

Club Meetings

Board Of Trustees:
7:00 PM 6/6/19
Club House

General Meeting:
9:00 AM 6/15/19
CAP Building



Editorial Staff: Charles Burke,
Dave Pathe, Karen Barbagelata

Tom Rae Talks Maintenance and FAA Regulations: by Karen Barbagelata

At the May 18th Membership Meeting, Tom Rae of Ocean Aire (located at MJX) made a presentation on the maintenance of aircraft during the 100-hour inspections. This presentation included how the MAFC maintains their aircraft, and various FAA regulations regarding maintenance. This informative presentation and discussion lasted 2 hours and was highlighted by a show-and-tell of a variety of actual aircraft parts (some from MAFC aircraft!) he has found during inspections and annuals. There was too much information to cover in detail in this newsletter, so the complete notes will be included in the MAFC Meeting Minutes.

A 100-hour inspection, according to the FAA, is outlined in FAR 43, Appendix D. What's the difference between a 100-hour and an annual? There is none, except who can perform the work. A certified A&P mechanic can perform the work for a 100-hr inspection, but for an annual an AI must do the work and sign off. The checklist is the same for an annual or 100-hr inspection, and if you read it, you will note it gives the mechanic leeway. As an example, it states the mechanic is to "Remove or open all necessary access plates..." What makes it necessary? Usually that decision is investigated after an "event" which results in the FAA getting involved.

A plane used for flight instruction doesn't necessarily need 100-hour inspections. Training a family member, flying a plane with many hours post 100-hours that just had an annual, all are possible without a 100-hour inspection. All single and multi-engine aircraft are required to have an annual within the last calendar year or an inspection for the issuance of an air worthiness certification. 100-hour or annual inspections with a certificate of air-worthiness are needed for situations involving flight instruction for hire. MAFC does not fall in that category as we are all part-owners of the aircraft. Ownership, fractional or otherwise, changes the 100-hour requirement.

A question was asked: If we hired and paid an instructor who was not a member of the club, could that cause an issue? Answer: This is a violation of our club rules and could result in a FAA violation.

A 100-hour inspection is an annual inspection; it is an expensive procedure that is not mandated for the club. MAFC has a healthy maintenance program, more than is required by the FAA. Mandatory

recommendations warn of a need for immediate compliance; but they hold no weight because the FAA does not require compliance. "Mandatory" does carry weight in court, should there be an incident involving the aircraft and resulting in litigation.

What gets done in an annual inspection? Tom frequently hears stories of folks traveling far and wide to get a \$300 annual inspection. There is much leeway in the checklist on how much needs to be done on the airplane. Many repair stations, including Ocean Aire, have an FAA-approved inspection manual, which is tailored to the specific model aircraft. Items are added to the checklist if they're found to be high-failure items. Cessna aircraft have a few high corrosion areas which Ocean Aire insists on inspecting, including the 2 U-Bolts that hold the landing gear on the airplane. They could look great with a flashlight but less so under close inspection. The manufacturers checklists are very comprehensive these days. They contain, due to the aging fleet, corrosion control, with a view to examine high fatigue areas, high use areas, moving parts, all to stretch out the life of the aircraft for 50 years. 172s were not made or engineered to last 50 years; the idea at the time was that 172s were meant to be traded in like cars.

Interested? Do a You-tube search "Piper wing broke" and watch two gentlemen pre-flying a Piper with a six-inch sway. The wings are held on with a 5/16ths of an inch bolt. That bolt was fine; the steel plate had corroded and was moving freely.

Tom compared Appendix D of the FAR (2 pages) to an airplane checklist (16 pages) plus 9 pages of things that will appear on the annual at some point (at x hours or years). At Ocean Aire he starts with a preliminary inspection, a walk-around on the ramp,

Continued

Inside this issue:

Page 1

*Tom Rae Talk
Maintenance*

Page 2:

*Tom Rae Talk
Maintenance*

Page 3

*Tom Rae Talk
Maintenance
Test
Spotlight On
Red Dragon
Skip BFR*

Page 4

*Maintenance Report
Seen out Window*

Page 5

*Airport Signs
Siblings*

Page 6

*Cartoon
Takeoffs are Optional..*

looking for dents, broken lights, etc. This is similar to a preflight but is an excellent starting point. Then there's a ground run up pre-inspection. It's more than engine criteria, he look at lights, radios, flight controls, magnetic compass, etc.

Then, there's a pre-inspection. Ocean Aire does compression checks and drains the oil while still is hot, then checks things beyond the check list, to be more thorough. They look at certifications, registrations, transponders, avionics, service bulletins and the like, as these are required to be air-worthy. Having a registration isn't a requirement for air-worthiness, but it is a requirement for flight.

Next, there's the regular inspection checklist (4 pages). It covers most of the non-special items on the aircraft.

Then, there's a post inspection, making sure the plane meets Tom's satisfaction. Finally, there's a pre-delivery inspection. At Ocean Aire 100% of those pre-delivery inspections are done by Tom, after which he signs-off on the aircraft.

MAFC's maintenance program is comprehensive and more than adequate for your aircraft, ensuring a high safety level. Credit is given to Dan Coles who created this, and Dan notes he has a healthy fear of the FAA, necessitating a higher level of maintenance.

The Ocean Aire maintenance for MAFC also includes a 50-hour oil change with an engine run-up. The filters are cut and inspected. The spark plugs are removed, cleaned and inspected; they are a great indicator of how the engine is running. The oil suction screen is removed and inspected. Big pieces of metal in the oil suction screen are a sign of bigger issues. There is an engine compartment inspection, similar to a pre-cowl inspection. Tom goes in from the bottom on a crawler, looking for oil and issues. He will "touch and tighten", and if it's loose, he adds that to the list. Tom also looks at the landing gear, tires and tire pressure, brake linings, calipers, and brake fluid levels.

Every other oil change, according to MAFC procedures, is a 50 hour plus inspection. There is the same run up and oil change with a compression check. There's a timing check; there's little chance of an issue being found but timing changes can show bigger issues. There's then an extended pre-flight, lasting an hour or so. He opens access panels and look at rivets, checks for corrosion, and does a complete check of the lights. Tom's safety earmark is this: Would I be willing to put my kids in the backseat and take a flight? If the answer is no, the plane needs maintenance.



Tom showed the membership some of the corrosion and cracks found during a more detailed inspection of several aircrafts. He included the outboard rib of a P28 with extensive corrosion. It weakens the structure of the leading edge, and is indicative of water leaking under the tips. This probably would have eventually become a hole in the wing skin. Catching it early made it only a \$600 repair compared to a several thousand dollar repair for the leading-edge and skin.

Tom showed a part of the fuselage from a Cessna 172, showing granular corrosion which turned the material from steel to basically paper. This part was under the flaps and is not accessible for a visual inspection. Ocean Aire has been opening the access plate and using a boroscope to inspect these areas.

Tom showed a piece of the main landing gear where the aluminum corroded. It can now be punched through with a finger and showed as a blister.

Next he showed a spinner that, under visual inspection, looks fine. If you examine the bolt holes you will see cracks and failures (see picture). Tom showed an engine crank case crack found by an oil leak. One more ground run up was conducted and the crank case snapped.

Then Tom showed a piece from Bravo Gulf with a crack (see picture) found underneath the faring.

Finally, when he conducts compression checks and hears air leaking, it could be a valve problem. A yellow ring on the valve is

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indicative of a hot spot; the yellow is sulfur and nothing else will stick there. Left untreated, the valve can rip the head of the valve off, creating a virtual hand grenade. A \$200 repair would have become an engine replacement.

Tom ended his talk with this adage that we all know: There are many old pilots. There are many bold pilots. But there are very few old, bold pilots!

Test: If there is no altimeter setting available, what setting should be used for a local flight? See page for answer



Spotlight on Tommy Lu

My involvement with flying began when I enrolled in a aircraft technical school after I graduated from high school in Hong Kong. It was a two year course to train aircraft mechanic and the school was based on the FAA Airframe and Power Plant license syllabus.

One thing that help to inspire me to obtain my pilot’s certificate was around 2003 and 2004, there were two aviation programs broadcasted on Discovery Wings channel. One of the programs was about an Englishman who built a Europa kit plane in his garage. This inspired me think that I might able to build my own and then fly it. Another program involved following an American woman who was learning to fly and covered every stage involved in obtaining her private pilot license. That program inspired me to learn to fly in a real plane.

The first step towards fulfilling my goal was to take an instructional flight at N12. This led to flying a Beecraft BE-77 Skipper for few hours until I was invited to join MAFC in 2005 . At that point in time, I switched my training aircraft to C-152. Since that time all of my flights were done in the N12 area. So far I have logged between 110 hrs to 120 hrs and have also flown a Piper Warrior and C-172. Light can now be seen at the end of the tunnel and the day I will earn the Private Pilot license.



I was born in Hong Kong then moved to US with my family in 1983. In 1984, I started to study in CUNY College Of Staten Island in computer technology program. In 1990, I graduated from SUNY Binghamton with BS degree in electrical engineering.

During my college years, I enlisted in Marine Corps Reserve andl was deployed to Desert Shield and Desert Storm. As a result of these successful campaigns, my unit was awarded several medals and decorations. By the time I decided to leave the Corps, I was held the rank of Staff Sargent.

The Red Dragon

A few weeks ago, Dan Coles announced that John Tyzbir a native of Tinton Falls and a fellow pilot, had donated a preheater to the club. John was a former owner of a Piper Cherokee based at BLM who decided to relocate to Florida. As is usually the case, part of the relocation process involved getting rid of a lot of stuff that he no longer needed. Since he had sold his aircraft he decided to pass along his Red Dragon engine preheater to our club. A quick examination of the unit reveals that it looks like it just came out of the box brand new! We can't thank John enough for this thoughtful and generous action.



Heater instructions will be posted and members will need a sign-off to use it.

Skip Your Next BFR?



Are you aware of the fact that if you are involved with the WINGS program, you can get a free pass on your next BFR? Airmen who participate in the program, and satisfactorily complete a current phase of WINGS, will not have to complete the flight review requirements of 14 CFR part 61, § 61.56. Section 61.56(e) states that participating airmen do not need to accomplish the flight review requirements of part 61 if, since the beginning of the 24th calendar-month before the month in which that pilot acts as pilot-in-command (PIC), he or she has satisfactorily accomplished one or more phases of an FAA-sponsored pilot proficiency award program. Each time a pilot earns a new phase of WINGS, it satisfies the flight review requirement regardless of how frequently or closely spaced the phase or award.

For more information, go to www.faa.gov/wings/pub/learn_more.aspx.

Maintenance Report by Dan Coles**N66977-C152**

We are waiting for Dan Dean from Doylestown airport to give us a price to have a new interior installed.

**N67818 C152**

No maintenance work has been done on this aircraft since the last report.

N4287Q-C172-L

At the end of May, the pitot static, altimeter and transponder certification expired. The aircraft has been taken to Ocean Aire to have this and some radio issues addressed.

N93KK C172 M

The upper right cabin vent dislodged during flight. This aircraft is having the oil changed and a 50 hour service. The pilots push to talk switch was reported inoperative and is being addressed.

N268BG-PA28-181

Since returning from Ocean Aire where the annual inspection was done, we have not had to have any maintenance issues with this aircraft.

N55804-PA28-28

The aircraft has also been flying without any maintenance issues.

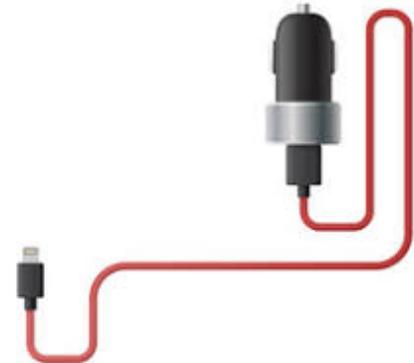
N61WT

This aircraft was taken to Ocean Aire to have the ignition switch AD complied with. We now have another 2,000 hours before this AD will be due. This is the next aircraft in our fleet to go to the maintenance shop for an annual inspection. The current annual inspection expires at the end of June. All of the maintenance reminders that pop up when dispatching the aircraft will be addressed then.

Cigar Lighter Caveat

Just a word of caution for those who may contemplate using the cigar lighter socket in our aircraft as a power source for your electronic hardware... while it looks like a duck, walks like a duck and sounds like a duck, it may not be a duck.

While the aircrafts schematics, that are found in the aircraft POH, will show that the voltage available in the lighter socket can run from 14V to 16v, the polarity may be reversed. What this means is that if you have a plug-in adapter, the + positive terminal and the - negative terminal may be reversed from that in a car. So, play it safe and check before plugging anything into that receptacle, you may just regret it.

**Seen Out of The Window** by Charles Burke

If you are new to flying, this short story may be yet another reason to support your decision to become a pilot. One big advantage of sitting in the right seat is that, especially in the Cessna aircraft with the high wing, you get a chance to see the world from a different perspective. But unlike the cluttered terrestrial world that those who are restricted to view, pilots enjoy a lot of wide open space. But that space is not a vacuum when it comes to objects that we sometimes see. In my short career as a pilot, there have been a few startling events that stuck me with awe.

A few years ago, while over the area where the Delaware River meets the Atlantic, I spotted a bunch of telephone poles in the water. But there was something odd going on in that they would vanish then come back into view. Upon closer examination it was a pod of whales.

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If you want something that was really a head turner, on a trip back from Pennsylvania, and passing along the northern edge of McGuire's ALERT Area, we were directed by ATC not to descend to a lower altitude. A glance out of the window explained why, a giant C 17 Globemaster was gliding directly beneath us.

On a recent trip back from KMIV (Millville), there was something noticed in the air to the west. We watched as an aircraft would shoot up vertically from the pine trees at a very high speed then suddenly start to tumble downwards. Before reaching the ground, it would go off in another direction performing loops and barrel rolls. Sure enough it was someone practicing aerobatic flying!

One fun event occurred while flying out to an airport near the tip of Long Island. We were flying through Newark Liberty's Class B under the direction of ATC when we realized they had us on a parallel course with a commercial airliner that was close enough that we could make out faces in the windows. That prompted waving at them and then about half start to wave back!

There are a lot more stories and you can find many on the internet. But the best one of all happened recently when I looked down and saw an American Eagle flying just below us. There was no question that this generated a double thumbs-up.

Airport Signs (Part #1) : Tom Flieger

AIRPORT SIGN AND MARKING – QUICK REFERENCE GUIDE

EXAMPLE	TYPE OF SIGN	PURPOSE	LOCATION/CONVENTION
	Mandatory: Hold position for taxiway/runway intersection.	Denotes entrance to runway from a taxiway.	Located <u>L side</u> of taxiway within 10 feet of hold position markings.
	Mandatory: Holding position for runway/runway intersection.	Denotes intersecting runway.	Located <u>L side</u> of rwy prior to intersection, & <u>R side</u> if rwy more than 150' wide, used as taxiway, or has "land & hold short" ops.
	Mandatory: Holding position for runway approach area.	Denotes area to be protected for aircraft approaching or departing a runway.	Located on taxiways crossing thru runway approach areas where an aircraft would enter an RSA or apch/ departure airspace.
	Mandatory: Holding position for ILS critical area/precision obstacle free zone.	Denotes entrance to area to be protected for an ILS signal or approach airspace.	Located on twys where the twys enter the NAVAID critical area or where aircraft on taxiway would violate ILS apch airspace (including POFZ).
	Mandatory: No entry.	Denotes aircraft entry is prohibited.	Located on paved areas that <u>aircraft</u> should not enter.
	Taxiway Location.	Identifies taxiway on which the aircraft is located.	Located along taxiway by itself, as part of an array of taxiway direction signs, or combined with a runway/ taxiway hold sign.
	Runway Location.	Identifies the runway on which the aircraft is located.	Normally located where the <u>proximity of two rwys</u> to one another could cause confusion.
	Runway Safety Area / OFZ and Runway Approach Area Boundary.	Identifies exit boundary for an RSA / OFZ or rwy approach.	Located on taxiways on <u>back side</u> of certain runway/ taxiway holding position signs or runway approach area signs.
	ILS Critical Area/POFZ Boundary.	Identifies ILS critical area exit boundary.	Located on taxiways on <u>back side</u> of ILS critical area signs.

Siblings! by Charles Burke

During the week of May 9, 2019, a video was shared with the club members that was also being aired on AOPA Live dealing with a memory booklet that I create when someone is taken up for their first ride in a small aircraft. A few days later, Felix Van Campenhout, from the Fort Worth Flying Club, reached out asking for more information on the booklet. After talking to him about the contents, a copy of one that had been made up for my brother was sent that had our Cessna 172L, N4287Q on the cover.



Within minutes, he shot a note back saying that his club flies an identical Cessna 172L but the paint job is a bit different. He then went one step further and found that the serial numbers were almost identical, This led to an even more startling discovery, the two aircraft were manufactured at the same time—they are sibling!

N4285Q SN 17260185 (FWFC)

N4286Q SN 17260186

N4287Q SN 17260187 (MAFC)

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Felix Van Campenhout from the Fort Worth Flying Club standing next to our N4287Q sister aircraft.

Out of curiosity, tail number N4288 was researched but that led to an Embraer ERJ-145 (twin-jet) severing the connection line.

But what about N4286Q? Unfortunately, it appears as if it reached the end of the line on October 1, 2015 at 16:00 near Catalina Airport (KAVX). According to the FAA records, the aircraft flipped on landing in a strong cross wind. Fortunately, there were no fatalities.

If nothing else, this story does confirm one thing, paths cross in the most unexpected ways.



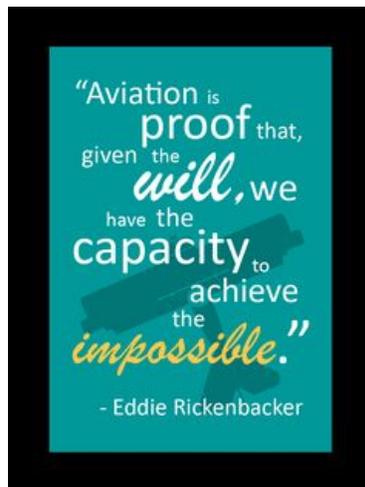
Answers to the test: Use the airport's height above sea level.

Of Special Note!

Growth Spurt!: Research conducted by the BOT revealed that our insurance coverage can accept an increase in the total membership. As a result, twelve new members will be added bringing the total to 162. This increase will take place in two stages.



Rub & Scrub: The June 15 meeting will also feature the spring Rub & Scrub so mark your calendar and lube up your elbow grease!



Takeoffs are optional but landings are mandatory



"Maybe you oughta look for a different compartment for your bag, lady."