

Club Meetings

Board Of Trustees:
7:00 PM 2/7/19
Club House

General Meeting:
9:00 AM 2/16/19
CAP Building



Editorial Staff: Charles Burke,
Dave Pathe, Karen Barbagelata

2019 Election Results

At MAFC's January meeting the annual election of President, Vice-President, and Board of Trustees was conducted as required by the Club's Bylaws. At the conclusion of the regular meeting activities, Ken Ward conducted the election process with vote counting help from election assistants Girish Mandhwani , Chris Gaver and Jon Ryan.

The results of the election were as follows:

President: Janis Blackburn (this is her 2nd consecutive term)
Vice-President: John Pereira

These are all dedicated members who devote a considerable amount of their time and efforts for the benefit of the Club and its members. Please give them your support and assistance whenever needed or requested.

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**President,
Janis Blackburn**



**Vice President,
John Pereira**

2019 Board of Trustee Members*



Joe Bonacci*



Dan Coles*



Frank Fine*

2019 Board of Trustee Members*



Tom Flieger*



Tom Griffin*



Darren Mattos*



Tom Smock*



Art Templeton*



Dave Trulli*

There are a number of responsibilities and duties which are assigned to the BOT at the upcoming meeting in February and are critical to the running of the club. These include:

Maintenance Officer and Assistant: Responsible for insuring our fleet is properly maintained.

Treasurer: Responsible for club finances, paying bills, balance sheet, etc.

Operations Officer: Insures pilot database is current, approves RON's, and reviews the aircraft schedules

Safety Officer: Provides a safety briefing at meetings and oversees adherence to club safety standards.

Membership Officer: Responsible for coordinating prospective and incoming new members

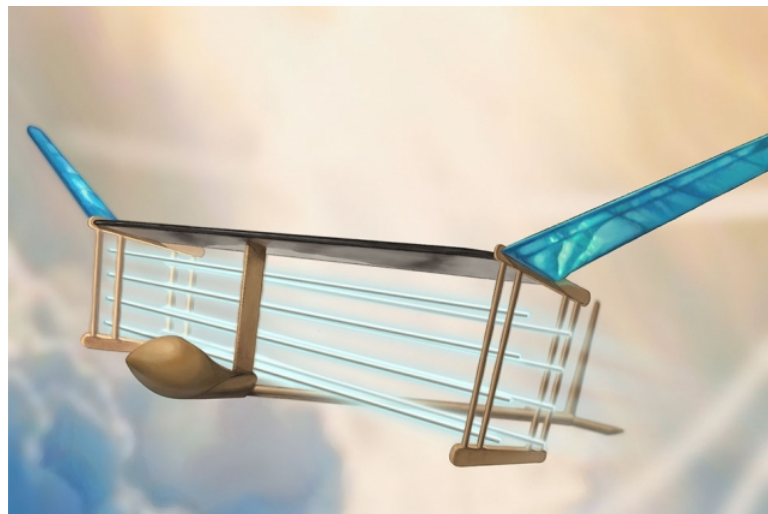
Avionics Officer: Responsible for overseeing aircraft avionics and GPS database updates

Chief Flight Instructor: Insures club instructors meet requirements, approves new instructors, and check-rides / student pilot training are performed to club standards.

Additional information on the duties of Club officers may be found in the MAFC Rules and Regulations.

Engineless Aircraft by Charles Burke

Just imagine a day when you walk to one of the club's aircraft without a headset because the plane is powered by a totally silent propulsion system. As you go down the preflight checklist, there are no references to fuel sumps or engine oil. When you are secure in the seat and turn on the "engine" the silence continues because there are no pulsating sounds generated by a propeller whipping through the air. There are other differences but the surprising fact is that such aircraft already exist.



All aerospace vehicles, including our fleet of Cessna and Piper aircraft, are propelled forward based upon Newton's Third Law of Motion. The Law states that for every action there is an opposite and equal reaction. In the case of a propeller driven system, as the blade rotates through the air, it pushes the gas back towards the tail (action) which then pushes the aircraft forward (opposite and equal reaction). In the case of a rocket, it is the thrust, created by the engine, that propels the vehicle forward.

When it comes to vehicles that operate only in the vacuum of space, it is possible to employ propulsion systems that utilize very different configurations and two examples include umbrella type structures that capture the solar wind, much like a sailing vessel being blown along by the wind and also ion propulsion engines. Both of these systems are currently being employed by spacecraft that are now on missions to distant planets and beyond. But what the engineers and scientists are currently doing is bringing these propulsion systems down to Earth! In fact, small ion propelled robots are already being utilized because they can be employed for surveillance work where anonymity is paramount.

But what is an ion engine? To understand how this works you need to look at the atom. In classical terms, there is a nucleus of protons and neutrons (except for hydrogen which only has a proton), with electrons orbiting in a cloud around it. Normally, there are the same number of protons, with their positive charge, as there are electrons with their negative charge so the overall package is in a neutral. But when you pull away electrons, the atom takes on an overall positive charge while the electrons now carry a negative charge. This process is called ionization. Once free of each other the two charges can be manipulated with electrostatic fields as well as magnetism. This is really old-school stuff and is how that big picture tube in older television sets was able to create an image on the screen.

In this case an ionic wind is created by a high voltage, created by batteries, that surrounds a wire. It is then attracted to a high voltage negatively charged wire positioned back towards the tail. This flow of ionized particles acts like a wind. With this configuration in place we again see Newton's Third Law in that the emitting of electrons from the positive wire is forced backwards causing the plane to move forward. The stream is extremely weak but is moving at almost the speed of light (300,000,000 meters per second). When ion engines are used in the almost total vacuum of space, the craft has no imposing resistance and can slowly increase velocity to unimaginable speeds.

But what about down here at N12? Surprisingly, an experimental aircraft was designed to work on Earth's surface and may one day, far in the future, be part of our fleet. This is because engineers recently test flew such an aircraft. The prototype, with a 5 meter (16.4 ft) wingspan, and powered by an ion engine, flew between 40 to 45 meters (131 to 147 ft) for almost 10 seconds and actually gained altitude on several runs. What has limited both distances and altitude is that to create the ion stream you need energy, and the current source involves batteries. But batteries are heavy and the number required to lift larger size aircraft limits what can be done. While there will not be any practical versions capable of flying us on \$100 hamburger runs, we will see them in other applications.

<https://www.youtube.com/watch?v=boB6qu5dcCw>

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

See page 6 for answer



Spotlight on: Jon Ryan



I first became involved with flying from a fairly young age, maybe 6-7 years old when my aunt bought my father a birthday present to go for a flight in a T-6 Texan at KMJX. I went to watch and wanted to go up so badly, and knew from then that I wanted to fly. My father, who holds a private pilot certificate, inspired my love of aviation from a young age

When I was about 10 years old we started to build and fly nitromethane R/C planes at the Alliare R/C club in Allaire State Park. By age 12 I received my AMA (Academy of Model Aeronautics) Pilot's license and was able to fly model R/C planes without an instructor.

I learned to fly on a C-172 SP at KBLM and took my check-ride in February of 2017 in that plane. I joined the club in September, after being on the waiting list for a few months and have been enjoying the club atmosphere and everything I've been learning from other pilot's in the club. I have logged about 130 hours to date in a few different aircraft: C-172 SP/L, PA28-161, C-182Q, Beechcraft T-34A, Diamond DA-40. I currently hold a Private cert, and have started my instrument training.

I was born and raised in Ocean Township, NJ. I have been a Lifeguard on the Jersey Shore in Ocean Grove, NJ for 7 years and am an avid open-water swimmer, kayaker and rower having competed in numerous lifeguard relays and ocean mile swim competitions. My other hobbies besides flying are fly-fishing, both fresh and saltwater, kayaking big waves in the ocean, snow-

boarding, and volunteering with the Civil Air Patrol. My father worked at Ft. Monmouth and now Ft. Dix and my mother is an elementary school Principal. Luckily my father has accrued frequent flyer miles as a result of his job and we were able to travel to some cool places such as Hawaii, Alaska, Italy and Ireland. I am a recent graduate of Georgian Court University and currently in the process of applying to different U.S.A.F Reserve C-17 and KC-10 squadrons at JBMDL.

Mary Babnick Brown: submitted by Tom Flieger

Mary Babnick Brown was an American woman who donated her long blond hair to be used as crosshairs in Norden bombsights in WW II

Brown was a Coloradan; the children of Slovenian immigrants. She left elementary school at the age of 12, to help support her family as a servant for \$5/week. When she was 13, she lied about her age so that she could work at National Broom Factory for 75 cents a day, a job she held for 42 years. Her younger siblings pitched in by picking up chunks of coal that had fallen onto the railroad tracks. Brown's lone prized possession was her knee-length fine blonde hair.

In 1943, Brown saw an advertisement in a newspaper, searching for women with blonde hair of at least 22" length, that had never been treated with chemicals or hot irons. The military was offering to purchase such hair, to be used for meteorological instruments in the war effort.

The "meteorological instruments" were actually crosshairs for Norden bombsights. The Army Air Forces (the predecessor to today's US Air Force) had tried various materials for the Norden bombsight, including black widow spider webbing, but nothing could withstand the temperature variations like fine blonde human hair that had never been treated with chemicals or heat.

Brown sent off a sample of her 34" blonde hair to the government for analysis. After analyzing her hair, they agreed to purchase it, offering to pay her in war savings stamps. But Brown wouldn't accept payment for her hair. She saw it as her patriotic duty to help the war effort. She later recalled that she cried for months after cutting her hair.

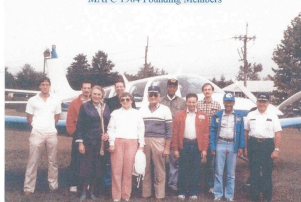
It was decades before Brown learned the true use of her hair, and the effect of her sacrifice. In 1987, on her 80th birthday, she received a personal thank-you letter from President Ronald Reagan



MAFC History- In The Beginning

The story of MAFC's beginning

MAFC 1984 Founding Members



Several years ago steps were taken to preserve the club's history. A call was put out to those who were instrumental in creating the MAFC asking them to come together and be recorded. This event was captured on video and has been on You Tube ever since,. However, it is not open to a general public search. If you wish to view this, just click on this link, of copy and paste into your browser. <https://youtu.be/iLk-OoZaJfw>



N66977-C152: An attempt will be made this winter to have a new interior put in this aircraft. Expect there will be a period of down time for this aircraft.

N67818 C152: This aircraft was in for its annual inspection. These items were addressed during the annual inspection. From the invoice; Removed all panels, covers, cowlings and interior. Inspected the aircraft in accordance with the Cessna service manual. Serviced the battery. Load tested the battery. Filled the brake cylinder fluid. Installed a new vacuum and regulator filter. Lubricated all hinges and rod ends. Cleaned and packed all wheel bearings. Installed a new air filter. Greased the nose gear. Checked the ELT in accordance with FAR91.207D (battery due 12/23). Cleaned all fuel screens. Checked all lights and pilot heat. Checked all tires pressure. Nurreled the propeller. They also drained and refilled the engine oil with 6 qts of 20w50 Exxon Elite oil. Installed a new oil filter. Cut open and inspected the old filter. Performed an oil analysis. Cleaned, gapped and pressure tested all spark plugs. Cleaned all plug wire ends. Checked and set the mag timing. Performed a diff pressure test #1-68/80, #2-70/80, #3-72/80, #4-71/80. Inspected the intake and exhaust system. Checked all AD's thru 2018-23. See revised AD compliance record. Pressure washed the engine. Reinstalled all panels, covers, cowlings and interior. Vacuumed the interior and pressure washed the aircraft. Ground ran and leak checked (no defects noted). Additional Labor: 1) Complied with AD 11-10-09 seat track and seat assembly. Repaired and adjusted seat roller clamps 2) Replaced both upper and lower gasculator bowl o-rings and replaced cork fuel strainer gasket. 3) Secured lower cylinder #2 & #4 spark plug wires to move away from exhaust. Added 1 adel clamp and bracket. 4) Removed split lock washers. Installed plain washers and lock washers. on both left and right mags. 5) Checked and adjusted valves to .005 cold clearance. Measured camshaft lobe lift. #1 I .308/E.292, #2 I .339 / E .319, #3 I .333 / E .303, #4 I .316 / .303. Installed new rocker Cover gaskets. 6) Removed and replaced all 4 cylinder drain back tubes rubbers and installed 2 adel clamps. 7) Checked all flight control cable tensions. Loosened aileron cable tension from 65lbs to 40lbs and safety wired. 8) Removed the nose gear and steering collar. Clean the collar. Inspected, Greased, and re-shimmed the collar. Installed the nose gear assembly. Installed a new HP Schrader valve. Serviced nose gear with 5606 and Nitrogen. 9) Removed the aluminum carb inlet fitting and replaced it with a steel fitting. 10) Replaced missing flap button on left flap. 11) Installed new RH brake disc and brake lining on the right and left mains. 12) Removed cut left main brake line. Fabricated and Installed new brake line bled left brake. Installed missing adel clamps on both brake lines as a standoff from main gear legs. 13) Removed and installed new left and right main gear fairings. 14) Removed both left and right air scoops. Repaired and reinstalled left air scoop, Installed a new right air scoop. 15) Installed missing positive battery terminal boot. 16) Installed 4 new #10 machine screws for right wheel pants. Installed 5 nut plates on right wheel pant cuff and 4 nut plates and 1 nut clip on left wheel pant cuff. 10 #8 metal screws for both left and right wheel pants. 17) Defoded aircraft. 18) Installed 16 #8 machine screws in floor interior panels as they were incorrectly secured with metal screws tapped 4 holes to clean up the damaged threads. 19) Installed 4 rivnuts on left wing root and 3 rivnuts on right wing root and installed 7 machine screws. 20) Installed new bearing and races in the nose wheel. Installed a new nose tire. 21) Installed a new tire on the left main. 22) Removed and installed a new static sump.

N4287Q-C172-L We have looked into a TKM slide in replacement for the #2 nav/com. The aircraft is, at the time of writing, at Three Crown Avionics to have the GTX 335, new GAE12 encoder installed. The price is \$3,800.00 for the unit and installation. With such a good deal at hand the BOT decided we should also buy a second unit for N67818. This aircraft was at BP Air for an oil change and 50 hour service prior to going to Sussex.

N93KK C172 M The only squawk I received was the glide slope was not working on the number one radio. When N4287Q was taken to Sussex for the ADS B installation N93KK was used as the chase plane. This was done so the number two nav/com could

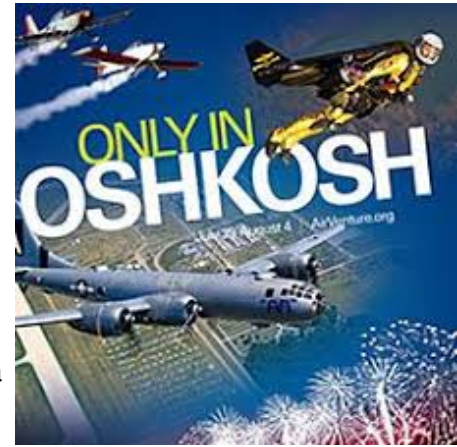
N268BG-PA28-181 This aircraft was grounded at N12 to replace one of the latches on the cowling. We also requested the oil cooler winterization plate be installed. Prior to this the aircraft was taken to Ocean Aire to address a nose wheel shimmy for the second time. So far I haven't heard of any more issues about it. We are still in need of an overhauled D.G. and the attitude indicator has not showing wings level in level flight. These items will be addressed at the annual inspection that will be due at the end of next month.

N55804-PA28-200R This aircraft was at Ocean Aire for a 50 hour service. While there the rear head set jacks were checked for operation. The mechanics discovered the audio panel was switched to turn them off. A member noted that while working with various ATC centers/app controllers where seeing the altitude as 100 feet higher than what was showing on the altimeter with current altimeter setting. The altimeter was adjusted to correct this condition. We have a price of \$1600.00 for recovering the 2 front seats with the same material as the rear seats. That price came from an upholstery shop at Doylestown airport. We are scheduled to have the seats recovered in March.

N61WT This aircraft is at Ocean Aire and will not be released for flight until the firewall has been replaced. Lenny Boyd has the parts ordered to repair the damage.

In the past two months we have had items reported broken that in fact were not. Because we don't always have time to verify every squawk, we report the items to the maintenance shop when the aircraft goes for service. When we get the call that a circuit breaker was pushed in that was supposed to be left out or an audio panel switch was in the wrong position we look kind of foolish for reporting it in the first place. On top of that the shop charges us for their time to troubleshoot these issues. We have better way to spend the clubs money. Please verify the items you are reporting are in fact necessary and not an operator oversight.

This year will be the 50th anniversary of the EAA's annual fly-in and airshow at KOSH. For many of us GA pilots and aviation enthusiasts this airshow is the "holy grail" of the airshow season every year, not to mention it's the largest in the world. For years I have read about and seen YouTube videos describing what a fantastic experience it is flying into KOSH and being told to rock your wings as you level off at 1,800 MSL and 90 kias (per the 32 page NOTAM) as you arrive at Ripon to begin the FISK arrival procedure. And for the past 2 years I had tried to gather some people to fly in, but had been unsuccessful in organizing the logistics and recruiting the people to go to this awesome airshow. When I first joined this club I knew that being a member of this flying club would be my best chance at gathering some friends to finally fly to Oshkosh. I am still a new member to this club, and do not know if there is any history of club members in the past organizing a plane (or more) to fly in to Airventure; but I am sending this email tonight to gauge the interest of club members who would want to join me and anyone else who's interested in flying into the busiest airspace in the world this July. Airventure is only a short 199 days away and there is a lot of planning involved in flying-in and camping next to the plane at this airshow. If you are interested in flying into Airventure or have done it in the past and wouldn't mind offering some advice, please send me an email and we can start the process of planning this trip. Thanks!!

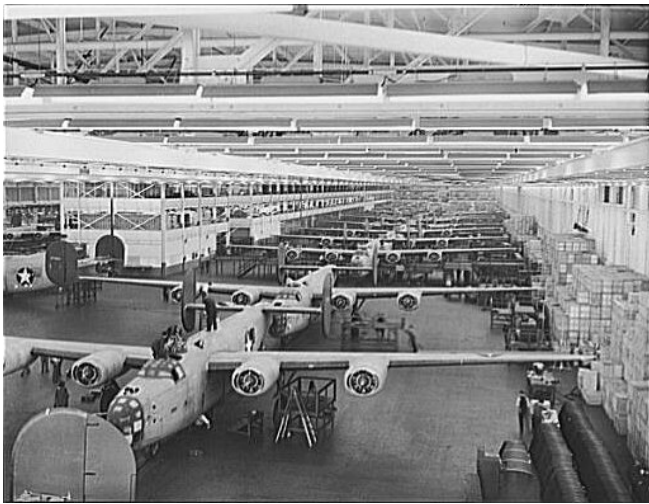


A Ford Airplane! AMAZING! submitted by Art Templeton

Production began at the Willow Run Assembly Plant 6 months BEFORE Pearl Harbor! Henry Ford was determined that he could mass produce bombers just as he had with cars, so he built the Willow Run assembly plant and proved it. This was the world's largest building under one roof at the time. This film will absolutely blow you away -- one B-24 every 55 minutes! -- and Ford had its own pilots to test them. And no recalls!

ADOLF HITLER HAD NO IDEA THE U.S. WAS CAPABLE OF THIS KIND OF THING.

Sidenote—The long hanger at Willow Run, Michigan has a 90 degree turn in it so Henry Ford would not have to pay taxes in the next county. That short end is being saved and restored today as a museum. The big hanger doors are still operational after all these years. See video at <http://www.youtube.com/embed/iKlt6rNciTo?rel=0>



Classic Autos and a Soft Field Landing by Tom Russell

This is a suggested alternate to the \$100 hamburger run! My wife and I recently stopped at the Classic Auto Mall in Morgantown, PA. and were amazed by the vast collection of automobiles housed in this massive complex. They have hundreds of antique cars in addition to a pumpkin car and the Flintstone car.

But getting there is another reason for making this trip. Just behind the complex is a "turf" public airport O03. This airstrip is located between Reading (KRDG) and Chester Co. (KMOS) and is about 78 nm from N12. So, if you want to spend a day admiring classic cars and also get in a soft field landings, this may be the place to go.



(Editor's note: Be sure you are signed-off for soft-field landings by an MAFC Instructor!)

Lost & Found



The Lost and Found box in the trailer needs your help! A recent perusal of the plastic container revealed a startling collection of valuables with a preponderance of eye glasses. You may think that non-prescription sun glasses account for the large number but this is not the case. A significant number contain prescription lenses. In addition, there appears to be a few attachments that are usually associated with iPad, GPS units, etc.

But this also brings up another observation: items being given away. A number of members have chosen to deposit items that they no longer need and offer them up for free. This is a great way to clean out your aviation related materials that you are no longer using and possibly help someone else. Great idea!!



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

Did You Know by Tom Flieger

The world's shortest commercial runway is on the island of Saba in the Caribbean. It is 1300 feet from end to end. The island is noted for its secluded white sand beaches and lack of numerous hotels. Unfortunately it is becoming more and more popular, necessitating an increased number of hotels and the call for a bigger airport.



Excuses :- (Submitted by Tom Flieger



As he was about to leave for the airport to do some work at the club house, his wife asked him "What time will you be home?" He replied "about 1:30".

Well one thirty came and went, and two turned into three and three turned into four and so on. Finally he walks in the door at 7:30 with a pizza. His wife, irate at his inability to tell time, asks for an explanation.

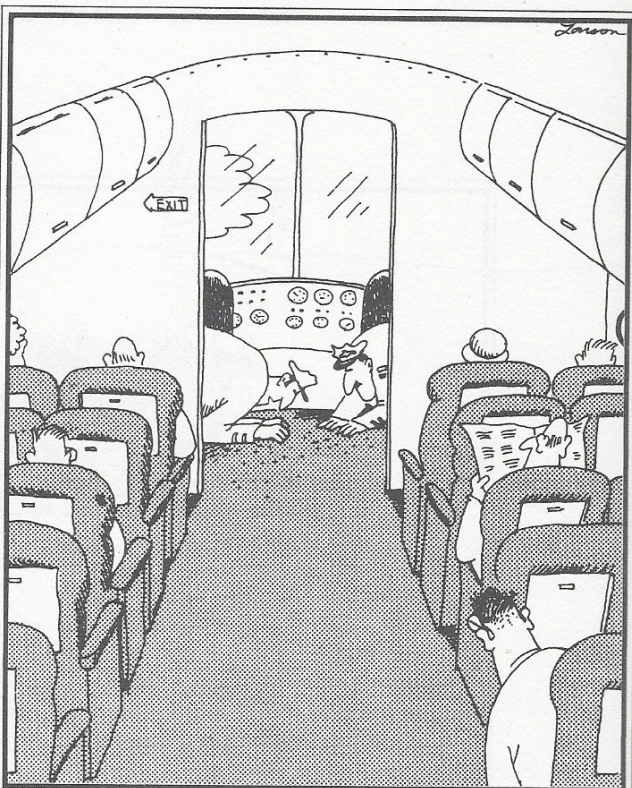
"At 12:30, on the way back from the airport, there was this pretty young girl by the side of the road with a flat tire. So I stopped to help her. When I finished, she offered to pay me and, of course, I refused. So she said there was a tavern down the road and the least she could do was to buy me a beer, so I agreed. After the first beer, it led to another and then another. The more beers I had the better looking she got and before you know it, we ended up in the motel next door. And that's why I'm late."

His wife replied "Don't lie to me. YOU WENT FLYING!"



N61WT is back on the line and ready to fly!!

Of Special Note!



"Well there is some irony in all this, you know ... I mean we BOTH lose a lens at the same time!!!"

Takeoffs are optional but landings are mandatory

