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# Maintenance Tracking Made Easy

by Aram Basmadjian

When a pilot becomes an owner-pilot, he or she needs to acquire a whole new set of recordkeeping skills that are never taught during the typical private pilot ground school. Despite 34 years of aviation experience, much of which was spent as a career pilot, I found it somewhat overwhelming as I started to decipher 56 years of prior maintenance records for my recently acquired 1962 Beech Bonanza.

Why should I care about organizing my maintenance records? After all, the mechanic who performed the most recent annual inspection verified all the previously performed maintenance, right? Not necessarily. In fact, the mechanic who did my first annual inspection simply referenced the previous mechanic's entries regarding AD compliance, who had referenced the entries from the central mechanic before him. I would hope that most mechanics are more diligent than this, but I prefer to not leave things as critical as aircraft maintenance to chance. So, before sharing some ideas on how to organize your maintenance records, let's look at some of the benefits of keeping them well-organized.

First, FAR 91.7 clearly states that no person may operate an unairworthy aircraft, and that the pilot-in-command is responsible for determining whether that aircraft is in airworthy condition. Checking the logbooks is crucial to accomplishing this task, but all too often it is done in a haphazard manner that is neither thorough nor accurate. Furthermore, especially with older aircraft, there may be multiple logbooks to review. In some cases, where the owner has taken little interest in keeping the aircraft logs organized, maintenance entries may be randomly thrown into a box over a period of many years along with other paperwork, such as FAA Form 337s and 8130s. I personally experienced this during a pre-buy on a Bonanza, and it was the overwhelming reason that I did not buy the airplane!

Second, well-organized maintenance records make it easier for both you and your mechanic to determine what Airworthiness Directives and Service Bulletins need to be complied with and when they are due. Also, aircraft typically have time-limited components, whether it be by hours of use or calendar time-in-service (i.e., ELT battery). The more organized your records are, the less time your mechanic will need to research your logs when the airplane goes in for its annual inspection. This translates into cost savings.

Finally, complete and organized logs are very important when it comes time to sell your aircraft. Incomplete or disorganized logs can have a very negative impact on a prospective buyer.

After purchasing my Bonanza, I spent quite a bit of time going through the logbooks to determine when some of the key maintenance items had last been addressed. For example, when was the alternator or vacuum pump last overhauled, or how many hours are on each magneto? Once I determined when all of the key maintenance items were complied with, I organized them as many owners do, by putting the data into an Excel spreadsheet (figure 1). This provides a way to keep track of these items along with the reoccurring ADs that apply to my aircraft. This is an effective and inexpensive solution to keep track of when

Aircraft Status Sheet						
November 30, 2019					N62BS	
A/C TT: 4488.7 Tach: 999.2			Eng TT: 969.2 TSMO: N/A		Prop TT: 969.2 TSMO: 717.4	
Inspection / Component	Date Last Done	Tach Time Last Done	Ove Every Hours	Due Every Year(s)	Calendar Date Due	Hours To Go Until Due
Annual Inspection	4/19/2019	916.00		1	5/1/2020	
Oil Change	11/27/2019	968.80	25			999.80 24.60
100 Hour Inspection	4/19/2019	916.00	100			1016.00 46.80
Engine	2/26/1991	0.00	1600	12	2/26/2003	1600.00 630.80
Propeller	8/17/1993	251.80	2000	6	8/17/1999	2251.80 1282.60
FAR 91.413 Static System/Altimeter	12/18/2018			2	1/1/2021	
FAR 91.413 Transponder Inspection	12/18/2018			2	1/1/2021	
FAR 91.207 ELT Inspection	4/19/2019			1	5/1/2020	
FAR 91.207 ELT Battery	4/19/2019			2	5/1/2020	
GPS Database Update (IFR)	11/27/2019			28 days	12/25/2019	
VOR Receiver Check (IFR)	11/15/2019			30 days	12/15/2019	
Airworthiness Directives						
86-12-22 Oil Filter Adapter Inspection	4/19/2019	916.00	100			1016.00 None Change
62-17-01 Prop Hub Insp.	4/19/2019	916.00	100			1016.00 46.80
86-08-02 Magneto Adv. Control Fittings	4/19/2019	916.00	100			1016.00 46.80
74-07-12 Bendix Ignition Switch Insp.	4/19/2019	916.00	100			1016.00 46.80
84-20-04 R2 V-Tail Inspection	4/19/2019	916.00	100			1016.00 46.80
2007-08-08 Gear Uplock Rollers	4/19/2019	916.00	100			1016.00 46.80
85-04-03 Wing Front Spar Inspection	8/9/2004	565.80	500			1065.80 96.60
Replacement and Inspection Items						
Hydraulic Fluid Check	11/27/2019	4488.30	25			4513.30 24.59
Vacuum Regulator Filter Replacement	4/19/2019	916.00	100			1016.00 46.80
Central Vacuum Filter Replacement	4/19/2019	916.00	100			1016.00 46.80
Bracket Induction Filter Replacement	4/19/2019	916.00	100	1	5/1/2020	1016.00 46.80
L Magneto 500 Hour Inspection	4/19/2019	916.00	500			1416.00 446.80
R Magneto 500 Hour Inspection	9/1/2010	722.60	500			1222.60 263.40
Landing Gear Motor Brushes	10/17/2006	651.60	500			1151.60 162.40
Wheel Bearing Re-pack		845.30	500			1345.30 976.30
Nose Gear Rod Ends	10/10/2018	892.50	2000			2892.50 1823.80
Landing Gear Gearbox Overhaul			2000			2000.00 -3488.71
Flap Actuator, Flap Shafts			2000			2000.00 -3488.71
Fuel Selector Valve Replace	7/18/2018			10	7/18/2028	
Fuel Boost Pump Overhaul	9/28/2005			10	9/28/2015	

Figure 1: Aircraft maintenance status using Excel

inspections are due or when parts need to be replaced. In fact, I keep this sheet updated and tucked inside the *Pilot's Operating Handbook* in the airplane. I also keep a copy saved within my ForeFlight documents so that it is always accessible.

As I prepared for my first annual inspection, I started to get concerned about leaving the original maintenance logbooks with the mechanic. I have heard horror stories about logs being destroyed or lost while in the possession of a maintenance shop. Considering the huge impact that missing logs can have on an aircraft's resale value, I started looking for an alternative solution. One way to deal with this is to scan or digitize all of your logbooks. Once they are in digital form, you can print out the pertinent sections and hand them to your mechanic when the airplane goes in for annual. Additionally, once in digital form, they can be stored in the cloud with backups in multiple locations.

As I began researching the best way to scan and store my aircraft logbooks, I stumbled across PLANELOGIX ([www.planelogix.com](http://www.planelogix.com)). Will Goldstein and Robert Wilkes founded PLANELOGIX in 2014. Their company helps aircraft owners scan and transcribe old logbooks, creating digital versions that are easily searched. PLANELOGIX not only keeps copies of the aircraft log entries in the cloud, it provides a transcribed (searchable) entry as well. All too often, especially before computers were used to create logbook stickers, the handwritten entries were difficult and time-consuming to decipher. Once all the logbooks are transcribed, searching them becomes an effortless and instantaneous experience. And, since it

is on the cloud, you can access your maintenance records from any mobile device. That is really important when your aircraft ends up grounded somewhere unexpectedly. Furthermore, PLANELOGIX has a provision whereby you can grant your mechanic access to the system to view or search your maintenance records.

I have been a PLANELOGIX customer for nearly a year. Recently they began a comprehensive overhaul of their system, which now makes it an even more powerful maintenance tracking and logging system.

Scanning and transcribing the logbooks from an aircraft that is over 50 years old can be a daunting and time-consuming task. I chose to do this task myself, and I am glad that I did. By the time I was done transcribing all of the logbook entries for my airplane, I felt that I had a pretty good understanding of everything that had been done to it over the years. At the recommendation of Will Goldstein, I used a Fujitsu ScanSnap SV600 overhead scanner, which did an admirable job of scanning the logbooks quickly. However, there are plenty of smartphone apps that could do the job just as well, with perhaps a bit more patience. For those people who have neither the time nor the inclination to take on such a task, PLANELOGIX offers this service to its customers. You can ship your logbooks to PLANELOGIX and they will do all of the scanning and transcribing for you. Or, if you are like me and not comfortable shipping your logbooks off, you can do the scanning yourself and they will transcribe the scans that you send them. In addition to the maintenance entries, all of the FAA Form

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337s, 8130s, STCs, yellow tags, work orders, and invoices are scanned and added into their system. This provides a very complete and transparent record of everything that has been done to the aircraft. Once all of the scanning and transcribing has been completed, the hard part is over, and you can then enjoy the benefits of the system.

I think that the most powerful part of the system is the search functionality. For example, typing "alternator" in the search box will instantly bring up any maintenance entry that references the alternator. Are you curious when the rod ends were last changed in the nose gear, or perhaps when the landing gear motor was last serviced? It is as simple as typing "rod ends" or "gear motor" in the search box to make all the appropriate entries appear instantly, with the search terms highlighted (figure 2). Any additional documents that are tied to a specific maintenance entry are clickable right from the Maintenance Records screen. This includes the scan of the original maintenance entry along with any applicable 337s, 8730s, STCs, invoices, work orders, etc.

Tracking critical maintenance items such as reoccurring Airworthiness Directives, Service Bulletins, and time-limited parts becomes really easy with the PLANELOGIX system. Tracking of a specific item can be done using any combination of times (TTAF, Hobbs, Tach, Heater Hobbs, etc.) or by calendar times or even cycles. The platform allows the user to define warning intervals for each recurring inspection or time-limited part. Figure 3 shows a list of the upcoming maintenance issues for my aircraft along with how many days or operating hours remain until it must be completed.

One-time parts or inspections that do not need any recurring action can also be tracked for easy historical reference, such as an AD Compliance Report. Compliance with an AD or the replacement of a part is also linked to the specific maintenance entry in the electronic logbook. What-if scenarios can also be run to easily determine what inspections may be due if you fly a certain number of hours, days, or cycles.

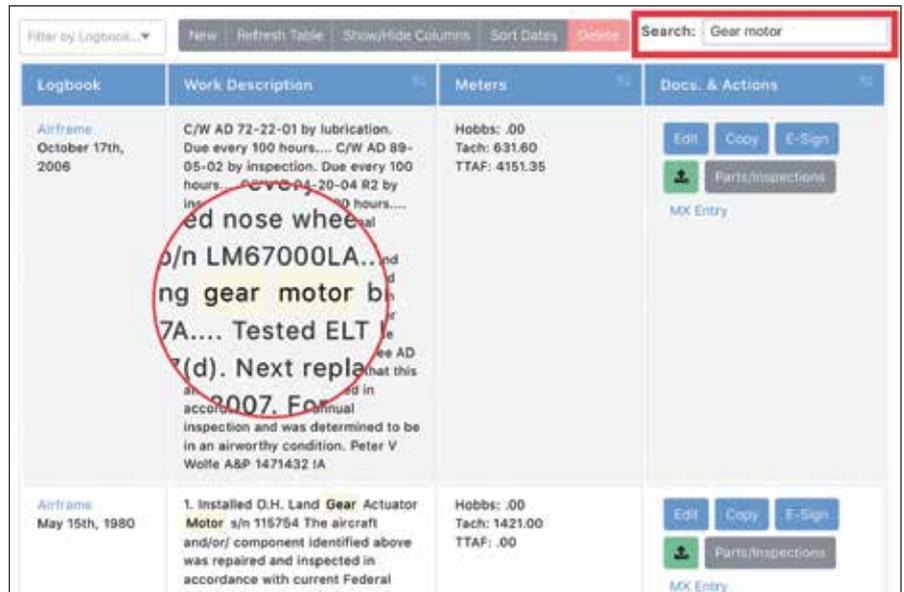


Figure 2: Searching in PLANELOGIX



Figure 3: Upcoming maintenance due

PLANELOGIX also offers an optional service whereby they will print out all of the aircraft records (both transcribed and original scanned entries) along with any other records you have uploaded (8730s, 337s, etc.). It is logically organized in a quality three-ring executive binder. When I gave the binder to my mechanic at the annual inspection, he said, "Wow!" The binder, along with online access to my PLANELOGIX data, made it easy for my shop to verify compliance with all applicable Airworthiness Directives. That time savings alone paid for my entire first year's subscription to the PLANELOGIX system!

Finally, the customer service offered by PLANELOGIX is unparalleled in today's automated world. Will or Rob have personally responded to every email I have sent them, usually within hours. I commend them on their dedication to providing a very high-quality product at an affordable cost.

As an owner-pilot, it is important that maintenance records are organized in a way that they can be easily referenced. This will provide you with the confidence that the maintenance required to keep your aircraft airworthy has been completed.

