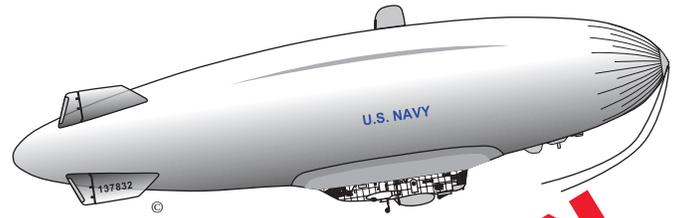


THE

NOON



BALLOON



The Official Publication of THE NAVAL AIRSHIP ASSOCIATION, INC.

No. 116

Winter 2017



**INTEGRATED SYSTEMS SOLUTIONS, INC.
(ISSI) A-160 LIGHT SHIP**



Gordon Bennett 2017 launched from Gruyere, Switzerland. Photo by Jon Beyer
Historical photo provided by Rick Zitarosa, NLHS

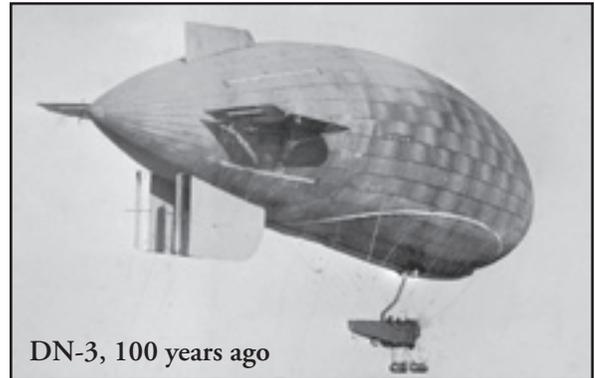
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DN-3, 100 years ago

On the cover: The leftover asset of Integrated Systems Solutions, Inc. (ISSI), decorated to commemorate Navy airships, but never owned, or operated by the Navy, was purchased by Van Wagner Airship Group in 2017. The Van Wagner Group was then acquired by AirSigns of Willisville, Florida, in November of 2017. Ω



THE NOON BALLOON

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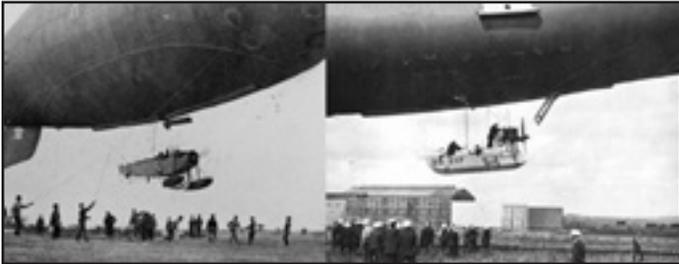
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EDITORIAL

Richard G. Van Treuren, PO Box 700, Edgewater, Florida 32132-0700, rgvant@juno.com

Some years ago following the FAHS announcement of their intention to build a replica of the 1908 Strobel airship that visited Tampa, I made the suggestion that we of NAA undertake a re-creation of a “B”-type airship car. Given the large number of re-creations of early airplanes, some flying and others for display only, I felt it would offer museum visitors a similar “reality check” experience for early USN LTA. Later research shows we would choose between the most common version, appearing to be a one-cockpit stretch of the Curtiss “Jenny” fuselage; a slight variation of two cars that were apparently manufactured by Connecticut Aircraft; and the rather overlong stretched version of which we know only from photos from a hard landing in trees. While undoubtedly a woodworking and metal-shaping challenge, I was confident we could find a non-airworthy Liberty engine and perhaps even vintage radio equipment whose tubes no longer lit up. It is possible grants are available for such historic efforts; the larger challenge would be a permanent home for the creation.



“B” to “Z:” kindred spirits across the pond?

Imagine my surprise and delight to find activists in the UK have actually begun a similar project: the re-creation of an SSZ-type car. You'll read all about “Project Zero” on page 16. Perhaps we will find it inspirational.

Meanwhile, our other 100th anniversary Great War LTA coverage continues with four more pages from our French friend Mayor Roch Cheraud's celebration program he was so kind to send. Impossible to break up into our format, sadly these will be the last, because the few remaining pages he kindly sent just can't fit on our pages.

At the AA Conference we met the new CEO of Zeppelin NT, Eckhard Breuer, there from Germany; HAV officers and their chief test pilot, David Burns; Ben Tindale; Brian Hall; and re-met Marius Von Zeppelin, there from Australia. All accepted copies of TNB.



On the way to visit the Cardington sheds and AIRLANDER, we noted a great deal more development around the town than our previous visits. The Shorts building (above) has been carefully restored to its 1917 glory (note historical marker) and is used as office space. The marker notes its having been nationalized to become the Royal Airship Works during the “Empire of the Air” days. Shortstown, the community of homes built to house airship workers, has not only been restored and is occupied, but has actually grown - with great care taken that the new construction matches the style of the old.



Friends we'd made in aviation kindly took us underwing and we got to fly around, visit several museums, and land at WWII airfields, each with their own historical displays. Our pals from Grimsby kindly drove us to Hull and for a considerable search to find the R.38/ZR-2 memorial. Finally locating the monument, we found reading the names of the honored dead quite an emotional experience.

However certainly the most important meeting was my visit with dear friend Juergen Bock, our NAA Technical Committee Chair. I presented him with a printout of our translated & updated portions of the LTA textbook he and his team created years ago, and we have been trying to translate and update in recent years. We hope to wrap it up in 2018. — **R. G. Van Treuren**

VIEW FROM THE TOP – PRESIDENT’S MESSAGE

Fred Morin, PO Box 1926, Lecanto, Florida 34460-1926, frmorin@verizon.net

The 2018 Reunion is not that far away. We are working closely with our feet-on-the-ground members and a local convention bureau to firm up a schedule that will be interesting and informative for all attendees. Deeper in this issue you will see a one-page preview of the event. More details and pricing will be announced very soon. As I noted in earlier issues, the responses to our survey about attending were received. We would certainly hope that the number of those planning on attending proves accurate and note that it only counts members, not spouses nor dependents.

As I wrote in my previous messages, we need to determine an anticipated attendance so we can accurately predict our expenses, prepare an entertaining and informative Reunion and determine if there is sufficient interest from the membership to continue planning Reunions. If attendance continues to decrease we may have to cancel future Reunions. As our contributing expenses increase and we do not have the membership dues to cover those expenses, reduced attendance puts us at a disadvantage in negotiating pricing for hotels, admission fees at attractions, as well as banquet facilities and food costs.

Saturday, September 29th looks good for the banquet and a detailed schedule for prior days’ activities is still being compiled. Including a trip to a local museum that features a number of unique Navy aircraft and a fully restored Goodyear blimp car. We are trying to arrange a day involving the USS *Shenandoah* crash sites, and excellent memorial museum and a visit to the Goodyear Wing Foot Lake facility.

We have been in close contact with the Lighter Than Air Society and it looks very promising that we will be able to have our Reunion banquet in conjunction with the LTAS Annual Dinner. This is very exciting and a great opportunity to work with the LTAS. Their Annual Dinners are very active and feature interesting speakers and a silent auction (a ride on a new Goodyear NT is usually one of the items auctioned off). Complete details and registration info will be mailed to every NAA registered member soon.



Finally, enclosed is the membership renewal form for 2018. Please return this with your dues (and any extra donation) as soon as possible. We have tried to keep our dues schedule constant for several years but, as I have noted before, we have also begun a general belt-tightening beginning with our general expenses and *The Noon Balloon*. Over the past few years our page count has increased and the printing and postage costs have also increased proportionately and from general economics. I have no doubt that the new issues will continue to provide world-class coverage of all things LTA, solid historic coverage of Navy LTA from our members and contributors, and a good assortment of technical articles of interest. The goal is still to publish the best LTA magazine at a reasonable cost, not to just fill pages.

As I reported earlier, my idea for an LTA Hall of Fame has passed an historic milestone in its passage to fruition. The delays in getting into full-scale production to date fall squarely under my responsibility. We have some details concerning the screening process and organization of the Hall to resolve and those should be resolved very soon. I am still targeting the 2018 Reunion as our first inaugural installation date. Please think of potential candidates and we will have a nominating form available for you to submit very soon.

Thank you for your continued support of the Naval Airship Association and I hope to see many of you at the next reunion.

– Frederick R. Morin

TREASURER'S STRONGBOX

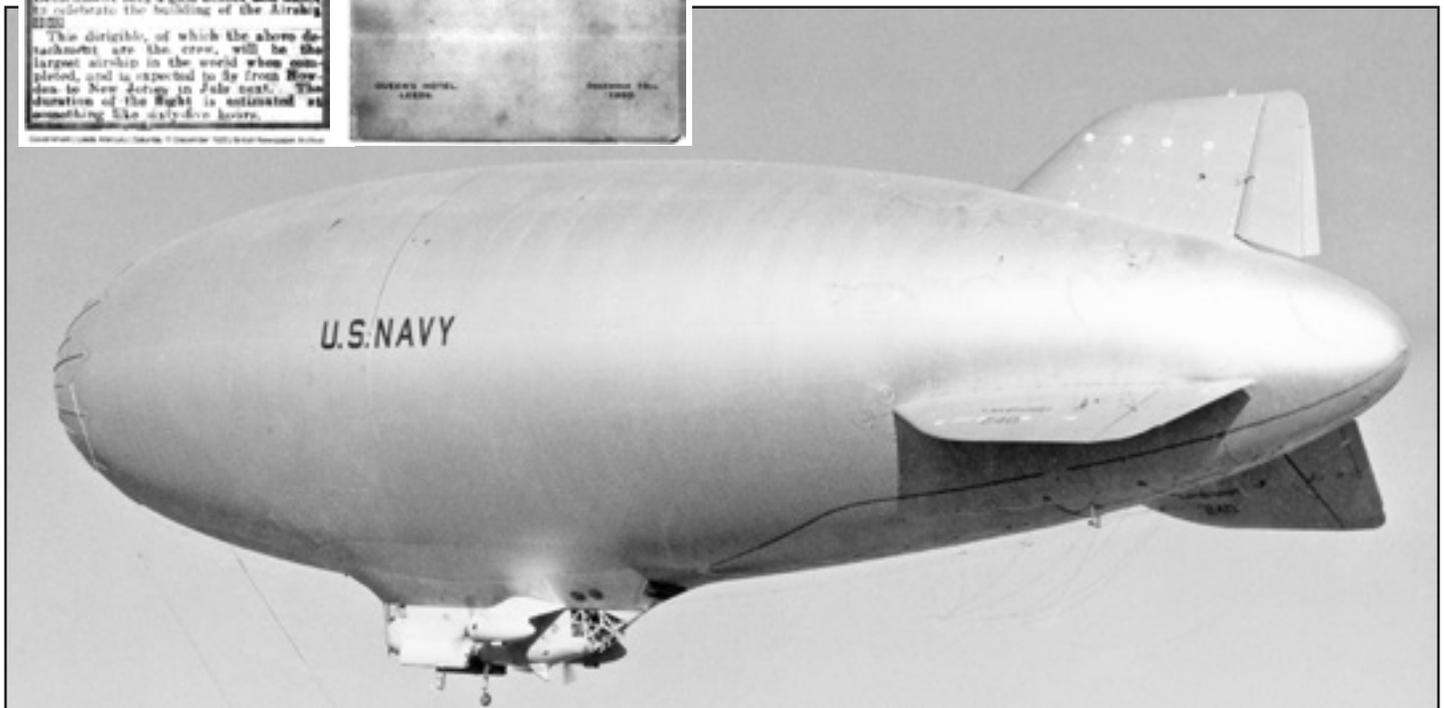
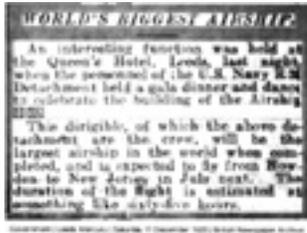
Even with our dwindling membership, we continue to be firm financially with some donations from members and friends. As of the end of September, we show \$6,033.28 in checking and \$18,846.94 in our savings account. We have the subscription software renewal expense coming up which will be \$1404 for FY 2018, and two more issues to pay for this year. We will also have the State of Florida Non-Profit Organizations Annual Report to file which may or may not be higher than last year's tariff. I do not have a report for Small Stores as we are in transition from Dave Smith turning over the works to Fred Morin and Lorraine Madden on a temporary basis. We are still looking for someone to come forward who will find this necessary aspect of the NAA something they can and want to do. As I write, our winter season is coming and with that, dues renewal. Please do get your dues in as soon as possible so we can continue to bring you the best newsletter in LTA!

– Deborah Van Treuren

PIGEON COTE



1) CMM WJ. "Billie" Steele, 2) Joyce Hamman

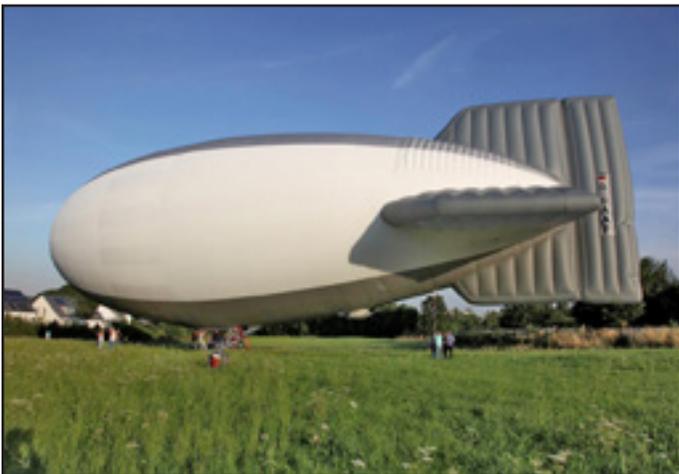


Our hardworking NMNA E.B. Library rep, Steve Kozlovski, tirelessly working to scan and forward airship images from their files, asks only that we caption or verify captions as they exist on the back of the photos. All too often we can only guess at a date, there is no definitive clue as to the location, the crewmen's names etc. In some cases the given caption is wrong, usually mistaking *Akron* for *Macon*, or a ZP2K for a ZP3K, and the like. Admittedly, sometimes even our experienced team is stumped and we take to these pages to ask the readership for help. Sadly, so far there has been little help domestically, though readers of the AHT's *Dirigible* have successfully identified some of the people in the 1920 Xmas party photo of R.38/ZR2 crewmen and their ladies. (A reader even supplied a scan of the menu from that party! Left.) We certainly hope those NAA members who have promised to write up their LTA experiences will do so before it's too late.

So once again we ask readers to study the image below and tell us what can be remembered about it. Professor Hazen's series on the Flying Wind Tunnel project recalled that the first ship, the ZS2G-1 BuNo 144240, had not been fully de-rigged from the previous assignment, boundary layer study. This image, in which the first suspended test article is barely visible, shows the streamlining accomplished earlier. But, what's going on with the fins? Those "dots" do not correspond with the hatches in the only other photo. The best hope we have is for someone to volunteer to visit the University of Mississippi where the study resides today. Can you help? Ω

Alastair Reid e-mailed, "It occurs to me in the light of our various separate discussions on declining memberships, that a major element, certainly for Richard and Juergen, has been the great effort and expense involved in traveling to the location, and in funding food/accommodation. Once there, the conference gives us the chance to renew friendships and direct personal contacts outside of all the normal business of the conference. The time and expense does however put a number of younger people off. As you enjoy those days, I wonder if there is any way we could achieve some of the normal business of the conference online? Yes, the personal contact element is lost, but can we create a form of online conference in any way that might tempt a younger audience? Is such a thing even possible?" Ω

Airtopia Buero <Buero@airtopia.org> e-mailed, "Friends, GEFA-FLUG six seat hot air airship AS 105 GD/6 is for sale. It is the last airship built in Aachen and it carries the number 70. From now on GEFA-FLUG airships will be built by Cameron Balloons in England. 70 airships of the same type means, that GEFA-FLUG has built more [hot air] airships than any other airship manufacturing company in the world in 120 years of aviation history." Ω



In response to the Tanzania Helium article, Mark Lutz e-mailed, "It's a new type of source, not involving natural gas deposits. It is still alpha particles from radioactive decay - this time trapped in rock crystals, and then released by volcanic heat, and re-trapped by rocks above. There is a seven years increase in the world's supply in Tanzania, at current use rates, IF it all can be extracted, and IF the deposit estimate is correct. There likely will be more Tanzania-like volcano-associated deposits found. A finite number.

Helium level changes are being used to monitor a number of volcanoes throughout the world. Increase of helium means the magma is flowing, giving one of a number of warnings of a possible eruption.

Main uses of helium today are for welding cover gas, and helium leak-checking, and cryo-cooling (extreme low temperatures for superconducting magnets, and sometimes for vacuum pumping). Helium is technically superior for all these purposes. Where I worked, we did thousands of helium-shielded laser welds, and helium leak checks per day, which let about 20,000 cu ft of helium escape into the atmosphere every day. Back then they were already complaining about \$100 per 1,000 cu ft helium, U.S. Navy airship bases had equipment to re-purify and re-compress helium; this is old technology. But, until the price goes high enough, industry is unlikely to buy this equipment (or service) and to build the necessary re-capture plumbing. The recapture plumbing is also old technology - in the 1950s, European Physics labs couldn't get helium from the United States, so they would capture it in a giant balloon in the helium recovery room, and repurify it and recompress it every night. U.S. graduate students were prized because each one could bring one cylinder of helium over to Europe.

I wonder how many people realize that helium, a tiny molecule, achieves escape velocity in the Earth's atmosphere, and goes into outer space to disappear forever. Metals - you can recover those from landfills if you have to. Argon, Neon, Krypton, Xenon - all are in the atmosphere, and return to it to stay there if let out. Not helium, it leaves, forever. Our grandchildren are likely to hate us for the way we just let helium escape from our uses today. At some point, likely in the lifetime of our children or grandchildren, I think, if there are lifting gas filled airships, that gas will no longer be helium.

One could say the helium in natural gas should at least be extracted and used once rather than just being released when the natural gas is burned. However, I do miss the days when the U.S. felt helium was a resource to be conserved, and extracted it and stored it in a former natural gas well. Today that well is being emptied - immediate monetary return is preempting keeping some for the future, despite the knowledge the sources are all going to empty out... Still, after today's practical sources of helium are empty, scientists might be able to get enough for their most pressing needs from the ground around volcanoes - probably better than trying to get it from nuclear reactors or a trip to Jupiter. Ω

SHORE ESTABLISHMENTS:

South Weymouth



Union Point resident Vincent Gallagher commissioned “Lego Artist” Cody Wells (above) to build a model of NAS South Weymouth's steel blimp hangar using Lego pieces for the Shea Naval Aviation Museum. Marc Frattasio photo and info.

A reunion event to commemorate the 20th anniversary of the closing of NAS South Weymouth was held at the Elks Hall in Randolph, Massachusetts, on Saturday, September 30, 2017, with over 200 people in attendance. In addition to remembering the closing of the base on September 30, 1997, special recognition was given to the 25th anniversary of the deactivation of Marine Corps Reserve attack squadron VMA-322, which took place at NAS South Weymouth on June 30, 1992.

There were commemorative polo shirts for people who registered in time to get them and everybody who came in the door got specially commissioned pins and key chains. There were baseball caps and several types of shirts for sale. A few lucky attendees even received souvenir watches featuring several NAS South Weymouth-related designs printed on their faces. My husband and I, who as it so happened were the attendees who came from the furthest distance, were each presented with a watch decorated with airship patrol squadron ZP-11's early wartime insignia. This depicted a ZP-11 blimp as a lobster holding depth charges in its claws about to drop them on a submarine as Mussolini, Hitler and Tojo cowered in fear on the conning tower. This was a terrific surprise for us since my father, Donald Venton, had been a blimp pilot with ZP-11 during the Second World War, which is my personal connection to the old base. I recently published my father's wartime memoirs, which is called “Lighter Than Air”, through Atlantis Productions. I brought a case of books to the reunion and sold every one of them.

There was a raffle with a wide variety of NAS South Weymouth-related souvenirs ranging from framed photos, plaques, and books to the hotly contested and extremely rare original commemorative hand-made afghan blanket depicting scenes from NAS South Weymouth's history. In addition to being a great time to get reacquainted with old friends and to meet new ones, the reunion was also a fund-raiser for the ANA Patriot Squadron's Shea Naval Aviation Museum which is located on the old base and is dedicated to preserving the history and heritage of NAS South Weymouth and its Quincy predecessor, NAS Squantum. It was great news to hear that nearly \$4,200 was raised for the museum via souvenir sales, the raffle, and a direct donation from the reunion fund.

The reunion of old friends made for a warm, friendly atmosphere, which extended to their wives, friends, and dependents. Organizer Marc Frattasio, an NAS South Weymouth veteran and historian who seemed to have endless energy while yet making everyone feel welcome and connected, kept the schedule of events on track. Although the event lasted five hours, there was something scheduled for every minute. Guest speakers Captain Paul Haley USNR, Colonel Andrew “Drew” Ley USMCR, and Colonel Daniel “Guido” Ventre USMCR presented some memories and highlights of their time at the base. Following a delicious buffet luncheon, Marc Frattasio (photo below, with author) gave a fascinating illustrated presentation about NAS South Weymouth during the Second World War. All too soon it was time to leave, but what an enjoyable five hours of hearing stories, meeting new friends, seeing photos of NAS South Weymouth in its prime as well as how it now exists as the newly constructed Union Point residential neighborhoods. As I walked back to our car, I was filled with deep appreciation and respect for all those who served our country and for all those who strive to keep that knowledge and those sentiments alive in our hearts. Ω

– Janet Estes



Akron

On October 14, The Lighter-Than-Air Society held its 65th Annual Banquet. This year's speakers were Joe and Paul-Helmut Kindling, sons of airship pioneer Paul H. Kindling.

Paul H. Kindling was one of the many individuals involved in the transatlantic collaboration and aviation experimentation of lighter-than-air in the 1920s and '30s. His sons, Joe and Paul-Helmut, spoke about their father's lengthy career at Luftschiffbau-Zeppelin and Goodyear-Zeppelin during these decades, including work on the LZ-126 USS *Los Angeles* and the LZ-127 *Graf Zeppelin*.

Drawing upon personal photos from their dad's collection as well as his logbook, they recounted Paul Kindling's adventures aloft as a helmsman on the *Graf's* 1928 crossing of the Atlantic to America. His 1930-1935 contributions to the design and development of the rigid airships *Akron* and *Macon* were also discussed. Returning to Germany, Mr. Kindling would eventually join Goodyear Aircraft Corp., and was a key player in post-World War II projects such as the Vee-Balloon before his 1965 retirement.

The Brothers Kindling, both born in Germany, followed their father's path not only in a geographical but also an aeronautical sense, emigrating to the United States as children and later taking up flying for fun. (Young Paul saw the LZ-130 *Graf Zeppelin* in 1938.) Joe became a mechanical engineer and Paul a cardiovascular surgeon. The two men's respective children have now carried the first Paul Kindling's aerial tradition into a third (and soon-to-be fourth) generation, but the brothers took us back to the Golden Age of passenger airships with tales of how both Germans and Americans built and operated these giants of the sky.



Paul Kindling & Joe Kindling



Dr. Robert Hunter, left received the Ren Brown Life Achievement Award at the 2017 annual banquet, Robert's father, Robert Hunter Sr., seen on right, was present for the award presentation.

Doctor Kathleen Endres, Producer and Director of "*BLIMP! Sports, Broadcasting and the Goodyear Airship*"



"*BLIMP! Sports, Broadcasting and the Goodyear Airship*" was selected to participate in the 2017 edition of The Chagrin Documentary Film Festival, where it played to a near-capacity audience on October 7. On October 10th it was shown at the Daum Theater on the University of Akron campus. Since then it has been playing on the Akron PBS station.

The 57-minute documentary tells the unique history of Goodyear blimps teaming with sports and broadcasting; a big, exciting story. It also includes behind-the-scenes stories which are informative and entertaining.

Produced and directed by Kathleen Endres, instructor at the School of Communication, this fascinating lighter than air history of blimps and sports broadcasting, technology and competitive business was created by members of the Akron community and faculty, staff, students and alumni from The University of Akron.



Eddie Ogden (left), Goodyear's PR Specialist and Historian for Blimp Operations and Clayton Koppes, Professor of History and Interim President, Oberlin College were two of the three panelists that entertained questions after the presentation of the documentary at the University of Akron. Not pictured: panelist Leslie Heaphy, Associate Professor of History, Kent State University. Ω

– Alvaro Bellon



WF2 B02 – *Wingfoot Two* moored to its mast truck at the Long Beach airport, its temporary home in California while the inflatable hangar at the Carson Blimp Base is erected. (The Daily Breeze)

On October 8, Goodyear’s *Wingfoot Two* embarked on a 2,600-mile, cross-country journey from Akron, Ohio, to Los Angeles with a 26-person crew and a caravan of nine ground vehicles. The three-week tour, which included flights over 10 states and numerous tour stops, ended on October 27, in Long Beach, near the blimp’s west coast home in Carson, California. The erection of the new inflatable hangar at the Carson Blimp Base will be completed in early November, at which time the airship will move to its new permanent home.

Goodyear's *Wingfoot Two* leaves Akron to head to Airship Operations in California, By Jennifer Conn, Akron reporter, cleveland.com jconn@cleveland.com

AKRON, Ohio - *Wingfoot Two* has left Akron. The newest blimp in the Goodyear Tire & Rubber Co.'s fleet is taking a 2,600-mile journey westward, to the company's Airship Operations base in Carson, California, near Los Angeles.

With a 26-person crew and a caravan of nine ground vehicles, *Wingfoot Two* will take about three weeks to reach the inflatable hangar that serves as its home, making stops at a Goodyear manufacturing plant and in Lubbock, Texas, to take part in the 75th anniversary McWhorter Tire Co., a Goodyear customer.

The cross-country journey comes about a year from the date Savannah James, Akron businesswoman, philanthropist and LeBron James' wife, christened the airship. The Goodyear Tire and Rubber Co. is hosting a christening for its newest blimp, the *Wingfoot Two*. Savannah James will christen the blimp Friday, Oct. 21, at the Wingfoot Lake blimp hangar.

“This is an exciting milestone for Goodyear as we look forward to introducing our new generation of Goodyear blimps to the West Coast and engaging fans

along our tour route to create new memories of the Goodyear Blimp across America,” said Goodyear's senior vice president, Global Communications Paul Fitzhenry in a news release.

The company currently operates two technologically advanced Goodyear Blimps-- *Wingfoot One* and *Wingfoot Two*. The third airship to complete the new fleet is under construction at the Wingfoot Lake facility outside Akron in Springfield.

The technologically advanced *Wingfoot Two* is 246-foot long, 50-feet longer than earlier blimps; can hit speeds up to 73 mph; and has three engines for greater maneuverability.

Some facts about Goodyear's technologically advanced *Wingfoot Two*:

- It stretches more than 246 feet long, which is 50 feet longer than previous models.
- It has three vectored engines, as opposed to two in the older blimps, which enhance maneuverability.
- It can hit highway speeds up to 73 mph; previous max speed was 50 miles per hour.
- It is supported by a semi-rigid frame composed of light-weight aluminum and carbon fiber that holds an envelope packed with 297,527 cubic feet of non-flammable helium.
- The gondola seats up to 12 passengers and offers panoramic views with larger, wrap-around windows. Electronic controls work in conjunction with an on-board computer to regulate engine thrust, up-and-down movement, and right-and-left movement.
- Tail fin operation is controlled by a joystick device for more precise operation.
- Tail fins and the gondola were built in Germany and shipped to the U.S. for assembly.

Since 1917, Goodyear has built more than 300 lighter-than-air vehicles for public relations and defense applications.

In 2018, Goodyear will celebrate the 50th anniversary of its Carson blimp base, which opened in 1968.



Wingfoot Two provided television coverage for the 2018 Rose Bowl Parade and game.

Cardington



“Airlander 10 to fly higher, faster and further from Cardington base” was the BBC headline following HAV’s announcement that the European Aviation Safety Agency, had issued the permit allowing HAV to move to Airworthiness 2a. This means AIRLANDER will soon be flying up to 7,000 feet, to a maximum speed of 50 knots, and up to a distance of 75 nautical miles away from the airfield. Airlander’s trailblazing Carl Thomas and his team are responsible for securing airworthiness certification and liaise regularly with both the European Aviation Safety Agency and the Civil Aviation Agency.

“As we have said before, absolutely key to test flying and indeed the development of any new aircraft, is to be ‘cautious and progressive’. This seemingly small step is in fact significant. This extended flight range will allow us to begin to undertake display and demonstration activity for potential customers and, ultimately, bring Airlander to market.”



Airlander Aimed High with Luxury Tourism

The Airlander team had to make two significant deals to make a tourism version of their unique low-carbon aircraft a reality. HAV announced that Henry Cookson Adventures would have been the first to try an expeditionary journey in 2018 as a pre-cursor to Airlander’s use in the luxury travel and adventure sector. Henry Cookson Adventures is the pioneering

British luxury travel expert with a number of firsts to its name. Ω

Airlander Suffers Breakaway and Destruction



Photo credit: Neil Stock

[HAV Statement] “On Friday, November 17, the Airlander 10-001 took to the skies again over Bedfordshire for Flight 006. The Airlander conducted four circuits around the airfield, with a practice landing in each of the first three cases. In low turbulence flying conditions, the pilot Dave Burns varied his controls during each circuit to provide us with extensive data sets that would have been used to dissect aircraft performance, in particular: how does the hull pressure system respond in climbs and descents; how does the aircraft center of gravity influence landing strategy; do the aerodynamics near the ground impact landing technique; and, what is the impact of engine operation on controllability near the ground. The aircraft was destroyed on 18 November, an initial assessment is that the aircraft detached from its moorings in light winds for reasons that will be determined from an ongoing investigation. The aircraft has now been deflated and placed in Hangar 2, Cardington. The most important outcome is that there were no serious injuries resulting from this ground incident. The destruction of the Airlander aircraft will result in a claim under an insurance policy of up to £32 million, that being the maximum insured value. HAV is undertaking a full investigation and are working closely with both our insurer and the Air Accidents Investigation Branch. HAV says they will share the outcome of the investigation once this process is complete. Ω



Moffett Field



Ed. note: In this undated photo inside a Moffett timber hangar the balloon appears to draw from NASA super-pressure designs; the more “conventional” image below that shows a solar-powered payload is likely older, perhaps as far back as 2013. At press time no operational balloon image from PR was available on the internet.

Google Balloons Win Permission to Restore Internet (Compiled from Online Reports)

Despite the best efforts of cell companies, the vast majority of Puerto Rico was offline at press time. Internet coverage might seem like a luxury when people are struggling for clean water and power, but communications make moving essential supplies much easier, and enables lost families and friends to find each other. That’s why the FCC has granted an emergency license to Google parent company Alphabet to deploy 30 balloons over the island, with the intention of providing basic internet service while the conventional cell network is brought back online. It aims to temporarily re-establish Puerto Rico’s cellular network -- where 83 percent of cell sites were still out of service at press time, according to FCC figures.

“More than two weeks after Hurricane Maria struck, millions of Puerto Ricans are still without access to much-needed communications services,” FCC chairman Ajit Pai said in a statement. “That’s why we need to take innovative approaches to help restore connectivity on the island,” he added, urging wireless carriers to “cooperate with Project Loon to maximize this effort’s chances of success.”

Loon, part of a series of futuristic projects out of Alphabet’s “X” laboratory, was originally created to provide internet coverage in under-developed rural areas. A similar project using drones was closed down in 2016. Testing is going slowly, but Loon has proven particularly good at restoring communications after a natural disaster. Earlier this year, Loon provided coverage to tens of thousands of people in Peru following major flooding.

The situation in Puerto Rico appears more difficult for Google. For the balloons to work, they need a wireless backhaul, which is provided through a partnership with local cell companies. The 83% of cell towers are still down in Puerto Rico, and the groundwork hasn’t been put in place. By contrast, Google had already been testing in Peru when floods hit, so it was able to partner with Telefonica to get its system up and running in weeks. Google didn’t provide a time frame for when the balloons would be up and running, but the FCC license expires in April 2018, so it’s going to have to be ready soon.

The balloons were to be sent 20 kilometers above the Earth’s surface, where they were supposed to remain autonomously for over 100 days. Initially designed to drift, the balloons are now equipped with navigation systems, powered by solar panels, which keep them in a specific area. *They are made from polyethylene plastic the size of a tennis court.



*Ed. note: There is no information on how this feat is accomplished. Ω



Airship Association 11th International Convention and Regatta: “Flights of Fact & Fantasy”
with Arnold Nayler, AA Vice President

The Airship Association's three-day 11th International Airship Convention and Regatta was held in the Park Inn Raddisson Hotel, Bedford, England, 19-21 October 2017. It was a splendid setting on the south bank of the Great Ouse river, which was often filled with swans, ducks, and oarsmen in single sculls, pairs, fours and eights from the local school and the college. While no major sponsor stepped up to help fund the gathering, AA members went the extra kilometer to make a most enjoyable event hosted at the former Moat House, with its competent facilities.

The Mayor of Bedford opened the Convention during the Reception on the preceding evening. This was followed by a presentation on 'The History of Airship Activities in Bedford' courtesy of the local Higgins Art Gallery and Museum and a live musical interlude by Michael Roulston, of 'Airship Themed Songs' and other pieces from the collection of the British Balloon Museum and Library.



(Above) Marius Von Zeppelin heads a dinner table; on his right, the Naylers; on his left the Chadburns; and the Camplins are closest to the camera. Meals were convenient in the hotel and refreshment was provided at the breaks.

Thirty papers were presented in the following two days. The presenters came from 11 different countries as far apart as Japan, India, Singapore, the USA and Europe. In addition, there were delegates who came from other countries, two even from Australia.

Day 1 included three papers on “Current Projects and Technologies” and four each on “Flight Operations and Potential Growth Areas,” “Infrastructure and Ground Handling” and “Innovations/Research and Developments /Future Projects (etc.)” Part 1.

Day 2 started with an early morning visit to view the Hybrid Air Vehicles *AIRLANDER* in the Cardington Hangar 1, just three miles away. A chance to see the world's largest aircraft close-up was much appreciated by the lucky 32 delegates who were able to take the exclusive conducted tour and ask their questions. (See back cover)

Upon return from Cardington all delegates assembled in the Conference Centre to attend the second day's proceedings. These included three papers on “Innovations /Research and Developments/Future Projects,” Part 2 and four papers each on “Education/Training/Skills and Simulations,” “History and Learning from the Past” and “Fun, Fantasy and Futuristic Concepts.”

In the evening delegates appreciated an excellent illustrated lecture given by First Blitz author - historian Ian Castle. One hundred years to the night, commemorating the exact Centenary of “The Silent Zeppelin Raid.” Sponsored by the Airship Heritage Trust, Castle told the story of the 11 German Zeppelins that set out to bomb England that night. Most were blown off-course and missed their targets, but their indiscriminate bombing did do damage and a number of lives were sadly lost.

Day 3 was devoted to the Model Airship Flying Regatta, staged in the nearby Bedford College Sports Hall. Managed in accordance with FAI Competition Rules, an official FAI observer was present. (See inside back cover)

Those taking the Spouse and Partner Programme enjoyed a walking tour of Bedford, which included visiting the John Bunyan Museum, the Panacea Museum, a coach trip to Jordan's Mill, and the 15th century Elstow Moot Hall, which now houses a Museum of 17th Century Life.

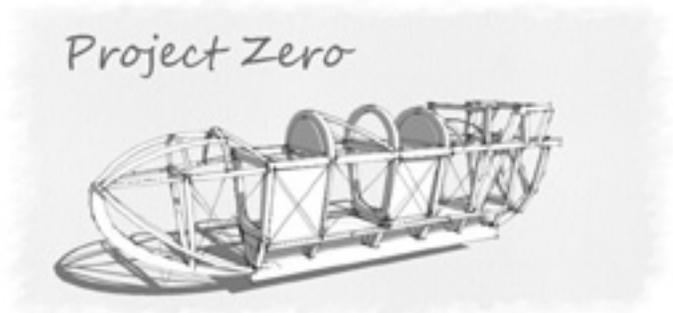
A synopsis of the papers and presentations follows.

Day 1: Welcome by Dr. Giles Camplin; Keynote Address by R. G. Van Treuren, followed by his “ZRCV: The Giant That Almost Was.”



Vaughn Cosman (above left, addressing the assembled delegates), DSTA, ADM S&T, Dept. of Nat'l Defense, Canada: “Project Aeolius,” How Canada's High Arctic might become independent of fossil fuels and their work towards that end. The words “hydrogen” and “airships” were used in Mr. Cosman's presentation.

Gary Ball: “Project Zero” Project Zero was devised and developed by 'History Matters' as the leading partner in a centenary project for 2017 to commemorate the First World War in Wales. The project will involve communities across North Wales, South Wales and beyond, and has created a dedicated website, a digital archive of research and images, educational outreach, community archaeology and the creation of a unique archaeological reconstruction - an accurate replica of an SSZ-type airship car - as a centerpiece for a touring 'pop-up' museum. This project has become a centenary partner with the Imperial War Museum. The website already contains most interesting videos featuring previously unpublished still photos timed with actual



audio interviews with participants, made in the 1970s.
(See Page 16)

Colin Morrish: “Airships Connecting Exploration Projects To Transportation Grids” (Co-author Barry Prentice) Canadian transport networks; heavy lift;

environmental impact; cargo; humanitarian aid.

Fatima Salehbbhai: “Shape Optimization Of A Multi-Element Airship Envelope For Maximizing Payload” Hull design; envelope shape; performance; aerodynamics.

Richard Chadburn: “Steam Up: Is It A Real Option?” Hydrogen; lift; TAR; history; engines; propulsion; weight constraints; energy supply; heat loss.

Raj Pant: “Conventional and Multi-Lobed Lifting-Body Hybrid Airships” A comparative study in sizing; Cargo.

(Afternoon)

Peter Ward: “Helium: Plentiful Supply, Fragile Logistics” Gas supply; ground support; infrastructure; politics; road transport; logistics.

John Owen: “Tanzania: The New Helium Province” Helium; gas reserves and production; supply and demand; lift gas; market stability; liquid gas transport; infrastructure. John mentioned Helium had been added to the EU critical materials list.

Raj Pant: “Preliminary Design Of A Multi-Functional Tether For Aerostat Systems” Surveillance; lift gas; ground support; tethered aerostats.

Chris Roberts: “Sky-High Problems In Permeability Testing And A Few New Solutions” Helium; fabrics; testing; leakage; envelope fabrics; measurement; instruments; permeability; membranes; gas loss.

Martin Hill: “Keeping up with the Drones” Radio-control; hobbies; drones; surveillance; off-the-shelf parts; education; flight testing; navigation; station keeping; ground handling; cameras; fun; STEM; regulations.

Raj Pant: “Conceptual Design Of Non-Body-Of-Revolution Type Stratospheric Airship” Solar power; propulsion; envelope profiles; communication; autonomous operation; environmental impact; R&D; aerodynamics; power supply; energy storage; fuels; hybrids.

Giles Camplin: “Policing The Oceans: A Maritime Airship For Deterrence, Interdiction And Air/Sea Rescue” Offshore operation; surveillance; mooring on water; hot air; helium; endurance; interdiction; historical precedent; ground handling; anti-piracy; fisheries protection. Dr. Camplin pointed out while various airships have alighted on the water, none have been designed to be based there.



Delegates are treated to an up-close and personal visit to HAV facilities and Airlander just days before destruction.

Day 2: Keynote address: Dipl. Ing. Juergen Bock, DGLR

Andrew Barber, HAV: “An Overview of the Airlander 10 Prototype.” He explained details of the ILC Dover envelope with its Tedlar/Mylar sandwich. To date test flights have been stol, not vtol; she has flown one ton heavy so far. From LEMV they changed angle of lower fins slightly upward and added extensions to all fins. Flight software written for slow speed control to allow full deflection, higher speed automatically reduces control deflection to change sensitivity. The U.S. Army's original wheel mooring cart was designed to be C-130 air transportable and weighed 4 tons. HAV's improved 30-ton tracked mooring mast vehicle is remote-controlled via chest console. Back aft a 5-ton wheeled castering ground cradle rides on packed-down circle of mooring site. Note was made the company is making social media live tweets to prevent misinformation.

Fatima Salehbhai: “Feasibility Study Of A Hot Air Tethered Aerostat System” Aerostats; tethers; ground support; heat loss; thermal modeling; fabrics.

Raj Pant: “Conceptual Design Of A Full Scale Hot Air Aerostat System” Surveillance; lift gas; ground support; hot air; tethered aerostats; ground support; transportation.

Elie Chemaly: “How Green Is An Airship?” Environmental issues; transport; cargo; freight; costs; investment and funding; regulations.

Alexander Richter: “A Preliminary Design Tool For

Radio Controlled Airships” RC models; drones; envelope design; aerostat construction; calculating fin size.

Raj Pant: “Design & Development Of An Easily Deployable Indoor Finless Airship” GNVR Profile (name derived from inventor) made by merging a half circle (front) and ellipse (rear).

Johannes Eissing: “The Most Maneuverable Airship” RC models; navigation; station-keeping; indoor operations; propulsion; load exchange; “pig leg” configuration becomes “quadrapod”; eight engine config “Sleipnir.”

Paul van Daalen: “Airships Over Holland” History; propulsion; Zeppelins; politics; infrastructure; financing; cargo; transport; education.

Francisco Gonzalez Redondo: “Airships On Board: The History Of The ‘Airship Carrier’ 1913-1922” Spain; history; war; patents; maritime operations; vested interests; politics; ground-handling.

Guillaume deSyon: “Wood Instead Of Metal: France’s Rigid Airship Solution, 1913-1915” France; hull construction; wood; aluminum; WWI; Zeppelins; politics; history;

David Marks: “Not Only Good Things Come From Above” Zeppelins; WWI; post cards; history; bombers; politics; propaganda; collecting souvenirs;

Yu Ito: “An Indoor Logistics Drone With Hybrid Blimp Zero-Power Soft-Landing Ability” Drones; blimps; indoor operations; hybrids; marketing; RC models; safety.

Nandan Sinha: “Stratospheric Airship For Surveillance Applications” Surveillance; technology; logistics; stratosphere; aerodynamics; navigation; station keeping.

Erich Fink: “Fish Fin Propulsion For Airships” Propulsion; engines; power supply; innovation; futuristic concepts.

Raj Pant leading a team of four Singapore students: Aakash Sanjay Mehta, Lee Jian En Mike, Zou Yun Chuan, Tan Song Ze: “A Smartphone-Operated Indoor Autonomous Airship” Indoor operations; navigation; RC models; robots; autonomous control; design requirements. Ω

Hybrid Lifting-Body Airship vs Transport Airplane

A Comparison of the Characteristic Lift/Drag Ratios

by Juergen K. Bock



Introduction

Objective of this paper is to readjust the notion of a hybrid airship as an outgrowth of the traditional elongated buoyant airship, *i.e.* depending primarily on its aerostatic potential, while its aerodynamic potential is, more or less, a useful byproduct to maintain trim and a certain amount of additional lift during the mission. In some cases, however, the empty weight is intentionally not even compensated by the lifting gas, thus leaving the dynamic lift as the major lifting force, despite the fact that the aspect ratio of the craft is way below unity. For the development of an economic, ecologic and operational transport airship for servicing minder accessible territories, the publicized traditional configurations are de facto representing a dead-end road.

On the contrary, the lifting-body hybrid airship is based on the balance of aerostatic and aerodynamic lift. Due to the moderate airspeed of LTA aircraft, it competes with a comparable cargo airplane of the military motorized para-glider class. The decisive parameter is the lift/drag ratio of the candidates, assuming a lifting-body airship having a comparable aerodynamic lift/drag ratio. Typical candidates of the lifting-body airship are the lenticular and the deltoid configurations.

1. The Comparison

1.1 Transport Airplane

The empty weight of the candidate transport airplane is assumed to be 50% of the gross weight. The useful load is therefore in equal measure with the empty weight. The lift/drag ratio of a conventional cargo airplane is about $L/D = 20$; the net power P_{estim} requirement for cruise flight can therefore estimated as $P_{estim} = (\text{Gross weight}) (\text{Cruise speed})/20$.

At this instance it should be noted that only 50% of the power will be utilized to carry the useful load, while 50% of the power is needed to keep the empty weight aloft!

1.2 Lifting-Body Airship – Hybrid Airship

The characteristic feature of the lifting-body airship is its “weightlessness” due to the aerostatic lift of the gas filling which compensates the empty weight. The typical

Lift/Drag ratio for already investigated configurations is in the order of $L/D = 10$; the estimated net power P_{estim} amounts therefore to $P_{estim} = (\text{Useful Load}) (\text{Cruise speed})/10$ since actually no cruise power is required to support the empty weight which is compensated by the aerostatic lift. This indicates that the already investigated lifting-body airship configurations are basically equivalent with conventional freight airplanes.

2. Superior Features of a Hybrid Transport Airship

2.1 Comparison with Airplanes

The prime advantage of a hybrid is the free parameter of filling with additional lifting gas, bartering against the pressure height (ceiling), thus creating additional aerostatic lift (“aerostatic booster”) for STOL or even VTOL maneuvers at low altitude.

Utilizing gaseous hydrogen also as no-carbon fuel gas increases continuously the operational pressure ceiling, while the loss of aerostatic lift can be conveniently compensated by the aerodynamic lift. The ecologic aspect is to be emphasized.

Extreme low airspeed is possible at take-off and landing, as well as during payload dispatching missions using the kiting effect, on account of the stall-free properties of the lifting body configuration and considerable ground effect.

2.2 Comparison with Conventional Airships

The STOL and potential VTOL properties make the “genuine” hybrid airship an ideal craft to service multiple improvised airfields in *e.g.* Northern Canada. The maximum linear dimensions compared with a conventional airship are reduced to about 50%, while the width will be increased according to the plan view of the lifting body (aspect ratio about 1+).

The stall-free properties of the lifting body configuration allow kite-like in-flight cargo dispatching procedures even at moderate wind conditions.

In the case of a lenticular configuration, no mooring mast will be needed due to the craft's radial symmetry, thus avoiding the typical swinging circle around a mooring mast. Ballasting due to discharged cargo is excluded by circumferential mooring to a number of ground anchors.

The utilization of hydrogen as both lifting gas and fuel gas allows a wide spectrum of mission-planning and operational flexibility at minimum CO₂ generation.

The table below provides a rough overview of some of the characteristic features of the options, particularly in view of the economy and adaptability under the

prevailing field conditions.

3. Conclusion

This paper has shown that an efficient transport hybrid airship can only be conceived on the basis of the equivalence of aerostatic and aerodynamic lift. Since a hybrid is neither a buoyant airship nor an aerodynamically sophisticated airplane, it falls into the category of "lifting bodies", necessitating a radical turning-away from the traditional elongated airship configurations and their derivatives.

A very short-term substantial financial support of systematic and directed Research and Development is mandatory to avoid further futile attempts in the conservative line of concepts.

Carrier	Length	Width	Parking Area	Lift / Drag	T/O, Landing	Fuel	Estim STOL
Buoyant Airship	150 -200 m	30 -40 m	500 m circle	f ($1/v^2$)	VTOL STOL	Low Carbon	300 -400 m
Lifting Body	50 -80 m	50 -80 m	60-100 m circle	10	STOL VTOL	Low Carbon	300 -400 m
Transport Airplane	20 m	25 m	30 x 30 m	20	STOL	Carbonic	300 -400 m



From Dpl. Ing. Bock's personal scrapbook:

In 1969 the *AEREON 26* had reached a point where first taxi test could begin. The test pilot at that time, CDR Charles A. Mills, succeeded in a first short flight above the runway within the ground effect; yet engine power was not sufficient for a climb-out. A successful test series started only after substantial modifications in spring 1971 with Jack Olcott as test pilot. After this success, *AEREON 26* was – due to financial problems - no longer in operation and was mothballed. NACA 654-021-021 Report #824, Ch:

- aspect ratio $\Lambda = 1.23$
- optimum lift at $C_L = 0,155$
- optimum angle of attack $\alpha = 5.6^\circ$
- optimum L/D $9 - 12$

Ω



PROJECT ZERO





The role of the airship in the First World War was significant, but is often little remembered amongst the communities which once housed them. This project will bring recognition of the important part played by the airships in responding to the threat from German u boats. It will link in with other community projects and work being undertaken by other organisations, and in so doing will both contribute to current research and raise awareness of the development and use of airships in the war.

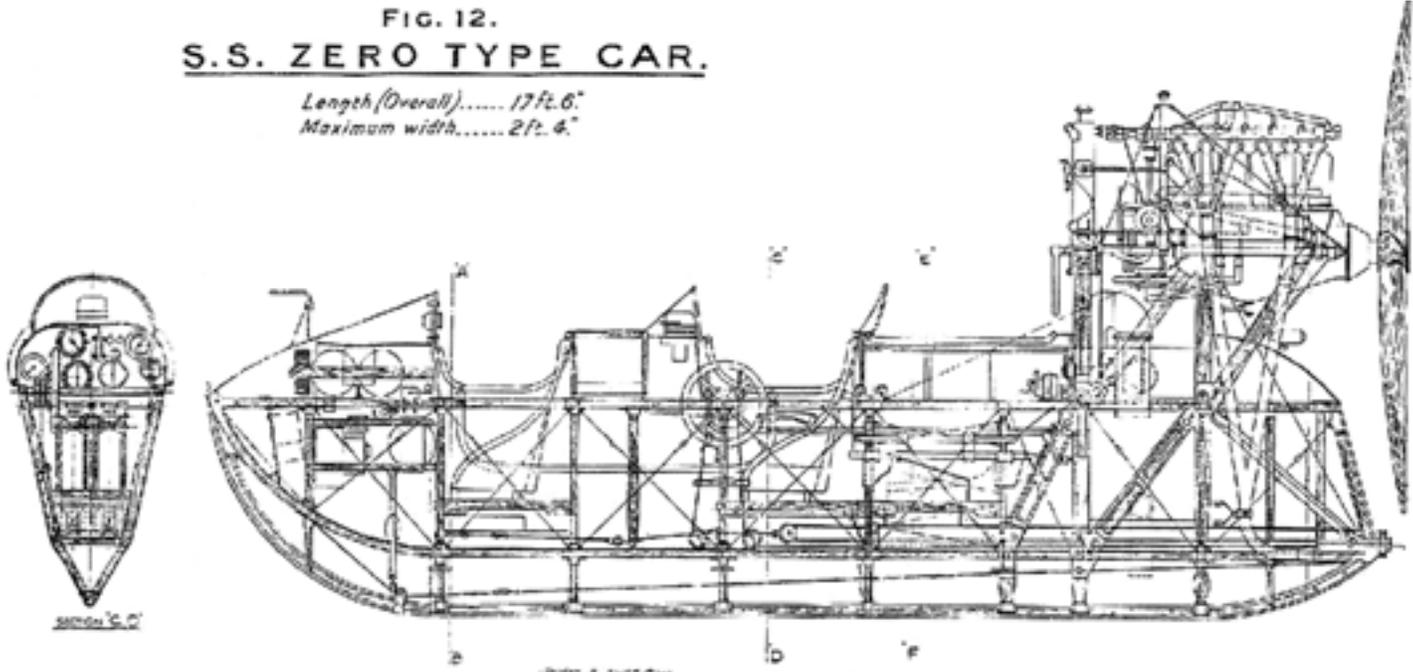
The postcard at left announced the project and its plan. Its website <http://projectzerohistorymatters.blogspot.co.uk> is already rich with unpublished photos and rare motion pictures of these early days, with very well done sound tracks playing back audio interviews with veterans about flying the SSZ ships in the Great War, recorded while the men were still active back in the 1970s.



We're going to be making updates about Project Zero in our upcoming 2018 issues. Why should NAA members give a hoot about a bunch of Welshmen recreating some boat-like early airship car? Take a closer look at the photo above right. Your eyes are not deceiving you - those are American sailors manning that SSZ car. US Navy airshipmen, shipped overseas without airships of their own, were trained on European dirigibles - including, in the UK, the SSZ type. In fact two SSZs were manufactured just for the Americans. We know SSZ-23 was brought back to the US and flown from Cape May. We're trying to find out more about this 100-year-old history and bring it to these pages, because like the Brits, Americans saved very little from these early days. SSZs were also sent to France during the Great War. Incredibly, the Project Zero team has discovered a long forgotten SSZ car in a French Museum storage facility. The team is working with the French to make the Project's replica more accurate. We also have our friends in France, Mayor Roch Cheraud and his team, to thank for the following four pages from their 100th anniversary program. Enjoy. -Ed. Ω

FIG. 12.
S.S. ZERO TYPE CAR.

Length (Overall)..... 17ft. 6"
Maximum width..... 2ft. 4"



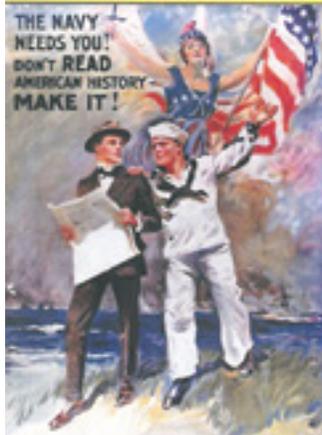


Une aventure américaine

De 1917 à 1919, des forces américaines furent stationnées en Sud-Estuaire

« Ici est née l'aéronavale américaine, grâce à la marine française »

L'exposition qui vous est présentée raconte une formidable histoire méconnue. Elle a été réalisée grâce à de nombreux documents issus du National Museum of Naval Aviation (NMNA) de Pensacola, le San Diego Air Space Museum Library and Archives, Naval History and Heritage Command, et le National Aeronautic Aviation (NAA) ainsi que les collections privées de Lionel Houls, Roch Chéraud, Thierry Le Roy et Robert Feuilloy. Cette exposition a été réalisée par Maud Blanchetière, Philippe Fourage et Roch Chéraud avec l'aide de Thierry Le Roy et Robert Feuilloy. The exhibition that is presented to you tells a formidable little-known story. Pensacola National Museum of Naval Aviation (NMNA), the San Diego Air Space Museum Library and Archives, Naval History and Heritage Command, the National Aeronautic Aviation (NAA) Private of Lionel Houls, Roch Chéraud, Thierry Le Roy and Robert Feuilloy. This exhibition was realized by Maud Blanchetière, Philippe Fourage and Roch Chéraud with the help of Thierry Le Roy and Robert Feuilloy.

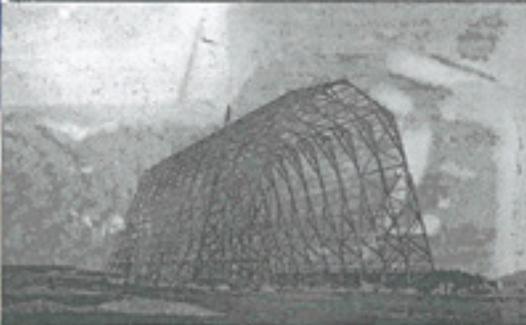
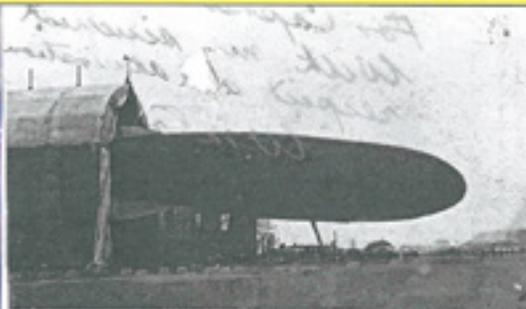


U-S-NAVY RECRUITING STATION

JOIN THE AIR SERVICE



LEARN-EARN



STAND BEHIND
The Boys in the Trench

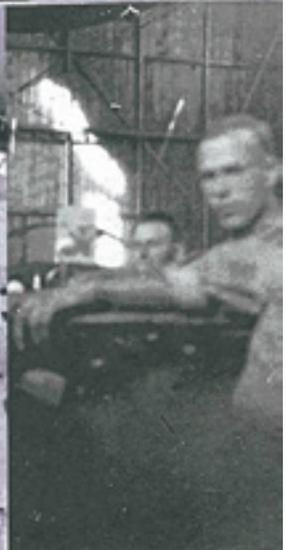
BUY
LIBERTY
BONDS



Automne 1917, La marine française forme les américains aux aérostats

« Mardi matin, vers 10 heures, un spectacle plus intéressant nous était ménagé, sans bourse délier, nous avons assisté aux gracieuses évolutions et à la marche majestueuse à travers le ciel d'un dirigeable »
L'Echo de Paimboeuf

Le centre de Paimboeuf est placé sous la responsabilité du Capitaine du Génie Paul Leroy qui depuis le 20 avril 1917, dirige les travaux d'installation. Le 30 juin, le dirigeable Capitalne Caussin est convoyé de Saint-Dyr à Paimboeuf pour effectuer ses premières missions afin de protéger les convois américains qui arrivent sur Saint-Nazaire. 180 hommes, 15 sous-officiers et 8 officiers français sont alors présents. En novembre, trois officiers pilotes et 18 hommes de l'US Navy, sous la direction du Lt (USN) F.P. Culbert, « Commander Officer » (médaillon) arrivent à la Wooden Town Bois pour se former aux côtés des français aux manèges des dirigeables. The Paimboeuf station is placed under the command of Captain (Engineering) Paul Leroy who since April 20, 1917 supervises the installation works. On June 30, airship Capitalne Caussin arrived at Paimboeuf to perform his first missions in order to protect the American convoys arriving at Saint-Nazaire. 180 men, 15 non-commissioned officers and 8 french officers were present. In November, three pilot officers and 18 US Navy men, under the leadership of Lt (USN) F. P. Culbert arrived at the Wooden Town Bois alongside the French to manage the airships.



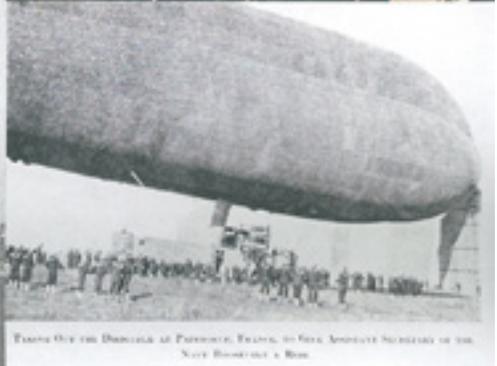
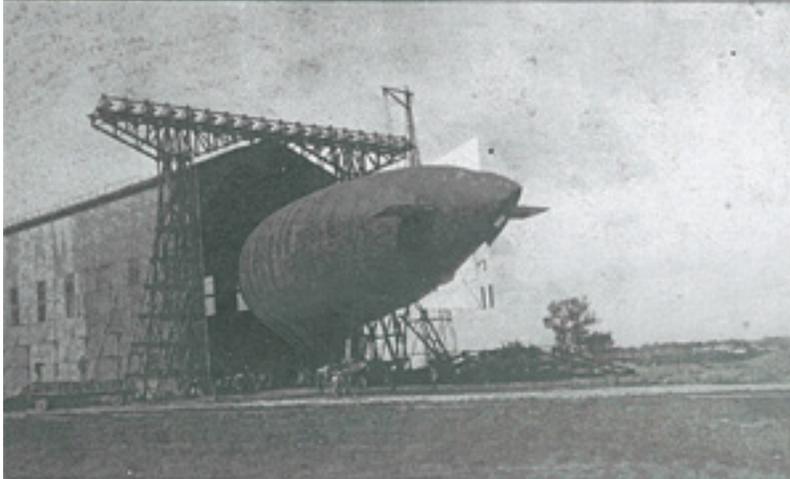
17 août 1918,

visite de Roosevelt, futur président des Etats-Unis



« Ils ont sorti un des dirigeables pour moi, les cordes étant marquées par environ quatre cents de nos vestes bleues. Je suis monté dans la voiture avant avec les deux pilotes; les cordes ont été relâchées et nous nous sommes élevés à environ cinq cents ou mille pieds et avons fait un voyage d'environ une demi-heure. Je me suis essayé à actionner le mécanisme de direction et aussi les mécanismes d'élévation et de descente. La sensation est clairement étrange, mais le bruit qu'un avion et beaucoup plus une sensation de dérive à la merci du vent. »
Franklin Delano Roosevelt

La visite du secrétaire d'Etat à la Navy, Franklin Roosevelt, le 17 août est un temps fort pour la base qui voit ainsi s'affirmer son rôle important dans le dispositif de protection des côtes françaises, sur une zone allant alors de l'île d'Oléron à Brest. Les français quittent le centre définitivement le 19 octobre 1918. Pendant toute cette période, ils sont venus en appui aux américains, tant sur la partie navigation et l'instruction, que sur l'accompagnement technique ou en génie militaire. Petit à petit des liens très forts se tissent et les américains font bénéficier aux populations locales de leurs temps festifs. The visit of the Secretary of State of the Navy, Franklin Roosevelt, on August 17th is a highlight for the base, as it thus asserts its important role in the protection of the french coasts, from Oléron to Brest. The French left the center definitively on October 1918. Throughout this period, they supported the Americans, as much on the navigation and instruction, as on the technical accompaniment or in engineering. Little by little, very strong ties are being formed and the Americans are sharing with the local populations their festive time.



THOMAS GUY FOR DIRIGIBLES AT FORT MOND, FRANCE, IN 1918. AMERICAN SOLDIERS IN THE NAVY ASSISTING A BLIMP.



A l'armistice du 11 novembre 1918, l'armement du centre comprenait 3 ballons (VZ - 7, VZ - 13, AT - 13), 29 officiers et 377 hommes. Pour leur séjour, les américains effectuèrent 257 vols pour une durée totale de 1 538 heures. Les américains évacuent la base , qui est dissoute le 28 janvier 1919. La base est démantelée le 14 août 1919, une fois que les autorités militaires françaises et américaines se sont accordées sur les litiges. Un terrible fait divers clôturera cet épisode américain en Sud-Estuaire. Le 21 septembre 1919, deux déserteurs américains assassinèrent lâchement deux paimblistins. On the armistice of November 11, 1918, the inventory of the center consisted of three balloons (VZ-7, VZ-13, AT-13, A-29 officers and 377 men. During their stay, the Americans made 257 flights for a total duration of 1 538 hours. The Americans evacuated the base officially on January 28, 1919. The base was dismantled on August 14, 1919, once the French and American military authorities agreed to the disputes. A terrible story will close this American episode in the South Estuary. On September 21, 1919, two American deserters cowardly murdered two paimblistins.



Bob Pylers Scrapbook

Sandie Hart and other family of Charles Robert Pylers kindly donated their Dad's scrapbook for the archives. Bob, who we lost last year at the age of 94, had passed in a few photos and keepsakes from the decades of his Navy service. Thanks to his family's thoughtfulness and their digital scanning, we can all enjoy - and learn as well.



Bob saved a ZP-12 daily flight list from 3 DEC 42 detailing crews for K-3, K-4, K-7, K-15 and K-16, on which he is listed for MAD duty. (K-5 was listed as in for major overhaul and K-8 its 120 hour check.) Operations Duty Officer: LCDR Cope.

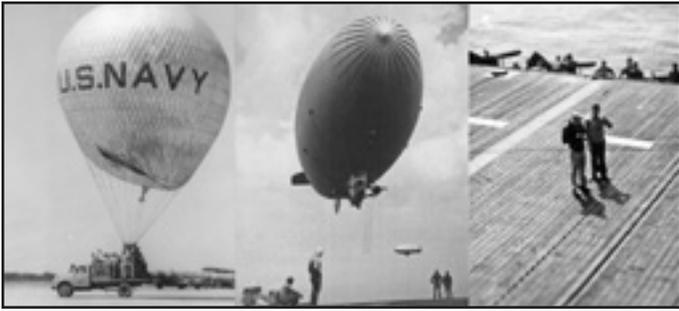


A Hedron One Det 15 Standard Section roster dated 4 SEP 43 lists "Pylers, C.R. AMM1c" but we suspect Bob made Chief not long after that. This photo shows CPO Pylers (arrow) with shipmates in what appears to be a repurposed older building. We're guessing it was an ops shack at a mast base, where there was time to stage a gag like giving a snoozing pilot a hotfoot. Note the mascot dog asleep under the bunk and the duty board "G-8."



Chief Pylers's service obviously included duty with detachments at stickmast bases, as here we see a G-ship at rest while the crew stands for inspection, dated SEP 45. Only makes sense the landing mat would double as a baseball diamond. Note all sport their airship cuffs. The photo below is a bit of a mystery as the Goodyear-type stick mast does not look tall enough to moor a K-ship, yet there is no record of MAD on G-ships even for training...?





Most of the images are from Bob's postwar period, though the general discouragement of private cameras is reflected in the number of "stock" USN LTA photos he kept. Still there is no lack of personal snapshots in his book, Note the Privateer on the ramp as the ZTF is trucked out, and the narrow flight deck of the CVE. The stack of postcards below show seldom-seen details of Glynco, including its standard admin building similar to its neighbor to the south, NAS Richmond.



Postwar came the ZP2K series of mods and improvements, including the immediately popular reversible props. Nonetheless it appears Bob had the unhappy duty of recovering a bow-impact accident to ZP2K-116.



XM-1 sporting her new enlarged envelope paid a visit to Bob's station at one point, notable by her "Glimpy" notch even before the number (and later "M-1") was added to the lower vertical. Note her aft clamshell doors are open.





With a hangar full of their charges behind them, the backbone of the organization poses for a group photo. CPO C.R. Pylar's official photo (below, left) was possibly taken about the same time. The WWII K-ships, upgraded to the ZP2K configuration, trained to operate with CVEs, refueling, rearming and remanning from the baby flattops. Bob saved quite a few photos of these ops.



Bob's duty with NADU South Weymouth is remembered in his scrapbook with a series of photos (pg 24) of handling their two ZPG-2s without the benefit of "mules." The record holder BuNo141561 is being walked out of the steel hangar sporting its

"*Snow Bird*" bright orange recognition pattern and the optional outboard sub-spotting arc lamp.

Again we certainly appreciate Bob keeping these images all these years and for his family to share them. Ω





More of Bob Pyle's scrapbook photos



**Augusto Severo
and the
*Bartolomeu de Gusmão***

By Thomas Norris

Augusto Severo (right, 11 JAN 1864 - 12 MAY 1902) was a Brazilian Parliament member. During the armed revolt of 1893 against the Floriano Peixoto



government, Severo foresaw the use of an airship being used in the fight against the rebels. The Government granted Severo financial aid to have an airship of his design constructed in Europe. Severo traveled to Paris in 1893 and had the well-known firm of Lachambre and Machuron manufacture the envelope of his airship, dubbed "*Bartolomeu de Gusmão*." (The airship was named after Bartolomeu Lourenco de Gusmão, DEC 1685 - 18 NOV 1764, a Portuguese priest born in Santos Colony of Brazil. He was noted for his early LTA design work.)

The complex structure was to carry the loads of the electric motor, batteries and crew, and be robust enough to withstand flight loads. This structure, along with the hydrogen production plant assembly and shed, was built at the Realengo firing range in Rio de Janeiro. The gondola was likely attached to the envelope in a similar way as was done with his smaller, second airship, the *PAX*, on which the gondola was attached to both the bow and the stern of the envelope. Both envelopes were made of silk.

On 14 February 1894 the semi-rigid airship made her first tethered ascent from the Royal Field at Rio de Janeiro. *Bartolomeu de Gusmão* proved to be stable and balanced, proving that Severo's conception was adequate for flight. However, during stability tests on the only unmanned flight, the 52-foot-long gondola broke, damaging the airship's framework.

By this time the danger of the rebels and the revolt began to decline. The government lost interest in the airship. Thus, *Bartolomeu de Gusmão* did not receive the necessary repairs and was abandoned. She was destroyed by gusty winds in March 1894. Ω

In a photo dated 6 AUG 1893, the gondola of the *Bartolomeu de Gusmão* rests on the Realengo barracks porch. At right, the hydrogen gas production apparatus is seen at the Realengo firing range in Rio de Janeiro.



The 60-meter-long envelope arrived in Brazil in March 1893. Its volume was about 2,000 cubic meters. Initially, the lattice structure was to be made of aluminum. However the lack of available aluminum caused Severo to change the design to use bamboo in the construction of the rigid parts.

Below: Not all these photos have dates but *Bartolomeu de Gusmão* is seen here with her Realengo shed.



A Tale of Two Races

by Peter Cuneo

(Inside Cover Story)

The two premiere gas-ballooning distance competitions are held each year in Autumn. This year, the Coupe Aeronautic Gordon Bennett (G-B) launched from Gruyere, Switzerland, in the foothills of the Swiss Alps, on September 8th, while the America's Challenge (A-C) launched from Albuquerque, NM, on October 7th. This year's competitions were a study in contrasts and a clear demonstration of why different strategies are required when flying a gas balloon for distance in Europe versus the United States. While this year's A-C course was a high-speed freeway, the geo-political map of Europe made the G-B layout feel more like an obstacle course.

A total of 21 teams from 11 nations, from as far away as Australia and Japan, competed in a well organized and hosted event. For the most part, weather cooperated for both the launch and the flight and this year's flight path did not require a repeat of the 2016 nighttime flights over the Alps.

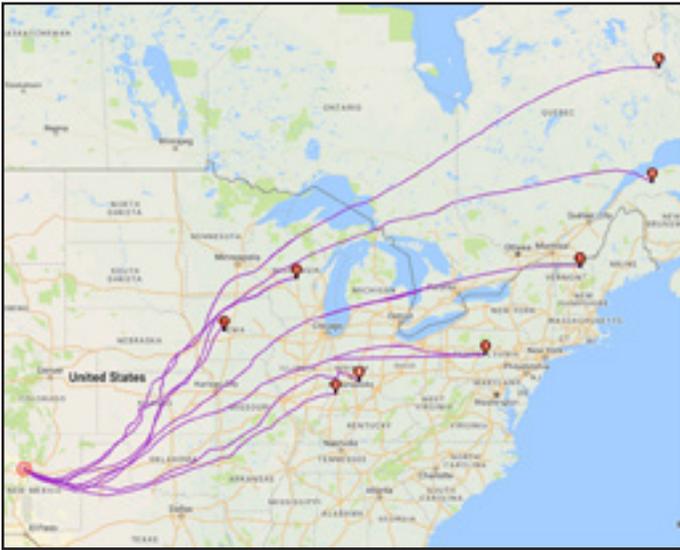
For the G-B, winds out of Gruyere were from the southwest and after launch, all participants headed toward Poland with dangers lurking beyond its northern and eastern boundaries. Both Belarus and Kaliningrad (in dark shade) were off limits since the first was unstable politically and the second was Russian territory. To make matters worse, Kaliningrad ATC controlled a chunk of airspace over the Baltic (lighter highlight) and stated that they would not clear any gas balloon through that sector. The final obstacle was the Air Defense Identification Zone (ADIZ) that extended out into Poland from the borders of both forbidden countries (in yellow). According to International Civil Aeronautics Organization (ICAO) agreements, each member country has the right to require prior notification of any aircraft that comes within a set distance of its borders. Because of the ADIZ, all balloons were required to stay at least 30 nautical miles from either countries borders if below 6,500 ft. MSL. These restrictions reduced the options for attaining reasonable distance to either a) flying up the western half of the Baltic Sea, or b) finding a very narrow path between Kaliningrad and Belarus. The Baltic route proved to be unattainable but one team, France-1, piloted by Vincent Leys and Christophe Houver, displayed great skill and courage to thread the needle and fly on through Lithuania and Latvia to a landing in Estonia after 36 hours and 1,836 kilometers.



France-1 won the competition by a large margin. The rest of the field was reduced to a game of chicken and timing, trying to land as close to the forbidden regions as possible. For several teams this meant a nighttime landing in northern Poland. Other teams chose to land at sunset, knowing that by sunrise the next day they would be well into forbidden territory. Many teams landed with large amounts of ballast still on board and bemoaned the fact that they could have flown much further except for the territorial restrictions. Congratulations to Vincent and Christophe for a great win this year.

By way of contrast, the only red zone for the 2017 A-C competition map was Mexico, which has been forbidden for many years. This has never proved to be a problem as prevailing winds in New Mexico are from the southwest to west, away from the Mexican border. Eight teams, from five countries, competed in this year's A-C with weather and fearless piloting providing flights that left very little ballast in most of the balloons' sand hoppers. The winning Swiss team of Nicolas Tieche and Laurent Sciboz set a distance record that will likely stand for many years by landing in Canadian Labrador after flying a distance of 3,671 kilometers in just over 59 hours. The second place team landed in New Brunswick, Canada, covering 3,526 kilometers in 69 hours. Both distances eclipsed the previous A-C record of 3,216 kilometers, which was set in 2000 by the late David Levin.

The launch serendipitously occurred between a front moving in from the west and the remnants of tropical storm Nate barreling up the east coast.



2017 America's Challenge Final Tracks (Tim Baggett)

These two phenomena bracketed the route for the balloons and provided a corridor of winds clocked at upwards of 80 mph for the fastest balloons. The winning team braved snow showers in the basket, while flying at above 17,000 ft. MSL and wintry conditions requiring a helicopter retrieve at the termination of the flight. Most other balloons stayed further south and east and flew in relatively benign conditions.

(Below) Team USA-1 heading out over Lake Michigan, altitude: FL163, above Kenosha, WI, 10:00am MDT Monday 10/10 (Peter Cuneo)



As co-pilot of team USA-1, I can report that our crossing of two Great Lakes in a single flight, our landing in Vermont and our retrieve by a horse, named Gold Digger (aka the 'Moose Hauler', trained to pull moose carcasses out of the woods), were all firsts for us. Our distance beat our previous best by over 500 miles and our return to Albuquerque involved 34 hours behind the wheel of our Chevy Silverado.

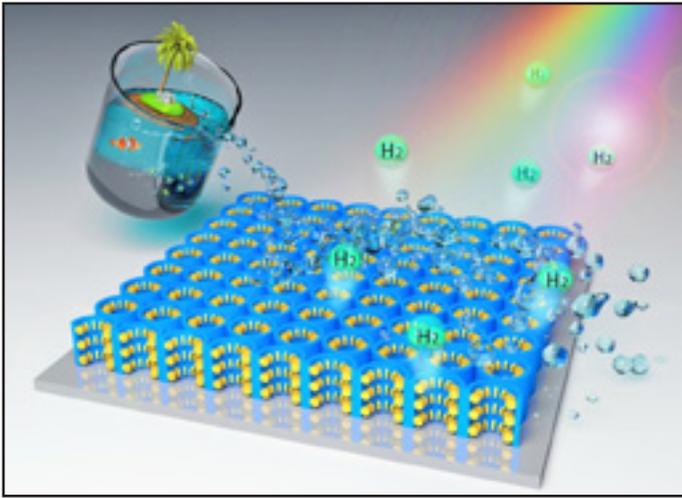
"Gold Digger" is saddled up for the 1.5 mile trek to USA-1's landing site (Ray Palmer) Ω



SHORT LINES

EU Hydrazine Ban Could Cost Space Industry Billions
Space News (10/25) reports that the European Union (EU) is considering a ban of the "toxic satellite propellant hydrazine as early as 2021," which could present a "major setback" for the space industry. Speaking at Space Tech Expo Europe, Airbus Defense and Space Principal Propulsion Engineer Priya Fernando said that even if the aerospace sector were to receive an exemption to continue using hydrazine, the price of the fuel could double in Europe. If hydrazine is added to the Registration of Evaluation Authorization and Restriction of Chemicals (REACH) regulation, Airbus has forecast additional costs of \$354 million a year for launcher and propulsion system manufacturers, and \$236 million per year for spacecraft manufacturers. Launch providers would be hit by an additional \$590 million a year, with a potential \$2.36 billion total yearly impact on the European economy. Fernando said, "It's a nightmare not only for Airbus but for the whole European space industry." Ω

Zunum Plans To Field Hybrid-Electric Planes "Within Five Years." Reuters (10/5) reports that aircraft manufacturer Zunum plans to "bring a hybrid-electric airplane to launch within five years." Zunum, which counts JetBlue and The Boeing Company among its investors, is developing a 10 to 12 passenger airplane with a 700-mile range. Zunum hopes that its plane will occupy a niche ferrying passengers between regional airports. The planes will use two electric motors with a reserve gas engine and will fly at slower speeds than traditional airliners. Ω



Nanomaterial Extracts Hydrogen from Seawater for Clean Fuel Development (Design News 11/20) A researcher at the University of Central Florida has developed a nanomaterial that uses solar energy to generate hydrogen from seawater more cheaply and efficiently than current materials. Yang Yang, an assistant professor at the University of Central Florida has been focused on solar hydrogen-splitting for nearly 10 years. “We use molybdenum disulfide to sensitize titanium oxide for solar energy harvesting,” he explained to Design News . “A direct result from this new material is to splitting seawater by the aid of solar light.” Scientists traditionally have used a photocatalyst—a material that spurs a chemical reaction using energy from light—to extract hydrogen from water, with Yang focusing his work first on using solar energy as the catalyst to extract hydrogen from purified water. The catalyst Yang and his team have developed not only can harvest a much broader spectrum of light than other materials, but also can stand up to the harsh conditions found in seawater, he said. Ω

SpaceX Plans To Test Falcon Heavy Rocket In Mid-December CNET News (11/1) reports that a “report on NASASpaceFlight “ claims that SpaceX is targeting mid-December for the first static-fire tests of the Falcon Heavy rocket. If successful, “tests could be followed by the first launch of Falcon Heavy as soon as Dec. 29, the report said.” SpaceX has not confirmed that it has set a targeted launch date for the Falcon Heavy, but founder and CEO Elon Musk has said that the Falcon Heavy will launch “hopefully towards the end of the year,” and the SpaceX “website also says 2017 is still the target date” for the maiden launch. Ω

Oregon Team’s Hybrid Engine May Be “Significant Development” In UAV Tech The Miami Herald (9/8) reported that a team led by Oregon State University-Cascades Engineering Professor Dr. Chris Hagen has developed a prototype hybrid UAV engine viable for “smalls,” or UAVs weighing less than 55 pounds, “in what could be a significant development in drone technology.” Oregon State University Research Compliance Coordinator Mark Peters said that the project “brings a concept proven in hybrid vehicles and larger aircraft and miniaturizes it,” opening the door to “extending and enhancing the usability of small rotorcraft in research, search and rescue and all those different applications that are restrained by a battery pack.” The team used a 2.75 horsepower “one-cylinder, two-stroke” 3W28i engine “commonly used in radio-controlled aircraft” as the base for their system, which they harnessed to a generator and batteries. The team said that their UAV is the first of its type with a documented flight time of over an hour, and has attracted attention from possible users. Ω

Airbus CEO Warns Of “Turbulent And Confusing Times” As Fraud Probes Widen Reuters (10/6) reported that Airbus CEO Tom Enders warned of “turbulent and confusing times” as the scope of British and French corruption probes expand. An unnamed source told Reuters that the investigations could lead to “significant penalties” for Airbus. Britain’s Serious Fraud Office (SFO) launched its probe “after Airbus alerted UK authorities to inaccurate statements it had itself made over several years on the use of intermediaries in applications for support for jetliner exports.” A separate French fraud investigation followed that of the SFO. Separate reports have emerged that Enders is under investigation by Austrian officials for “alleged fraud in the sale of Eurofighter combat jets to Austria in 2003,” a matter also under investigation in Germany. Ω

Aviation Today (9/26) reports that Utah-based IMSAR now offers an “extended ranger version of its miniaturized synthetic aperture radar,” the NSP-5 ER, which is able to “work in higher altitudes and faster aircraft, both on manned and unmanned platforms.” IMSAR said that the product is intended for “intelligence, surveillance and reconnaissance missions.” The US military currently uses the NSP-5 for “imaging, moving target indication and change detection for smaller aircraft” flying at lower speeds and altitudes. Ω

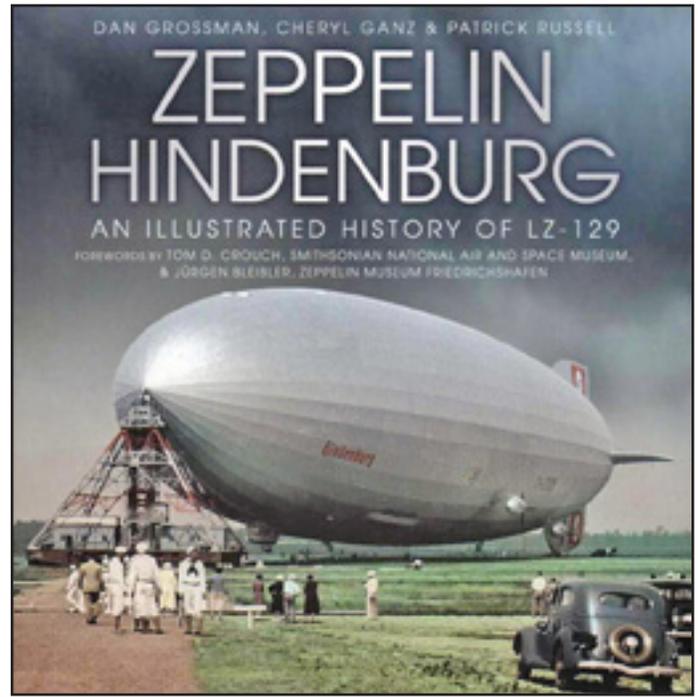
MEDIA WATCH

AOPA Pilot magazine devoted the last page of its October issue to Ms. Taylor Dean, Goodyear Senior Pilot. Her photo shows her at the controls of the venerable GZ-20 and the article covers her non-rigid airship experience as well as flying the new NT. Dean will be part of the California NT crew. The article asks, "The best part of flying blimps?" She answered, "Everybody's happy and excited, there's no other flying like it." Ω



AEROSPACE AMERICA for October devotes a page to the continuing interest in a modern revival of the airship flying carrier. Ed. is grateful to the author, Keith Button, for taking the suggestion to run a photo of USS *Macon* with her planes. (The recent AIR & SPACE SMITHSONIAN article hastily pasted the standard NYC 1933 photo, not taking time to search NASM files or even ask NAA for an image of her as an actual carrier.) During the phone call Ed. suggested the Amazon patent for a warehouse flying at 45,000 feet reflected the Patent Office's level of understanding of aerostatic law. (Mr. Button sort of mentioned this, but mercifully did not name his source for the criticism.) The AA issue also featured Button's cover article "Satellite Envy," which greatly details buoyant flight's many forays into what had been HTA and rocket territory, given an impressive 10 pages with many color illustrations. Ω

Jerry Copas, author of 'The Wreck of the Naval Airship USS *Shenandoah*' attended the Buckeye Book Fair in Wooster, Ohio, on November 4. The event was a "meet and greet"™ with about 100 authors and illustrators. Jerry autographed copies of his book. Ω



ZEPPELIN HINDENBURG AN ILLUSTRATED HISTORY OF LZ-129

(ISBN 978 0 7509 6995 6)

By Dan Grossman,
Cheryl Ganz & Patrick Russell

Reviewed by C. P. Hall II



Dan & Cheryl

The overwhelming temptation is to say, not to be confused with "*Hindenburg – An Illustrated History*" by Rick Archbold which came out 23 years ago; time flies when you are reviewing new titles. Unlike the previous title, this new book is laser-focused on the *Hindenburg* with very few exceptions.

The exceptions come in the form of rather interesting sidebars such as, the Zeppelin Co.'s wind tunnel and the LZ-128 project; both of which are found in the first chapter which is primarily about the passenger accommodations in the *Hindenburg*. The next two chapters cover the construction and structural details of the *Hindenburg*, along with an interesting excursion into the existence of Zeppelin crew groupies in the vicinity of Lakehurst.

Chapter five is sub-titled "The 1936 Flight Season" but seems to be more about passenger anecdotes than operational details. The final page covers the "millionaires' flight" with some discussion of proposals by the re-named American Zeppelin Transport Inc. Up to this point the manuscript has been liberally illustrated with black & white photos, many of which I had not seen elsewhere. Now, following Chapter five is a colorful set

of illustrations: There is a line drawing of the passenger layout which includes the “B” deck cabins added for the 1937 season which I have not seen elsewhere, and a 3D render which might confuse some readers if they did not have the line drawing for comparison. The flip side of the “3D renders” is a centerfold of the *Hindenburg* which is necessary for a complete drawing of readable size. There follows a section of photos, poster reproductions, ads, letters, maps and postcards all in color, colorized, or color enhanced.

Chapter six is sub-titled “Flying Post Office”. The photos return to B & W and the subject is self-evident.

Chapter seven is “Lakehurst Twilight”, again the content is self-evident. The photos are B & W a number of which seem to be published here for the first time, some are quite interesting, a few are trivial.

Chapter eight is titled “Unravelling the Mystery” again seems self-evident. This is where I chose to voice two of my three disagreements with the authors. Offering what they describe as “Two bizarre ideas also mysteriously persist in the public’s mind:” The outer cover was highly flammable and that “hydrogen played no role at all in the disaster.” The three authors offer footnote citations referring to two articles, one by three other authors, a second by a fourth author, all of who are commenting upon the work of a fifth (or should it be eighth?) author, Dr. Addison Bain. These do not accurately reflect Dr. Bain’s comments, which are available in book form, either regarding flammable fabric, or hydrogen burning in *Hindenburg*; however it is a fine example of why hearsay evidence is not accepted in a court of law!

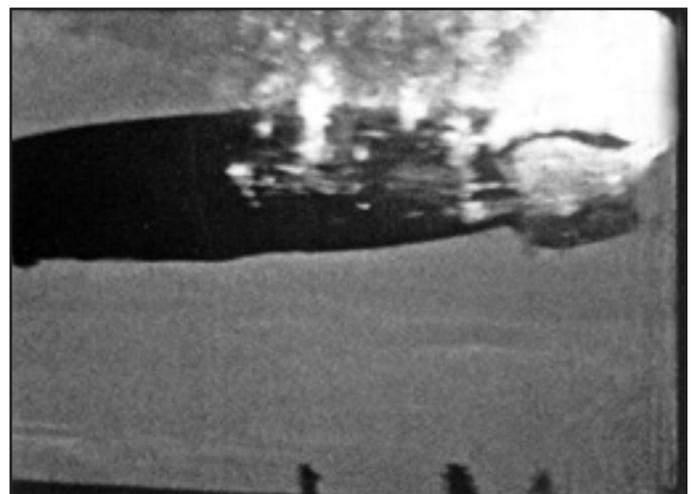
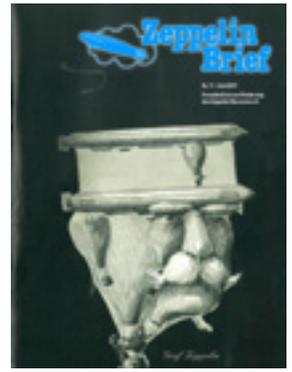
The authors also offer footnote citation “Myth-Buster: *Hindenburg* Mystery (2007)” Suffice to say that the two ‘stars’ of the MythBusters program are capable motion picture special effects artificers and, as a rule, their show is entertaining. To claim that their pyrotechnic exercises added anything to our knowledge of what happened to the *Hindenburg* is the proverbial ‘bridge too far.’

Overall, ZEPPELIN HINDENBURG is an attractive product. It is hard cover, lavishly illustrated with photographs and diagrams. The colorized photograph on the front of the dust jacket is almost worthy of being framed and, if you buy a copy, you should look into a plastic, protective cover as well. It is published in the UK by The History Press. At current rate of exchange, the price is likely about \$40. Ω

Ed. notes no sister publication has run a review of this book, though our UK brethren ran its press release and announcement. The newsletter of the Friends of the Zeppelin Museum, *Zeppelin Brief*, devoted a page and a half of their issue 71 (June '17) to the 80th anniversary observance at Lakehurst. Member Cheryl Ganz sent them photos and they make note of several other NAA and NLHS members, who were present for the event, in the article. Ω

NAA Publisher’s Comments from David Smith

In the opinions of many, this is probably the most significant book ever authored on the *Hindenburg*. Dan Grossman, Cheryl Ganz and Patrick Russell present us with a story profusely illustrated with many photos published here for the first time. Included in these photos are 4 on page 166. They are still frames from an 8 mm movie camera of Harold Schineck. These four photos taken directly from the side of the airship. Schineck began filming before the newsreel camera crews, and was standing with members of the public and not with the press and demonstrates even more clearly that the fire was spread by burning hydrogen, and not by the airship’s fabric covering. So convincing is this photo evidence and accompanying explanation of timing that a self-proclaimed “hydrogen expert” who, has promoted the fabric causing the loss of the *Hindenburg*, even had to admit, that his previous theories need to be reviewed. These photos and timing data are worth the price of the book. Now available from Amazon for about \$38.00.



READY ROOM

Naval Airship Association Reunion Akron, Ohio ~ September 26-30, 2018



Our reunion hotel will be the South Akron Holiday Inn and Suites, just 10 minutes from the Akron/Canton Airport. Complimentary airport shuttle available to Akron/Canton Airport.



Relax in the indoor pool and hot tub. Hot breakfast buffet included. Many restaurants and shopping within one-mile area.



One of our planned tours will be to the MAPS Aviation Museum. MAPS is the home of 42 aircraft and 130 educational displays.



The MAPS Museum is home to the Goodyear GZ-22 Advance Airship Control Car. To this day the GZ-22 was the worlds only turbine power airship.



Another planned tour will be of Goodyear's historic Wingfoot Lake airship base and current North American construction site for Zeppelin NT semi-rigid airships, which is now the standard Goodyear Blimps.



Optional tours may include a day trip ride on the historic Cuyahoga Valley Scenic Railroad, Stan Hywet Hall and Gardens Hall, a 70-acre historic estate relocated from England in 1912 by Frank Seiberling, founder of Goodyear, The Pro Football Hall of Fame, Fanny May Candy Company factory tour.

More details in our spring edition of the Noon Balloon.

BLACK BLIMP



Walter Bjerre, 96, passed 23 NOV 17. Walter enlisted & began active duty in May, 1941, started LTA flight training in June 1942, and was commissioned an Ensign USNR Naval Aviator in March 1943. He served with Airship Squadron ZP-14 in North Carolina and in the Mediterranean. Walter was a navigator aboard the XM-1 airship in 1946 during the 170-hr endurance flight. Walter also flew for a short time with Douglas Leigh Sky Advertising and worked as a civilian engineering draftsman at Lakehurst. He was operations officer of ZP-3, and then became a test pilot for GAC. In June 1959, he delivered the first 3W to the Navy at Lakehurst. CO of Reserve Squadron ZP-651, he retired from the Naval Reserve in 1969 with the rank of Commander. Ω

Edward J. Shamonsky, 94, passed 14 SEP 17. Ω



Russell Brahn passed 28 OCT 17. His Naval service was at Lakehurst, NJ. Following graduation from Monmouth University he worked 38 years as an electrical engineer at Fort Monmouth. Brahn became chief of Goodwill Fire Co. #2, served on the Spring Lake

First Aid Squad, and was a ham radio operator. Ω

Charles Davis passed in April 2017. Ω

LIGHTER SIDE

The irony of life is that, By the time you're old enough to know your way around, You're not going anywhere. I was always taught to respect my elders, but it keeps getting harder to find one. ☺

Tranquilizers work only if you follow the advice on the bottle - keep away from children. We spend the first 12 months of our children's lives teaching them to walk and talk and the next 12 years telling them to sit down and shut up. Most children threaten at times to run away from home. This is the only thing that keeps some

parents going. Cleaning your house while your kids are still growing up is like shoveling the sidewalk before it stops snowing. Housework can't kill you, but why take a chance? – Phyllis Diller



My wife and I had words, but I didn't get to use mine. With her, my every single morning is the dawn of a new error. ☺

Every family has at least one weird relative. If you don't know who it is in your own family, then more than likely, it's you. ☺

The biggest troublemaker you'll probably ever have to deal with, watches you from the mirror every morning. ☺





Three figure 8 laps were flown past 2 pylons placed 25m apart. The number of obstacles in the venue challenged participants to complete two laps without touching anything.

Pilot	Nation	Airship	Length	Width	Height	Block volume	length scale	time scale	Lap 1	Lap 2	Lap 3	Time assessed	Time scaled
			[m]	[m]	[m]	[m ³]	[-]	[-]	[s]	[s]	[s]	[s]	[s]
Henry Langner	GE	Kowalski IV	3.24	1.30	0.88	3.707	1.548	1.244	28.15	17.76	20.53	66.4	82.7
Erich Fink	GE	F112	2.42	0.42	0.68	0.691	0.884	0.940	16.89	14.86	15.45	47.2	44.4
Martin Hill	UK	LED	3.16	0.93	1.13	3.321	1.492	1.221	52.06	36.31	31.72	120.1	146.7
Martin Zobel	GE	Oblix Mini	2.00	0.57	0.54	0.616	0.851	0.922	55.17	48.43	54.58	158.2	145.9

1st: Erich Fink, 44.4s ; 2nd: Henry Langner, 82.7s 3rd: Martin Zobel, 145.9s. For the FAI indoor closed circuit speed record attempt, Erich Fink made two laps in 33.06s, only 0.61s less that Henry Langner. Martin Hill claimed the BMFA UK record with 65.92s. Winners were also awarded Airship Calendars kindly donated by Airship International Press.



THINGS LOOKING UP AS LIGHTSHIPS GETS A NEW OWNER/OPERATOR

AirSigns begin new Lightships era *Updated by NAA Publisher, David Smith*



On November 28th 2017, AirSigns of Williston, FL, announced the acquisition of Van Wagner Airship Group and its airship affiliates including airship manufacturer American Blimp Co. of Hillsboro, Oregon. In the past Airsigns has presented its advertising sky messages with a variety of aircraft including sky banners towed by light aircraft and helicopters. Banners attached to hot air inflated airships have also been used. Now the company moves along with pressure airships with more range and endurance and a greater aerial presence. AirSigns founder Patrick Walsh says, “We are at the dawn of a new age in the airship world. There is a lot of research and development in new hybrid airships and we’re very interested in that space and its manufacturing arm”. More information in the next issue.

NOT SO MUCH FOR HAV ~ Unexpected end to the Airlander 10 *Martha Gwyn*



Delegates to the Airship Association 17th International Convention gather at the front of the HAV Airlander 10 *Martha Gwyn* in October of 2017. In less than one month the vehicle would be totally destroyed on November 18 while on the ground and moored to its mobile mast.

