

Stuff You Should Have

By John Propst with Technical Review by Bill Pancake

Abstract: This article presents a suggested list of the 10 most important or necessary items an Aeronca owner should have.

You are a new owner of an Aeronca airplane. Most likely it is a Champ, Chief, or Sedan. There are literally 1000's of documents, books, catalogs, regulations, pamphlets, etc. that you should or could acquire. The challenge here is to limit the recommended list to the 10 most important or necessary items that you should make sure you have first.

This is the consensus recommendation of three people who are Aeronca owners. The first is Bill Pancake, the world renowned expert on Aeronca aircrafts. The second is Joe Henry, a retired AP I/A friend of mine that has years of down to earth practical experience working around vintage airplanes. I am the third person. I'm a retired electrical engineer. I have been a general aviation pilot for 40 years. I am relatively new in the old airplane business. I have owned and flown a Chief and I recently bought and rebuilt a Champ with guidance from Bill and Joe. I am neither an AP nor I/A, but I do have years of experience tinkering with my hands and questioning how and why things work and figuring out how to make them work when they don't. Below is our "Top 10 list".

1. **Aircraft log books** – It is extremely important that you obtain and safely retain all aircraft and engine log books associated with you plane. Sometimes old or current log books have been lost or destroyed. This makes it more difficult but sometimes not impossible to reconstruct the history of your plane. If this is the case, the Aircraft CD, listed below may aid in reconstructing the history of ownership, maintenance, and major modifications to your plane. The log books do not have to be carried in the aircraft and in fact most people discourage the practice as they are susceptible to becoming lost, damaged, or destroyed.
2. **Required Aircraft documentation**
 - a. Current Aircraft Registration
 - b. Current Aircraft Airworthiness Certificate
 - c. Current Aircraft Weight and Balance
 - d. Any other documentation required by modification STC's or Field Approvals.
 - e. The FAA approved aircraft flight manual is required, if there was one provided by the aircraft manufacturer. For most of the Aeronca aircraft, flight manuals were not provided, certainly none approved by the FAA as it was not in existence at the time of manufacturer. Some aircraft produced later in life by Champion Aircraft and American Champion were provided with FAA approved flight manuals. If flight manuals were not created and provided by the aircraft manufacturer, the owner should not carry a substitute "Aircraft Flight Manual" provided by a third party.
 - f. There is some question about the need to carry the FAA form ACA-309 titled "Operation Limitations". This form is no longer used by the FAA and the only way to replace a lost one is by making a copy of the original from the airworthiness section of the aircraft CD. The form provides the operating limits of the engine and

aircraft as it was originally purchased. If the aircraft or engine has been modified over its life the data may no longer be applicable. However, there is a statement at the bottom of the form stating “This Placard Must Be Displayed “In View Of The Pilot”. We cannot provide any guidance on whether or not this document is needed in the aircraft. For your awareness the second page of the ACA-309 form is the original equipment listing for the aircraft.

3. **FAA Aircraft CD** – For about \$10 you can order a CD from the FAA that contains all the information on record with the FAA for your aircraft. This includes airworthiness and registration related data. FAA aircraft CD’s can be ordered online from the FAA website. You will most likely be amazed at how many different owners your plane has had or how many times it has had major repairs. You may also be amazed to find that some of the modifications to your aircraft were not recorded with the FAA or that the documentation was incorrectly filed. Sometimes a corrected or amended document needs to be filed with the FAA to correct inconsistencies of the past. In recent years the issue of whether or not an aircraft qualifies for the Light Sport regulations has been a hot topic. Usually the final answer can be found on the FAA CD. If any major modifications were recorded with the FAA in which the aircraft gross weight was ever increased above 1320 lbs. the aircraft does not qualify for the Light Sport category even if the actual modifications are later reversed. (Note that float planes have higher Light Sport gross weight limits).
4. **FAA Aircraft Specification** – Aircraft Specification is an old CAA term. Most of the old Aircraft Specifications in the FAA database have been renamed as Type Certificates (TC), but not all of them. This is an FAA document that provides current ratings and approved modifications for certified aircraft. For example type certificate A-759 applies to 7AC champs plus many other American Champion aircraft. Type Certificates are revised from time to time. Changes in the ownership of the TC, addition of a new model or addition of newly approved equipment are some of the reasons they are revised. It’s a good practice to check the newest revision before taking old information for granted, just in case there was a significant change. Type certificates can be downloaded from the FAA website. Type certificates are also issued for aircraft engines. For example type certificate E-205 applies to A-65, E-233 applies to C75 and C85, and E-252 applies to C90 and O-200 Continental engines. Like the Aircraft Specifications the engine type certificates provides approved ratings and specifications and approved modifications. They also provide other important information such as rpm limits, oil and oil pressure specifications, magneto settings, and approved spark plugs. Just because something is not on the TC does not make it wrong. The item may have been approved by a Supplemental Type Certificate (STC) or FAA Field Approval.
5. **“Aeronca – Champs and Chiefs” by C.W. Lasher.** This book serves as an excellent reference to the history, repair, and modification of 7series and 11 series Aeroncas.
6. **FAR 43 – Federal Aviation Regulations** related to maintenance, preventive maintenance, rebuilding, and alteration of aircraft. Note that the FARs and the Advisory Circulars relate to each other and what they are about by their section numbering. For example - FARs concerning maintenance are in part 43 and Advisory Circulars

concerning maintenance will start with 43. General Aviation Flight Rules are in part 91 and Advisory Circulars concerning flight rules will start with 91. Section 43 Advisory Circulars are covered in more detail under the next item.

7. **Advisory Circular including AC 43.13-1B and AC 43.13-2A related to acceptable methods, techniques, and practices** – aircraft inspection and repair. This document is published by the FAA and is available in hardcopy from by Jeppesen. This is the mechanic's bible for antique and classic airplanes. It is also revised from time to time. If one has an older paper copy, it is a good practice to double check the pertinent section against the FAA website to be sure the info is accurate, or buy a new up to date copy.
8. **Vintage Aircraft parts supplier catalogs**
 - a. Aircraft Spruce and Specialty Co.
 - b. Univair Aircraft Corporation
 - c. Wag-Aero
 - d. Wicks Aircraft Supply

Each of these suppliers, as well as quite a few others, began their businesses by supplying the experimental homebuilt market and that is still a big part of their business. Just because an item is in their catalog does not mean it can legally be installed on a certified airplane. Items that were required to meet the aircraft's certification must be replaced with FAA approved parts.

Closely related to the topic of aircraft parts, FAA Advisory Circular AC 23-27 “provides guidance for substantiating parts or materials substitutions to maintain the safety of old or out-of-production general aviation or other GA aircraft where the parts or materials are either difficult or impossible to obtain”. This Advisory Circular can be downloaded from the FAA website.

9. **Engine Overhaul and Parts Manuals** and advisory documents – typically Teledyne Continental Motors (TCM) documents for most post war Aeronca Aircraft. The engine manuals are revised by the engine manufacturer from time to time. However TCM no longer supports their A65 or C85 engines, which means that they no longer issue amended or updated manuals. While TMC currently support C90, O-200 and up engines it is anticipated that they will soon discontinue supporting the C90 engine. The latest update of the A65, C75, and C85 TC and manual was 1973. The current date on the C90 and O-200 TC and manuals is 2010. You can check the FAA website for the most current engine type certificates.
10. **Aircraft Service Manuals** - Many of the Aeronca Chiefs, Champs, and Sedans were provided with Service Manuals. As stated in the manual's Forward “This manual has been prepared to aid owners, operators, and repairmen in protecting and maintain The First in Quality, Construction and Performance of all Aeronca Aircraft”. Even though the 7AC and 11AC service manuals are not FAA approved documents, they are valuable in maintenance and knowing ones airplane. This is much like the owner's manual that you get with a car. It provides valuable information related to the operation and maintenance

of the aircraft. Bill cautioned that the Aeronca service manuals do contain a number of errors so we need to double check and verify any information obtained from them. In addition, the Airforce issued a detailed "Flight Handbook" for the USAF series L-16A and L-16B aircrafts. Some of the guidance provided for the L-16 is also applicable to the 7AC.