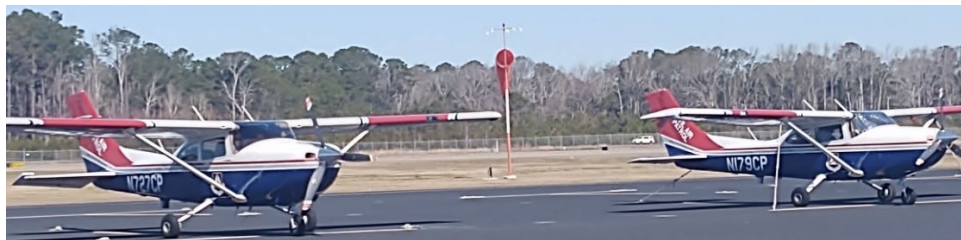


“Riveting Reading”

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

Mar 1, '21. Vol #40

By Major Martin ‘Stryker’ Heller



N727CP & N179CP on the ramp at KSUT

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

1. Motivational Quote: “The Best Way to Get Started Is to Quit Talking and Begin Doing.” – Walt Disney

1a. NCWG Director of Operations (NCWG/DO) Comments: The flight plan remains open for all of you who have not been able, for whatever reason, to renew & complete your 70-5. Please make friends with a check pilot today, and save all of us the grief of last-minute preparations. The Reality Calendar shows less than seven (7) months left in the fiscal year. It has to stop raining sometime....

1b. Feb Highlights: NCWG barely flew due to the new, Global Raining pandemic. For a while it looked like the NCWG Glider would be tied for the most hours flown this month but then it went in for its annual. Despite valent efforts by some squadrons during the last week of the month, we couldn’t overcome three weeks of downtime and at least three aircraft down for maintenance. **N819CP’s** engine is still out in Oklahoma awaiting a crankshaft replacement decision. **NC-082/KINT** was without both aircraft since **N99832** was lent out, and **N405CV** was still awaiting a fuel pump rebuild. **NCWG flew 178 hours;** 142 hours less than January’s uneventful 320 hours. After this ‘wonderful’ news, the last thing you probably want to learn is that it may be time to wash your airplane again (but the “Dirty Bird” list is in para 3g).

1c. Top Hour Flying Squadron: **NC-145/KLHZ N938CP** (27.5 hours). No other aircraft reached 20 hours. Next highest was **NC-160/KEWN N98426** with 16.2 hours.

1d. February’s NCWG Top Left Seat time pilots were: **Capt Gary Shelley/NC-057 (8.7 hrs), Capt Brain Mouat/NC-160 (8.5 hrs), Capt Michael Bennett/NC-145 (8.1 hrs) and Col Larry Ragland/NC-001 (7.8 hrs).** **Accolades go to Colonel Jason Bailey,** while no longer on the NCWG books, has flown ~20 hours in N262CP in Jan/Feb & last week earned his **instrument rating last week.** Hopefully the other three (non-flying) NCWG based, full-bird CAP Colonels, can find time to spread their wings and enjoy aviating this Spring. **The top ‘C’ Mission pilot was SMSgt Armando Carrion/NC-162 (KSVH) flying 2.3 hours.** **Of Doubly Special note: C/Lt Col Cody Matthews NC-082 (KINT), was not only NCWG’s 2020 CADET NCO of the year, but he also earned his private pilot’s license on 8 Feb.**

2. Maintenance Month in Review:

2a. Aircraft in Annuals: N99832 (Spartacus): First the good news, no wing spar cracks. More good news; the stall horn fixed (new reed) and the compass replaced. Also, the pilot seatback was re-supported & the loose dip-stick holder was tightened (these are actually two separate items). However, the bouncing fuel gauges will continue to rock since it is pretty pricey to fix. Both tires and left brake caliber seal replaced, primer nozzles cleaned, instrument air filter replaced and repaired the bottom cowlings nose strut mount. Three rocker cover gaskets replaced (#1, #2 & #4) {note the irony}. Unfortunately, the #1 cylinder had a hissy fit. Namely, the exhaust valve was leaking as mechanics heard air getting during the compression check. Maintenance pulled the cylinder and discovered the exhaust valve head was cracked. They had another valve and valve guide on hand, saving at least a week of downtime and probably \$1K if they had to replace the cylinder. On Feb 10th, Asheville crew chiefs flew her out to calibrate the new compass because they didn’t like the direction she was heading. Actually, there weren’t many corrections needed & returned to service that day.

N908CP: Flo needed her cowlings, ailerons and one flap stripped & repainted as the paint was peeling off in sheets. The interior showed water damage so the windscreen was resealed. Both the GPS internal battery and engine battery were replaced. The autopilot disconnect horn was reconnected, screws and washers replaced several camlocs since they

wallowed out their holes. One already “deplaned”, and three more were about to let loose. She had her biannual IFR certification, but we held off on her biannual corrosion protection as we just did some painting. Both shoulder seatbelt guides were broken and replaced. Take care when moving the seats forward as those are pricey pieces of plastic. **N908CP** goes home soon.

727CP: Having just spent much of January in the shop, there were no squawks; just lube, oil, filter, Corrosion protection, its rear window resealed and the rest of the 100-hour requirements. Then the surprises came: It needed a new fire extinguisher; a standby attitude indicator and the front airbag seatbelts failed the test. CAP has already decided to pull airbag seatbelts out due to nightmare maintenance costs. They’ll be placarded until replaced. Still best not to crash. **N727CP** should go home next weekend.

N437BA (Glider) started its annual in February. News to follow: →→

2b. More Maintenance Actions: (Repeat) **N9930E** is still awaiting confirmation on its oil filter adapters for Continental engines. The older Cessna strut **attachment point AD is still active.** (see atch 2) **Thor** gets its annual in March. **N963CP (Gumpy)** has a nose strut seal leak during their 20+ degree weather collapsing the nose wheel actuator & fixed at home station. **N7360C (Lola)** loose alternator belt was re-tightened. Glad we didn’t need a new alternator belt as replacing it requires removing the propeller. **Oil changes included: N726CP and N963CP.**

2c. Not your Airplane; not your SD card slot: Garmin & NHQ want to remind you that use of an unapproved wireless device inserted into the SD card slot of your Garmin navigator may induce a malfunction, may cause damage to the unit, will void the Garmin warranty, and may nullify the airworthiness approval of the installation. **Thus: Do not insert an unapproved wireless device (or anything else; forks, quarters, earrings, etc...) into the SD card slot of your Garmin avionics system.** The only wireless device currently certified or approved for use in a compatible Garmin avionics system SD card slot is the Garmin Flight Stream 510. This is a partial rebroadcast of: [Service Advisory 2111 Rev B: 3rd Party Wireless SD Cards](#)



2d. Know how to turn off an ELT via the Remote Switch: If an ELT is inadvertently activated by a curious cadet/pax pressing buttons, a hard landing, or a strong wind gust, there are several ways to turn it off. The easiest is to read and follow the instructions on the remote switch. An alternative is to remove the rear baggage area wall and turn off the switch or remove the batteries. Remember to follow your shut down checklist list which has the pilot check for ELT activation. With CAP being the professionals in the ELT search business, we don’t want to be the culprits as well. →→

2e. Rich of Peak: That’s how Textron/Cessna/CAP demands their aircraft be flown. Something about the fuel injectors aren’t calibrated for ‘LOP.’ Do what you want in your own airplane, but with Uncle Sam’s, it 50 degrees Rich of Peak.

2f. Cold Weather Ops: Attached in the email are three cold weather operations guidance letters from Lycoming and such. We still have cold weather upon us, and starting the engine with 20-degree temperatures can greatly shorten its longevity. An USAF aeroclub manager has a great philosophy of ‘if you need gloves’ your engine needs pre-heat. Granted some locations have easier access to engine pre-heat than others. Even a portable generator and a hair-drying or two can raise the temperature quite a bit in a half hour. Just because the engine turns over, doesn’t mean damage wasn’t done. Read more in the three attachments.

3. Aviation Maintenance Support Information:

→**3a. GPS database current cycle (2102) started Feb 25th.** *Please* update both changed & next due dates in AMRAD. ←

3b. Page changes to GFC 700, G1000 aircraft: I'm mailing official page changes for **N179CP, N262CP, N405CV, N726CP, N727CP, N938CP and N963CP**. Crew Chiefs, please update your aircraft's POH; there are about 36 pages to change out. Also, I'll be forwarding new plastic binders for **N99832, N99885 and N9930E** as those are in need of replacement.

3c. VORs are still the backup to GPS: As much as we rely on spaced based navigation, and while extremely redundant, it can be jammed. The FAA is drawing down to a Minimum Operating Network (MON) of VORs. Be sure to practice flying VORs & ILS approaches without GPS. A first start is learning how to do the dual VOR check. More MON details at: https://www.ifr-magazine.com/avionics/backing-up-gps/?MailingID=IF-62&st=email&sc=WU20210203-Sub&utm_source=ActiveCampaign&utm_medium=email&utm_content=Backing+Up+GPS&utm_campaign=WU20210203-Sub

3d. Acrophobia – Why some pilots Have a Fear of Heights: If interested, read Rod Machado's blog on the subject at: <https://rodmachado.com/blogs/learning-to-fly/it-s-a-long-way-down-isn-t-it?aff=173>

3e. Cool Website for abandoned and little-known airfields: Ever wonder why some streets have airport names? Maybe it once was an airfield. Visit <http://www.airfields-freeman.com/> for information on abandoned airfields & their unusual histories. FYI: William Piper pushed for an airport every 15 miles...back in the Piper Cub days.

3f. Clean Machine: NHQ request we re-broadcast COVID-19 cleaning protocols. (See attachment 1)

3g. Dirty Bird List According to AMRAD: **N4813C, N716CP & N437BA are overdue.** **N262CP is due in March.** **N179CP, N405CV, N741CP, N819CP, N908CP, N9930E, and N99832 are due in April.**

4. 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

2 Attachments

1. Textron Guidance on Aircraft Disinfection
2. FAA Advisory Directive (AD) Tracking

NCWG Riveting Reading – Mar 1, 2021 – Vol #40
Attachment 1
Textron Guidance on COVID19 Disinfection of Cessna Aircraft
(as passed on by NHQ/LG) <https://txtav.com/lp/navigating-covid19>

Disinfecting your aircraft:

Zip-Chem Calla 1452 and Netbiokem DSAM, Zep Aviation RTU (#H025), Bacoban for Aerospace, and Bioesque Botanical Disinfectant Solution may be used to disinfect an aircraft interior.

If you're unable to attain these disinfectants due to shortages *{or the fact they come in large, highly priced, quantities (ed note)}*, we recommend these alternative cleaning options (Please note, cleaning may remove germs, viruses and other contaminants from surfaces, but may not be effective to kill them):

- Aircraft furnishings: We recommend using isopropyl alcohol (IPA)/water mix (60% IPA/40% water, by volume). For best results, wipe the surface with an IPA/water mix and let it dry. This mix can also be sprayed onto soft surfaces, like carpet, but do not use this IPA/water mix on aircraft leather and windows.
- Leather and windows: Any commercially available soap and water, such as dishwashing soap, can be used.
- Electronic displays: For glass products with anti-reflective (AR) coating, use a concentration of greater than 50% Isopropyl Alcohol (IPA) with a micro-fiber cloth to prevent scratches. Do not use bleach or Lysol® wipes, or any cleaners with Citric Acid or Sodium Bicarbonate as these can etch the coating on these displays. AR glass is used on displays and touchscreens in the Garmin G1000, G3000, and G5000 systems, as well as Collins Proline21 and Proline Fusion. Do not use IPA on acrylic, Lexan, or Polycarbonate screens such as the Garmin GNS 430/530.

The following options are not approved for use in Textron Aviation aircraft:

- Ozone generators: Ozone can be highly reactive to organic materials. Depending on its degree of ozonation, this method may degrade surfaces or rubber hoses.
- Hydrogen Peroxide: any solution of hydrogen peroxide may evaporate when used as a mist, degrading leathers, acrylic, or polycarbonate window coatings.
- UV light: UV light causes the leather coating to fade out, furniture coating to crack and furniture stains to deteriorate.

NCWG Riveting Reading – Mar 1, 2021 – Vol #40

Attachment 2

NCWG Fleet Compliance with recent Advisory Directives (ADs)

AD 2020-19-06, effective Nov. 3, Affects propellor governors’ idler gear bearing. Complete within 50 hours or next oil change or 100-hour, whichever comes first.

Status	Tail #	CAP Acft Model	Based	Plan	Remarks (Prop Governor)
cleared ^{1,2}	N741CP	C-182T	KECG	Need logbook & prop gov stamped at 100HR	Rebuilt: HH Triad 8 Mar 16 under WO 21396 (B4 service bulletin)
cleared	N819CP	C-182T	KSVH	H&H rebuilt prop & Governor - 16 Nov 20	Situation snowballed; engine getting new crankshaft.
cleared ^{1,2}	N9930E	C-182R	KIXA	Need logbook & prop gov stamped at 100HR/annual	Rebuilt: HH Triad 8/14/2020 Under WO # 24185

¹ Prop Governor rebuilt by H & H Triad who doesn’t use affected bearings. (Have H&H Triad letter).

² Still need logbook entry to close out the discrepancy by acknowledging that AD 2020-19-6 is N/A

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	40	KIXA	Next annual @ KLHZ	Est Mar 2021
Open	N4813C	1986	C-172P	86	KFAY	Next 100 hr @ KSUT	Est Mar 2021
Open	N98426	1986	C-172P	70	KEWN	Next 100 hr @ KSUT	Est Apr 2021
Closed	N99832	1986	C-172P	38	KINT	Next 100 hr @ TBD	Due again in Feb 2024
Closed	N99885	1986	C-172P	70	KAVL	Evaluated at KAVL	Due again in Jan 2024

New Potential AD: After-market Oil Filter Mounts for Continental Engines in place of a brass screen. (Both F&M Enterprises and Stratus manufactured versions). NHQ mandated review and grounding if affected.

Status	Tail No	Year	CAP Aircraft Model	On-Line Record Review	Based	Plan	Remarks
Open	N9930E	1985	C-182R	Not shown	KIXA	Engine and STC logbook didn’t show	Probably not-applicable; will evaluate at next oil change.
Closed	N7360C	1977	C-206-U	Not Shown	KLHZ	Physically evaluated when changing oil	Non-applicable