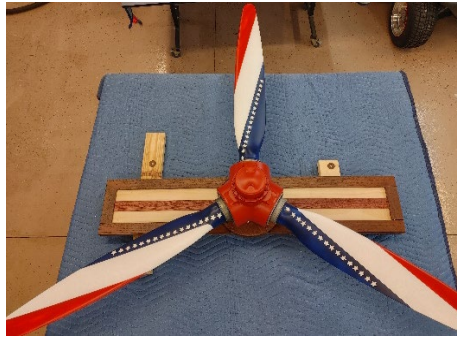


**“Riveting Reading”**

**Civil Air Patrol  
North Carolina Wing  
Aircraft Maintenance**

**Mar '22. ♣♥Vol #52♠♦**

*By Lt Col Martin ‘Stryker’ Heller*



N7360C's 1977 screw-in blade prop became obsolete in Nov & replaced. The old propeller was repainted & will hang in the NCWG HQ Building. The wooden Roundel spreads the ~75# weight across several aluminum studs in building's wall. **Please do not hand prop** as it doesn't turn anymore.

To: NCWG Commanders, Operations Officers, Crew Chiefs & Aircrews;

**1. Motivational Quote:** *‘Funny how some altitude makes everything seem small; minutia that used to control me can't reach up here at all...’ ‘Sky King’ Menzel (Idina’s brother).*

**1a. NCWG Director of Operations (NCWG/DO) Comments:** Please do not delay in preparing, organizing, and completing your CAPF 70-5A check ride. No one who risks their life in flying for the CAP/NCWG should have to pay for their required 'annual.' But you will if you allow it to expire. Not a gentle reminder but a hard fact of life. Stay safe & sane. Lt Col Urbanek 🍀

**1b. Feb Highlights:** For the month, NCWG flew ~**362 hrs**: about 162 more hours than January's 200 hours.



Lt Col Kathy Nicholas defrosting N179CP

**1c.** NCWG again conducted flight operations to support the US Army ATC training mission. 13 NCWG and 3 SCWG aircraft flew 77 sorties for 185 hours. Another 31 sorties were cancelled. The next Army Field training exercise is Mar 21-28<sup>th</sup>. Our goal is to provide **16 aircraft** per day.



KMEB - US Army AOB ATC Equipment

**1d. Top Hour Flying Aircraft/Squadrons:** **NC-048/KRDU/N819CP** flew 41.8 hours; more impressive as it missed 1/3<sup>d</sup> of the month for its 100-hour/annual inspection. **NC-160/KEWN/N98426** flew 34 hours, also with a few days down due to maintenance issues. **NC-019/KAVL** put 34 hours **N963CP** and about 15 each on **N99832** and **N99885**, both again having maintenance issues or inspections. **KBUY, KSUT, KLHZ, KFAY, KECG →KJNX** put more than 20 hours on each of their aircraft. **N908CP** was low on the totem-pole but missed the AOB missions due to inspections & parts.

**1e. Top (Hours) Pilot for February:** Since we flew the AOB mission which often swaps two pilots, here is the top 12 pilots ranked by total time in the aircraft this month, and also showing time in the left seat.

Air Crew Rank	Pilot	Unit	Total left seat Hours	total aircraft Hours
1	Rosemond , J. Malone	MAR-NC-022	13.3	25.3
2	Bashinski , Benjamin	MAR-NC-019	13.4	19.6
3	Hartman , David S	MAR-NC-019	9.2	16.8
4	Malott II, Daniel W	MAR-NC-305	10.2	16.5
5	Davis Sr, Raymond G	MAR-NC-019	4.6	16.5
6	Herring Jr, Morris C	MAR-NC-171	16.1	16.1
7	Dawson Jr, Charles H	MAR-NC-022	10.9	15.1
8	Netherby , Richard J	MAR-NC-145	9.4	14.9
9	Heller , Martin B	MAR-NC-170	11.7	13.1
10	Briola II, Donald A	MAR-NC-019	10	12.2

11	Peters , Wendy J	MAR-NC-048	10.8	10.8
12	Mouat , Brian J	MAR-NC-160	8	10.5

**The Top 'C' Hours pilots were:** Lt Col John Phillips, NC-023, 3.2 C-hours & Lt Col Carlisle, NC-011; 2 hours.

## 2. Maintenance Month in Review:

### 2a. Aircraft in Annuals:

**N819CP:** *Dixie* is showing a lot of skin and we've asked NHQ for a re-paint job. We added USB charging port to instrument panel, and changed the left main tire. **N819CP** returned from KAVL to KRDU on Feb 11.

**N99885:** *Echo* needed a 500-hour magneto inspection, taking it off-line for 2 weeks as the magnetos were sent off. *Echo* needed just the left brake pads replaced. And the air vents were lubricated. (Are the mechanics testing to see if we read their log entries?) **N99832** was again moved to its second home at KAVL and backfilled 'Echo,' and support AVL's Cadet Flight Training. **N99885** returned to service at home station, with the 10-hour cadet o-ride limitation, on 22 Feb. FWIW; propeller log kept swapping the manufacturer from Sensenich to McCauley & back; it's a Sensenich. **N908CP:** Started maintenance (in KSUT) on 8 Feb. 'Flo' didn't need a new ELT Battery yet, as the date in AMRAD wasn't correct. That saved several hundred dollars, quickly used and more up by a cracked spinner bulkhead plate. Apparently spackle and chromate paint is not an acceptable repair method IAW FAA Advisory Circular 43.13-1B. Turns out, *Flo* may not have 'a whole lot of shacking going on', but certainly enough to crack five of six holes on this spinner bulkhead, break 3 cowling mounts and loosen the starter. The fixed pitch propeller was never balanced since overhaul back in April 2019 but balanced now. The engine mount also had an extra washer on it. *Flo* had its seatbacks reglued, need all (8) new sparkplugs, and had its left tire flipped to even the wear. Went home on Feb 20<sup>th</sup>.

**N938CP:** 'Max' went in for its annual inspection on 21 February. It will get Aeronet fixed for the 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> or who knows however many times. Aeronet will soon be as operationally useful as DAART, VIRB, VIPER, WALDO, our SATCOM phone and the various repeaters. It's another tool in our toolbox; don't let it get too rusty. More to follow.

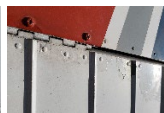
**N437BA:** (glider) starts its annual as you're reading this. Squawks include: repairing brake cable, replacing hoses, replacing the tow ring attachment, reupholstering the seat and even a pitot/static check. Attentive readers wonder why does our glider even have a transponder? It allows the L23's depiction on others' ADS-B when in KLHZ's pattern.

**2b. Other Maintenance Issues:** **N716CP's** engine received its last oil change before engine TBO in 50 hours. Other oil changes included: **N726CP**, **N405CV** & **N7360C**. **N963CP** (Gumby) had a leaky nose strut; cold weather does that; turns out the valve stem was failing. **N963CP's** parking brake handle support bracket also broke. Finally, *Gumby's* G1000 GIA (#1) was replaced. **N726CP's** heater control cable disconnected at the firewall pass through. Glad we have new maintenance support at **KBUY** who brought the heat. **N405CV's** up electric trim stopped working. Nine frantic phone calls looking for a new pilot yoke trim switch (~\$1,200) was OBE through a squirt of contact cleaner. **N98426's** engine started passing a noteworthy amount of oil; checked out by local maintenance and it appears to be another case of pilot overfilling. Mx checked the plugs, cleaned the underbelly and sent the plane on its way. Also 'Sarah's' FM radio 'MN/GD' switch stopped switching & stuck transmitting only on guard (GD) radio. Not to be outdone, **N99832's** FM radio lights up but not much else; and is going to PF Flyers at Greenville, SC for review. Then its artificial horizon went sideways & replaced at home station. **N262CP's** FM radio also went on the blink. Good thing we have these US Army training exercises so we get re-acquainted with FM radio in our instrument panel. **N726CP** was put in for propeller overhaul a little earlier as we'll soon be overloading the prop shop (see para 3h). 'Betty' also had the propeller dynamically balanced and back on 25 Feb. Our 1977, C-206G; **N7360C** went in for its autopilot modernization on 22 Feb 22 at home station.

**2c. Paint Pains:** N819CP's crew chief, Capt Don Williams forwarded a series of pictures documenting the paint failure all over the aircraft. NHQ agreed for repainting the aircraft and we got an estimate from a NC shop instead of sending & retrieving out of state. N98426 (Sarah) / KEWN also has some paint issues but not nearly as bad. Two spot re-painting areas (Vertical Stabilizer – right side, and right-wing top) were done by D2-Gov't Solutions (local mx.)



(Left) N819CP wings;  
(Right) Fuselage & aileron hinge areas.



**2d. Not a 10-Gallon Hat:** It's bad enough that the POH already fills the seatback pocket; adding more stuff rips the glued fabric off the seatback. Please take time to declutter all non-essential books, rags, barf bags, and other items from interior pockets. Realize maintenance labor bills are \$85+ per hour, even for simple repairs like these.



### 3. Aviation Maintenance Support Information:

**3a. KSUT Aircraft Maintenance is back:** It's got a new name, **Brunswick Air Works**; but it's the same 'Bat Cave' (hangar) and same Bat mechanics. We're using them now but still waiting on contracting paperwork; same Batshi....

**3b. B.F.O.** (Blazing Flash of the Obvious): The new (1 Dec 21) CAPR 70-8, also known as the AIF Flight Log, holds 4 entries compared to the 5 sorties of the 4 Dec 17 & older forms. Hence, you'll need to print more each month. Here is a quick link for the form: [https://ncwg.cap.gov/media/cms/Aircraft\\_Flight\\_Time\\_Log\\_EF8B2E6DFCF94.pdf](https://ncwg.cap.gov/media/cms/Aircraft_Flight_Time_Log_EF8B2E6DFCF94.pdf). Did you notice there is only one 'RED' Grounding Placard in the inside front cover of the AIF? No need for two now.

**3c. Capturing G1000 component Serial #'s:** Tasker for crew chiefs (this time with clearer guidance) is in Atch 1.

**3d. Aircraft Tire Pressure:** We know we need to measure tire pressures the first flight of the day. **But when do you need to add air?** Ignore that NHQ Stan/Eval Feb 2022 newsletter. If you plan to read it, you'll want to wrap your head in a tight ace bandage beforehand so your brain doesn't explode. This article goes back to zero tolerance; good luck.

In conjunction with NHQ/LG, the Sep 2020 USAF/CAP I.G inspector, and tire manufacture guidance, you can go down to 10 percent (4 PSI) before you have to inflate. They'd prefer tires to be 100 (or even 105) percent. Thus, 4 PSI is the rule of thumb. Because when you look at your thumb, you'll (usually) see 4 fingers. At a loss of 4 PSI, you got to **HAND**le it. If you use a higher number, you probably have your gloves custom-made. At 20 % (~ 8PSI), or continuous loss of air, we're supposed to remove the tire and have a shop examine it. Similar to sex, air doesn't seem to be important until you don't have enough (or any).

**3e. NCWG Airworthiness Focus Day:** During the first week in February, the AMO staff did a level IV diagnostic comparing AMRAD data to our virtual logbook collection across our 16 aircraft and the glider. This spared the crew chiefs from their 'last straw' tasking. We didn't find any airworthiness issues, but did encounter several outdated items, and a few logbook entries missing from our virtual logs. Crew Chiefs went back into the actual aircraft logs, scanned the missing info and forwarded them to our [AC-reports@ncwgcap.org](mailto:AC-reports@ncwgcap.org) website. Considering AMRAD has ~100 data blocks/aircraft, NCWG did spectacular. Special thanks to **Lt Col Davis, Lt Col Bailey, & several crew chiefs**. We concluded our Airworthiness Focus Day on Sat, 12 Feb as part of the NCWG annual conference with not one, but two, award\* winning briefs on the subject. Those attending Lt Col Jong Lee/Capt Jeffrey Smith's briefing were awarded FAA Wings credit. Some of my attendees got popcorn. Some others earned door prizes\* which were delivered via our NCWG-AOB air cargo operations, air delivery; winners should check w/squadron pilots or airplane.

**3f. 1. AMRAD-LOGBOOK Scrub Results:** NCWG didn't have too many common data errors in part because in NCWG, every day is Airworthiness Focus Day. Of the ~1,635 blocks of data, only about 65 were incorrect (~96% accurate). Some minor but common themes include mid-cycle oil changes. Now, oil changes are 4 months (not calendar months) or 50 hours (+/- 5hrs). That block gets updated during the 100-hour inspection & the next 50-hour oil

change hours should match the 100-hour time. It's really minutia. Some entry changes require NHQ permissions and can only be accomplished by the AMRAD-ites at Maxwell AFB \*(e.g., Engine Serial #s). Differences between TTAFF ←→ TTOH are caused by sortie closeout data entry typos; have fun searching for it. NHQ also directed us to do a VIRB mount inventory. That's that drag-inducing, piece of aluminum on the right wing where we hang our GoPro's.

**3f.2. CAPF 70-1 Overhaul:** At NHQ, NHQ/LG & Wing AMO working group spent several days to make this aircraft inspection form more efficient. But realize, *'these are the good old days.'* The improved form will literally at least triple the workload as it will include an annual AMRAD-logbook comparison and also an Operations Management Resource System (ORMS)-like, review on aircraft avionics and component models and serial numbers. Coming soon!

**3f.3. Initiative to Reduce Redundancy Initiative:** Because the new CAPF 70-1 will be more work intensive, NCWG will discuss ways to thin out the workload we impose on crew chiefs. From documenting VOR & fire extinguisher checks (in three locations, yet sometimes still don't get done), to letting us know when the rags were washed, there needs to a better way to manage the workload. We came up with alternatives and then Lt Col Bailey said, *'No!'*

That's because he was already **two steps ahead and another step in a different direction**. Lt Col Bailey created a web-based form, incorporating the required items, thus eliminating the end of month (EOM) email. Better than that, he **eliminated** the NCWG Form 10 (**read: Excel spreadsheet listing each sortie**); the bane of a crew chief's existence. Read that again: **No more retyping the monthly WMIRS sortie data**. NCWG/DO's 24 Feb email laid it all out. Find NCWG's link at: <https://ncwg.cap.gov/directorates/operations/aircraft-maintenance/amo-end-of-month-reporting>. Once inputted online, you'll get a confirmation (see atch 2). He should be **knighted** for his work; Let me be the first to say, **"Thank you, Sir Chihuahua."**

**3g. NCWG Aircraft Maintenance Supplement 1 to CAPR 130-2)** has been reviewed by our USAF liaison, slimmed down by the MAR/DO, approved by NHQ **and published on 16 Feb**. It's no longer kept in the AIF, but on-line at: [https://www.gocivilairpatrol.com/media/cms/1302\\_16\\_February\\_2022\\_Supplement\\_1\\_F490129111D67.pdf](https://www.gocivilairpatrol.com/media/cms/1302_16_February_2022_Supplement_1_F490129111D67.pdf). A copy is in attachment 3 for your reading pleasure. Special thanks to the entire NCWG admin staff that got it done.

**3h. Propeller Overhauls:** **N726CP** (propeller-done), **N963CP** (governor) – Mar, **N741CP** (propeller) in April, **N262CP** (governor) in July. Every wonder why propeller and governor overhauls are so pricey? In reality, they are similar to Siberian exotic dancers. One must strip off many layers before examining the bare surface. Here's a 28-minute, 2-part Youtube video on ~~Siberian exotic~~ propeller overhauls: <https://www.youtube.com/watch?v=R0ogwiambY8>.

**3i. GPS database current cycle (2203) started 24 Feb.** Please update AMRAD in both the current and due blocks. And your navigation currency page should be all white, as CAP now pays for and crew chiefs download all databases.



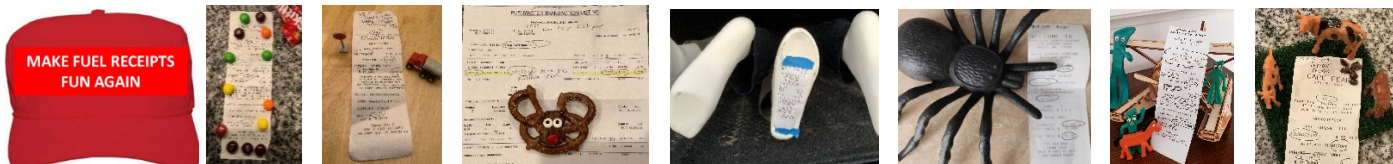
**3j. "Clear the Puck:"** It's not an Olympic effort, but remember the Cessna 'hockey puck-looking' vent cover in the rear baggage area is the intake for the avionics 2 cooling fan. Don't let that plastic container (nor anything else) block it. More than just hearing it on the preflight checklist, take a look.

**3k. Clean Machines:** Have we learned yet that washing the airplane mid-summer, results in a mid-winter second wash? It will take a whole mess of Handwipes to clean an airplane when running water isn't available. According to AMRAD, the dirty bird's still overdue for a wash include: **N819CP & N99832**. To avoid being heartless, **we'll suspend our 'hate to have to do this policy' of grounding the aircraft after three months being overdue**. When updating AMRAD, include both the completed, and next due dates.

**3l. AIF Updates:** Lt Col Bailey distributed all the new AIFs. The book is probably a pound lighter with half the tabs.

**3m. Fuel Receipt of the Month:** Our *'Make Fuel Receipts Fun Again'* initiative isn't gaining much traction. So, I've asked the Form 108 reviewers to select and forward the best receipt(s) for publication each month. As a reminder, while we have to provide an audit trail, we'd like to make it fun for our sortie processors; they don't get paid either.





**3n. NHQ/LG's Quarterly Aircraft Maintenance Officer (AMO) TEAMS Meeting:** On Feb 22, our Logistics leadership held another issue update meeting on-line. Wing AMOs and crew chiefs were invited; about 65 people attended. Here is the link to this and all four previous meetings. <https://www.gocivilairpatrol.com/members/cap-national-hq/logistics-mission-resources/aircraft-management/amo-resources>.

Key issues and updates included:

1. **Parts;** i.e., cylinders, pistons, batteries, Garmin products, etc. are harder and slower to come by. NHQ has been working more sources, but won't sacrifice safety. Try to be patient; they are working hard at it.
2. **CAPF 71s:** (Besides info in paragraph 3.f.2): NHQ requires a CAPF 71 be accomplished by both gaining and losing units when aircraft are transferred. Since all NCWG are assigned to NC-001, don't be concerned. But the **Form 71 is supposed to go in tab 2** of the AIF, per CAPP 130-2, para 10.a. Honestly, what non-crew chief pilot has ever looked at a CAPF 71? The AIF coversheet is more current. Now we know where CAPF 71 goes.
3. **AMRAD Updates:** NHQ/LG put into CAPR 130-2, para 7.5, that all AMRAD entries will happen immediately but no later than 8-hours. That will work for entering discrepancies, but not clearing them. NCWG/AMOs will continue to use electronic logbook entries, when received, to update AMRAD as our checks and balances.
4. **MX Tip of the Quarter:** Routinely wipe oil off the antennas. Else, the coating causes energy to reflect back into the radio and fry it. So, if you're seeing black on our white or silver antennas, please wipe them clean.
5. **Riveting Reading** got NHQ attention: Apparently, leadership believes this newsletter is an effective way to pass along communications. It also serves as an example why kids should pay more attention in school.



**3o. NCWG Operations has positions open in the following areas:**

- Wing Aircraft Maintenance Officer (or assistant)
- Glider Operations Support (either as coordinators, tow pilots, or glider pilots). While the aircraft is based at KLHZ, it's a wing program, not just NC-145 responsibility.

4. Thank you all for the support & taking the time to read this Riveting Reading. All the Riveting Reading newsletters are available on the Wing website (NCWGCAP.org) under 'Members/Operations/Aircraft Maintenance.' →→

*- Stryker -*

Martin Heller, Lt Col, CAP  
NCWG Aircraft Maintenance Officer

3. Attachments

1. Garmin Line Unit Serial # Tracking (← crew chief tasking).
2. New, NCWG End of Month (EOM) Reporting Form Confirmation
3. NCWG Sup 1 to CAPR 130-2 Aircraft Maintenance (Separate attachment)

## Attachment 1 Garmin Line Unit Serial # Tracking

To All NCWG Crew Chiefs,

You may remember that back in September 2021, at NCWG Operations and Maintenance meeting we discussed the importance of having a record of the G1000 system status page. This provides us not only the LRU devices serial numbers but also the units software version. In addition, on the right side of the screen are the overall G1000 system software levels.

To date only 3 folks have provided this information. Therefore, we need to collectively to take pictures of all NCWG G1000 aircraft MFD System Status page (Note; this page needs to be scrolled down to get all items included - i.e., 2 pictures). See attached examples.

Other than just having this information on file, it will provide us data when a failure happens and the data is lost. Notice on attachment 2 the **Red X** has no data showing.

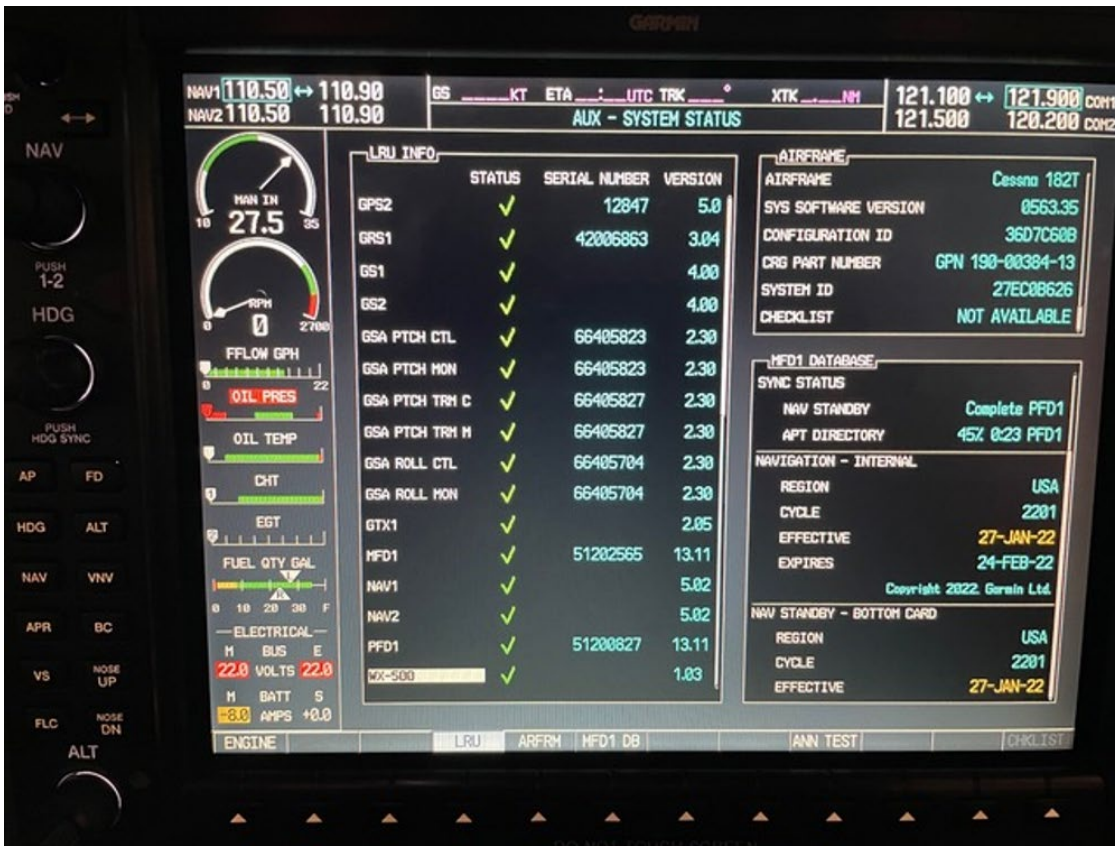
During your Mar 1 EOM inspection, please include taking 2 pictures (remember to scroll the page) of the MFD Status page and e-mail them to me for inclusion in NCWG's aircraft records by Mar 6. SEND PHOTO's TO: [ac-maintenance@ncwgcap.org](mailto:ac-maintenance@ncwgcap.org) and info [rdavis@ncwgcap.org](mailto:rdavis@ncwgcap.org).

Note: In the future, if failures require hardware/software replacements or upgrades, please take new photos and submit asap.

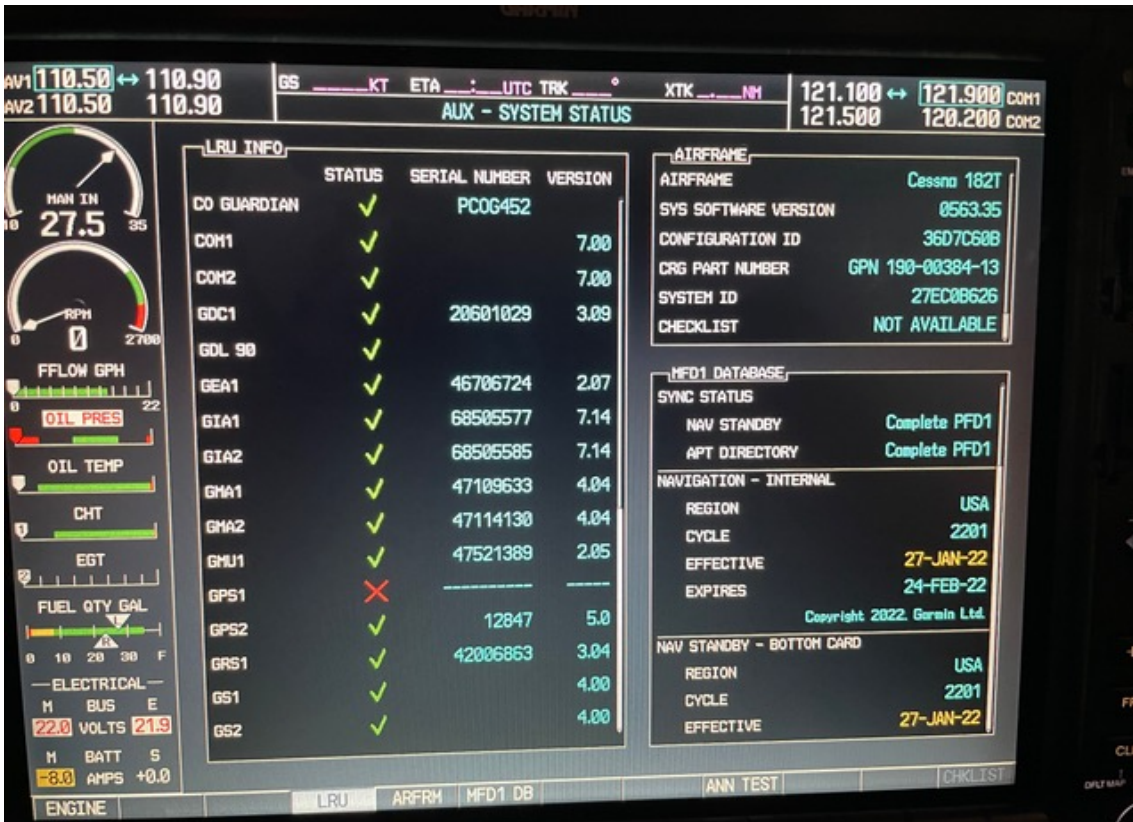
Thanks for your support,

Lt Col Ray Davis, CAP

NCWG Asst' Mx Coordinator  
Asheville Composite Squadron, MAR-NC019  
[rdavis@ncwgcap.org](mailto:rdavis@ncwgcap.org)  
(c)828-290-8006



(Then scroll down to the bottom to get the rest of the list.)



Attachment 2

## New NCWG End of Month Reporting Confirmation Report

(<https://ncwg.cap.gov/directorates/operations/aircraft-maintenance/amo-end-of-month-reporting> (scroll down))

### Aircraft End of Month Report

#### Online Aircraft End of Month Report

**Last Name:** Heller  
**First Name:** Martin  
**CAP ID:** 320559  
**Email:** mheller@ncwgcap.org  
**Aircraft:** N179CP - C182T  
**What month are you submitting this report for:** 01 - January

#### Aircraft Inspection Checklist

**Reviewed all open discrepancies are applicable:** Yes  
**Reviewed WMIRS Maintenance Snapshot:** Yes  
**Are any items expiring within 30 days:** No  
**Is the AIF Binder up to date IAW the NCWG Website:** Yes  
**VOR Check completed in the last 30 days:** No  
**Monthly Fire Extinguisher Inspection completed and logged:** Yes  
**Date Completed:** 02/09/2022  
**GPS Databases Updated:** Yes  
**AMRAD Reflects Date of Update:** Yes  
**Aircraft Box Inventory Complete:** Yes  
**All items outlined on the NCWG website are present and operational:** Yes  
**Date due to be washed:** 04/09/2022  
**New AIF Cover Page installed:** Yes  
**Completed CAPF71:** Yes  
**Upload CAPF71:** N179CP\_Feb\_92022\_CAPF\_7\_AMRAD\_scr\_11330844F029D.pdf

#### Aircraft Flight Log Checklist

**Current Month - Starting Hobbs:** 2916.7  
**Current Month - Starting Tach:** 2466.5  
**Does the Starting Hobbs and Tach for the current month match the previous month ending Hobbs and Tach:** Yes  


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**Reviewed the AIF Flight Logs for accuracy:** Yes  
**Upload Flight Logs:** N179CP\_Jan\_2022\_sortie\_log\_A20ADC5DF0DFC.pdf  
**Verified all flight log entries and the online WMIRS aircraft report match:** Yes

#### Notes

**Notes:** Will get to VOR check tomorrow.

#### Certification of Completion

**I certify that all of the above information is complete and accurate based on the North Carolina Wing end of month reporting requirements.:** Yes

Submitted on February 9, 2022 3:41 PM