



Federal Aviation Administration

# Orlando FSDO

## Annual DPE Meeting

### Required Maintenance Documents

Presented to: Orlando FSDO DPEs

By: Mark Laughridge, FAAS Team

Date: January 22, 2015







# REVIEW OF RESPONSIBILITIES

- **DOCUMENTS**

- Airworthiness
- Registration
- Operating Limitations
- Weight & Balance

- **REQUIRED MAINTENANCE – INSPECTIONS**

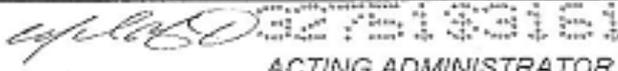
- **REQUIRED MAINTENANCE - RECORDS**

- **AIRWORTHINESS DIRECTIVES**

- Annual
- 100-hour
- Pitot-static
- Transponder
- ELT



# REGISTRATION NOT TRANSFERABLE

UNITED STATES OF AMERICA DEPARTMENT OF TRANSPORTATION – FEDERAL AVIATION ADMINISTRATION CERTIFICATE OF AIRCRAFT REGISTRATION		This certificate must be in the air- craft when operated.
NATIONALITY AND REGISTRATION MARKS <b>N 172CC</b>	AIRCRAFT SERIAL NO. <b>172N17211</b>	
MANUFACTURER AND MANUFACTURER'S DESIGNATION OF AIRCRAFT <b>CESSNA 172N</b>		
ICAO Aircraft Address Code: <b>50222105</b>		
I S S U E D  T O	Smith, Pete 172 Cessna Dr Anywhere, FL 17272	This certificate is issued for registration purposes only and is not a certificate of title. The Federal Aviation Administration does not determine rights of ownership as between private persons.
Individual		 U.S. Department of Transportation <b>Federal Aviation                  Administration</b>
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 Title 49, United States Code, and regulations issued thereunder.		
DATE OF ISSUE    September 24, 2010 EXPIRATION DATE    June 30, 2015		 ACTING ADMINISTRATOR

AC Form 8050-3 (10/2010) Supersedes previous editions



**Federal Aviation  
Administration**

UNITED STATES OF AMERICA  
DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

# STANDARD AIRWORTHINESS CERTIFICATE

1. NATIONALITY AND REGISTRATION MARKS <b>N12345</b>	2. MANUFACTURER AND MODEL <b>Boeing 747-400</b>	3. AIRCRAFT SERIAL NUMBER <b>197142</b>	4. CATEGORY <b>Transport</b>
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**5. AUTHORITY AND BASIS FOR ISSUE**

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 code as provided by Annex 8 to the Convention on International Civil Aviation, except as noted herein:

EXEMPTION NO. 2713A FAR 25.471(b): Allows lateral displacement of C.G. from airplane centerline.

**6. TERMS AND CONDITIONS**

Unless sooner surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator, this airworthiness certificate is effective as long as the maintenance, preventive maintenance, and alterations are performed in accordance with Parts 21, 43, and 91 of the Federal Aviation Regulations, as appropriate, and the aircraft is registered in the United States.

DATE OF ISSUANCE <b>11/29/92</b>	FAA REPRESENTATIVE <i>John Q. Publican</i> <b>John Q. Publican</b>	DESIGNATION NUMBER <b>DMIR ANM 1234</b>
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Any alteration, reproduction, or misuse of this certificate may be punishable by a fine not exceeding \$1,000, or imprisonment not exceeding 3 years, or both. THIS CERTIFICATE MUST BE DISPLAYED IN THE AIRCRAFT IN ACCORDANCE WITH APPLICABLE FEDERAL AVIATION REGULATIONS.

**FAA Form 8270-2**



# AIRCRAFT OPERATOR RESPONSIBILITIES

- Complying with the Operating limitations specified in the **Approved Airplane flight manual, markings, and placards, including weight and balance**, are in the aircraft and complied with.

Item	Weight	Arm	Moment
Airplane Empty Weight	2,100	78.3	164,430
Front Seat Occupants	340	85.0	28,900
Rear Seat Occupants	350	121.0	42,350
Fuel	450	75.0	33,750
Baggage Area 1	80	150.0	12,000
Total	3,320		281,430
<b>281,430 divided by 3,320 = 84.8</b>			



**“What's one more box, its doesn't weight much,  
just throw it in the back”**



# Required Maintenance

## 91.405 - Each Owner of Operator of an Aircraft

- a) Shall have that aircraft inspected as prescribed in subpart E of this Part and... have discrepancies repaired as prescribed in Part 43 of this chapter;
- b) Shall ensure that maintenance personnel make appropriate entries in the aircraft maintenance records indicating the aircraft has been approved for return to service;



# Required Maintenance

## 91.405 - Each Owner of Operator of an Aircraft

c) Shall have any inoperative instruments or item of equipment, permitted to be inoperative by 91.213 of this part, repaired, replaced, removed, or inspected at the next required inspection; and

d) When listed discrepancies include inoperative instruments or equipment, shall ensure that a placard has been installed as required...



# Required Maintenance

## 91.407 Operation after maintenance...

- a) No person may operate any aircraft that has undergone maintenance... **unless-**
  - 1) It has been approved for return to service...
  - 2) The maintenance record entry required by Part 43.9 or 43.11 as applicable has been made.



# Required Maintenance

## 91.409 Inspections

- a) ... no person may operate an aircraft unless, within the preceding 12 calendar months, it has had –
- 1) An annual inspection in accordance with part 43 and has been approved for return to service.....



# Part 43.9 Maintenance Record Entry

- a) Each person who maintains, performs preventive maintenance, rebuilds, or alter an aircraft, airframe, aircraft engine, propeller, appliance, or component part shall make an entry in the maintenance record of that equipment containing the following information:
- 1) A description of work performed.
  - 2) The date of completion of the work performed.
  - 3) Name of the person performing the work if other than the person specified in (a)(4).
  - 4) The signature, certificate number and kind of certificate held by the person approving the work.



# Part 43.9 Maintenance record entries

*January 22, 2015*

*Replaced the left main tire with a new tire, size 6.00 X 6 in accordance with the Cessna Maintenance Manual by Pete Smith.*

*Matt Mechanic 2468135 A&P*



# Part 43.11 Inspection record entry

a) The person approving or disapproving for return to service an airframe, ... shall make an entry in the maintenance record of that equipment containing the following information:

- 1) Type of inspection and a brief description...
- 2) Date of inspection and aircraft total time in service.
- 3) Signature, certificate number and kind of certificate held by the person approving for return to service...
- 4) Certifying statement **“I certify that this aircraft has been inspected in accordance with (insert type) of inspection and was determined to be in airworthy condition”**.



## Appendix D – Scope and Detail of Items to be included in Annual and 100 – Hour Inspections

(a) Each person performing an annual or 100 – hour inspection **shall, before that inspection,** remove or open all necessary inspection plates, access doors, fairing, and cowling. **He shall thoroughly clean the aircraft and aircraft engine.**

(b ... j)





Federal Aviation  
Administration

# Part 43.11- 91.417 Maint. - Inspection Signoff

Date: \_\_\_\_\_ ACTT: \_\_\_\_\_ Tach/Hobbs: (Optional) \_\_\_\_\_

Enter the type of inspection(s) performed & brief description:

**(Part 91.417 requirement)**

Enter accomplishment of all A.D.'s including the number, revision date, method of compliance, and if recurring, the next time/date it is due.

**(Part 43.10 requirement)**

Enter replacement or inspection of any component part with Airworthiness Limitations (include part, serial number, and total time in service for that component).

Enter removal and installation of any serialized components

(include part, serial number, and total time in service for that component).

Enter description of any other general maintenance performed. **(ELT 91.207)**

**(Required certifying statement)**

*I certify that this aircraft was inspected in accordance with a (insert type) inspection and was determined to be in an airworthy condition. All work was accomplished in accordance with current Federal Aviation Regulations and manufacturer's maintenance instructions.*

Signature \_\_\_\_\_ Certificate # \_\_\_\_\_ Type of Cert. \_\_\_\_\_



# Part 43.11- Inspection Signoff

Date: **January 22, 2015**      ACTT: **12,215.1**      Tach/Hobbs: **2163.8**

*Performed an annual inspection in accordance with the Cessna 172 100-hour/Annual checklist found in the Cessna Maintenance Manual. Serviced the aircraft in accordance with the Cessna Maintenance Manual. Removed aircraft starter, P/N: FL0172, S/N: 369631 and replaced with P/N: FL0172, S/N: 246864. Complied with AD 87-20-02 R3, 8-22-94 by inspection of seat track rails, due re-inspection on or before 01-22-16 or 12,315.1 hours. Replaced ELT battery, expiration date 01-22-17. ELT inspected in accordance with 91.207 (d) (1-4).*

*I certify that this aircraft was inspected in accordance with an Annual inspection and was determined to be in an airworthy condition.*

*Matt Mechanic 2468135 A&P/IA*



# Required Maintenance Documentation

## Part 91.207 Emergency Locator Transmitters

- a) No person may operate a US registered civil airplane unless-
- c) ELT Batteries ... must be replaced... when the transmitter has been used for more than 1 hour or 50% of its useful life has expired per the manufacturer.
- d) Each ELT must be inspected within 12 calendar months after the last inspection for-
  - 1) Proper installation;
  - 2) Battery corrosion;
  - 3) Operation of controls and crash sensor;
  - 4) Presence of sufficient signal radiated from its antenna.



# Required Maintenance Documentation

*January 22, 2015*

*Replaced EL7 battery, expiration date 01-22-17. EL7 inspected in accordance with 91.207 (d) (1-4) and approved for return to service.*

*Matt Mechanic 2468135 A&P*



# Required Maintenance Documentation

## QUALITY CONTROL MANUAL

### Maintenance Release Form – Single Altimeter (91.411 / 91.413)

1-1-2010    TTAF    TACH    A/C N#

The Altimeter tests required by FAR 91.411 and transponder tests required by FAR 91.413, including data correspondence required by 91.413 have been performed and found to comply with FAR Part 43, Appendix E and F. **ALTIMETER #1:** MFG P/N, M/N, S/N, tested to \_\_\_\_\_ ft. on **date**. Encoder correspondence was tested to \_\_\_\_\_ ft. on **date**. **TRANSPONDER:** MFG, P/N, M/N, S/N tested on **date**. **STATIC SYSTEM** leak tested on **date**. Details are on file at the repair station under Shop Order # \_\_\_\_\_.

\_\_\_\_\_  
*Inspector's Name*

### Maintenance Release Form – Transponder (91.413)

12-12-2009    TTAF    TACH    A/C N#

The Transponder tests and inspection as required by FAR 91.413 in accordance with FAR 43, Appendix F, have been performed on **TRANSPONDER:** MFG, P/N, M/N, S/N.

\_\_\_\_\_  
*Inspector's Name*



# Part 91.417 (a) (2) (v)

*“Complied with AD 87-20-02 R3, 8-22-94 by inspection of seat track rails, due re-inspection on or before 01-22-16 or 12,315.1 hours”*

**“The current status of applicable AD’s including for each, the method of compliance, AD number and revision date and if the AD involves recurring action, the time (aircraft time) and date when the next action is required”**





# Required Maintenance Documentation

AIRCRAFT REGISTRATION NO.

31-7652130

AIRCRAFT SERIAL NO

PA 31350

TYPE AIRCRAFT



2002-12-7 N/R

AD NUMBER

## Textron Lycoming Engine

If multi-engine  Left  Right  Front  Rear  Model No. \_\_\_\_\_ Serial No: \_\_\_\_\_

DATE	TOTAL TIME AT COMPL.	TACH OR RECORDING METER TIME AT COMPL.	METHOD OF COMPLIANCE	NEXT COMPL	DUE AT	AUTHORIZED SIGNATURE & NUMBER
				TOTAL TIME	DATE, TACH, OR RECORDING METER TIME	

Amendment 39-12779. Docket No. 2000-NE-36-AD. Supersedes AD 2000-18-53.

1999 and October 4, 2000, or rebuilt, or overhauled, or had the oil filter converter plate kit part number (P/N) LW-13904 or gasket P/N LW13388 replaced:

**Applicability:** This airworthiness directive (AD) is applicable to the reciprocating engine models in the following Table, that were shipped from the factory between April 1,

**Engine Applicability Table**

O-320	-H1AD, -H1BD, -H2AD, -H2BD, -H3AD, -H3BD
(L)O-360	-A1AD, -A1F6D, -A1G6D, -A1LD, -A3AD, -A4AD, -A5AD, -E1A6D
IO-360	-A1B6D, -A1D6D, -A3B6D, -A3D6D, -C1E6D, -J1AD, -J1A6D
(L)TO-360	-A1A6D, -C1A6D, -E1A6D, -F1A6D
TIO-360	-C1A6D
(L)HIO-360	-E1AD, -E1BD, -F1AD
O-540	-H1A5D, -H1B5D, -H2A5D, -H2B5D, -J1A5D, -J1B5D, -J1C5D, -J1D5D, -J2A5D, -J2B5D, -J2C5D, -J2D5D, -J3A5D, -J3C5D, -L3C5D
IO-540	-C4D5D, -K1A5D, -K1B5D, -K1E5D, -K1F5D, -K1G5D, -K1J5D, -L1A5D, -L1B5D, -M1A5D, -M1B5D, -M2A5D, -T4A5D, -T4B5D, -T4C5D, -U1A5D, -U1B5D, -V4A5D, -W1A5D, -W3A5D
(L)TIO-540	-K1AD, -S1AD, -AA1AD, -AB1AD, -AB1BD, -F2BD, -J2BD, -N2BD, -R2AD, -T2AD, -V2AD
AEIO-540	-L1B5D
TIO-541	-E Series
TIGO-541	-D1A, -D1B, -E1A
IO-720	-A1BD, -B1BD, -C1BD, -D1BD, -D1CD



# Required Maintenance Documentation

N1056C  
AIRCRAFT REGISTRATION NO.

31-7652130  
AIRCRAFT SERIAL NO.

PA31-350  
TYPE AIRCRAFT



2006-3-8 N/M  
AD NUMBER

## Aero Advantage Vac. Pump

If multi-engine:  Left  Right  Front  Rear

Mfg./ Part No.: \_\_\_\_\_

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
			N/A Not Installed	

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Amendment 39-14472; Docket No. FAA-2005- 20440; Directorate Identifier 2005-CE-05-AD.

**When Does This AD Become Effective?**

(a) This AD becomes effective on March 10, 2006.

**What Other ADs Are Affected by This Action?**

(b) None.

**What Airplanes Are Affected by This AD?**

(c) This AD affects ADV200 series (part numbers (P/Ns) ADV211CC and ADV212CW) vacuum pumps installed on, but not limited to, the following aircraft that are certificated in any category. These vacuum pumps can be installed under supplemental type certificate number SA10126SC, through field approval, or other methods:

Make	Model
Alexandria Aircraft, LLC	14-19, 14-19-2, 14-19-3, 17-30, 17-31, 17-31TC, 17-30A, 17-31A, and 17-31ATC.
Alliance Aircraft Group, LLC	H-295 (USAF U10D).
American Champion Aircraft Corp	7AC, 7ECA, 7GC, 7GCA, 7GCAA, 7GCB, 7GCBC, 7HC, 7KC, 7KCAB, 8GCBC, and 8KCAB.
Cessna Aircraft Company, The	172, 172A, 172B, 172C, 172D, 172E, 172F, 172G, 172H, 172I, 172K, 172L, 172M, 172N, 172P, 172Q, 182, 182A, 182B, 182C, 182D, 182E, 182F, 182G, 182H, 182J, 182K, 182L, 182M, 182N, 182P, 182Q, 182R, R182, T182, TR182, 172RG, R172E, R172F, R172H, R172J, 152, A152, 210, 210-5 (205), 210-5A (205A), 210A, 210B, 210C, 210D, 210E, 210F, 210G, 210H, 210J, 210K, 210L, 210M, 210N, P210N, T210G, T210H, T210M, T210N, T210R, 185, 185A, 185B, 185C, 185D, 185E, 180, 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, 180J, 180K, 180L, 180M, 180N, 177, 177A, 177B, 207, 207A, T207, T207A, 177RG



# AIRWORTHINESS DIRECTIVE COMPLIANCE RECORD

AIRCRAFT PA-22-135

N2631A

S/N 22-903

ENGINE Lycoming 0-290-D2

S/N 4563-21

PROPELLER Sensenich M 76AM2

S/N 6662

AD NUM. & AMEND. NUM.	REV. NUM. & DATE	SUBJECT	DATE/HOURS AT COMP.	METHOD OF COMP.	O N E T I M E	R E C U R R I N G	COMP. DUE DATE/HRS	AUTHORIZED SIGNATURE & NUMBER
76-07-12 39-3024	R-1 8-30-77	Bendix ignition switch	11-11-94 1850TT	Operational check and inspection		X	1900TT	<i>Phil Lomax</i> A&P 000000000
93-18-03 39-8688	Original 10-29-93	One-piece venturi	3-17-95 1850OTT	Installed one-piece venturi Carb S/N BR-549	X			<i>Phil Lomax</i> A&P 000000000





# AD sign offs in the records.

- Some common yet incorrect entries found in some records are:
  - “PCW” with no other information  
or
  - “N/A” with no other information  
or
  - an entry without enough information  
or
  - **“All ADs COMPLIED WITH” !!!**

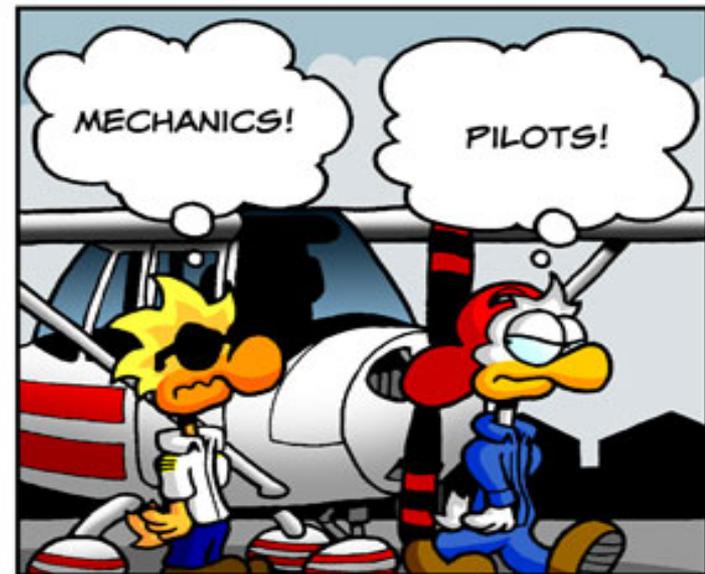
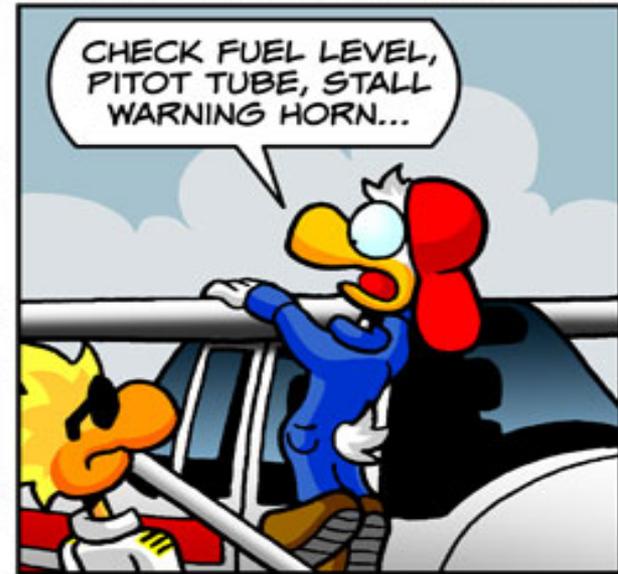
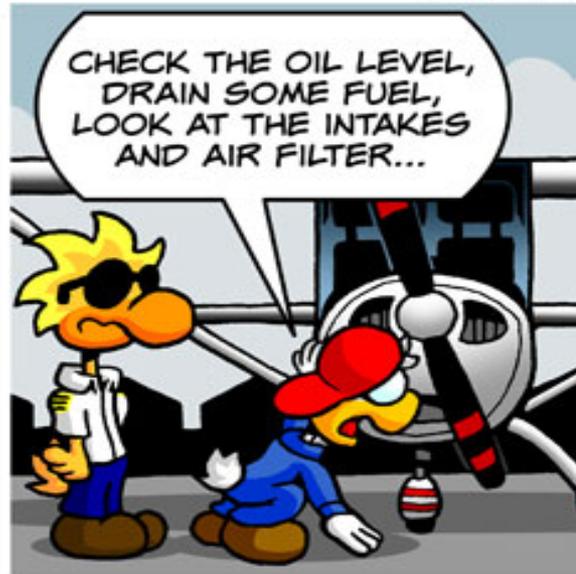


# Problem maintenance record entry?

DATE	RECORDING TACH TIME	TODAYS FLIGHT	TOTAL TIME IN SERVICE	DESCRIPTION OF INSPECTIONS, TESTS, REPAIRS AND ALTERATIONS ENTRIES MUST BE ENDORSED WITH NAME, RATING AND CERTIFICATE NUMBER OF MECHANIC OR REPAIR FACILITY. (SEE BACK PAGES FOR OTHER SPECIFIC ENTRIES.)
7-23-92	5749.1	—	5749.1	<p>Adapted Edg. Tach. A 6000/10000 Tach. Unit. Aircraft inspected as required. Services All systems &amp; engine inspected. Replaced engine drive Belt. Engine Tach. cap checked. Ind. oil level 9/16/92 Oil level to cap. 4-04. Use AD notes 76-07-13 Gearbox T. Cap. Flange cap checked. 87-20-07 cap. Bolt Pinch &amp; check. 86-11-01 checked. Not checked - see note due 58-46-3. AD 97-06-16 prep and check due 6535.4 on 4-03. <u>All other AD notes checked</u> <u>For compliance time period 12-23-92</u></p> <p>DATE/TIME IN SERVICE 5749.1 AIRCRAFT WAS INSPECTED BY [redacted] INSPECTOR AND DETERMINED TO BE [redacted] SIGNED [redacted]</p>

No reference as to next due date and time. “All other AD notes checked for compliance” is an incorrect signoff.





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