

Welcome to

# FLIGHTLINE



Newsletter of the American Aviation Historical Society

**No. 25-02**

30 April 2025

April 30, 2025, marks 50 years since the fall of Saigon and the end of the Vietnam War. Or the American War, if you happened to have been on the other side. Fifty years; half a century. That's a long time. For those who were participants, the war can seem to have been an eternity ago—or only yesterday.

Aviation history can feel like that. If, in 1953, fifty years after the Wright Brothers' first tentative hops over the sands of Kitty Hawk, their 1903 Flyer had been placed next to, say, an F-86, the viewer could be forgiven for wondering if those two birds were even of the same species.

In those days, aviation was evolving at an unbelievable pace. Young people who finished high school about the time Lyndon Johnson became president grew up in what I consider to be aviation's second Golden Age. For an airplane geek, those were heady times. Every year or so it seemed another of the USAF's Century Series fighters debuted, while the Navy brought forth a steady stream of its own jet fighters, culminating in the iconic McDonnell Douglas Phantom.

Out in the California desert, faster and higher was the name of the game. Chuck Yeager had broken the sound barrier there years before, and the Douglas Skyrocket and the Bell X-2 pushed the envelope even farther. On the civil side, the Boeing "Dash 80" of 1954 became the 707 which, with its less successful competitors, pushed aside the Connie and the DC-7 and revolutionized air transport.

But those school kids of the 1950s and 60s were destined to bear the brunt of the America's involvement in the Vietnam

war. The air war in Vietnam was fought with the airplanes developed in that second Golden Age, and by some of much earlier vintage. The humble C-47, the workhorse of WWII, found new life—and new fame—as the "Spooky" gunship. Yours truly saw the war mostly from the back end of an EC-47, yet another variation of the venerable Gooney Bird.

Then there's the B-52. Designed to reduce Soviet cities to heaps of radioactive rubble, the Vietnam War transformed it into a giant ground support aircraft. The last one rolled off the line in 1962. That was *more* than a half century ago, and plans are for it to soldier on for another couple of decades.

Aviation history is still being made; it's just not often of the breakthrough variety of 60 or 70 years ago. But thanks to advances in other areas of technology, millions of pages previously inaccessible to the average researcher can now be accessed by anyone with the patience to explore them. We'll continue to focus on that in future issues of *FlightLine*.

Aviation history may be hiding in plain sight, too. Is there more about some long forgotten airfield in the files of your local library? Or why not share those photos of that old-time aviator relative you came across in grandma's family album? Do you have an aviation story of your own to tell? That's the spirit of AAHS. Let's keep it alive!

Joe Martin  
AAHS *FlightLine* Editor



# AAHS Celebrates Flabob's 100th!



Bob Palazzola photo

CEO Jerri Bergen reports that the celebration went well; lots of folks in attendance, with a good time had by all. Below are some pix of the various activities. Photogs John Martin and Steve Johnston shot just about all the airplanes, a selection of which we'll put on another page or two. Kudos to all hands for a job well done!



(Above) AAHS bookkeeper and membership scribe Klara Smith rode herd on the proceedings. (Left) Jerri works the crowd. (Below) Rafe Tomsett delivers a history lesson as only he can.



AAHS Prez Tyson Smith slaves over a hot grill on the HQ flight deck



No words necessary . . . .



BoD member Les Whittlesey  
and his Lockheed 12A



(Les Whittlesey)



(Both by John Martin)

# Flabob Flightline

John Martin snaps the visitors



# And in-flight . . . .

by Steve Johnston



# History's Most Influential Aircraft

## Which would get your vote?

### Introducing our first candidate

In our previous number, we wondered which five or ten aircraft AAHS members might consider to be the most influential in history, and why, with aircraft being defined as “device designed to sustain itself in atmosphere above Earth’s surface, to which it may be attached by a tether that offers no support,” and influential aircraft meaning one that altered the way people thought about and participated in human flight.

With these criteria in mind, we went back to the dawn of human flight—not to the Wright Brothers at Kitty Hawk in 1903, but 120 years earlier to the provincial town of Annonay, in southeastern France. It was there, on June 4, 1783, that another set of brothers, Joseph and Etienne Montgolfier, launched their unmanned hot air balloon from the village square.

The story of these pioneering aircraft and their significance is not much studied by those whose main interest is in airplanes, so we offer here an abbreviated discussion of these early flights. The Montgolfier brothers’ Annonay demonstration was unquestionably influential, awakening as it did the realization that mankind might indeed realize the age-old dream of flight. But the aircraft itself actually demonstrated the limitations of hot air for propulsion—the fire grate “powering” the balloon tipped over on landing and the entire apparatus burned to destruction.

### An Alternate Approach

As news of the Annonay flight spread, another group of experimenters took a different and ultimately more influential path. Hydrogen, or “flammable air” as it was then commonly known, had been discovered almost 20 years earlier. If a sufficiently tight envelope could be devised, hydrogen would serve as a far more efficient lifting medium than smoke from a fire.

Producing a few cubic centimeters of hydrogen in a lab was one thing. Making enough to raise a balloon was another matter entirely. Jacques Alexandre César Charles, a noted “professor of experimental philosophy,” was engaged to oversee the project. Financing was obtained through public “subscription”; advance ticket sales for prime seating from which to view the well publicized launch. Work proceeded rapidly and by late August the balloon, about 12 feet in diameter and called simply “Globe,” was ready.

Generating sufficient hydrogen in fact proved to be a significant challenge, but on the afternoon of the 27th the balloon, glistening in a light rain, was set free. Benjamin Franklin, in Paris as one of the American delegates negotiating the end of the Revolutionary War, witnessed the spectacle. Franklin reported that “not less than 50,000 People were assembled to see the Experiment.” Others estimated more than twice that number of spectators. Whatever the number, it was the 18th century analog of the crowds that gathered around

Cape Canaveral in the early days of the U.S. space program, and resulted in the same mass public enthusiasm.

### The First Manned Flights

Meanwhile, the Montgolfiers had not been idle. In response to a Royal request, on September 19 a magnificently decorated hot air balloon was launched from the grounds of the Palace of Versailles, hoisting a cage within which were a duck, a rooster, and a sheep—the world’s first air passengers.

The menagerie landed unharmed, setting the stage for a truly historic flight. On November 21, 1783, Pilatre de Rozier and François Laurent d’Arlandes, aboard another Montgolfier model, became the first humans to make a sustained free flight, remaining aloft for about twenty minutes.

Back in Paris, the hydrogen group, subsidized by a new round of subscriptions, was nearing completion of its own man-carrier. Shortly before two o’clock on the afternoon of December 1, 1783, J.A.C. Charles and Marie-Noel Robert, one of the balloon’s constructors, stepped into the gondola of the new balloon, anchored in the Tuileries gardens in the heart of Paris.

Fabricated of alternate red and yellow gores, this balloon was about four times the size of the one demonstrated in August. The crowd was many times larger; perhaps a third to a half the population of Paris anxiously watched and waited as the restraining ropes were cast off and the balloon rose majestically skyward. Initially the onlookers reacted in stunned silence, scarcely comprehending what their eyes were seeing. Sensing this, the balloonists waved their pennants, signaling all was well, whereupon the multitude below erupted in the full range of human emotions. The two aeronauts floated serenely over the countryside for about two hours before landing some 22 miles away, whereupon Robert dismounted. Charles then reascended, drifting solo for another half-hour.

### Design and Operation

The hydrogen balloon reflected the clear grasp of physics and engineering principles possessed by its designers and constructors. A spherical object provides the greatest internal volume (hydrogen as lifting medium) for the least amount of surface area (weight and air resistance.) A net of small diameter ropes would be draped over the upper half of the sphere, secured to a wooden hoop placed around the equator of the inflated envelope. From this hoop an oblong basket, accommodating two passengers, would be slung beneath the balloon by another set of ropes. In this instance, the basket resembled the hull of a small ship, perhaps as a visual cue that navigation of the air was about to become a reality.

In a completely sealed envelope, as altitude increased the hydrogen inside would expand until the balloon eventually

burst. Two methods were employed to avoid this, the simplest being an open “appendix,” made of the same material, attached at the lower pole of the envelope. Hydrogen, by naturally rising to the upper hemisphere, would vent through this orifice only when internal pressure became excessive. If this proved to be inadequate or if an immediate descent was desired gas could be released through a spring loaded flapper valve installed at the upper pole, operated by pulling on a cord running through the balloon’s interior to the basket below.

A properly functioning gas balloon required lifting power in excess of the weight of passengers and whatever gear they might bring along. Part of this excess capacity would be taken up by bags of sand as ballast. Slowing an unwanted descent or initiating a gain in altitude could be managed by judicious emptying of the sandbags.

The wind would obviously determine the direction of flight, but so long as sufficient hydrogen and ballast remained, some measure of control, at least in the time and place of landing, could be maintained by opening the valve or jettisoning ballast as needed.



A hand-tinted and somewhat fanciful engraving of the December 1, 1783, flight. The depiction of the balloon is probably reasonably accurate. One of the aeronauts has evidently dropped his pennant. The circular array in the center of the image represents the several casks containing iron filings, over which dilute sulfuric acid was dripped to generate hydrogen, which was then piped to the balloon.

([gallica.bnf.fr/Bibliothèque nationale de France](http://gallica.bnf.fr/Bibliothèque_national_de_France))

## Conclusion

The hot air type did not disappear, of course, and today virtually all untethered balloons are of the propane-heated hot air model pioneered by Ed Yost in the early 1960s. Balloons of any type suffer from one unsurmountable weakness—they cannot be steered, thus limiting any impactful utilization. Nonetheless, the design of the balloon built and flown by J.A.C. Charles and the Robert brothers was so fundamentally sound that it remained the template for the hundreds that followed in the 120 years that the hydrogen balloon served as the world’s only practicable aircraft.

For all its imperfections, the spherical balloon proved that mankind could fly, and that true navigation of the air—*aeronautics*—was a dream that would one day become reality. For this reason, and for the “air mindedness” it sparked, more than a century before the advent of the airplane, we list the 1783 hydrogen balloon as one of the most influential aircraft in history.

## To Learn More

Many sources, digital and print, can be found concerning these early flights. We recommend these based on our own readings:

For a one-volume treatment of the subject in the timeframe indicated, *Taking Flight: Inventing the Aerial Age from Antiquity Through the First World War* (Richard P. Hallion, Oxford University Press, 2003) is as good as it gets. The pioneering balloon flights of 1783-1784 are succinctly but thoroughly covered in chapter three.

*The Eagle Aloft: Two Centuries of the Balloon in America* (Tom D. Crouch, Smithsonian Institute Press, 1983) remains the best overall history of lighter-than-air flight in the U.S. through about 1981. An enjoyable read throughout, the 1783 flights are summarized in chapter one.

*The Imagined Empire: Balloon Enlightenments in Revolutionary Europe* (Mi Gyung Kim, Univ. of Pittsburgh Press, 2016) is a marvelously researched examination of the social and cultural impact of balloons and balloonists in the years leading up to the French Revolution. It’s likely to be a difficult read for most, frankly, but the sheer amount of detail within, based on contemporary French sources but rendered in English, make it useful as a reference source.

For a contemporary account of these events, there’s *The History and Practice of Aerostation*, by Tiberius Cavallo, an expatriate Italian living in London. Based on published French works, newspapers, and other eyewitness accounts, Cavallo’s book takes into account virtually all aeronautical events of consequence through early 1785.

The second half of the book presents a general treatment of the state of the aeronautical art as it was understood at the dawn of human flight. Included are many technical “how it was done” details not found elsewhere. We intend to add an enhanced pdf version to the AAHS e-Library soon.



# NEWS and VIEWS

## From the Editorial Hangar

### *Future FlightLines*

If you've seen the last couple, you know that we're in transition to a "blog" format for *FlightLine*, although your editor is strenuously avoiding the use of that term in favor of "interactive online newsletter."

But for the immediate future, however long that turns out to be, you'll still be getting these abbreviated (in comparison to the old 16-page format) pdf numbers—but you'll receive them more often. We intend to crank out at least a couple per month; more often depending on what comes across the editorial "desk" or what the editor discovers in one of his late-night Internet forays. Length and content will vary accordingly.

At least for the next few, we'll try to blast out an email heads up. That's a bigger deal than is sometimes realized, and for good reason. To avoid an individual email account being converted into a spam factory, there are limits to the number of addressees that can be tagged for a single message. In this case, firing off over a thousand, even though the process is automated, requires some time and effort.

So instead of watching your inbox, check out the AAHS website more frequently: <https://www.aahs-online.org/> If you haven't, take time to explore it a bit. It's a very useful tool for the aviation enthusiast, and especially for AAHS members.

### *News & views on AAHS membership*

As you'll see on the next page, a good number of folks have joined AAHS since our last New Members listing, and that's always good news. Numbers-wise, we've held steady at around 1,100 over the past few years. That's better than going in the opposite direction, of course, but it's hardly a sign of robust growth. The other day I happened across AAHS [Newsletter No. 45](#), from 1st Quarter, 1978. (It wasn't called *FlightLine* back then.) The Secretary's annual report showed 4,070 members. Today, we're at about a quarter of that number.

1978 was close enough to 50 years ago to align very nicely with the theme of the comments on page one of this current newsletter. It's no secret that a large segment of AAHS membership is eligible for Medicare. Many, your editor among them, are a decade or more beyond. Sure, there's a wealth of experience there, and hopefully some wisdom, but the long-term implications are obvious.

Aiming to recruit high school kids isn't the answer, although we'd love to have them if they're interested. The same for college and tech school students. But I have to believe there are lots of 30-50 year olds out there, established in their lives and careers, who have an interest in aviation and aviation history. We need to reach them.

How do we best go about that? We have some ideas, but as yet nothing resembling an actual plan. As with anything else related to AAHS, we welcome your input. As we said last time, tell us what works, what needs work, and what you'd like to

see more—or less—of. If it's "All good, don't change a thing," then tell us that, too. If you'd like to direct your thoughts to a particular AAHS office or individual, here's where to do that:

<https://www.aahs-online.org/about/contact.php>

### *Salute to a Pioneering WASP*

For those in the Atlanta area, on June 28 Commemorative Air Force (CAF) Airbase Georgia will host a special screening of *Crosswinds: The Courageous Life of Cornelia Fort*. Here's a thumbnail biography:

Cornelia Fort, born in 1919, was a trailblazer in every sense of the word. After earning her commercial pilot's license in 1941, she trained pilots as part of the Civilian Pilot Training Program, first in Colorado and then in Hawaii. On Dec. 7, 1941, while in flight with a student over Honolulu, she narrowly escaped death as the Pearl Harbor attack began.

Determined to serve her country, Cornelia joined the newly formed Women's Auxiliary Ferrying Squadron (WAFS) in September 1942, the second woman accepted into the program. She was tragically killed in a mid-air collision in 1943 while delivering a military aircraft to Dallas, Texas, becoming the first female pilot to die while on active duty with the U.S. Army.

(via CAF Airbase Georgia. Click [here](#) for more info.)

### *An Airpower Classic Reprinted*

The Air Force Historical Association, in cooperation with the Air University Press, has republished DeWitt S. Copp's 1980 classic, *A Few Great Captains: The Men and Developments That Shaped the Development of US Air Power*.

"Pete" Copp was a fine story teller, and for anyone looking to understand the technical, political, and personal challenges faced by the young airmen who in later years would become the leaders of the US Air Force, there's no better place to start than this book. Copp spent hours talking with many of the principal characters, and the intertwining of their stories makes for very entertaining and enlightening reading.

The AU Press has posted a pdf version on their website. This is a book that belongs in any aviation library, and it can be downloaded [here](#) at no charge.

**P.S.** — Thanks to Klara Smith and Bob Palazzola for the pix on page two.



[Flightline@aaahs-online.org](mailto:Flightline@aaahs-online.org)

# NEW MEMBERS

---

Walt Muller  
Huntington Beach, CA 92648

Michael Hester  
Banning, CA 92220

Jeff Wasel, PhD  
Santa Clara, CA 95051

William Fiser  
Gulf Breeze, FL 32563

James Morrell  
Vaughn, WA 98394

David Janney  
Peyton, CO 80831-4442

Joseph Baker  
Matthews, NC 28105

J. Campbell Martin  
Tehachapi, CA 93561

Robert Dorsett  
Round Rock, TX 78681

Michael Kopman  
Crystal, MN 55427

James Burn  
Houston, TX 77062

Alexander M. Barnes  
Los Angeles, CA 90045

Dan Silvers  
Waunakee, WI 53597-1730

Robert L. Quint  
Saint Joseph, MO 64504

Chace Mayhew  
Haslet, TX 76052

Louis A. Toth  
Pensacola, FL 32514

Richard Parker  
Costa Mesa, CA 92626-5610

John Purcell  
Bonaire, GA 31005-3118

Robert Ashcroft  
Ithaca, NY 14850-6500

Doreen Murray  
Rancho Cucamonga, CA 91730-1509

Jonathan Murray  
Lake Saint Louis, MO 63367-5808

Gerald Epps  
Freedom, NH 03836

David Marcum  
Cheyenne, WY 82009-8370

Ted Farwell  
Rose Hill, KS 67133

Joseph Bermudez  
Windham, ME 04062

Avraham Thomas  
Livermore, CA 94550

Rob Hart  
San Diego, CA 92131

Peter Steinmetz  
Tempe, AZ 85283

Harold Campbell  
Fort Worth, TX 76179

Justin Zabel  
Fortuna, CA 95540

Clifford Davis  
Alexandria, VA 22306

Karen Harbour  
Royal Oak, MI 48073-2441

Edward Hass  
Apache Junction, AZ 85120

Michael Smith  
Harbor Springs, MI 49740

Ruben Baghdassarian  
Tarzana, CA 91335

Grant Williams  
Laguna Beach, CA 92651

Richard Markel  
Moore, OK 73160-8007

Thomas Fey  
Arlington Heights, IL 60004-4957

Sebastian De La Cruz  
Herndon, VA 20171

Gabriel Kane  
Yucaipa, CA 92399

Huan Nguyen  
Torrance, CA 90503-7374

Patrick Larkin  
Colorado Springs, CO 80904

Deborah Sampson  
Hancock, NH 03449

Daniel Ponder  
Corona, CA 92881

Jim Gorman  
Boxborough, MA 01719

Dale Berger  
Elyria, OH 44035-6800

Ed Arva  
Webster, NY 14580

Kevin Smith  
California, MD 20619-3305

Cindy Blair  
Georgetown, TX 78633-2257

Benjamin Matts  
Seattle, WA 98144

Mark Taylor  
Billings, MT 59101

Eric Marquez  
Baldwin Park, CA 91706

Willis Van  
New Braunfels, TX 78132

Gary Moir  
Rancho Palos Verdes, CA 90275-2244

Ernest Martinez  
Carrizo Springs, TX 78834

Raymond Dedrick  
Longmont, CO 80504

Richard Connell  
Currituck, NC 27929

Gregory Gattermeyer  
Batesville, IN 47006

Timothy Boyd  
California, MD 20619-4030

David Hamann  
Los Lunas, NM 87031-6899

Ronald Suttell  
Tacoma, WA 98422-1519

Peter Percy  
Ventura, CA 93004-2219

Mark Taylor  
Billings, MT 59101

Eric Marquez  
Baldwin Park, CA 91706

Willis Van  
New Braunfels, TX 78132

Gary Moir  
Rancho Palos Verdes, CA 90275-2244

Ernest Martinez  
Carrizo Springs, TX 78834

Raymond Dedrick  
Longmont, CO 80504

Peter Percy  
Ventura, CA 93004-2219

### INTERNATIONAL MEMBERS

Roger Eberle  
Oberengstringen, ZH 8102  
Switzerland

Mr. Paul Little  
South Yarra, Victoria 3141  
Australia

Derek Collins  
Morpeth, Northumberland NE61  
United Kingdom

Johannes Schindler  
Mintraching 93098  
Germany

Denis Schneidewind  
Woluwe-St-Lambert, 1200  
Belgium

Pecchio Agostino  
Torino, 10123  
Italy

Rob Van Lijf  
Eindhoven, Eindhoven 5614AL  
Netherlands

Alan M Watson Forster  
Tlapan, DF 14250  
Mexico

Andreas Weber  
Herne, 44623  
Germany

Jin Ying  
Shanghai, 200023  
Peoples Republic of China

**Note:** To prevent unauthorized  
extraction of personal information,  
AAHS no longer publishes  
members' complete addresses.



(Steve Johnston photo)