

“Riveting Reading”

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

Oct '21. Vol #47

By Lt Col Martin ‘Stryker’ Heller



Left: A donated propeller blade was repainted in CAP colors & dedicated to: *“NCWG Crew Chiefs for Keeping our Aircraft Safe and Operational, while putting up with paperwork and pilots.”* It's displayed in NCWG's HQ building conference room. (Right) NCWG's Crew Chief official patch.



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

1. Motivational Quote: *“A ship in harbor is safe, but that is not what ships are built for.” John A. Shedd*

1a1. NCWG Director of Operations (NCWG/DO) Comments: Without wood, a fire goes out; without loose lips a quarrel dies down. Maybe. But a spoonful of sugar doesn't hide the taste of toxic waste either. Without a dedicated staff of volunteers who bust their buns every day, you will never see four thousand hours again. The scramble every day to keep 26% of the Regions pilots flying takes its toll. And the clap trap the Operations Logistics team hears from those that do little more than write emails shows their ignorance of what it takes to manage one of the largest air fleets east of the Mississippi. Let me finish my rant by saying how eternally grateful I am to Stryker and our team for a horrific year but rewarding year, and how proud we are to work for 98% of you. As they say on tour, 'It is what it is.' 🦞 Stay sane, Lt Col Matthew “Lobster” Urbanek, CAP

1a2. NCWG Director of Stan/Eval (NCWG/DOV) Comments: **October 2021's** edition of NHQ Standardization & Evaluation Newsletter was just emailed to all NCWG pilots. One can also find it and all these newsletters at: <https://www.gocivilairpatrol.com/programs/emergency-services/aircraft-operations/standardization--evaluation-newsletters>. Respectfully, Lt Col Arnie "Speedway" Andresen, USAF/Auxiliary

1b. NCWG Operations Conference – Sat, Sept 11th, the conference was relocated to KBUY at the NCWG HQ building due to COVID restrictions. Details of the meeting are on NCWG/DOV's VFR Pilot TEAMS page. The NCWG aircraft maintenance briefing (.pdf) is attached.



(Above: N727CP, M179CP, N262CP, N908CP, N963CP, N716CP, N726CP, N741CP & Major Benson's, V-35 at KBUY). N4813C arrived shortly after photos taken. N405CV was flying the 235 ATCS mission. N819CP, N98426, N7360C & N938CP were out of service for maintenance. N99832, N99885 remained at home station.

1c. Sep Highlights: NCWG flew another big month: ~446 hours, slightly (21) less than Aug's impressive **467 hours** - but NCWG was down four aircraft almost the entire month. **N963CP** (info below) was returned to service early in Sept. **N938CP** possibly cleared the Aero-Net hurdles on 30 Sep, but is awaiting return of its rebuilt propeller & governor next week. Currently the only non-mission capable aircraft is **N7360C** which needed a new (or at least a

replacement) propeller. The current propeller is out of time and obsolete as parts aren't being manufactured. Perhaps Lola will be airborne again in November. NCWG is still awaiting a C-182 promised in the FY19 trade for N358CP (*Mesa*) & is also down another C-182 aircraft when N9930E (*Thor*) was retired & sold off early due to the costly advisory directive. In better news, N819CP is now tow capable & re-assigned to KRDU to be closer to KLHZ. Thus, other NCWG aircraft were shuffled around.

1d. Special Missions Summary:

1d1. 3-58 AOB/Civil Air Patrol Operations Summary – FY 21: During 4, one-week periods in June through September, NCWG managed and flew the majority of 327 sorties for 792 flight hours. 279 aircrew members participated, and another 188 sorties were either cancelled or not filled. Fuel cost alone was \$35.6K.

1d2. NCWG Civil Air Patrol / 235th ATCS Support – FY 21: 49 sorties, 272.5 hours, with \$13.5K fuel costs.

1e. Top Hour Flying Squadrons: NC-019 (KAVL) put ~48.6 hours on N99885 & N963CP logged 25.9 hours. NC-022/ KBUY flew N262CP 47.2 hours, NC-171/KFAY – N727CP & N4813C logged 42.7 & 39.3 hours respectfully. N716CP, N726CP, N179CP, N405CV, N741CP all flew more than 30-hours. N98426, N99832 both flew more than 22 hours. N908CP logged 16 hours the first two weeks but was grounded the last two getting a flap re-skinned. Only the aircraft in prolonged maintenance; N819CP, N938CP and N7360C didn't log much, if any time.

1f. Top Flying Aircrews for Sept 2021:

Sep Pilot Rank	Pilot	Unit	A Msn Hours	B Msn Hours	C Msn hours	Total Left Seat Hrs	Non-pilot hrs	Total airplane Hrs	Aircrew Rank Nbr
1	Lee , Jong I, Lt Col	MAR-NC-121	34.4	0	0	34.4	0	34.4	1
2	Urbanek , Matthew, Lt Col	MAR-NC-001	7.4	11.8	0	19.2	.8	20.	6
3	Scotton , Thomas N, Capt	MAR-NC-171	8.7	8.4	0	17.1	.9	18	8
4	Bashinski , Benjamin, Capt	MAR-NC-019	9.6	7.3	0	16.9	7.5	24.4	4
5	Engstrom , Eric R, Capt	MAR-NC-171	10.9	4	0	14.9	5.0	19.6	7
6	Herring Jr, Morris C, Capt	MAR-NC-171	4.8	9.3	0	14.1	10.5	24.6	3
7	Noffke , Heino, Capt	MAR-NC-170	5.7	7.9	0	13.6	6.9	20.5	5
8	Netherby , Richard J, Lt Col	MAR-NC-145	7	6.2	0	13.2	2.6	15.8	9
9	Davis Sr, Raymond G, Lt Col	MAR-NC-019	3	9.7	0	12.7	13.4	26.1	2
10	Phillips , John R, Lt Col	MAR-NC-023	11.2	0	1.2	12.4	0	12.4	10

1g: Top Flying Aircrews for FY2021:

1g1. Top Flying Squadron/Aircraft:

NC-019/Asheville flew 810 hours in 2021, despite having N963CP (*Gumby*) down for 4.5 months due to engine noise. N99885 flew 495.8 hours, probably making it the most flown plane in CAP this year. 'Echo' had 100-hr inspections in Jan, May, July & Sept. It's being swapped with N99832 so we don't fly it out of time so quickly as replacements are slow in coming with all of CAP other obligations.



A 1985, C-182P, N99885 flew 495 hours in FY21; 159 hours more than FY20, and 100 hours more than FY19.

1g2. Most Left Seat Hours

Nbr	Pilot	Squadron	'A' Msns	'B' Msns	C Msns	Total Hours
1	Herring Jr, Morris C, Capt	MAR-NC-171	81.7	48	1.1	130.8
2	Peters , Wendy J, 1 Lt	MAR-NC-048	109.8	18.2	0	128
3	Lee , Jong I, Lt Col	MAR-NC-121	88.9	0	0	88.9

1g3. Most Total Seat Hours:

Nbr	Pilot	Squadron	Left Seat Hrs	Non-left Seat Hrs	Total Hours
1	Peters , Wendy J, 1 Lt	MAR-NC-048	128	52.3	180.3
2	Davis, Raymond, Lt Col	MAR-NC-019	69.5	95.5	165
3	Herring Jr, Morris C, Capt	MAR-NC-171	130.8	32.5	163.3

1g4. Most 'C' Mission Hours:

Nbr	Pilot	Unit	A Msn	B Msn	C Msn Hrs	Total Hours
1	Cook , Jackson Joel, SM	MAR-NC-019	0	0	40.8	40.8
2	Collie , Graham Davis, C/Col	MAR-NC-019	34.8	0	14.5	49.3
3	Higgins , Timothy A, SM	MAR-NC-019	0	0	9.3	9.3

1g5. Ranking of Flight Hours Across CAP: Wing Averages for FY 2021 (as of info inputted by: 02 Oct 2021)

The chart below doesn't tell the full story as all numbers aren't in. *NCWG will probably end up in second position in hours per aircraft.* Besides the maintenance issues, had we not had aircraft grounded for Aero-Net, retired early, or not yet replaced, NCWG wouldn't have had anywhere near the unfilled 113 Special Operations missions in support of the U.S. Army 3-58 Airfield Operations Battalion training missions. More to come. Note that perhaps only a dozen wings out of 52 met NHQ CAP goal of 200 hours per aircraft.

NCWG flew ~ 4,377 hours in FY 2021 and I don't believe Sept's 446 hours are accounted for below (yet).

	Unit	Average	No. Aircraft
1	PR	290.5	3
2	DC	267	3.6
3	UT	257.1	7.6
4	NC	255.8	15.4
5	WI	209	13
6	AZ	208.3	15.2
7	MA	205.7	6
8	NH	204.2	6.5
9	CA	199.2	27.1
10	MI	197.3	11.8
11	VA	195.3	11.8
12	CO	193.1	16.1

Data (left) is as of: **02 Oct 2021**. Once all the end of month numbers are submitted and the CAP Form 18 uploaded and processed, the standings would probably change. After all, it's easier to gather data on 3 or 4 aircraft, than 16. Thus, some wing's data are already incorporated but not NCWG's data yet. Expect a different ranking before November.

1g6. **Total Maintenance Flights:** 230 sorties flown, for 274.5 hours, burning nearly \$15K in fuel (plus 5 funded ground sorties and many, personally funded moves). Note: NCWG added two more consolidated maintenance facilities in FY19 which eliminated the need to move four aircraft to/from maintenance & vastly reduced commute distances for other aircraft-based locations. *(Still not good enough for USAF-CAP NHQ/inspection team; but I digress)*

2. Maintenance Month in Review: At the end of August, 12 of 16 aircraft were non-mission capable for maintenance issues. But in the first four days of September six aircraft regained operational status and relocated back to the squadrons. Four more aircraft by the second week and all but two by the time September ended.

2a. Aircraft in Annuals:

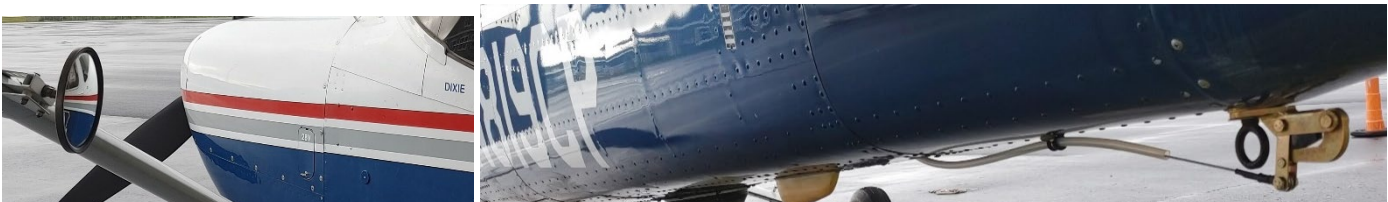
N179CP: 'Sandy' had a little more work need than originally thought. The right tail pipe was broken and replaced; same for the nose wheel tire. The nose landing gear lower support bracket was loose and retorqued. One spark plug was replaced. **N179CP** came out of the shop on 2 Sep, then temporarily tail swapped with **N908CP** at KILM. A week later, the pilot window hinge broke and was replaced.

N4813C: Frank had a Nose wheel shimmy and also noted strut seal leaking requiring removal and repair of the nose gear strut, shimming the steering collar, installed new torque link bolts due to wear, installed new O-rings & serviced the shimmy dampener. The windshield was resealed due to leaks. The #1 cylinder broken front baffle needed sheet metal repair. The Engine & cowlings were wet with oil due to engine front seal leaking. This required removal of the propeller for access & installed new front engine oil seal. The propeller was also balanced. They installed a new Right main tire & tube due to wear. Maintenance reinstalled plastic trim in baggage area, install new LT elevator static wick, install new brake linings, replaced blown clock fuse. Installed a new fuel cap seals & slip rings, replaced broken cowl mount and 3 missing cowl fasteners. **N4813C** was returned to KFAY on 4 Sep.

N98426: 'Sarah' came to **KLHZ** on the 30th, knowing it needs dual magneto 500-hour inspections and a beacon repair/replacement. One tire was replaced as were both brake linings. It returned on service on 10 Sep and kept at **KLHZ** in support of the AOB mission for the week. Then the Garmin PFD went on the blink and was replaced. Sarah returned to KEWN on 21 Sep. But then deployed to Cherry Point US Marine Corps Station for their Open House.

N741CP 'Bleu' was set to go home on 3 Sep. On initial G1000 arming, an ELT was heard on the airfield since the previous crew used Comm 1 for its own ELT check the previous flight (good practice). After locating and reporting the ELT to airport management, the aircraft took off and learned from ATC that its own transponder wasn't emitting; no was the aircraft being integrated, nor getting ADS-B targets. Returning to KSUT, mechanics noted the ELT antenna missing. They replaced the antenna and trouble shot the transponder system. Later that day, the aircraft repositioned to KONX and tail swapped with **N819CP**, which was awaiting its 100-hour inspection.

N819CP: 'Dixie' had a burnt cylinder, which was hand carried to KBUY via CAP aircraft since its operations meeting was the next day. In the meantime, it had its 500-hour magneto inspection/overhaul and repaired a hole in the left rear exhaust pipe. A week later the #5 cylinder was back on the airplane. Also, the FAA issued a field approval for installing the tail hook. **Dixie's** replacement cowlings plugs are on order as well as a new, longer tow-bar. It was reassigned to **KRDU** and went there on 28 Sep. **N99832** was re-assigned to KSVH from KINT.



N99885: 'Echo' snuck up on us needing a its forth, 100-hour inspection of the year and Belle Aviation was able to help us out on short notice. This aircraft has earned this inspection every two months for the past half year.

N938CP 'Max': Our FLIR & now Aero-net aircraft has still not come out of its 100-hour inspection started in July due to safety concerns discovered with the AERO-NET wiring and subsequent NHQ – FAA decision to ground & inspect each aircraft. Finally on 29 Sep, the contractors came and installed/re-wired the Aero-Net System. Meanwhile, N938CP's propeller & propeller governor were sent out for overhaul based on TBO times & should be re-installed this week. Thus N938CP, basically grounded since May, will be finally back on line. FLIR crews will probably need some proficiency training. For those tracking, NCWG's FLIR mission was out of service for ~ five months.



The Aero-Net radio rack installation in the back of N938CP. Note, the FLIR system had been removed for this install, but will be re-installed this week. Maintenance may still have some issues on servicing the aircraft battery, buried behind all the equipment. And the radios aren't shown but will slide into those two squares behind those antennas.



2b. More Maintenance Actions:

N99832: 'Spartacus' had an oil change, the pilot's Push to Talk Switch replaced and the outside air temperature probe fixed. It also had its primer plunger hard to push (O-ring unseats) and fixed at a separate visit.

N716CP: Last we left **'Caroline'** in the Sept Riveting Reading, it was stuck at KJQF with a bug up its pitot tube, and no responsive maintenance in sight. Requests to both the KGSO & KCLT FSDO for a FAA Special Flight Permit to relocate the aircraft 25 miles to KSVH **were denied**. **Iredell Air Care** (KSVH) was gracious enough to come to KJQF and clear the pitot-tube on the ramp. **N716CP** was relocated to KAVL for better MX support and while **N963CP** was still OTS. However, a week later, **N963CP** was returned to service, and aircraft tail swapped at the 11 Sep Operations Meeting. **N716CP** then went to **KLHZ** as both **N938CP** & **N7360C** are out of service. On 15 Sep, we supplied the FAA requested copy logbook proof that the repair was accomplished, even though they denied the ferry permit. (Trust but verify?)

N405CV: 'Loki' was dropped off on Sat, 28 Aug at **KBUY** for its propeller and governor overhaul. **H&H Triad Aviation** pulled the prop and governor and returned the aircraft to service on 10 Sept. On 14 Sep, it went to **KSVH** where **Iredell Air** changed the oil, as H & H Triad let us know they were too busy for it during its propeller work.

N7360C: 'Lola' was grounded for some electrical issues, including a replacement G500 display caused by battery cells dying. Also, the propeller and governor were due for overhaul and sent out to, you guessed it, H & H Triad Aviation. Surprise, surprise, the 1973 propeller is even older than the 1977 airplane. Not only is the propeller no longer made, but neither are the supporting partings. NCWG's HQ building may be getting a ~100 # three bladed wall display as NHQ buys **Lola** a newer propeller depending if it is needed for a core exchange or not. The newer, antiquated propeller is expected in November. A new, state of the art prop would take several months longer.

N262CP: George's left main tire, replaced at its recent 100-hour, wasn't holding air, nor taking any, so it flew back to **KLHZ** on 15 Sep, where **Total Flight Solutions** replaced the valve stem. It went home but came back the next day, because the tire still wasn't holding full pressure. The tube was replaced and **N262CP** returned to **KBUY**.

N437BA: Our glider had some hardware issues and will be looked at/repared at home station (KLHZ).



N963CP's engine back from Oklahoma



No Flap Landing anyone? Hole issues resulted in reskinning the right flap. (Only so many (6) holes allowed.)

N963CP: Gumpy's engine was run 5 hours on the test cell without incident, vibration nor metal. It was returned to KSUT on 2 Sep with, 'No Trouble Found'. The engine was re-installed and test-flown. Best theory is that over-time, the engine shock bushings harden and shrank. The shop had to add some washers to fully torque the engine support bolts. N963CP returned to KAVL (via KBUY) on 11 Sep; allowing NCWG's FLIR capability to return to service. Fresh home from all that engine work, the alternator started popping circuit breakers after 3 tach honors. Cleaning the connections resolved the issue; but not for long. The alternator was replaced later in the month. For more excitement, **Gumpy** has another bird strike; straight on the nose cone & prop. No damage beside blood. NC-019 is happy having Gumpy back home after 4.5 months.

N908CP: 'Flo' had its back up, artificial horizon replaced since it was 20 degrees off from what the PFD showed. Days later, the right flap skin which was going to be replaced at the next 100-hour continued to deteriorate. On 14 Sep the aircraft was changed from the AOB to a relocation mission for replacement. After re-skinning, Flo was re-assigned to KBUY and N726CP went to KILM as part of a larger swap.

3. Aviation Maintenance Support Information:

3a. Close the Window Before Engine Run-up and whenever in flight: (Repeat): Expect to finally see the written restriction in our upcoming supplement to the new CAPR 130-2 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's authorization for a window open in flight, we replaced too many broken window hinges already and another hinge this month (at a cost you wouldn't want to pay). The mission scanner's photo window can be open at any time. →→

3b. GPS database current cycle (2110) starts 7 Oct. NCWG/ADO reminded crew chiefs to do it immediately as often the Jeppesen bill payment is delayed in the new Fiscal Year. Also, update AMRAD so the world doesn't tilt off its axis.

3c. Survival Kits: N716CP supplies and labels were provided at the 11 Sep Ops meeting. This completes the fleet until 31 July 2024 when we should replace the water, and perhaps the MREs. →→

3d. Incredible NHQ/LG Aircraft Maintenance Continuity: For those (everybody), who missed it, here are the links to the FY21 4th Qtr (Sep 8th) AMO meeting. <https://vimeo.com/601940128/d721a83eb6> FY21 4th Qtr AMO Meeting Questions - URL – <https://vimeo.com/601939565/ff36b0351c> And here is the link on the LGM Website where you can find current and previous videos: <https://www.gocivilairpatrol.com/members/cap-national-hq/logistics-mission-resources/aircraft-management/amo-resources> . Some Key points were:

- Wing AMO repair approval will raise from \$500 to \$750 with the new CAPR 130-2
- New CAPR 130-2 aircraft maintenance regulation will be coming out soon; thus, NCWG Sup 66-1 rewrite.
- An FAA / maintenance team Aero-Net MRAD team will be traveling around (late Sep) to install the radio.
- Take photos of G-1000 error messages (convert to .pdf) and upload with AMRAD Discrepancy
- If the G-1000 software was reloaded, do a good review before taking the aircraft airborne, especially IMC.
- New CAPR 130-2 oil change times; 50 hours, +/- 5, or 4 months (not calendar). Yes, we'll change more oil.



3e. Clean Machines: N98426, N938CP & N7360C were due in Sept (but N7360C and N938CP are stuck in Maintenance). I'm sure NC-160 cleaned up N98426 before displaying 'Sarah' at the USMC Cherry Point Open House. N99885 and N963CP (pictured above) were also washed. Remember to update AMRAD, the official maintenance tracking system of the CAP aircraft operations empire.

4. Thank you all for the support & taking the time to read this and the past forty-six volumes of NCWG's Riveting Reading. After four plus years of helping manage the NCWG aircraft fleet, I am stepping down as NCWG's Aircraft Maintenance Officer on Nov 1st. This newsletter takes a lot of effort, and my replacements, with all the other, mandatory tasks and issues, probably won't have the time to compile the information. All the Riveting Reading newsletters will still be available on the Wing website (NCWGCAP.org) under 'Members/Operations/Aircraft Maintenance.' →→

- Stryker -

Martin Heller, Lt Col, CAP
NCWG Aircraft Maintenance Officer

Attachment 1

1. NCWG Aircraft Maintenance brief from 11 Sep Ops Meeting (separate .pdf file)