



“Riveting Reading”

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

Oct 1, '20. Vol #35
By Major Martin ‘Stryker’ Heller

Capt Cliff ‘Beast’ Herring

holding a trophy for NCWG’s Most Hours Flown; 2017, 2018 & 2019.

Capt Herring literally flew the gear off of N4813C compiling almost 1,000 hours in the cockpit since FY15



Above left: We couldn’t top the FY18 trophy presented to Capt Herring, so we bottomed the award with two more tiers for FY17 & FY19. Above right – N4813C needed new main gear bushings which required removing the main landing gear.

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

1. Motivational Quote: *“Keep Trying, Stay humble. Trust your instincts. Most Importantly, Act. When you come to a fork in the road, take it.” Yogi Berra.*

1a. NCWG Director of Operations (NCWG/DO) Comments: See attachment 1.

1b. NCWG Chief of Standardization & Evaluation (NCWG/DOV) Comments: ICAO filing codes -- See attachment 2.

1c. Corrections to the Sep 2020 Riveting Reading.

- I. Rank for Jeremy Browner is now Lt Col. While the actions listed in Sept’s Riveting Reading did occur while he was a Major, proper protocol dictates using the current rank. He did not get promoted just for fixing a flat tire. Coincidentally, the other tire blew on landing a month later. Could it be he is bucking for full bird?

II. **Checking Tire Pressure is now a daily requirement.** Per **CAPS 73-1 (25 Aug 20) para 3.2 Preflight:**

“Aircraft tire pressures shall be checked with a gauge **prior to the first flight of each day**, at a minimum, and **whenever tire inflation appears abnormal.**” Thanks to Major William ‘iWill’ Windham for keeping us accurate.

1d. Sept highlights: Despite the incredible amount of preparation work, Sept thunderstorms and COVID19 restrictions turned the 14th Mountain Fury into Mountain Fizzle. A few aircrews were able to get trained on a case-by-case basis due to the flexibility and support of **NC-019**. Similar bad weather nearly cancelled our initial 4th Fighter Wing, F-15E intercept training. Three of four sorties couldn’t launch, and the only sortie flow was on a backup day. But boy, they were excited!! In Sept, NCWG flew: ~**435 hours**. **Sept Top Hour Squadrons were:** **KJQF-N716CP (48.5 hours)**, **KLHZ-N938CP (42.6 hrs)**, **KRDU-N726CP (41.8 hrs)**, **KILM-N908CP (41.3 hrs)** and **KAVL-N963CP (38.3 hrs)**. **NCWG’s Top Pilot was: Lt Col Jung Lee, NC-121 with 38.7 hours.** The FY20 Pilots with the most flown hours in the left seat & as aircrew are listed in Atch 3. *‘Is it Beast’ again? Stay tuned.*

1e. Upcoming USAF-CAP Compliance Inspection: At the time of this writing, NCWG is being inspected for our ability to comply with CAP & FAA rules. The inspectors don’t hand out too many compliments, but we’re expecting some for everyone’s hard work. **Shout outs to: Lt Cols Chris Bailey, Ray Davis and 2d Lt Jonathon Forney (NC-145)** for quickly compiling more than 100 photos needed for this virtual inspection. Hope to have good news to pass in November’s RR.

2a. Maintenance Month in Review:

2b. Aircraft in Annuals: N4813C & N179CP

- **N741CP (Bleu):** (holdover from Aug) came out on 3 Sep, went home 4 Sep. The new weight and balance (W&B) (due to its repainting) increased the empty weight 49# and move the center of gravity back 2 inches. In addition to the litany of items listed last month, **N741CP** received a new right tube & tire, and a set of wheel bearings.
- **N4813C (Frank):** Being frank, the interior was pretty beat up. Trim coming off the seats, walls and ceiling, vents falling out, a broken Rosen and the ‘Dip Stick’ award missing. Maintenance located a new instrument panel ‘eye brow trim panel’ vastly improving the appearance. The main gear strut bearings needed replacement. And the nose strut needed rebuilding (again). Apparently, some of last year’s shim work was removed when the engine was

replaced. KFAY pilots should notice a big difference in taxiing. The engine baffling was patched where the muffler rubbed, oil cooler lines were re-routed and new rocker cover gaskets installed. N4813C went home on 19 Sep. →→



(Upper left) **N4813C's** Instrument Panel Eyebrow. It was recovered once already. (Center left) The old eyebrow with that covering removed (Center right) new door-trim; the old piece broke away. (Right) A new eyebrow, normally ~ \$1,300, was found on eBay for much less. The results; **N4813C** certainly, doesn't look like a 34-year-old aircraft parked outdoors.

- **N179CP (Sandy):** With all the weather and COVID19 cancellations, the aircraft's 100-hour inspection kept getting pushed back. But when it had a total GPS failure (GPS #1 already OTS), we put it in at 90-hours. This way the aircraft would be available for the AOB mission the next week. Turns out the #1 GPS antenna was bad. Also, the AMSAFE seatbelts, already decommissioned, were removed and replaced with standard shoulder harnesses. NHQ noted my squadron's aircraft was already full of airbags so the special seatbelts were redundant. The new weight and balance saved 8#. It also had a Rosen (sun visor) that kept falling down, despite the hex screws being incredibly tight. At one time, someone decided to lubricate the fittings....so of course it wouldn't hold in position. **Note to aircrews: don't oil the Rosen hardware.** The left main tire, tube and race were worn out and replaced. **Sandy** also needed a landing light. Those LED bulb units are so expensive, the parts guy asked "if it was for the Space Shuttle." **N179CP** returned to service on 26 Sep.

2c. More Maintenance Actions: **N963CP, N716CP, N99832, N405CV, N727CP, and N908CP** got oil changes. **N963CP (Gumby)** has its Copilot audio panel (GMA1347) swapped out under warrantee. **N716CP's** right strobe quit on the flight home from an oil change where we happened to have mailed back one power supply a day early and had a second one stashed... can't make this stuff up. Waited a week for the weather to allow it get changed on 11 Sep. **N819CP's** gyro went tumbling; replaced at home on 15 Sep. **Dixie's** rightwing fuel drain wasn't doing just that, and was cleaned as well. **N726CP's** right tire blew on the runway at KRDU shutting the airport down since the other parallel runway was closed for maintenance on 15 Sep. An hour or so later, the airport figured out how to move the airplane to the side. Since airliners had to hold, people were not happy. Once again, Lt Col Browner got to coordinate fixing a tire. **'Betty'** also had a flap motor run-on issue, fixed soon afterward thanks, in part, to Col Ragland serving as our ferry pilot. **N7360C** had its electronic engine monitor sent out for repair and was re-installed at home station →→

3. Aviation Maintenance Support Information:

3a. GPS database current cycle (2011) starts Oct 7th: Remember to update AMRAD; both changed & next due dates.

3b. Aeronautical Information File (AIF) Updates: **N4813C's** AIF inspected; overall an 'A'. Make sure you have most current regulations and note that in Tab 10, the ORM cover page and ORM worksheet have different dates. →→



'Bearing & Race'

3c. "Race Relations:" Wait; keep your bearings – we're talking about the gizzards which make the wheels on the airplane go round and round. Because CAP flies without pants, rain water gets into the bearings and races; resulting in rust. This is especially true when the airplane hasn't moved in a while. So, when you're at the airport, even on non-flying days, show the airplane who is boss and push it around a bit. It will help get the water out of the wheels and prevent some rusting.



Sun Screen: Take care on installing & when removing. These over-priced sun shields tear easy & are hard to fix.



*Be Kind –
Please Rewind*



3d. “Another Shady Deal:” The double edge sword of getting all these A & B missions (read: free flying) is that we don’t do a lot of ‘C-missions’ (read: you pay) flights. But the C-missions produce our little maintenance fund for airplane stuff; ladders, chocks, headsets, funnels, etc.... One of the more frangible items is the sun screen. That custom made, heat shield costs about \$110 and is easily torn. The secret to avoid a shortened life is climbing into the cockpit seat to install or remove it. Pulling it down when your feet are on the ground will rip it, rip it good, by the compass cut-out. Even duct tape won’t fix it as it peels in the heat. A squadron-mate fixed ours and it took gorilla glue, clips, bricks, edging and a lot of patience to piece it back together. Best advice is to care for them & fix them early if the edging around the compass starts to unravel. Consider being pro-active and tape the area around the compass cut-out to reinforce it. Access to a commercial sewing machine also helps. We don’t have \$2,000 to replace every one, every aircraft, each year.

3e. VOR Checks: While the technology might be older than VHS tapes, VORs are an official FAA navigation system. They are also the back-up whenever the US Army, our adversaries, or even peaceful protesters jam the GPS signal. The VORs in your aircraft are supposed to be checked every 30-days (and logged in the AIF, tab 3). Not only do radios fail, we’ve had one where the installation was configured wrong and not discovered for a while. Checks are required to ensure the system/radio is accurate. [Is flying an ILS legal if you haven’t done the VOR check in 30-days?](#) While many VOR stations have been decommissioned (or just left broken), others will endure. So, while NDBs have gone the way of Blockbuster Video, pilots & crew chiefs need to comply w/ VOR checks. It’s not like we’re asking aviators to learn something archaic like the Morse Code system.

‘B’ Side: Or as Paul Harvey used to say, ‘Page Two.’ On the other side of the VOR checks form is the monthly fire extinguisher inspection log. **Its sign-off is occasionally missed during the monthly review.** So, when you’re perusing the AIF before your flight, please make sure it’s good. If you ever needed that extinguisher, you’ll be hating your crew chief if it wasn’t working. →→

3f. CAP N-Number Trivia: What does **Cessna 172’s N4813C and N99756** have in common? Answer: The fuselage. CAP used to re-assign N-numbers to aircraft that were refurbished. That’s why there are some NxxxxC registrations (i.e. N7360C) in CAP’s fleet. It was too much effort to change FAA registrations so this doesn’t happen anymore. →→

3g. Dirty Bird List Returns in November: Washing each aircraft every six months is a CAPR 66-1, para 7.4.5. requirement; not just something NCWG dreamed up. Next month’s Riveting Reading will once again, publish tail #'s.

4. Thank you all for the support & for taking the time to read this. Riveting Reading can also be found on the new Wing website (NCWGCAP.org) under ‘Members/Operations/Aircraft Maintenance.’ If you have questions, call 703-732-3264.

– Stryker –

Martin Heller, Major, CAP
NCWG Aircraft Maintenance Officer

- 3 Attachments
- 1. NCWG/DO Comments
- 2. NCWG/DOV Comments
- 3. NCWG Top 15 Pilots for FY20 Hours Flown

Attachment 1

ANOTHER PILOT CONVERSATION (NCWG/DO):



This 'Lobster' prefers to fly than swim.

Sorry for the short spiel, but Lt Col Matthew 'Lobster' Urbanek flew back to Maine again this past month to visit family and work on his new shell. In his words:

- (A) Stryker fixes everything but a broken heart, and does a pretty good job with it.
- (B) Pilots are required to have smarts enough not to fly AC that need fixing, so
- (C) Lockbox doesn't have to spend HIS time investigating why part B did not work with part A therefore causing part C.

Pay attention before you fly, while you fly, and after you fly (checklist, anyone?) or you will not be flying.

Thank you for your attention. Matthew D. Urbanek, Lt. Colonel, CAP, NCWG
Director of Operations -- 828-432-6066

Attachment 2

"ICAO Filing Codes" -- NCWG/DOV

We have had several questions about the ICAO Filing Codes and I wanted to share this with the group. (DISCLAIMER: Please verify any information as this is a guide based on our personal research.)

The G1000 ICAO Filing Codes I use are as follows:

- FAA Equipment G
- ICAO Equipment BDGLRSY
- ICAO Surveillance B2C
- ICAO Wake Category L
- ICAO PBN A1B2C2D2O2S1

Other --> Code (Unique Mode S Hex Code per aircraft found on FAA N-Number Inquiry, Registration (Unique Aircraft N-Number Registration), and SUR 206B.

Of note for the aircraft equipped with a GTN650 GPS it would include ICAO PBN Code L1 which we would not use anyway being outside of ORCA Class II Airspace under RNP-4.

References: POH Chapter 6, Supplemental - Operational Eligibility

FAA N-Number Inquiry: https://registry.faa.gov/aircraftinquiry/num_inquiry.aspx

Garmin Website ICAO PBN/RNAV-PBN Code Guide <https://support.garmin.com/en-US/?faq=hDbN1ryrge4GkBour6SzC8>

[ICAO PBN/RNAV-RNP Codes | Garmin Support](https://support.garmin.com/en-US/?faq=hDbN1ryrge4GkBour6SzC8)

Garmin Support Center is where you will find answers to frequently asked questions and resources to help with all of your Garmin products.

support.garmin.com

Work is also in progress for the codes to each aircraft to be put on the Wing site at some point.

Maj Dave Stange, CAP

NC Wing Stan/Eval Officer (C) 919-810-2501

Attachment 3 – NCWG FY20 “Top 10” Pilot Hour Earners (as of 30 Sep 2020/ 9pm)

Note: Total pilot time determined from WMIRS reports and shows left seat time. Total hours are the combination of all other roles in the airplane; instructor, crewmember or passenger; from the individual’s Mission Participation report. Note: Depending how you list your role, may affect your pilot hours.

| Pilot | Unit | A Hrs | B Hrs | C Hrs | Total pilot Hrs | Ranking Left Seat Hrs | Other seat hours | Total Hours | Ranking by Total Hours |
|---|--------|-------|-------|-------|-----------------|-----------------------|------------------|-------------|------------------------|
| Bennett , Michael T, Capt | NC-145 | 88.6 | 31.4 | 0 | 120 | 1 | 3.4 | 123.4 | 4 |
| Peters , Wendy J, 1 st LT | NC-048 | 76.8 | 34 | 3.3 | 114.1 | 2 | 44.2 | 158.3 | 1 |
| Herring Jr, Morris C, Capt | NC-171 | 55.6 | 49.3 | 0 | 104.9 | 3 | 29.9 | 134.8 | 3 |
| Urbaneck , Matthew D, Lt Col | NC-001 | 69.5 | 29.9 | 0 | 99.4 | 4 | 49.6 | 148.8 | 2 |
| Courtney , Wallace C, Lt Col | NC-019 | 43.5 | 41.8 | 0 | 73.8 | 5 | 34 | 107.8 | 5 |
| Noffke , Heino, Capt | NC-170 | 36.4 | 30.7 | 6.5 | 73.6 | 6 | 25 | 98.6 | 7 |
| Mason , Robert C, Lt Col | NC-171 | 37.7 | 35.2 | 0 | 72.9 | 7 | 5.5 | 78.4 | 12 |
| Lee , Jong I, Lt Col | NC-121 | 70.3 | 0 | 1.6 | 71.9 | 8 | 34.8 | 106.7 | 6 |
| Brandon , Robert M, Capt | NC-082 | 49.7 | 16.9 | 0 | 66.6 | 9 | 20.5 | 87.1 | 9 |
| Bailey , Christopher T, Lt col | NC-145 | 51.1 | 13.9 | 0.8 | 65.8 | 10 | 8.7 | 74.5 | 13 |
| Moore , Jason D, Capt | NC-143 | 28.3 | 37 | 0 | 65.3 | 11 | 2.9 | 68.2 | 15 |
| Stevens , Scott E, Major | NC-019 | 52.8 | 11.5 | 0 | 64.3 | 12 | 15.5 | 79.8 | 10T |
| Ragland , Larry J, Colonel | NC-001 | 20.6 | 35.7 | 7.1 | 63.4 | 13 | 26.7 | 90.1 | 8 |
| Malott II, Daniel W, 1 st Lt | NC-305 | 26 | 33.4 | 1.4 | 60.8 | 14 | 12.5 | 73.3 | 14 |
| Fiedler , Harald P, Lt col | NC-019 | 26.6 | 33.7 | 0 | 60.3 | 15 | 19.5 | 79.8 | 10T |

Top ‘C’ Mission Hours for FY20

| | | | | | | |
|--|--------|------|-----|------|------|---|
| Palmer , Anthony V | NC-121 | 6.3 | 0 | 17.2 | 23.5 | 1 |
| Hartman , David S | NC-019 | 19.3 | 6.9 | 15.3 | 41.5 | 2 |
| Courtney , Rheta L, Lt Col | NC-019 | 7.5 | 0 | 13.3 | 20.8 | 3 |
| McIntosh , Jacob D, 1 st Lt | NC-019 | 1.6 | 0 | 12.7 | 14.3 | 4 |
| Jackson , Bryce H | NC-019 | 0 | 0 | 12.7 | 12.7 | 5 |