

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 <b>Piper</b>	MODEL <b>PA-15</b>	SERIAL NO. <b>15-190</b>	NATIONALITY AND REGISTRATION MARK <b>N 4405H</b>
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2. OWNER	NAME (First, middle, last) <b>Gross Sales Air Service</b>	ADDRESS (Street and number, city, zone and State) <b>211 Platt St., Toledo, Ohio.</b>
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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.

CATEGORY	EMPTY WEIGHT (Pounds)*	EMPTY CENTER OF GRAVITY (Inches from datum)?	USEFUL LOAD (Pounds)*
<b>Normal</b>	<b>690</b>	<b>13.02</b>	<b>410</b>

5. CONFORMITY STATEMENT (Complete and check)

a. AGENCY'S NAME AND ADDRESS <b>AIKEN AIRCRAFT SERVICE NATIONAL AIRPORT TOLEDO OHIO</b>	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. <b>J.E. Aiken A&amp;E 224125</b>
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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.

**February 1, 1954**

(Date repair and/or alteration completed)

*J. E. Aiken*  
(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)

**February 1, 1954**

(Date of approval or rejection)

*J. E. Aiken*    **DAMI 3354**  
(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    (Date)     Reinspected    (Date)     Spot Checked    **March 10, 1954**    (Date)

**NY-V57M-6**  
(CAA designation number)

*H. Coulson*  
(Signature Aviation Safety Agent)

**Reg. 1 NY**

**ASDO 6-337 (4-52)**

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.

Lycoming engine, engine mount, cowling, etc. removed at firewall. Continental C-85-12 engine installed using new Piper PA-17 engine mount, engine baffles for PA-17 Continental A65 installation, and carburetor heat control box from Taylorcraft BC12D. PA-15 engine re-installed without modification except door installed in right side for oil check and fill.

This installation made in the same manner as that in Piper PA-15, N 4516H, Serial 15-289, Registered Owner - The Flying Associates, Inc., Aledo, Ill. Work on this conversion was done by Chester Loos, Davenport, Ia. and the installation was approved by CAA Office in Cedar Rapids, Ia.

To get the new center of gravity the airplane was weighed and found to weigh 690# which included the following equipment:

1 Propeller, McCauley Metal 1B90 GM7148	27 lbs.	2044 - 44
Item 211 - Shock Struts - Piper Dwg 11550	5 "	0
Sensitive Altimeter	1.5 "	1
Turn & Bank	1.5	1
Rate of Climb	.75	1
Venturi	.50	36
Mauls Full Swivel Steerable Tail Wheel	6.0	169

RECEIVED

MAR 13 2 59 PM '50  
ADMIN. & RECORDS DIVISION  
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.

C.A.A. APPROVED \_\_\_\_\_

REVISION TO AIRPLANE FLIGHT MANUAL DATED May 13, 1948  
for PIPER PA-15, N4405H

Engine: Continental C85-12F  
Engine Limits: Take-Off and Climb 2575 RPM (85 HP)  
All other operations 2525 RPM (80 HP)  
Fuel: Minimum 73 octane aviation gasoline  
Propeller: McCauley 1B90, CM 7148  
Static Limits: Full Throttle not over 2250 RPM, not under  
2000 RPM

POWER INSTRUMENTS

Oil Temperature: Unsafe if instrument exceeds RED LINE (220°)F.  
Oil Pressure: 10 lbs. minimum - 40 lbs. maximum  
Tachometer: Red Line at rated engine speed (2575 RPM)  
Do Not Exceed

Performance with the C85-12F engine and McCauley 1B90,  
CM 7148 has been demonstrated to equal or exceed that shown  
herein for the Lycoming O-145-B3 engine and the fixed pitch  
wood propeller.

PLACARD: TAKE-OFF AND CLIMB 2575 RPM (85 HP)  
ALL OTHER OPERATIONS 2525 RPM (80 HP)  
(Due to Capacity of Fuel Tank)

Approved: OMER WELING  
CHIEF AIRCRAFT ENGINEERING BRANCH  
Date: 24 NOVEMBER 1953

certified to be a copy of the original H. Tavetian  
-H. TAVETIAN  
CAA AVIATION SAFETY AGENT  
ASDO NY-6