

## ***"Riveting Reading"***

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

**July 1 '22 Vol #56**

*By Lt Col Martin 'Stryker' Heller*



2022 NCWG Richard Augur Flight Training Academy – Asheville, NC. NC-019 also supported Mountain Fury, Cadet Pilot Training, O-rides, Form 70-5As & AOB.

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

**1. Motivational Quote:** *"If everybody is thinking alike, then somebody isn't thinking."* George Patton, General, USA

**1a. NCWG Director of Operations (NCWG/DO) Comments:** Folks, we're still trying to recover from the COVID-induced, end-of-year pile up of required CAPF 70-5A checkrides. We have the funding, and we have NHQ approval to get checkrides flown ahead of the renewal month. As time passes, so do opportunities and check pilot availability. Please get it scheduled and done; sooner may be your only option. "Stay safe, stay sane." 🍀 Lt Col Urbanek 🍀

**1b. NCWG Director of Standardization/Evaluation (NCWG/DOV) Comments:** For those who haven't seen it, NHQ sent out their monthly Stan/Eval newsletter. Please share with all aviators who aren't Form 70-5 current as distribution went to our 'pilot's distro list. Some good articles on pre-flight steps. You can find it (& previous) at: <https://www.gocivilairpatrol.com/programs/emergency-services/aircraft-operations/standardization--evaluation-newsletters> Your efforts are greatly appreciated and I thank you. **Lt Col Arnie "Speedway" 🇺🇸 "Andresen, USAF/Auxiliary**

**1c. June Highlights:** For the month, NCWG flew ~**410 hrs**: about 60 hours more than of May's **350 hours** on three less airplanes. NCWG again supported the US Army and Army National Guard air traffic control training operation for two weeks, with the support of VAWG and SCWG. We flew ~49 of 53 scheduled sorties involving ~30 pilots. **NC-019 hosted both a CAP Nat'l Air Academy** and also **Mountain Fury**. About a dozen NCWG pilots flew in this exciting event, especially with the new 'Top Gun; Maverick' curriculum. **NC-019** also produced two more cadet pilots: **Check out NCWG's Facebook pages success stories on C/2d Lt Rylee Emaus, NC-124, and C/2d Lt Jackson Cook**. Add a big O-ride day, maintenance flights and SAR training missions, and we stayed pretty busy. **N819CP** was still in for painting and should be out in mid-July. At three weeks into the month, 7 of 17 aircraft were not mission capable but started recovering. By the end of the month, we had all but ~2 aircraft still Not Mission Capable (NMC).

**1d. Top Hour Flying Aircraft/Squadrons:** To meet AOB mission requirements, we tail swapped a bit so matching N-#'s to squadrons is a bit tough. **N99832** went home to **KSVH**, **N716CP** went to **KBUY**, **N726CP** to **KRDU** and **N741CP** to **KSUT**. So by tail #: **N716CP** led with ~47 hours. **N405CV, N726CP, N727CP, N963CP, N908CP, N99885, and N4813C all flew > 35 hours**. **N741CP, N99832 and N98426 were in the 25→30-hour range**. Only 2 operational aircraft didn't meet the 20-hr monthly goal. Currently, **NCWG is #2 in CAP for hours/aircraft for FY22**. We're 5 hours behind the Calif Wing and Utah is #3, 15 hours behind us. <https://www.capnhq.gov/WMIRS/Utilization/FYRankingsByHours.aspx>

**1e. Top (Hours) Pilot for June:** See attachment 1 for list of top 15 pilots including both left seat & total aircraft time.

## **2. Maintenance Month in Review:**

**2a. Changing of the Guard:** **Mr. Gary Schneider**, CAP's Director of Logistics has retired after 17 years of CAP duty, and another 30 years in the USAF among other careers. His position oversaw the entire aircraft and vehicle fleet from cradle to grave. A very tough role, he was always totally professional and NCWG was fortunately to have gained his trust and confidence. **Darrel Larson** will become CAP's interim Director of Logistics while NHQ conducts a thorough search for Mr. Schneider's replacement. Before joining CAP, Mr. Larson was a senior Army logistics officer. Hopefully NCWG will earn his trust as well as we keep doing what we're doing each and every day.

## 2b. Aircraft in Annuals:

**N437BA** (glider): (repeat) CAP's glider working group levied some new tracking requirements on gliders to in addition to the annual requirements, these issues were researched & uploaded into AMRAD. Control services were reskinned, pitot static lines replaced, canopy lock & front seat issues resolved. **N437BA** came out of MX and washed on **29 Jun**.

**N99832**: On May 25th Spartacus went in for its annual. It was due for magneto overhaul and corrosion protection. N99832 went home to KSVH after Mountain Fury on 11 Jun. A missed squawk was that the rear right intercom wasn't working. (Must be only a cadet who even sits back there on a C-172.)

**N179CP**: Due to Sandy's nose wheel damage, NHQ required a 'hard landing inspection.' That is a manufacturers' checklist of things to inspect and hopefully found still airworthy. She still needed a lower nose strut bracket and a doubler plate repair on the upper nose strut bracket. Plus, all the 100-hour inspection requirements, a new avionics master switch, the anti-corrosion treatment and it's IFR certification. N179CP should come of mx by Friday.

**N262CP**: 'George' headed to KAVL for its 100-hour, but had hopes dashed in returning before the June AOB mission. It was actually due for a propeller governor overhaul, but the propeller was leaking oil on all three blades. Both the governor and the propeller were shipped off to Georgia since we just moved the airplane away from its home base next to H&H Triad where we normally get prop work done. **N262CP** should return to KBUY around 10 July.

**N741CP**: 'Bleu' moved down to KSUT to support the AOB, but ran out of time in a week. It's going through a lot of oil, so there are cylinder concerns. Maintenance found the #2-cylinder exhaust port leaking and sent cylinder out for repair. They replaced the G1000 backup battery, fixed the right seatback, replace several bulbs and filters in the airplane, applied the bi-annual anti-corrosion, fixed the pilot front window hinge, lubed the roll servo motor drive gear (so it doesn't make as much noise), etc.... **Bleu** went home to KECG on Sun, June 26<sup>th</sup>.

**N726CP**: 'Betty' flew from KRDU non-stop to KLHZ on 19 June to start it's 100-hour. Delayed for avionics fan and came out of maintenance on June 29<sup>th</sup>.

**2b. Other Maintenance Issues**: NCWG fleet oil changes included: **N4813C**, **N98426**, **N716CP** (@ both 25 & 50 hrs for its new engine) **N963CP** and **N908CP**. "**Flo**" has its change for time (actually a week early) as it was reaching its **4-month** (not calendar) **oil limit per CAPR 130-2**. **N726CP** had both bent aileron pushrods replaced and went to **KRDU** on 2 Jun. Then it went to **KLHZ** for a tire local area worn spot and idle adjustment. Then it went back days later for it's annual. **N4813C's** copilot doorlatch jammed open, **All-American Aviation** drilled it out and fixed it in a day; which saved the next day's flying. 🍑🍑🍑 **N963CP's** stall horn indicator needed parts & **N908CP** received the other, e-Bay bought, dual coffee cup holder. That's probably not what caused Flo's battery to stop taking a charge; more like the two dry battery cells. Filled and recharged, it flew back to KFAY where other we learned the muffler baffles failed. **N908CP** was moved to KSUT for consolidated mx for several issues. **N7360C** had both EGT gauge issues and insect infestation. Maintenance is handling the former, a can of RAID is the solution for the latter.

## 3. Aviation Maintenance Support Information:

**3a. Don't Jerk the Prop**: The Cessna C-182 transition course strongly emphasizes that when checking the pitch control during the run-up, **you slowly only move the blue propeller knob one-third to half way back to ensure** that the governor is engaging and that some warmer oil is swapping places in the hub. Once the RPM starts to drop, push the knob forward and only do this once. That basically what it says in the POH normal operations section. And if the engine is warm so is the oil in the governor (hint: subsequent flights.) Why? The technique of pulling the knob **all the way back, waiting and doing it again 2 more times** is why oil passed the seals on all three blades and caused N262CP's propeller to **need overhauling early**. Please help spread the word and if you see another pilot doing this 3-jerk, full range of motion action, (read: damaging your aircraft) help motivate proper technique appropriately.

**3b. Bird Condo:** In May's exciting *RR* edition, you learned about a bird nesting in the horizontal stabilizer of a C-182, and why you should look under the airplane on the pre-flight. Turned out an access plate had been missing for some time. Well, the airplane came in for its 100-hour inspection and they found that bird build a mother-in-law suite up in the vertical stabilizer. So, if you see straw in your airplane, you might want to knock on control surfaces and stabilizers to see if anyone (else) is home.

**3c. Brightest Bulb?** One more mechanic learned that CAP aircraft are 24-volts system after burning out a fresh new 12-volt replacement bulb. It's happened with several shops. Please remind them when requesting a bulb replacement. No sense in everyone doing double duty. BTW, it's also written on the C-172 charging port door.



Behind C-182's baggage

**3d. 'Clear the Puck':** Part of your G-1000 pre-flight checklist is to listen for both the front and the rear avionics fan. Shown here is what's behind that rear baggage panel which that avionics fan is cooling. Be sure neither the plastic containers, the sunscreen, nor any other stuff stored in the baggage compartment blocks that black, 'Cessna' puck-looking air vent. And note the battery in the back right corner of the photo. **We have maintenance shops service them during the 50-hour oil changes** to continue their long-life instead of replacing them so often.



**3e. G1000 Battery:** Gee, if only this battery cost \$1000. But like an energy drink, big prices come in small packages. That's why we don't rush to replace them when the test light goes off in 7 seconds. Check the KOEL to see when you really need to have that G1000 at full charge. Realize there is also an hour maintenance bill too, thus they are replaced when needed, during the 100-hour inspections.

**3f. GPS database cycle 2206 current cycle started 16 June.** Safe Taxi updates are next month. (& update AMRAD).

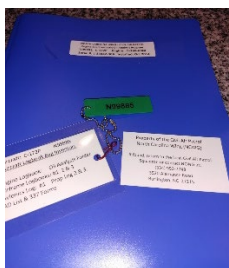
**3g. New C-172P Checklists:** Many of you probably saw the WMIRS critical item updating C-172P normal procedures (NP) checklists, for all four of our C-172P aircraft: **N4813C, N98426, N99832 and N99885**. This update corrects the C-172P Max Continuous RPM **from 2450 to 2700**, per the 180 HP STC. Realize these ~36-year-old aircraft are older than most of our cadet's parents and many of our senior members as well. Yet NHQ is still futzing around with this issue. The **'Chihuahua checklist generation and lamination shop'** will produce and distribute said products shortly.

**3h. Cargo Tie-down Straps:** Yes, they are a pain, but are there to keep stuff from popping up in turbulence. We've already broken one window with a ladder. Most straps have carabiners which allow unclipping and re-clipping to secure the netting. When aircraft come into maintenance with the entire cargo contents sitting on the tie-down net, I get to pester you on the subject one more time. So please secure your load; especially the ladder.



**3i. Clean Machines:** (Above) **NC-145** members scrubbed **N938CP, N7360CP** clean and way too hard on **N819CP**. Actually, **'Dixie'** has been stripped of her CAP colors, primed, and awaiting repainting. **N741CP** was cleaned on May 31<sup>st</sup>, **N98426** on June 25<sup>th</sup>, making it due again on X-Mas Day; thus, easy to determine if they are naughty or nice. According to AMRAD, aircraft needing cleaning includes: **N726CP** which just came out of maintenance.





Blue folder for each aircraft logbook bag to keep oil analysis reports. A letter inside the folder states the oil analysis reports are stored on our Sharepoint drive.

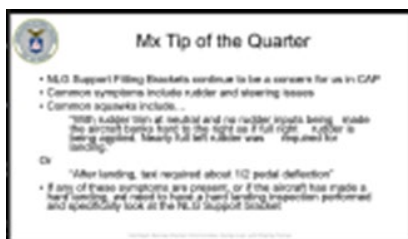
### 3j. Little known, CAP Reg Requirements of the Month:

As we've been mentioning, CAPR 130-2, para 12.4 requires: *A copy of the (oil) analysis report shall be sent to CAP/LGM and a copy shall be maintained in the aircraft engine maintenance log and used to monitor for trends in engine wear/breakdown.* I've distributed these new blue folders to keep in the aircraft logbook bag (in or next to the engine logbook). Since distributing the folders, we changed direction a bit and instead, will just electronically file the oil reports with our virtual logbook system on SharePoint.

Also included is a luggage tag for said aircraft's logbook bag. On the reverse side is a listing of the logbooks you should have in the bag. Para 7.1 requires we have all logbooks; but how would you know? Honestly, for aircraft over 2,000 hours we shouldn't. Propeller and engine logbooks go with the article when they leave the aircraft. And that green piece of plastic? That is a brake pad thickness gauge (10 MM thick) to let you know when your pads need replacing; courtesy of Cleveland Wheels and Brakes.

Speaking of logbook bags, if your aircraft's bag looks like a homeless person threw it away, let us know and we'll get you another one. Those bags hold logbooks representing tens of thousands of dollars of aircraft maintenance & we won't want anything falling out.

### 4. Quarterly NHQ AMO TEAMS Meeting Summary (Tue, June 28<sup>th</sup>):



Above: Typical AMO Teams meeting.  
Below: Slide on hard nose landings

While mostly AMOs attend, it's actually open to anyone interested. Items included (besides the CAP/LG personnel change listed in para 2a.):

**A/C Registration:** Need to have the original in the airplane (or a temp). If you need a replacement, put it in AMRAD but NHQ is very on top of it and can tell you when/where yours was shipped. After you get it (from Tina/NCWG) update the AMRAD block showing when the registration is due.

**Oil Filters:** Champion and Tempest are basically out of stock until Sept, and those are spoken for. If filters aren't on order, expect more in January; especially the C-172 Skyhawk 110-1. NHQ could be a last resort if your aircraft is grounded. (Note: Aircraft Spruce is showing 6-week delay)

**Parts/Supplies:** The shortage and price increases continue. Expect it will take 12 – 18 months for the system to get healthier. Cylinders are doing better, but not good. NHQ recommends a 3-month lead-time on TBO engines. (Note NCWG should be good until 2024...then needs several).

**New CAPF 71:** (Previously discussed at length in May & June newsletters).

**CAP has noted an increase in C-182 nose landing gear damage** (including struts, firewalls and other areas).

Symptoms include trim and/or taxi issues. The cowling needs to be removed to see the damage and if occurred, (even if found on a 50-hour oil or 100-hour inspection, a hard-landing checklist is run, and a safety report done.

**WMIRS/AMRAD Integrated Flight Release Function:** AMARD is getting the alert notice capability to warn pilots and crew chiefs when inspections & mx are due. But part of this improvement is that aircraft with outdated items or grounding discrepancies won't be releasable. Thus, coming out of maintenance we'll have to update the data first. These functions are expected to go active around Sept, but other features below were just announced.

*An update to AMRAD was pushed out yesterday that includes integrating CAPSIS (the new safety application) and AMRAD and adding the ability to type or copy and paste a tail number into the Add Edit Aircraft Mx Data form.*

*They've added a new feature to the Aircraft Mx Data Entry form where you can type in or copy and paste in a tail number and click enter and it will go to that aircraft without sorting through the entire list. You might have to empty your browsers cache file by selecting CTL+ALT+DEL while in the browser window and then click "Clear Data" if you are in chrome to empty the cache. The tail number also has to be all CAPS and there can't be any spaces in it for it to work (IT is working to fix this part).*

*CAPSIS mishaps can now be linked to a discrepancy in AMRAD when the discrepancy is created or later on when the CAPSIS event goes into the system. There is a dropdown field located on the discrepancy creation page that allows this function to work.*

**AMO TEAMS Meeting Recordings and Slides:** One can access the recording of quarterly meetings, at: <https://www.gocivilairpatrol.com/members/cap-national-hq/logistics-mission-resources/aircraft-management/amo-resources>

## 5. Miscellaneous News:

**5a. Can't Cope?** I am not talking about life nor even CAP, but crown molding. It's a hack to make tight corners instead of just mitering. But using a coping saw could chew up the thin wooden edge. An angle grinder finely sands down the back area as shown here: <https://www.youtube.com/watch?v=OrVBbDYm5U>. If not the Hint for Homebuilders you were looking for, EAA has a trove of airplane hacks that you probably can't use on a CAP airplane, but can help you in other areas. Check out: <https://www.eaa.org/ea/aircraft-building/ea-hints-for-homebuilders>.

**5b. Formation Flying:** On Sat, June 25<sup>th</sup>, **N7360C's** crew found themselves in an impromptu formation when an element of wasps (not WASPs) attacked from 4:00 high (the right rear passenger air vent). The aircrew bravely fought off the intruders. **SM Michael Pender, NC-145** only needed one more 'kill' to become NCWG's first Mission Scanner 'Ace.' In seriousness, the crew handled the surprise situation well while keeping aircraft control. 👍👍



**5c. Thank You, Thank You:** There is more to like about 'Rise Aero' at **KHVS** than just their aircraft paint scheme. On June 25<sup>th</sup>, they came to the rescue when one of our aircraft broke during a 3-cadet o-ride. They didn't just fix the aircraft, but also took care of the crew while the battery was serviced & charged. Fortunately, everyone was able to return home that day by air. 👍👍

**6.** 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.' You can reach me by email at: [mheller@ncwgcap.org](mailto:mheller@ncwgcap.org) or via phone at (703) 732-3264.

- Stryker  -

Martin Heller, Lt Col, CAP  
NCWG Aircraft Maintenance Officer

Attachment

1. June Flying Hours by Left Seat / Total Time in Aircraft

## Riveting Reading – July 2022, Vol 56

### Attachment 1

#### Top 15 Pilot's flying time/Total Aircraft Time For June 2022

Pilot	Unit	A Msn Hrs	B Msn Hrs	C Msn Hrs	Total Hours	Ranking left seat	Total time in aircraft	Ranking Total time	Remarks
Trull, Steven M	NC-170	8.5	11.5	2.5	22.5	1	22.5	4	
Williams, Donald W	NC-048	9.4	11.6	0	21	2	27.9	2	
Wilbanks, Ronald T	NC-121	13.6	5.1	0	18.7	3	18.7	6	
Fountain Jr, William L	NC-162	3.4	14.7	0	18.1	4	22.7	3	
Herring Jr, Morris C	NC-171	6.2	10.8	0	17	5	32.8	1	
Noffke, Heino	NC-170	0	15.4	0	15.4	6	18.7	7	
Scotton, Thomas N	NC-171	3.8	11.2	0	15	7	16.7	10	
Lincoln, Carlisle A	NC-011	6.2	6.3	0	12.5	8	16.1	11	
Batista, Alex	NC-171	0	11.6	0	11.6	9	14.2	12	
Lumpkin, Jeremiah S	NC-022	11.6	0	0	11.6	10	11.6		Cadet at NFA
Rosemond, J. Malone	NC-022	0	11	0	11	11	18.3	8	
Briola II, Donald A	NC-019	7.6	3	0	10.6	12	17.5	9	
Bachand, Callum M.	NC-048	9.6	0	0	9.6	13	19.4		Cadet at NFA (Texas)
Cook, Jackson Joel	NC-019	0	0	9.5	9.5	14	9.5	15	Top "C" Hour pilot
Peters, Wendy J	NC-048	3.2	5.2	0	8.4	15	21.3	5	4 sorties at NESA
Heller, Martin B	NC-170	0	3.3	0	3.3	23	12.5	13	
Davis Sr, Raymond G	NC-019	0	6.9	0	6.9	26	11.6	14	