HORIZONS

A publication of the Massachusetts Air and Space Museum

The Massachusetts Air and Space Museum inspires new generations to explore, experience, and pursue interests and opportunities in science and technology

Vol. 8 Issue 1 March 2022

Click for Cape Cod Times Article on MASM's Move

MASM volunteers move into new museum space at 434 Main Street in Hyannis

The End of Phase 1

by Keith Young, MASM Board Member

It was just two years ago when we opened our doors at 790 Iyannough Rd, Hyannis: AKA the K-Mart Plaza; AKA The Capetown Plaza; AKA The Landing. By any name it was an unusual location to establish a museum, especially one focused upon Massachusetts air and space. We made it work quite well, despite obstacles such as closing one month after opening due to the COVID Pandemic and not reopening until July of 2020.

Our time at the plaza was a success, however. We learned a great deal about what's involved in operating a museum and what the expectations are of those visiting. We added and lost several volunteers,

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Win an Airplane that can Land Anywhere! MASM Raffle On Now!

by Board Member Kevin Currie

The Massachusetts Air and Space Museum (MASM) is thrilled to announce its inaugural raffle fundraiser to support the Museum and its educational activities. In addition to supporting a wonderful cause, every ticket purchased will have the opportunity of winning one of the three prizes listed below. No more than 5,000 tickets will be sold, so act now. The drawing will be held on July 12, 2023 or earlier if all tickets are sold before then.

GRAND PRIZE

The grand prize is a classic 1970 Thurston Teal Airplane (N501ME). This is a 2/3 place all aluminum amphibious

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From the Cockpit

We are all moved into our new location at 434 Main Street in Hyannis. It was with great sadness that I left our old location but I always knew that was only a proving ground. The museum is firmly established in Hyannis and we are receiving more and more name recognition. When we reopen our doors this spring, I anticipate that we will see a huge increase in our attendance as we continue to grow. Welcome to Phase 2!

Director of Public Relations,
MASM Board of Directors
Keith Young

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hired an Operations Manager, expanded our hours and received a 4.9 star rating on Google. People came, learned a lot about the history of the state's contributions to the space and aviation fields and got to "fly" our simulators. We showed that this "*proof of concept*" could actually work.

As fall of 2021 approached we received the news that we were going to need to find a new place. We knew it was just a matter of time once the big anchor store in the shopping complex shut its doors for the final time in the spring of 2021. It was probably for the best as the Sword of Damocles hung over our existence throughout that summer. Finding a new location was the next challenge, and it wasn't easy.

Volunteers load the big exhibits for the big move

In October, The Board of Directors formed a small sub-committee to look into where we could next open our doors to the public. After looking at several possibilities, a space on Main Street in Hyannis continued to stand out as the best choice. By no means perfect, it does offer a number of advantages over the other potential locations. Although one cannot see the airport from that location, the biggest advantage is the anticipated foot traffic. During the summer, downtown Hyannis Main Street is flooded with tourists from all over the country and the world. We anticipate that we will see an increase in visitation by as much as 5 times or more over our most recent year.

At the end of January 2022, we literally closed the

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MASSACHUSETTS AIR AND SPACE MUSEUM
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NEW Museum location

434 Main Street Hyannis, MA

New hours of operation will commence in the spring of 2022

Watch this space for updates on hours and how to obtain tickets

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doors on Phase 1 of the museum's existence. We were very fortunate to have 14 people who helped move the museum to its new location at 434 Main Street. We had representation from the US Coast Guard Auxiliary, the Experimental Aircraft Association Chapter 51, the Military Officers Association of America and of course MASM. These people assisted in the tasks required to get us into our new building without any major mishaps. The entire museum is appreciative of their effort.

Brains and brawn needed to load the truck

Now we move into the second phase of building our museum. Our new location does not significantly expand the exhibit space but does afford us the ability to host events such as author talks, aerospace speakers, FAASTeam safety briefings and other possibilities. MASM will continue to expand our presence and outreach as we work to establish our place in the Cape Cod and Massachusetts museum communities.

We now look forward to being able to reopen our doors in the spring of 2022!

Even though most of the museum belongings were packed and ready to go, there were many items that needed special handling

Board Member Keith Young orchestrates the many volunteers that turned out to help

The volunteers moved so fast, they were a mere blur to the camera!

In what seemed like no time at all, the old venue was emptied and the museum contents were all safely moved to the museum's new headquarters on Main Street in downtown Hyannis

From the Collection

By Barbara Jagla, MASM Curator

Anne Bridge Baddour received the prestigious **International Clifford B. Harmon Trophy**, Aviatrix in 1988. The Harmon Trophy is a set of three international trophies, awarded annually to the world's outstanding aviator, aviatrix, and aeronaut (in a balloon or dirigible). The award was established in 1926 by Clifford B. Harmon, a wealthy balloonist and aviator.

The awards are described by the Clifford B. Harmon Trust as: "American awards for the most outstanding international achievements in the arts and/or science of aeronautics for the preceding year, with the art of flying receiving first consideration."

Prior to World War II, the award was administered by the International League of Aviators (*Ligue Internationale des Aviateurs*), an organization founded by Harmon to serve as "an agent for Peace and National Security." The League became defunct during the war and Harmon's death in 1945. Harmon left funds in his estate to continue the award in "perpetuity,"

The bronze statue was sculpted by the Balkan Princess Roumanbona M'Divani. The Harmon Aviatrix Trophy depicts a female angel figure with up turned wings holding a bird in her arms. The figure is standing on a square column base with engraved text for each winner. Two sides of the base are engraved with the phrase: 'FOR PEACE'. The original trophy was given to the Smithsonian Institute in 1950, but with the acquisition of the original artist's casting by the Pylon Club, this stately award became available in a limited edition to the public.

Anne was awarded this honor for piloting a twin engine Beechcraft 58P Baron from Bedford, Massachusetts to Reykjavik, Iceland in which she and a co-pilot set 27 world class aviation speed records.

Other notable recipients of the Harmon Trophy include Charles Lindberg, Amelia Earhart, Jackie Cochran, Chuck Yeager and Howard Hughes. The award is usually presented at the White House by the President or the Vice-President. Anne received her award from Vice President Dan Quayle.

Also in the collection is a life-sized oil painting (47" x 73") of Anne Bridge Baddour standing beside her Beech Sierra aircraft and poodle, Abby. The Beech Sierra carries four stars and red, white and blue stripes on the fuselage in honor of the America Centennial.

Anne Bridge Baddour Exhibit

The accompanying photograph shows the Harmon Aviatrix Trophy on exhibit in front of a large mirror enabling visitors a view of the entire trophy. Also reflected in the mirror from across the gallery is the vibrant portrait of Anne Baddour.

Harmon Trophy and Anne Bridge Baddour Portrait

The Boeing B-52 Turns 70!

No one could have imagined in April of 1952 that the airplane being tested by Boeing Company that month would remain the primary workhorse of the United States Air Force seventy years later, but here we are. And what a workhorse it's turned out to be! Much more, the Boeing B-52 Stratofortress is expected to continue its service life well into 2050 and beyond.

Powered by eight turbo-jet engines arranged in dual pods along swept-back Delta wings, the B-52 is capable of high subsonic speeds. Although originally conceived as a delivery vehicle for nuclear ordnance it became the backbone of America's strategic defense during the Cold War. Painted in the "Chrome Dome" nuclear alert paint scheme, these aircraft maintained around-the-clock sentry duty, ready to strike principle targets deep inside the Soviet Union on short notice. Although poised to deliver nuclear payloads during Operation Chrome Dome, the B-52 fleet has never dropped a nuclear bomb in combat.

"Chrome Dome" nuclear alert paint scheme

21st Century Paint Scheme

During the war in Vietnam, B-52s were called upon regularly to carry out strategic bombing campaigns, especially along the Ho Chi Minh trail—the primary supply line for the Vietcong. Possessing the capability of delivering 35 tons of conventional ordnance, these lumbering giants took on a new name by the crews that flew them: *BUFF*s [*Big Ugly Fat Fellas*].

744 of these behemoths were delivered to the US Air Force, primarily to the former Strategic Air Command (SAC). While a small number remain in reserve in the "Boneyard" at Davis-Monthan AFB, there remain well over 150 airplanes in either active or reserve duty with Air Combat Command (ACC) or Air Force Global Strike Command (AFGSC). Engines and avionics have been upgraded over the decades to provide greater efficiencies in operation making today's B-52 fleet quite economical to maintain.

The thrift involved in operating these aircraft is why they have not been eliminated by such advanced airframes as the B-58 Hustler, the canceled B-70 Valkyrie, the B-1 Lancer, or even the stealthy B-2 Spirit. 2025 will mark 70 years of continuous use of the B-52 fleet with decades of service life left to go.

It's just another V-tail?
Right!

By Doug Fortnam

Back in the fall, I won a raffle sponsored by the Fitchburg Pilots Association (at KFIT, Fitchburg, MA). The prize was a 20 minute flight in a Cirrus SF50 Vision Jet with Mike Goulian. There were 3 winners and each of us was to get 20 minutes flying time and then switch pilots. Eric Sheffels donated the time in his Vision jet N920S and Mike Goulian* donated his time as our instructor.

Due to weather, Mike's schedule, and the aircraft schedule, the flight got delayed until this past Saturday. We arrived at the Fitchburg Pilots Association hangar at 9AM and Mike briefed us on the plan for the flight and the basics of the aircraft.

As it turned out, we each got about 30 minutes of flying time left seat in the Vision jet. On my leg, we were departing from KEEN and returning to KEEN. Mike coached me through the checklist and the engine start procedure. Turn the switch on, hold the start button for about 2 seconds, monitor the start up temperatures and you are good to go. Taxiing is a little tricky as it only has a castering nosewheel and the ramp had icy patches. I taxied slowly and was able to keep it on the taxiway centerline.

When we arrived at the runway, no further runup or checks were required so we were ready to go. Mike did a takeoff briefing in case something went wrong during takeoff. After applying full power, no right rudder is required as there is no left turning tendency in the aircraft. At 80 kts, I started to pull back on the side stick and at 90 we were off the ground. Gear up and accelerate to 160 for the climb. I think we were climbing at 2500 fpm.

Mike asked me if I wanted to do an ILS back into KEEN and I said sure. I had the option of fully automated or manual. I chose manual. We loaded the RNAV 02 in to KEEN and flew vectors for the approach. Following cues from Mike, I executed an almost perfect approach except that I was 1 ½ to 2 dots too high on the glideslope. It takes some concentration to lower the nose sufficiently to maintain the glideslope.

Landing was a lot easier than I thought. Reduce thrust and hold a slightly nose up pitch attitude and it settles onto the runway very nicely. Since there is no propellor up front to slow you down and no thrust reversers, you need to gently start using the brakes to slow down.

The Cirrus SF50 Vision jet with the Garmin 3000 Avionics is an amazing piece of technology. It is very well designed and flies very nicely. It lets you know if something is not configured properly or if there is some issue that needs to be addressed. The Garmin 3000 Avionics are fully integrated into the aircraft and it includes autothrottle and autoland. I thought the layout of the Garmin 3000 was very intuitive with the left panel for Aviate, the center panel for Navigate, and the right panel for Communicate.

Mike did an outstanding job as our instructor. Each of us came with a different set of piloting skills and Mike made each of us comfortable and successful in our turn as PIC.

Thanks again to Eric Sheffels and Mike Goulian for providing us with a once in a lifetime opportunity to experience flight in a truly remarkable aircraft.

Doug Fortnam CFII KASH

** Mike Goulian is not only a world-renowned flyer, he is a member of MASM's own Board of Directors.*

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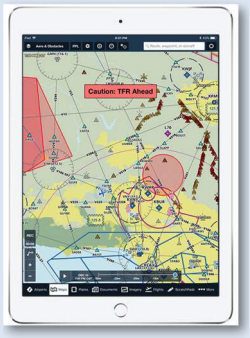
airplane with fewer than 1,350 hours of total time. The 150 HP Lycoming engine and Hartzell prop have ~130 hours since overhaul. The aircraft will include a new annual inspection and new tires. Also, included are instruments and avionics as follows: ADS-B, a PJ2 COM Radio, Electronics International model R-1-4 digital RPM/TACH, model M- 1 digital manifold pressure gauge, King KLX 135 GPS/Moving Map/Com, KT 76A transponder, PS Engineering PM 1000 2-place intercom system. In addition, the winner will receive $3,000 for his/her tail wheel rating and/or seaplane rating. The airplane value is estimated at $58,500.

SECOND PRIZE

Second prize is a Bose A20 Aviation Headset that is valued at $1,095.95.

THIRD PRIZE



Third prize is an iPad MINI with 256 GB and Wi-Fi, plus a one-year subscription to ForeFlight Pro-Plus. This prize is valued at $689.98 (cellular service is not included).

Tickets prices are $65 for a single or $150 for a block of three and may be purchased at the links listed below. Additional purchasing and raffle information may be found by visiting our website at www.massairspace.org.

The Thurston Teal was designed by David Thurston and manufactured in Sanford, Maine at the Thurston Aircraft Corporation. Mr. Thurston had a long and productive career in developing aircraft for water use. During World War II he worked for Grumman Aircraft and later on helped create the Lake Buccaneer, Colonial Skimmer, and the AeroMarine Seafire as well as the Thurston Teal.

Or visit: https://www.massairspace.org/airplane-raffle/

US Air Force News

Boeing E-7 To Replace USAF AWACs Fleet in F/Y 2022

The Boeing E-7 Wedgetail aircraft using a 737 airframe will soon replace all the AWACs in the USAF fleet. The venerable 707 airframe with it identifiable rotating dome and four engines is being supplanted by the more efficient two engine configuration of the 737.

Lockheed C-130 Becomes Amphibious

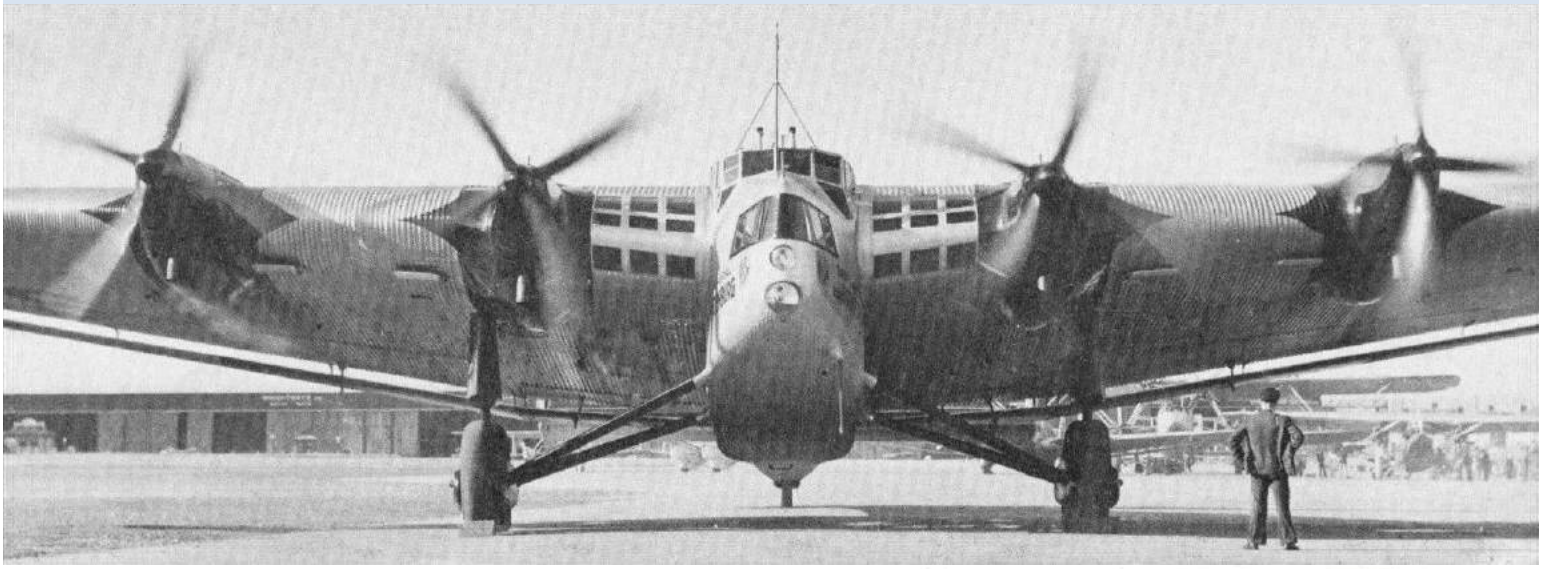
Engineers are busily designing water-wing add-ons for the C-130 transport aircraft that will allow amphibious operations. This is necessitated by the growing demands of putting equipment, supplies, and troops into areas where the only runways are water. Watch for the prototype in the near future.

C.A.V.U

Most people familiar with aviation know that the abbreviation "CAVU" stands for *"Ceiling and visibility unrestricted."* In this recurring feature of ***Horizons***, your ability to see clearly into the history of aviation will be tested through identification of flying machines that once were. The first reader who submits the correct answer will be entitled to bragging rights and have their name and answer published in the subsequent edition of ***Horizons***. Submit your name, the name of the aircraft, the type or version (if applicable), and the country where it was manufactured to the editor-in-chief of ***Horizons*** at: **horizons@massairspace.org**

Here is your challenge for this edition:

For additional content, click on many of the photos in this edition except the two below. You'll find videos and links for more information!



December 2021 Edition's Answer:

Yakovlev Yak-40 CODLING—USSR (*DC-3 replacement***)**
Medium range/speed jet transport**—Max. speed:** 342 MPH (550 km/h)
Ceiling: 22,965 ft (7,000 m) **Radius:** 901 miles (1,450 km) - (*actual ceiling not revealed as military versions were delivered*)
Dry weight: 20,723 lbs (9,400 kg) **Max. take-off weight:** 32,274 lbs (16,000 kg)
Dimension: Wing span: 82 ft 0.25 in (25.0 m); length 66 ft 9.6 in (20.36 m); height 21 ft 3.9 in (6.5 m); wing area 753.5 sq ft (70.0 m^2)
Powered: three 3,307-lb (1,500-kg) thrust Ivchyenko AI-25 turbofans
Payload: up to 32 passengers
Correct Answer: No one responded to this challenge!