



US Department
of Transportation
Federal Aviation
Administration

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

OMB No. 2120-0020
Exp: 5/31/2018

Electronic Tracking Number

For FAA Use Only

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

1. Aircraft	Nationality and Registration Mark USA N4472K	Serial No. NAV-4-1472	
	Make Ryan	Model Navion	Series
2. Owner	Name (As shown on registration certificate) Alain F Borel		
	Address (As shown on registration certificate) Address 692 Old Winchester Rd.		
	City Boyce	State VA	
	Zip 22620-1902	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	<u>Ryan</u>	(As described in Item 1 above)	<u>NAV-4-1472</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	POWERPLANT	Continental	IO-550	
<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 Aero Services LLC	Address 615 Airport Road STE 107 City Winchester State VA Zip 22802 Country USA	<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
		C. Certificate No. A&P3359966IA	

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 9/11/2020
--	--

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

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. 3359966	Signature/Date of Authorized Individual 9/11/2020
---	--

NOTICE

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

8. Description of Work Accomplished

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

USA N4472K 9/11/2020

Nationality and Registration Mark Date

1. R&R Right Magneto with SureFly SIM46C, S/N x6C-2620032, per STC SE04349CH and Manufacturer's Instructions (Document No. SF1003, Rev C, dated 03/30/2020).
2. Connected SureFly SIM in Right Magneto position to battery circuit at MASTER solenoid at battery with supplied Power Wire & Fuse (Surefly P/N 4&6C601) per STC SA04378CH and Manufacturer's Instructions (Document No. SF2001). Affixed supplied placard to the aircraft's instrument panel in view of pilot. Performed post-installation checks per Manufacturer's Instructions. Engine started and executed magneto run-up test with no problems observed.
3. No W&B change.
4. Inserted SureFly ICA's (Document No. SF1005 for Engine & Document No. SF2005 for Airframe) in aircraft's records.
5. Inserted SureFly AFMS (Document No. SF2006, Revision #nn) in POH/AFM.

Additional Sheets Are Attached



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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 N4472K	Serial No. NAV-4-1472
	Make Ryan Aero Co.	Model Navion
2. Owner	Name (As shown on registration certificate) BOREL ALAIN F	Address (As shown on registration certificate) Address 692 OLD WINCHESTER RD
		City Boyce State VA
		Zip 22620-1902 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	Ryan Aero Co.	(As described in Item 1 above)	NAV-4-1472
<input type="checkbox"/>	<input type="checkbox"/>	POWERPLANT			
<input type="checkbox"/>	<input type="checkbox"/>	PROPELLER			
<input type="checkbox"/>	<input type="checkbox"/>	APPLIANCE	Type Manufacturer		

6. Conformity Statement

A. Agency's Name and Address		B. Kind of Agency		C. Certificate No. 3807659
Name Robert Russell Kline		<input checked="" type="checkbox"/> U. S. Certificated Mechanic	Manufacturer	
Address 17707 Lakefield Rd		<input type="checkbox"/> Foreign Certificated Mechanic		
City Round Hill State VA		<input type="checkbox"/> Certificated Repair Station		
Zip 20141 Country USA		<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 <i>Robert Russell Kline 8/17/17</i>
--	--

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 Designée	Repair Station	<input checked="" type="checkbox"/> Inspection Authorization	Other (Specify)

Certificate or Designation No. 3807659	Signature/Date of Authorized Individual <i>Robert Russell Kline 8/17/17</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.)

N4472K

8/17/17

Nationality and Registration Mark

Date

IAW FAA AC 43.13-1B and AC 43.13-2B and Appareo Systems, LLC Stratus ESG Installation Manual Document Number 600840-000032, Rev. 1.4 dated June 22, 2016, and Document Number 601837-000024, Rev. 1.4, dated May 08, 2015, the following work was completed:

Installed Appareo Stratus ESG Transponder (PN:153510-000017) (SN:073303)

Installed Appareo Stratus ESG 2i ADS-B Portable Receiver.

Installed Antcom Corp. L1 GPS Antenna (PN: 42G15A-XT-1) (SN 580576)

Performed Transponder Test IAW14 CFR 91.413 and Data Correspondence Test.

The installed ADS-B out system was shown to meet the equipment performance requirements of 14 CFR section 91.227.

A pre-closure inspection was made and covered areas were found satisfactory.

Paul R. King AIP 3807659 8/17/17

Additional Sheets Are Attached



Federal Aviation Administration

Memorandum

Date: **MAR - 2 2016**

To: See Distribution List

From: *JMG* Margaret Gilligan, Associate Administrator for Aviation Safety, AVS-1
THRU: John S. Duncan, Director, Flight Standards Service, AFS-1 *JSD*
~~For~~ THRU: Dorenda Baker, Director, Aircraft Certification, AIR-1 *DBaker*

Prepared by: James Marks, ADS-B Focus Team Lead, AFS-360, (202) 267-1707

Subject: Installation Approval for ADS-B OUT Systems

The purpose of this memorandum is to explain the Federal Aviation Administration's (FAA's) policy regarding installation of Automatic Dependent Surveillance-Broadcast (ADS-B) OUT systems into civil aircraft certificated under Title 14, Code of Federal Regulations (14 CFR) Parts 23, 25, 27, 29, and their predecessor regulations, for compliance of section 91.225 and section 91.227. This memorandum replaces the memo dated October 10, 2012 on the same subject.

Note: Compliance to section 91.225 and section 91.227 requires installation of equipment meeting the performance requirements of TSO-C166b or TSO-C154c equipment after January 1, 2020.

How can the ADS-B OUT system obtain initial approval?

Initial ADS-B OUT system pairings (transmitter/GPS) must be approved for installation using the Type Certificate (TC), Amended TC (ATC), or Supplemental Type Certificate (STC) process. Consult your Aircraft Certification Office to determine the appropriate approval process for these initial installations. Once the performance of the initial pairing has been established, the FAA considers follow-on installations of the same pairing to be approved.

Organization Designation Authorization (ODA) holders can issue ATC and STC when authorized by their FAA Organization Management Team (OMT).

After initial approval, can applicable ADS-B OUT systems be installed on aircraft not covered by that approval?

Yes, ADS-B OUT systems that have previously received FAA approval and meet all of the following conditions may be installed and returned to service on other aircraft without further data approval:



Note: If an Approved Model List (AML) STC is available that provides for the installation of specific ADS-B transmitter and GPS pairings on listed aircraft, consider using the data from that AML STC for the ADS-B OUT system installation.

Note: Some elements of an ADS-B OUT installation may not meet the definition of a minor alteration, such as the installation of antenna(s) that penetrate a pressure vessel. Such installation elements may require additional data from the aircraft manufacturer or other FAA approved data. Reference Attachment 1 of this memorandum, *ADS-B OUT Alteration Flowchart* for guidance on determining the eligibility of ADS-B OUT installations covered by this policy.

- a. The ADS-B OUT equipment is manufactured under TSO-C166b or TSO-C154c;
- b. The Global Navigation Satellite System (GNSS) position sensor is manufactured under TSO-C129 or later, TSO-C145a/C146a or later, or TSO-C196 or later;
- c. The installer has a statement of compliance from the applicable manufacturer(s) or STC holder that the equipment (self-contained) or specific equipment pairing (ADS-B OUT transmitter and GNSS position sensor) have been shown, via TC, Amended TC, or STC, to comply with all section 91.227 requirements. This statement of compliance may be included in the applicable installation instructions. The installation instructions must address how the equipment is to be installed and maintained to comply with not only the applicable TSOs but also section 91.227 requirements;
- d. The installer has documentation from the STC holder(s) (per section 91.403(d)) that indicates the owner/operator of the aircraft has permission to use the STC data for the alteration;
- e. The ADS-B OUT equipment, GNSS position sensor, and interconnect wiring are connected in accordance with the applicable manufacturer's or STC installation instructions;
- f. The installation is performed in accordance with documentation from the manufacturer(s) or STC holder indicating what configuration settings, if applicable, are to be used for the ADS-B OUT system to meet section 91.227 requirements which include, but may not be limited to:
 - (1) FAA assigned Mode S/International Civil Aviation Organization (ICAO) code address (hexadecimal/octal format) associated with current aircraft registration;
 - (2) Emitter Category (ref. AC 20-165, Chapter 3);
 - (3) System Integrity Level (SIL);
 - (4) System Design Assurance (SDA);
 - (5) Flight Identification (e.g., N-number); and
 - (6) GNSS sensor settings required to correctly communicate with the ADS-B OUT equipment
- g. The installation is performed in accordance with 14 CFR Part 43. Acceptable methods, techniques, and practices may be found in AC 43.13-2B;

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 435

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h. The installed ADS-B OUT system has been verified to comply with both the system configuration and equipment performance requirements of section 91.227. The system configuration aspects of section 91.227 requirements include the ICAO code address, emitter category, SIL, SDA, flight identification, etc. Performance aspects of section 91.227 requirements include Navigation Integrity Category (NIC), Navigation Accuracy Category for Position and Velocity (NACp and NACv), etc. Acceptable compliance verification methods include:

- (1) **Operational Flight Evaluation.** Conduct an operational flight evaluation (OFE) per section 91.407(b) and request an FAA ADS-B compliance report at the following email address 9-AWA-AFS-300-ADSB-AvionicsCheck@faa.gov. Include the aircraft's registration number (N-number) and the ADS-B transmitter and GPS equipment make/model information when submitting requests to the FAA for ADS-B OUT system OFE performance checks. Following receipt of the applicable OFE compliance report the installer must verify the installed ADS-B OUT system complies with all section 91.227 performance requirements and the system configuration is correct for the aircraft; or
 - (2) **Ramp Test Equipment** (ref. section 91.407(c)). Use ramp test equipment to verify proper system configuration and compliance with section 91.227 equipment performance requirements.
- i. The ADS-B OUT alteration must be documented in the aircraft maintenance record per section 43.9(a) and include the statement, "The installed ADS-B OUT system was shown to meet the equipment performance requirements of 14 CFR section 91.227."

Submit a FAA Form 337 to document ADS-B OUT alterations. On Form 337, Block 8, include the following compliance statement, "The installed ADS-B OUT system was shown to meet the equipment performance requirements of 14 CFR section 91.227" along with the applicable ADS-B OUT transmitter and GPS make/model information. Submit the completed Form 337 to the Aircraft Registration Branch, AFS-750, P.O. Box 25504, Oklahoma City, Oklahoma 73125. The Form 337 can be submitted directly without FAA approval in Block 3.

Note: ADS-B OUT alterations performed on aircraft operated by certificated operators may be documented in a manner acceptable to the Administrator.

Can ADS-B OUT systems that do not meet the requirements for installation without further data approval be installed?

Yes, an ADS-B OUT system that fails to meet the requirements for installation without further data approval (as discussed above) must be performed using approved data through appropriate means (See FAA Order 8300.16, *Major Repair and Alteration Data Approval* for data approval means). Document applicable ADS-B OUT major alterations, per section 43.9, and include the required statements and equipment information specified in the above section in the aircraft maintenance record and on Form 337, Block 8.

Does installation of an ADS-B Out system require revision of the Aircraft Flight Manual (AFM)?

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Yes, following installation of a compliant ADS-B OUT system the General section of the AFM must be revised to include the following statement, "The installed ADS-B OUT system has been shown to meet the equipment performance requirements of 14 CFR 91.227." Applicable AFM revisions do not require FAA approval.

Can a TC holder modify their aircraft design for ADS-B OUT under a minor change in type design?

Yes, on those aircraft with existing equipment which can be modified to comply with ADS-B OUT performance requirements and which meet the criteria for a minor alteration as specified in this memorandum. Some installations may not constitute a major change in type design, so the use of a TC amendment or STC is an acceptable method for approval. Once a specific ADS-B OUT system pairing receives a design approval, use of this same pairing on a different aircraft type is a minor aspect of the design change. If other aspects of the design change are evaluated and determined to be minor, the overall design change may be made as a minor change to type design. Pursuant to 14 CFR section 21.95, minor changes in type design may be approved under a method acceptable to the FAA before submitting to the FAA any substantiating or descriptive data.

For aircraft requiring initial installation of ADS-B OUT equipment, consult your Aircraft Certification Office regarding applicability for a major change in type design.

Under FAA Order 8100.15B, *Organization Designation Authorization Procedures* qualified ODA holders can issue ADS-B OUT approvals without first getting FAA approval. (For additional information, see FAA Policy Memo No. AIR100-15-140-DM30 and AIR100-15-140-DM37 under <http://rgl.faa.gov>.)

Who should I contact for questions about this policy memorandum?

Mr. James Marks (AFS-360), Phone: (202) 267-1707, email: james.marks@faa.gov

Mr. Alejandro Rodriguez (AIR-130), Phone: (202) 267-8692, email: Alex.J.Rodriguez@faa.gov.

Distribution List:

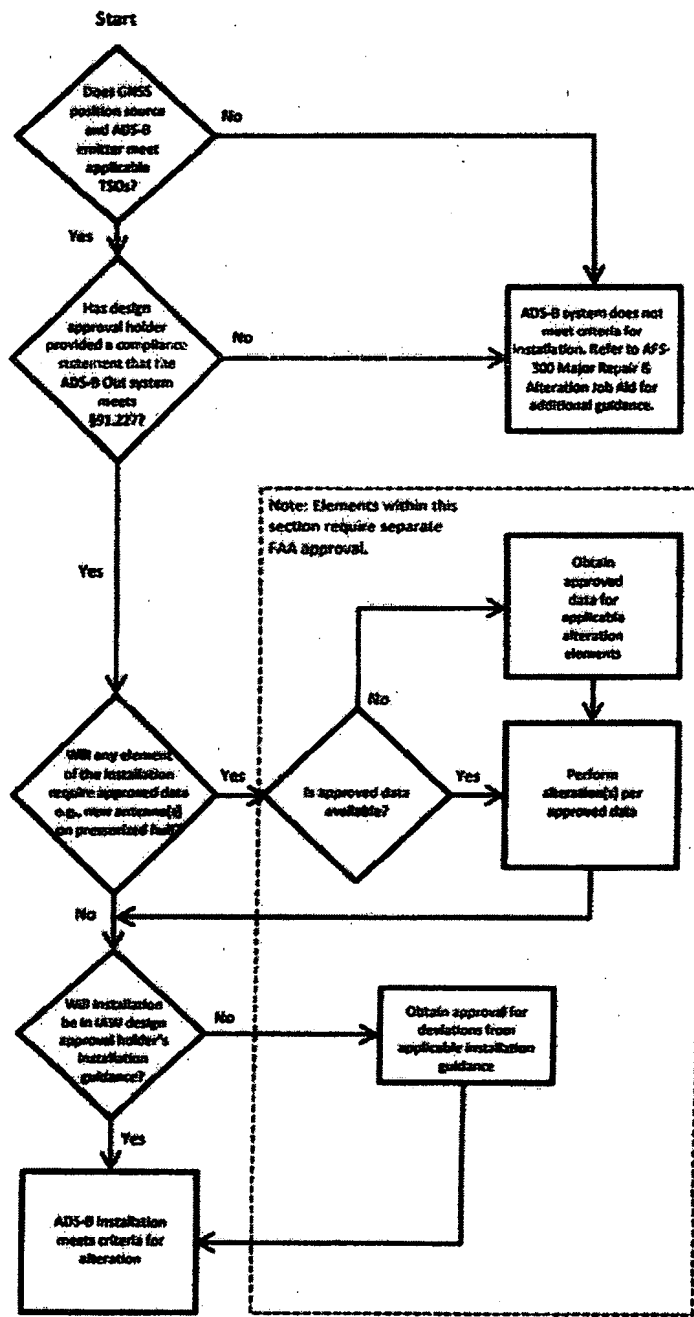
Managers, All Aircraft Certification Offices Managers.
 Managers, All Flight Standards District Offices
 Managers, All Aircraft Evaluation Groups
 Managers, All Manufacturing Inspection District Offices
 Manager, Transport Standards Staff, ANM-110
 Manager, Small Airplane Directorate Standards Office, ACE-110
 Manager, Rotorcraft Directorate Standards Staff, ASW-110
 Manager, Engine and Propeller Directorate Standards Staff, ANE-110
 Manager, Air Transportation Division, AFS-200
 Manager, Flight Technologies and Procedures Division, AFS-400
 Manager, General Aviation and Commercial Division, AFS-800

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Attachment 1 ADS-B Alteration Flow Chart







U.S. Department of
Transportation
Federal Aviation
Administration

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

Form Approved
OMB No. 2120-0020

For FAA Use Only

Office Identification

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

1. Aircraft	Make Ryan	Model Navion A
	Serial No. NAV-4-1472	Nationality and Registration Mark N4472K
2. Owner	Name (As shown on registration certificate) North Iowa Air Inc.	
	Address (As shown on registration certificate) 3241 Keokuk Ave Woolstock, IA 50599-8031	

3. For FAA Use Only

4. Unit Identification				5. Type	
Unit	Make	Model	Serial No.	Repair	Alteration
AIRFRAME	----- <i>(As described in item 1 above)</i> -----				x
POWERPLANT					
PROPELLER					
APPLIANCE	Type				
	Manufacturer				

6. Conformity Statement

A. Agency's Name and Address	B. Kind of Agency	C. Certificate No.
Neal Hinman 1524 240th St Webster City, IA 50595	<input checked="" type="checkbox"/> U.S. Certificated Mechanic	478826907
	<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 08/03/09	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 08/03/09		Certificate or Designation No. 478826907		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 Osborne Tank Co. fuel valve p/n 4090. Installation completed i/w Osborne installation instruction p/n 4020-AMOC approved by the FAA dated 7/28/2008 and drawing numbers 2050 sheet 1 and 2. C/w AD 2008-05-14 as required in the FAA's letter dated 7/30/2008. Weight and Balance negligible.

-----END-----

Additional Sheets Are Attached



U.S. Department
of Transportation

**Federal Aviation
Administration**

Small Airplane Directorate
Chicago Aircraft Certification Office
2300 E. Devon Avenue
Des Plaines, IL 60018

July 30, 2008

Mr. John L. Osborne
J.L. Osborne Incorporated
18173 Osborne Rd.
Victorville, CA 92394

Dear Mr. Osborne,

We have received your letter dated July 15, 2008, requesting approval of an Alternative Method of Compliance (AMOC) to Airworthiness Directive (AD) 2008-05-14. AD 2008-05-14 requires certain fuel system inspections and a fuel selector test for Navion model airplanes. This AMOC applies to Navion model airplanes that have been modified by your Supplemental Type Certificate SA4-915 and SA4-1028, including previously approved fuselage auxiliary fuel tank installations.

Your proposal is to replace the original model 4090 fuel selector valves with a new model 4090 fuel selector in accordance with Osborne Installation Instruction P/N 4020-AMOC dated July 28, 2007. The fuel valve can be installed using a similar mounting location and hardware. All fuel system attachments have been produced and installed using aerospace standard materials and processes using accepted industry practices.

A fuel system and engine operation functional test must be performed, found acceptable, and noted in the airplanes maintenance logbook. Please ensure that the pilot/operator understands and is briefed on the proper fuel selector use and operation.

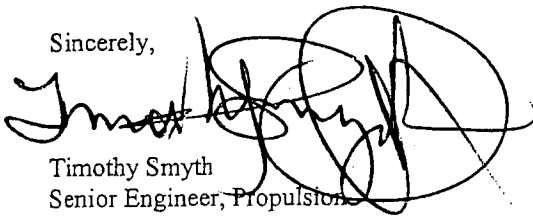
In accordance with AD 2008-05-14 fuel system inspection requirements, please confirm the fuel system inspection has been performed and note it in the airplane maintenance logbook.

Your request for an AMOC is granted. Please note that this AMOC is for the above described Navion model airplanes that incorporate your STC SA4-915 and SA4-1028 and previously approved fuselage auxiliary fuel tank installations only. This AMOC is acceptable subject to a conformity inspection performed in accordance with 14 Code of Federal Regulations (CFR) Part 43.7. This letter must become part of the permanent airplane maintenance records.

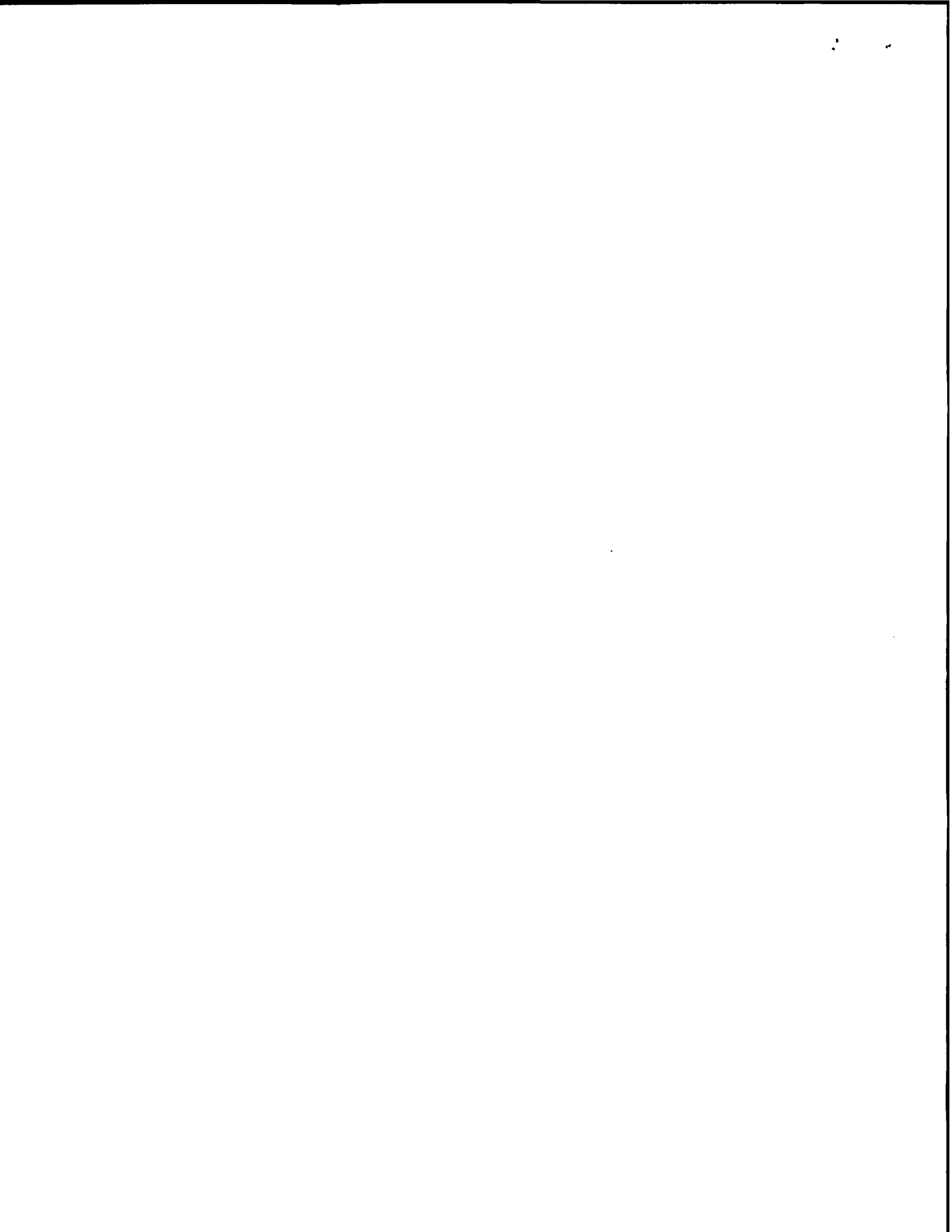
Please provide a copy of this AMOC letter to your local Flight Standards District Office (FSDO) to notify them of the AMOC.

If you have any questions, please contact me, at (847) 294-7132 or by electronic mail at timothy.smyth@faa.gov.

Sincerely,



Timothy Smyth
Senior Engineer, Propulsion
Chicago Aircraft Certification Office



OSBORNE

INSTALLATION INSTRUCTION

P/N 4020 – AMOC

FAA APPROVED
JUL 28 2008

CHICAGO AIRCRAFT
CERTIFICATION OFFICE
CENTRAL REGION

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2.3	Fuel Line Installation	1
2.4	Final Installation	1

Drawings:

2050 Sheet 1 of 2
2050 Sheet 2 of 2

- END -

1.1 INTRODUCTION

The following installation instructions cover the removal of the affected four way selector valve and installation of the Osborne replacement valve P/N 4020/4090.

All phases of this installation may be accomplished by a qualified A & P mechanic. Installation manual 4020 – AMOC contains all specific data and drawings to complete the installation. Read this manual thoroughly before beginning installation.

1.2 GENERAL NOTES

Carefully examine all fittings under pressure for possible leaks after installation.

1.3 SPECIFICATIONS

Type	Four-way fuel selector valve
Weight & Balance	No Change
Approval Basis	FAA AMOC

2.1 PRELIMINARY PROCEDURE

The following steps must be made before installation of the selector valve and associated plumbing is begun.

- A. Drain necessary fuel from the aircraft tanks.
- B. Remove existing seats and floor panels to gain access to those areas shown on the included drawings.

2.2 FUEL SELECTOR VALVE INSTALLATION

Remove the existing aircraft fuel selector valve assembly. Install the fuel selector valve provided as shown on drawing 2050 sheet 1. Re-connect the existing main tank line and engine supply line and other aux lines (if applicable) to the fuel selector valve and secure as shown on drawing 2050 sheet 1.

2.3 FUEL LINE INSTALLATION

Reconnect valve fitting's and fuel lines as before.

2.4 FINAL INSTALLATION

Provide fuel in the tanks and run a complete leak check of the entire fuel system.

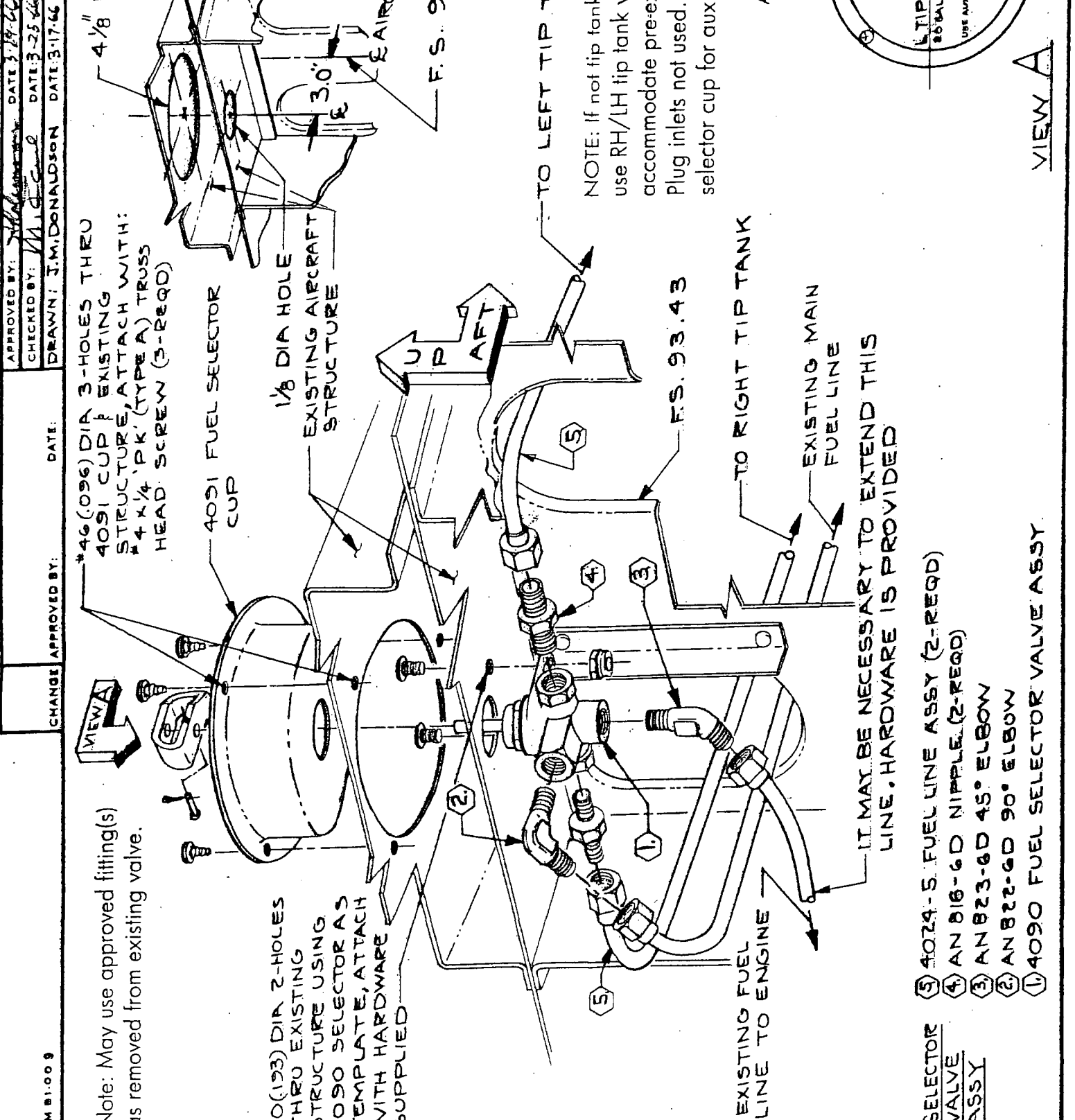
Re-install upholstery and floor panels removed for this installation. Upon completion of the selector valve installation, install and record/provide all appropriate documents as FAA required to return aircraft to service.

J. L. OSBORNE

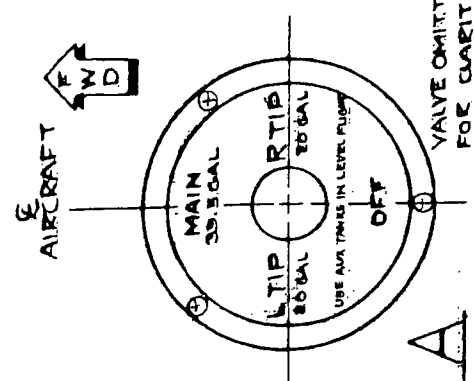
FUEL SELECTOR VALVE INSTALLATION NAVION

2050 SH 1 OF 2
DRAWING NUMBER

CHANGE



NOTE: If not tip tank equipped, use RH/LH tip tank valve inlets to accommodate pre-existing aux tank(s). Plug inlets not used. Placard, 4091 fuel selector cup for aux tank as necessary.



VIEW A

VALVE OMITTED FOR CLARITY

Note: May use approved fitting(s) as removed from existing valve.

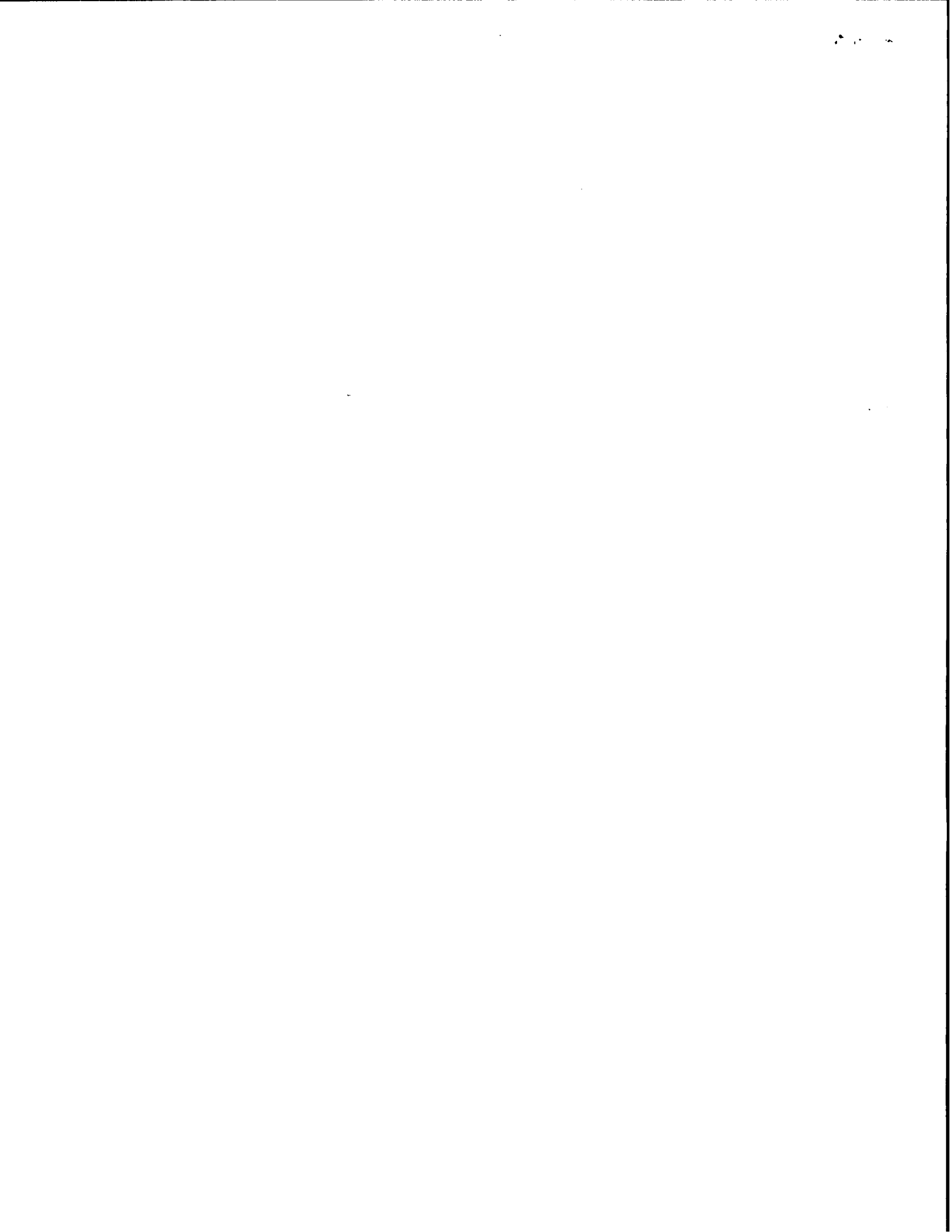
(0.193) DIA 2-HOLES THRU EXISTING STRUCTURE USING 4090 SELECTOR AS TEMPLATE, ATTACH WITH HARDWARE SUPPLIED

EXISTING FUEL LINE TO ENGINE

IT MAY BE NECESSARY TO EXTEND THIS LINE. HARDWARE IS PROVIDED

- 5 4024-5 FUEL LINE ASSY (2-REQD)
- 4 AN 816-6D NIPPLE (2-REQD)
- 3 AN 823-6D 45° ELBOW
- 2 AN 822-6D 90° ELBOW
- 1 4090 FUEL SELECTOR VALVE ASSY

SELECTOR VALVE ASSY



CHANGE APPROVED BY: DATE:

APPROVED BY: *M. J. [Signature]* DATE: 7-17-56
CHECKED BY: *M. J. [Signature]* DATE: 3-22-56
DRAWN: J. M. DONALDSON DATE: 3-17-56

2050 SH 2 OF 2 DRAWING NUMBER

CHANGE

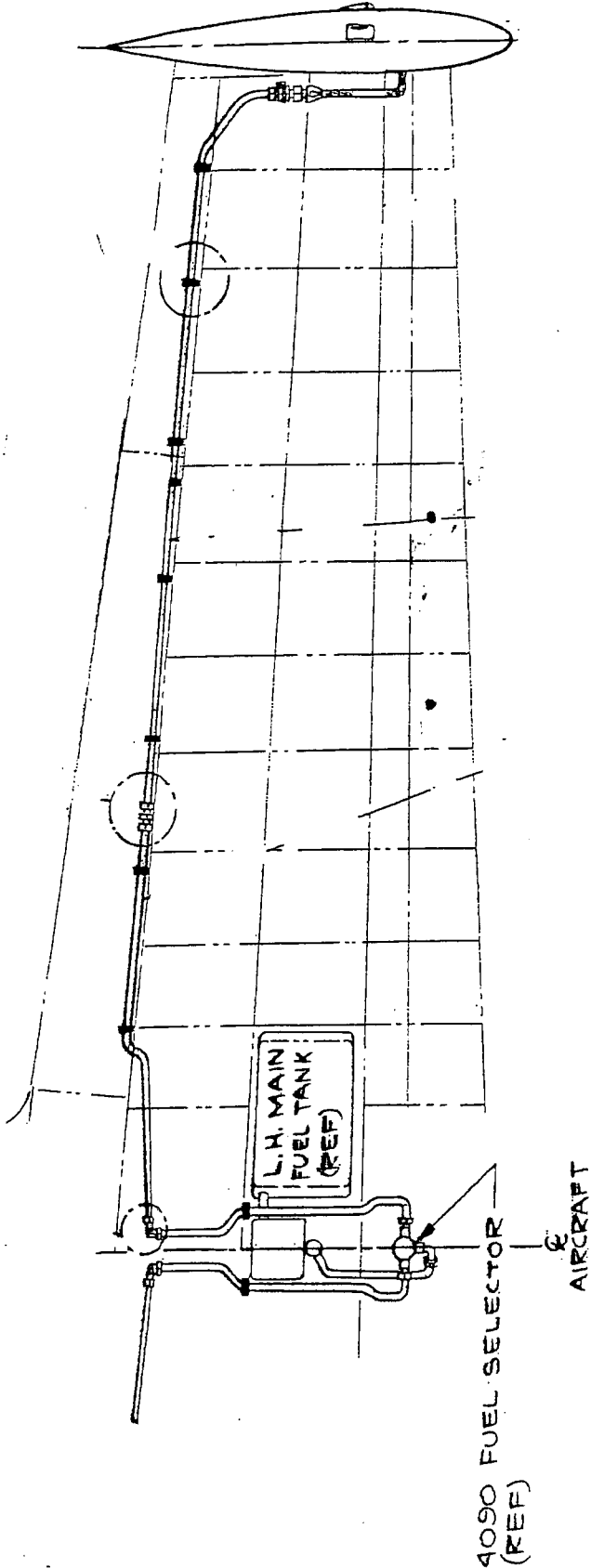
J. L. OSBORNE

FUEL LINE PLUMBING SCHEMATIC
NAVION

2050 SH 2 OF 2 DRAWING NUMBER

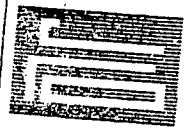
CHANGE

NOTE: Tip tank fuel lines are reference only. Other installed fuel tank(s) supply lines use appropriate valve inlets as before.



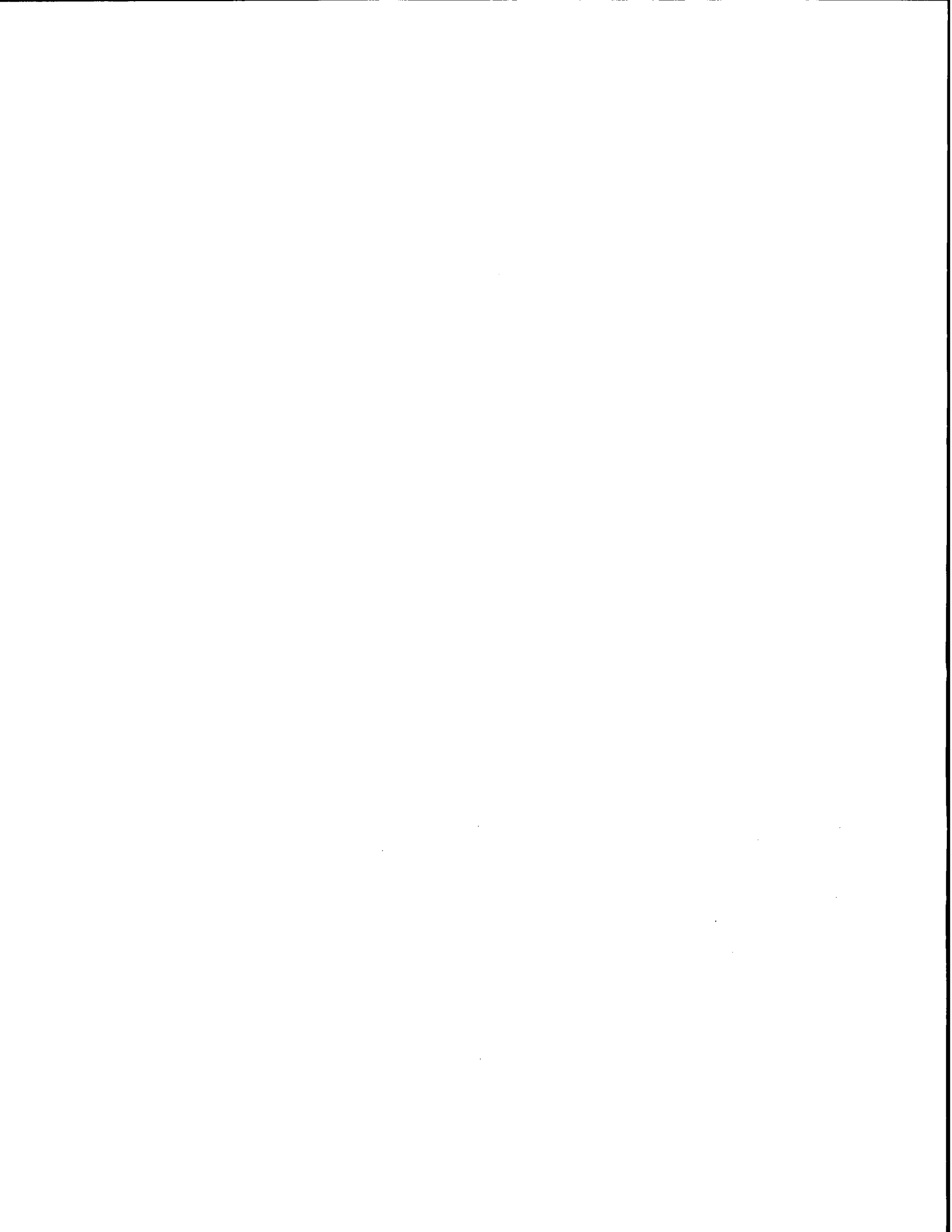
L.H. WING FUEL LINE INSTALLATION SHOWN
R.H. WING FUEL LINE OPPOSITE

NEW PART
CERTIFICATE OF CONFORMANCE
F.A.A. PMA per STC SA4-915



J.L. OSBORNE
INCORPORATED
STAR ROUTE BOX 11
ORO GRANDE, CA 92368
PHONE (619) 245-8477

AC/REG NAVIN MODEL A Three F
P/N 4090 SN N/A QTY 1
WE HEREBY CERTIFY THAT TO THE BEST OF OUR KNOWLEDGE, THE PART INDICATED HEREON CONFORMS IN ALL RESPECTS TO THE S.T.C. INDICATED OR MANUFACTURER'S SPECIFICATIONS AND/OR STANDARDS.
SIGNED/INSP. [Signature]
DATE 6-25-82 REF. # _____





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
CE01 DD

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC43.9-1 (or subsequent revision thereof) 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 \$ 1000 for each such violation (Section 901 Federal Aviation Act of 1958).

1. Aircraft	Make Ryan	Model NAVION
	Serial No. NAV-4-1472	Nationality and Registration Mark USA N4472K
2. Owner	Name (As shown on registration certificate) North Iowa Air, Inc	Address (As shown on registration certificate) 3241 Keokuk Avenue Woolstock, IA 50599 USA

3. For FAA Use Only

The data/alteration identified herein complies with the applicable airworthiness requirements and is approved only for the above described aircraft, subject to conformity inspection by a person authorized in F.A.R. 43.7 (a)

OCT 04 2005
(date) **F.A.A. Inspector, ACE-DSM FSDO**

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 Spencer Avionics, Inc. 1963 330th Street Spencer, IA 51301 KU2R965K	B. Kind of Agency <input type="checkbox"/> U. S. Certified Mechanic <input type="checkbox"/> Foreign Certified Mechanic <input checked="" type="checkbox"/> Certified Repair Station <input type="checkbox"/> Manufacturer	C. Certificate No. KU2R965K Radio Limited Airframe
---	---	--

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 22-September-2005	Signature of Authorized Individual Quintin J De Groot
----------------------------------	---

7. Approval for Return to Service

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

BY	FAA Fit. Standards Inspector		Manufacturer	Inspection Authorization	Other (Specify)
	FAA Designee	X	Repair Station	Person Approved by Transport Canada Airworthiness Group	
Date of Approval or Rejection 10/13/2005		Certificate or Designation No. KU2R965K		Signature of Authorized Individual Spencer Avionics, Inc	

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.)

Sep-22-2005 USA N4472K Ryan NAVION NAV-4-1472

Installed a new PS Engineering PMA-6000M audio panel marker beacon/intercom system.

Installed the PMA-6000M audio panel at the top of the left radio stack. The PMA-6000M is wired as a four place intercom system. The pilot has a yoke mounted PTT switch. Both the pilot and co-pilot have instrument panel mounted mic and phone jacks. The rear seats have mic and phone jacks mounted in AG-JH1 Black Aluminum jack housings. #1 and #2 music jack inputs are installed. The #1 jack is installed next to the co-pilot mic and phone jacks. The #2 is mounted in the left rear mic and phone jack housing. The Marker Beacon receiver is connected to the newly installed CI-102 marker antenna.

The PMA-6000M intercom was connected per the PS Engineering installation manual p/n: 200-066-0100, Rev 1, March 2005.

All equipment was installed per PS Engineering factory installation manual and AC43.13-2A, Chapter #2, Paragraphs 21,22,23,25 and 27 Chapter #3, Paragraphs 36 and 42.

New weight and balance and equipment list was prepared and entered into the aircraft flight manual.

END

ADDITIONAL SHEETS ARE ATTACHED

NOTICE

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

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

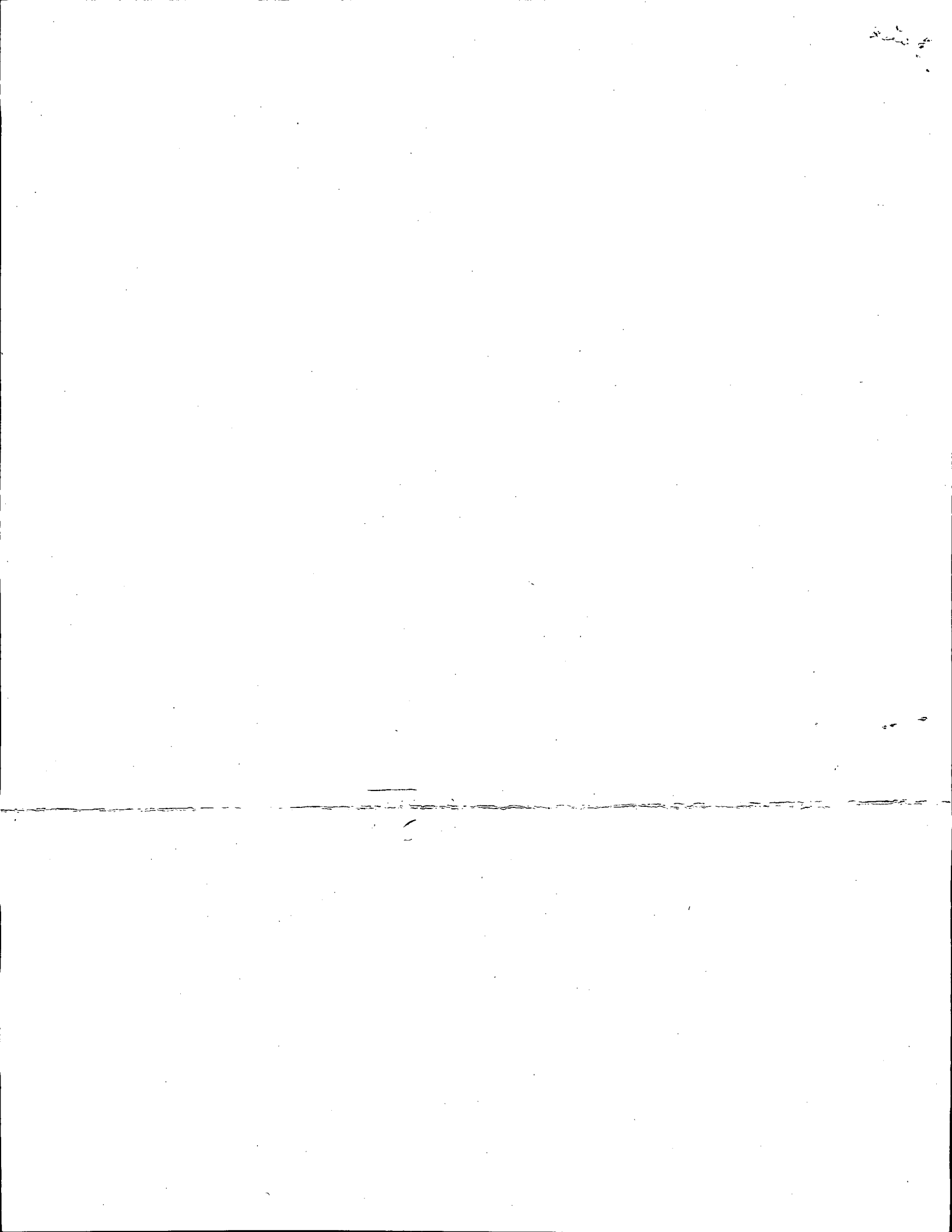
Sep-22-2005 USA N4472K Ryan NAVION NAV-4-1472

Instructions for continued Airworthiness for installation of the PS Engineering PMA-6000M Audio Panel system in Ryan Navion S/N NAV-4-1472, N4472K, attached to FAA Form 337 dated September 22, 2005.

1. INTRODUCTION: This alteration consists of the installation of a PS Engineering PMA-6000M Audio Panel/3LMB/Intercom System.
2. DESCRIPTION: This installation uses a PS Engineering PMA-6000M Audio Panel/3LMB/Intercom system.
3. CONTROL OPERATION INFORMATION: This information is located in PS Engineering PMA-6000M audio panel PMA6000M-Mono Pilot Guide
4. SERVICE INFORMATION: There is no regular servicing required.
5. MAINTENANCE INSTRUCTIONS: Repair of the PMA-6000M system is currently performed at the factory. For installation problems consult PS Engineering PMA-6000M Audio Panel Installation Manual Document p/n: 200-066-0100, Rev 1, March 2005.
6. TROUBLE SHOOTING INFORMATION: This information is available by contacting the manufacturer.
7. REMOVAL AND REPLACEMENT INFORMATION: Refer to PS Engineering PMA-6000M Audio Panel Installation Manual Document p/n: 200-066-0100, Rev 1, March 2005.
8. DIAGRAMS: Mechanical installation and wiring information is available in PS Engineering PMA-6000M Audio Panel Installation Manual Document p/n: 200-066-0100, Rev 1, March 2005.
9. SPECIAL INSPECTION REQUIREMENTS: None required.
10. APPLICATION OF PROTECTIVE TREATMENTS: Not applicable.
11. DATA: No special data required.
12. SPECIAL TOOLS: No special tools required.
13. FOR COMMUTER CATEGORY AIRCRAFT: Not applicable.
14. RECOMMENDED OVERHAUL PERIODS: No additional overhaul time limitations.
15. AIRWORTHINESS LIMITATION SECTION: None.
16. REVISION: To revise these instructions for Continued Airworthiness, a letter will be submitted to the local FSDO with a copy of the revised FAA Form 337 and revised ICA for FAA approval.

-----END-----

ADDITIONAL SHEETS ARE ATTACHED





DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION MAJOR REPAIR AND ALTERATION (Airframe, Powerplant, Propeller, or Appliance)				Form Approved Budget Bureau No. 04-R060.1 FOR FAA USE ONLY OFFICE IDENTIFICATION <i>2-0-65</i>	
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 RYAN	MODEL NAVION A			
	SERIAL NO. NAV-4	NATIONALITY AND REGISTRATION MARK N 4472 K			
2. OWNER	NAME (with registration certificate) Robert H Barlow		ADDRESS (with registration certificate) Box 842 Collinsville OKIA 74021		
	3. FOR FAA USE ONLY				
4. UNIT IDENTIFICATION					
UNIT	MAKE	MODEL	SERIAL NO.	5. TYPE	
				REPAIR	ALTERATION
AIRFRAME	***** (As described in item 1 above) *****				X
POWERPLANT					
PROPELLER					
APPLIANCE	TYPE				
	MANUFACTURER				
6. CONFORMITY STATEMENT					
A. AGENCY'S NAME AND ADDRESS			B. KIND OF AGENCY		C. CERTIFICATE NO.
Manuel m. lotero P.O. Box 51125 Tulsa okla 74151			<input checked="" type="checkbox"/> U.S. CERTIFICATED MECHANIC		A&P 393202
			<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>10/23/82</i>			SIGNATURE OF AUTHORIZED INDIVIDUAL <i>Manuel M Lotero</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 <input checked="" type="checkbox"/> APPROVED <input type="checkbox"/> REJECTED					
BY	FAA FLT. STANDARDS INSPECTOR	MANUFACTURER	<input checked="" type="checkbox"/>	INSPECTION AUTHORIZATION	
	FAA DESIGNEE	REPAIR STATION		OTHER (Specify)	
DATE OF APPROVAL OR REJECTION <i>10/23/82</i>		CERTIFICATE OR DESIGNATION NO. A&P 393202 AI		SIGNATURE OF AUTHORIZED INDIVIDUAL <i>Manuel M Lotero</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.)

REMOVED THE FOLLOWING EQUIPMENT:

- BRITAIN NAVION WING ROOT FRG KIT 9.5 lbs
- REAR MOUNTING STEP 18.5 lbs
- BENDIX A.D.F RADIO ANT & CABLES 20.0 lbs

INSTALLED MARCO AT 50 TRANSP AND ANTENA
INSTALLED D&M E.L.T. AFT OF REAR CARGO COPT BLKD. AT FLOOR LEVEL . INSTALLED E.L.T. ANTENA IN REAR FUSE CONE AFT OF CANOPY.

RELOCATED OMNI ANT FROM TOP OF CANOPY TO TOP OF VERT. FIN
REMOVED ELECT T&B AND INST. VAC. T&B .USED THIS ELECT CIRCUIT TO POWER TRANSP . FUSE PROTECTED.

WORK COMPLIES WITH EA-43.13-1A & 2A CHAPTER RADIO INSTALLATIONS AND CHAPTER 3 ANTENA INSTALLATIONS.

WIGHT COMPUTED AND FOUND WITHIN C.G LIMITS .
NEW E.W. AND USEFUL LOAD ENTERED IN LOG BOOK.

END

ADDITIONAL SHEETS ARE ATTACHED

N 340

U. S. DEPARTMENT OF COMMERCE CIVIL AERONAUTICS ADMINISTRATION		Form Approved. Budget Bureau No. 41-B041.6	
APPLICATION FOR AIRWORTHINESS CERTIFICATE AND/OR ANNUAL INSPECTION OF AN AIRCRAFT		INSTRUCTIONS Please print or type. Submit this form to the Civil Aeronautics Administration Aviation Safety Field Representative.	
1. TYPE OF APPLICATION (Check which)			
a. <input type="checkbox"/> ORIGINAL ISSUANCE OF CERTIFICATE b. <input checked="" type="checkbox"/> ANNUAL INSPECTION FOR RENEWAL OF CERTIFICATE c. <input type="checkbox"/> AMENDMENT OR MODIFICATION OF CURRENT CERTIFICATE		d. <input type="checkbox"/> RECERTIFICATION UNDER THE PROVISIONS OF CAR 8 e. <input type="checkbox"/> MULTIPLE CERTIFICATE UNDER THE PROVISIONS OF CAR 8 f. <input type="checkbox"/>	
2. AIRWORTHINESS CLASSIFICATION (Check appropriate item(s)) It is requested that the Certificate of Airworthiness be issued to permit operation of the aircraft in the following airworthiness classification(s):			
a. <input checked="" type="checkbox"/> STANDARD (NORMAL, UTILITY, ACROBATIC, TRANSPORT CATEGORIES) b. <input type="checkbox"/> LIMITED (SEE CAR 9) c. <input type="checkbox"/> RESTRICTED (SEE CAR 8) (Check the restricted special purpose operation(s) to be conducted)			
<input type="checkbox"/> AGRICULTURAL AND PEST CONTROL <input type="checkbox"/> AERIAL ADVERTISING <input type="checkbox"/> AERIAL SURVEYING <input type="checkbox"/> GLIDER TOWING		<input type="checkbox"/> PATROLLING <input type="checkbox"/> FOREST AND WILDLIFE CONSERVATION <input type="checkbox"/> WEATHER CONTROL <input type="checkbox"/> OTHER	
d. <input type="checkbox"/> EXPERIMENTAL (Check the type of experimental operation(s) to be conducted)			
<input type="checkbox"/> RESEARCH AND DEVELOPMENT <input type="checkbox"/> AMATEUR-BUILT <input type="checkbox"/> DEMONSTRATION		<input type="checkbox"/> RACING <input type="checkbox"/> EXHIBITION <input type="checkbox"/> OTHER	
3. AIRCRAFT IDENTIFICATION (Complete all items)			
a. AIRCRAFT MAKE Ryan		b. AIRCRAFT MODEL Navion	c. AIRCRAFT SERIAL NO. NAV-4-1472
d. ENGINE MAKE Continental		e. ENGINE MODEL E185-3	
4. AIRCRAFT REGISTRATION INFORMATION (Complete all items)			
a. REGISTERED OWNER'S FULL NAME Cassens Transport		b. PERMANENT MAILING ADDRESS Hamel, Illinois	c. AIRCRAFT NATIONALITY AND REGISTRATION MARK N-4472E
5. AIRCRAFT OWNER'S CERTIFICATION (Check and complete appropriate item)			
I hereby certify that I am the registered owner (or his agent) of the aircraft identified in Item 3 above which is registered* with the Civil Aeronautics Administration as required by the Regulations of the Administrator, Part 501 or 502 and when operated displays the following evidence of registration:			
a. <input checked="" type="checkbox"/> CERTIFICATE OF REGISTRATION, FORM ACA-500 (PART A), DATE OF ISSUE <u>July 20, 1954</u>			
b. <input type="checkbox"/> APPLICATION FOR REGISTRATION, FORM ACA-500 (PART B), FORM ACA-500, PART A, FORWARDED TO CAA AIRCRAFT RECORDS BRANCH, W-300 ON _____ (DATE)			
c. <input type="checkbox"/> DEALER'S REGISTRATION CERTIFICATE, FORM ACA-1707, DATED _____			
*In order to be eligible for registration an aircraft must be owned by a citizen of the United States, as defined by Section 1 (15) of the Civil Aeronautics Act of 1938, as amended.			
ATTACHMENTS (Check which)		<i>Cletus Miller</i> Cletus Miller (SIGNATURE OF REGISTERED OWNER OR AUTHORIZED AGENT)	
<input checked="" type="checkbox"/> ACA-319 <input type="checkbox"/> WEIGHT AND BALANCE REPORT <input type="checkbox"/> ACA-337 <input type="checkbox"/> DATA, DRAWINGS, ETC. <input type="checkbox"/> ACA-317 <input type="checkbox"/> UNAPPROVED DEVIATION DATA		March 23, 1956 (DATE)	
		Agent (TITLE)	

10
 5-9-86
 3086

48

710

U. S. DEPARTMENT OF COMMERCE
 CIVIL AERONAUTICS ADMINISTRATION

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

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

1. AIRCRAFT AND ENGINE CERTIFICATION BASIS

- a. AIRCRAFT SPECIFICATION NO. 782 THROUGH SHEET REVISION NO. 30
- b. AIRCRAFT LISTING PAGE NO. _____
- c. AIRWORTHINESS DIRECTIVE SUMMARY 1956 THROUGH CARD NO. 6
(YEAR)
- d. CIVIL AIR REGULATION PART 8 (MODIFIED TYPE CERTIFICATE)

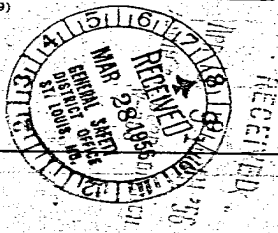
2. AIRCRAFT AND ENGINE OPERATING RECORDS

- a. AIRCRAFT NEW—NO PREVIOUS OPERATION OR MAINTENANCE HISTORY
- b. COMPLIANCE WITH APPLICABLE AIRWORTHINESS DIRECTIVES RECORDED
- c. AIRCRAFT RECORDS INDICATE THE AIRFRAME HAS BEEN OPERATED A TOTAL OF 1007:45 HOURS
- d. ENGINE RECORDS INDICATE THE FOLLOWING OPERATION:

SERIAL NO. <u>5064-D-M</u>	TOTAL HOURS <u>918:25</u>
SERIAL NO. _____	TOTAL HOURS _____
SERIAL NO. _____	TOTAL HOURS _____
SERIAL NO. _____	TOTAL HOURS _____

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

- a. LAST AIRWORTHINESS INSPECTION CONDUCTED March 23, 1956
(DATE)
 - BY AIRCRAFT MANUFACTURER
 - BY APPROVED REPAIR STATION, CERTIFICATE NO. 3735
 - BY MECHANIC, CERTIFICATE NO. _____
- b. PERIODIC AIRCRAFT INSPECTION REPORT, FORM ACA-319, WAS RETURNED TO OWNER



4. AIRWORTHINESS DOCUMENTS ISSUED OR REVIEWED

- a. OPERATION LIMITATIONS, FORM ACA-309, WAS ISSUED (COPY ATTACHED)
- b. CURRENT OPERATION LIMITATIONS, FORM ACA-309, IS AVAILABLE IN AIRCRAFT
- c. CURRENT APPROVED AIRPLANE FLIGHT MANUAL IS AVAILABLE IN AIRCRAFT
- d. CURRENT WEIGHT AND BALANCE INFORMATION IS AVAILABLE IN AIRCRAFT
- e. THIS INSPECTION HAS BEEN RECORDED IN THE AIRCRAFT RECORDS
- f. CERTIFICATE OF AIRWORTHINESS, FORM ACA-1362, ISSUED TO EXPIRE March 23, 1957
(DATE)
- g. PREVIOUS FORM ACA-1362 WAS ISSUED TO EXPIRE March 24, 1956
(DATE) BY George Skistimas 3348
(NAME OF ISSUING REPRESENTATIVE) (DESIGNATION NO.)

5. CAA APPROVED REPAIR STATION CERTIFICATION

The aircraft described on the reverse has been inspected under the authority accorded certificated repair station No. 3735 by CAR 52 and was found to be:
 AIRWORTHY
 UNAIRWORTHY
 Signature: Cletus Miller March 23, 1956
(REPAIR STATION AUTHORIZED SIGNATURE) (DATE)

6. CAA REPRESENTATIVE CERTIFICATION

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

DESIGNEE'S SIGNATURE	DESIGNATION NO.	DATE
AVIATION SAFETY AGENT'S SIGNATURE	CAA DESIGNATION NO.	DATE
<u>E. J. Michelsen</u>	<u>3-17</u>	<u>4-3-56</u>

- ACCEPTED
- REINSPECTED
- SPOT CHECKED

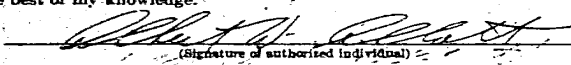
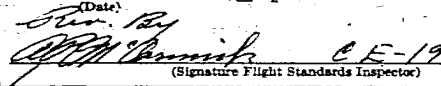
ATTACHMENT

Reg. 3 KC
 ASDO 17



812 3045

CAA

FEDERAL AVIATION AGENCY				Form approved Budget Bureau No. 04-R000	
MAJOR REPAIR AND ALTERATION FORM (AIRFRAME, POWERPLANT, PROPELLER OR APPLIANCE)					
1. AIRCRAFT	MAKE Ryan	MODEL Havion A	SERIAL NO. NAV-4-1472	NATIONALITY AND REGISTRATION MARK N4472K	
2. OWNER	NAME (First, middle, last) General Refrigeration Service Co., Inc.		ADDRESS (Street and number, city, zone and State) 4025 Forest Park Blvd. St. Louis, 8 Missouri		
3. COMPLETE ONLY FOR UNIT REPAIRED AND/OR ALTERED. DESCRIBE WORK ACCOMPLISHED ON REVERSE IN ACCORDANCE WITH CIVIL AERONAUTICS MANUAL 18.					
UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (Check)	
				MAJOR REPAIR	MAJOR ALTERATION
a. AIRFRAME	RECEIVED				X
b. POWERPLANT	JUL 6 - 1964				
c. PROPELLER	CE - GADO - 19				
4. APPLIANCE	TYPE AND MANUFACTURER				
4. AIRCRAFT WEIGHT AND BALANCE DATA This item must be completed by repair or alteration agency. However, in the case of a spare component, it will not be completed until such component is installed in an aircraft. At this time, it will be completed by the installing agency, if applicable.					
	CATEGORY	EMPTY WEIGHT (Pounds)*	EMPTY CENTER OF GRAVITY (Inches from datum)*	USEFUL LOAD (Pounds)*	
	Normal	1832.65	95.51	11917.35	
5. CONFORMITY STATEMENT (Complete and check)					
a. AGENCY'S NAME AND ADDRESS			b. KIND OF AGENCY		c. CERTIFICATE NO.
Albert W. Allott Box 72 Mossville, Illinois			<input checked="" type="checkbox"/> U. S. Certificated Mechanic. <input type="checkbox"/> Foreign Certificated Mechanic. <input type="checkbox"/> Certificated Repair Station. <input type="checkbox"/> Manufacturer. <input type="checkbox"/> (Check if repair or alteration was made under delegation option procedures.)		A&P 1069584
d. I certify that the repair and/or alteration made to the unit(s) identified under item 3 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 18 of the U. S. Civil Air Regulations and that the information furnished herein is true and correct to the best of my knowledge.					
6-12-64 (Date repair and/or alteration completed)  (Signature of authorized individual)					
6. APPROVAL FOR RETURN TO SERVICE (Check and complete appropriate items)					
Pursuant to the authority specified below the unit identified in item 3 was inspected in the manner prescribed by the Administrator of the Federal Aviation Agency and is					
<input checked="" type="checkbox"/> APPROVED <input type="checkbox"/> REJECTED		BY { <input type="checkbox"/> FAA Designee <input type="checkbox"/> Manufacturer <input type="checkbox"/> Canadian Department of Transport Inspector of Aircraft <input type="checkbox"/> FAA Flight Standards Inspector <input type="checkbox"/> Repair Station <input checked="" type="checkbox"/> Other (Specify) DISP. AUTH.			
6-12-64 (Date of approval or rejection)		Albert W. Allott I.A. 1069584 (Signature of authorized individual; title or identification number)			
7. TO BE COMPLETED ONLY BY FAA PERSONNEL					
<input type="checkbox"/> Forwarded for engineering comment <input type="checkbox"/> See attached memorandum <input checked="" type="checkbox"/> Accepted 7-16-64 <input type="checkbox"/> Reinspected _____ <input type="checkbox"/> Spot Checked _____ (Date) (Date) (Date)					
CE GADO - 19 (FAA designation number)		3-19  (Signature Flight Standards Inspector)			

14 JUL 25 1964

Form FAA-337 (4-57)

MICRO INSTRUCTIONS

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

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

8. DESCRIPTION OF WORK ACCOMPLISHED.

Installed Navion Mark II wing tip tanks, Part #2009, in accordance with Installation Manual TP2-1 dated November 21, 1959, Supplemental Type Certificate No. SA4-915 dated September 10, 1959. 20# at 100.5
 Installed Navion aileron Balancing Kit Part #5010, in accordance with Installation Manual A1-1, dated Dec. 29, 1959 and Supplemental Type Certificate No. SA4-1007. 6.25# at 100.5.
 Removed flare kit, 16 lbs. at 188. Removed AS-1B Trans.-Rec., 9 lbs. at 72., Power Unit 4 lbs. at 60., Antenna & Cables at 3 lbs. at 132.

Item	Height & Balance		
	Weight	Arm	Moment
Aircraft	1838.4	96.11	176690.6
Flares removed	- 16.	188.	- 3008.
AS-1B removed	- 9.	72.	- 648.
Power unit removed	- 4.	60.	- 240.
Antenna & Cables rem.	- 3.	132.	- 396.
Aileron Counterweights	+ 6.25	100.5	628.13
Tip Tank Inst.	+ 20.	100.5	2010.
	<u>1832.65</u>		<u>175036.78</u>

$\frac{175036.78}{1832.65} = 95.51$ New Empty Wt. C.G.

Item	Forward Load Condition		
	Weight	Arm	Moment
Aircraft	1832.65	95.51	175036.73
Pilot	170.	96.	16320.
Pass. front	170.	96.	16320.
Oil (10 qts.)	19.	39.	741.
Fuel 15.3 gal (min.)	92.	103.	9476.
	<u>2283.65</u>		<u>217893.73</u>

$\frac{217893.73}{2283.65} = 95.41$ Most Fwd C.G. condition

C.G. Limits - Utility - (94.8) to (104.9)
 Normal - (98.1) to (104.9) at 2750 lbs.
 (94.8) to (104.9) at 2350 lbs or less.

~~With Tip Tanks C.G. Rear C.G. limited to (104.9)~~

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

466 536

Verified by Operator #56		FEDERAL AVIATION AGENCY			Form approved. Budget Bureau No. 04-2009
MAJOR REPAIR AND ALTERATION FORM (AIRFRAME, POWERPLANT, PROPELLER OR APPLIANCE)					
1. AIRCRAFT	MAKE Navion	MODEL Navion A	SERIAL NO. Nav 4-1472	NATIONALITY AND REGISTRATION MARK N4472K	
2. OWNER	NAME (First, middle, last) General Refrigeration Service Co., Inc		ADDRESS (Street and number, city, zone and State) 4025 Forest Park Blvd. St. Louis, 8 Missouri		
3. COMPLETE ONLY FOR UNIT REPAIRED AND/OR ALTERED. DESCRIBE WORK ACCOMPLISHED ON REVERSE IN ACCORDANCE WITH CIVIL AERONAUTICS MANUAL 18.					
UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (Check)	
				MAJOR REPAIR	MAJOR ALTERATION
a. AIRFRAME	***** (As described in item 1 above) *****				X
b. POWERPLANT	The data attached identified herein complied with applicable airworthiness requirements and is approved only for the above-described aircraft subject to conformity inspection by a person authorized in CAR 18.11(b).				
c. PROPELLER					
d. APPLIANCE	TYPE AND MANUFACTURER		APPROVING INSPECTOR <u>[Signature]</u> DATE: <u>11-26-63</u> <u>FAA-5</u>		
4. AIRCRAFT WEIGHT AND BALANCE DATA *AFTER the repairs and/or alterations described below were made.*					
This item must be completed by repair or alteration agency. However, in the case of a spare component, it will not be completed until such component is installed in the aircraft. At this time, it will be completed by the installing agency, if applicable.					
CATEGORY	EMPTY WEIGHT (Pounds)*	EMPTY CENTER OF GRAVITY (Inches from datum)*		USEFUL LOAD (Pounds)*	
Standard	1838.4	+96.11		N 911.6 U 511.6	
5. CONFORMITY STATEMENT (Complete and check)					
a. AGENCY'S NAME AND ADDRESS			b. KIND OF AGENCY		c. CERTIFICATE NO.
William F. Campbell 12050 Algiers Drive Cincinnati, 46 Ohio			<input checked="" type="checkbox"/> U. S. Certificated Mechanic. <input type="checkbox"/> Foreign Certificated Mechanic. <input type="checkbox"/> Certificated Repair Station. <input type="checkbox"/> Manufacturer. <input type="checkbox"/> (Check if repair or alteration was made under delegation option procedures.)		A&P 669979
d. I certify that the repair and/or alteration made to the unit(s) identified under item 3 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 18 of the U. S. Civil Air Regulations and that the information furnished herein is true and correct to the best of my knowledge.					
<u>11/26/63</u> (Date repair and/or alteration completed)			<u>[Signature]</u> (Signature of authorized individual)		
6. APPROVAL FOR RETURN TO SERVICE (Check and complete appropriate items) Pursuant to the authority specified below the unit identified in item 3 was inspected in the manner prescribed by the Administrator of the Federal Aviation Agency and is					
3 <input checked="" type="checkbox"/> APPROVED BY { <input type="checkbox"/> FAA Designee <input type="checkbox"/> Manufacturer <input type="checkbox"/> Canadian Department of Transport Inspector of Aircraft <input type="checkbox"/> REJECTED <input type="checkbox"/> FAA Flight Standards Inspector <input type="checkbox"/> Repair Station <input checked="" type="checkbox"/> Other (Specify) Inspection Authorization					
<u>11/26/63</u> (Date of approval or rejection)			<u>[Signature]</u> (Signature of authorized individual, title or identification number)		
7. TO BE COMPLETED ONLY BY FAA PERSONNEL					
a. <input type="checkbox"/> Forwarded for engineering comment <input type="checkbox"/> See attached memorandum					
b. <input checked="" type="checkbox"/> Accepted <u>12-2-63</u> (Date) <input type="checkbox"/> Reinspected (Date) <input checked="" type="checkbox"/> Spot Checked <u>11-26-63</u> (Date)					
<u>1-05</u> REGION GADO (FAA design number)			<u>[Signature]</u> (Signature Flight Standards Inspector)		

INSTRUCTIONS

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

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

5. DESCRIPTION OF WORK ACCOMPLISHED*

Installed Rotating Beacon on fin of subject aircraft. Fiberglass fin tip adapted for beacon installation was removed from Navion N182N and installed on subject aircraft. Attachment was in same manner using machine screws. Grimes beacon was removed from cabin roof to fin and same switch and circuit breaker was used.

Weight & Balance

Aircraft	1836.4	55.54	176190
Beacon	<u>2</u>	250.3	<u>500.6</u>
	1838.4		176690.6
	<u>176690.6</u>		
	1838.4	=	96.11 new empty C.G.

OKLAHOMA CITY, OKLA

DEC 5 8 09 AM '84

REGISTRATION BRANCH

*If additional space is needed attach additional sheets bearing aircraft identification number in upper left corner and date work completed.

Check block if additional sheets are attached.

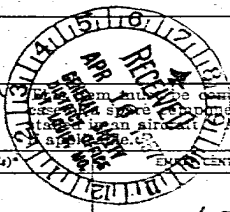
Form approved.
Budget Bureau No. 41-R052.4

W240

U. S. DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

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

1. AIRCRAFT	MAKE Ryan	MODEL Navion	SERIAL NO. Nav4-1472	NATIONALITY AND REGISTRATION MARK N4472X
2. OWNER	NAME (First, middle, last) Cassens Transport Co.		ADDRESS (Street and number, city, zone and State) Hans1, Ill.	
3. COMPLETE ONLY FOR UNIT REPAIRED AND/OR ALTERED. DESCRIBE WORK ACCOMPLISHED ON REVERSE IN ACCORDANCE WITH CIVIL AERONAUTICS MANUAL 18.				
UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (Check) MAJOR REPAIR MAJOR ALTERATION
a. AIRFRAME	***** (As described in item 1 above) *****			*
b. POWERPLANT				
c. PROPELLER				
d. APPLIANCE	TYPE AND MANUFACTURER			
4. AIRCRAFT WEIGHT AND BALANCE DATA *AFTER the repairs and/or alterations described below were made.				
CATEGORY	EMPTY WEIGHT (Pounds)	EMPTY CENTER OF GRAVITY (Inches from datum)*	USEFUL LOAD (Pounds)*	
Standard	1836.4	/ 95.94	913.6 N 513.6 U.	
5. CONFORMITY STATEMENT (Complete and check)				
a. AGENCY'S NAME AND ADDRESS Charles P. Easton Tumbleson Aviation Municipal Airport Mt. Vernon, Ill		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. <input type="checkbox"/> (Check if repair or alteration was made under delegation option procedures.)		c. CERTIFICATE NO. ASE 1001949
d. I certify that the repair and/or alteration made to the unit(s) identified under item 3 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 18 of the U. S. Civil Air Regulations and that the information furnished herein is true and correct to the best of my knowledge. _____ (Date repair and/or alteration completed) 4/12/57				
e. Charles P. Easton (Signature of authorized individual)				
6. APPROVAL FOR RETURN TO SERVICE (Check and complete appropriate items) Pursuant to the authority specified below the unit identified in item 3 was inspected in the manner prescribed by the Administrator and is				
<input checked="" type="checkbox"/> APPROVED BY { <input type="checkbox"/> CAA Designee <input type="checkbox"/> Manufacturer <input type="checkbox"/> Canadian Department of Transport Inspector of Aircraft <input type="checkbox"/> REJECTED BY { <input type="checkbox"/> CAA Aviation Safety Agent <input type="checkbox"/> Repair Station <input checked="" type="checkbox"/> Other (Specify) Inspection Authorization # 1001949				
_____ (Date of approval or rejection) 4/13/57		_____ (Signature of authorized individual, title or identification number) Charles P. Easton		
7. TO BE COMPLETED ONLY BY CAA PERSONNEL				
<input type="checkbox"/> Forwarded for engineering comment <input type="checkbox"/> See attached memorandum <input checked="" type="checkbox"/> Accepted 4-19-57 (Date) <input type="checkbox"/> Reinspected <input type="checkbox"/> Spot Checked				
_____ (CAA designation number) 3-17		_____ (Signature of authorized individual, title or identification number) E. J. Muddiman		



7-8-57

Reg. 8-KO
ASDO 12

INSTRUCTIONS

This form must be completed in duplicate each time a major repair and/or alteration is made of an aircraft, airframe, power-plant, propeller or appliance. After the repair and/or alteration has been inspected and item 8 completed, the original copy of this form will be made available to the aircraft owner for retention as part of the aircraft records. The duplicate copy is retained by the CAA for administrative purposes.

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

8. DESCRIPTION OF WORK ACCOMPLISHED.*

Replaced nose cowl, both lower cowl-skins, nose gear retracting link, windshield with smooth contour type. Exhaust system replaced with Simonz exhaust kit. Propellor returned to Hartzell Corp for overhaul and reinstaled. No weight change

*****END*****

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

Check block if additional sheets are attached.



U. S. DEPARTMENT OF COMMERCE
 CIVIL AERONAUTICS ADMINISTRATION

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

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

1. AIRCRAFT	MAKE Ryan	MODEL Havion A	SERIAL NO. NAV-4-1472	NATIONALITY AND REGISTRATION MARK N4472K
2. OWNER	NAME (First, middle, last) Cassens Transport		ADDRESS (Street and number, city, zone and State) Hamel, Illinois	
3. COMPLETE ONLY FOR UNIT REPAIRED AND/OR ALTERED. DESCRIBE WORK ACCOMPLISHED ON REVERSE IN ACCORDANCE WITH CIVIL AERONAUTICS MANUAL 18.				
UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (Check) MAJOR REPAIR MAJOR ALTERATION
a. AIRFRAME	***** (As described in Item 1 above) *****			X
b. POWERPLANT				
c. PROPELLER				
d. APPLIANCE	TYPE AND MANUFACTURER			
4. AIRCRAFT WEIGHT AND BALANCE DATA <small>*AFTER the repairs and/or alterations described below were made.</small> This item must be completed by repair or alteration agency. However, in the case of a spare component, it will not be completed until such component is installed in an aircraft. At this time, it will be completed by the installing agency, if applicable.				
CATEGORY	EMPTY WEIGHT (Pounds)*	EMPTY CENTER OF GRAVITY (Inches from datum)*	USEFUL LOAD (Pounds)*	
Standard	1836.4	795.94	H 913.6 U 513.6	
5. CONFORMITY STATEMENT (Complete and check)				
a. AGENCY'S NAME AND ADDRESS		b. KIND OF AGENCY		c. CERTIFICATE NO.
L. N. Fash 2703 N. Dechman Ave. Peoria, Illinois		<input checked="" type="checkbox"/> U. S. Certified Mechanic. <input type="checkbox"/> Foreign Certified Mechanic. <input type="checkbox"/> Certified Repair Station. <input type="checkbox"/> Manufacturer. <input type="checkbox"/> (Check if repair or alteration was made under delegation option procedures.)		A&E 122700
d. I certify that the repair and/or alteration made to the unit(s) identified under item 3 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U. S. Civil Air Regulations and that the information furnished herein is true and correct to the best of my knowledge.				
5-21-57 (Date repair and/or alteration completed)		L. N. FASH (Signature of authorized individual)		
6. APPROVAL FOR RETURN TO SERVICE (Check and complete appropriate items) Pursuant to the authority specified below the unit identified in item 3 was inspected in the manner prescribed by the Administrator and is				
<input checked="" type="checkbox"/> APPROVED } BY { <input type="checkbox"/> CAA Designee <input type="checkbox"/> Manufacturer <input type="checkbox"/> Canadian Department of Transport Inspector of Aircraft <input type="checkbox"/> REJECTED } <input type="checkbox"/> CAA Aviation Safety Agent <input type="checkbox"/> Repair Station <input checked="" type="checkbox"/> Other (Specify) I. A.				
5-31-57 (Date of approval or rejection)		L. N. FASH 122700 (Signature of authorized individual: title or identification number)		
7. TO BE COMPLETED ONLY BY CAA PERSONNEL				
a. <input type="checkbox"/> Forwarded for engineering comment <input type="checkbox"/> See attached memorandum				
b. <input checked="" type="checkbox"/> Accepted 6-4-57 (Date) <input type="checkbox"/> Reinspected (Date) <input type="checkbox"/> Spot Checked (Date)				
3-19 (CAA designation number)		Gerald B. Holbrel (Signature Aviation Safety Agent)		

7-9-7

12-4-1984

INSTRUCTIONS

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

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

8. DESCRIPTION OF WORK ACCOMPLISHED.

Install Symons Cowl Flaps as per Symons Drawing #103 as called for in Item 122 of Spec. #782. No change in weight.

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

Check block if additional sheets are attached.



W-240

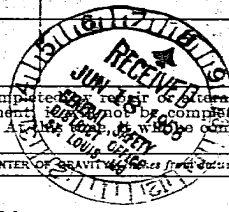
U. S. DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION
MAJOR REPAIR AND ALTERATION FORM (AIRFRAME, POWERPLANT, PROPELLER OR APPLIANCE)

Form approved,
Budget Bureau No. 41-R082.4

1. AIRCRAFT	MAKE Ryan	MODEL Havion	SERIAL NO. NAV-4-1472	NATIONALITY AND REGISTRATION MARK N 4472 K Standard
2. OWNER	NAME (First, middle, last) Cassens Transport Co.		ADDRESS (Street and number, city, zone and state) Hamel, Ill.	

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

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



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

CATEGORY	EMPTY WEIGHT (Pounds)*	EMPTY CENTER OF GRAVITY (Inches from datum)*	USEFUL LOAD (Pounds)*
Standard	1836.4	± 95.94	913.6 H 513.6 U

5. CONFORMITY STATEMENT (Complete and check)

a. AGENCY'S NAME AND ADDRESS Walston Aviation, Inc. Box 271 East Alton, Ill.	b. KIND OF AGENCY <input type="checkbox"/> U. S. Certificated Mechanic. <input type="checkbox"/> Foreign Certificated Mechanic. <input checked="" type="checkbox"/> Certificated Repair Station. <input type="checkbox"/> Manufacturer. <input type="checkbox"/> (Check if repair or alteration was made under delegation option procedures.)	c. CERTIFICATE NO. 3735
--	--	-----------------------------------

4. I certify that the repair and/or alteration made to the unit(s) identified under item 3 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 19 of the U. S. Civil Air Regulations and that the information furnished herein is true and correct to the best of my knowledge.
June 14, 1956 **Jack Zika** *Jack Zika*
(Date repair and/or alteration completed) (Signature of authorized individual)

6. APPROVAL FOR RETURN TO SERVICE (Check and complete appropriate items)
Pursuant to the authority specified below the unit identified in item 3 was inspected in the manner prescribed by the Administrator and is

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

June 14, 1956 **Jack Zika** **Chief Insp.**
(Date of approval or rejection) (Signature of authorized individual; title or identification number)

7. TO BE COMPLETED ONLY BY CAA PERSONNEL

a. Forwarded for engineering comment See attached memorandum
b. Accepted 6-18-56 (Date) Reinspected _____ (Date) Spot Checked _____

(CAA designation number) *W. Beckwith*
(Signature Aviation Safety Agent)

Reg. **KQ**
ASDO **17**

7-6-6
119

INSTRUCTIONS

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

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

6. DESCRIPTION OF WORK ACCOMPLISHED:

Installed Brittain Aircraft Co. Navion wing root fairing kit according to Brittain installation manual # WFL-1.

Aircraft empty weight		1826.9	+ 95.6	174651.6
Wing root fairing kit	installed	9.5	+162	1539
		<u>1836.4</u>		<u>176190.6</u>

176190.6

 1836.4 = + 95.94 New E.C.G.

 -- END --

RECEIVED
 JUN 29 3:53 PM '56
 ADMIN. & RECORDS BRANCH
 W-300

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

Check block if additional sheets are attached:



U. S. DEPARTMENT OF COMMERCE CIVIL AERONAUTICS ADMINISTRATION		Form Approved, Budget Bureau No. 41-R041.6
APPLICATION FOR AIRWORTHINESS CERTIFICATE AND/OR ANNUAL INSPECTION OF AN AIRCRAFT		INSTRUCTIONS Please print or type. Submit this form to the Civil Aeronautics Administration Aviation Safety Field Representative.
1. TYPE OF APPLICATION (Check which)		
a. <input type="checkbox"/> ORIGINAL ISSUANCE OF CERTIFICATE b. <input checked="" type="checkbox"/> ANNUAL INSPECTION FOR RENEWAL OF CERTIFICATE c. <input type="checkbox"/> AMENDMENT OR MODIFICATION OF CURRENT CERTIFICATE		
d. <input type="checkbox"/> RECERTIFICATION UNDER THE PROVISIONS OF CAR 8 e. <input type="checkbox"/> MULTIPLE CERTIFICATE UNDER THE PROVISIONS OF CAR 8 f. <input type="checkbox"/>		
2. AIRWORTHINESS CLASSIFICATION (Check appropriate item(s)) It is requested that the Certificate of Airworthiness be issued to permit operation of the aircraft in the following airworthiness classification(s):		
a. <input checked="" type="checkbox"/> STANDARD (NORMAL, UTILITY, ACROBATIC, TRANSPORT CATEGORIES) b. <input type="checkbox"/> LIMITED (SEE CAR 9) c. <input type="checkbox"/> RESTRICTED (SEE CAR 8) (Check the restricted special purpose operation(s) to be conducted)		
<input type="checkbox"/> AGRICULTURAL AND PEST CONTROL <input type="checkbox"/> AERIAL ADVERTISING <input type="checkbox"/> AERIAL SURVEYING <input type="checkbox"/> GLIDER TOWING		
<input type="checkbox"/> PATROLLING <input type="checkbox"/> FOREST AND WILDLIFE CONSERVATION <input type="checkbox"/> WEATHER CONTROL <input type="checkbox"/> OTHER		
d. <input type="checkbox"/> EXPERIMENTAL (Check the type of experimental operation(s) to be conducted)		
<input type="checkbox"/> RESEARCH AND DEVELOPMENT <input type="checkbox"/> AMATEUR-BUILT <input type="checkbox"/> DEMONSTRATION		
<input type="checkbox"/> RACING <input type="checkbox"/> EXHIBITION <input type="checkbox"/> OTHER		
3. AIRCRAFT IDENTIFICATION (Complete all items)		
a. AIRCRAFT MAKE Ryan	b. AIRCRAFT MODEL Navion	c. AIRCRAFT SERIAL NO. Nav-4-1472
d. ENGINE MAKE Continental	e. ENGINE MODEL E-185-3	
4. AIRCRAFT REGISTRATION INFORMATION (Complete all items)		
a. REGISTERED OWNER'S FULL NAME Cassens Transport	b. PERMANENT MAILING ADDRESS Hamel, Illinois	c. AIRCRAFT NATIONALITY AND REGISTRATION MARK N-4472K
5. AIRCRAFT OWNER'S CERTIFICATION (Check and complete appropriate item)		
I hereby certify that I am the registered owner (or his agent) of the aircraft identified in Item 3 above which is registered* with the Civil Aeronautics Administration as required by the Regulations of the Administrator, Part 501 or 502 and when operated displays the following evidence of registration:		
a. <input checked="" type="checkbox"/> CERTIFICATE OF REGISTRATION, FORM ACA-500 (PART A). DATE OF ISSUE <u>July 20, 1954</u>		
b. <input type="checkbox"/> APPLICATION FOR REGISTRATION, FORM ACA-500 (PART B). FORM ACA-500, PART A, FORWARDED TO CAA AIRCRAFT RECORDS BRANCH, W-300 ON _____ (DATE)		
c. <input type="checkbox"/> DEALER'S REGISTRATION CERTIFICATE, FORM ACA-1707, DATED _____		
*In order to be eligible for registration an aircraft must be owned by a citizen of the United States, as defined by Section 1 (13) of the Civil Aeronautics Act of 1938, as amended.		
ATTACHMENTS (Check which)		<i>Ray Martins</i> (SIGNATURE OF REGISTERED OWNER OR AUTHORIZED AGENT) <u>2-25-55</u> (DATE)
<input checked="" type="checkbox"/> ACA-319 <input type="checkbox"/> WEIGHT AND BALANCE REPORT <input checked="" type="checkbox"/> ACA-337 <input type="checkbox"/> DATA, DRAWINGS, ETC. <input type="checkbox"/> ACA-317 <input type="checkbox"/> UNAPPROVED DEVIATION DATA		
_____ (TITLE)		<i>Agent</i> (TITLE)

4-19-5
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U. S. DEPARTMENT OF COMMERCE
 CIVIL AERONAUTICS ADMINISTRATION

AIRCRAFT INSPECTION REPORT

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

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

1. AIRCRAFT AND ENGINE CERTIFICATION BASIS

- a. AIRCRAFT SPECIFICATION NO. A 762 THROUGH SHEET REVISION NO. 28
- b. AIRCRAFT LISTING PAGE NO. _____
- c. AIRWORTHINESS DIRECTIVE SUMMARY 1955 THROUGH CARD NO. 55-6
(YEAR)
- d. CIVIL AIR REGULATION PART 8 (MODIFIED TYPE CERTIFICATE)

2. AIRCRAFT AND ENGINE OPERATING RECORDS

- a. AIRCRAFT NEW—NO PREVIOUS OPERATION OR MAINTENANCE HISTORY
- b. COMPLIANCE WITH APPLICABLE AIRWORTHINESS DIRECTIVES RECORDED
- c. AIRCRAFT RECORDS INDICATE THE AIRFRAME HAS BEEN OPERATED A TOTAL OF 334.5 HOURS
- d. ENGINE RECORDS INDICATE THE FOLLOWING OPERATION:

SERIAL NO. <u>50640</u>	TOTAL HOURS <u>334.5</u>
SERIAL NO. _____	TOTAL HOURS _____
SERIAL NO. _____	TOTAL HOURS _____
SERIAL NO. _____	TOTAL HOURS _____

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

- a. LAST AIRWORTHINESS INSPECTION CONDUCTED 3-24-55
(DATE)
 - BY AIRCRAFT MANUFACTURER
 - BY APPROVED REPAIR STATION, CERTIFICATE NO. _____
 - BY MECHANIC, CERTIFICATE NO. L. Eyrill A & P 1159699
- b. PERIODIC AIRCRAFT INSPECTION REPORT, FORM ACA-319, WAS RETURNED TO OWNER

4. AIRWORTHINESS DOCUMENTS ISSUED OR REVIEWED

- a. OPERATION LIMITATIONS, FORM ACA-309, WAS ISSUED (COPY ATTACHED)
- b. CURRENT OPERATION LIMITATIONS, FORM ACA-309, IS AVAILABLE IN AIRCRAFT
- c. CURRENT APPROVED AIRPLANE FLIGHT MANUAL IS AVAILABLE IN AIRCRAFT
- d. CURRENT WEIGHT AND BALANCE INFORMATION IS AVAILABLE IN AIRCRAFT
- e. THIS INSPECTION HAS BEEN RECORDED IN THE AIRCRAFT RECORDS
- f. CERTIFICATE OF AIRWORTHINESS, FORM ACA-1362, ISSUED TO EXPIRE 3-24-56
(DATE)
- g. PREVIOUS FORM ACA-1362 WAS ISSUED TO EXPIRE Feb. 16, 1955
(DATE)
 BY Wiston Aviation Jack Zihl (NAME OF ISSUING REPRESENTATIVE) Approved repair station #3735 (DESIGNATION NO.)

5. CAA APPROVED REPAIR STATION CERTIFICATION

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

AIRWORTHY
 UNAIRWORTHY

(REPAIR STATION AUTHORIZED SIGNATURE) _____
(DATE)

6. CAA REPRESENTATIVE CERTIFICATION

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

DESIGNER'S SIGNATURE <i>George Mestinas</i>	DESIGNATION NO. <u>3348</u>	DATE <u>3-25-55</u>	<input type="checkbox"/> ACCEPTED <input type="checkbox"/> REINSPECTED <input type="checkbox"/> SPOT CHECKED
AVIATION SAFETY AGENT'S SIGNATURE <i>Delij E. Sandhu</i>	CAA DESIGNATION NO. <u>N4357 B7</u>	DATE <u>3-31-55</u>	
<input type="checkbox"/> ATTACHMENT			

RECEIVED
 APR 7 4 18 PM '55
 ADMIN. & RECORDS DIVISION
 W-300

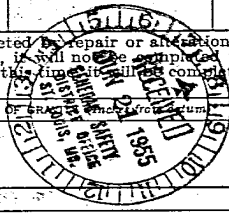
W 240

U. S. DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

Form approved
Budget Bureau No. 41-R052A

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

1. AIRCRAFT	MAKE Ryan	MODEL Navion	SERIAL NO. HAY-4-1472	NATIONALITY AND REGISTRATION MARK N 4472 Z
2. OWNER	NAME (First, middle, last) Cassens Transport Co.		ADDRESS (Street and number, city, zone and State) Hazel, Ill.	
3. COMPLETE ONLY FOR UNIT REPAIRED AND/OR ALTERED. DESCRIBE WORK ACCOMPLISHED ON REVERSE IN ACCORDANCE WITH CIVIL AERONAUTICS MANUAL 18.				
UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (Check) MAJOR REPAIR MAJOR ALTERATION
a. AIRFRAME	***** (As described in item 1 above) *****			X
b. POWERPLANT				
c. PROPELLER				
d. APPLIANCE	TYPE AND MANUFACTURER			
4. AIRCRAFT WEIGHT AND BALANCE DATA This item must be completed by repair or alteration agency. However, in the case of a spare component, it will not be completed until such component is installed in an aircraft. At this time it will be completed by the installing agency, if applicable.				
CATEGORY	EMPTY WEIGHT (Pounds)*	EMPTY CENTER OF GRAVITY (Inches from datum)	USEFUL LOAD (Pounds)*	
Standard	1826.9	+ 95.6	923.1 H 823.1 U	
5. CONFORMITY STATEMENT (Complete and check)				
a. AGENCY'S NAME AND ADDRESS		b. KIND OF AGENCY		c. CERTIFICATE NO.
Walston Aviation Box 271 East Alton, Ill.		<input type="checkbox"/> U. S. Certificated Mechanic. <input type="checkbox"/> Foreign Certificated Mechanic. <input checked="" type="checkbox"/> Certificated Repair Station. <input type="checkbox"/> Manufacturer. <input type="checkbox"/> (Check if repair or alteration was made under delegation option procedures.)		8735 <i>ann</i>
d. I certify that the repair and/or alteration made to the unit(s) identified under item 3 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 18 of the U. S. Civil Air Regulations and that the information furnished herein is true and correct to the best of my knowledge.				
June 18, 1955		Charles P. Easton		
(Date repair and/or alteration completed)		(Signature of authorized individual)		
6. APPROVAL FOR RETURN TO SERVICE (Check and complete appropriate items)				
Pursuant to the authority specified below the unit identified in item 3 was inspected in the manner prescribed by the Administrator and is				
<input checked="" type="checkbox"/> APPROVED	BY	<input type="checkbox"/> CAA Designee	<input type="checkbox"/> Manufacturer	<input type="checkbox"/> Canadian Department of Transport Inspector of Aircraft
<input type="checkbox"/> REJECTED		<input type="checkbox"/> CAA Aviation Safety Agent	<input checked="" type="checkbox"/> Repair Station	<input type="checkbox"/> Other (Specify)
June 18, 1955		Charles P. Easton Alt. Insp.		
(Date of approval or rejection)		(Signature of authorized individual; title or identification number)		
7. TO BE COMPLETED ONLY BY CAA PERSONNEL				
a. <input type="checkbox"/> Forwarded for engineering comment <input type="checkbox"/> See attached memorandum				
b. <input checked="" type="checkbox"/> Accepted <u>6-21-55</u> (Date) <input type="checkbox"/> Reinspected _____ (Date) <input type="checkbox"/> Spot-Checked _____ (Date)				
3-17		Ed. Michelson		
(CAA designation number)		(Signature Aviation Safety Agent)		



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INSTRUCTIONS

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

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

A. DESCRIPTION OF WORK ACCOMPLISHED.

Replaced rear fuselage bulkhead.
R. flap: replaced inbd. nose and main rib and upper and lower 18" inbd. segment skin.
L. flap: replaced inbd. rib, upper and lower 18" inbd. segment skin, inbd. hinge assy, center and outbd. hinge wing segment only.
Replace nose wheel and hub cap.
Replace 1. exhaust stack.
Propeller overhauled by Hartzell Propeller Co.
All repairs according to Ryan structural repair instructions.

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

Check block if additional sheets are attached.



U. S. DEPARTMENT OF COMMERCE CIVIL AERONAUTICS ADMINISTRATION				Form approved. Bridge Bureau No. 41-R052.4	
MAJOR REPAIR AND ALTERATION FORM (AIRFRAME, POWERPLANT, PROPELLER OR APPLIANCE)					
1. AIRCRAFT	MAKE Ryan	MODEL Navion	SERIAL NO. Nav-4-1472	NATIONALITY AND REGISTRATION MARK N 4472 K	
2. OWNER	NAME (First, middle, last) Cassen Transport Company		ADDRESS (Street and number, city, zone and State) Hamel, Illinois		
3. COMPLETE ONLY FOR UNIT REPAIRED AND/OR ALTERED. DESCRIBE WORK ACCOMPLISHED ON REVERSE IN ACCORDANCE WITH CIVIL AERONAUTICS MANUAL 18.					
	UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (Check)
					MAJOR REPAIR MAJOR ALTERATION
a.	AIRFRAME	***** (As described in Item 1 above) *****			X
b.	POWERPLANT				
c.	PROPELLER				
d.	APPLIANCE	TYPE AND MANUFACTURER			
4. AIRCRAFT WEIGHT AND BALANCE DATA This item must be completed by repair or alteration agency. However, in the case of a spare component, it will not be completed until such component is installed in an aircraft. At this time, it will be completed by the installing agency, if applicable. <i>*AFTER the repairs and/or alterations described below were made.</i>					
	CATEGORY	EMPTY WEIGHT (Pounds)*	EMPTY CENTER OF GRAVITY (Inches from datum)*	USEFUL LOAD (Pounds)*	
	Standard	1826.9	795.6	S. 923.1 U. 523.1	
5. CONFORMITY STATEMENT (Complete and check)					
a. AGENCY'S NAME AND ADDRESS		b. KIND OF AGENCY		c. CERTIFICATE NO.	
Lawrence R. Evritt Zelair Corporation Bryan-Defiance, Memorial Airport Defiance, Ohio		<input checked="" type="checkbox"/> U. S. Certificated Mechanic. <input type="checkbox"/> Foreign Certificated Mechanic. <input type="checkbox"/> Certificated Repair Station. <input type="checkbox"/> Manufacturer. <input type="checkbox"/> (Check if repair or alteration was made under delegation option procedures.)		A & P 1159699 <i>aw</i>	
d. I certify that the repair and/or alteration made to the unit(s) identified under item 3 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 18 of the U. S. Civil Air Regulations and that the information furnished herein is true and correct to the best of my knowledge.					
(Date repair and/or alteration completed)			(Signature of authorized individual)		
6. APPROVAL FOR RETURN TO SERVICE (Check and complete appropriate items) Pursuant to the authority specified below the unit identified in item 3 was inspected in the manner prescribed by the Administrator and is					
<input checked="" type="checkbox"/> APPROVED BY { <input checked="" type="checkbox"/> CAA Designee <input type="checkbox"/> Manufacturer <input type="checkbox"/> Canadian Department of Transport Inspector of Aircraft <input type="checkbox"/> REJECTED { <input type="checkbox"/> CAA Aviation Safety Agent <input type="checkbox"/> Repair Station <input type="checkbox"/> Other (Specify)					
March 25, 1955 (Date of approval or rejection)			<i>George Martin</i> C.A.A. # 3348 (Signature of authorized individual; title or identification number)		
7. TO BE COMPLETED ONLY BY CAA PERSONNEL					
a. <input type="checkbox"/> Forwarded for engineering comment <input type="checkbox"/> See attached memorandum					
b. <input checked="" type="checkbox"/> Accepted <u>3-31-55</u> (Date) <input type="checkbox"/> Reinspected _____ (Date) <input type="checkbox"/> Spot Checked _____ (Date)					
<u>N4257 (B)</u> (C.A.A. designation number)			<i>Delij E. Sanduski</i> (Signature Aviation Safety Agent)		

INSTRUCTIONS

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

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

8. DESCRIPTION OF WORK ACCOMPLISHED.

Removed 8428 prop blades and installed 8433 blades, overhaul by Hartzell. Installed rear mounting step as per Crescent City Aviation instructions. Replaced following factory parts 1711, 1725, 1726, 1727, 1729, 1728, 1730, 1731, 1732, 1733, 1734, 2015, 2817, 2823, 2825, 2827, 2828, installed doubler rt. side nose wheel well.

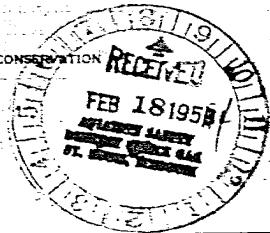
	WGT	ARM	MOM
Aircraft	1807.9	195.2	172108.2
Prop change in weight	3.0	7.	21.
Rear step	18.5	147.	2719.5
Front step removed	-2.5	67	-167.5
	1829.4		174848.7
	2.5		167.5
	1826.9		174681.2
Total	1826.9	95.6	Empty C.G.

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

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U. S. DEPARTMENT OF COMMERCE CIVIL AERONAUTICS ADMINISTRATION		Form Approved. Budget Bureau No. 41-RMLK
APPLICATION FOR AIRWORTHINESS CERTIFICATE AND/OR ANNUAL INSPECTION OF AN AIRCRAFT		INSTRUCTIONS Please print or type. Submit this form to the Civil Aeronautics Administration Aviation Safety Field Representative.
1. TYPE OF APPLICATION (Check which)		
a. <input type="checkbox"/> ORIGINAL ISSUANCE OF CERTIFICATE b. <input checked="" type="checkbox"/> ANNUAL INSPECTION FOR RENEWAL OF CERTIFICATE c. <input type="checkbox"/> AMENDMENT OR MODIFICATION OF CURRENT CERTIFICATE d. <input type="checkbox"/> RECERTIFICATION UNDER THE PROVISIONS OF CAR 8 e. <input type="checkbox"/> MULTIPLE CERTIFICATE UNDER THE PROVISIONS OF CAR 8 f. <input type="checkbox"/>		
2. AIRWORTHINESS CLASSIFICATION (Check appropriate item(s)) It is requested that the Certificate of Airworthiness be issued to permit operation of the aircraft in the following air- worthiness classification(s):		
a. <input checked="" type="checkbox"/> STANDARD (NORMAL, UTILITY, ACROBATIC, TRANSPORT CATEGORIES) b. <input type="checkbox"/> LIMITED (SEE CAR 9) c. <input type="checkbox"/> RESTRICTED (SEE CAR 8) (Check the restricted special purpose operation(s) to be conducted)		
<input type="checkbox"/> AGRICULTURAL AND PEST CONTROL <input type="checkbox"/> AERIAL ADVERTISING <input type="checkbox"/> AERIAL SURVEYING <input type="checkbox"/> GLIDER TOWING <input type="checkbox"/> PATROLLING <input type="checkbox"/> FOREST AND WILDLIFE CONSERVATION <input type="checkbox"/> WEATHER CONTROL <input type="checkbox"/> OTHER		
d. <input type="checkbox"/> EXPERIMENTAL (Check the type of experimental operation(s) to be conducted)		
<input type="checkbox"/> RESEARCH AND DEVELOPMENT <input type="checkbox"/> AMATEUR-BUILT <input type="checkbox"/> DEMONSTRATION <input type="checkbox"/> RACING <input type="checkbox"/> EXHIBITION <input type="checkbox"/> OTHER		
3. AIRCRAFT IDENTIFICATION (Complete all items)		
a. AIRCRAFT MAKE <u>Ryan</u>	b. AIRCRAFT MODEL <u>Navion</u>	c. AIRCRAFT SERIAL NO. <u>NAY-4-1472</u>
d. ENGINE MAKE <u>Continental</u>	e. ENGINE MODEL <u>E-185-3</u>	
4. AIRCRAFT REGISTRATION INFORMATION (Complete all items)		
a. REGISTERED OWNER'S FULL NAME <u>WALSTON AVIATION</u>	b. PERMANENT MAILING ADDRESS <u>Box 271 East Alton, Ill.</u>	c. AIRCRAFT NATIONALITY AND REGISTRATION MARK <u>N-4472K</u>
5. AIRCRAFT OWNER'S CERTIFICATION (Check and complete appropriate item)		
I hereby certify that I am the registered owner (or his agent) of the aircraft identified in Item 3 above which is registered* with the Civil Aeronautics Administration as required by the Regulations of the Administrator, Part 501 or 502 and when operated displays the following evidence of registration:		
a. <input type="checkbox"/> CERTIFICATE OF REGISTRATION, FORM ACA-500 (PART A), DATE OF ISSUE _____		
b. <input checked="" type="checkbox"/> APPLICATION FOR REGISTRATION, FORM ACA-500 (PART B), FORM ACA-500, PART A, FORWARDED TO CAA AIRCRAFT RECORDS BRANCH, W-300 ON <u>Feb. 15, 1954</u> (DATE)		
c. <input type="checkbox"/> DEALER'S REGISTRATION CERTIFICATE, FORM ACA-1707, DATED _____		
*In order to be eligible for registration an aircraft must be owned by a citizen of the United States, as defined by Section 1 (13) of the Civil Aeronautics Act of 1938, as amended.		
ATTACHMENTS (Check which)		
<input checked="" type="checkbox"/> ACA-319 <input type="checkbox"/> WEIGHT AND BALANCE REPORT <input type="checkbox"/> ACA-317 <input type="checkbox"/> DATA, DRAWINGS, ETC. <input type="checkbox"/> ACA-317 <input type="checkbox"/> UNAPPROVED DEVIATION DATA		
(SIGNATURE OF REGISTERED OWNER OR AUTHORIZED AGENT) <u>Jack Zisa</u> Jack Zisa		(TITLE) <u>Agent</u>
(DATE) <u>Feb. 15, 1954</u>		(TITLE)



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U. S. DEPARTMENT OF COMMERCE
 CIVIL AERONAUTICS ADMINISTRATION

AIRCRAFT INSPECTION REPORT

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

The aircraft described in Item 3 on the reverse of this form has been inspected and found to conform to the following:

1. AIRCRAFT AND ENGINE CERTIFICATION BASIS

- a. AIRCRAFT SPECIFICATION NO. 782 THROUGH SHEET REVISION NO. 26
- b. AIRCRAFT LISTING PAGE NO. _____
- c. AIRWORTHINESS DIRECTIVE SUMMARY 1954 (YEAR) THROUGH CARD NO. 54-3
- d. CIVIL AIR REGULATION PART 8 (MODIFIED TYPE CERTIFICATE)

2. AIRCRAFT AND ENGINE OPERATING RECORDS

- a. AIRCRAFT NEW—NO PREVIOUS OPERATION OR MAINTENANCE HISTORY
- b. COMPLIANCE WITH APPLICABLE AIRWORTHINESS DIRECTIVES RECORDED
- c. AIRCRAFT RECORDS INDICATE THE AIRFRAME HAS BEEN OPERATED A TOTAL OF 687:15 HOURS
- d. ENGINE RECORDS INDICATE THE FOLLOWING OPERATION:

SERIAL NO. <u>5054-D-M</u>	TOTAL HOURS <u>509:45</u>
SERIAL NO. _____	TOTAL HOURS _____
SERIAL NO. _____	TOTAL HOURS _____
SERIAL NO. _____	TOTAL HOURS _____

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

- a. LAST AIRWORTHINESS INSPECTION CONDUCTED Feb. 16, 1964 (DATE)
 - BY AIRCRAFT MANUFACTURER
 - BY APPROVED REPAIR STATION, CERTIFICATE NO. 3735
 - BY MECHANIC, CERTIFICATE NO. _____
- b. PERIODIC AIRCRAFT INSPECTION REPORT, FORM ACA-319, WAS RETURNED TO OWNER

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4. AIRWORTHINESS DOCUMENTS ISSUED OR REVIEWED

- a. OPERATION LIMITATIONS, FORM ACA-309, WAS ISSUED (COPY ATTACHED)
- b. CURRENT OPERATION LIMITATIONS, FORM ACA-309, IS AVAILABLE IN AIRCRAFT
- c. CURRENT APPROVED AIRPLANE FLIGHT MANUAL IS AVAILABLE IN AIRCRAFT
- d. CURRENT WEIGHT AND BALANCE INFORMATION IS AVAILABLE IN AIRCRAFT
- e. THIS INSPECTION HAS BEEN RECORDED IN THE AIRCRAFT RECORDS Feb. 16, 1964
- f. CERTIFICATE OF AIRWORTHINESS, FORM ACA-1362, ISSUED TO EXPIRE _____
- g. PREVIOUS FORM ACA-1362 WAS ISSUED TO EXPIRE Dec. 12, 1953 (DATE) BY Jack Zika (NAME OF ISSUING REPRESENTATIVE) 3409 (DESIGNATION NO.)

5. CAA APPROVED REPAIR STATION CERTIFICATION

The aircraft described on the reverse has been inspected under the authority accorded certificated repair station No. 3735 by CAR 52 and was found to be AIRWORTHY UNAIRWORTHY

Jack Zika
 (REPAIR STATION AUTHORIZED SIGNATURE) Feb. 16, 1964 (DATE)

6. CAA REPRESENTATIVE CERTIFICATION

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

DESIGNEE'S SIGNATURE	DESIGNATION NO.	DATE	<input checked="" type="checkbox"/> ACCEPTED <input type="checkbox"/> REINSPECTED <input type="checkbox"/> SPOT CHECKED
AVIATION SAFETY AGENT'S SIGNATURE	CAA DESIGNATION NO.	DATE	
<u>[Signature]</u>	<u>4C 257-17</u>	<u>2-26-64</u>	

ATTACHMENT

W 240

U. S. DEPARTMENT OF COMMERCE
 CIVIL AERONAUTICS ADMINISTRATION

Form approved
 Budget Bureau No. 41-R032.4

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

1. AIRCRAFT	MAKE Ryan	MODEL Havion	SERIAL NO. HAY-4-1472	NATIONALITY AND REGISTRATION MARK N 4472K Standard
2. OWNER	NAME (First, middle, last) Cassen Transport Co.		ADDRESS (Street and number, city, zone and State) Hemsl, Ill.	

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

UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (Check)	
				MAJOR REPAIR	MAJOR ALTERATION
a. AIRFRAME	***** (As described in item 1 above) *****				<input checked="" type="checkbox"/>
b. POWERPLANT					
c. PROPELLER					
d. APPLIANCE	TYPE AND MANUFACTURER				

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

CATEGORY	EMPTY WEIGHT (Pounds)*	EMPTY CENTER OF GRAVITY (Inches from datum)*	USEFUL LOAD (Pounds)*
Standard	1807.9	+ 95.2	942.1 N 542.1 U

5. CONFORMITY STATEMENT (Complete and check)

a. AGENCY'S NAME AND ADDRESS Walston Aviation Box 271 East Alton, Ill.	b. KIND OF AGENCY. <input type="checkbox"/> U. S. Certificated Mechanic. <input type="checkbox"/> Foreign Certificated Mechanic. <input checked="" type="checkbox"/> Certificated Repair Station. <input type="checkbox"/> Manufacturer. <input type="checkbox"/> (Check if repair or alteration was made under delegation option procedures.)	c. CERTIFICATE NO. 3735
--	---	-----------------------------------

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

Dec. 22, 1954 (Date of repair and/or alteration completed) Jack Zila (Signature of authorized individual)

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

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

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

Dec. 22, 1954 (Date of approval or rejection) Jack Zila, Chief Insp. (Signature of authorized individual; title or identification number)

7. TO BE COMPLETED ONLY BY CAA PERSONNEL

a. Forwarded for engineering comment See attached memorandum

b. Accepted 12-29-54 (Date) Reinspected _____ (Date) Spot Checked _____ (Date)

KC 257-17 (CAA designation number) [Signature] (Signature Aviation Safety Agent)

INSTRUCTIONS

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

8. DESCRIPTION OF WORK ACCOMPLISHED.

Removed Narco VHF radio and omni. equipment, installed according to form 337 dated Dec. 26, 1950.

Installed Narco VFR-1 omniator.

Aircraft empty weight	1810.5	195.2	172360
Transmitter, Rec., coarse selector and L-R meter removed	7	178	546
Omni converter removed	3.5	170	245
VHF power supply removed	7	160	420
Narco transmitter-Rec. & case installed	7.4	172	532.8
" YL2P-2 Power Unit	7.1	156	397.6
" Auto cable and jacks	.4	172	28.8
	<u>1807.9</u>		<u>172108.2</u>

172108.2

~~195.2~~ New E.C.G.

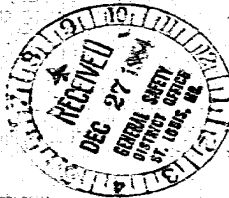
1807.9

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

Check-block if additional sheets are attached:

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U. S. DEPARTMENT OF COMMERCE
 CIVIL AERONAUTICS ADMINISTRATION

Form approved.
 Budget Bureau No. 41-20214

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

1. AIRCRAFT	MAKE <u>Ryan</u> ✓	MODEL <u>Havion</u> ✓	SERIAL NO. <u>HAV-4-1472</u> ✓	NATIONALITY AND REGISTRATION MARK <u>N4472K Standard</u>
2. OWNER	NAME (First, middle, last) <u>Cassens Transport</u> ✓		ADDRESS (Street and number, city, zone and State) <u>Hemel, Ill.</u> ✓	

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

UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (Check)	
				MAJOR REPAIR	MAJOR ALTERATION
a. AIRFRAME	***** (As described in item 1 above) *****				<input checked="" type="checkbox"/>
b. POWERPLANT					
c. PROPELLER					
d. APPLIANCE	TYPE AND MANUFACTURER				

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

CATEGORY	EMPTY WEIGHT (Pounds)*	EMPTY CENTER OF GRAVITY (Inches from datum)*	USEFUL LOAD (Pounds)*
<u>Standard</u> ✓	<u>1210.5</u> ✓	<u>4 95.2</u> ✓	<u>939.5 H</u> <u>529.5 U</u>

5. CONFORMITY STATEMENT (Complete and check)

a. AGENCY'S NAME AND ADDRESS <u>Walston Aviation</u> <u>Box 271</u> <u>East Alton, Ill.</u>	b. KIND OF AGENCY <input type="checkbox"/> U. S. Certificated Mechanic. <input type="checkbox"/> Foreign Certificated Mechanic. <input checked="" type="checkbox"/> Certificated Repair Station. <input type="checkbox"/> Manufacturer. <input type="checkbox"/> (Check if repair or alteration was made under delegation option procedures.)	c. CERTIFICATE NO. <u>3735</u>
--	--	-----------------------------------

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

Nov. 18, 1954 (Date repair and/or alteration completed) Jack Ziba (Signature of authorized individual)

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

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

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

Nov. 18, 1954 (Date of approval or rejection) Jack Ziba, Chief Insp. (Signature of authorized individual; title or identification number)

7. TO BE COMPLETED ONLY BY CAA PERSONNEL

a. Forwarded for engineering comment See attached memorandum
 b. Accepted 11-26-54 (Date) Reinspected (Date) Spot Checked (Date)

KE 257-17 (CAA designation number) [Signature] (Signature Aviation Safety Agent)

INSTRUCTIONS

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

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

5. DESCRIPTION OF WORK ACCOMPLISHED.

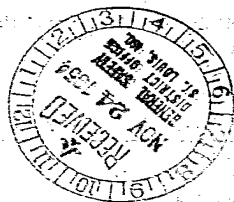
Installed flare kit item 404 A&B 16 lbs. at $\pm 188^{\circ}$

Aircraft empty weight	1794.5	± 94.4	169401
Flare installation	16	± 188	3008
	<u>1810.5</u>		<u>172408</u>

172408
1810.5 = ± 95.2 New E.C.G.

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

Check block if additional sheets are attached.

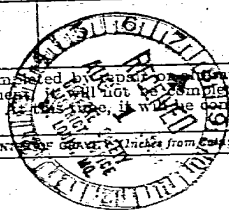
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U. S. DEPARTMENT OF COMMERCE
 CIVIL AERONAUTICS ADMINISTRATION

Form approved.
 Budget Bureau No. 41-20524

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

1. AIRCRAFT	MAKE Ryan	MODEL Navion	SERIAL NO. NAV-4-1472	NATIONALITY AND REGISTRATION MARK E 4472X Standard
2. OWNER	NAME (First, middle, last) Cassens Transport Co.		ADDRESS (Street and number, city, zone and State) Hemel, Illinois	
3. COMPLETE ONLY FOR UNIT REPAIRED AND/OR ALTERED. DESCRIBE WORK ACCOMPLISHED ON REVERSE IN ACCORDANCE WITH CIVIL AERONAUTICS MANUAL 18.				
UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (Check) MAJOR REPAIR MAJOR ALTERATION
a. AIRFRAME	***** (As described in item 1 above) *****			X
b. POWERPLANT				
c. PROPELLER				
2. APPLIANCE	TYPE AND MANUFACTURER			
4. AIRCRAFT WEIGHT AND BALANCE DATA This item must be completed by the repair station agency. However, in the case of a spare component, it will not be completed until such component is installed in an aircraft. If the item is not completed by the installing agency, if applicable.				
CATEGORY	EMPTY WEIGHT (Pounds)*	EMPTY CENTER OF GRAVITY (Inches from datum)*	USEFUL LOAD (Pounds)*	
Standard	1794.5	194.4	955.5 Normal 555.5 Utility	
5. CONFORMITY STATEMENT (Complete and check)				
a. AGENCY'S NAME AND ADDRESS Walston Aviation Box 271 East Alton, Illinois		b. KIND OF AGENCY <input type="checkbox"/> U. S. Certificated Mechanic. <input type="checkbox"/> Foreign Certificated Mechanic. <input checked="" type="checkbox"/> Certificated Repair Station. <input type="checkbox"/> Manufacturer. <input type="checkbox"/> (Check if repair or alteration was made under delegation option procedures.)		c. CERTIFICATE NO. 3735
d. I certify that the repair and/or alteration made to the unit(s) identified under item 3 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 18 of the U. S. Civil Air Regulations and that the information furnished herein is true and correct to the best of my knowledge.				
July 23, 1954 (Date repair and/or alteration completed)			Jack Zilka (Signature of authorized individual)	
6. APPROVAL FOR RETURN TO SERVICE (Check and complete appropriate items)				
Pursuant to the authority specified below the unit identified in item 3 was inspected in the manner prescribed by the Administrator and is				
<input checked="" type="checkbox"/> APPROVED <input type="checkbox"/> REJECTED	BY	<input type="checkbox"/> CAA Designee <input type="checkbox"/> CAA Aviation Safety Agent	<input type="checkbox"/> Manufacturer <input checked="" type="checkbox"/> Repair Station	<input type="checkbox"/> Canadian Department of Transport Inspector of Aircraft <input type="checkbox"/> Other (Specify)
July 29, 1954 (Date of approval or rejection)			Jack Zilka, Chief Inspector (Signature of authorized individual; title or identification number)	
7. TO BE COMPLETED ONLY BY CAA PERSONNEL				
a. <input type="checkbox"/> Forwarded for engineering comment <input type="checkbox"/> See attached memorandum				
b. <input checked="" type="checkbox"/> Accepted <u>8-5-54</u> (Date) <input type="checkbox"/> Reinspected _____ (Date) <input type="checkbox"/> Spot Checked _____ (Date)				
KC 257-17 (CAA designation number)			[Signature] (Signature Aviation Safety Agent)	



INSTRUCTIONS

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

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

3. DESCRIPTION OF WORK ACCOMPLISHED.

Installed Palo Alto Airport stabiliser angle of incidence modification kit, approved by 6th Region CAA July 20, 1952, CAA approval T.I.A. #1A741-6. See Flight Manual, revised Page 1 and 2 for operation limitations.

Installation accomplished according to Palo Alto Airport, Inc. "Instructions for Modifying Navion Tail Assemblies."

Weight change negligible.

End

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ADMIN. & RECORDS BRANCH
W-300

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



U. S. DEPARTMENT OF COMMERCE
 CIVIL AERONAUTICS ADMINISTRATION

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

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

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

1. TYPE OF APPLICATION (Check which)

<input type="checkbox"/> ORIGINAL ISSUANCE OF CERTIFICATE	<input type="checkbox"/> RECERTIFICATION UNDER THE PROVISIONS OF CAR 8
<input checked="" type="checkbox"/> ANNUAL INSPECTION FOR RENEWAL OF CERTIFICATE	<input type="checkbox"/> MULTIPLE CERTIFICATE UNDER THE PROVISIONS OF CAR 8
<input type="checkbox"/> AMENDMENT OR MODIFICATION OF CURRENT CERTIFICATE	<input type="checkbox"/>

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

<input checked="" type="checkbox"/> STANDARD (NORMAL UTILITY, ACROBATIC, TRANSPORT CATEGORIES)	
<input type="checkbox"/> LIMITED (SEE CAR 9)	
<input type="checkbox"/> RESTRICTED (SEE CAR 8)	
(Check the restricted special purpose operation(s) to be conducted)	
<input type="checkbox"/> AGRICULTURAL AND PEST CONTROL	<input type="checkbox"/> PATROLLING
<input type="checkbox"/> AERIAL ADVERTISING	<input type="checkbox"/> FOREST AND WILDLIFE CONSERVATION
<input type="checkbox"/> AERIAL SURVEYING	<input type="checkbox"/> WEATHER CONTROL
<input type="checkbox"/> GLIDER TOWING	<input type="checkbox"/> OTHER
<input type="checkbox"/> EXPERIMENTAL	
(Check the type of experimental operation(s) to be conducted)	
<input type="checkbox"/> RESEARCH AND DEVELOPMENT	<input type="checkbox"/> RACING
<input type="checkbox"/> AMATEUR-BUILT	<input type="checkbox"/> EXHIBITION
<input type="checkbox"/> DEMONSTRATION	<input type="checkbox"/> OTHER

3. AIRCRAFT IDENTIFICATION (Complete all items)

a. AIRCRAFT MAKE Navion	b. AIRCRAFT MODEL A	c. AIRCRAFT SERIAL NO. Nav-4-1472
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d. ENGINE MAKE Continental	e. ENGINE MODEL E185-3
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4. AIRCRAFT REGISTRATION INFORMATION (Complete all items)

a. REGISTERED OWNER'S FULL NAME Robert B. Lynn	b. PERMANENT MAILING ADDRESS Elgen Bldg. 209 Henry Street Alton, Illinois	c. AIRCRAFT NATIONALITY AND REGISTRATION MARK N- 4472K
---	--	---

12-31-2

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

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

<input type="checkbox"/> CERTIFICATE OF REGISTRATION, FORM ACA-500 (PART A), DATE OF ISSUE _____
<input checked="" type="checkbox"/> APPLICATION FOR REGISTRATION, FORM ACA-500 (PART B), FORM ACA-500, PART A, FORWARDED TO CAA AIRCRAFT RECORDS BRANCH, W-300 ON <u>Oct. 30, 1952</u>
<input type="checkbox"/> DEALER'S REGISTRATION CERTIFICATE, FORM ACA-1702, DATED _____

*In order to be eligible for registration an aircraft must be owned by a citizen of the United States, as defined by Section 1 (13) of the Civil Aeronautics Act of 1938, as amended.

ATTACHMENTS (Check which)

<input checked="" type="checkbox"/> ACA-319	<input type="checkbox"/> WEIGHT AND BALANCE REPORT
<input type="checkbox"/> ACA-337	<input type="checkbox"/> DATA, DRAWINGS, ETC.
<input type="checkbox"/> ACA-317	<input type="checkbox"/> UNAPPROVED DEVIATION DATA

Jack Zela
 Jack Zela
 (SIGNATURE OF REGISTERED OWNER OR AUTHORIZED AGENT)
 Agent
 Dec. 12, 1952
 (DATE) (TITLE)

U. S. DEPARTMENT OF COMMERCE
 CIVIL AERONAUTICS ADMINISTRATION

AIRCRAFT INSPECTION REPORT

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

The aircraft described in Item 3 on the reverse of this form has been inspected and found to conform to the following:

(Check and complete applicable items)

1. AIRCRAFT AND ENGINE CERTIFICATION BASIS

- a. AIRCRAFT SPECIFICATION NO. 782 THROUGH SHEET REVISION NO. 18
- b. AIRCRAFT LISTING PAGE NO. _____
- c. AIRWORTHINESS DIRECTIVE SUMMARY 1952 THROUGH CARD NO. 27
(YEAR)
- d. CIVIL AIR REGULATION PART 8 (MODIFIED TYPE CERTIFICATE)

2. AIRCRAFT AND ENGINE OPERATING RECORDS

- a. AIRCRAFT NEW—NO PREVIOUS OPERATION OR MAINTENANCE HISTORY
- b. COMPLIANCE WITH APPLICABLE AIRWORTHINESS DIRECTIVES RECORDED
- c. AIRCRAFT RECORDS INDICATE THE AIRFRAME HAS BEEN OPERATED A TOTAL OF 473:15 HOURS
- d. ENGINE RECORDS INDICATE THE FOLLOWING OPERATION:

SERIAL NO. <u>5064D</u>	TOTAL HOURS <u>385:45</u>
SERIAL NO. _____	TOTAL HOURS _____
SERIAL NO. _____	TOTAL HOURS _____
SERIAL NO. _____	TOTAL HOURS _____

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

- a. LAST AIRWORTHINESS INSPECTION CONDUCTED Dec. 12, 1952
(DATE)
 BY AIRCRAFT MANUFACTURER
 BY APPROVED REPAIR STATION, CERTIFICATE NO. _____
 BY MECHANIC, CERTIFICATE NO. 550055 and 1001949
- b. PERIODIC AIRCRAFT INSPECTION REPORT, FORM ACA-319, WAS RETURNED TO OWNER

4. AIRWORTHINESS DOCUMENTS ISSUED OR REVIEWED

- a. OPERATION LIMITATIONS, FORM ACA-309, WAS ISSUED (COPY ATTACHED)
- b. CURRENT OPERATION LIMITATIONS, FORM ACA-309, IS AVAILABLE IN AIRCRAFT
- c. CURRENT APPROVED AIRPLANE FLIGHT MANUAL IS AVAILABLE IN AIRCRAFT
- d. CURRENT WEIGHT AND BALANCE INFORMATION IS AVAILABLE IN AIRCRAFT
- e. THIS INSPECTION HAS BEEN RECORDED IN THE AIRCRAFT RECORDS Dec. 12, 1953
- f. CERTIFICATE OF AIRWORTHINESS, FORM ACA-1362, ISSUED TO EXPIRE _____
(DATE)
- g. PREVIOUS FORM ACA-1362 WAS ISSUED TO EXPIRE Jan. 9, 1953
(DATE)
 BY W. M. Gould 5351
(NAME OF ISSUING REPRESENTATIVE) (DESIGNATION NO.)

RECEIVED
 CERTIFICATE SECTION
 Dec 30 3 42 PM '52

5. CAA APPROVED REPAIR STATION CERTIFICATION

The aircraft described on the reverse has been inspected under the authority accorded certified repair station No. _____ by CAE 52 and was found to be:
 AIRWORTHY
 UNAIRWORTHY
(REPAIR STATION AUTHORIZED SIGNATURE) (DATE)

6. CAA REPRESENTATIVE CERTIFICATION

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

DESIGNEE'S SIGNATURE <u>Jack Zeln</u>	DESIGNATION NO. <u>3409</u>	DATE <u>Dec. 12, 1952</u>	<input checked="" type="checkbox"/> ACCEPTED <input type="checkbox"/> REINSPECTED <input type="checkbox"/> SPOT CHECKED
AVIATION SAFETY AGENT'S SIGNATURE <u>Robert E. Band</u>	CAA DESIGNATION NO. <u>3-579A-17</u>	DATE <u>12-19-52</u>	

ATTACHMENT



U. S. DEPARTMENT OF COMMERCE CIVIL AERONAUTICS ADMINISTRATION				Form approved. Budget Bureau No. 41-R053.4	
MAJOR REPAIR AND ALTERATION FORM (AIRFRAME, POWERPLANT, PROPELLER OR APPLIANCE)					
1. AIRCRAFT	MAKE Ryan	MODEL Navion	SERIAL NO. NAV-4-1472	NATIONALITY AND REGISTRATION MARK N 4472K(Standard)	
2. OWNER	NAME (First, middle, last) Robert B. Lynn, M.D.		ADDRESS (Street and number, city, zone and State) Elfgan Building, 209 Henry Street, Alton, Illinois		
3. COMPLETE ONLY FOR UNIT REPAIRED AND/OR ALTERED. DESCRIBE WORK ACCOMPLISHED ON REVERSE IN ACCORDANCE WITH CIVIL AERONAUTICS MANUAL 18.					
UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (Check)	
				MAJOR REPAIR	MAJOR ALTERATION
a. AIRFRAME	***** (As described in item 1 above) *****				X
b. POWERPLANT					
c. PROPELLER					
d. APPLIANCE	TYPE AND MANUFACTURER				
4. AIRCRAFT WEIGHT AND BALANCE DATA <small>This item must be completed by repair or alteration agency. However, in the case of a spare component, it will not be completed until such component is installed in an aircraft. At this time, it will be completed by the installing agency, if applicable.</small>					
<small>*AFTER the repairs and/or alterations described below were made.</small>					
CATEGORY	EMPTY WEIGHT (Pounds)*	EMPTY CENTER OF GRAVITY (Inches from datum)*		USEFUL LOAD (Pounds)*	
Standard	1794.5	794.4		955.5 Normal 555.5 Utility	
5. CONFORMITY STATEMENT (Complete and check)					
a. AGENCY'S NAME AND ADDRESS Walston Aviation Box 271 East Alton, Illinois			b. KIND OF AGENCY <input type="checkbox"/> U. S. Certificated Mechanic. <input type="checkbox"/> Foreign Certificated Mechanic. <input checked="" type="checkbox"/> Certificated Repair Station. <input type="checkbox"/> Manufacturer. <input type="checkbox"/> (Check if repair or alteration was made under delegation option procedures)		c. CERTIFICATE NO. 3735
6. I certify that the repair and/or alteration made to the unit(s) identified under item 3 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 18 of the U. S. Civil Air Regulations and that the information furnished herein is true and correct to the best of my knowledge.					
<u>April 16, 1953</u> <small>(Date repair and/or alteration completed)</small>			<u>Jack Ziba</u> <small>(Signature of authorized individual)</small>		
6. APPROVAL FOR RETURN TO SERVICE (Check and complete appropriate items)					
Pursuant to the authority specified below the unit identified in item 3 was inspected in the manner prescribed by the Administrator and is					
<input checked="" type="checkbox"/> APPROVED } BY { <input checked="" type="checkbox"/> CAA Designee <input type="checkbox"/> Manufacturer <input type="checkbox"/> Canadian Department of Transport Inspector of Aircraft <input type="checkbox"/> REJECTED } <input type="checkbox"/> CAA Aviation Safety Agent <input type="checkbox"/> Repair Station <input type="checkbox"/> Other (Specify)					
<u>April 16, 1953</u> <small>(Date of approval or rejection)</small>			<u>Jack Ziba 3409</u> <small>(Signature of authorized individual; title or identification number)</small>		
7. TO BE COMPLETED ONLY BY CAA PERSONNEL					
a. <input type="checkbox"/> Forwarded for engineering comment <input type="checkbox"/> See attached memorandum					
b. <input checked="" type="checkbox"/> Accepted <u>4-70-51</u> (Date) <input type="checkbox"/> Reinspected (Date) <input type="checkbox"/> Spot Checked (Date)					
<u>3-579M-17</u> <small>(CAA designation number)</small>			<u>Robert C. Bond</u> <small>(Signature Aviation Safety Agent)</small>		

INSTRUCTIONS

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

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

5. DESCRIPTION OF WORK ACCOMPLISHED.*

Installed Remote Indicating Compass as follows: Indicator 1 lb. at /71", Inverter 2 lb. at /158", and Transmitter 3 lbs. at /166".
 Installed Attitude Gyro, Suction Gauge, Suction Regulator, and 4" Venturri as follows: Venturri 1 lb. at /67", Suction Regulator .5 lb. at /69", Suction Gauge .5 lbs. at /66", Attitude Gyro 3 lbs. at /71".

Aircraft Empty Weight	1783.5	/94.30	168184
R.I.C. Indicator installed	1	/71	71
R.I.C. Inverter installed	2	/158	318
R.I.C. Transmitter installed	3	/166	498
4" Venturri installed	1	/67	67
Suction Regulator installed	.5	/69	34.5
Suction Gauge installed	.5	/66	33
Attitude Gyro installed	3	/71	213
	<u>1794.5</u>		<u>169416.5</u>

1794.5
 169416.5 = /94.4 New E.C.G.

End

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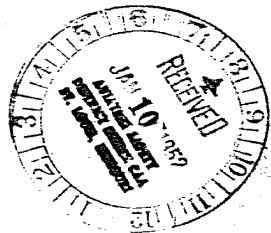
APR 27 2 16 PM '53

ADMIN. & RECORDS BRANCH
 W-300

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

Check block if additional sheets are attached.

Form ACA-305 (11-49) DEPARTMENT OF COMMERCE AERONAUTICS ADMINISTRATION		Form Approved 1st Bureau No. 41-RM14	
APPLICATION FOR AIRWORTHINESS CERTIFICATE AND/OR ANNUAL INSPECTION OF AN AIRCRAFT		INSTRUCTIONS Please submit this form to the Civil Aeronautics Administration Aviation Safety Field Representative	
1. APPLICATION (CHECK WHETHER) <input type="checkbox"/> ORIGINAL AIRWORTHINESS CERTIFICATE <input checked="" type="checkbox"/> ANNUAL INSPECTION		2. AIRWORTHINESS CLASSIFICATION <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> RESTRICTED <input type="checkbox"/> EXPERIMENTAL <input type="checkbox"/> LIMITED <input type="checkbox"/> OTHER	
AIRCRAFT			
3. MAKE <u>Ryan</u>		5. NATIONALITY AND REGISTRATION MARK <u>N41725</u>	
4. MODEL <u>Navion A</u>		6. MANUFACTURER'S SERIAL NO. <u>NAV-4-1172</u>	
ENGINE			
7. MAKE <u>Continental</u>		8. MODEL <u>E-185-3</u>	
9. OWNER'S NAME <u>Rhodes & Rodier Company</u>		10. (GIVE ADDRESS ONLY IF IT HAS BEEN CHANGED FROM THAT GIVEN ON YOUR CERTIFICATE OF REGISTRATION, FORM ACA-500)	
11. ATTACHMENTS (CHECK WHICH) <input checked="" type="checkbox"/> ACA-315 <input type="checkbox"/> WEIGHT AND BALANCE REPORT <input type="checkbox"/> ACA-357 <input type="checkbox"/> DATA, DRAWINGS, ETC. <input type="checkbox"/> ACA-317 <input type="checkbox"/> UNAPPROVED DEVIATION DATA		12. I CERTIFY that the above statements are true. <div style="text-align: right;"> <i>H. M. Gould</i> H. M. GOULD (OWNER OR AUTHORIZED AGENT) </div> Jan. 9, 1952 (DATE) Agent (TITLE)	
Form ACA-305a (11-49) AIRCRAFT INSPECTION REPORT (To be completed by CAA representatives)			
13. It has been determined that the aircraft described in 305 above is in conformity with the following: (CHECK AND COMPLETE APPLICABLE ITEMS)			
a. <input checked="" type="checkbox"/> AIRCRAFT SPECIFICATION NO. <u>782</u> THROUGH SHEET REVISION NO. <u>16</u> b. <input type="checkbox"/> AIRCRAFT LISTING PAGE NO. _____ c. <input checked="" type="checkbox"/> AIRWORTHINESS DIRECTIVE SUMMARY <u>1951</u> (YEAR) THROUGH CARD NO. <u>29</u> d. <input type="checkbox"/> OPERATIONS LIMITATIONS FORM ACA-309 ISSUED. e. <input type="checkbox"/> OPERATIONS LIMITATIONS FORM ACA-309 IS AVAILABLE IN AIRCRAFT. f. <input checked="" type="checkbox"/> CURRENT, APPROVED, AIRPLANE FLIGHT MANUAL IS AVAILABLE IN AIRCRAFT. g. <input checked="" type="checkbox"/> ALL APPLICABLE NOTES, INSTRUMENT MARKINGS, AND PLACARDS HAVE BEEN COMPLIED WITH. h. <input checked="" type="checkbox"/> CERTIFICATE OF AIRWORTHINESS FORM ACA-132 WAS ISSUED.			
FINDINGS			
14. <input checked="" type="checkbox"/> AIRWORTHY <input type="checkbox"/> UNAIRWORTHY		15. DESIGNER'S SIGNATURE <i>H. M. Gould</i>	
16. DESIGNATION NO. <u>5351</u>		17. DATE <u>Jan. 9, 1952</u>	
18. AVIATION SAFETY AGENT'S SIGNATURE <i>Edward D. ...</i>		19. <input checked="" type="checkbox"/> ACCEPTED <input type="checkbox"/> REINSPECTED	
		20. DATE <u>1-18-52</u>	
21. REASON FOR DISAPPROVAL, OR REMARKS (INDICATE IF YOU HAVE USED THE REVERSE TO CONTINUE THIS OR OTHER ITEM) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			



aw
1-29-52
700

FAA AIRCRAFT REGISTRY

CAMERA NO.

411

DATE:

12-4-84

RECEIVED
CERTIFICATE SECTION

JAN 22 8 40 AM '82

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CRB

REPAIR AND ALTERATION FORM (AIRCRAFT, PROPELLERS, ENGINES, INSTRUMENTS)

INSTRUCTIONS.—This form must be filled out in duplicate each time a major repair and/or alteration is made of an aircraft, propeller, engine, or instrument, as follows:
 (A) For an Aircraft.—Complete items 1, 2, 3a, 4, 5, 6, and 7, and submit to CAA representative for approval.
 (B) For a Component Installed in an Aircraft.—Complete items 1, 2, 3 (b, c, or d, whichever is applicable), 4, 5, and 6, and submit as described in (A) above.
 (C) For a Spare Component.—Complete items 3 (b, c, or d), 5, and 6, and submit to CAA representative for approval. When approved, retain both copies of this form with the component until installation on an aircraft. At that time items 1, 2, and 4 must be completed by the installing agency which will then forward forms as described in (A) above.

1. AIRCRAFT	MAKE <u>Ryan</u>	MODEL <u>Navion</u>	SERIAL NO. <u>NAV-4-1472</u>	CAA IDENTIFICATION MARK <u>N4472K (Standard)</u>
2. OWNER	NAME (First, middle, last) <u>Rhodes & Rodier Co.</u>		ADDRESS (Street and number, city, zone, and State) <u>Springfield, Illinois</u>	

3. FILL IN INFORMATION IN THIS ITEM ONLY FOR THE UNIT REPAIRED AND/OR ALTERED

UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (Check)	
				MAJOR REPAIR	MAJOR ALTERATION
a. AIRCRAFT	***** (As described in item 1 above) *****				<input checked="" type="checkbox"/>
b. PROPELLER BLADE OR HUB					
c. ENGINE					
d. INSTRUMENT	TYPE AND MANUFACTURER				

The following items are to be completed by repair or alteration agency. However, in the case of a spare component, item 4 will not be completed until such component is installed in an aircraft. At this time, item 4 will be completed by the installing agency, if applicable.

4. AIRCRAFT	EMPTY WEIGHT (Pounds)* <u>1783.5</u>	EMPTY CENTER OF GRAVITY (Inches from datum)* <u>194.30 aft of datum</u>	USEFUL LOAD (Pounds)* <u>N966.5</u>	<u>U566.5</u>
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* After the repairs and/or alterations described below were made.

5. KIND OF AGENCY WHICH MADE REPAIRS AND/OR ALTERATIONS (Check)

MANUFACTURER APPROVED REPAIR STATION NO. _____ (Specify) CERTIFIED MECHANIC

6. AGENCY	NAME <u>F.W. Statkus</u>	ADDRESS (Street and number, city, zone, and State) <u>Champaign Airport Champaign, Illinois</u>	DATE WORK ACCOMPLISHED <u>12/26/50</u>
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7. DESCRIPTION OF WORK ACCOMPLISHED IN ACCORDANCE WITH PART 18 OF THE CIVIL AIR REGULATIONS AND ITS ASSOCIATED CIVIL AERONAUTICS MANUAL 18. (IF MORE SPACE IS NEEDED, CONTINUE ON REVERSE OR ATTACH SEPARATE SHEETS BEARING AIRCRAFT IDENTIFICATION MARK.)

Complete Narco VHF Radio & Omni Equipment installed. Net Wt. increase 19.5 lbs.
See reverse side for wt & balance data.

Raw

I CERTIFY that the above statements are true and correct to the best of my knowledge. JAN 17 A.M.

Frank W. Statkus A&E 121155 12/26/50
(Signature of supervising mechanic) (Certificate number and rating) (Date)

TO BE COMPLETED BY CAA REPRESENTATIVES

<input checked="" type="checkbox"/> APPROVED	SIGNATURE OF DESIGNEE <u>Frank W. Statkus</u>	NO.	DATE
<input type="checkbox"/> REJECTED		3438	12/26/50
<input type="checkbox"/> FORWARDED FOR ENGINEERING APPROVAL	SIGNATURE OF INSPECTOR <u>J.B. Beale</u>	<input checked="" type="checkbox"/> ACCEPTED	DATE 12-29-50
		<input type="checkbox"/> REINSPECTED	

Wt & Balance Data

	Wt.	Arm	Moment
Acft Empty (Computed)	1764.	#94.56	166803.84
Emitter-Rec'r-course selector-LR Meter	7.0	#78.	546.
Omni Converter	3.5	#70.	245.
VHF power supply	7.0	#60.	420.
V Antenna	2.0	#96.0	192.
	<u>1783.5</u>		<u>168206.84</u>

$\frac{168206.84}{1783.5} = 94.30$ New E.C.G.

Allowable E.C.G. in accordance with Aircraft Spec A-782 is (93.9) to (95.3)

12-07-84 01-82 WPT

Form ACA-305 (12-47)		PARTMENT OF COMMERCE CIVIL AERONAUTICS ADMINISTRATION		FORM APPROVED BUREAU NO. 41-RM1.3	
APPLICATION FOR AIRWORTHINESS CERTIFICATE AND/OR ANNUAL INSPECTION OF AN AIRCRAFT				INSTRUCTIONS Please submit this form to the Civil Aeronautics Administration Field Representative	
APPLICATION (Check whether)		AIRWORTHINESS CLASSIFICATION			
<input type="checkbox"/> ORIGINAL AIRWORTHINESS CERTIFICATE		<input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> RESTRICTED			
<input checked="" type="checkbox"/> ANNUAL INSPECTION		<input type="checkbox"/> EXPERIMENTAL <input type="checkbox"/> LIMITED <input type="checkbox"/> OTHER			
AIRCRAFT					
MAKE <u>Ryan Aeronautical Co.</u>		MODEL <u>Navion A</u>		TYPE CERTIFICATE NO. <u>782</u>	
REGISTRATION NO. <u>N4472K</u>		MANUFACTURER'S SERIAL NO. <u>NAV-4-1472</u>			
ENGINE					
MAKE <u>Continental</u>		MODEL <u>E-185-5</u>			
OWNER'S NAME <u>Rhodes & Rodier Company</u>		PERMANENT ADDRESS (Street and number, city, zone, and State) <u>511 East Capital Ave. Springfield, Illinois</u>			
ATTACHMENTS (Check which)		I CERTIFY that the above statements are true.			
<input checked="" type="checkbox"/> ACA-319 <input type="checkbox"/> WEIGHT AND BALANCE REPORT		Dec. 16, 1950 <u>[Signature]</u> (DATE) Agent (TITLE)			
<input type="checkbox"/> ACA-337 <input type="checkbox"/> DATA, DRAWINGS, ETC.					
<input type="checkbox"/> ACA-317 <input type="checkbox"/> UNAPPROVED DEVIATION DATA					
Form ACA-305a AIRCRAFT INSPECTION REPORT (To be completed by a CAA inspector or a designated inspector or representative)					
It has been determined that the aircraft described in 305 above is in conformity with the following:					
ALL APPLICABLE MANDATORY NOTES, INSTRUMENT MARKINGS AND PLACARDING REQUIREMENTS HAVE BEEN COMPLIED WITH <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
AIRCRAFT SPECIFICATION—AIRWORTHINESS DIRECTIVE NO(S). A <u>782, Rev. 12; ADS thru 50-49</u> (Specify)					
FORM ACA-1362, CERTIFICATE OF AIRWORTHINESS, ISSUED <input type="checkbox"/> ORIGINAL <input checked="" type="checkbox"/> ANNUAL INSPECTION					
(Check whether)					
<input type="checkbox"/> OPERATION LIMITATIONS FORM ACA-309 WAS ISSUED, OR					
<input checked="" type="checkbox"/> APPROVED AIRPLANE FLIGHT MANUAL IS IN THE AIRCRAFT					
FINDINGS					
<input checked="" type="checkbox"/> AIRWORTHY <input type="checkbox"/> UNAIRWORTHY	DESIGNEE'S SIGNATURE AND NO. <u>[Signature]</u> <u>3369</u>		DATE <u>12-16-50</u>		
	CAA INSPECTOR'S SIGNATURE <u>[Signature]</u>		<input checked="" type="checkbox"/> ACCEPTED <input type="checkbox"/> REINSPECTED DATE <u>1-3-51</u>		
REASON FOR DISAPPROVAL, OR REMARKS (Indicate if you have used the reverse to continue this or other item.) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					

JAN 2 A.M. [Signature]
5-21-11
7-3

FAA AIRCRAFT REGISTRY

CAMERA NO.

411

DATE:

12-4-84

DEPT OF COMMERCE
CIVIL AERONAUTICS ADM.
FEB 19 12 17 PM '51
MAIL ROOM - 2
WASHINGTON

Form ACA-837
 (1-7-46)

DEPARTMENT OF COMMERCE
 CIVIL AERONAUTICS ADMINISTRATION

Budget Bureau No. 41-R022.1
 Approval expires December 31, 1948.

REPAIR AND ALTERATION FORM (AIRCRAFT, PROPELLERS, ENGINES, INSTRUMENTS)

INSTRUCTIONS.—This form must be filled out in duplicate each time a major repair and/or alteration is made of an aircraft, propeller, engine, or instrument, as follows:

- (A) For an Aircraft.—Complete items 1, 2, 3a, 4, 5, 6, and 7, and submit to CAA representative for approval.
- (B) For a Component Installed in an Aircraft.—Complete items 1, 2, 3 (b, c, or d, whichever is applicable), 4, 5, and 6, and submit as described in (A) above.
- (C) For a Spare Component.—Complete items 3 (b, c, or d), 5, and 6, and submit to CAA representative for approval. When approved, retain both copies of this form with the component until installation on an aircraft. At that time items 1, 2, and 4 must be completed by the installing agency which will then forward forms as described in (A) above.

1. AIRCRAFT	MAKE Ryan	MODEL Navion	SERIAL NO. 1472	CAA IDENTIFICATION MARK N4472K
2. OWNER	NAME (First, middle, last) Raodes & Rodier Co.			
	ADDRESS (Street and number, city, zone, and State) Springfield, Illinois			

3. FILL IN INFORMATION IN THIS ITEM ONLY FOR THE UNIT REPAIRED AND/OR ALTERED

UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (Check)	
				MAJOR REPAIR	MAJOR ALTERATION
a. AIRCRAFT	***** (As described in item 1 above) *****				
b. PROPELLER BLADE OR HUB					X
c. ENGINE					
d. INSTRUMENT	TYPE AND MANUFACTURER				

The following items are to be completed by repair or alteration agency. However, in the case of a spare component, item 4 will not be completed until such component is installed in an aircraft. At this time, item 4 will be completed by the installing agency, if applicable.

4. AIRCRAFT	EMPTY WEIGHT (Pounds) 1764	EMPTY CENTER OF GRAVITY (Inches from datum)* 94.56 Aft of datum	USEFUL LOAD (Pounds)* N-986 U-586
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* After the repairs and/or alterations described below were made.

5. KIND OF AGENCY WHICH MADE REPAIRS AND/OR ALTERATIONS (Check)

MANUFACTURER APPROVED REPAIR STATION NO. _____ (Specify)

CERTIFIED MECHANIC

6. AGENCY	NAME F. W. Statkus	ADDRESS (Street and number, city, zone, and State) Champaign Airport Champaign, Illinois	DATE WORK ACCOMPLISHED 10/27/48
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7. DESCRIPTION OF WORK ACCOMPLISHED IN ACCORDANCE WITH PART 18 OF THE CIVIL AIR REGULATIONS AND ITS ASSOCIATED CIVIL AERONAUTICS MANUAL 18. (IF MORE SPACE IS NEEDED, CONTINUE ON REVERSE OR ATTACH SEPARATE SHEETS BEARING AIRCRAFT IDENTIFICATION MARK.)

Installed Tennes-Navion landing gear fairings on main landing gear in accordance with Tennes drawings #T-101 and #T-200-01.

I CERTIFY that the above statements are true and correct to the best of my knowledge.

F. W. Statkus (Signature of supervising mechanic) **A&E 121155** (Certificate number and rating) **10/27/48** (Date)

OCT 28 P.M.

TO BE COMPLETED BY CAA REPRESENTATIVES

<input checked="" type="checkbox"/> APPROVED	SIGNATURE OF INSPECTOR <i>J. B. Beals</i>	NO. 3434	DATE 10/27/48
<input type="checkbox"/> REJECTED		<input checked="" type="checkbox"/> ACCEPTED	DATE 10-28-48
<input type="checkbox"/> FORWARDED FOR ENGINEERING APPROVAL		<input type="checkbox"/> REINSPECTED	

Weight & Balance Data

	Wt.	Arm	Moment
Aircraft Empty	1750	94.48	165906.88
Pairing Kit	8	114.	912.
New empty Wt.	1764		166818.88

$\frac{166818.88}{1764} = 94.56$ New empty C.G.

Most foward C.G. check

	Wt.	Arm	Moment
Aircraft	1764.	9456	166818.88
Pilot	170.	96.	16320.
Pass. (Front)	170.	96.	16320.
Oil 10 qts.	19.	39.	741.
Fuel 15.3 gals (Min)	92.	103.	9476.
	2215.		209495.88

$\frac{209495.88}{2215} = 94.58$ Most foward C.G. Within limits so is considered satisfactory.

Aircraft Specification A-78E-3 C.G. Range /93.9 to /104.9

NOV 4 9 20 AM '84
 MAIL ROOM - 1
 WASHINGTON
 DEPARTMENT OF COMMERCE
 CIVIL AERONAUTICS ADMIN.

Form ACA-337 (11-7-40)		DEPARTMENT OF COMMERCE CIVIL AERONAUTICS ADMINISTRATION		Budget Bureau No. 41-R052.1 Approval expires December 31, 1948.	
REPAIR AND ALTERATION FORM (AIRCRAFT, PROPELLERS, ENGINES, INSTRUMENTS)					
INSTRUCTIONS.—This form must be filled out in duplicate each time a major repair and/or alteration is made of an aircraft, propeller, engine, or instrument, as follows: (A) For an Aircraft.—Complete items 1, 2, 3a, 4, 5, 6, and 7, and submit to CAA representative for approval. (B) For a Component Installed in an Aircraft.—Complete items 1, 2, 3 (b, c, or d, whichever is applicable), 4, 5, and 6, and submit as described in (A) above. (C) For a Spare Component.—Complete items 3 (b, c, or d), 5, and 6, and submit to CAA representative for approval. When approved, retain both copies of this form with the component until installation on an aircraft. At that time items 1, 2, and 4 must be completed by the installing agency which will then forward forms as described in (A) above.					
1. AIRCRAFT	MAKE Ryan	MODEL Navion	SERIAL NO. 1472	CAA IDENTIFICATION MARK N4472K	
2. OWNER	NAME (First, middle, last) Ryan Aeronautical Company		ADDRESS (Street and number, city, state, and State) 2701 Harbor Drive, San Diego, California.		
3. FILL IN INFORMATION IN THIS ITEM ONLY FOR THE UNIT REPAIRED AND/OR ALTERED					
	UNIT	MAKE	MODEL	SERIAL NO.	NATURE OF WORK (Check) MAJOR REPAIR MAJOR ALTERATION
	AIRCRAFT	***** (As described in item 1 above) *****			X
	PROPPELLER BLADE OR HUB				
	ENGINE				
	INSTRUMENT	TYPE AND MANUFACTURER			
The following items are to be completed by repair or alteration agency. However, in the case of a spare component, item 4 will not be completed until such component is installed in an aircraft. At this time, item 4 will be completed by the installing agency, if applicable.					
4. AIRCRAFT	EMPTY WEIGHT (Pounds)* 1756	EMPTY CENTER OF GRAVITY (Inches from datum)* 94.48 aft of datum	USEFUL LOAD (Pounds)* N-994 U-594		
* After the repairs and/or alterations described below were made.					
5. KIND OF AGENCY WHICH MADE REPAIRS AND/OR ALTERATIONS (Check)					
<input checked="" type="checkbox"/> MANUFACTURER <input type="checkbox"/> APPROVED REPAIR STATION NO. _____ (Specify) <input type="checkbox"/> CERTIFIED MECHANIC					
6. AGENCY	NAME Ryan Aeronautical Co.	ADDRESS (Street and number, city, state, and State) 2701 Harbor Drive, San Diego, Calif.		DATE WORK ACCOMPLISHED 8-26-48	
7. DESCRIPTION OF WORK ACCOMPLISHED IN ACCORDANCE WITH PART 18 OF THE CIVIL AIR REGULATIONS AND ITS ASSOCIATED CIVIL AERONAUTICS MANUAL 18. (IF MORE SPACE IS NEEDED, CONTINUE ON REVERSE OR ATTACH SEPARATE SHEETS BEARING AIRCRAFT IDENTIFICATION MARK.)					
Removed: Aeromatic Propeller Item 2 Wt. 53# Arm 7" Installed: Hartzell Propeller Item 1a Wt. 62# Arm 7" Control, Valve and Piping Item 1b Wt. 2# Arm 56" Cabin Heater Item 407 Wt. 12# Arm 47" (See reverse side for balance computations)					
I CERTIFY that the above statements are true and correct to the best of my knowledge.					
Bert A. Averett <i>Bert A. Averett</i>		M&E 16270		8-26-48	
(Signature of supervising mechanic)		(Certificate number and rating)		(Date)	
TO BE COMPLETED BY CAA REPRESENTATIVES					
<input checked="" type="checkbox"/> APPROVED	SIGNATURE OF DESIGNEE Bert A. Averett <i>Bert A. Averett</i>		NO. 6294	DATE 8-26-48	
<input type="checkbox"/> REJECTED	SIGNATURE OF INSPECTOR <i>H. G. Stout</i>		<input checked="" type="checkbox"/> ACCEPTED	DATE Sept. 1, 1948	
<input type="checkbox"/> FORWARDED FOR ENGINEERING APPROVAL			<input type="checkbox"/> REINSPECTED		

	<u>Weight</u>	<u>Arm</u>	<u>Moment</u>
Aircraft	1733	95.31	165172
Aeromatic Propeller	-53	7.00	-371
Hartzell Propeller	62	7.00	434
Control, Valve and piping	2	56.00	112
Cabin Heater	12	47.00	564
	<u>1756</u>		<u>165911</u>

$\frac{165911}{1756} = 94.48$ Empty C.G. aft of datum.

C.G. Moved Forward.

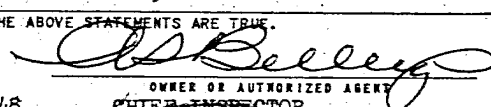
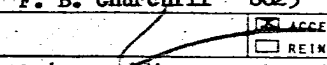
Most Forward Loading 94.59

Approved Limit 93.9

Aircraft	1756	94.48	165911
Pilot	170	96.00	16320
Passenger (front)	170	96.00	16320
Oil 10 qts.	19	39.00	741
Fuel 15.3 gal. (min.)	92	103.00	9476
	<u>2207</u>		<u>208768</u>

$\frac{208768}{2207} = 94.59$

WASHINGTON
 2-11-84
 04-11-84
 02-11-84

FORM ACA-305 (8-26-47)		DEPARTMENT OF COMMERCE CIVIL AERONAUTICS ADMINISTRATION		FORM APPROVED BUDGET BUREAU NO. 41-2041.3	
APPLICATION FOR AIRWORTHINESS CERTIFICATE AND/OR ANNUAL INSPECTION OF AN AIRCRAFT				INSTRUCTIONS Please submit this form to the Civil Aero- nautics Administration Field Representative.	
APPLICATION (Check whether)		CAA IDENTIFICATION			
<input checked="" type="checkbox"/> ORIGINAL AIRWORTHINESS CERTIF.		<input checked="" type="checkbox"/> NC <input type="checkbox"/> NR <input type="checkbox"/> OTHER (Specify)			
<input type="checkbox"/> ANNUAL INSPECTION		<input type="checkbox"/> NX <input type="checkbox"/> NL			
AIRCRAFT					
MAKE RYAN			MODEL NAVION		
REGISTRATION NO. N4472K		MANUFACTURER'S SERIAL NO. NAV-4-1472		DATE MANUFACTURED 8-14-48	TYPE CERTIFICATE NO. 782
ENGINE					
MAKE CONTINENTAL			MODEL E-185-3		
OWNER'S NAME RYAN AERONAUTICAL COMPANY			PERMANENT ADDRESS (Street and number, City, Zone and State) 2701 HARBOR DRIVE SAN DIEGO, CALIFORNIA		
ATTACHMENTS (Check which)		I CERTIFY THAT THE ABOVE STATEMENTS ARE TRUE.			
<input type="checkbox"/> ACA-319 <input type="checkbox"/> WEIGHT AND BALANCE REPORT		 OWNER OR AUTHORIZED AGENT CHIEF INSPECTOR DATE August 24, 1948 TITLE			
<input type="checkbox"/> ACA-337 <input type="checkbox"/> SPECIAL APPROVALS					
<input type="checkbox"/> ACA-805 <input type="checkbox"/> DATA, DRAWINGS, ETC.					
<input type="checkbox"/> ACA-317 <input type="checkbox"/> UNAPPROVED DEVIATION DATA					
FORM ACA-305a (FORMERLY ACA-307) AIRCRAFT INSPECTION REPORT (To be completed by a CAA inspector or a designated inspector or representative)					
IT HAS BEEN DETERMINED THAT THE AIRCRAFT DESCRIBED IN 305 ABOVE IS IN CONFORMITY WITH THE FOLLOWING ALL APPLICABLE MANDATORY NOTES, INSTRUMENT MARKINGS AND PLACARDING REQUIREMENTS HAVE BEEN COMPLIED WITH <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
AIRCRAFT SPECIFICATION - AIRWORTHINESS DIRECTIVE, NO(S). A- <u>782-3 and AD's thru 48-33</u> (SPECIFY)					
FORM ACA-1362, CERTIFICATE OF AIRWORTHINESS, ISSUED <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> ANNUAL INSPECTION					
(Check whether)					
<input type="checkbox"/> OPERATION LIMITATIONS FORM ACA-309 WAS ISSUED, OR					
<input checked="" type="checkbox"/> APPROVED AIRPLANE FLIGHT MANUAL IS IN THE AIRCRAFT					
FINDINGS					
<input checked="" type="checkbox"/> AIRWORTHY		DESIGNEE'S SIGNATURE AND NO. <u>F. B. Churchill 6025</u>		DATE <u>August 24, 1948</u>	
<input type="checkbox"/> UNAIRWORTHY		CAA INSPECTOR'S SIGNATURE 		<input checked="" type="checkbox"/> ACCEPTED	
				<input type="checkbox"/> REINSPECTED	
REASON FOR DISAPPROVAL, OR REMARKS (Indicate if you have used the reverse to continue this or other item <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No)					

new
10-11-48
2-7-51 X
HP cond

FAA AIRCRAFT REGISTRY

CAMERA NO.

411

DATE:

12-4-84

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