US Department of Transportation
Federal Aviation Administration

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

Form Approved OMB No. 2120-0020 2/28/2011 | Electronic Tracking Number

For FAA Use Only

INSTRUCTIONS: Print or type all entries. See Title 14 CFR §43.9, Part 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. §44701). Failure to report can result in a civil penalty for each such violation. (49 U.S.C. §46301(a))

1. Aircraft	Nationality and Registration Mark: USA N3372D	Serial No.: 32170	
	Make: CESSNA	Model: 180	Series:
2. Owner	Name *(As shown on registration certificate)*: YANOVER JOSEPH J	Address *(As shown on registration certificate)*: Address 2745 FOREST LODGE DR; City TRAVERSE CITY State MI; Zip 49685 Country USA	

3. For FAA Use Only

4. Type		5. Unit Identification			
Repair	Alteration	Unit	Make	Model	Serial No.
☐	☑	AIRFRAME	———	*(As described in Item 1 above)*	———
☐	☐	POWERPLANT			
☐	☐	PROPELLER			
☐	☐	APPLIANCE	Type / Manufacturer		

6. Conformity Statement

A. Agency's Name and Address	B. Kind of Agency		
Name MAYDAY AVIONICS, INC.	☐ U. S. Certificated Mechanic	☐ Manufacturer	
Address 5500 44TH ST SE	☐ Foreign Certificated Mechanic	C. Certificate No.	
City GRAND RAPIDS State MI	✓ Certificated Repair Station		
Zip 49512 Country USA	☐ Certificated Maintenance Organization	YXXR387Y	

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 ☐	Signature/Date of Authorized Individual
	Richard Brooks 9-22-16

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 Flt. Standards Inspector	☐	Manufacturer	☐	Maintenance Organization	☐	Persons Approved by Canadian Department of Transport
	☐	FAA Designee	✓	Repair Station	☐	Inspection Authorization		Other *(Specify)*

Certificate or Designation No.	Signature/Date of Authorized Individual
YXXR387Y	Edward Grant 9-22-16

FAA Form 337 (10-06)

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 N3372D	9-22-16
Nationality and Registration Mark	Date

GARMIN GTN 650 GPS-WAAS NAVIGATION SYSTEM
Installed a Garmin GTN 650 GPS-WAAS Navigation System as the #1 NAV/COM in accordance with the Garmin International, Inc. STC Number SA02019SE-D; Garmin GTN 6XX/7XX Installation Manual, P/N 190-01007-A3, Rev 9; AC 43.13-1B; and AC 43.13-2B.

The GTN 650 is located at the top of the left avionics stack in the pilot's subpanel. It displays its NAV/GPS steering information steering information a newly installed Garmin GI 106A CDI. The "NAV/GPS" source selection annunciator is located within the GI 106A and the GTN 650 display. A Delkin DWA-2000 Annunciation Unit was installed to display the required GPS-WAAS status annunciations and is located to the left of the GI 106A in the pilot's instrument panel. The GTN 650 receives a signal from a Garmin GA 35 GPS-WAAS Antenna located on top of the fuselage at Sta. 50.0. The GTN 650 is also interfaced to the newly installed GMA 340 Audio Panel and the JPI FS-450 Fuel Flow Indicator. Instructions for Continued Airworthiness for the GTN 650 are contained within the Garmin document number 190-01007-A1, Rev. 8, dated 2-25-16 (or later) as attached.

The Garmin GTN 650 GPS/WAAS Navigation System as installed in accordance with STC SA02019SE-D is approved for enroute, terminal area, non-precision approach operations (including "GPS", "or GPS", and "RNAV" approaches) and approach procedures with vertical guidance (including "LNAV/VNAV" and "LPV"). The Garmin, FAA Approved Airplane Flight Manual Supplement for the GTN 650, Document No. 190-01007-A2, Rev. 5, dated 2-25-16 (or later) is required and was placed in the Airplane Flight Manual.

All items were ground checked in accordance with their respective installation manuals for proper operation and to ensure no adverse reactions occurred to other onboard systems or equipment. Performed an Electrical Load Analysis for the above installation in accordance with the ASTM "Standard Guide for Aircraft Electrical Load and Power Source Capacity Analysis", Document No.: F 2490-05 and AC 43.13-1B, Chapter 11, paragraph 11-35/36.

All work performed in accordance with the Cessna 180 Series Service Manual, P/N D138, Rev 1; AC 43.13-1B, and AC 43.13-2B. Pertinent details of this installation are on file at this repair station under Work Order 56210. All pertinent Pilots Guides were placed in the aircraft. The weight/balance and equipment lists have been revised and a logbook entry completed.

<<<<<<<<<< END >>>>>>>>>>

☐ Additional Sheets Are Attached

United States of America

Department of Transportation - Federal Aviation Administration

Supplemental Type Certificate

Number **SA02019SE-D**

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

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

Original Product--Type Certificate Number: * See attached Federal Aviation Administration (FAA)
Make: Approved Model List (AML) SA02019SE-D for approved
Model: aircraft models and applicable airworthiness regulations.

Description of Type Design Change: Installation of Garmin GTN 6XX/7XX Navigation System in accordance with FAA approved Master Drawing List, 005 00533-C0, Revision 1, approved March 18, 2011 or later FAA approved revision. The Master Drawing List identifies applicable FAA approved Airplane Flight Manual Supplements and System Maintenance Manual (including Instructions for Continued Airworthiness).

Limitations and Conditions:

1) Compatibility of this design change with other previously approved modifications must be determined by the installer; installation of this change should not introduce any adverse effect on the aircraft.
2) A copy of this certificate and associated AML, plus the ICA and applicable AFMS, as called out by the applicable Master Drawing List (reference above), must be maintained as part of the permanent records for the modified aircraft.
3) 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.

(See Continuation Sheet on Page 3)

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: March 26, 2009
Date of issuance: March 18, 2011

Date reissued:
Date amended: December 19, 2012
November 25, 2014

FEDERAL AVIATION ADMINISTRATION

By direction of the Administrator

(Signature)
Michael Warren, ODA STC Unit Administrator
ODA-240087-CE, Garmin International, Inc.
(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.

United States of America

Department of Transportation - Federal Aviation Administration

Supplemental Type Certificate

(Continuation Sheet)

Number **SA02019SE-D**

Issued: March 18 2011

Reissued:

Amended: December 19, 2012, November 25, 2014

Certification Basis:

Based on 14 CFR 21.115 and 21.101, and the FAA policy for significant changes in FAA Order 8110.48, the applicant elected to comply with Title CFR 14 Part 23, dated February 1, 1965, including Amendments 23-1 through 23-61 for the change and all areas affected by the change. The following table lists the Federal Aviation Regulations complied with:

Section	Amdt		Section	Amdt
23.301(a)	23-48		23.1322(a)(b)(c)(d)(e)	23-43
23.303	23-0		23.1329(h)	23-49
23.305 All	23-45		23.1331(a)(b)(1)	23-43
23.307(a)	23-0		23.1351(a)	23-49
23.337(a)(b)(c)	23-48		23.1353(h)	23-49
23.561(a)(b)(3)(e)	23-48		23.1357(a)(b)(d)	23-43
23.601	23-0		23.1359(c)	23-49
23.603 All	23-23		23.1365(a)(b)(d)(e)	23-49
23.607(b)	23-48		23.1367(a)(b)(c)(d)	23-0
23.611	23-48		23.1381(a)(b)(c)	23-0
23.613(a)(b)	23-45		23.1431(a)(b)(d)(e)	23-49
23.627	23-0		23.1501(a)(b)	23-21
23.771(a)	23-14		23.1523 All	23-34
23.773(a)(2)	23-45		23.1525 All	23-45
23.777(a)(b)	23-51		23.1529 All	23-26
23.1301(a)(b)(c)(d)	23-20		23.1541(a)(2)(b)	23-21
23.1306(b)	23-61		23.1555(a)(b)(e)(2)	23-50
23.1307	23-49		23.1559(c)	23-50
23.1308(b)(c)	23-57		23.1581(a)(b)(c)(f)	23-50
23.1309(a)(b)(c)(1)(e)	23-49		23.1583(h)(m)	23-50
23.1311(a)(1-4)(6)(7)	23-49		23.1585(j)	23-50
23.1321(a)(c)(e)	23-49			

Note 1) For installations of this STC, as amended November 25, 2014 or later, the certification basis has been updated to include the regulations listed below. The added regulations are for changes associated with installation of Flight Stream 210 LRU.
23.853(a)(d)(3)(v)(f) Amdt 23-62

----------END----------

FAA Approved Model List (AML) STC SA02019SE-D

Aircraft Make (TCDS Holder) [common name or previous make]	Aircraft Model	Type Certificate Number	TC Certification Basis *	Master Drawing List		AML Revision Date	Limitations / Notes
				Document Number	Revision (or later FAA approved revision)		
Cessna (Cessna Aircraft Company)	185, 185A, 185B, 185C, 185D, 185E, A185E, A185F	3A24	CAR 3	005-00533-C0	1	3/18/2011 Original	
Cessna (Cessna Aircraft Company)	320, 320A, 320B, 320C, 320D, 320E, 320F, 320-1, 335, 340, 340A	3A25	CAR 3	005-00533-C0	1	3/18/2011 Original	
Cessna (Cessna Aircraft Company)	140A	5A2	CAR 3	005-00533-C0	1	3/18/2011 Original	
Cessna (Cessna Aircraft Company)	180, 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, 180J, 180K	5A6	CAR 3	005-00533-C0	1	3/18/2011 Original	
Cessna (Cessna Aircraft Company)	177, 177A, 177B	A13CE	FAR 23	005-00533-C0	1	3/18/2011 Original	
Cessna (Cessna Aircraft Company)	F150F, F150G, F150H, F150J, F150K, F150L, F150M, F152, FA150K, FA150L, FA150M, FA152, FRA150L, FRA150M	A13EU	CAR 3	005-00533-C0	5	12/19/2012 Revised	
Cessna (Cessna Aircraft Company)	207, 207A, T207, T207A	A16CE	FAR 23	005-00533-C0	1	3/18/2011 Original	
Cessna (Cessna Aircraft Company)	177RG	A20CE	FAR 23	005-00533-C0	1	3/18/2011 Original	
Cessna (Cessna Aircraft Company)	F337E, FT337E, F337F, FT337F, F337G, FT337GP, F337H, FT337HP	A23EU	FAR 23	005-00533-C0	5	12/19/2012 Revised	
Cessna (Cessna Aircraft Company)	404, 406	A25CE	FAR 23	005-00533-C0	1	3/18/2011 Original	
Cessna (Cessna Aircraft Company)	F177RG	A26EU	FAR 23	005-00533-C0	5	12/19/2012 Revised	
Cessna (Cessna Aircraft Company)	441	A28CE	FAR 23	005-00533-C0	1	3/18/2011 Original	
Cessna (Cessna Aircraft Company)	336	A2CE	CAR 3	005-00533-C0	1	3/18/2011 Original	
Cessna (Cessna Aircraft Company)	T303 (Crusader)	A34CE	FAR 23	005-00533-C0	1	3/18/2011 Original	
Cessna (Cessna Aircraft Company)	208, 208B	A37CE	FAR 23	005-00533-C0	1	3/18/2011 Original	

4 INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

4.1 Airworthiness Limitations

There are no additional Airworthiness Limitations as defined in 14 CFR §23, Appendix G, G23.4 that result from this modification.

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

25-FEB-2016

FAA APPROVED

Michael Warren
ODA STC Unit Administrator
ODA-240087-CE

Date

4.2 Servicing Information

The GTN, GMA, and Flight Stream 210 do not require servicing. In the event of system failure, troubleshoot the GTN 6XX/7XX, Flight Stream 210, and GMA 35 in accordance with section 5.

4.2.1 Periodic Maintenance

The GTN and GMA 35 are designed to detect internal failures. A thorough self-test is executed automatically upon application of power to the units. The built-in tests (BIT) are continuously executed. Detected errors are indicated as failure annunciations, system messages, or a combination of the two.

Antenna installations are not covered under this STC. Inspect and maintain all antennas in accordance with the data provided for that specific antenna installation.

4.2.2 Special Tools

A milliohm meter with an accuracy of +/- 0.1 milliohms (or better) is required to measure the electrical bonding between the GTN/GMA system components and aircraft ground.

4.3 Maintenance Intervals

Table 4-1 Periodic Maintenance

Item	Description/Procedure	Interval
Equipment Removal and Replacement	Removal and replacement of the following items. See section 6 of this document for instructions. • GTN 6XX/7XX, Flight Stream 210, or GMA 35 units • NAV antenna cable splitter • NAV antenna cable diplexer • Fan	On Condition
Cleaning the Front Panel	The front bezel, keypad, and display can be cleaned with a soft cotton cloth dampened with clean water. DO NOT use any chemical cleaning agents. Care should be taken to avoid scratching the surface of the display.	On Condition
Display Backlight	The display backlight LEDs are rated by the manufacturer as having a usable life of at least 36,000 hours. This life may be more or less than the rated time depending on the operating conditions of the GTN. Over time the backlight lamp may dim and the display may not perform as well in direct sunlight conditions. The user must determine by observation when the display brightness is not suitable for its intended use. Contact the Garmin factory repair station when the backlight lamp requires service.	On Condition
Battery Replacement	The GTN has an internal keep-alive battery that will last about 10 years. The battery is used for GPS system information. Regular planned replacement is not necessary. The GTN will display a "low battery" message when replacement is required. Once the low battery message is displayed, the battery should be replaced within 1 to 2 months. If the battery is not replaced and becomes totally discharged, the GTN unit will remain fully operational, but the GPS signal acquisition time may be increased. There is no loss of function or accuracy of the GTN unit with a dead battery. The battery must be replaced by the Garmin factory repair station or factory authorized repair station.	On Condition
Test - Bonding Check	Perform an electrical bonding check of the GTN, GMA 35 (if installed), and Flight Stream 210 (if installed) per section 4.5.	Every 10 years or 2000 flight hours, whichever comes first.
Test TVS Lightning Protection	The GTN #1 main power input has a TVS located at the LRU, for **IFR non-metallic aircraft only**. TVS1 and TVS2 must be checked or replaced in accordance with section 4.6.	24 Calendar Months

Item	Description/Procedure	Interval
Test Lightning Protection	The GTN #1 main power input and NAV power input will have a TVS located at the LRU, for **IFR non-metallic aircraft only**. TVS1 and TVS2 must be replaced in accordance with section 6.9. Conduct a visual check of the GPS/SBAS antenna cable overbraid in accordance with section 4.7. Conduct a visual check of the WXR cable overbraid in accordance with section 4.8 if installed.	After a suspected or actual lightning strike
Visual Inspection	The GTN unit, GMA 35 (if installed), Flight Stream 210 (if installed), switches, and wiring harnesses should be inspected to ensure continued integrity of the installation. These items must be inspected in accordance with section 4.4.	12 Calendar Months

4.4 Visual Inspection

CAUTION

Take care when tightening the mounting screws of the Flight Stream 210. Excessive tightening may damage the mounting flange.

Conduct a visual check of the GTN unit(s), switches, GMA 35 (if installed) and Flight Stream 210 (if installed), and their wiring harnesses to ensure continued installation integrity.

1. Inspect the GTN unit(s), GMA 35, and Flight Stream 210 for security of attachment, including visual inspection of mounting racks and other supporting structure attaching the racks to aircraft instrument panel.
   - **GTN 6XX/7XX -** Verify the countersunk fastener heads are in full contact with the unit mounting rack holes. Re-torque the mounting screws 12-15 in-lbs if required.
   - **GMA 35 -** If the GMA 35 is installed, verify the countersunk fastener heads are in full contact with the unit mounting rack holes. Re-torque the GMA 35 mounting screws to 8.5-9.5 in-lbs if required. For installations that use a hook and loop fastener to secure the GMA 35c Bluetooth antenna mount, ensure the hook and loop bond is firm. If the hook and loop fastener is worn, replace.
   - **Flight Stream 210 -** If the Flight Stream 210 is installed and screws are not securely attached, tighten any loose Flight Stream 210 mounting screws as necessary to snug plus one-quarter turn. If required, re-torque bonding strap hardware to 12-15 in-lbs.
2. Inspect for signs of corrosion.
3. Inspect all switches, knobs, and buttons for damage.
4. Inspect condition of wiring, shield terminations, routing, and attachment/clamping.
5. Check the fan intake slots on the sides and bottom of the GTN unit's bezel for dust, dirt, or obstructions. Clean as needed.
6. Conduct a visual check of the GPS/SBAS antenna cable overbraid (if installed).
7. Conduct a visual check of the WXR cable overbraid (if installed).
8. Conduct a visual check of any bonding strap or conductive tape used for electrical bonding or RF ground plane (if installed).
9. Replace any damaged or torn strap. See section 6.12 or section 6.13 for details.
10. Replace any torn bonding tape using a heavy duty aluminum foil tape such as 3M P/N 436, 438 or other foil with aluminum that is 7.2 mils thick or greater. If strap termination hardware is loose, tighten and retest bonding. See section 4.5 for details.

4.5 Electrical Bonding Test

4.5.1 GTN Bonding Check (Metallic or Tube/Fabric Aircraft)

NOTE

If the GMA 35 is installed (GTN 7XX only), it must be removed from its rack and the GMA 35 backplate assembly must be removed prior to performing Step 3. When a GMA 35 bonding check is planned, perform the GMA 35 bonding check prior to reinstalling the GTN backplate assembly to the rack.

NOTE

A bonding test failure may occur if a fastener is not secured to the specified torque value. For installations that use screws in lieu of rivets to secure the rack to surrounding structure, verify that the screws are torqued to the appropriate value before proceeding to remove the rack. See section 4.4 for torque values.

NOTE

In the event of bonding test failure, remove the GTN rack, clean the attachment points with a bonding brush at both the GTN rack and the aircraft, and reattach the rack to the rails in the panel. Measure the resistance between the mounting rack and nearby exposed portion of aircraft metallic structure and ensure that the resistance is less than or equal to 2.5 milliohms.

Perform an electrical bonding check as follows.

1. Remove the GTN 6XX or GTN 7XX from the mounting rack.
2. Remove the backplate assembly from the rack.
3. Measure the resistance between the mounting rack and nearby exposed portion of aircraft metallic structure and verify it is less than or equal to 10 milliohms.
4. Reinstall the backplate assembly and reinstall the GTN in the mounting rack.

4.5.2 GTN (Composite Aircraft)

NOTE

For GTN 7XX only, if the GMA 35 is installed, it must be removed from its rack and the GMA 35 backplate assembly must be removed prior to performing Step 3.

NOTE

A bonding test failure may occur if a fastener is not secured to the specified torque value. For installations that use screws in lieu of rivets to secure the rack to surrounding structure, verify that the screws are torqued to the appropriate value before proceeding to remove the rack. See section 4.4 for torque values.

Perform an electrical bonding check as follows:

1. Remove the GTN 6XX or GTN 7XX from the mounting rack.
2. Remove the backplate assembly from the rack.
3. Measure the resistance between the mounting rack and the instrument panel, verify it is less than or equal to 10 milliohms.

In the event of bonding test failure, remove the GTN rack, clean the attachment points with a bonding brush at both the GTN rack and the aircraft, and reattach the rack to the rails in the panel. Measure the resistance between the mounting rack and the instrument panel and ensure that the resistance is less than or equal to 5 milliohms.

4. Reinstall the backplate assembly and reinstall the GTN in the mounting rack.

4.5.3 GMA 35 (Metallic or Tube/Fabric Aircraft)

NOTE

A bonding test failure may occur if a fastener is not secured to the specified torque value. For installations that use screws in lieu of rivets to secure the rack to surrounding structure, verify that the screws are torqued to the appropriate value before proceeding to remove the rack. See section 4.4 for torque values.

NOTE

The GTN 7XX backplate assembly must be removed from the GTN rack prior to performing Step 4.

A bonding check is required for the GMA 35. Perform an electrical bonding check as follows:

1. Gain access to the GMA 35 by removing the GTN 7XX.
2. Remove the GMA unit from the mounting rack.
3. Remove backplate assembly from the rack.
4. Measure the resistance between the mounting rack and nearby exposed portion of aircraft metallic structure and verify it is less than or equal to 10 milliohms.

In the event of bonding test failure, remove the GMA 35 rack and clean the attachment points with a bonding brush at both the GMA rack and the aircraft attachment points. Measure the resistance between the mounting rack and nearby exposed portion of aircraft metallic structure and ensure that the resistance is less than or equal to 2.5 milliohms.

5. Reinstall the backplate assembly and reinstall the GMA unit in the mounting rack.

4.5.4 GMA 35 (Composite Aircraft)

NOTE

A bonding test failure may occur if a fastener is not secured to the specified torque value. For installations that use screws in lieu of rivets to secure the rack to surrounding structure, verify that the screws are torqued to the appropriate value before proceeding to remove the rack. See section 4.4 for torque values.

NOTE

The GTN 7XX backplate assembly must be removed from the GTN rack prior to performing Step 4.

1. Gain access to the GMA 35 by removing the GTN 7XX.
2. Remove the GMA unit from the mounting rack.
3. Remove the backplate assembly from the rack.
4. Measure the resistance between the mounting rack and the instrument panel, and verify it is less than or equal to 10 milliohms.

In the event of bonding test failure, remove the GMA 35 rack and clean the attachment points with a bonding brush at both the GMA rack and the aircraft attachment points. Re-verify the resistance between the mounting rack and the instrument panel and ensure that the resistance is less than or equal to 5 milliohms.

5. Reinstall the backplate assembly and reinstall the GMA unit in the mounting rack.

4.5.5 Flight Stream 210 (Metallic or Tube/Fabric Aircraft)

1. Disconnect the shield terminations from the Flight Stream connector backshell.
2. Measure the resistance between the connector and nearby exposed portion of aircraft metallic structure and check that it is less than or equal to 20 milliohms.

In the event of bonding test failure, remove the Flight Stream connector bonding strap from the aircraft ground plane and clean the attachment point with a bonding brush. Re-attach the bonding strap to the aircraft ground plane, torque to 12-15 in-lbs. Measure the resistance between the Flight Stream connector and aircraft structure, ensuring that the resistance is less than or equal to 10 milliohms. If cleaning the far side of the strap is not enough, remove, clean, and reattach on the Flight Stream 210 side.

3. Connect the shield terminations to the Flight Stream connector backshell.

4.5.6 Flight Stream 210 (Composite Aircraft)

1. Disconnect the shield terminations from the Flight Stream connector backshell.
2. Measure the resistance between the connector and instrument panel (or other aircraft ground) and check that it is less than or equal to 20 milliohms.

In the event of bonding test failure, remove the Flight Stream connector bonding strap from the aircraft ground plane and clean the attachment point with a bonding brush. Re-attach the bonding strap to the aircraft ground plane, torque to 12-15 in-lbs. Measure the resistance between the Flight Stream connector and aircraft ground, ensuring that the resistance is less than or equal to 10 milliohms. If cleaning the far side of the strap is not enough, remove, clean, and reattach on the Flight Stream 210 side.

3. Connect the shield terminations to the Flight Stream connector backshell.

4.6 Transient Voltage Suppressor (TVS) (If Installed)

After a suspected lightning strike, each TVS and TVS assembly (if installed) must be replaced. See section 6.9 for information on installing in-line TVSs.

4.6.1 GTN TVS1 Check (GTN #1 Only)

NOTE

The GTN should be the only LRU connected to the NAV/GPS circuit breaker. If other equipment is connected to the NAV/GPS circuit breaker, it must be disconnected prior to conducting the following check. No other TVS devices should be on this circuit. If the TVS being checked is not isolated, erroneous readings may result.

For a dual GTN installation, only GTN #1 will have the TVS protection. The following checks will only apply to GTN #1. Reference the appropriate GTN power interconnect drawings. To check the TVS on the GTN power inputs, the following steps should be followed.

1. Remove the GTN as described in section 6.1.
2. Open the GTN's circuit breaker and use a multi-meter to perform a diode check between P1001-19 and ground:
   a. The meter should indicate open with the red lead on P1001-19 and the black lead on ground.
   b. The meter should indicate a diode drop of between 2.0V and 2.5V with the red lead on ground and the black lead on P1001-19.
      i) If the diode drop is outside of the above range, replace the TVS.
      ii) If the meter indicates a short during steps 2a or 2b, replace the TVS.
      iii) If the meter indicates an open in both directions, check the continuity of the fuse.
      iv) If the fuse is open, replace the fuse and repeat the check.
      v) If the fuse is good, check the wiring for faults. If the wiring is good, replace the TVS.
3. Verify continuity between P1001-19 and P1001-20.
4. Reinstall the GTN as described in section 6.1 and reset the GTN's circuit breaker.

4.6.2 GTN TVS2 Assembly Check (GTN #1 Only)

The TVS assembly (see section 6.9) and fuse on the power bus side of GTN #1 must be inspected. Verify operation of all four TVSs prior to replacing any failed TVS.

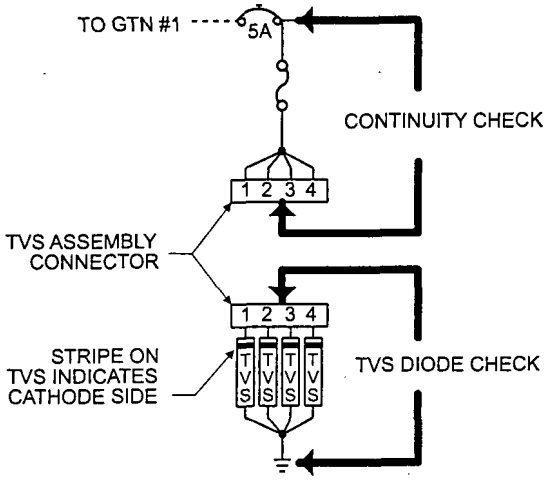

Figure 4-1 TVS Assembly Check

Check the TVS assembly (TVS2) as follows:

1. Ensure that the power to the bus is off and disconnect the connector in the TVS assembly.
2. Use a multi-meter to perform a diode check between the first connector contact (socket contact on the first TVS) and ground. See figure 4-1 for additional details.
3. The meter should indicate open with the red lead on the connector socket contact and the black lead on ground.
    a. The meter should indicate a diode drop of between 2.0V and 2.5V with the red lead on ground and the black lead on the connector socket contact.
        i) If the diode drop is outside of the above range, replace the TVS diode corresponding to the contact being checked.
        ii) If the meter indicates a short, replace the TVS diode corresponding to the contact being checked.
        iii) If the meter indicates an open, check the wiring for faults. If the wiring is good, replace the TVS diode corresponding to the contact being checked.
4. Repeat checks in the previous step for each of the three remaining contacts/TVS diodes.
5. On the other connector, verify continuity between each of the four contacts and the power bus.
    a. If there is no continuity between the power bus and all four contacts, check the continuity of the fuse.
    b. If there is continuity between the power bus and some contacts but not others, check the wiring to the open contacts and repair as necessary.
6. Reconnect the connector in the TVS assembly.

4.7 GPS/SBAS Antenna Cable Overbraid Inspection (If Installed)

The GPS/SBAS antenna cable overbraid must be inspected after a known or suspected lightning strike. Check the antenna and overbraid for the following:

1. Check the cable overbraid for pinching, melting or evidence of arcing at the GPS/SBAS antenna end and at the GTN 6XX/7XX.
2. Check the lug at the GTN end for evidence of arcing and verify that the lug is still secured to the overbraid and to the GTN connector shield block.
3. Check that the overbraid is securely attached at the GPS/SBAS antenna end and at the GTN6XX/7XX.

If any of these checks shows evidence of a lightning strike, replace the overbraid assembly in accordance with section 6.10.

4.8 WXR HSDB Cable Overbraid Inspection (If Installed)

The WXR HSDB cable overbraid must be inspected after a known or suspected lightning strike. Check the overbraid for the following:

1. Check the cable overbraid for pinching, melting or evidence of arcing at the WXR end and at the bulkhead to which the WXR R/T is mounted.
2. Check the lug at the WXR end for evidence of arcing and verify that the lug is still secured to the overbraid and to the WXR shield block.
3. Check that the overbraid is securely attached at the bulkhead end.

If any of these checks shows evidence of a lightning strike, replace the overbraid assembly in accordance with section 6.11.

Garmin International, Inc.
1200 E. 151st Street
Olathe, Kansas 66062 U.S.A.

FAA APPROVED

AIRPLANE FLIGHT MANUAL SUPPLEMENT
or
SUPPLEMENTAL AIRPLANE FLIGHT MANUAL
for the
Garmin GTN 625, 635, 650, 725, or 750 GPS/SBAS Navigation System
as installed in

Cessna, 180
Make and Model Airplane

Registration Number: N3372D Serial Number: 32170

This document serves as an Airplane Flight Manual Supplement or as a Supplemental Airplane Flight Manual when the aircraft is equipped in accordance with Supplemental Type Certificate SA02019SE-D for the installation and operation of the Garmin GTN 625, 635, 650, 725, or 750 GPS/SBAS Navigation System. This document must be incorporated into the FAA Approved Airplane Flight Manual or provided as an FAA Approved Supplemental Airplane Flight Manual.

The information contained herein supplements the information in the FAA Approved Airplane Flight Manual. For limitations, procedures, loading and performance information not contained in this document, refer to the FAA Approved Airplane Flight Manual, markings, or placards.

FAA Approved By: 

Michael Warren
ODA STC Unit Administrator
Garmin International, Inc.
ODA-240087-CE

Date: 25-FEB-2016

LOG OF REVISIONS				
	Page			
Revision Number	Date	Number	Description	FAA Approved
1	03/18/11	All	Complete Supplement	*Robert Grove* ODA STC Unit Administrator Garmin International, Inc. ODA-240087-CE Date: *03/18/2011*
2	12/18/12	6	Table 1 • Added new functions	*Michael Warren* ODA STC Unit Administrator Garmin International, Inc. ODA-240087-CE Date: *12/18/2012*
		8	Section 1.2 • Added capabilities checkboxes • Added GPS approaches without vertical • Added reference to EASA AMC 20-4	
		10	Section 1.3 • Removed suggestion for secondary charts • Changed to Type B Software in accordance with AC 120-76B.	
		10	Section 1.4 • Added ADS-B, AEG, FIS-B, NOTAM, TFR	
		12	Section 2.2 • Removed VFR only limitation	
		12	Section 2.3 • Clarified secondary navigation source requirement	
		18	Section 2.14 • Modified datalinked weather limitations	
		18	Section 2.16 • Modified limitation	

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	Page			
Revision Number	Date	Number	Description	FAA Approved
		19	Section 2.17 • Modified limitation	
		19	Section 2.21 • New limitation	
		24 & 25	Section 3.2.8 and 3.2.9 • Modified section title	
		25	Section 3.2.10 • New section	
		26	Section 4.1 • Added telephone audio deactivation	
		27	Section 4.3 • Modified caution statement	
		27	Section 4.4 • Added caution statement	
		29	Section 4.6 • New section	
		31	Section 7.7 • Added TCAD and GDL 88 as optional traffic systems	
		32	Section 7.8 • Modified Heading Not Available operation	
		34 - 35	Sections 7.12 – 7.16 • New sections	
3	03/26/13	20	Section 2.17 Modified limitation	*Michael Warren* ODA STC Unit Administrator Garmin International, Inc. ODA-240087-CE Date: *04/12/2013*
4	11/24/14	7	Table 1 • Added new functions	
		11	Section 1.4	

LOG OF REVISIONS				
	Page			
Revision Number	Date	Number	Description	FAA Approved
			• New section	*Michael Warren* ODA STC Unit Administrator Garmin International, Inc. ODA-240087-CE Date: *11/25/2014*
		16	Section 2.7 • Modified limitation	
		18	Section 2.12 • Added wire obstacles	
		20	Section 2.21 • Modified limitation	
		20 & 21	Section 2.22 & 2.23 • Added limitations	
		26	Section 3.2.10 • Added Flight Stream 210 to procedure	
		27	Section 4.1 • Removed telephone audio deactivation procedure	
		32	Section 7.5 • Added wire obstacles	
		34	Section 7.9 • Added Flight Stream 210	
		34	Section 7.10 • Added wire obstacles	
		37	Section 7.17 Added section	
5	02/25/16	All	All Sections • Reformatted and updated sections to better coincide with the VFR AFMS. Section 2 • Added RF leg description and limitations • Added QFE limitations • Added Autopilot limitations	See Page i

LOG OF REVISIONS				
	Page			
Revision Number	Date	Number	Description	FAA Approved
			• Added polar operation limitation • Added text regarding new data units in the GTN • Added Fuel Range Ring description and limitations • Added Flight Stream 210 limitation <u>Section 4</u> • Added autopilot capability assessment regarding RF legs • Updated installer descriptions of configuration checkboxes • Added Search and Rescue autopilot note • Added RNP 1.0 installation options <u>Section 7</u> • Added GMA 35c information • Removed references to GDL 88 and replaced with generic ADS-B • Added GWX 70 turbulence detection note • Added GTN crossfill information	

Table of Contents

Section 1. General

1.1 Garmin GTN Navigators

The Garmin GTN navigation system is a GPS system with a Satellite Based Augmentation System (SBAS), comprised of one or more Garmin TSO-C146c GTN 625, 635, 650, 725, or 750 navigator(s) and one or more Garmin approved GPS/SBAS antenna(s). The GTN navigation system is installed in accordance with AC 20-138A.

	GTN 625	GTN 635	GTN 650	GTN 725	GTN 750
GPS SBAS Navigation: • Oceanic, enroute, terminal, and non-precision approach guidance • Precision approach guidance (LP, LPV)	X	X	X	X	X
VHF Com Radio, 118.00 to 136.990, MHz, 8.33 or 25 kHz increments		X	X		X
VHF Nav Radio, 108.00 to 117.95 MHz, 50 kHz increments			X		X
LOC and Glideslope non-precision and precision approach guidance for Cat 1 minimums, 328.6 to 335.4 MHz tuning range			X		X
Moving map including topographic, terrain, aviation, and geopolitical data	X	X	X	X	X
Display of datalink weather products, SiriusXM, FIS-B, Connext (all optional)	X	X	X	X	X
Control and display of airborne weather radar (optional)				X	X
Display of terminal procedures data (optional)				X	X
Display of traffic data, including ADS-B (optional)	X	X	X	X	X
Display of StormScope® data (optional)	X	X	X	X	X
Display of marker beacon annunciators (optional)	X*	X*	X*	X	X
Remote audio panel control (optional)				X	X
Remote transponder control (optional)	X	X	X	X	X
Remote audio entertainment datalink control (optional)	X	X	X	X	X
TSO-C151c Class B TAWS (optional)	X	X	X	X	X
Supplemental calculators and timers	X	X	X	X	X
Control of GSR 56 Iridium Satellite Phone and SMS Text	X	X	X	X	X
Control of Flight Stream 210 (optional)	X	X	X	X	X

* Display of marker beacon annunciations on the GTN 6XX is only possible when installed with a Garmin GMA 350 audio panel.

Table 1 – GTN Functions

The GPS navigation functions and optional VHF communication and navigation radio functions are operated by dedicated hard keys, a dual concentric rotary knob, or the touchscreen.

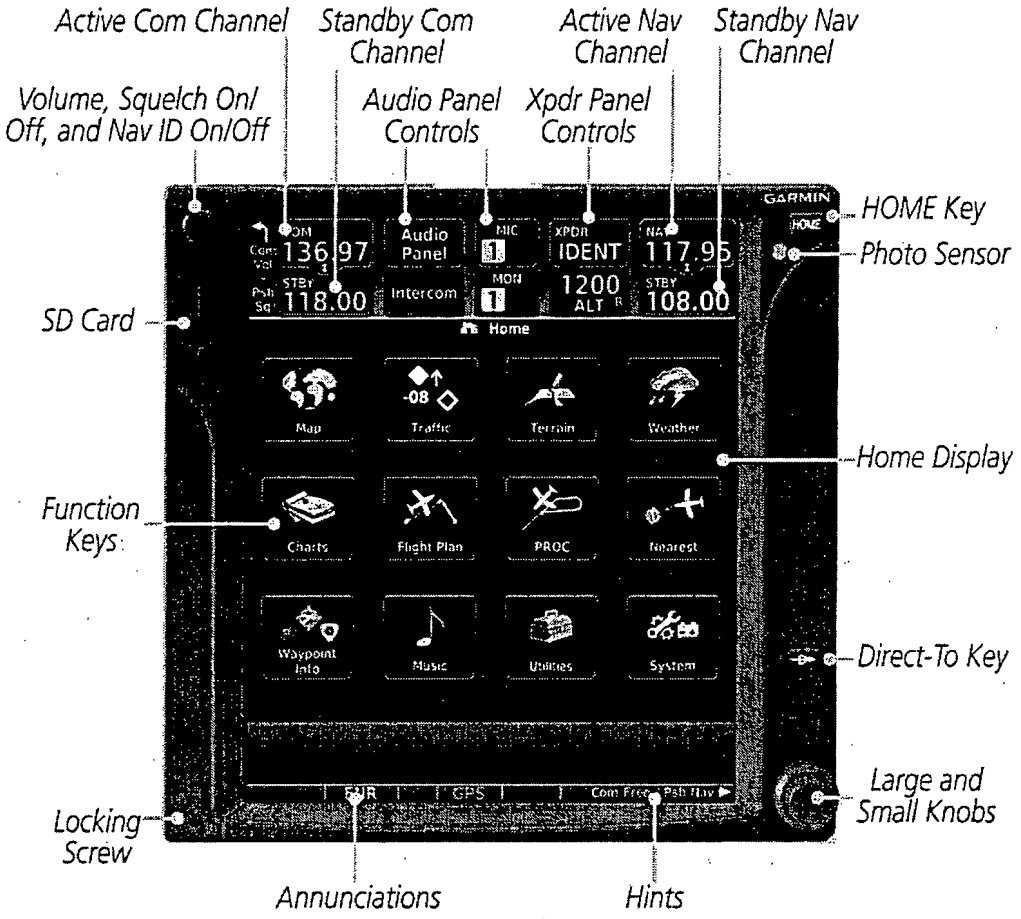


Figure 1 - GTN 750 Control and Display Layout

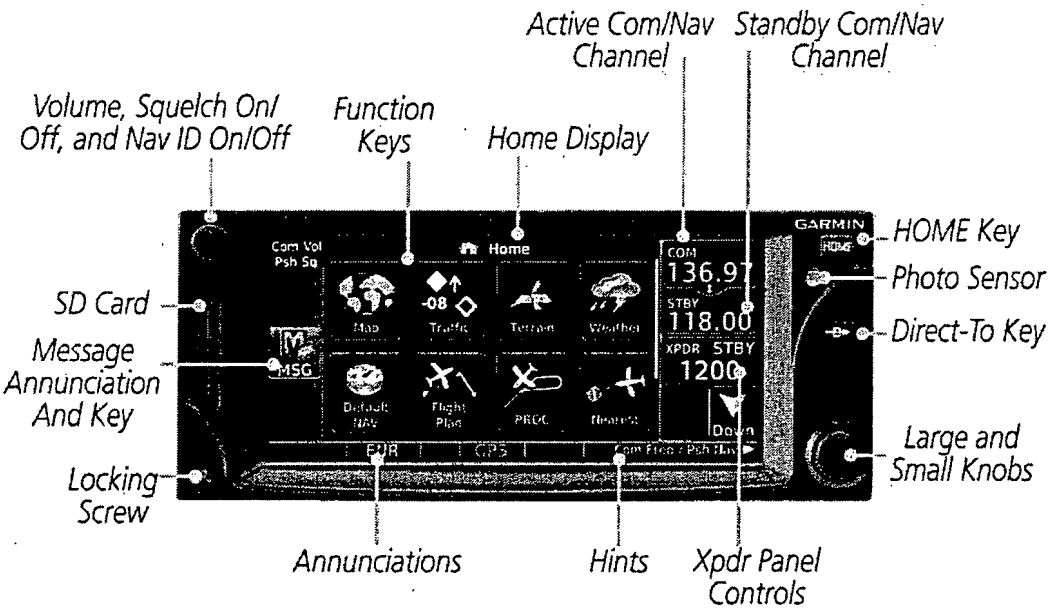


Figure 2 - GTN 635/650 Control and Display Layout

1.2 System Capabilities

This Flight Manual Supplement documents the installed capabilities of the GTN specific to the aircraft for which this manual is created.

NOTE

In sections which contain a square checkbox (□) the installer will have placed an "X" in the boxes next to the capabilities applicable to the installation.

The GTN system and associated navigation interface in this aircraft have the following capabilities, in addition to the core multifunction display capability:

- ☒ VHF Communication Radio
- ☒ Primary VHF Navigation
- ☒ Primary GPS Navigation (Enroute) and Approach Capability (LP/LNAV) – See below
- ☒ Primary GPS Approach Capability with Vertical Guidance (LNAV/VNAV, LPV) – See below
- ☐ TSO-C151c Terrain Awareness and Warning System – See section 2.15

GPS/SBAS TSO-C146c Class 3 Operation

The GTN complies with AC 20-138A and has airworthiness approval for navigation using GPS and SBAS (within the coverage of a Satellite Based Augmentation System complying with ICAO Annex 10) for IFR enroute, terminal area, and non-precision approach operations (including those approaches titled "GPS", "or GPS", and "RNAV (GPS)" approaches). The Garmin GNSS navigation system is composed of the GTN navigator and antenna, and is approved for approach procedures with vertical guidance including "LPV" and "LNAV/VNAV" and without vertical guidance including "LP" and "LNAV," within the U.S. National Airspace System.

The Garmin GNSS navigation system complies with the equipment requirements of AC 90-105 and meets the equipment performance and functional requirements to conduct RNP terminal departure and arrival procedures and RNP approach procedures including procedures with RF legs subject to the limitations herein. Part 91 subpart K, 121, 125, 129, and 135 operators require operational approval from the FAA.

The Garmin GNSS navigation system complies with the equipment requirements of AC 90-100A for RNAV 2 and RNAV 1 operations. In accordance with AC 90-100A, Part 91 operators (except subpart K) following the aircraft and training guidance in AC 90-100A are authorized to fly RNAV 2 and RNAV 1 procedures. Part 91 subpart K, 121, 125, 129, and 135 operators require operational approval from the FAA.

Applicable to dual installations consisting of two Garmin GNSS units: The Garmin GNSS navigation system has been found to comply with the requirements for GPS Class II oceanic and remote navigation (RNP-10) without time limitations in accordance with AC 20-138A and FAA Order 8400.12A. The Garmin GNSS navigation system can be used without reliance on other long-range navigation systems. This does not constitute an operational approval.

The Garmin GNSS navigation system has been found to comply with the navigation requirements for GPS Class II oceanic and remote navigation (RNP-4) in accordance with AC 20-138A and FAA Order 8400.33. The Garmin GNSS navigation system can be used without reliance on other long-range navigation systems. Additional equipment may be required to obtain operational approval to utilize RNP-4 performance. This does not constitute an operational approval.

The Garmin GNSS navigation system complies with the accuracy, integrity, and continuity of function, and contains the minimum system functions required for P-RNAV operations in accordance with JAA Administrative & Guidance Material Section One: General Part 3: Temporary Guidance Leaflets, Leaflet No 10 (JAA TGL-10 Rev 1). The GNSS navigation system consists of one or more TSO-C146c Class 3 approved Garmin GTN Navigation Systems. The Garmin GNSS navigation system complies with the accuracy, integrity, and continuity of function, and contains the minimum system functions required for B-RNAV operations in accordance with EASA AMC 20-4. The Garmin GNSS navigation system complies with the equipment requirements for P-RNAV and B-RNAV/RNAV-5 operations in accordance with AC 90-96A CHG 1. This does not constitute an operational approval.

Garmin International holds an FAA Type 2 Letter of Acceptance (LOA) in accordance with AC 20-153 for database integrity, quality, and database management practices for the navigation database. Flight crew and operators can view the LOA status at FlyGarmin.com then select "Type 2 LOA Status."

Navigation information is referenced to the WGS-84 reference system.

Note that for some types of aircraft operation and for operation in non-U.S. airspace, separate operational approval(s) may be required in addition to equipment installation and airworthiness approval.

Advanced RNP Capabilities

The GTN includes 3 out of 6 of the features required for operations in airspace requiring Advance RNP based on the *ICAO document 9613 Performance Based Navigation (PBN) Manual, fourth edition, 2013* and is therefore not approved for Advanced RNP operations. The following table describes the six Advanced RNP capabilities and the GTN capabilities.

Advanced RNP Feature	GTN Capability
RF legs	Available if enabled for installation. See Section 2.12 for limitations.
Parallel offsets	Available.
Scalable RNP	GTN provides CDI scalability in compliance with TSO-C146c. RNP scalability is not available.
RNAV holding	Available.
Fixed radius transitions	Not available in GTN.
Time of arrival control (TOAC)	Not available in GTN.

1.3 Electronic Flight Bag

The GTN 750/725 are operationally suitable as Class 3 Hardware, Type B Software in accordance with AC 120-76B EFB electronic aeronautical information when using current FliteChart or ChartView data.

Use of the Flight Stream 210 interface and data for the purpose of Electronic Flight Bag applications is not approved as part of this STC. Additional approval may be required to obtain operational approval for use of the Flight Stream 210 and supplied data to supplement EFB systems.

1.4 Electronic Checklists

The GTN checklist functions are designed to DO-178B software design assurance level B and support a minor failure classification. While this STC does not grant operational approval for operators requiring such approval, there are no limitations precluding operators from obtaining their own operational approval for the checklist function.

1.5 Definitions

The following terminology is used within this document:

ADF: Automatic Direction Finder

ADS-B: Automatic Dependent Surveillance Broadcast

AEG: Aircraft Evaluation Group (FAA)

APR: Approach

CDI: Course Deviation Indicator

DME: Distance Measuring Equipment

EFB: Electronic Flight Bag

EHSI: Electronic Horizontal Situation Indicator

FIS-B: Flight Information Services Broadcast

GNSS: Global Navigation Satellite System

GPS: Global Positioning System

GPSS: GPS Roll Steering

GTN: Garmin Touchscreen Navigator

HOT: Hazardous Obstacle Transmission wires

HSI: Horizontal Situation Indicator

IAP: Instrument Approach Procedure

IFR: Instrument Flight Rules

ILS: Instrument Landing System

IMC: Instrument Meteorological Conditions

LDA: Localizer Directional Aid

LNAV: Lateral Navigation

LNAV +V: Lateral Navigation with advisory Vertical Guidance

L/VNAV:	Lateral/Vertical Navigation
LOC:	Localizer
LOC-BC:	Localizer Backcourse
LP:	Localizer Performance
LPV:	Localizer Performance with Vertical Guidance
LP +V:	Localizer Performance with Advisory Vertical Guidance
MLS:	Microwave Landing System
NOTAM:	Notice to Airmen
OBS:	Omnibearing Select
PED:	Portable Electronic Device
RAIM:	Receiver Autonomous Integrity Monitoring
RF Leg:	Radius-To-Fix Leg of a Charted Instrument Procedure
RMT:	Remote
RNAV:	Area Navigation
RNP:	Required Navigational Performance
SAR:	Search and Rescue
SBAS:	Satellite Based Augmentation System
SD:	Secure Digital
SDF:	Simplified Directional Facility
SUSP:	Suspend
TACAN:	Tactical Air Navigation System
TAS:	Traffic Awareness System
TAWS:	Terrain Awareness and Warning System
TCAS:	Traffic Collision Avoidance System
TFR:	Temporary Flight Restriction
TIS:	Traffic Information Service
VHF:	Very High Frequency
VFR:	Visual Flight Rules
VLOC:	VOR/Localizer
VMC:	Visual Meteorological Conditions
VOR:	VHF Omnidirectional Range
WAAS:	Wide Area Augmentation System
WFDE:	WAAS Fault Data Exclusion
XFR:	Transfer

Section 2. LIMITATIONS

2.1 Cockpit Reference Guide

The Garmin GTN 6XX or GTN 7XX Cockpit Reference Guide, part number and revision listed below (or later revisions), *must* be immediately available to the flight crew whenever navigation is predicated on the use of the GTN.

- GTN 6XX Cockpit Reference Guide P/N 190-01004-04 Rev H
- GTN 7XX Cockpit Reference Guide P/N 190-01007-04 Rev G

2.2 Kinds of Operation

This AFM supplement does not grant approval for IFR operations to aircraft limited to VFR operations.

2.3 Minimum Equipment

The GTN must have the following system interfaces fully functional in order to be used for primary navigation during IFR operations:

Interfaced Equipment	Number installed	Number Required for IFR
External HSI/CDI/EHSI	1 or more	1
External GPS Annunciator	See Note 1	1

Table 2 – Required Equipment

Note 1: Certain installations require an external GPS annunciator panel. If installed, this annunciator must be fully functional to use the GTN GPS navigation for IFR operations.

Single engine piston aircraft under 6,000 lbs maximum takeoff weight:
Required Equipment for IFR operations utilizing GPS navigation: Single GTN Navigator

All other aircraft:
Required Equipment for IFR operations utilizing GPS navigation: Single GTN Navigator plus a second source of GPS navigation or a separate source of VHF navigation. The separate source of VHF navigation must not be the primary GTN, but it may be a secondary GTN.

Operation in remote or oceanic operation requires two sources of GPS navigation.

2.4 Flight Planning

For flight planning purposes, in areas where SBAS coverage is not available, the flight crew must check RAIM availability.

- Within the United States, RAIM availability can be determined using the Garmin WFDE Prediction program, Garmin part number 006-A0154-04 (included in GTN trainer) software version 3.00 or later approved version with Garmin approved antennas or the FAA's en route and terminal RAIM prediction website: www.raimprediction.net, or by contacting a Flight Service Station.
- Within Europe, RAIM availability can be determined using the Garmin WFDE Prediction program or Europe's AUGER GPS RAIM Prediction Tool at http://augur.ecacnav.com/augur/app/home.
- For other areas, use the Garmin WFDE Prediction program.

This RAIM availability requirement is not necessary if SBAS coverage is confirmed to be available along the entire route of flight. The route planning and WFDE prediction program may be downloaded from the Garmin website on the internet. For information on using the WFDE Prediction Program, refer to Garmin WAAS FDE Prediction Program, part number 190-00643-01, 'WFDE Prediction Program Instructions'.

For flight planning purposes, for operations within the U.S. National Airspace System on RNP and RNAV procedures when SBAS signals are not available, the availability of GPS RAIM shall be confirmed for the intended route of flight. In the event of a predicted continuous loss of RAIM of more than five minutes for any part of the intended route of flight, the flight shall be delayed, canceled, or rerouted on a track where RAIM requirements can be met. The flight may also be re-planned using non-GPS based navigational capabilities.

For flight planning purposes for operations within European B-RNAV/RNAV-5 and P-RNAV airspace, if more than one satellite is scheduled to be out of service, then the availability of GPS RAIM shall be confirmed for the intended flight (route and time). In the event of a predicted continuous loss of RAIM of more than five minutes for any part of the intended flight, the flight shall be delayed, canceled, or rerouted on a track where RAIM requirements can be met.

Applicable to dual installations consisting of two Garmin GNSS units:

For flight planning purposes, for operations where the route requires Class II navigation the aircraft's operator or flight crew must use the Garmin WFDE Prediction program to demonstrate that there are no outages on the specified route that would prevent the Garmin GNSS navigation system to provide GPS Class II navigation in oceanic and remote areas of operation that requires RNP-10 or RNP-4 capability. If the Garmin WFDE Prediction program indicates fault exclusion (FDE) will be unavailable for more than 34 minutes in accordance with FAA

Order 8400.12A for RNP-10 requirements, or 25 minutes in accordance with FAA Order 8400.33 for RNP-4 requirements, then the operation must be rescheduled when FDE is available.

Both Garmin GPS navigation receivers must be operating and providing GPS navigation guidance for operations requiring RNP-4 performance.

North Atlantic (NAT) Minimum Navigational Performance Specifications (MNPS) Airspace operations per AC 91-49 and AC 120-33 require both GPS/SBAS receivers to be operating and receiving usable signals except for routes requiring only one Long Range Navigation sensor. Each display computes an independent navigation solution based on its internal GPS receiver.

Whenever possible, RNP and RNAV routes including Standard Instrument Departures (SIDs), Standard Terminal Arrival (STAR), and enroute RNAV "Q" and RNAV "T" routes should be loaded into the flight plan from the database in their entirety, rather than loading route waypoints from the database into the flight plan individually. Selecting and inserting individual named fixes from the database is permitted, provided all fixes along the published route to be flown are inserted. Manual entry of waypoints using latitude/longitude or place/bearing is prohibited.

It is not acceptable to flight plan a required alternate airport based on RNAV(GPS) LP/LPV or LNAV/VNAV approach minimums. The required alternate airport must be flight planned using an LNAV approach minimums or available ground-based approach aid.

Navigation information is referenced to the WGS-84 reference system, and should only be used where the Aeronautical Information Publication (including electronic data and aeronautical charts) conform to WGS-84 or equivalent.

2.5 System Use

In installations with two GTNs and an external GPS annunciator (See Table 2) the GTN connected to the external GPS annunciator must be used as the navigation source for all IFR operations.

The only approved sources of course guidance are on the external CDI, HSI, or EHSI display. The moving map and CDI depiction on the GTN display are for situational awareness only and are not approved for course guidance.

2.6 Applicable System Software

This AFMS/AFM is applicable to the software versions shown in Table 3.

The Main and GPS software versions are displayed on the start-up page immediately after power-on. All software versions displayed in Table 3 can be viewed on the System – System Status or Connext Setup pages.

Software Item	Software Version *(or later FAA Approved versions for this STC)*
Main SW Version	6.11
GPS SW Version	5.0
Com SW Version	2.20
Nav SW Version	6.02
Flight Stream 210	2.30

Table 3 - Software Versions

2.7 SD/Database Card

It is required that the SD/database card be present in the unit at all times. The card must not be removed or inserted during flight and/or while the GTN is powered on.

NOTE

Removal of the SD card will result in certain features/databases not being available and/or slow system performance.

2.8 Navigation Database

GPS/SBAS based IFR enroute, oceanic, and terminal navigation is prohibited unless the flight crew verifies and uses a valid, compatible, and current navigation database or verifies each waypoint for accuracy by reference to current approved data.

"GPS", "or GPS", and "RNAV (GPS)" instrument approaches using the Garmin navigation system are prohibited unless the flight crew verifies and uses the current navigation database. GPS based instrument approaches must be flown in accordance with an approved instrument approach procedure that is loaded from the navigation database.

Discrepancies that invalidate a procedure should be reported to Garmin International. The affected procedure is prohibited from being flown using data from the navigation database until a new navigation database is installed in the aircraft and verified that the discrepancy has been corrected. Navigation database discrepancies can be reported at FlyGarmin.com by selecting "Aviation Data Error Report." Flight crew and operators can view navigation database alerts at FlyGarmin.com then select "NavData Alerts."

If the navigation database cycle will change during flight, the flight crew must ensure the accuracy of navigation data, including suitability of navigation facilities used to define the routes and procedures for flight. If an amended chart affecting navigation data is published for the procedure, the database must not be used to conduct the procedure.

2.9 Ground Operations

Do not use SafeTaxi or Chartview functions as the basis for ground maneuvering. SafeTaxi and Chartview functions do not comply with the requirements of AC 20-159 and are not qualified to be used as an airport moving map display (AMMD). SafeTaxi and Chartview are to be used by the flight crew to orient themselves on the airport surface to improve flight crew situational awareness during ground operations.

2.10 Approaches

a) Instrument approaches using GPS guidance may only be conducted when the GTN is operating in the approach mode. (LNAV, LNAV +V, L/VNAV, LPV, LP, or LP +V)
b) When conducting instrument approaches referenced to true North, the NAV Angle on the System -Units page must be set to **True**.
c) The navigation equipment required to join and fly an instrument approach procedure is indicated by the title of the procedure and notes on the IAP chart. Navigating the final approach segment (that segment from the final approach fix to the missed approach point) of an ILS, LOC, LOC-BC, LDA, SDF, MLS, VOR, TACAN approach, or any other type of approach not approved for GPS, is not authorized with GPS navigation guidance. GPS guidance can only be used for approach procedures with GPS or RNAV in the procedure title. When using the Garmin VOR/LOC/GS receivers to fly the final approach segment, VOR/LOC/GS navigation data must be selected and presented on the CDI of the pilot flying.
d) Advisory vertical guidance deviation is provided when the GTN annunciates LNAV + V or LP +V. Vertical guidance information displayed on the VDI in this mode is only an aid to help flight crews comply with altitude restrictions. When using advisory vertical guidance, the flight crew must use the primary barometric altimeter to ensure compliance with all altitude restrictions.
e) Not all published Instrument Approach Procedures (IAP) are in the navigation database. Flight crews planning to fly an RNAV instrument approach must ensure that the navigation database contains the planned RNAV Instrument Approach Procedure and that approach procedure must be loaded from the navigation database into the GTN system flight plan by its name. Pilots are prohibited from flying any approach path that contains manually entered waypoints.
f) IFR approaches are prohibited whenever any physical or visual obstruction (such as a throw-over yoke) restricts pilot view or access to the GTN and/or the CDI.

2.11 Barometric Setting

The barometric altimeter setting used for any barometric corrected altitude source interfaced to the GTN must be set appropriate to the altitude type depicted on the procedure (QNH or QFE).

2.12 RF Legs

This STC does not grant operational approval for RF leg navigation for those operators requiring operational approval. Additional FAA approval may be required for those aircraft intending to use the GTN as a means to provide RNP 1 navigation in accordance with FAA Advisory Circular AC 90-105.

The following limitations apply to procedures with RF legs:

- Aircraft is limited to 180 KIAS while on the RF leg
- RF legs are limited to RNP 1 procedures. RNP AR and RNP <1 are not approved
- Primary navigation guidance on RF legs must be shown on an EHSI indicator with auto-slew capability turned ON
- GTN Moving Map, EHSI Map, or Distance to Next Waypoint information must be displayed to the pilot during the RF leg when flying without the aid of the autopilot or flight director.
- The active waypoint must be displayed in the pilot's primary field of view.

2.13 Autopilot Coupling

The flight crew may fly all phases of flight based on the navigation information presented to the flight crew; however, not all modes may be coupled to the autopilot. All autopilots may be coupled in Oceanic (OCN), Enroute (ENR), and Terminal (TERM) modes.

This installation is limited to:

☐ Lateral coupling only for GPS approaches. Coupling to the vertical path for GPS approaches is not authorized.

It is possible to create flight plan waypoint sequences, including Search and Rescue patterns, which exceed the autopilot's bank angle capabilities. The pilot shall monitor autopilot performance with regard to flight path deviation.

2.13.1 RNP 1.0 RF Leg Types

AC 90-105 states that procedures with RF legs must be flown using either a flight director or coupled to the autopilot.

This STC has demonstrated acceptable crew workload and Flight Technical Error for hand flown procedures with RF legs when the GTN installation complies with limitation set forth in Section 2.12 of this document. It is recommended to couple the autopilot for RF procedures, if available, but it is

not required to do so. See section 4.5 of this manual to determine if this capability is supported in this installation.

2.14 Terrain Proximity Function (All Units)

Terrain, point obstacle, and wire obstacle information appears on the map and terrain display pages as red and amber terrain, obstacles, or wires and is depicted for advisory use only. Aircraft maneuvers and navigation must not be predicated upon the use of the terrain display. Terrain, obstacle and wire information is advisory only and is not equivalent to warnings provided by TAWS.

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

NOTE

Terrain and TAWS are separate features and mutually exclusive. If "TAWS B" is shown on the bottom right of the dedicated terrain page, then TAWS is installed.

2.15 TAWS Function (Optional)

Flight crews are authorized to deviate from their current ATC clearance to the extent necessary to comply with TAWS warnings. Navigation must not be predicated upon the use of TAWS.

TAWS shall be inhibited when landing at an airport that is not included in the airport database.

If an external TAWS annunciator panel is installed in the aircraft, this annunciator panel must be fully functional in order to use the TAWS system.

NOTE

Terrain and TAWS are separate features and mutually exclusive. If "TAWS B" is shown on the bottom right of the dedicated terrain page, then TAWS is installed.

2.16 Polar Operations

Use of the GTN for primary navigation for latitudes above 89.00° N and below 89.00° S is prohibited.

2.17 Datalinked Weather Display (Optional)

This limitation applies to datalinked weather products from SiriusXM via a GDL 69/69A, FIS-B via a GDL 88, and Connext via a GSR 56.

Do not use data link weather information for maneuvering in, near, or around areas of hazardous weather. Information provided by data link weather products may not accurately depict current weather conditions.

Do not use the indicated data link weather product age to determine the age of the weather information shown by the data link weather product. Due to time delays inherent in gathering and processing weather data for data link transmission, the weather information shown by the data link weather product may be significantly older than the indicated weather product age.

Do not rely solely upon data link services to provide Temporary Flight Restriction (TFR) or Notice to Airmen (NOTAM) information. Not all TFRs and NOTAMS can be depicted on the GTN.

Datalinked text weather is decoded for the convenience of the pilot, however it is possible that the decoding may be affected by anomalies in the data or differences in the units of measure between the decoding system and the text weather source. All text weather displayed on the GTN also includes the raw weather text for pilot review.

2.18 Traffic Display (Optional)

Traffic may be displayed on the GTN when connected to an approved optional TCAS I, TAS, TIS, or ADS-B traffic device. These systems are capable of providing traffic monitoring and alerting to the flight crew. Traffic shown on the display may or may not have traffic alerting available. The display of traffic is an aid to visual acquisition and may not be utilized for aircraft maneuvering.

Traffic is displayed in feet regardless of the unit settings for altitude. If the units for altitude are different than feet, a "FT" label will appear on the traffic icon on and main map page, and the dedicated traffic page will include an "ALT IN FT" notification.

2.19 StormScope® Display (Optional)

StormScope® lightning information displayed by the GTN is limited to supplemental use only. The use of the StormScope® lightning data on the display for hazardous weather (thunderstorm) penetration is prohibited. StormScope® lightning data on the display is intended only as an aid to enhance situational awareness of hazardous weather, not penetration. It is the flight crew's responsibility to avoid hazardous weather using official weather data sources.

When the GTN StormScope® page is operating without a heading source, as indicated by the "HDG N/A" label at the upper right corner of the StormScope® page, strikes must be cleared after each heading change.

2.20 Flight Planner/Calculator Functions

The Fuel Planning page uses Fuel on Board or Fuel Flow as received from an on board fuel totalizer, as entered by the pilot at system startup, or as entered by the pilot when on the Fuel Planning page. This *is not* a direct indication of actual aircraft fuel flow or fuel on board and those values are only used for the Fuel Planning page. The fuel required to destination is only a calculated and predicted value based on the data entered into the planner. It is not a direct indication of how much fuel the aircraft will have upon reaching the destination.

2.21 Fuel Range Rings

The fuel range rings displayed on the moving map are intended for situational awareness and do not represent a direct indication of endurance or fuel remaining. The distance between the segmented green reserve ring and the yellow zero fuel ring is 45 minutes by default. The reserve value can be changed from the GTN map setup menu.

Fuel range data is derived by the interfaced fuel totalizer data. Data entered in the Fuel Planning pages will not update the fuel range ring.

2.22 Glove Use / Covered Fingers

No device may be used to cover fingers used to operate the GTN unless the Glove Qualification Procedure located in the Pilot's Guide/Cockpit Reference Guide has been successfully completed. The Glove Qualification Procedure is specific to a pilot / glove / GTN 725, 750 or GTN 625, 635, 650 combination.

2.23 Demo Mode

Demo mode may not be used in flight under any circumstances.

2.24 Active Weather Radar

Radar is broadcasting energy while in Weather or Ground mapping modes. If the GTN 750/725 system is configured to control an airborne weather radar unit, observe all safety precautions, including:

- Do not operate in the vicinity of refueling operations.
- Do not operate while personnel are in the vicinity (approximately 20 feet) of the radar sweep area.

CAUTION

If a radar system is installed, it generates microwave radiation and improper use, or exposure, may cause serious bodily injury. Do not operate the radar equipment until you have read

and carefully followed the safety precautions and instructions in the weather radar user manual and/or pilot's guide.

2.25 Telephone Audio

Telephone audio must not be distributed to the pilot or co-pilot unless a phone call is active.

CAUTION

Failure to turn off telephone audio when the telephone is not in use may result in telephone ringer or text message aural notifications being received during critical phases of flight.

2.26 Multi Crew Aircraft (GMA 35 Only)*

For aircraft type certified with more than one required pilot, or operations requiring more than one pilot, the "Group Co-Pilot with Passenger" audio panel option shall not be activated. This option is found in the Intercom Setup Menu when a Garmin GMA 35 audio panel is installed.

2.27 Wire Obstacle Database

Only the "Obstacle/HOT Line" database may be used. Use of the "Obstacle/Wire" database is prohibited. The database version can be viewed on the start-up database verification or System- System Status pages.

2.28 Portable Electronic Devices

This STC does not relieve the operator from complying with the requirements of 91.23 or any other operational regulation regarding portable electronic devices.

The Flight Stream 210 interface and data provided to a portable electronic device is not approved to replace any aircraft display equipment, including navigation or traffic/weather display equipment.

* Includes GMA 35 and GMA 35c Audio Panels

Section 3. EMERGENCY PROCEDURES

3.1 Emergency Procedures

3.1.1 TAWS WARNING

Red annunciator and aural "PULL UP":

Autopilot ..... **DISCONNECT**
Aircraft Controls ..... **INITIATE MAXIMUM POWER CLIMB**
Airspeed ..... **BEST ANGLE OF CLIMB SPEED**

After Warning Ceases:

Altitude ..... **CLIMB AND MAINTAIN SAFE ALTITUDE**
Advise ATC of Altitude Deviation, if appropriate.

NOTE

Only vertical maneuvers are recommended, unless either operating in visual meteorological conditions (VMC), or the flight crew determines, based on all available information, that turning in addition to the vertical escape maneuver is the safest course of action, or both.

NOTE

TAWS annunciators external to the GTN may not indicate the exact threat causing the alert. Example: WIRE alerts may be annunciated as TERR or OBSTACLE on external devices.

3.2 Abnormal Procedures

3.2.1 LOSS OF GPS/SBAS NAVIGATION DATA

When the GPS/SBAS receiver is inoperative or GPS navigation information is not available or invalid, the GTN will enter one of two modes: Dead Reckoning mode (DR) or Loss Of Integrity mode (LOI). The mode is indicated on the GTN by an amber "DR" or "LOI".

If the Loss Of Integrity annunciation is displayed, revert to an alternate means of navigation appropriate to the route and phase of flight.

If the Dead Reckoning annunciation is displayed, the map will continue to be displayed with an amber 'DR' overwriting the ownship icon. Course guidance will be removed on the CDI. Aircraft position will be based upon the last valid GPS position, then estimated by Dead Reckoning methods. Changes in true airspeed, altitude, heading, or winds aloft can affect the estimated position substantially. Dead Reckoning is only available in Enroute and Oceanic modes. Terminal and Approach modes do not support Dead Reckoning.

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

Navigation ..... **USE ALTERNATE SOURCES**

If No Alternate Navigation Sources Are Available:

DEAD RECKONING (DR) MODE:

Navigation ..... **USE GTN**

NOTE

All information normally derived from GPS will become less accurate over time.

LOSS OF INTEGRITY (LOI) MODE:

Navigation .....**FLY TOWARDS KNOWN VISUAL CONDITIONS**

NOTE

All information derived from GPS will be removed.

NOTE

The airplane symbol is removed from all maps. The map will remain centered at the last known position. "NO GPS POSITION" will be annunciated in the center of the map.

3.2.2 GPS APPROACH DOWNGRADE

During a GPS LPV, LP +V, LNAV/VNAV, or LNAV +V approach, if GPS accuracy requirements cannot be met by the GPS receiver, the GTN will downgrade the approach. The downgrade will remove vertical deviation indication from the VDI and change the approach annunciation accordingly from LPV, LP +V, L/VNAV, or LNAV +V to LNAV. The approach may be continued using the LNAV only minimums.

During a GPS approach in which GPS accuracy requirements cannot be met by the GPS receiver for any GPS approach type, the GTN will flag all CDI guidance and display a system message "ABORT APPROACH-GPS approach no longer available". Immediately upon viewing the message, the unit will revert to Terminal navigation mode alarm limits. If the position integrity is within these limits lateral guidance will be restored and the GPS may be used to execute the missed approach, otherwise alternate means of navigation must be utilized.

3.2.3 LOSS OF COM RADIO TUNING FUNCTIONS

If alternate COM is available:

Communications ..... **USE ALTERNATE COM**

If no alternate COM is available:

COM RMT XFR key (if installed).....**PRESS AND HOLD FOR 2 SECONDS**

NOTE

This procedure will tune the active COM radio the emergency frequency 121.5, regardless of what frequency is displayed on the GTN. Certain failures of the tuning system will automatically tune 121.5 without flight crew action.

3.2.4 LOSS OF AUDIO PANEL FUNCTIONS (GMA 35 Only)†

Audio Panel Circuit Breaker.....**PULL**

NOTE

This procedure will force the audio panel into fail safe mode which provides only the pilot with communications and only on a single COM radio. If any non GTN 750 COM is installed, communication will be only on that radio. If only a GTN 750 is installed in the aircraft, then the pilot will have only the GTN 750 COM available. No other audio panel functions including aural alerting and the crew and passenger intercom will function.

† Includes GMA 35 and GMA 35c Audio Panels

3.2.5 TAWS CAUTION (Terrain or Obstacle Ahead, Sink Rate, Don't Sink)

When a TAWS CAUTION occurs, take 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.

NOTE

TAWS annunciators external to the GTN may not indicate the exact threat causing the alert. Example: WIRE alerts may be annunciated as TERR or OBSTACLE on external devices.

3.2.6 TAWS INHIBIT

The TAWS Forward Looking Terrain Avoidance (FLTA) and Premature Descent Alerts (PDA) functions may be inhibited to prevent alerting, if desired. Refer to GTN Cockpit Reference Guide for additional information.

To Inhibit TAWS:

Home Hardkey.....PRESS
Terrain Button.....PRESS
Menu Button.....PRESS
TAWS Inhibit Button .....PRESS TO ACTIVATE

3.2.7 TER N/A and TER FAIL

If the amber **TER N/A** or **TER FAIL** status annunciator is displayed, the system will no longer provide TAWS alerting or display relative terrain and obstacle elevations. The crew must maintain compliance with procedures that ensure minimum terrain and obstacle separation.

3.2.8 DATA SOURCE - HEADING SOURCE INOPERATIVE OR CONNECTION TO GTN LOST MESSAGE

Without a heading source to the GTN, the following features will not operate:

- Roll steering will not be provided to the autopilot for heading legs. The autopilot must be placed in HDG mode for heading legs.
- Map cannot be oriented to Heading Up.
- All overlaying traffic data from a TAS/TCAS I or GDL 88 interfaced to an on board traffic system on the main map display. The flight crew must use the dedicated traffic page on the GTN system to display TAS/TCAS I or GDL 88 traffic data.
- All overlaying StormScope® data on the main map display. The flight crew must use the dedicated StormScope® page on the GTN system to display StormScope® data.

StormScope® must be operated in accordance with Section 7.8 when no heading is available.

3.2.9 DATA SOURCE – PRESSURE ALTITUDE SOURCE INOPERATIVE OR CONNECTION TO GTN LOST MESSAGE

Without a barometric corrected altitude source to the GTN, the following features will not operate:

- Automatic leg sequencing of legs requiring an altitude source. The flight crew must manually sequence altitude legs, as prompted by the system.

3.2.10 UNRECOVERABLE LOSS OF ALL ELECTRICAL GENERATORS OR ALTERNATORS

Remove power from all equipment which is not necessary for flight, including GTN #2 (NAV/GPS 2, COM 2) and the Flight Stream 210 (BT LINK), if installed.

Section 4. NORMAL PROCEDURES

Refer to the Cockpit Reference Guide defined in Section 2.1 of this document or the Pilot's Guide defined in Section 7.1 for normal operating procedures and a complete list of system messages and associated flight crew actions. This includes all GPS operations, VHF communication and navigation, traffic, data linked weather, StormScope®, TAWS, and Multi-Function Display information.

The GTN requires a reasonable degree of familiarity to avoid becoming too engrossed at the expense of basic instrument flying in IMC and basic see-and-avoid in VMC. Garmin provides training tools with the Pilot's Guide and PC based simulator. Pilots should take full advantage of these training tools to enhance system familiarization.

4.1 Unit Power On

Database..... **REVIEW EFFECTIVE DATES**
Self Test..... **VERIFY OUTPUTS TO NAV INDICATORS**
Self Test - TAWS Remote Annunciator:
- PULL UP..... **ILLUMINATED**
- TERR..... **ILLUMINATED**
- TERR N/A..... **ILLUMINATED**
- TERR INHB..... **ILLUMINATED**

Self Test - GPS Remote Annunciator:
- VLOC..... **ILLUMINATED**
- GPS..... **ILLUMINATED**
- LOI or INTG..... **ILLUMINATED**
- TERM..... **ILLUMINATED**
- WPT..... **ILLUMINATED**
- APR..... **ILLUMINATED**
- MSG..... **ILLUMINATED**
- SUSP or OBS..... **ILLUMINATED**

4.2 Before Takeoff

System Messages and Annunciators..... **CONSIDERED**

4.3 HSI and EHSI Operation

If an HSI is used to display navigation data from the GTN the pilot should rotate the course pointer as prompted on the GTN.

If an EHSI is used to display navigation data from the GTN the course pointer may autoslew to the correct course when using GPS navigation. When using VLOC navigation the course pointer will not autoslew and must be rotated to the correct course by the pilot. For detailed information about the functionality of the EHSI system, refer to the FAA approved Flight Manual or Flight Manual Supplement for that system.

CAUTION

The pilot must verify the active course and waypoint for each flight plan leg. The pilot must verify proper course selection each time the CDI source is changed from GPS to VLOC.

See Section 4.5 for RF leg capabilities related to EHSI.

4.4 Autopilot Operation

The GTN may be coupled to an optional autopilot, if installed in the aircraft, when operating as prescribed in the LIMITATIONS section of this manual.

Autopilots coupled to the GTN system in an analog (NAV) mode will follow GPS or VHF navigation guidance as they would with existing VOR receivers.

Autopilots that support GPSS or GPS Roll Steering in addition to the analog course guidance will lead course changes, fly arcing procedures, procedure turns, and holding patterns if coupled in a roll steering mode.

The GTN supports autopilot roll steering for heading legs when an approved heading source is interfaced to the GTN. This heading interface can also provide map orientation, traffic and StormScope heading data and wind calculations.

CAUTION

The GTN does not provide course deviation to the autopilot for heading legs. Some autopilots do not allow the use of roll steering when course deviation is not provided.

☐ This installation *has* a heading source. The GTN will provide roll steering on heading legs for the autopilot.

☒ This installation *does not have* a heading source. The crew cannot use the GTN roll steering to fly heading legs with the autopilot.

For autopilot operating instructions, refer to the FAA approved Flight Manual or Flight Manual Supplement for the autopilot.

4.5 Coupling the Autopilot during approaches

CAUTION

When the CDI source is changed on the GTN, autopilot mode may change. Confirm autopilot mode selection after CDI source change on the GTN. Refer to the FAA approved Flight Manual or Flight Manual Supplement for the autopilot.

Analog only autopilots should use APR mode for coupling to LNAV approaches. Autopilots which support digital roll steering commands (GPSS) may utilize NAV mode and take advantage of the digital tracking during LNAV only approaches.

☐ This installation prompts the flight crew and requires the pilot to enable the approach outputs just prior to engaging the autopilot in APR mode.

To couple an approach:
Once established on the final approach course with the final approach fix as the active waypoint, the GTN will issue a flashing message indication.

Flashing Message Button ..... **PRESS**
"Enable APR Output" Button..... **PRESS**

If coupled, Autopilot will revert to ROL mode at this time.

Autopilot.....**ENGAGE APPROACH MODE**

☐ This installation supports coupling to the autopilot in approach mode once vertical guidance is available.

To couple an approach:
Once established on the final approach course with the final approach fix as the active waypoint, the GTN will enable vertical guidance.

Vertical Guidance.....**CONFIRM AVAILABLE**
Autopilot.....**ENGAGE APPROACH MODE**

☒ The installation *does not* support any vertical capture or vertical tracking.

The GTN allows for the utilization of IFR procedures that include RF (Radius to Fix) legs as part of RNP 1.0 capabilities.

☐ This installation is equipped to support coupled RF leg navigation up to RNP 1.0.

☐ This installation is equipped to support *un-coupled* RF leg navigation up to RNP 1.0.

☒ This installation *does not* support RF leg navigation.

4.6 Coupling the Autopilot during Search and Rescue (SAR) Operations

Search and Rescue (SAR) patterns created in the GTN flight plan may include turns that cannot be accomplished with standard autopilot turn rates. Monitor autopilot performance relative to the desired path if coupled when using Search and Rescue patterns.

Section 5. PERFORMANCE

No change.

Section 6. WEIGHT AND BALANCE

See current weight and balance data.

Section 7. SYSTEM DESCRIPTIONS

7.1 Pilot's Guide

The Garmin GTN 6XX or GTN 7XX Pilot's Guide, part number and revision listed below, contain additional information regarding GTN system description, control and function. The Pilot's Guides *do not* need to be immediately available to the flight crew.

- GTN 6XX Pilot's Guide — P/N 190-01004-03 Rev J or later
- GTN 7XX Pilot's Guide — P/N 190-01007-03 Rev J or later

7.2 Leg Sequencing

The GTN supports all ARINC 424 leg types. Certain leg types require altitude input in order to sequence (course to altitude, for example). If a barometric corrected altitude source is not interfaced to the GTN, a popup will appear prompting the flight crew to manually sequence the leg once the altitude prescribed in the procedure is reached.

☐ This installation *has* a barometric corrected altitude source. The GTN will automatically sequence altitude legs.

☒ This installation *does not have* a barometric corrected altitude source. The flight crew will be prompted to manually sequence altitude legs.

7.3 Auto ILS CDI Capture

Auto ILS CDI Capture will not automatically switch from GPS to VLOC for LOC-BC or VOR approaches.

7.4 Activate GPS Missed Approach

☒ This installation *will* autoswitch from VLOC to GPS when the "Activate GPS Missed Approach" button is pressed.

☐ This installation *will not* autoswitch from VLOC to GPS when the "Activate GPS Missed Approach" button is pressed. The pilot must manually switch from VLOC to GPS if GPS guidance is desired after the missed approach point.

7.5 Terrain Proximity and TAWS

CAUTION

Not all obstacles and wires are contained in the Obstacle/HOT Line database. The system provides depiction (and alerts, if TAWS is installed) only for obstacles and wires contained in the database.

NOTE

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

☒ This installation supports *Terrain Proximity. No aural or visual alerts* for terrain or obstacles are provided. Terrain Proximity *does not* satisfy the TAWS requirement of 91.223.

☐ This installation supports *TAWS B*. Aural and visual alerts *will be* provided. This installation *does* support the TAWS requirement of 91.223.

Terrain on the dedicated terrain page or main map overlay is depicted in the following manner:

- Terrain more than 1,000 feet below the aircraft is not depicted, or depicted as black.
- Terrain between 1,000 feet and 100 feet below the aircraft is depicted as amber.
- Terrain within 100 feet below the aircraft, or above the aircraft, is depicted as red.

Obstacles and wires on the dedicated terrain page or main map are depicted in the following manner:

- Obstacles and wires more than 2,000 feet below the aircraft are not depicted.
- Obstacles and wires between 2,000 feet and 1,000 feet below the aircraft are depicted as white.
- Obstacles and wires between 1,000 feet and 100 feet below the aircraft are depicted as amber.
- Obstacles and wires within 100 feet below the aircraft, or above the aircraft, are depicted as red.

Multiple obstacles may be depicted using a single obstacle icon and an asterisk to indicate obstacle grouping is occurring. The color of the asterisk indicates the relative altitude of the tallest obstacle in the group. The asterisk does not indicate any information about the relative altitude or number of obstacles not being displayed in the obstacle group.

The Garmin GTN 6XX or GTN 7XX Cockpit Reference Guide or Garmin GTN 6XX or GTN 7XX Pilot's Guide provides additional information regarding terrain and obstacle colors and grouped obstacle icons.

7.6 GMA 35/35c Audio Panel (Optional)

The GTN 725 and 750 can interface to a GMA 35/35c remotely mounted audio panel and marker beacon receiver. Controls for listening to various radios, activating the cabin speaker, clearance playback control, and marker beacon are accessed by pressing the "Audio Panel" button on the GTN display screen. Optional Bluetooth pairing functionality can be accessed from the associated System /Connext Setup page (GMA 35c Only). Volume controls for the audio panel are accessed by pressing the "Intercom" button on the GTN display screen.

Aircraft alerting audio may be routed through the GMA 35/35c audio panel. There are no pilot controls for alert audio volumes. In the event of a loss of GMA35/35c function alert audio routed through the audio panel may not be heard.

7.7 Traffic System (Optional)

This system is configured for the following type of traffic system. The Garmin GTN 6XX or GTN 7XX Cockpit Reference Guide or Garmin GTN 6XX or GTN 7XX Pilot's Guide provides additional information regarding the functionality of the traffic device.

- ☒ No traffic system is interfaced to the GTN.
- ☐ A TAS/TCAS I traffic system is interfaced to the GTN.
- ☐ A TIS traffic system is interfaced to the GTN.
- ☐ A TCAD traffic system is interfaced to the GTN.
- ☐ A Garmin ADS-B traffic system is interfaced to the GTN.
- ☐ A Garmin ADS-B traffic system is interfaced to the GTN. The ADS-B traffic system is also interfaced to an on board traffic system.

7.8 StormScope® (Optional)

When optionally interfaced to a StormScope® weather detection system, the GTN may be used to display the StormScope® information. Weather information supplied by the StormScope® will be displayed on the StormScope® page of the GTN system. For detailed information about the capabilities and limitations of the StormScope® system, refer to the documentation provided with that system.

Heading Up mode:

If the GTN system is receiving valid heading information, the StormScope® page will operate in the heading up mode as indicated by the label "HDG UP" presented at the upper right corner of the display. In this mode, information provided by the StormScope® system is displayed relative to the nose of the aircraft and *is* automatically rotated to the correct relative position as the aircraft turns.

Heading Not Available mode:

If the GTN system is not receiving valid heading information, either because a compatible heading system is not installed, or the interfaced heading system has malfunctioned, the StormScope® page will continue to operate without a heading source and indicate "HDG N/A" in the upper right corner of the GTN display. In this mode, information provided by the StormScope® system is displayed relative to the nose of the aircraft but *is not* automatically rotated to the correct relative position as the aircraft turns. When operating in this mode, StormScope® strikes must be cleared after each turn the aircraft performs.

7.9 Power

- Power to the GTN is provided through a circuit breaker labeled NAV/GPS (1/2).
- Power to the optional GTN COM is provided through a circuit breaker labeled COM (1/2).
- Power to the optional GMA 35 is provided through a circuit breaker labeled AUDIO.
- Power to the optional Flight Stream 210 is provided through a circuit breaker labeled BT LINK.

7.10 Databases and Flight Plan Waypoints/Procedures

Database versions and effective dates are displayed on the start-up database verification page immediately after power-on. Database information can also be viewed on the System – System Status page.

The Obstacle Database has an area of coverage that includes the United States and Europe, and is updated as frequently as every 56 days. The HOT Line wire database only includes the continental United States and portions of Canada/Mexico.

Only the Obstacle/HOT Line wire database may be used in accordance with the limitation found in Section 2.27.

If a stored flight plan contains a waypoint or procedure that does not correspond to a waypoint or procedure in the navigation database in use, the waypoint or procedure will become locked (depicted as "lockd") in the flight plan. Flight plans with locked waypoints may be placed in the active flight plan portion of the system but no navigation will be provided. The locked waypoint/procedure must be resolved by removing or replacing it with the correct waypoint/procedures in the flight plan before the system will provide navigation.

7.11 External Switches

External switches may be installed and interfaced to the GTN. These switches may be stand alone, or integrated with a TAWS or GPS annunciator. Table 4 lists the switches and function they perform:

Switch Label	Function
CDI	Toggles between GPS / VLOC sources. This switch may be part of an external annunciator panel.
COM CHAN DN	Toggles down through the preset com frequencies.
COM CHAN UP	Toggles up through the preset com frequencies.
COM RMT XFR	Transfers the COM active / standby frequencies.
NAV RMT XFR	Transfers the NAV active / standby frequencies.
OBS	Performs an OBS or SUSP function. This switch is part of an external annunciator panel and is placarded with the following: "Green OBS indicates OBS or SUSP mode – GTN annunciator bar indicates which is active. Push OBS button to change OBS or SUSP mode."
OBS/SUSP	Performs an OBS or SUSP function.
TERR INHB	Toggles the TAWS Inhibit function on/off. This switch is part of an external annunciator panel. The terrain display is still presented if TAWS is Inhibited.

Table 4 – External Switches

7.12 7.12 Airspace Depiction and Alerts

The GTN aides the flight crew in avoiding certain airspaces with Smart Airspace and airspace alerts. Smart Airspace de-emphasizes depicted airspace that is not near the aircraft's current altitude. Airspace Alerts provide a message indication to the flight crew when the aircraft's current ground track will intercept an airspace type that has been selected for alerting.

NOTE

Smart Airspace and Airspace Alerts are separate features. Turning on/off Smart Airspace does not affect Airspace Alerts, and vice versa.

7.13 Garmin ADS-B Traffic System Interface (Optional)

A Garmin ADS-B traffic system may be interfaced to the GTN. The *nose* of the ownship symbol on both the GTN main map page and dedicated traffic page serves as the actual location of your aircraft. The *center* of the traffic target icon serves as the reported location for the target aircraft. Motion vectors for traffic may be displayed in either absolute or relative motion. The location of the traffic targets relative to the ownship are the same, regardless of the selected motion vector.

Absolute motion vectors are colored either cyan or white, depending on unit configuration. Absolute motion vectors depict the reported track of the traffic target referenced to the ground. An absolute motion vector pointed towards your ownship symbol *does not* necessarily mean the traffic target is getting closer to your aircraft.

Relative motion vectors are always colored green and depict the motion of the traffic target relative to your ownship symbol. The direction the traffic target is pointed may vary greatly from the motion vector and a target may be getting closer to your aircraft independent of the direction the target is pointed. A green relative motion vector pointed towards your ownship indicates that the traffic target *is* converging on your aircraft.

If more than one target is occupying the same area of the screen, the GTN will combine the two or more traffic targets into one traffic group. The presence of an asterisk to the left of a target indicates that traffic has been grouped. The highest priority traffic target in the group is displayed to the pilot. When applied to airborne targets the asterisk will be displayed in white or cyan depending on the traffic depiction color used in the installation. The asterisk will be brown for grouped ground targets. The asterisk will not turn amber, even if an alerted target is included in the group.

An alerted target may be placed in the same group as non-alerted targets. In this case, the alerted target will be displayed. Two alerted targets will not be placed in the same group. All alerted targets will be displayed on the screen.

Traffic targets displayed on the dedicated traffic page may be selected in order to obtain additional information about a traffic target or to view all targets in a grouped target. When a grouped target is selected, the "Next" button on the dedicated traffic page will cycle through all targets located in close proximity to where the screen has been touched.

7.14 GWX 70 Weather Radar (Optional)

The GWX 70 Weather Radar uses Doppler technology to optionally provide advanced features to the flight crew such as turbulence detection and ground clutter suppression. Turbulence detection can detect turbulence up to 40nm from the aircraft and will be displayed at radar ranges of 160nm or less.

NOTE

Turbulence detection does not detect all turbulence especially that which is occurring in clear air. The display of turbulence indicates the possibility of severe or greater turbulence, as defined in the Aeronautical Information Manual.

7.15 Charts (Optional)

The GTN 750/725 can display both procedure charts and weather data on the main map page at the same time. When datalinked NEXRAD or Precipitation is overlaid on the main map page, the weather data is displayed *below* an overlaid procedure chart. When airborne weather radar is overlaid on the main map page, the radar data is displayed *above* an overlaid procedure chart.

7.16 Transponder Control (Optional)

The GTN can be interfaced to a Garmin transponder for control and display of squawk code, mode, and additional transponder functions. The activation of the "Enable ES" button on the transponder page does not indicate the aircraft is in full compliance with an ADS-B Out solution in accordance with TSO-C166b (1090ES). Consult your transponder documentation for additional information.

7.17 Telephone Audio (Optional)

Telephone audio distribution to the crew defaults to OFF on each power cycle of the GTN. Prior to utilizing the telephone function the crew must distribute telephone audio to the desired recipients. If the crew is utilizing the telephone function it is required that the telephone audio be turned off upon completing telephone usage.

7.18 Depiction of Obstacles and Wires

7.18.1 Dedicated Terrain Page

The dedicated Terrain page will always depict point obstacles at zoom scales of 10 nm or less and depict wire obstacles at zoom scales of 5 nm or less. The obstacle or wire overlay icon (see Figure 3) will be shown near the bottom of the display when the obstacle or wire depiction is active based on the zoom scale.

NOTE

Only obstacles and wires within 2,000 feet vertically of the aircraft will be drawn on the Terrain page. It is therefore possible to have an obstacle or wire overlay icon displayed with no obstacles or wires being depicted on the display.

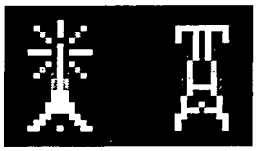


Figure 3 – Obstacle Overlay Icon (Left), Wire Overlay Icon (Right)

7.18.2 Map Page

The Map page may be configured to depict point obstacles and wire obstacles at various zoom scales by the pilot by using the Map page menu. The obstacle or wire overlay icon (see Figure 4) will be shown near the bottom of the display when the obstacle or wire overlay is active based on the current zoom scale and setting selected by the pilot.

The settings chosen by the pilot on the Map page menu (including obstacle and wire display ranges) are saved over a power cycle.

NOTE

Only obstacles and wires within 2,000 feet vertically of the aircraft will be drawn on the Map page. It is therefore possible to have an obstacle or wire overlay icon displayed with no obstacles or wires being depicted on the display.

NOTE

The Map page may be configured by the pilot to not show any obstacles or wires at any zoom scale.

Figure 4 – Obstacle Overlay Icon (Left), Wire Overlay Icon (Right)

7.19 Flight Stream 210 (Optional)

The Flight Stream product line uses a wireless transceiver to provide data to and from a GTN to personal electronic devices (PEDs).

The Flight Stream 210 is a remotely mounted unit that provides the capability to interface Portable Electronic Devices (PEDs) to the GTN.

Data such as traffic, flight plan, datalinked weather, entertainment audio information, and attitude information is sent form the Flight Stream to the PED. The PED is capable of sending flight plans to the Flight Stream which will then be available on the GTN.

Garmin provides a list of tested and compatible devices that can be used with the Flight Stream. Connection to the Flight Stream may be possible with devices other than those on the supported device list, but Bluetooth® stability and wireless data integrity cannot be guaranteed.

For details about the Garmin supported devices and apps for use with the Flight Stream product line, please visit: http://garmin.com/connext/supported_devices

7.20 Map Page

7.20.1 Configuration

The moving map and weather pages are capable of displaying a large quantity and variety of data. Map data is layered to ensure that data which is typically more critical is drawn above less critical data, however at some zoom scales and configurations the map may be cluttered with large amounts of data. Controls are provided on the Map and Weather pages for the pilot to select which data displayed, the declutter level, and the zoom scales at which data is added to or removed from the display. It is the responsibility of the pilot to select settings for the map page that will provide the display of data most appropriate to the operation being conducted.

7.20.2 Flight Plan Depiction

The map page depicts the current active flight plan. When an Off Route Direct To is active the flight plan will no longer be depicted on the map.

7.20.3 Fuel Range Ring

The distance between the segmented green reserve ring and the yellow zero fuel ring is 45 minutes at the current aircraft groundspeed by default. The pilot may change the fuel reserve time value on the map setup menu. Changes to the fuel reserve time are persisted over GTN power cycles.

Visibility of the fuel range ring may be affected by the underlying map data selectable by the pilot. The pilot may make changes to the topographic or terrain data in order or more clearly observe the fuel range ring at any time.

Fuel range data is derived from the interfaced fuel totalizer data. Data entered in the Fuel Planning pages will not update the fuel range ring.

7.21 User Defined Waypoints

When a User Defined Waypoint is created a default name will automatically be provided and the pilot is given the option to provide a different name for the waypoint. Pages which have the autofill function will prevent some waypoint names from being used. If it is desired to name the waypoint with a name that is a subset of the name of an existing waypoint in the database then this must be accomplished on the Waypoint Info / User Waypoints page.

Waypoints which are created when a Search and Rescue pattern is created are not considered User Waypoints and therefore functions associated with User Waypoints are not provided for these waypoints.

7.22 Times and Distances

Time and Distance data to the next waypoint is always calculated from the present position to that waypoint and does not account for the path which may be flown (such as intercepting a course) to reach the waypoint.

When navigating using GPS guidance most legs are TO type legs where distance to the next waypoint decreases along the route. However some procedures include FROM type legs. When navigating on a leg that is a FROM leg indications that it is a FROM leg include the TO/FROM flag indicating FROM and distances increasing in distance fields.

7.23 GTN-GTN Crossfill

Certain data will sync between GTNs when installed in a dual GTN configuration. The following data will crossfill between the two GTNs with crossfill enabled or disabled:

- User Waypoints
- FPL Catalog
- Traffic Alerts
- Missed Approach Popups
- Altitude Leg Popups
- Heading
- Date/Time Conventions
- CDI Scale

The following items are crossfilled only when the GTNs are set to CROSSFILL ON:

- User Holds
- Approaches
- Flight Plan Changes
- Direct-To
- Selected OBS Course Changes

Additionally, the following unit changes will crossfill:

- Temperature
- NAV Angle (User, °T or Magnetic)
- Fuel

7.24 Direct-To Operations

When conducting Direct-To operations the Flight Plan tab provides a list of waypoints in the flight plan for which Direct-To is available. Some entries in the flight plan such as Holds and Course Reversals are not eligible for Direct-To and the user must instead select the associated waypoint if Direct-To operation is desired.

US Department of Transportation
Federal Aviation Administration

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

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

Electronic Tracking Number

For FAA Use Only

INSTRUCTIONS: Print or type all entries. See Title 14 CFR §43.9, Part 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. §44701). Failure to report can result in a civil penalty for each such violation. (49 U.S.C. §46301(a))

1. Aircraft	Nationality and Registration Mark: N3372D	Serial No.: 32170	
	Make: Cessna	Model: 180	Series: n/a
2. Owner	Name *(As shown on registration certificate)*: Yanover Joseph J	Address *(As shown on registration certificate)*: Address PO Box 3425; City Telluride; State CO; Zip 81435-3425; Country USA	

3. For FAA Use Only

4. Type		5. Unit Identification			
Repair	Alteration	Unit	Make	Model	Serial No.
☐	☑	AIRFRAME	———	*(As described in Item 1 above)*	———
☐	☐	POWERPLANT			
☐	☐	PROPELLER			
☐	☐	APPLIANCE	Type / Manufacturer		

6. Conformity Statement

A. Agency's Name and Address
Name Superior Aviation
Address 250 Riverhills RD
City Kingsford State MI
Zip 49802 Country USA

B. Kind of Agency

	U. S. Certificated Mechanic		Manufacturer
	Foreign Certificated Mechanic	C. Certificate No.	
✓	Certificated Repair Station	EATR437D	
	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 ☐

Signature/Date of Authorized Individual
Philip C. Turri 4/12/07

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 Flt. Standards Inspector		Manufacturer		Maintenance Organization		Persons Approved by Canadian Department of Transport
		FAA Designee	X	Repair Station		Inspection Authorization		Other *(Specify)*

Certificate or Designation No.
EATR437D

Signature/Date of Authorized Individual
Philip C. Turri 4/12/07

FAA Form 337 (10-06)

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.)

N3372D	4/12/07
Nationality and Registration Mark	Date

Installed J.P. Instruments (JPI) fuel flow indicating system in accordance with STC#SA00861SE and JPI Installation Manual FS-450, Report No. 400, REV. A dated 08/09/2002 and Fuel Flow transducer in accordance STC#SA00432SE and JPI Fuel Flow Installation Manual Report No. 503, REV. B, dated 03/14/1997. Revised aircraft weight and balance.----------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
GL09

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: 180
	Serial No.: 32170	Nationality and Registration Mark: N3372D
2. Owner	Name (As shown on registration certificate): Yanover, Joseph Jon	Address (As shown on registration certificate): P.O. Box 3425 Telluride, CO 81435

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.
Tim Brooks Superior Aviation, Inc. 250 Riverhills Road Kingsford, MI 49802	[ ] U.S. Certificated Mechanic [ ] Foreign Certificated Mechanic [X] Certificated Repair Station [ ] Manufacturer	EATR437D

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
04/26/06	Tim Brooks

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 Appoved by Transport Canada Airworthiness Group	

Date of Approval or Rejection	Certificate or Designation No.	Signature of Authorized Individual
04/26/06	EATR437D	Tim Brooks

FAA Form 337 (12-88)

RECEIVED
MAY 8 2006
BY:

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.)

Inspected aircraft for compliance with previously installed Cleveland Wheels & Brakes conversion from original Goodyear assemblies at unknown date and time in accordance with Cleveland Wheels & Brakes IM199-62 Installation Manual for Conversion Kit P/N 199-62 approved for Cessna 180 under STC# SA63GL, Parker Hannifin Corporation Conversion Kit Parts List 199-62, Revison A dated 06-12-2001. Confirmed axle P/N1441003-1 and parts per Figure 1 & 2. Installed 2 new P/N164-03601 discs, 2 new 075-05401 torque plates, 8 new P/N 103-11800 brake tie bolts, 4 new P/N 069-00400 anchor bolts and 8 new P/N 066-10500 linings. Work done in accordance with Cleveland Conversion kit IM199-62 Installation Manual section 8.0 through 8.4. Installation of Conversion Kit under STC# SA63GL found to be in full compliance.

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

☒ Additional Sheets Are Attatched

*U.S.GPO:1994-568-012/00019

United States of America

Department of Transportation—Federal Aviation Administration

Supplemental Type Certificate

Number SA63GL

This certificate, issued to Aircraft Wheel and Brake Division
Parker Hannifin Corporation
1160 Center Road
Avon, Ohio 44011

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 *
Make *
Model *

*See attached FAA Approved Model List (AML) No SA63GL for list of approved airplane models and applicable airworthiness regulations.

Description of Type Design Change:
Installation of Cleveland Main Wheels and Brakes in accordance with Parker Hannifin Corporation Conversion Kit Parts Lists 199-62, Revision C, dated April 21, 1994, and P/N 199-62A, Revision A, dated April 21, 1994, or later FAA approved revisions.

Limitations and Conditions: 1. This kit is eligible only on Cessna axle P/N's 9541124 and 1441003-1. 2. This installation is not eligible for use on aircraft equipped with the optional crosswind (castering) landing gear. 3. Compatibility of this design change with previously approved modifications must be determined by the installer. 4. A copy of this certificate and FAA Approved Model List (AML) No. SA63GL amended January 5, 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 surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: 5/22/74
Date of issuance: 8/6/74
Date reissued: 10/28/80
Date amended: 10/25/74, 4/1/81, 1/5/95

By direction of the Administrator

Thomas J. Richter, Manager (Signature)
Systems & Equipment Branch
Chicago 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 Form 8110-2 (10-68)

FAA APPROVED MODEL LIST (AML) NO. SA63GL
PARKER HANNIFIN CORPORATION
INSTALLING CLEVELAND MAIN WHEELS AND BRAKES

ISSUE DATE: August 6, 1974

ITEM	AIRCRAFT MAKE	AIRCRAFT MODEL	ORIGINAL TYPE CERTIFICATE NUMBER	CERTIFICATION BASIS FOR ALTERATION	INSTALLATION INSTRUCTIONS		AFM SUPPLEMENT NUMBER/DATE	AML AMENDMENT DATE
					NUMBER	REVISION NO. & DATE		
1	Cessna	180, 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, 180J, 180K	5A6	CAR 3 and Amendments listed in TCDS No. 5A6	Conversion Kit Parts List No. 199-62 or 199-62A	C, 4-21-94 A, 4-21-94	N/A	
2	Cessna	185, 185A, 185B, 185C, 185D, 185E, A185E, A185F	3A24	CAR 3 and Amendments listed in TCDS No. 3A24	Conversion Kit Parts List No. 199-62 or 199-62A	C, 4-21-94 A, 4-21-94	N/A	
3	Cessna	206, P206, U206, U206F, U206G, TU206E, TU206F, TU206G	A4CE	CAR 3 and Amendments listed in TCDS No. A4CE	Conversion Kit Parts List No. 199-62 or 199-62A	C, 4-21-94 A, 4-21-94	N/A	

FAA Approved: Thomas J. Richter
Thomas J. Richter, Manager
Systems & Equipment Branch
Chicago Aircraft Certification Office

Amended: 1/5/95

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
GL09

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: 180
	Serial No.: 32170	Nationality and Registration Mark: N3372D
2. Owner	Name (As shown on registration certificate): Yanover, Joseph Jon	Address (As shown on registration certificate): P.O. Box 3425 Telluride, CO 81435

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.
Tim Brooks Superior Aviation, Inc. 250 Riverhills Road Kingsford, MI 49802	[ ] U.S. Certificated Mechanic [ ] Foreign Certificated Mechanic [X] Certificated Repair Station [ ] Manufacturer	EATR437D

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
04/26/06	Tim Brooks

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							Other (Specify)
	[ ]	FAA Flt. Standards Inspector	[ ]	Manufacturer	[ ]	Inspection Authorization	
	[ ]	FAA Designee	[X]	Repair Station	[ ]	Person Appoved by Transport Canada Airworthiness Group	

Date of Approval or Rejection	Certificate or Designation No.	Signature of Authorized Individual
04/26/06	EATR437D	Tim Brooks

FAA Form 337 (12-88)

RECD
MAY 8 2006
BY:

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 horizontal stabilizer from aircraft, removed LH inboard skin and three LH inboard nose ribs. Fit, installed and riveted into postion new nose ribs P/N 0732611-9, -10, -11 and new inboard skin P/N 0732600-5 utilizing same as original rivet pattern and MS20470AD & MS20427AD rivets. Prepped and painted stabilizer and reinstalled on aircraft.
Work done in accordance with Cessna 180 Series Maintenance Manual Section 10, Para. 10-2 through 10-5 & Fig. 10-1, 10-2, Section 17 Para.17-58, Section 18, Para. 18-7 and AC43.13-1B Chapter 4, Section 4, Para. 4-53, 5-57, a, b, Fig. 4-6, Para. 4-58 e.

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

☐ Additional Sheets Are Attatched

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
GRRFSDO - GL-09

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: 180
	Serial No.: 32170	Nationality and Registration Mark: USA N3372D
2. Owner	Name *(As shown on registration certificate)*: Yanover, Joseph J.	Address *(As shown on registration certificate)*: P.O. Box 3425 Telluride, CO. 81435-3425

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.
Wilfred G Landry Jr 401 Ave F Gwinn, Mi. 49841	☒ U.S. Certificated Mechanic ☐ Foreign Certificated Mechanic ☐ Certificated Repair Station ☐ Manufacturer	A&P 2880270

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
June 22, 2005	

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	X	Inspection Authorization	Other *(Specify)*
	FAA Designee		Repair Station		Person Approved by Transport Canada Airworthiness Group	

Date of Approval or Rejection	Certificate or Designation No.	Signature of Authorized Individual
June 22, 2005	2880270	

FAA Form 337 (12-88)

RECEIVED
JUN 27 2005
BY:

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 Aero Fabricators shoulder harness and seat belt assembly for pilot and co pilot seats per Aero Fabricators Installation Instructions AF-28 , no revision , dated March 2, 1990 , and STC SA1476GL dated June 15, 1990.

Weight and balance updated per installation instructions .

----------Last Entry----------

☐ Additional Sheets Are Attached

U.S.GPO:1989-0-663-171

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
NM-SLC-FSDO

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: 180
	Serial No.: 32170	Nationality and Registration Mark: N3372D
2. Owner	Name *(As shown on registration certificate)*: Yanover, Joseph Jon	Address *(As shown on registration certificate)*: 122 N. Spruce St., Box 3425 Telluride, CO. 81435

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.
Karen J. Caton Smiling Aviation 1671 64.50 Rd. Montrose, CO 81401	☒ U.S. Certificated Mechanic ☐ Foreign Certificated Mechanic ☐ Certificated Repair Station ☐ Manufacturer	A&P521702637

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
02-17-2005	Karen J. Caton

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	X	Inspection Authorization	Other *(Specify)*
	☐ FAA Designee	☐	Repair Station	☐	Person Approved by Transport Canada Airworthiness Group	

Date of Approval or Rejection	Certificate or Designation No.	Signature of Authorized Individual
02-17-2005	A&P522131213IA	

FAA Form 337 (12-88)

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.)

02-17-2005 Installed new McCauley propeller Model 2A34C203/90DCA-2, s/n 041332, spinner and spinner bulkhead in accordance with McCauley Propeller Systems STC SA01033CH, McCauley Drawing No. D-60290, and Installation instructions TR930 dated February 3,1999. Weight and Balance change amended in POH.

END

☐ Additional Sheets Are Attached

U.S.GPO:1989-0-663-171

United States of America

Department of Transportation -- Federal Aviation Administration

Supplemental Type Certificate

Number SA01033CH

This certificate issued to

McCauley Propeller Systems
3535 McCauley Drive
Vandalia, OH 45377

*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:

Make:

Model:

*See attached FAA Approved Model List (AML) No. SA01033CH for list of approved airplane Models and applicable airworthiness regulations

Description of Type Design Change:

Installation of McCauley Propeller Model 2A34C203/90DCA-X in accordance with McCauley Installation Instructions and Drawing as listed on AML No. SA01033CH, or later FAA approved revisions.

Limitations and Conditions:

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

(See continuation sheet 3 of 3)

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: February 19, 1999

Date of issuance: April 29, 1999

Date reissued:

Date amended:

By direction of the Administrator

(Signature)

Thaddeus D. Krolicki, Jr.
Manager, Propulsion Branch
Chicago 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.

United States of America

Department of Transportation - Federal Aviation Administration

Supplemental Type Certificate

(Continuation Sheet)

Number SA01033CH

Date Issued: April 29, 1999

Limitations and Conditions (Continued):

2. The following Teledyne Continental Motors engine models are eligible with the McCauley propeller model 2A34C203/90DCA-X with the maximum continuous ratings listed below:

	Maximum Continuous	
Engine Model	HP	RPM
O-470-A	225	2600
O-470-J	225	2550
O-470-K, -L, -R	230	2600

3 Aircraft specifications are the same as listed on Type Certificate Data Sheets as listed on the FAA AML No. SA01033CH except as listed in McCauley Technical Report Number 929.

4. A copy of this Certificate and FAA Approved Model List (AML) No. SA01033CH dated April 29, 1999, or later FAA approved revision, must be maintained as part of the permanent records for the modified aircraft.

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

....END...

FAA APPROVED MODEL LIST (AML) NO. SA01033CH
FOR MCCAULEY PROPELLER SYSTEMS
INSTALLING MODEL 2A34C203/90DCA-X PROPELLERS

Issue Date: April 29, 1999

					INSTALLATION INSTRUCTIONS			
ITEM	AIRCRAFT MAKE	AIRCRAFT MODEL	ORIGINAL TYPE CERTIFICATE NUMBER	CERTIFICATION BASIS FOR ALTERATION	NUMBER	REVISION NO. AND DATE	AFM SUPPLEMENT NUMBER/DATE	AML AMENDMENT DATE
1	Cessna	180, 180A, 180B, 180C, 180D, 180E and 180F	5A6	CAR 3 and Amendments Listed in TCDS 5A6	TR 930 Dwg. No. D-60290	No Rev. 2/3/99 No Rev. 2/18/99	TR 929 4/29/99	
2	Cessna	182, 182A, 182B, 182C, 182D, 182E, 182F, 182G, 182H, 182J, 182K and 182L	3A13	CAR 3 and Amendments Listed in TCDS 3A13	TR 930 Dwg. No. D-60290	No Rev. 2/3/99 No Rev. 2/18/99	TR 929 4/29/99	

FAA Approved:

Thaddeus D. Krolicki, Jr
Manager, Propulsion Branch
Chicago Aircraft Certification Office

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
NM-SLC-FSDO

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: 180
	Serial No.: 32170	Nationality and Registration Mark: N3372D
2. Owner	Name *(As shown on registration certificate)*: YANOVER, JOSEPH J	Address *(As shown on registration certificate)*: 122 NORTH SPRUCE STREET P.O. BOX 3425, TELLURIDE, CO 81435

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.
KARL D. ZEISET SMILING AVIATION 1671 64.50 ROAD MONTROSE, CO 81401	☒ U.S. Certificated Mechanic ☐ Foreign Certificated Mechanic ☐ Certificated Repair Station ☐ Manufacturer	A&P 190583478

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
10-1-2004	

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	X	Inspection Authorization	Other *(Specify)*
	☐ FAA Designee	☐	Repair Station	☐	Person Approved by Transport Canada Airworthiness Group	

Date of Approval or Rejection	Certificate or Designation No.	Signature of Authorized Individual
10-1-2004	A&P 522131213IA	

FAA Form 337 (12-88)

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 remote oil filter in accordance with Airwolf Filter Corporation STC SA00079NY installation instructions No. AFC-K008-11-C using kit part number AFC-K008 dated January 8, 1994 to upper left hand corner of fire wall.

☐ Additional Sheets Are Attached

U.S.GPO:1989-0-663-171

United States of America

Department of Transportation -- Federal Aviation Administration

Supplemental Type Certificate

Number SA00079NY

This certificate issued to Airwolf Filter Corp
15369 Madison RD.
Middlefield, OH 44062

certifies that the change in the type design for the following product with the limitations and conditions thereto as specified hereon meets the airworthiness requirements of Part 3/23 *of the* Federal Aviation/Civil Air *Regulations.*

Original Product -- Type Certificate Number : * (See attached FAA Approved Model List

Make : * (AML) No. SA00079NY for list approved

Model : * Airplane Models and applicable installation
* Instructions)

Description of Type Design Change :

Installation of Airwolf remote mounted engine oil filter Kit AFC-K008 on single and multi engine fixed wing light aircraft incorporating Teledyne Continental reciprocating engines of 450 horsepower or less.

Limitations and Conditions :

1. Engine compartment firewall for mounting oil filter shall be of .021 inch minimum thickness ASTM A527 galvanized steel or
equivalent (Ref. CAR 3.624(b), FAR 23.119(h).

2. Airwolf Maintenance Instructions AFC-K008-MI, dated January 8, 1994 are required with this installation.
(See STC Continuation Sheet, Page 2)

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 : January 28, 1994

Date of issuance : April 05, 1994

Date reissued :

Date amended : November 22, 1994, May 23, 1995, May 7, 1997 February 5, 1996 July 21, 1999

FEDERAL AVIATION ADMINISTRATION

By direction of the Administrator

(Signature)

for Vito A. Pulera
Manager
New York 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.

EGR

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
ANM-5LC-FSDO ROF

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: 180K
	Serial No.: 32170	Nationality and Registration Mark: N3372D
2. Owner	Name *(As shown on registration certificate)*: John Yanover	Address *(As shown on registration certificate)*: Box 3425 Telluride, Co. 81425

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.
Ernest R. Denton 13295 2800 Road Hotchkiss. Co. 81419	☒ U.S. Certificated Mechanic ☐ Foreign Certificated Mechanic ☐ Certificated Repair Station ☐ Manufacturer	A&P1974716IA

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
07-27-04	

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	X	Inspection Authorization	Other *(Specify)*
	☐ FAA Designee	☐	Repair Station	☐	Person Approved by Transport Canada Airworthiness Group	

Date of Approval or Rejection	Certificate or Designation No.	Signature of Authorized Individual
07-17-04	A&P1974716IA	

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.)

Installation of InterAv Alternator in accordance with InterAv Inc.,STC#SA334SW and Report 65-113, Revision G dated, 5/11/81, or later FAA or FAA DER approved revisions. Check size of wire from Alternator output terminal to Alternator circuit breaker and from Alternator circuit breaker to buss, installed 60 amp circuit breaker and eight gauge wire to conform to AC43.13B Chapter 11, Table 11-3. with 50 amp Alternator output.

Weight and Balance and Equipment List Amended.

The End

☐ Additional Sheets Are Attached

U.S.GPO:1989-0-663-171

AIRCRAFT INDEX

AIRCRAFT APPROVED - STC SA334SW - REVISION 16 JULY 20, 1981

Kit	Aircraft Designation	T. C. No.
SE	Beech 23, all series	A1CE
SE	Beech 35, all series with Continental O-470/IO-470 engines	A-777
SE	Beech H35, J35, K35, M35, N35, P35, 35-33, 35-A33, 35-B33, 35-C33	3A15
SE	Bellanca 14-19, all series with Continental O-470/IO-470 engines	1A3
SE	Cessna 180, all series	5A6
SE	Cessna 182, all series	3A13
SE	Cessna 185, all series	3A24
SE	Cessna 210, all series	3A21
SE	Cessna 210-5, all series	3A21
SE	Cessna 206	A4CE
SE	Consolidated Aeronautics Colonial C1, C2, Lake LA-4, all series	1A13
SE	Downer (Republic) RC-3	A-769
SE	Helio H250	1A8
SE	Hughes 269, all series with belt-driven generators	4H12
SE	Intermountain (Callair) A, all series with belt-driven generators	A-758
SE	Lockheed 402-2	2A11
SE	Meyers 200, all series	3A18
SE	Mooney M20, all series	2A3
SE	Navion D, E, F, G, and others with O-470 and IO-470 engines	782
SE	Piper PA-12, PA-12S, with Lycoming O-290 series engines	A-780
SE	Piper PA-16	1A1
SE	Piper PA-18, all series with belt-driven generators	1A2
SE	Piper PA-18, all series with belt-driven generators	AR-7
SE	Piper PA-20, all series with belt-driven generators	1A4
SE	Piper PA-22, all series with belt-driven generators	1A6
SE	Piper PA-24, PA-24-250 series	1A15
SE	Piper PA-25, all series	2A8
SE	Piper PA-25, all series	2A10
SE	Piper PA-28, all series	2A13
SE	Varga 2150A, all series with wide-deck Lycoming O-320 engines	4A19
TE	Camair 480	2A2
TE	Helio 500	A2EA
TE	Pine Air (and) Fleet Aircraft Ltd. Super-V	4A29 & A5IN
TE	Piper PA-23, all series	1A10
TE	Piper PA-30	A1EA

FAA Approval L. B. Anderson
Chief, Engineering & Manufacturing Branch, ASW-210

Date 7/20/81

Report 65-11

United States of America
Department of Transportation — Federal Aviation Administration

Supplemental Type Certificate

Number SA334SW

This certificate issued to InterAv, Inc.
P. O. Box 16714
100 E. Nakoma
San Antonio, Texas 78216

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

Original Product—Type Certificate Number: See Limitations and Conditions
Make: See Limitations and Conditions
Model: See Limitations and Conditions

Description of Type Design Change: Installation of InterAv Alternator in accordance with Report 65-113, Revision G dated 5/11/81, or later FAA or FAA DER approved revisions.

Limitations and Conditions:

See attached Eligibility List dated July 20, 1981, FAA approved, for original type certificate numbers, makes, and models.

Compatibility of this modification with other previously approved modifications must be determined by the installer.

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: January 8, 1964

Date of issuance: February 3, 1964

Date amended: 7/27/64; 10/8/64; 12/8/64; 3/26/65; 9/16/65; 11/24/65; 1/19/66; 3/18/66; 5/3/66; 10/21/66; 9/15/75; 5/6/76; 11/22/77; 5/17/79; 5/4/81; 7/20/81
Revision 16

By direction of the Administrator

(Signature)

Don P. Watson
Chief, Engineering and Manufacturing Branch
(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 Form 8110-2 (10-68)

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
NM-SCC-FSDO

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: 180K
	Serial No.: 32170	Nationality and Registration Mark: N3372D
2. Owner	Name *(As shown on registration certificate)*: John Yanover	Address *(As shown on registration certificate)*: Box 3425 Telluride, Co. 81425

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.
Ernest R. Denton 13195 2800 Road Hootchkiss. Co. 81419	☒ U.S. Certificated Mechanic ☐ Foreign Certificated Mechanic ☐ Certificated Repair Station ☐ Manufacturer	A&P1974716

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
08-10-04	

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	X	Inspection Authorization	Other *(Specify)*
	☐ FAA Designee	☐	Repair Station	☐	Person Approved by Transport Canada Airworthiness Group	

Date of Approval or Rejection	Certificate or Designation No.	Signature of Authorized Individual
08-10-04	A&P1974716IA	

FAA Form 337 (12-88)

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.)

Installation of Electronics International, Inc. Model SR-8 or US-8 Digital Engine Analyzer (THE SMART ANALYZER) in accordance with STC# SA4302NM and Electronics International, Inc. Installation instructions No. II O12881, dated 1/28/88 (for SR-8), or later Installation Instructions No.II 072091, date July 20, 1989 (for US-8), or later FAA approved revisions. Weight and Balance and Equipment list amended.

The End

☐ Additional Sheets Are Attached

U.S.GPO:1989-0-663-171

United States of America

Department of Transportation — Federal Aviation Administration

Supplemental Type Certificate

Number SA4302NM

This certificate, issued to Electronics International, Inc.

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

Original Product — Type Certificate Number: * *See attached Approved Model List (AML) No.
Make: * SA4302NM for list of approved airplane models
Model: * and applicable airworthiness regulations.

Description of Type Design Change: Installation of Electronics International, Inc. Model SR-8 or Model US-8 Digital Automatic Engine Analyzer (THE SMART SCANNER) in accordance with Electronics International, Inc. Installation Instructions No. II 012881, dated 1/28/88 (for SR-8), or Installation Instructions No. II 072091, dated July 20, 1989 (for US-8), or later FAA approved revisions.

NOTE: The Model SR-8 and Model US-8 listed here are designed as engine analyzers and are not primary instruments.

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 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. SA4302NM, and the above mentioned Installation Instructions 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 surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: February 25, 1988 *Date reissued:*

Date of issuance: Apri 21, 1988 *Date amended:* October 13, 1989

By direction of the Administrator

Stewart K. Waller
(Signature)

Assistant 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 Form 8110-2 (10-68)

FAA Approved
Electronics International, Inc.
Approved Model List (AML) SA4302NM
for
Installation Of Electronics International Digital Automatic Engine Analyzers

Issue Date: April 21, 1988

Item	Aircraft Make	Aircraft Model	Original Type Certificate Number	Certification Basis for Alteration	FAA Sealed Drawings		Installation Instructions		AML Amend. Date
					Number	Rev. No.	Number	Date	
					TD031381	C 10/6/89	11012881 11072091	1/28/88 7/20/89	
15.	Cessna Aircraft (Also see Reims)	120,140 Series	A768, 5A2	CAR 4a CAR 3(CAR 4a)	"	"	"	"	10/13/89
		150, 152 Series	3A19	CAR Part 3					
		170 Series	A799	CAR Part 03					
		172,175 Series	3A12, 3A17	CAR Part 3					
		177 Series	A13CE,A20CE	FAR Part 23					"
		180 Series	5A6	CAR Part 3					
		182, 185 Series	3A13, 3A24	CAR Part 3					
			A-761	CAR 4a					"
		188 Series	A9CE	FAR Part 23					
		190,195 Series	A-790	CAR 3					03/05/93
		206 Series	A4CE	CAR Part 3					10/13/89
		207 Series	A16CE	FAR Part 23					
		210 Series	3A21	CAR Part 3					
		303, 305 Series	5A5, 3A14	CAR Part 3					
		310 Series	3A10	CAR 3					"
		320, 335, 340 Series	3A25	CAR Part 3					
		336,	A2CE	CAR 3					
		337, 401, 402, 411, 414, 421, 425 Series	A6CE	CAR Part 3					
		404	A7CE A25CE	CAR Part 3 FAR Part 23					"
16.	Christen Industries Inc.	S-1,S-2, Series (Pitts)	A8SO	FAR 21 (FAR 23)		"	"	"	5/11/92
17.	Child Doyle F.	S-1, S-2 Series (Pitts)	A8SO	FAR 21 (FAR 23)	"	"	"	"	10/13/89
18.	Consolidated Aeronautic	Colonial C. Series, Lake LA Series	1A13	CAR 03	"	"	"	"	"
19.	De Havilland	DH Series	A8EU 2-439 2-393 7A10 A-816 A-807	FAR 21.29 FAR 21.29 FAR 21.29 CAR 10 CAR 10 CAR 10	"	"	"	"	1/10/91 5/11/92 " "
		DHC Series	A9EA AR-33 AR-13 1A19	CAR 3 CAR 8 CAR 8 CAR 10					1/10/91 5/11/92 "
20.	Enstrom Helicopters	F Series 280 Series	81CE	CAR Part 6	"	"	"	"	10/13/89

FAA Approved
Electronics International, Inc.
Approved Model List (AML) SA4302NM
for
Installation Of Electronics International Digital Automatic Engine Analyzers

Issue Date: April 21, 1988

Item	Aircraft Make	Aircraft Model	Original Type Certificate Number	Certification Basis for Alteration	FAA Sealed Drawings		Installation Instructions		AML Amend. Date
					Number	Rev. No.	Number	Date	
					TD031381	C 10/6/89	11012881 11072091	1/28/88 7/20/89	
21.	Great Lakes	2T Series	A1CS54 ATC-167 2-3339 A1CZ2B A1BEA	ATCS54 ATC-167 2-3339 A1CZ2B FAR 23	"	"	"	"	5/11/92 10/13/89
22.	Gulfstream Aerospace	111 Series 112 Series 114 Series	1180 A12SO A12SO	FAR 23 (FAR 36)	"	"	"	"	5/11/92
23.	Gulfstream American Commander Division	Grumman G-164 Series	1A16	CAR 8.10 (a)(1)	"	"	"	"	10/13/89
		G Series AA Series	1A17, A12EA A11EA A16EA	CAR 4b FAR 23					
		GA Series 500 Series 111 112Series, 114Series	A17SO 6A1 A11SO A12SO	FAR 23 CAR 3 FAR 23 (Far 21) FAR 23 (Far 36)					5/11/92 "
24.	Helio Aircraft LTD (Havion)	H-250 H-295 HI-295 H-391 H-391B H-395 H-395A 500	1A8 1A8 1A8 1A8 1A8 1A8 A2EA	CAR 3 CAR 3 CAR 3 CAR 3 CAR 3 CAR 3 CAR 3 CAR 3	"	"	"	"	10/13/89 5/11/92 10/13/89
25.	Hiller Aviation	UH-12 Series	6B1, 6H2, 4H10, 4H11, H1HE	CAR 6	"	"	"	"	"
26.	Hughes Helicopter s	300 Series 269 Series	4H12	CAR Part 6	"	"	"	"	"
27.	Hynes	H-2, H-4	2H2	CAR Part 6	"	"	"	"	"
28.	Industrie Aeronautic he E Meccaniche (See Piaggio)	PD 808/526 P.166 Series	A12EU 7A6	FAR 21.29 CAR 10	"	"	"	"	3/05/93 "
29.	Lake	See consolidated Aeronautic s							
30.	Maule Air-craft Corp.	M Series	3A23	CAR Part 3	"	"	"	"	"
31.	McDonnell Douglas	DC3 Series DC4 Series	A-607 A-618	CAR 4 CAR 4	"	"	"	"	1/10/91
32.	Mooney	M20 Series (Mooney) M22	2A3 A6SW	CAR 3 CAR 3	"	"	"	"	10/13/8 5/11/92

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
ANM-5LC-FSDO

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: 180
	Serial No.: 32170	Nationality and Registration Mark: N3372D
2. Owner	Name *(As shown on registration certificate)*: Locey Diane K	Address *(As shown on registration certificate)*: PO Box 2058 Ridgeway Co 81432-2058

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.
Mark D Husmann Smiling Aviation Inc. 1671 64.50 Road Montrose Co 81401	☒ U.S. Certificated Mechanic ☐ Foreign Certificated Mechanic ☐ Certificated Repair Station ☐ Manufacturer	A&P522131213IA

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
10-29-2003	

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	X	Inspection Authorization
	☐	FAA Designee	☐	Repair Station	☐	Person Approved by Transport Canada Airworthiness Group

Other *(Specify)*

Date of Approval or Rejection	Certificate or Designation No.	Signature of Authorized Individual
10-29-2003	A&P522131213IA	

FAA Form 337 (12-88)

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.)

N3372D 10-29-2003 Tach-0438.8

Installed new vertical stabilator skin (P/N-0731000-18),new forward rudder skin (P/N-0731000-39),new left rudder skin (P/N-0731000-13), new right rudder skin (P/N-0731000-14), and new rudder tip (P/N-0731000-19) in accordance with the Cessna maintenance manual Section 19,(paragraphs 1-Repair Criteria, 4-Equipment and Tools, 6-Control Balancing, 30-Vertical Fin and Dorsel Area, 33-Damage Necessitating Replacement of Parts, 37-Elevators and Rudder, 39-Damage Necessitating Replacement of Parts, 40-Repair, and Figure 19-2, sheets 1,2,3,4-Control Surface Balancing), using acceptable methods, techniques, and practices in accordance with AC43.13-1B/AC43.13-2A , Chapter 4- Metal Structure,Welding, and Brazing, Section 4- Metal Repair Procedures, Paragraph 4-50 Genral, 4-52 Aluminum Alloy Structures, 4-57 Riveting. Static balance complied with after painting.-Neglible change to wieght and balance.

end

☐ Additional Sheets Are Attached

U.S.GPO:1989-0-663-171

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
SPOKANE FSDO

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: 180
	Serial No.: 32170	Nationality and Registration Mark: N3372D
2. Owner	Name (As shown on registration certificate): Kelley, Diane K. Locey, James A.	Address (As shown on registration certificate): 310 Division La Grande, OR 97850

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.
Keith Chase 3145 Lupine St. W. Richland, WA 99353	X U.S. Certificated Mechanic Foreign Certificated Mechanic Certificated Repair Station Manufacturer	AP483987906

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
4/17/01	

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	X	Inspection Authorization	Other *(Specify)*
	FAA Designee		Repair Station		Person Approved by Transport Canada Airworthiness Group	

Date of Approval or Rejection	Certificate or Designation No.	Signature of Authorized Individual
4/17/01	AP483987906IA	

FAA Form 337 (12-88)

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.)

During annual inspection found Rosen Product Development Inc. sun visor's installed STC# SA3692NM dated Feb. 12, 1987. Inspected installation IAW Rosen installation instructions RCS-300-1 and drawing number RCS-300 dated Dec 17, 1986. Installation confroms to the above STC. Weight and balance negligible. Log book entry made.

********** **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
SPOKANE FSDO

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: 180
	Serial No.: 32170	Nationality and Registration Mark: N3372D
2. Owner	Name (As shown on registration certificate): Kelley, Diane K. Locey, James A.	Address (As shown on registration certificate): 310 Division La Grande, OR 97850

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.
Keith Chase 3145 Lupine St. W. Richland, WA 99353	X U.S. Certificated Mechanic	AP483987906
	Foreign Certificated Mechanic	
	Certificated Repair Station	
	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
4/17/01	

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	X	Inspection Authorization	Other *(Specify)*
	FAA Designee		Repair Station		Person Approved by Transport Canada Airworthiness Group	

Date of Approval or Rejection	Certificate or Designation No.	Signature of Authorized Individual
4/17/01	AP483987906IA	

FAA Form 337 (12-88)

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.)

During annual inspection found 8.50 X 6 main tires installed. Found STC and weight and balance but no 337 in aircraft records. Inspected installation IAW Kenmore Air Harbor Inc. STC No. SA361NW dated Oct. 15, 1976. Installation conforms to above STC. Log book entry made.

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

☐ Additional Sheets Are Attached

U.S. GPO:1989-0-663-171

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
NM01

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: 180
	Serial No.: 18032170	Nationality and Registration Mark: N3372D
2. Owner	Name *(As shown on registration certificate)*: White, Timothy A.	Address *(As shown on registration certificate)*: 103 Kau Trail Pasco, WA 99301

3. For FAA Use Only

4. Unit Identification / **5. Type**

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

RECEIVED

6. Conformity Statement

A. Agency's Name and Address	B. Kind of Agency	C. Certificate No.
James R. Richards 4813 W. Sylvester Pasco, WA 99301	X U.S. Certificated Mechanic Foreign Certificated Mechanic Certificated Repair Station Manufacturer	1932751

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
June 28, 1996	James R Richards

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	X	Inspection Authorization	Other *(Specify)*
	☐ FAA Designee	☐	Repair Station	☐	Person Approved by Transport Canada Airworthiness Group	

Date of Approval or Rejection	Certificate or Designation No.	Signature of Authorized Individual
June 28, 1996	1932751	James R Richards

FAA Form 337 (12-88)

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 "SAF-T-STOP" auxiliary seat stops to seat tracks in accordance with "Aero Technologies, inc." installation instructions of S.T.C. S.A.1211GL dated 7/28/87.

Removed rear seat. Installed two "F.ATLEE DODGE FOLDING SEATS" in accordance with installation instructions of STC SA0200AK dated Dec. 21, 1993.

Installed "BAS, Inc." tail pull handle in aft fuselage in accordance with installation instructions No. TPH-1, sheets 1,2, and 3, dated March 30, 1987 and Drawing No. TPH-1 of STC SA3812NM.

Weight and Balance and equipment list revised. Log book entry made.

----------END----------

☐ Additional Sheets Are Attached

FAA AIRCRAFT REGISTRY
CAMERA NO. 3 DATE: July 5, 1989

F.A.A.

RECEIVED
MAY 04 1989
SEA-FSDO-AW

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Form Approved
Budget Bureau No. 04-R060.1

FOR FAA USE ONLY

OFFICE IDENTIFICATION
NM-FSFO-61A

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

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: 180
	SERIAL NO.: 32170	NATIONALITY AND REGISTRATION MARK: N3372D
2. OWNER	NAME (As shown on registration certificate): Hailey Co., Inc.	ADDRESS (As shown on registration certificate): 691 Hailey Rd. Mesa, Wa. 99343

3. FOR FAA USE ONLY

4. UNIT IDENTIFICATION

UNIT	MAKE	MODEL	SERIAL NO.	5. TYPE: REPAIR	5. TYPE: 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.
Jackie J. Vazquez 1719 S. Rainier Kennewick, Wa. 99337	X U.S. CERTIFICATED MECHANIC	62548759 A&P
	FOREIGN CERTIFICATED MECHANIC	
	CERTIFICATED REPAIR STATION	
	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: 2/9/89

SIGNATURE OF AUTHORIZED INDIVIDUAL: Jackie Vazquez

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 FLT. STANDARDS INSPECTOR		MANUFACTURER	X	INSPECTION AUTHORIZATION	OTHER (Specify)
	FAA DESIGNEE		REPAIR STATION		CANADIAN DEPARTMENT OF TRANSPORT INSPECTOR OF AIRCRAFT	

DATE OF APPROVAL OR REJECTION	CERTIFICATE OR DESIGNATION NO.	SIGNATURE OF AUTHORIZED INDIVIDUAL
2-9-89	62548759	Jackie Vazquez

FAA Form 337 (7-67) (8320)

FAA AIRCRAFT REGISTRY
CAMERA NO. 3 DATE: July 5, 1989

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 Loran antenna on top of fuselage in accordance with installation instructions and as per AC43.13-2A. Doubler plate installed under antenna. Removed radio compass gauge model #2330A S/W 2638K5 weight (0.8) and installed Loran 612C S/W 36182 weight (3.81lbs.). See weight and balance sheet revision. Log book entry made.

-END-

X ADDITIONAL SHEETS ARE ATTACHED

C FAA AC 72-4906

☆U.S. GOVERNMENT PRINTING OFFICE: 1986-659-121/40260

FAA AIRCRAFT REGISTRY
CAMERA NO. IN DATE: 4-5-89

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Form Approved
Budget Bureau No. 04-R060.1

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

FOR FAA USE ONLY

OFFICE IDENTIFICATION: NM-FSDO-64

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: 180
	SERIAL NO.: 32170	NATIONALITY AND REGISTRATION MARK: N3372D
2. OWNER	NAME (As shown on registration certificate): GARY TOBEY	ADDRESS (As shown on registration certificate): 3655 N.E. 222 AVE. CAMAS WA 98607

3. FOR FAA USE ONLY

4. UNIT IDENTIFICATION / 5. TYPE

UNIT	MAKE	MODEL	SERIAL NO.	5. REPAIR	5. ALTERATION
AIRFRAME	(As described in item 1 above)				
POWERPLANT	CONTINENTAL	O-470K	47031-5-K		X
PROPELLER					
APPLIANCE	TYPE: / MANUFACTURER:				

6. CONFORMITY STATEMENT

A. AGENCY'S NAME AND ADDRESS	B. KIND OF AGENCY	C. CERTIFICATE NO.
LYMAN BANISTER 4177 BRAMBLE CT. N.E. SALEM OR. 97305	X U.S. CERTIFICATED MECHANIC FOREIGN CERTIFICATED MECHANIC CERTIFICATED REPAIR STATION MANUFACTURER	A&P1144740

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
4-11-89	L. Banister

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 FLT. STANDARDS INSPECTOR		MANUFACTURER	X	INSPECTION AUTHORIZATION	OTHER (Specify)
	FAA DESIGNEE		REPAIR STATION		CANADIAN DEPARTMENT OF TRANSPORT INSPECTOR OF AIRCRAFT	

DATE OF APPROVAL OR REJECTION	CERTIFICATE OR DESIGNATION NO.	SIGNATURE OF AUTHORIZED INDIVIDUAL
4-11-89	IA1144740	L. Banister

FAA Form 337 (7-67) (8320)

FAA AIRCRAFT REGISTRY
CAMERA NO. IN DATE: 4-5-89

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.)*

STC# SA2001CE (AUTOGAS USE APPROVAL)
THIS STC INSTALLED ON THIS ENGINE IN
ACCORDANCE WITH INSTRUCTIONS PER SAME.

FSDO
PORTLAND, OREGON
RECEIVED
APR 15 1987
AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

☐ ADDITIONAL SHEETS ARE ATTACHED

C FAA AC 72-4906

☆ U.S. GOVERNMENT PRINTING OFFICE: 1986—559-121/40146

FAA AIRCRAFT REGISTRY
CAMERA NO. 1N DATE: 4-5-89

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

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

Form Approved
Budget Bureau No. 04-R060.1

FOR FAA USE ONLY
OFFICE IDENTIFICATION
NM-FSDO-64

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 180
	SERIAL NO. 32170	NATIONALITY AND REGISTRATION MARK N3372D
2. OWNER	NAME (As shown on registration certificate) GARY TOBEY	ADDRESS (As shown on registration certificate) 3655 N.E. 222nd AVE. CAMAS, WA. 98607

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.
LYMAN BANISTER 4177 BRAMBLE CT. N.E. SALEM OR. 97305	X U.S. CERTIFICATED MECHANIC	A&P 1144740
	FOREIGN CERTIFICATED MECHANIC	
	CERTIFICATED REPAIR STATION	
	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
4-11-87	L. Banister

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	X INSPECTION AUTHORIZATION	OTHER (Specify)
	FAA DESIGNEE	REPAIR STATION	CANADIAN DEPARTMENT OF TRANSPORT INSPECTOR OF AIRCRAFT	

DATE OF APPROVAL OR REJECTION	CERTIFICATE OR DESIGNATION NO.	SIGNATURE OF AUTHORIZED INDIVIDUAL
4-11-87	IA1144740	L. Banister

FAA Form 337 (7-67) (8320)

FAA AIRCRAFT REGISTRY
CAMERA NO. IN DATE: 4-5-89

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.)*

STC # SE1997CE (CAUDRAS USE APPROVAL)
THIS STC INSTALLED ON THIS AIRCRAFT IN
ACCORDANCE WITH INSTRUCTIONS PER SAME.

☐ ADDITIONAL SHEETS ARE ATTACHED

FSDO
PORTLAND, OREG.
RECEIVED
APR 15 1987
AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

C FAA AC 72-4906

☆ U.S. GOVERNMENT PRINTING OFFICE: 1986-659-121/40146

FAA AIRCRAFT REGISTRY
CAMERA NO. 2 DATE: 3-2-89

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

RECEIVED
OCT 20 RECD
SEA-FSDO-AW

Form Approved
Budget Bureau No. 04-R060.1

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

FOR FAA USE ONLY

OFFICE IDENTIFICATION
NM-FSFO-61

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: 180
	SERIAL NO.: 32170	NATIONALITY AND REGISTRATION MARK: N3372D
2. OWNER	NAME (As shown on registration certificate): Hailey Company	ADDRESS (As shown on registration certificate): 691 Hailey Rd. Mesa, WA 99343

3. FOR FAA USE ONLY

4. UNIT IDENTIFICATION

UNIT	MAKE	MODEL	SERIAL NO.	5. TYPE REPAIR	5. TYPE 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.
Garry Hastings 1908 N. 11th Pasco, WA 99301	X U.S. CERTIFICATED MECHANIC FOREIGN CERTIFICATED MECHANIC CERTIFICATED REPAIR STATION MANUFACTURER	A&P 2256021

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: 10/1/88

SIGNATURE OF AUTHORIZED INDIVIDUAL: Garry Hastings

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	X	INSPECTION AUTHORIZATION	OTHER (Specify)
	FAA DESIGNEE		REPAIR STATION		CANADIAN DEPARTMENT OF TRANSPORT INSPECTOR OF AIRCRAFT	

DATE OF APPROVAL OR REJECTION	CERTIFICATE OR DESIGNATION NO.	SIGNATURE OF AUTHORIZED INDIVIDUAL
10/1/88	2256021	Garry Hastings

FAA Form 337 (7-67) (8320)

FAA AIRCRAFT REGISTRY
CAMERA NO. 2 DATE: 3-2-89

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 Horton Stol Kit: wing leading edge cuffs, drooped tips, stall fences and aileron gap seals in accordance with data in Stol-Craft Drawing List #1 and AC. 43.13 1A. Revised weight and balance.

END

☐ ADDITIONAL SHEETS ARE ATTACHED

U.S. GPO 1981 - 775-332 47

FAA AIRCRAFT REGISTRY
CAMERA NO. 2 DATE: 3-2-89

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

RECEIVED
OCT 20 REC'D
ANM-FSDO-AW

Form Approved
Budget Bureau No. 04-R060.1

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

FOR FAA USE ONLY

OFFICE IDENTIFICATION
NM-FSFO-61

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: 180
	SERIAL NO.: 32170	NATIONALITY AND REGISTRATION MARK: N3372D
2. OWNER	NAME (As shown on registration certificate): Hailey Company	ADDRESS (As shown on registration certificate): 691 Hailey Rd. Mesa, WA 99343

3. FOR FAA USE ONLY

4. UNIT IDENTIFICATION

UNIT	MAKE	MODEL	SERIAL NO.	5. TYPE: REPAIR	5. TYPE: 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.
Garry Hastings 1908 N. 11th Pasco, WA 99301	X U.S. CERTIFICATED MECHANIC FOREIGN CERTIFICATED MECHANIC CERTIFICATED REPAIR STATION MANUFACTURER	A&P 2256021

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
Oct. 1, 1988	Garry Hastings

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	X	INSPECTION AUTHORIZATION	OTHER (Specify)
	FAA DESIGNEE		REPAIR STATION		CANADIAN DEPARTMENT OF TRANSPORT INSPECTOR OF AIRCRAFT	

DATE OF APPROVAL OR REJECTION	CERTIFICATE OR DESIGNATION NO.	SIGNATURE OF AUTHORIZED INDIVIDUAL
10/1/88	2256021	Garry Hastings

FAA Form 337 (7-67) (8320)

FAA AIRCRAFT REGISTRY
CAMERA NO. 2 DATE: 3-2-89

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 damaged tail section from fuselage at Station 140. Installed used, servicable tail section at Station 140. Riveted tail section on, using original rivet spacing. All work done in accordance with Cessna Service Manual and A.C. 43.13-1A.

END

☐ ADDITIONAL SHEETS ARE ATTACHED

U.S. GPO 1981-775-332 47

FAA AIRCRAFT REGISTRY
CAMERA NO. 3N DATE: 3-12-84

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

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

Form Approved
Budget Bureau No. 04-R060.1

FOR FAA USE ONLY
OFFICE IDENTIFICATION 4-08

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: 180K
	SERIAL NO.: 32170	NATIONALITY AND REGISTRATION MARK: N 3372D
2. OWNER	NAME (As shown on registration certificate): BARRY F BRANIN	ADDRESS (As shown on registration certificate): 7337 S.E. 71 ST. PORTLAND ORE 97201

3. FOR FAA USE ONLY

4. UNIT IDENTIFICATION / 5. TYPE

UNIT	MAKE	MODEL	SERIAL NO.	5. TYPE: REPAIR	5. TYPE: 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.
GOLDEN WEST A/C Radio 1971 AVIATION DR. CORONA, CA. 91720	U.S. CERTIFICATED MECHANIC FOREIGN CERTIFICATED MECHANIC X CERTIFICATED REPAIR STATION MANUFACTURER	408-78 Radio Limited

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
8-20-80	Charles Manning CA. INSP

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						OTHER (Specify)
	[ ] FAA FLT. STANDARDS INSPECTOR	[ ] MANUFACTURER	[ ] INSPECTION AUTHORIZATION			
	[X] FAA DESIGNEE	[ ] REPAIR STATION	[ ] CANADIAN DEPARTMENT OF TRANSPORT INSPECTOR OF AIRCRAFT			

DATE OF APPROVAL OR REJECTION	CERTIFICATE OR DESIGNATION NO.	SIGNATURE OF AUTHORIZED INDIVIDUAL
8-20-80	408-78	Charles Manning

FAA Form 337 (7-67) ☆ U.S. Government Printing Office 1977—772-646/141 (8320)

FAA AIRCRAFT REGISTRY
CAMERA NO. 3N DATE: 3-12-84

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 KX170B, KI-208, KT-76A. FROM A/C INSTERMENT PANEL AND LOWER RADIO RACK. INSTALLED IN SAME PLACE MK-12 TRANSCIVER VOA-4 OMNI. AND ATS-A TRANSPONDER. INSTALLED POWER SUPPLY FOR MK-12 AND REMOTE UNIT FOR ATS IN AFT RADIO RACK. BEHIND BAGGAGE COMPARTMENT. USED EXISTING COM AND NAV. ANTENNAS. INSTALLED TRANSPONDER ANT. BEHIND BAGGAGE COMPARTMENT ON BOTTOM OF FUSELOGE IN ACCORDANCE WITH AC-43-13-2B CHAPTER 3 PARARGRAPH 42.

ALL WIREING INSTALLED IN ACCORDANCE WITH EQUIPMENT MANUFACTURERS WIREING DIAGRAMS AND AC-43.13-1A PARARGRAPH 429. FIGURE 11.1.

SYSTEM CHECKED FOR CONDUCTED AND/OR RADIATED ELECTROMAGNETIC. INTERFERANCE. AN ELECTRIAL LOAD ~~ANALYSIS~~ ANALYSIS WAS PERFORMED AND THE PROBABLE CONTINOUS LOAD DOES NOT EXCEED THE RATED CAPACITY OF THE GENERATOR.

NEW WEIGHT / BALANCE COMPUTED AND EQUIPMENT LIST AMENDED THIS DATE

END

FILMED AUG 25 1980 Riverside, CA

☐ ADDITIONAL SHEETS ARE ATTACHED

FAA AIRCRAFT REGISTRY
CAMERA NO. 3N DATE: 3-12-84

55

U. S. DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

APPLICATION FOR AIRWORTHINESS CERTIFICATE AND/OR ANNUAL INSPECTION OF AN AIRCRAFT

Form Approved. Budget Bureau No. 41-R041.5.

INSTRUCTIONS
Please print or type. Submit this form to the Civil Aeronautics Administration Aviation Safety Field Representative.

1. TYPE OF APPLICATION (Check which)

a. [X] ORIGINAL ISSUANCE OF CERTIFICATE
b. [ ] ANNUAL INSPECTION FOR RENEWAL OF CERTIFICATE
c. [ ] AMENDMENT OR MODIFICATION OF CURRENT CERTIFICATE
d. [ ] RECERTIFICATION UNDER THE PROVISIONS OF CAR 8
e. [ ] MULTIPLE CERTIFICATE UNDER THE PROVISIONS OF CAR 8
f. [ ]

2. AIRWORTHINESS CLASSIFICATION (Check appropriate item (s))
It is requested that the Certificate of Airworthiness be issued to permit operation of the aircraft in the following airworthiness classification(s):

a. [X] STANDARD (NORMAL, UTILITY, ACROBATIC, TRANSPORT CATEGORIES)
b. [ ] LIMITED (SEE CAR 9)
c. [ ] RESTRICTED (SEE CAR 9)
(Check the restricted special purpose operation(s) to be conducted)
- [ ] AGRICULTURAL AND PEST CONTROL
- [ ] AERIAL ADVERTISING
- [ ] AERIAL SURVEYING
- [✓] GLIDER TOWING
- [ ] PATROLLING
- [ ] FOREST AND WILDLIFE CONSERVATION
- [ ] WEATHER CONTROL
- [ ] OTHER

d. [ ] EXPERIMENTAL
(Check the type of experimental operation(s) to be conducted)
- [ ] RESEARCH AND DEVELOPMENT
- [ ] AMATEUR-BUILT
- [ ] DEMONSTRATION
- [ ] RACING
- [ ] EXHIBITION
- [ ] OTHER

3. AIRCRAFT IDENTIFICATION (Complete all items)

a. AIRCRAFT MAKE	b. AIRCRAFT MODEL	c. AIRCRAFT SERIAL NO.
Cessna	180	32170

d. ENGINE MAKE	e. ENGINE MODEL
Continental	O-470K

aem 8-26-C old

4. AIRCRAFT REGISTRATION INFORMATION (Complete all items)

a. REGISTERED OWNER'S FULL NAME	b. PERMANENT MAILING ADDRESS	c. AIRCRAFT NATIONALITY AND REGISTRATION MARK
Cessna Aircraft Company	Wichita, Kansas	N-3372D

5. AIRCRAFT OWNER'S CERTIFICATION (Check and complete appropriate item)

I hereby certify that I am the registered owner (or his agent) of the aircraft identified in Item 3 above which is registered* with the Civil Aeronautics Administration as required by the Regulations of the Administrator, Part 501 or 502 and when operated displays the following evidence of registration:

a. [ ] CERTIFICATE OF REGISTRATION, FORM ACA-500 (PART A). DATE OF ISSUE _____
b. [ ] APPLICATION FOR REGISTRATION, FORM ACA-500 (PART B). FORM ACA-500, PART A, FORWARDED TO CAA AIRCRAFT RECORDS BRANCH, W-300 ON _____ (DATE)
c. [X] DEALER'S REGISTRATION CERTIFICATE, FORM ACA-1707, DATED 8-25-55

*In order to be eligible for registration an aircraft must be owned by a citizen of the United States, as defined by Section 1 (15) of the Civil Aeronautics Act of 1938, as amended.

ATTACHMENTS (Check which)
- [ ] ACA-319
- [ ] ACA-337
- [ ] ACA-317
- [ ] WEIGHT AND BALANCE REPORT
- [ ] DATA, DRAWINGS, ETC.
- [ ] UNAPPROVED DEVIATION DATA

O. Del Roskam
(SIGNATURE OF REGISTERED OWNER OR AUTHORIZED AGENT)

12-15-55 (DATE)

Owner's Agent (TITLE)

PM

JAN 22 1960

Form ACA-305 (11-51)

FAA AIRCRAFT REGISTRY
CAMERA NO. 3N DATE: 3-12-84

U. S. DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

AIRCRAFT INSPECTION REPORT

(To be completed by a CAA representative or approved repair station)

The aircraft described in Item 3 on the reverse of this form has been inspected and found to conform to the following:
(Check and complete applicable items)

1. AIRCRAFT AND ENGINE CERTIFICATION BASIS

a. ☒ AIRCRAFT SPECIFICATION NO. 5A6 THROUGH SHEET REVISION NO. 18
b. ☐ AIRCRAFT LISTING PAGE NO. ______
c. ☐ AIRWORTHINESS DIRECTIVE SUMMARY ______ (YEAR) THROUGH CARD NO. ______
d. ☐ CIVIL AIR REGULATION PART 8 (MODIFIED) (TYPE CERTIFICATE)

2. AIRCRAFT AND ENGINE OPERATING RECORDS

a. ☒ AIRCRAFT NEW—NO PREVIOUS OPERATION OR MAINTENANCE HISTORY
b. ☐ COMPLIANCE WITH APPLICABLE AIRWORTHINESS DIRECTIVES RECORDED
c. ☐ AIRCRAFT RECORDS INDICATE THE AIRFRAME HAS BEEN OPERATED A TOTAL OF ______ HOURS
d. ☐ ENGINE RECORDS INDICATE THE FOLLOWING OPERATION:

SERIAL NO. ______ TOTAL HOURS ______
SERIAL NO. ______ TOTAL HOURS ______
SERIAL NO. ______ TOTAL HOURS ______
SERIAL NO. ______ TOTAL HOURS ______

3. PREVIOUS INSPECTION RECORD (INSPECTION RECORDED ON FORM ACA-319)

a. LAST AIRWORTHINESS INSPECTION CONDUCTED ______ (DATE)
☐ BY AIRCRAFT MANUFACTURER
☐ BY APPROVED REPAIR STATION, CERTIFICATE NO. ______
☐ BY MECHANIC, CERTIFICATE NO. ______
b. ☐ PERIODIC AIRCRAFT INSPECTION REPORT, FORM ACA-319, WAS RETURNED TO OWNER

RECEIVED
JAN 3 10 37 AM '56
ADMIN. & RECORDS BRANCH
W-300

4. AIRWORTHINESS DOCUMENTS ISSUED OR REVIEWED

a. ☐ OPERATION LIMITATIONS, FORM ACA-309, WAS ISSUED (COPY ATTACHED)
b. ☐ CURRENT OPERATION LIMITATIONS, FORM ACA-309, IS AVAILABLE IN AIRCRAFT
c. ☒ CURRENT APPROVED AIRPLANE FLIGHT MANUAL IS AVAILABLE IN AIRCRAFT
d. ☒ CURRENT WEIGHT AND BALANCE INFORMATION IS AVAILABLE IN AIRCRAFT
e. ☐ THIS INSPECTION HAS BEEN RECORDED IN THE AIRCRAFT RECORDS
f. ☒ CERTIFICATE OF AIRWORTHINESS, FORM ACA-1362, ISSUED TO EXPIRE 12-15-56 (DATE)
g. ☐ PREVIOUS FORM ACA-1362 WAS ISSUED TO EXPIRE ______ (DATE)
BY ______ (NAME OF ISSUING REPRESENTATIVE) ______ (DESIGNATION NO.)

5. CAA APPROVED REPAIR STATION CERTIFICATION

The aircraft described on the reverse has been inspected under the authority accorded certificated repair station No. ______ by CAR 52 and was found to be:

☐ AIRWORTHY
☐ UNAIRWORTHY

______ (REPAIR STATION AUTHORIZED SIGNATURE) ______ (DATE)

6. CAA REPRESENTATIVE CERTIFICATION

J. H. Gatrie DMIR 5-1
Chief Engineer, Commercial D.
CESSNA AIRCRAFT COMPANY

I HAVE INSPECTED THE AIRCRAFT DESCRIBED ON THE REVERSE AND FOUND IT ☑ AIRWORTHY ☐ UNAIRWORTHY *(Check appropriate item)*

DESIGNEE'S SIGNATURE	DESIGNATION NO.	DATE	
By N. Derek Tobias		12-15-55	
AVIATION SAFETY AGENT'S SIGNATURE	CAA DESIGNATION NO.	DATE	☐ ACCEPTED ☐ REINSPECTED ☐ SPOT CHECKED

☑ ATTACHMENT

W RO

FAA AIRCRAFT REGISTRY
CAMERA NO. 3N DATE: 3-12-84

995 527 NOV 8 1965 NOV 15 1965

FEDERAL AVIATION AGENCY

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

Form Approved
Budget Bureau No. 04-R060.1

FOR FAA USE ONLY

OFFICE IDENTIFICATION CE 3-3 CAD03

by Operator #45

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: 180
	SERIAL NO.: 32170	NATIONALITY AND REGISTRATION MARK: N 3372D
2. OWNER	NAME (As shown on registration certificate): Lombard Airport Co Inc	ADDRESS (As shown on registration certificate): 509 W Roosevelt Rd. Lombard Ill

3. FOR FAA USE ONLY

4. UNIT IDENTIFICATION

UNIT	MAKE	MODEL	SERIAL NO.	5. TYPE: REPAIR	5. TYPE: 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.
E.F. Miller 509 W Roosevelt Rd Lombard Ill.	X U.S. CERTIFICATED MECHANIC	A&EI0929
	FOREIGN CERTIFICATED MECHANIC	
	CERTIFICATED REPAIR STATION	
	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
11-4-65	E F Miller

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 Agency and is ☒ APPROVED ☐ REJECTED

BY

☐	FAA FLT. STANDARDS INSPECTOR	☐	MANUFACTURER	X	INSPECTION AUTHORIZATION
☐	FAA DESIGNEE	☐	REPAIR STATION	☐	CANADIAN DEPARTMENT OF TRANSPORT INSPECTOR OF AIRCRAFT

OTHER (Specify)

DATE OF APPROVAL OR REJECTION	CERTIFICATE OR DESIGNATION NO.	SIGNATURE OF AUTHORIZED INDIVIDUAL
11-4-65	A&EI0929 AUTH INSP	Emil F Miller

FAA Form 337 (1-65) OBSOLETE PREVIOUS EDITION

0052-025-8000 (8320)

FAA AIRCRAFT REGISTRY
CAMERA NO. 3N DATE: 3-12-84

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.*)

Repairs to N3372D left wing,right wing, and stabiliser using Cessna factory parts, riveted with A17st rivets of same size or one size larger as required. All work done in accordance with CAM8 .The following parts were used. IO-20-65

left wing

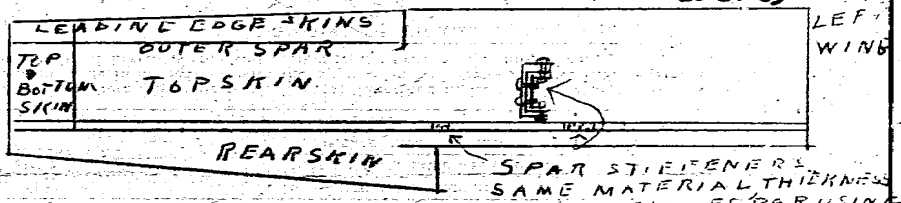
I-0523515-4
I-5235I6-7
I-0523513-3
I-0523515-3
I-0523005-50
I-0523003-40
I-0721400-19
I-0720001-11
I-72000I-16
I-72000I-13
I-72000I-15
I-72000I-17
I-0720001-9

right wing

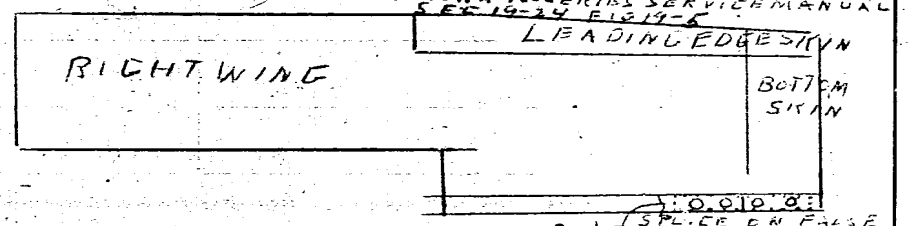
I-0720001-12
I-0720001-14
I-0523516-4
I-0523516-7
I-0523516-4
I-0523515-3
I-0720001-15
I-0720001-9

stabiliser

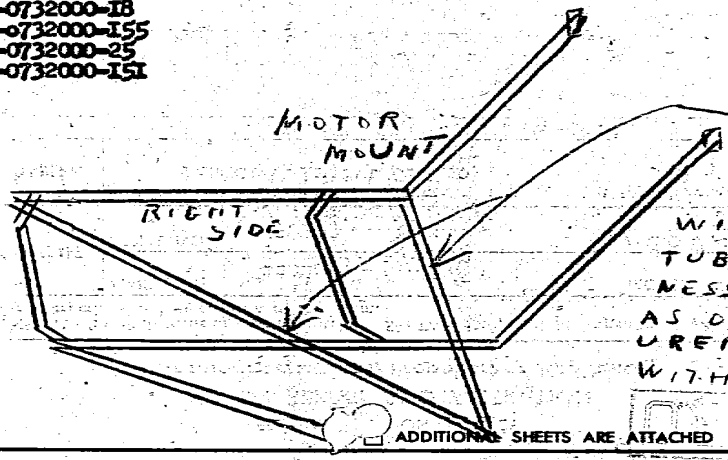
I-0720[illegible]-7
I-0732000-20
I-0732000-30
I-0732000-27
I-0732000-3
I-0732000-11
I-0732000-18
I-0732000-155
I-0732000-25
I-0732000-151



SPAR STIFFENERS SAME MATERIAL THICKNESS AND WIDTH OF SPAR USING 1/8" RIVETS 3/4" SPACING A17ST DONE IN ACCORDANCE WITH CESSNA 150 SERIES SERVICE MANUAL SEC 19-24 FIG 19-6



SPLICE ON FALSE SPAR USING PIECE OF SPAR FOR REINFORCEMENT SAME MATERIAL & THICKNESS A17ST RIVETS.



TUBES REPLACED WITH 7/8" X.058 - 4130 SAE TUBES (FIRST WALL THICKNESS HEAVIER) WELDED AS ORIGINALLY BY MANUFACTURER IN ACCORDANCE WITH E.A.M.18

☐ ADDITIONAL SHEETS ARE ATTACHED

U.S. GOVERNMENT PRINTING OFFICE : 1965 O-761-548

FAA AIRCRAFT REGISTRY
CAMERA NO. 3N DATE: 3-12-84

FEB 16 1960

U. S. DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

Form approved.
Budget Bureau No. 41-R052.4.

MAJOR REPAIR AND ALTERATION FORM (AIRFRAME, POWERPLANT, PROPELLER OR APPLIANCE)

1. AIRCRAFT	MAKE: Cessna	MODEL: 180	SERIAL NO.: 32170	NATIONALITY AND REGISTRATION MARK: N3372D
2. OWNER	NAME (First, middle, last): Executive Aircraft Company	ADDRESS (Street and number, city, zone and State): 334 Richard Road, Municipal Airport, Kansas City, Missouri		

3. COMPLETE ONLY FOR UNIT REPAIRED AND/OR ALTERED. DESCRIBE WORK ACCOMPLISHED ON REVERSE IN ACCORDANCE WITH CIVIL AERONAUTICS MANUAL 18.

UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (Check): MAJOR REPAIR	MAJOR ALTERATION
a. AIRFRAME	(As described in Item 1 above)				XX
b. POWERPLANT					
c. PROPELLER					
d. APPLIANCE	TYPE AND MANUFACTURER				

4. AIRCRAFT WEIGHT AND BALANCE DATA (*AFTER the repairs and/or alterations described below were made.*) This item must be completed by repair or alteration agency. However, in the case of a spare component, it will not be completed until such component is installed in an aircraft. At this time, it will be completed by the installing agency, if applicable.

CATEGORY	EMPTY WEIGHT (Pounds)*	EMPTY CENTER OF GRAVITY (Inches from datum)*	USEFUL LOAD (Pounds)*
Standard	1672.5	36.56	877.5

5. CONFORMITY STATEMENT (Complete and check)

a. AGENCY'S NAME AND ADDRESS	b. KIND OF AGENCY	c. CERTIFICATE NO.
Roger J. Koerner KOERNER AVIATION SERVICE KANKAKEE AIRPORT Route 4 Kankakee, Illinois	☒ U. S. Certificated Mechanic. ☐ Foreign Certificated Mechanic. ☐ Certificated Repair Station. ☐ Manufacturer. ☐ (Check if repair or alteration was made under delegation option procedures.)	A&E 1312404

d. I certify that the repair and/or alteration made to the unit(s) identified under item 3 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 18 of the U. S. Civil Air Regulations and that the information furnished herein is true and correct to the best of my knowledge.

2-9-60 (Date repair and/or alteration completed)

Roger J. Koerner (Signature of authorized individual)

6. APPROVAL FOR RETURN TO SERVICE (Check and complete appropriate items)

Pursuant to the authority specified below the unit identified in item 3 was inspected in the manner prescribed by the Administrator and is

☒ APPROVED ☐ REJECTED } BY { ☐ CAA Designee ☐ CAA Aviation Safety Agent ☐ Manufacturer ☐ Repair Station ☐ Canadian Department of Transport Inspector of Aircraft ☒ Other (Specify) A-I 2303

2-9-60 (Date of approval or rejection)

Delbert W. Koerner (Signature of authorized individual; title or identification number)

7. TO BE COMPLETED ONLY BY CAA PERSONNEL

a. ☐ Forwarded for engineering comment ☐ See attached memorandum

b. ☑ Accepted 2-17-60 (Date) ☐ Reinspected (Date) ☐ Spot Checked (Date) 9/15/69

Reg. 3 KC
ASDO 3 (CAA designation number)

Sam J. Cook (Signature Aviation Safety Agent)

USCOMM-DC 32277

Form ACA-337 (4-62)

FAA AIRCRAFT REGISTRY
CAMERA NO. 3N DATE: 3-12-84

INSTRUCTIONS

This form must be completed in duplicate each time a major repair and/or alteration is made of an aircraft, airframe, powerplant, propeller or appliance. After the repair and/or alteration has been inspected and item 6 completed, the original copy of this form will be made available to the aircraft owner for retention as part of the aircraft records. The duplicate copy is retained by the CAA for administrative purposes.

See CAM 18 for detailed instructions concerning the information to be furnished with this form and instructions concerning its preparation.

8. DESCRIPTION OF WORK ACCOMPLISHED.*

Actual weighing of aircrafy to obtain a current weight and balance. Aircraft weighed with 3 gallons of oil.
Datum to main wheel is 18"
Main wheel center line to tail wheel center line is 242.5"

Item	Weight	Tare	Net Weight
Right	770	--	770
Left	800	--	800
Tail	211	86	125
Empty weight with oil			1695

C.G. = 18" + $\frac{125 \times 242.5}{1695}$ = 35.88" aft of Datum

REMOVE OIL

Item	Weight	Arm	Moment
Aircraft	1695	35.882	60816.66
Remove oil	-22.5	-15	337.5
	1672.5		61154.1

E.C.G. = $\frac{61154.1}{1672.5}$ = 36.56" which is new empty center of gravity

*If additional space is needed attach additional sheets bearing aircraft nationality and registration mark and date work completed.

Check block if additional sheets are attached. ☐

USCOMM-DC 32277

Form ACA-337 (4-52)

337 ? ACA

FAA AIRCRAFT REGISTRY
CAMERA NO. 3N DATE: 3-12-84

FEDERAL AVIATION AGENCY

Form approved.
Budget Bureau No. 41-R052.4.

MAJOR REPAIR AND ALTERATION FORM (AIRFRAME, POWERPLANT, PROPELLER OR APPLIANCE)

1. AIRCRAFT	MAKE: Cessna	MODEL: 180	SERIAL NO.: 32170	NATIONALITY AND REGISTRATION MARK: N-3372D
2. OWNER	NAME (*First, middle, last*): Executive Aircraft Company		ADDRESS (*Street and number, city, zone and State*): 701 Perimeter Road Kansas City 16, Missouri	

3. COMPLETE ONLY FOR UNIT REPAIRED AND/OR ALTERED. DESCRIBE WORK ACCOMPLISHED ON REVERSE IN ACCORDANCE WITH CIVIL AERONAUTICS MANUAL 18.

UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (*Check*) MAJOR REPAIR	MAJOR ALTERATION
a. AIRFRAME	(As described in item 1 above)			X	X
b. POWERPLANT					
c. PROPELLER					
d. APPLIANCE	TYPE AND MANUFACTURER				

4. AIRCRAFT WEIGHT AND BALANCE DATA (**AFTER the repairs and/or alterations described below were made.*) This item must be completed by repair or alteration agency. However, in the case of a spare component, it will not be completed until such component is installed in an aircraft. At this time, it will be completed by the installing agency, if applicable.

CATEGORY	EMPTY WEIGHT (*Pounds*)*	EMPTY CENTER OF GRAVITY (*Inches from datum*)*	USEFUL LOAD (*Pounds*)*
Standard	1660.0	35.82	890.0

5. CONFORMITY STATEMENT (*Complete and check*)

a. AGENCY'S NAME AND ADDRESS	b. KIND OF AGENCY	c. CERTIFICATE NO.
E. E. Johnson 701 Perimeter Road K.C. 16, Mo.	☒ U. S. Certificated Mechanic. ☐ Foreign Certificated Mechanic. ☐ Certificated Repair Station. ☐ Manufacturer. ☐ (Check if repair or alteration was made under delegation option procedures.)	A & E 1006341

d. I certify that the repair and/or alteration made to the unit(s) identified under item 3 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 18 of the U. S. Civil Air Regulations and that the information furnished herein is true and correct to the best of my knowledge.

11-9-59 (Date repair and/or alteration completed)

E. E. Johnson (Signature of authorized individual)

6. APPROVAL FOR RETURN TO SERVICE (*Check and complete appropriate items*)

Pursuant to the authority specified below the unit identified in item 3 was inspected in the manner prescribed by the Administrator of the Federal Aviation Agency and is

☒ APPROVED ☐ REJECTED } BY { ☐ FAA Designee ☐ FAA Flight Standards Inspector ☐ Manufacturer ☐ Repair Station ☐ Canadian Department of Transport Inspector of Aircraft ☒ Other (*Specify*) Inspection authorization

11-9-59 (Date of approval or rejection)

E. E. Johnson A&E 1006341 (Signature of authorized individual; title or identification number)

7. TO BE COMPLETED ONLY BY FAA PERSONNEL

a. ☐ Forwarded for engineering comment ☐ See attached memorandum

b. ☒ Accepted 11/12/59 (Date) ☐ Reinspected _____ (Date) ☐ Spot Checked _____ (Date)

KC 3-11 (FAA designation number)

Norman B. Mueller (Signature Flight Standards Inspector)

16—54010-5 1-14-60

Form FAA-337 (4-52)

M.E.

INSTRUCTIONS

This form must be completed in duplicate each time a major repair and/or alteration is made of an aircraft, airframe, powerplant, propeller or appliance. After the repair and/or alteration has been inspected and item 6 completed, the original copy of this form will be made available to the aircraft owner for retention as part of the aircraft records. The duplicate copy is retained by the FAA for administrative purposes.

See CAM 18 for detailed instructions concerning the information to be furnished with this form and instructions concerning its preparation.

8. DESCRIPTION OF WORK ACCOMPLISHED.*

1. Repaired damage to right wing. Rivet installation same as original. Replaced the following parts:

[illegible]	
0720001-9	Skin
0720001-15	"
0523516-7	Rib
0523515-3	"

*If additional space is needed attach additional sheets bearing aircraft nationality and registration mark and date work completed.

Check block if additional sheets are attached. ☐

U.S. GOVERNMENT PRINTING OFFICE 16—84019-8

Form FAA-337 (4-52)

FAA AIRCRAFT REGISTRY
CAMERA NO. 3N DATE: 3-12-84

U. S. DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

Form approved.
Budget Bureau No. 41-R052.4.

MAJOR REPAIR AND ALTERATION FORM (AIRFRAME, POWERPLANT, PROPELLER OR APPLIANCE)

1. AIRCRAFT	MAKE: Cessna	MODEL: 180	SERIAL NO.: 32170	NATIONALITY AND REGISTRATION MARK: N3372D
2. OWNER	NAME (First, middle, last): Executive Aircraft Co.	ADDRESS (Street and number, city, zone and State): 334 Richards Road, Kansas City, Missouri		

3. COMPLETE ONLY FOR UNIT REPAIRED AND/OR ALTERED. DESCRIBE WORK ACCOMPLISHED ON REVERSE IN ACCORDANCE WITH CIVIL AERONAUTICS MANUAL 18.

UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (Check) MAJOR REPAIR	MAJOR ALTERATION
a. AIRFRAME	(As described in item 1 above)				X
b. POWERPLANT					
c. PROPELLER					
d. APPLIANCE	TYPE AND MANUFACTURER				

4. AIRCRAFT WEIGHT AND BALANCE DATA *(*AFTER the repairs and/or alterations described below were made.)*

This item must be completed by repair or alteration agency. However, in the case of a spare component, it will not be completed until such component is installed in an aircraft. At this time, it will be completed by the installing agency, if applicable.

CATEGORY	EMPTY WEIGHT (Pounds)*	EMPTY CENTER OF GRAVITY (Inches from datum)*	USEFUL LOAD (Pounds)*
Standard	1660	35.82	890

5. CONFORMITY STATEMENT (Complete and check)

a. AGENCY'S NAME AND ADDRESS	b. KIND OF AGENCY	c. CERTIFICATE NO.
Van's Air Service, Inc. Winona, Minnesota	☐ U. S. Certificated Mechanic. ☐ Foreign Certificated Mechanic. ☒ Certificated Repair Station. ☐ Manufacturer. ☐ (Check if repair or alteration was made under delegation option procedures.)	2702

d. I certify that the repair and/or alteration made to the unit(s) identified under item 3 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 18 of the U. S. Civil Air Regulations and that the information furnished herein is true and correct to the best of my knowledge.

3/27/57 (Date repair and/or alteration completed)

Harland Renstrom (Signature of authorized individual)

6. APPROVAL FOR RETURN TO SERVICE (Check and complete appropriate items)

Pursuant to the authority specified below the unit identified in item 3 was inspected in the manner prescribed by the Administrator and is

☒ APPROVED ☐ REJECTED } BY { ☐ CAA Designee ☐ CAA Aviation Safety Agent ☐ Manufacturer ☒ Repair Station ☐ Canadian Department of Transport Inspector of Aircraft ☐ Other (Specify)

3/27/57 (Date of approval or rejection)

Harland Renstrom (Signature of authorized individual; title or identification number)

7. TO BE COMPLETED ONLY BY CAA PERSONNEL

a. ☐ Forwarded for engineering comment ☐ See attached memorandum

b. ☑ Accepted 3/28/57 (Date) ☐ Reinspected _____ (Date) ☐ Spot Checked _____ (Date)

Reg. 3 KC
ASDO 14 (CAA designation number)

Elliott O. Hammond (Signature Aviation Safety Agent)

16—54010-4

Form ACA-337 (4-52)

FAA AIRCRAFT REGISTRY
CAMERA NO. 3N DATE: 3-12-84

INSTRUCTIONS

This form must be completed in duplicate each time a major repair and/or alteration is made of an aircraft, airframe, powerplant, propeller or appliance. After the repair and/or alteration has been inspected and item 6 completed, the original copy of this form will be made available to the aircraft owner for retention as part of the aircraft records. The duplicate copy is retained by the CAA for administrative purposes.

See CAM 18 for detailed instructions concerning the information to be furnished with this form and instructions concerning its preparation.

8. DESCRIPTION OF WORK ACCOMPLISHED.*

Installed the following radio equipment and hooked up in accordance with manufacturers instructions. Installation made in accordance with Manual 18 and good Airworthiness practice. Removed equipment listed below.

	Weight	Arm	Moment
Aircraft	+1654.0	+35.7	+59047.80
Narco VOA-3 Omni Adapter	+3.3	+128.0	+422.40
Motorola TU-433 speaker	+1.5	+42.0	+63.00
Narco VC-27 VHF Receiver,Trans	+2.8	+14.0	+39.20
Narco V12 MP-2 Power Supply	+7.1	+3.0	+21.30
Narco Antenna and wiring	+.5	+45.0	+22.50
Removed:			
G. E. 650 D7 speaker	-1.2	+42.0	-50.40
Aerotron Transceiver	-8.0	+13.0	-104.00
	1660.0		59461.80

$\frac{59461.80}{1660.0}$ = 35.82 New Empty C. G.

*If additional space is needed attach additional sheets bearing aircraft nationality and registration mark and date work completed.

Check block if additional sheets are attached. ☐

U. S. GOVERNMENT PRINTING OFFICE 16—54010-4

FAA AIRCRAFT REGISTRY
CAMERA NO. 3N DATE: 3-12-84

U. S. DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

Form approved.
Budget Bureau No. 41-R052.4.

MAJOR REPAIR AND ALTERATION FORM (AIRFRAME, POWERPLANT, PROPELLER OR APPLIANCE)

	MAKE	MODEL	SERIAL NO.	NATIONALITY AND REGISTRATION MARK
1. AIRCRAFT	Cessna	180	52170	N-3372 D

	NAME (*First, middle, last*)	ADDRESS (*Street and number, city, zone and State*)
2. OWNER	Executive Aircraft Company	334 Richards Road Kansas City, Missouri

3. COMPLETE ONLY FOR UNIT REPAIRED AND/OR ALTERED. DESCRIBE WORK ACCOMPLISHED ON REVERSE IN ACCORDANCE WITH CIVIL AERONAUTICS MANUAL 18.

UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (*Check*)	
				MAJOR REPAIR	MAJOR ALTERATION
a. AIRFRAME	(As described in item 1 above)				X X
b. POWERPLANT					
c. PROPELLER					
d. APPLIANCE	TYPE AND MANUFACTURER				

4. AIRCRAFT WEIGHT AND BALANCE DATA (**AFTER the repairs and/or alterations described below were made.*) This item must be completed by repair or alteration agency. However, in the case of a spare component, it will not be completed until such component is installed in an aircraft. At this time, it will be completed by the installing agency, if applicable.

CATEGORY	EMPTY WEIGHT (*Pounds*)*	EMPTY CENTER OF GRAVITY (*Inches from datum*)*	USEFUL LOAD (*Pounds*)*
Airplane Standard	1654	35.7	896

5. CONFORMITY STATEMENT (*Complete and check*)

a. AGENCY'S NAME AND ADDRESS	b. KIND OF AGENCY	c. CERTIFICATE NO.
Executive Aircraft Company 334 Richards Road Kansas City, Missouri	☐ U. S. Certificated Mechanic. ☐ Foreign Certificated Mechanic. ☒ Certificated Repair Station. ☐ Manufacturer. ☐ (Check if repair or alteration was made under delegation option procedures.)	3930 Class 1 & 3

d. I certify that the repair and/or alteration made to the unit(s) identified under item 3 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 18 of the U. S. Civil Air Regulations and that the information furnished herein is true and correct to the best of my knowledge.

11-5-56 (Date repair and/or alteration completed)

James a Woody (Signature of authorized individual)

6. APPROVAL FOR RETURN TO SERVICE (*Check and complete appropriate items*)

Pursuant to the authority specified below the unit identified in item 3 was inspected in the manner prescribed by the Administrator and is

☒ APPROVED ☐ REJECTED BY ☐ CAA Designee ☐ Manufacturer ☐ Canadian Department of Transport Inspector of Aircraft ☐ CAA Aviation Safety Agent ☒ Repair Station ☐ Other (*Specify*)

11-5-56 (Date of approval or rejection)

James a Woody C-Insp. (Signature of authorized individual; title or identification number)

7. TO BE COMPLETED ONLY BY CAA PERSONNEL

a. ☐ Forwarded for engineering comment ☐ See attached memorandum

b. ☒ Accepted 11/9/56 (Date) ☐ Reinspected _____ (Date) ☐ Spot Checked _____ (Date)

3-11 (CAA designation number)

(Signature Aviation Safety Agent)

16—54010-4

Form ACA-337 (4-52)

FAA AIRCRAFT REGISTRY
CAMERA NO. 3N DATE: 3-12-84

INSTRUCTIONS

This form must be completed in duplicate each time a major repair and/or alteration is made of an aircraft, airframe, powerplant, propeller or appliance. After the repair and/or alteration has been inspected and item 6 completed, the original copy of this form will be made available to the aircraft owner for retention as part of the aircraft records. The duplicate copy is retained by the CAA for administrative purposes.

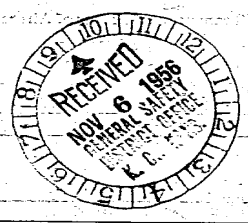
See CAM 18 for detailed instructions concerning the information to be furnished with this form and instructions concerning its preparation.

8. DESCRIPTION OF WORK ACCOMPLISHED.*

The following equipment installed this date - - -

ITEM	WEIGHT	ARM	MOMENT
1. A.E.W.	1585.0	∠ 34.8	55087.0
2. ILS Adapter	2.5	∠ 78.0	195.0
3. Grimes lights	1.5	∠ 35.0	52.5
4. Aerotron transceiver	8.0	∠ 13.0	104.0
5. Lear (LTRA-6)	18.5	∠ 67.0	1239.5
6. Lear (ADF-12)	26.5	∠ 92.0	2438.0
7. Rate of climb	1.0	∠ 16.0	16.0
8. Turn & bank	2.0	∠ 16.0	32.0
9. Artificial horizon	4.5	∠ 13.0	58.5
10. Directional gyro	4.5	∠ 13.0	58.5
11. New A.E.W.	1654.0		59191.0

New empty center of gravity - ∠ 35.7.



*If additional space is needed attach additional sheets bearing aircraft nationality and registration mark and date work completed.

Check block if additional sheets are attached. ☐

U. S. GOVERNMENT PRINTING OFFICE 16—54010-4

FAA AIRCRAFT REGISTRY
CAMERA NO. 3N DATE: 3-12-84

JAN 29 1964

Verified by Operator #33

FEDERAL AVIATION AGENCY 1337

Form approved.
Budget Bureau No. 04-R060.

MAJOR REPAIR AND ALTERATION FORM (AIRFRAME, POWERPLANT, PROPELLER OR APPLIANCE)

1. AIRCRAFT	MAKE: Cessna	MODEL: 180	SERIAL NO.: 32170	NATIONALITY AND REGISTRATION MARK: N3372D
2. OWNER	NAME (First, middle, last): Lombard Airport Co Inc	ADDRESS (Street and number, city, zone and State): 509 W Roosevelt Rd Lombard Ill.		

3. COMPLETE ONLY FOR UNIT REPAIRED AND/OR ALTERED. DESCRIBE WORK ACCOMPLISHED ON REVERSE IN ACCORDANCE WITH CIVIL AERONAUTICS MANUAL 18.

UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (Check) MAJOR REPAIR	MAJOR ALTERATION
a. AIRFRAME	(As described in item 1 above)			X	
b. POWERPLANT					
c. PROPELLER					
d. APPLIANCE	TYPE AND MANUFACTURER				

4. AIRCRAFT WEIGHT AND BALANCE DATA *AFTER the repairs and/or alterations described below were made.*

This item must be completed by repair or alteration agency. However, in the case of a spare component, it will not be completed until such component is installed in an aircraft. At this time, it will be completed by the installing agency, if applicable.

CATEGORY	EMPTY WEIGHT (Pounds)*	EMPTY CENTER OF GRAVITY (Inches from datum)*	USEFUL LOAD (Pounds)*
Normal	1672.5	36.56	877.5

5. CONFORMITY STATEMENT (Complete and check)

a. AGENCY'S NAME AND ADDRESS	b. KIND OF AGENCY	c. CERTIFICATE NO.
Roland L. Kelsch R. R. # 8 Columbus, Indiana	☒ U. S. Certificated Mechanic. ☐ Foreign Certificated Mechanic. ☐ Certificated Repair Station. ☐ Manufacturer. ☐ (Check if repair or alteration was made under delegation option procedures.)	A & P 1391880

d. I certify that the repair and/or alteration made to the unit(s) identified under item 3 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 18 of the U. S. Civil Air Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Dec. 30, 1963 (Date repair and/or alteration completed)

Roland L Kelsch (Signature of authorized individual)

6. APPROVAL FOR RETURN TO SERVICE (Check and complete appropriate items)

Pursuant to the authority specified below the unit identified in item 3 was inspected in the manner prescribed by the Administrator of the Federal Aviation Agency and is

3 ☒ APPROVED ☐ REJECTED } BY { ☐ FAA Designee ☐ FAA Flight Standards Inspector ☐ Manufacturer ☐ Repair Station ☐ Canadian Department of Transport Inspector of Aircraft ☒ Other (Specify) Auth Insp

I-27-64 (Date of approval or rejection)

Emil F Miller A3EI0929 Auth Insp (Signature of authorized individual; title or identification number)

7. TO BE COMPLETED ONLY BY FAA PERSONNEL

a. ☐ Forwarded for engineering comment ☐ See attached memorandum

b. ☑ Accepted 2/20/64 (Date) ☐ Reinspected (Date) ☐ Spot Checked (Date)

3-03

CE-GADO-3H (FAA designation number)

John L. Clark (Signature Flight Standards Inspector)

18 FEB 24 1964 FAA-1304 (52)

INSTRUCTIONS

This form must be completed in duplicate each time a major repair and/or alteration is made of an aircraft, airframe, powerplant, propeller or appliance. After the repair and/or alteration has been inspected and item 6 completed, the original copy of this form will be made available to the aircraft owner for retention as part of the aircraft records. The duplicate copy is retained by the FAA for administrative purposes.

See CAM 18 for detailed instructions concerning the information to be furnished with this form and instructions concerning its preparation.

6. DESCRIPTION OF WORK ACCOMPLISHED:*

The following repairs were performed on Cessna 180 Fuselage Component identified by "I-26" stamped on L. H. rear door post. Part confoms with Cessna part Nos. 0791100-10 and 0791200-4.

Repaired skin 0712000-2 at Sta. 156., bulkhead e791100-6 at sta. 90., Reinforced e710000-3 skin - upper Sta. 90., 0712000-2 skin - tailcone, Sta. 230.187, 0791102-2 skin Sta. 90.

See attached drawing for repairs and parts replaced

The above repairs were made in accordance with factory service manual Section 19.12, 19.14, 19.15 and 19.23.

END

*If additional space is needed attach additional sheets bearing aircraft nationality and registration mark and date work completed.
Check block if additional sheets are attached. ☐

U.S. GOVERNMENT PRINTING OFFICE: 1961 O-587360