



Dirigo Flyer

NEWSLETTER OF THE MAINE AVIATION HISTORICAL SOCIETY



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July - September, 2022

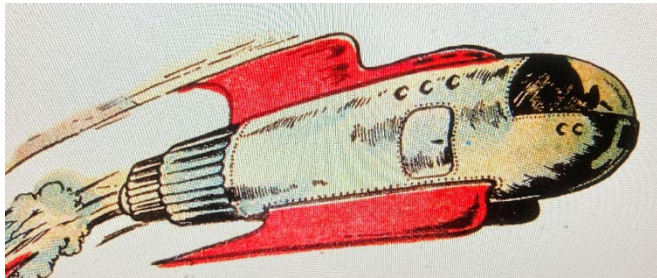
A futuristic Maine - Rockets, Satellites & More!

Maybe Another Maine Slogan*"Let the Countdown Begin"*

Compiled and presented by Bob Umberger

When one thinks of aerospace, or more to the point the term "Space," the State of Maine is not the foremost nor even a central locale that comes to mind for such activities. Nevertheless, a couple years ago Maine claimed to have 52 companies engaged in aviation/space ventures ranging from the most basic maintenance, support, manufacturing, sub-contracting, etc., to advanced research. Recently, mention of a significant space-related business has been cropping up periodically in the news, and with each such mention one must wonder how serious it is and how it might impact the state - near term and moving forward - if successful.

Before delving into the state's developing aerospace landscape let us take a brief look back in time. Around a century ago people here in Maine and throughout the country were enamored with the flurry of industrial advances making many innovations available for their personal benefit. Significant examples include the blossoming automobile industry, followed closely by a widespread intrigue with aviation. For the most part in that era of the 20th Century the subject of "space, rockets and travel into space" was only the fantasy of the youth of the day spurred on by fictional characters like Buck Rogers and the equally fictional spacecraft of the day. Interest in space odysseys were popular for nearly the first half of the 20th Century with almost no tangible examples available. Meanwhile, in nearby

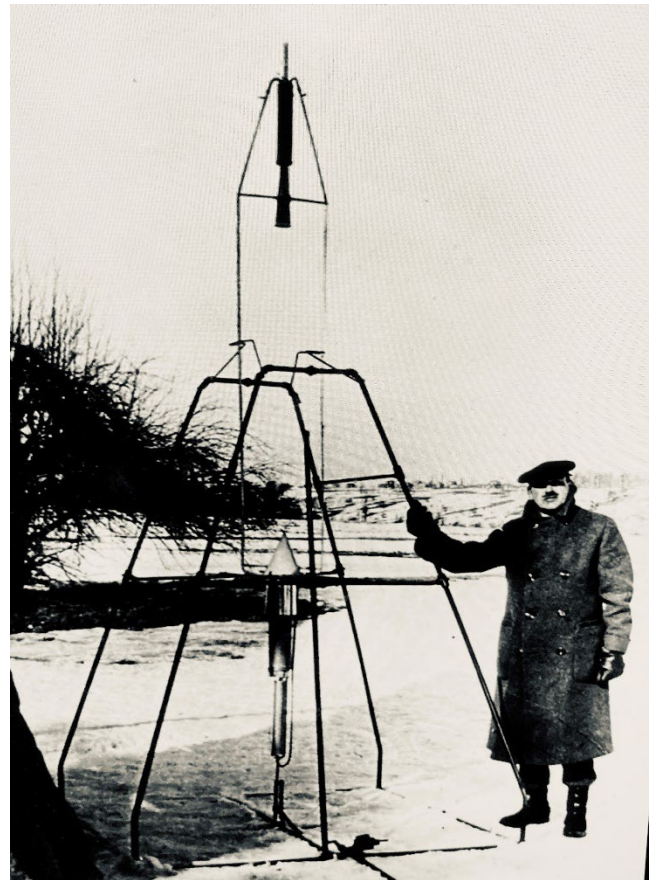


Concept of early 20th century rocket

Massachusetts, a budding scientist, Robert H. Goddard, already had two space-related patents, one for a liquid-fueled rocket and a second for a 2- or 3-stage solid-fueled rocket. By the time of Dr. Goddard's death in 1945, he held 214 patents in rocketry, most of which received little attention at the time. In the years after his passing, however, that changed dramatically. He was soon hailed as "America's renowned Father of Rocketry."

With the advent of the Cold War in the 1950s and an increasingly elevated concern for potential international hostilities, the U.S. military turned to hardening its air defenses.

The groundbreaking work of Dr. Goddard and other scientists resulted in the rapid evolution from rocketry to missiles. Then



Dr. Goddard's first rocket

and now, those terms are often used interchangeably. There are, however, distinct differences. In simple terms, rockets and missiles belong to the same family of launch vehicles; but experts in the field consider rockets as vehicles typically for space exploration not utilizing a guidance system, whereas missiles tend to be used in a military context and utilize onboard, controllable guidance features and sometimes secondary thrusters to aid in altering trajectory once launched.

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The Maine Air Museum is located at
98 Maine Avenue adjacent to
Bangor International Airport

Minutes of Meetings

Meetings of the Board of Directors – all open to the members – were held the second Saturday of July, August, and September. The Annual Meeting – which will include elections for the two open Board seats – will take place at 10:00 am on October 8, 2022. The annual BBQ will immediately follow the meeting. Members are invited to attend both the meeting and the BBQ. There is a charge of \$6.00 for the BBQ. Please pay in advance by mailing a check to John Nelligan, 79 Grove Street, Bangor, ME 04401 so that we will know how much food to have on hand. Highlights of the three summer meetings' minutes follow:

Minutes of Meeting – July 13, 2022

Present were John N, Les S, Joe Q, Andrew C, Pauline S, Bob L, Sarah L, John M and Don F.

The Treasurers and Secretary reports were accepted.

There was a comment that the background music was too loud. It has been turned down.

On the Logo, we like the new design. The suggestion was that we keep the old design but use the new design for future orders. Voted to approve.

On the engraved bricks. Joe had the last receipt of the order for bricks. We are trying to find a local business to use to reduce the shipping costs.

It was noted that the Web Site Provider's contract will expire in Feb 2023 and will need to be renewed.

It was noted that Bob Umberger donated \$100.00 in memory of Mike Cornett.

John's Genealogy group donated \$100.00 for the use of the building for a meeting.

Eddie Rideout, owner of the Ammo Industrial Park donated a new State of Maine Flag to the museum.

The suggestion was made that we set up an information table 7/25 from 6 – 8 PM at Chapin Park. The cost of a table is \$50.00, or we can share a table for \$25.00. Voted yes.

The wording on the [Museum] signage states that all active duty military are free. This should be changed to active military as guard units are not considered active duty. Agreed.

It was suggested that we provide a plaque for David Bergquist for his many years of service. Agreed.

Darling Ice Cream Truck will be scheduled for Sunday, 8/14/2022 from 12 – 3. We need traffic control to direct traffic in the field so that people do not get blocked in.

The annual BBQ will be held on the second Saturday in Sept.

It was agreed that a memorial display be made for Mike Cornett. We have his walking stick and can mount it on a board with thanks for his many years of service.

The Ace Camp will be at the Museum from 8/8 – 8/11. Andrew will open and close but they will do a museum tour on 8/10 at 4:00 PM. Some help would be great.

Submitted by Les Shaw, Secretary

Minutes of Meeting – August 20, 2022

Present were John N, Les S, Pauline S, Bob L, and Sarah L

John has a new option for the bricks. An image can be printed and glued to the brick. It is made to last regardless of weather. It was decided to try one and see how it looks. No one in the area can engrave bricks and the cost to ship is restrictive.

The ice cream social was not as successful as last year. It was not clear why. We will try again next year.

It was decided to move the end-of-year BBQ to October 8th. We will ask for a \$6 fee so that we have some idea of the number who will attend.

Membership dues notices have been sent out.

There was discussion on what is a group [for group admission fee]. Some felt that large groups should be asked to pay more but there was no decision on what size or how this would work.

It was decided that the museum would be closed after October 9th with a shutdown day on Oct 15th.

Submitted by Les Shaw, Secretary

September 23, 2022, Minutes on Page 4

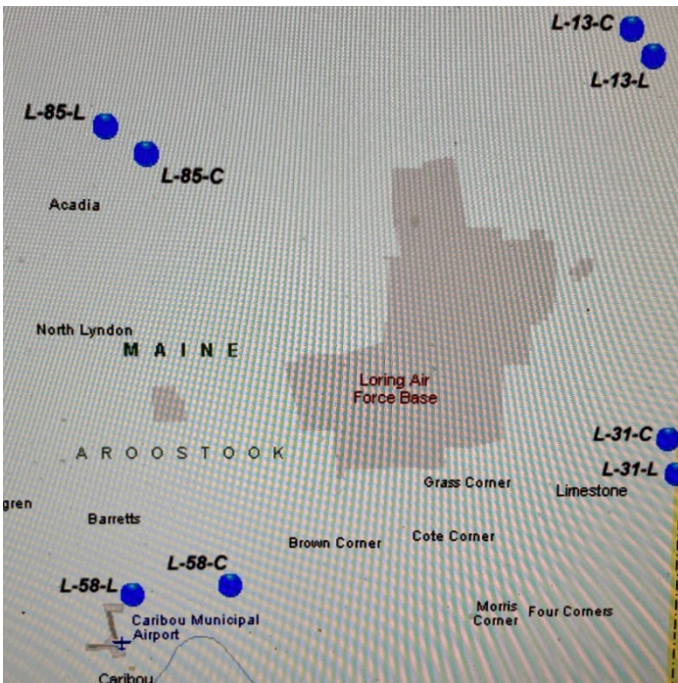
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As the Cold War continued, America populated the country with "missiles at the ready" in defense of the homeland. Here in Maine, there were four strategically located Nike Ajax



Cold War Nikes on Guard

(later Hercules) missile sites, manned 24/7 as the expression goes, which remained operational for about a decade. Those installations, all located in Aroostook County (at Caribou, Caswell, Conner and Limestone, see map below), were for the protection of Loring AFB and for defense of the Northeast approaches to the U.S.



Nike positions near Loring AFB

As those missile launch pads disappeared from people's back yards, so to speak, and from their consciousness, families

everywhere soon found themselves crowded around their television sets to witness the "New Frontier" unfolding before their eyes, and the "Space Race" was on! From those early launches that excited nearly every person young or old we find ourselves now several decades later hardly taking notice. Well, maybe here in Maine with our very own home-grown Astronauts, "space" gets a bit more attention of late; more on that later.

So, here we are now, well into the 21st Century, and the big news out of Augusta is that "Gov. Mills signs a bill after working its way through the legislature that creates the Maine Space Port Corp., a public-private partnership with its mission being the buildup of launch sites, the creation of data networks, and operations to facilitate sending satellites into space," (recently reported by the Associated Press & major Maine news outlets). Much of this initiative will be funded through NASA Federal Economic Recovery grants and the Maine Technology Institute. Back in 2019, a bill (LR2970) was advanced through the 129th Legislature to establish the Maine Space Port Leadership Council and much of the work behind the scenes the past couple of years has culminated with the bill signed by the governor here in 2022.

The Brunswick-based startup company, **bluShift Aerospace** has been a driving force behind this recent emphasis on developing a Maine space business. BluShift's CEO grew up in Maine. From a young age, Sascha Deri was intrigued by the stars and the Milky Way and dreamed of space travel. With a physics and engineering education and hard work, Deri is starting to realize his aspirations. On a relatively short timeline and with only a small but dedicated team of engineers and technicians, bluShift has accomplished a lot. BluShift's accomplishments include: successful static test firings of its rocket engines from its remote bunker at Brunswick; and a successful launch of its 20' tall Stardust 1.0 Rocket to an altitude of 4,000+ feet (Jan. 31, 2021) from the former Loring Air Base. R&D continues with the MARVEL 2.0 engine, which would be the propulsion source for bluShift's next iteration, the 50 foot tall Starless Rogue rocket. Maybe equally important is bluShift's parallel, well under-way development in perfecting its own proprietary, bio-derived rocket fuel which would not only give it a competitive advantage but would set it apart from any others that might enter this niche field. At this point in time, Maine has one other company, **VALT Enterprises**, hoping to be a player in what the state refers to as the "micro launch vehicle business."

Without going into all the various federal, state, and municipal considerations, legislation, and corporate objectives involved, suffice it to say there are many hurdles to bringing this business to fruition. At this early stage in the process there will no doubt be setbacks, revisions, and maybe a few surprises. One such hiccup occurred when the town of Jonesport resisted bluShift's proposal to launch from town-owned Water Island. BluShift has taken this in stride, has not retreated from possible alternate land-based sites, but instead has expanded its horizon to include off-shore, floating barges as a viable option.

It's important to keep in mind that the objective for all involved is to pave the way for launching into low earth orbit payloads consisting of miniature satellites. These small satellites (common names being "nanosats" and "cubesats," typically 1 to 10 Kg in weight) would provide expanded broadband communications, enhanced global imaging, and other commercial applications.



Example of a Nano Satellite

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A key technical consideration is that such satellites, once released, would travel in a North - South polar orbit, a requirement that makes Maine's geographic location ideally suited for launches from the eastern-most parts of the state and/or just off shore.

Developing this business basically from infancy makes it extremely fluid, challenging, and exciting all at the same time. Maine state government at this juncture is squarely backing this initiative. The current private partners are making progress. Some of the necessary infrastructure is already in place with Brunswick designated to be the main hub. Maine's Space Port Corp. (Maine Space Complex), and Loring's vast Commerce Centre facilities are also likely to play roles.



Brunswick Hanger 6, Home of bluShift and soon, Maine Space Complex

The potential benefits to Maine are enormous according to experts and the state's research; the worldwide nano satellite market is projected to be 3.5 billion dollars by 2023. The state and its private partners are confident they can capture a sizable portion of the market with the plans already set in motion. BluShift sees the market potential even larger just for the rocket and launching portion. An off-shoot benefit of a "built in Maine" space industry is its connections to STEM. Talented students graduating from Maine's educational institutions would find a variety of new technical & engineering opportunities right here at home, many geared toward aerospace but in other disciplines that do not exist today as well. Additionally, one shouldn't forget the younger Mainers (K - 12) and what this might mean to them and their futures.



For nearly 25 years, somewhat quietly behind the scenes many of Maine's children have been engaged in, and enjoyed, Maine Space Day. Space Day is an annual event with a variety of activities that bring STEM into play. The children's interests have been further elevated by our native Maine Astronauts, Chris Cassidy and Jessica Meir whose interactions with our students have made school projects and these

events all the more relevant. In fact, the 2018 Maine Space Day events were so well received that the program has been expanded to Maine Space Week held around April - May. Space-related education through other programs such as the Challenger Center and Ace Camp have included student visits to the Maine Air Museum.

Let's hope these joint efforts to build and attract this select segment of the space industry meets with success, makes our former military bases even greater assets for the state, and creates the anticipated economic prosperity and careers for

generations of Maine inhabitants. MAHS / MAM would welcome the prospect of adding new displays covering a host of historic and cutting-edge space events!

Sources: ME State documents & news releases, Associated Press/Portland Press/Bangor Daily News, Google Search & Wikipedia.

Editor's Note: On July 1, 2022, after this story was submitted, the Bangor Daily News reported that the Downeast coastal Town of Steuben approached bluShift with an offer "to be the base of operations for its planned space complex." A deal has been struck, and bluShift now plans to "build a mission control center and rocket manufacturing facility in [Steuben] and launch rockets off its shores" from a lift-boat.

Minutes of Meeting - September 10, 2022

Present were John N, Don F, Joe Q, Pauline S, Bob L, and member Sarah L

Treasurer's Report: Total income for 2022 to date is \$5,748.28. MAHS has \$3,923 in the checking account and \$6,629 in savings. According to J Quinn, this is "not too bad." Treasurer's report accepted.

By-Laws review: Discussion of the need for revision of the by-laws was tabled pending further Board discussion.

New Museum Banner: The new Maine Air Museum OPEN banner is in place by the road.

The plaque for David Bergquist is ready for presentation. It was decided to wait for Dave B to visit the museum on a trip from New Hampshire to present it to him personally rather than mailing it to him.

President John Nelligan reminded everyone that he will be out of the country - in France - from September 17 to October 3, 2022.

Bricks: It was decided that the bricks will be ordered from PermanentMark, LLC, a Massachusetts company we have used in the past.

Credit Card Reader - Bangor Savings Bank: John N reported on his negotiations with a senior vice president at BSB about obtaining a credit card reader. The need for such a reader has been raised at every meeting this year with varying opinions expressed. Today, two groups asking to pay with credit came into the museum as the meeting was in progress. It was agreed that because many people do not carry cash and expect to be able to use a credit card, a card reader is desirable. A vote was taken and there was unanimous approval for John to finalize arrangements with BSB before he leaves for France.

The annual BBQ will be held October 8, 2022. It will be the same as years gone by with a \$6 charge. John would like to invite members of the American Legion to attend.

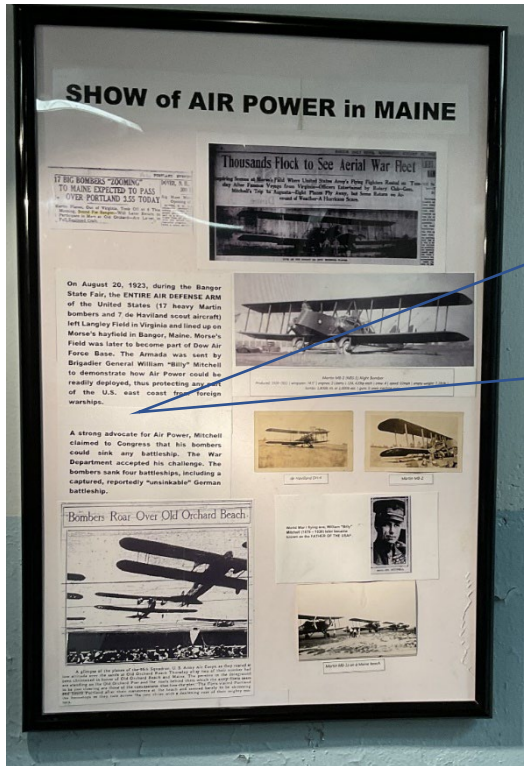
Plans for 2023: John N suggested MAHS invite veterans from the Maine Veterans Home to tour the museum free of charge. This met with unanimous approval.

Dues Structure: A motion was made, seconded, and approved to offer an option to purchase 4 years of membership at a time for \$100 (regular membership). No change will need to be made to printed material (such as membership applications) for this new option. John will revise his letter to members reminding them of the June 30 deadline, and revealing the new option for payment. Pay it and forget it.

Submitted by S Littlefield, for Les Shaw

SHOW OF AIR POWER IN MAINE

THE MUSEUM HAS A NEW DISPLAY HONORING BILLY MITCHELL – WHO BECAME KNOWN AS THE
* FATHER OF THE UNITED STATES AIR FORCE *

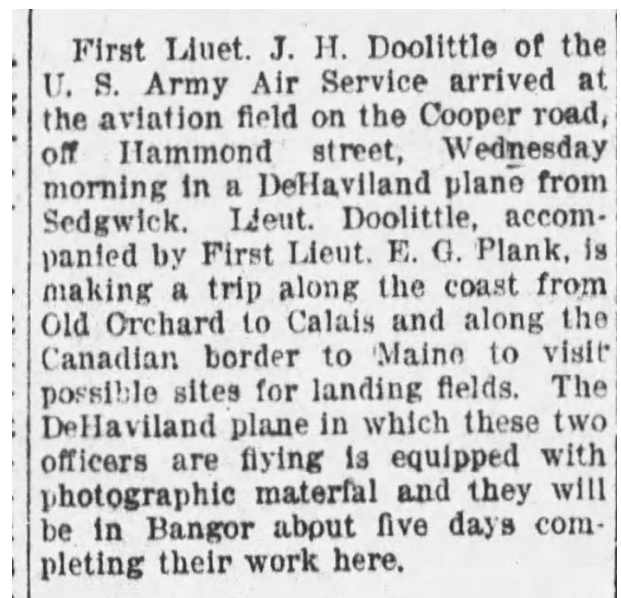


On August 20, 1923, during the Bangor State Fair, the ENTIRE AIR DEFENSE ARM of the United States (17 heavy Martin Bombers and 8 De Havilland scout aircraft) left Langley Field in Virginia and lined up on Morse's hayfield in Bangor, Maine. Morse's Field was to later become part of Dow Air Force Base. The Armada was sent by Brig. General William "Billy" Mitchell to demonstrate how Air Power could be readily deployed, thus protecting any part of the U.S. East Coast from foreign warships.

A strong advocate for Air Power, Mitchell claimed to Congress that his bombers could sink any Battleship. The war department accepted his challenge. The bombers sank four battleships, including a captured, reportedly "unsinkable," German battleship.

Chapter One of member Dave Bergquist's book "Bangor in World War II" chronicles the story of Billy Mitchell's 1923 brief appearance in Bangor along with the twenty-three aircraft representing the "entire air defense arm of the United States" under his command. It turns out Billy Mitchell was not the only member of the United States Air Service to express an interest in Bangor as a potential site for use by the air corps. According to Bergquist's book, "[i]n the late summer of 1924, the people of Bangor saw another military aircraft for several days as it flew over the area taking photographs of possible landing fields. Lieutenant James H. Doolittle piloted this specially equipped De Havilland. Jimmy Doolittle went on to have a storied career in the army air corps and later the army air forces, the nomenclative successors to the air service. The diminutive but daring Doolittle was a pioneer in instrumentation flying. Years later, he achieved fame for leading a group of sixteen B-25 Mitchell bombers off the pitching and bobbing deck of the aircraft carrier USS *Hornet* in an April 18, 1942 retaliatory air strike of Japanese soil, the first ever. Still, it was many years before military aircraft in any number landed on Bangor soil."

The Bangor Daily News' report on Lieutenant Doolittle's September 10, 1924 trip to Bangor is shown to the right.



BDN September 11, 1924

In Memoriam

MICHAEL CORNETT, Member No. 321

Brewer, ME Long time member, Mike Cornett, passed away on May 11, 2022, at the age of 72. We thank Les Shaw for the following tribute to his friend Mike:

Mike Cornett

I had known Mike since the mid 80s as our departments worked together at the University, but only in passing. We both saw an article in the newspaper about a group starting an Air Museum in Bangor. We both attended our first meeting together the following weekend. Mike was very knowledgeable about military history and airplanes. We became quick friends.

There was a small group that worked on the building. Jim Chichetto, Al Cormier, Mike, and I worked every Saturday. We would pool together whatever money we could spare to cover the work that day. Mike worked in Facilities Management at the University and was a great source for items. He was able to learn what furniture and equipment was being replaced, and with permission, acquired a lot of items to save us money.

Mike was also the museum photographer and always took pictures. Unfortunately, we have very few pictures of him.

The museum was very important to Mike, and he spent a great deal of time there. He had a large collection of articles, pictures, and patches; many are on display at the museum.

Mike was a great asset to both the Maine Aviation Historical Society and the Maine Air Museum. He will be missed by everyone in the organization and by me as a friend and co-worker.

Les Shaw



New roadside banner designed by John Nelligan replaces the extremely heavy and difficult-to-move Maine Air Museum Open sign seen on Page 7

New Members

The Maine Aviation Historical Society welcomes the following new members who have joined this year:

- Edward Stanhope, No. 9216, Auburn, ME
- Mike Rolnick, No. 9217, Bangor, ME
- Gen. Nicholas Eremita, No. 9218, Merritt Island, FL
- Allan Fuller, No. 9219, Benton, ME
- Kimberly Smith, No. 9220, Presque Isle, ME
- Sharon Buck, No. 9221, Bangor, ME
- Daniel Wiswell, No. 9222, Hermon, ME
- Paul Hoffman, No. 9223, Nashville, TN
- Merland Clark, Jr., No. 9224, Corinth, ME
- Paul McCann, No. 9225, Brewer, ME
- Zach Sherry, No. 9226, Glenburn, ME
- Michael Carr, No. 9227, Bangor, ME
- Roy Allen, No. 9228, Bangor, ME
- Irvin Krupke, No. 9229, Bangor, ME
- Teddi-Jann Covell, No. 9230, Orono, ME

GOINGS-ON AT THE MUSEUM AND AROUND TOWN



Courtesy of John Miller – added to the Northeast Airlines display – this circa 1949 poster shows amazing rates for flights from Old Town's DeWitt Airport to other Maine destinations



Many thanks to Les Shaw for building this new ramp leading to the Museum's entrance



Members Don Finnegan, Pauline Sodermark, and Bob Littlefield man the MAM table at the Chapin Park Block Party in July



Member Don Albert-Ames demonstrated how to safely display the free ice cream banner in a gale - you anchor it to all the heavy objects you can find



All dues expire on June 30th of each year. If joining after December 31, pay \$2.00 for each remaining month (\$3.00 per month for Family Memberships)

Annual membership includes quarterly newsletters

Mail payment to:

Maine Aviation Historical Society
PO Box 2641
Bangor, ME 04402-2641

Maine Aviation Historical Society
Maine Air Museum * Membership Form

Name: _____

Address: _____

City, State, Zip: _____

Special Interests: _____

Phone: _____ Email: _____

Membership	Dues	Benefits
Regular	\$25 annual	Newsletter, Museum Admission
Family	\$35 annual	Newsletter, Museum Admission
Corporate	\$100 annual	Newsletter, Museum Admission
Supporting	\$100 annual	Newsletter, Museum Admission

We need volunteers-docents, mechanics, maintenance, librarians and exhibit specialists, etc.

- Please call me. I want to be active in the organization.
 I cannot join now, but would like to help. I enclose a check for _____
 (Contributions over \$20 are tax deductible within the limits of the law)
 I wish to support and obtain membership by purchasing a memorial brick

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