

## **“Riveting Reading”**

### **North Carolina Wing Aircraft Maintenance**

**June 1, '19. Vol #19**  
*By Major Martin 'Stryker' Heller*



*Mountain Fury Training at Asheville (Photo by Lt Col Ray Davis)*

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

**1. May highlights:** The first week of May wrapped up another Army AOB training mission, getting a jump-start on the hour count for most squadrons. Mountain Fury up at Asheville was another big NCWG event, hosted by NC-019. More Army training missions coming up in June (& August) along with Summer Encampment and MAR Nat'l Flight Academy. April was a 350-hour month; about half our best. May was 100-hours better, with **RDU (N938CP)** flying nearly 50-hours, **KBUY (N262CP)** almost 45, **KLHZ (N9930E)** almost 40 and **KAVL (N963CP)** about the same. Noteworthy is KAVL's other aircraft (**N99885**) while down for a 2-week annual, still flew 30 hours and that was without participating in Mountain Fury. In July, **N179CP & N727CP will reach engine TBO**. Expect them to be down an extra week for the change-out. Replacement engines were just ordered.

**2. Maintenance Month in Review:** The last day of April, **N727CP**, had a manifold pressure indication problem, as in, the G1000 displayed 16", no matter what the throttle setting. That's usually the sign of a clogged sensor orifice. Not to be outdone, **N4813C** developed a right tank fuel leak. Both the KJQF and KFAY crew chiefs sent in very helpful video/photos which aided in diagnosing & authorizing the repairs.

**2a. 100-Hr/Annuals:** Four 100 hour/annual inspections this month; **N405CV, N99885, N938CP & N7360C**. **N405CV** only needed a new battery, a valve guide "de-carbon-ated," and the bi-annual, anti-corrosion treatment. **N99885** was not so lucky. A few small (but not minor) cracks in the firewall and the propeller spinner slowed its return to service; not uncommon for a 33-year old airplane. The shop also repainted the instrument panel, making it look a lot newer. **N99885** also needed a new tire, some FM repeater antenna work, and a new battery. FYI, we now go through the additional testing battery capacity check on every aircraft coming to KSUT; not just older batteries. In this manner, we head off mission failures before the engine doesn't crank (our lesson learned). **N938CP** whizzed through the shop with nary a care. Can't say the same for its sister ship, **N7360C**. The **C-206**, who had more window taping done on an earlier pass through KSUT, received additional 'leak preventing' treatment on the windows and doors as a temporary measure 3 weeks before its annual. This week's attempts to identify sources of leakage results were too successful. Water is coming in from everywhere; door jams, window seals, aluminum skin overlaps, rivet holes, etc.... They won't be able to fix the all, so we'll probably get a wrap-around airplane cover. Not the worst problem of this inspection; the oil filter revealed steel fragments. That means is the cam shaft/lifters are going. By "going", I mean the engine is going to be rebuilt. Wait, there is more... what seemed to be corrosion on the elevator trim tab was an indication that the foam inside the trim tab, and the elevator had delaminated and started holding water. Thus, affecting weight & balance, and a precursor to possible aircraft separation. So, a new elevator and trim tab are on order for this 42-year-old airplane.

**2b. More Maintenance Actions:** **N741CP & N262CP** had their oil changed. **N963CP & N726CP** had their pitot/static/transponder certification along with an oil change. **N963CP** did get a new battery. On May 1<sup>st</sup>, **N7360C** diverted in for an electrical (alternator) failure. A chaffed 'Field Wire' was found, and the aircraft returned to service the next day. **N938CP** crews complained of stiff rudder trim; maintenance reset the trim tab and chain that same night. The airplane's rudder trim was looked at again, 36-hours-later, when picking up **N7360C**. The **N727CP** manifold pressure issue was finally resolved, but not before we terminated relations with one shop. Speaking of **N727CP**, the fabric on the seats wore out; as in the foam is showing. Material is on order to recover them. In better news, by mid-month, our WMIRS maintenance snap shop was again all green.

**N4813C**, with its repaired fuel tank, had the rear left headset plugs jacked up... Being fixed as you read this. **N727CP** reoccurring audio problem with the Becker re-appeared. It will wait until its next time in the shop.

**3a. Admin Tidbits:** (Repeat) Aircraft Information Files (AIF) updates: 23 April 19 – New mission symbols. Document 2 (table of contents) and Tab 1, page 2, “mission symbols” have been updated. You can find them at <https://www.gocivilairpatrol.com/programs/emergency-services/aircraft-operations/aif/aif-airplanes-balloons>. Speaking of which, **when was the last time the crew chief audited the binder?** In one airplane, I just found a CAPR 60-1 in Tab 9. That regulation has been superseded twice now, the second time nearly 9 months ago. Another website having the current AIP contents/links is: NCWGCAP.ORG under the Operations / Aircraft Maintenance.



**3b. New Aircraft Checklists:** These are smaller, spiral bound checklists that fit in the smaller pockets. Most, if not all, are already in your aircraft. Big thanks to yet another, “Lt Col Bailey initiative/effort”. Results: Checklists look more professional and are easier to store/reach. The page order is not chronological, but in order of priority...smart idea....

**3C. NC Flag Boxes:** Cape Fear Air Works, Southport, NC, our primary consolidated maintenance facility does exemplary work. For our appreciation, owner/chief mechanic Richard Gwin, was surprised with a NC Flag box from Lt Col Bailey, NCWG Deputy Chief of Staff. The inscription says it all, ‘Maintaining NCWG aircraft as His Own.’ The flag was flown in 19 NCWG aircraft, all of which they have serviced.



*Rich Gwin & Lt Col Bailey. Not shown, Kyle Grandin, Addison Clomp & Conrad Wondolowski.*

**3d. Rewarding Yourself:** Whether it’s Homeland Security ribbon (10 missions), Orientation Flights ribbon (50 cadets), or documenting for technician/senior/master ratings, learn to use the WMIRS report function for mission participation. Its located under the ‘Support’ menu, the same page where crew chiefs download the monthly electronic aircraft logs. Then sort for your needs, add a CAPF 2a, ‘Request for and Approval of Personal Actions,’ and send to your commander. The easier you make their job, the faster you’ll see results. It’s not an automated function, so you need to research and submit. Especially with Orientation Flights, each ‘cadet-seat’ counts. I.e., If you fly two cadets to an outlying airport, swap seats and return, that’s 4 rides total. Annotate it on your downloaded Excel Spreadsheet. CAP Regulation on awards is CAPR 39-3, dated 2 Mar 18.



**3e. Aircraft Survival Kits;** Many kits have already been rebuilt with fresh batteries and MRE’s. They are being distributed as aircraft cycle through maintenance at KSUT, or as opportunities arise. The new pelican cases are smaller but deeper than the cardboard boxes. The kit weight is 10-pounds, a 2-pound increase. Some of those cardboard cases were pretty dilapidated.

**3f. NCWG Summer Encampment:** 15 → 21 Jun again at Stanley County ANG base, NC (KVUJ). Remember, this is an all NCWG aircraft event. The Air team lead, Robert Rimmer sent out an 8 May message. Included is the following link used to sign up your availability:

[https://docs.google.com/spreadsheets/d/1HQ5w2jS\\_U1MwyHbxi4XHNgM3m01qBv\\_JmPIUZaMUHVM/edit#gid=226497974](https://docs.google.com/spreadsheets/d/1HQ5w2jS_U1MwyHbxi4XHNgM3m01qBv_JmPIUZaMUHVM/edit#gid=226497974).

**3g. MAR National Flight Academy:** 28 Jun → 7 Jul at Camden, SC (KCDN). NCWG has been tasked to send three C-172 aircraft. Currently N98426, N726CP and N99832 are selected with N908CP as an alternate. Thankfully this year, we'll have six days between NCWG Summer Encampment ending and MARNFA starting.

**3h. 'Well, Poop:'** Actually, not well; not well at all...bird droppings etch into the paint, especially that chrome spinner. Please clean it off promptly when you see it. It's not the next aircrews' nor crew chief's job; **its all of our responsibility.** Locations continuously plagued by birds, should consider an owl propeller blade cover.



**4a. "Dip-Stick of the Month:"** NC-019 at Ashville is this month's winner for hosting Mountain Fury. Crew Chief, Lt Col Ray Davis, shown at left holding the recognition. N726CP, N98426, N99832's dip-stick have also been forwarded to their units for item 3h above. Installation isn't hard; just put a bit of painter's tape along the fuel stick, and slide the personalized holder over the top.



**4b. Maintenance Tidbits:** 'Carbon in the Values' is a real issue. It causes pushrods to stick and sometimes break. That often results in a cascade of problems. Part of every 100 hour/annual inspections is the compression check. It's not just enough to 'make the numbers.' It involves listening. If a valve is sticking, one can hear, or even feel it. It isn't much more labor to service (disassemble, ream, clean and re-assemble a valve guide. We don't know the cause, just that it's a problem.

**4c. Good Photos help push the issue.**

Below are the N4813C photos NC-171 (KFAY) sent which helped us get immediate approval to fund the fuel tank repair. The repair grounded the airplane for only two weeks, and was done at home station.



**5. Assignment America:** For nearly two years, I've been bragging about the quality of NCWG's aircraft fleet. More and more, I hear from others stating what a difference they found in other CAP wings. From old style paint jobs, to inoperative equipment, to poorly maintained interiors, they've noticed how NCWG takes better care of our fleet. So as not to point a finger in other Wing's eyes (maybe a little) let us know your discoveries as you travel to other states. Good stories too. We can always benchmark good activities and ideas....

**6.** Thanks for taking the time to read this. Riveting Reading can also be found on the NCWG Operations / Aircrew Maintenance Webpage. If you have questions, you can reach me at 703-732-3264.

*- Stryker -*

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