6
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
F	or FAA Use Only

Federal Aviation	m	(All II allie, F	owerpiant, Fro	ρe	7114	ei, oi App	iiaiice <i>j</i>						
instructions	and dispos	or type all entri ition of this form. C. §46301(a))	es. See Title 14 CF This report is requir	R	§4 d b	13.9, Part 43 y law (49 U.\$	Appendi S.C. §447	ix B, and AC 701). Failure t	43.9- to repo	1 (or sub ort can re	sequent rev sult in a civi	vision thereof) for il penalty for each	r)
	Nationality	y and Registratio	n Mark				Serial	No.					
	N732\	/P					210	061811					
1. Aircraft	Make						Model			- 1	Series		_
	Cess	na					T21	OM					
			ration certificate)					ss (As shown	on re	gistration	certificate)		_
	,	· ·	•				Address	904 Driver	Rd N	w	<u>, </u>		_
2. Owner	1						City	Fort Payne				State AL	_
	Cole, C	harles					Zip	35967		Coun	try <u>USA</u>		_
				3	. F	or FAA Use	Only				~~		
4. Typ) 0			5	i. U	Init Identific	ation						
Repair	Alteration	Unit	Ма	ιke	•			Mod	el			Serial No.	
	✓	AIRFRAME		_		<u> </u>	(As d	described in Ite	em 1 e	above)			•
		POWERPLANT											
		PROPELLER											
		APPLIANCE	Type Manufacturer										
			6			nformity Sta							
A. Agency's N				Ľ	3. k	Kind of Agend	<u> </u>						
	Aviation In asque Dr.	c		F	+	U. S. Certific					nufacturer		
			State Co	F	,	Foreign Cert				C. Certif	icate No.		_
zip 30728		intry USA	State Ga	ŀ	4	Certificated F				CLIVE	240		
D. I certify have be	that the repen	air and/or alterati	on made to the unit(s the requirements of o the best of my know	Pa	art -	entified in iten 43 of the U.S	n 5 above		ed on t		e or attachn		
Extended range	ge fuel	Signa	ature/Date of Authoriz	ze	d I	ndividual							_
per 14 CFR P		¬ _'	_			_							
App. B	ı	[_] ∣Ro	n Dorsey			ブレ	٠.						
			7. Api	pr	ov	al for Return	to Serv	ice	•		-		
Pursuant to	the autho	ority given perso	ons specified below						nspect	ed in the	e manner i	prescribed by th	e

Certificate or Designation No.

GHVR840X

Signature/Date of Authorized Individual Ron Dorsey 06/09/2020

✓ Approved

Maintenance Organization

Inspection Authorization

Rejected

Other (Specify)

Persons Approved by Canadian

Department of Transport

Administrator of the Federal Aviation Administration and is

Manufacturer

Repair Station

FAA Flt. Standards

Inspector

FAA Designee

BY

8. Description of Work Accomplished (If more space is required, attach additional sheets. Identify with aircr	raft nationality and registration mark and date	e work completed.)
	N732VP	06/09/2020
	Nationality and Registration Mark	Date
Removed the following equipment from aircraft: 1) ARC DME 400 Indicator Head for Pilots Panel F.S. 37 2) Removed DME 400 RT from aft Fuselage F.S. 178.00		
Installed Equipment G5 Electronics Flight Display Pilots Flight Panel at F.S.39 GMU 11 magnetometer right wing station 124.00 GAD29B Adapter Copilots glove box F.S. 30.00	9.0	
The work above was done IAW Cessna service manual at The G5 HSI was installed as per manual 190-0112-10 and GNS530W and GNS430W. The unit was attached to the connected to the aircraft Pitot and Static system.	nd STC SA 01818WI. The G5 was o	
*************************************Nothing Below This Line*****	************	******
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	de la companya de la	
	35	
Addition	al Sheets Are Attached	

(2)
US Department
of Transportation
Federal Aviation
Administration

FAA Form 337 (10-06)

MAJOR REPAIR AND ALTERATION

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

(Airframe, Powerplant, Propeller, or Appliance) 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. N732VP 21061811 1. Aircraft Make Model Series T210M Cessna Name (As shown on registration certificate) Address (As shown on registration certificate) Address 904 Driver Rd NW 2. Owner Fort Payne State AL 35967 Country USA Cole, Charles 3. For FAA Use Only 5. Unit Identification 4. Type 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 **Gann Aviation Inc.** U. S. Certificated Mechanic Manufacturer Address 120 Gasque Dr Foreign Certificated Mechanic C. Certificate No. City Lafayette State Ga Certificated Repair Station 30728 Country USA Certificated Maintenance Organization Zio GHVR840X 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 Ron Dorsey App. B 06/09/2020 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 Department of Transport Inspector BY Other (Specify) **FAA Designee** Inspection Authorization Repair Station Certificate or Signature/Date of Authorized Individual Designation No. Ron Dorsey 06/09/2020 GHVR840X

8. Description of Work Accomplished (If more space is required, attach additional sheets. Identify with aircraft nat	tionality and registration mark and dat	e work completed.)
	N732VP	06/09/2020
	Nationality and Registration Mark	Date
Validated that the previous installation of the GNS430 was instilled approved Form 337. Verified this aircraft and all interface Determined that the location of the unit meets the field of view determined to be IAW STC AML data. The existing GA56 antefuselage as per Cirrus service manual 34-50.	d equipment are covered under requirements. The existing with	er the STC AML. iring was inspected and
 Removed GA56 antenna p/n 011-00134-00 and installed ne s/n 191899, replaced existing coax with new RG 142, and STC SA01933LA Removed GNS430 p/n 011-00280-00 unit and installed Gai installation done IAW Garmin upgrade manual p/n 190-0033 The GNS430W was configured identical to the original 430 installation manual 190-00356-02 section 5. Removed the Aircraft Flight Manual Supplement for the GN p/n 190-00356-63, ICA instructions for the GNS430W p/n 190-00356-65 Instru Aircraft records. 	IAW Garmin upgrade manual rmin GNS430W p/n 011-01060 57-06 and STC SA01933LA. unit. All interfaces were check IS430 and installed a GNS430	p/n 190-00357-06 and 0-45, s/n 97104437 red IAW GNS430W W AFMS
**************************************	*************	********
-		
Additional She	eets Are Attached	

US Department
of Transportation
Federal Aviation
Administration

MAJOR REPAIR AND ALTERATION

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

(Airframe, Powerplant, Propeller, or Appliance) 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. N732VP 21061811 1. Aircraft Make Model Series T210M Cessna Name (As shown on registration certificate) Address (As shown on registration certificate) Address 904 Driver Rd NW 2. Owner State AL FT Payne 35967 Country USA Charles Cole 3. For FAA Use Only 5. Unit Identification 4. Type Repair Alteration Unit Make Model Serial No. (As described in Item 1 above) \checkmark AIRFRAME **POWERPLANT PROPELLER** Туре **APPLIANCE** Manufacturer 6. Conformity Statement A. Agency's Name and Address B. Kind of Agency-. 24. 1 . 7 Gann Aviation Inc. U. S. Certificated Mechanic Manufacturer Address 120 Gasque Dr Foreign Certificated Mechanic C. Certificate No State Ga City Lafavette Certificated Repair Station 30728 Country USA Certificated Maintenance Organization GHVR840X D. I certify that the repair and/or alteration made to the unit(s) identified in item 5 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge. Signature/Date of Authorized Individual Extended range fuel per 14 CFR Part 43 App. B Ron Dorsey 02/08/2018 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 Flt. Standards Persons Approved by Canadian Maintenance Organization Manufacturer Department of Transport Inspector BY Other (Specify) FAA Designee Inspection Authorization Repair Station Certificate or Signature/Date of Authorized Individual Designation No. 02/08/2018 Ron Dorsey GHVR840X

B. Description of Work Accomplished (If more space is required, attach additional sheets. Identify with aircraft na	ationality and registration mark and date	e work completed.)
	N732VP	02/08/2018
	Nationality and Registration Mark	Date
Validated that the previous installation of the GNS430 was infield approved Form 337. Verified this aircraft and all interface Determined that the location of the unit meets the field of view RG400 cable. The existing wiring was inspected and determined was removed and installed on the outside of the top fuselage. 1) Removed GA56 antenna p/n 011-00134-00 and installed in s/n 143243 and IAW Garmin upgrade manual p/n 190-003. 2) Removed GNS430 p/n 011-00280-00 unit and installed Gainstallation done IAW Garmin upgrade manual p/n 190-003. 3) The GNS430W was configured identical to the original 430 installation manual 190-00356-02 section 5. 4) Removed the Aircraft Flight Manual Supplement for the GNp/n 190-00356-63, 5) ICA instructions for the GNS430W p/n 190-00356-65 Instructions for the GNS430W	Nationality and Registration Mark stalled IAW Garmin instructions ed equipment are covered under w requirements. The existing and ined to be IAW STC AML data. as per Cessna Service manual new GA35 GPS/Waas antenna 357-06 and STC SA01933LA armin GNS430W p/n 011-01060 357-06 and STC SA01933LA. O unit. All interfaces were check NS430 and installed a GNS430 uctions for Continued Airworthin	Date s and approved via a FAA er the STC AML. ntenna cable was change to The existing GA56 antenna I and AC43.13 1b and 2b. p/n 013-00235-00 D-45, s/n 9712768 sed IAW GNS430W W AFMS
Additional Sh	neets Are Attached	

US Department
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Administration

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

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

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ins	structi		sition	of this	s form.										uent revision thereof) in a civil penalty for e	
		Nationa	lity and	Regi	istratio	n Mark				Serial N	lo.			•		
		N732	VP.							21061	1811					
1. A	ircraf	t Make								Model				Serie	es	
		Ces	sna							T210	M			i		
				vn or	regist	ration certificate)					wn on re	gistrati	on certi	ificate)	
										Address C	904 Driv	er Rd N	W			
2. 0	wner									City <u>F</u>	<u>FT Payr</u>	ne			State AL	
		Charle	s Co	е						Zip 🤶	<u>35967</u>		<u> </u>	Country L	JSA	
								3.	For FAA Use	Only						
	4.	Туре						5.	Unit Identifica	ition						
R	epair	Alteration	1	Ųni	it		Ма	ke			N	fodel			Serial No.	
		✓	AIR	FRAN	ΛE					(As described in Item 1 above)						
			PO	VER	PLANT											
			PRO	PEL	LER											
						Туре										
			APF	PLIAN	ICE	Manufacturer										
				····			6		onformity Star	omont						
ΔΔ	nenc\	y's Name and	Addres					_	. Kind of Agend							
Name		nn Aviation						۳	U. S. Certific	•	nic			Manufact	turer	
		4 Gasque D					_	\vdash	Foreign Certi					ertificate		
City	La	fayette				State Ga		7	✓ Certificated Repair Station					-		
Zip	30	728 c	Country (JSA			_		Certificated N	Maintenance	Organiza	tion	GHV	'R840	X	
D.	hav	e been made	in acco	rdand	ce with orrect t	the requirement o the best of my	ts of knov	Par vle	rt 43 of the U.S dge.						attachments hereto e information	
		range fuel			Signa	ature/Date of Au	thoriz	ed	Individual							
per App		R Part 43			Ro	n Dorse	У		7/	7		02/0	8/2	2018	3	
						7	. A p	oro	val for Return	to Servic	е					
Pu Ad	ırsuar Iminis	nt to the aut trator of the F	hority ederal	given Aviati	perso ion Adı	ons specified beministration and	elow is	tr		ed in iten Approve		s inspect		the m	anner prescribed by	the
DΥ		FAA Flt. Star	ndards		Man	ufacturer		М	laintenance Or	ganization				roved by of Transp	Canadian port	
BY		FAA Designe	ee	✓	Rep	air Station		Ir	nspection Auth	orization	0	ther (Spe	cify)			
	ficate gnatic	or on No.			Signa	ature/Date of Au	thoriz	ed	Individual							
GH'	VR8	40X			Ro	n Dorse	У		2/	1	/ (2/08	3/20	18		

8. Description of Work Accomplished (If more space is required, attach additional sheets. Identify with aircraft nati	ionality and registration mark and date	e work completed.)
·	N732VP	02/08/2018
	Nationality and Registration Mark	Date
 Removed GTX327 transponder rack, connector and wiring Installed GTX345 ADSB Transponder as manual 190-01493 The GTX345 was attached to the existing Aircraft Transcal (4) The GTX345 was attached to the existing transponder anter (5)-The GTX345 was attached to the existing GNS530W to provinformation. All work was done IAW AC43.13 1b and 2b and Cessna service The antenna's were installed as per data in AC43.13-2b Chapter All wire used in the installation shall be of appropriate standard grade and size as described in AC 43.13-1B, Chapter 11, Section All circuits shall be protected in accordance with AC 43.13-1B, An electrical load analysis was performed on each aircraft, as The GTX345 was tested and programmed and found to be in approved Flight manual supplements was placed in the POH a aircraft. 	9-02 rev. 3 and STC STC SA0 encode output to provide altituna and the avionics buss via vide GPS info and also display the manual and the data listed. For 3. If aircraft quality the street of the st	a 5 amp C/B. y weather and traffic apter 11 Section 3. nd FAR43 appendix F.The
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Additional She	ets Are Attached	

U.S. Department of Transportation Federal Aviation

Administration

AUG 3 1 200%, MAJOR REPAIR AND ALTERATION (Airframe, Powerplant, Propeller, or Appliance)

Form Approved

OMB No. 2120-0020

For FAA Use Only

Office Identification

GL03

and o	disposition	of this form. Th	is rep	tries, See FAR 43 ort is required by Federal Aviation A	law (49	U.S	.C. 1421). Failt	d AC 43.9-1 ure to report	(or subseq can result ir	uent revision a civil per	on the re nalty not	of) for instru t to exceed \$	ctions 1,000.00
		Make CESSN	lA"					Model T2	10M				
1. A	ircraft	Serial No. 210618	311					N7	y and Regis '32VP			N732VP	
2. C)wner			on registration cer I. Jr. Trustee	tificate)	1		39W539	(As shown Deer Ru narles, IL	n Drive	ation ce	rtificate)	
				3. Fo	r FAA	Use	Only						
					-							F. Toma	-
				4. Un	it Iden	titica	ation					5. Type	
Ur	nit		Make	e			Model		Se	erial No.		Repair	Alteration
AIRF	RAME	:	~ ~	~~~~	(As de	scrib	ed in Item 1 abo	ove) ~ ~ ~ ·	~ ~ ~ ~ ~ ~	· ~			
POW	ERPLANT												
PRO	PELLER	- <u>-</u>	-										
APPL	IANCE	Type Manufacturer									:		
	***					6.	Conformity Sta	tement					
A. A	gency's N	ame and Address	s				Kind of Agenc			C.	Certific	ate No.	
C/O 116	19 Rout	Grove Airmot e 76 e, IL 61065	ive		•	X	U.S. Certifica Foreign Certificated F Manufacturer	ficated Mech epair Statio	nanic	· ·	IA 34	4386227	
ha	ave been i	nade in accordai	nce w	ration made to the ith the requirement to the best of m	nts of F	art 4	3 of the U.S. Fe						reto
Date		0/2004			,		nature of Autho avid Noe	rized Individ	lual (0	No	-	
							roval For Retu						· ·
				sons specified be on Administration		e uni	t identified in ite		pected in the REJECTED		prescribe	ed by the	indianthtilli Umrist af i Usaka
BY		A Fit Standards Dector	ė	Manufacturer -	x		spection Authori			(Specify)	105.6	Colombia Pers	
		A Designee		Repair Station		Cá	rson Approved anada Airworthir	ess Group					
Date		al or Rejection 0/2004		Certificate or Designation No. IA344386227		Si	gnature of Autho		laub C	ر (2 γ	7,	

Removed McCauley wheels and brakes a	ts. Identify with aircraft nationality and registration mark and date work completed.) and installed cleveland 199-60 wheel and brake kit in accordance with ual. Approved for installation under STC-SA52GL. No weight and balance
• .	
	Additional Sheets are Attached

U.S Department Transportation	of

MAJOR REPAIR AND ALTERATION

Form Approved OMB No. 2120-0020 For FAA Us

Transport	artment of	(A	irfr	ame, Po	werpla	ant,	Propeller,	or Ap	pliance)		FAA USE UNIV	
Federal /	Aviation tration	*					•	<u> </u>			e Identification	(d
and	disposition	NS: Print or type a on of this form. This violation (Section 9	repor	rt is required b	y law (49 l	U.S.C.	ppendix B, and A . 1421). Failure to	C 43.9-1 (o report ca	or subsequent rev in result in a civil p	ision thereof) for inst enalty not to exceed	ructions \$1,000	i
	_	Make CESSNA		•				Model T210N	1			
1. Aircraft		Serial No. 21061811						Nationali N732V	ity and Registration	n Mark		
2. Own	er	Name (As shown RENKEN, HE			ificate)			39W53	(As shown on reg 39 DEER RUN HARLES, IL 60			
			: -			3	. For FAA Use (Only				
		,					<u>-</u> .	-				
						4	I. Unit Identifica	tion			5. Type	<u> </u>
Ur	nit	Ма	ke				Model		Ser	rial No.	Repair	Alteration
AIRFRA	ME		.~~~		(As de	escrit	bed in item 1 a	bove)~~				×,
POWER	PLANT			•			<u> </u>	•				
PROPE	LLER		•			,	, , , , , , , , , , , , , , , , , , , ,		:			
APPLIA	NCE	Type Manufacturer		:								
						6.	. Conformity Sta	tement				
A. Ager	ncy's Nan	ne and Address					ind of Agency			C. Certificate No.		
3232 F		ON. INC. ANT STREET 50115					U.S. Certificated Foreign Certificated Certificated Rep Manufacturer	ited Mech	anic	RMVR672H	l	
h	ave been	t the repair and/or a made in accordanc ue and correct to the	e with	the requirem	ents of Pa	dentifie rt 43 c	ed in item 4 above of the U.S. Federa	e and desc al Aviation	cribed on the rever Regulations and the	se or attachments he hat the information fu	ereto irnished	
Date	1, 200			•			Signature of Aut	-	dividual	11/1/	1	
						7. Ap	proval for Retur		ce			
		e authority given per of the Federal Aviation						inspected		escribed by the		•
		A Fit Standards pector		Manufacture	r		Inspection Author	orization		Other (Specify)		
BY	FA	A Designee	Х	Repair Station	on		Person Approve Canada Airworth					
	Approval	or Rejection	Desi	ificate or ignation No.			Signature of Aut Michael Car		dividual		1/	

FAA Form 337 (12-88)

e space i	is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work complete
٠	
	INCORPORATED STC #SA1990CE, INCREASED GROSS WEIGHT FROM 3,800 LB. TO 4,000 LB.
	FOR TAKE-OFF-AND FLIGHT-FLIGHT MANUAL SUPPLEMENT DATED MAY 1, 1984 INSTALLED,
	AND PLACARD P.N. 0505087-15 FOR DAY/NIGHT/VFR/IFR INSTALLED AT THIS TIME. THERE
	ARE NO CONFLICTING STC'S AT THIS TIME.
	END
	والمراب والمستري والمناجع والمتعارين والمتعارض والمتعارض والمتعارض والمتعارض والمتعارض والمتعارض والمتعارض والمتعارض
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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
Man Office Identification 030

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) Make Model **CESSNA** T210M 1. Aircraft Serial No. Nationality and Registration Mark 21061811 N732VP Name (As shown on registration certificate) Address (As shown on registration certificate) 39W539 DEER RUN DRIVE RENKEN, HENRY J. 2. Owner ST. CHARLES, IL 60175 3. For FAA Use Only 4. Unit Identification 5. Type Unit Make Model Serial No. Repair Alteration ~(As described in item 1 above)~-Χ AIRFRAME POWERPLANT PROPELLER Туре APPLIANCE Manufacturer 6. Conformity Statement B. Kind of Agency A. Agency's Name and Address C. Certificate No. R&M AVIATION, INC. U.S. Certified Mechanic ☐ Foreign Certified Mechanic 3232 PLEASANT STREET RMVR672H □ Certified Repair Station **DEKALB. IL 60115** ☐ | Manufacturer D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge. Date Signature of Authorized Individual October 9, 2001 MICHAEL A. CAREY 7. Approval for Return to Service Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED Other (Specify) FAA Flt Standards Manufacturer Inspection Authorization Inspector BY FAA Designee Repair Station Person Approved by Transport Canada Airworthiness Group Certificate or Date of Approval or Rejection Signature of Authorized Individual October 9, 2001 Designation No. Milly RMVR672H

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 AEROSAFE CORPORATION "GUARDIAN 1 STANDBY VACUUM SYSTEM" I/A/W STC #SA4626SW,
REVISION 3, DATED 05/09/83, OR LATER FAA APPROVED REVISIONS. SEE INSTALLATION INSTRUCTIONS
FOR 100 HR./ANNUAL INSPECTION REQUIREMENTS TO ASSURE CONTINUED AIRWORTHINESS.
END
Additional Sheets Are Attached

U.S Department of Transportation

Federal Aviation

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

Form Approved OMB No. 2120-0020

For FAA Use Only

Office Identification

and	l disposit	ONS: Print or type a ion of this form. This the violation (Section 9	s repoi	rt is required b	y law (49	u.s.c	Appendix B, and A(. 1421). Failure to	C 43.9-1 (report ca	(or subsequent re an result in a civil	vision thereof) for inst penalty not to exceed	ructions \$1,000	
		Make CESSNA	-					Model T210N	1			
1. Aircr	raft	Serial No. 21061811							ity and Registration	on Mark		,
2. Own	ner	Name (As shown RENKEN, HE		-	ificate)			39W53	(As shown on reg 39 DEER RUI HARLES, IL 6			
						3	3. For FAA Use C	nly				
											_	
					1		4. Unit Identificat	ion			5. Type	Γ
<u>U</u>	Init	Ma	ike ——				Model		Se	rial No.	Repair	Alteration
AIRFR/	LAME				~~(As described in item 1 above)~~~~~							
POWER	RPLANT	LANT TCM			TSIO-520-R			-	512047			х
PROPE	ELLER						·					
APPLIA	NCE	Туре						-				
AFFLIA	INCE	Manufacturer										
							. Conformity Sta	tement		1		
		me and Address					and of Agency			C. Certificate No.		
R&M AVIATION. INC. 3232 PLEASANT STREET DEKALB. IL 60115			U.S. Certified Mechanic □ Foreign Certified Mechanic □ Certified Repair Station □ Manufacturer									
h	nave bee		ce with	h the requirem	ents of Pa					rse or attachments he that the information fu		
Date Octob	oer 9, 2	001					Signature of Auti			1110		
						7. Ap	proval for Return					
		ne authority given per of the Federal Aviati		•				inspected	•	rescribed by the		
	1 1	AA Fit Standards spector		Manufacture	r		Inspection Autho	rization		Other (Specify)		
BY	F/	AA Designee	х	Repair Statio	n		Person Approved Canada Airworth				•	•
	Approva	or Rejection 1001	Desi	ificate or ignation No.			Signature of Auti	norized In	1			•

ion of Work Accomplished space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)
INSTALLED GAMI FUEL INJECTORS I/A/W GENERAL AVIATION MODIFICATIONS, INC. INSTALLATION
PROCEDURE, No. IP-97-002, REV. 1, DATED 02/06/97, AND STC #SE09289SC. (KIT # GT14B, S.N. 8952)
END

VAR/IAR GNS-43D

U.S. Department of Transportation

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

For	FAA	Use	Only

Office Identification

ederal Aviation Administration INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC43.9-1 (or subsequent revision the for instructions and disposition of this form. This is required by law (49 U.S.C. 1421). Failure to report can result in a civil penalty not to exceed \$ 1,000 for each such violation (Section 901 Federal Aviation Act of 1958). Model Meke T210M CESSNA Nationality and Registration Mark 1. Aircraft Serial No. USA N732VP 21061811 Address (As shown on registration certificate) Name (As shown on registration certificate) 39W539 Deer Run Dr. Henry J. Renken Jr. Trust St. Charles, IL 60175 USA 2. Owner 3. For FAA Use Only The data identified herein compiles with the applicable alrworthiness requirements and is approved for the above described aircraft, subject to conformity inspection by a person authorized in FAR 43.7/ SEP 1 4 2001 FAA Inspector, DPA Bhit identification 5. Type Date Alteration Repair Serial No. Model Unit Make X (As described in Item 1 above) AIRFRAME **POWERPLANT PROPELLER** Type APPLIANCE Manufacturer 6. Conformity Statement C. Certificate No. B. Kind of Agency A. Agency's Name and Address U. S. Certified Mechanic FQ5R866M AVIONICS PLACE Foreign Certified Mechanic Radio 5257 Falcon Rd. Limited Instrument Certified Repair Station X Rockford, IL 61109 Manufacturer FQ5R866M D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U. S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge. Signature of Authorized Individual Date 12-September-2001 David J. Wright 7. Approval for Return to Service Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is □ REJECTED X APPROVED Other (Specify) FAA Fit. Standards Manufacturer Inspection Authorization Inspector BY Person Approved by Transport Canada Airworthiness Group Repair Station FAA Designee Signature of Authorized Individual Certificate or Date of Approval or Rejection Designation No. report FQ5R866M 12-September-2001

FAA Form 337

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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8. DESCRIPTION OF WORK ACCOMPLISHED (If more space is required, attach additional sheets. Identify with	
aircraft nationality and registration mark and date work completed.)	
1. Introduction: A. Installed GNS-430 s/n 97104437 in radio stack above GTX-327 and below GNS-530	
in clear view of pilot.	
B. Antenna mounted on top at station #42.	
2. Description: A. Installed I.A.W. manufacturers instructions p/n 190-00140-02, Rev. J, dated 02-22-01	
AC 43.13-1B Chap 4, 11, 12, AC 43.13-2A Chap 2 & 3, AC 23.1309-1A,	
AC 20-138 Chap 7 (VFR), and PAR 8(c)(1)(iv)(IFR install).	
B. Supporting data on STC SA#00705WI.	
C. Installed 5 amp C/B labeled GPS.	
D. GPS does not interfere with any other equipment, (electromagnetic	•
compatibility), and other equipment in A/C does not interfere with	
GPS unit. Electrical load analysis was performed. GNS- does	
and an existence per AIC englishment	
E. GNS-430 is directly connected to GI-106A, GTX-327, GNS-530, WX-500, and DME.	
E. GNS-430 is directly connected to GI-100A, GI-327, Grand in Initial	
F. Installation functions checked satisfactorily per procedures found in Initial	
Checkout Section of Installation Manual. Ground checks include verification	
of conformity to airworthiness criteria in accordance with A/C 20-138 PAR	
8(c)(2). The A/C has been placarded "GPS NOT APPROVED FOR NAVIGATION".	
This placard to remain in installed for navigation until flight test	
certification is completed and FAA Approved Airplane Flight Manual Supplement	
has been approved. See paragraph below of this form for flight test	
certification and AFM approval date. The GPS has been flight tested in	
Certification and A-riw approval date. This of a fine seeming the seeming of the	
accordance with AC 20-138 PAR 8(c)(2) on	
Dale: 9-14-01	
By: Santflings	
Certificate #: /234/465	
and found to meet the requirements of IFR enroute, terminal, and non-	
precision approach flight. An Airplane Flight Manual Supplement C-T210M	
approved by the FAA dated <u>SEP 1 4 2001</u> has been installed	
within the airplane. Garmin GNS-430 Pilot's Guide p/n 190-00140-00, Rev. F, dated July 00	
has been included and must be available to the flight	
crew during IFR operations.	
G All inspection records and other documents pertaining to this major	
alteration are on file at Avionics Place under W.O. #5505. A/C weight and	
balance and equipment list amended in accordance with AC 43.13-1B Chap 11,	
Section 3 thru 3.36, and Section 11.37.	
3. Control, operation information: N/A	
4. Servicing information: N/A	
5. Maintenance instructions: N/A	
6. Trouble shooting information: N/A	
7. Removal and replacement information: N/A	
8. Diagrams: N/A	
9. Special inspection requirements: N/A	
10. Application of protective treatments: N/A	
11. Data: N/A	
12. List of specific tools: N/A	
13. Commuter category: N/A	
13. Communic Category. 1975	
14. Recommended overhaul periods: N/A	
15. Airworthiness Limitations Section: N/A	
16. Revision: A letter will be submitted to the local FSDO with a copy of the revised FAA ICA.	
END	

ADDITIONAL SHEETS ARE ATTACHED

AVIONICS PLACE \$257 Falcon Rd. Rockford, H. 61109 #15-229-5360

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

AIRCRAFT MAKE: CESSNA

AIRCRAFT MODEL: T210M

AIRCRAFT SER. NO.: 21061811

AIRCRAFT REG. NO.: N732VP

For aircraft with an FAA Approved Flight Manual, this document serves as the FAA Approved Flight Manual Supplement for the GARMIN GNS-430.

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

FAA APPROVED:_

For S

Scott Horejs

Principal Avionics Inspector Dupage District Flight Office

31W775 North Ave.

West Chicago, IL 60185-1056

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LOG OF REVISIONS				
Revision Number	Revision Date	Description	ECO Number	
A	9/16/98	Initial Release		
В	10/6/98	Revised acceptable software versions	9793	
С	5/17/99	Added references to automatic localizer course capture and crossfill operations to support main software version 2.07	11032	
D	10/28/99	Add BFGoodrich WX-500 and SKYWATCH Interfaces	12055	
Е	4/26/00	Updated paragraph describing automatic localizer capture feature	13206	
F	8/17/00	Add a note to the Normal Procedures about legs not flown by the GNS 430	13932	
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AVIONICS PLACE 5257 Falcon Rd.

5257 Falcon Rd. Rockford, IL 61109 815-229-5360

Aircraft Make: <u>Ce 33 na</u>	GARMIN GNS 430 VHF Communications Transceiver / VOR/ILS Receiver / GPS Receiver
AIRCIAIL MICHEL	Transceiver / VORILS Receiver / GIB Receiver
Aircraft Serial Number: 210 6/8//	•

Table of Contents

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GENERAL	······································
LIMITATIONS	4
EMERGENCY PROCEDURES	
NORMAL PROCEDURES	
PERFORMANCE	8
WEIGHT AND BALANCE	
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AVIONICS PLACE 5257 Falcon Rd. Rockford, IL 61109 815-229-5360

Aircraft Model: / A/O/	GARMIN GNS 430 VHF Communications Transceiver / VOR/ILS Receiver / GPS Receiver
Aircraft Serial Number:	

SECTION I GENERAL

- 1. The GNS 430 System is a fully integrated, panel mounted instrument, which contains a VHF Communications Transceiver, a VOR/ILS receiver, and a Global Positioning System (GPS) Navigation computer. The system consists of a GPS antenna, GPS Receiver, VHF VOR/LOC/GS antenna, VOR/ILS receiver, VHF COMM antenna and a VHF Communications Transceiver. The primary function of the VHF Communication portion of the equipment is to facilitate communication with Air Traffic Control. The primary function of the VOR/ILS Receiver portion of the equipment is to receive and demodulate VOR, Localizer, and Glide Slope signals. The primary function of the GPS portion of the system is to acquire signals from the GPS system satellites, recover orbital data, make range and Doppler measurements, and process this information in real-time to obtain the user's position, velocity, and time.
- 2. Provided the GARMIN GNS 430's GPS receiver is receiving adequate usable signals, it has been demonstrated capable of and has been shown to meet the accuracy specifications for:
 - VFR/IFR enroute, terminal, and non-precision instrument approach (GPS, Loran-C, VOR, VOR-DME, TACAN, NDB, NDB-DME, RNAV) operation within the U.S. National Airspace System in accordance with AC 20-138.
 - One of the approved sensors, for a single or dual GNS 430 installation, for North Atlantic Minimum Navigation Performance Specification (MNPS) Airspace in accordance with AC 91-49 and AC 120-33.
 - The systems meets RNP5 airspace (BRNAV) requirements of AC 90-96 and in accordance with AC 20-138, and JAA AMJ 20X2 Leaflet 2 Revision 1, provided it is receiving usable navigation information from the GPS receiver.

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

FAA APPROVED DATE: SEP 1 4 2001

Page 4 of 9

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AVIONICS PLACE

5257 Falcon Rd. **Rockford, IL** 61109 **815-229-53**60

	:33na	GARMIN GNS 430 VHF Communications
Aircraft Model: Ta		Transceiver / VOR/ILS Receiver / GPS Receiver
Aircraft Serial Number:	210 61811	

SECTION II LIMITATIONS

1. The GARMIN GNS 430 Pilot's Guide, P/N 190-00140-00, Rev. A, dated October, 1998, or later appropriate revision, must be immediately available to the flight crew whenever navigation is predicated on the use of the system.

The GARMIN 400 Series Pilot's Guide Addendum, Display Interface for Traffic and Weather Data, must be immediately available to the flight crew if the BFGoodrich WX-500 Stormscope® or the BFGoodrich SKYWATCHTM Traffic Advisory System (TAS): is installed.

2. The GNS 430 must utilize the following or later FAA approved software versions:

Sub-System	Software Version
Main	2.00
GPS	2.00
COMM	1.22
YOR/LOC	1.25
G/S	2.00

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

- 3. IFR enroute and terminal navigation predicated upon the GNS 430's GPS Receiver is prohibited unless the pilot verifies the currency of the data base or verifies each selected waypoint for accuracy by reference to current approved data.
- 4. Instrument approach navigation predicated upon the GNS 430's GPS Receiver must be accomplished in accordance with approved instrument approach procedures that are retrieved from the GPS equipment data base. The GPS equipment database must incorporate the current update cycle.
 - (a) Instrument approaches utilizing the GPS receiver must be conducted in the approach mode and Receiver Autonomous Integrity Monitoring (RAIM) must be available at the Final Approach Fix.
 - (b) Accomplishment of ILS, LOC, LOC-BC, LDA, SDF, MLS or any other type of approach not approved for GPS overlay with the GNS 430's GPS receiver is not authorized.

Page 5 of .9

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AVIONICS PLACE

5257 Falcon Rd. **Rockford, IL** 61109 **815-229-**5360

Wilding Frances -	33na	GARMIN GNS 430 VHF Communications Transceiver / VOR/ILS Receiver / GPS Receiver
Aircraft Model: 7	2/0/-	

- (c) Use of the GNS 430 VOR/ILS receiver to fly approaches not approved for GPS require VOR/ILS navigation data to be present on the external indicator.
- (d) When an alternate airport is required by the applicable operating rules, it must be served by an approach based on other than GPS or Loran-C navigation, the aircraft must have the operational equipment capable of using that navigation aid, and the required navigation aid must be operational.
- (e) VNAV information may be utilized for advisory information only. Use of VNAV information for Instrument Approach Procedures does not guarantee Step-Down Fix altitude protection, or arrival at approach minimums in normal position to land.
- 5. If not previously defined, the following default settings must be made in the "SETUP 1" menu of the GNS 430 prior to operation (refer to Pilot's Guide for procedure if necessary):
 - (a) dis, spd $\frac{n}{m}$ kt (sets navigation units to "nautical miles" and "knots")
 - (b) alt, vsft fpm (sets altitude units to "feet" and "feet per minute")
 - (c) map datum .. WGS 84 (sets map datum to WGS-84, see note below)
 - (d) posndeg-min (sets navigation grid units to decimal minutes)

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

SECTION III EMERGENCY PROCEDURES

ABNORMAL PROCEDURES

- If GARMIN GNS 430 navigation information is not available or invalid, utilize remaining operational navigation equipment as required.
- If "RAIM POSITION WARNING" message is displayed the system will flag and no longer provide GPS based navigational guidance. The crew should revert to the GNS 430 VOR/ILS receiver or an alternate means of navigation other than the GNS 430's GPS Receiver.
- 3. If "RAIM IS NOT AVAILABLE" message is displayed in the enroute, terminal, or initial approach phase of flight, continue to navigate using the GPS equipment or revert to an

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AVIONICS PLACE

5257 Falcon Rd. **Rockford, IL** 61109 **815-229-5**360

Aircraft Make: <u>Cessna</u> Aircraft Model: <u>T21000</u>	GARMIN GNS 430 VHF Communications Transceiver / VOR/ILS Receiver / GPS Receiver
Aircraft Serial Number: 210 61811	

alternate means of navigation other than the GNS 430's GPS receiver appropriate to the route and phase of flight. When continuing to use GPS navigation, position must be verified every 15 minutes using the GNS 430's VOR/ILS receiver or another IFR-approved navigation system.

- 4. If "RAIM IS NOT AVAILABLE" message is displayed while on the final approach segment, GPS based navigation will continue for up to 5 minutes with approach CDI sensitivity (0.3 nautical mile). After 5 minutes the system will flag and no longer provide course guidance with approach sensitivity. Missed approach course guidance may still be available with 1 nautical mile CDI sensitivity by executing the missed approach.
- 5. In an in-flight emergency, depressing and holding the Comm transfer button for 2 seconds will select the emergency frequency of 121.500 Mhz into the "Active" frequency window.

SECTION IV NORMAL PROCEDURES

DETAILED OPERATING PROCEDURES

Normal operating procedures are described in the GARMIN GNS 430 Pilot's Guide, P/N 190-00140-00, Rev. A, dated October 1998, or later appropriate revision.

2. PILOT'S DISPLAY

The GNS 430 System data will appear on the Pilot's HSI. The source of data is either GPS or VLOC as annunciated on the display above the CDI key.

3. AUTOPILOT / FLIGHT DIRECTOR OPERATION

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

When the autopilot/flight director system is using course information supplied by the GNS 430 System and the course pointer is not automatically driven to the desired track, the course pointer on the HSI must be manually set to the desired track (DTK) indicated by the GNS 430. For detailed autopilot/flight director operational instructions, refer to the FAA Approved Flight Manual Supplement for the autopilot/flight director.

Page 7 of 9

FAA APPROVED DATE: SEP 1 4 2001

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AVIONICS PLACE 5257 Falcon Rd.

Rockford, IL 61109 815-229-5360

Aircraft Make: <u>C.e.33 na</u> Aircraft Model: <u>T.2/D.M.</u>		GARMIN GNS 430 VHF Communications Transceiver / VOR/ILS Receiver / GPS Receiver
Aircraft Serial Number: 210 618	11	

4. CROSSFILL OPERATIONS

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

5. <u>AUTOMATIC LOCALIZER COURSE CAPTURE</u>

By default, the GNS 430 automatic localizer course capture feature is enabled. This feature provides a method for system navigation data present on the external indicators to be switched automatically from GPS guidance to localizer / glide slope guidance at the point of course intercept on a localizer at which GPS derived course deviation equals localizer derived course deviation. If an offset from the final approach course is being flown, it is possible that the automatic switch from GPS course guidance to localizer / glide slope course guidance will not occur. It is the pilot's responsibility to ensure correct system navigation data is present on the external indicator before continuing a localizer based approach beyond the final approach fix.

DISPLAY OF LIGHTNING STRIKE DATA

For installations that interface the BFGoodrich WX-500 Stormscope and the GNS 430, lightning strike data detected by the WX-500 will appear on the GNS 430. For detailed operating instructions regarding the interface of the GNS 430 with the WX-500, refer to the WX-500 Pilot's Guide and the GNS 430 Pilot's Guide Addendum for the WX-500 Stormscope interface.

7. DISPLAY OF TRAFFIC ADVISORY DATA

For installations that interface the BFGoodrich SKYWATCH Traffic Advisory System (TAS) and the GNS 430, traffic data detected by the SKYWATCH will appear on the GNS 430. For detailed operating instructions regarding the interface of the GNS 430 with the SKYWATCH, refer to the FAA Approved Flight Manual Supplement for the SKYWATCH, the Pilot's Guide for the SKYWATCH and the GNS 430 Pilot's Guide Addendum for the SKYWATCH Traffic Advisory System interface.

Page 8 of 9

SEP 1 4 2001 FAA APPROVED DATE:

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AVIONICS PLACE 5257 Falcon Rd. Rockford, IL 61109 815-229-5360

Aircraft Make: Ce33na GARMIN GNS 430 VHF Communications
Aircraft Model: T310 M Transceiver / VOR/ILS Receiver / GPS Receiver
Aircraft Serial Number: 2106/8//

SECTION V PERFORMANCE

No change.

SECTION VI WEIGHT AND BALANCE

See current weight and balance data.

SECTION VII AIRPLANE & SYSTEM DESCRIPTIONS

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

FAA APPROVED DATE: SEP 1 4 2001

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U.S. Department of Transportation

MAJOR REPAIR AND ALTERATION

For FAA Use Only

Federal Aviation Administration	(Alffr	ame	e, Powerplant	, P10	opelier, or	Applianc	e)		Office Identification	cauon J	รู้ เ
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	Make CESSNA					Model T210M					
1. Aircraft	Serial No.					Nationality and Registration Mark					
	21061811					USA	พ7	732VP			
2. Owner			stration certificate) ken Jr. Trust			Address (As shown on registration certificate) 39W539 Deer Run Dr. St. Charles, II. 60175 USA					
					3. For FAA L	Jse Only					
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12-Sept	ember-2001		FQ5R866M]							

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.)
- Introduction: A. Installed WX-500 system processor s/n JDP06103820 located at station #161.4 and antenna s/n JCA06107447 located at station #189.4.
- Description: A. Installed I.A.W. manufacturers instructions p/n 009-11500-001, Rev. B, dated 06-10-99, AC 43.13-1B Chap 4, 11, & 12, and AC 43.13-2A Chap 2 & 3.
 - B. Installed 3 amp C/B labeled WX-500. Electrical load analysis was performed. WX-500 does not produce excessive load on system per A/C specifications.
 - C. WX-500 does not interfere with any other avionics or instruments in A/C.
 - D. WX-500 is directly connected to GNS-430, GNS-530, and KI-525A.
 - E. Owners operation manual was placed in A/C.
 - F. System ground checked good.
 - G. Weight and balance revised.
- 3. Control, operation information: N/A
- 4. Servicing information: N/A
- 5. Maintenance instructions: N/A
- 6. Troubleshooting information: N/A
- 7. Removal and replacement information: N/A
- 8. Diagrams: N/A
- 9. Special inspection requirements: N/A
- 10. Application of protective treatments: N/A
- 11. Data: N/A
- 12. List of special tools: N/A
- 13. Commuter category A/C: N/A
- 14. Recommended overhaul periods: N/A
- 15. Airworthiness Limitations Section: N/A
- 16. Revision: A letter will be submitted to the local FSDO with
 - a copy of the revised FAA Form 337 and revised ICA.

END

U.S. Department of Transportation

Federal Aviation

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

For FAA Use Only

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1. Airc	raft -	CESSNA Serial No.					Nationality and Registration Mark					
	-	21061811					USA N732VP					
		Name (As shown on	regist	ration certificate)	•	Address (As shown on registration certificate) 39W539 Deer Run Dr.						
2. Ow	•	Henry J. K	enk	en Jr. Trust	•		St. Charles, IL 60175 USA					
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D. I	certify	that the repair		or alteration made made in accorda hed herein is true		unit(s) identi	fied in item 4		scribed on the S. Federal Avia	reverse or ition Regul	ations	
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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.)
and an indicate the region and and all the ment and all t
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1. Introduction: A. Installed GNS-530 s/n 78402634 in radio stack above GNS-430 and below PM-7000MS
in clear view of pilot.
B. Antenna mounted on top at station #42.
B. America moduled on top at statuon meta-
2. Description: A. Installed I.A.W. manufacturers instructions p/n 190-00180-02, Rev. C, dated 09-22-00,
AC 43.13-1B Chap 4, 11, 12, AC 43.13-2A Chap 2 & 3, AC 23.1309-1A
AC 20-138 Chap 7 (VFR), and PAR 8(c)(1)(iv)(IFR install).
B. Supporting data on STC SA#00705WI.
C. Installed 5 amp C/B labeled GPS.
D. GPS does not interfere with any other equipment, (electromagnetic
compatibility), and other equipment in A/C does not interfere with
GPS unit. Electrical load analysis was performed. GNS- does
not produce excessive load on systems per A/C specifications.
E. GNS-530 is directly connected to KI-525A, GTX-327, WX-500, JPI, GNS-430, 400B A/P,
and DME.
F. Installation functions checked satisfactorily per procedures found in Initial
Checkout Section of Installation Manual. Ground checks include verification
of conformity to airworthiness criteria in accordance with A/C 20-138 PAR
8(c)(2). The A/C has been placarded "GPS NOT APPROVED FOR NAVIGATION".
This placard to remain in installed for navigation until flight test
certification is completed and FAA Approved Airplane Flight Manual Supplement
has been approved. See paragraph below of this form for flight test
certification and AFM approval date. The GPS has been flight tested in
accordance with AC 20-138 PAR 8(c)(2) on
Date: 89-15-01
By: Danstavnak
Certificate #: 2.34/4/6.5
and found to meet the requirements of IFR enroute, terminal, and non-
precision approach flight. An Airplane Flight Manual Supplement C-T210M
approved by the FAA dated <u>SEP 1 4 2001</u> has been installed
within the airplane. Garmin GNS-530 Pilot's Guide p/n 190-00181-00, Rev. A, dated 5/00
has been included and must be available to the flight
crew during IFR operations.
G. All inspection records and other documents pertaining to this major
alteration are on file at Avionics Place under W.O. #5505. A/C weight and
balance and equipment list amended in accordance with AC 43.13-1B Chap 11,
Section 3 thru 3.36, and Section 11.37.
3. Control, operation information: N/A
4. Servicing information: N/A
5. Maintenance instructions: N/A
6. Trouble shooting information: N/A
7. Removal and replacement information: N/A
8. Diagrams: N/A
9. Special inspection requirements: N/A
10. Application of protective treatments: N/A
11. Data: N/A
12. List of specific tools: N/A
13. Commuter category: N/A
14. Recommended overhaul periods: N/A
15. Airworthiness Limitations Section: N/A
16. Revision: A letter will be submitted to the local FSDO with a copy of the revised FAA ICA.
END
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ADDITIONAL SHEETS ARE ATTACHED

AVIONICS PLACE

\$257 Falcon Rd. **Rockford, IL** 61109 **815-229-5**360

FAA APPROVED FLIGHT MANUAL SUPPLEMENT
GARMIN GNS 530 VHF COMMUNICATIONS TRANSCEIVER/
VOR/ILS RECEIVER/GPS RECEIVER

Aircraft Make: CESSNA

Aircraft Model: T210M

Aircraft S/N: 21061811

Aircraft Reg. No.: N732VP

This document must be carried in the aircraft at all times. It describes the operating procedures for the GARMIN GNS 530 navigation system when it has been installed in accordance with GARMIN Installation Manual 190-00181-02 Rev. $\underline{\textbf{C}}$ (Rev. A or later) and FAA Form 337 dated $\underline{\underline{9-19-01}}$.

For aircraft with an FAA Approved Flight Manual, this document serves as the FAA Approved Flight Manual Supplement for the GARMIN GNS 530. For aircraft that do not have an approved flight manual, this document serves as the FAA Approved Supplemental Flight Manual for the GARMIN GNS 530.

The information contained herein supplements or supercedes the basic Airplane Flight Manual only in those areas listed herein. For limitations, procedures, and performance information not contained in this document, ansult the basic Airplane Flight Manual.

FAA APPROVED: M

For Scott Horejs

Principal Avionics Inspector Dupage District Flight Office

31W775 North Ave.

West Chicago, IL 60185-1056

FAA APPROVED DATE: SEP 1 4 2001

Page 1 of S

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Table of Contents

SECTION	PAGE
GENERAL	3
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EMERGENCY PROCEDURES	5
NORMAL PROCEDURES	6
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WEIGHT AND BALANCE	8
AIRPLANE & SYSTEM DESCRIPTIONS	8

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C-T210M N732VP

SECTION I GENERAL

- 1. The GNS 530 System is a fully integrated, panel mounted instrument, which contains a VHF Communications Transceiver, a VOR/ILS receiver, and a Global Positioning System (GPS) Navigation computer. The system consists of a GPS antenna, GPS Receiver, VHF VOR/LOC/GS antenna, VOR/ILS receiver, VHF COMM antenna and a VHF Communications Transceiver. The primary function of the VHF Communication portion of the equipment is to facilitate communication with Air Traffic Control. The primary function of the VOR/ILS Receiver portion of the equipment is to receive and demodulate VOR, Localizer, and Glide Slope signals. The primary function of the GPS portion of the system is to acquire signals from the GPS system satellites, recover orbital data, make range and Doppler measurements, and process this information in real-time to obtain the user's position, velocity, and time.
- 2. Provided the GARMIN GNS 530's GPS receiver is receiving adequate usable signals, it has been demonstrated capable of and has been shown to meet the accuracy specifications for:
 - VFR/IFR enroute, terminal, and non-precision instrument approach (GPS, Loran-C, VOR, VOR-DME, TACAN, NDB, NDB-DME, RNAV) operation within the U.S. National Airspace System in accordance with AC 20-138.
 - One of the approved sensors, for a single or dual GNS 530 installation, for North Atlantic Minimum Navigation Performance Specification (MNPS) Airspace in accordance with AC 91-49 and AC 120-33.
 - The system meets RNP5 airspace (BRNAV) requirements of AC 90-96 and in accordance with AC 20-138, and JAA AMJ 20X2 Leaflet 2 Revision 1, provided it is receiving usable navigation information from the GPS receiver.

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

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SECTION II LIMITATIONS

 The GARMIN GNS 530 Pilot's Guide, P/N 190-00181-00, Rev. A, dated April 2000 or later appropriate revision must be immediately available to the flight crew whenever navigation is predicated on the use of the system.

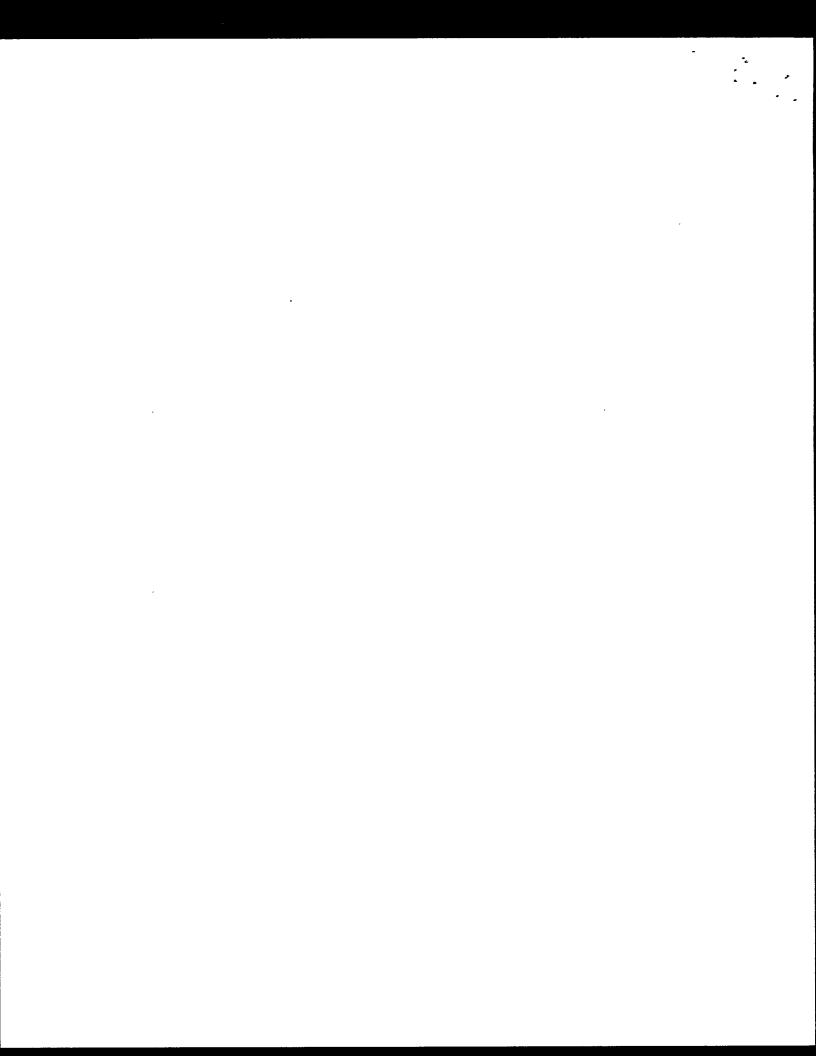
The GARMIN 500 Series Pilot's Guide Addendum, Display Interface for Traffic and Weather Data, must be immediately available to the flight crew if the BFGoodrich WX-500 Stormscope® or the BFGoodrich SKYWATCHTM Traffic Advisory System (TAS) is installed.

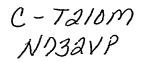
2. The GNS 530 must utilize the following or later FAA approved software versions:

Sub-System	Software Version
Main	2.00
GPS	2.00
COMM	1.22
VOR/LOC	1.25
G/S	2.00

The Main software version is displayed on the GNS 530 self test page immediately after turnon for 5 seconds. The remaining system software versions can be verified on the AUX group sub-page 2, "SOFTWARE/DATABASE VER".

- IFR enroute and terminal navigation predicated upon the GNS 530's GPS Receiver is
 prohibited unless the pilot verifies the currency of the data base or verifies each selected
 waypoint for accuracy by reference to current approved data.
- 4. Instrument approach navigation predicated upon the GNS 530's GPS Receiver must be accomplished in accordance with approved instrument approach procedures that are retrieved from the GPS equipment data base. The GPS equipment database must incorporate the current update cycle.
 - (a) Instrument approaches utilizing the GPS receiver must be conducted in the approach mode and Receiver Autonomous Integrity Monitoring (RAIM) must be available at the Final Approach Fix.
 - (b) Accomplishment of ILS, LOC, LOC-BC, LDA, SDF, MLS or any other type of approach not approved for GPS overlay with the GNS 530's GPS receiver is not authorized.





- (c) Use of the GNS 530 VOR/ILS receiver to fly approaches not approved for GPS requires VOR/ILS navigation data to be present on the external indicator.
- (d) When an alternate airport is required by the applicable operating rules, it must be served by an approach based on other than GPS or Loran-C navigation, the aircraft must have the operational equipment capable of using that navigation aid, and the required navigation aid must be operational.
- (e) VNAV information may be utilized for advisory information only. Use of VNAV information for Instrument Approach Procedures does not guarantee Step-Down Fix altitude protection, or arrival at approach minimums in normal position to land.
- 5. If not previously defined, the following default settings must be made in the "SETUP 1" menu of the GNS 530 prior to operation (refer to Pilot's Guide for procedure if necessary):
 - (a) dis, spd m kt (sets navigation units to "nautical miles" and "knots")
 - (b) alt, vsft fpm (sets altitude units to "feet" and "feet per minute")
 - (c) map datum .. WGS 84 (sets map datum to WGS-84, see note below)
 - (d) posndeg-min (sets navigation grid units to decimal minutes)

NOTE: In some areas outside the United States, datums other than WGS-84 or NAD-83 may be used. If the GNS 530 is authorized for use by the appropriate Airworthiness authority, the required geodetic datum must be set in the GNS 530 prior to its use for navigation.

SECTION III EMERGENCY PROCEDURES

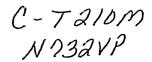
ABNORMAL PROCEDURES

- If GARMIN GNS 530 navigation information is not available or invalid, utilize remaining operational navigation equipment as required.
- 2. If "RAIM POSITION WARNING" message is displayed the system will flag and no longer provide GPS based navigational guidance. The crew should revert to the GNS 530 VOR/ILS receiver or an alternate means of navigation other than the GNS 530's GPS Receiver.
- 3. If "RAIM IS NOT AVAILABLE" message is displayed in the enroute, terminal, or initial approach phase of flight, continue to navigate using the GPS equipment or revert to an

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5257 Falcon Rd. Rockford, IL 61109 815-229-5360



alternate means of navigation other than the GNS 530's GPS receiver appropriate to the route and phase of flight. When continuing to use GPS navigation, position must be verified every 15 minutes using the GNS 530's VOR/ILS receiver or another IFR-approved navigation system.

- 4. If "RAIM IS NOT AVAILABLE" message is displayed while on the final approach segment, GPS based navigation will continue for up to 5 minutes with approach CDI sensitivity (0.3 nautical mile). After 5 minutes the system will flag and no longer provide course guidance with approach sensitivity. Missed approach course guidance may still be available with 1 nautical mile CDI sensitivity by executing the missed approach.
- 5. In an in-flight emergency, depressing and holding the Comm transfer button for 2 seconds will select the emergency frequency of 121.500 Mhz into the "Active" frequency window.

SECTION IV NORMAL PROCEDURES

1. DETAILED OPERATING PROCEDURES

Normal operating procedures are described in the GARMIN GNS 530 Pilot's Guide, P/N 190-00181-00, Rev. A, dated April 2000 or later appropriate revision.

2. PILOT'S DISPLAY

The GNS 530 System data will appear on the Pilot's CDI/HSI. The source of data is either GPS or VLOC as annunciated on the display above the CDI key.

3. AUTOPILOT / FLIGHT DIRECTOR OPERATION

Coupling of the GNS 530 System steering information to the autopilot/flight director can be accomplished by engaging the autopilot/flight director in the NAV or APR mode.

When the autopilot/flight director system is using course information supplied by the GNS 530 System and the course pointer is not automatically driven to the desired track, the course pointer on the HSI must be manually set to the desired track (DTK) indicated by the GNS 530. For detailed autopilot/flight director operational instructions, refer to the FAA Approved Flight Manual Supplement for the autopilot/flight director.

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4. CROSSFILL OPERATIONS

For dual GNC 500 Product Series or GNC 500/GNC 400 Product Series installations, crossfill capabilities exist between the number one and number two Systems. Refer to the GARMIN GNS 530 Pilot's Guide for detailed crossfill operating instructions.

5. <u>AUTOMATIC LOCALIZER COURSE CAPTURE</u>

By default, the GNS 530 automatic localizer course capture feature is enabled. This feature provides a method for system navigation data present on the external indicators to be switched automatically from GPS guidance to localizer / glide slope guidance as the aircraft approaches the localizer course inbound to the final approach fix. If an offset from the final approach course is being flown, it is possible that the automatic switch from GPS course guidance to localizer / glide slope course guidance will not occur. It is the pilot's responsibility to ensure correct system navigation data is present on the external indicator before continuing a localizer based approach beyond the final approach fix. Refer to the GNS 530 Pilot's Guide for detailed operating instructions.

6. <u>DISPLAY OF LIGHTNING STRIKE DATA</u>

For installations that interface the BFGoodrich WX-500 Stormscope and the GNS 530, lightning strike data detected by the WX-500 will appear on the GNS 530. For detailed operating instructions regarding the interface of the GNS 530 with the WX-500, refer to the WX-500 Pilot's Guide and the GNS 530 Pilot's Guide Addendum for the WX-500 Stormscope interface.

7. DISPLAY OF TRAFFIC ADVISORY DATA

For installations that interface the BFGoodrich SKYWATCH Traffic Advisory System (TAS) and the GNS 530, traffic data detected by the SKYWATCH will appear on the GNS 530. For detailed operating instructions regarding the interface of the GNS 530 with the SKYWATCH, refer to the FAA Approved Flight Manual Supplement for the SKYWATCH, the Pilot's Guide for the SKYWATCH and the GNS 530 Pilot's Guide Addendum for the SKYWATCH Traffic Advisory System interface.

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C-T210M N732VP

SECTION V PERFORMANCE

No change.

SECTION VI WEIGHT AND BALANCE

See current weight and balance data.

SECTION VII AIRPLANE & SYSTEM DESCRIPTIONS

See GNS 530 Pilot's Guide for a complete description of the GNS 530 system.

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NOTICE

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

8.	Description of Work Accomplished
	(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)
1.	Repaired damage to lower forward fuselage station 0.0 to 129.6 by replacing the following parts:
	A. Forward lwr. skin Part No. 1213788-6.
	B. Lwr. skin Part No. 1210501-12.
	C. Lwr. skin Part No. 1210501-3.
	D. Gusset Part No. 1211329-1.
	E. Lwr. skin Part No. 1210505-11.
2.	Replacement parts installed per Cessna Parts and Maintenance Manual.
З.	Installation procedures per AC43.13-1A, Chapter 2, Section 3.
4.	No equipment list revision.
5.	No weight and balance change.
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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.)
 - Modified aircraft using STC SA5737SW by Uvalde Flight Center, Inc. for removal of landing gear doors.
 - 2. Installed Bracket Air Filter as covered by STC SA693CE, SA71GL, SH12CE application and cross reference chart.

Additional Sheets Are Attached

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