



US Department
of Transportation
Federal Aviation
Administration

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

OMB No. 2120-0020 Electronic Tracking Number
Exp: 04/30/2023

For FAA Use Only

INSTRUCTIONS: Print or type all entries. See Title 14 CFR §43.9, Part 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. §44701). Failure to report can result in a civil penalty for each such violation. (49 U.S.C. §46301(a))

1. Aircraft	Nationality and Registration Mark N33560	Serial No. 28-7525207	
	Make Piper	Model PA-28-140	Series
2. Owner	Name (As shown on registration certificate) AIRCRAFT & AVIATION PROFESSIONAL LLC		Address (As shown on registration certificate) Address 647 E CHICAGO RD
			City COLDWATER State MI Zip 490369497 Country USA

3. For FAA Use Only

4. Type		5. Unit Identification			
Repair	Alteration	Unit	Make	Model	Serial No.
<input type="checkbox"/>	<input type="checkbox"/>	AIRFRAME	_____	(As described in Item 1 above)	_____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	POWERPLANT	Lycoming	0-320-E3D	L-40812-27A
<input type="checkbox"/>	<input type="checkbox"/>	PROPELLER			
<input type="checkbox"/>	<input type="checkbox"/>	APPLIANCE	Type		
			Manufacturer		

6. Conformity Statement

A. Agency's Name and Address		B. Kind of Agency	
Name Rueben A Walkup	<input checked="" type="checkbox"/>	U. S. Certificated Mechanic	Manufacturer
Address 300 Airport Rd Coldwater	<input type="checkbox"/>	Foreign Certificated Mechanic	C. Certificate No.
City Coldwater State MI	<input type="checkbox"/>	Certificated Repair Station	AP 3368961
Zip 49036 Country United States	<input type="checkbox"/>	Certificated Maintenance Organization	

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

Extended range fuel per 14 CFR Part 43 App. B <input type="checkbox"/>	Signature/Date of Authorized Individual Rueben A Walkup 04/12/2024
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7. Approval for Return to Service

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

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

Certificate or Designation No. AP 3368961	Signature/Date of Authorized Individual Rueben A Walkup 04/12/2024
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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.)

N33560

04/12/2024

Nationality and Registration Mark

Date

This engine was modified IRT RAM STC SA2706SW & SA2969SW and RAM aircraft drawing R14001D rev H, dated September 26th, 2005 to 150 hp. ICA Drawing 2662, Added to aircraft records.

Additional Sheets Are Attached

United States Of America
Department of Transportation - Federal Aviation Administration

Supplemental Type Certificate

Number SA2706SW-D

This Certificate issued to
RAM Aircraft, Limited Partnership
7505 Karl May Drive
Waco, TX 76708

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 of the Civil Air Regulations.

Original Product Type Certificate Number : 2A13

Make: Piper

Model: PA-28-140

Description of Type Design Change: Installation of 160 H. P. Lycoming O-320-D2A, -D2B, -D2C, -D3G, -E2A, or -E3D engines on a Piper Model PA-28-140 in accordance with RAM Aircraft Drawing No. R14001D, Revision H, dated September 26, 2005, or later FAA approved revision. FAA approved Airplane Flight Manual Supplement No. 1084, Revision B, dated November 14, 2006, or later FAA approved revision is required.

Limitations and Conditions: To be eligible for installation, Lycoming O-320-E2A and O-320-E3D engine must be modified per STC SE8987SW. Instructions for Continued Airworthiness are contained in RAM Drawing number 2662 dated December 12, 2005. The installer must determine whether this design change is compatible with previously approved modifications. If the holder agrees to permit another person to use this certificate to alter a product, the holder must give the other person written evidence of that permission.

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

Date of application: January 03, 1978

Date issued: October 8, 2001; February 12, 2008

Date of issuance: January 20, 1978

Date amended: 09/28/81; 10/21/81; 01/17/97; 11/14/06
Rev. 4



By direction of the Administrator

(Signature)
S. Frances Cox, Manager
Special Certification Office,
Southwest Region

(Title)

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



**OVERHAUL MANUAL SUPPLEMENT FOR
LYCOMING O-320-E3D AS MODIFIED PER STC SE 8987 SW**

The engine overhaul procedures for the Lycoming O-320-E3D engine as modified per STC SE 8987 SW are identical to the original Lycoming O-320-E3D and Lycoming O-320-D3G. These procedures may be found in the Avco Lycoming Overhaul Manual for Direct Drive engines, Part No. 60294-7.

**SECTION 11
OPERATING TEST LIMITS
LYCOMING O-320-E3D AS MODIFIED PER STC SE 8987 SW**

Run-In Schedule	1 Hr. 20 Min.
Maximum Rated RPM and Tolerance	2700-2725 RPM
Oil Consumption at Max. Rated Power	1.2 Lbs./Hr.
Oil Grade to be Used	SAE 50
Fuel Grade to be Used	100, 100LL
Idling RPM and Tolerance	600 + 25 RPM
Magneto Spread to 2100 RPM	50 RPM Max.
Oil Temperature - Maximum	245 °F
Oil Temperature - Desired Range	150 °F - 200 °F
Oil Pressure at Max. Rated Power (Engine Oil Temperature 175 °F - 185 °F)	60 - 90 PSI
Oil Pressure at Idle (Engine Oil Temperature 140 °F - 150 °F)	25 PSI Minimum
Timing of Engine and Tolerance	Left 25° BTC ± 1° Right 25° BTC ± 1°
Cylinder Head Temperature (Bayonet Thermocouple)	500 °F Max.
Normal Rated Power (Power Correction for Intake Air Temp.)	160 HP at 2700 RPM 1% per 10 °F Variance from Standard
Fuel Consumption (Sea Level Standard Day at 160 HP and 2700 RPM)	82 pph
Fuel Pressure at 2700 RPM	2-5 PSI

THIS DOCUMENT CONTAINS TRADE SECRET INFORMATION
 OWNED BY RAM AIRCRAFT, LIMITED PARTNERSHIP
 UNAUTHORIZED DISCLOSURE OF THE INFORMATION
 CONTAINED IN THIS DOCUMENT TO GROUPS OR INDIVIDUALS
 WILL BE TREATED AS THEFT OF A TRADE SECRET
 DISCLOSURE OR USE OF THE INFORMATION CONTAINED IN
 THIS DOCUMENT TO SPECIFIC GROUPS OR INDIVIDUALS
 IS AUTHORIZED ONLY BY MEANS OF A LETTER OF
 AUTHORIZATION ISSUED BY THE PRESIDENT OF RAM

United States Of America
Department of Transportation - Federal Aviation Administration

Supplemental Type Certificate

Number SE8987SW-D

This Certificate issued to RAM Aircraft, Limited Partnership
7505 Karl May Drive
Waco, TX 76708

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 13 of the Civil Air Regulations.

Original Product Type Certificate Number: E-274

Make: AVCO Lycoming Division of Textron, Inc.

Model: O-320-E3D, O-320-E2A

Description of Type Design Change: Modify engine O-320-E3D in accordance with RAM Aircraft Drawing No. 1724, Rev. C, dated April 17, 2006, or later FAA approved revision to increase take off power rating from 150HP to 160HP. Modify O-320-E2A engine in accordance with RAM Aircraft Drawing No. 1724, Rev. C, dated April 17, 2006, or later FAA approved revision to increase take off and maximum continuous power rating from 150HP to 160HP.

Limitations and Conditions: Minimum fuel grade is 100/100LL. Lycoming model O-320-E2A not certified with gravity flow fuel system. The installer must determine whether this design change is compatible with previously approved modifications. If the holder agrees to permit another person to use this certificate to alter a product, the holder must give the other person written evidence of that permission.

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

Date of application: March 25, 1994

Date of issuance: October 27, 1994

Date reissued: October 08, 2001; February 20, 2008

Date amended: June 26, 2006; October 11, 2006
Revision 2



By direction of the Administrator

S. Frances Cox
(Signature)

S. Frances Cox, Manager
Special Certification Office,
Rotorcraft Directorate

(Title)

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



June 13, 2023

ELITE AIR SERVICE
DON BROWN
300 AIRPORT RD
COLDWATER, MI 49036

RE: STC USAGE AGREEMENT

Dear Sir or Madam:

This letter serves as a one time authorization per our installation center agreement to modify Lycoming Engine Model **O-320-E3D**, Serial No. **L-40812-27A** to increase take-off power rating from 150HP to 160HP. This Engine is to be installed on, Aircraft Model **PA-28-140** Serial No. **28-7525207**.

Installation is to be done in accordance with **RAM AIRCRAFT LIMITED PARTNERSHIP STC No. SE8987SW-D**.

Sincerely,

A handwritten signature in blue ink, appearing to read "Hope Valentine". The signature is fluid and cursive.

*Hope Valentine
Quality Assurance Dept.*

RAM AIRCRAFT SERVICE LETTER

SL2003-01A

SUBJECT: COMPLIANCE WITH FAA AIRWORTHINESS DIRECTIVE (AD) 98-02-08

PURPOSE: Provide clarification as to the applicability of AD 98-02-08 to RAM Aircraft owned Supplemental Type Certificates (STC) on Textron Lycoming O-320 series, four cylinder reciprocating engines.


MODELS AFFECTED: Textron Lycoming O-320-E3D and O-320-E2A engines modified by STC SE8987SW and O-320-E2D engines modified by STC SE3692SW.

BACKGROUND

RAM Aircraft originally issued Service Letter SL2003-01 on April 11, 2003 to installers of modified Lycoming O-320-E3D and O-320-E2D engines per RAM STC SE8987SW and SE3692SW. The service letter required that RAM modified engines comply with FAA Airworthiness Directive (AD) 98-02-08. STC SE8987SW and SE3692SW increase the takeoff power rating of the Textron Lycoming O-320-E3D and O-320-E2D engines from 150 hp to 160 hp. Recently, RAM revised STC SE8987SW to add Lycoming O-320-E2A engine to increase takeoff and maximum continuous power rating from 150 hp to 160 hp.

The revision A of this Service Letter instructs the installer that compliance with FAA AD 98-02-08 is mandatory for all RAM-modified Lycoming engine models listed above. The O-320-E2D engine modified by STC SE3692SW is installed on, but not limited to, Cessna model 172 aircraft. The O-320-E2A and O-320-E3D engines modified by STC SE8987SW are installed on, but not limited to, Piper model PA-28-140 and PA-28-151 aircraft.

Textron Lycoming and the FAA issued AD 98-02-08 (attached) on Jan. 28, 1998 that applies to Lycoming 320 series engines limited to 160 HP, and 360 series, four cylinder reciprocating engines with fixed pitch propellers. The action required by the AD is intended to prevent crankshaft failure, which can result in engine failure, propeller separation, forced landing, and possible damage to the aircraft. Note 1 of AD 98-02-08 states, "This airworthiness directive (AD) applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD." RAM-modified engines per above STCs are rated at 160 HP and have the same basic crankshaft as the standard 160 HP 320 series engines, and thus compliance with AD 98-02-08 is mandatory.

ISSUED			REVISED			 RAM Aircraft, Limited Partnership Waco Regional Airport 7505 Karl May Dr, Waco, Texas 76708 Phone: (254) 752-8381 Fax: (254) 752-3307 Website: http://www.ramaircraft.com	PAGE	REVISION
MO	DAY	YEAR	MO	DAY	YEAR		1 of 2	A
04	11	2003	05	23	2007	SL2003-01		

GUIDANCE

Textron Lycoming O-320-E2D engines modified by STC SE3692SW, and O-320-E2A and O-320-E3D engines modified by STC SE8987SW must comply with the requirements of AD 98-02-08 (attached).

Perform crankshaft inspections per Textron Lycoming Service Bulletin No. 505B, dated Dec. 1, 1997, within the compliance times specified by AD 98-02-08. Compliance with all portions of AD 98-02-08 is required.

As specified in AD 98-02-08, paragraph (f), if the crankshaft ID has been painted with Urethabond 104 and confirmed with the letters "PID" stamped on the propeller flange OD per Textron Lycoming Service Bulletin No. 530A, dated Jun. 29, 1998, then the inspection actions required by AD 98-02-08 are no longer necessary. However, it is necessary to complete the survey shown in Appendix 1 of AD 98-02-08.

Textron Lycoming Service Bulletins are available on the Textron Lycoming website: <http://www.lycoming.textron.com> or may be obtained by contacting RAM Aircraft.

CONTACT

RAM Aircraft Customer Service Dept. at (254) 752-8381 (M-F, 8 AM to 5 PM, CDT).

ISSUED			REVISED			 RAM Aircraft, Limited Partnership Waco Regional Airport 7505 Karl May Dr. Waco, Texas 76708 Phone: (254) 752-8381 Fax: (254) 752-3307 Website: http://www.ramaircraft.com	PAGE	REVISION
MO	DAY	YEAR	MO	DAY	YEAR		2 of 2	A
04	11	2003	05	23	2007	SL2003-01		



June 13, 2023

ELITE AIR SERVICE
DON BROWN
300 AIRPORT RD
COLDWATER, MI 49036

RE: STC USAGE AGREEMENT

Dear Sir or Madam:

This letter serves as a one-time authorization per our agreement to install a Lycoming Engine Model **O-320-E3D OR O-320-E2A (Modified by STC SE8987-SW-D), D2A, D2B, D2C, OR D3G** on Piper Aircraft Model **140** Serial No. **28-7525207**.

Modification is to be done in accordance with **RAM AIRCRAFT LIMITED PARTNERSHIP STC SA2706SW-D**.

Sincerely,

A handwritten signature in blue ink, appearing to read "Hope Valentine". The signature is fluid and cursive, with a large loop at the end.

*Hope Valentine
Quality Assurance Dept.*



U.S. Department of
Transportation
Federal Aviation
Administration

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

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

Electronic Tracking Number

For FAA Use Only

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

1. Aircraft	Nationality and Registration Mark N33560	Serial No. 28-7525207	
	Make PIPER	Model PA-28-140	Series PA-28-140
2. Owner	Name (As shown on registration certificate) WILSON, JOHN		Address (As shown on registration certificate)
			Address <u>5090 KARR ROAD</u> City <u>FORSYTH</u> State <u>GA</u> Zip <u>30040</u> Country <u>USA</u>

3. For FAA Use Only

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

6. Conformity Statement

A. Agency's Name and Address Name <u>THOMAS R. STOIA</u> Address <u>8604 HIGHWAY 260</u> City <u>MANNING</u> State <u>SC</u> Zip <u>29102</u> Country <u>USA</u>	B. Kind of Agency <input checked="" type="checkbox"/> U.S. Certificated Mechanic <input type="checkbox"/> Foreign Certificated Mechanic <input type="checkbox"/> Certificated Repair Station <input type="checkbox"/> Certificated Maintenance Organization <input type="checkbox"/> Manufacturer C. Certificate No. <u>267830477</u>
---	--

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

Extended range fuel per 14 CFR Part 43 App. B <input type="checkbox"/>	Signature/Date of Authorized Individual <u>THOMAS R. STOIA</u> <u>DECEMBER 04, 2007</u>
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7. Approval for Return to Service

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

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

Certificate or Designation No. <u>267830477</u>	Signature/Date of Authorized Individual <u>THOMAS R. STOIA</u>
--	---

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.)

N33560

DECEMBER 04, 2007

Nationality and Registration Mark

Date

REPLACED WING SKIN - LH LEADING EDGE OUTBOARD, PIPER PART NUMBER 62082-00.

ALL WORK PERFORMED IN ACCORDANCE WITH PIPER SERVICE MANUAL, SECTION IV, PARAGRAPH 4 AND AC 43.13-1B/2A SECTION 4, PARAGRAPHS 4-50 THRU 4-58.

-----END-----

Additional Sheets Are Attached



U.S. Department
of Transportation
Federal Aviation
Administration

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

Form Approved
OMB No. 2120-0020

For FAA Use Only

Office Identification

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

1. Aircraft	Make New Piper	Model PA-28-140
	Serial No. 28-7525207	Nationality and Registration Mark N33560
2. Owner	Name (As shown on registration certificate) Wilson, John	Address (As shown on registration certificate) 5090 Karr Rd. Cumming, Georgia 30040-5356 Forsyth co. USA

3. For FAA Use Only

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

6. Conformity Statement

A. Agency's Name and Address	B. Kind of Agency	C. Certificate No.
John H. Z. Reiner 706 Patrick Mill Rd. S.W. Winder, GA 30680-3855	<input checked="" type="checkbox"/> U.S. Certificated Mechanic	149426349
	<input type="checkbox"/> Foreign Certificated Mechanic	
	<input type="checkbox"/> Certificated Repair Station	
	<input type="checkbox"/> Manufacturer	

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

Date November 20, 2006	Signature of Authorized Individual
---------------------------	--

7. Approval for Return To Service

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is <input checked="" type="checkbox"/> APPROVED <input type="checkbox"/> REJECTED					
BY	FAA Fit. Standards Inspector	Manufacturer	<input checked="" type="checkbox"/>	Inspection Authorization	Other (Specify)
	FAA Designee	Repair Station		Person Approved by Transport Canada Airworthiness Group	
Date of Approval or Rejection November 20, 2006		Certificate or Designation No. 149426349		Signature of Authorized Individual 	

NOTICE

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

8. Description of Work Accomplished

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

Installed Met-co-Aire Tips per SD1023, FAA Approval STC SA880WE

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

Additional Sheets Are Attached

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

Number SA880WE

This certificate, issued to

Met-Co-Aire
14656 1/2 Firestone Boulevard
La Mirada, CA 90638

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 of the Civil Air*

Regulations. *Refer to T.C. Data Sheet 2A13 for a complete statement of the certification basis.

Original Product — Type Certificate Number: 2A13

Make: Piper

Model: PA28 -140, -150, -160, -180, -28R-180, 28R-200

Description of Type Design Change:

Installation of a new design fiberglass wing tip in accordance with Met-Co-Aire FAA sealed Installation Instruction No. SD 1023, dated December 31, 1964; Revision of October 25, 1982.

Manufacture of the tips is controlled by Met-Co-Aire Drawing No. 11051, dated December 31, 1964 or later FAA approved revision.

Limitations and Conditions: This approval should not be extended to other specific 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 of those other previously approved modifications will introduce no adverse effect upon the airworthiness of that aircraft.

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

Date of application: December 30, 1964

Date issued: September 20, 1995

Date of issuance: March 1, 1965

Date amended: January 4, 1983



By direction of the Administrator

Michael A. Wierzbicki
(Signature)

Manager, Technical and Administrative
Support Staff, ANM-103L

(Title)

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



US Department of Transportation
Federal Aviation Administration

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

Form Approved
OMB No. 2120-0020

For FAA Use Only

Office Identification

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

1. Aircraft	Make PIPER	Model PA-28-140
	Serial No. 28-7525207	Nationality and Registration Mark N33560
2. Owner	Name (As shown on registration certificate) JOKERST William A.	Address (As shown on registration certificate) 2660 WYCLIFF DR. FARMINGTON, MO 63640-7143

3. For FAA Use Only

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

6. Conformity Statement

A. Agency's Name and Address Larry McCormick 3466 DENMAN RD Farmington, MO 63640	B. Kind of Agency <input checked="" type="checkbox"/> U.S. Certificated Mechanic <input type="checkbox"/> Foreign Certificated Mechanic <input type="checkbox"/> Certificated Repair Station <input type="checkbox"/> Manufacturer	C. Certificate No. <div style="text-align: center; font-size: 1.2em;">2148841</div>
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D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Date 5-4-06	Signature of Authorized Individual
-----------------------	--

7. Approval for Return To Service

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

BY	FAA Fit. Standards Inspector	Manufacturer	X	Inspection Authorization	Other (Specify)
	FAA Designee	Repair Station		Person Approved by Transport Canada Airworthiness Group	

Date of Approval or Rejection 5-4-06	Certificate or Designation No. 2148841	Signature of Authorized Individual
--	--	--

NOTICE

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

8. Description of Work Accomplished

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

1. INSTALLED AV-COM INTERCOM MODEL AC6PA
IN PANEZ WITH FOUR OUTLETS PER AV-COM
INSTALLATION MANUAL AND WIRING INSTRUCTIONS.

END



U.S. Department of
Transportation
Federal Aviation
Administration

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

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Office Identification

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

1. Aircraft	Make piper	Model PA 28-140
	Serial No. 28-7525207	Nationality and Registration Mark N33560
2. Owner	Name (As shown on registration certificate) Jokerst William A	Address (As shown on registration certificate) 2660 Wycliff Dr. Farmington Mo. 63640-7143

3. For FAA Use Only

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

ACE STL-FSDO
05 APR 2006
George A. Holtman
District Office
Date
FAA Inspector

4. Unit Identification

5. Type

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

6. Conformity Statement

A. Agency's Name and Address	B. Kind of Agency	C. Certificate No.
Larry McCormick 3466 Denman Rd. Farmington Mo. 63640	<input checked="" type="checkbox"/> U.S. Certificated Mechanic	2148841
	<input type="checkbox"/> Foreign Certificated Mechanic	
	<input type="checkbox"/> Certificated Repair Station	
	<input type="checkbox"/> Manufacturer	

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

Date <i>April 10, 2006</i>	Signature of Authorized Individual <i>Larry McCormick</i>
-------------------------------	--

7. Approval for Return to Service

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

BY	FAA Fit Standards Inspector	Manufacturer	X	Inspection Authorization	Other (Specify)
	FAA Designee	Repair Station		Person Approved by Transport Canada Airworthiness Group	

Date of Approval or Rejection <i>April 10, 2006</i>	Certificate or Designation No. 2148841	Signature of Authorized Individual <i>Larry McCormick</i>
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NOTICE

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

8. Description of Work Accomplished

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

1. Installed APOLLO 2001 GPS PN# 430-0267-700 at station 64 and antenna at station 100 per Apollo installation Manual#560-0161-01A.
2. Installed placard in view of pilot reading GPS VFR USE ONLY.
3. Antenna installed per AC43.13-2A chapter 2&3.
4. All work performed in accordance with AC43.13.1B Chapters,11,12,&17.
5. Required ground checks have been performed.
6. Weight and balance and equipment have been updated.
7. Electrical load does not exceed 80% of capacity.
8. Supplemented aircraft P.O.H. with apollo GPS operating instructions.
9. A functional flight test will be performed in accordance with FAR 91.407B to insure system accuracy and operation satisfies the conditions of ACc20-138. The results of that flight test will be entered in the aircraft maintenance records as required by FAR 91.407B.
10. For continued airworthiness maintenance refer to manufacturers installation manual and pertinent data in AC 43.13B and AC43.13-2A.
11. GPS will be inspected on condition as needed per normal maintenance intervals per Apollo manual.

END

Larry McCormick IA 2148841

Additional Sheets Are Attached



U.S. Department
of Transportation
**Federal Aviation
Administration**

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

Form Approved
OMB No. 2120-0020

For FAA Use Only

Office Identification

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

1. Aircraft	Make PIPER	Model PA 28-140
	Serial No. 28-7525207	Nationality and Registration Mark N33560
2. Owner	Name (As shown on registration certificate) JAKERST WILLIAM + GENIVA	Address (As shown on registration certificate) 2660 WYCLIFF FARMINGTON, MO 63640

3. For FAA Use Only

4. Unit Identification

5. Type

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

6. Conformity Statement

A. Agency's Name and Address LARRY MCCORMICK 3466 DENMAN RD FARMINGTON, MO 63640	B. Kind of Agency <input checked="" type="checkbox"/> U.S. Certificated Mechanic <input type="checkbox"/> Foreign Certificated Mechanic <input type="checkbox"/> Certificated Repair Station <input type="checkbox"/> Manufacturer	C. Certificate No. <div style="font-size: 2em; text-align: center;">2148841</div>
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D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Date 4-15-99	Signature of Authorized Individual <i>Larry McCormick</i>
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7. Approval for Return To Service

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

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

Date of Approval or Rejection 4-15-99	Certificate or Designation No. 2148841	Signature of Authorized Individual <i>Larry McCormick</i>
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NOTICE

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

8. Description of Work Accomplished

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

REPLACED THE #1 ALUMINUM CABLE ASSEMBLIES,
THE BATTERY TO GROUND, BATTERY TO MASTER
SOLENOID, MASTER SOLENOID TO STARTER SOLENOID,
STARTER SOLENOID TO STARTER & ENGINE TO
AIRFRAME RETURN GROUND AS REQUIRED
BY PIPER SB 836A. THESE CABLES WERE
REPLACED WITH #1 GAUGE COPPER CABLE
ASSEMBLIES WHICH WERE MANUFACTURED
BY BOGART AVIATION FOR THIS AIRCRAFT
IN ACCORDANCE WITH STC ~~SA~~ SA3531NM
DRAWING # 2-6 REVISION A.

END

LARRY MC CORMICK
FA 2148841

Supplemental Type Certificate

Number SA3531NM

Bogert Aviation
308 S. Perry Place
Kennewick, WA 99336
(509) 736-1513 ofc
(509) 735-2106 fax

This certificate, issued to Bogert Aviation

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

Original Product — Type Certificate Number: *
Make: *
Model: *
*See attached FAA Approved Model List (AML) No. SA3531NM for list of approved airplane models and applicable airworthiness regulations.

Description of Type Design Change: Installation of copper electrical cables in accordance with Bogert Aviation Installation Instructions as listed on AML No. SA3531NM, or later FAA approved revision.

Limitations and Conditions: Approval of this change in type design applies to the above model aircraft only. This approval should not be extended to aircraft of this model on which other previously approved modifications are incorporated unless it is determined that the relationship between this change and any of those other previously approved modifications, including changes in type design, will introduce no adverse effect upon the airworthiness of that aircraft. A copy of this Certificate and FAA Approved Model List (AML) No. SA3531NM amended April 10, 1989, or later FAA approved revision, must be maintained as part of the permanent records for the modified aircraft.

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

Date of application: May 27, 1986

Date issued:

Date of issuance: July 15, 1986

Date amended: April 10, 1989

By direction of the Administrator:



Stewart T. ...
(Signature)

Acting Assistant Manager, Seattle
Aircraft Certification Office

(Title)

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



US Department of Transportation
Federal Aviation Administration

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

OMB No. 2120-0020 Electronic Tracking Number
Exp: 04/30/2023

For FAA Use Only

INSTRUCTIONS: Print or type all entries. See Title 14 CFR §43.9, Part 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. §44701). Failure to report can result in a civil penalty for each such violation. (49 U.S.C. §46301(a))

1. Aircraft	Nationality and Registration Mark N33075	Serial No. 28R-7535116	
	Make Piper	Model PA-28R-200	Series Cherokee

2. Owner	Name (As shown on registration certificate) AIRCRAFT & AVIATION PROFESSIONAL LLC		Address (As shown on registration certificate) Address 647 E CHICAGO RD	
			City COLDWATER	State MI
			Zip 490369497	Country USA

3. For FAA Use Only

4. Type		5. Unit Identification			
Repair	Alteration	Unit	Make	Model	Serial No.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	AIRFRAME	_____	(As described in Item 1 above)	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	POWERPLANT	Lycoming	0-320-E3D	L-40812-27A
<input type="checkbox"/>	<input type="checkbox"/>	PROPELLER			
<input type="checkbox"/>	<input type="checkbox"/>	APPLIANCE	Type		
			Manufacturer		

6. Conformity Statement

A. Agency's Name and Address		B. Kind of Agency		
Name <u>Rueben A Walkup</u>		<input checked="" type="checkbox"/> U. S. Certificated Mechanic	Manufacturer	
Address <u>300 Airport Rd Coldwater</u>		<input type="checkbox"/> Foreign Certificated Mechanic	C. Certificate No.	
City <u>Coldwater</u> State <u>MI</u>		<input type="checkbox"/> Certificated Repair Station	A&P 3368961	
Zip <u>49036</u> Country <u>United States</u>		<input type="checkbox"/> Certificated Maintenance Organization		

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

Extended range fuel per 14 CFR Part 43 App. B <input type="checkbox"/>	Signature/Date of Authorized Individual <u>Rueben A Walkup 04/12/2024</u>
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7. Approval for Return to Service

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

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

Certificate or Designation No. A&P 3368961 IA	Signature/Date of Authorized Individual <u>Rueben A Walkup 04/12/2024</u>
--	--

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.)

N33075

4/12/2024

Nationality and Registration Mark

Date

This aircraft & engine had been previously modified by STC 800GL. Use of automotive gasoline, dated 05/05/1989. This installation will produce adverse affects for the newly modified engine under STC SA2706SW & SA2969SW by installing 160 HP Lycoming. ICA's indicate use of 100LL only. THIS STC is no longer valid.

END

Additional Sheets Are Attached

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

FOR FAA USE ONLY
OFFICE IDENTIFICATION

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

1. AIRCRAFT	MAKE Piper	MODEL PA-28-140
	SERIAL NO. 28-7525207	NATIONALITY AND REGISTRATION MARK N-33560
2. OWNER	NAME (As shown on registration certificate) David Craft & Edward J. De Bruyn D/B/A Lightning Aviation	ADDRESS (As shown on registration certificate) Rte.# 6 Box 54RR Poplar Bluff, Mo. 63901

3. FOR FAA USE ONLY

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

6. CONFORMITY STATEMENT

A. AGENCY'S NAME AND ADDRESS	B. KIND OF AGENCY	C. CERTIFICATE NO.
Dale A. Raymer, Jr. C/O Ward Aircraft Sales P.O.Box 11 Sikeston, Mo. 63801	<input checked="" type="checkbox"/> U.S. CERTIFICATED MECHANIC <input type="checkbox"/> FOREIGN CERTIFICATED MECHANIC <input type="checkbox"/> CERTIFICATED REPAIR STATION <input type="checkbox"/> MANUFACTURER	AP-361523587

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

DATE 5/5/89	SIGNATURE OF AUTHORIZED INDIVIDUAL <i>Dale A. Raymer, Jr.</i>
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7. APPROVAL FOR RETURN TO SERVICE

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

BY	FAA FLT. STANDARDS INSPECTOR	MANUFACTURER	<input checked="" type="checkbox"/> INSPECTION AUTHORIZATION <input type="checkbox"/> CANADIAN DEPARTMENT OF TRANSPORT INSPECTOR OF AIRCRAFT	OTHER (Specify)
	FAA DESIGNEE	REPAIR STATION		
DATE OF APPROVAL OR REJECTION 5/5/89	CERTIFICATE OR DESIGNATION NO. A-361523587	SIGNATURE OF AUTHORIZED INDIVIDUAL <i>Dale A. Raymer, Jr.</i>		

NOTICE

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

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

1 - Aircraft modified to use automobile gasoline (unleaded) 87 min. antiknock index per ASTM Spec. D-439 & STC800GL.

The End

MODEL NO. 11 SERIAL NO. 11 TYPE: 11	X	FEDERAL BUREAU OF INVESTIGATION LABORATORY WASHINGTON, D.C.
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DATE	BY	WORK	REVISION NO.	PAGE	TOTAL PAGES

MODEL NO. 11 SERIAL NO. 11 TYPE: 11	FEDERAL BUREAU OF INVESTIGATION LABORATORY WASHINGTON, D.C.
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NATIONAL BUREAU OF STANDARDS (Department of Commerce)	CHANGE IDENTIFICATION FOR THIS DATE
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ADDITIONAL SHEETS ARE ATTACHED

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

FOR FAA USE ONLY
OFFICE IDENTIFICATION

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

1. AIRCRAFT	MAKE Piper	MODEL PA-28-140
	SERIAL NO. 28-7525207	NATIONALITY AND REGISTRATION MARK N-33560
2. OWNER	NAME (As shown on registration certificate) David Craft & Edward J. De Bruyn D/B/A Lightning Aviation	ADDRESS (As shown on registration certificate) Rte.# 6 Box 54RR Poplar Bluff, Mo. 63901

3. FOR FAA USE ONLY

4. UNIT IDENTIFICATION				5. TYPE		
UNIT	MAKE	MODEL	SERIAL NO.	REPAIR	ALTERATION	
AIRFRAME	***** (As described in item 1 above) *****					
POWERPLANT	Lycoming	0-320-E3A	L-40812-27A		XX	
PROPELLER						
APPLIANCE	TYPE					
	MANUFACTURER					

6. CONFORMITY STATEMENT

A. AGENCY'S NAME AND ADDRESS Dale A. Raymer, Jr. C/O Ward Aircraft Sales P.O.Box 11 Sikeston, Mo. 63801	B. KIND OF AGENCY <input checked="" type="checkbox"/> U.S. CERTIFICATED MECHANIC <input type="checkbox"/> FOREIGN CERTIFICATED MECHANIC <input type="checkbox"/> CERTIFICATED REPAIR STATION <input type="checkbox"/> MANUFACTURER	C. CERTIFICATE NO. AP-361 523587
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D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

DATE 5/5/89	SIGNATURE OF AUTHORIZED INDIVIDUAL
----------------	--

7. APPROVAL FOR RETURN TO SERVICE

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

BY	FAA FLT. STANDARDS INSPECTOR	MANUFACTURER	<input checked="" type="checkbox"/> INSPECTION AUTHORIZATION	OTHER (Specify)
	FAA DESIGNEE	REPAIR STATION	CANADIAN DEPARTMENT OF TRANSPORT INSPECTOR OF AIRCRAFT	
DATE OF APPROVAL OR REJECTION 5/5/89	CERTIFICATE OR DESIGNATION NO. IA-361 523587	SIGNATURE OF AUTHORIZED INDIVIDUAL 		

NOTICE

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

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

1- Modified Engine to use unleaded automobile gasoline, 87 min. antiknock index per ASTM Spec. D-439 & STC800GL.
The End

DATE	TIME	MODE	TYPE	REMARKS	INITIALS
1967	11:00	A	C	X	X

DATE	TIME	MODE	TYPE	REMARKS	INITIALS
1967	11:00	A	C	X	X

ADDITIONAL SHEETS ARE ATTACHED