

BOT Meeting
6/13/24 @ 7 PM
Club House
(Thursday)

RUB & SCRUB
@ 9 AM 6/15/24
(Saturday)



Inside this issue:

Page 1

Elections

Page 2

Write answers
Woman aviators

Page 3

Incontinence
Spotlight on

Page 4

Machine screws
Puzzle?

Page 5

New members
Cartoon
Military aircraft
High Flyers

Annual Elections and Voting

The club has experienced an unacceptably low membership turnout at the annual elections and this past January was a good example of how severe the situation has become. At the last election we only counted a total of 31 ballots being cast out of approximately 165 members. Jumping ahead, in response to this situation a special committee was recently formed to determine the factors involved in this situation and take corrective actions.. After studying a number of factors that could influence turnout we came up with the following, all of which are based upon solid data.

- A. Poor winter weather discourages participation.
- B. Voting takes place, as prescribed by the By Laws, during the off season for flying and related club activities.
- C. There has been a general dilution of the club membership with it now being seen primarily as an aircraft rental business rather than as a cohesive club driven entity.
- D. The membership has experienced pandemics and other events that are largely beyond our control. The covid epidemic was a unique event that had dramatic impact upon the club. However, while it was a devastating medical problem it was unique and not cyclical. But we do have annual pandemics which are keyed to specific times of the year.
- E. The overlapping of the voting date(s) with religious or secular events and holidays can limit when we should stage an election.
- F. In-person voting has been noted as a limiting problem.
- G. Family and other personal obligations can play a role in reducing attendance at the time of the annual voting.

To refine the list of reasons, the committee will be sending out a request for feedback from all members as to what we should do to increase the turnout. It is hoped that the feedback will make it clear what needs to be done and the results will manifest themselves in the 2025 elections.

But the overall issue is complicated by the MAFC By-Laws. These were written during a totally different time period when the membership measured in only a hand full of people. When we examine the By-Laws today, we see that we are locked into voting early in January one of the worst times for weather, participation and activities.. As noted in the opening paragraph of those factors inhibiting voting, this past January bad weather unquestionably contributes to the miniscule number (31) members actually voting.

To circumvent these inhibiting factors is not easy to do because the existing By-Laws have us locked into January. A simple solution is to amend the By-Laws allowing for reasonable changes via the Rules and Regulations. This now is our prime objective.

The group also developed a rough implementation timetable for the vote to amend the By-Laws There also was a discussion regarding the assignment of key posts because the By-Laws, as written, are inadequate when it comes to addressing changes that have taken place as the organization has grown. More information will be shared as this process advances in the months ahead.

The Wright Answers
 See page 5 for answer

When did the Wright brothers first experiment with "wing warping"?

- A. 1910
- B. 1908
- C. 1895
- D. 1899



Women in aviation by Denise Skinner

Geraldine "Jerrie" Mock



Geraldine "Jerrie" Mock became the first woman in history to fly solo around the world in 1964. Nicknamed "the flying housewife" by the press, Mock circumnavigated the Earth flying a Cessna 180 single-engine monoplane; 27 years after Amelia Earhart's famous and ill-fated attempt. Despite her incredible record-making feat, Mock's name is largely unknown today.

In an interview before her death, the Ohio native said, "I did not conform to what girls did. What the girls did was boring." At age 7, after taking a short airplane ride at a nearby airport, Mock declared she wanted to be a pilot. Several years later, following Amelia Earhart's adventures on the radio, she dreamed of making similar flights. "I wanted to see the world," she remembered. "I wanted to see the oceans and the jungles and the deserts and the people."

She was the only woman in the aeronautical engineering class at Ohio State University, where the male students left her alone after she got the only perfect score on a difficult chemistry exam. But in 1945, women rarely pursued aeronautics careers,

and at the age of 20, she dropped out of college to marry Russell Mock. Soon, Mock was busy with her role as wife and mother of three, but she still dreamed of flying. Once her oldest children were in school, she started taking flying lessons and earned her pilot's license. When Mock tired of her ordinary life at home, she complained to her husband about being bored. "Maybe you should get in your plane and just fly around the world," he joked, but Mock decided he was right.

She spent a year preparing for a round-the-world flight, helped by fellow pilots and navigators who thought she was crazy to want to undertake such a dangerous endeavor. At the age of 38, she began her flight on March 19, 1964 -- two days after another woman, Joan Merriam Smith, also departed on a solo round-the-world attempt. The pressure to set the record took some of the joy out of her flight; what she had planned as a leisurely sightseeing trip ended up a grueling marathon made up of 12 or more hours of flying on five hours of sleep. Even given these challenges, when she landed back home on April 17, she announced: "I don't know what to say. This is just wonderful."

Susan Oliver

Actress Susan Oliver who played Vina in the original first Star Trek episode was in reality an accomplished pilot competing in many air races. Ironically, flying wasn't always her forte.

In February 1959, Oliver's fear of flying was triggered by a dramatic drop in a plane, leading her to avoid flying for a year. Eventually, she overcame her fear through hypnosis. In 1967, she became the fourth woman to fly solo across the Atlantic. She chronicled her aviation journey in her autobiography titled "Odyssey: A Daring Transatlantic Journey. In 1970, she won the "Powder Puff Derby," earning Pilot of the Year. She was also involved in aviation committees and received various pilot ratings until she ceased piloting powered aircraft in 1978.



by Charles Burke

Last month we took a cursory look at the scientific fact that altitude can have a negative impact on your digestive system,. This produces several interesting responses from members and one struck a nerve. So here we go again but this time the research produced totally unexpected results.

Urinary incontinence is a topic that is rarely, if ever, bridged when it comes to problems faced while flying in small aircraft. While the condition can be temporary, permanent, partial or a total lack of control, it is a factor that comes into play for pilots who need to deal with it.

While local runs do not pose a problem, non-stop cross country runs can be problematic, especially when you may be burning a significant amount of airtime and stopping to tinkle would be inconvenient. Well, step right up we have the answer for you, and it is one that is being utilized across a broad spectrum of the workforce including some pilots, the use of adult diaper!

A simple alternate solution can be found in the catalogs of aviation supply services. Here you will find plastic containers that can be purchased which allow both men and women to urinate without getting out of their seat. Basically, it involves a variation on peeing into an old bottle but these devices offer a much larger orifice to direct the stream. But you do have to empty and clean it, plus, in cases such as aviation clubs, bringing it with you on the flight may be a cause for embarrassment when others are sitting next to you.

To explore this topic further, a search of the internet revealed that an extremely diversified set of jobs and activities exist where the use of adult diapers are a norm. Right off the bat we have long haul truck drivers, people who work on large radio towers, construction crews that are at remote sites and a host of other jobs. In all cases these are situations where a person is not able to find a toilet or where stopping costs you lost time and money. But it is not just jobs that spur adult diaper wearing, how do you think many people who need to stay in a line for prolonged periods of time waiting to purchase concert tickets at a major rock concert do it?

One extreme situation occurred recently at the Olympics in China. During the opening ceremony, there were thousands of performers on the field. It does not take much math to figure out that as they left the field, many probably would have headed to the restrooms causing a massive backup. The simple solution, all of the performers were wearing adult diapers!

So you think that this is much to do about nothing, tell that to a pilot who has a leaky bladder or becomes totally incontinent. Anticipating a related question here, no it is not a disqualifying medical condition according to the FAA when it comes to your medical.

For those who wish to reduce the problem significantly you can take preemptive steps by simply avoiding drinks and foods that act as diuretics with coffee at the top of the list. Black and green teas are right up there with coffee as well as a number of foods such as [watermelon](#), grapes, celery, asparagus, onions and bell peppers.

If protection is needed you are in luck because any drug store or supermarket has adult diapers and they are cheap. The types available run from small liners that can be inserted into underpants all the way up to actual pull-up underwear if maximum coverage is required. The pads also come in various sizes as well as fluid holding capacity. There are also mechanical devices worn under clothing that carry urine off and into a storage container.

Turning back the clock to a point in time where incontinence is not a problem, be aware of the fact that you can actually create an internal environment that may bring on this condition. One common approach involves simply holding it until you get to where you are going, and this is not a good idea. An occasional grin and bear it is no big deal but those who experience this too often can develop serious medical issues that include infections and control problems. If you think that this can't happen even to the rich or famous, just read about the astronomer, Tycho Brahe...

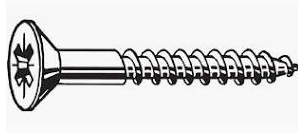
Spotlight On: Hannah Ricker

Hi, My name is Hannah Ricker, and I am a newly recruited member of the MAFC. My first time flying was August 2023, I flew with Air-Mods in Robbinsville. I did their 3 time flying trial and flew a Piper. I felt comfortable in the plane and had so much fun, I wanted to fly more. My inspiration came in 5th grade when a man named Rich Scraggs came into my class to talk about a program called "Adopt a Pilot". He gave us a insight on being a pilot and what it was like. I thought it was very cool but I was too young and never even thought of myself flying a plane. Until my friend Kelly Doles mentioned she was flying planes, it sparked my interest once more. She is currently close to completing her Private Pilot training and I plan to follow behind her. She inspires me to reach my goals of gaining my license by the end of the summer, so I can achieve as many hours as possible before I go off to college to become a Commercial Pilot.



As noted in a previous article on aircraft hardware, the rivet dominates the planes skin but another fastener that is used extensively throughout the engine, cockpit and landing gear are machine screws. Those who are not familiar with screw technology can easily be confused by the generic term, screw. A screw is actual one of the most basic machines and is simply an inclined plane that has been wrapped around a shaft. But the devil is in the details when it comes to the form that the inclined plane takes along its edge. So before we delve in machine screws let us take a quick look at the edges.

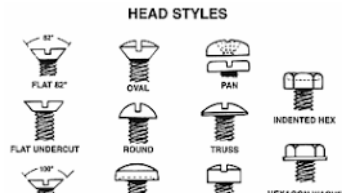
In a wood screw, the edge sticks out as it wraps around a shaft that narrows to a point on one end. A self tapping, or sheet metal screw, is a lot like a wood screw but the shaft remain the same diameter until the end then narrows. Both the wood and self tapping screws literally cut into the material that they are being forced into.



But a standard machine screw never changes diameter nor does it cut into the object it is passing through! That said, the machine screw uses a nut, that has threads (cuts) in it or an object such as a material that you wish to attach it to can be “threaded” so it acts like a nut.



There are several things that rivets and machine screws have in common and it some basic descriptions. Both come with different style heads, diameters and length. So let us start with the heads. Common heads are the round, pan, and flat but there are others. The flat head is unique in that by using a tool called a countersink, a bevel can be made in the material leaving the screw head flat with the surface.



It is very easy to spot a machine screw, the thread area is straight and does not taper the way a wood crew does. But buyer beware, in the US system there are two thread counts per diameter. What does this mean? Let us look at a 1/4-20. What this means is that the threaded part is 1/4” in diameter. So far so good. But when you look through the jar that you have of old nuts, you find that there are some 1/4” threads that the nut will not work on. This is because it has a different number of threads per inch. in a 1/4-20, if you hold up a ruler you will discover that there are 20 threads per inch. But then you measure the treads in the nut and discover it has 28 threads per inch!!

In the US there are both “fine” and “coarse” threaded screws for each size. Making even more confusing once you go below 1/4” diameter the sizes go by a number.

US Machine Screw Diameters

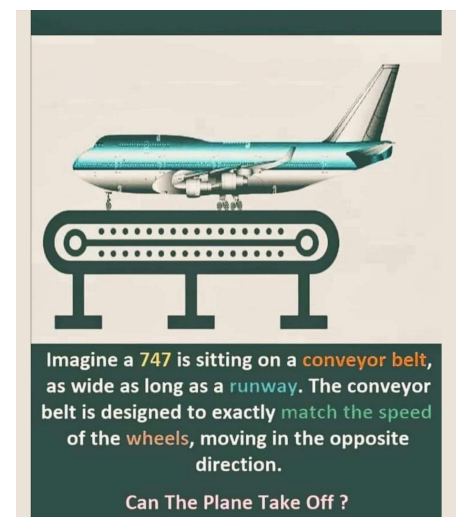
[Print this page](#)

Size	Nominal Thread Diameter	
	Decimal	Nearest Fractional
#0	0.060"	1/16"
#1	0.073"	5/64"
#2	0.086"	3/32"
#3	0.099"	7/64"
#4	0.112"	7/64"
#5	0.125"	1/8"
#6	0.138"	9/64"
#8	0.164"	5/32"
#10	0.190"	3/16"
#12	0.216"	7/32"

* Nominal thread diameter is measured on the outside of the threads per ASME B18.6.3
 For more information about how to measure diameter see our [Measuring Fastener Diameter](#) page.



Puzzler! (answer on last page)



Military Aircraft

Lockheed F-117 Nighthawk



The **Lockheed F-117 Nighthawk** is a retired American single-seat, subsonic twin-engine stealth attack aircraft developed by Lockheed's secretive Skunk Works division and operated by the United States Air Force (USAF). It was the first operational aircraft to be designed with stealth technology.

Work on what would become the F-117 was commenced in the 1970s as a means of countering increasingly sophisticated Soviet surface-to-air missiles (SAMs). During 1976, the Defense Advanced Research Projects Agency (DARPA) issued Lockheed with a contract to produce the *Have Blue* technology demonstrator, the test data from which validated the concept. On 1 November 1978, it was decided to proceed with the F-117 development program. A total of five prototypes would be produced; the first of which performed its maiden flight during 1981 at Groom Lake, Nevada.

The first production F-117 was delivered in 1982, and its initial operating capability was achieved in October 1983. All aircraft were initially based at Tonopah Test Range Airport, Nevada.

Answer to aircraft on rollers.

No matter how fast the engines run, unless there is air flowing over the wings the plane will have no lift.



ANNOUNCEMENTS

The Wright Answers:

When did the Wright brothers first experiment with "wing warping"?

D. 1899

Top Flyers in April

PILOT	HOURS	AIRCRAFT
Daniel Testa	11.5	N4287Q, N93KK
Songlin Liu	11.2	N61WT
Bill Butler	9.8	87Q, KK, N61WT,
Patrick Milando	8.4	N93KK, N61WT,
Yechiel Benedikt	7.6	N268BG



Though they hoped to improve their passenger approval ratings, Phoenix Airways goofed by adding restroom attendants.

New MAFC Member

Adria Wentzel



Congratulations to Tomas Cherian's First solo. He had outstanding landings and did an excellent job with all the traffic in the pattern. I am very proud of him. Emily Johnson Instructor