

“Riveting Reading”

Civil Air Patrol
North Carolina Wing
Aircraft Maintenance

Apr 2, '21. Vol #41

By Major Martin ‘Stryker’ Heller



CIVIL AIR PATROL AIRCRAFT INFORMATION FILE			
N 1750CP	CAP - CAPTIVE TYPE 102T HP 230		
FULL FUEL USEFUL LOAD 540 LBS	Oil <input type="checkbox"/> New/Oil <input type="checkbox"/> Used		
TIRE PRESSURES: NOSE 40 PSI	MAINS 32 PSI		
MAJOR INSPECTIONS DUE			
REQUIRED INSPECTIONS	DATE	BY	STATUS
ANNUAL INSPECTION	01/01/2021	2216.4	2214.2 01/01/2021
ANNUAL INSPECTION	01/01/2021	2174.2	NA 01/01/2021
ANNUAL INSPECTION	01/01/2021	2174.2	2214.2
ANNUAL INSPECTION	01/01/2021	1923.2	1923.2
PROPELLER INSPECTION	01/01/2021		01/01/2021
PROP CONTROLS INSPECTION	01/01/2021		01/01/2021
AVIATION TRANSMITTER	01/01/2021		01/01/2021
AVIATION TRANSMITTER	01/01/2021		01/01/2021
LABORATORY INSPECTION	01/01/2021		01/01/2021
LABORATORY INSPECTION	01/01/2021		01/01/2021
AVIATION TRANSMITTER	01/01/2021		01/01/2021
AVIATION TRANSMITTER	01/01/2021		01/01/2021
CHECK CO DETECTOR PRIOR TO EVERY FLIGHT			

“Where CAP ‘Hides’ Aircraft Maintenance Time Requirements”

← ← ← ←

Thanks to some aircrews **not looking at the AIF cover page**, ~560 crew chiefs got to do a document deep dive. **Please do your part by reviewing it.**

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

1. Motivational Quote: “Best time to plant a tree was 20 years ago. The second-best time is now.” – Chinese Proverb

1a. NCWG Director of Operations (NCWG/DO) Comments: *Without you realizing it, the fiscal year is half over. As they say at the port (while laughing) as the ship is sinking, "The time for action is now." Applications are now being accepted for Form 5s and 91s. Are your qualifications up to date? What is coming up on your aviation calendar and what do you need to complete? Remember, motivation is inspiring, but it is discipline that gets the job done. Life is tough enough already; please do not wait until the 26th of September. Your efforts will be appreciated. Lt Col Mathew Urbanek.*

1b. NCWG Director of Stan/Eval (NCWG/DOV) Comments: The wing has updated their supplement to CAPR 70-1. Crew Chiefs, please replace the 17 Mar 18 version in the front half of Tab 11 in the AIF. Behind this supplement is still MAR Sup 1 to CAPR 160-2. The changes are updates to reference numbers, hyperlinks, and the Form 52. A printable .pdf file is attached in the cover email. **(See Attachment 2)** *Major Dave Stange.*

1c. Mar Highlights: March’s weather wasn’t much better than February, but had more flyable days. **NCWG flew ~289 hours**; 111 hours more than February’s pitiful **178 hours**. We also complied with the National Commander’s mandate that all CAP aircraft and documents get reinspected by 28 March (see 1g.) And, we are sorry to announce that NHQ has retired **N9930E (Thor)** due to AD 2020-18-01 (wing strut attachment point cracks). Details in paragraph 2a.

1d. Top Hour Flying Squadron: **NC-019/KAVL, N99885** (37.8 hrs) & **N963CP** (22 hrs), **NC-048/KRDU, N726CP** (36.7 hrs), **NC-171/KFAY N4813C** (32.3 hrs). **N938CP/KLHZ, N99832 (multiple users) & N716CP/KJQF** all broke 22+ hours. With 7 aircraft in for maintenance and three hard broke, these squadrons really carried the month for NCWG.

1f. March’s NCWG Top Left Seat time pilots were: **Capt Jason Dan Moore/NC-143** (14.3 hrs), **Lt Col Michael Cassidy/NC-048** (12.7 hrs) and **Lt Wendy Peters/NC-048** (12.4 hrs). **The top ‘C’ Mission pilot was 1st Lt Greg Larson/NC-019** paying for/flying 5.0 hours.

1g. Mandatory Aircraft Inspection: Due to aircraft elsewhere in CAP not being fully maintained, the National Commander directed all aircraft, documents and AMRAD database be re-inspected by 28 March. **Lt Col James ‘Boss’ Brantley**, MAR/DOV got the honor of riding herd on MAR’s eight assigned Wings. NCWG does most of this monthly, as a matter of course and so we didn’t have to panic to meet the requirements. AIF binders are our common weak area. **When was the last time you looked at it?** A shout out to **Malone Rosemond** who made the extra effort to inspect the engineless, **N819CP** on the ramp at KBUY. I evaluated a few other aircraft passing through maintenance. All in all, we’re in really good shape; no surprise since we just came through the USAF compliance inspection. There were a few minor updates & corrections needed. **N908CP** and **N727CP’s** AIFs were in good shape, **N741CP & N819CP** had been updated for the previous major change, but not for this one until now. We still owe **N405CV**, see below.

2. Maintenance Month in Review: (Can we request a ‘do – over’?) **N819CP’s** engine is still out in Oklahoma (Since 4 Dec) awaiting a crankshaft replacement--NHQ is brokering a deal. **NC-082/KINT** got one of its two aircraft back as **N99832** was returned from loan. **N405CV’s** replacement fuel pump arrived on 23 March after being down for ~ 60

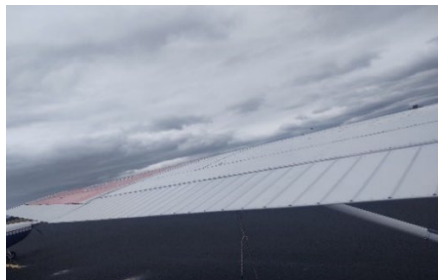
days. Because the motor inside the fuel pump was out of stock, NHQ came through finding the part; although their budget manager is still crying over the price they paid. So, if you're thinking of talking bad about NHQ, leave out the good guys and gal in the LG division. Wait, don't get excited yet, the new fuel pump didn't come from where the old fuel pump went for overhaul, and all the fittings are now in Oklahoma, or somewhere. **Lt Andrew Mabe-KINT** is working with Signature Aviation and NHQ on ordering the parts for fabrication. That isn't even the worst of this month: **N9930E** went in for annual maintenance, but didn't come out. **Thor has been retired (see below).**

In other news, remember that **only NHQ can authorize overnight shipping.** They will usually only authorize it when an aircrew is stuck out, and hotel rooms are needed, or a very compelling need (O-rides aren't compelling). When coordinating with your A&P on maintenance actions, be careful when telling the mechanic when you need the airplane back.

2a. Aircraft in Annuals: N908CP (Flo) a hold-over from February (see March RR for more work), **N908CP** waited on warmer temperatures so the ailerons, right flap, and cowling could be painted. Due to new paint, we have to delay the 2-year corrosion protection until its next servicing (oil change). The propeller was removed to get the crankshaft serial number due to a new AD. The shop re-tensioned aileron and elevator cables, and replaced right aileron rod end bearings so the plane should fly more responsively. They resealed the fore and aft windshields, replaced the battery, installed new brake linings and outboard bearings. Both tires were flipped due to wear & connected the auto pilot disconnect aural warning alarm. **FLO** was at KSUT over a month, waited on WX & and went home 24 Mar.



N908CP (FLO) had its' cowling, ailerons and a flap stripped and repainted during its recent 100-hour/annual inspection.



N727CP (formerly known as **Waldo**) was also a Feb hold-over awaiting the back-up artificial horizon. Then we got news the replacement non-airbag seatbelts were already shipped (instead of the 2-month delay). With a seatbelt changeout, there is a new W&B which gives 8# more useful load. The AIF updated and NCWG website were updated. A right brake caliper puck was replaced as the wheel was 'dragging'. The Rosen's were tightened, as they were 'falling', a tire was replaced as it was 'tired' and a new lower, right cowling mount was installed because it was 'needed.' **N727CP** also had its bi-annual corrosion protection. In related news, we approved **NC-171** requests to change the aircraft name to '**Scottie**' in memory of Fayetteville Aircraft Mechanic, '**Scottie Rogers**' who passed from Covid. **N727CP** went home on 11 March.



N437BA (Glider) started its annual in February and finished Mar 9th. It had its brake cables and springs replaced, along with fabric repair on the rudder and elevator. Additionally, three wood ribs in the elevator trim were replaced. For an aircraft without an engine, this annual was pretty pricey and the unique parts took six weeks to arrive. The glider flew cadets on 20 March 2021 →→

N741CP (Bleu): Airbag seatbelts failed the self-test and were also removed/replaced with standard shoulder belts. Yes, new W&B too; gaining another 8#'s of useful load. The NCWGCAP.org W&B webpage updated. The G1000 MARVAR was also updated. Too much play in the yoke made the pilot a worried boy; maintenance too. They discovered and tighten slack aileron cables. Also concerning was a broken pilot's seatback lock, causing the pilots to lean back while flying. The ultr-lock seatback cylinder was replaced. **Bleu** also received a new battery; the last one

replaced two years ago. Maintenance tightened lots of things, replaced the left brake caliper piston, stamped a 'B' on the prop governor (clearing AD), replaced rocker cover gaskets on all cylinders and nearly all Cessna flap chafe buttons (which you've probably never noticed). **N741CP** went home to KECG on Wed, 24 March.



N9930E (Thor): Signs of the times; with COVID restrictions that reduced AOB missions, O-rides and glider ops, **Thor** is the first NCWG aircraft in at least five years that needed an annual inspection at 12 months. **Thor** finally got caught up on three separate ADs; the Continental engine oil filter adapter, the Propeller Governor idler bearing, and the Cessna strut attachment point AD.

The first two were non-applicable, but we needed logbook entries and a 'B' stamp on the prop governor to show compliance. Unfortunately, the right, wing strut attachment point, which had previously been repaired, was cracked again. The repair is north of \$11K, and **Thor** only has 350 hours of time before engine overhaul. Compounding the issue is that CAP normally sells aircraft off at 6,000 hours. So NHQ decided to retire and sell off **N9930E** rather than fix her and keep until **8,000** hours as they did with **N99832 & N99885**. **N98426, N4813C & N7360C** have been refurbished; so, while each has more than 5,200 hours, we're hope CAP will let us keep though another engine. **N99832**, was our alternate tow plane but is now primary. A future tow plane replacement for **Thor** has not been yet been discussed. Members of **NC-023 & NC-170** conducted a retirement ceremony for **Thor's** 36 years of service.



New Rosen's in N716CP

N716CP (Caroline): Went to the KAVL on 15 Mar. Besides the right main tire being replaced; the right elevator tip had a missing interior spar rivet that caused cracking of the surface skin and loose surface rivets. This area has to be rebuilt, re-skinned and painted. It needed a Rosen (sun visor), which was mailed to the crew chief and installed. For the record, NHQ buys them in bulk; in case one (or two) are needed. The pax seat back reclining cable was re-attached so Mission Observers can again, straighten up and fly right. **N716CP** came back home to KJQF on 23 March.

N4813C (Frank): Arrived for its 100 hour/annual on 29 March. Already we know the Wing Strut attachment AD is not a factor 8*). Instrument lights and a host of other little problems already fixed. Currently waiting on main gear replacement rotors which have worn too thin. Expect Frank to go back to KFAY around 8 April.

2b. More Maintenance Actions: Oil changes included: N726CP, N963CP and N938CP. N938CP also had a vacuum pump changed out.

2c. AIF filler pages: With the 25 Aug 2020 version of CAP Standard 72-4, most of the Aeronautical Information File pages are shown within this document, but the printable versions are found under the new CAP Form 70-8.

https://www.gocivilairpatrol.com/media/cms/F_070008_F33084E77012B.pdf.

- Some of the NCWG specific information on our new Wing website at:
<https://ncwg.cap.gov/directorates/operations/aircraft-maintenance/aircrew-information-files-aif>
 - **Avoid using NCWG's old Paperlesswing website as that information is not being maintained.**
- Aircraft info is found in your aircraft's Pilot Operating Handbook
- The MAR Supplement to CAPR 160-2 is found at:
https://www.gocivilairpatrol.com/media/cms/R_1602__15_June_2020__Supplement_1__9839C8143FF94.pdf
- Weight and balance information is available in several locations; the AIF, the aircraft logbooks, perhaps the POH section six, and the NCWG.org website under Members/Operations/Stan-Eval/Weight and Balance.
 - Do all these locations match with the same weights and dates?

2d. Airbagless: Some (non-NCWG) pilots have been second guessing why NHQ made the decision to remove the airbag seatbelts from our fleet. It was a cost – benefit decision. These AMSAFE seatbelts have a high failure rate at inspection. The first few years, Cessna had to cover it under warrantee, but the later years, it became a CAP bill; and an expensive one at that... not only for the parts, but the installation costs, downtime and such. Not sure how many airbags actually made a difference in an accident, or if it was a marketing ploy to sell aircraft. But CAP is a safety conscience organization and one can be sure they looked hard at this decision while having discussions with the FSDOs and FAA. If you want to read the decision, go to: <https://www.gocivilairpatrol.com/members/cap-national-hq/logistics-mission-resources/aircraft-management/hot-news/cap-amsafe-stc-policy-and-procedures>. N179CP, N716CP, N727CP and N741CP have had their airbag seatbelts removed so far and replaced with regular seatbelts.

3. Aviation Maintenance Support Information:

3a. GPS database current cycle (2103) started Mar 25th. *Please* update both changed & next due dates in AMRAD.

3b. Dirty Bird List According to AMRAD: N716CP & N437BA, N262CP are overdue. N179CP, N405CV, N741CP, N908CP and N99832 are due in April. N819CP is due too for the record, but its going to sit still--still.

3c. CAP GRID Quiz: What grid is KLHZ located? a) CLT-011, b) DCA-423, c) LUK-447 d) all the above e) other

3d. Pilot Tip of the Month: (Courtesy of Lt James Green, NC-170) There is a **free Garmin VIRB app** for your phone or tablet. It may come in handy if you forget to charge the tablet stored in the pelican case.

3e. New NHQ/LG Quarterly AMO Teleconference: In efforts to be more efficient, NHQ has started conducting on-line meetings, the first was 16 March. They also put out the rebroadcast in case you want to spend 40 minutes hearing what's new, and another 1 hour, 9 minutes of questions and answers. Here are the cliff notes:

- 1) **AMRAD:** It's been out for 2 ½ years. If you're a crew chief, you need to know how to use it. While aircraft logbooks are still the official source of aircraft compliance, AMRAD is a tracking tool. NHQ knows AMOs and crew chiefs would like alerts of when oil changes, 100 hours, or TBOs are coming due. It was part of the original AMRAD requirements request. Unfortunately, LG is only one of the CAP functions and there are many IT requirements across the organization (Read: 'get in line'). Still, if you have inputs, send them along.
 - a. **AMRAD is the CAP's source of record for ordering parts and payments.** Once again, if your aircraft is going in for maintenance, there needs to be an AMRAD entry to allow NHQ to spend MX money. That's a crew chief responsibility; plus, it gives the crew chief direct input in describing the issue.
 - b. **Don't order parts too far in advance of maintenance actions:** Ordering parts ahead of time but not so far in advance that the part warrantee runs out before/shortly after installation. Also, manufacturers start looking for core returns based on when the items get shipped.
- 2) **CAPR 66-1 Update:** The updated regulation will sport new numbers: **CAPR 130-2 and CAPP 130-2**. The mandatory stuff will be in regulation. Technical information (i.e., paint colors, tie-down ropes) will be in the new CAP pamphlet. Tentative date for publication is July 2021.
 - **Oil Change Times:** The normally 50 hour, max 60 hour/6-month oil change is being reduced to 50-hour/4-month (not calendar month) period in accordance with manufacturers guidance. NCWG normally changes oil about 3-4 months anyway. Even with COVID it wouldn't add too many extra oil changes. I have concerns about the exactness of the 'at 50-hour' mark as this 'requirement' makes maintenance a higher priority than operations. **Looking for inputs to help address both NCWG and NHQ concerns.**

- 3) **KX-155 Com/Nav Radios:** Aircraft so equipped will be upgraded to GNC 255A and the CDI's upgraded to GI275s as long as the aircraft isn't too close to being retired. **Let me know if your aircraft is so equipped.** Also, Garmin no longer supports GX Series GPS units. NHQ will upgrade those, but NCWG already did.
- 4) **Closing out WMIRS Sorties:** Not only is getting the Hobbs and tach times right important, but also the ATD & ATA blocks as well. WMIRS software uses these entrees to validates times entered, to keep the Total Time Airframe TTAF correct. TTAF is the true 'odometer' of an aircraft's usage 'as tachometers come & go.'
- 5) **Glider Working Group:** There is a glider working group trying, among other things, to make WMIRS and AMRAD more adapted to glider needs.



4. CAP's 80th Anniversary (JA): As part of the celebration, members from CAP's former 28th Coastal Patrol Squadron reenacted a mission which helped CAP earn the Congressional Gold Medal. Officials at the Kings Bay Naval Submarine Base were not amused. As a reminder CAP Reg 70-1, para 9.4.3. prohibits dropping items from aircraft unless to save a life. Shown is a modified, BDU-33, substance delivery device which could hold 10 protein bars, or 15, 12" Slim Jim meat sticks for such an effort.

5. Thank you all for the support & for taking the time to read this. Riveting Reading is available on the 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. CAPR 70-1, NCWG Sup 1, 22 Mar 2021
 - 2. FAA Advisory Directive (AD) Tracking
 - 3. NCWG Semi-Annual Top (12) Pilot/Aircrew Hours

NCWG Riveting Reading – Apr 2021 – Vol #1
Attachment 1



NORTH CAROLINA WING SUPPLEMENT 1
CAP REGULATION 70-1
22 MARCH 2021
APPROVED/ J. DESMARAIS/CAP/DO
Operations
CAP FLIGHT MANAGEMENT

CAP Regulation 70-1 dated 31 Mar 2020 is supplemented as follows:

This supplement prescribes the additional responsibilities of all North Carolina Wing Civil Air Patrol (CAP) personnel as applicable to the control and management of CAP flying programs, aircraft and aircrews. Federal Aviation Administration (FAA) requirements are minimum standards; however, in some instances CAP has established higher standards than FAA minimums. The practices, procedures and standards prescribed in this supplement are mandatory. The North Carolina Wing Commander (NCWG/CC) is the waiver authority to any additional requirements covered by this supplement beyond the parent regulation CAPR 70-1, 31 Mar 2020 including ICL 20-08, dated 1 October 2020.

Flying CAP aircraft is a privilege, not a right of membership. All members have the responsibility for flying safety and compliance with this regulation.

4. The NCWG/CC has established the designee for appointments under CAPR 70-1, 31 Mar 2020 Section 4.3 and 4.4 as either the NCWG/DO or the NCWG/DOV.

5.1.1.4 Added. GA-8 and Cessna 206 initial qualification candidates require a current Instrument Rating, hold a CAP Mission Pilot qualification, and require NCWG/CC, NCWG/DO, or NCWG/DOV approval.

9.1.6 Added. Due to various aircraft types, various fuel tank sizes, various useful loads and the need to be mission capable with a three-person aircrew, reference the North Carolina Wing website for the refueling requirements and the required pre-flight and post-flight procedures for NCWG aircraft. These procedures do not change the required fuel reserve specified in paragraph 9.11.2.4

<https://ncwg.cap.gov/directorates/operations/fueling-information>

9.1.7 Added. NCWG aircraft shall only be operated for the purpose of flight free of all winter weather accumulation such as frost, ice, snow, or slush.

9.3.4 Added. The [NCWGF52, Online Orientation Flight Aircraft Request](#) will be used to request aircraft movement for orientation flights. The NCWG Orientation Flight Coordinator will coordinate between pilots, aircraft and requestor.

9.11.2.5.1.8 Added. Aircrews will refer to the NCWG website for a list of current pre-approved state private airports. Please submit any additional private airport request to the NCWG/DO.

<https://ncwg.cap.gov/directorates/operations/ unauthorized-public-and-authorized-private-airports>

9.11.2.5.4 Added. NCWG assigned aircraft remaining overnight (RON) outside NCWG boundaries require advanced approval from the NCWG/DO. Notification without undue delay is required for any unplanned RON outside of NCWG.

Edward P. Angelovich, Colonel,
CAP Commander

**NCWG Riveting Reading – April 2021 – Vol #41
Attachment 2**

NCWG Fleet Compliance with recent Advisory Directives (ADs)

AD 2020-18-01: Cracks found in the lower area of the forward cabin doorpost bulkhead. This AD requires repetitively (every 36 months) inspecting the lower area of the forward cabin doorposts at the strut attach fitting for cracks and repairing any cracks. The NCWG aircraft affected are the C-172Ps; N99832, N99885, N98426, N4813C, and our lone C-182R; N9930E.

Status	Tail No	Year	CAP Aircraft Model	Tach Time to next mx (as of 20 Oct)	Based	Plan	Remarks
Open	N9930E	1985	C-182R	n/a	KRWI	Failed AD inspection	At KSUT now, being retired
Open	N4813C	1986	C-172P	n/a	KFAY	Evaluated at KSUT	Due again in Mar 2024
Open	N98426	1986	C-172P	25	KEWN	Next 100 hr @ KSUT	Est May 2021
Closed	N99832	1986	C-172P	n/a	KINT	Evaluated at KAVL	Due again in Feb 2024
Closed	N99885	1986	C-172P	n/a	KAVL	Evaluated at KAVL	Due again in Jan 2024

**NCWG Riveting Reading – April 2021 – Vol #41
Attachment 3**

**NCWG Pilot/Aircrew Hours Semi-annual Standings
(Oct 1, 2020→March 31, 2021)**

Pilot	Unit	A Mission	B Mission	C Mission	Total Left Seat Hours	Ranking Left Seat*	non- left seat hours*	Total Hours in Aircraft	Missing aircraft position assignment	Ranking Total Hours in Aircraft
Peters , Wendy J	NC- 048	59.9	10.5	0	70.4	1	15.1	85.5	Yes	1
Lee , Jong I	NC- 121	39.4	0	0	39.4	4	16	55.4	Yes	2
Coffee , James E	NC- 171	18.4	21.1	0	39.5	3	12.1	51.6	yes	3
Brown , Gregory J	NC- 145	39	0	4.3	43.3	2	7.2	50.5	yes	4
Shelley , Gary M	NC- 057	26.6	0	0	26.6	12	22.9	49.5	Yes	5
Courtney , Rheta L	NC- 019	13.7	18.1	2.1	33.9	8	15.4	49.3	yes	6
Rosemond , J. Malone	NC- 022	31	4.2	0	35.2	7	12.4	47.6	No	7
Smith , Ronald Anderson	NC- 305	37.4	0	0	37.4	5	5.9	43.3	Yes	8
Mouat , Brian J	NC- 160	27.4	0	4.5	31.9	10	10.9	42.8	No	9
Bennett , Michael T	NC- 145	36.8	0	0	36.8	6	3.9	40.7	No	10
Wilbanks , Ronald T	NC- 121	31.3	0	0	31.3	11	3.8	35.1	No	11
Gutierrez , Cody D	NC- 145	32.1	0	1.5	33.6	9	0	33.6	No	12

* Incomplete aircraft assignment skewing the total left seat numbers. In other years, it made a big difference as we had many pilots in Mission Observer, Mission Scanner, Aerial Photographer, trainer, or even passenger roles. Most of these FY21 total hours seem to still be all left seat.