

IL Pamphlet 130-2
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Illinois Squadron Aircraft Maintenance Officer

Illinois Wing Civil Air Patrol

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Illinois Squadron Aircraft Maintenance Officer

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Background

Historically the Illinois Wing has utilized the term “Person-Of-Contact” or “POC” as the person designated as the “caretaker” of the aircraft assigned to their unit. During those days the Wing Aircraft Maintenance Officer or AMO and Asst. Wing AMO coordinated the important maintenance responsibilities such as the 100-hr/annual inspections, the oil changes, ADs, and any additional maintenance requirements.

Recently, CAPNHQ has instituted two computer-based programs designed to track and monitor data on all CAP aircraft. One system is referred to as “ORMS” or Operational Resource Management System. Here one can search any specific aircraft and review a list of equipment assigned to each aircraft. This is just one small area of ORMS but one that could be of interest to pilots. This section is “Read Only” and cannot be edited by AMOs. The second system is the “AMRAD” or Aircraft Maintenance Repair and Documentation program. This system contains 31 different categories which require some 98 cells of data to be maintained. Multiply 98 times 9 or more aircraft in the Illinois Wing and you can start to see how that could overwhelm the responsibilities of, what historically, has been done by just two people in the Illinois Wing.

During a recent investigation of the aircraft and maintenance documents by the United States Air Force and the GLR, some discrepancies were noted. In an effort to address these discrepancies the IL Wing CC and the IL Wing DO have organized a working committee specifically directed to improve the current system. This effort will make the organization of our aircraft a more efficient and safer operation while delivering timely and accurate data to CAPNHQ and the USAF.

One initial step in this re-organization process has been to convert the term POC to Aircraft Maintenance Officer (AMO). There are two levels of AMO, the Wing AMO and the Squadron AMO. In the case where a Group Officer is the caretaker of an aircraft, his/her duties and responsibilities will remain the same as the Squadron AMO. The main difference between these two titles is that the Squadron AMO cannot clear any discrepancies, authorize any maintenance, any amount of money towards required maintenance, or decide when any type of overhaul is to be accomplished. These are the duties of the Wing AMO. One Squadron AMO will be assigned to each aircraft and they will be responsible for updating AMRAD and our new Illinois Wing Aircraft Maintenance Summary.

This re-organization is not the sole responsibility of just the AMOs. Everyone involved in C.A.P. - Illinois aviation will be participating in order to eliminate all discrepancies that existed in the past. The Wing Commander, DO, DOV, Group and Squadron Commanders, FROs, AMOs and pilots will play an active role. All persons mentioned above will have access to view both the AMRAD. This resource should be routinely monitored to determine the operational status of each aircraft in our wing.



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This working committee has produced the Illinois Pamphlet 130-2 which now specifically outlines the duties and responsibilities of the Illinois Squadron Aircraft Maintenance Officers.

In addition to this Pamphlet all Squadron AMOs will need to read and understand CAPR 66-1. Members who were known as a "POC" are now referred to as Squadron AMOs. Each aircraft will have one Squadron AMO assigned who will have the responsibility of updating the AMRAD for their specific aircraft. The AMRAD for that aircraft will be reviewed/updated at the end of each month. The AMRAD will also be updated immediately following any logbook entry in which maintenance action was accomplished on that aircraft. You can navigate directly to AMRAD using the following URL:

<https://tinyurl.com/r9k8txcd>

You will need to sign into eServices to access AMRAD via this URL.

We thank you all for your continued service and dedication to the C.A.P. and the Illinois wing.



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1. Some Duties & Responsibilities of the Wing AMO are:

Only the **Wing** Aircraft Maintenance Officers can perform the following actions:

- Clear “open” discrepancies.
- Authorize up to \$500. for maintenance. NHQ must approve amounts over \$500.
- Decide when an engine needs to be overhauled as/per MFG recommendations, CAPR 66-1, and CAPNHQ.
- **NOTE:** Only CAPNHQ has the authority to extend a 100-hr inspection.
(See CAPR 66-1 (9) “Engine Management Program” ¶9.).

2. Duties and Responsibilities of the Squadron AMO are:

- 2.1 Read and Understand CAPR 66-1.
- 2.2 Complete the annual open-book quiz on CAPR 66-1
- 2.3 Review the AMRAD training located in the eServices .. LMS .. AXIS.
- 2.4 Complete the monthly CAPF 71. Scan it and send it to Capt. Orlin – sorlin@ilwg.cap.gov
- 2.5 Ensure G1000 equipped aircraft has a tracking SD card in the upper slot of the MFD.
- 2.6 Scan and send the monthly Flight Logs to 1st Lt. Taets – rctaets@comcast.net
- 2.7 Ensure that all items in the AIF are up-to-date as per CAPS 72-4
- 2.8 Supply the aircraft with ample “Aircraft Flight Time Logs” in the AIF.
- 2.9 Ensure 2 hours tach time are held in reserve prior to the 100-hr/annual inspection to allow for relocation of the aircraft to the maintenance facility.
- 2.10 Ensure an ample supply of oil (2 Qts.) is available in the aircraft cargo compartment.
- 2.11 Ensure the oil filter provided at the 100-hr/annual inspection is available and used at the next mid-cycle oil change.
- 2.12 Ensure the cargo netting is installed and covers the items in that area.
Alert the Wing AMO of all upcoming required inspections i.e.:

- | | |
|--|---|
| <ul style="list-style-type: none"> ✓ Annual ✓ 100-hr ✓ Mid Oil change | <ul style="list-style-type: none"> ✓ Engine Overhaul ✓ Pitot/Static & Transponder ✓ Federal & State Registration |
|--|---|

- 2.13 Ensure the VOR and Fire Extinguisher checks are recorded IAW CAPR 66-1.
- 2.14 Ensure the Fire Extinguisher is replaced as per. the attached tag.



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- 2.15 Ensure the Jeppesen database is current and the change date is updated in AMRAD.
- 2.16 Place all Oil Analysis' in the aircraft engine logbook.
- 2.17 Insure the CAP restrictive placards IAW CAPR 66-1 are installed and visible.
- 2.18 Ensure the external identification plate is IAW CAPR 66-1.
- 2.19 Routinely preview all open discrepancies on the aircraft you are assigned.
- 2.20 Ensure progress is being accomplished to repair open discrepancies.
- 2.21 Send copies of the logbook entries to the Wing AMO as soon as maintenance and/or inspections have been completed. This is needed to clear any discrepancies.
- 2.22 Review AMRAD monthly and update it following all inspections and oil changes.
- 2.23 Ensure that the discrepancy has been closed in AMRAD by the Wing AMO.
- 2.24 If a CAP aircraft is left at your station, **you** become the temporary Squadron AMO for that aircraft.
- 2.25 Standardize all codes to unlock all aircraft and all hangars to 0749.
- 2.26 Keep the aircraft logbooks in a secure location away from the airplane.
- 2.27 Ensure all aircraft have a legible magnetic compass deviation card.
- 2.28 Weigh the items located in the cargo section.
- 2.29 Update the "Loose Removable Equipment" list located in the back of the AIF.
- 2.30 Ensure that:
 - ✓ There are proper cleaning materials in the cargo section.
 - ✓ Replace any green Simple Green with the Blue colored Simple Green.
 - ✓ The aircraft has a Pitot cover, engine plugs and tie-down ropes and wheel chocks.
 - ✓ The aircraft has a survival kit, sleeping bags, and first aid kit that are not expired.
 - ✓ The plane has a correct size/capacity fuel measuring stick.
 - ✓ The NP and EP checklists are current.
 - ✓ The plane has a GATS fuel cup used for detecting water in the fuel.
 - ✓ Routinely inspect the appropriate oil level.
 - ✓ Routinely inspect cleanliness of the aircraft.
 - ✓ The most current W&B is located in the aircraft AFM or POH.
 - ✓ The Carbon Monoxide detector is labeled and current.
 - ✓ Comply with the aircraft washing schedule. (see ¶7.4.5 in CAPR 66-1).



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3. Weight and Balance

3.1 The following items from the most current W&B should match the information listed in the “Stats” sheet of the W&B Excel file listed in the Illinois Wing – “Operations” Page under the “Aircraft POH and Weight & Balance Info” section.

Or at: <https://tinyurl.com/rpkm4hun>

✦ Basic Empty Weight ✦ Empty Weight Moment ✦ Empty Weight CG

3.2 This Excel Workbook contains the W&B information for each aircraft in the IL Wing and is managed by Lt. Col. Baumgartner.

3.3 If the data does not match then send a copy of the most current W&B to Lt. Col. Baumgartner at gbaumgartner@ilwg.cap.gov . Anytime the weight changes by more than 1-lb. there must be a revision to the current W&B. The above information should also match the data displayed in the AMRAD. If there is a difference, update the AMRAD information to reflect the most current W&B information.

4. Logbooks

NOTE:

4.1 There should be a separate logbook for each major component of the airplane. These logbooks should be stored in a secure location. (not in the aircraft)
(Older aircraft may have multiple logbooks of each type.)

- Airframe Logbook
- Engine Logbook
- Avionics Logbook
- Propeller Logbook

4.2 In a perfect world one would find information located in the appropriate logbook. In practice one might find avionics information located in the Airframe logbook or any other combination. The important thing is to search ALL the logbooks when searching for specific information as you may find what you are looking for is located in another logbook. During a normal 100hr/annual inspection there are logbook entries that may be found in both the Airframe and Engine logbooks. Items like an oil change, which is an engine item but also is part of an airframe inspection.



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5. Aircraft Local Procedures

5.1 Since all CAP aircraft are CAP assets, there may be times when a pilot outside of your squadron might need access to the airplane located at your station. Therefore, the Squadron AMO should prepare some type of informational material that could be emailed to other CAP pilots outlining the following information:

- ✓ How to locate the aircraft at your station.
- ✓ How to locate the aircraft keys.
- ✓ How to operate the hangar door.
- ✓ Who to contact for assistance. i.e. FBO
- ✓ Who to contact for fuel.
- ✓ Contact information for the Squadron AMO and deputy.
- ✓ Are there any gate codes required to gain access?
- ✓ Does your station require an airport ID card and how can one get one?
- ✓ Any additional local procedures.

6. Maintenance 101 for Squadron AMOs

6.1 All magnetos must be inspected each 500 tach-hours.
New magnetos will be installed in conjunction with the engine overhaul date.
This would be 2,000-hrs tach time or 12 years, whichever comes first.
Extensions to these times can only be approved by CAPNHQ.
See Appendix #1 for propeller & propeller governor overhaul times.
See Appendix #2 for the Quick Reference Guide to limitations.
Specific inspection criteria for the following items can be found in CAPR 66-1:

- ✓ Corrosion control is accomplished biennially.
- ✓ Pitot/Static and Transponder inspections – every 24 months.
- ✓ 100-hr/Annual aircraft inspections
- ✓ Mid-oil changes (read the example closely)
- ✓ ELT battery inspections and replacement dates.
- ✓ Carbon Monoxide detectors



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7. Tach Time

7.1 If the tachometer has never been replaced then the Total Time on the Air Frame (TTAF) is the same as the tach time. Squadron AMOs must search the logbooks to determine if the tachometer has ever been replaced. If the new tachometer was set to the existing tach at the time of the failure then the TTAF is still the indicated tach time. If the new tachometer begins at "0" then add the current tach time to the tach time when it failed to arrive at the TTAF. CAPNHQ states that the formula for TTAF in AMRAD is: (MaxTach since last Annual – MinTach since last Annul) + TTAF at last Annual = Current TTAF.

IMPORTANT NOTE:

7.2 Any discrepancies that require maintenance **must** have an entry placed in WMIRS **prior** to maintenance being performed. This includes i.e.:

- ✓ Oil Changes
- ✓ 100-hr/Annual inspections
- ✓ Pitot/Static and Transponder inspections.
- ✓ Aircraft requires corrosion prevention.
- ✓ Aircraft requires updated carbon monoxide detector.

8. AMRAD Procedures

8.1 To update data, navigate to AMRAD. <https://tinyurl.com/r9k8txcd>

Note: This will require a login to eServices.

On the RH side of AMRAD under "ADMIN" click "Add/Edit Aircraft Maintenance Data". Enter the tail number. Begin to review all of the information currently displayed. When you find outdated information or you locate the section you desire to edit, just enter the correct date, TTAF, or tach hours. When done scroll to the bottom of the page and click on "Save Updates".

8.2 To check for discrepancies, under "Reports" click on "Aircraft Status". Enter the N-number then click on "Filter Report". Then click on "View Discrepancies".

8.3 To search for ALL discrepancies, under "Reports" click on "Discrepancy Search" or "Pilot Discrepancy Search". Enter the N-number then "Filter Report". Copy down any "WOCN #" for questionable items and report the work order/s in question to the Wing AMO.



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9. Attachment #1 .. Guide for overhauls

(Only CAPNHQ has the authority to extend a 100-hr inspection)

TBO:

- **Engines**
 - Lycoming = 2200 hours as long as requirements of Service Instruction 1009BE are met. Can fly past 12 years if A&P signs it off as airworthy.
 - Continental = 2000 hours. 12 years firm.
- **Propellers**
 - McCauley Fixed Pitch = 2000 hours or 72 calendar months (6 years), whichever occurs first.
 - McCauley Constant Speed = 2400 hours or 72 calendar months (6 years), whichever occurs first.
 - Hartzell Constant Speed (GA8) = 2,400 hours or 72 months (6 years), whichever occurs first.
 - Sensenich = 2000 hours .. there is no calendar date for the Sensenich
- **Governors** - 2000 hours or 60 calendar months (5 years)



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10. Attachment #2 .. AMRAD Quick Reference Guide to Limitations

(see CAPR 66-1 for specific instructions)

(Listed in alphabetic order)

10.1 100-hr/Annual Inspections:

Corporate aircraft shall not be operated unless within the preceding 12 calendar months in service it has received an annual inspection.

All aircraft are required to have a 100-hr inspection.

There are NO wing exemptions beyond the 100.0-hr or calendar time limit.

CAP policy is that all 100-hr inspections be signed off as an annual inspection.

Therefore all 100-hr/annual inspections reset the annual due date.

10.2 Corrosion Control:

Corrosion Control is due biennially, or at the 100 hr/annual inspection nearest to the actual due date (whether before or after).

10.3 ELT Battery:

The ELT battery replacement date can be found on the most recent 100-hr/annual Aircraft Logbook maintenance entry. This date is specific and cannot be extended to the end of the month. This system must be inspected within the preceding 12 months and is always accomplished at the 100-hr/annual inspection.

10.4 Engine Overhauls:

All Engines

Are to be overhauled at 2,000 hours or 12 years, whichever comes first. Any possible extension would be decided by CAPNHQ. Date should be from date placed in service. Overflight of overhaul intervals, either the hour or calendar limit is not allowed.

10.5 Magnetos:

All magnetos are required to be inspected every 500 tach hours.

New magnetos will be installed with the engine overhaul.

The Magneto OHM date in AMRAD should coincide with the engine OH date.

Note: AMRAD is only tracking the 500-hour inspections.



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10.6 Mid-Term Oil Change:

A mid-term oil change is required every 50 hours or every 6 calendar months.

NOTE: CAPR 66-1 currently counts the month in which the oil change occurs towards the 6-month rule even if the oil change occurs on the last day of the month. There is a window of 40 – 60 hours when this can be accomplished.

10.7 Pitot/Static/Xpndr:

Within the preceding 24 months these systems shall have been tested.

10.8 Propeller Overhauls:

Note: All OH dates should be from the date it was placed in service.

McCauley Fixed Pitch

Are to be overhauled at 2,000 hours or 72 calendar months (6 years), whichever comes first.

McCauley Constant Speed

Are to be overhauled at 2,400 hours or 72 calendar months (6 years), whichever comes first.

Hartzell (GA8) Constant Speed overhauled at 2,400 hours or 72 months.

All Propeller Governors

Are to be overhauled at 2,000 hours or 60 calendar months (5 years), whichever comes first.

Sensenich Fixed Pitch

Are to be overhauled at 2,000 hours and there is no calendar limit stipulation.

10.9 Registration:

In AMRAD, record the initial date registered and the next due date as listed on the most current Federal Registration form or the FAA Registry.

10.10 VOR Receiver:

Within the preceding 30 days this system shall receive an operational test check and found to be within limits.

10.11 Wash Aircraft:

Aircraft is washed at each 100-hr/annual inspection. Additionally, each aircraft shall be washed every 6 calendar months.