

“Riveting Reading”

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

Dec '21. Vol #49

By Lt Col Martin ‘Stryker’ Heller



*Decals will be added as aircraft
pass through maintenance.*

‘No Step – Use Ladder’ stickers are being added to the NCWG fleet of aircraft. NCWG pilots have been advised several times, and the official restriction will be listed in the revised NCWG Supplement to new CAPR 130-2. Bottomline, if the skin behind the step breaks, plane will be grounded for a long and expensive repair.

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

1. Motivational Quote: *“When everything seems to be going against you, remember that aircraft take off against the wind, not with it.” - Henry Ford.*

1a. NCWG Director of Operations (NCWG/DO) Comments: “As most of you know, we in the aircrews are all ‘safety officers’ and have the responsibility to maintain the correct actions and environment for safety of flight. Starting on your next visit to the aircraft, let’s all try being ‘maintenance officers’ also. Several tasks might include a review of the AIF (the cover on the white binder) for status, inspecting the tires from the last flight, and ensuring engine temperatures are ‘in the green’ before run up. As Robin Williams used to say, could be fun...” Lt Col Urbanek 🦋

1b. NCWG Director of Stan/Eval (NCWG/DOV) Comments: In November we had two Continuous Training (CT) meetings dealing with Proficiency Flying which were attended by 45 pilots. We will continue these meetings in December. We all have weekly meetings and, in an effort, to accommodate that, the December meetings will be shifted to Thursday, December 9, and a repeat on Tuesday, December 14. The subject continues to be “Making the Most of Your Proficiency Flights”. If you already attended one of the November Meetings there is no need to attend these. Please watch for links to these Teams Meetings. Respectfully, Lt Col Arnie "Speedway" Andresen.

1c. Nov Highlights: NCWG got back in gear with an AOB mission the first week in Nov, AOB mission. **We flew ~420 hrs:** much better than October’s ~270 hours. **N7360C returned to service on Fri, 12 Nov and flew two days later.** **When N716CP completed its annual on 26 Nov, the NCWG fleet was completely FMC.** Note it’s the first time since at least the first week of May all aircraft were operational. Orientation Rides are set for 10,11 & 12 December to catch up on NCWG’s completion rate. More than numbers, it’s a motivator for cadets & USAF interest item. See the new (& improved) Orientation ride calendar at: <https://ncwg.cap.gov/directorates/operations/orientation-flights>

1d. Top Hour Flying Aircraft/Squadrons: Capt Dan Moore, NC-143, flew almost all 53.6 hours on N741CP. NC-048 (KRDU) put ~49.2 hours on N819CP. NC-023/KILM put a very respectable 37 hours on N908CP. N179CP & N99832 also crossed 30 hours in Nov.

1e. Top (Hours) Pilot for October: 1) Capt Dan Moore, NC-143, 50.8 hrs, 2) Capt Cliff Herring, NC-171, 18.3 hrs. **Top ‘C-mission’ pilot (self-funded):** C/2d Lt Jackson Cook, NC-019: 4.1 hrs. 2) Col Ed Angelovich, NC-001: 2.6 hrs.

2. Maintenance Month in Review:

2a. Aircraft in Annuals: N726CP: (Update) Betty’s 500-hour magneto inspections were due. Then the PFD failed on the way to maintenance. Next the airbag seatbelts failed their test, but repaired and not replaced. Then the Garmin PFD lower SD card failed and another was ordered and the obstacle database downloaded. The front windshield sealant and wing gap tape were deteriorated. Maintenance removed the old sealant & tape, resealed with AC251B2 and taped gaps. The avionics master switch was also replaced. N726CP was returned to KBUY on 11 Nov.

N405CV – ‘Loki’ Needed a new right main tire, its right fuel cap chain reconnected, & the right door lock looked at. Loki went home to **KINT** on 17 Nov. The seat track decal issue, originally silk-screened to the panel, isn’t readable, which we’ll figure a way to fix.

N716CP – Caroline’s Magnetos hit their 500-hour inspection (sent to Montana), the PFD was blacking out, (new avionics master) and the VOR 1 navigation radio having limited range. Additionally, a long-standing problem was that the VIPER radio/charger was tripping the circuit breaker. Turns out the VIPER power supply wire was chaffed and rubbed against the flap mechanism. Hard to find, but easy to fix. The shop was able to clear a sticky exhaust valve instead of having to send the cylinder off for repair. Saves a bunch of funding especially as a replacement engine was requested since **N716CP** is 100 hours from an engine TBO. **Caroline** went home to KJQF on 27 Nov.

N99832 – Spartacus needed new brake linings during its 100-hour inspection, and went home to **KSVH** on 19 Nov.

2b. Other Maintenance Issues: Oil changes included: **N908CP, N741CP, N963CP & N819CP**. **N741CP** also needed a wingtip strobe light replaced. **N908CP** received a new right tire and a rear navigation light bulb. **N938CP** needed its rear seats removed so additional Aero-Net modifications/repairs could be made. **N437BA:** The glider had some hardware issues and is getting its seat covered; repaired at home station (**KLHZ**).



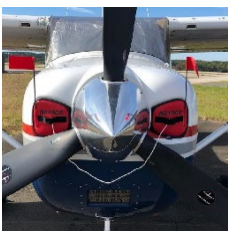
2c. Aircraft Wheels – the ‘U’ Fork: Ever notice that often the front nose wheel fork is all scratched up as depicted here? How do you think that happens...? Not too hard a challenge to realize that the tow-bars are being dropped after release. On occasion, maintenance will repaint them, but it only lasts a short while. Please use a little more care, or find a way to add a little padding to the end of your tow-bar. Speaking of tow-bars, it’s not illegal to paint them too.



Bent Cessna tow bolt

2d. You Seen Bolt? An observant pilot noted a bent towing bolt. Had it been reported earlier, we could have had the responsible party fix it. No disrespect to our manly men (& women) pilots, but this wasn’t done by hand. I’m betting this took the work of an 800 # golf cart, and a ~7 foot, leveraging towbar clamped around a 1900 # airplane. If pushed back too quickly, the airplane turns hard, and it’s easy to bend it like Beckman. The bolt is quick to replace; but the hidden damage to the bearings isn’t noticeable but there. See something; say something. Oh, did you also notice the scratched-up nose U- fork too? 🙏🙏🙏🙏

3. Aviation Maintenance Support Information:



3a. Are those new nose plugs you’re wearing? NCWG has purchased and distributed new cowling plugs for the entire fleet. The old cowling plugs were ripped, faded and not fully doing their job anymore. If your aircraft hasn’t gotten theirs, crew chiefs should contact Lt Col Chris Bailey to pick their nose cowl plugs up. If your old ones are in great shape, save them. And remember that the red flags go on the outside & the rope goes in front of the propeller.

3b. NCWG Aircraft Maintenance Supplement: **NCWG Supplement 1 to CAPR 130-2** is already deep in coordination and **will replace the NCWG Sup to CAPR 66-1** in Tab 12 of the AIF when published; (again) hopefully next month.

3c. Aircraft Logbooks new location(s): A shout out to **NC-171(KFAY), NC-019 (KAVL) NC-022 (KBUY), & NC-145 (KLHZ)** for complying with NHQ directive **to remove the logbooks from the aircraft** and my request to show in the AMRAD comments section, where the logbooks are kept. Others, take note when doing end of month updates.

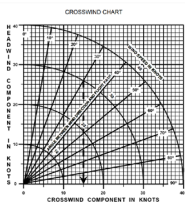
3d. GPS database current cycle (2112) starts 1 Dec. **But CAP had changed contracts from the Jeppesen Distribution Manager to the FlyGarmin system.** Some good news is that NHQ now

purchased; "Safe Taxi", "Obstacle" and "Terrain" databases. Below are NHQ's instructions. **Lt Col Ray Davis also published some helpful hints.... See atch 1.**

- Accessing the downloads is a simple process. Please go to: <https://fly.garmin.com/fly-garmin/>
- Log into the account and click on "Devices" in the upper blue area of the website.
- From here you can search for your aircraft.
- Once you locate your aircraft, select "ready to install" and the "Install updates". Here you can see all available downloads. All of the accounts were created by the CAP region. Here are the account names and PWs: CAP_MAR@CAP.GOV **ACsupport1776**

Aircraft with 'big data cards' for GTS units (N4813C & N99885) have received a new Garmin card reader. The Jeppesen card reader will not work. Finally, please update AMRAD when done so we can see who are having issues.

3e. NHQ is transitioning the Weight and Balance program from the Wing website to Foreflight. We sent in our data on 3 November. Capt Brian 'Bear' Mouat NC-160 is actually programming this in for NHQ. Standby for news.



3f. Maximum Crosswind Actual or Forecasted Component Limit is 15 knots (including gust factor): If you've been in WMIRS at all this past month, you've seen at least three messages saying so. It's also another new question on the FRO checklist. You find the crosswind component chart in the AIF and on NCWG operation/aircraft-maintenance/ AIF's web page: https://ncwg.cap.gov/media/cms/AIF_Content_Crosswind_Chart_3888F0372E119.pdf

3g. 'AIF Tab of the Month:' Tab #8 – List of Repeater Stations / VIPER Frequencies. Have you ever used a repeater? I say again (not). Do you know how to use one? Where they are located? or even their frequencies? Here is a hint: **Tab 8**. Often the repeater name is the location. To be honest, it's usually the incident commander, their operations and/or communication guys who will assign an aircraft crew the repeater frequency to use. And NCWG even has 4 mobile repeater units which an aircrew installs and orbits where directed. So which airplanes in the NCWG are repeater capable? Pat yourself on the back if you said, 'all of them.' But do you know how to install and use them in your airplane? Pat yourself on the back again if you can. If not, ask NC-019. They use their repeaters so often, they named their C-172/N99885, 'Echo.' (ISYN). Perhaps you'll want to borrow one from KAVL, KBUY, KLHZ or KSUT where the mobile repeaters are kept. Speaking of radios, half the NCWG fleet has VIPER radios for communicating to law enforcement, fire and rescue and other designated agencies. Tab 8 in those aircraft also has the frequency reference page for the VIPER channels. What's a Viper? It's that radio brick between the front two seats. Even if you never use the radio, **it's important to understand the '2 / 3 seat' transmit select switch, and the 'FM/800' Eaton switch on the instrument pedestal that control them.** →→

3h. PAR for the Course: For those unfamiliar, a Precision Approach Radar (PAR) is an older technology which an air traffic controller provides verbal course and glidepath information to the pilot. It is the military's go to war, instrument weather landing system and controllers need to train. It's basically the audio version of an instrument landing system (ILS). CAP pilots have been flying these approaches with both the US Army during the AOB missions at KMEB and sometimes with the USAF Air National Guard at KVUJ, Stanly County. Lt Col Jeffrey Farkas made a video to help explain this important training, which is found at: <https://youtu.be/iPsiMYMCMUo>.

3i. Clean Machines: Atta-boys (and girls) to **NC-121/ KJQF** for cleaning **N716CP** before the Warbird over Monroe airshow, **NC-160** for washing **N98426**, and **NC-145/KLHZ** for washing **N7360C** and **N938CP**. According to AMRAD, the dirty birds overdue for a wash include: **N437BA**, **N741CP**, **N819CP** and **N99832**. **N726CP** comes due this month. When updating AMRAD, include both the completed, and next due dates.



3j. NCWG Operations has positions open in the following areas:

- Wing Orientation Ride Coordinator (doesn't even need to be a pilot)
- Wing Aircraft Maintenance Officer (or assistant)
- Glider Operations Support (either as coordinators, tow pilots, or glider pilots). While the aircraft is based at KLHZ, it's a wing program, not just NC-145 responsibility.

4. Thank you all for the support & taking the time to read this Riveting Reading. All the Riveting Reading newsletters are available on the Wing website (NCWGCAP.org) under 'Members/Operations/Aircraft Maintenance.'
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- Stryker -

Martin Heller, Lt Col, CAP
NCWG Aircraft Maintenance Officer

Attachments

1. Helpful FlyGarmin Hints

Attachment 1

Garmin GPS Database Updating

To All NCWG Crew Chiefs,

As you all probably know by now, NHQ has contracted with Garmin vs Jeppesen for CAP GPS database updates. This brings with it a few challenges for those of us involved in keeping our aircraft databases updated and current. Therefore, here are several tips that may help you with this transition.

Note: With Garmin, the database updates can no longer be downloaded to your hard drive for offline upload to the Aircraft. You need to be online during the actual upload. If you have cell data you can do it in the plane. If not, you will need to remove the G1000 aircraft SD cards (after marking PFD and MFD) to get on line with your computer.

1. Go to the Garmin web site "flyGarmin.com" and become familiar with the new interface and how to step through the process.
2. You'll note that the sign-in is now Mid Atlantic Region which means all Region aircraft will be listed. You can set up the aircraft you are concerned with so that every time you sign in they will appear at the top of the list when you select "Install".
3. NHQ has included "Safe Taxi", "Obstacle" and "Terrain" databases so they need to be loaded on the bottom G1000 PFD and MFD SD cards.
4. When updating the Nav Database you have 2 options (depending on whether your planes G1000 has the Standby Database loading capability. If you do, then the Standby Nav database can be loaded onto a separate "SD card (32gb max)" and then loaded via the MFD top slot after taking out the Logging SD card. Don't forget to put the logging card back in the top slot when done. If the Nav Data update has the same date of update as the other databases, you can load all updates (at the same time) on the bottom PFD and MFD cards. **REMEMBER - The new Nav Database can't be active prior the change date for IFR flight.**
5. Once you have loaded the new databases, the first system power-up will give you a message that database validation is in progress and you or the 1st pilot needs to wait until the validation is complete before doing any GPS entries.
6. Possible issues during this Jeppesen to Garmin changeover.
 - a. There may be old files on the aircraft data cards. Depending on what your trying to load there might not be enough room on the SD card for the update, this will give you an error message "card full" or just "load error"
 - b. If the above happens, open the SD card file folder on your computer and look for the largest old file to delete. (Note: N963CP cards had a 620mb file that had a 2007 date - after deletion, no additional issues occurred. loading was successful.

c. If for some reason you get a date base mismatch error on the G1000 after loading the updates, there may be some older duplicate files on the PFS/MFD SD cards. If this occurs and you can't determine what the duplicate is, try going back and loading all database updates on both cards. That should clear up the mismatch issue

7. After the above is completed, don't forget to update AMRAD Aircraft maintenance data with the GPS update Date

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