



US Department of Transportation
Federal Aviation Administration

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

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

Electronic Tracking Number

For FAA Use Only

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

1. Aircraft	Nationality and Registration Mark N4593H	Serial No. 15-357	
	Make Piper	Model PA-15	Series Vagabond
2. Owner	Name (As shown on registration certificate) David Grimm	Address (As shown on registration certificate)	
		Address 4710 Penridge Rd. City Toledo State OH Zip 43615 Country USA	

3. For FAA Use Only

"The technical data identified herein has been found to comply with applicable airworthiness requirements and is hereby approved for use only on the above aircraft, subject to conformity inspection by a person authorized in 43.7."

Date 9/29/10 Signature of FAA Inspector [Signature]

4. Type		5. Unit Identification			
Repair	Alteration	Unit	Make	Model	Serial No.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	AIRFRAME	_____	(As described in Item 1 above)	_____
<input type="checkbox"/>	<input 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	
Name <u>David Grimm</u>		<input checked="" type="checkbox"/> U.S. Certificated Mechanic	
Address <u>4710 Penridge Rd.</u>		<input type="checkbox"/> Foreign Certificated Mechanic	
City <u>Toledo</u> State <u>OH</u>		<input type="checkbox"/> Certificated Repair Station	
Zip <u>43615</u> Country <u>USA</u>		<input type="checkbox"/> Certificated Maintenance Organization	
		C. Certificate No. <u>A&P 383605011</u>	

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

Extended range fuel per 14 CFR Part 43 App. B <input type="checkbox"/>	Signature/Date of Authorized Individual David Grimm <u>[Signature]</u> <u>9-30-10</u>
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7. Approval for Return To Service

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

BY	FAA Flt. 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. <u>AP383605011A</u>	Signature/Date of Authorized Individual <u>[Signature]</u> <u>9-30-10</u>
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NOTICE

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

8. Description of Work Accomplished

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

N4593H	
Nationality and Registration Mark	Date

This 337 is to separate and clarify the Continental C-85 engine installation previously done on this aircraft as listed on form 337 recorded 8-9-82.

CAA approval for N4669H, sn 15-371, dated 7-25-51 was used as a basis for approval for this modification.

Attached letter from the CAA dated 6-19-1951 for a PA17 (same airframe) states: " the aircraft forward fuselage and engine mount are structurally satisfactory for the subject installation. In addition, the C-85 engine installation may be accomplished by utilizing the original A-65 engine components, such as baffling, cowling, exhaust, and induction systems." Note the Piper PA17 was certified with the Continental A-65 engine.

The complete Lycoming O-145 engine assembly including mount, propeller, intake, and exhaust systems were removed in 1982.

Verified the proper installation of the Continental C-85-12 engine with a Stromburg carburetor utilizing the following Piper PA17 components: engine mount, nose cowl, carb heat air box, engine exhaust, and cooling baffles. Blanking plates are fitted over the C-85 starter and generator openings.

Propellers: Per the CAA Letter dated 6-19-1951 see note 2:

A fixed pitch wood or metal propeller (McCauley 1A190 or Sensenich M76AK-4) rated to the engine power and RPM may be utilized providing the following limits are maintained.

- a. Full throttle static RPM; not over 2250, not under 2000.
- b. Diameter; not over 72 inches, not under 69.5 inches.

Verified engine instruments have been re-marked in accordance with Continental C85 Type Certificate Data Sheet E-233.

Fuel system has been tested meet flow requirements of CAR 3.434 and recoded in aircraft Logbooks / records

Aircraft has been weighed; new aircraft Weight & Balance calculations entered into aircraft Logbooks / records.

An operational check flight will be performed per 14 CFR 91.407(b). After the flight is completed, the pilot will sign the aircraft's airframe maintenance Logbooks / records, certifying that the aircraft is safe to operate within the operational limits of the aircraft's design.

Additional Sheets Are Attached

Additional Attached Sheet

N4593H

Nationality and Registration Mark

Date

INSTRUCTIONS FOR CONTINUED AIRWORTHINES:

1. **INTRODUCTION:** Piper PA-15 engine change. Removed Lycoming O-145 engine of 65 hp and replaced with a Continental C85-12 with blanking plates fitted over starter and generator openings.
2. **DESCRIPTION:** Installed a Continental C-85 engine assembly and appropriate propeller. Installation basis per 337 for Piper PA-15 Vagabond, N4669H, serial number 15-371 dated 7-25-51 with CAA Engineering stamp. All placards and listings complied with in accordance with Piper Type Certificate A-800.
3. **Control, Operation Information:** See Aircraft Flight Manual, TCDS E-233 for C85
4. **Service Information:** TCM Maintenance Manual Form No. X30010 dated January 1984 or as revised, TCDS E-233 for C85
5. **Special Inspection Requirements:** Piper Classic Aircraft Inspection Checklist, and TCM Maintenance Manual Form No. X30010 dated January 1984 or as revised.
6. **Troubleshooting Information:** TCM Maintenance Manual Form No. X30010 dated January 1984 or as revised.
7. **Removal and Replacement Information:** Piper Service Manual for PA-15/17
8. **Diagrams:** N/A
9. **Special Inspection Requirements:** N/A
10. **Application of Protective Treatments:** N/A
11. **Data Relative to Structural Fasteners:** N/A
12. **List of Special Tools:** N/A
13. **For Commuter Category Aircraft:** N/A
14. **Recommended Overhaul Periods:** No additional overhaul time limitations
15. **Airworthiness Limitation Sections:** See Aircraft Flight Manual
16. **REVISIONS:** A letter will be submitted to the local FAA Office with a copy of the revised FAA Form 337 and revised ICA. The FAA inspector accepts the change by signing block 3 and including the following statement, "The attached revised/new Instructions for Continued Airworthiness for the above aircraft or component major alteration have been accepted by the FAA, superseding the Instructions for Continued Airworthiness. After the revision has been accepted, a maintenance record entry will be made, identifying the revision, its location, and date on the FAA Form 337.

-----END-----

DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

Federal Building
New York International Airport
Jamaica, N. Y.

Attn: 1-567

AIR MAIL

June 19, 1951

Mr. R. L. Hulce
City Flying Service
Kalamazoo, Michigan

Dear Mr. Hulce:

This will confirm the telephone conversation on June 18, 1951 between you and Mr. A. A. Blank, of this office, regarding the installation of a Continental, C-85, engine on the Piper PA-17, aircraft.

The subject aircraft forward fuselage structure and engine mount are structurally satisfactory for the subject installation. In addition, the C-85 engine installation may be accomplished by utilizing the original A-65 engine components, such as baffling, cowling, exhaust and induction systems. However, the following items should be noted:

1. To comply with CAR 3.440 which requires a usable fuel tank capacity of not less than 1 gallon for each maximum continuous rated engine horsepower, the pertinent engine limits specified below must be observed, on the basis of the aircraft's 12 gallon fuel tank.
 - a. Take-off and Climb - 2575 RPM (85 HP)
 - b. For all other operations - 2525 RPM (80 HP)
2. A fixed pitch wood or metal propeller (McCaughey 1A190 or Sensenich M76AK-4) rated for the engine power and RPM may be utilized provided the following limits are maintained.
 - a. Full throttle static RPM; not over 2250, not under 2000.
 - b. Diameter; not over 72 inches, not under 69.5 inches.
3. The original aircraft gross weight, c.g. limits and placard speeds must be maintained.
4. The aircraft flight manual must be revised as follows:
 - a. The "Limitations" section must list the designation of the propeller installed and the C-85 engine and its pertinent limits.

Mr. R.L. Hulse
City Flying Service

-2-

June 19, 1951

- b. The "Performance" section must specify the following:
"Performance with the C-85 engine and -- propeller has
been demonstrated to equal or exceed that shown herein
for the A-85 engine and the fixed pitch wood propeller".

Approval of the subject installation may be obtained by submitting
an ACA Form 537, covering the installation, to your local C.A.A.
Agent. Upon satisfactory inspection of the aircraft for workmanship,
materials used and conformity with the items herein specified,
approval may be granted.

If you require any additional assistance, please do not hesitate to
contact this or our Region Three office. The address of the latter
office is:

Department of Commerce
Civil Aeronautics Administration
O'Hare Field
Chicago International Airport
Park Ridge, Illinois

In addition a copy of this letter is being transmitted to the latter
office for their information, in the event you should have occasion
to contact them regarding the above matter.

Very truly yours,

/s/ Herbert M. Toomey

Herbert M. Toomey
Chief, Aircraft Division

WASHINGTON
MAY 15 1951

MAY 15 1951

U.S. DEPARTMENT OF COMMERCE
OFFICE OF AERONAUTICS

34-3

FORM ACA-337
(11-7-46)

DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

BUDGET BUREAU NO. 41-RO52.1
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 Piper	MODEL PA-15	SERIAL NO. 13-371	CAA IDENTIFICATION MARK N4669H
2. OWNER	NAME (First, middle, last) L. E. Frake		ADDRESS (Street and number, city, zone, and state) Yellow Jacket, Colorado.	

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				

APPROVED

Civil Aeronautics Administration
Aircraft & Components Br., Region 5

[Signature] Date 10/16/51

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)* 645	EMPTY CENTER OF GRAVITY (Inches from datum)* 13.67" aft of wing leading edge	USEFUL LOAD (Pounds)* 455
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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

AGENCY	NAME Miles Aircraft Service	ADDRESS (Street and number, city, zone, and state) Ute Field Cortez, Colorado.	DATE WORK ACCOMPLISHED 7-25-51
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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)

Remove existing model 9-145-B2 engine and mount and install Continental model C-85-12 engine mount furnished by Piper factory for PA-17. Install Cessna 140 engine baffles throughout. Baffles made up in this shop with 640" and 632" 243T alclad material. Trim to fit original cowling. Following are engine temperatures on test flight with 87 deg F outside air temp. Cyl head max temp off 175 deg C. 150 deg C cruise. Oil temp take off and climb 185 deg F. 180 deg F cruise. Exhaust stacks, mufflers and shroud tubes are Piper parts fit to this installation. Carb heater is Piper Continental installation for PA-17.

I CERTIFY THAT THE ABOVE STATEMENTS ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

Neil N. Miles

 SIGNATURE OF SUPERVISING MECHANIC A & F 17524 7-25-51

 CERTIFICATE NUMBER AND RATING DATE

TO BE COMPLETED BY CAA REPRESENTATIVES

<input checked="" type="checkbox"/> APPROVED	SIGNATURE OF DESIGNEE	NUMBER	DATE
<input type="checkbox"/> REJECTED			
<input checked="" type="checkbox"/> FORWARDED FOR ENGINEERING APPROVAL	<i>Joe J. Macha</i>	<input type="checkbox"/> ACCEPTED	DATE
		<input type="checkbox"/> REINSPECTED	<i>Sept 28, 1951</i>

1028

508

JUL 27 1951

28 FEB 9 1951

FORM ACA-337
(11-7-46)

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)

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2. OWNER	NAME (First, middle, last) L. E. Frake		ADDRESS (Street and number, city, zone, and state) Yellow Jacket, Colorado.	

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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				

APPROVED

Civil Aeronautics Administration
Aircraft & Components Br., Region 5

[Signature] Date 10/16/51

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4. AIRCRAFT	EMPTY WEIGHT (Pounds)* 645	EMPTY CENTER OF GRAVITY (Inches from datum)* 15.67" aft of wing leading edge	USEFUL LOAD (Pounds)* 455
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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. _____ CERTIFIED MECHANIC

(SPECIFY)

AGENCY	NAME Miles Aircraft Service	ADDRESS (Street and number, city, zone, and state) Ute Field Cortez, Colorado.	DATE WORK ACCOMPLISHED 7-25-51
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Neil N. Miles
Neil N. Miles A & E 17524 7-25-51
SIGNATURE OF SUPERVISING MECHANIC CERTIFICATE NUMBER AND RATING DATE

TO BE COMPLETED BY CAA REPRESENTATIVES

<input checked="" type="checkbox"/> APPROVED	SIGNATURE OF DESIGNEE	NUMBER	DATE
<input type="checkbox"/> REJECTED		SIGNATURE OF INSPECTOR	<input type="checkbox"/> ACCEPTED
<input checked="" type="checkbox"/> FORWARDED FOR ENGINEERING APPROVAL	<i>Joe J. Stecha</i>		<input type="checkbox"/> REINSPECTED