

"Riveting Reading"

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

Sep 1 '22 Vol #58

By Lt Col Martin 'Stryker' Heller



N819CP came out of the KIXA paint shop on 5 Aug, with new paint, decals, & fairings. 'Dixie' was assigned to KSVH

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

1. Motivational Quote: *"Thank You for Volunteering. The smallest act of kindness is worth more than the grandest intention."* Oscar Wilde

1a. NCWG Director of Operations (NCWG/DO) Comments: "A huge shoutout to all of you who volunteered to do AOB last week and throughout 2022. Tremendous contribution all around. Now, WE NEED TO CONTINUE to push out these check rides. Once 26 September arrives, I CAN NOT FUND YOU. PLEASE get it done if you are due in 2022 while we have funding and the blessings of NHQ. Next year is always an unknown. Check pilots are standing by. Stay sane. 🦞 Lt Col Matthew 'Lobster' Urbanek, USAF/Auxiliary

1b. NCWG Director of Standardization/Evaluation (NCWG/DOV) Comments: NHQ released their August 7-page Stan/Eval letter covering topics such as Wake Turbulence, Wing Power Loading and preparing for the Worst. Speaking of preparing for the worst, the CAP In-flight Guide (old and new) has a 'day of the month' emergency to brief during the preflight section. (See Attachment 1 for printable copy and Para 3c in this newsletter for the current, in-flight guide link. All NHQ Stan/Eval newsletters are on-line at: <https://www.gocivilairpatrol.com/programs/emergency-services/aircraft-operations/standardization--evaluation-newsletters>. Lt Col Arnie "Speedway 🏁" Andresen, USAF/Aux

1c. Aug Highlights: For the month, **NCWG flew ~347 hours**; about 30 hours more than of July's 315 hours. We flew a three day, AOB mission; one day less than planned since the weather had a vote. **KLHZ's** runway opened on 6 Aug. Based on projected aircraft utilization rates, we **relocated N99885** out of KAVL and temporarily replaced it with **N99832**. **N99885** went to **KJNX, NC-145**, with new crew chiefs, **Capt 'Dan' Moore & Lt Col Warren King**. They've already found a hangar for the airplane and KJNX hosts the best fly-in BBQ place (while the Pik-N-Pig/BQ1 is being rebuilt). We also welcome **Lt Jonathon Toppins**, NC-048's new assistant crew chief to **Capt Don Williams**. Freshly painted **N819CP** is on loan to **KSVH** in order to build their C-182 pilot base. All squadrons should remember the philosophy of 'use (fly) it or lose it.' Another AOB mission is coming in Sept. And take advantage of CAPF 70-5, Profile #7 proficiency flying, Orientation flights and SAR training. The funding is there to use.... so go fly....

1d. Top Hour Flying Aircraft/Squadrons. NC-048/KRDU is burning it up with **47 hours** on **N726CP**. **NC-022/KBUY's N262CP** had **35 hours**. **NC-019/KAVL** flew **~70 hours** between **N963CP** and **N99885/N99832**. Each month, **Lt Col Ray Davis** gives a breakdown of all the hours NC-19 flies. **NC-121/KJQF/N716CP**, **NC-171/KFAY/N4813**, **NC-143/KJXN/N99885** and **NC-081/KINT/N405CV** all exceeded **25 hours**. Three aircraft hovered around the 20 hour/month goal, but unfortunately, 4 aircraft were in the single digits; mostly without a maintenance excuse.

1e. Top Hour Flying Individuals: Cliff Herring, NC-171, David Hartman, NC-190, Todd Milstead, NC-162 and Dan Moore, NC-143 all flew about 13 hours left seat for August. **Shaley Dunn, NC-124** led the 'C' mission category with **6.8 hours**. If you're wondering if someone will de-throne, Cliff 'Beast' Morris for 2022 Top Pilot (both Left Seat Hours and total airplane hours) rest assured, his lead is even more commanding. Beast has flown more hours than nearly four aircraft in NCWG's fleet.



1f. “DOH”! About twice a month, NHQ/LGM reminds us that an aircraft went to maintenance without a discrepancy listed in AMRAD. NHQ can’t pay the shop’s invoice unless there is an AMRAD work order number to cross-reference.

1g. AMRAD Software Updates: If you’ve been in WMIRS as of 29 Aug, you already know. For good and bad, alarm systems will notify people when aircraft are due maintenance and won’t let the aircraft overfly set hours.

Per NHQ: *“The new update to the eService Flight Release function in WMIRS, Flight Integration Release/Maintenance (FIRM) will be released the last week in August. Currently there is still about 10% of the powered fleet with aircraft maintenance data missing from AMRAD. Missing data is viewed the same as being past due. Aircraft with overdue or missing data will not be able to be released for sorties as soon as this update takes place.”*

2. Maintenance Month in Review:

2a. Aircraft in Annuals: Five airplanes had 100-hour inspections between two consolidated maintenance facilities.

N727CP: ‘*Scottie*’ needed both 500-hour magneto overhaul, an IFR certification and a replacement ELT battery. ‘*Scottie*’ went home to KFAY on 20 Aug.

N98426: ‘*Sarah*’ had a right fuel tank leak; at least AVGAS color is blue in keeping with CAP’s red, white and blue paint scheme. Unfortunately, there was a crack, needing welding, hence removal from the airplane. ‘*Sarah*’ also needed its IFR bi-annual certification and bi-annual corrosion treatment. **N98426** went to KLHZ on 20 Aug and will be out in early September.

N716CP: ‘*Caroline*’ had its biannual corrosion protection done two months early, before winter weather hits since it will be a few months before its next 100-hour. While we can do corrosion protection outside of 100-hours, we’re double tasking and double paying the shops to re-open all those inspection panels a second time. ‘*Caroline*’ went to KAVL on 21 Aug and went home on 24 Aug.

N963CP: ‘*Gumby*’ was 2nd in line, behind N716CP at its KAVL home station. There were zero issues and the aircraft returned to service on 25 Aug. We considered using N99832 to tow N963CP back to the hangar, but decided ‘Not.’

N7360C: Annual/100hr Inspection: Thorough inspection of both left and right brake assemblies need to be completed. We have been getting noise and or shimmy on takeoff and landing. Right side caliper pins may need to be replaced. Recently we had the brake disc replaced. The mechanic that changed them said the left and right disc are not the same. The disc installed allows the caliber pins to more completely engage the holes. You can review the log book entry in the airframe book.

N4813C/’Frank’, N726CP/’Betty’ and **N819CP/’Dixie’** are all about to go in for their 100-hour the first week of Sept.

2b. Other Maintenance Issues: NCWG fleet oil changes included: **N819CP**, **N262CP** and **N726CP**. **N99885** had an electrical problem; turns out the voltage regulator wire fell off. **'Echo'** also had its nose strut serviced. **N99885's** sun visor (Rosen) holding mechanism wore out. At first the crew chief swapped it from pilot to co-pilot side, until NHQ could send the replacement screws and parts. NHQ/LGM actually sent two sets. The Cost of mailing \$8, cost of labor, \$0, value of attentive crew chiefs: Priceless. **N7360C** warped its disk rotors; it's amazing how pricey those metal rotors are. **N99832** had FM radio and intercom problems. Seems it couldn't receive. Turns out two wires were disconnected from the audio panel. Even more of a bonus as **P.F. Flyers was up at Asheville** for another work order and was able to resolve our CAP issue without moving an airplane or buying parts. **Spartacus** also had its gascolater tube extended; you weren't imagining that the last time you climbed under the cowling. **N727CP's** G1000 displayed the dreaded, 'AFSC failure' warning which means, NHQ will spend more money. Then the radios started crackling & popping; Mo' money, mo' money. **N179CP's** sunscreen reached 'dilapidated' condition; NHQ ordered a replacement.

3. Aviation Maintenance Support Information:

3a. GPS database cycle 2209 current cycle starts 8 Sep. This includes all the databases. *Is your aircraft database up to date? Maybe I'm the one late to the G1000 uploading party, but just learned an easier way to get this done. Just pull the two bottom SD cards, reformat them, and then download everything for your aircraft on flyGarmin.com. (You'll do this for both cards). Then re-install both cards at the same time, and fire up both avionics switches. This should prevent X-talk database errors. And one never needs to pull out the upper right (MFD) data logging SD card. Capt Don Williams also re-wrote G1000 uploading instructions found in attachment 2. Remember the flygarmin.com login for NCWG is: CAP_MAR@CAP.GOV and the password which was sent separately.*



3b. Clean Machines: N726CP (left) was washed on 7 Aug at KRDU. Capt Don Williams and new asst crew chief, Lt Jonathan Toppins made **N726CP** a 'Total Wash Force' effort with help from the United States Naval Sea Cadet Corps (USNSCC) members: Lt Cdr Christopher Ames, Lt Suskin, Cadet Suskin along with dual hatted, CAP C/A1C Tybalt Ames (also in USNSCC). **N716CP**, **N4813C** and **N99885** were washed in August too. **N819CP** was washed as part of its new paint job. **Due in Sept: N963CP, N99832 & N908CP.**



Top: **N726CP** finally being washed, thus avoiding the new 'Black Betty' name. Left: **N716CP** being washed & waxed at **KJQF**, Center **N99885** cleaned at **KJNX**, Right, a photo substitute for **N4813C**, washed at **KFAY**. Advise if you prefer bathing suit pictures of senior male pilots washing their airplane.... Some stuff can't be 'unseen'.

3c. Aircrew Inflight Guide: For a newer version (2021) than what I put out last month, go to:

https://nesa.cap.gov/media/cms/Inflight_Guide_Rev_July_2021_1D641CC3EFE33.pdf One can print it out & bind it, or just keep an electron copy on your iPad. Thanks to attentive reader/crew chief, **Don Briola** for setting us straight.

3d. Little known, CAP Reg Requirements of the Month: CAPR 130-2, page 2: **2. Roles and Responsibilities.**

2.1 Regions. Region commanders are responsible for ensuring that the Region (with aircraft directly assigned) and each wing has developed and implemented an aircraft maintenance management program and that the Region (with aircraft directly assigned) and each wing has a comprehensive aircraft maintenance officer training plan based on CAPP 130-3, CAP Aircraft Maintenance Officer Guide, to ensure the provisions of this regulation are fully implemented.

3e. Parking Risk Assessment: As a reminder, this is an annual tasking to develop or review the parking situation, especially for those with hangars to prevent 'hangar rash' or other damage as portrayed in the wonderful, ground handling video all aircrews are required to watch every two years. Crew Chiefs please forward when complete. See attachment 3 for tracking.

3f. Ought to Be in Pictures: Time again for NCWG's bi-annual photoshoot of each airplane's exterior and interior. It's a program that pays dividends to all of us for research and enhancements. Unfortunately, since KSUT's consolidated maintenance facility has closed, I no longer have access to most aircraft. Thus, only seven aircraft are completed for 2022. On 21 Aug, I've asked the other 10 aircraft crew chiefs to shoot and upload the photos before the end of Sep. Currently, only **N179CP**, **N4813C**, **N727CP**, **N741CP**, **N908CP**, **N98426**, and **N99885** are done. (**N819CP** needs interior photos). See tracking in attachment #3.

4. Miscellaneous News:

4a. Classical Gas: Paul Bertorelli from AvWeb.com provides an excellent two-part, (15-minute each) history of the why we have still leaded avgas ~25 years after car fuel went leadfree.

Part 1: <https://www.youtube.com/watch?v=9F-WngVMJBQ&t=38s>

Part 2: <https://www.youtube.com/watch?v=Mvse4Xhzwuk>

Those hoping for Mason Williams' instrumental, 'Classical Gas': https://www.youtube.com/watch?v=mREi_Bb85Sk

Or Tommy Emmanuel's more modern version: <https://www.youtube.com/watch?v=l4s8hWLOOcc> (~4 minutes in)



4b. N7360C's old propeller has been mounted on lobby entrance of NCWG building in Burlington. **Col Angelovich, Tina Redner & Chuck Dawson** helped installed the ~85 lbs. display with 8 bolts holding the wooden backer board into the aluminum studs behind it. **Please 'no hand propping'** as that glass display cabinet below only adds to damage if anyone pulls hard.

4c. NEWG's N988CP Naming Suggestions: *"Safe Place" or "Retreat"*

4d. No-notice quiz: Can you fly an airplane under Instrument Flight Rules (IFR) whether in Visual or Instrument meteorological conditions (VMC or IMC) if the RNAV database has not been updated?

- No. Aircraft can only be flown with visual flight rules in VMC conditions.
- Yes. Airplane can be flown IFR in VMC conditions but not IMC conditions
- Yes. Airplane can be flown enroute in IFR conditions but needs to either fly a non-RNAV approach or be able to fly visually from the enroute system to the ground.
- Yes. No restrictions.
- None of the above.

You can fight this out with your friendly CFII, but the answer is 'C'. Planes have flown for decades without GPS in the IFR system and one can still fly IMC enroute with an out-of-date RNAV database. If you have a current database onboard, or a current hard copy of the approach chart, and can verify the RNAV approach you want to fly has not changed, even if the system's approach database isn't current, you can even fly that approach.

5. 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 or via phone at (703) 732-3264.

- Stryker  R -

Martin Heller, Lt Col, CAP
NCWG Aircraft Maintenance Officer

3 Attachments

1. CAP In-Flight Guide Emergency of the Day listing
2. G1000 data base update procedures: Capt. Don Williams helpful guidance. (Separate file)
3. NCWG/AMO Tasker status

Attachment 1
 Sept 2022 NCWG Riveting Reading
 CAP In-flight Guide, (page 22, Emergency of the Day Brief)
 (Entire Mission Briefing Section starts on Page 18)
https://nesa.cap.gov/media/cms/Inflight_Guide_Rev_July_2021_1D641CC3EFE33.pdf

Emergency Procedure of the Day (Brief your actions, from memory, for the event corresponding to the current day of the month) (This is designed to make the pilot think about an emergency procedure prior to flying. If there are more important EPs, brief those instead! Use the USAF formula beginning with "I will maintain aircraft control..." If you have already briefed today's EP, then select a different EP for later flights.)

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|---------------------------------------|--|
| 1. Abort (Rejected Takeoff) | 16. Lost Procedures |
| 2. Engine Failure After Takeoff | 17. Departing a Prepared Surface |
| 3. Fire During Start | 18. Inadvertent IMC |
| 4. Oil System Failure | 19. Flaps Fail to Extend |
| 5. Electrical Fire During Flight | 20. Partial Loss of Engine Power in Flight |
| 6. Structural Icing in Flight | 21. Engine Fire During Flight |
| 7. Elevator Failure | 22. Fuel Leak |
| 8. Precautionary Landing with Power | 23. Throttle Failure |
| 9. Forced Landing | 24. Ditching |
| 10. Complete Electrical Failure (Day) | 25. High Ammeter |
| 11. Loss of Communications | 26. Complete Electrical Failure (Night) |
| 12. Airspeed Failure | 27. Asymmetrical Flap Configuration |
| 13. Inadvertent Spin Recovery | 28. Pitot/Static Failure |
| 14. Severe Porpoise on Landing | 29. Traffic Pattern Stall |
| 15. Landing with Flat or Blown Tire | 30. Brake Failure |
| | 31. Ear Blockage / Physiological Incident |

Attachment 2
 Sept 2022 NCWG Riveting Reading
 G1000 Database loading instructions (separate file)

Attachment 3

Sept 2022 NCWG Riveting Reading
NCWG Maintenance Tasking Status

Nbr	N-Number	Type	Year	Based:	Remarks	G1000 LRU Photos*	2022 airplane photos	Risk Assess Plan
1	<u>N262CP</u>	182T	2018	BUY	G1000 /WAAS	No	No	n/a
2	<u>N405CV</u>	182T	2017	INT	G1000 /WAAS	No	No	n/a
3	<u>N938CP</u>	182T	2015	LHZ	G1000/WAAS	No	Pending	Pending
4	<u>N726CP</u>	172S	2015	RDU	G1000/WAAS	No	No	n/a
5	<u>N179CP</u>	182T	2012	SUT	G1000/WAAS	Yes	Yes	n/a
6	<u>N727CP</u>	182T	2010	FAY	G1000/WAAS	Yes	Yes	n/a
7	<u>N963CP</u>	182T	2007	AVL	G1000/WAAS	Yes	Pending	Yes
8	<u>N741CP</u>	182T	2006	ECG	G1000	No	Yes	n/a
9	<u>N819CP</u>	182T	2006	SVH	Round Gauge/GNS 625	n/a	Ext - yes Int – No	Pending
10	<u>N716CP</u>	182T	2005	LHZ	G1000	Yes	Pending	n/a
11	<u>N437BA</u>	L23	2002	LHZ	Glider	n/a	n/a	n/a
12	<u>N908CP</u>	172S	1999	ILM	Garmin 500 / GTN650	n/a	Yes	n/a
13	<u>N99885</u>	172P	1986	JDF	Round Gauge / GNS 400	n/a	<u>Yes!!!</u>	Pending
14	<u>N98426</u>	172P	1985	EWN	Aspen	n/a	Yes	n/a
15	<u>N4813C</u>	172P	1985	FAY	Round Gauge – Aspen/GNS 430	n/a	Yes	n/a
16	<u>N99832</u>	172P	1985	INT	GNS 400 / Glider tow	n/a	Pending	Yes
17	<u>N7360C</u>	U206G	1977	LHZ	Round Gauge – Aspen 500	n/a	Pending	Pending

- Not In our files; please submit (or resubmit to AC-Reports, and cc: Rdavis@ncwgc.org