

## “Riveting Reading”

### Civil Air Patrol North Carolina Wing Aircraft Maintenance

Sep '21. Vol #46

By Lt Col Martin 'Stryker' Heller

Right: NC-023 washes N908CP on the ramp at KILM before a Guinness record attempt of CAP members inside a Cessna 172.



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

**1. Motivational Quote:** *I owe you an apology; I always felt you were a bit anal about the aircraft. Here at NESAs there are aircraft from other wings. Some of them are abysmal. Now I finally understand, so now I just have to say thanks!*  
“NC Mission Pilot text to Lt Col Chris Bailey”

**1a. Guidance from NHQ/CAP.** ‘Not your airplane.... not your words of wisdom after an incident.’ CAP leadership is paid to do the talking when dealing with the FAA or NTSB. Your part is to contact your chain of command, then Wing Safety; Lt Col Chris Duemmel, phone #, 904-703-4396; and then use SIRS which reports up the chain. (My summary of two emails from Headquarters (see attachment 1).

**1b. Upcoming NCWG Operations Conference – Sat, Sept 11<sup>th</sup>, the conference has been relocated to KBUY at the NCWG HQ building due to COVID restrictions** and a lack of replies/interest in ‘Ocean Fury’. The plan for NC-170 to host the NCWG annual operations meeting and provide a chance for members to come to the beach, didn’t seem to be as popular as hoped. So instead of the farther travel, the meeting has been relocated centrally. The last Ops meeting was held on March 23, 2019 up at KIXA. As a reminder, the meeting is open to operations officers, check pilots & crew chiefs. Due to 50-person COVID seat/space limitations, request additional spots through NCWG/DO.

**1c. Aug Highlights:** Stating the facts; **NCWG flew ~ 467 hours, 120 less** than July’s impressive 587 hours doesn’t tell the full story. All but one aircraft flew > ~ 30 hours, two combined to average twice that. Furthermore, **N741CP** joined **N938CP and N963CP** on **the disabled list and sat out the full month**. Nearly every aircraft had a maintenance issue or inspection cutting their total time flown as we had AOB taskings that we couldn’t fill due to aircrews or equipment availability.

**1d. Top Hour Flying Squadrons:** **NC-019 (KAVL) put ~74 hours on N99885. NC-048 flew ~52 hours on N726CP.** As for the others, we temporarily re-assigned aircraft to meet the US Army mission needs. **N99832 & N727CP** flew 42 hours each. In the 30+ hours flown group are: **N262CP, N819CP, N908CP, N405CV & N98426.** The 25+ hours flown group includes **N4813C, N716CP, and N179CP.**

**2. Maintenance Month in Review:** What started out slow, became an avalanche of issues & inspections as NCWG flew several aircraft out of time during the Army mission. By the fourth week in Aug, twelve aircraft were grounded.

**2a. Aircraft in Annuals:** **N741CP “Bleu”:** Arriving on Friday, 30 July, its GPS 1 was not receiving any satellites – turns out the antenna was bad. The engine was tossing oil due to faulty gaskets on the vacuum pump. The elevator trim wheel was excessively tight and affecting autopilot ability because the jackscrew moving the horizontal stabilizer had rusted out. Blue also received a new nose tire, tube and strut servicing. We thought **N741CP** would go home on: 20 Aug 21. But we then discovered the propeller governor was overdue an overhaul. Turns out while McCauley constant propellers tend to have a 6-year (or 2,000→2,400) hour Time Between Overhaul (TBO), their Propeller Governors have a 5-year TBO. The airplane was kept at KSUT while the propeller governor was sent up to KBUY. Hope to have the aircraft home the first week of September. It will tail swap with **N819CP: ‘Dixie’** at KONX which will come in for its 100-hour.

**N262CP: George** needed two main tire and the windscreens resealed. N262CP should go home today.

**N179CP: 'Sandy'** With no known squawks, the KSUT based C-182 came into the shop on 27 Aug & out 31 Aug.

**N4813C: Frank** has a whole host of squawks including rebuilding the nose wheel strut & a new nose cone. We swapped places with N179CP in line to get another aircraft back on-line sooner. More details to follow next month.

**N98426: 'Sarah'** came to KLHZ on the 30<sup>th</sup>, knowing it needs dual magneto 500-hour inspections and a beacon repair/replacement. We'll know more in a few days.

**2b. More Maintenance Actions: N726CP, N727CP and N99885** had oil changes.

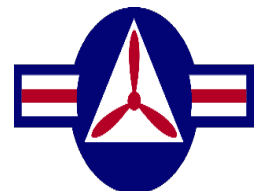


*Above: Stripped of CAP decals, antennas and equipment, N9930E was bought by a flying club in Harrisburg, Pennsylvania.*

**N9930 (Thor):** Yes, our 1977 C-182R tow plane, retired in March, & removed from NCWG's ORMS account in April: CAP received full payment and we were authorized to release it in Mid-July. But the shop wasn't going to do the ~\$10K A.D. repair until new ownership was secured. **N9930E** finally departed KSUT on 5 August 2021. For those who didn't see it, we held a retirement ceremony for the aircraft back in March. Lt Col Jeff Farkas made a 3-minute video of the tribute found at: <https://youtu.be/XXjzb-P3leA> Note the Covid Color Guard at 1:50.

**N716CP** 'Caroline's G1000 terrain and backup database had issues which **Lt Col Ray Davis** worked diligently with NHQ resolve. Part of the problem was the SD cards. They both needed to be the same series (-43 or -44) not mixed. It took several hours, hundreds of dollars, a new SD card, and a trip to a Garmin vendor to get **N716CP** all straight. That's a lot of hard work and dedication from a crew chief not even part of the aircraft's assigned squadron. **Lt Col Davis** will brief more about G1000 and database uploads/issues at the NCWG Operations Conference. At the end of the month, **N716CP** ate a bug on take-off, clogging the pitot tube. Without supportive on-field maintenance, we are current waiting on a FAA Special Flight Permit to relocate the aircraft 25 miles to KSVH for a usual 15-minute repair.

Left & Right: **N716CP** (Caroline) had its wing struts repainted due to a less than stellar touch up job in the past.... Looking great now. Far Right: CAP Roundel is only used on CAP aircraft and is not authorized for any other purposes.



**N405CV:** Loki broke its left front window hinge. The part was not in stock so KSUT ordered it in advance. The shop already had its new ELT battery on hand. The pilots ate lunch & bought seafood while the parts were replaced. We also moved **N819CP** down as part of the A9 relocation to save on ferrying flights. Then during the Army mission, a fuel cap was lost. We parked it at **KINT** while sourcing a replacement. Finally, **N405CV** is coming up on its propeller and governor overhaul So it was flown to H & H Triad Aviation, at KBUY, on 28 August.

**N99832:** Perhaps it was a pilot's harsh words that broke Spartacus's push-to-talk switch, but aircrews will be using the hand mike until it gets to the nearby avionics shop at Twin Lakes this week for a new P-T-T.

**N819CP: Dixie** came to **KSUT** early in the month to have its new tow hook and Thor's wing strut rear view mirror installed. Unfortunately, it will require a FAA Form 337 for aircraft modification which takes time (months). Instead of letting the aircraft sit, it was returned to the squadron until the paperwork is approved. Then it will return for installation. Meanwhile, it was lent to **NC-305** at **KECG/KONX** for the US Army AOB mission & flown out of time.

**N99885:** Echo's Turn and bank indicator started making a loud noise but not as loud as its crew chief who wanted it replaced. His persistency paid off, and replacement unit was ordered, sent to KAVL & installed on 30 Aug before the Turn & Bank indicator died. Later, Echo had an aborted takeoff due to lack of full power (even though the run-up was fine). Turns out the mixture was too rich; the plugs were fowled and the carburetor needing adjusting. Echo was back in service the next day as we have excellent maintenance with **Belle Aviation at KAVL**.

**N7360C:** Lola had some electrical issues caused by battery cells dying. Through dynamic, flexible logistics (**Read: Donald Williams**) we combined an oil change with aircraft parts run and moved a replacement battery to KLHZ. But the G500 display got fried too and Lola is grounded, waiting on that primary flight display.



**N963CP:** Gumby's engine which arrived in Oklahoma o/a 4 August was promptly put in line behind other shop priorities. CAP isn't their only customer, and even if so, NCWG issues don't seem to be their priority. The engine shop has not found any problems, and was running the engine on the test cell as this newsletter went to press. 'Standby for News.'

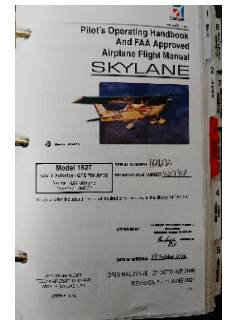
(Left – N963CP sits at KSUT (inside Cape Fear Airworks Hangar) keeping the FLIR ball dry)

**N938CP 'Max':** Our FLIR & now Aero-net aircraft still has not come out of its 100-hour inspection due to safety concerns discovered with the AERO-NET wiring and subsequent NHQ – FAA decision to ground & inspect each aircraft. Meanwhile, N938CP's propeller & propeller governor are being sent out for overhaul based on TBO times.

During the 14 August National CAP Conference, **CAP Director of Operations, John Desmarais** broached the Aero-Net status. This program was initiated by the previous USAF Chief of Staff. Mr. Desmarais did admit, *'there are a few hiccups.'* **I hope** *"they're not 'full belches' -- like the Hindenburg."* *'There is more frustration of the Aero-net program across the NHQ staff and five affected wings than at a global climate change conference.'*

### 3. Aviation Maintenance Support Information:

**3a: Cessna Pilot Operating Handbook, G1000/GFC 700 Revision #5:** Six of NCWG's C-182s and one C-172 crew chiefs received this 31-page changeout. In a nutshell, the POH now requires 1) the standby gauge, backlights functional to flying IFR at night. 2) Prohibits use of autopilot with a CG forward of 34.2 inches (which we will never get to in NCWG), 3) advising the (vacuum driven) standby attitude indicator isn't usable if the vacuum system is not functioning in the green, and 4) advising pilots to use the standby attitude & altimeter if the G1000's Air Data System fails. All affected aircraft; N179CP, N262CP, N405CV, N726CP, N727CP, N938CP & N963CP reported updated—by our hard working crew chiefs!!!



**3b. Close the Window Before Engine Run-up and whenever in flight:** Expect to finally see the written restriction on having the pilot or copilot window open in flight or during run-up. NCWG has been practicing that for years without having it documented. Despite Cessna authorization for a window open in flight, we replaced too many broken window hinges already. That's why there is a photo window in the mission scanner position which can be open anytime. This too will be in our upcoming supplement to the new CAPR 130-2 Maintenance regulation.

**3c. "Get Off Me You #\$\$%& Heavy Aviator:"** If only fuel steps could talk, you'd probably hear something like that. And while Cessna won't publish it, there is a weight limit to what those steps can support. NCWG already experienced one aircraft (N727CP) needing \$12K and ~3-months down time for aluminum repair work when those steps ripped the supporting bulkhead behind them. That is why NCWG bought ladders for each airplane. We'll discuss at the operations conference and will be implementing a weight limit on those steps (something like 175#). We'll incorporate it in the re-write of our supplement to the new CAPR 130-2 (replacing CAPR 66-1). NHQ is contemplating a similar action as they've paid for several aircraft repairs, not just NCWG's one C-182. If it happens to an older airplane, NHQ might retire it early as was N9930E.



*(Above: A fuel step on a C-182)  
Watch it flex when someone stands on it. Eventually, it will rip the metal behind it which is a specialized repair job done up at a shop in New Jersey.*



Newer Cessna's have runaway chains on their fuel caps. It will (usually) keep the fuel cap attached if left open...as long as the chain is secure.

**3d. Unchain My Fuel Cap, Set It Free – Distracted preflight; you didn't double check me.... Now your airplane is sitting on the ground.... Till a fuel cap can be bought or found... Make sure it's chained; for you & me.** When checking fuel, also make sure the chain (on newer models) 'S' hooks are crimped closed. That's '**operator maintenance**' you can do with your Gerber or pliers. If that chain is secure, it usually will keep that cap from departing the airplane, even on a 1 ½ hour cross-country flight (so I've heard). In case you're wondering, (besides grounding the aircraft) a new fuel cap from Aircraft Spruce is ~\$175 plus shipping. Perhaps a new callsign is in order.

**3e. GPS database current cycle (2108) started Aug 12<sup>th</sup>.** Next cycle 2109 starts 9 Sep. Update...yada yada... AMRAD.

**3f. Survival Kits:** We continue to update the batteries and expiration dates to 31 July 2024 on those orange pelican cases in the aircraft. The only remaining aircraft should be **N716CP**; which we get at the 11 Sep Ops meeting. →→

**3g. New Aircraft Fuel Cards:** O/a 19 Aug, Crew Chiefs received new fuel cards for all aircraft replacing the old ones.

**3h. Clean Machines:** **NC-171 (KFAY)** reported washing **N4813C** and **N727CP**. **NC-023 (KILM)** washed **N908CP**. **N98426**, **N938CP** & **N7360C** are due in Sept. In October, **N179CP**, **N262CP**, **N405CP**, **N989832**, **N741CP** & **N819CP** are due. Our unofficial policy is we'll ground a dirty airplane if it's wash is overdue a few months.... Update AMRAD!

**4.** Thank you all for the support & taking the time to read this. Riveting Reading is available on the Wing website (NCWGCAP.org) under 'Members/Operations/Aircraft Maintenance.' For questions, call 703-732-3264. →→

*- Stryker -*

Martin Heller, Lt Col, CAP  
NCWG Aircraft Maintenance Officer

Attachment 1  
- NHQ Guidance on who talks to the FAA/NTSB.



## Attachment 1

### NHQ Guidance on Violations, Incidents and Talking with the FAA/NTSB (Emails 31 Aug 2021)

CAP/SE is receiving reports of pilots directly corresponding with the NTSB and/or FAA to provide notification of a possible accident or reportable incident. **In accordance with CAPR 160-2: "CAP/SE...is the CAP Corporation's designated point of contact for communication with NTSB or FAA investigators. Members should fully cooperate with NTSB and FAA representatives if they are contacted but should refer the NTSB/FAA representatives to CAP/SE as the official CAP point of contact.** Record the name and contact information of the FAA or NTSB representative and pass the information via phone call to the NOC, who will pass it to CAP/SE." Following this regulation will ensure the NTSB and/or FAA receive all relevant information about the event in a consistent and timely manner & allows CAP an opportunity to involve the General Counsel's office for legal advice when necessary

Please contact your Wing or Region Director of Safety with any questions. *(NCWG's Safety Officer is MAR award-winning, Lt Col Chris Duemmel, phone #, 904-703-4396; listed in AIF Pre-flight Checklist (before Tab 1)).*

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NHQ Had a question that was asked about CAP Pilots filing a NASA report for unexpectedly flying into controlled air space. I've included CAP/SE's response so you can understand the context.

"As far as filing the NASA report in ASIAs, there's no requirement to check with us first. That being said, I would encourage pilots to let us know they intend to do this – here's why - even though a NASA report has been filed, the FAA may very well still investigate (but can't use the NASA report in their investigation unless it's provided freely by the pilot – not recommended that pilots do that!).

In the case of a controlled airspace incursion, ATC will likely notify the FAA, even if they don't know who it was. The NASA report may provide some protections for the pilot from certain FAA enforcement (as long as it is a honest error and not intentional or reckless), but the FAA will still complete an investigation, in which case, when they reach out for information from the pilot, they should be referred to me. Pilots should work with their local Wing and/or Region SE so we're in the loop and so we have the opportunity to help or to consult with CAP/GC before making statements. But, if we're not in the loop, we don't have that same opportunity. I realize there are time limitations for filing NASA reports, so we don't want to preclude timely filings - just loop us in!

Regardless, once the FAA or NTSB reach out, whether a NASA form is filled out or not, CAP/SE needs to be involved. In any case, cooperation with the investigator is key and most of the investigators tend to be understanding when it's explained that because CAP owns the aircraft, it's important that they coordinate with us so they get all the information they need.

One last important point – any time the FAA or NTSB get involved, whether or not there's an incident or an accident, CAP/SE needs to be the primary interface with them."