPMENT P/N

EQUIPMENT TYPE

SERIAL NO

ST-310-50

SYSTEM 50

644

6405-14L

TURN COOR.

9471E

0131-11-1

SYS50

2798C

0105-R9

ROLL SRVNO

9760A

0107-P4

PITCH SRVNO

7950A

0111

TRANSUCUR

8536A

HK-310-50

KIT SYS50

United States of America
Department of Transportation — Federal Aviation Administration
Supplemental Type Certificate
(Continuation Sheet)

Number SA6027SW-D

Limitations and Conditions (con't)

2. FAA Approved Supplemental Flight Manual, P/N 89618, dated 7-18-85 is required for S-TEC System 50 in Cessna Models 210D, 210E, 210F and T210F and/or later FAA Approved revisions of the above supplement.
3. Compatability of this modification with other previously approved modifications must be determined by the installer.

Violation of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.



COMP - 0131-11-1
ROLL SERVO - 0105-R9
ROLL VALUE

S-TEC CORPORATION
RT. 4, BLDG. 946
WOLTERS INDUSTRIAL COMPLEX
MINERAL WELLS, TEXAS 76067

-11 = 18K OHMS
(10-30K POT)

FAA APPROVED
SUPPLEMENTAL FLIGHT MANUAL
FOR

CESSNA MODELS 210D, 210E, 210F AND T210F

WITH
S-TEC SYSTEM 50 TWO AXIS
AUTOMATIC FLIGHT GUIDANCE SYSTEM
(14 VOLT SYSTEM)

REG. NO. N375MK
SER. NO. 21058252

The information in this manual is FAA Approved material which along with other approved documents is applicable to the operation of the airplane when modified by the installation of the S-TEC System 50 Autopilot Model ST-310-50 installed in accordance with STC SA6027SW-D.

SECTION I

GENERAL

This manual is to acquaint the pilot with the features and functions of the System 50 Two Axis Autopilot and to provide operating instructions for the system when installed in the above aircraft model(s). The aircraft must be operated within the limitations herein provided when the autopilot is in use.

SECTION II

OPERATING LIMITATIONS

1. Autopilot use prohibited above 200 MPH CAS (Vmo).
2. Use of flaps, including extension and retraction, not authorized during operations in altitude hold mode.
3. Autopilot operation prohibited during take-off and landing.
4. Autopilot operation prohibited above 25,000 ft. MSL for Cessna Model T210F.



S-TEC CORPORATION
MINERAL WELLS, TEXAS 76067

SECTION III

EMERGENCY OPERATING PROCEDURES

In the event of an autopilot malfunction, or any time the autopilot is not performing as expected or commanded, do not attempt to identify the system problem. Immediately regain control of the aircraft by overpowering the autopilot as necessary and then disconnect the autopilot. Do not reengage the autopilot until the problem has been identified and corrected.

1. Autopilot may be disconnected by:
 - a. Depressing the "AP Disconnect" Switch on the left horn of the pilot's control wheel (if installed).
 - b. Depressing the "ON-OFF" Switch on the autopilot programmer unit.
 - c. Moving autopilot master switch to "OFF" position.
 - d. Pulling the autopilot circuit breaker.
2. Altitude loss during a malfunction and recovery.

- a. The following altitude losses and bank angles were recorded after a malfunction with a 3 second recovery delay:

<u>Configuration</u>	<u>Bank Angle/Altitude Loss</u>
Climb	60°/-100'
Cruise	60°/-300'
Descent	55°/-400'

- b. The following altitude losses and bank angles were recorded after a malfunction with a 1 second recovery delay:

<u>Configuration</u>	<u>Bank Angle/Altitude Loss</u>
Maneuvering	15°/-60'
Approach (coupled or uncoupled)	30°/-80'

The above values are the worst case for all the models covered by this document.

SECTION IV

NORMAL OPERATING PROCEDURES

4-1 SYSTEM DESCRIPTION

The System 50 is a pure rate autopilot which uses an inclined rate gyro in the Turn Coordinator instrument as the primary roll and turn rate sensor and an accelerometer and an absolute pressure transducer as pitch rate sensors. The turn coordinator includes an autopilot pick-off, a gyro RPM detector and an instrument power monitor. Low electrical power will cause the instrument "flag" to appear while low RPM will cause the autopilot to disconnect. The autopilot includes an automatic pre-flight test feature that allows a visual check of all the annunciator lamps and checks critical elements of the accelerometer system. The test feature will not enable autopilot function unless the automatic test sequence is satisfactorily completed.

FAA/DAS APPROVED

P/N 89618

DATE: 7-18-85

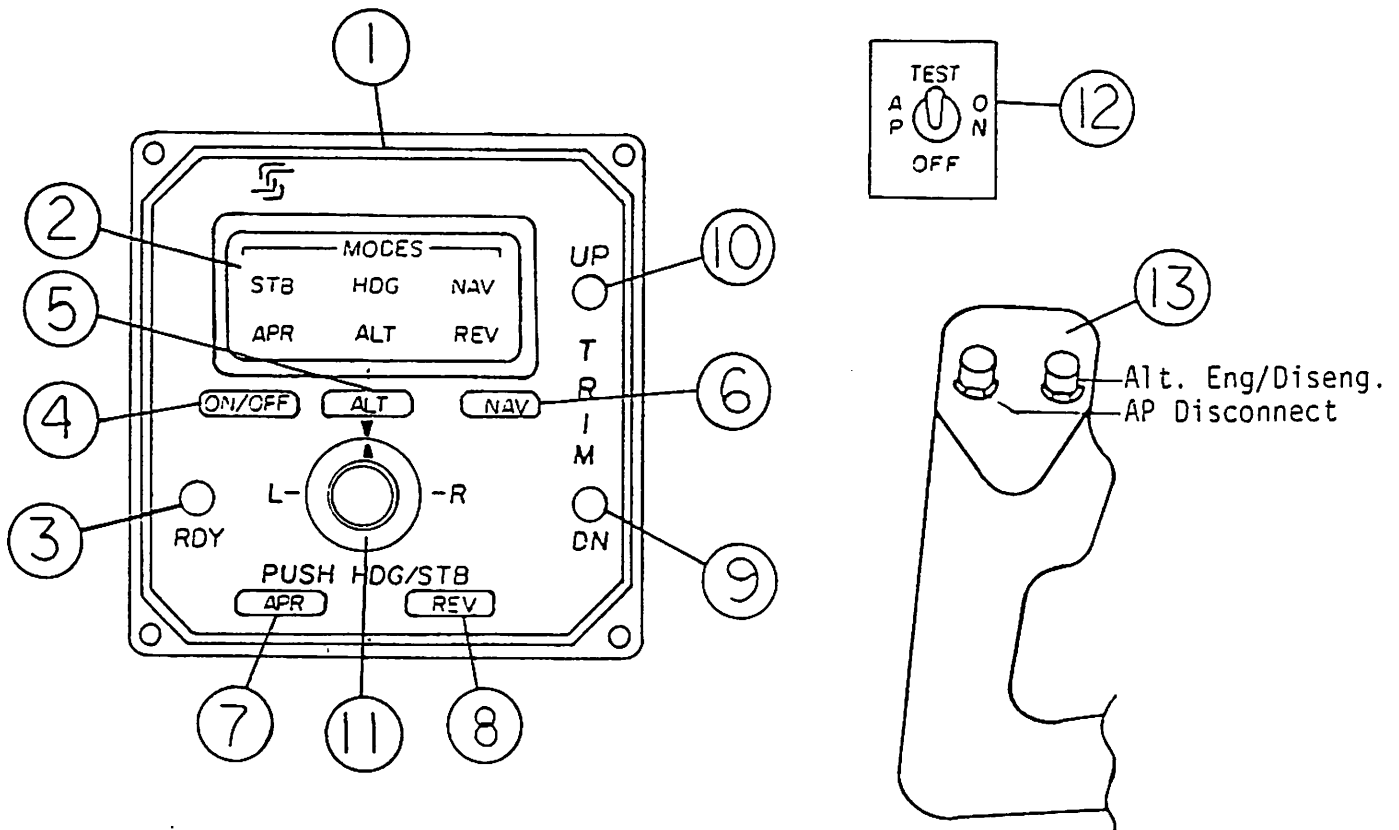


S-TEC CORPORATION
MINERAL WELLS, TEXAS 76067

When the pre-flight test is satisfactorily completed and when the rate gyro RPM is correct, the green "RDY" light will illuminate indicating the autopilot is ready for the functional check and operation. The autopilot cannot be engaged unless the "RDY" light is illuminated. When the system is equipped with the optional 3" Air Driven Directional Gyro (D.G.) or a compass system, directional information is provided to the autopilot by a heading bug in the instrument.

Pitch axis control is provided for the altitude hold function by use of the accelerometer and the pressure transducer. When the altitude hold mode is engaged an elevator trim sensor in the pitch servo will detect the elevator trim condition. When elevator trim is necessary to re-establish a trimmed condition, trim indicator lights on the programmer unit will illuminate to indicate the direction to trim to restore a trimmed condition.

The indicator and annunciator lamp brilliance is controlled through the aircraft instrument light rheostat, except for the "trim" indicators which always illuminate at full intensity.



1. Mode Programmer and Annunciator Unit - Provides mode switches and annunciation for the system.
2. Mode Annunciation Window - Displays mode in use.

FAA /DAS APPROVED

P/N 89618
DATE: 7-18-85



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MINERAL WELLS, TEXAS 76067

3. Ready Light (RDY) - Green RDY lamp illuminates when autopilot is ready for engagement.
4. ON-OFF Stabilizer Mode Switch - Momentary actuation engages roll system in stabilizer (STB) Mode and allows use of the turn knob (Item 11) to command turn rate desired. When the system is operating a momentary actuation will disengage the system and cancel all annunciations.
5. Altitude Mode Switch (ALT) - Momentary actuation will engage altitude hold mode or disengage altitude mode if previously engaged. This function is also available by use of an optional control wheel mounted altitude engage/disengage switch, for added convenience.
6. Navigation Mode Switch (NAV) - Momentary activation will engage the VOR Tracking Mode. This mode provides low system gain for comfortable cross country tracking.
7. Approach Mode Switch (APR) - Momentary actuation will engage the VOR or Localizer Tracking Mode. This mode provides a higher level of system gain for more active tracking of VOR or Localizer front course signals.
8. Reverse Approach Mode Switch (REV) - Momentary activation will engage the reverse tracking mode for use when tracking a localizer backcourse. This mode provides the same system gain as the APR Mode with reverse needle sensing.
9. Down TRIM Light (DN) - This light illuminates to indicate the need for nose down trim. When both the UP and DN lights are not lighted, the aircraft is in trim longitudinally.
10. UP Trim Light (UP) - This light illuminates to indicate the need for nose UP trim.
11. Turn Knob and Heading Switch - The turn knob allows the selection of turn rates up to standard rate(3° /sec.) either right or left. Turning the knob to the right or left will cause a turn that is proportional to the displacement of the knob from center. For level flight the electronics provide a small dead zone of approximately 10° at the center indice. To actuate heading mode, momentarily depress the turn knob. To return to STB Mode from HDG, depress the turn knob. When the system is operating in any radio mode and the system is equipped with a D.G., depressing the turn knob will return the system to HDG Mode directly.
12. Autopilot Master ON-OFF Test Switch - Refer to Pre-Flight Procedures for operating details.



S-TEC CORPORATION
MINERAL WELLS, TEXAS 76067

13. Optional remote AP disconnect switch and/or remote altitude hold engage-disengage switch.

4-2 PRE-FLIGHT PROCEDURES

NOTE: During system functional checks the system must be provided adequate DC voltage (12 or 24 VDC minimum as appropriate)

MANDATORY PRE-FLIGHT TEST

1. AP Master Switch - Move to TEST position.
 - a. Observe all lights and annunciators illuminate.
 - b. Observe the following light sequence of the trim indicators: (Sequence requires 9 seconds)
 1. Initially both trim UP & DN lights are illuminated.
 2. Up light extinguishes momentarily and relights.
 3. DN light then extinguishes and will remain off.
2. AP Master Switch - Move to ON position, observe ready (RDY) light illuminates. Autopilot can be engaged and disengaged repeatedly without repeating the test sequence until electrical power is removed. Once power is interrupted the test must be reconducted to get a ready indication. If the ready light does not illuminate after the test a failure to pass the test is indicated and the system will require service. NOTE: ALTITUDE MODE CANNOT BE ENGAGED UNLESS POWER IS ON FOR MORE THAN 15 SECONDS.

SYSTEM FUNCTIONAL TEST

3. Depress ON-OFF Switch - STB Annunciator illuminates. Rotate turn knob left and right, observe control wheel moves in corresponding direction. Center turn knob.
4. Set D.G. and place bug under lubber line (if installed) push turn knob to engage HDG mode. Observe HDG annunciator. Move HDG bug left and right observe proper control wheel motion.
5. Overpower Test - Grasp control wheel and overpower roll servo left and right. Overpower action should be smooth with no noise or jerky feel. If unusual sounds or excessive play is detected, have the servo installation inspected prior to flight.
6. Radio Check - A. Turn on NAV Radio, with valid NAV signal, engage NAV Mode and move VOR OBS so that VOR needle moves left and right - control wheel should follow the direction of needle movement.



S-TEC CORPORATION
MINERAL WELLS, TEXAS 76067

- B. Select REV Mode - the control wheel should rotate in opposite direction of the NAV needle.
 - C. Select APR Mode - the control wheel should again follow radio needle movement and with more authority than produced by NAV Mode.
7. Move control wheel to level flight position - Engage ALT Mode. Move control wheel fore and aft to overpower pitch servo clutch. Overpower action should be smooth with no noise or jerky feel. If unusual sounds or excessive play is detected, have the servo installation inspected prior to flight.
 8. Trim Check - Manually apply back pressure to control wheel for 2-3 seconds - observe the DN trim light illuminates. Apply forward pressure to the control wheel for 2-3 seconds, observe the UP trim light illuminates. Move the control wheel to center - observe both UP/DN lights extinguish.
 9. Hold control wheel and depress ON-OFF Switch - note that roll and pitch servo release. Move control wheel to confirm roll and pitch motions are free, with no control restriction or binding. If the optional disconnect switch is installed it may be used to effect the disconnect for this check.

4-3 IN-FLIGHT PROCEDURES

NOTE: The required pre-flight test can be conducted in the air if necessary. It should be noted, however, that when the UP/DN lights are flashing the pitch servo will momentarily engage and disengage. This alternate engage-disengage sequence is part of the test function. Because of the engage-disengage sequence the test should not be conducted while maneuvering.

1. Check - RDY light on.
2. Trim aircraft for existing flight condition. Maintain Yaw Trim during all Autopilot operations.
3. Center turn-knob - depress ON-OFF Switch.
4. Set turn knob to level or turning flight, as desired.
5. Set HDG bug to desired heading (if installed) and depress turn knob to engage heading mode, select headings as desired.
6. At desired altitude, depress ALT Mode Switch. Trim aircraft as necessary to establish cruise condition - disengage ALT Mode to climb or descend.



S-TEC CORPORATION
MINERAL WELLS, TEXAS 76067

VOR TRACKING AND VOR-LOC APPROACH

1. Tune NAV receiver and select radial.
2. Maneuver aircraft to selected radial (or localizer) within ± 1 needle width and within 10° of the course heading.
3. Engage NAV Mode for VOR tracking.
4. Engage APR Mode for VOR or LOC approach.

To track the localizer front course outbound to the procedure turn area, maneuver to the localizer center and, when on the outbound heading, select REV Mode. To track the localizer back course inbound, maneuver to the localizer back course center and, when on the inbound heading, select REV Mode.

Approach Mode may be used to track VOR radials cross country, if desired. Use of APR Mode for cross country tracking may result in some course scalloping if the VOR signal is weak or otherwise "noisy". In areas of poor signal quality NAV Mode may provide more accurate tracking even with reduced gain.

SECTION V

OPERATIONAL DATA

Text of this Section not affected by installation of this equipment.

SECTION VI

REQUIRED OPERATING EQUIPMENT

Text of this Section not affected by installation of this equipment.

SECTION VII

WEIGHT AND BALANCE

Text of this Section not affected by installation of this equipment.

FAA APPROVED

Walter F. Davis

S-TEC CORPORATION
DAS 5 SW
P/N 89618
DATE: 7-18-85

Supplemental Type Certificate

Number SA6027SW-D

This certificate, issued to: S-TEC Corporation
Rt. 4, Bldg. 946
Wolters Industrial Complex
Mineral Wells, TX 76067

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified herein meets the airworthiness requirements of Part 3 of the Civil Air Regulations.

Original Product — Type Certificate Number 3A21
Make CESSNA
Model 210D, 210E, 210F AND T210F

Description of Type Design Change:

Installation of S-TEC System 40/50, Single and Two Axis Automatic Flight Guidance System, Model ST-310-40/50, according to Bulletin No. 410, dated 7-5-85 and Master Drawing List No. 92336, dated 7-5-85 and/or later FAA Approved revisions of the above data (14 Volt System).

Limitations and Conditions:

1. FAA Approved Supplemental Flight Manual, P/N 89617, dated 7-18-85 is required for S-TEC System 40 in Cessna Models 210D, 210E, 210F and T210F and/or later FAA Approved revisions of the above supplement.

(See Continuation Sheet, Page 2, a part of this STC.)

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: 7-12-85

Date issued:

Date of issuance: 7-18-85

Date amended:



By direction of the Administrator

Harold W. Holdeman

(Signature)

Harold W. Holdeman
DAS Staff Coordinator, DAS 5 SW

(Title)

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 in accordance with FAR 21.47.

GROUND CHECKS AND FLIGHT ADJUSTMENT PROCEDURES

SYSTEM 50

GROUND CHECKS:

1. Turn aircraft master and radio master "ON", as required, to provide system voltage to the autopilot circuit breaker.
2. Check autopilot circuit breaker "ENGAGED". Select test position on AP master switch: Observe all lights and annunciators illuminate. Observe the following light sequence of the trim indicators. (Sequence requires 6 seconds.)
 - a. Initially both "UP" and "DN" lights are illuminated.
 - b. "UP" light extinguishes momentarily and relights.
 - c. "DN" light then extinguishes and will remain off.
3. Toggle AP master to "ON". When turn coordinator gyro has reached operational RPM the "RDY" light will illuminate. If ready light does not illuminate after the test, the system has failed the test. After "RDY" light illuminates, select "ON", "STB" will illuminate. Rotate the turn knob left then right. Note that wheel follows commanded input.

NOTE: When optional D.G. is installed, center the heading bug under the indice on the D.G. Center the "HDG/STB" knob and push once; "HDG" will illuminate. Rotate the heading bug on the D.G. to the right, then to the left of the center indice and note that the control wheel follows direction of commanded input. Center heading bug on indice.

4. Tune the NAV receiver to the local OMNI Station or simulated signal and center the needle on the OBS/CDI instrument. Select "NAV" mode on the programmer and rotate the OMNI bearing selector right and then left. Control wheel should move right with right needle deflection and left with left needle deflection.
5. At this time, with NAV needle centered and still in "NAV" mode, remove the upper left faceplate attaching screw on the programmer/computer. Adjust the roll centering (3 turn pot accessible through the upper left faceplate attaching screw of the programmer). Adjust for zero roll servo activity with centered CDI needle.
6. Select "REV" mode on the programmer and conduct the same tests as indicated above (Step 4) for "NAV" mode. Note that "REV" annunciator is illuminated and that control wheel action is opposite direction of needle movement.
7. Move elevator control to neutral and select "ALT" mode to engage pitch. "ALT" annunciation will illuminate.

CONTINUED

8. Overpower - Grasp control wheel and overpower autopilot in both roll and pitch. Be alert that no excessive play exists in the control system and/or between the control system and the roll and pitch servos.
9. If optional altitude hold engage/disengage switch is installed in pilot's control wheel, depress once. "ALT" annunciation will extinguish. Move wheel FWD and AFT and ensure that pitch servo has disconnected. Depress switch again and note that "ALT" annunciation illuminates and pitch servo re-engages.
10. If optional AP disconnect switch is installed in pilot's control wheel, depress once. Note that roll and pitch servos disengage and all mode annunciations extinguish.
11. Trim Test - move elevator control to neutral position and re-engage "STB" and "ALT" modes. Apply forward pressure (nose DN) to elevator control and hold for 3 seconds (minimum) - the "UP" annunciator will illuminate steady for 5 seconds and then cycle on-off approximately every 1/2 second. Apply aft pressure on the control wheel (nose UP) and hold for 3 seconds (minimum) - observe same light indication on the "DN" annunciator. Hold control wheel - disengage autopilot. ✓
12. Toggle autopilot master switch to "OFF".

FLIGHT ADJUSTMENTS:

The in-flight adjustments for this system consists of one (3 turn) adjustable pot (roll centering) located under the upper left hand faceplate attaching screw on the programmer/computer.

1. Fly the aircraft to smooth air, and trim for level flight. Remove the upper left programmer faceplate attach screw.
2. Check autopilot circuit breaker "IN" and toggle AP master to "ON" position.
3. Maneuver aircraft to desired radial on OBS, and engage NAV mode on programmer. Allow aircraft time to establish on course.
4. Check roll center adjustment in NAV mode and fine adjust (if necessary) to fly a centered needle.
5. If directional gyro or heading system is installed, center heading bug and engage HDG mode on the programmer. Check heading bug centered $\pm 3^\circ$.

NOTE: Roll centering pot is a 3 turn pot and should be adjusted in very small increments. Allow sufficient time between adjustments for system to stabilize. Clockwise rotation of pot produces right turn and counterclockwise rotation produces left turn.

6. Replace upper left faceplate screw in programmer/computer.
7. Conduct a functional (operational) test of the system. Refer to the POH Supplement for operational information.

NOTE: If rudder is incorrectly trimmed, the autopilot will cause the aircraft to fly with a wing low in an effort to maintain the selected heading.

PITCH SECTION:

The pitch section does not require flight adjustments. Operate the pitch section in accordance with the instructions provided in the pitch section of the POH Supplement information provided in this installation kit.

MAJOR REPAIR AND ALTERATION
(Airframe, Powerplant, Propeller, or Appliance)

FOR FAA USE ONLY

OFFICE IDENTIFICATION

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form.

1. AIRCRAFT	MAKE CESSNA	MODEL 210D
	SERIAL NO. 21058252	NATIONALITY AND REGISTRATION MARK N3752Y
2. OWNER	NAME (As shown on registration certificate) WESTERN COATINGS CO., INC.	ADDRESS (As shown on registration certificate) 2211 E, MURPHY ODESSA, TX. 79761

3. FOR FAA USE ONLY

4. UNIT IDENTIFICATION

5. TYPE

UNIT	MAKE	MODEL	SERIAL NO.	REPAIR	ALTERATION
AIRFRAME (As described in item 1 above)				X
POWERPLANT					
PROPELLER					
APPLIANCE	TYPE				
	MANUFACTURER				

6. CONFORMITY STATEMENT

A. AGENCY'S NAME AND ADDRESS	B. KIND OF AGENCY	C. CERTIFICATE NO.
ROBERT J. KEATING 40 ROYAL PLACE ODESSA, TX. 79762	<input checked="" type="checkbox"/> U.S. CERTIFICATED MECHANIC	AP 298288034
	<input type="checkbox"/> FOREIGN CERTIFICATED MECHANIC	
	<input type="checkbox"/> CERTIFICATED REPAIR STATION	
	<input type="checkbox"/> MANUFACTURER	

D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

DATE 10-09-90	SIGNATURE OF AUTHORIZED INDIVIDUAL <i>Robert J. Keating</i>
------------------	--

7. APPROVAL FOR RETURN TO SERVICE

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED

BY	FAA FLT. STANDARDS INSPECTOR	MANUFACTURER	<input checked="" type="checkbox"/>	INSPECTION AUTHORIZATION	OTHER (Specify)
	FAA DESIGNEE	REPAIR STATION		CANADIAN DEPARTMENT OF TRANSPORT INSPECTOR OF AIRCRAFT	

DATE OF APPROVAL OR REJECTION 10-09-90	CERTIFICATE OR DESIGNATION NO. 298288034 IA	SIGNATURE OF AUTHORIZED INDIVIDUAL <i>Robert J. Keating</i>
---	--	--

NOTICE

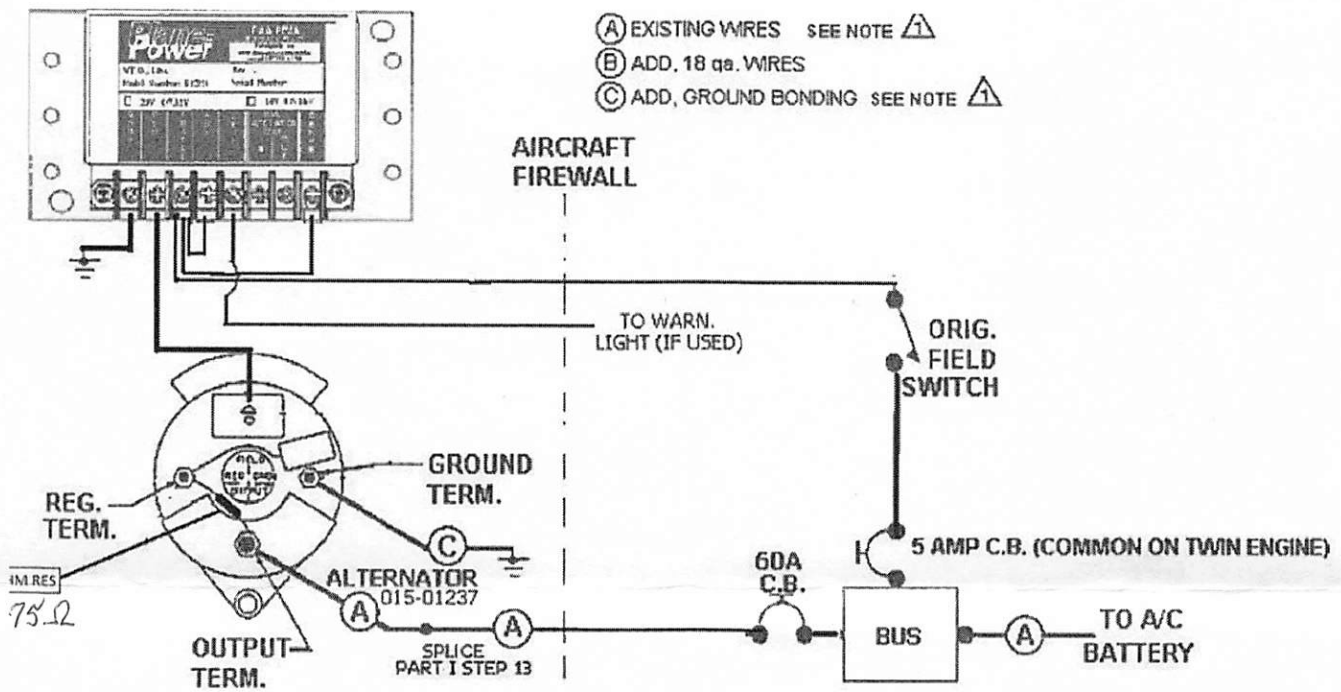
Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. DESCRIPTION OF WORK ACCOMPLISHED (If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

1. Removed generator, voltage regulator, and filter.
2. Installed ALCOR Alternator Installation Kit in accordance with Supplemental Type Certificate No. SA334SW. Weight change between removed and installed parts is negligible. Checked size of wire from Alternator output terminal to Alternator circuit breaker and from Alternator circuit breaker to buss and size of Alternator circuit breaker with A.C. 43.13-1A and found their sizes to be satisfactory.
3. Modified aircraft equipment list.

----- END -----

ADDITIONAL SHEETS ARE ATTACHED



⚠ AC-43.13-1A CHAPTER 11 SECTIONS 2 AND 3 SHOULD BE CONSULTED FOR MINIMUM WIRE SIZES FOR 50 AMP OUTPUT

TYPICAL WIRING DIAGRAM
R1224 INSTALLATION IN INTERAV SYSTEM
 FOR REFERENCE ONLY

Plane Power, Ltd.

Aircraft Model Eligibility for R1224 and R1224B Regulators

Aircraft Parts & Development Corp.	Original Part Number	PP Part #
A	InterAv 625-61623	R1224
Alexandria Aircraft, LLC.	Original Part Number	PP Part #
14-19	InterAv 625-61623	R1224
American Champion Aircraft Corporation	Original Part Number	PP Part #
7ECA, 7GCAA, 7GCBC, 7KCAB, 8GCBC, 8KCAB	FVR-4224, Lamar B-00371-14	R1224
Augustair, Inc	Original Part Number	PP Part #
2150A	InterAv 625-61623	R1224
Camair Aircraft Corporation – Fred Garcia	Original Part Number	PP Part #
480	InterAv 625-61623	R1224
Cessna Aircraft Company	Original Part Number	PP Part #
310R, T310R	Cessna 9910126-2, 9910126-3 *Note: both regulators must be replaced	R1224B
172L, 172M, 172N, 172P, 172Q, R172K, 177, 177A, 177B, 177RG, 180H, 180J, 180K, 182G, 182H, 182J, 182K, 182L, 182M, 182N, 182P, 182Q, 185D, 185E, 188, 188A, 188B, A188, A188A, A188B, T188C, P206A, P206B, P206C, P206D, P206E, TP206A, TP206B, TP206C, TP206D, TP206E, U206, U206A, U206B, U206C, U206D, U206E, U206F, U206G, P206A, P206B, P206C, P206D, P206E, TU206A, TU206B, TU206C, TU206D, TU206E, TU206F, 207, T207, 210E, 210F, 210G, 210H, 210J, 210K, 210L, 210M, T210E, T210F, T210G, T210H, T210J, T210K, T210L, T210M	Cessna 0750216-1, C611001-0101, C611001-0102, C611001-0201	R1224
152, A152, 182Q, 182R, T182, R182, TR182, 188, 188A, 188B, A188, A188A, A188B, U206G, TU206G, 210M, T210M	Cessna C611002-0105	R1224
182, 182A, 182B, 182C, 182D, 182E, 182F, 182G, 210, 210A, 210B, 210-5 (205), 185, 185A, 185B, 185C, 180, 180A, 180B, 180C, 180D, 180E, 180F, 180G, 206	InterAv 625-61623	R1224
Helio Aircraft, LLC.	Original Part Number	PP Part #
H-250, 500	InterAv 625-61623	R1224
KWAD Company	Original Part Number	PP Part #
Super-V	InterAv 625-61623	R1224
Latino American De Aviacion (Lavia) S.A.	Original Part Number	PP Part #
PA-25, PA-25-235, PA-25-260 (Restricted Cat.), PA-25, PA-25-235, PA-25-260 (Normal Cat.)	InterAv 625-61623	R1224
Lockheed Aircraft Corporation	Original Part Number	PP Part #
402-2	InterAv 625-61623	R1224
Mooney Aircraft Corporation	Original Part Number	PP Part #
M20, M20A, M20B, M20C, M20D, M20E, M20F, M20G	InterAv 625-61623	R1224
The New Piper Aircraft, Inc.	Original Part Number	PP Part #
PA-16, PA-23, PA-23-160, PA-23-235, PA-23-250, PA-E23-250, PA-24, PA-24-250, PA-18, PA-18S, PA-18 "105" (Special), PA-18S "105" (Special), PA-18A, PA-18 "125" (Army L-21A), PA-18S "125", PA-18AS "125", PA-18 "135" (Army L-21B), PA-18A "135", PA-18S "135", PA-18AS "135", PA-18 "150", PA-18A "150", PA-18S "150", PA-18AS "150", PA-20, PA-20S, PA-20 "115", PA-20S "115", PA-20 "135", PA-20S "135", PA-22, PA-22-108, PA-22-135, PA-22S-135, PA-22-150, PA-22S-150, PA-22-160, PA-22S-160, PA-28-140 (Cherokee Cruiser), PA-28-150, PA-28-160, PA-28-180 (Cherokee), PA-28-235 (Cherokee Pathfinder), PA-28S-160, PA-28S-180, PA-28R-180, PA-28R-200 (Arrow), PA-12, PA-12S, PA-30, PA-18A(Restricted), PA-18A"135"(Restricted),PA-18A"150" (Restricted)	InterAv 625-61623	R1224
PA-28-140 (Cherokee Cruiser), PA-28-150, PA-28-160, PA-28-180 (Cherokee), PA-28-235 (Cherokee Pathfinder)	Piper 756-055	R1224
PA-28-140 (Cherokee Cruiser), PA-28-150, PA-28-160, PA-28-180 (Cherokee), PA-28R-180, PA-28R-200 (Arrow), PA-28-151, PA-28-161, PA-28-181, PA-28R-201, PA-28R-201T, PA-28-236, PA-32-300, PA-32RT-300, PA-32R-301T	Piper 68804-03, 68804-04, 68804-05	R1224
Prop-Jets, Inc	Original Part Number	PP Part #
200, 200A, 200B, 200C, 200D	InterAv 625-61623	R1224
Raytheon Aircraft Company	Original Part Number	PP Part #
V35B, V35B-TC	Beechcraft 35-380093-3	R1224B
36, A36, A36TC, B36TC	Beechcraft 36-380056-5	R1224B
23, H35, J35, K35, M35, N35, P35, 35-33, 35-A33, 35-B33, 35-C33, 35, A35, B35, C35, D35, E35, F35, G35, 35R	InterAv 625-61623	R1224
Revo, Incorporated	Original Part Number	PP Part #
Colonial C1, Colonial C2, Lake LA-4	InterAv 625-61623	R1224
Sierra Hotel Aero, Inc.	Original Part Number	PP Part #
Navion D, Navion E, Navion F, Navion G	InterAv 625-61623	R1224
Tiger Aircraft, LLC	Original Part Number	PP Part #
AA-5, AA-5A, AA-5B	Ford C6FF-10316B, D4FF-10316-BA	R1224
AA-1B	Prestolite FVR-4004, Lycoming LW-12747, LW-11357, Wico X17990, X16300B	R1224
AA-1C	Wico X17990	R1224
Vulcanair, S.p.A	Original Part Number	PP Part #
P 68C	Vulcanair NOR7.375-3 *Note: both regulators must be replaced	R1224B

* For Twin Engine applications both Regulators must be replaced

MAJOR REPAIR AND ALTERATION
(Airframe, Powerplant, Propeller, or Appliance)

FOR FAA USE ONLY

OFFICE IDENTIFICATION

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form.

1. AIRCRAFT	MAKE	Cessna	MODEL	210D
	SERIAL NO.	21058252	NATIONALITY AND REGISTRATION MARK	N 3752Y
2. OWNER	NAME (As shown on registration certificate)		ADDRESS (As shown on registration certificate)	
	Western Coatings Co, Inc.		79762 2525 Country Club Dr, Odessa Tx.	

3. FOR FAA USE ONLY

4. UNIT IDENTIFICATION				5. TYPE	
UNIT	MAKE	MODEL	SERIAL NO.	REPAIR	ALTERATION
AIRFRAME	~~~~~ (As described in item 1 above) ~~~~~				X
POWERPLANT					
PROPELLER					
APPLIANCE	TYPE				
	MANUFACTURER				

6. CONFORMITY STATEMENT

A. AGENCY'S NAME AND ADDRESS Basin Aviation Midland Airpark Midland, Texas 79710	B. KIND OF AGENCY		C. CERTIFICATE NO. 207-506
	<input type="checkbox"/>	U.S. CERTIFICATED MECHANIC	
	<input type="checkbox"/>	FOREIGN CERTIFICATED MECHANIC	
	<input checked="" type="checkbox"/>	CERTIFICATED REPAIR STATION	
	<input type="checkbox"/>	MANUFACTURER	

D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

DATE	SIGNATURE OF AUTHORIZED INDIVIDUAL
8/25/88	<i>Leshie A. Barron</i> 2356328

7. APPROVAL FOR RETURN TO SERVICE

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED

BY	FAA FLT. STANDARDS INSPECTOR	MANUFACTURER	INSPECTION AUTHORIZATION	OTHER (Specify)
	FAA DESIGNEE	<input checked="" type="checkbox"/> REPAIR STATION	CANADIAN DEPARTMENT OF TRANSPORT INSPECTOR OF AIRCRAFT	
DATE OF APPROVAL OR REJECTION	CERTIFICATE OR DESIGNATION NO.	SIGNATURE OF AUTHORIZED INDIVIDUAL		
8/25/88	207-506	<i>Leshie A. Barron</i> 2356328		

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. DESCRIPTION OF WORK ACCOMPLISHED *(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)*

Removed: Mbt-12 marker beacon, Mark 12A Nav Com , p/s and indicator, Audio panel, audio amp, UDI-4 DME, and UGR-3 g/s receiver. Installed: New Narco Mark 12D with g/s and Indicator, new Narco CPL36M Audio panel, and avionics master. Using existing avionics mounting apparatus. All work done in compliance with AC 43.13 paragraphs 1 and 2 and current avionics manuals. A functional test of all the equipment listed on this 337 has been performed in accordance with 23.1301 and checked in accordance with 23.1431 for operating satisfactorily and did not adversely affect any other components in the aircraft. END

ADDITIONAL SHEETS ARE ATTACHED

MAJOR REPAIR AND ALTERATION
(Airframe, Powerplant, Propeller, or Appliance)

FOR FAA USE ONLY
OFFICE IDENTIFICATION

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form.

1. AIRCRAFT	MAKE Cessna	MODEL 210-D
	SERIAL NO. 21508252	NATIONALITY AND REGISTRATION MARK N-3752-Y
2. OWNER	NAME (As shown on registration certificate) Ways Arthur A Jr.	ADDRESS (As shown on registration certificate) 4516 Myerwood Lane Dallas Texas 75234

3. FOR FAA USE ONLY

4. UNIT IDENTIFICATION

5. TYPE

UNIT	MAKE	MODEL	SERIAL NO.	5. TYPE	
				REPAIR	ALTERATION
AIRFRAME	***** (As described in item 1 above) *****			XX	
POWERPLANT					
PROPELLER					
APPLIANCE	TYPE				
	MANUFACTURER				

6. CONFORMITY STATEMENT

A. AGENCY'S NAME AND ADDRESS Robert H. Card Card Aircraft, Inc. Rt 1 Box 32 Colonte, Texas 75423	B. KIND OF AGENCY <input checked="" type="checkbox"/> U.S. CERTIFICATED MECHANIC <input type="checkbox"/> FOREIGN CERTIFICATED MECHANIC <input type="checkbox"/> CERTIFICATED REPAIR STATION <input type="checkbox"/> MANUFACTURER	C. CERTIFICATE NO. A&P 101446 IA
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D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

DATE 10/16/76	SIGNATURE OF AUTHORIZED INDIVIDUAL <i>Robert H. Card</i>
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7. APPROVAL FOR RETURN TO SERVICE

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED

BY	FAA FLT. STANDARDS INSPECTOR	MANUFACTURER	<input checked="" type="checkbox"/> INSPECTION AUTHORIZATION	OTHER (Specify)
	FAA DESIGNEE	REPAIR STATION	CANADIAN DEPARTMENT OF TRANSPORT INSPECTOR OF AIRCRAFT	
DATE OF APPROVAL OR REJECTION 10/16/76	CERTIFICATE OR DESIGNATION NO. A&P 101446 IA	SIGNATURE OF AUTHORIZED INDIVIDUAL <i>Robert H. Card</i>		

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. DESCRIPTION OF WORK ACCOMPLISHED (If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

1 Repairs to left wing:

A Replaced rib assy. nose—Sta 208

B Replaced skin leading edge outbd--(tip)

2 This repair conforms to F.A.R. 43-13-1, section 3, and Cessna Service Manual 200 series.

3 This repair is listed in airframe log book.

Part No.

0720608-2

0720601-15

E N D

ADDITIONAL SHEETS ARE ATTACHED

MAJOR REPAIR AND ALTERATION
(Airframe, Powerplant, Propeller, or Appliance)

FOR FAA USE ONLY

OFFICE IDENTIFICATION

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form.

1. AIRCRAFT	MAKE Cessna	MODEL 210D
	SERIAL NO. 21058252	NATIONALITY AND REGISTRATION MARK N37521
2. OWNER	NAME (As shown on registration certificate) James A. Ball	ADDRESS (As shown on registration certificate) 10801 Garland Road Dallas, Texas 75218

3. FOR FAA USE ONLY

4. UNIT IDENTIFICATION

5. TYPE

UNIT	MAKE	MODEL	SERIAL NO.	5. TYPE	
				REPAIR	ALTERATION
AIRFRAME	***** (As described in item 1 above) *****				XX
POWERPLANT					
PROPELLER					
APPLIANCE	TYPE				
	MANUFACTURER				

6. CONFORMITY STATEMENT

A. AGENCY'S NAME AND ADDRESS John J. Hinton P.O. Box 123 Addison Texas 75001	B. KIND OF AGENCY <input checked="" type="checkbox"/> U.S. CERTIFICATED MECHANIC <input type="checkbox"/> FOREIGN CERTIFICATED MECHANIC <input type="checkbox"/> CERTIFICATED REPAIR STATION <input type="checkbox"/> MANUFACTURER	C. CERTIFICATE NO. A&P 494381
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D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

DATE 5-5-72	SIGNATURE OF AUTHORIZED INDIVIDUAL <i>John J. Hinton</i>
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7. APPROVAL FOR RETURN TO SERVICE

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED

BY	FAA FLT. STANDARDS INSPECTOR	MANUFACTURER	<input checked="" type="checkbox"/> INSPECTION AUTHORIZATION	OTHER (Specify)
	FAA DESIGNEE	REPAIR STATION	CANADIAN DEPARTMENT OF TRANSPORT INSPECTOR OF AIRCRAFT	

DATE OF APPROVAL OR REJECTION 5-5-72	CERTIFICATE OR DESIGNATION NO. A&P494381 AI	SIGNATURE OF AUTHORIZED INDIVIDUAL <i>John J. Hinton</i>
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NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. DESCRIPTION OF WORK ACCOMPLISHED (If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

1. Installation of Radair Mixture Sensor checked and found to conform to installation instruction as per STC SA 868 WE.

2. Installation of Mitchel Auto Pilot AK126E checked and found to conform to installation instructions as per STC 330 SW. Mitchel Service letter ML-32(AD72-2-6).

3. Empty Weight	1992.6
E.W.C.G.	37.05
Usefull Load	1102.9
Moment	73995.0

MAJOR REPAIR AND ALTERATION
(Airframe, Powerplant, Propeller, or Appliance)

FOR FAA USE ONLY

OFFICE IDENTIFICATION

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form.

1. AIRCRAFT	MAKE Cessna	MODEL 210 D
	SERIAL NO. 21058252	NATIONALITY AND REGISTRATION MARK N3752Y
2. OWNER	NAME (As shown on registration certificate) James A. Ball	ADDRESS (As shown on registration certificate) 10801 Garland Road Dallas, Texas 75218

3. FOR FAA USE ONLY

4. UNIT IDENTIFICATION

UNIT	MAKE	MODEL	SERIAL NO.	5. TYPE	
				REPAIR	ALTERATION
AIRFRAME	***** (As described in item 1 above) *****				X
POWERPLANT					
PROPELLER					
APPLIANCE	TYPE				
	MANUFACTURER				

6. CONFORMITY STATEMENT

A. AGENCY'S NAME AND ADDRESS UTL Aeronautics, Inc. 11711 E. Northwest Hwy. Dallas, Texas	B. KIND OF AGENCY <input type="checkbox"/> U.S. CERTIFICATED MECHANIC <input type="checkbox"/> FOREIGN CERTIFICATED MECHANIC <input checked="" type="checkbox"/> CERTIFICATED REPAIR STATION <input type="checkbox"/> MANUFACTURER	C. CERTIFICATE NO. CRS 202-13 Limited Radio
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D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

DATE May 6, 1970	SIGNATURE OF AUTHORIZED INDIVIDUAL <i>Jon L. Sagevets</i>
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7. APPROVAL FOR RETURN TO SERVICE

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED

BY	FAA FLT. STANDARDS INSPECTOR	MANUFACTURER	INSPECTION AUTHORIZATION	OTHER (Specify)
	FAA DESIGNEE	<input checked="" type="checkbox"/> REPAIR STATION	CANADIAN DEPARTMENT OF TRANSPORT INSPECTOR OF AIRCRAFT	

DATE OF APPROVAL OR REJECTION May 6, 1970	CERTIFICATE OR DESIGNATION NO. CRS 202-13	SIGNATURE OF AUTHORIZED INDIVIDUAL <i>Jon L. Sagevets</i>
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NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. DESCRIPTION OF WORK ACCOMPLISHED (If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

Installed Genave Beta/4096 ATC Transponder at Sta. #15.5. Installed Transponder antenna on belly of A/C at Sta. #13.0. Circuit of Beta/4096 is protected by a 5 Amp "In-line" fuse mounted in panel under ADF and labelled "Xponder". All work was performed in accordance with AC 43.13-2, Chapters 1, 2, 3, and Section 1. Electrical load computed to be 39.5 Amps and A/C is equipped with a 50 Amp. Generator.

Weight and Balance Data:

<u>Item</u>	<u>Weight</u>	<u>Arm</u>	<u>Moment</u>
A/C Empty	1992.6	37.1	73,925.5
Beta/4096	4.4	15.5	68.2
Xpndr Antenna	<u>0.1</u>	<u>13.0</u>	<u>1.3</u>
New A/C E. W. & CG	1997.1	37.05	73,995.0
New Useful Load - <u>1102.9 lbs.</u>		Gross wt. - <u>3100 lbs.</u>	

-----END-----

ADDITIONAL SHEETS ARE ATTACHED

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. DESCRIPTION OF WORK ACCOMPLISHED (If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

1. Removed cessna nav-com 300
2. Installed Narco ~~UDI-4~~, Narco MK12A with VOA9, and King KX-160. Receivers mounted in instrument panel radio mounting area using Cessna STD. mounting procedure. KX-160 and MK12A power supply located on Cessna radio shelf aft of wheel well (reference Cessna Electronics Manual Fig. 3-2 and 5-8) aft of receivers supported by Cessna mounting brkt. to aircraft structure.
3. Narco interconnect cable used. King KX-160 interconnect cable fabricated from MIL-W-5086 wire, size as specified. Circuit protection provided by trip free circuit breakers.
4. Electrical load computed to be 38 amps. aircraft equipped with 50 amp generator.
5. New empty weight 1992.5
New E.W. O.C. 37.10
New useful load 1107.4
6. Basis for approval; reference: AC43.13-2, chapters 1 & 2.

Approved by FAA dated 5/6/70
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ADDITIONAL SHEETS ARE ATTACHED