US Department
of Transportation
Federal Aviation
Administration

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

Form Approved OMB No. 2120-0020 5/31/2018	Electronic Tracking Number									
For FAA Use Only										

Federal Avi Administrat	lation	(All II al	ne, Powerpiant, P	rol	pen	ier, or App	liance)			·
instructio	CTIONS: Print ons and dispos lation. (49 U.S.	ition of this	s form. This report is re	CF equi	R §	43.9, Part 43 by law (49 U.	Appendix B S.C. §44701)	, and AC 4 . Failure to	3.9 1 (or sub report can re	osequent revision thereof) for sult in a civil penalty for each
Nationality and Registration Mark United States N34626  1. Aircraft Make Cassna					Serial No. 17701907					
1. Aircraft Make Cessna Name (As shown on registration certificate)							Model 177			Series B
2. Owner	1	s shown on TSON JA	•	)		certificate)				
z. Owner							City ER	Cour	State PA States	
					3. 1	For FAA Use	Only			
										·
4. ገ	Гуре				5. 1	Unit Identific	ation			
Repair	Alteration	Uni	t e	Ма	ke			Model		Serial No.
	V	AIRFRAM	IE				(As desc	ribed in Iten	n 1 above)	
D POWERPLANT										
		PROPELI								
		APPLIAN	Type  CE Manufacturer							
• • • • • • • • • • • • • • • • • • •				6		onformity Sta				
	s Name and A		s INC		В.	Kind of Agen U. S. Certific	ated Mechanic		Mar	nufacturer
	63 Airport DF		5, 1110	_	_		ificated Mechar	nic		icate No.
zip 147	nestown	untry Unite	state NY d States	_	✓		Repair Station Maintenance O	rganization	CRS#	IC1R213K
have	been made in	accordance	alteration made to the e with the requirement prect to the best of my	s of	Part	t 43 of the U.S	em 5 above a S. Federal Avi	and describ ation Regul	ed on the rev ations and th	verse or attachments hereto at the information
Extended r per 14 CFF App. B			Signature/Date of Aut	hori	zed *	Individual			11-	15-14
						val for Retur				
Pursuant Administ	t to the authorator of the Fed	ority given deral Aviati	persons specified be on Administration and	elow is	, th	e unit identi [	fied in item ✓ Approved		pected in the ected	e manner prescribed by the
	FAA Fit. Stand	dards	Manufacturer		М	aintenance C	rganization		epartment of T	ed by Canadian ransport
BY	FAA Designee	, ×	Repair Station		In	spection Autl	orization	Other	(Specify)	
Certificate of Designation CRS#IC1	n <b>No</b> .		Signature/Date of Aut	hori	zed	Individual			11-1	15-17

FAA Form 337 (10-06)

Page 1

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

United States N34626

Nationality and Registration Mark

- 1. Removed Pilot and Co-pilot seat belts. Installed B.A.S., INC Interia Reel Shoulder Harness system kit Pilot S/N:18359, Co-pilot S/N:18358, per STC SA2067NM and B.A.S. Inc installation instructions report 1200 dated REV A August 1, 2000.
- 2. Operationally checked and found satisfactory.
- 3. Instructions for continued airworthiness: as listed in B.A.S., INC ICA report 1502, dated REV C May 3, 2006.
- 4. Aircraft weight and balance updated to reflect changes
- 5. B.A.S., INC Owners manual supplement report 1302 dated August 23, 2010 was incorperated in the aircraft operating handbook.

----- END -----

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

į	Form Approved OMB No. 2120-0020 2/28/2011	Electronic Tracking Number
i	1	or FAA Use Only

Department of Transport

Other (Specify)

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)) Nationality and Registration Mark Serial No. **USA N34626** 17701907 1. Aircraft Make Model Series 177 Cessna В Name (As shown on registration certificate) Address (As shown on registration certificate) Address 5998 Wyndemere Drive 2. Owner Erie State PA 16505 Country USA Robertson, Jason 3. For FAA Use Only 4. Type 5. Unit Identification Repair Alteration Unit Make Model Serial No. (As described in Item 1 above) V AIRFRAME **POWERPLANT** PROPELLER Туре APPLIANCE Manufacturer 6. Conformity Statement A. Agency's Name and Address B. Kind of Agency U. S. Certificated Mechanic **Dunkirk Avionics LLC** Manufacturer 3163 Airport Drive Foreign Certificated Mechanic C. Certificate No. Jamestown ... City State New York Certificated Repair Station 14701 Country USA Certificated Maintenance Organization DKZR372X 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. Signature/Date of Authorized Individual Extended range fuel per 14 CFR Part 43 App. B 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 FAA Fit. Standards Persons Approved by Canadian Maintenance Organization Manufacturer

Inspection Authorization

FAA Form 337 (10-06)

Inspector

FAA Designee

Repair Station

Signature/Date of Authorized Individual

BY

Certificate or

Designation No.

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.

	USA N34626	9/26/17
	Nationality and Registration Mar	
Removed an ARC RT359A transponder.	ivadoriality and Registration Mar	v Daie
stalled the following equipment:		
armin GTX345 ADS-B in/out transponder at STA68.75 l	IAW STC# SA01714WI.	
ne GTX345 interfaces to the audio panels unswitched in ceive gps position information, to the transponder anter		
e ADS-B out system was shown to meet the equipmen	at performance requirements of 14	CFR part 91.227.
tached is the Instructions for continued airworthiness fo	or the GTX345 document number	

### United States of America

### Department of Transportation -- Federal Aviation Administration

# Supplemental Type Certificate

Number SA01714WI

This certificate issued to

Garmin International, Inc. 1200 East 151st Street Olathe, KS 66062

cortifies 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: Make

\* See attached Approved Model List (AML) No. -SA01714WI dated May 1, 2013 or later FAAapproved revision for list of approved aircraft models

Mondels

and applicable airworthiness regulations.

Description of Type Design Change:

Installation of a Garmin transponders: (a) GTX 330/330D/33/33D with ADS-B Out functionality; (b) GTX 335/335R/345/345R with ADS-B Out and In functionality; or (c) GTX 335R/345R with ADS-B Out functionality in select airplanes installed with G950/G1000 systems.

### Data Required:

- (1) Garmin Master Drawing List (MDL) 005-00734-04, Revision 1, dated May 1, 2013 or later FAA-approved revision.
- Garmin Airplane Flight Manual Supplement or Supplemental Airplane Flight Manual (AFMS), 190-00734-15, Revision 1, dated May 1, 2013 or later FAA-approved revision.

### Bimitations and Conditions:

- (1) Compatibility of this design change with previously approved modifications must be determined by the installer.
- (2) Aircraft installations involving the Garmin transponder GTX 33/33D/330D models require the previous installation of an approved ADS-B position source. Refer to the design data specified in the Master Drawing List (MDL) listed above for specific hardware and software requirements.
- (3) Aircraft installations involving the Garmin transponder GTX 335/335R/345/345R models without an optional internal GPS require the previous installation of an approved ADS-B position source. Refer to the design data specified in the Master Drawing List (MDL) listed above for specific hardware and software requirements.

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: August 7, 2012

Date reissued:

Quite of issurance: May 1, 2013

Date amended: April 29, 2014, March 8, 2016

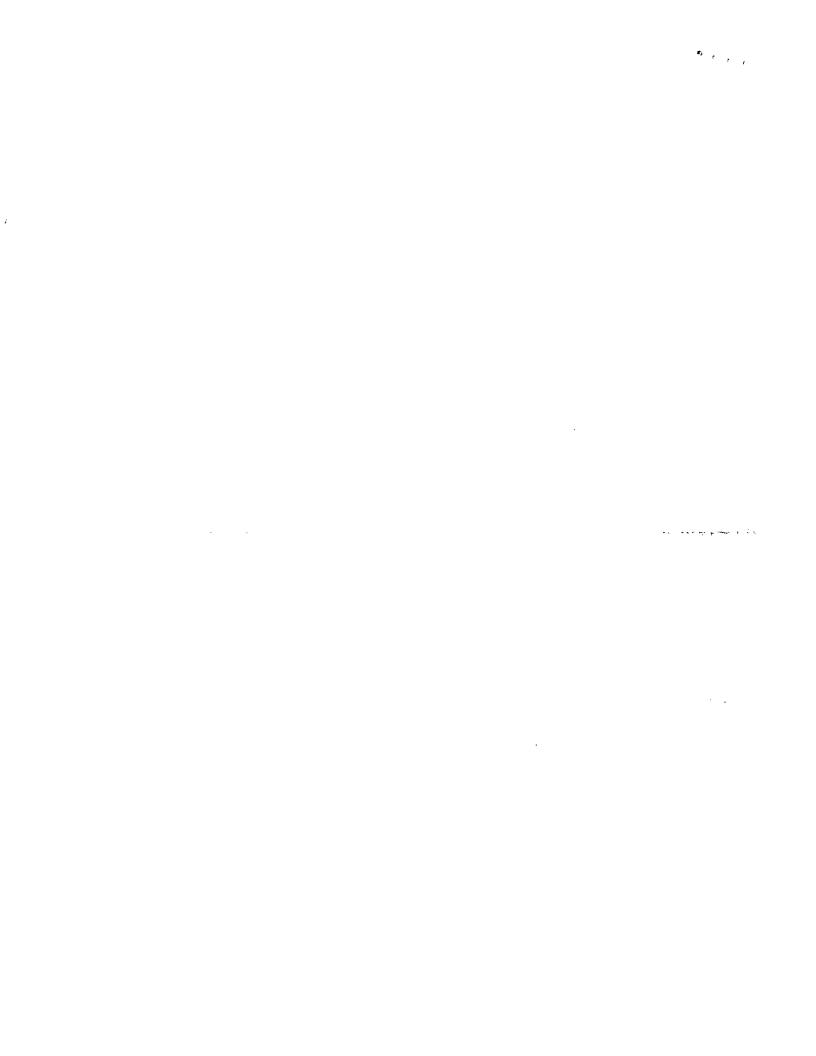
By direction of the Administrator

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.



# FAA Approved Model List (AML) STC SA01714WI

•	Notes										
	AML Revision/Date	Original 5/1/2013	Original 5/1/2013	Original 5/1/2013	Original 5/1/2013	Original 5/1/2013	Original 5/1/2013	Original 5/1/2013	Original 5/1/2013	Original 5/1/2013	Original 5/1/2013
stem	Master Drawing List Revision (005-00734-04)	-	1	1	1	1	1	1	I	1	1
ed Flight Deck Sy ransponders	* TC Certification Basis	CAR 3 FAR 23	CAR 3 FAR 23	CAR 3	FAR 23	FAR 23	FAR 23	FAR 23	FAR 23	FAR 23	FAR 23
<u>UT</u> GX000 Equip or GTX 335/345 T	Type Certificate Number	A4CE	A6CE	A7CE	A13CE	A16CE	A20CE	A25CE	A27CE	A28CE	A34CE
Table 1: Approved Aircraft WITHOUT GX000 Equipped Flight Deck System for installation of GTX 33/330 or GTX 335/345 Transponders	Airplane Model Designation	206, P206, P206A, P206B, P206C, P206D, P206E, TP206A, TP206B, TP206C, TP206D, TP206E, U206, U206A, U206B, U206C, U206C, U206C, U206C, TU206C,	337, 337A (USAF 02B), 337B, T337B, 337C, 337E, T337E, T337C, 337D, T337D, M337B (USAF 02A), 337F, T337F, 337G, T337G, 337H, P337H, T337H, T337H, SP	401, 401A, 401B, 402, 402A, 402B, 402C, 411, 411A, 414, 414A, 421, 421A, 421B, 421C, 425	177, 177A, 177B	207, 207A, T207, T207A	177RG	404, 406	501 551	441	T303
	Airplane Make (ICDS Holder) [common name or previous make]			(continued)	Textron Aviation Inc. (Textron Aviation Inc.)						

Issued: May 1, 2013 Revised: 21-July-2016

	<b>6</b>	



1200 East 151st Street
Olathe, KS 66062
P: 913-397-8200 F: 913-397-8282

March 8, 2016

Subject:

STC Permission to use STC SA01714WI for

Garmin GTX 330, 330D, 33, 33D, 335, and 335R with ADS-B Out (see AML);

Garmin GTX 345 and 345R with ADS-B In and Out (see AML)

Consistent with FAA Order 8110.4() and Advisory Circular (AC) 21-40(), Garmin International grants permission to Garmin dealers, installers, and owners of the Garmin GTX 330, 330D, 33, 33D, 335, 335R, 345, and 345R to use STC SA01714WI and deliverable data associated with it, for the sole and express purpose of installation and approval of the installation of the Garmin GTX 330, 330D, 33, 33D, 335, 335R, 345, and 345R and associated interfaces to other previously approved equipment.

**Emmett Griffith** 

Director of Engineering

Garmin AT, Inc.

US Department
of Transportation
Federal Aviation
Administration

# MAJOR REPAIR AND ALTERATION

2/28/2011	Electronic Fracking Number	
	or FAA Use Only	

US Departme of Transporta Federal Avia	lion tion	(Airfra	ame, l	Powerplant, Pr								For FAA U	se Only	
Administrati		<del></del>						<del></del>						
	TIONS: Prin is and dispo tion. (49 U.S			ries. See Title 14 in This report is req	CFF	R §43.9, Part 4 ed by law (49 t	43 Appendix J.S.C. §447(	к В. ar 01). Fa	nd A Billur	AC 43.9 e to rep	9-1 (or si port can i	ubsequent i result in a c	revision thereof) for rivil penalty for eac	
	Nationali	ity and Re	gistratio	on Mark			Serial N	Vo.					<del></del>	
1. Aircraft USA N34626							17701							
1. All Craft	Make						Model					Series		
	Cessna	a					177					D		
	Name (A	s shown c	n regis	tration certificate)				s (As s	hov	vn on re	aistratio	B n certificate	,	
2. Owner						Address	5998 \	Wv	ndeme	re Or	n cenmeate,	'		
								Erie					Siale PA	
	Robert	son, Jas	on				Zip	<u> 16505</u>	;		Co.	untry USA		
					;	3. For FAA Us	e Only							
4. Ty	pe					5. Unit Identifi	cation							
Repair	Alteration	Ur	nit	N					Mo	idel				
		AUDEDA				<del></del>	<u> </u>					<del></del>	Serial No.	
		AIRFRAI	WE.				(As de	scribed	d in	Item 1	above)			
		POWER	PLANT											
		PROPEL	LER											
		APPLIAN	ICE	Type Manufacturer										
					6. C	Conformity Sta	tement							
A. Agency's I						3. Kind of Agen					<del></del>			
	rk Avionics					U. S Cenifi	cated Mechan	IC			Mar	nufacturer		
Address 3163 City Jame		/e				Foreign Cer	tificated Mech	anıç				icate No.		
Zip 14701	stown	only USA		State New York	✓		Repair Station							
						Certificated	Maintenance (	Organiz	alio	n	DKZR3	372X		
D i certify have be furnishe	that the reparent made in the determinant in the de	air and/or accordanc rue and co	alterations orrect to	on made to the unit the requirements o the best of my kno	(s) f Pa owle	dentified in iter irt 43 of the U.S edge.	n 5 above ai S. Federal A	nd des viation	crib Re	ed on t gulation	he revers	se or attachi at the inforn	ments hereto nation	
Extended ran per 14 CFR F App. B	ge fuel art 43		ľ	ture/Date of Author			. /							
				rl. 5-		10/23/1								
Pursuant to Administrate	the autho	rity given leral Aviati	person	7. Ap	opro v. t	oval for Return he unit identif	ied in item	5 wa	ıs ı	nspecto	ed in the	e manner i	prescribed by the	
FA	A Fit. Standa	·····		ufacturer	T-	Maintenance Or	*I ybbiosec	d [	Persons Approved by Canadian			_		
3Y	A Designee	✓	Repa	ir Station	+-	nspection Auth			Othe	Depart r (Spec	ment of Tr	ansport		
Certificate or			Signal	ture/Date of Author	ized	Individual	<del></del>					·		
DKZR.						,	23/14							
UNLIN	700 /					- / - / -	٠٠/ الح							

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 shoots Identify in the state of the state		
(If more space is required, attach additional sheets, Identify with aircraft no	ationality and registration mark	and date work completed.)
	USA N34626	10/23/2014
1.) Removed a JP Instruments FS450 fuel flow gauge.	Nationality and Registratio	n Mark Date
Installed the following equipment:		
JP Instruments EDM800 engine analyzer IAW STC# SA	2586NM.	
JP Instruments fuel flow option IAW STC# SA00432SE.		
<ol> <li>The EDM800 interfaces to the EGT, CHT, oil temperature sensors. The fuel flow interfaces to the gps(gtn650. Re information.</li> </ol>	e, oil pressure, outside ai fer to the appropriate inst	r temperature and RPM allation manual for interconnect
16.) When the ICA needs to be revised a letter will be submit FAA Form 337 and revised ICA.	ted to the local FSDO wi	th a copy of the revised
END_		
	•	
☐ Additional She	ets Are Attached	

### United States Of America

### Bepartment of Transportation - Nederal Abiation Administration

# Supplemental Type Certificate

Number SA2586NM

This Cortificate issued to

J. P. INSTRUMENTS

P0 Box 7033 Huntington Beach, CA 92646

cartifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the aircorthiness requirements of Part 3 of the Civil Aciation Regulations, including respective Amendments as specified in the attached Approved Model List.

Original Product Type Certificate Number :

- \*See attached FAA Approved J.P. Instruments
- Abake :
- \* Master Eligibility List No. SA2586NM for list
- Abodel:
- \* of approved aircraft models and applicable TCDS

Description of Type Design Change:

Installation of J. P. Instruments temperature monitoring systems in accordance with FAA Approved J. P. Instruments Drawing List Report No. 100, Revision D, dated December 19, 1996, or later FAA approved revisions. FAA Approved Airplane/Rotorcraft Flight Manual Supplement No. 1 for EGT-701 temperature indicator, Revision A, dated December 13, 1996, or later FAA approved revisions.

Limitations and Conditions. The approval of the change in type design applies to the basic airplane of the specific models that are otherwise unmodified. This approval should not be extended to other specific airplanes of these models on which other previously approved modifications are incorporated, unless it is determined that the interrelationship between this installation and any previously approved configuration will not introduce any adverse effect upon the airworthiness of that airplane. 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)

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 Belministrator

of the Federal Sociation Administration.

Date of application . December 31, 1984

Date of issuance . August 14, 1985

ERAL AUTO

Date amended: July 13, 1987, November 13, 1992, December 19, 1996, May 15, 1998, June 17, 1999

By direction of the Administrator

Date reissued :

Manager, Propulsion Branch

Los Angeles 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

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### United States Of America

### Bepartment of Transportation - Nederal Abiation Administration

# Supplemental Type Certificate

(Continuation Sheet)

Number SA2586NM

Limitations and Conditions - continued

Cylinder head, oil, turbine inlet and/or exhaust gas temperature, fuel flow equipment, tachometer instruments, and manifold pressure instruments required by the original type design, or if required by other FAA approval, must remain installed and operable.

Aircraft listed on the FAA approved Master Eligibility List SA2586NM and that have been previously modified with a fuel flow indication system that utilizes the Flowscan fuel flow transducer (P/N: 201-A, 201-B, 201-C, or 231 or equivalent as listed on page 4 of the FAA Approved Installation Instructions, Drawing 103) are eligible for installation of the EGT-701 fuel flow option.

This certificate does not constitute installation approval of the fuel flow transducer.

EGT-701 temperature indicator with tachometer (rpm) and manifold pressure options are eligible for the 4 cylinder and 6 cylinder engines listed on the Master Eligibility List (MEL) SA2586NM only.

FAA Approved Airplane/Rotorcraft Flight Manual Supplement No. 1, Revision A, dated December 13, 1996 or later FAA approved revision, is required with the installation of the EGT-70 system.

Eligible dash numbers for the EGT-701 are listed on MEL SA2586NM.

A copy of this certificate must be maintained as part of the permanent records of the modified aircraft.

-END-

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### MASTER ELIGIBILITY LIST J.P.INSTRUMENTS

REPORT: SA 2586NM SHEET - 6 -

Part Number

MAKE AIRCRAFT MODEL

T.C.D.S. (See Sheet. 11 for Series)

		17-30,-A, 17-31,-A, 17-31TC,-A,		
27.	Boeing	(STEARMAN) A75L3,75,A75,	A-743	(9), (E)
21.	Boeing	B75, E75, A75, A75L300,	7.740	(3), (2)
	Doeing	IB75A, E75N1 A75J1, A75N1, B75N1, D75N1	A-743	(7), (C)
28.	Cessna	140	3A43	(4). (A)
29.	Cessna	120 , 140, with 0-200 Conversion per STC-SA547EA	A-768	(4), (A)
25.	OCSSIIA	140A, with 0-200 Conversion per STC-SA547EA	A-5A2	(4), (A)
30.	Cessna	150,A,B,C,D,E,F,G,H,J,K	3A19	(4), (A)
50.	0033114	• • • • • • • • • • • • • • • • • • • •		
		A150K, 150L, A150L, 150M, A150M, 152, A152		1
31.	Cessna	170, 170A, 170B	A-799	(6), (B)
32.	Cessna	172,172A,B,C,D,E,F,G,H,	3A12	(6), (B)
	0000.14			` '' `
	Cessna	172I,K,L,M,N,P,Q,R,S,T	3A12	(4), (A)
	Cessna	172RG, P172D	3A17	(4), (A)
	Cessna	R172E,F,G,H,J,K,175,175A,B,C	3A17	(6), (B)
33.	Cessna	177,177A, 177B	A13CE	(4), (A)
	Cessna	177RG	A20CE	(4), (A)
34.	Cessna	180,180A,B,C,D,E,F,G,H,J,K	5A6	(6), (B)
	_	400 400 B D D D D D D D D D D D D D D D D D D	0.4.40	(0) (0)
	Cessna	182,182A,B,C,D,E,F,G,H,J,K, 182L,M,N,P,Q,R, S, <b>T</b> R182,	3A13	(6), (B)
		T182, TR182, 182RS, T182T,	0.4.10	(0) (0)
35.	Cessna	182 Series STC SA00152WI	3A13	(6), (B)
36.		182E,F,G,H,J,K, L, M, N, P, Q(Peterson,STC SA3825SW)	3A13	(6), (B)
37.	<del>                                     </del>	F182P, Q, FR182	A42EU	(6), (B)
38.	Cessna	185,185A,B,C,D,E,A185E,A185F	3A24	(6), (B)
39.	Cessna	188,188A,188B,A188,A188A,	A9CE	(6*), (B*)
		A188B,T188C		
40.	Cessna	195,195A, 195B	A-790	(7), (C)
		190	A-790	(9), (E)
41.	Cessna	206,H P206,P206A,B,C,D,E, H	A4CE	(6*), (B*)
		TP206A,B,C,D,E,		
		U206,U206A,B,C,D,E,F,G,		
		TU206A,B,C,D,E,F,G		
-		T206H		<del> </del>
42.	<del></del>	U206,U206A,B,C,D,E,F,G, (Conv. Per STC 2123 NM)	A4CE	(6*), (B*)
43.	<del></del>	207,207A,T207,T207A	A16CE	(6*), (B*)
44.	Cessna	210,210A,B,C,D,E,F	3A21	(6*), (B*)
	,	210-5,210-5A,T210F,210G, T210G,210H,T210H,210J,T210J,		
}		T210K,210K,210L,T210L,210M,		
ļ	1	T210K,210K,210L,1210L,210M, T210M,210N,P210N,T210N,210R P210R,T210R		
45.	Cessna		2040	(OT+) (OT+)
45.	Cessila	310,310A,B,C,D,E,F,G,H, E31OH,310I,J,K,L,N,P,Q,R 310J-1,E310J,T310P,Q,R	3A10	(6T*), (BT*)
1		T310Q,310R,T310R		
46.	Cessna	321	2011	(CT) (DT)
47.	· <del>†</del>	320,A,B,C,D,E,F,320-1,335, 340(,340A	3A11	(6T), (BT)
47.	<del> </del>	336	3A25	(6T*), (BT*)
1	<del></del>		A2CE	(6T), (BT)
49.		T303	A34CE	(6T*), (BT*)
50.	Cessna	337, 337A,B,C,D,E,F,G,H	A6CE	(6T*), (BT*)
1		T337B,C,D,E,F,G,H,		
54	0	M337B,P337H,T337H-SP		
51.	Cessna	401, 401A,B, 402,402A,B,C,	A7CE	(6T*), (BT*)

FAA approved AFM Supplement is required with the EGT-701. The EGT-701 is applicable to all EGT-100/200 series. RPM and MAP applicable to the P\N EGT-701,4 and 6 cylinder engines only

Revision 14

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REPORT: SA 2586NM

SHEET - 12 -

Part Number

MAKE

**AIRCRAFT MODEL** 

T.C.D.S. (See Sheet. 11 for Series)

### 3/20/08

Subject: Permission to use STC.

To Whom It May Concern:

J.P. Instruments holder of STC SA2586NM grants to the purchaser of the EDM-700 series (PN EGT-701) and the Classic Scanner (PN EGT-100) permission to use the STC.

Signed \_\_\_\_

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		·	
•			

liberal Street of Accrets Descriment al Cromanaction—Februs Auchian Administration

### Supplemental Type Certificate

Number SA00432SE

This exclusioner, wound to

J. P. Instruments

P.O. Box 7033

Huntington Beach, CA. 92646

restifies that the charge in the type drops for the following product with the limitations and residings Orefor as specified hereon meets the airworthings requirements of Start " of the "Regulations.

Original Product . Type Bertificate Mimiler

Alcho. Model

"Site attached FAA Approved Model List (AML) tio. SA00432SE for a fist of approved aurilors

models and suptimble dissentiness regulations.

Description of the Type Bridge Mange. Felling the transitions institled in accordance with J.P. Institutents (JPI) Fool Flow Installation Manual, Report No. 503, Revision 6, dated March 14, 1997, and manufactured in accordance with JPI Drawing List Report No. 500 Revision B, dated

- Note: This STC requires the installation of either;
  1. JPI Fuel flow option with the EGT-701 temperature indicating system per STC SA2586(M), or
- 2. JPI FS-450 fuel flow indicating system per STC SA00861SE.

\*\*Emiliations and \*\*Penalitinas\*\* Approval of this change in type design applies to the aircraft models usted on the AML only. This approval should not be extended to other aircraft of these models on which other proviously 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 anyworthness of that aircraft. A copy of this profilest with SAA August Medical for MALL No. SAAACASS. certificate, and FAA Approved Model List (AML) No. SA004329E must be maintained as part of the permanent records for the modified aircraft,

If the nolder agrees to permit another person to use this certificate to after the product, the holiser shall give the other person written evidence of that permission

This writinasis and the supporting data which is the basis for approval shall remain in offers used surrendand, suspended, mocked, or a termination hate is otherwise established by the Administrator of the Foderal Stansian Administration

State of application

January 3, 1997

San amended: Docember 16 2000

Place of some

May 2, 1997



Morean

Any admission of this confidence is purchased by a fire of not associated \$1,000, or improvement not exceeding 3 years, or both

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Subject: Permission to use STC. To Whom It May Concern.

J.P. Instruments holder of STC SA00432SE and STC SA00861SE grants to the purchaser of the EDM-700 series (PN EGT-701) or the (FS-450) PN 450000 Series AUEL FLOW INSTALLATION permission to use the STC/SA00432SE, or SA00861SE

Signed

Page 1 of 9

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# J.P. INSTRUMENTS FAA APPROVED MODEL LIST (AML) FOR: 1. INSTALLATION OF THE EGT 701 SERIES FUEL FLOW TRANSDUCER STC SA00432SE 2. INSTALLATION OF THE (FS-450) 450000 SERIES STC SA00861SE FUEL FLOW INSTRUMENT and TRANSDUCER STC SA00432SE Issue Date: May 2, 1997 STC SA00861SE Issue Date: December 18, 2000

45	44	43	42	41	40	39	38	37	36	35	34	33	32	៊ីវ	30.	29	28.	27	26	25	24	ITEM
Diamond	Diamond	DeHavilland Support Limited (Beagle)	Viking Air Limited (De Havilland)	Viking Air Limited (De Havilland)	Cub Crafters	CPAC Inc (Commander, Rockwell)	Cirrus Design Corporation	Cessna	Cessna	Cessna	Cessna	Cessna	Cessna	Cessna	Cessna	Cessna	Cessna	Cessna	Cessna	Cessna	Cessna	AIRCRAFT MAKE
DA20-A1 DA20-C1	DA40, DA40F	B 121 Series 1 B 121 Series 2, B 121 Series 3	DHC-3	DHC-2 Mk I	CC18-180 CC18-180A	112,112B, 112TC 112TCA, 114, 114A, 114B, 114TC	SR20. SR22	210, 210A 210B 210C, 210D 210E, 210F, 210G 210H, 210J 210K, 210L, 210M, 210N, 210R P210N, P210R T210F T210G, T210H, T210J T210K, T210L T210M, T210N T210R 210-5 (205), 210-5A (205A)	F207A	206, U206, U206A, U206B, U206C, U206D, U206E, U206F, U206G, 206H, T206H, P206, P206A, P206B, P206C, P206B, P206E, TP206A, TP206B, TP206C, TP206D, TP206E, TU206A, TU206B, TU206C, TU206D, TU206E, TU206F, TU206G	190 195 195A 195B	188, 188A 188E A188 A188B, A188B, T188C	185, 185A, 185B, 185C, 185D, 185E, A185E, A185F	182, 182A 182B 182C 182D, 182E, 182F 182G 182H 182J 182K, 182L 182M 182N 182P 182Q, 182R, 182S, 182T, T182T, R182, TR182, T182	180. 180A 180B 180C 180D, 180E, 180F. 180G 180H 150J 180K	177RG	177, 177A, 177B	172RG, R172E R172F R172G, R172H, R172J, R172K, 175, 175A, 175B 175C, P172D	172. 172A 172B, 172C 172D, 172E, 172F, 172G 172H 172H, 172K, 172L, 172M 172N, 172P 172O 172R 172S		170, 170A, 170B	N. SINGLE ENGINE AIRCRAFT (ITEMS 1-94) B. TWIN ENGINE AIRCRAFT (ITEMS 95-127)
TA4CH	A47CE	A22EU	A-815	A-806	A00006SE	A12SO	А00009СН	3A21	A16CE	'A4CE	A-790	A9CE	3A24	3A13	5A6	A20CE	A13CE	3A17	3A12	AI8EU	A-799	TYPE CERTIFICATE NUMBER
FAR 21.29	FAR 21 29	FAR 21.29 FAR 23	CAR 3 CAR 10	CAR 3 CAR 10	FAR 23	FAR 23	FAR 23	CAR 3	FAR 23	CAR 3	CAR 3	FAR 21	CAR 3	CAR 3	CAR 3	FAR 23	FAR 23	CAR 3	CAR 3 FAR 23	CAR 3 FAR 21.29	CAR 3	CERTIFICATION BASIS FOR ALTERATION
03-26-2013	03-26-2013	02-09-2004	03-26-2013	07-06-2009	03-26-2013	12-18-2000	03-26-2013	03-26-2013	12-18-2000	03-26-2013	03-26-2013	12-16-2000	12-18-2000	03-26-2013	12-18-2000	12-18-2000	12-18-2000	12-18-2000	03-26-2013	03-26-2013	12-18-2006	AML REVISION DATE

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<b>₹</b>
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
	or FAA Use Only

	ederal Aviation Iministration		•	·	•	-			·						
ir	estructions	IONS: Print and dispos on. (49 U.S.	ition of th	is form.	es. See Title 14 This report is r	4 CF	R §4 ed b	43.9, Part 43 by law (49 U.S	Appendix B, S.C. §44701).	and A Failure	C 43.9- e to repo	1 (o ortc	r subs an resi	sequent revision thereof) ult in a civil penalty for ea	for ch
	_	Nationality N34626	y and Reg	jistratio	n Mark				Serial No. 177-0190	7					
1. #	Aircraft	Make Cessna							Model 177B					Series 177	
	· · · · ·	1	shown o	-	ration certificate	)			Address (A						
2. 0	Owner						City E Zip 1			05			Countr	State Pa.	_
							3. F	For FAA Use	Only						
	4. Ty	ре					5. l	Unit Identifica	ition					·	
	Repair	Alteration	Ur	nit		Ма	ke			Me	odel			Serial No.	
		<b>V</b>	AIRFRA					(As described in Item 1 above)						-	
			POWER	PLANT											
			PROPE	LER										784	
			APPLIAI	NCE	Type Manufacturer										
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Nam		Name and Ad Air Service					<b>1</b>	Kind of Agenc	ted Mechanic			Т	Manu	ufacturer	
	ess Po.B	ox 61					Y		ficated Mechani	c		C. (		cate No.	—
City Zip	<u>North</u> 16428		intry USA	\	_ State <u>Pa.</u>	_		Certificated R	tepair Station faintenance Org	anizati	on	AF	354	10986	
D	have be	en made in	accordan	ce with orrect to	the requirement the best of my	ts of I knov	Part vled	43 of the U.S ge.	m 5 above ai Federal Avia	nd des tion Re	scribed o	on th	e reve	erse or attachments hereto t the information	
	ended ran 14 CFR F ). B			Signa	ture/Date of Au	thoriz			<i>)</i>						
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BY	1 1	A Flt. Stand pector	ards	Man	ufacturer		Ма	aintenance Or	ganization		Depar	tmen	t of Tra	f by Canadian Insport	
		A Designee		ļ. <u>.</u>	air Station	×		spection Author	orization	Oth	er (Spe	cify)			· · <del></del>
Desi	ificate or ignation N 3540986			Signa	ture/Date of Au	thoriz	ed I	ndividual							

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 appicable airworthiness requirements.  N34626  8. Description of Work Accomplished  Nationality and Registration Mark  Date  7/09/2012 Tack Time 2622.40  Removed origonal equipment beacon Installed Whelen MFG beacon 709000 series under STC SA 615 EA  Weight / Balance updated  Equipment list altered	
8. Description of Work Accomplished  Nationality and Registration Mark  Date  7/09/2012 Tack Time 2622.40  Removed origonal equipment beacon Installed Whelen MFG beacon 709000 series under STC SA 615 EA  Weight / Balance updated	
7/09/2012 Tack Time 2622.40 Removed origonal equipment beacon Installed Whelen MFG beacon 709000 series under STC SA 615 EA Weight / Balance updated	
Removed origonal equipment beacon Installed Whelen MFG beacon 709000 series under STC SA 615 EA Weight / Balance updated	
END	
Additional Sheets Are Attached	

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### United States Of America

Bepartment of Transportation - Federal Abiation Administration

# Supplemental Type Certificate

Number SA615EA

This Certificate issued to

Whelen Engineering Company, Inc. 51 Winthrop Road Chester, Connecticut 06412-0684

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 3, 6, 23, 27 of the Civil Air/Federal Aviation Regulations.

Original Product Typo Certificate Number:

See Attached Eligibility List dated May 5, 2010

Mako:

Model:

Description of Type Design Changes

Installation of Whelen Anti-Collision Strobe Light Systems, Part Number 01-0770006-(), 01-0770028-(), 01-0770029-(), 01-0770062-(), 01-0770900-(), 01-0771055-(), 01-0771080-(), and 01-0790520-() as replacement for originally installed anticollision lights, when installed in accordance with Whelen Anti-Collision Light Systems Installation and Service Manual, Document No. 05131, Rev B, dated June 2010, or later FAA-approved revision.

Limitations and Conditions.

(See continuation sheet 3 of 7)

The STC holder will provide each person it permits to use this certificate to alter the product written evidence of the agreement in a form acceptable to the Administrator.

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 Sedministrator of the Federal Sociation Sedministration.

Date of application: February 19, 1968

Dalo of issuarco: May 14, 1968

Date reissued: July 6, 2010

Dato amended: May 5, 2010

See page 3 for amendment history.

By direction of the Administrator

Robert G. Mann

Manager, Boston 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.

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US Department of Transportation
or transportation

Federal Aviation Administration

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

Form Approved OMB No. 2120-0020

For FAA Use Only

Office Identification

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

an for	id dispo reach si	sition of this form. T uch violation (Section	his re 1 901	port is required by Federal Aviation A	y law ( act of 19	49 U.: 58).	S.C. 1421). Faile	re to report	can result in civil pe	enalty not to	o exceed \$1,0	00
	Make CESSNA							Model 177B				
1. Aircraft	<b>Serial No.</b> 17701907						Nationality and Registration Mark N34626					
2. O	wner	1	Name (As shown on registration certificate) JASON ROBERTSON					Address (As shown on registration certificate) 5998 WYNDEMERE DR ERIE, PA 16505-5608				
				<del></del>	•	3.	For FAA Use Or	ily	· · <del>-</del> · · · · · · · · · · · · · · · · · · ·			
		<del></del>		<del></del>	Ι"	4.	Unit Identification	on		··· /	5. Type	
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ME	ERCER,	PA 16137				<del>  "</del>	Manufacturer			1		
D.	have b	fy that the repair and been made in accord hed herein is true ar	lance	with the requireme	ents of F	art 43	ntified in item 4 3 of the U.S. Fed					eto
Date	9					Sig	gnature of Author	ized Individu	ıal			· · · · · · · · · · · · · · · · · · ·
09	9-30-2	011				G	SARY LEE HUT	CHINSON	JR	1 12	u s	
					7. A	pprov	val for Return T	o Service				
		to the authority giver ator of the Federal A				nit ide	entified in item 4 v [X APPROVED		EJECTED		the	
BY		AA Fit. Standards		Manufacturer		Ins	spection Authoriz	ation	Other (Specify)			
	<u> </u>	AA Designee	х	Repair Station		Ca	erson Approved banada Airworthine	ess Group		<del></del>		
Date of Approval or Rejection 09-30-2011  Certificate or Designation No. QU8R488X					1 `	Signature of Authorized Individual GARY LEE HUTCHINSON JR						

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.)

SUMMERY OF ALTERATION PERFORMED:

(1) UP GRADE AIRCRAFT NAVIGATION SYSTEM TO GPS(WAAS)/NAV/COM IN ACCORDANCE WITH GARMIN STC # SA02019SE-D

### REMOVED THE FOLLOWING:

- (1) LORAN SYSTEM APOLLO RECEIVER 618, AMP A-6, ANTENNA COMANT CI-121SP AND WIRING.
- (2) NUMBER TWO NAV COLLINS VIR-351, INDICATOR IND-350, COM COLLINS VHF-251 AND WIRING.
- (3) ALTITUDE ENCODER ACK A-30.

### **INSTALLED THE FOLLOWING:**

- (1) GPS ANTENNA GARMIN GA 35 P/N 013-00235-00 INTERFACED TO THE GTN-650 THROUGH NEW COAX RG 142. MOUNTED IN PLACE OF THE REMOVED LORAN ANTENNA, ON EXISTING DOUBLER REFERENCE GPS ANTENNA DOUBLER SECTION 3.1.2 IN THE GARMIN GTN-650 INSTALLATION MANUAL. THE DOUBLER HAS BEEN FOUND TO MEET THE STRUCTURAL REQUIREMENTS SPECIFIED IN THE ANTENNA INSTALLATION MANUAL. THE LOCATION HAS BEEN FOUND ACCEPTABLE IN ACCORDANCE WITH THE GTN-650 INSTALLATION MANUAL SECTION 2.5.1 GPS/WAAS ANTENNA LOCATION.
- (2) INDICATOR GARMIN GI-106A P/N 013-00049-01 IN SPACE PROVIDED BY THE RELOCATION OF THE OLD NAV ONE INDICATOR INTERFACED TO THE NEWLY INSTALLED GTN-650
- (3) ALTITUDE ENCODER TRANS-CAL INDUSTRIES SSD120-30N-RS232 INSTALLED ON BOTTOM OF THE GLOVE BOX INTERFACED TO THE NEWLY INSTALLED GARMIN GTN-650 AND THE EXISTING TRANSPONDER ARC RT-359A CIRCUIT PROTECTION PROVIDED BY THE EXISTING TRANSPONDER BREAKER...
- (4) NAV SPLITTER GARMIN P/N 013-00112-00 INSTALLED ON REAR SHELF INTERFACED TO THE GARMIN GTN-650 FOR NAV/GLIDE SLOPE OPERATION THROUGH RG-142 COAX AND TO THE EXISTING NAV DIPLEXOR FOR NAV ANTENNA INPUT INSTALLED IN ACCORDANCE WITH THE GTN-650 INSTALLATION MANUAL SECTION 3.3.3.1 NAV ANTENNA CABLE SPLITTER INSTALLATION.
- (5) GPS WAAS/NAV/COM GARMIN GTN-650 P/N 011-02256-00 DIRECTLY BELOW THE AUDIO SELECTOR PANEL INTERFACED TO NEWLY INSTALLED GPS ANTENNA GA-35, ENCODER TCI SSD120-30N-RS232, DIPLEXER GARMIN P/N 013-00112-00 AND EXISTING COM ANTENNA AND COAX, NAV/GLIDE SLOPE ANTENNA, AUTOPILOT S-TEC SYS 50, GPSS AUTOPILOT ROLL STEERING CONVERTER S-TEC ST-901, AUDIO PANEL PSE PMA-8000B AS COM/NAV ONE. POWER FOR THE GPS/NAV IS SUPPLIED FROM A 7.5 AMP BREAKER IN THE EXISTING BREAKER PANEL PLACARDED GTN-650 NAV. POWER FOR THE COM IS SUPPLIED FROM A 10 AMP BREAKER IN THE EXISTING BREAKER PANEL PLACARDED GTN-650 COM 1.
- (6) FAA APPROVED AIRCRAFT FLIGHT MANUAL SUPPLEMENT'S FOR GARMIN GTN-650 P/N 190-01007-A2 REV 1 DATED 03-18-2011.
- (7) PILOTS GUIDE FOR THE GARMIN GTN-650 SERIES P/N 190-01004-03 REV A DATED 3-1-2011
- (8) COCKPIT REFERENCE GUIDE FOR THE GARMIN GTN-650 SERIES P/N 190-01004-04 REV C DATED 3, 2011
- (9) PLACARD PLACED ON PANEL STATING " GPS FOR VFR NAVIGATION ONLY PENDING COMPLETION OF FLIGHT FUNCTION CHECK"

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.)

CESSNA MODEL177B S/N 17701907 N34626 DATED 09-30-2011

### COMPATIBILITY:

- (1) THE GTN-650 INTERFACE TO THE GARMIN GA-35, S-TEC SYS-50, S-TEC ST901, TCI SSD120-30N-RS232, GARMIN GI-106A AND PSE PMA-8000B HAS BEEN DETERMINED BY THE MANUFACTURER/ GARMIN AML LIST AND MEETS THE GARMIN REQUIREMENTS OF THE STC AND INSTALLATION MANUAL.
- (2) THE AIRCRAFT RADIO DIMMER BUS INTERFACE TO THE GTN-650 HAVE BEEN DETERMINED BY THE MANUFACTURES SPECIFICATION REQUIREMENTS FOUND IN THE AIRCRAFT SERVICE MANUALS AND THE GTN-650 INSTALLATION MANUAL'S AND MEET THE GARMIN REQUIREMENTS OF THE STC.
- (3) CONFIGURATIONS WERE MADE TO MEET THE GTN-650 REQUIREMENT'S. A COPY OF THE CHECK OUT LOG AND INSTALLATION WIRING DIAGRAM'S WERE COMPLETED AND INCLUDED WITH THE MAINTENANCE RECORD'S
- (4) THE GTN 650 INTERFACE TO THE EXISTING NAV ANTENNA HAS BEEN DETERMINED ACCEPTABLE BY GARMIN'S INSTALLATION MANUAL SUBPARAGRAPH 2.5.3
  TITLED NAV ANTENNA LOCATION, SUBPARAGRAPH 3.3.3 TITLED NAV ANTENNA AND SUBPARAGRAPH 2.3.2.1 TITLED OPTIONAL ACCESSORIES NOT SUPPLIED
  SECTION TITLED VOR/LOC ANTENNA (SHALL MEET TSO C40C AND C36). BROAD BAND, 50 OHM, HORIZONTALLY POLARIZED WITH COAX CABLE. AND BY
  PERFORMING OPERATIONAL CHECKS WITH PORTABLE RAMP TEST EQUIPMENT (IFR NAV-402) IN ACCORDANCE WITH SUBPARAGRAPH, 5.10.4 TITLED VHF
  NAV CHECKOUT (GTN-650/750). THE ENTIRE VOR AND ILS BAND WAS CHECKED FOR ACCURACY AND SIGNAL RECEPTION STRENGTH WITH NO DEFICIENCIES
  NOTED. THIS AIRCRAFT WILL BE FLIGHT CHECKED IN ACCORDANCE WITH THE INSTALLATION MANUAL SUBPARAGRAPH 5.11.3 TITLED VOR FLIGHT CHECK
  (GTN-650/750) AND SUBPARAGRAPH 5.11.4 TITLED ILS FLIGHT CHECK (GTN-650/750) WITH NO DISCREPANCIES NOTED ON THE VOR/ILS OPERATION.
- (5) THE GTN 650 INTERFACE TO THE EXISTING COM ANTENNA HAS BEEN DETERMINED ACCEPTABLE BY GARMIN'S INSTALLATION MANUAL SUBPARAGRAPH 2.5.2
  TITLED COM ANTENNA LOCATION, SUBPARAGRAPH 3.3.2 TITLED COM ANTENNA CABLE CONSIDERATIONS, SUBPARAGRAPH 2.3.2.1 TITLED OPTIONAL
  ACCESSORIES NOT SUPPLIED SECTION TITLED COM ANTENNA SHALL MEET TSO-C37,C38 OR TSO-C169 50 OHM VERTICALLY POLARIZED WITH COAXIAL CABLE
  AND BY PERFORMING OPERATIONAL CHECKS WITH PORTABLE RAMP TEST EQUIPMENT IN ACCORDANCE WITH SECTION 5.10 GROUND CHECKS
  SUBPARAGRAPH 5.10.5.1 TITLED ANTENNA CHECK, SUBPARAGRAPH 5.10.5.2 TITLED RECEIVER/TRANSMITTER OPERATION. THIS AIRCRAFT WILL BE FLIGHT
  CHECKED IN ACCORDANCE WITH THE INSTALLATION MANUAL. SUBPARAGRAPH 5.11.2 TITLED VHF COM FLIGHT CHECK (GTN-635/650/750) WITH NO
  DISCREPANCIES NOTED ON COM OPERATION.

### THE FOLLOWING INSTALLATION MANUALS AND DATA WERE USED:

- (1) GARMIN SUPPLEMENTAL TYPE CERTIFICATE NUMBER SA02019SE-D REVISED 03-18-2011
- (2) GARMIN GTN SERIES STC INSTALLATION MANUAL P/N 190-01007-A3 REV 3 DATED 5, 2011
- (3) GARMIN GA-35 GPS ANTENNA INSTALLATION MANUAL P/N 190-00848-00 REV F DATED 1, 2011
- (4) PSE PMA-8000B AUDIO SELECTOR PANEL INSTALLATION MANUAL P/N 202-890-0202 REV 10 DATED OCTOBER 2010.
- (5) GARMIN GI-106A INDICATOR INSTALLATION MANUAL P/N 8017702 REV C DATED 09-12-2003
- (6) S-TEC ST-901 GPSS INSTALLATION MANUAL P/N 921170 REV 9 DATED 5,13,2008
- (7) TRANS-CAL INDUSTRIES, INC SSD120-30N-RS232 ENCODER INSTALLATION MANUAL P/N 882197 DATED 12-08-2008
- (8) WIRING SPECIFICATIONS REFERENCE AC43.13-18 REV 1, CH 11, SEC 5,6,7,8 AND PAR 11-96.

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.

B. Descrip (If more	otion of Work Accomplished a space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)								
CESS	NA MODEL177B S/N 17701907 N34626 DATED 09-30-2011								
OTHE	R:								
(1)	EMI/RFI CHECKS HAVE BEEN PERFORMED WITH NO ADVERSE EFFECTS ON NEW OR EXISTING EQUIPMENT DETECTED. REF AC43.13-1B REV 1, CH 11 PAR 106, 107.								
(2)	ELECTRICAL LOAD HAS BEEN CHECKED. LOAD DOES NOT EXCEED 80% OF THE GENERATING SYSTEM CAPACITY. REF. AC43.13-1B REV 1, CH 11 PAR 37.								
(3)	EQUIPMENT LIST / WEIGHT AND BALANCE AMENDED. REFERENCE AC 43.13-1B REV 1, CH 10.								
(4)	VOR/ILS OPERATION APPROVED AND GPS IS APPROVED FOR I.F.R. ENROOT, TERMINAL AND PRECISION AND NON PRECISION APPROACH PENDING A FLIGHT FUNCTIONAL CHECK IN ACCORDANCE WITH THE GTN INSTALLATION MANUAL PARAGRAPH 5.11 TITLED FLIGHT CHECKS SUBPARAGRAPH 5.11.1 TITLED GPS FLIGHT CHECK, SUBPARAGRAPH 5.11.2 TITLED VHF COM FLIGHT CHECK, SUBPARAGRAPH 5.11.3 TITLED VOR FLIGHT CHECK, SUBPARAGRAPH 5.11.4 TITLED ILS FLIGHT CHECK AND SUBPARAGRAPH 5.11.5 TITLED AUTOPILOT FLIGHT CHECK. CONFIRMATION THAT THE FLIGHT CHECKS WERE PERFORMED WILL BE FOUND IN THE AIRFRAME LOGBOOK AND SIGNED BY THE PILOT AND INCLUDE THE LICENSE NUMBER.								
THE F	OLLOWING DOCUMENT'S ARE ATTACHED TO THIS FORM 337:								
(1)	PERMISSION TO USE GARMIN SUPPLEMENTAL TYPE CERTIFICATE NUMBER STC SA02019SE-D								
(2)	GARMIN SUPPLEMENTAL TYPE CERTIFICATE NUMBER SA02019SE-D DATED 03-18-2011								
(3)	GARMIN FAA APPROVED MODEL LIST PAGE SHOWING THIS AIRCRAFT FOR STC SA02019SE-D								
(4)	INSTRUCTIONS FOR CONTINUED AIRWORTHINESS FOR GARMIN GTN SERIES P/N 190-01007-A1 REV 1 DATED 03-04-2011								
(5)	INSTRUCTIONS FOR CONTINUED AIRWORTHINESS FOR GARMIN GPS ANTENNA GA SERIES P/N 190-00673-01 REV F DATED-27-2007.								
(6)	INSTRUCTIONS FOR CONTINUED AIRWORTHINESS FOR GARMIN GI-106A ORIGINAL								
(7)	INSTRUCTIONS FOR CONTINUED AIRWORTHINESS FOR TRANS-CAL INDUSTRIES SSD120-30N-RS232 ORIGINAL.								
	END								
	Additional Sheets Are Attached								



March 18, 2011

Subject:

STC Permission to use STC SA02019SE-D for

Garmin Model GTN 6xx/7xx Navigation System

(See AML)

Consistent with Order 8110.4B and AC21-40, Garmin International grants permission to Garmin dealers, installers, and owners of the Garmin Model GTN 6xx/7xx Navigation System units to use STC SA02019SE-D and deliverable data associated with it, for the sole and express purpose of installation and approval of the installation of the Garmin Model GTN 6xx/7xx Navigation System, and associated interfaces to other previously approved equipment.

Emmett Griffith, Engineering Manager

Garmin AT, Inc.

### 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 151<sup>st</sup> Street Olathe, KS 66062

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

Criginal Product Type Certificate Number: \*See attached Approved Model List (AML) No. SA02019SE-D dated March 18, 2011 or later FAA-approved revision for list of approved aircraft models and applicable airworthiness regulations.

Description of Type Gesign 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.

Bimitations and Conditions:

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

Aircraft modified by this STC must be maintained in accordance with the Instructions for Continued Airworthiness (ICA) listed in the MDL identified above.

A copy of this certificate must be maintained as part of the permanent records for the modified aircraft.

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

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

Suto of upplication: March 26, 2009

Jule of issuance: March 18, 2011

Dute reissued:

Late amended

By direction of the Administrator

(Signature)

Robert M. Grove ODA STC Unit Administrator

ODA-240087-CE Garmin International, Inc.

(Title)



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INSTRUCTIONS: The transfer endorsement below may be used to notify the appropriate FAA Regional Office of the transfer of this Supplemental Type Certificate. The FAA will reissue the certificate in the name of the transferee and forward it to him. Transfer the ownership of Supplement Type Certificate Number To (Name of transferred 1. Number and street (City, State and Zip code) From (Name of granter) Print or type (Number and street) 1. Odders of geneter! Mity, State and Zip welet Extent of Authority (if licensing agreement): Date of Transfer:

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

FAR FORM 8(10-2410-68) PAGE 2 of 3 PAGES This certificate may be transferred in accordance with FAR \$1.47.

Signature of grantor /In Inkli-

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### United States of America

### Department of Transportation - Federal Aviation Administration

# Supplemental Type Certificate

(Continuation Sheet)

Number SA02019SE-D

Date of Issuance: March 18, 2011

### \*Certification Basis

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

- a. The certification basis for parts not changed or not affected by this change is shown on the attached AML.
- b. The certification basis for parts changed or affected by this change is:

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	23.1357(a)(b)(d)-	23-43
23.561(a)(b)(3)(e)	23-48	23.1359(c)	23-49
23.601	23-0	23.1365(a)(b)(d)(e)	23-49
23.603 All	23-23	23.1367(a)(b)(c)(d)	23-0
23.607(b)	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
23.1307	23-49	23.1555(a)(b)(e)(2)	23-50
23.1308(b)(c)	23-57	23.1559(c)	23-50
23.1309(a)(b)(c)(1)(e)	23-49	23.1581(a)(b)(c)(f)	23-50
23.1311(a)(1-4)(6)(7)	23-49	23.1583(h)(m)	23-50
23.1321(a)(c)(e)	23-49	23.1585(j)	23-50

END.....

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### FAA Approved Model List (AML)

### STC Number SA02019SE-D

Installation of Garmin Model GTN 625/635/650; 725/750 Navigation System

1 1000

ODA ÅDMINISTRATOR

DATI

ODA-240087-CE Garmin International 1200 E. 151<sup>st</sup> Street, Olathe KS 66062

Issued Date: March 18, 2011

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### FAA Approved Model List (AML) STC Number SA02019SE-D

### **AML Revision Log**

Date	Description
3/18/2011	Initial Release

Issued: March 18, 2011 2 of 13

# 4 of 13

# FAA Approved Model List (AML) STC SA02019SE-D

				Master Drawing List	ing List	
Aircraft Make (TCDS Holder) [common name or previous make]	Aircraft Model	Type Certificate Number	TC Certification Basis *	Document Number	Revision (or later FAA approved revision)	AML Revision Date
Cessna Aircraft Company)	310, 310A (USAF U-3A), 310B, 310C, 310D, 310E (USAF U-3B), 310F, 310G, 310H, E310H, 310I, 310J, 310J-1, E310J, 310K, 310L, 310N, 310P, T310P, 310Q, T310Q, 310R, T310R	3A10	CAR 3	005-00533-C0	-	3/18/2011 Original
Cessna (Cessna Aircraft Company)	172, 172A, 172B, 172C, 172D, 172E, 172F, 172G, 172H, 172I, 172K, 172L, 172M, 172N, 172P, 172Q, 172R, 172S	3A12	CAR 3 FAR 23	005-00533-C0	-	3/18/2011 Original
Cessna (Cessna Aircraft Company)	182, 182A, 182B, 182C, 182D, 182E, 182F, 182G, 182H, 182J, 182K, 182L, 182M, 182N, 182P, 182Q, 182R, 182S, 182T, R182, T182, TR182, T182T	3A13	CAR 3 FAR 23	005-00533-C0	_	3/18/2011 Original
Cessna (Cessna Aircraft Company)	172RG, P172D, R172E, R172F, R172G, R172H, R172J, R172K, 175, 175A, 175B, 175C	3A17	CAR 3	005-00533-C0	-	3/18/2011 Original
Cessna (Cessna Aircraft Company)	150, 150A, 150B, 150C, 150D, 150E, 150F, 150G, 150H, 150J, 150K, 150L, 150M, A150K, A150L, A150M, A150M, A150M, A152	3A19	CAR 3 FAR 23	005-00533-C0	1	3/18/2011 Original
Cessna Aircraft Company)	210, 2104, 210B, 210C, 210D, 210E, 210F, T210F, 210G, T210G, 210H, T210H, 210J, T210J, 210K, T210K, 210L, T210L, 210M, T210M, 210N, P210N, T210N, 210R, P210R, T210R, 210-5A (205A)	3A21	CAR 3	005-00533-C0	1	3/18/2011 Original
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, 3204, 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, 1804, 180B, 180C, 180D, 180E, 180F, 180G, 180H, 180J, 180K	546	CAR 3	005-00533-C0	1	3/18/2011 Original
Cessna (Cessna Aircraft Company)	177, 177A, 177B	A13CE	FAR 23	005-00533-C0	-	3/18/2011 Original
Cessna (Cessna Aircraft Company)	207, 207A, T207, T207A	A16CE	FAR 23	005-00533-C0	-	3/18/2011 Original
Cessna (Cessna Aircraft Company)	177RG	A20CE	FAR 23	005-00533-C0	-	3/18/2011 Original

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## GTN 625/635/650/725/750 and GMA 35 Instructions for Continued Airworthiness as installed in

<u>Cessua</u> 177B

(Make and Model Airplane)

Reg. No. N34626 S/N 17701907

Dwg. Number: 190-01007-A1 Rev. 1

Garmin Ltd. Or its subsidiaries c/o Garmin International, Inc. 1200 E. 151st Street Olathe, Kansas 66062 USA

### **Record of Revision**

Rev.	Date	Description of Change					
1	03/04/2011	Initial Release					
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### 1. INTRODUCTION

### 1.1 Purpose

This document is designed for use by the installing agency of the Garmin GTN 6XX/7XX Navigators and GMA 35 audio panel as Instructions for Continued Airworthiness in response to 14 CFR § 23.1529, and Part 23 Appendix G. This ICA includes information required by the operator to adequately maintain the Garmin GTN 6XX and 7XX Navigator and GMA 35 system installed under Approved Model List (AML) STC.

### 1.2 Scope

This document identifies the Instructions for Continued Airworthiness for the modification of the aircraft for installation of the Garmin GTN 6XX/7XX and GMA 35 installed under Approved Model List (AML) STC.

### 1.3 Document Control

This document shall be released, archived, and controlled in accordance with the Garmin document control system. When this document is revised, refer to Section 2.15 for information on how to gain FAA acceptance or approval and how to notify customers of changes.

### 1.4 Permission to Use Certain Documents

Permission is granted to any corporation or person applying for approval of a Garmin GTN 6XX/7XX and GMA 35 to use and reference appropriate STC documents to accomplish the Instructions for Continued Airworthiness and show compliance with STC engineering data. This permission does not construe suitability of the documents. It is the responsibility of the applicant to determine the suitability of the documents for the ICA.

### 1.5 Definitions

The following terminology is used within this document:

- 1) ACO: Aircraft Certification Office
- 2) AEG: Aircraft Evaluation Group
- 3) BIT: Built-In Test
- 4) COM: Communications
- 5) CFR: Code of Federal Regulations
- 6) FAA: Federal Aviation Administration
- 7) GPS: Global Positioning System
- 8) ICA: Instructions for Continued Airworthiness
- 9) IFR: Instrument Flight Rules
- 10) LED: Light Emitting Diode
- 11) LRU: Line Replaceable Unit
- 12) NAV: Navigation
- 13) MFD: Multi-Function Display
- 14) PMI: Principal Maintenance Inspector
- 15) POI: Principal Operations Inspector
- 16) STC: Supplemental Type Certificate
- 17) TSO: Technical Standard Order
- 18) TVS: Transient Voltage Suppressor
- 19) WAAS: Wide Area Augmentation System

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### 1.6 Terminology

Except where specifically noted, references made to the 'GTN' will equally apply to the GTN 625/635/650/725/750. Also, 'GTN 7XX' refers specifically to the GTN 725 and GTN 750, and 'GTN 6XX' refers specifically to the GTN 625, GTN 635, and GTN 650.

Throughout this document references will be made to 'metallic' and 'non-metallic' aircraft. For the purposes of this document, metal aircraft will be those with an aluminum skin. Non-metal aircraft will refer to all other aircraft. (e.g., aircraft with composite skin, or aircraft with tube and fabric construction.)

### 2. INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

### 2.1 Introduction

Content, Scope, Purpose and Arrangement: This document identifies the Instructions for Continued

Airworthiness for the modification of the aircraft by installation of the Garmin GTN 6XX/7XX Navigators.

Applicability: Applies to aircraft altered by installation of the Garmin

GTN 6XX/7XX and GMA 35.

Definition of Abbreviations: See Sections 1.5 and Section 1.6

Precautions: None

Units of measurement: None

Referenced publications \*: Garmin 190-01007-A3 Rev. 2, "GTN 6XX/7XX AML

\* or later FAA Approved revisions STC Installation Manual"

Garmin 190-01007-03 Rev. A, "GTN 725/750 Pilot's

Guide"

Garmin 190-01004-03 Rev. A, "GTN 625/635/650

Pilot's Guide"

Retention: This document, or the information contained within, will

be included in the aircraft's permanent records.

The GTN 6XX/7XX AML STC Installation Manual (190-01007-A3) is referenced extensively throughout this document. To improve readability, references to the installation manual are abbreviated as GTN-IM.

### 2.2 Description of Alteration

The GTN navigators are a family of aviation panel mounted retro-fit products. GTN units utilize a touchscreen as the primary control interface. Traditional knobs and buttons have been minimized to simplify access to the color multi-function display (MFD), NAV and COM transceiver, and GPS/WAAS navigator functions.

The GTN 625/635/650 Navigators (Garmin Touch Navigation) are a new family of 2.65-inch tall aviation panel mounted retro-fit products that are intended to supersede the Garmin 400W Series Navigators. The GTN 6XX product family consists of the GTN 625 GPS/WAAS navigator, the GTN 635 GPS/WAAS/COM navigator, and the GTN 650 GPS/WAAS/NAV/COM navigator.

The GTN 725/750 Navigators (Garmin Touch Navigation) are a new family of 6.00-inch tall aviation panel mounted retro-fit products that are intended to supersede the Garmin 500W Series Navigators.

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The GTN 7XX product family consists of the GTN 725 GPS/WAAS navigator, and the GTN 750 GPS/WAAS/NAV/COM navigator.

The optional GMA 35 is an audio panel with a Marker Beacon receiver. The GMA 35 in conjunction with a GTN 7XX provide full audio panel capability, for communication and navigation radios, headsets, microphones, and speakers. The GMA 35 is mounted in a notch behind the GTN 7XX to free up mounting space in the flight deck instrument panel. Installation of the GTN, specific for the aircraft installation, is documented in GTN-IM.

### 2.3 Control, Operating, and Testing Information

See the *GTN 6XX Pilot's guide* and the *GTN 7XX and GMA 35 Pilot's Guide* for system operating information. See section 2.1 for document part numbers. See GTN-IM for a system description and system limitations.

See GTN-IM, Section 5 for checkout and self-test information. See GTN-IM, Section 5.10 for general ground checks and system test procedures.

### 2.4 Servicing Information

None. In the event of system failure, troubleshoot the GTN 6XX/7XX and GMA 35 in accordance with Section 2.6 Troubleshooting Information below.

### 2.5 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, and built-in tests (BIT) are continuously executed. Detected errors are indicated as failure annunciations, system messages, or a combination of the two.

Operation of the GTN 6XX/7XX and GMA 35 is not permitted unless the inspections described in this section have been completed within time intervals prescribed in Table 1 below. All antennas connected to the GTN should be maintained in accordance with appropriate inspection data for the antenna installation.

Table 1 - Maintenance Intervals

Item	Description/Procedure	Interval	
Equipment Removal & Replacement	Removal and replacement of GTN or GMA units  Removal and replacement instructions are contained in  Section 2.7 of this document and in GTN-IM, Section 3.4.1.	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	

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Item	Description/Procedure	Interval
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,	On Condition
	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.	
Equipment Visual Check	Conduct a visual check of the GTN unit and its wire harness to ensure continued installation integrity.	12 Calendar Months
	Inspect the GTN unit(s) for security of attachment, including visual inspection of mounting racks and other supporting structure attaching the racks to aircraft instrument panel. Verify the countersunk fastener heads are in full contact with unit mounting rack holes. Re-torque to 8.5-9.5 in-lbs if required.	
	Inspect for signs of corrosion.	
	<ul><li>3. Inspect all knobs and buttons for legibility.</li><li>4. Inspect condition of wiring, shield terminations, routing, and attachment/clamping.</li></ul>	
	<ol> <li>Check the fan intake slots on the sides and bottom of the GTN unit's bezel for dust, dirt, or obstructions. Clean as needed.</li> </ol>	
	<ol> <li>Conduct a visual check of the GPS/WAAS antenna cable overbraid in accordance with Section 8.2.1.3 of the GTN-IM.</li> </ol>	
	Conduct a visual check of the WXR cable overbraid in accordance with Section 8.2.1.4 of the GTN-IM If installed.	
Test-TVS Lightning Protection	The GTN #1 main power input will have a TVS located at the LRU, for IFR non-metallic aircraft only. The TVS must be checked or replaced in accordance with section 8.2.1 of the GTN-IM.	24 Calendar Months
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. The TVS must be replaced in accordance with section 8.2.1 of the GTN-IM.	After a suspected or actual lightning strike
	Conduct a visual check of the GPS/WAAS antenna cable overbraid in accordance with Section 8.2.1.3 of the GTN-IM.	
	Conduct a visual check of the WXR cable overbraid in accordance with Section 8.2.1.4 of the GTN-IM if installed.	

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Item	Description/Procedure	Interval
Test-Bonding Check (IFR-certified aircraft only)	<ol> <li>Perform an electrical bonding check:</li> <li>Perform electrical bond check between the GTN and nearby exposed portion of the aircraft metallic structure and verify that it is less than 10 milliohms.</li> <li>Remove GTN unit from mounting rack.</li> <li>Measure the resistance between the mounting rack and nearby exposed portion of aircraft metallic structure and verify it is less than 10 milliohms.</li> <li>Reinstall the GTN unit in the mounting rack.</li> <li>In the event of bonding test failure, remove the GTN rack and clean the attachment points at both the GTN rack and the aircraft structure per section 2.5.4 of the GTN-IM and reattach the rack to the rails in the panel. Re-verify the resistance between the mounting rack and nearby exposed portion of aircraft metallic structure and ensure it is less than 2.5 milliohms.</li> </ol>	Every 2000 flight hours or ten (10) years, whichever is first

### 2.6 Troubleshooting Information

If error indications are displayed on the GTN 6XX or 7XX, consult the GTN-IM, Section 6, Troubleshooting. Refer to the GTN System Configuration and Checkout Log retained in the aircraft permanent records for a list of the interfaced equipment and system configuration data (example log provided in GTN-IM).

### 2.7 Removal and Replacement Information

For GTN removal and replacement instructions, refer to GTN-IM Section 3.4.1.1 and Section 3.4.1.2. For GMA 35 removal and replacement instructions, refer to GTN-IM Section 3.4.1.3 and Section 3.4.1.4.

If any GTN LRUs are removed and reinstalled, verify that the LRU unit power-up self-test sequence is successfully completed and no failure messages are annunciated.

If any work has been done on the aircraft that could affect the system wiring, or any interconnected equipment, verify the GTN system unit power-up self-test sequence is successfully completed and no failure messages are annunciated.

Refer to Appendix A of this document or the GTN 6XX/7XX System Configuration and Checkout Log retained in the aircraft permanent records for GTN equipment location.

Refer to the GTN-IM for particular LRU removal/installation procedures and special handling precautions.

### 2.8 Diagrams

Aircraft specific LRU locations and wire routing diagram are contained in Appendix A of this document.

GTN-IM Appendix B provides diagrams showing sample installation for LRU locations. Appendix E provides point-to-point wiring diagrams for the GTN and interfaced equipment. Appendix F provides point-to-point wiring diagrams for the GMA 35 and interfaced equipment.

Refer to the GTN System Configuration and Checkout Log retained in the aircraft permanent records for a list of the interfaced equipment and unit configuration data (example log provided in GTN-IM).

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### 2.9 Special Inspection Requirements

### 2.9.1 Lightning Protection Checks

In the event of a suspected or actual lightning strike to the aircraft, the checks outlined in Table 1 for Test-Lightning Protection must be completed.

### 2.10 Application of Protective Treatments

None. N/A.

### 2.11 Data Relative to Structural Fasteners

None. N/A.

### 2.12 Special Tools

For electrical bonding testing, a milli-ohm meter is required.

### 2.13 Additional Instructions

Refer to GTN-IM Section 3.7 for Electrical Load information applicable to the GTN and GMA 35.

### 2.14 Overhaul Period

The system does not require overhaul at a specific time period. Power on self-test and continuous BIT will monitor the health of the GTN system. If any LRU indicates an internal failure, the unit may be removed and replaced. See GTN-IM, Section 6 for Troubleshooting information.

### 2.15 ICA Revision and Distribution

To revise this ICA, Garmin will follow the Garmin ODA procedures manual SOP-055/ACP-016 for Instructions for Continued Airworthiness. The latest revision of this ICA document is available on the Garmin website (<a href="www.garmin.com">www.garmin.com</a>). A Garmin Service Bulletin describing ICA revision will be sent to Garmin dealers if a revision is determined to be significant.

### 2.16 Assistance

Flight Standards Inspectors or the certificate holder's PMI have the required resources to respond to questions regarding this ICA. In addition, the customer may refer questions regarding this equipment and its installation to the manufacturer, Garmin. Garmin customer assistance may be contacted during normal business hours via telephone 913-397-8200 or email from the Garmin web site at www.garmin.com.

### 2.17 Implementation and Record Keeping

Modification of an aircraft by this Supplemental Type Certificate obligates the aircraft operator to include the maintenance information provided by this document in the operator's aircraft maintenance manual and/or the operator's aircraft scheduled maintenance program.

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### 3. AIRWORTHINESS LIMITATIONS SECTION

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.

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### APPENDIX A - EQUIPMENT LOCATION AND WIRE ROUTING

### A.1 LRU LOCATIONS

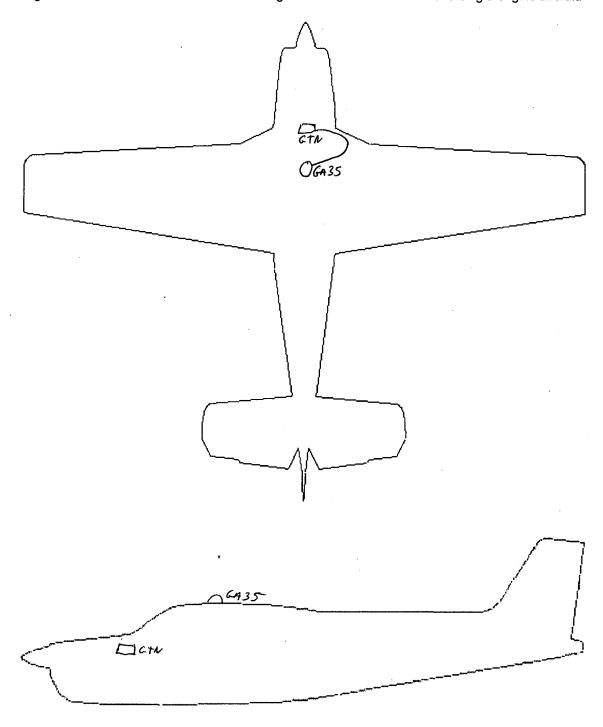
The table below describes the locations of the GTN 6XX/7XX and GMA 35. Check all that apply.

LRU	LRU included in this installation?	Description of Location				
GTN 625 #1	Yes 🗆 No	Belom Audio Solecton				
GTN 625 #2	☐ Yes ☑ No					
GTN 635 #1	☐ Yes ☑ No					
GTN 635 #2	☐ Yes ☑ No					
GTN 650 #1	☐ Yes ☐ No					
GTN 650 #2	☐ Yes ☑ No					
GTN 725 #1	☐ Yes ☑ No					
GTN 725 #2	☐ Yes ☐ No					
GTN 750 #1	☐ Yes ☐ No					
GTN 750 #2	☐ Yes ☐ No					
GMA 35	☐ Yes ☐ No					

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### A.2 WIRE ROUTING - SINGLE-ENGINE

The following diagram depicts approximate location of all LRUs and antenna(s) along with the wire routing for the GTN 6XX/7XX and GMA 35 throughout the aircraft structure for a single-engine aircraft:



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# Equipment List GTN 6XX/7XX AML STC

Garmin Ltd. or its subsidiaries c/o Garmin International, Inc. 1200 E. 151st Street Olathe, Kansas 66062 USA

Dwg. Number: 005-00533-C1 Rev. 2

### Confidential

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Rev.	Date	Description of Change		
1	03/17/2011	Initial Release		
2	05/20/2011	Revise Com software to 2.01.		

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# **Company Proprietary Information**

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# GARMIN.

Garmin Ltd. or its subsidiaries c/o Garmin International, Inc. 1200 E. 151<sup>st</sup> Street Olathe, Kansas 66062 U.S.A.

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#### 1. INTRODUCTION

This document provides a list of required equipment and optional equipment for the GTN 6XX/7XX Navigator AML STC.

#### 1.1 Reference Documents

190-01007-A3, GTN 6XX/7XX AML STC Installation Manual

# 2. EQUIPMENT LIST

For GTN 625/635/650 equipment, part numbers are listed in Table 1. For GTN 725/750 equipment, part numbers are listed in Table 2.

GTN equipment use a common software. Software part numbers and versions are identified in Table 6.

#### 2.1 Equipment

# 2.1.1 Required Equipment Installed under this STC

A minimum of one GTN unit is required to be installed from either Table 1 or Table 2 as required equipment for a GTN Navigator system.

The GTN 625/635/650 Navigators are 2.65-inch tall aviation panel mounted retro-fit products. Table 1 identifies unique GTN 6XX Navigator units.

The GTN 725/750 Navigators are 6.00-inch tall aviation panel mounted retro-fit products. Table 2 identifies unique GTN 7XX Navigator units.

Table 1 - GTN 6XX Unit List

Description	Part Number	Vendor
GTN 625 WAAS Navigator, Black	011-02254-00	Garmin
GTN 635 COM/WAAS Navigator, Black	011-02255-00	Garmin
GTN 650 NAV/COM/WAAS Navigator, Black	011-02256-00	Garmin
GTN 650 NAV/COM/WAAS Navigator, Gray	011-02256-50	Garmin

Table 2 – GTN 7XX Unit List

Description	Part Number	Vendor
GTN 725 WAAS Navigator, Black	011-02281-00	Garmin
GTN 750 NAV/COM/WAAS Navigator, Black	011-02282-00	Garmin
GTN 750 NAV/COM/WAAS Navigator, Gray	011-02282-50	Garmin

Specific type and number of units required for installation is specified in the GTN 6XX/7XX AML STC Installation Manual, 190-01007-A3.

#### 2.1.2 Optional Equipment Installed under this STC

The GMA 35 is an optional remote audio panel that is designed to be installed with a GTN 7XX unit. This STC provides installation approval for the optional equipment listed in Table 3.

Table 3 – Optional Equipment List (Approved for Installation under this STC)

Description	Part Number	Vendor
GMA 35 Remote Audio Panel	011-02299-00	Garmin

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#### 2.1.3 Interfaced Equipment

This STC provides approval to interface to existing aircraft equipment. Refer to the GTN 6XX/7XX AML STC Installation Manual (P/N 190-01007-A3) Appendices C and D for a complete list of approved interfaced equipment.

#### 2.1.4 Antennas

The GTN Navigator families provide various levels of capability. The table below identifies prerequisite antennas required for installation of specific GTN Navigator units.

Table 4 - Prerequisite Antennas

		GT.	ator		
Antenna Description	Must meet TSO	625 725	635	650 750	GMA 35 [2]
GPS/WAAS antenna (see Table 5)	TSO-C144() [1]	Х	Х	Х	
VHF COM compatible antenna	[TSO-C37( ) and C38( )]or TSO-C169( )		х	Х	
VOR/LOC antenna	TSO-C40() and C36()			Х	
Glideslope antenna	TSO-C34()			Х	
Marker Beacon antenna	TSO-C35()				Х

#### Notes:

- [1] TSO-C144 is the basic requirement for the GPS/WAAS antenna; additional limitations are identified below.
- [2] A marker beacon antenna is applicable only when a GMA 35 remote Audio Panel is installed with a GTN 725 or 750 Navigator and marker beacon annunciations are desired.

All GTN Navigator units require a GPS/WAAS antenna. The GTN requires specific antennas to meet TSO performance requirements. Only the antennas identified in the table below are acceptable for a GTN installation.

Table 5 - Applicable GPS Antennas

Antenna, Description	Mfr	Part Number	
GA 35, GPS/WAAS	Garmin	013-00235-0()	
GA 36, GPS/WAAS	Garmin	013-00244-0()	
GA 37, GPS/WAAS/XM	Garmin	013-00245-0( )	
A33W, WAAS Antenna	Garmin	013-00261-0()	
GPS/VHF Antenna	Comant	CI-2580-200	
GPS/VHF Antenna	Comant	CI-2728-200	
GPS/XM/VHF Antenna	Comant	CI-2580-410	
GPS/XM/VHF Antenna	Comant	CI-2728-410	
GPS Antenna	Comant	CI-428-200	
GPS/XM Antenna	Comant	CI-428-410	



# 2.2 Software

#### 2.2.1 GTN Equipment Software

The GTN 6XX and GTN 7XX share a common software image. Table 6 below represents approved software as viewable by the installer on the Configuration Page of the installed GTN unit. Software listed below is applicable to GTN 6XX/7XX hardware identified in Table 1 and Table 2 above.

Table 6 - Software: GTN 6XX/7XX Navigator

Required Softw	Required Software and Versions for GTN Equipment						
GTN 6XX/7XX Software Description	Ver.	Part No.	625 725	635	650 750		
Main Board							
Software	2.00	006-B1026-01	X	X	Х		
Boot Code	2.00	1			1		
FPGA	2.20			ļ			
Display Board							
Software	2.0	006-B1028-00	X	X	X		
Boot Code	2.0	006-B1029-01	X	X	X		
GPS/WAAS Board			-				
Software	4.0	006-B0339-10	X	X	Х		
COM Board							
Software	2.01	006-B1061-03	T	X	X		
Boot Code	2.00	006-B1066-02	1	Х	Х		
FPGA	2.2	006-C0135-22	1	X	Х		
NAV Board							
Software	6.01	006-B0082-11			X		
Boot Code	2.01	006-B0082-BC			Х		
FPGA	1.0	006-C0124-00			Х		

#### 2.2.2 GMA 35 Equipment Software

Table 7 below represents approved software as viewable by the installer on the Configuration Page of a GTN 725 or GTN 750 unit. Software listed below is applicable to GMA 35 hardware identified in Table 3 above.

Table 7 - Software: GMA 35 Remote Audio Panel

Required Software and Versions for GMA 35 Equipment (if installed)							
GMA 35 Software Description Ver. Part No.							
Audio							
Software	2.00	006-B0773-00					
Boot Code	2.00	006-B0773-BB					
Auxiliary							
Software	2.00	006-B0772-00					
Boot Code .	2.00	006-B0772-BB					

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#### 2.2.3 Database Cards

Database files for Required Equipment installed under this STC:

Table 8 - GTN 6XX/7XX Database Card

Card Description	Part Number	Notes:
GTN 6XX/7XX Database	010-00900-( )	[1] [2]

#### Notes:

- [1] The base part number for the GTN database card is 010-00900-00.
- [2] Other database cards with the prefix 010-00900-() support feature-specific pre-programmed database files and are also acceptable.

#### 2.2.4 Enablement Cards

Enablement Cards to enable specific GTN 6XX or 7XX functions:

Table 9 - Enablement Cards

Card Description	Part Number	Notes:
Internal TAWS Enablement	010-00878-01	[1]
16W COMM Enablement	010-00878-04	[1]
ChartView Enablement	010-00878-40	[1], [2]

#### Notes:

- [1] A feature enablement SD card is used to activate the indicated feature. Once used, the enablement card will only function with that specific serial number Navigator.
- [2] Can be enabled only for GTN 7XX units.

#### 2.2.5 Optional Software Loader Card

Two means are provided to load software for equipment approved under this STC: 1) A Blank GTN 6XX/7XX Loader Card with a software image downloaded from the Garmin website (refer to the GTN 6XX/7XX AML STC Installation Manual (P/N 190-01007-A3) for downloading software); 2) a preprogrammed GTN 6XX/7XX Loader Card. Table 10 identifies each loader card. In addition, Table 10 also identifies software image that can be downloaded from the website; this image is the same one that comes on the pre-programmed loader card.

Table 10 - GTN 6XX/7XX Software Loader Image

Loader Card Data	
Description	Part Number
GTN Software Loader Card (blank)	010-01000-00
GTN Software Loader Card (pre-programmed)	010-00969-01
GTN 6XX/7XX Software Loader Image	006-B1367-01

Each software item listed in Table 6 and Table 7 above (GTN and GMA equipment respectively) is contained in the GTN 6XX/7XX Software Loader Image.

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# GA Antenna Series Instructions for Continued Airworthiness

STC Number SA01695SE

Document Number 190-00673-01 Rev. F

Garmin Ltd. Or its subsidiaries c/o Garmin International, Inc. 1200 E. 151st Street Olathe, Kansas 66062 USA

Aircraft ta	il number _	N34626	_
Antenna location on aircraft	ABour	p. Cat	

#### Confidential

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# **Record of Revision**

Rev.	Date	Description of Change
D	08-21-06	Initial STC Issuance
E	11-29-06	Added GA 35 Antenna
F	08-27-07	Added GA 36 & GA 37 Antennas

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#### 1. INTRODUCTION

#### 1.1 Purpose

This document is designed for use by the installing agency of the antenna models listed in Table 1 below as Instructions for Continued Airworthiness in response to Federal Aviation regulation (FAR) Part 23.1529, and Part 23 Appendix G. They include information required by the operator to adequately maintain the antenna models listed in Table 1

#### 1.2 Scope

This document identifies the Instruction for Continued Airworthiness for the modification of the aircraft for installation of the antenna models listed in Table 1.

Table 1 - List of Antenna Models

Manufacturer	Antenna Model	Description
Garmin	GA 35	GPS/WAAS Antenna
Garmin	GA 36	GPS/WAAS Antenna
Garmin	GA 37	GPS/WAAS with XM Antenna
Garmin	GA 55	XM Antenna
Garmin	GA 55A	XM Antenna
Garmin	GA 56W	GPS/WAAS Antenna
Garmin	GA 56A	GPS/WAAS Antenna
Garmin	GA 57	GPS/WAAS with XM Antenna
Garmin AT	A-34	GPS/WAAS Antenna

#### 1.3 Document Control

This document shall be released, archived, and controlled in accordance with Garmin document control system. When this document is revised, refer to Section 2.15 for information on how to gain FAA acceptance or approval and how to notify customers of changes.

#### 1.4 Airworthiness Limitations Section

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.

# 1.5 Permission to Use Certain Documents

Permission is granted to any corporation or person applying for approval of the antenna models listed in Table 1 to use and reference appropriate STC documents to accomplish the Instructions for Continued Airworthiness and show compliance with STC engineering data. This permission does not construe suitability of the documents. It is the responsibility of the applicant to determine the suitability of the documents for the ICA.

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#### 1.6 Definitions

The following terminology is used within this document:

- 1) AC: Advisory Circular
- 2) ACO: Aircraft Certification Office
- 3) AEG: Aircraft Evaluation Group
- 4) CFR: Code of Federal Regulations
- 5) DER: Designated Engineering Representative
- 6) FAA: Federal Aviation Administration
- 7) IAW: In Accordance With
- 8) ICA: Instructions for Continued Airworthiness
- 9) MFD: Multi-Function Display unit
- 10) PMI: Primary Manufacturing Inspector
- 11) POI: Primary Operations Inspector
- 12) STC: Supplemental Type Certificate
- 13) TC: Type Certification or Type Certificate
- 14) TSO: Technical Standard Order

#### 2. INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

# 2.1 Introduction

Content, Scope, Purpose and Arrangement: This document identifies the Instruction for

Continued Airworthiness for the modification of the aircraft by installation of the antenna models listed

in Table 1.

Applicability: Applies to aircraft altered by installation of the

antenna models listed in Table 1.

Definition of Abbreviations: See Section 1.6

Precautions: None

Units of measurement: None

Referenced publications: 190-00569-00 Rev. F STC Antenna Installation

Manual

(or later FAA approved revisions) 005-C0373-00 Rev. F Garmin GA Antenna Series

Master Data List

Distribution: This document should be included in the

permanent aircraft records.

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#### 2.2 Description of Alteration

Physical installation of the antenna models listed in Table 1.

#### 2.3 Control, Operating Information

There are no pilot controls or operating information. All pilot controls and operating information is through the interfaced receiver unit.

#### 2.4 Servicing Information

The antenna models listed in Table 1 are non-repairable. The antenna must be replaced in event of failure

#### 2.5 Periodic Maintenance Instructions

This STC is for physical installation and mounting of the antenna models listed in Table 1 and does not include functional operation. The antenna models listed in Table 1, when interfaced to other receiving equipment, are functionally tested by the interfaced receiver.

Within 12 calendar months, conduct a visual inspection on the antenna and its mounting.

#### 2.6 Troubleshooting Information

Troubleshooting is performed with the interfaced receiving unit.

# 2.7 Removal and Replacement Information

If the antenna is removed and replaced, verify proper operation by successfully completion of the self test of the interfaced receiving equipment.

Penetration of the pressure vessel of a pressurized aircraft is not approved under this STC installation.

Note: There are no special handling requirements for the antennas.

#### 2.8 Diagrams

Refer to the STC Antenna Installation Manual (listed under reference documentation in section 2.1 of this document) for drawings applicable to this installation. There are no wiring diagrams since this STC does not provide wiring interconnections. Location of the antenna varies with aircraft and installation, but must mounted with RF transparent view of the sky. Refer to the cover page of this document for the mounting location of the antenna specific to the aircraft tail number.

# 2.9 Special Inspection Requirements

Verify there are no cracks on the antenna. Verify there are no cracks or deformation in the mounting structure around the antenna. Verify all sealing fillets around the antenna are good condition.

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# 2.10 Application of Protective Treatments

None, N/A.

#### 2.11 Data Relative to Structural Fasteners

For fastener torque information, refer to the STC Antenna Installation Manual listed in the reference documentation in section 2.1 of this document.

#### 2.12 Special Tools

No special tools are required. Refer to the STC Antenna Installation Manual listed in reference documentation in section 2.1 of this document.

# 2.13 Additional Instructions for Aircraft Operating under FAR 121/135

- Aircraft Electrical Loads: There is no power connection to the antenna. The only interface to the antenna is from the receiving equipment. Power loads are addressed with the interfaced receiving equipment.
- 2. Methods of balancing flight controls: N/A.
- Special Repair Methods applicable to the airplane: See certificate holder's General Maintenance Manual for instructions.

#### 2.14 Overhaul Period

This STC is for physical installation and mounting of the antenna(s) and does not include functional operation. The antenna(s) do not require overhaul at a specific time period. Antenna health is monitored and self-test conducted by the interfaced GPS/WAAS and XM receivers.

# 2.15 ICA Revision and Distribution

To revise this ICA, a letter must be submitted to the ACO for approval along with the revised ICA. The ACO will obtain AEG acceptance, and approve any revision to the Airworthiness Limitations Section 1.4. After FAA acceptance/approval, Garmin will release the revised ICA for customer use, and provide any required notification of the revision.

The latest revision of this document will be available on the Garmin website (www.garmin.com). A Garmin Service Bulletin, describing ICA revision, will be sent to dealers if revision is determined to be significant.

#### 2.16 Assistance

Flight Standards Inspectors or the certificate holder's PMI have the required resources to respond to questions regarding this ICA. In addition, the customer may refer questions regarding this equipment and its installation to the manufacturer, Garmin. Garmin customer assistance may be contacted during normal business hours via telephone 913-397-8200 or email from the Garmin web site at garmin.com.

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# 2.17 Implementation and Record Keeping

Modification of an aircraft by this Supplemental Type Certificate obligates the aircraft operator to include the maintenance information provided by this document in the operator's aircraft maintenance manual and/or operator's aircraft scheduled maintenance program.

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# INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

ATTACHMENT PART SECTION 8 OF 337 DATED 09-30-2011

# FOR:

#### **GARMIN GI106A INDICATOR**

# INSTALLED IN THE FOLLOWING AIRCRAFT

MAKE: CESSNA MODEL: R177B S/N: 17701907 REG. #: N34626

REVISION: ORIGINAL DATE: 09/30/2011

This sixteen item checklist is instructions for Continued Airworthiness (ICA), to comply with FAA Inspector's Handbook 8300.10 VOL 2, CH 1, and is applicable to the aircraft listed above when the equipment listed above is installed.

Installation center information:

QUALITY AVIONICS, INC.

C.R.S. QU8R488X

**GROVE CITY. AIRPORT** 

40 OAKLEY-KELLY DR.

MERCER, PA. 16137

Applicable work order number: 1103121 Dated: 09-30-11

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	LOG OF REVISIONS						
REVISION NUMBER	REVISION DATE	DESCRIPTION					
Original	09/30/2011	Original ICA					
		,					
1							

LIST OF EFFECTIVE PAGES					
PAGE	REVISION NUMBER	REVISION DATE			
1	ORIGINAL	09/30/2011			
2	ORIGINAL	09/30/2011			
3	ORIGINAL	09/30/2011			
4	ORIGINAL	09/30/2011			
5	ORIGINAL	09/30/2011			
6	ORIGINAL	09/30/2011			

# INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

Item 1: INTRODUCTION

AIRCRAFT TO BE MODIFIED:

MAKE: CESSNA MODEL: R177B S/N: 17701907 REG. #: N34626

**Item 2: DESCRIPTION** 

**MODIFICATION** 

**GARMIN GI106A INDICATOR** 

Item 3: CONTROL

Operating instructions for the Garmin GI106A indicator can be found in the manufacturer's installation manual P/N 8017702 rev C,

Dated September, 2003 or as revised.

# Item 4: SERVICING INFORMATION

No periodic servicing of this equipment required.

# Item 5: MAINTENANCE INSTRUCTIONS

No scheduled periodic maintenance of this equipment required.

# Item 6: TROUBLESHOOTING INFORMATION

Trouble shooting information for the Garmin GI106A indicator can be found in the manufacturer's installation manual P/N 8017702 rev C, Dated September, 2003 or as revised.

# INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

# Item 7: REMOVAL AND REPLACEMENT INFORMATION

Removal, replacement and functional check information for the Garmin GI106A indicator can be found in the manufacturer's

installation manual D/N 9017702 ray C. Dated Contember 2002 or or revised

# Item 8: DIAGRAMS

For wiring diagrams for the Garmin GI106A indicator can be found in the manufacturer's installation manual P/N 8017702 rev C,

Dated September, 2003 or as revised.

# Item 9: SPECIAL INSPECTION REQUIREMENTS

There are no special inspection requirements

# Item 10: APPLICATION OF PROTECTIVE TREATMENTS

This equipment does not require the application of any protectants

Item 11: DATA

Does not apply

# Item 12: LIST OF SPECIAL TOOLS

Does not apply

# Item 13: COMMUTER CATEGORY AIRCRAFT INFORMATION

Does not apply

# Item 14: RECOMENDED OVERHAUL PERIODS

No additional overhaul time limitations

# Item 15: AIRWORTHINESS LIMITATION SECTION

No additional airworthiness limitations

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REVISION: ORIGINAL DATE: 09-30-2011 S/N 17701907

### **INSTRUCTIONS FOR CONTINUED AIRWORTHINESS**

### Item 16: REVISION

This Instruction for Continued Airworthiness manual is to be revised any time there is an alteration to the system to which it applies. Once revised, a copy of the revised ICA and a revised copy of the original Form 337, or a new Form 337 spelling out the new alteration, is to be submitted to the local FSDO along with a cover letter. Acceptance of the change is signified by the Inspector's signature in block 3 of the new or revised Form 337 with the accompanying statement, "The attached revised/ new Instructions for Continued Airworthiness (Dated: ) for the above aircraft or component major alteration have been accepted by the FAA, superseding the Instructions for Continued Airworthiness (Dated: ). Upon acceptance of the revision, a maintenance record entry will be made identifying the revision, its location and the date of the Form 337. Note: Implementation and record keeping: For major alterations performed in accordance with FAA Field Approval policy, the Owner/ Operator operating under Part 91 is responsible for ensuring that the ICA is made part of the applicable section 91.409 inspection program of the aircraft. This is accomplished when a maintenance entry is made in the aircraft's maintenance record in accordance with section 43.9. This entry records the major alteration and identifies the original ICA location (e.g., block 8 of FAA Form 337, dated ) along with a statement that the ICA is now part of the aircraft's inspection/ maintenance requirements. For major alterations performed in accordance with a field approval on an carrier aircraft, the air carrier operator is responsible for ensuring that the ICA is made part of the applicable inspection/ maintenance program for their aircraft. If a procedure is not currently included in the operator's manual to incorporate ICA, this process will need to be appropriately addressed (i.e. the operator submits a revision to it's maintenance program to the applicable certificate-holding district office (CHDO). For aircraft inspected under an Approved Aircraft Inspection Program (AAIP), the operator will submit a change to the CHDO in accordance with section 135 419b For air carrier aircraft inspected using an annual/ 100 hour inspection program, a reference to the new ICA will be made in the aircraft's maintenance record in accordance with section 43.9. This entry records the major alteration and identifies the original ICA location (e.g. ICA are located /attached to block 8 of FAA Form 337, dated ). In addition, the operator will request a revision to the Operator's Specifications, additional maintenance requirements, which incorporates the ICA into the inspection program.

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ATTACHMENT PART SECTION 8 OF 337 DATED 09-30-2011

### FOR:

TRANS-CAL INDUSTRIES, INC SSD120-30N-RS232

### INSTALLED IN THE FOLLOWING AIRCRAFT

MAKE: CESSNA MODEL: 177B S/N: 17701907 REG. #: N34626

REVISION: ORIGINAL DATE: 09/30/2011

This sixteen item checklist is instructions for Continued Airworthiness (ICA), to comply with FAA Handbook Bulletin for Airworthiness HBAW 98-18 dated October 7, 1998), and is applicable to the aircraft listed above when the equipment listed above is installed.

Installation center information:

QUALITY AVIONICS, INC.

C.R.S. QU8R488X

**GROVE CITY. AIRPORT** 

40 OAKLEY-KELLY DR.

MERCER, PA. 16137

Applicable work order number: 1103121

Dated: 09/30/2011

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Item 1: INTRODUCTION

AIRCRAFT TO BE MODIFIED:

MAKE: CESSNA MODEL: 177B S/N: 17701907 REG. #: N34626

### **Item 2: DESCRIPTION**

Installation of blind encoder with interface to transponder

### **MODIFICATION**

**INSTALLATION OF:** 

TRANS-CAL INDUSTRIES ALTITUDE ENCODER SSD120-30N-RS232

Item 3: CONTROL

Does not apply, there are no control operations to the SSD120-30N-RS232

### Item 4: SERVICING INFORMATION

No periodic servicing of this equipment required.

### Item 5: MAINTENANCE INSTRUCTIONS

No scheduled periodic maintenance of this equipment required.

### Item 6: TROUBLESHOOTING INFORMATION

Refer to the trans-cal industries, Inc manual part number 882197, Rev B, dated DECEMBER, 8 2008 or as revised.

### Item 7: REMOVAL AND REPLACEMENT INFORMATION

Removal, replacement and functional check information can be found in the trans-cal industries, Inc manual part number 882197, Rev B, dated DECEMBER, 8 2008 or as revised.

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Item 8: DIAGRAMS

Does not apply, there are no access plates.

### Item 9: SPECIAL INSPECTION REQUIREMENTS

The altitude encoder is to be tested during the aircraft biennial transponder and pitot-static system test as required by federal aviation regulations.

### Item 10: APPLICATION OF PROTECTIVE TREATMENTS

This equipment does not require the application of any protectants

Item 11: DATA

Refer to the trans-cal industries, Inc manual part number 882197, Rev B, dated DECEMBER, 8 2008 or as revised.

Item 12: LIST OF SPECIAL TOOLS

Does not apply

### Item 13: COMMUTER CATEGORY AIRCRAFT INFORMATION

Does not apply

Item 14: RECOMENDED OVERHAUL PERIODS

No additional overhaul time limitations

Item 15: AIRWORTHINESS LIMITATION SECTION

No additional airworthiness limitations

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### Item 16: REVISION

Implementation and record keeping: For major alterations performed in accordance with FAA Field Approval policy, the Owner/ Operator operating under Part 91 is responsible for ensuring that the ICA is made part of the applicable section 91.409 inspection program of the aircraft. This is accomplished when a maintenance entry is made in the aircraft's maintenance record in accordance with section 43.9. This entry records the major alteration and identifies the original ICA location (e.g., block 8 of FAA Form 337, dated \_\_\_\_\_\_) along with a statement that the ICA is now part of the aircraft's inspection/ maintenance requirements.

For major alterations performed in accordance with a field approval on an carrier aircraft, the air carrier operator is responsible for ensuring that the ICA is made part of the applicable inspection/ maintenance program for their aircraft. If a procedure is not currently included in the operator's manual to incorporate ICA, this process will need to be appropriately addressed (i.e. the operator submits a revision to it's maintenance program to the applicable certificate-holding district office (CHDO).

For aircraft inspected under an Approved Aircraft Inspection Program (AAIP), the operator will submit a change to the CHDO in accordance with section 135.419b.

For air carrier aircraft inspected using an annual/ 100 hour inspection program, a reference to the new ICA will be made in the aircraft's maintenance record in accordance with section 43.9. This entry records the major alteration and identifies the original ICA location (e.g. ICA are located /attached to block 8 of FAA Form 337, dated \_\_\_\_\_\_\_). In addition, the operator will request a revision to the Operator's Specifications, additional maintenance requirements, which incorporates the ICA into the inspection program.0

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US Department
of Transportation
Federal Aviation
Administration

Form Approved OMB No. 2120-0020 2/28/2011	Electronic Tracking Number
F	or FAA Use Only

US Departm			AJUK KEPAIK							For FAA Use Only
of Transport Federal Avi Administra	iation	(Airfra	me, Powerplant,	Prop	oelle	er, or App	liance)			
instructio	CTIONS: Print ons and dispos lation. (49 U.S.	ition of thi	s form. This report is	14 CF requir	R §4 ed b	43.9, Part 43 y law (49 U.	Appendix B, S.C. §44701).	and AC 43.9 Failure to rep	9-1 (or sub port can re	bsequent revision thereof) for esult in a civil penalty for each
	Nationalit N 34626	y and Reg	istration Mark				Serial No. 1770190	7		
1. Aircraft	Make Cessna						Model 177B			Series 177
			n registration certifica	te)				s shown on re 8 Wyndeme		certificate)
2. Owner	Jason F	Robertsor	) · · ·			•	City Erie		it Di.	State Pa.
			<u>:</u>				zip 165		Cour	ntry USA
					3. F	or FAA Use	Only			
4. 7	Туре				5. U	Init Identifica	ition			
Repair	Alteration	Un	it :	Mal	ke			Model		Serial No.
	Z	AIRFRAN	ME -		(As described in Ite		bed in Item 1	above)		
		POWER	PLANT		•					
		PROPEL	LER							
		APPLIAN	ICE   Manufacturer							
				6.		nformity Stat				
<del></del>	s Name and Ad h Air Service		<del> </del>		B. K	(ind of Agenc	y ated Mechanic		I Mass	urfacturer
Address Po		S LLO			<u> </u>		ficated Mechanic	c	C. Certifi	nufacturer icate No.
	th East	-	State Pa.	_		Certificated F	lepair Station			
zip <u>164</u>	28Co.	intry Erie				Certificated N	laintenance Org	anization	AP 354	40986
have	been made in	accordance	alteration made to the ce with the requirement prrectito the best of m	nts of F	art •	43 of the U.S				verse or attachments hereto at the information
Extended raper 14 CFF App. B			Signature/Date-of-A	uthoriz	ed Ir	ndividual				
				7. App	rov	al for Return	to Service			, , , , , , , , , , , , , , , , , , , ,
			persons specified ion Administration and		the		ed in item 5 Approved	was inspec		e manner prescribed by the
1 1	FAA Fit. Stand Inspector	ards	Manufacturer		Ма	intenance Or	ganization		ons Approve entment of T	ed by Canadian ransport
BY	FAA Designee		Repair Station	X	ins	pection Auth	orization	Other (Sp	ecify)	
Certificate of			Signature/Date of A	uthoriz	ed I	ndividual				
Designation	1 NO.		6			,	'			

### Work completed for [N 34626] on

		NO	TICE		
	Weight and balance or opera be compatible with all previo	ating limitation changes shall be ente us alterations to assure continued co	red in the appropriate aircraft reconformity with the appicable airwor	ord. An alteration must rthiness requirements.	
			N 34626	6/07 /2011	
	8. Description of Work Acco	mplished	Nationality and Registration Mark	k Date	
	I have checked this insta	embly Pn. Ba 5710 was installed lation and find it meets the crite conflict with any previous altera	ria set forth by STC # SA 71 ( tion	own. GL	
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		Additional Shee	ets Are Attached		

Late missent - March 3, 1983, June 20, 2000

Gule of application. January 9, 1975

Manager, Tech, and Admin, Support Staff

divolien of the . Eduinistentes Lute mounded. April 17, 1995

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Amilia

Los Angeles Airerali Certification Office

Matto Mend of Transportation - Federal Abiation Administration Supplemental Type Certificate

Monber SATIGE

BRACKETT ABRO FILTERS, IMC. Kingman, Arizona \$6401 7052 Government Way This Ventificate issuend to

contitions therefor as specified hereon mots the niencolbiness enquerements of their " of the certifies that the change in the type design for the following product with the limitation, and . Asquilations

Cripinal Brokert Type Geolificate, Vindor . " See attached Approved Model List (AML)

\*models and applicable airworthiness regularions. "(AML) No. SA" IGL for list of approved aircraft Model. . Hale

Learniphies of Type Leajon Chunge Installation of air filters in accordance with AML Mc. 5471GL dated April 17, 1995, or later FAA approved revision.

This approval should not be extended to aircraft of this model on which other previously change and any of those other previously approved modifications will introduce to adverse effect upon the airworthiness of that aircraft. A copy of this Certificate and FAA Approved Model List (AML) with approved modifications are incorporated unless it is determined that the interrelationship between this and Conditions. Approval of this change in type design applies to the above ancient SA71GL dated April 17, 1995, or later FAA approved revision must be maintained as part of the permanent records for the modified aircraft. model(s) only.

This coelificate and the supporting data which is the basis for upproval shall reason in effect until <mark>succondecod, sespended, co</mark>colod co u treminativo dato is otherwise established by ita . Edministrator of the Todoral . Counties . Colonine Seation

February 21, 1975 Late of whoman .

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Jun : 0: :

FM form 4113-2110-461

Thu certificate may be transferred in accordance unto 17 21.2.

				INSTA	LLING AIR FILTERS				
						lss	ue Date: /	April 17, 1995	
	AIR FILTER		OP WING			ORIGINAL TYPE		AML	
ITEM	MODEL NUMBER	NUMBER	REVISION & DATE	AIRCRAFT MAKE	AIRCRAFT MODEL	CERTIFICATE NUMBER	CERT. BASIS	AMENDMENT DATE	
			1	Cessna	170/A/B	A-799	CAR 3	7/12/95	
	ļ		ĺ	Cessna	172/A/B/C/D/E/F/G/H/I/K/L/M	3A12	CAR 3	7/12/95	
		_		Mooney Mile	M-18C	A-803	CAR 3	7/12/95	
34	BA-5110	8A-5110	H 5/5/95	Reims Aviation	(Cessna) F172D/E/F/G/H/K/L/M	A4EU	CAR 10	7/12/95	
					END	OF DATA ***			
				Cessna	172N, P	3A12	CAR 3	7/12/95	
35	BA-5110A	BA-5110A	D	Reims Aviation	(Cessna) F172N, P	A4EU	CAR 10	7/12/95	
			5/5/95		END	OF DATA			
				Cessna	T303	A34CE	FAR 23	******	
36	BA-5210	BA-5210	N/C 7/22/88		··· END	OF DATA		-	
				Cessna	177/A/B	A13CE	FAR 23		
- 1			1	Cessna	177RG	AZOCE	FAR 23		
				Reims Aviation	(Cessna) F177RG	A26EU	FAR 23		
37	BA-5710	BA-5710	C 6/3/86						

FAA APPROVED MODEL LIST (AML) NO. SA71GL BRACKETT AERO FILTERS, INC. FOR

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RTP

US Department of Transportation Federal Aviation Administration

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

Form Approved OMB No. 2120-0020

For FAA Use Only

Office Identification

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

	Make				<del>"</del> "	Model					
	Cessna					177B					
1. Aircraft	Serial No.				Nationality and Registration Mark						
	17701907				N-34626						
	Name (As shown or	registration certific	ate)			Address	(As shown on registr	ation certifi	icate)		
	Hagen, Richard A						S 1st Ave				
2. Owner	riagon, raonara /						x, AZ 85045-0701				
				•							
				3. F	or FAA Use On	ly					
					•						
			~								
				4. U	nit Identification	on			5. Type		
Unit	Mal	ke			Model		Serial No	<b>.</b>	Repair	Alteration	
										.,	
AIRFRAME			(As des	cribed	d in Item 1 abov	e) ———		•		X	
<b>.</b> .		£ 9			<u> </u>	.					
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APPLIANCE	Manufacturer		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1990				ļ	جريده مرمر م	
			6	. Con	formity Staten	nent					
A. Agency's Nar	ne and Address			B. K	ind of Agency			C. Certific	cate No.		
Jason Bowmar				_x_	U.S. Certificated	Mechanic		2864397	A&P		
3152 W Thude Chandler, AZ 1		-			Foreign Certifica		···	4			
Onander, Az	50225				Certificated Rep	air Station		<u>.</u>		-	
				لـــا	Manufacturer						
have been	nat the repair and/or a made in accordance herein is true and con	with the requirement	nts of Pa	rt 43	of the U.S. Fede	above and eral Aviatio	n Regulations and th	verse or au at the infor	acnments nen mation	<del>2</del> 10	
Date	nerein is the and con	- Decrease of the	,, KIOIIK		ature of Authori	zed ladivia	luap	<del></del>			
						12	<u> </u>				
March 2, 2005					Jason Bowman						
					l for Return To						
Pursuant to the Administrator	e authority given person of the Federal Aviation	ons specified below n Administration and	, the unit	iden	tified in item 4 w APPROVED	as inspect □ R	ted in the manner pre EJECTED	escribed by	the	***********	
FAA	Fit. Standards	Manufacturer	х	Insp	ection Authoriza	ation ·	Other (Specify)		1		
BY	Designee	Repair Station .		Pers	son Approved by ada Airworthine	/ Transpor	t		3 		
Date of Approva	l or Rejection	Certificate or	——		ature of Authori		Koal _		<del>;</del>	<del></del>	
		Designation No.		١	/		1.1				
March 2, 2005 459276065 IA					vin A Bowman	teven	AL5ou	me	<u>~</u>		

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.

(If more space is required, attach additional N-34626	I sheets. Identify with aircraft national March 2, 2005	ity and registration mark and date work completed.) TTAF: 2080.4	
Aviation in accordance with drawing GA1102-SEMB, F 4/6/1989. Installed nose la accordance with STC SA90 AD1101-SENB, Rev. C, da Maple Leaf Aviation in accordance instructions, and drawing I	h STC SA902NE, Maple Rev. A, dated 5/29/1989, nding gear wheel pant (P 02NE, Maple Leaf Aviati ated 6/1/1994. Installed to cordance with STC SA00 D-RS 177 ST-001 dated	D2-16 and 89-1102-17) from Maple Leaf Aviation installation instructions, and drawing AD1102-SEMB, Rev. A, d/N PD85-1101) from Maple Leaf Aviation installation instructions, and drawing fiberglass stabilator tips (P/N ST-001) from 1908NY, Maple Leaf Aviation installation 2/19/1997. Weight and balance change	ated on in s
negligible	END		<del> </del>
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		en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de La companya de la aria Maria	
	☐ <sup>-</sup> Additional She	ets Are Attached	

# \*

## MAPLE LEAF Aviation Limited

BRANDON MUNICIPAL AIRPORT – NO. 3 HANGAR, McGILL FIELD 455 AGNEW DRIVE, BRANDON, MANITOBA, CANADA

> TEL: (204) 728-7618 FAX: (204) 725-1719 E-MAIL: mla@inetlink.ca

MAILING ADDRESS: Charles the Annual State of t

Maple Leaf Aviation Limited

Mr. David J. Wall or Mr. James D. Wall

## AUTHORIZATION FOR USE OF STC/STA DOCUMENT

THIS SUPPLEMENT TYPE CERTIFICATE/SUPPLEMENT TYPE APPROVAL IS THE PROPERTY OF MAPLE LEAF AVIATION LIMITED. MAPLE LEAF AVIATION LIMITED AUTHORIZES THE USE OF THE STC/STA DATA ONLY FOR AIRCRAFT SPECIFIED BELOW. ANY USE OF THIS STC BEYOND THE AIRCRAFT SPECIFIC BELOW IS A VIOLATION OF PROPRIETARY LAWS AND IS SUBJECT TO LEGAL ACTION.

PLEASE KEEP THE STC/STA, INSTALLATION INSTRUCTIONS, FLIGHT MANUAL SUPPLEMENT AND THIS AUTHORIZATION SHEET IN A SECURE LOCATION.

Maple Leaf Aviation Limited (STC/S Mr. Richard Hagen 16449 S. 1 <sup>st</sup> Avenue	STA Holder) hereby authorizes
Phoenix, Arizona 85045-0701 USA	
to use the following STC/STA's	Part Name and Serial Number
SA672NE	Nose Wheel Fairing 2010-0273
SA00908NY	Stabilator Tip C1204221 & C1204222
SA902NE	Main Wheel Fairing 3010-215L &
<u> </u>	3010-214R
on Aircraft:	
N34626	
s/n 17701907	
DATE: February 7, 2005	

MAPLE LEAF AVIATION LIMITED - MFG. OF AIRCRAFT SPEED MODS Authorized Sales and Services - Flight Training

THE RESIDENCE OF THE PROPERTY

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Form Approved

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Transportati	ral Aviation (AirTrame, Powe				ornian	4 1	Propoller	or An	nliancol	-	Fo	r FAA Use Only			
Federal Avi Administra		(A)	IIIIai	iie, ruw	ei piaii	ι, ι	- Topeller,	, or Ap	рпапсе,	Office Ide	ntification	5002	D		
and	disposi	IONS: Print or type all etion of this form. This rech violation (Section 90	eport is re	equired by law (4	49 U.S.C. 14										
		Make CESSNA						Model 177B							
1. Airc	raft	Serial No. 17701907					Nationality and Registration Mark 34626								
2. Own	ner		Name (As shown on registration certificate) RICHARD A. HAGEN					Address (As shown on registration certificate). 16449 S. 1 <sup>ST</sup> AVE. PHOENIX AZ 85045-0701							
							3. For FAA Use	Only			*				
					_		4. Unit Identific	ation				5. Type			
U	nit	,	Make				Model		Ser	ial No.		Repair	Alteration		
AIRFRAI	ME		~~~~	~~~~~	~(As des	cri	bed in item 1	above)~		~~~~~					
POWER	PLANT														
PROPEL	LER			···											
4001444		Туре						<u>.</u>							
APPLIAN	ICE	Manufacturer									r				
					L		6. Conformity S	tatement	·	-			<del></del>		
A. Agen	cy's Na	me and Address				B.	Kind of Agency	· · · · · · · · · · · · · · · · · · ·		C. Certifi	cate No.				
FIRE	WAL	L FORWARD				X	U.S. Certified Me	echanic		A&P 5	207673	37			
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							Manufacturer			<u> </u>					
h	ave be	nat the repair and/or alte en made in accordance strue and correct to the	with the	requirements of	) identified in Part 43 of th	n ite: ne U	m 4 above and de S. Federal Aviatio	scribed on to n Regulatio	he reverse or attachm ns and that the inform	nents hereto nation furnish	ed				
Date 12-1	9-200	3					Signature of Aut	orized India	didual						
					-	7. /	Approval for Retu	ım to Servi	ce				•		
l .		he authority given person of the Federal Aviation			init identified			ed in the ma	nner prescribed by th	ne					
BY		FAA Fit Standards Inspector		Manufacturer		×	Inspection Autho	rization		Other (Speci	fy)				
DT		FAA Designee		Repair Station			Person Approved Canada Airworth								
	Approva 9-200	al or Rejection 03	Desi	ificate or gnation No. <b>%P5176609</b> 2	22 I.A.	•	Signature of Auth	norized Indiv	vidual	X+	D				

### 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 J.P.Instruments FS-450 fuel flow indicator system In Accordance with installation manual Report #400 Rev. NC: Dated 08-16-2	2000.
Appendix-A. Report No. 503 used for transducer installation.	
Transducer mounted on tubulor engine mount using Adel clamps. Removed original equipment clock and used existing hole to mount FS indicator. Installed 2 amp inline fuse under panel of pilots side.	<b>-4</b> 50
Instructions for Continued Airworthiness is limited to removing components for replacement.	- 1
All work performed conforms with AC 43.13-1A chap. 11 sec. 2, 3, 7.	
Weight and balance is negligible for this installation.	
Equipment list updated and operating handbook supplied to customer.	
END	
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<u>_</u>	
Additional Sheets Are Attached	

U.S Department of Transportation Federal Aviation

Administration

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

Form Approved OMB No. 2120-0020

For FAA Use Only

Office Identification

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

for e	each suc	h violation (Section s			Act 1958					criaity not to exceed	- 71,000	Y
	- 64	Make Cessna						Model 177B		· · · · · · · · · · · · · · · · · · ·		
1. Aircr	aft	Serial No. 17701907	•					National N3462	ity and Registration	Mark	**************************************	
2. Own	ier	Name (As shown Hagen Richa		egistration cert	ificate)		,	16449	(As shown on reging S 1st Ave ix AZ 85045	stration certificate)		
							3. For FAA Use C	Only				
						4	I. Unit Identifica	tion			5. Type	
Ųı	nit	Ma	ke				Model		Seri	al No.	Repair	Alteration
AIRFRA	ME	~~~~~(As descri					bed in item 1 a	bove)~~	-			XX
POWER	PLANT											
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APPLIA	NCE	Type Manufacturer	<u>-</u>					;				
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	as E. H	ne and Address				-	ind of Agency U.S. Certificated	Machanie		C. Certificate No.	·	
c/o Fit 5212 (	rewall i Cessna	orward Inc. Dr.					Foreign Certificated Rep Manufacturer	ited Mech	nanic	A&P52408836	69	
D. I d	certify that ave been	O 80538  If the repair and/or a If made in accordance The and correct to the	e with	h the requirem	ents of Pa	dentifi	ed in item 4 abov					
Date 12-18-						***************************************	Signature of Aut	prized In	dividual	2.		
						7. Ap	proval for Return	n to Servi	ice			
		e authority given per of the Federal Aviati		•			_	s inspecte REJECTED	-	escribed by the		
BY	Ins	A Fit Standards spector		Manufacture		х	Inspection Author			Other (Specify)		
	FA	A Designee		Repair Statio	n		Person Approve Canada Airworth					
Date of . 12-18-		or Rejection	Desi	ificate or gnation No. 901579IA			Signature of Aut	horized h	dividual	Ġ		

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.)
Completed modification of engine exhaust system for improved engine performance by installation of Power Flow Systems, Inc. Tuned Exhaust System per Master Drawing List, PFS-13740-00, Revision, IR dated: 06-05-03, Installation Instructions Report, PFS-13750-00, Revision A, dated: 08/30/02 and Instructions for Continued Airworthiness Report, PFS-13760, Revision A, dated: 08/03/02, or later FAA approved revisions per STC SA02674AT. Aircraft weight and balance revised. END.
Additional Sheets Are Attached

Current as of 06/19/03 Use with PFS-13701, PFS-13702, PFS-13703

### Minited States of America

Bepartment of Transportation — Jederal Abiation Administration

## Supplemental Type Certificate

Number SA02674AT

This carbificate issued to

Power Flow Systems, Inc. 1585 Aviation Center Parkway Hangar 804 Daytona Beach, FL 32114

ecrifies that the change in the type design for the following product with the limitatio therefore as specified hereas must the airworthiness repairments of Part 23 of the Federal Aviation Pagealations.

Cripinal Bodies . Type Carlificate Number

cription of Type Design Charge.

Modification of engine exhaust system for improved engine performance by installation of Power Flow Systems, Inc. Tuned Exhaust System per Master Drawing List, PFS-13740-00, Revision, IR, dated: 06/05/03, Installation Instructions Report, PFS-13750-00, Revision A, dated: 08/30/02 and Instructions for Continued Airworthiness Report, PFS-13760, Revision A, dated: 08/03/02, or later FAA approved revisions.

Limitations and Canadilines. Airplane Flight Manual Supplement is not part of this STC. "This approval should not be extended to other aircraft of this model on which other previously approved modifications are incorporated, unless it is determined by the installer that the interrelationship between this change and any other previously approved modifications will produce no adverse effect upon the airworthiness of that airplane. If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission."

This cartificate and the suggesting data which is the basis for appareal shall remain in offect until d suspended, revolved or a termination date is otherwise established by the Administrator of the Tederal Boialian Administration

Date of application: June 05, 2003

Date of illurance . June 09, 2003

Date raises . June 19, 2003

Date amended :

By direction of the Administrator

nta Aircraft Certification Office

(Title)

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Mone 12 - 1991 FAA Form 337 (7-07)

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		MA	JOR REPAIR A	ND	AL.	TERATION			FOR FAA	USE ON	
ļ			e, Powerplant, P				nce)		OFFICE IDENTIF		
	INSTRUCT	TIONS: Print or	r type all entries. Se					nd AC 43.9-	WP25	revision	chereof)
		MAKE					MODEL		<del></del>	<del></del>	
1.	AIRCRAFT	Cèss	3na					177 B	в		
ļ ·		SERIAL NO.	17701907						REGISTRATION M	ARK	*
	<del></del>	NAME (As show	wn on registration certi	ificate	.,			A. N34	626 - registration certi	<del>-</del>	
2.	OWNER	ideraid F	F. Robertson	-			<b>~</b> 941	Boeing	Road.	ficate)	
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### NOTICE

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

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REJECTION
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FAA Form 337 (7-67)

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### NOTICE

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

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

Installed S-Tec Autopilot as per S-Tec's installation instructions and as per STC #SA53178W-D as follows.

Installation of S-Tec System 50 two axis flight guidence system, Model St-243-50, according to bulletin No. 343 days. 5-01-84 & Master Drawing List No. 92275 dated 5-01-84 against Stater FAA approved revisions of the above data: (14 Volt System).

----END----

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ADDITIONAL SHEETS ARE ATTACHED

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