

BOT Meeting  
3/14/24 @ 7 PM  
Club House  
**(THURSDAY)**

Membership Meeting  
3/16/24 @ 9 AM  
**(Saturday)**

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### MAFC Staff Reorganization

The February MAFC Board of Trustees meeting not only focused on club business but also completed the annual leadership reorganization. This year there were several important changes and these include:

Chris Kuelzow stepped down as the Membership Officer. With Covid-19 behind us Chris Chris overhauled the process by which we accept and process new members. As the architect of this new process, those applying received a well rounded orientation and a uniform induction process. Thank you Chris.



Filling his slot we now have Mark Sheprow assuming the Membership Officer post. Mark has a great deal of experience under his belt having served as Chris's assistant over the past year. Welcome aboard Mark.

To fill the open slot left by Mark Sheprow moving up, Michael Siniakin has agreed to become the assistant membership officer. Mike was once a member who went on to become a commercial pilot. But MAFC drew him back as he has a great deal of experience to share with our members.



Nick Billows also opted to step down as the coTreasurer. It is important to acknowledge that during the past couple of years, Jon Stumpf and Nick completely redesigned how our accounting systems support the business of our Club. Every penny is now transparently managed and accounted for giving your Board the tools necessary to confidently manage the Club's financial matters. Thank you Nick for your contribution and leadership.

Former President Joe Bonacci offered to become the club's Safety Officer and was officially appointed at the meeting. Joe has an extensive background in this area and plans of a multi point approach to sharing information and guidance with the members



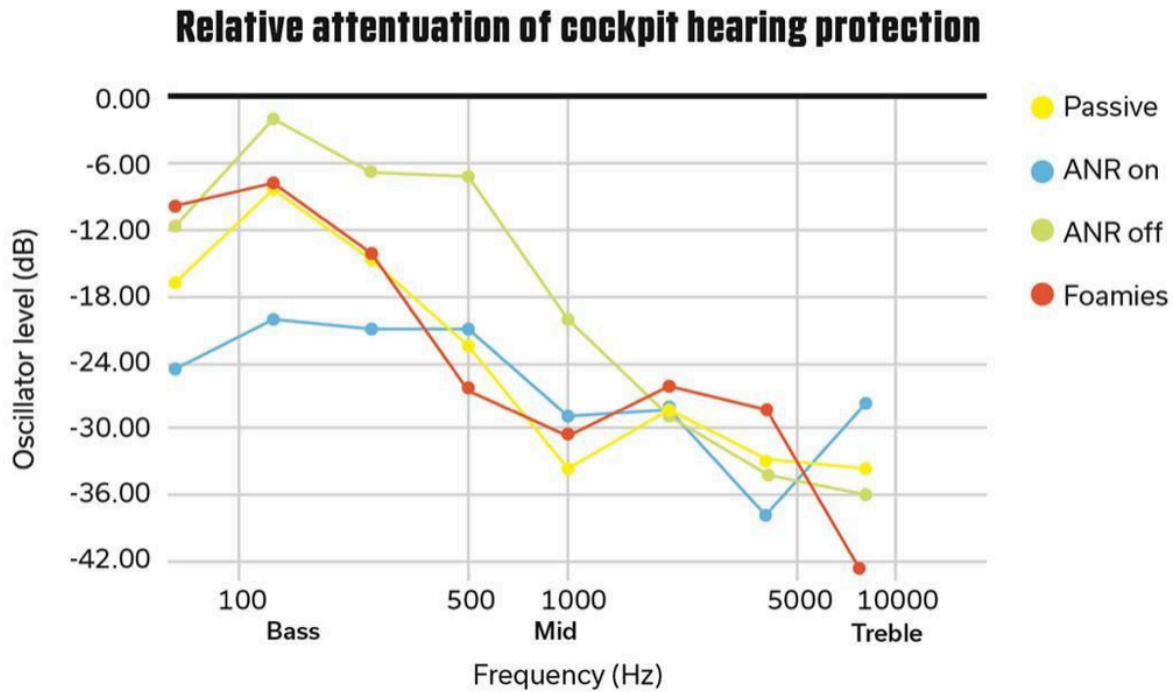
### Engine Loudness by Joshua Boatman, AOPA



If you've spent more than a few minutes at your local FBO, you've undoubtedly heard a raucous debate among pilots that can usually be characterized by shouting, tears, and broken friendships. The topic of discussion? Headsets.

One of the primary issues we as pilots face is that risk of noise-induced hearing loss is not only dependent on the level of the sounds around us, but also the amount of time we spend subjected to those sounds. The noisy environment of an airplane may not be damaging for a few minutes at a time, but rarely are we only in the airplane for only a few minutes. The more time we spend in a noisy cockpit, the more susceptible we are to permanent, irreversible hearing damage. Organizations such as the National Institute for Occupational Safety and Health (NIOSH) and Occupational Safety and Health Administration (OSHA) both publish standards for "how loud is too loud" in the workplace, but since we don't pack calibrated noise level measurement rigs to take flying with us, the numbers are difficult to apply. Fortunately, we can still take data from the ground that can be useful in quantifying the effectiveness of headsets.

So, let's talk about where noise comes from while we're in an airplane. In 2002, a pair of NASA scientists rigged up a bunch of microphones in a Cessna 182 to see if they could reduce cabin-level noise using a variety of nontraditional soundproofing measures, including (my personal favorite) an unairworthy twelve-foot exhaust pipe. The results were interesting but could basically be summarized as "airplanes are loud, and there's no great way to make them substantially quieter without making them extremely heavy and covering up all the windows," an idea many VFR pilots oppose. This is a concept you probably already understand if you've ever flown in a general aviation aircraft: Airplanes are loud, and without proper protection we risk permanently damaging our hearing. Have you ever tried whispering something to an old pilot?



"The effectiveness of the active and passive headsets are similar in the mid and high frequencies, but the ANR technology proves its value in reducing the lower frequencies, where the bulk of cockpit noise such as engine and propeller noise exists".

Because our hearing is more susceptible to damage at some frequencies more than others, it's important to consider not only the volume of noise, but also its frequency. It's generally stated that humans hear sounds from around 20 Hz to about 20,000 Hz, with our ears being most sensitive in a range of upper mid frequencies (around 1,000 Hz to 5,000 Hz), which happens to line up with where the bulk of speech intelligibility lies. Accordingly most headset designers aim for "peak" protection in this range. It's important to note, however, that "most susceptible" does not mean "only susceptible."

The final thing we need to consider is that hearing perception is totally subjective and can vary widely from person to person. My ears are different than your ears, and there's no way for me to experience sound in the exact same way that you do. Fortunately, the characteristics of headsets are measurable, and so with some applied science, we can provide fuel for your FBO debate. Headsets are designed to attenuate (reduce or "turn down") noise differently in different ranges of the frequency spectrum, so after some experimentation, we can draw some conclusions about their ability to protect our hearing. I performed an experiment in my attic comparing a couple of popular aviation headset styles and their respective abilities to protect hearing across the frequency spectrum.

If you've ever been to an audiologist and had your hearing tested, odds are you're familiar with an audiogram. In an audiogram, the subject is given calibrated headphones to wear and is presented with tones at various levels to measure where the "floor" of their hearing is across the frequency spectrum. For this experiment, I gave myself a modified audiogram, using a speaker in place of headphones, and an oscillator to generate pure tones at octave centers (beginning at 63 Hz), turning the level up until audible, and then made note of that level for each octave tone. I then repeated the experiment with different headsets, and charted the comparison between the base hearing response and the attenuation of the headset below. (For the testing purists, the noise floor of my experiment area was measured at 39 dB LAeq10, and the experiment was replicated five times and averaged to eliminate error).

Presented here are two aviation headsets: a commonly used passive headset, and a commonly used active headset, tested with ANR activated and deactivated. For comparison, I also tested a pair of disposable foam in-ear plugs (often called foamies) you may have encountered before. For those unfamiliar, a passive headset has no electronic noise cancellation built in. Instead it relies on physical isolation via a robust design, tight fitting ear cups, solid surfaces, and absorptive earcup material which reflect and block sound from entering the ear cups. Active headsets, by comparison, rely on a microphone outside of the headset and a bit of audio magic and math to actively cancel sounds in the ear cup. An active headset with the ANR turned off works like a (very expensive) passive headset.

The chart shows the relative attenuation of the headsets at eight different points across the frequency spectrum. On the y-axis is the relative level of the oscillator compared to my base hearing, so the further down (lower) the value on the graph, the more effective at eliminating noise the headset is at that frequency.

The data indicates that a passive headset behaves a lot like foamies do, with a minor amount of discrepancy in the higher frequencies. Sound waves, just like radio waves, microwaves, or even visible light all have a wavelength, which is the distance it takes a sound wave to complete one full cycle. The wavelengths of higher frequencies are often magnitudes shorter than lower frequencies, which means we can construct a physical barrier (either a wall of tight foam or a rigid, tight sealing shell) that will prevent the weak sound waves from penetrating. Lower frequencies, however, have much longer wavelengths and the physical barriers are much less effective.

While the ANR provides comparable protection in the middle and upper frequencies, it really earns its salt in the low/low mid frequency ranges, providing much more noise protection than any of the other models. If you've worn ANR in a cockpit before, this probably makes sense to you. Once you turn on the noise reduction, the engine and exhaust noise are decreased significantly. Although humans are most susceptible to hearing damage in the mid/high frequency ranges, hearing damage can occur in lower frequency sounds as well, and for long-term exposure in the cockpit, ANR can help mitigate those risks.

**The Wright Answers**  
See page 6 for answer

- In what 2 states did the Wright Brothers spend most of their childhood in?
- A. North Carolina & Virginia
  - B. Illinois & New York
  - C. South Carolina & Alabama
  - D. Indiana & Ohio



**Spotlight On: Peter Swetits**



I've been fascinated with airplanes and aviation since I was a kid, but only recently had the time and money to learn how to fly. I began lessons in July 2021 at Eagles View (KBLM), flying their beat-up C152's in my spare time. I eventually transitioned to Ocean Aire (KMJX), earning my PPL in October 2022, followed by my Instrument Rating last June. To date, I've logged about 160 hours.

I was born and raised in Point Pleasant Boro, but now live in Middletown. I went to college at TCNJ in Ewing, NJ and hold a B.S. in Computer Science. Since graduating, I've worked as a software engineer in the finance industry.

I joined the club in August, and since then have gotten checked out in NY and the Arrow, earning my Complex endorsement in the process. I also recently volunteered to become the club's Librarian and manage the BOT's Sharepoint repository. I've thoroughly enjoyed my time in the club and am eager to continue my aviation journey with such a fantastic group of pilots.

**Just in case you missed this...**

Madison Marsh is now first active-duty service member to win the Miss America competition. The 22-year-old pilot graduated from the Air Force Academy last year with a degree in physics. Madison Marsh, an Air Force Second Lieutenant, made history on Jan 17, 2024 when the crown was placed upon her head.

Think of the odds here, there are about 166,000,000 women in the USA, of that only 105 have ever been chosen to be Miss America or .00006% When it comes to women pilots, they make up only about 5% of all pilots. Miss Marsh should be an example for all women proving that if they wish to achieve the statistical unachievable, they can do it.



Madison Marsh  
Miss America



Madison Marsh, an Air  
Force Second Lieutenant  
Fighter Pilot

**Spotlight On: Michael Siniakin**

I developed an interest in aviation through a friend in high school. As soon as I took my intro flight at Princeton Airport in 2012 I was hooked. I initially trained at Princeton in 172's, and after receiving my Private Pilot License joined the MAFC in 2013. Through the club, I worked through all my certificates up to CFII, and returned to Princeton to work as a flight instructor. During this time, due to instructing and studying at The College of New Jersey, I resigned from the MAFC. After finishing my degree in computer science, I entered the airline industry in 2018. First employed by a Delta Air Lines regional subsidiary flying the Bombardier CRJ-700/900, I now currently work for a major airline based out of Newark flying the Boeing 757 and 767. Flying at 500 knots at 35,000 feet has its perks but doesn't offer the opportunity for a \$100 hamburger or an evening flight up the Hudson. With that in mind, I rejoined the club this past September. Recently I was appointed to the position of Assistant Membership Officer, where I will assist new members in navigating the application process and through their probationary period. I am looking forward to becoming involved in the general aviation community once again.



**Spotlight On: Matt Bonwell**



I come from a flying family; my father is a pilot. I've always loved airplanes. He had me in a booster seat with my hands on the controls when I was two. I earned my private certificate at MJX upon my high school graduation. I attended Florida Institute of Technology and earned my commercial certificate and instrument rating while there. I returned to NJ and earned my multi-engine rating, CFI, CFII, MEI, and ATP in the mid 90's.

I instructed for Gibson Air Academy for a little over two years until he went out of business, then instructed for Eagle's View for about two months. Both schools were located at BLM. I was able to earn a gold seal for my instructor certificate during this time. I instructed until I was hired by Continental Express. I flew there for 8 1/2 years until I was hired by Continental Airlines (now United) in 2005 and have been there since. I have flown Schweitzer gliders, Cessna singles and a twin, Piper singles and twins, Aeronca Champs, Bellanca Citabrias, a Stearman, a Grumman TBM, EMB-120's, EMB-135/145's, and B737's. I was a member of MAFC back in the early 90's before I instructed at Gibson's. I have about 19,000 hours of flight time but have flown only about 100 hours in general aviation in the last 25 years.

I'm very much looking forward to involvement with the MAFC community and general aviation on a regular basis.

**Where is the new terminal at N12?**

So where is the new terminal at N12? An extensive article in the Sunday February 18 edition of the Asbury Park Press provided not only the answer to this question but also the frustration that is encountered when working with the FAA. But if you want to skip to the chase and get a short answer, it is skydiving!

According to Lakewood Airport Manager Steve Reinman, Skydiving at N12 was actually part of the airport's history especially the 1960 and 1970 but petered out in the early 80's. During its hay-day, there were three deaths at the airport starting in 1964, another in 1965 and the last in 1976. There was even a skydiving wedding back in 1982.

But before delving into the details of the current situation, it helps to get the big picture as to where the skydivers landed, No, they did not thread themselves down into the grass that separates the runway with the taxiway. They did however land in the large circular clearing to the south west behind where the new hangars are located. This area has also been used by banner towers as a pickup and drop off area.

But what does this all have to do with the proposed new airport FBO building? It seems that the funding for the building was approved by the FAA but then a skydiving business ISkyDive America <https://iskydive.com/>, based in Michigan applied to set up shop at N12. This service is allowed by the FAA but then a host of N12 related agencies rejected the plan as simply overtly unsafe.

Quoting Mr. Reinman, Reinman, during the summer are at least 20 banner towers planes a day making pickups and drop-off. In addition, we have a large number of student pilots as well as licensed pilots actively using the runway. Throw in the increased helicopter traffic and you have a prescription for accidents.

Added to the concerns is the fact that the airport is bordered by several busy roadways such as Cedar Bridge Road, Route 70 and the NJ Parkway. Thus the tolerance for accuracy in landing becomes very high. On a personal note, back when KBLM Monmouth Airport had skydiving, I experienced a diver pass with 20 feet of my right wing after he apparently got way way off track and entered the approach patterned. In another case, while waiting in front of the service hanger at KCKZ Pennridge PA., a skydiver was blown off course and landed right in front of us. Had we been moving, we would probably have killed the guy.

One might make the assumption that the airport is battling with ISkyDive but it is not. From what was said in the article, N12 and ISkyDive have a fairly professional relationship and are actively exploring solutions to the concerns of all parties involved. But this is not the case with the FAA. They simply are adamant that the skydiving businesses has every right operate at N12 and until N12 relents and allows them to do so, the FAA refuses to give Lakewood the millions of dollars that have been allocated to build this structure and make improvements around it.



Skydiving Landing Area



N12 Airport circa 1990 before hangars were constructed.

US Military Military Aircraft



The **Bombardier Challenger 600 series** is a family of business jets developed by Canadair after a Bill Lear concept, and then produced from 1986 by its new owner, Bombardier Aerospace. At the end of 1975, Canadair began funding the development of LearStar 600, and then bought the design for a wide-cabin business jet in April 1976. On 29 October, the programme was launched, backed by the Canadian federal government, and designed to comply with new FAR part 25 standards.

In March 1977, it was renamed the Challenger 600 after Bill Lear was phased out, and the original conventional tail was changed for a T-tail among other developments. The first prototype was rolled out on 25 May 1978, and performed its maiden flight on 8 November. The flight test program saw a deadly crash on 3 April 1980, but Transport Canada approved the CL-600 type certification on 10 August 1980.

The Wright Answers:

D. Indiana & Ohio

Welcome NEW MEMBERS!

Abraham Deutsch

Top Flyers in January

PILOT	HOURS FLOWN	AIRCRAFT
Songlin Liu	13.6	N61WT
Eliyahu Berger	5.9	N61WT
Steven Smykla	5.1	N268BG
Sylwester Sliwiak	4.5	N61WT
Yechiel Benedikt	3.7	N268BG



**ANNOUNCEMENTS**



Happy St Patrick's Day

