

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

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Massachusetts Air and Space Museum 200 Hanscom Drive Bedford, MA 01730 www.massairspace.org



Cape Air®

What began as a small local air service has grown quickly into one of the largest commuter airlines in the world, serving markets far beyond the narrow limits of the southeastern Bay State. Starting with air routes in and around Cape Cod, and seasonally from the islands of Martha's Vineyard and Nantucket, to destinations throughout New England and the northeast, **Cape Air** quickly established itself as a reliable carrier based in Hyannis at Barnstable Municipal Airport. Aside from providing outstanding customer relations, ground and air crews genuinely love aviation and seem to thrive in their careers. This love of flying is contagious; rubbing off on passengers as well as fellow employees. Unlike the indifference shown to

customers by many of the major carriers, Cape Air offers a personal touch that furnishes both a fun and exciting experience on the ground and in the air.

Boasting one of the larg-

Cessna 402s



est fleets of **Cessna 402s** anywhere, Cape Air also uses the island-hopping capabilities of the **Britten-Norman BN2** to access the shorter runways that are commonplace at Caribbean locales; locales that include Puerto Rico, and both the U.S. and British Virgin Islands. Between all of the airports in the northeast and the Caribbean, the air miles their aircraft log each year make this *little* airline a true giant in its own right. But, that's not all.

Cape Air provides regional air services to multiple destinations within the state of Montana, and also provides commuter service throughout the Midwest,



Cessna 402

flying out of both O'Hare International Airport in Chicago and Lambert Airport in St. Louis.

In 2004 Cape Air began air service in Micronesia where it added a pair of **ATR 42** aircraft to its growing fleet. Manufactured in both France and Italy by *Aerei da Trasporto Regionale*, these transport aircraft serve routes between Guam, Rota and Saipan. Being medium-sized transports, these airplanes offer seating for 78 and are well-suited for the short-hop routes that are part-and-parcel with central-Pacific aviation.

Cape Air has partnered with three of the major air



Cessna 402

carriers (*American, Jet Blue and United*) in order to extend the reach of their air routes. With the range of these major airlines, a trip that begins aboard a Cape Air flight can take you virtually anywhere in the world.

Cape Air has been recognized for its efforts toward going green by managing fuel-efficiency through innovative equipment upgrades, proper fuel management, and aggressive motor maintenance. By staying on top of their fuel consumption, thereby eliminating undesirable emissions into the atmosphere, their carbon-emission output is reduced, and they spend less money on fuel to operate, allowing that savings to be passed along to cus-



Cessna 402

tomers, resulting in highly competitive ticket prices.

To increase efficiency and to curb costs, Cape Air is currently in the process of changing out its Cessna fleet in favor of the new **Tecnum P2012**. An order of 100 **Tecnum Travelers** was placed by the company in 2017, with twenty of these airframes to be delivered this year. These new planes offer much greater load capacity through additional seating, advanced avionics and navigational equipment through Garmin's new **G1000 NXi** integrated flight deck technology, and twin Lycoming engines that will each deliver 375 HP. The Lycoming motors are 50 HP more powerful than those on the Cessna 402s, so air speeds will increase



Tecnam Traveler

accordingly despite greater loads. With a higher rate-of-climb and lower stall speed, the **Tecnam Traveler** will quickly become both the pilot's and passenger's dream airplane.

Safety is on every employee's mind all the time at Cape Air. Toward this effort, the company maintains an aggressive in-house training program for all pilots. Chief flight instructor Mike Gorrasi takes a hands-on approach with all the company's pilots, insuring that each is capable of single-pilot flight. New pilots work at their own pace with a home-study course, followed by four days of ground school. They must demonstrate on a paper cockpit photograph that they have memorized all of the take-off and landing procedures before they



Britten-Norman BN2



Aerei da Trasporto Regionale
ATR 42

even get into the simulator. Showing that they have mastered visual flight rules (VFR) and basic pattern procedures, Mike puts them in the actual cockpit and has them show off their skills. This is followed by more simulator time where emergency procedures are honed. Again, they show their stuff in flight, followed by more simulator time where emergency procedures and instrument flight rules (IFR) are incorporated. Keep in mind, all potential Cape Air pilots are already multi-engine commercial pilots. Captains have at least 1,500 hours of flight time; 500 hours cross-country, 100 hours night flying, 75 hours on instruments, and 50 hours of multi-engine time. In addition, Cape Air rewrote and reorganized the entire operations manual for the **Cessna 402** with FAA approval, making it much more user-friendly and intuitive, especially for new pilots facing in-flight emergencies.

In addition to the many fringe benefits offered to first-year captains, Cape Air offers highly competitive salary rates within the aviation industry. Young pilots joining their team can learn and earn quickly while they acquire skills that are sought worldwide. Good pay and benefits make happy

crews. A happy crew makes happy and content passengers, which is the secret to Cape Air's enormous success. In just three decades of scheduled service, CEO and founder Dan Wolf's fledgling airline has grown from one airplane and six employees exponentially into the successful small-market airline with one-hundred airplanes that transport well-over a half-million travelers each year. Operating in eleven different states, four commonwealths and three foreign counties, Cape Air is the largest commuter airline in the United States, and it is destined to soon become the largest such airline internationally.



ATR 42 Interior

William Starling Burgess

BAY STATE BOAT BUILDER

Among the most interesting historic figures who hailed from Massachusetts is a Boston-born yacht designer and builder, William Starling Burgess. While best known for his yacht designs that three times won the America's cup races in the 1930s, he also partnered once with Buckminster Fuller in the development of their depression-era *Dymaxion* car, which they placed on display at the 1933 World's Fair in Chicago. But a futuristic car was a mere diversion, and great sailing yachts were not the only things he designed for use on the water.



Burgess Co. *Flying Fish* seaplane

Burgess and his company also built early seaplanes in their Marblehead workshop. In 1915 he was awarded the coveted *Collier Trophy* for his innovative aeronautical design of a seaplane, joining the ranks of other previous winners: Glenn Curtiss, Orville Wright and Elmer Sperry. Starling Burgess had built many licensed Wright Flyers, which no doubt, coupled with his ship designs and shipbuilding experience, influenced his amphibious creation.

In time, these seaplanes became popular with the wealthy and semi-wealthy aspiring aviators who lived along the Hudson River in New York. Flying was a growing recreational pastime for the fast and rich set, and seaplanes offered new pilots a greater margin for error when it came to landings, provided of course that they could swim. Starling Burgess partnered with

Augustus Herring to form the Herring-Burgess Company and, together, they designed and built their seaplane, the *Flying Fish*.

For New Yorkers, the difficult part of purchasing one of these airplanes was how to get their new toys back home to the Hudson. The Burgess Company overcame that obstacle by creating a large hangar/crate in which the airplane could be housed. The crate floated, even when laden with its precious cargo, and they were fairly seaworthy within limits.

The New York aviators would sail their yachts to the Northshore of the Bay State and into Marblehead Bay where they would tie up to the pier near Redstone Lane, pay for the airplane at Burgess Company headquarters,



Burgess Company, Marblehead, Mass.

MASM Online Museum


tie a line from their boat to their towable hangar, and sail merrily back to the Hudson River where they could learn to fly their new prize. The Burgess Company had some 800 employees at its Marblehead facility in order to meet the public demand for their airplanes.

In some circles, Starling Burgess was the creator of the *Times New Roman* font that has been a mainstay in the English language print media and computers since its invention in 1904.

William Starling Burgess had a varied career, serving in the Spanish American War as a gunnery mate in the U.S. Navy. He was attending Harvard at that time, and he and his fellow classmates were given college credit by a vote of the faculty for their time of military service. Upon the United States involvement in World



William Starling Burgess

War I, Burgess sold his company and re-entered the Navy serving as an airplane designer. Between the wars he returned to designing and building boats. After Pearl Harbor he served as a civilian employee, working on anti-submarine warfare (ASW). William Starling Burgess died at home in March of 1947. 

Massachusetts Air and Space Museum Supports Scout Sleepover



Recently, the Barnstable Municipal Airport (HYA) played host to Cub Scout Pack #51 for a tour and a sleepover inside the airport. Scouts and parents were afforded an “insiders” look at the facility, including a special rare visit to the control tower. Scouts were introduced to the many and varied job that make up the modern world of aviation. They got to touch the big fire trucks that maintain vigil at the airport, and even try on the firefighter’s bumper gear to see

just how much it weighs. Also, they were introduced to many of the careers available in aviation, including aircraft maintenance, field maintenance, field security, fire fighting, air traffic control, airline ground support, and TSA. They got to see drones flying and hovering, and even fly the actual simulator used to train and certify pilots.



Photo by MEB www.firenews.org

The scouts and their chaperones were shown all the inner workings of the airport facility, and eventually were taken into a special area of the terminal that is secured by TSA. There, they “camped”



out for the night.

The following morning each scout received their own balsa-wood airplane from the Massachusetts Air and Space Museum as a memento of the adventure. The event was an unqualified success. 🛩️

Cape Air Launches Seaplane Service to NYC

While modern air trips are much shorter in duration than those of bygone days, they can be no less an adventure than they once were. **Cape Air** has recently announced it is introducing scheduled seaplane service from Provincetown, Mass. to New York City. Charter service by seaplane will also be available.

What makes the air seizing the airplane from the water is like no other takeoff. This is true for landings on water,




Cessna Grand Caravan EX



Flying in any aircraft is an exciting adventure, but flying in a seaplane is like no other flying experience. The gentle sway of the plane as it taxis for takeoff helps to build the anticipation of lift off. The rumble of the run-up as the floats skim across the water followed by that sudden calm and quiet that accompa-

nies the air seizing the airplane from the water is like no other takeoff. This is true for landings on water, where the airplane tickles the top of the water and reluctantly gives in to the cushion below as it settles in for landing.

Now you can enjoy the experience of a seaplane and get to New York at the same time. It's really worth a try; the Cape Air seaplane service! 

MASM OUTREACH



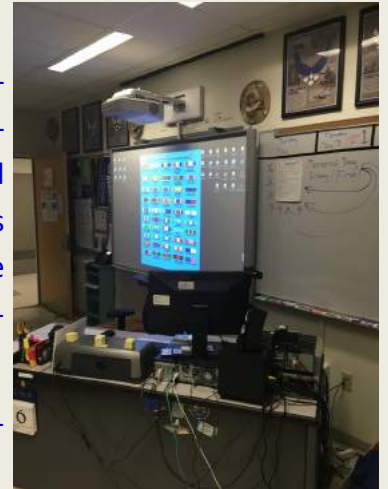
Joe Dini, MASM Board Chairman

AFJRROTC

Air Force Junior Reserve Officer Training Corps

MASM Board Chairman Joe Dini spoke before the AFJRROTC classes at Bedford High School. The classes were made up of freshmen through seniors, and included students from both Bedford and Billerica high schools. Joe spoke of the many career paths available to students both before and after they obtain a college education. He also discussed military service as an option to pursue both an education and a career, as he did.

Joe found the students to be thoroughly respectful, most attentive to his presentation, and thirsty to learn more. 🇺🇸



STEM/MASM at Logan



Once again, MASM was on hand for the annual STEM conference held at Logan Airport. Students from all over the Bay State came to see, hear and learn about all the avenues available to them as careers in the aviation industry. They got to see how airplanes work, what it takes to fly them, what it takes to keep them flying, and what all the people on the ground do to support all those airplanes filling the sky above.

MASM has maintained and staffed a booth each year of the *Education Expo* at Logan which helps to fire the imaginations of all the kids that attend. MASM volunteers help students to connect the dots between studying mathematics and sciences and how those subjects relate to the highly demanding and technical world of aviation. 🇺🇸





MASM's 4th Annual General Aviation Forum

Held this year in Hyannis, MASM's fourth annual General Aviation Forum was a great success. Airport managers from across the Bay State participated this year, helping them to better coordinate their efforts with other airports throughout the state of Massachusetts. 🇺🇸



CORRECTION

Dear Horizon Readers;

I offer my humble apologies to our many readers for the errors that were published in the March edition of **Horizons**. Throughout that edition, the three-digit identifier for Barnstable Municipal Airport (*HYA*) was incorrectly listed. Also, the initials C.A.V.U. were also incorrectly attributed, when it should have read, "*Ceiling and Visibility Unlimited*." While we try to be accurate with everything we do, sometimes mistakes do slip by to prove that we are human and subject to the fallibilities of the species. Again, I apologize for my errors.

Yours, respectfully,

Paul D. Bagley
Editor-in-chief—**Horizons**

CAV.U.

Most people familiar with aviation know that the abbreviation “CAVU” stands for “*Ceiling and visibility unlimited.*” 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:



March 2019 Edition's Answer

Piaggio P.108 Bombardiere—Italian

Prototype flew in 1939—four different configurations were designed, but only one was built—a conventional military bomber. Only 20 were ever manufactured. They sported 1,500 HP radial piston engines. **Max. Speed:** 267 MPH **Ceiling:** 27,885 Ft., **Range:** 2,187 Miles, **Dry Wgt.** 38,195 lbs, **Max. Take-Off Wgt.** 65,885 lbs. **Max. Bomb Load:** 7,716 lbs. **Armaments:** 8 12.7mm trainable machine guns, 2 remote-control wing barbettes.

*Bragging rights belong to **David Carpenter** who responded first with the correct answer. Thanks to all who responded.*





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The Massachusetts Air and Space Museum will soon come to life in Massachusetts. Your help is needed to turn this vision into reality. Send your tax-deductible contribution to:

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Curtis A-1 Triad-US Navy's 1st



Gweducks



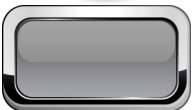
The Luftwaffe's Seaplanes, etc..



CATALINA FLYING BOATS



Flying Boats—Martin Mars



ICON—A5



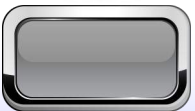
Edo Floats for airplanes



Grumman Albatross



PAN AM AT WAR



MODERN FLYING BOATS