

From Jars to Jets

Story by Jerry Thomas, Editor, EAA Chapter 932

(Editor's note: The following article was sent to the Colorado Aviation Historical Society this past year as an [unsolicited] offering for our archives. We reproduce it here, in its entirety, as a historically significant story for your reading pleasure.)

It's that time of year. Crisp autumn weather means it's harvest time. Backyard gardens enjoyed a good growing season here in the Midwest, leaving us with an abundance of produce. What hasn't been used already is being saved by drying, freezing or canning. There's even a shortage of canning supplies at the local hardware store.

That got me thinking about glass jars and outer space. Stay with me and I'll explain.

A few years ago, I visited the *Wings Over the Rockies Air and Space Museum* in Denver, CO. Our daughter and her family live in Denver, so it's a regular stop for us when traveling. The museum is housed in one of the historic hangars that were once part of the former Lowry Air Force Base. Much like the Glenview NAS, the area has now been redeveloped with housing, restaurants and other businesses replacing the runways. Today, a B-52 bomber sits outside the hangar's main entrance.

While exploring the museum, a familiar logo caught my eye, but it was in an unaccustomed place: the nose of an experimental jet airplane. It was the Ball logo that I had seen on canning jars over the years.

So, how does a company go from glass jars to jets?



Ball Brothers logo displayed on the Ball-Bartoe jetwing at Wings over the Rockies Museum (photo: Jerry Thomas)

Curiosity lead me to doing some research. I learned that the company founded by five Ball brothers in Buffalo, NY in the 1880s had a fascinating history. Family owned for 90 years, the four main components of their core product, canning jars and lids, were glass, zinc, rubber and paper. This lead to expansion, with the brothers purchasing a zinc rolling mill to manufacture lids and then a paper mill to fabricate the necessary packaging. In time, they also acquired tin, steel and plastic companies. During WWII, the company shifted their manufacturing facilities to producing shells and machine parts for the military. Near the end of the 1940s, Ball's businesses became the focus of an antitrust case that ultimately hindered their ability to acquire other glass manufacturers and glass-making machinery, leading to the company's first ever net operating loss. It became clear that the company needed to diversify in order to grow.

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In 1956, the company formed the *Ball Brothers Research Corporation* in Boulder, CO to build pointing controls for sounding rockets that carried scientific apparatus aloft in sub-orbital flights. The company eventually built seven of NASA's early earth-orbiting satellites, making them a member of the aerospace industry.



Jetwing at Mojave Airport (photo: Jerry Thomas)

Around the same time, the company was joined by a talented engineer, biplane enthusiast and skilled aerobatic pilot by the name of *Otto "Pete" Bartoe*. In 1973, Bartoe (by then President of Ball Research) convinced the corporation to enter into a joint venture with his alma mater, the University of Colorado, to build what became known as the Ball-Bartoe "Jetwing," an oddly shaped, single-engine, single-place aircraft with a stubby wingspan of only 21'9". Bartoe designed it as a "low-key, low-cost" research vehicle that utilized unique design concepts along with conventional aircraft parts that included a Cessna tailwheel, Bonanza wingtips and a Citation air intake. The idea was to entice military and commercial contracts with its unique technology.

The Jetwing was a jet powered taildragger with a "blown wing" that diverted the exhaust through wing root nozzles over the top sections of the wing's leading edge to improve short field takeoff and landing capabilities. Its single Pratt & Whitney engine produced 2,050 pounds of continuous thrust. Tests proved that the "upper blowing surface" technology produced twice the lift of a conventional wing of the same shape and size. A secondary "augmentor" wing mounted just inches above the main wing added a low-pressure slot to guide the exhaust across the wing and draw in additional air to increased lift. Large flaps on the trailing edge effectively created a "bend" in the airstream above the flaps, providing a simple use of downward thrust that enabled the Jetwing to fly as slow as 40 mph. Notably, the aircraft lacked a tailpipe.

The first flight took place in 1977 at the Mojave Airport with test pilot Herman "Fish" Salmon at the controls. At low speed, the aircraft flew so slowly that Bartoe used his Super Cub as a chase plane.

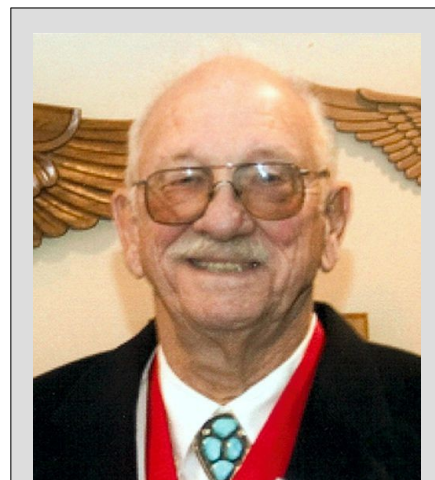


Detail of the "augmentor" wing and flaps on the Jetwing (photo: Jerry Thomas)

Following a number of test flights, Bartoe himself flew the Jetwing back to Boulder for more testing. The belly tank only held 106 gallons which required eleven fuel stops to be made enroute. Because of a scarcity of jet fuel along the way, a mechanic chased the flight in a pickup with a container of Jet A in the back.

In Bartoe's words, "As long as the engine was running, you couldn't stall it. Landings were interesting: The jet blast came off the deployed flap, bounced off the ground, and forced the tail up. If you reduced power, the tail would come down suddenly, just as the wing was losing lift. But everything happened at such a slow forward speed that it was manageable."

In 1978, after being unable to attract outside investment, the Jetwing was donated to the University of Tennessee Space Institute. In 1980, However, interest in the aircraft increased when the Navy



Hall of Fame Laureate Otto "Pete" Bartoe (photo: CAHS)

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considered developing it for use on short aircraft carriers. A new series of test flights were carried out. Despite its top speed of 350 mph, the Navy was able to land the Jetwing in a mere 300 feet.

Ultimately, the Navy discontinued blown-wing research in favor of vectored thrust technology. The Jetwing was returned to its original home in Colorado where it took its place in history among other aircraft at the Wings over the Rockies museum.

Continued success at Ball lead to its expansion into avionics and aerospace systems. In the early 1990s the Ball Corporation spun off its home canning business.

An independent company now retains the license to use the Ball trademark on its own canning product line. Now headquartered in Westminster, CO, the Ball Corporation no longer makes glass but is a leading manufacturer of plastic and metal food and beverage containers.

Meanwhile, in 1995, *Ball Brothers Research Corporation* became *Ball Aerospace and Technologies Corp.*, a wholly owned subsidiary of Ball Corporation. Ball Aerospace continues to develop innovative equipment and services to the aerospace industry.

Long-time EAA member, Otto E. "Pete" Bartoe was inducted into the Colorado Aviation Historical Society's Hall of Fame on October 30, 2004. He lives along the Front Range mountains of northern Colorado.

"From Balloons to Ballistics" is an official publication of the Colorado Aviation Historical Society. Our office and the Colorado Aviation Hall of Fame are located at the Wings over the Rockies Air & Space Museum 7711 East Academy Blvd, Denver, Colorado 80230. The mailing address is P.O. Box 201615 Denver, CO 80220. Visit our website at www.colahs.org or use the QC code at right.



President's Message:

Going
Forward

Steve Kelly
CAHS President



Much to the relief of most everyone, 2020 will be behind us in a few weeks. In spite of some difficult circumstances, CAHS has continued to make progress during this difficult time and we are looking forward to 2021.

As a primary mission of CAHS is the promotion of public interest and education in Colorado's aerospace history, we will continue our efforts to preserve and document this history and reach a greater audience in the coming year.

We plan to resume our traditional Hall of Fame banquet in 2021. This has been a much anticipated event in Colorado's aviation community for many years and honoring the great achievements of our state's citizens in all facets of aviation is a tradition that we must continue.

In the works are some new methods to connect with the public. A series of YouTube videos highlighting our past laureates, and live Zoom seminars exploring a topic related to Colorado's aerospace history are under development. Our Aviation Archaeology group was able to conduct field work in 2020, and is currently planning expeditions to several sites for next summer.

We must remain connected to our membership base as well, and we need greater membership involvement in our spring and summer meetings. The by-laws provide for the election of board members at the annual membership meeting in March. The election, which was postponed in 2020, will take place next year and may be done using one of the popular on-line meeting applications. Members will be notified well in advance, and will be provided with the pertinent information.

"The Mile High Gang"

Ernie LeRoy, Col. USAF (Ret.)



302nd Airlift Wing C-130H's on the parking ramp at Peterson AFB with Pikes Peak in the background. (photo: USAF)

The 302nd Airlift Wing, one of several Air Force Reserve C-130 wings with an airdrop and airlift mission located throughout the nation, is a tenant organization at Peterson Air Force Base in Colorado Springs. More than 1,300 Reserve Citizen Airmen are assigned, of which roughly 200 are full-time, dual status federal civil service/Air Force Reserve employees as Air Reserve Technicians. Almost 90% of these Citizen Airmen/Airwomen and their families are Coloradans that live and work in communities all over Colorado. A Reservist goes for training and duties on an annual basis (at least 1 weekend a month and 2 weeks/year) to refresh their skills. They are otherwise civilians, and have careers outside the military.

The wing is assigned C-130 Hercules aircraft, which are flown by the wing's 731st Airlift Squadron.

Established as the 302nd Troop Carrier Wing on May 16, 1949, and based at Clinton County AFB, Ohio, the 302nd AW was first activated by the Air Force Reserve on June 27, 1949. In the mid-1950s, the wing flew airlift operations in the United States and overseas.

The mission of the 302nd AW is to train, equip and employ mission ready Airmen in support of the nation's global operations requirements. The primary operational mission of the 302nd AW is tactical airlift and airdrop utilizing the wing's eight C-130H assigned aircraft. The wing is also the only Air Force Reserve Wing, along with three Air National Guard Wings, supporting the C-130 special mission of aerial firefighting, employing the U.S. Forest Service's Modular Airborne Fire Fighting Systems (MAFFS). The MAFFS mission was moved to the Colorado-based wing in 1993.

The 302nd AW was called to Active Duty during the Cuban missile crisis of 1962. During the 1960s, wing

aircraft and crews performed worldwide airlift missions and participated in numerous tactical exercises. The unit was deactivated on April 1, 1981. In mid-1983, the unit, then designated the 901st Tactical Airlift Group, moved to its newly constructed facilities at Peterson AFB and was reactivated as the 302nd Airlift Wing on April 1, 1985.

The wing received one of its most challenging tests in 1990-1991 with Operations Desert Shield and Desert Storm. More than 600 wing members, including flying, medical and maintenance personnel, deployed to the Persian Gulf, England and stateside locations to support Active Duty operations. At the end of the Gulf War, the 302nd AW supported Operation Provide Comfort, air dropping food and supplies to Kurdish refugees. The wing also supported Operations Restore Hope in Somalia, Coronet Oak in Panama, Provide Promise's humanitarian airlift to Bosnia and hurricane relief to Homestead AFB, Fla. In 1999, the wing assisted in humanitarian relief to refugees from Kosovo and Operation Allied Force.

Since 2001, Airmen from throughout the wing to include the mission areas of aircrew, aircraft maintenance, aeromedical evacuation, aerial port, logistics, security forces, civil engineer, communications, medical, public affairs, legal, financial management, chaplain, as well as aircraft from the 302nd AW have been deployed in support of numerous operations to include: Operations Noble Eagle, Enduring Freedom, Iraqi Freedom, New Dawn, Inherent Resolve, and Freedom's Sentinel. In 2010 the wing provided humanitarian aid relief in Haiti during Operation Unified Response and also supported flood relief in Pakistan.



A 302nd Airlift Wing MAFFS equipped C-130H (Modular Airborne Fire Fighting System) drops a load of fire retardant on a forest fire. The 302nd AW is one of the Air Force Reserve units that provides this capability to the National Forest Service to fight forest fires around the country. (photo:USAF)

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In 2015 the 302nd Airlift Wing was named the Lt. Gen. James E. Sherrard, III, Air Force Reserve Outstanding Air Mobility Wing by the Airlift/Tanker Association recognizing the wing's contribution to the overall success of the Mobility Air Force mission and total force.

The wing has earned recognition multiple times, receiving the Air Force Outstanding Unit Award multiple times to include awards for the periods of 1990-1991, 1998-1999, 2001-2002, 2004-2006, 2006-2008, 2009-2011 and most recently for 2015.

In Fiscal Year 2017 the value of 302nd AW jobs created, annual payroll and construction services and procurements totaled \$61.8 million dollars.

Further articles on specific 302nd missions will be forthcoming in future journals; MAFFS Aero Medical from 302nd AW/PA at www.30https://2aw.afrc.af.mil

Ernie LeRoy USAF (Ret.) is a CAHS Board Member and former 302nd Aircraft Maintenance Squadron Commander.

History In The Making: Seaplanes In Colorado

Ray Hawkins

Seaplane Pilots Association, Field Director, Colorado

The Seaplane Pilots Association (SPA) and the Colorado Seaplane Initiative (CSI) has stayed busy through our educational programs and on-going legislative and outreach efforts throughout 2020.

While the majority of our events had to be cancelled due to COVID-19, we were able to support an abbreviated splash-in at Kenney Reservoir in September; an exposition of seaplanes at the Wings Over the Rockies Air and Space Museum, Exploration of Flight Complex; and a demonstration of Dory "the Mussel Dog" at Cherry Creek Reservoir.

The Kenney Splash-In was added to support Rangely's Septemberfest event on September 5th. Three seaplanes attended; a Lake LA4-200, Republic Seabee, and a Piper Super Cub on floats. SPA Colorado Field Director Bruce Bishop managed the event.

Just after the splash-in, the FAA approved Kenney Reservoir as a Seaplane Base (SPB) with identifier 13R. The SPB will appear on the January edition of the Cheyenne Sectional. Colorado now has two official SPBs.

On October 7th, SPA and CSI hosted the "GREAT WACO BIPLANE TOUR" at Wings Over the Rockies Air and Space Museum, Exploration of Flight Complex on Centennial Airport. Unfortunately, the amphibious WMF-5 was unable to attend due to maintenance issues; however, Fire Boss filled the void with their 2-seater FireBoss aerial firefighter.

The event was well attended despite the fact it was on a weekday and the event was held under COVID restrictions. WACO brought their wheeled WMF-5 and the Great Lakes. Seaplanes were the FireBoss, a Lake LA4-200, a Cessna 206 on Floats, and a Kodiak 100 on floats. We had representatives from Aerocet Floats, WACO, FireBoss, and the Colorado Division of Aeronautics. This event was attended by KDVR.

On Oct 13th, Dory "the Mussel Dog", showed all those attending how a well-trained dog can help the state prevent quagga and zebra mussel infested watercraft. Dory and her handler, Freddy Fahl, performed three demonstrations.

The website (www.coseaplanes.org) has a new image galley section containing images and videos of our events and activities.

Anyone wishing to receive information about the Colorado Seaplane Initiative, please send your email address to ray@soaringhawk.com.

(Editor's Note: Few residents realize that Colorado is the only state that does not allow seaplane operations. This law has been in effect for more than forty years. The Colorado Seaplane Initiative has been campaigning to introduce new legislation that will reverse this ordinance. Thanks to their efforts, Colorado now has two waterways that allow seaplane operations. CAHS member Ray Hawkins is an integral player in this movement.

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For more information you can contact Ray directly at: Colorado Seaplane Initiative, Director (303) 710-2497 or <http://www.coseaplanes.org>



New Film to Help Avert Veteran Suicide: *Flight for Life* movie has message that life is worth living.

Westminster, Colorado, The Spirit of Flight Foundation announced that it is working on an upcoming feature film, entitled FLIGHT FOR LIFE, which is currently in development in Colorado.

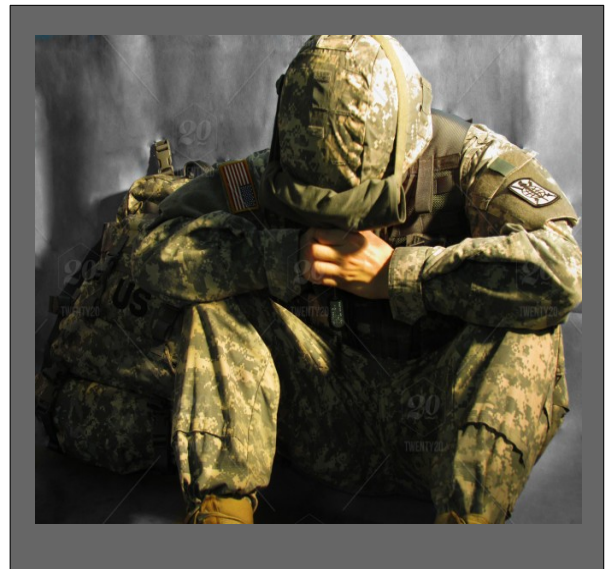
The story centers around a former Army helicopter pilot turned flight instructor/parts runner, who is on the brink of life after the FAA grounds his plane for maintenance issues. The plane is his sole source of income, which is already scarce, and his wife has made the decision to leave him the same day as his plane is grounded. The pilot adds to the situation by falling off the wagon and back into a drunken state of mind, which pushes him to try and end his life. Alcohol and pills don't work, so he decides to take his plane on one, final flight, but as he is preparing the plane to leave, an uptight millennial approaches him to charter a flight to Salt Lake City, Utah. The pilot reluctantly agrees to take the passenger with him after the millennial pays a wad of cash, money the pilot thinks could be the answer to getting his wife back. However, during the flight the engine of the plane fails and they crash in the mountains of Colorado. The two have to work together to get out of the mountains and to a location they can be rescued in time for the millennial to get to Utah to save his father by donating a kidney. After five grueling days in the mountains they are found, thanks to a creative signal to send out a rescue signal. The millennial

saves his father in time, and the pilot discovers he knows the father from a helicopter rescue mission in Afghanistan, years earlier. The entire situation gets the pilot to reconsider his situation on earth, a life worth living. The Spirit of Flight Foundation will be working with veterans who will work behind the camera in various departments, such as camera, grip, art, and the director's team.

"Twenty two veterans a day take their life," says Meryem Ersoz, the co-writer and director of the FLIGHT FOR LIFE movie. "The message of this film is that life is better with you in it."

By partnering with the non-profit Spirit of Flight Foundation, the filmmakers will be able to place veterans on the film crew through tax-deductible donations. "The film is a good fit for our dual mission of preserving aviation history and honoring military veterans," said Gordon R. Page, producer and host of the TV show CHASING PLANES, who is also the founder of the Spirit of Flight Foundation. "I co-wrote the story, which is close to my heart, and I am excited to help produce this important film." The Spirit of Flight Foundation will be providing a wrecked Cessna 210 airplane for the production.

Funding of the movie is being done with tax-deductible donations and will help to establish a new, repeatable model for employing veterans in film in Colorado. The filmmakers have set a goal of adding at least five trained veterans to their 30-person crew, but they hope to be able to do more, if their community outreach through the Spirit of Flight Foundation is successful.



Filming of the FLIGHT FOR LIFE movie is scheduled for the fall of 2021, with the entire production shot on location in Colorado.

CAHS Community Affiliate Profile:

Air Denver

Balloons to Ballistics will periodically present profiles of our Community Affiliate members. These are local companies and organizations that are making big contributions to the aviation community in Colorado. For this issue we conducted an interview with the president of Air Denver, Dave Kempa. Air Denver is an air charter referral company based in the Denver area.

CAHS: Tell us about your company and what it does.

DAVE: Charters by Air Denver is a world-wide air charter referral service which is headquartered here in Colorado. We have been in business for over 39 years, while maintaining a perfect safety record. We offer passenger travel, air ambulances, time-critical freight forwarding and supplemental services to the airlines. We have operated in a third of the world's countries.

CAHS: Is it fair to say that you are a broker?

DAVE: We are not a "broker," but rather a referral service and there is a significant difference. The typical broker finds an aircraft for a requested trip and negotiates a price for themselves. Then, they usually mark the price up anywhere from 50% to 100% before giving the customer a quote. The customer pays the broker, who remits payment to the charter operator after keeping the difference.

We, on the other hand, find an appropriate aircraft for the trip and negotiate a favorable rate on the customer's behalf. The customer pays the charter operator directly and the operator, in turn, gives us a 10% commission. Should the customer request that we handle the accounting with the aircraft operator, we will gladly do so.

Basically, we conduct our business much like the travel agents used to before the airlines forced them to become "fee-based." Also, a customer can use us once, or on a weekly basis year after year. It does not matter. They will receive the same excellent service and pricing, regardless of what they choose to do. The U.S. Department of Transportation has actually recognized our business model for the standard it sets in the air charter industry.

CAHS: How did your business get started?

DAVE: I was a charter pilot in 1981, when one of my customers asked how they could put more time on their

aircraft. So, I applied for a charter certificate and was able to utilize their aircraft under my certificate. One of my hobbies was computer programming. I built a program designed to book charters, while negotiating with the City of Denver to get counter space at Stapleton Airport. When I opened, the intent was to provide charter flights only out of Denver. However, people soon started asking if I could get them a charter out of Kansas City and a number of other locations. That prompted me to go to the FAA and get a listing of all their Part 135 certified charter operators. I then entered a large 3 ½ inch thick printout into a modified 1980's D-base 4 computer program.

CAHS: Are you still using that original software system?

DAVE: Yes, we are. Even though it is decades old, it still serves our purposes today. We have continued to perfect it over the years and the information contained in the system is updated daily. Today, we can provide immediate access to more than 18,000 aircraft of every size and description through some 3,900 FAA certified charter operators, all of whom meet the same safety standards as the airlines. That is why we have never had an accident or an incident in our entire history of nearly four decades.

CAHS: What is it that distinguishes your company from others in the charter business?

DAVE: Unlike the many fractional ownership and jet card programs, we do not require passengers to pay initiation fees, membership dues, purchase time shares in an aircraft, pre-buy flight time or make long-term contractual commitments. Also, because of our efficiencies, low overhead and long-standing relationships in the industry, our per hour price on the aircraft can often be much less than what some others charge.



Dave Kempa – Air Denver President

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Colorado Aviation Museum Updates

The following Colorado aviation museums reported their operational status as of COB on 11 December 2020. CAHS will continue to publish current updates in each issue of the Journal.

Pueblo Weisbrod Aircraft Museum 31001 Magnuson Ave, Pueblo, CO 81001, (719) 948-9219

Due to the Covid pandemic, Pueblo's preeminent aeronautical museum closed its doors to the public until further notice. Museum directors will advise the public when it is ready to reopen. In the meantime, volunteers will be washing and dusting aircraft and airing tires. Restoration team members will be finishing the Huey and replica Spitfire. The C-119 Flying Boxcar and the F-104A Starfighter are slated for restoration beginning in 2021. For now, you can visit the museum online at Pwam.org

Spirit of Flight Museum 11025 Dover Street, Suite 600, Westminster, CO 80021, (303) 460-1156

The Spirit of Flight (SoF) History Gallery in Westminster is open by appointment, and is planning to be open on the 2nd Saturdays of each month in 2021 for SPOTLIGHT ON HISTORY events. The 13th Annual Spirit of Flight Day is scheduled for Saturday, July 10, 2021. In addition, the Spirit of Flight Mobile Museum will attend other events in 2021. A new installment of the Chasing Planes TV series "Hellcat with Rob Collings" is now available on YouTube. Follow the Spirit of Flight Facebook page, along with the website at www.spiritofflight.org for updates and events.

Vintage Aero Flying Museum 7507 CR 39 Ft. Lupton, CO 80621, (303) 668-8044

Hello everyone, we are still working hard up at the Vintage Aero Flying Museum to "Bring Aviation History to Life" Over the last couple of years, we have completed our SPAD XIII, and Se5a projects and are almost finished with our Sopwith Camel project.

We have our SPAD XIII in the markings of the famous America LaFayette Escadrille Pilot, Capt. James Norman Hall. Hall not only flew with the LaFayette Escadrille, he also flew with the famed 94th Aero Squadron as a Flight Commander and would take America's "Ace of Aces", Capt. Eddie Rickenbacker up for his first victory, and was the author of many famous books including "Mutiny on the Bounty".

The Se5a is in the markings of one of America's top Aces, Capt. William "Bill" Lampert, RAF; 22 victories. Bill would be America's top scoring Ace by August of 1918, flying for the British in the Royal Air Force, before being invalidated out of the service due to combat fatigue and ear problems.

The Sopwith Camel is being finished in the markings of the 185th Aero Squadron, USA, which was our first night fighter squadron. This Squadron was commanded by Colorado's only American Expeditionary Forces Ace (6 victories, as flight Commander with the 27th Aero Squadron) and East High School, DU Law School graduate as well as CAHS Laureate, Capt. Jerry Vasoncells.

You can visit and see all of these planes plus the original uniforms of the pilots mentioned above as well as many more famous Aviators of the "War to end all Wars"; this being said makes us one of the only museums in the World that you can do this!

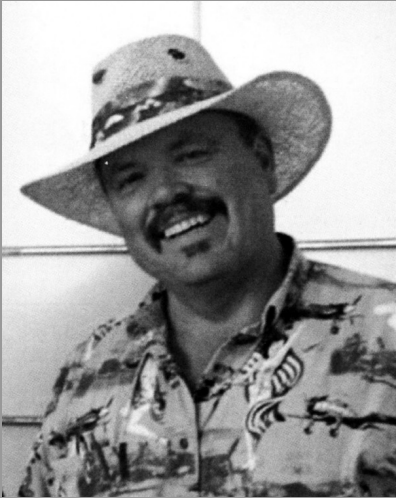
We are open to the public on most 2nd and 4th Saturdays of the month, but please always call 303.668.8044 to make sure we'll be there before you head up to see us. Find us at vafm.org or follow us on Facebook @ Vintage Aero Flying Museum

Wings Over The Rockies Air & Space Museum 7711 E. Academy Blvd., Denver, CO 80230

The museum is open, but you have to buy your tickets online in order to visit this facility. Management has closed a number of interactive displays, and your visit is now limited to only two hours on-site. You can go online to pre-purchase your tickets at (wingmuseum.org) or you can contact the reception desk at (303) 360-5360.

National Museum of World War II Aviation 775 Aviation Way, Colorado Springs, CO 80916

With twenty-eight fully restored and flyable aircraft, along with another ten currently under restoration, the National Museum of World War II Aviation is open Friday through Sunday, 10:00 AM to 4:30 PM. The museum offers self-guided tours and, depending upon staff availability, group tours. The WestPac aircraft restoration facility is also open for tours, which start every hour on the hour. More information is available at www.worldwariiaviation.org or (719) 637-7559.



Brian Richardson AvAr
Program Director

Aviation Archaeology – Notes from the Field

Get away, it's Going to Blow

by Brian Richardson

The chilling title of this article is actually a tragic part of this **AvAr** tale. These words were shouted by a trapped crewmember from the forward section of a wrecked bomber, to a 14 year old boy who

had witnessed the crash and raced to the site to see if he could help. Hearing this warning, the lad had started to run, reaching about 40 feet from the wreckage when it exploded, the resulting shockwave knocking him to the ground and stunning him momentarily. Sadly, the unidentified crewmember, one of five trapped in the wreckage, died in the explosion. He undoubtedly saved that boys life!

At 09:10 MWT, Saturday, July 1, 1944, RB-24E, A.F. No. 41-28483, assigned to the 3705th Bomber Unit, 2nd Air Force, at Lowry Army Air Field, Denver, Colorado, impacted terrain near Padroni, Colorado, killing five of the eight crewmembers onboard. The cause of the accident was determined to have been a runaway propeller on the number four engine, resulting in an inflight fire. During an emergency landing on open prairie, the nose gear dug in and flipped the aircraft onto its back. Three crewmen in the aft section of the aircraft were thrown free of the wreckage, while five crewmen in the forward section were trapped by the deformed airframe. Moments after coming to rest the aircraft, leaking fuel from the ruptured tanks, exploded.

This proved to be one of **AvAr**'s most interesting – and frustrating – expeditions. So much knowledge was gained about our craft on this trip that we still cite numerous aspects of the adventure in our training courses.

Much of our frustration was due to the fact that we had done our homework and located that 14 year old boy who'd witnessed the crash. He had assured us he could lead us right to the site. Also, the original Army Air Force

crash investigator had given what seemed a fairly accurate report of the crash site in relation to a prominent terrain feature. Confident in our chances of a successful outcome on this expedition, **AvAr** invited a Denver Post reporter along for some free publicity.

Well, when **AvAr** set out on this expedition in July 2007, it had been exactly 63 years to-the-day since the crash and our eye-witness was now in his late seventies. While he did put us in the general area, his memory wasn't 100%. After almost five hours of searching with ten sets of boots on the ground, we came up empty handed and had to call it a day.

To make matters even worse, the Army Air Force accident investigator ended-up being approximately one mile off on his "guestimated" distance to the crash site from that prominent terrain feature, back in 1944.

Three months later, in October, **AvAr** mounted a second expedition and was successful in relocating the crash site of A.F. No. 41-28483. Interestingly enough, we were able to determine that the aircraft was indeed on fire by following a ¼ mile long, linear trail of tiny, teardrop-shaped ingots of melted aluminum, located on average about an inch beneath the surface, that team member Ron Miller uncovered with his metal detector. This trail led us straight to the final resting place of the bomber.

Today, thanks largely to the efforts of **AvAr** team members Duke Sumonia and Len Wallace, there is a bronze plaque on display at the Overland Trail Museum in nearby Sterling, Colorado dedicated to the memory of those crewmen who sacrificed their all in the defense of our nation.

If you have an interest in taking part in the activities of our **AvAr** team contact Brian at Aviator_b@msn.com or call 970-405-5377



Ron Miller displays first artifact; melted aluminum ingot. (Photo credit: Larry Liebrecht)

(Air Denver continued from page 7)

One way of looking at our business model is this: Just as computer software has allowed Uber to become the largest taxi company in the world without owning a single car and AirBnB to become the largest hotel chain in the world without owning a single property, it could reasonably be argued that Charters by Air Denver is the largest air carrier in the world without owning a single airplane.

Incidentally, fractional ownership was a clever way of getting around the various stringent requirements of Part 135 charter certificates. Because they are technically “private ownership” operating under the FAA Part 91 regulations, the “fractionals” are not required to meet the standards with which we must comply. Some do so voluntarily, but they do not have the FAA scrutiny which our operators do.

CAHS: Who are some of your customers? Who uses your services?

DAVE: Corporations, airlines, railroads, courier services, news organizations, Hollywood productions, sports teams, the military and even heads of state depend on us for their transportation needs and have been doing so for decades. When the Colorado Rockies were in the World Series, we provided Major League Baseball with a Boeing 757 for transportation between venues. During the wildfires in the San Diego area, Qualcomm Stadium was being used as a staging area by firefighters. But, the NFL had a Monday night football game scheduled at the same time. We were called at the last minute to move the entire crew out of San Diego and over to Arizona, so the game could be played. We did it and are proud to say we saved Monday night football that week.

One of the corporations referred to is Walmart, for whom we have provided transportation on a weekly basis, primarily for their employees in need of transplant operations at one of the Mayo Clinics. In these cases, we have only 6 hours to complete the trip, door-to-door, or the operation cannot be performed. Since beginning this service over 16 years ago, we have never missed a deadline. In a recent site visit conducted by Walmart officials, their inspection summation simply read, “How can you improve upon perfection?”

And one other comment about corporations. For those companies who believe having a corporate flight department would improve their business, but who are not in a position to establish one, we can fill that role for them. By using our services, they will save large sums of money, by not having to purchase and maintain aircraft as well as hire and train a flight crew. Moreover, we can provide flexibility in the size and type of aircraft needed for each individual trip.

CAHS: Many companies have been dramatically affected by the COVID pandemic. Has yours?

DAVE: We have, indeed, been affected, but in a good way. Our business has doubled. In fact, events of the past few months have been a boon to the aircraft charter business. The airlines have been operating at a mere 30% of capacity, with a full recovery not expected until 2025 at the earliest and perhaps 2028, according to reputable studies. So, there are fewer flights available for passengers and cargo shipments. Even if an airline flight can be booked, many people are reluctant to transit the large hub airports. This has meant additional passenger and freight traffic for us in the charter business. Even our air ambulance requests are the highest in twenty years.

CAHS: What kind of cargo do you ship?

DAVE: Over the years, we have shipped hundreds of different items, including HAZMAT materials. For example, we have transported everything from small envelopes and boxes to wing flaps for airliners, Honda motors, conveyer belts and automobile airbags. When there was a port strike on the west coast a few years ago, we assisted companies with their supply chain logistics, by expediting shipments from the clogged port locations. When a K-Mart store in Guam was severely damaged in a typhoon, we dispatched a Boeing 747 Freighter from Houston with an emergency restoration company, along with all their materials. During the pandemic, we have shipped materials to Europe and the MiddleEast.

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(Air Denver from page 10)

There have also been calls for Boeing 747's to transport PPE supplies from China to the U.S.

Of particular interest might be our routine shipments of vaccines, some of which are valued at \$98,000 per dose. We also transport cell gene therapy products for infants with spinal conditions. These are worth an incredible \$2 million per dose and, understandably, require tight security throughout the flight. All these shipments have restrictive time constraints for door-to-door delivery, and I am pleased to say we have never missed a deadline.

CAHS: It sounds as though there are many facets to your business.

DAVE: Yes, and probably too many to discuss here today. However, one other I might mention is Aircraft on Ground (AOG). This is one of the services we offer to the airlines. If an airplane is in need of a part before it can again get airborne, and if no replacement aircraft is readily available, we transport the required part, and sometimes a mechanic, to the stranded airliner. This usually occurs overnight, so the airplane can takeoff in the morning, thus saving the airline hotel and food costs for the passengers and the re-booking of tickets. In other instances, we have actually arranged for a replacement airliner and had it in place in a matter of hours.

One other item of note is our contract with the Cayman Islands, where we have been part of their hurricane evacuation plan for some 30 years. As storms approached, we have moved up to 2,500 people out of harm's way.

CAHS: What is your daily routine like and where is your office?

DAVE: Every day is different, as is every night. While published office hours are 7:00 AM to 5:00 PM, we are a round-the-clock operation, dealing in all time zones, and there is no way to know what kind of request might come in. As for our office location, for many years we had a fairly large one in Golden, Colorado with a staff of seven. However, the overhead cost prevented us from giving the customer an even better price for our services. Also, with the computers and cellphones available today, it seemed like having a physical location was unnecessary, especially since few customers ever visited in person. If a meeting with a client is needed, there is a country club facility we can use, and get lunch or dinner while we talk.

So, when the office lease was up for renewal, we decided to let it go. Under the current arrangement, I work from Evergreen, Melissa Berg from Lakewood and Jim

Huffman from Castle Pines Village. We also have part-time sales representatives working in Denver, St. Louis, Phoenix, Aspen, Sun Valley and elsewhere.

CAHS: What are your biggest challenges?

DAVE: One conundrum we face is in letting people know we are here for them. Operating on the very thin margin of a 10% commission means we do not have the kind of advertising budget which would allow for sponsoring PGA golfers, running full-page ads in magazines and newspapers or using radio and television. We could raise our commission in order to afford that kind of exposure, but that runs contrary to our desire to give the customer the best possible price.

Therefore, we must rely primarily on the word-of-mouth advertising provided by our long-time and dedicated customers. And they have been great at helping us spread the word. In addition to placing the occasional small, classified display ad in selected publications, we are always looking for opportunities to have a feature article written about the company. It is our belief that, if people knew about us, many would be less inclined to pay the exorbitant fees charged by other companies.

CAHS: How would people get in touch with you?

DAVE: We are available 24/7/365 at (800) 333-4057, or at (303) 333-3332 or at Sales@AirDenver.com. There, an expert Charter Consultant will make chartering an aircraft fast, easy and affordable. In fact, we will have a selection of aircraft and pricing options within 20 minutes after receiving a call and can have the customer, or their freight, airborne in 2 hours or less from anywhere in North America. Some international locations may take a bit longer, but our response time is still typically faster than that of anyone else.

For anyone who would like to know more, we would invite them to visit our website at www.AirDenver.com. The information presented there should illustrate how unique our company is and how well positioned we are for serving almost every conceivable need in the chartering of aircraft.

CAHS: Thank you, Dave, for your time today, and thank you for your continued support of the Colorado Aviation Historical Society.

DAVE: You are welcome. Also, if any member of CAHS refers a charter to us, we will donate 5% of the cost of the flight, less taxes, upon completion of the trip. Depending on the type of aircraft used and the length of flights, this could represent a substantial donation to CAHS.

Mystery Quiz

In each issue of the Journal we will present a photograph from the Society archives and challenge you, the reader, to identify the subject. Anyone who responds with the correct answer will be mentioned in the following issue. Send your response to: aviator_b@msn.com

The challenge for this issue: *Identify the Make and Model of the aircraft in this photograph.*



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