



Only CAP aircrews get to wear the US Flag (on flight suits). On Jan 1, '17, CAP phased out the US Flag on all ground uniforms since the USAF didn't wear US Flags on their ABUs. The USAF returned the US flag to their new OCP uniforms & no longer wears ABUs. [Perhaps CAP could also return the flag](#). Else remove the flag from our flight suits too, so all CAP members are equal.

"Riveting Reading"

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

Apr 2 '22 Vol #53

By Lt Col Martin 'Stryker' Heller

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

1. Motivational Quote: *'The military is an incredible opportunity. When people chose to leave, for whatever life's reasons, they should not be punished. You will never have enough recruiters to overcome the credibility of a disgruntled former member.'* Congressman Gene Taylor, 4th District, MS, to the Chairman, Joint Chiefs of Staff, '02.

1a. NCWG Director of Operations (NCWG/DO) Comments: "A man needs to know his limitations. Ladies too, but most of them are not quite so 'hey watch this!' March is the worse month in the year for bizarre weather. Thank you for NOT flying this month and taking chances when we didn't need to... especially when deciding to. As an FRO I really appreciate my pilots using their best judgement, especially when they decide to 'walk away'. Stay safe, stay sane." Lt Col Urbanek 🦋

1b. NCWG Director of Stan/Eval (NCWG/DOV) Comments: All flight operations I know of from the USAF on down to one airplane flight departments are in need of pilots. NCWG has 113 pilots with a current CAPF 70-5A. Of those pilots only 84 have a current CAPF 70-91, Mission Pilot (MP) qualified. This data is current as of yesterday. Our goal is to have 102 MPs in order to effectively perform our missions. As of now we are just a little bit over 80% of that goal. I encourage the 29 pilots without a CAPF 70-91 to work toward becoming a Mission Pilot. Fly Safe, Lt Col Arnie "Speedway" Andresen-CAP/USAF Aux

1c. Mar Highlights: For the month, NCWG flew ~462 hrs: about 100 hours more than of February's 360 hours. NCWG again supported US Army air traffic control training & NOBLE EAGLE intercept training. Weather still played a factor in many cancelled sorties. March winds; in like a lion; out like a cornered, wounded animal.



(Above: N963CP, N99832, N99885 and CAP Van 32010 assigned to NC-019 at KAVL (Asheville, NC)). The squadron supports a National Flight Academy; March → May. NC-019 aircrews washed & waxed all 3 aircraft on March 6th.)

1d. Top Hour Flying Aircraft/Squadrons: NC-170/KSUT in N179CP, NC-019/KAVL in N963CP, N99832 & N99885, NC-145/KLHZ-N938CP, and NC-121/KJQF – N716CP each flew ~40 hours respectively. NC-171 flew 30 hours on N727CP and 25 hours on N4813C, impressive considering both aircraft were in maintenance for 1 → 2 1/2 weeks. Strong performances included: NC-048/KRDU - N819CP and NC-081/KINT – N405CP, 31 hours each. None of this is possible without great maintenance support on short notice, which kept all aircraft going except when parts weren't available.

1e. Top (Hours) Pilot for March: Jong Lee, NC-121; 28.4hrs, Benjamin Bashinski, NC-019, 22.5 hrs, and Cliff Herring, NC-171, 16 hrs. **The Top 'C' Hours pilots was:** Jordan Bramwell Kalisher, NC-150, 4.5 hours.

2. Maintenance Month in Review: 5 annuals, 7 oil changes and several no-notice squawks; read on:

2a. Aircraft in Annuals:

N4813C: 'Frank' finally got its new spinner, IFR certification, and its bent nose tow bolt replaced. We thought the magnetos had another 100-hours before inspection, but it turned out they were overdue. Tracking was a little confusing as this engine swapped from N99079 in March 2020 instead of a freshly overhauled model at TBO. The magnetos already had time on them. Minor electrical issues included a broken "alternator out" light, the clock in-line glass fuse being replaced with a circuit breaker and a faint electrical smell in the cockpit. Plus, the battery needed replacing. Batteries are hard to come by lately, so NHQ allowed us to purchase a Gil gel battery and avoid a month wait. The 37-year-old left landing gear leg alignment hole was worn beyond limits. A replacement leg was found & installed while waiting for a battery. Returning to KFAY on Tue, 22 Mar, **Frank** flew an AOB mission the very next day.

N938CP: "Max" actually had its 100-hour/annual inspection by **Total Flight Solutions** in Feb, coming out as last month's newsletter went to press. Of significance was its biannual pitot static certification. Its biannual corrosion protection is due in July and its magnetos will get their Montana vacation at the next 100-hour inspection.

N437BA: Our glider needed all new fabric on its control surfaces (ailerons, elevator and rudder). The rest of the aircraft is aluminum. Historical note: The B-17 Flying Fortress also had fabric covered control surfaces; which made field repairs quicker and didn't affect their balance. The glider's pitot static hosing was brittle and needed replacing, as well as getting a new tire and some hardware fixes. The glider should return to service by the end of April.

N727CP: 'Scottie' had no squawks and dropped off at **KLHZ** on 21 March and home on 25 March. It needed several new filters including an air filter which cost more than our hourly C-182 rate, wet, full-service, with a good-sized tip.

N98426: 'Sarah' had its 100-hour/annual done at D2 Gov't Solutions on its home station as Total Flight Solutions and Brunswick Airworks were busy. It would have cost more to move it to/from KEWN \leftrightarrow KAVL than the annual itself. Good thing too, as the aircraft won't start the day before it's inspection. All intake gaskets, & the #2 exhaust gasket were replaced while the Rocker Cover gaskets tightened. Sarah also has some touch up painting done and came out of the shop on 17 March.

2b. Other Maintenance Issues: Oil changes included: **N99832, N963CP, N741CP, N262CP N179CP, N819CP** (plus new right tire tube) & **N405CV** (**Loki's** didn't happen in Feb as N405CV had a dead battery). Pretty pricey battery charge fee from the Nat'l FBO chain. **N716CP** had a real low nose strut and we moved the airplane 26 NM to **Iredell Air Care** get fixed, rather than wait a week for another jet-focused FBO to get to it. **N938CP's** oil pressure gauge became a bit erratic; **'Max'** also had a left tire flat and got a new tube. **N179CP's** roll servo quit, thus no autopilot; repair deferred until April. **N262CP** had a fuel nozzle cover fall into the left tank; **Elon Aviation** fished it out and also installed the backup attitude indicator. Not an hour later, **N726CP** was popping circuit breakers and idling poorly. **Elon Aviation** again to the rescue, cleaning plugs, replacing two broken cowl mounts, and not finding anything wrong (yet) with the electrical system. **N908CP** got beat up by strong winds on March 12 at KILM. The tail hit the ground and the aileron pushrod got bent as the aircraft happened to be tail into the wind. The user of an airplane next to **'Flo'** told us about the winds and damage to his aircraft too; Parts on order. **All American Aviation** at KILM is doing those repairs, as well as their KFAY shop doing the biannual corrosion protection on **N4813C**. In other news, **N716CP, 'Caroline'** has reached engine TBO and will be relocated/parked at KLHZ until the rebuilt engine comes in. Just one more victim of the ongoing aviation parts shortage. **N716CP** is sitting #1 in CAP's queue for rebuilt engines and NHQ has just released it for shipment along with the supporting parts. Hopefully, **N716CP** will be only down 2-3 weeks.



Every Old is New Again: N7360C; Lola' (our 1977 showgirl) had substantial instrument panel work as it was only slightly more expensive than just replacing the existing autopilot with a newer model. A picture is worth more than my typing: So, take a good look.



2c. SOAP (Engine Spectrometric Oil Analysis Program): CAP aircraft get engine oil samples at each 100- hour/ annual oil change. Apparently, the Wing is supposed to maintain a copy in the aircraft engine maintenance log and used to monitor for trends in engine wear/breakdown. Something NHQ/LG did, but then they wrote CAPR 130-2 tasking us. One more item for our aircraft logbook bags; stayed tuned for future direction as we figure it out too.

3. Aviation Maintenance Support Information:

3a. Where Did I Read That? With more than four years of this monthly newsletter, it might take you a bit of time, searching for information you need. Attachment 1 is a listing of all the Riveting Reading attachments. All the back newsletters can be found at: <https://ncwg.cap.gov/directorates/operations/aircraft-maintenance/riveting-reading>

3b. CAP caps (was Aircraft Tire Pressure): Now that we're checking tire pressure each day we fly, I'm sure some tire tube caps are going AWOL. You can buy a replacement set of 4, for ~\$4, at your local 'Aero' Zone or Advanced 'Aero.'

3c. Adding Air (still tire pressure): Several units realized they want/need organic air capability right at the aircraft. Here are some of the systems squadrons elected to buy; weight, power sources & price are considerations. These are some of the options. Don't get the cheap, vertical plastic bicycle pump. Remember to label it so it doesn't wander.



Left: 12-volt, 2lb unit running off airplane power.

Middle: 3lb Battery or airplane power unit & 4lb foot pump.

Right: Ryobi 3lb - 18Volt unit



3d. NCWG Operational Supplements to CAP Regulations:

3d1. NCWG Sup 1 to CAPR 130-2 erratta: The last paragraph was messed up but should have read: 20.1 Added. Aircraft equipment fuselage fuel steps will not be used.... Somehow in the 14 Feb 22 approved copy, the underlined portion above was changed to '**automotive**'. Additionally, para 2.3.5 was repeated. NHQ made the corrections & re-posted on-line, dated 15 March 22. Both Lt Col John Phillips & Capt Donald Williams found these errors. Thanks again to **Lt Col Gonzales for her efforts** in getting the supplement fixed. Atch 2 has corrected version.

3d2. NCWG Sup 1 to CAPR 173-3 (dated 11 Mar 22) 'Payment for Mission Support': NCWG also updated their supplement which listed the prices to rent NCWG aircraft. This supplement is found at:

https://www.gocivilairpatrol.com/media/cms/R_1733_11_March_2022_Supplement_1_N_1DB2FB78ADD2D.pdf

Attachment 1, Table 1 for aircraft hourly reimbursement for the North Carolina Wing will be as follows for member funded missions:

Manufacturer	Cessna	Cessna	Cessna	Cessna	Gippsland	Maule
Model	172	182	A185F	206	GA-8	MT-7-235
Cost/Hour	\$67	\$73	\$122	\$112	\$103	\$77

Effective Date: Glider flights will be billed per flight as follows for member-funded missions:

	Tow Plane (Includes Fuel & Mx)	Glider Per NHQ	Total for Glider Flight
Cost/Tow with CAP Plane	\$30	\$10	\$40
Cost/Tow with Non-CAP Plane	Direct Cost of Tow	\$10	Direct Cost of Tow + \$10

3e. GPS database cycle 2203 including terrain and Safe Taxi's current cycle started 24 Mar. Your G1000 display should be all white, not yellow, with the current databases loaded. As always, remember to tell AMRAD about it.

3f. Clean Machines: NC-019/KAVL washed & waxed 3 aircraft: **N963CP, N99885 & N99832.** Aircraft due in April include: **N179CP, N262CP, N405CP, N741CP & N908CP.** Due in May include: **N727CP, N938CP, N726CP & N7360C.** According to AMRAD, the dirty bird overdue for a wash includes: **N819CP;** noted that the wash rack at KRDU is closed. **That said, it will be grounded 1 May if not washed this month.** When updating AMRAD, include both the completed, and next due dates. As a reminder, the G1000 are not touch screens, although you couldn't tell on some aircraft. Recommend carrying micro-fiber clothes in the cockpit &/or flight bag to wipe them clean.

3g. FAA Safety Magazine Feature on CAP aircraft maintenance: The March 4th FAA General Aviation magazine printed an article on CAP a/c mx, found here: <https://medium.com/faa/keeping-the-cap-fleet-fit-19069dc74d75>

3h. 2022 Sun'N'Fun Notam On-line: For those heading down to KLAL this week, remember to print out the NOTAM to have in the cockpit. https://flysnf.org/wp-content/uploads/2022/03/2022-Sun-N-Fun-NOTAM-www.faa.gov_.pdf

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

2 Attachments

1. List of all Riveting Reading attachments
2. NCWG Sup 1, to CAPR 130-2 (corrected copy) March 15, 2022

Attachment 1
Riveting Reading Apr 2022
Historical List of Riveting Reading Attachments

<u>Title</u>	<u>Date</u>	<u>Vol #</u>
NCWG Supplement 1 to CAPR 66-1 (now obsolete)	1-Nov-17	1
No Attachment	1-Jan-18	2
VIRB Mounting Photos	1-Mar-18	3
CAP Drivers' License Process	29-Mar-18	4
No Attachment	1-May-18	5
Hurricane Contingency Planning	1-Jun-18	6
Quiz on FM Radio Operations	1-Jul-18	7
No Attachment	1-Aug-18	8
No Attachment	1-Sep-18	9
No Attachment	1-Oct-18	10
No Attachment	1-Nov-18	11
1) AOPA article – Picking up aircraft from maintenance, 2) AVWEB article – Cold weather operations – “Ready for Winter” by Rick Durden	1-Dec-18	12
No Attachment	1-Jan-19	13
No Attachment	20-Jan-19	14
NCWG status on Champion slick Magneto SB11-15A	1-Feb-19	15
NCWG status on Champion slick Magneto SB11-15A	1-Mar-19	16
NCWG status on Champion slick Magneto SB11-15A	2-Apr-19	17
Step Ladder warning labels	2-Apr-19	17
No Attachment	1-May-19	18
No Attachment	1-Jun-19	19
No Attachment	1-Jul-19	20
Consolidated Maintenance Records Changes a.k.a. How to Properly copy and submit aircraft logbook entries	1-Aug-19	21
AMRAD Users Guide 2.0 & AXIS LMS Login Instruct V2	1-Sep-19	22
Sortie Equivalency Chart	1-Oct-19	23
No Attachment	5-Nov-19	24
1) AIF Index & current Dates, 2) CAP Post Flight Checklist, 3) Riveting Reading Top 10 humor attempts	1-Dec-19	25
No Attachment	1-Jan-20	26
No Attachment	1-Feb-20	27
1) NCWG Fleet Status on Champion Slick SB2-19, 2) Quiz on FM Radio Ops	1-Mar-20	28
1) NCWG Status -Champion Slick SB2-19, 2) NCWG FY Top 40 pilot hr earners	2-Apr-20	29
1) NCWG/DO and 2) NCWG/DOV comments	1-May-20	30
1) CAP Pilot Eval Form, 2 & 3) C-172 and C-182 antenna descriptions	1-Jun-20	31
1) NHQ/LG COVID 19 Aircraft & Vehicle care 2) NCWG/DOV comments	1-Jul-20	32
1) NCWG/DO comments 2) Historical CAP Coastal Patrol Circulars during WWII	1-Aug-20	33
1) NCWG/DO comments , 2) NCWG FY Top 40 pilot hour earners as of 31 Aug	1-Sep-20	34

1) NCWG/DO comments, 2) ICAO Filing Codes, 3) NCWG FY Top 10 pilot hour earners as of 30 Sep	1-Oct-20	35
1) NCWG/DO comments 2) NCWG aircraft nicknames 3) FFAST Advanced Pre-flight after maintenance, 4) FAA AD Tracking AD 2020-19-06 & AD 2020-18-01	1-Nov-20	36
1) NCWG/DO words, 2) FAA AD Tracking, 3) Editorial: Commanders -- the Center Bun in a Guano "Big Mac"	1-Dec-20	37
1) NCWG/DO comments, 2) FAA Advisory Directive tracking, 3) NHQ/LG COVID -19 Aircraft & Vehicle care	1-Jan-21	38
1) NCWG/DO comments, 2) NHQ/CC ForeFlight announcement, 3) FAA Charles Taylor Master Mechanic Award, 4) FAA Advisory Directive Tracking	1-Feb-21	39
1) Disinfecting your aircraft, 2) FAA AD Tracking	1-Mar-21	40
1) NCWG Sup 1; CAPR 70-1, 2) FAA AD Tracking 3) NCWG Semi-annual Top (12) Pilot/aircrew hours	2-Apr-21	41
1) FAA AD Tracking, 2) Weight & Balance; Do you even know you are lying?	1-May-21	42
No Attachment	1-Jun-21	43
No Attachment	1-Jul-21	44
Total Pilot & aircrew hours (Top 35) (FY16-->27 Jul 21)	1-Aug-21	45
NHQ Guidance on Violations, Incidents and Talking with the FAA/NTSB (email from 31 Aug 21)	1-Sep-21	46
NCWG Aircraft Maintenance brief - 11 Sep Ops Mtg	1-Oct-21	47
Cold Weather Operations Guidance	1-Nov-21	48
Garmin GPS Database Updating	1-Dec-21	49
1) How to Get Your NC Wing Driver License 2) Humor Attempts in past 25 RR Newsletters	1-Jan-22	50
1) Garmin GPS Database Updating (Dec repeat) 2) GPS Database Card Size	1-Feb-22	51
1) Garmin line unit serial # tracking tasking, 2) New End of Month Reporting Form Confirmation, 3) NCWG Sup 1 to CAPR 130-2 Aircraft Maintenance	1-Mar-22	52
1) This list of Riveting Reading Attachments, 2) NCWG Sup 1 (corrected copy), dated 15 Mar 22, to CAPR 130-2, Aircraft Maintenance	2-Apr-22	53