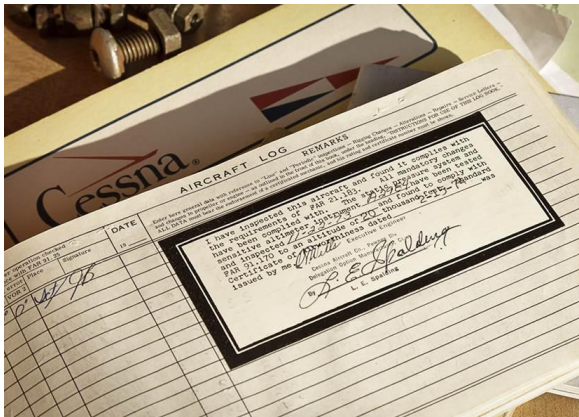


Airworthiness Requirements

Objective	
<p>To ensure the applicant learns the required items necessary for establishing the airworthiness of an airplane, and what to do when inoperative equipment is found.</p>	
Purpose	Equipment
<p>All pilots are responsible for ensuring that any airplane they will fly is in an airworthy condition. This lesson introduces pilots to the FARs related to maintenance, required inspections, the process for dealing with inoperative equipment, and preventative maintenance.</p>	<ul style="list-style-type: none"> ● FAR/AIM ● Airplane Logbooks (optional) ● Whiteboard / Markers (optional)
Schedule	Instructor Actions
<ul style="list-style-type: none"> ● Ground Lesson: 15 minutes ● Student Q&A: 10 minutes 	<ul style="list-style-type: none"> ● Deliver the ground lesson (below). ● Answer student questions.
Student Actions	Completion Standards
<ul style="list-style-type: none"> ● Ask any questions, receive study material for the next lesson. ● Watch linked video. ● Review listed references. 	<ul style="list-style-type: none"> ● Student can explain the following items: <ul style="list-style-type: none"> ● Equipment and instruments required for VFR Day and Night operations. ● Process for determining airworthiness when inoperative instruments or equipment are found. ● The purpose of Special Flight Permits and the process for obtaining one. ● Required airworthiness documentation and inspections. ● Preventative and deferred maintenance.

References

- 14 CFR Part 91 (General Operating and Flight Rules)
- FAA-S-ACS-6B (Private Pilot ACS) - Area I Task B
- FAA-S-ACS-7A (Commercial Pilot ACS) - Area I Task B
- FAA-S-8081-6D (CFI PTS) - Area III Task E

Ground Lesson Outline

- Required Instruments and Equipment - § 91.205
 - Day VFR
 - Airspeed Indicator, Altimeter, Magnetic Compass, Tachometer, Oil Pressure Gauge, Temperature Gauge (liquid cooled), Oil Temperature Gauge (air cooled), Manifold Pressure Gauge (if applicable), Fuel Gauge (each tank), Landing Gear Indicators (if applicable), Red or White Anticollision (Certified after March 11, 1996), Seat Belts, ELT, Flotation/Flare (For Hire, etc.)
 - Night VFR
 - Position Lights, Anticollision Lights, Landing Light (for hire), Source of Power, Fuses
- Airworthiness with Inoperative Instruments and Equipment - § 91.213
 - With MEL - MEL states which items can be inoperative and the requirements for deferral
 - Without MEL - Must not be required by
 - VFR Day Type Certification Requirements for the airplane (e.g. 14 CFR Part 23)
 - KOEL / Equipment List
 - 91.205
 - Required by Airworthiness Directive
 - Special Flight Permit - § 21.199
 - How to Obtain - Apply to FSDO, State Purpose, Itinerary, Crew, Unairworthy Items
 - Owner/Operator Responsibilities - § 91.405 - Fix or inspect at next inspection, etc.
 - Technically can be deferred indefinitely
- Required Documents - Must be carried onboard
 - Airworthiness Certificate - § 91.203(a)(1) - Valid as long as airplane is airworthy
 - Registration - § 91.203(a)(2) - Valid 3 years
 - Operating Instructions / Limitations (POH) - § 91.9(b)
 - W&B
- Required Inspections
 - Annual / 100 Hour Inspections - § 91.409(a)(1) / § 91.409(b)
 - Transponder Test and Inspection - § 91.413(a) - 24 Months
 - ELT Test and Inspection - § 91.207(c/d) - 12 Months / 1 hour cumulative use or 50% of useful life
 - Airworthiness Directives and Inspections - § 39.7 - Mandatory to follow guidance in AD
 - One-Time vs Recurring ADs
- Maintenance
 - Record Keeping - § 91.417
 - Inspections, etc. - 1 year or until superseded
 - Total time in service (engine, propeller, life-limited items, etc.), AD compliance, etc. - Transfer with airplane
 - Preventative Maintenance - § 91.407 - Logbook entry, (sometimes) test flight
 - Items - § 43 Appendix A (c)
 - Deferred Maintenance
 - With MEL - MEL states which items can be deferred and the rules for doing so
 - Without MEL - If no safety of flight issue exists, placard and remove, placard and disable, with appropriate logbook entry - § 91.213

Ground Lesson Content

- **Required Instruments and Equipment - § 91.205**
 - **Day VFR**
 - Airspeed Indicator
 - Altimeter
 - Magnetic Compass
 - Tachometer
 - Oil Pressure Gauge
 - Temperature Gauge (liquid cooled)
 - Oil Temperature Gauge (air cooled)
 - Manifold Pressure Gauge (if applicable)
 - Fuel Gauge (each tank)
 - Landing Gear Indicators (if applicable)
 - Red or White Anticollision (Certified after March 11, 1996)
 - Seat Belts
 - ELT
 - Flotation/Flare (For Hire, etc.)
 - **Night VFR**
 - Position Lights
 - Anticollision Lights
 - Landing Light (for hire)
 - Source of Power - i.e. Alternator, Battery
 - Fuses - One spare set, or 3 of each type, accessible to pilot
- **Airworthiness with Inoperative Instruments and Equipment - § 91.213**
 - **With MEL** - MEL states which items can be inoperative and the requirements for deferral
 - **Without MEL** - Must not be required by
 - VFR Day Type Certification Requirements for the airplane (e.g. 14 CFR Part 23)
 - For example: Stall Indicators may be required in this way
 - KOEL / Equipment List
 - Not all airplanes have this
 - 91.205 -ATOMATO FLAMES, etc.
 - Required by Airworthiness Directive
 - **Special Flight Permit - § 21.199**
 - **How to Obtain** - Apply to FSDO, State Purpose, Itinerary, Crew, Unairworthy Items
 - **Owner/Operator Responsibilities - § 91.405** - Fix or inspect at next inspection, etc.
 - Technically can be deferred indefinitely
- **Required Documents** - Must be carried onboard, airworthiness must be displayed
 - **Airworthiness Certificate - § 91.203(a)(1)** - Valid as long as airplane is airworthy.


UNITED STATES OF AMERICA DEPARTMENT OF TRANSPORTATION—FEDERAL AVIATION ADMINISTRATION STANDARD AIRWORTHINESS CERTIFICATE			
1. NATIONALITY AND REGISTRATION MARKS N2631A	2. MANUFACTURER AND MODEL PIPER PA-22-135	3. AIRCRAFT SERIAL NUMBER 22-903	4. CATEGORY NORMAL
5. AUTHORITY AND BASIS FOR ISSUANCE This airworthiness certificate is issued pursuant to the Federal Aviation Act of 1958 and certifies that, as of the date of issuance, the aircraft to which issued has been inspected and found to conform to the type certificate therefor, to be in condition for safe operation, and has been shown to meet the requirements of the applicable comprehensive and detailed airworthiness loads as provided by Annex B to the Convention on International Civil Aviation, except as noted herein. EXCEPTIONS: NONE			
6. TERMS AND CONDITIONS Unless sooner terminated, suspended, revised, or a termination date is otherwise established by the Administrator, this airworthiness certificate is effective so long as the maintenance, preventive maintenance, and inspections are performed in accordance with Parts 21, 43, and 89 of the Federal Aviation Regulations, as appropriate, and the aircraft is registered in the United States.			
DATE OF ISSUANCE 08-10-95	FAA REPRESENTATIVE <i>Marion W. Williams</i> MARION W. WILLIAMS	DESIGNATION NUMBER SW-PSDO-OKC	
Any alteration, modification, or removal of this certificate may be purchased by airmen not exceeding \$1,000, or an amount not exceeding 3 years, or both. THIS CERTIFICATE MUST BE DISPLAYED IN THE AIRCRAFT IN ACCORDANCE WITH APPLICABLE FEDERAL AVIATION REGULATIONS.			
FAA Form 8100-2 (8-95)		GPO: 1995-874	

- **Registration - § 91.203(a)(2) - Valid 3 years**

REGISTRATION NOT TRANSFERABLE		
UNITED STATES OF AMERICA DEPARTMENT OF TRANSPORTATION—FEDERAL AVIATION ADMINISTRATION CERTIFICATE OF AIRCRAFT REGISTRATION		This certificate must be in the aircraft when operated.
NATIONALITY AND REGISTRATION MARKS N	AIRCRAFT SERIAL NO.	
MANUFACTURER AND MANUFACTURER'S DESIGNATION OF AIRCRAFT		
ICAO Aircraft Address Code:		
I S S U E D T O	INDIVIDUAL	
	It is certified that the above described aircraft has been entered on the register of the Federal Aviation Administration, United States of America, in accordance with the Convention on International Civil Aviation dated December 7, 1944, and with the Federal Aviation Act of 1958, and regulations issued thereunder.	
DATE OF ISSUE	<i>Marion C. Blahy</i> ADMINISTRATOR	U.S. Department of Transportation Federal Aviation Administration
AC Form 8050-3(8/97) Supersedes previous editions		

- **Operating Instructions / Limitations (POH) - § 91.9(b)**
 - **W&B** - Not explicitly required by FAR, however, Part 23 requires an Airplane Flight Manual (POH) to contain an up to date weight and balance, which must be carried onboard. This is *not* the same as a prepared W&B including fuel, passengers, etc.
- **Required Inspections**
 - **Annual / 100 Hour Inspections - § 91.409(a)(1) / § 91.409(b)** - 12 Calendar Months
 - 100 Hour Inspections have a 10 hour flyover allowance
 - **Transponder Test and Inspection - § 91.413(a)** - 24 Calendar Months
 - **ELT Test and Inspection - § 91.207(c/d)** - 12 Months / 1 hour cumulative use or 50% of useful life
 - **Airworthiness Directives and Inspections - § 39.7** - Mandatory to follow guidance in AD
 - **One-Time ADs** - Require some maintenance operation or inspection to be performed once.
 - **Recurring ADs** - Require a maintenance operation or inspection to be performed on a regular basis, usually after a certain number of hours or calendar time has passed.
 - E.g. Every 100 hours, etc.
 - **No flyover allowance**

AIRFRAME LOG N65624 1983 CESSNA 172P SERIAL# 17275789

DATE	TTAF		DESCRIPTION OF WORK PERFORMED	AUTHORIZED SIGN., CERTIFICATE TYPE, AND NUMBER
	HRS	.1		
350-385-8436				
 info@orlando				
Date: 11/07/2017	A/C Reg: N65624		Cessna 172-P	A/C S/N: 17275789
Tach Time: 3502.6	A/C Total Time: 14330.7			

Annual / 100 Hr

ELT Function Battery

ADs

Performed annual/100 hour inspection using Cessna 172 series service manual inspection chart as a guide. Lubricated aircraft IAW Cessna 172 series lubrication chart 100 hour schedule. R+R'd engine intake filter Brackett P/N: BA-6108. R+R'd engine exhaust muffler with P/N 1754001-25, S/N 60059. Rigged flap control/indicating system IAW 7-20 of the Cessna 172 service manual revision 3 dated 07/01/1995. Complied with ELT function check IAW FAR 91.207(d), no defected noted at this time. ELT battery replacement due 10/2018. Complied with Precise flight standby vacuum system annual & bi-annual continued airworthiness requirements IAW Complied with Precise Flight installation report no. 08072 dated 12/22/99 section 3.3., next due 11/2018. Complied with AD-2011-10-09 (Seat Track/Pin) by visual and dimensional check IAW AD instructions, next due 3602.6 or 11/30/2018, whichever occurs first. Complied with AD-2001-23-03 (map light switch) by visual inspection of insulator, next due 11/30/2018. Researched A.D. compliance through ATP revision 11/07/2017, no new airframe A.D.'s apply.

-----END-----

I certify that this aircraft has been inspected in accordance with an ANNUAL/100 hour inspection IAW FAR 43.13 Appendix D and was determined to be in an airworthy condition.

Signature: Carson Lee Date: 11/07/2017, Carson W. Lee, ATP 3011419

Signature: Carson Lee Date: 11/07/2017, Carson W. Lee A&P3011419IA

STC 15/33 AD 15

AIRFRAME LOG N65624 1983 CESSNA 172P SERIAL# 17275789

DATE	TTAF		DESCRIPTION OF WORK PERFORMED	AUTHORIZED SIGN., CERTIFICATE TYPE, AND NUMBER
	HRS	.1		
<p>MODEL <u>172P</u> ORLANDO AVIONICS CORP., DBA S/N <u>17275789</u> ORLANDO Aircraft SERVICES REG. NO. <u>N65624</u> EXECUTIVE AIRPORT • P.O. BOX 140741 ORLANDO, FL 32814 TELEPHONE: (407) 894-9963</p>				
The altimeter system test and inspections required by FAR 91.411 were performed this date and found to comply with FAR 43, Appendix E. 1) The static pressure system was tested on <u>3/8/17</u> 2) The altimeter (s) instrument was / were tested to <u>20,000</u> ft. on <u>3/8/17</u> (pilot/co-pilot) 3) The automatic pressure altitude reporting system was tested to <u>20,000</u> ft. on <u>3/8/17</u>			The ATC Transponder Test and inspections required by FAR 91.413 were performed this date and found to comply with FAR 43, Appendix F. Make <u>LAEM</u> Model <u>672-327</u> S/N <u>84000131</u> Make <u>N/A</u> Model _____ S/N _____ Details of this inspection are on file at this repair station under W/O <u>11742</u> Date <u>3/8/17</u>	
ORLANDO AIRCRAFT SERVICES FAA Approved Repair Station # TP4R552M 601 Humphries Avenue Orlando, FL 32803 (407) 894-9963			ORLANDO AIRCRAFT SERVICES FAA Approved Repair Station # TP4R552M 601 Humphries Avenue Orlando, FL 32803 (407) 894-9963	

Altimeter/Static

Transponder

ADs

ORLANDO AVIONICS CORP., DBA
ORLANDO Aircraft SERVICES

FAA APPROVED REPAIR STATION TP4R552M EXECUTIVE AIRPORT • P.O. BOX 140741
ORLANDO, FL 32814
TELEPHONE: (407) 894-9963 • FAX: (407) 894-7082

Std. Alt.	Error	± Tol.
-1000	0	20
0	0	20
500	-10	20
1000	0	20
1500	-10	25
2000	-10	30
3000	0	35
4000	-10	40
5000	0	45
6000	-10	50
8000	0	60
10000	-10	80
12000	-20	100
14000	-20	100
16000	+10	110
18000	+20	120
20000	+20	140
22000		155
25000		180
30000		205
35000		230
40000		255
45000		280
50000		280

This altimeter pin TOKYO LA71-11 s/n 72170
 was functionally tested in accordance with FAR 43, App. E
 by: Carson Lee Date: 3/8/17

STC 15/33 AD 15

- **Maintenance** - The owner or operator of the airplane is responsible for maintaining the airplane in an

airworthy condition, pilots are responsible for verifying the paperwork is in order, etc.

- **Record Keeping - § 91.417**
 - Inspections, etc. - 1 year or until superseded
 - Total time in service (engine, propeller, life-limited items, etc.), AD compliance, etc. - Transfer with airplane
- **Preventative Maintenance - § 91.407** - Logbook entry, (sometimes) test flight
 - **Items** - § 43 Appendix A (c) - Can be performed **by the owner**, simple items not requiring complex disassembly operations.
 - E.g. Oil changes, changing tires, etc.
- **Deferred Maintenance**
 - **With MEL** - MEL states which items can be deferred and the rules for doing so
 - **Without MEL** - If no safety of flight issue exists, placard and remove, placard and disable, **with appropriate logbook entry.** - § 91.213