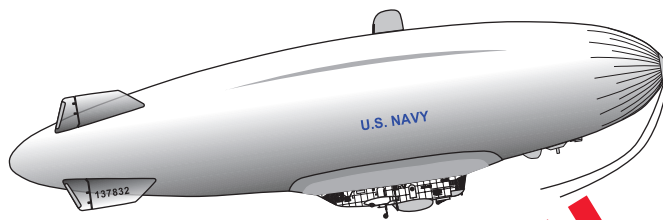
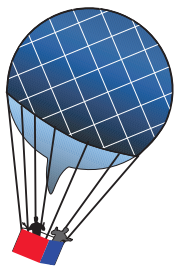
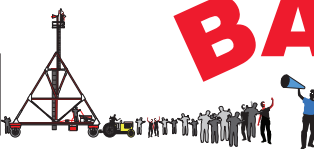


THE

NOON



BALLOON



The Official Publication of THE NAVAL AIRSHIP ASSOCIATION, INC.

No. 102

Summer 2014

REUNION ISSUE



GOODYEAR-ZEPPELIN REBORN



Goodyear Photo

On Friday, March 14, 2014, Goodyear unveiled its totally new airship operations program to the media. Everything from the new Zeppelin semi-rigid airship down to the ground support and over-the-road support equipment, is new. Above, a fish-eye view the first of three Zeppelin NT-07-02 models featuring the new look to the car and envelope as created by Interbrand Design Forum of Dayton, Ohio. Employing tapered yellow arcs, this design, from nose to tail creates a sense of continuous motion even when the airship is moored. **(Below left)** The striping on the control car creates a strong connection to the envelope providing a more integrated design. The new car design also provides for a water ballast discharge system, to give the Zeppelin a more controlled landing profile. **(Below right)** The first of the new Goodyear Zeppelin airships emerges from the Wingfoot Lake Hangar for its first flight on March 17, 2014. Goodyear is choosing to call this new airship a Goodyear NT Blimp, to keep continuity with the publics' nearly 90 years terminology of calling the airships, "Goodyear Blimps."



Paul Adams Photo



Goodyear Photo

THE NOON BALLOON

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Education is not the learning of facts, but the training of the mind to think. - A. Einstein ☺

On the Cover: The first Goodyear Zeppelin since 1935 enters service this summer. (Goodyear Photo)



THE NOON BALLOON

Newsletter of the NAA

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All material contained in this newsletter represents the views of its authors and does not necessarily represent the official position of the Naval Airship Association, Inc., nor its officers or members.

EDITORIAL

R. G. Van Treuren, Box 700, Edgewater, FL 32132-0700, rgvant@juno.com

The Editor of the AIAA magazine AEROSPACE AMERICA was lamenting unsolved problems last April, “How can a nation that has a rover crawling across Mars still be sucking ancient swamp goo and burning it [as fuel]?... We haven’t solved [problems] for reasons of economics...A problem won’t be solved – a market won’t shift – until consumers perceive a problem and someone offers a solution at a price that will motivate them to act.” Airship fans believe problems which could be solved with buoyant applications are legion. But there is a big problem beyond the limited energy in per pound of that ancient swamp goo. Can airships get beyond dependency on Pre-Cambrian rock formations trapping radioactive decay and extracting it to displace air?

No small task, since emotional reaction to even acknowledging the problem range beyond denial, to quitting the organization that encourages the discussion. Other challenges, some that do not evoke emotional responses, that contribute to keeping buoyant flight off the options list. What can NAA do, with its unique body of experience and technical knowledge, to advance airships to their rightful place as useful tools in the aerospace marketplace? We have floated some trial balloons in previous issues, but our declining membership makes me believe it’s time we also work harder to join forces with other like minded organizations.

A hard row to hoe, to be sure, since a collectibles investor has no interest in a technical presentation, and likewise, someone trying to, say, maximize helium recovery might consider a comparison of the two *Grafs* rather pointless. I am not even sure hot air balloonists think they have much in common with gas balloonists. Yet I firmly believe our separate interests would be better served by an international AOPA-like model – in their case, encompassing fixed and rotary wing, professional and homebuilder alike. Indeed, with declining memberships in most – AA, LTAS, NAA, AIAA LTA-TC - our survival may depend on better co-operation even before nature’s gifts of ancient goo and noble gas formations runs out. That is not to say 50% of our effort should not continue to be historical research & education, as we note the 100th anniversary of the Great War. Also, I just wrote to USNI PROCEEDINGS concerning their FEB 2014 article “Amphibious Historian:”

Dear Sir: Noting his 15-volume History of USN Ops WWII is the first source for serious students, critics finding fault with Dr. Samuel Eliot Morison’s general disdain for air operations miss his treatment of Lighter-Than-Air in that work. Confusion reigns when Morison states his belief that airships were “worse than useless” owing to their supposedly flagging convoys, yet in another volume, he praises, “You just can’t beat a blimp for convoy escort.” Morison suggests Goodyear was “influential,” when in fact airship production – even prototypes – were stuck at priority four, running out of key material allotments after just 134 K-ships were built. Morison evidently flew on a ZP-11 airship long enough to misunderstand how MAD gear worked, but never mentioned blimps being organized in squadrons, or their ops in the Gulf and West coasts, or crossing the Atlantic to the Med. He blames two specific tanker losses on supposed blimp inadequacies, while claiming a third near-miss incident in which the airship was ineffective. One would not know all three were from the same un-named squadron (actually Glynco’s ZP-15) in the space of a few weeks, and subsequent research shows all three of his conclusions to be incorrect. As did several airplanes, K-74 did lose a gun battle with the surfaced U-134, but Morison muddles those details – even to the Command Pilot’s name – missing the “take home” lesson the damaged sub turned for home, worth an inexpensive blimp any day, since no crewmen were lost directly in the combat. For the enemy’s assessment, one only read U-boat logs and transmissions, ranging from one Captain complaining that every time he raised his periscope, the highly visible “airship was there,” to another who logs his attack terminated, “Active airship protection, secure from General Quarters.” The question of which was more valuable to the war effort - a sunken U-boat, or a troopship that was not torpedoed – is not addressed in Morison’s cursory exam of LTA. Other historians have praised airships’ dozens of rescues, noted their utility work, and are in awe of their critical mine hunting success. Following 10th Fleet declassification and examination of German records, we now know blimps made both the first air attack on a U-boat in American waters (K-6 vs. U-94, 12 MAR 42) and the last hits on a U-boat here without, as Morison states, firing “some rockets.” A great deal happened in between; WWII re-established the airship as the submarine’s only natural enemy, but those using Morison as their reference will not learn that valuable lesson. /Sincerely/

– R. G. Van Treuren

View From The Top: PRESIDENT'S MESSAGE

I can now take a deep breath and relax and not wake up in the middle of the night thinking through the details. Overall, I would proudly call our 2014 NAA Reunion/Conference a success. I did in fact have a lot of unheralded help: Richard and Debbie Van Treuren were everywhere helping with whatever things needed being done, Donna Forand controlled the Small Stores table and had a wonderful exhibit of her father's LTA photos and memorabilia, David Smith was my right hand man for all printing and DVD production as well as providing all the snacks and cold drinks we needed courtesy of Airship International Press, and last, but not least, Lorraine kept me on track and, along with Debbie, got everyone efficiently registered and supplied with the registration gifts and banquet meal place cards.

Wednesday's registration went flawlessly and Wick Elderkin put up a great display of photos and memorabilia from the USS *Shenandoah*. Our Meet & Greet reception was well attended and the food was splendid, an excellent chance for everyone to mingle and compare stories.

Thursday at the Naval War College was flawless. Director of Education and Public Outreach, John Kennedy, met us and gave an introductory speech on the Museum front lawn under the in-bloom cherry trees. We next divided into (two) groups guided by docents Tom Feeney and Ken Gaus who did a superb job of explaining the exhibits in the Museum. Our tour at the War College campus was quite enlightening as we toured the former Ambassador and Secretary of the Navy Middendorf display of Navy memorabilia, letters and autographs dating to the American Revolution. This phase of the tour was a little restricted due to the fact that classes were in session and a lot of the activities cover restricted subjects. Nevertheless, we got a great introduction to the NWC's history.

Thursday after the NWC tour and lunch we held our Executive Council and General Business meetings concurrently. The Nominating Committee presented their proposed slate of officers for the term up to the next Reunion/Conference. The list was: Frederick Morin for president, Anthony Atwood for vice president and Deborah Van Treuren for secretary/treasurer. Members at the meeting voted unanimously to accept this slate. A discussion on proposed By-Law changes brought some good questions and suggestions. A recap of the proposed changes will be submitted to the membership for further

discussion and a vote. The Minutes of the meeting appear elsewhere in this issue.

Friday was an open day and a number of our members carpooled to the New England Air Museum in Windsor Locks, CT, to see the meticulously restored K-28 gondola. Members John Craggs, Dick Trusty, and Don Scroggs made everyone feel at home and provided behind-the-scenes access to a number of exhibits as well as giving full access to the K-28. Friday night's banquet was a real eye opener. Rear Admiral Walter "Ted" Carter Jr. was our guest speaker on Navy Aviation. Admiral Carter took us from the very first days of Navy HTA through the LTA years and beyond. His hour-long presentation mixed historic photos with movies of Navy aviation taken in F/A-18 fighters from the USS *Enterprise*. He held the audience with his discussion of where the Navy is headed and what is envisioned over the next five years or so internationally. He was ably assisted by Lt. Commander Leslie Sloomaker, his assistant. Mrs. Carter was with the Admiral and made everyone feel at home. John Kennedy from the Museum joined us for dinner as well. Missing due to an official trip was NAA Member, Prof. John Jackson who, along with Mr. Kennedy, was incredibly helpful in arranging our tours and all the details. Prof. Jackson was also responsible for securing Adm. Carter as our guest speaker. See reunion photos on page 16.

I was very delighted to hear all the positive comments about our Reunion/Conference from the attendees this year. I consider this a success to build upon. However, as our membership demographics change we need to address how we conduct Reunion/Conferences. We will never forget that our primary responsibility is to our members and how important the reunion aspect is to them. This year we had Roy Manston speak on the local development of a dirigible-towed anti-submarine warfare device in World War I. I would like to add more presentations of this type to our events. I think it helps draw more interest from members too young to have served in Navy LTA, but still have a strong interest in LTA history and the future. To this end Richard and I are still exploring involvement in a proposed LTA conference to be held in FL in the next year or so. We will keep you informed as this develops.

I, as well as the entire Executive Council, believe we have a rich and productive future. Not only do we serve you, but ask you to join with us in any way you

can to promote the Naval Airship Association. It's your organization, get involved. We are always looking for new people to help us grow our organization. We welcome any volunteers; ideas; contributions of memorabilia, photos, oral histories, money, etc. We are not asking for a lot of your time. Computers are a great way to communicate and contribute articles, history and photos. I hear from people all the time about The Noon Balloon and what a high quality and valuable publication it is. Make a contribution of a story or photo, large or small. People want to see these. It helps attract new members and expose others to our rich heritage. And David and Richard do outstanding work in preparing and printing our magazine. It is truly world class. No other organization can come close.

The coming years will be very challenging ones for our organization. Our membership demographics are changing rapidly and we need to reach out to people with an interest in LTA, an interest in the future of LTA and a sincere interest in preserving the history of LTA. We cannot let the history and contributions of those Navy LTA veterans, you, disappear.

Oh yeah, NAS Pensacola was the unofficial choice for our next Reunion/Conference. More on this after our next Executive Council meeting.

– **Fred Morin, President**



(Left) **Joan and Jerry Bess** pick up their goodie bags as **Loraine Morin** checks them in at the Reunion Ready Room.

TREASURER'S STRONGBOX

Guess what! I retired again! It's been a pleasure serving you as Secretary/Treasurer of the Naval Airship Association. My wife and I have made many contacts throughout the past 10 years and have enjoyed your friendship, all your stories and conversations....so keep in touch! If you need any help with any information, still feel free to give me a call. Thanks!

– **Peter (Pete) F. Brouwer**

WELCOME ABOARD NEW MEMBERS!

Duane G. Straub, Silver Springs, MD
Joseph R. Punderson, Rome, Italy
Gerard Stephane, Fort Wayne, IN
Ray D. Piehl, Wautoma, WI
David T. Cissel, Winter Springs, FL
Stanley Samuelson, Murreta, CA
James Stear, Livermore, CA
James Fuentes, Hanahan, LA
Dual B. Mobley, Orlando, FL
Robert D. Britay, Albuquerque, NM
Michael C. Dworkis, Stuart, FL
John Konneher, Uniontown, OH
C. Russell Brahn, Spring Lake, NH
Martin Hill, Oxbridge, Middlesex UK

GENERAL MEETING MINUTES

The General Meeting of the Naval Airship Association (NAA) was held on 15 May 2014 at the Mainstay Inn in Newport, RI. A quorum was established with 26 members present. The meeting began at 1515 hours.

The meeting was called to order by President Fred Morin. The Pledge of Allegiance was recited by all present. An invocation was offered by VP Anthony Atwood. President Morin asked a motion be made for the Minutes of the last meeting to be accepted as read. It was so moved and seconded. President Morin further asked for a motion to be made to accept the Treasurer's Report as presented for April of 2014.

Income: \$10,500

Expenses: \$5,400

Reserve Funds: \$23,500

Reunion: \$4,000 after expenses, balance

will go to the reserve account. A motion was made to accept the Treasurer's Report. Accepted as is. President Morin greeted all attendees and thanked everyone for coming. Following a recap of the morning spent at the Naval War College, mention was made that our previous Treasurer, John Kane, had donated all of his files to the War College, and that Fred Morin would ask John Kennedy, the Curator, to review them.

COMMITTEE REPORTS:

Membership and Small Stores: Donna Forand reports good balance of items for sale.

Historical Committee: Al Robbins has asked for a relief due to ill health; a volunteer is needed.

Technical Committee: Norm Mayer celebrated 98 years this month, and will retain the chair as long as he wishes to do so.

East Coast Council: Member George Allen will also serve in this position as long as he wishes.

Don Kaiser has made some good in-roads on the cataloging project on the website. President Morin says he has been talking to other archival services; no repository as yet, however, it is one of his goals to make this a reality. He has been talking to the University of Akron which is the location for the Goodyear Archive. If we can cement a deal, we could add historical materials there in their archives.

Our outgoing Secretary-Treasurer, Peter Brouwer, had indicated that he did not want to continue in the capacity of Sec-Tres. Pete has served NAA well for 10 years and will continue to serve as Membership Retention Chair, a position in which he has played a key role. The assembly recognized and appreciated the time Pete has served as Sec-Tres.

New Slate of Officers: President: Fred Morin was re-elected as President Anthony Atwood was re-elected as Vice President. Deborah Van Treuren elected as Sec-Treasurer. The new slate of officers was accepted by the general membership with a unanimous "Aye."

Reading of the Black Blimp Ceremony

VP Anthony Atwood read the names of those who have Gone West this year, Donna Forand, daughter of Bob Forand, struck the bell for each of our 38 friends and shipmates who have completed their careers. (The Bell comes to us from NAS Weymouth.)

VP Atwood also made some comments about Memorial Day and those who have served our Country in time of need: 10% served during the Civil War, 10% served during the Revolutionary War, but 50% of our population served during the 2nd World War. Never before had so much of our population been engaged in the fight for freedom. One half of 1% serve our country today.

The meeting adjourned at 1615 hours.



Incoming
Secretary-Treasurer
Deborah Van Treuren,
aboard K-28
at NEAM.

PIGEON COTE

George Mitchel responded to **Bill Althoff's** request for postwar interviews, e-mailing: "I was part of the Airship story from 1949 until 1955. I finished AETM (AT) school in Memphis and was sent to FAETULANT school in Norfolk and upon completion of same selected (I had a choice) Lakehurst ZP-2. Upon reporting they told me not to unpack, I left the next day for Key West, ZP-2 det (then ZX-11). I spent 2 years there and 1 year in Glynco. Then 21 weeks at Guided Missile school at Pt Mugu and there my shore duty orders came through and I chose Lakehurst. (Loved blimps.) I was assigned to Naval Airship Training and Experimental Command. I was selected as a crewman for the first large airship crew, the N-1. The crew and pilots were all sent to Akron for training (the Navy didn't have custody then). We came back and spent many hours flying and testing the N-1 at Lakehurst. Then we took delivery of the first ZPG 126716 and later the 135445. I was in the crew of the 126716 on the record-setting flight in 1954 and all that encompassed. I left the Navy in September 1955 and have had a successful life. I have many pictures, memorabilia, and a 1953 Lakehurst yearbook with pictures of everyone, military and civilian, that were there during that time. I also have many pictures, some letters dropped at Kingham Air Base in Bermuda and a wall of framed newspaper clippings detailing the record flight of 126716. I also have a picture of Admiral Rosenthal presenting me with the Air Medal, this was at a country club in Akron after the record setting endeavor. Capt. Epps received the Flying Cross. I loved Capt. Epps, I have many stories of him and Lcdr. Ben Levitt. Also stories about the APs Chiefs and a First Class AP, George Kalin.

I am now 84 years old, have a very good memory but can't write and would be honored to tell my story to someone in person for whatever value it might have for the future. Ω

George cc:ed **Al Robbins** who commented, "I envy you. I was transferred to NADU in 1956 - primarily because I'd gone through the FAETULANT APS-20 course, and discovered the Navy still had blimps. I also learned to love the blimps, after my WV-2 landed upside down in Pennsylvania. Longer flights, no air conditioning, but you only had to carry one box full of tubes to support a flight." Ω



Melba Larson sent along a photo of her late husband Norman (above, at left) with John "Scotty" Forbes, dated 15 JAN 51. **Ω**

History Committee Chair **Al Robbins** continued e-discussion of what Charles P. Burgess, the leading American airship expert of his time, devoted the last chapter of his 1927 textbook *AIRSHIP DESIGN*, to the six most frequent fallacies related to airships. "Unfortunately, the technological advances of the past 80 years haven't solved any of the deficiencies which Burgess enumerated in his six fallacies." These included a channel through the hull to reduce drag and the ever-popular vacuum airship. Next came "Compressing gas or air for ballast. If anyone can produce a compressor capable of rapidly compressing a few thousand cubic feet of any gas, without significantly increasing its temperature, they'll revolutionize the natural gas industry – even if his compressor is too heavy to lift with an airship... [not to] mention the thermodynamic problems associated with rapid compression or

decompression." **Jeorgen Bock** commented, "This idea came up frequently in the past, last time in some dark corner of California, where it was dutifully copied by the Russians. It is amazing that nobody at DARPA considered the laws of physics, e.g. thermodynamics, Boyle-Mariotte etc. Instead, this inadequate concept was financed with tax money! The laws of thermodynamics worsen the situation even more dramatically, Boyle-Mariotte gives already a realistic impression of the amount of energy required.

I have to apologize however, for one sloppy mistake under Numerical Analysis: "Power requirement for squeezing 50,000 m³" should read: "Energy requirement" because, it is not only correct in terms of physics, but gives a feeling about the power of the compressor required; e.g. compression time = 5 minutes = 1/12 hour results in a compression power of 16 megawatts, not considering the effects of thermodynamic heat created during this procedure."

Burgess also rejected "Artificial control of superheat" in seeming disagreement with last issue's cover story of the Russian hot-air airship converted to helium and its static condition under the control of a standard burner. Remembering the Zeppeliner's plan to electrically heat the LZ-130's helium, it was to be followed by the heaters being dropped for take-off. Knowing how quickly the slipstream would cool the gas, the plan was to gain dynamic lift once the ship cleared obstructions. One wonders about the thermal properties of the hot-air envelope, though it seems unlikely flyweight heating technology can overcome the cooling effects of slipstream at higher speeds.

Burgess also had no tolerance for "Combined heavier and lighter-than-air craft." Bock also commented, "Burgess was right when he criticized the numerous proposals of airships with additional wings. However, pertinent studies have shown that there is no advantage of this combination. However, at Burgess' time there were no "Lifting Bodies" which came only up with the reentry technology. Lifting bodies combine large volumes with often astounding aerodynamic properties. First steps in this direction had been done by the US-Navy, when airplane starts on a runway were introduced, carrying a considerable overload of fuel for extended missions. The hull/empennage configuration provided enough aerodynamic lift." **Ω**

Ed. laments the fact no one seems to remember Thomas Jefferson's humble observations. After seeing the first hydrogen balloon in America, wrote that he thought it could be used to move things. 230 some years later, we're still waiting! Ed. sure would like a crack at developing his concept and/or similar ones presented and repeatedly refined in these pages. Potential inventors be aware, the largest body of LTA experience is quickly fading away.

Jim Kissick e-mailed Pete Brower,

On 9-16-58 I was the airship commander of a ZS2G-1 from ZP-2 out of NAS Glynco, GA. Immediately after takeoff there was the sound of a structural failure. It was a mis-riveted separation in the sophisticated actuator of the control surfaces at the tail end of the ship.
[Detail below]



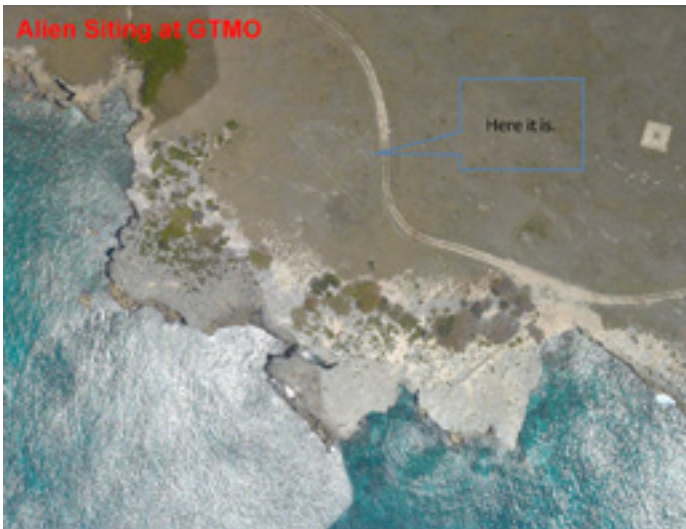
The ship flew in a tight right circle for a short period, until I managed to get it down near the ground crew, using engine power and ballonet pressure changes, but it landed about a 100 yards short of the hard surface in tall weeds and lost its landing gear, the prop and reduction gear of the port engine, a piece of the towed sonar fish, and a piece of the main fuel cell to oak stumps. We shot upward very fast, as I ordered the sonar fish lowered to serve as a pull down, but by the time it could be released, manually, to about 60 feet we were already passing 1,500 feet, with only 1,200 feet of cable. For some 2.5 hours we bounced between 1,000 and 3,500 feet with very little pressure, and severely sagging in shape, with the constant fear that one of the upper cables would snap and end it all. A helicopter, sent up to assist us, also almost killed us by flying across our tail area, and forcing the gas forward, causing a few minutes of very nose-high attitude. Ultimately we got under a darkening cloud which reduced the super heat by a tiny bit and we ultimately settled into a swamp where the sonar fish dug into the mud, allowing an evacuation to starboard at the lowest point. *[Above, right, from the original accident report]*



My question is, “how many of the other 10 members of the crew of airship 141590 who were aboard that fateful day are still around? I would like to hear from any of them!” Contact Jim at: cdrusn1@gmail.com Ω

Jim had sent the illustrated accident report to us years ago. The abandoned airship car photographed in the Glynco swamp 20 years ago is most likely a 4K, and not a 5K similar to 141590 which was recovered. Largely magnesium, little of that 4K is likely still in existence.

Technical Information Specialist Philip D. Edwards of the National Air And Space Museum Library in Washington e-mailed thanks to **Dr. Giles Camplin**, Editor of The Airship Heritage Trust Journal DIRIGIBLE, following receipt of back issues. “We greatly appreciate the efforts of The Airship Heritage Trust on our behalf and look forward to the occasion when we might add those missing volumes to make for the full run of DIRIGIBLE that we hope to preserve in the NASM Library. The issues Dr. Camplin has put together for us are simply filled with outstanding articles by so many fine airship historians, as well as many, many notes, fascinating illustrations and images, much as I suspected would be the case. DIRIGIBLE is truly an important addition to the NASM Library and we really thank you for making this possible. It was fun to see your picture in one of the issues. Thank you again for all the work you’ve been doing to come to our aid on this matter. We so appreciate it!” Ω



ATC Michael Lister sent the above image and e-mailed, "Gentlemen, Hoping you can shed some light on the attached! The AFM for GITMO discovered the marking in the attached photo. No one at GITMO can figure out what this is. Theory is this is an old grass strip marker because of the smudge pots in each corner with concrete 24" circular pads. No paved surface area is aligned with this marker. I did find some old 1920s photos that showed grass landing strips that did align with marker but the marker was not visible in the photos."

The dimensions of the outline are approximately: - Width 60' - Length 35' Arrow is 8' x 70' missing arrow tip from construction of perimeter road. Material is rock and coral stacked about 10" high. Crushed white granite is spread in the marking and the entire length of the arrow." Ω

Can anyone help the Chief out? It was not part of the old rigid airship mooring circle as far as Jim Shock's book shows. Speaking of GITMO, **Tom Cuthbert** had sent along some photos from his days there, including this of his shipmate "Swoose" Swanson. Ω



Roland Wiborg <wideload@centurylink.net> sent photos, e-mailing, "These pics were taken in '57 as the Navy was getting ready to decommission the LTA program. They had already secured the "GLYNCO" style wooden hangar across the field. Notice all of the ground support equipment rounded up inventoried and ready to ship out on railcars. Amazing how they can just up & leave an area. Leaving houses, buildings, modern sewage, fresh water system, coal-fired power plant, rail lines, fire house and equipment. HQ and barracks eventually fell down from rot and termites. Erik and I did a motorcycle tour of the secured area in '84. It was like riding thru a ghost town. It's only eight miles down the road from us. TCOM had bought the steel hangar. Ω





“**Bill**” **Burlin** e-mailed, “The photo on page 6 of the Spring 2014 Noon Balloon is of my LTA Pilot Training course class (the first post-WW II class) which commenced April 1946 and graduated Dec 1946. I can give you names of four in the front row: 2nd from left LT William Stanard, a USNA classmate of mine; 5th from left, myself, LT Charles William Burlin; 6th from left LT Audley W. Holmes, a fellow submariner; 8th (and last) from left, LTJG Don McNaughton. If I had a list of names of the officers in that class, I might be able to recognize some more. At one time I must have had a copy of that photo, but do not now after all these 68 years. The names attached to the 11 officers in the back row are all correct. I hope to see you at the NAA Reunion in Newport in May.” Ω

The mysterious disappearance of the 767 generated e-mail discussion. **Mark Lutz** offered, “I’d guess you’ve had my reaction to reports of the search for debris from the missing Malaysian Airliner. One plane will spot something, but the next plane cannot re-spot it. Despite being a P-3 Orion or P-8 Poseidon. Ships cannot find the objects for pickup. Multiple spottings March 18-25; not a single item retrieved, despite signal buoys dropped. Much of the flight time is wasted flying 1,500 miles out from Perth, Australia and back. The debris gets scattered more in the periodic storms; it may sink before they retrieve it. A 1957 ZPG2 would stay on site, better spot via lower speed, winch up smaller debris, and lower swimmer to attach floats plus signal buoy to larger debris. Refuel at sea by bag method. If only a large airship was available to demonstrate its capabilities..”

CP Hall agreed, “The search is horribly handicapped by the fact that, whether we are talking Lockheed P-3s or Boeing P-8s, the flight profile is four hours out to the search area, two hours looking, and four hours return to Perth to refuel. As was the case with Amelia Earhart in 1937, so it is today. Speed to the target area is not the most critical factor, speed over the target area can be an absolute detriment. The ability to linger for days, to drop to low altitude and to hover over a specific target, is irreplaceable when looking for a seat floatation device in a floating trash heap! A real airship - a ZRS, an “M” ship, or a ZPG-2W that could stay on site for hundreds of hours - is what is needed. The most modern P-8, flying over a suspected sighting, while banking at 300 knots, one crewman scanning through a window with binoculars while the pilots shouts, “mark, mark, mark” into a handset, is not an effective substitute in this tragic circumstance. Even HMAS *Melbourne* with helicopters, or the *Dedaldo* with seaplanes and blimp, would be better?! Ω

“**Red**” **Layton** noted the passing of his former shipmate, “I had known Jerry Denton (right) for 71 years! He was in my Company at the Naval Academy (one year behind me) and we were in the same Airship training class (1-48). Jerry served in ZP-2 and then on the Station at NAS Lakehurst where he was involved in early AEW development. When Kathleen and I got married at Lakehurst in 1948, Jerry was our witness for the license. He was the first Vietnam



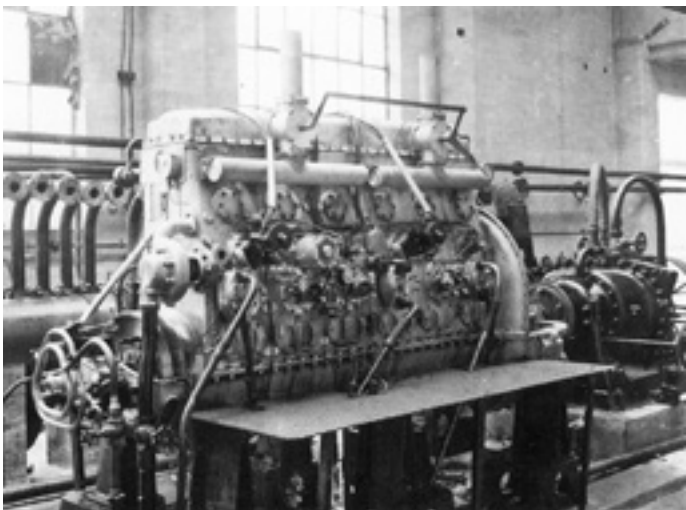
prisoner off the airplane when the war ended and gave the famous “God Bless America” speech. They made a movie about him with Hal Holbrook playing Denton. The movie has the same title as his book, “When Hell Was In Session.”

Ω

Noting the “UN-Report on Universal Effect of Global Warming” **Juergen Bock** e-mailed, “I’d like to inform you that [during the harsh winter] we did not hibernate, but continued working on hydrogen-inflated and hydrogen-powered hybrid airships. It is amazing how adamantly the LTA community persists on helium and conventional fuel despite of knowing the problems of future helium supplies and problematic carboniferous fuel. It is furthermore amazing that only military organizations supported transport airship development, obviously without basic scientific and engineering background. My personal concern is the obvious negative growth of the international LTA community. In the US there used to be frequent extensive conventions over several days. In Germany there is a similar trend, a shrinking membership to support our LTA committee. In other words, nostalgia instead of solid and cognizant innovation respecting the existing requirements.” Ω

David Bareford e-mailed **Giles Camplin**, “Realised that my grandfather who was MD of Peter Brotherhoods of Peterborough spent some time at Cardington. They developed an engine to use both hydrogen and kerosene that was for the R101 but I don’t think was ever fitted. Thought you might like a picture [below] when it was on test at the factory. I understand they also made the starter motor for the R100 airship. Do you have any further information?

[Please contact Ed. or Dr. Camplin with info] Ω



SHORE ESTABLISHMENTS:

MOFFETT FIELD

Google plans aerospace and robotics projects for Hangar One (Excerpt) By Brandon Bailey

If you were Google, what would you do with a 350,000-square-foot hangar that was originally built to house helium airships for the U.S. Navy? How about using its cavernous interior for building and testing new robots, planetary rovers and other space or aviation technology? A NASA spokeswoman confirmed that those plans are part of the proposal submitted by a subsidiary of the giant Internet company. Google’s founders and several top executives also have a well-documented interest in robots, high-altitude balloons, aviation and space exploration. Depression-era structure is 200 feet tall and covers 8 acres.

All told, the proposed lease would provide more than one million square feet of space in Hangar One and its two neighbors, known as Two and Three. That’s probably enough for projects such as Google’s plans to develop new robot technology for manufacturing and retail shopping. Officials at NASA and GSA said only that the proposal from Google subsidiary Planetary Ventures described using all three historic hangars for “research, testing, assembly and development” of new technology related to space, aviation and “rover/robotics.” The proposal also calls for building a new 90,000-square-foot structure on the property that Planetary Ventures would make available “at no cost” for a “public benefit.”

Since it was decommissioned as a Navy air base in 1994, the sprawling, 2,000-acre Moffett property has been home to a mix of private tenants and government agencies, including NASA’s Ames Research Center and a wing of the California Air National Guard. Several aerospace contractors also use the site. Former NASA scientist Sean Casey, who led one of the rival bidding groups, said he hopes Google will keep the airfield open to aerospace startups. “Moffett Field is a great place for new space companies to connect with the investment community and with NASA Ames,” he said.

In a statement, Google said simply: “We are delighted to move ahead in the selection process and we are looking forward to working with both GSA and NASA to preserve the heritage of Moffett Federal Airfield.” Ω

SANTA ANA

News release 28 March 2014 (concerning Tustin timber roof collapse) <http://ocparks.com/news/>
Action by Naval Engineering Facilities Command SouthWest: contract issued to: Kellog, Brown, and Root Services (KBR) to determine cause of failure. To be completed about end of April 2014: Erect two 180 ft. steel towers outside hangar, one each side of hole. Support roof via tensioned tie-back cables. Aeros to be allowed access to their airship after this much is done.

City of Tustin (planned future owner of the South Hangar) and Orange County Parks (planned future owner of the North Hangar) intends to hire an outside firm to do an updated comprehensive analysis of structural integrity of both hangars, and provide a cost estimate for repairs, for consideration by Tustin City Council and Orange County Board of Supervisors. Ω

HOUMA

The Museum's new building should be finished about the time you read this. NAA members who served at Houma or have anything associated with the unique LTA base are urged to consider sharing their stories and copies of images or textual information so the museum will have a complete historical record.

– C J Christ



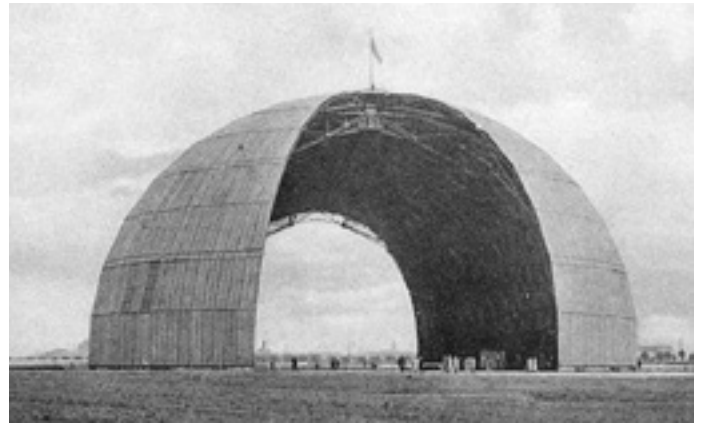
AKRON

On Friday, March 14th, Goodyear unveiled its new Zeppelin airship. The Zeppelin-NT made its maiden flight on March 17th. These events are covered in greater detail elsewhere in this issue.

Last summer, Roland Fuhrmann visited Akron as part of his research for his doctoral thesis which studies the clamshell doors used on airship hangars, notably the Akron Airdock and Moffett Field's Hangar 1 in the United States. We have now received an advance copy of a dissertation he has prepared to be given at the TU Dresden (Dresden Technological University). In his dissertation Mr. Fuhrmann talks about the life and achievements of



Ernst Meier, the designer of the “aerodynamic” airship hangar and inventor of the “clamshell doors” used on these hangars.



The first of these hangars was built in Dresden, Germany, and was inaugurated on October 26, 1913. The revolutionary design of the hangar resulted in far less air turbulence around the building. This was even more noticeable around the doors and made for safer entry and exit of airships from the hangar. This airship hangar was demolished in 1921.

During his research at the University of Akron archives, Mr. Fuhrmann found copies of correspondence between Mr. Meier and Dr. Karl Arnstein who oversaw the construction of the Akron Airdock for the Goodyear-Zeppelin Corp. In this correspondence details of the design of the aerodynamic hangar and the clamshell doors were discussed.



The last airship hangar of this type was built about 20 miles south of Berlin for the Cargolifter airship company. After the liquidation of this company due to bankruptcy, the hangar was converted into an indoor amusement park with a tropical island theme.

– Alvaro Bellon

COVER STORY



Photo by Alvaro Bellon

Goodyear's Next Generation Airship Takes Flight (Excerpt) By Jim Mackinnon, Beacon Journal

Akron-area residents are going to have to listen a bit harder to detect the new Goodyear NT airship as it flies overhead. The high-tech, semi-rigid aircraft, which Goodyear still refers to as a blimp, flew for the first time on a freezing, blue-sky-filled Monday morning from its Wingfoot Lake hangar base in Suffield Township. The St. Patrick's Day inaugural flight went well — the unnamed airship even circled over Goodyear Tire & Rubber Co.'s headquarters in what was about a two-hour flight before returning to base.

Weather permitting, the NT airship will be flying around the area a lot over the next several months as the new version of Goodyear's icon.

"Everything went great. No issues," Goodyear spokesman Doug Grassian said. Observers who watched from the public viewing area outside the hangar base noticed the NT — for New Technology — airship sounds different from the smaller, nonrigid GZ20A blimps that Goodyear used for decades and have been familiar sights. "A lot quieter," said Brian Gorham, a Goodyear security specialist who stopped by just before the airship took off. "It's an amazing machine."

Brimfield resident and blimp fan Jeff Marchion was among the few to see the NT's first flight. "I had heard the blimp was going to launch today, this would be the test run," he said. "I think it looks good. It's good to see them making new blimps again here. ... It's quieter. I know that people who have talked about it wanted to know how it was going to sound, if they were going to be able to tell that it was in the air. I think so. I think it's louder than

what they anticipated. It is quieter than the old blimp but they are going to be able to tell."

The NT took off shortly before 10 a.m. The 246-foot-long airship — 54 feet longer than the *Spirit of Goodyear* blimp it replaces — was slowly pulled out of the hangar by its new 8-wheel-drive mast truck just before 9 a.m. Temperatures were in the teens, with a slight, steady wind. The preflight check included firing up the engines, which can swivel up and down, or vector. That lets the airship take off and land similar to a helicopter.

The airship detached from the truck mast and slowly backed up toward the hangar. Then the engines roared and the airship rose a bit vertically before heading out. Minutes before the airship took flight, a small helicopter stationed at the hangar base took off and circled overhead. The helicopter carried a crew that has been shooting a documentary movie about the making of the Goodyear NT airship. The NT was piloted by Fritz Gunther, from Germany-based Zeppelin, the manufacturer. Also on board were Derek Reid, from Goodyear, and Juergen Fecher, Zeppelin's head engineer.



Photo by Eric Brothers

The new airship performed faster than advertised, Goodyear's Grassian said. The NT airship specs call for a top speed of 73 mph. (The top speed for a GZ20A is 54 mph.) NT goes 80 mph. But the NT hit 80 mph at one point, helped by a strong tailwind, Grassian said. "It's pretty exciting to go this fast," he said. Over the next several months, the NT will be used to train Goodyear pilots and undergo certification. Goodyear expects the airship will enter service sometime this summer after it is christened.

Goodyear publicly unveiled the airship last Friday morning with a media event and followed that in the afternoon by permitting an estimated 50 employees and tire dealers to come to the hangar for an up-close look. Construction of the helium-filled NT started in early 2013 and was completed earlier this year. The airship can carry 2 pilots and 12 passengers and, unlike the GZ20A blimps, has a restroom on board. Ω



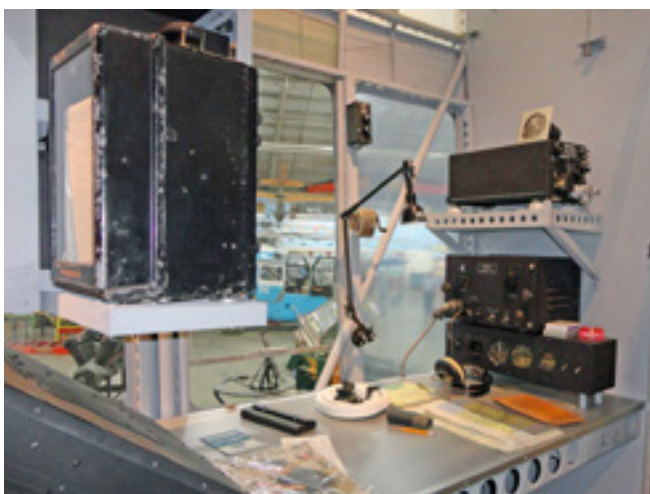
(Above) The glass cockpit of the Goodyear NT features Barco instrument displays. (Below) The new 2013 Mack Granite GU813 mast truck used for both moving the Zeppelin in and out of the hangar as well as a heavy duty mast while on tour. Mast is designed to moor the airship in winds up to 90 mph. (Bottom) New four wheel steering ground-handling mules have been engineered by Goodyear to handle the larger Zeppelin. (Right Top & Bottom) Seats for 10 passengers and a head located at the rear of the car on the port side. All photos courtesy of Goodyear.



K-28 RESTORED CAR AT NEW ENGLAND AIR MUSEUM



(Top left & right) The incredibly restored K-28 car with its aluminum polished skin. (Middle row left) As the K-28 had been “de-miled after the war, there was no trace of the 50-caliber machine gun nor its turret at the forward top part on the car. Under the direction of restoration chief Russ Magnuson a new turret was created from Goodyear manuals illustrations. (Middle row right) The K-28 restoration team, Don Scroggs, Russ Magnuson (Restoration Chief), George Diemer and John Craggs, in front of there masterpiece. (Left) NAA Publisher, David Smith, tries out the elevator man’s position. (Above) Looking from forward to aft in the restored K-28 car.



(**Top left**) In the aft section of the K-28 NAA Secretary/Treasurer Debbie Van Treuren relaxes as the Noon Balloon Editor Richard Van Treuren wonders “What to do?” (**Above left**) Restored K-28 Navigator Station. (**Above right**) Overall view of the fantastically restored K-28, looking from aft section forward. (**Below left**) K-28 restoration is absolutely complete, including bomb release mechanism handles located between rudder and elevator operators stations at forward end of car. (**Below right**) Mechanics position, just aft of the galley, in the center part of the car. All photos on pages 14 & 15 from Jannie Wissel except as noted.



2014 NEWPORT, RHODE ISLAND REUNION PHOTOS



Luce Hall built in 1892 still houses class rooms for the Naval War College in Newport as well as an impressive library and archive of naval history items.



A near perfect Spring day on Narragansett Bay greeted NAA reunion participants who gathered at Founders Hall at the War College to enjoy the college's collection of historic items and artifacts.



NAA reunion attendees look at over the historic displays which document the Navy's presence in Newport and the mission of the Naval War College.



The former War College library, on the second floor of Luce Hall, is now a beautiful and stately home to some of the most interesting and rare papers and documents in the US Navy's collection.



Naval War College President, Rear Admiral William E. "Ted" Carter, Jr. addressed the reunion dinner on Friday and gave a great power point presentation pertaining to Naval aviation history. The Admiral spoke for an hour and highlighted how LTA has played a significant part, at certain times, in the overall history of naval aviation. All in attendance were struck by the Admirals thorough knowledge of the subject and also by the fact, that despite sharing hundreds of statistics and dates, he never referred to any written notes during his entire presentation.



2014/2015 NAA officers join Admiral Carter after his presentation. From left to right: Vice President Anthony Atwood, Admiral Carter, Past President Ross Wood, President Fred Morin, Secretary/Treasurer Deborah Van Treuren. Photos from Deborah Van Treuren and Jannie Wissel.

LEMV UPDATE

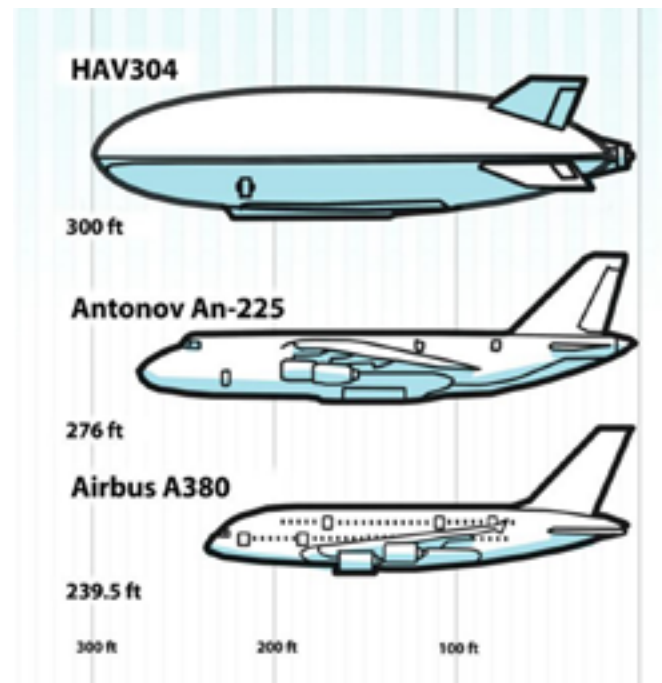


British Airlander, World's Longest Aircraft, Unveiled
from Richard Westcott BBC News (2/28)

“The world’s longest aircraft has just been unveiled in Britain’s biggest aircraft hangar.” Westcott describes the Airlander’s shape as looking “as if a series of cigars have been sewn together,” allowing the slender airship to “generate lift just like an aeroplane wing.” The \$100 million, 302-foot ship is described as “a game changer” by investor Bruce Dickinson. Dickinson lauds the project and hopes to take it or another Hybrid Air Vehicle (HAV) on a nonstop trip around the world in the near future. He praises the airship for being “70% greener than a cargo plane” and suggests that the “airship has always been with us, it’s just been waiting for the technology to catch up.”

At first, you might mistake it for a giant airship - gas-filled balloon on top, pod slung underneath. But the unique, aerodynamic shape of the balloon - it looks as if a series of cigars have been sewn together - means it can also generate lift just like an aeroplane wing. That is key, because it enables the designers to make the machine heavier than air, which cuts the need to have dozens of crew hanging on to ropes holding it down every time you land. In fact, you can land it via remote control with no one on board at all if you like. And on water if needs be. Let me put it into perspective for you. This thing is two-and-a-half times longer than the distance covered by the Wright brothers’ first powered flight. With a length of 302 ft. (92m) the new airship is about 60 ft. longer than the biggest airliners, the Airbus A380 and Boeing 747-8. It is also almost 30 ft. longer than the massive cargo-carrying Antonov An-225, which until now was the longest aircraft ever built.

It costs about \$100m (£60m) and the designers are planning an even bigger version that will eventually be able to carry 50 tonnes at a time. The company developing it



has now received £2.5m of government funding to develop the technology and engineering for the project. “We are jointly funding £2bn of research and development into the next generation of quieter, more energy efficient and environmentally friendly planes,” says Business Secretary Vince Cable. “That includes backing projects like Hybrid Air Vehicles’ innovative low carbon aircraft which can keep us at the cutting edge of new technology. Ω



HELIUM ROUNDUP

“The Politics of Helium” The Weekly Standard 5/5/14
V. 19, #32 By Kelly Jane Torrance (excerpt)

Helium is one of the most common elements in the universe, second only to hydrogen. How could there possibly be a shortage, which is global and not just national. Ever since airplanes displaced airships, what else do we need helium for?

“The real answer is everything,” says Richard Shoemaker, a research professor in the department of chemistry and biochemistry at the University of Colorado Boulder, and director of its nuclear magnetic resonance (NMR) facility. Few people appreciate, Shoemaker says, how much now depends on helium, a nonrenewable resource that is found in usable amounts only in certain natural gas fields, is expensive to extract and refine, and is one we can’t just make more of (until we master nuclear fusion, anyway). He rattles off a list: “science and technology, aerospace, construction, fabrication, building cars out of lighter alloys for better gas mileage—you can’t weld the frames together without helium.” He speaks without exaggeration when he says that “at the core of everything we hold dear in society, NMR is in the background. NMR makes it possible for you to go to the drugstore to get your Lipitor if you have high blood pressure. Pharmaceutical companies cannot make drugs and sell them if they’re not characterized by NMR because of the FDA’s requirements for proving purity. Every time I watch the Macy’s parade, I get furious.” The giant floating figures in the annual Thanksgiving procession through Manhattan require about 400,000 cubic feet of helium, which is simply released into the atmosphere to dissipate into space when the day is done. Shouldn’t the price of the lighter-than-air gas have risen so high that almost no one would pay for a balloon full of the stuff? It hasn’t.

The world’s biggest supplier of helium, you see, has been selling it at a cut-rate price that has no connection to its actual value. In 1996, Congress passed and Bill Clinton signed the Helium Privatization Act. Even in Washington to privatize usually means to expose a product or service to the forces of the market—for the benefit of taxpayers and consumers alike. But the legislators who wrote the Helium Privatization Act

didn’t really care how much the government got for the crucial commodity... The BLM price became the world price: “legislatively set price for federally owned helium is now setting the price for crude helium, and there is no assurance that this price has any relationship to the current market value of that helium.” Helium was soon being sold for below what it would have been were it dictated by the product’s actual value.

Dutch scientist Heike Kamerlingh Onnes liquefied helium in 1908, using it to discover superconductivity three years later. Helium contributed to the development of the atomic bomb during the Second World War, but it wasn’t until the Cold War that the feds began stockpiling the element in earnest. “When I started doing MRI research back in 1979 to 1983,” Shoemaker recalls, “it wasn’t even called MRI.” That technology “was discovered by accident” by people doing NMR “nuclear magnetic resonance,” which itself had been discovered in the 1950s, Shoemaker says. “Since the 1960s, there has been no chemistry-related research that doesn’t have NMR at the core of it.” And helium is at the core of NMR.

As BLM’s Amarillo Field Office Head Robert Jolley puts it, “When everything else is frozen solid, helium is still a liquid. That specific chemical property makes it absolutely an invaluable resource. Congress released helium to private industry at a time when demand for helium was very high. Politically, their constituents benefited... You probably wouldn’t have had iPhones and iPads,” Jolley says, “it did it at a time when it did a lot of good for the tech sector.” In return, the technology sector, along with the scientific, the medical, and the defense sector has had to deal with regular shortages. Shoemaker will sometimes see two- and three-week delays in delivery of the liquid helium used to cool his University of Colorado facility’s giant magnets. If the coiled wire around a working magnet heats to its critical temperature, even for a fraction of a second, that magnet will “quench,” as the technical term has it. It’s no longer superconductive, and the resultant resistance, after a loud bang, turns what’s left of the cooling liquid into gas. The helium immediately escapes into the room and can displace the oxygen, causing asphyxiation. It can take weeks to bring the magnet back online. And it takes a lot more helium to start a magnet up than it does to maintain it, up to 10 times as much.

The Helium Stewardship Act became law on October 2, 2013, five days before the [Amarillo] facility would have been shuttered. The bipartisan bill was one of the few to pass during last year's government shutdown... Buyers have until May 5 to submit their requests to purchase the 210 million cubic feet of helium the reserve is selling at \$95 per thousand cubic feet for the remainder of 2014. "We started with 30-some-odd-billion cubic feet," BLM's Jolley reports. "We're now down to probably 9 billion cubic feet." The act requires that the price of all helium sold, auction or no, be based on "recommendations and disaggregated data from a qualified, independent third party who has no conflict of interest, who shall conduct a confidential survey of qualifying domestic helium transactions." BLM is collecting that data now. But how can it come up with a truly "market-based price" when it has distorted the market that it still practically controls? BLM continues to provide about a third of the world's helium, 42 percent of the domestic market. Starting with the next fiscal year, the reserve must sell through auctions increasing amounts of the helium it still has: from 10 percent of helium sold in 2015 to 100 percent in 2020. The first auction, Burton and Jolley disclose, will take place in late June or early July. The rest of the 2015 fiscal year's helium supply will be sold in the traditional manner after that, but by August 1. The adapted pricing mechanism can't end the shortage, in any case. Under the new legislation, the Federal Helium Reserve must sell almost all of its remaining supply. Or perhaps all, nobody is clear on what happens to the final 3 billion cubic feet of helium left when the reserve is statutorily slated to close on September 30, 2021.

Jolley thinks the name of the bill meant to solve the shortage is ironic, though he isn't laughing. "The Helium Stewardship Act is still selling 10 billion, or 7 billion, cubic feet of helium to the private industry," he notes. "It's like, anytime you see an act called the American Freedom Act, you know you just lost some of your freedom." Jolley says. "By charging a market-rate price for helium, they're going to spur research and development and get these factories online that can produce helium, at least by 2018, 2019, when we get down to a very low volume of helium." That assumes, of course, that helium starts selling at a "market-rate price."

Most of the helium in the reserve and elsewhere comes as a byproduct of natural gas extraction. "The problem with gas fields is that there are only certain ones that have enough helium to make it practical enough for processing," explains Martin Lovas, an account executive in Peace River, Alberta, for Air Liquide, the world's second-largest supplier of industrial gases. A lot of the energy exploration that is taking place these days focuses on "fracking" natural gas and oil out of shale rock formations, which don't offer extractable helium.

"Last year, we only got 80 percent of what we got the year before," Lovas reports. His suppliers tell him, "Our production has dropped off, so you're only going to have this much available to you." That's when Lovas is faced with difficult decisions. "Your market is increasing, and your product is disappearing," he says... Worldwide, cryogenics accounts for 29 percent of helium use. That includes pharmaceutical research and MRIs. Welding uses 17 percent, while 5 percent is used to detect leaks, mostly in industrial manufacturing, a critical component of safety for those employed in the sector. "With one cylinder of, say, 300 cubic feet, you can do nine MRIs. Or you can fill 1,000 [party] balloons." Last year, a party company offered him twice his usual price for a tank of helium so they could provide balloons for a wedding. "I turned them down."

People at his company and others in the industry have been trying to figure out for years what they'll do when the "limited life" of helium is over. "They have found ways to make it go further. But not really eliminate it," he concludes.

Almost all of the remaining helium reserves are located in two areas not currently known for their willingness to do favors for America: the Middle East and Russia. Shoemaker is concerned about the stability of places expected to be the next big exporters of helium: "We could go from 'blood diamonds' to 'blood helium' quite easily."

Everyone does agree, however, that Congress needs to revisit the crisis, except Congress itself. Michael Tadeo, the press secretary for the House Committee on Natural Resources, says. "We're currently not in a helium crisis. As far as I know, we passed a bill, which the president signed into law, to avoid a helium shortage." **Ω**

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clarity. HVD

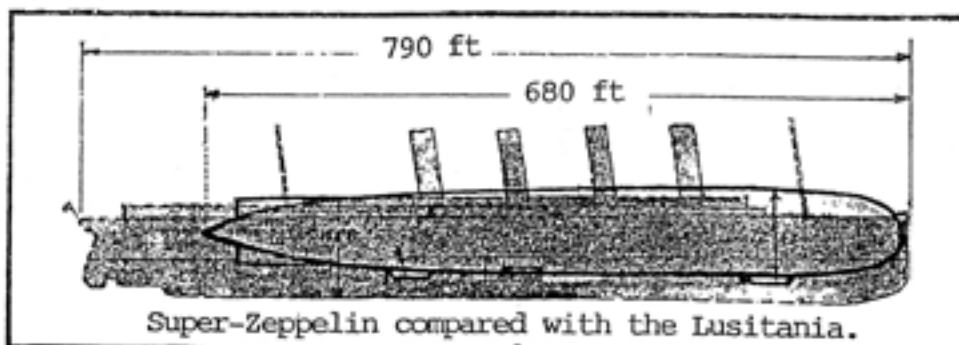


Diagram broken to show
framework and two of th
ballonets. The ballone
separated by spider-web

Forward platform with
two machine guns.

Ventilator.

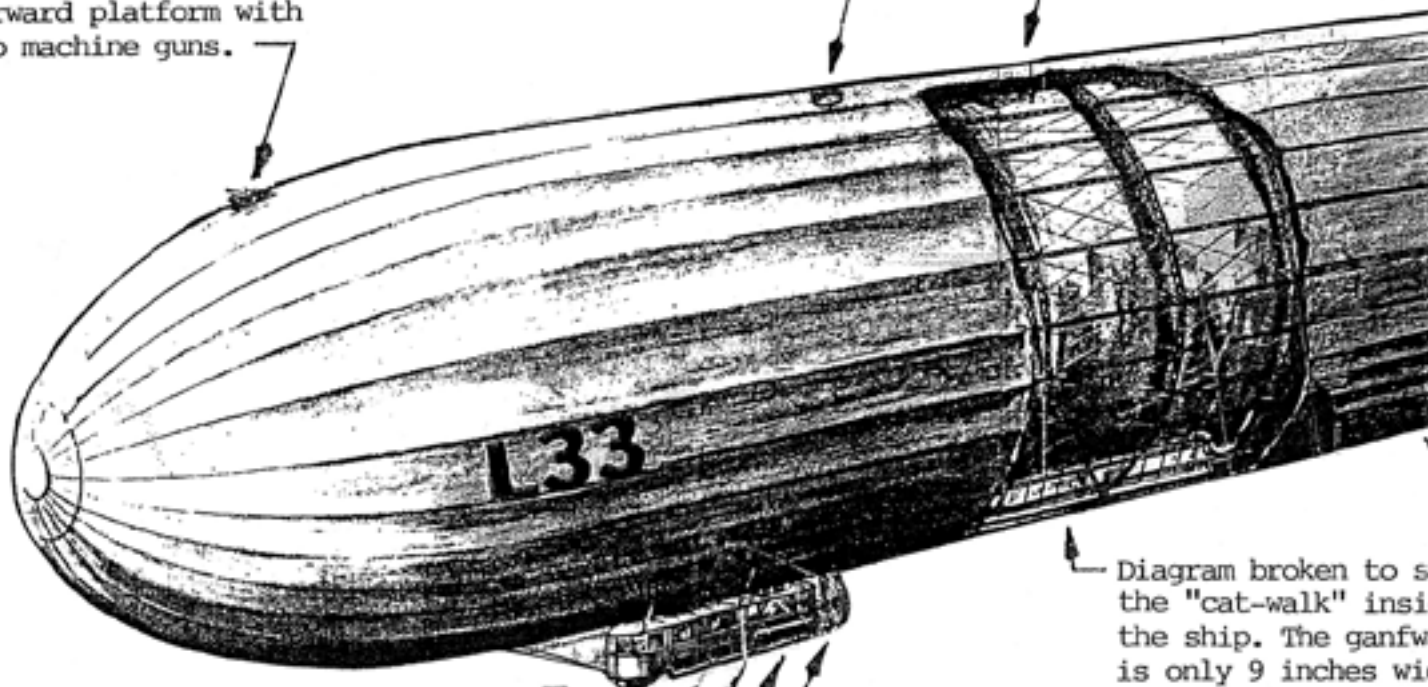


Diagram broken to s
the "cat-walk" insi
the ship. The ganfw
is only 9 inches wi

Forward Gondola, 45 ft long
divided into three compartments

Captain's Compartment.

From this cabin the elevating
and vertical steering rudders
are operated and the water
ballast and the petrol tanks
controlled. By means of a little
keyboard, with 60 small buttons,
bombs are released, each button
operates one bomb dropping
hook and releases a bomb.

Propeller amidships, underneath the
ship, is one of the distinctive
features of the super- zeppelin.

Compartment isolated from wireless
by airspace containing 240 hp engine,
dynamo and two machine guns.

Air space of about one inch.

Wireless operators room. Instruments
supplied with current from six dynamos
One attached to each engine room.
6 ft by 4 ft.

This remarkable drawing of the latest German airship, L33, was published by The London Illustrated News of Dec. 2, 1916. The Zeppelin was shot down near Little Wigborough on September 24.

L33

portion of
e 24
ts are
s of wire.

Ventilator.

Rear gun platform with
one machine gun.

Horizontal and vertical
rudders, operated from
Forward gondola.

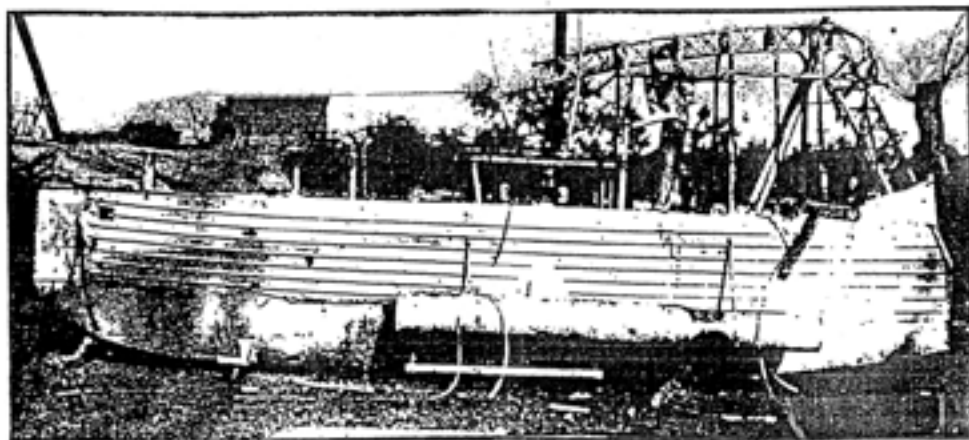
Two gondolas hanging
on the sides. Each
contains one engine.

Rear gondola contains two machine
guns and three 240 hp engines, each
driving one propeller. Two of these
propellers are located on either beam
of the ship.

Bomb compartment. here hang
the bombs on sixty hooks.

how
de
ay
de.

portside of the rear gondola
Zeppelin "L33", shot down on
pt. 24, 1916.





From Kriegsmarineluftschiff L33 to Royal Navy Airships R33 & R34



By Herman Van Dyk

By the time you read this, Summer 2014, it is exactly a century ago that WW1 broke out. On June 29, 1914, Austrian Archduke Francis Ferdinand and his wife were both shot dead during a State Visit to Serajevo by a Serbian nationalist. Austria immediately declared war on Serbia. During the following weeks, Germany declared war on Russia; England and France declared war on Germany; Italy, Turkey and Japan joined the belligerent countries and finally the U.S. went to war. It seemed that only Switzerland and the Netherlands remained neutral.

Three important factors had made great strides to improve the state of the art of aviation during a few years prior to WW1: 1. Aerodynamics began to be better understood; 2. Light metal had become available, and 3. Combustion engines had become more reliable. At that time, the main Western powers were all developing different types of airplanes and dirigibles, which could be used for military purposes. Soon, it was realized that the civilian populations back home, were no longer immune to enemy attacks. The first aircraft to drop bombs in anger were the Italian airships P1 and P2

during the Italian Libyan war. Fear of bombing raids by German Zeppelins reached a high level. Posters issued by Authority of His Majesty Stationary Office warned the population of the dangers posed by German aircraft and airships. They showed shadows of several German and British airships and airplanes and advised anyone to seek shelter immediately when any of the pictured aircraft were seen. None of these pictured airplanes or airships ever flew in British skies, however.

The long awaited first Zeppelin raid didn't occur until Jan. 20, 1915, when two airships, L3 and L4, crossed the North Sea and dropped bombs on Great Yarmouth, killing four civilians. After this small-scale raid, the scale of the attacking forces could, occasionally, consist of 11 or 12 airships, each carrying up to 4,000 kg (88,000 lbs) of bombs.

During the war, the Navy led 33 raids against Britain with a total of 196 airships participating, 9 of which were shot down by anti-aircraft guns and 12 by pilots of the Royal Flying Corps. A total of 6 airships were bombed in their own sheds on their bases in Germany and Belgium. British civilian losses included 544 killed and several thousand wounded. There never seems to have been a shortage of volunteers to crew the airships. It must have taken a great deal of courage to face the possibility of horrible, fiery, death on every enemy operation. By far, most of the airships that were shot down burst out in flames, leaving no survivors, except for a very few individuals.

A rare exception was the Zeppelin L33. The very latest model Zeppelin, build number LZ76, was completed at Friedrichshafen on Aug. 30, 1916. Three days later it was commissioned by the "Kriegsmarine," Sept. 2, and as the L33 placed under command of the experienced Kapitanleutnant Alois Bocker (right). The same day it flew to its new airship base Nordholz, close to the Danish border. During the next two weeks, the L33 made half a dozen check-out and familiarization flights for the crew. Only



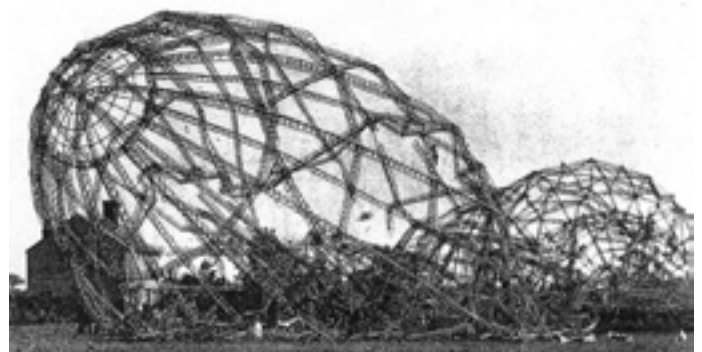
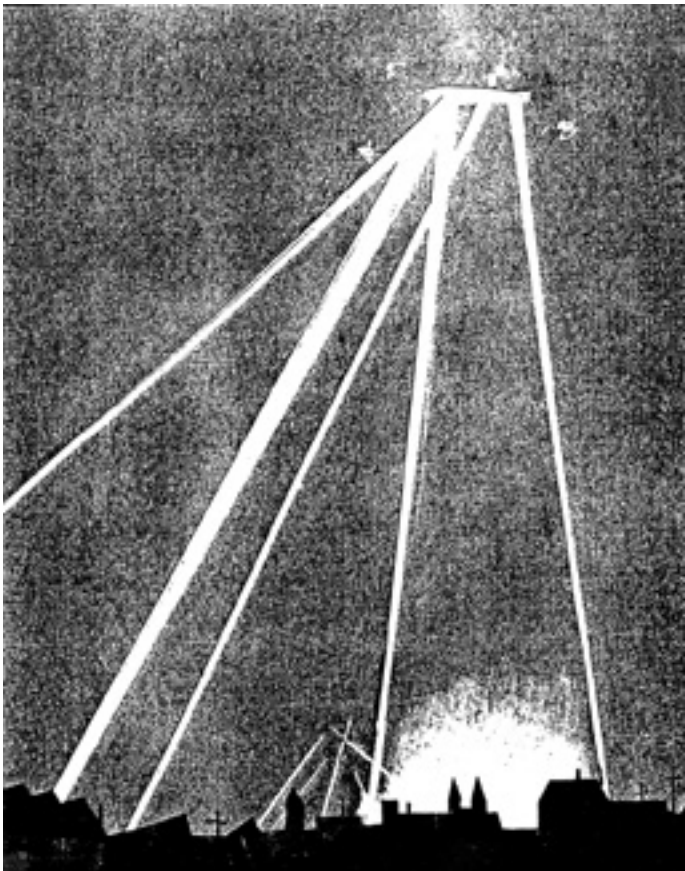
three weeks after it was accepted by the Navy, the L33 was ordered to participate on a bombing raid against Great Britain on Sept. 23/24, 1916. Together with 11 other airships, it formed the greatest air force ever assembled to attack targets anywhere. After take-off from Nordholz at 1:15 pm, Bocker first headed West clearing the Dutch islands. L33 turned SW to cross the North Sea and, after dark, cleared the British coast close to the Thames Estuary. British defense force were well aware of the airship's presence, but unable to locate her with their searchlights. Having reached the target area, Bocker released his first bombs: 2 explosive bombs of 300 kg and 4 of 100 kg. Trying to avoid the severe anti-aircraft fire by increasing altitude, Bocker next released the remainder of his bombload consisting of 2 explosive bombs of 300 kg, 8 bombs of 100 kg, 30 bombs of 50 kg, and a small number of incendiaries. In spite of the higher altitude, the searchlights kept L33 in their grip



and finally, one of the hundreds of anti-aircraft shells fired, hit and exploded in the center of the hull. Several gasbags were shredded and most of the remaining ones were perforated by the shrapnel splinters. Incredibly, the hull did not explode or burst in flames, but L33 was doomed. In spite of the desperate efforts by the crew to patch the hundreds of holes in the gasbags, severe loss of gas could not be avoided.

While the crew of L33 desperately fought to keep their airship in the air, another threat appeared in the distance. Soon after the German Armada had crossed the German coastline and radioed their position to their headquarters, the British Admiralty radio intelligence service had been informed about the German raid and warned the home defense services. So, when RFC pilot Lt. Alfred Brandon on patrol in his BE2c fighter plane, noticed a German airship in the tentacles of several searchlights, it was no surprise. He immediately headed for this enemy and managed to fire an entire drum of incendiary ammunition into the large hull. However, incredibly, the hydrogen did not catch fire, again. Brandon managed a second time, but after a few rounds from a second drum, his gun jammed. By the time it was cleared and he was ready for a third attack, L33 had disappeared in the clouds. Brandon's bullets even had penetrated some fuel tanks without causing any fire.

When it became clear to Bocker and his crew that the L33 could not possibly make it across the North Sea back to Germany, efforts changed to make the ship ready for an emergency landing. Anything that could be picked up was thrown overboard: spare parts; tools ammunition; pots and pans; handguns; all water; most fuel, etc. At 1:45 am, the airship finally settled, tail first, on a field at Little Wigborough, Essex close to a farmhouse. Only part of the framework had collapsed at the impact. Bocker checked out his crew first and then walked over to the farm-house to warn the farmer of the intended fire. The farmer was afraid to open the door, so Bocker returned to the crash site and with his signals pistol, set fire to his ship.



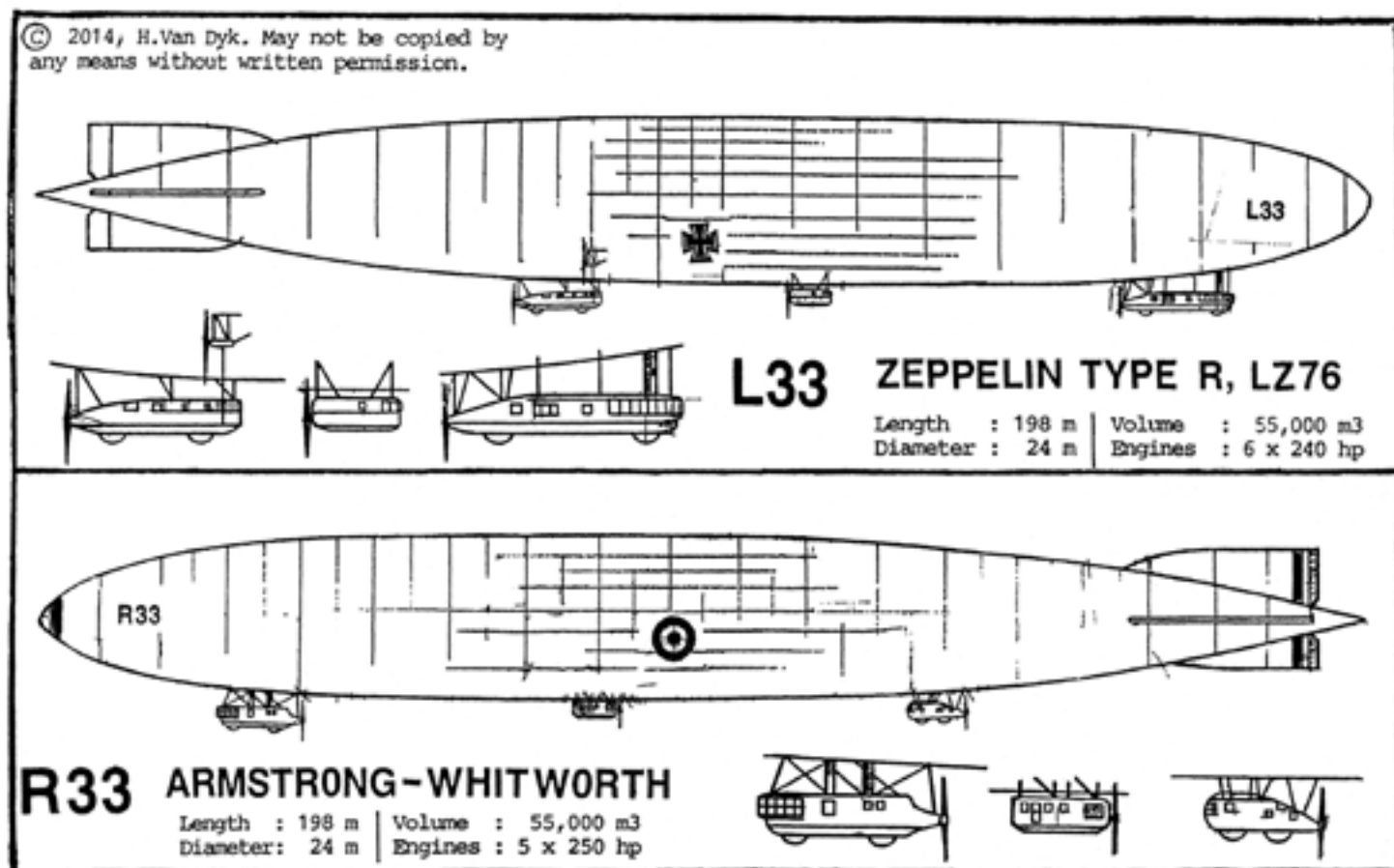
Then, he lined up his crew in a marching formation and led them down the road. He had in mind to walk to the coast and try to capture a boat which they could sail back to Germany or, maybe, to a German-occupied port in Belgium.

A local policeman, constable Edgar Nicholas, who had come to the crash site to investigate the fire, met Bocker and his crew on the road. In perfect English, Becker asked him if he was on the right road to the coast and how far it was! Nicholas, however, convinced Bocker to give up instead. After thinking it over for a minute Bocker agreed. So, with Nicholas on his bicycle leading the way, followed by Bocker in his heavy flight gear, followed by his crew in perfect marching formation of three lines of seven men, the group went on the way to the next town. There, in the police station, the Germans were officially made "Prisoners of War." After the formalities were over, Bocker asked the officer in charge if he could make a telephone call. "Whom do you want to call?" was the surprised question. "Well, my wife's sister lives in London. I would like to let her know that I am all right."

The next day, the crash site was tightly cordoned off in order to keep the thousands of curious sight-seers and souvenir hunters far away from the wreck. The structure of L33 was damaged by fire but basically intact, and

every detail of its construction could be inspected. So, during the following weeks, hundreds of specialists; engineers; designers and technicians, visited the wreck to examine, photograph and record the findings in the field of their expertise, in design; construction; materials or instrumentation. One or two dozen draftsmen worked for 4.5 months to make detail drawings of every part of the airships construction. All were very impressed by the German state-of-the-art and realized that Zeppelin engineers seemed to be years ahead of British airship technology. The decision was made to immediately change the existing airship program, stop working on the R28 and R30, and instead order two new airships based on information provided by study of the design and construction of the German airship L33.

Of the new airships, the R33 was to be built by Armstrong-Whitworth in Yorkshire, and R34 by Beardmore at Inchinnan, Scotland. The keels were laid in Dec. 1916, less than three months after the demise of their German predecessor. Both were completed in Dec. 1918, but bad weather delayed their first flight until March 1919. Although both airships were close copies of the German L33, they were not exactly identical. The German L33 was powered by six Daimler engines of 240 hp; the British had only five Sunbeam Maori engines of 250 hp. The control cabin and engine



Zeppelin LZ76, LZ33.



23 Sept. 1916, 1.30 pm, Take-off from airship base at Nordholz.

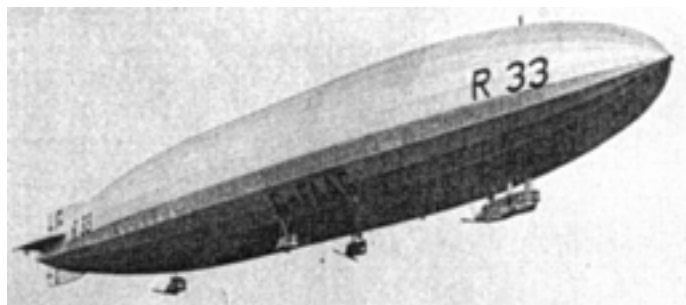
cars were very different, as the drawing below shows. The defensive armament of the LZ33, consisting of a pair of machine guns on top of the hull, was omitted on the British ships. Test flights showed a remarkable improvement in handling and performance over earlier British designs. After the initial test and familiarization flights of the new British airships were completed, the R34 made several long-duration flights, one of them around the Baltic, taking 56 hours.

In the confusing days right after the signing of the Armistice, Nov. 11, 1918, several German airship officers had made plans to take two of their airships on a non-stop demonstration flight across the Atlantic Ocean to New York City. One of them would land in the USA, the other would return, non-stop, to Germany. Fortunately, the Allied Control Commission found out about it in time and put a stop to it.

R34 left her base at East Fortune on July 2, 1919, crossed the Atlantic and landed 108 hours later at Mineola, LI. Major G.H. Scott was the commanding officer. R34 had only for two hours of fuel left. The U.S. Navy had offered to tow her to New York City if necessary. A few days later, on July 10, she successfully returned to Great Britain after a flight of 75 hours. Whether this flight had been inspired by the earlier German attempt is not known, but the thought seems hard to ignore.

R34 was used for some experimental flights, as well as crew training. On one such a flight on Jan. 27, 1921, R34 made a very hard landing causing irreparable damage to her framework, and had to be scrapped. She had logged approximately 500 hours.

R33 was used for many different kinds of experiments, such as releasing and retrieving carrier airplanes (right) during flight and mooring trials at the high mast at Pulham. In 1924, R33 badly needed a complete overhaul; German engineers designed for optimum performance, not longevity; at two or three years old, it was considered obsolete and needed to be replaced. On April 16, 1925, during a 50 mph gale, R33 broke away from the Pulham mast, with a severely fractured bow and torn gasbag. The airship drifted over the North Sea



and partly over the Netherlands until the watch crew managed to cover the gaping hole with the material from the damaged gasbag. Only then could the engine be re-started to regain control and return to Pulham. After repair, the R33 was again used for experimental work until it was dismantled in 1928.

During the war, the German Navy accepted a total of 63 Zeppelins, 9 Schutte-Lanz rigid airships and 3 Parseval blimps. The German Army Airship Division accepted 29 Zeppelins, 9 Schutte-Lanz ships and 4 Parseval blimps. The Army operated mostly on the Eastern Front, the Baltic, Balkan and the Black Sea, and participated only in a few raids against England. Later in the war, the Army transferred 12 airships to the Navy.

Select Bibliography

1. Castle, Ian, London 1914-17. Osprey Publ. 2008.
2. Cross, Wilbur, Zeppelins of WW1. Paragon House, 1991
3. Fegan, Thomas, Baby Killers, Leo Cooper, 2002
4. Morris, Joseph, The German Air Raids on Great Britain, Nonsuch Publ. 1925
5. Poolman, Kenneth, Zeppelins over England, Evans Bros. 1960
6. Robinson, Douglas, The Zeppelin in Combat, Schiffer Publ. 1994
7. Schmalenbach, Paul, Die Deutschen Marine Luftschiffe. Koehlers Verlag, 1977
8. Stephenson, Charles, German Airships 1900-40, Osprey, 2004. Ω



Airships Deflate By David L. Rockwell
(excerpt from AIAA AEROSPACE AMERICA)

With ISR for both manned and unmanned aircraft predicted to remain important, the forecast calls for a tenuous future for airships and aerostats, which saw a huge surge in funding during the war in Afghanistan. In May 2012, about 90 aerostats were operating in Afghanistan, up from barely a handful in 2008. About 120 were operational by late 2012. By early 2013, the Army was considering combining elements of the existing Persistent Ground Surveillance System aerostat program with the Persistent Threat Detection System aerostat program to create a unified Persistent Surveillance System-Tethered program.

The budget request for 2013 shot down many aerostat and airship programs. Research, development, test and evaluation funds were lowered dramatically and funding was cancelled for several key programs. In June 2010, the Army awarded a \$517-million contract to Northrop Grumman — chosen over Lockheed Martin — to develop the Long Endurance Multi-intelligence Vehicle, planned as a medium-sized hybrid airship that would combine aerodynamic lift with lift from helium to deliver a three-week endurance.

In April 2013, following “technical and performance challenges,” the Army decided to discontinue the program, with nearly \$60 million budgeted in fiscal 2014 for the “disassembly and disposal of the developmental airship. The Air Force in 2012 cancelled a similar program, the *Blue Devil Block 2* airship, named for its proposed sensor package.

The Air Force’s Integrated Sensor Is Structure airship program also foundered, with \$21.0 million of funding scheduled in fiscal 2013 and \$2-\$3 million per year through fiscal 2016. It was a major scaling back from the vision in 2009, when the Defense Advanced Research Projects Agency awarded Lockheed Martin Skunk Works a \$400-million contract to build, test and fly a one-third-scale demonstrator.

With the future airship sensor market now mostly dead, a bigger question is what to do with all of the Army’s smaller aerostats already in service. They are proving to be more expensive to operate than originally planned.

After past wars, most of these airships would simply have been retired because of their narrow, force protection application. It is now up to the U.S. to decide whether to



maintain dozens and dozens of tethered airships bought for wars of occupation, or admit that these craft are surplus to needs. There is little need for a tethered aerostat in a pivot to Asia.

The Army has looked at providing some of its Persistent Threat Detection System aerostats for the Customs and Border Patrol’s homeland defense mission. This echoes suggestions a few years ago that U.S. set up aerostats around airports to protect airliners from shoulder-fired rockets, an idea that conjured comparisons to London and the Battle of Britain. Wiser heads prevailed.

But the southern border with Mexico offers a much less conspicuous area for operating aerostats and airships, and there is a good chance some of the surplus Army craft will be moved there. On the other hand, a media storm was touched off last year when news broke of a plan to fly a pair of radar-equipped aerostats, called a Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System, over Washington, D.C., starting in 2014.

The Army discovered that popular concerns sparked by occasional flights of an unmanned aircraft in civil airspace pale in comparison to the privacy concerns raised by the thought of blimps flying over backyards. Plans to fly aerostats in the D.C. area are now uncertain.

Overall, Teal Group believes the country will not be seeing “Fortress America” in the continental U.S. anytime soon, and many aerostats will be retired. The EO/IR systems may be removed for other uses, but that should not have a large impact on demand for new EO/IR systems.

Aside from cases like aerostats for base security and force protection, the airborne ISR market should continue to grow consistently as new technologies and new systems are required for manned and unmanned aircraft. Ω

Point & Counterpoint:

“Sackgasse am Himmel”

With all due respect to H.G. Knäusel, (and assuming his “Helium does not solve the Problems” paper in TNB 101 was translated properly), I feel it is misleading to conclude, “The nine percent reduction of lifting power compared with hydrogen meant an extreme “dematerialization” in order to be able to carry a realistic payload.” In the ZR-1 case, Herr Knäusel states, “The consequences of this extreme light construction were disastrous for the Americans: On September 3rd, 1925, the *Shenandoah* broke in two pieces... 14 deaths...” The ZR-1 owes most of its basic design to the captured German “height climber” L-49, which was then somewhat beefed up following the ZR-2 in-flight breakup. Nothing in the record we have found suggests the ZR-1 structure was specifically lightened owing to Congress refusing to pay for hydrogen ops in FY 1923.

Herr Knäusel shows better understanding of the ZR-1 accident as he references Arnstein associate Fischer, “The pilot must have full freedom over the control of gas and ballast. If this is not possible, the ship is not airworthy.” Late destructive tests performed on the LZ-126 showed cell overpressure broke girders. The desperate act of capping the ZR-1 pressure relief valves, rendering her unairworthy, was a function of the inadequate helium logistics, i.e. money, not the gas itself. Sister LZ-126 waited a long time to acquire enough helium to fly again, and replenishment was inadequate for her leaky cells, but no one capped valves again until the airship was being disassembled. Tied-off valves burst the 1912 *Akron* and split seams of the 1930 *City of Glendale* without helium involvement. Likewise LZ-129’s stuck open valve dumping half a cell (on his first South American return trip) would have been a stiff financial hit for an unsubsidized helium airship, rather than the minor exercise in ballasting and trimming that it was.

Knäusel also repeats the popular story “Arnstein had no choice: due to the lesser lifting power of the helium, he had to save any reinforcement, especially in the aft portion which offered little volume for gas cells and was additionally loaded by the empennage... simply attached the empennage surfaces to the fuselage ...” As Dr. Arnstein’s biographers, Topping & Brothers,

detailed, no one knew the German practice better; he rejected the cruciform because it was not needed. Jeff Cook’s study revealed the *Macon*’s upper fin disintegrated because it was a design error to simply scale up earlier fins; their high strength members were in the wrong place. Ignorance of metal fatigue aside, since she was still buoyant with engines running, the ultimate cause for *Macon*’s loss was not helium, but rather the crew’s lack of training for emergencies. “Fischer commented not only the nine percent reduced lifting power of helium, but also additional weight has to be accounted for measures to avoid the blowing of the extremely expensive helium.” Here I believe Knäusel is correct for helium to share blame in the *Akron*’s loss. Flying soggy with a load of folks not really needed as crew (and an Admiral who planned on leaving via short-range airplane flying out in the morning), she’d encountered a downdraft, but dumped ballast to recover. “The aerostatic control is therefore the most important, aerodynamic control is secondary.” *Akron* proceeded at her helium-prudent, altimeter-inaccurate altitude, where, as Dr. Richard Smith told Ed., he suspected wind shear planted her tail in the water. These were not the only lives lost due to operators’ inability to lose expensive or irreplaceable helium, either by giving up too much ballast, or needing to valve to come down.

In the statement supporting this lack of aerostatic control, “From this alone results almost inevitably – apart from design problems - that large helium airships are not realistic,” perhaps a better translation would be “not profitable.” The accomplishments of US Navy airshipmen who learned to thrive with helium’s restrictions are legendary. Increasingly heavy takeoff weights, water recovery via winched seabags, clever use of ballonnet trim and elevator angle to maintain an even keel while heavy, “mules” for handling – these lessons should not be lost even if we eventually fly under hydrogen power. At least two very capable teams on either side of the Atlantic are pinning hopes for their “lifting body” hybrids on available helium, whose price is hoped stabilize at an acceptable level. At least one other team has followed sport ballooning’s lead in seeing no future with helium’s availability, cost and performance restrictions. These discussions must continue. Ω

– R. G. Van Treuren

THE PRACTICAL AIRSHIP

Someone once defined oxymoron as a self-contradictory term, like 'military intelligence'; in the past, I have always vigorously defended the military. This time, despite the valiant efforts and counter-example provided by General Deptula, a dedicated and far-seeing senior Air Force officer, I may be forced to agree with the definition. As a former officer in the United States Air Force, I just have to ponder the following: Let's see,

1. The Army should be responsible and authorized to act regarding everything happening on the ground. Check ! We agree.
2. The Navy should be responsible and authorized to act regarding everything happening on and under the oceans and rivers. Check! We agree.
3. Logically, therefore, the Air Force should be responsible and authorized to act regarding everything that flies in the air. Uh, oh!

Why isn't the Air Force similarly responsible for and authorized to act on the development, design, and operation of AIRships, such as blimps, dirigibles, hybrids, and so on? Why aren't they on the cutting edge of flying the New Zeppelin?

The *Hindenburg* disaster, you say? If that were the thinking, why wouldn't the *Titanic* disaster OR the Pearl Harbor disaster OR the string of submarine disasters like the *Thresher*, the *Squalus*, *Scorpion*, *Chopper*, OR sinking of the Russian sub *Kursk* act as a similar deterrent to the Navy? Why wouldn't the Charge of the Light Brigade in the Crimean War, OR the Maginot Line in World War II have similarly doomed the Army? I would welcome intelligent comments and discussion on that issue. As if in response to this question I asked myself, the following news immediately appeared while we were surfing the Internet:

"Blue Devil Airship Maker Sends SOS After Air Force Says Pack It Up" By Richard Whittle.

"A small Mississippi defense company that's been working five years to complete a massive military airship, the unmanned M1400 Blue Devil II intelligence, surveillance and reconnaissance (ISR) craft. On orders from the Air Force, "We've started to disassemble the airship," reports David Deptula, CEO of Mav6, who retired from the Air Force in October 2010 as a three-star general and deputy chief of staff for ISR.

At 370 feet in length – longer than a football field - and 1.4 million cubic feet in volume, the M1400 isn't just the

largest airship built in half a century but also the largest unmanned aerial system ever. Inflated with helium last September and tethered inside a hangar 1,000 feet long in Elizabeth City, N.C., Blue Devil II last year won a "Best of What's New" award from Popular Science magazine, which called it a "floating military supercomputer."

Designed to carry as many as 10 modular sensor payloads weighing up to a combined 6,500 lbs. and to hover with them at 20,000 feet for five days -- far longer than airplane unmanned aerial systems. Among the sensors the airship is designed to carry are a wide-area airborne surveillance system with daylight and infrared cameras that can be cued by a signals intelligence intercept sensor. The airship also is to carry computers on board to process the imagery from its cameras and multiple data-links to stream it to analysts in a timely fashion. Tracking down insurgents planting improvised explosive devices was going to be Blue Devil II's primary mission in Afghanistan."

A Mav 6 fact sheet contends that the Air Force, which "has openly stated they have no requirement for an airship," began trying to kill the program from the time it took it over from the Army in the fall of 2011, delaying payments to the contractor and adding requirements. The Air Force has subjected the Blue Devil II to a slow death, first ordering Mav 6 last January to stop doing the work required to fit the sensors and computers onto the airship, then, on May 23, telling the company to "deflate and crate" the aircraft.

If the Practical Airship Guy had to give a quick and easy answer to its reason(s) for terminating this Airship so abruptly, I would provide one answer:

The Fighter Pilot syndrome. Drop into any Officers Club at an Air Base and sit down at the Bar. You'd see the hand of almost every (fighter pilot) waving frantically in a mock dog fight demonstrating how he did a Double Immelman followed by a Barrel Roll and took out that MIG-17 that morning at training.

"If it doesn't go 1,400 miles per hour and have the ability to destroy a city with one blow, it isn't worth supporting. Besides, if a blimp (SIC!) was any good, you'd see them everywhere!"... and that's why the Air Force doesn't perform its mission: IT DOESN'T BELIEVE IN AIRSHIPS!

– **Harold N. Pelta**



The Daytona 500 is the final ride for the *Spirit of Goodyear* blimp By Nick Bromberg

One of Goodyear's three blimps is making the Daytona 500 its final sporting event. The *Spirit of Goodyear* is retiring after Sunday's race after over 41,000 hours of flight time since being introduced in 2000. It's at Daytona International Speedway with the *Spirit of Innovation*, which was brought into service in 2006 and will provide aerial footage of the race. And if you've ever wondered, the blimp doesn't have brakes. We had a chance to take the final passenger ride in the *Spirit of Goodyear* on Wednesday before its retirement and landing the blimp is a simple and manpower-heavy event.

The ground crew in support of the blimp forms a "V" as a target for the blimp to land in with the wind at its back. Since the blimp has no brakes, the pilot lands the blimp approximately 50 feet in front of the crew and the people on the ground grab the tethers of the blimp to hold it in place once it slows. Our pilot, Adam Basaran, compared it to docking a boat in the open water.

Once in the air, it was a very smooth ride as we floated above Florida's east coast. The max speed of the *Spirit of Goodyear* is approximately 40-45 mph, though that can be impacted by a headwind. While in Daytona, the blimp is based south of the track at New Smyrna Beach Airport, and a south breeze meant a return leg of a trek to the track would take a while.

The blimp is full of helium and has forward and aft ballonets full of air, which help maintain the pressure in the blimp. Before landing, the pilot must balance the two ballonets, as temperature changes in the atmosphere can manipulate the pressure levels. Once the blimp is balanced, the pilot sets the blimp into the wind and guides it down into the pocket. Ω

Altaeros Energie says it is set to break the world record for the highest wind turbine ever deployed.

(excerpt) from Energy Matters

The next generation BAT (Buoyant Airborne Turbine) will see the Altaeros BAT set at a height of just over 300 metres above the ground and will be the first long-term demonstration of such a device. The BAT uses a helium-filled, inflatable shell to lift to high altitudes where winds are stronger and more consistent than what is experienced by traditional tower-mounted turbines. A lightweight conventional three-blade, horizontal axis wind turbine is fixed within the shell. The BAT is held steady by tethers that also transmit electricity down to the ground. Ground station winches control tether speed and length, and align with the shell to prevent tethers from tangling.

The ground station is built onto a trailer platform for ease of transport and rapid deployment. Shipped in two shipping containers, the BAT can be installed and generating power in under 24 hours. Altaeros Energies says the BAT can generate over twice the energy of similarly rated tower-mounted wind turbines and reduces the second largest cost of wind energy - installation and transport - by up to 90 percent.



In addition to generating clean energy, the BAT platform can also be used to expand internet phone services and weather monitoring. The system doesn't require on-site personnel once in place - it can be monitored remotely, requiring only periodic maintenance checks. Altaeros Energies is a wind energy company formed out of MIT. The BAT project is partially financed by the Alaska Energy Authority's Emerging Energy Technology Fund. Ω

SHORT LINES

Balloon Operators Reject NTSB Recommendation For FAA Oversight. AVweb (4/13, Niles) reported that the Balloon Federation of America has rejected an NTSB recommendation that the FAA “assume direct oversight of commercial balloon ride operations.” BFA Chairman Scott Appelman said that the FAA’s oversight of the ballooning industry “will not improve safety, will prove burdensome to both the industry and the FAA, and is unnecessary given the BFA’s recent initiatives in this arena and its ongoing safety education programs.” However, his statement did say that BFA’s Balloon Ride Operators Division “stands ready to work in partnership with the NTSB and the FAA to develop and implement qualitative programs that will achieve enhanced safety for balloon pilots, crew, and the flying public without adding unnecessary and burdensome regulation.” Ω

Ed. Notes this discussion will undoubtedly be affected by the 10 MAY 14 accident in which a hot air balloon struck high tension wires, burned and resulted in three fatalities during a Virginia balloon festival. The accident’s multiple videos received wide media attention.

CAA Releases “Dramatic Measures” To Improve Offshore Helicopter Safety. AI News (4/1, Dubois) reported on the “dramatic measures” the UK CAA seeks to improve offshore helicopter operations, especially when the crew needs to ditch the vehicle. The new rules may result in “significant cost and operational challenges” for operators. Along with technical changes, part of the challenge involves “mandatory empty seats,” which some fear may result in reducing capacity by 40%. The CAA does plan to host an “offshore helicopter safety forum” on the proposals, including a meeting with Norway officials “to share experiences and best practices.” Ω

Navy Using Helicopter To Locate Bombs In Ocala National Forest. The Orlando Sentinel (3/23) reported that Battelle Memorial Institute is using a helicopter with metal detectors to locate bombs in Ocala National Forest. Using “a global-positioning system and equipment used for crop dusting for guidance,” the helicopter detects bombs dropped during pilot training exercises. The metal-detecting system, developed at Tennessee’s Oak Ridge National Laboratory, “picks up changes in electromagnetic fields.” Ω

NASA To Test Composite Tank At Marshall. The Huntsville (AL) Times (3/27, Roop) reported on “one of the largest composite cryogenic fuel tanks ever built.” The 18-foot-wide tank – “a big piece of what could be the spaceship of tomorrow” – was on NASA’s Super Guppy jet. NASA will test the tank’s “response to extreme pressure and temperatures,” hoping to further a desired transition away from heavier, costlier metal tanks on rockets. John Vickers, the program manager, said, “Advances in composite materials and manufacturing offer some of the greatest potential for improvements in cost, schedule & overall performance for a range of missions.” Ω

Mickey Wittman, known as the “father of sports aerial broadcasting” for his work in developing the Goodyear blimp’s role in sports television, was recently inducted into the Sports Broadcasting Hall of Fame. His resume includes more than 2,500 live events; 30 World Series; 24 Super Bowls and much more in North America and Europe. Ω

To all NAA members: The accompanying design page explores whether the use of a reserve bag can be used to facilitate higher altitudes and a design to allow field service the vehicle. The main features of the “piggy-Back” module blimp are as follows: An empty collapsed, folded, “piggy-back” bag into which the expanded gas from the main bags is attached. Gas is stored while ascending, then returned to the main bags when descending. This piggy-back bag is attached to the main bags via hollow carbonate tubes and end balls which are threaded through loops made fast to the sides of each main bag. Bags may be detached allowing for in the field service. A number of bag configurations could be incorporated into this design. I hope our members will explore this concept and offer their suggestions as to changes and/or new ideas to accomplish the stated intent of the design.

Please send your comments to blwatwood@charter.net or 209 Pier Point Dr., Jackson’s Gap, AL 36861. Hopefully, we can publish all your contributions into one larger drawing in TNB and on our NAA web site.



HIGHER SERVICE CEILING MODULAR CONCEPT BLIMP



Bo Watwood

Details at....

blwatwood@charter.net

Drawing copyrighted.

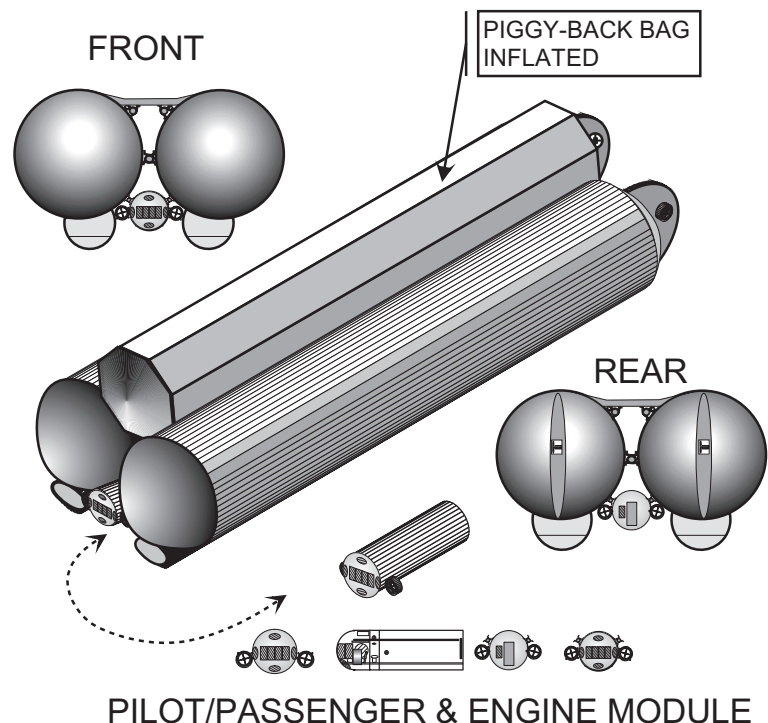
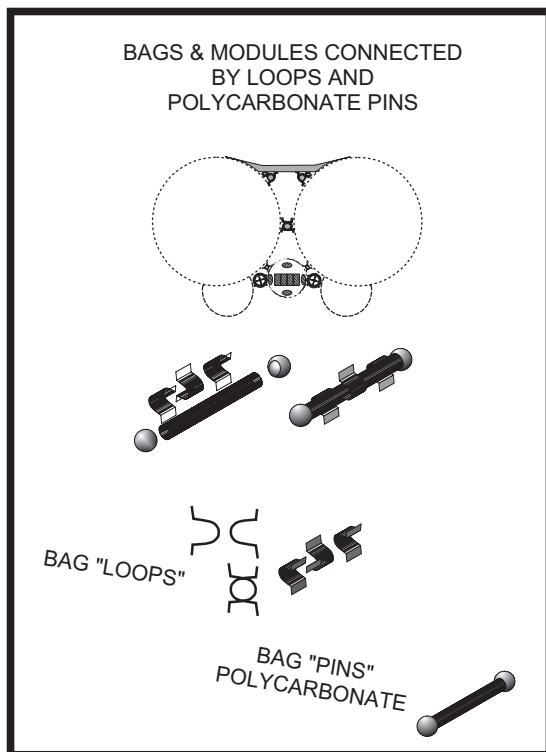
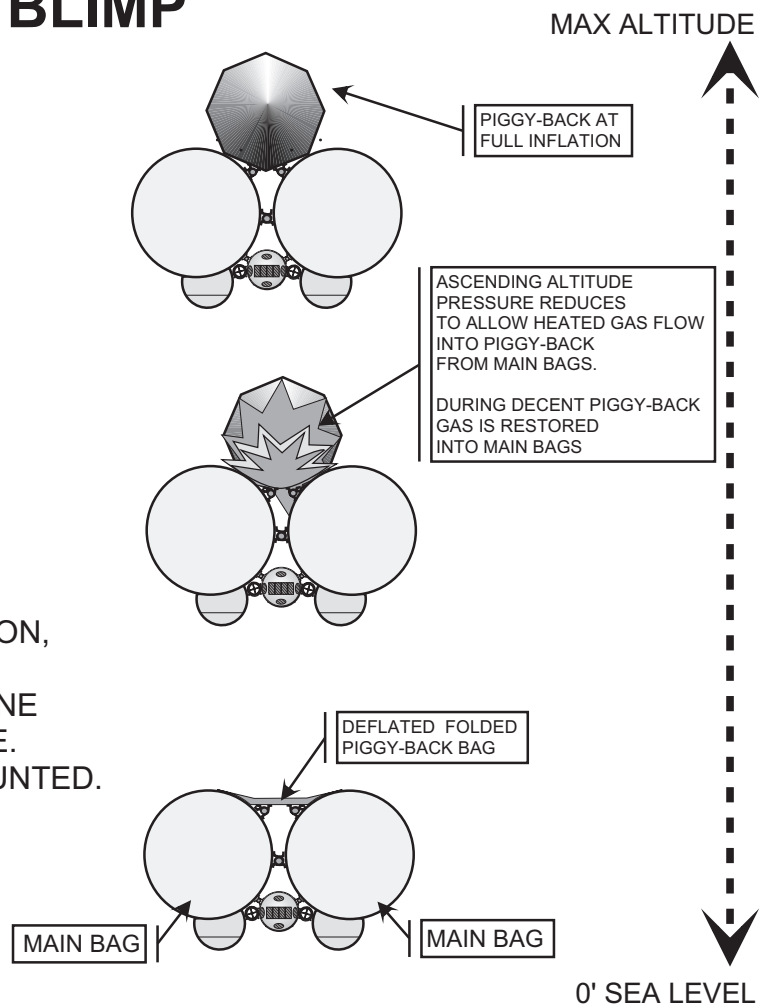
Some concepts depicted herein

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FEATURES:

1. PIGGY-BACK BAG STORES HEATED GAS FOR ALTITUDE GAIN.
2. LOW COST MODULAR CONSTRUCTION,
3. LAND OR SEA BASED
4. PILOT / PASSENGER / CARGO/ ENGINE MODULE AND BAGS ARE DETACHABLE.
5. ADDITIONAL MODULES MAY BE MOUNTED.



MEDIA WATCH

Akron Aviation

By James R. Prior II

128 pages/soft cover

Price: \$21.99

Reviewed by

C.P. Hall II

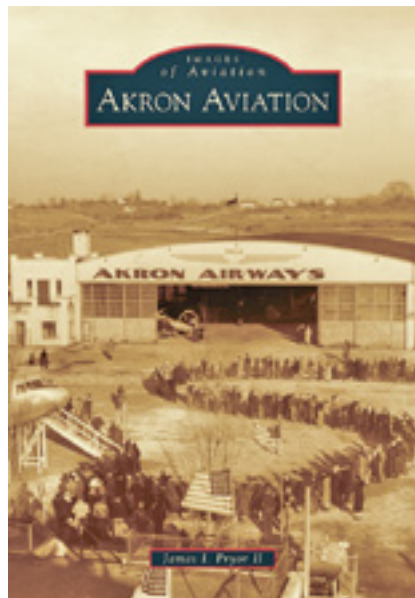
I am at something of a loss to describe the nature of this book. It is small in size. I read the text, including photo captions, in a single afternoon. The primary contents of the book are historic photos of aviation history in Akron, Ohio. The text tends to be brief and alludes to events rather than delving into detailed descriptions. That said, I believe that I can promise that, if you purchase and read this book, you will learn a few things that you did not know about Akron Aviation. From my personal perspective, Akron Aviation is a pleasant reminder of how lucky I was to grow up in Akron in the middle of the 20th Century.

There is coverage of aviation history focused upon the effect of World War 1 as a stimulus to aviation affecting the rubber industry already established in Akron. The 1920s and 30s are covered with an emphasis on the creation of Goodyear Zeppelin Corporation and the construction of *Akron* and *Macon*.

World War 2 heralds the renaming of Goodyear-Zeppelin as Goodyear Aircraft and a striking wartime growth from 30 employees to over 30,000. There are numerous photos with considerable emphasis upon Goodyear's version of the Chance-Vought F4U Corsair, of which Goodyear Aircraft produced over 4,000 for the U.S. Marines, the U.S. Navy, the Royal Navy and others.

The history of the Akron Airport is also featured with a lengthy chapter and the Daniel Guggenheim Airship Institute rates a brief chapter as well. Historic Akron Aviation seems to end at about the time that Kennedy was elected President.

Akron Aviation is an eclectic collection of aviation photos with text. This text is more intended to introduce the photos to readers somewhat familiar with the topics, rather than for someone totally unfamiliar with aviation in Akron. It is a stimulus to search elsewhere



for detailed information rather than a reference work in its own right.

The chapter, "The Kitty Hawk of Lighter Than Air," is mostly WW 1 blimps, captive and free balloons. There is another chapter containing multiple, interesting photos of *Akron* and *Macon*. There are very few photos of WW 2 vintage Navy blimps and practically nothing about Goodyear blimps of any vintage, historic or otherwise!?!

One of several people in a single photo is C.W. Seiberling; there is neither photo, nor mention, of F.A. Seiberling!?! Dr. Karl Arnstein is mentioned several times; always in relation to Goodyear-Zeppelin, never his contributions to Goodyear Aircraft!?! P.W. Litchfield is in a photo of a news article; Russell DeYoung is unmentioned in any context!?! Shafto Dene is mentioned so many times that I lost count; Hugh Allen goes unmentioned!?!

Chapter 8, "The Aviators Visit Akron" photos of "famous aviators" with brief bio captions. Some of the stranger entries include: Lady Grace Drummond Hay - Hearst newspaper reporter and frequent *Graf Zeppelin* passenger - one photo. Dr. Karl Arnstein, engineer and designer of airships *Akron* and *Macon* - one photo. Knut Eckener-engineer, Zeppelin Co. employee, son of Dr. Hugo Eckener - two photo entries (one with uniform cap tilted *a la* Admiral Sir David Beatty; one with a good luck puppy). Wiley Post - renowned pilot and aviation pioneer - three photo entries (one with airplane Winnie Mae; two wearing a pressure suit).

Dr. Dale Topping, former Editor of BUOYANT FLIGHT, once told me that no book with photos of airships has even been published without at least one caption being totally botched. Dr. Topping is gone, but his declaration has yet to be successfully challenged. Your attention is directed to the photo on the bottom of page 44. If you choose not to purchase this book, stop in at The Bookseller Inc. in Akron and ask to look at the display copy. The caption is so short, the errors so many; the knowledgeable reader will enjoy a chuckle!

Akron Aviation is a pleasant little volume containing several interesting surprises. It will probably turn up in numerous Christmas stockings in December 2014, and will be well received! Ω

HAPPY LANDINGS, newsletter of the FL Aviation Historical Society, noted the 60th anniversary of the May 1954 eight-day flight of CAPT M. H. Eppes and his ZPG-2 crew. Ω

Schutte – Lanz Airship Design

Professor Johann Schutte
(1926)

Translated by **Alastair Reid**
(2013)

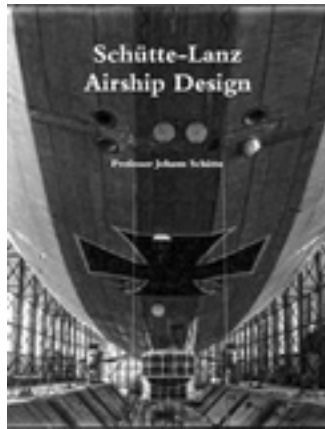
Reviewed by **C. P. Hall II**

This is not so much a review as a description of what is being offered so that the reader can discern as to whether or not this is something that he or she wants. The Schutte – Lanz Airship Company (Luftschiffbau Schutte – Lanz) was formed before World War I by Professor Johann Schutte and industrialist Dr. Karl Lanz to construct rigid airships. It was Professor Schutte's belief that he could design rigid airships that would be superior to those produced by Luftschiffbau Zeppelin. The first effort, SL.1, was unique in several ways. The frame was made of wood and, in my opinion, the original "geodesic" airship frame. This 'superior' design required a great deal of modification before being purchased by the German Army which operated it successfully until 1913. SL.2 was also wooden framed but laid out with transverse rings and longitudinal girders similar to the Zeppelin form. It did contain a number of patented improvements, some of which would become standard in wartime Zeppelin and Schutte – Lanz airships.

During W. W. I, the firm built less than two dozen wooden-framed airships for the German Army and Navy. They were operated with some success by the German Army; held in some contempt by the German Navy. The company also undertook airplane construction contracts during the war with less than sterling results. The company attempted to abandon wooden frames and to develop a method of duralumin framing for airships. It had military contracts for duralumin-framed SL.23 and 24, neither of which was ever completed.

Post W. W. I, the terms of the Versailles Treaty dictated the destruction of all German airship construction facilities. Professor Schutte tried to sell foreign interests on his airship designs. He seemed to enthrall several people, including V.C. Richmond who would later design R.101, but could not get a project off the drawing boards. By 1926, with what remained of the corporate entity failing, the subject book was published.

The translated title is "Schutte – Lanz Airship Design" by Professor Johann Schutte. In point of fact, the Professor wrote only the "Forward." The ten chapters which follow on such topics as "Rigid Airship Construction techniques," "Preliminary Draft and Stress Calculations," and "Structural Methods," were written by Senior Corporate



Engineering Staff and wartime associates. The majority of ten chapters and three annexes are about various technical aspects of airship design and construction as undertaken by Schutte – Lanz; the balance is praise by friends and followers. My favorite "Annex" of this latter variety is titled, "What does the Rigid Airship owe to Schutte – Lanz?" Finally, there is a "Translator's Annex," a collection of additional photographs and "... very brief histories of each SL airship where known."

The book is a storehouse of information about Schutte – Lanz airships, theory and techniques. It is well illustrated with both photographs and drawings. There is more information in this single volume about SL airships and projects than I have come across elsewhere in 50 years. I am



a little disappointed that there is not more about SL.23 and 24. One should be a discerning reader based upon the amount of "corporate cheerleading" in the original. I have never seen a copy of the German original and my high school and college German, long on the literary, short on the technical, have never qualified me as a qualified language scholar. That said, most translations include the occasional awkward

construction that makes them suspect; Alastair Reid's translation seems smooth from beginning to end. His lists of German = English words following original illustrations was a sound, useable, editorial choice. The book is soft cover, 8 ½ X 11 with 417 numbered pages. There are numerous photos, drawings, and tables. If you are interested in this branch of LTA history, it will cost you about \$30, including S & H to the USA. Ω

FOUNDATION magazine, published by the organization that administers the National Museum of Naval Aviation in Pensacola, ran Ed.'s piece on Houma's LTA history.



FLY-BY, the NMNA newsletter, celebrated the 100th anniversary of Pensacola NAS, which of course was opened as an HTA base. The charming article captions one photo, of two drenched pilots fished out of the Bay following their hydroaeroplane flipping, as having lost their lives in later airplane accidents. Ω

Alastair Reed's translation and publishing of the Shutte-Lanz book generated some e-discussion, with History Chair **Al Robbins** writing him, "I started with Shutte's introduction. Eye-opening - I'd never expected to read such admiration for Baron Zeppelin's leadership. However, I hadn't realized that the book was a group effort. All the chapter's were written by others; unfortunately, no indication of why, or how he selected the various authors, and no "margin notes."

Still working my way through the tome. Pleasantly surprised to see that there was little emphasis on calculus and theoretical geometric equations. I was surprised to learn that S-L had so many builder's sheds - haven't discovered yet if the laminated beams were fabricated in-house, at a single site or in each shed. (Goodyear established their envelope fabrication facility in Arizona in order to avoid humidity problems in their Ohio facilities.) Was the delamination problem greater in ships built in a particular shed?

Interesting chapter on commercial airships. Ignores the costs related to opening and maintaining an airship base; appears to assume single point-to-point operations, rather than a network of interconnecting "hubs." However, they didn't have a better model to copy. I'd hoped to learn more about the post-war maneuvering with Franklin Delano Roosevelt and his cronies, to establish a manufacturing and operational company in the U.S., to compete with the Goodyear-Zeppelin rigids.

Only 10 rigid airships were built after World War I. Except for the two British Rigids all were designed by Zeppelin-trained engineers. Airship Design, by Burgess, the "authoritative" U.S. text virtually ignores the S-L designs. None of S-Ls post-war designs, or Shutte's latest airship patents were built or tested. Scaling factors are conditional on a Zeppelin-like, multi-celled 17+ sided "cylindrical" hull. We never have attempted to build a "scaled" airship. You mention that you're planning a book on the Parseval's; translation or compilation? I'd be greatly interested on Parseval's concept of appropriate scaling factors."

Reviewer **CP Hall** chimed in, "Andreas Horn... feels that Dr. Schutte was trying to assume the mantle of Grand old man of rigid airships in Germany from the just-past Count. The chapters were written by key staff members and government officials who thought highly of Schutte and his work.

I agree that the proportion of "calculus and theoretical equations" was about right. He was more forthcoming than Zeppelin publication "25 Jaren." There seem to be several interesting comparables and contrasts with contemporary British theory. For example:

Schutte's contributor feels that the keel does not distort overall hull stress calculation while the British specified keel elimination because they felt that it would. In hull design, the British speak of pyramids attached base-to-base while Schutte's group speak of domes; but the meaning is the same. Both speak of length-to-maximum diameter ratios in similar terms. It is interesting to note that Schutte felt the optimum ratio to be between 7.5 and 8.0 to 1. Early British proposals for 5,000,000 CF craft were often in the area of 800+ feet long by 110 feet maximum diameter. By 1925 they settled on 700+ long by 132+ in diameter, about 5.25 to 1. When one considers that the post-war SL proposals were probably originated pre-1924, they could be said to be on the same page at the same time.

I thought the chapter on commercial operations to be a weak point in the offering. Others did a superior, less convoluted analysis in both Britain and the USA. When I received it, I was hoping for more about duralumin hull frame concepts and some insights into the FDR connection in the United States. There is almost no mention of SL-23, how far it progressed, etc. and no mention of FDR. The only mention of the United States is the implication that something was afoot but the crash of ZR-1 *Shenandoah* caused the project to collapse? (p. 193) The good news is more about SL dural structural concepts than in any "authoritative" US texts with which I am familiar. My photos and illustrations of SL's dural girder forms have more than doubled. In 1921, Lt. Col Vincent C. Richmond stated that SL.23 would have been as strong and lighter than similar-sized, contemporary Zeppelins. It was likely that the next rigid airship to be built in Britain would be built along these lines. This was directly after the crash of R.38 and no 'next airship' in Britain would fly until 1929. Richmond would be assigned the position of Chief Designer of R101 in 1924. He was certainly influenced to some degree by the work of SL." Ω

NADU: The Forgotten
Air Development Unit of
NAS South Weymouth

By John C. Yaney

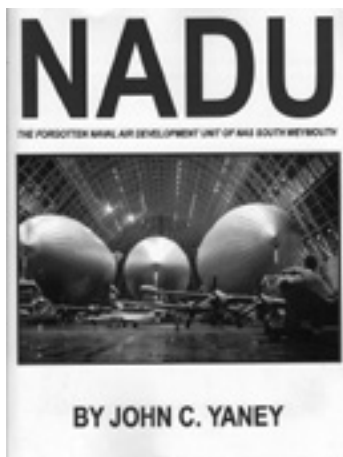
Review by **C.P. Hall II**

“This is the story of the Naval Air Development Unit, [NADU] one of the Navy’s most important but least known aviation Research, Development, Test, and Evaluation (RTD&E) activities of the 1950s and early 1960s.” So begins John Yaney’s introduction to his tome about the naval station at South Weymouth, Massachusetts. The actual period covered is the Eisenhower Administration between 1953 and 1961.

NAS South Weymouth began its existence during the Second World War as a blimp base located to protect the Atlantic coast in the Boston area. It had one steel-framed airship shed patterned after the Goodyear hangar in Akron, Ohio, and one of the large, wood-framed hangars built during the War. It was shut down after the War ended. In reaction to the Cold War requirements, it was reactivated as NADU in 1953 and operated until “disestablished” in 1961.

The history is discussed in 10 chapters, not listed in chronological progression but rather by major project or subject. The two major categories are anti-submarine detection and early warning air defense. During this period the base was involved in many of the projects in these two areas. Chapter topics include: Project Lincoln and the SAGE air defense system, WV-2 Warning Star, P2V Neptune and S2F Tracker, and Chapter 8 is devoted to Lighter-Than-Air Aircraft. This statement barely touches upon all of the aircraft discussed and described in this volume. Both aircraft that detected and aircraft that intercepted were at the NAS and are covered by Mr. Yaney. It is his custom to offer a brief description and performance comments of each type of aircraft as it arrives. While not comprehensive, or minutely detailed, the information presented seems accurate and interesting.

Although there are photos sprinkled throughout the text, following the first ten chapters is one chapter labeled NADU photo album and four chapters labeled NADU Sea Stories. These chapters are anecdotal in



nature. For example, in Chapter 8, the flight of ZPG-2W Snow Bird setting an unrefueled, non-stop record flight from NAS South Weymouth to NAS Key West via the Azores Islands, 264.2 hours and 9,448 miles, is discussed. In Chapter 14 is the detailed story of the same flight from the perspective of a communications specialist (enlisted man radio operator). Following the numbered chapters are six lettered appendices regarding obscure details such as table of organization and details regarding aircraft inventories and uses. There follows closing comments and information of a biographical nature regarding the author.

The book was originally published in 2011. It is available from www.lulu.com and it is softcover. NADU is 571 pages long and has the heft of a major metropolitan phone directory. There are numerous B & W photographs spread throughout the text. For those with a strong, specific interest in the Cold War era and related naval weapons development, or a specific interest in NAS South Weymouth during the 1953-61 era, this book is for you. If you fall asleep while reading and it settles in your lap, the blood may be cut off to your lower extremities!

Full disclosure: I feel a certain connection with John Yaney. We were about the same age. We both grew up with navy blimps in close proximity. We shared an interest in aviation in general, naval aviation in particular; but neither of us joined the Navy. We shared also an interest in historic railroading. He had a story to tell and he told it before his passing in 2012. NADU is a readable work covering several arcane topics with a marvelous collection of photos. If this subject matter is of interest, you should consider adding NADU to your library. **Ω**

AIR & SPACE Smithsonian May/June carried “A Slow Boat To Space,” Mark Karpel’s article about John Powell’s high altitude “rockoons” – manned rockets lifted through the first dozen miles of air. **Ω**

NBC News on 9 MAY 14 reported the home movie of the LZ-129 fire, long rumored and finally shown on a laptop to some attendees at the 75th anniversary LZ-129 memorial ceremony, was donated to the county historical society (not NLHS). Some might suggest TV news is image-driven! **Ω**



Super Airship: Rise of the Machines, History Channel, Reviewed by R. Van Treuren

The intro narration promises, “We’ll blow this \$35 million beast apart to discover technological secrets that overcome the impossible...”

A revolutionary helium buoyancy system that could lift a total of nine SUVs.” A curious choice of words, not “blow apart” so much as “do the impossible,” in light of NAA members’ examination of the design philosophy of the *Dragon Dream*, previously reported in the last issue. This episode of the popular H2 Channel series dutifully reports on the Aeros design, without negative judgment, in what appears as an example of how far one team can stretch material to fill an hour of commercial television.

The historical references contained the usual public-domain stuff about LZ-129. Mentioning ZRS-4’s botched Camp Kearny landing, producers missed the opportunity to suggest the two deaths could have been averted if the helium could have been compressed back in 1932. (Rosendahl vented all he dared, to no avail.) Refreshingly, later in the show producers noted the ROMA’s 1922 loss resulted from the failure of her control system. (Previous TV fingered the act of inflating it with hydrogen as the single cause of the “explosion.”) As always, the number of deaths in an airship accident are trumpeted, without mention of the number of survivors or a reflection on the percentage of those involved having less serious or no injuries.

“Her revolutionary buoyancy system is filled with \$250,000 worth of helium,” notes the narrator. “The flight’s main objective is to test her revolutionary buoyancy system - COSH - control of static heaviness... traditional airships need ballast to stay on the ground when unloading heavy cargo. *Dragon Dream* is different, she controls her own heaviness by adjusting the amount of air and helium inside the airship...” Neat, if it works. Crewmen are shown loading a few dozen shotbags - possibly 25 lbs. each - into a wooden box. Four men lift the loaded box into the car into the open area directly behind the flight crew seats. “To prove *Dragon Dream* works as a cargo airship, the system must make her lighter for takeoff then heavier when

unloading the box on the ground... If the airship rises during the unload *Dragon Dream* fails the test, and \$35 million of investment goes down the drain.” Some state-of-the-art computer graphics explode across the screen to explain the inner workings. “Inside are nine massive bags made from a top-secret fabric. They hold thousands of cubic feet of pressurized helium, which they can shift in and out of her shell... each of our four ballast bags holds 900 pounds of air to weigh her down and keep her on the ground. When [pilot] Corky jettisons air from the bags and feeds more helium into the shell the ship should become lighter than air and take off.” Some convincing graphics are devoted to the inflation of the pressurized helium bladders (“made of a proprietary material”) and their installation into the structure.

Time slots between commercials are expertly paced with more drama of an earlier engine fire, and another seeming crisis concerning clearing a seven foot tall fence in the test hover’s path. “Compressors inside the airship should suck helium from the shell into nine high-pressure tanks. At the same time, fans help channel hundreds of pounds of air into ballast bags.” (Doubtless the layman viewer says, “So that’s how airships work!”) The narrator continues, “This should make the airship was heavy enough to stay grounded with the crew unloads the cargo box. Pass this test and the *Dragon dream* has a future as a heavy cargo transport... the boxes out COSH keeps the airship rock solid on the ground. The mission is a success.” And a profitable TV show to boot. Ω

“Red” Layton e-mailed, “The attached article [below, on “Iceberg” Smith, aboard the LZ-127 Arctic flight] appeared in the Spring 2014 issue of Wings of Gold, the magazine of the Association of Naval Aviation. This publication is noted for *not* carrying lighter-than-air material and rarely has anything about Coast Guard aviators - even though all are trained at Pensacola and designated as Naval Aviators, and here they do both at once!”



This is a unique opportunity for me as I am almost never asked to review a work of ‘deliberate’ fiction. Occasionally I review an ‘accidental’ fiction such as a “What really happened to the Hindenburg?” essay or DVD but this one is the real deal.

The plot is set in Germany from 1913 through 1916. The specific stage is the rapidly expanding German Navy, locked in a battleship-building race with Britain’s Royal Navy. An expensive race with limited resources the question becomes: should all efforts be focused on the primary issue, or is it wise to divert resources to experiments, possibly revolutionary, such as Zeppelins as naval scouts?

Obviously, I cannot reveal the ins and outs as the story progresses. I can say that it begins with the German Navy’s new Zeppelin, L-2, catching fire shortly after takeoff resulting in the loss of all onboard at what can only be described as a public occasion. One of the witnesses is “Kapitan zur See” Kottonhoff, a caricature of the ‘battleship sailor’ type, who wants naval appropriations spent on modern battleships, not large, expensive, hydrogen-filled experiments. The Captain becomes a “Konteradmiral” with a desk job and a central character in this story. He involves the two other primary characters, his Secretary who is a proto-feminist of sorts and a junior Lieutenant (excuse me, the spelling is “Leutnant” throughout the book) fresh from the Naval Academy. The young Leutnant is sympathetic to the Admiral’s pro-battleship view which leads him to be roped into the Admiral’s scheme. Of course this results in an assignment to Naval Zeppelins! The plot proceeds from there but I shall go no further.

The author, William Hallstead, was a radio operator/gunner on a B-24 in the USAAF. His fictional characters seem to come from his perceptions of his days as an enlisted man. His commissioned officers, whom we learn about, are not just ‘lifers’; they are multi-generational ‘lifers.’ They are upper-middle class from military families. Those of us who were officers in wartime know the type but knew others as well. That said, Hallstead’s

feel, for the enlisted personnel in a flight crew, seems spot on. The reality of being assigned busy-work when no flying is taking place; and the officers disappearing to the “O” club for drinks after the busy-work is underway, is absolutely an EM insight of some officers which contains some truth. There is dealing with commanders who are qualified but make bad decisions; and junior officers who work thanklessly to ameliorate the problems

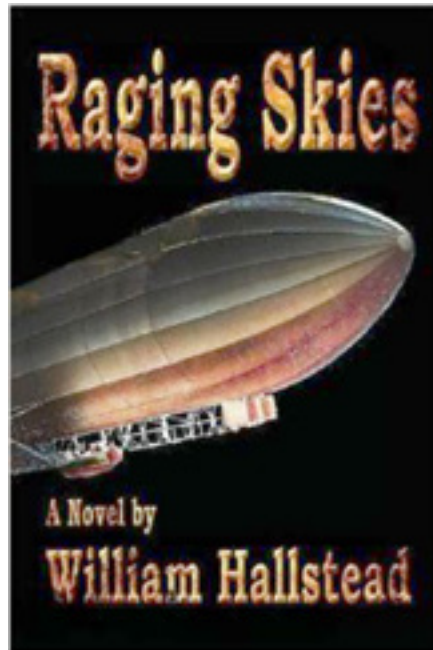
which such decisions cause. The anguish of crewman, being sent on missions from which return seems unlikely, is all too hauntingly real.

There are occasional, amusing mis-statements when fiction is fitted to history (how many modern battleships in the High Seas Fleet in 1913? How many British “cruisers” were sunk at Jutland?). I feel that the author has captured the essence of the airship service in wartime at the basic level. The early days with no airships, the difficult days with early ships, and the good days when the L-10 class became dependable and their performance was superior to any HTA likely to be encountered. This could not last for long but it was

good while it lasted and a fond memory for those who survived.

I am going to recommend *Raging Skies*. It seems an accurate slice of wartime life with a lot of paperwork, a good deal of flight time, a little bit of romance and several moments of terror which seem to run in slow motion at the time and are often over before anyone fully grasps what is going on! *Raging Skies* is 364 pages long and its chapters are mercifully brief. If the author was, say 20 years old in 1945, he is 95 or so now. I hope that I can write this well when I am in my 90s. **Ω**

Our own **Eric Brothers**, Editor of ASSEMBLY, INDUSTRY NEWS, MATERIALS, DESIGN, COMPONENTS, penned the article “New State-Of-The-Art Airship Uses Modern Technology To Refresh The Tire Company’s Aerial Ambassadors.” The Cleveland PLAIN DEALER ran the headline and devoted an inside spread to the story, including a custom graphic of the airship and its structure. A time lapse video of the entire construction is at https://www.youtube.com/watch?v=vve8hh9_xGI **Ω**



The Historians' Letters (Part IV)

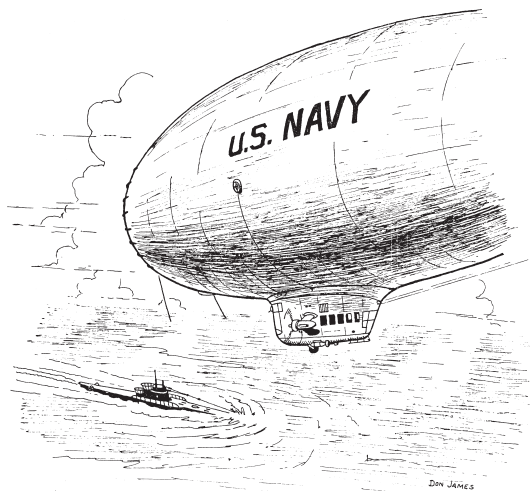
By Roy D. Schickedanz

As result of a class mate, Andy Droug, I was able to read John Toland's *Ships in Sky* which I was able to check from the high school library. In summer of 1963 our family made a trip east to New York resulting in visiting my uncle, Elmer Ackerman and sailing on the Long Island Sound on his 25-foot Chris Craft. I learned that my uncle flew blimps in World War Two. Thus, I conducted my first interview on July 18, 1963: The K-131 Incident: "On this particular occasion I did not fly with my crew. They had flown from Fortaleza to Sao Luiz. This was on their return trip. They had taken off from Sao Luiz light, which they should have not done; they should have fueled up and made themselves heavier. The return trip to Fortaleza burned even more fuel. They had a dead calm, no wind at all. That is the hardest thing to do, landing a blimp in a dead calm. Only in a state equilibrium can a blimp be landed in a dead calm. He made a number of approaches. I was handling the ground crew at the time and we had about 15 men on the apron. We could not stop him and had to let go of him each time. Due to this he loaded his nose up. He bowed down at the nose. This was the way he flew back. We missed him on his sixth approach. I told him to haul off and valve some helium. We couldn't handle him. The pilot must have gunned his engine too much. He drove the blimp right into the ground, crashing in some high-tension wires. The fact is we were wearing asbestos gloves at the time. I was wearing them too. We were getting shocks from it. The pilot had a big hole in his arm. He was resting on one of the wires. It took I don't know how many hours to get the electricity shut off. The Brazilians didn't know what switch to pull. The incident happened right in town, knocking houses down with the blimp. The angle at which the blimp was resting caused the gas to drip from the overhead tanks."

[Letter1] Dear Roy,

To begin with, training in blimps paralleled that of "heavier than air" training. The officers had to pass a rigid examination at indoctrination. The enlisted men went through their respective training. The officers, or I should say, cadets were then sent to three months of college for intensive study. This was in conjunction

with flight training in which piper cubs were used. On completion of this training you were then sent to a pre-flight school. This again entailed more intensive studying and a rugged physical program which included the well-known obstacle course. I didn't go into a great deal of detail on the foregoing as it is all a matter of record easily obtainable. At this point in training the cadets known as V-5 training program had decided to go into "heavier-than-air" or "lighter-than-air" blimps to the laymen. Lakehurst Naval Air Station was the training station on the east coast and Moffett Field, California, on the west coast. At Lakehurst again it was more intensive studying and of course flight training in "lighter-than-air." Incidentally, I flew your L4 many times at Lakehurst during training. The L1 was also used in training, but I never flew her. These were small training ships. On these one man flew both elevator and rudder. On the K-ships, which were ones used for patrol and on convoy escort, one man flew the elevator and one the rudder. These K-ships were 270 feet long. Their top speed was 72 knots. We cruise them 54 knots on patrol. At the end of training at Lakehurst you were assigned to a squadron. You were no longer a cadet, but a brand new ensign and boy what a relief! In a squadron, patrol and convoy escort were the main objective. In my opinion there was no better machine built than a blimp for this type of patrol work. Their visibility from the car (gondola) was excellent. A normal patrol average about 10 hours and an escort average 15 hours. I was on a 22-hour escort patrol, but I believe the record is a 33-hour patrol. There were enough squadrons to cover all the way from Halifax, Nova Scotia to Rio in Brazil, of which I've been to every one. The patrol I remembered the most is one out South Weymouth one very dark night. We were to fly 50 feet all night long as a 75-ship convoy was leaving Boston harbor and enemy subs were reported in the area. Two other blimps were assigned to same area, but were flying between 250 and 500 foot altitude. None of our own subs were to be in the area. Trying to fly at 50 feet on a black night was most tiring, believe me. Just before dawn don't we pick up a contact on the "M A D" gear. On going in on a bomb run this sub surfaces and at the last minute before we dropped our bombs (four 350-pounders) the sub surfaced and gave use the code of the day. Would my face have been red to put it mildly. (Con't)



The ground crew consisted of 35 to 50 men. It was the job of the pilot to bring the blimp in as slowly as possible and the ground-handling officer directed the ground crew in the handling of the blimp mooring lines. I am sure if your society wanted they could get hold of the training film on this phase of operations. The ground crew after stopping the blimp with the mooring lines held fast. The moving mast was then brought into position and the nose cone of the blimp attached.

[Letter 2] Dear Roy,

How to fly a blimp-whow! I'll try to make it short & sweet. The first thing a blimp pilot must know is the "weight off" of the blimp he is to fly. For instance, say a blimp weighs off @3,000 lbs with 250 gallons of fuel aboard: Weight to be added:

(10) Man crew	1,750 lbs
20 gals of water	160 lbs
Food	100 lbs
(2) 350 lb depth charges	750 lbs
48 gallons of fuel	2,710 lbs

which just about equals the weigh off which means, in this condition, the blimp is in equilibrium. Say the flight is to last 10 hours, this blimp burns 25 gals/hour of fuel and fuel weighs 6 lbs/gal.

$$25 \times 10 \times 6 = 1,500$$

The ship is then fueled up with 250 gal's of fuel for flight and @ taken off is 1,500 lbs heavy. The blimp is the brought to take off position with the mooring mast. The ground crew takes their position & the nose cone is release from the mast (after engines have been checked). The elevator is put in neutral position & trim of ship checked. If out of trim, can be corrected by pumping air to either forward of aft ballonnet. The ground crew releases all lines at signal from ground handling officer and blimp takes off on the wheel or does an airplane.

Ω

To be continued

READY ROOM

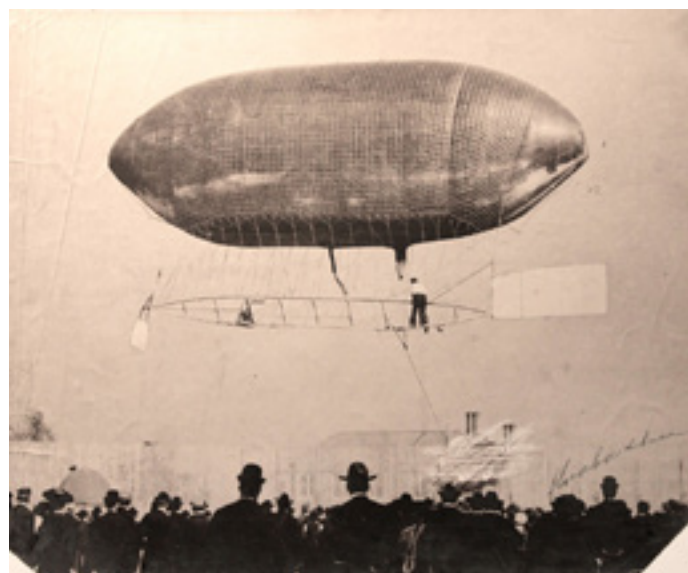
AIAA Aviation and Aeronautics Forum and Exposition (AVIATION 2014) 16–20 June in Atlanta, GA.

15 AUG 14 Chic-I-Boom Ball

Anderson-Abruzzo International Balloon Museum
Albuquerque, NM.

Mark Lutz reports two men, Paul Glenshaw and Mark Wilkins, are collaborating on a unique project for this September's inaugural "St. Louis World's Fair" festival. The project is to build and fly a quarter-scale model of the "California Arrow," a dirigible that was flown 110 years ago (photo below) from the Washington University hilltop campus as part of the aeronautical competition for the 1904 fair. "It is a great story - colorful characters and real significance." It was the subject of a Glenshaw article for the Smithsonian's Air & Space magazine. The project already has the support of the Missouri History Museum and the St. Louis chapter of the AIAA (American Institute of Aeronautics and Astronautics).

Ω



BLACK BLIMP

James B. Earnest, 92, passed 4 MAR 14. Born in Alabama in 1922, JB graduated from Randolph County H.S. and entered the US Navy as a radioman. He was assigned to ZP-32 out of Moffett Field, also flying the K-47 out of Eureka, CA (photo). Following WWII he returned to



Alabama where he ran an electric company in Huntsville. Active in NAA, J.B. was also a participant in the 2008 Huntsville honor flight. He is survived by his wife of 51 years, Betty. Ω



Warren H. Winchester, 82, passed 12 MAR 14. Born in North Carolina in 1932, Warren attended Pfeiffer College and entered the US Navy in 1953. He served in LTA, then transitioned to helicopters (piloting the Gemini II recovery). Retiring as a Captain in 1979, Warren was active in

the NAA and community service. He is survived by his wife Charlotte of 56 years, two sons and a daughter. Ω

Ronald E. Campbell, 84, passed 21 APR 14. Born in North Carolina, he graduated from Holy Trinity HS in 1947. “Unk” served in LTA in the early parts of his 30-year Navy career. Ron is survived by several loving nephews and nieces. Ω



LIGHTER SIDE

Socrates said, “By all means marry. If you get a good wife, you’ll be happy. If you get a bad one, you’ll become a philosopher.” Sigmund Freud said, “I had some words with my wife, and she had some paragraphs with me.” ☺

In a press release from Washington D.C., the Navy Department announced the death of Navy Tradition today after a long illness. Navy Tradition was born into a world of turmoil and revolution in 1775. Starting with nothing as a child, Navy Tradition evolved to become an essential part of the most powerful Navy the world had ever seen. He was present when James Lawrence ordered “Don’t give up the ship” as he lay mortally wounded on the deck of the Chesapeake. He witnessed cannon balls bouncing off the copper-shielded sides of the USS *Constitution*, “Old Ironsides.”



He fought pirates off the Barbary Coast and suffered with his shipmates on the battleship *Arizona* during the attack at Pearl Harbor. He fought his way across the Pacific with *Nimitz* and saw MacArthur fulfill his promise to return to the Philippines. Navy Tradition was there when sailors fought bravely to save the frigate *Stark* after it was hit by a cruise missile and witnessed the launch of Tomahawk missiles from the battleship *Missouri* at the outset of Desert Storm.

Through all the strife, good times and bad, Navy Tradition was there to support his shipmates and give a balance to the misery that sometimes accompanied a life at sea. Be the nation at peace or at war, Navy Tradition made sure that we always remembered we were sailors.

He made sure that promotions were celebrated with an appropriate “wetting down”; crows, dolphins and wings were tacked on as a sign of respect from those already so celebrated; chiefs were promoted in solemn ceremony after being “initiated” by their fellow brethren; and only those worthy were allowed to earn the title “shellback.” But in his later years, Navy Tradition was unable to fight the cancer of political correctness. He tired as his beloved Navy went from providing rations of rum to its sailors to conducting Breathalyzer tests on the brow. He weakened as he saw “Going into harm’s way” turn into “Cover your backside,” and as “Wooden ships and iron men” morphed into “U.S. Navy, Inc.”

A lifelong friend of Navy Tradition recalled a crossing-the-equator ceremony during World War II: “I had to eat a cherry out of the belly button of the fattest sailor on the ship. It was disgusting. But for that few minutes, it took our minds off the war and to this day it is one of my greatest memories.” In lieu of flowers, the family of Navy Tradition has asked that all sailors who have earned their shellback and drunk their dolphins; who remember sore arms from where their crows were tacked on and were sent on a search for “relative bearing grease” or a length of “water line”; who’ve been through chiefs’ initiation or answered ship’s call in a bar fight in some exotic port of call, to raise a toast one more time and remember Navy Tradition in his youth and grandeur. Fair winds and following seas, Shipmate. You will be missed. ☺



(Top Right) Roy Manstan brought an exhibit from the NWC Museum to the Ready Room so attendees could marvel at something we did not know existed – a 1918 underwater microphone array that was towed behind a “B” type airship! Mr. Manstan, an author who is researching early ASW for his next work, fascinated the crowd with his presentation about the multi-national effort that advanced the state of submarine detection just after the Great War – only to have the work forgotten long before the next war. Roy promised to reformat his presentation for a future issue of TNB.



(Left) William “Bill” Burlin points to the NWC Museum’s Gato-class submarine display. (See page 9 for Bill’s letter, which names some of his shipmates seen in a previous issue.) Someone should point out to the Navy that Mr. Burlin is possibly the last officer who was first submarine-qualified, and then transitioned to airships to become LTA-qualified. Ed. contends both could benefit if the two technologies were seen as equals in their respective mediums. Bill is probably our last link with the days when one set of experiences could teach something to the other. Experience is still the best teacher.



(Above Left) Dick Trusty checks out the K-28 “Radio Shack.” The NEAM team mostly had to re-create military equipment from scratch using only photos supplied by fellow NAA members, but rarely a piece – like the MAD chart recorder – was purchased from e-bay. **(Above Right)** Jim Smith makes like an engineer at K-28’s meticulously rebuilt mechanic’s panel. Note fuel pump and handle. Photos from Richard and Deborah Van Treuren.



NAA Reunion 2014: The tour group assembles prior to entry into the Naval War College Museum. John W. Kennedy, the museum's Director of Education and Public Outreach, welcomed our group and took this photo.



Back Cover: Reunion visitors to New England Air Museum were given the royal tour by K-28 restorers Don Scroggs (extreme right) and John Craggs (2nd from rt.) Both praised the work of their shipmate Russ Magnuson who we just missed that day. They'd just moved K-28 (on her huge new dolly) and had her engines back on in time for the eager NAA Reunion crowd's careful inspection. New England Air Museum photo.