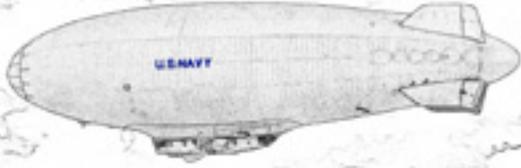
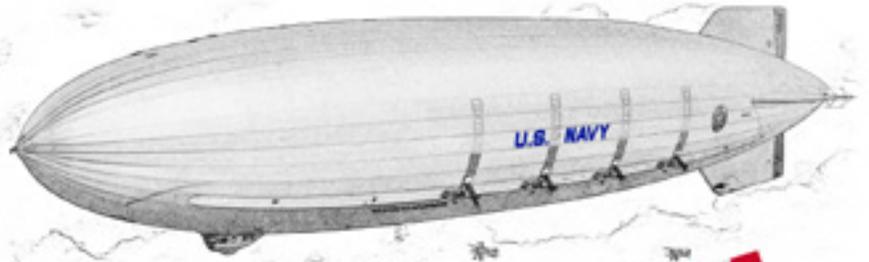


THE NOON



BALLOON

The Official Publication of THE NAVAL AIRSHIP ASSOCIATION, INC.

No. 117

Spring 2018



AIRSIGN Takes Over



Now managed by a new company, we can take the opportunity to look back at the colorful history of the American Blimp/Lightship Group. Above, shortly after Weeksville #One was converted back to LTA use, we see an A-150 flying for Anheuser-Bush and a 60+ for Monster.com Below, longtime client Direct TV's 150, with 60's flown for Hood Dairies, Met Life, and Horizon.



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The Naval Airship Association
www.naval-airships.org

President

Fred Morin

PO Box 1926, Lecanto, FL 34460-1926

E-mail: frmorin@verizon.net

Vice President

William Wissel

E-mail: willyum54@comcast.net

Secretary/Treasurer

Deborah P. Van Treuren

PO Box 700, Edgewater, FL 32132

E-mail: deborah_v@cfl.rr.com

Executive Committee Member-at-Large

George Allen

E-mail: faxco77@att.net

Immediate Past President

Ross F. Wood

E-mail: rwood27@gmail.com

History Committee Chair

Mark Lutz

E-mail: airshiphistory@centurylink.net

Historical Liaison Webmaster

Don Kaiser

E-mail: don.kaiser@gmail.com

NMNA Liaison

Mort Eckhouse

E-mail: mortusn@yahoo.com

Emil Buehler Library Liaison

Steve Kozlovski

E-mail: 9987806@gmail.com

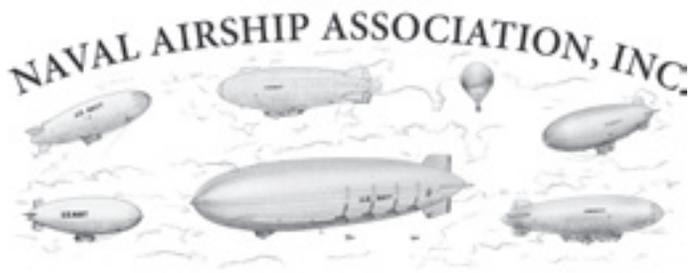
Education Director

Dr. Anthony Atwood

E-mail: aatwo001@fiu.edu

Live a good, honorable life. Then when you get older and think back, you'll enjoy it a second time. ☺

On the Cover: AIRSIGN has purchased all things Lightship, evidently including the A-170 whose envelope was once emblazoned with U.S. NAVY. More details to follow as they become known. Ω



THE NOON BALLOON

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EDITORIAL

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

AWingfoot One's Daytona 500 coverage allowed us to be brought up to date with our friends on that crew. James Perdue, Zep pilot extraordinaire, told us work on the #3 ship is coming long nicely up in Akron. It will not only be flying by Reunion time, but may be on its way to Pompano, with #1 taking its place.



Kindly floating near our Twister's hangar homebound to Pompano, I have enhanced the photo so you can't help but notice the airship's temporary banner, which is the idea, as Goodyear embraces social media marketing. Makes one wonder if NAA needs a volunteer to expand into social media, though yours truly has yet to learn that skill (and devote that time block) even for the promotion of our ZRS The Movie effort. Goodness, I have only recently learned enough web design to support redesigning my original airshiphistory.com site. We'd need someone with a serious block of time to keep up with Facebook, Twitter, Instagram, Snapchat, etc. etc. ad infinitum.

In the more than ten years expended in trying to tell the history of the Naval airship on video, we went through several expensive generations of video gear – first electro-mechanical, then combinations of hardware & software. The last investment's hardware could not be updated past Windows 7, and the final insult came when the editing software went to charging by the month for the honor of using it even after purchasing several pricey full-service packages. Meanwhile, the tower computer I had used for editing – the same one I've assembled this magazine with – had updated itself to Windows 10 in spite of my repeatedly clicking "NO" on that option. Seemingly benign for a while, recently an overnight Win 10 revision update left me with a distorted, half display screen. In the fruitless repair efforts that followed, I learned one cannot revert to the previous version, and the graphics card driver will not be updated, thank you. Of course if one runs out and purchases a new computer, the long-ago purchased programs one depends upon cannot be moved because they are "no longer supported." Seems Apple is not the only electronics maker who takes steps to hurry along the tradition of planned obsolescence.

So I'm limping along with a new laptop driving a second screen, rigged with a network hard disc containing the legacy files to allow me to edit this magazine, my websites, and, between crashes, videos. First off was a little piece about the 3W. As we know, the remains of the final U.S. Navy airship of the last century are awaiting attention at the DMAFB "Boneyard." I had seen -243 about a year before our Reunion visit, so I put together a little piece from that tour and put in some images from her active duty days. You can see it at <http://zrsthemovie.com/?=3060>.

This quarter saw the passing of John Young, the only astronaut to go to space as part of the Gemini, Apollo and space shuttle programs. A moonwalker, he commanded the first and the ninth STSs. John came by our workshops on a regular basis, giving pep talks and listening to our concerns. Working night shift, I inadvertently woke him up once when I was so outraged upon my post-mission finding that a suggestion that had been promised to be implemented, hadn't, and the mission had been effected. One hell of an engineer and just a nice guy all around, we shall never see his like again.

For our continuing 100th anniversary observance, member James Terra kindly sent a couple pages from a 1958 *NavAirNews*, which were able to reformat to our page layout, then add some photos found by other volunteers to re-print this story. Hopefully, it's as heartwarming as it was when only 50 years old. This sort of first-person account – from a former enlisted line handler, of which we have no photo – recalls the old ways they operated the blimp. That's right, just the one, flown in from White City's "rubber cow" shed, the only open-ended land building in the country capable of erecting an airship in early 1917.

Also in the issue, Past President John Fahey asks some interesting questions concerning an accident to the K-13. The photographs do look rather grim, however, we are hoping someone who served at Glynco or was in ZP-15 at the time might recall exactly what happened and/or explain how so many deaths might have gone unrecorded. While we believe evidence supports a cover-up was instigated to prevent public panic in the K-14 case, about a year later off Maine, there was no effort therein to erase the men lost in what the Navy still calls an "accident."

Finally, our efforts on the LTA technology textbook have been complicated by this new Windows update. If we are able to complete the book in time for a rollout at, say, the Reunion – one wonders if there will be enough interest in the old-fashioned print medium for anyone to become aware of the seemingly forgotten technology of the airship. If not, it perhaps will be noted, we did not give up without a fight.

– R G Van Treuren

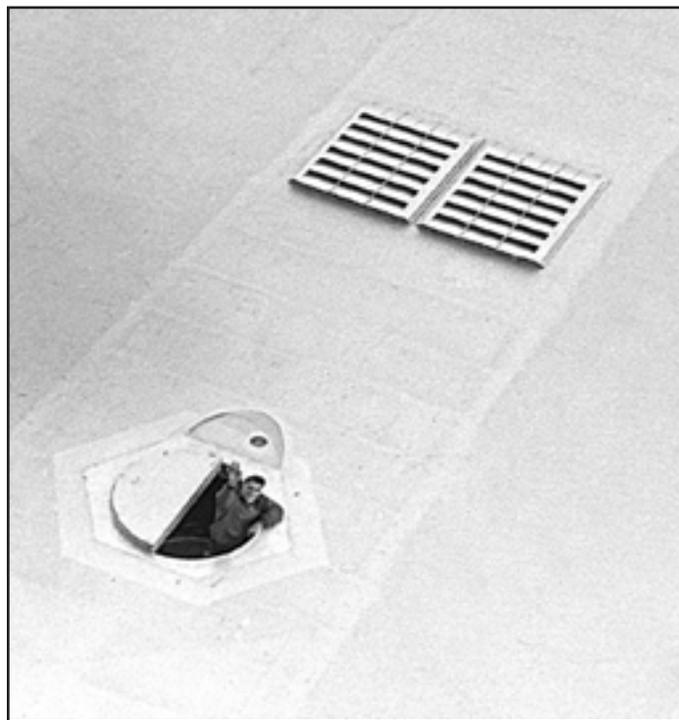
VIEW FROM THE TOP – PRESIDENT’S MESSAGE

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

The 2018 Reunion is right around the corner and a lot of work is being done to bring everything together. Later in this issue, we have a two page summary/announcement of the details we are striving to firm up for everyone. We will be sending more details and pricing very soon so that registrations can be made. The Holiday Inn Express Akron South has presented us with a very attractive package deal for rooms and a Ready Room. The hotel is very conveniently located across from the Akron-Fulton Airport and Lockheed-Martin (formerly Goodyear) airdock, a notable and historical landmark. As usual, attendees must make their own reservations directly with the hotel. Please be sure to mention the NAA Reunion to receive the special rate.

I hate to harp on this, but our Executive Council needs to determine if there is sufficient interest from the membership to continue planning Reunions. If attendance continues to decrease, we may have to cancel future Reunions as our contributing expenses increase and we do not have the membership dues to cover those expenses and reduced attendance puts us at a disadvantage in negotiating pricing for hotels, admission fees at attractions, as well as banquet facilities and food costs. As I am sure our Treasurer notes in her column, we are in fairly good standing financially through year end, but we need to reduce the continuing drain on memberships and may have to make more cuts to the size of *The Noon Balloon*. Ideally, we would like to print each issue with about 40 pages total, but as printing and mailing costs increase and incoming revenue from memberships decreases, that may not be possible. Rest assured that your Executive Council is doing all that is possible to provide the maximum benefit to every member and still hold the line on membership costs.

Saturday, September 29th, still looks good for the banquet and a detailed schedule for prior days' activities is still being compiled. We have been in close contact with the Lighter-Than-Air Society and it looks very promising that we will be able to have our Reunion banquet in conjunction with the LTAS Annual Dinner. This is very exciting and a great opportunity to work with the LTAS. Their annual dinners are very active and feature interesting speakers and a silent auction (a ride on a new Goodyear NT is usually one of the items auctioned off). A visit to their Work Shop is also a distinct possibility. It is a treasure



trove of LTA history and memorabilia. I was there about two and a half years ago and was completely amazed at the scope of their collection. Complete details and registration info will be mailed to every NAA registered member soon.

Please do not forget to renew your membership for 2018. Please return your renewal with your dues (and any extra donation) as soon as possible.

We have tried to keep our dues schedule constant for several years, but as I have noted before, we have also begun a general belt tightening beginning with our general expenses and *The Noon Balloon*. Over the past few years, our page count has increased and the printing and postage costs have also increased proportionately and from general economics.

I have no doubt that the new issues will continue to provide world class coverage of all things LTA, solid historic coverage of Navy LTA from our members and contributors, and a good assortment of technical articles of interest. The goal is still to publish the best LTA magazine at a reasonable cost, not to just fill pages.

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

– Frederick R. Morin

TREASURER'S STRONGBOX

Painful as it is to bring into the open, our numbers are dwindling. We have had only about 210 renewals for 2018 as of this writing. Natural attrition is taking its toll. We have a strong team at the helm, but we can't do it without our yeomen membership to make it happen. Please urge your fellow members to send in their membership dues so we may continue to carry on with the history of the Naval Airship.



Many of our members have supplemented their dues and donated generously to keep up the organizational costs and the daily operations of your Association. I speak for all the Officers when I express gratitude for your generosity. As it stands at this writing, we will be able to produce our high-quality publication for about eight more issues, by raiding the treasury - and then, that will be it.

The 2018 Reunion in Akron is the last week of September. It may well be our last one, with dwindling participation playing a very big role. This may be the final opportunity to meet up with shipmates and friends from your airship days.

In closing, again, please support the Association by urging lapsed members to send in their dues on time. Last but not least, let us know when you have changed addresses and phone numbers so we can make sure you get your newsletter.

– **Deborah Van Treuren**

PIGEON COTE

Ed. and Sec.-Treas. received a family gift of a bag of coffee beans... with a rather interesting graphic on the package. When this sort of surprise comes, Ed. always follows up trying to find out more about the product and possibly work out a deal where *Noon Balloon* readers might enjoy the exceptional work. No beans, though at least Lantern Press kindly replied in the negative. Ω



Curt Westergard spotted this “Zepelin” sculpture here in Prague... has your interests at heart. Amazing exhibit of well-built wood and cables. Tongue in cheek with poetry and a Gulliveresque theme. Ω

In the photo below, taken at the 2009 NAA Reunion in Pensacola, left to right are: Jim Brodea, Woodrow Wilson Smith, Joe Hajack, John Chilcoat, Ernie Anderson, and Phil Dawson. We just learned of John's passing (see “Black Blimp,” page 32). Ernie kindly shared his photos and John's widow, Marilyn, provided the photo from John's active duty days. Ω



Mark Lutz, History Chair, e-mailed, “I keep wondering how likely it is that “letters of intent” and “memorandum of understanding” (MOU) will turn into actual orders for the Lockheed Hybrid Airships.



(Above, edited ad for forthcoming Lockheed Hybrid; see <https://www.youtube.com/watch?v=JO76dkzV28k>

One potential user is Quest Rare Minerals. Quest has been exploring and developing means to mine and refine rare-earth minerals at Strange Lake, Canada. In 2014, they were planning on \$228 million to build a 100-mile road from their mine to a port on the Atlantic Ocean in Labrador. Part of the road would be on permafrost. The port needs a dock - estimated to cost somewhat over \$50 million. The proposal to use Lockheed airships involves transportation from the mine to Schefferville, Canada, where there is a rail connection to Sept Iles on the St Lawrence River. Assuming Quest paid for airship service as they used it, the airship service would save them from about \$300 million in capital expenses. Quest, however, appears to be in deep financial trouble. They've burned through \$100 million (raised by share sales) and are nowhere near operational. They currently owe about \$5 million, and have less than \$1 million left. As of 4 Dec 2017, Quest is on its 5th Canadian Court Bankruptcy hearing delay, and has been delisted on the Toronto Stock Exchange. They're hoping to find a buyer, or substantial new financing. Quest has a MOU with Straightline Aviation to operate a small fleet of airships to supply their operations. Straightline in turn has a Letter of Intent to buy Lockheed Airships for this operation. Looks unlikely to go anywhere. Ω

Nigel Hills, an officer of the British AA, e-mailed, “I am searching for information on the whereabouts/final disposal of U.S. Navy Bureau Number A-5580, a North Sea Class

Airship acquired from the Royal Navy in 1919/20. The ship was shipped first to Wingfoot Lake, then to Hampton Roads Naval Base. I have been in touch with Hampton Roads Naval Museum who recommended that I contact the Navy's archives in Washington DC.” Ω

Can anyone help Nigel? The archives had only the same information we had from James Shock's book, whose official records source does not detail what happened to it, one of the largest and most advanced of the many types of ASW non-rigids developed in the UK.

Dan Lehman e-mailed from City of Falls Church, Va., “I come to you way belatedly (to Giles Camplin's recommendation) with a knotty mystery about which you might have heard but otherwise can glean about all that's so-far known from the forwarded/attached article by Dr. Giles Camplin. Our mystery is the origin of the “forgotten zeppelin knot” -- which quote matches a 1976-March *Boating* mag. article title. Is there indeed a USN airships history to this knot, or was all that just a “legend” built for the knot that some sailor wanted to sell to the world? (Btw, for sure, there was a small-scale --maybe 100 copies, Potomac Caver—presentation of the knot published/issued a decade earlier (1966), but which had few if any ripples. The inventor/author sadly passed beyond our earthly horizons this past February, alas.) Your community should be one to be able to add some insight to what is said, I hope. (I find myself running into hard questions no matter which direction I take. E.g., in short, if this article's Joe Collins is right, why didn't HE make more noise about the knot's existence/furtherance in the U.S. Navy; and how could CE Rosendahl later reply as a footnote says, which such ignorance; but could CER, then commanding officer, be so in the dark about what his crew were doing & had been trained to do? And re training, might the *Los Angeles* (et al.?) crew gotten knotty stuff in Norfolk and later been transferred, or ... !? Well, I'll let Giles's article speak most, here, and then perhaps we can see this mystery get more light of day on it --or perhaps even more confounding information! Ω

Can any of you marlinspike seamen shed any light on this knotty challenge? TNB previously ran a piece about the “Rosendahl knot” but evidently this isn't it.



Offered online: “*Hindenburg* Zeppelin Model Blimp: An oversized model of an oversized craft \$645.00” Ω

Our overworked NMNA volunteer Steve has been keeping up the steady input of scans of the Library's LTA photos for us to share. One recent K-ship with CVE photo had a penciled-in caption, "refueling," though the 10-inch or so hose visible at the great distance was obviously not for petroleum! This lead Ed. to dig up a photo, with its official caption, our team had uncovered at NARA:



Ed. asked Past NAA President John Fahey, "Did the CVE-120 USS *Mindoro* also have helium on board, like the CVE-118 shown, and did you or your shipmates ever record taking on helium while aboard? Obviously we are wondering how many CVEs were helium-equipped and how often this was done, even in practice drills, in relation to taking on large weights – or not. John responded, "Thanks for sending the interesting *Sicily* picture to me. In June 1948, I graduated from the Navy Language School and qualified as an interpreter and translator of the Russian language, scheduled for an assignment using the language. For the previous three years I attended schools, still eligible for airship assignments flying at NAS Lakehurst for 4 hours a month. My orders were changed to ZP3. I objected with the argument that the language skill was a perishable skill to no avail. I was told that flying airships in Hunter-Killer operations now was more urgent. From July 1948 to November 1951, I made landings and take offs from three CVEs: *Siboney*, *Sicily*, *Mindoro*, and also CVAs *Midway* and *Roosevelt*. We never took helium aboard during this period. Regarding the photos caption, isn't the word "mine" and not "mine?"

Ed. responded, "Yes, I believe the caption has a typo – means MINE, not Flash Gordon's arch enemy. (It's also a ZPK, not APK!) The caption suggests the MK 24 homing torpedo, probably still state of the art four years after WWII ended, was still classified in 1949, hence it continuing to be called a "mine" to confirm the established cover story. Also explains why this photo was released, since you can't see the torpedo at all. Photos of the torpedo on a K are very rare." This e-mail exchange opened a new line of questioning concerning the MK 24.

John Fahey responded [Up from Glynco], "I spent the last six months of the German segment of WWII in ZP-12 because of a sub scare off NY. Some K ships flights did carry a large heavy torpedo. I witnessed the takeoffs as the ground handling officer at the highly secret take off sites, nice to be trusted! None [of those] were ever dropped. The flights were flown only by the most senior pilots in the squadron."

Various pieces in the literature discuss this "robot bomb" (meaning V-1 buzz bombs) patrol. Member Walter Swistak details one such patrol that turned up results in his book "Blimps, Balloons & Bombs."

"This last-ditch Nazi offensive was intended to bring the war to the US mainland and cause fear and panic among the civilian population. The Navy countered this threat by increasing ASW patrols, with the support of additional crews and blimps from Squadron 15 at Glynco. The preflight briefing on February 25, 1945, indicated several U-boats in the area, and the K-58, with Lieutenant (jg) Siems in command, was assigned patrol duties just east of the New York channel. The patrol area was dotted with a few ships, military and civilian, visible from the control car; when suddenly about 0830, several crewmen and I were startled to see the top of a conning tower less than three hundred yards away. The swastika on the tower was visible for less than a minute before it disappeared beneath the water. My reaction was not fear but disbelief – there was the enemy right before my eyes – and it all seemed like a Hollywood movie. "General Quarters" rang out and the chase was on. Radio contact was immediately established with the other area commands and the K-58 began the search at the point of the sighting, registering several MAD signals before losing contact. The excitement increased a half hour later when the patrol craft PC 1243 arrived in the area and reported a sonar sound contact. A short time later, the Navy blimps K-30, K-77 and K-98 joined in the search for the elusive submarine. "The area search continued into the early afternoon when, at 1420, the submarine's position was located again when both Coast Guard cutters, *Triton* and *Nike*, established sound contacts. This was followed at 1505 with a report from the K-30 that a MAD contact was recorded. The latest position was marked with smoke flares, and then at 1523, our ship, the K-58, was ordered to make the first attack. In our determination to make a direct hit, we approached the target area well under 100 feet, dropped two depth bombs, and then climbed quickly to avoid the shock of the explosion. The concussion rocked the blimp propelling it upward and covering the control car and underside of the envelope with mud. The attack continued as each of the three blimps also attacked the target, followed by surface craft in the area, creating large explosions and geysers of mud and water – but no evidence of a kill. The initial report of the day-long search and attack was negative, but the following morning, a few

miles away from our attack location, an Army bomber sank a surfaced German submarine. Lieutenant Siems and the crew from Glynco imagine and are inclined to believe that it was their elusive prey.”

Additional details can be read in 10th Fleet envelope #7789, but one thing is perfectly clear: even these highest-priority barrier patrol airships had not yet been equipped (trusted?) with sonobuoys, which they most certainly would have employed after an actual sighting. (Let alone using a homing torpedo - versus gravity bombs, whose only improvement since WWI was additional aluminum and more blunt noses!) By early 1945, senior commanders must have finally realized this latest U-boat onslaught was maintaining radio silence, thereby negating the US's primary ASW tool - decoding their daily transmissions, including position reports. Ed. believes it was only then the airshipmen received these most advanced tools, no matter that K-91 had actually lofted a MK24 a year earlier and K-ships had been intermittently employed to train HTA crews in the use of sonobuoys.



Jim Hughes (photo above) told us he and the rest of the K-72 crew launched a MK 24 on a sonobuoy sound contact on 18 APR 45, about 70 miles off Norfolk. Jim said the submarine sound they could hear in the headphones was much like their training record. He also said they weren't told much about the torpedo before the mission. He remembered the shroud coming off properly before it entered the water. Given a time period well within the battery life of the MK24, Jim reported they heard a distinct explosion, followed by no more submarine sound. Jim said a torpedo specialist told them he believed they got the sub, as Jim remembered the conversation during the debrief. (This is 10th Fleet case #8343. Ed. has never been able to interest anyone in checking out the U-boat that was found right there during the 1968 search for the lost USS *Scorpion*.) The e-mail string ended with Ed. pointing out this published photo and caption:



As you see in this captioned photo from Bill Althoff's "Sky Ships", a similar official caption to the one on page six here was transcribed into that book. While the MK 24 was still secret in 1949, by the time his book was first published in 1990, the cover story was no longer necessary. The author and his editors either did not realize they were continuing the original cover story, or thought that since it had been called a mine then, changing it would seem as "revisionist." (In fact, there is no record of any actual mine ever being designed for or carried on a K ship.) This is a perfect example of how "declassified" does not mean the obfuscation is erased; in other words, just because a fact is no longer secret, doesn't mean the public will ever be informed. "Official," or just first to publish, however inaccurate or purposely deceptive, tends to stick. Therefore, while "Nay-sayers" that insist the published record is close to the gospel truth, that K-ships were supposed to just search for subs, there were no real encounters, and the like, Ed. respectfully suggests the MK 24 did not much care if it was launched from a fast airplane or a slow blimp. Once in the water and in range of a sound contact, the submarine was finished, as so many were at the hands of airplane launches.

On a more trivial side note, Gordon Vaeth's "Blimps & U-Boats" (published by USNI the following year), in his chapter "The King Ship," describes the K-ship car as having clamshell doors aft. Goodyear records suggest only K-120 and subsequent ships had clamshell doors. Yet as you see on page six, K-113 is clearly not a "side door" ship (as most were, see page 4). What gives? In another NARA photo we found, we see the original K-113 car had burned to its steel skeleton while being railroaded to California. (That's right, before there was even gasoline in the tanks or engines were attached.) So as the literature suggests, the last ship on the line was probably K-136, it was relabeled "K-113" to keep the sequence. Ω

Ed. had answered an e-mail about accident summaries, and in relation to our textbook effort, sought help from other members about some details, “Meanwhile as we all realize there are many versions of a typical accident story... one of the things I detail in the accident sub chapter is the complex story of the loss of ZPG-3W, the last Navy blimp accident, 18 lost (likely drowned). While the pilots pointed out it would have been impossible to forcibly fly the airship into the water with such ferocity as to burst a good envelope, others suggested the Navy’s dual LTA/HTA requirements had caused the pilot to incorrectly react to a drooping nose and loss of speed and altitude.

Don’t get me started on the K-14 “Accident,” [here with Bar Harbor Museum caption]. Pilot blamed for flying the blimp into the water... backwards? All while the crew was firing the machine gun and dropping

The Dirigible K-14, being salvaged after being shot down by a German submarine July 2, 1944, near Mount Desert Rock. The Coast Guard from Southwest Harbor assisted in the salvage operations.



the depth charges, right where a U-boat dropped off some spies two weeks later. The Navy finally spilled the beans about the “boiler explosion” that destroyed the PC boat whose few survivors saw a conning tower, but since the K-14 survivor command pilot only said “the Navy had good reason to do what it did,” we’ll likely never get the Board’s minority opinion declassified, let alone get the crewmen killed their Purple Hearts.

Dr. Giles Camplin added to the discussion about our effort, “Don’t get me going on definitions of what is an ‘accident.’ I devoted a whole chapter of my thesis to the Terminology problem. Here is an excerpt: (NGVLA – New or Next Generation Very Large Airship; PGVLA – Past or Previous Generation VLA; CL = CargoLifter)

The potential for this “Terminology Problem” to generate time consuming confusion and misunderstandings for the NGVLA developers of the future, and therefore also to waste their money, is evidenced by this example from an internal CL memo:

“... in a meeting last week it was found that the expression “trim” was used in different manners. That is a reason to put it into the glossary. Before doing this, I would like to have a basic agreement about the definition. My proposal is the following:

- Trim - activity taken to move either the centre of gravity or the centre of aerodynamic forces (or both) in any direction.
- Pitch Trim - activity where the c.g. or centre of

aerodynamic forces is moved in longitudinal direction resulting in a changed attitude of the ship.

– Roll Trim - activity where the c.g. or centre of aerodynamic forces is moved in lateral direction resulting in a changed bank angle of the ship.

– Ballast (verb) - activity where the total mass of the ship is changed. This could also cause c.g. shift, but that is then trim.

Notes: This definition means that trim is restricted to attitude/roll influence but does not include weight changes, which is covered by the verb “ballast.” Trim in general does include also movement in vertical direction. This makes sense to me as it will result in a different state of equilibrium, too ...”

However, the problem of “trim” is not restricted to airships. Their close cousins the submarines have also had similar difficulties with this same small word:

“We should point out that this special usage of the word ‘trim’ is confusing. The only advice we can give is: judge from the context which meaning applies.” (Burcher & Rydill 1994:43)

Such advice may be helpful in the specific case of reading a book, but it does not solve the problem in general. For historians, and for other researchers in the field, when attempting to collect material concerning the PGVLAs from archives and libraries, confusing words remain a serious problem that can easily lead to the waste of much research effort.

And it isn’t only single words that are a problem: “An accurate comparison of the airships built in different countries can be a challenge. Different countries use different units of measure, different lifting gases, different standards for the lift imparted by the same gas, different definitions and categories of elements of their airship structures. The published figures never seem to be gathered with direct comparison in mind.” (Hall, 2000:8)

So a researcher into airship history, endeavoring to make comparisons, really needs to know all of these “different” words, and their multifarious usages - and even then can still be left wondering.

“...many of the records (particularly of the World War II airships) include such words as “wrecked”, “destroyed” and “lost” when what was actually meant was “deflated”... These mishaps [i.e. deflations] were readily corrected with new envelopes ...” (Shock, 1994:xi)

Thus the unwary newcomer can easily be perplexed to find a U.S. Navy blimp apparently rising from the dead and taking part in an operation, perhaps only days after it had been reported as being subject to an event, which elsewhere in the aviation world would have terminated its career and probably killed all its occupants.” Ω

SHORE ESTABLISHMENTS:

MOFFETT FIELD



Photo by Michelle Le

Hangar One -- the landmark structure at Moffett Field - was stripped down to its steel skeleton. Google subsidiary Planetary Ventures agreed to restore Hangar One as part of a lease deal with NASA for operation of Moffett's runways.

Google's pledge to restore and reskin Moffett Field's iconic Hangar One is going to take longer than originally anticipated. The tech firm is now reporting the job likely won't be done until 2025.

The news came out during a report by Google's subsidiary Planetary Ventures at the [last 2017] Moffett Field Restoration Advisory Board meeting. Planetary Ventures project manager Anthony LaMarca said the company had just finished testing out different methods to remove toxic coatings from the steel structure. Right now the company is investigating how to build scaffolding to replace the skin that had covered the huge steel framework.

"We're looking to be as efficient as possible, but it's hard to say (when we'll be done). All our schedules are subject to change." LaMarca told the advisory board, "By the time we get through all these steps, the skin will be done by 2025. That's quite a ways out."

Other problems have emerged for the smaller hangars Two and Three. Planetary Ventures is working to repair the door of Hangar Two. Meanwhile, structural engineers are trying to figure out how to reinforce the wooden framework of Hangar Three, which has deteriorated and is sagging in areas. Both hangars also reportedly have significant trichloroethylene (TCE) and tetrachloroethylene contamination in the soil.

LaMarca reported that Planetary Ventures is planning to install an underground depressurization system at Hangar Two to mitigate the pollution.

– **Mark Noack / Mountain View Voice** Ω

CARSON, CALIFORNIA

A one-of-a-kind inflatable Goodyear blimp hangar was erected at the company's West Coast base in Carson, just off the Main Street exit of the 405 Freeway. As long as a football field, the "air dock" displays Goodyear's classic blue-and-yellow logo on a gray background and is visible to hundreds of thousands of commuters passing by daily on the freeway. Company officials intended to inflate it a week earlier, but were delayed by the volatile Santa Ana winds that fueled devastating fires across Southern California and kept blowing it over.

But now that the nine-story-tall structure is up, don't expect it to topple over in a gust of wind or deflate with a pin prick. It doesn't have a rigid structure and instead relies on stressed skin and "air cells" to maintain its shape. It was engineered by Lindstrand Technologies Ltd. in the United Kingdom for durability. The main body was built with 73 miles of polyester fabric coated with synthetic plastic and arranged in two layers for extra endurance. Those layers are held together with fabric formers right-angled to the stressed inner and outer surfaces.



Courtesy Goodyear

"The super pressure inside the air tubes maintain the hangar shape," Goodyear officials said in a statement. "The advantage of this construction is that everything will flex and move the same way, making the hangar resistant to environmental elements like wind." It's anchored by 50 concrete k-rail structures along the inside edges that weigh about four tons each, and is moored to a 64,000-pound, 40-foot-long foldable transformer. Twenty fans are used to inflate the structure and to maintain pressure inside.

The new structure will serve as the home of Goodyear's newest blimp *Wingfoot Two*, which began operating in Los Angeles last October. On Friday, the new Zeppelin NT, called *Wingfoot Two*, will move into its new home. It has been stationed at Long Beach Airport since arriving in the region in October, awaiting inflation of the hangar. *Wingfoot Two* is nearly 247 feet long, about 90 feet shorter than the air dock.

– **Sandy Mazza, Daily Breeze** Ω

Categorization of Airships According to the Need for Industrial Production

By Dipl.-Phys. Jurgen K. Bock, Tech. Com. Chair

Introduction

The term “the many uses of an airship” was coined by Gordon Vaeth about 1968 and is valid up to date. It characterizes the broad spectrum of potential applications which is frequently published by the contemporary producers and planners of modern airships. Since the airship is already invented, many upcoming requirements can be punctually fulfilled by individual modifications of existing models as e.g. the modifications of the Zeppelin NT for special missions.

The nostalgic dreams of recreating a new *Hindenburg* in this context, however, are not realistic with respect to the modern aviation infrastructure, flight regulations and economy. On the other hand, the technology of the rigid airship is still of vital interest to the airship designer, since present engineering is greatly overshadowed by the non-rigid (blimp) technology which is ideal for smaller types of airships. Although the U.S. Navy had promoted an astounding progress of non-rigid airship technology, partially with hybrid technology, the military use was considered to be obsolescent in the Sixties.

Although one may say that the ZepNT was a step in the right direction, the size of ca 8000 m³ is far below the minimum size of 14.000 m³ Zeppelin had set for economic and operational usage. This lower limit coincides with the smallest operationally useful K-ship of the U.S. Navy. Today, a century later, exists no airship in the word of this minimum size (with “Airlander” deflated, Lockheed not yet inflated and California/Moffett Field’s effort unannounced). Generally, most contemporary airships can be adapted to specific missions without the need for a massive industrial research and development investment. The latter one, however, can only be justified if specific requirements regarding the combined economic, ecologic and operational necessities are convincing enough to create new aspects in transportation technology.

Classification of Airship Types

Key Requirements: VTOL capability particularly in inaccessible terrain; capability as a flying crane; payload capability TBD tons; interior payload space TBD; hydrogen as both lifting and gaseous fuel gas; methane as an additional low carbon fuel; typical short-range operation; independence from conventional air fields; in special cases amphibious operation; rigid or semi-rigid structure mandatory.

Class A: This class encompasses practically all contemporary airships of conventional appearance which could be readily used or modified for specific missions. In detail, they do not meet the a.m. combination of economy, ecologic and operational requirements for a specific R&D support.

Class B: This class concerns all hybrid concepts which utilize helium and conventional fuel and can be classified as STOL aircraft. Nowadays, practically all publicly known concepts are based on a non-rigid design.

Class C: This class includes all projects that fulfill the a.m. requirements for the modern arial transportation development. Two psychological barriers: hydrogen and unconventional features!

Generic Configuration – Geometric Prototype

Class A: Elongated ellipsoid of rotation with numerous aerodynamic and/or production-oriented variances, representing the common appearance of an airship.

Class B: Arbitrary types of Lifting Bodies, including the Deltoid, or compositions with additional wing areas.

Class C: Sphere and Lenticular Shape (squeezed sphere) for minimum surface or stall-free aero-dynamic lift, respectively.

Industrial and Economic Impact on Future Transportation Spectrum

Class A: Adaption to a multiple selective spectrum of requirements for specific uses, whereas each design may represent an optimum solution, however, with little or no impact on the over-all future transportation spectrum.

Class B: A step in the right direction by abolishing the traditional configuration in favor of optimizing the combination of aerostatic and aerodynamic lift. The present technology, however, is entirely based on the traditional blimp-technology and ignores the experienced dimensional limits of inflated structures. Besides, the essential switch to hydrogen may cause additional problems. In summary, the present development will end up in a dead-end road!

Class C: This class permits larger structures by virtue of rigid construction elements and enables the design of fin-less airships by the exclusive use of individual thrusters. In the hover mode, it may substitute very large helicopters as a crane for heavy loads, while ample space is available for internal payload accommodation. In the passenger mode, luxury air travel may be possible again. The use of hydrogen gas both as lifting gas and fuel gas meets the ecological, economic and operational requirements, including the capability of extended flight. Ω

THE REAL PERFORMANCE OF LZ 129 "HINDENBURG"

© Andreas Horn, Basel 2010

	LZ 129 „Hindenburg“ ¹			Boeing 747-200F ⁴
	Data from LZ	America-Flight ²	S.America-Flight ³	
Length [m]	245.00			70.60
Diameter / Wingspan [m]	40.20			59.60
Volume / Net gas volume [m ³]	200,000 / 190,000			--
Maximum take-off weight [t]	200.00 ⁵	214.00	214.00	374.85
Empty weight [t]	75.00 ⁶	130.00 ⁶	118.00 ⁶	114.55 ⁷
Percentage of take-off weight [%]	37.5	60.7	55.1	30.6
Gross payload [t]	125.00	[84.00]	[96.00]	260.30
Percentage of take-off weight [%]	62.5	[39.3]	[44.9]	69.4
Maximum fuel capacity [t]	53.50 ⁸	60.00	59.23	159.30 ⁹
Percentage of take-off weight [%]	26.8	28.0	27.7	42.5
Maximum ballast capacity [t]	40.50	40.50	14.30	--
Percentage of take-off weight [%]	20.2	18.9	6.7	--
Net payload / Freight capacity [t]	30.00	19.00¹⁰	9.05¹¹	101.00
Percentage of take-off weight [%]	15.0	8.9	4.2	26.9
Maximum range [km]	16,000	14,000	11,012 ¹²	9,075
Maximum speed [km/h]	135	135	110 ¹²	895
Maximum ceiling [m a.s.l.]	5,000 ¹³			about 15,000
Normal flight altitude [m a.s.l.]	400		100-200 ¹²	10,700
Passenger capacity	50 ¹⁴	50	37 ¹²	366 ¹⁵
Crew	about 50 ¹⁶	49	54 ¹²	about 18 ¹⁷

¹ According to the "ship description" (Luftschiffbau Zeppelin) February 1936 published in the magazine of the „Verein zur Förderung der Luftschiffahrt e.V.“, No. 1/8, June-August 1972, VII. Volume (Publisher Dr. Ing. E. Langnickel)

² Data provided by Naval Officer Scott Peck, who was aboard the „Hindenburg“ as an observer

³ Data from Scott Peck, flight from the 03/31/1936 (Friedrichshafen to Rio), 11,012 km, 100 hours, 37 passengers

⁴ Freight version, because the information on the freight capacity is directly comparable (specifications provided by Boeing)

⁵ With a 90-percent filling of hydrogen (with helium only 180 t)

⁶ According to other sources 110 t; the different figures are confusing because the empty weight quite certainly did not change

⁷ Empty weight of the passenger version 173.00 t

⁸ 59,900 liters of fuel oil plus 4,520 liters of lubricants with an average weight of 0.83 kg/l = 53.47 t

⁹ 199,158 liters of kerosene with an average weight of 0.80 kg/l = 159.33 t

¹⁰ 50 passengers and provisions 7.0 t, freight and mail 12.0 t

¹¹ 37 passengers 2.95 t, provisions 3.0 t, luggage 0.6 t, freight and mail 1.35 t, drinking water and alcoholics 1.15 t

¹² Figures from other flight reports

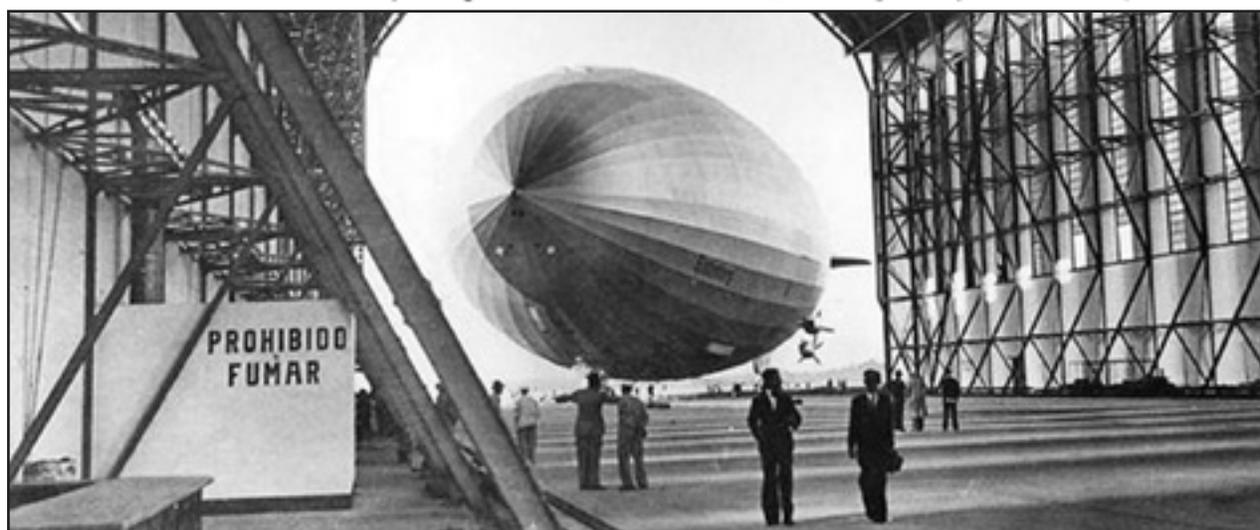
¹³ So-called "static ceiling" (which apparently could not be reached without reducing the payload)

¹⁴ After the conversion in the winter of 1936/37 increased to 70 passengers (due to hydrogen filling)

¹⁵ Passenger version of the Boeing 747-200 (3-class configuration)

¹⁶ Officers, helmsmen, mechanics, etc. 39; cooks, stewards, etc. 11 = an average total of 50

¹⁷ The crew to take care of the passengers varies from airline to airline, the average is 15 plus 3 in the cockpit



International Airborne Friends

By Bert Padelt



All my life's a circle, but I can't tell you why. The seasons spinning round again, the years keep rolling by. – Harry Chapin

January 6, 2015, Saga Japan: The sun is starting to set. Tomorrow morning we will be moving the equipment to the launch field and I am now hearing the words that are coming out of my mouth: “Could you ask the company next door if we could hang the capsule in their building using their equipment so that I can do a load test on the capsule?” “If possible, could you also ask if they have a load cell so that I can double check my weight calculations?” It seems that since September 2014, every word out of my mouth has been asking a favor of my Japanese friends. I watch Karou Kawasoe san’s shoulders drop and realize that for the first time I may have gone too far. I have a job to do, yet I have been balancing that job with the valued friendship I have developed with these people since 2008, and now that question once again pops up in my mind: How will I ever possibly be able to pay back these favors?

January 2017: I invite Kawasoe san and his FlyOne team to Pennsylvania for what I hope will be a 10 day

flying extravaganza. I choose the month of October to take advantage of the typically good flying weather in Pennsylvania that time of year, the changing colors of the fall foliage, a balloon rally in Statesville, North Carolina, and finally, topping everything off with a gas flight in Statesville after the weekend balloon rally. In addition, on the trip down to North Carolina from Pennsylvania, we will stay overnight in Virginia’s Shenandoah Valley where we will plan a morning flight before continuing to North Carolina. Kawasoe san has always wanted to fly before sunrise, however, in Japan this is not allowed. My thoughts are that a flight before sunrise in a gas balloon would be a wonderful gift from me and a wonderful memory for him. It will also bring our gas balloon club and the FlyOne balloon club together for the first time and thus full circle, for it was the FlyOne team that gave me the idea for our gas club back in 2008. I am happy to report the following:

October 17, 2017: Kaoru Kawasoe, Yasumi Kurashige, and Yukiko Shigematsu arrived in Pennsylvania. We were able to fly hot air the following morning outside of the inn where they were staying. That evening we were able to fly again. The following morning we left for Virginia. After driving across the Skyline drive in Virginia, we arrived in New Market, Virginia, that evening. The following morning we were able to fly hot air in the Shenandoah Valley before getting back on the road to Statesville. We arrived in Statesville just in time for the weather briefing and we were able to fly that evening. Kawasoe san was signed up as PIC for this balloon rally and flew all of the competition flights over the weekend. The weather was good for Saturday morning, Saturday evening, Sunday morning, and Sunday evening. After it was all said and done, Kawasoe san received a sixth place finish in the balloon competition!

Up until now, we had five days of beautiful flying weather and it was time to start planning the gas flight. The plan was to lay out and inflate Monday evening with a 3 A.M. launch Tuesday morning. If the weather was bad, we would have a second window laying out and inflating Tuesday evening and launching at 3 A.M. Wednesday morning. This would be taking it to the wire, however, for the FlyOne team was scheduled to fly home on Thursday. As Monday morning dawned, the good flying weather came to an end for 24 hours. The forecast was for a cold front to come through later in the day on Monday followed by clearing weather for Tuesday morning. The frontal passage arrived Monday evening with very strong thunderstorms. A tornado was reported in Hickory, North Carolina, just 40 miles northwest of Statesville. It was hard to believe that the forecast was still looking good for a Tuesday evening inflation just 24 hours away.

The forecast for Tuesday held. After a small picnic on the field in the afternoon, we were able to lay out and rig

the balloon. By 4:00 in the evening, we were taking gas and by 7:00 P.M. the balloon was bagged down and awaiting the 3:00 A.M. launch the following morning. Traditionally, one of our club members will spend the night in the basket and stand watch over the balloon while the rest of the members go back to the hotel to get some rest. On this flight, Clarke Harbold took the honor. Everything was now in place. In six hours, Kaoru Kawasoe's adventure would begin...

October 25, 2017: 3:00 A.M. Launch! Together with Al Nels, and Kaoru Kawasoe, we ascend into the night sky. Emotionally I am feeling the rewards of my gift to Kawasoe san. We do not speak or understand each other's language, however, for this moment as we are climbing out, it is not important. Our bond and understanding of each other is the love of ballooning. For Kawasoe san, this emotion is multiplied due to the fact it is his first taste of silent flight before sunrise. For these first few moments after our launch, I understand every word Kawasoe san is saying. At this moment I realize, this flight has nothing to do with paying back. Our friendship was formed on the passion that we share. I am sharing this flight with Kawasoe san because of our friendship, not because I owe him a favor. I also realize this was the case in 2015 when they were so dedicated to my needs. Our flight lasted five hours, and we flew about 60 miles. At sunrise, we had descended and were flying over a fog covered lake. On the other side of the lake was a backyard that beckoned us to land. The driveway to this home came around to the backyard. After a few maneuvers, which required a number of rapid climbs and descents, we were able to have a stand up landing right by this driveway! The crew was only 10 minutes behind and pulled right up next to us. And thus, a text book gas flight came to an end.

After packing up the balloon and going to breakfast, we all said our goodbyes. The club members drove the balloon back to Statesville, AL, Nels left for Ohio. For Joanie and I and the Japanese, we drove 10 hours back to New Jersey. We arrived at our hotel around 11:00 P.M. Wednesday night. We got up early the next morning and took the Japanese to Newark Airport. We said our goodbyes and by 10:00 Thursday morning, our adventure, which started 10 days earlier, was over after having flown 8 hot air flights, one gas flight, and placing 6th place in the Carolina Balloon Festival!

And so once again, things have come full circle. As in Japan in 2015, without lots of help, things do not happen. Here, if not for my wife Joanie, Jim Duncan, Al Nels, Ken Draughn, Clarke Harbold, Mike Emich, Sam Parks and the rest of the Aero Club of America members, this gas flight would have never been possible. Ω



SHORT LINES

NASA to Extend Expandable Module's ISS Mission Space News (10/3/17) reports that NASA plans to extend the mission of an experimental expandable module on the ISS beyond its original two-year timeline. NASA said on Oct. 2 that it plans to issue Bigelow Aerospace a contract for three-to-five years of additional services for its Bigelow Expandable Activity Module (BEAM). BEAM was launched to the ISS in April 2016 and has served as an engineering testbed, although NASA is eyeing use as additional storage as well. NASA said that "BEAM continues to demonstrate positive performance in space and initial studies have shown that it can be used long-term on the ISS to support the government's needs for on-orbit stowage and for technology demonstrations." The agency plans to store more than 100 Cargo Transfer bags, "a standard unit of cargo storage on the station," in the module, freeing up "about four payload racks" in other modules for research. NASA also wants to study the module's radiation and debris shielding effectiveness. Ω

US Airlines Cease Operating Boeing 747 Ars Technica (1/4) reports that January's Delta Air Lines flight 9771 was a "milestone" – the "very last flight of a Boeing 747 being operated by a U.S. airline." When the 747 entered service in the 1960s, it "helped drop the cost of long-haul air travel, opening it up to the people in a way Concorde could never hope to do." For fliers who still wish to experience the 747, "your best bet is with British Airways, which still operates 36 of them, many on routes to the United States." Ω

Airbus To Reduce A380 Production To "Digestible" Six Aircraft Per Year FlightGlobal (2/16) reported that Airbus plans to reduce production of its A380 jumbo jet to six aircraft a year by 2020 in a "bid to sustain its flagship programme while keeping losses from the aircraft's production" at a "digestible" level. Airbus plans to delivery 12 A380s this year, and will reduce production to eight aircraft in 2019. Airbus CEO Tom Enders said that the rate of six aircraft represents the "minimum" volume at which production could be maintained with a "reasonable level of efficiency." Enders added, "It doesn't mean we are still making money on that, but the losses that such a low rate would produce are certainly digestible." Ω

Secret Northrop Grumman B-21 Assembly Plant Ramping Up The LA Times (11/10) reported that Northrop Grumman construction crews are preparing "to add 1 million square feet" to a "top secret aircraft plant" in Palmdale, CA, producing the new US Air Force B-21 bomber. Northrop Grumman Deputy Vice President for Global Operations Kevin Mitchell recently told a Lancaster Chamber of Commerce meeting that the site would have 5,200 employees by the end of 2019. Ω



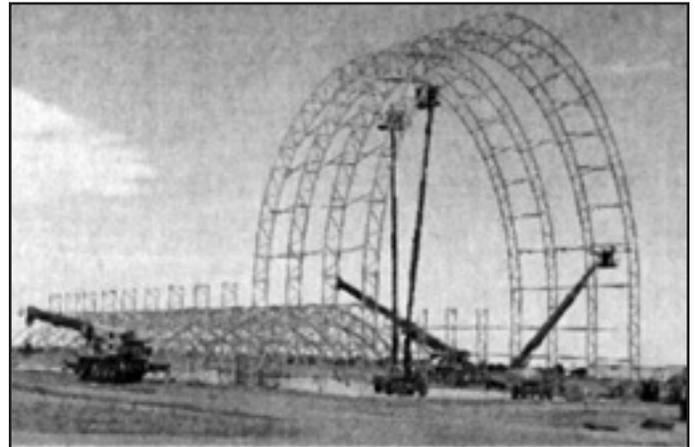
Nikola One Detailed: Hydrogen-Electric Semi Truck seen as the End of Diesels By 2021, Nikola Motor Company will bring to market the Nikola One, a class 8 hydrogen-electric truck that will deliver more than 1,000 horsepower and 2,000 ft. lbs. of torque – nearly double the horsepower of any semi-truck on the road – all with “zero local emissions.” 2,000 pounds lighter than a conventional diesel semi truck, with a cruising range of up to 1,200 miles, Nikola One will return the equivalent of 15.4 miles per gallon. Regenerative braking will also help charge the 320 kWh battery pack integrated into the rails of the big rig, helping to project an operating cost of less than half of today’s big rigs. Plan is to offer a lease for \$5,000-\$7,000 a month for 72 months, and to incentivize with free fuel for a million miles. To answer the lack of refueling stations, Nikola intends to build 364 hydrogen fueling stations across the U.S. The fuel is to come from solar farms creating hydrogen from electrolysis, making it the only fuel that is zero emission from production to consumption. Stored at in liquid form, it is to be dispensed into vehicles as compressed or liquid hydrogen. Ω

Ed. notes the cruise liner, QE2, moves 40-50 feet for each gallon of diesel that it burns. Toyota’s “Fine-Comfort Ride” fuel cell concept car shown at the 2017 Tokyo Motor Show seats six and boasts a cruising range of 621 miles. It was shown along with a fuel-cell concept bus called the Sora.

SpaceX President Calls For Updated Space Regulation CNBC (10/5/17) reports on SpaceX President and COO Gwynne Shotwell’s remarks calling for the US government to “remove bureaucratic practices that run counter to innovation and speed” in order to achieve rapid progress in space exploration. Shotwell said that regulation is overly restrictive and “requires heroics” to make even minor changes. Shotwell argued that operators “have to basically apply for a new license” even when making changes as small as changing launch pads at a spaceport. Shotwell called for a return to NASA’s commercial orbital transportation services program, citing the program’s “firm fixed price pay for performance” and “competitive principles.” Shotwell said that regulations “must be updated to keep pace with the new technologies.” Ω

Engineer Unveils Plans To Build Test Circular Runway For Cargo UAVs BBC News (UK) (1/7) reports that Dutch engineer Henk Hesselink has revealed plans to build a prototype circular runway for unmanned delivery UAVs at an abandoned naval base near Valkenburg. Hesselink’s design for circular runways “at passenger airports captured global attention last year, in aviation circles and on social media.” The design aims to “make more efficient use of space, reduce tricky crosswind landings and cut down on noise pollution.” Hesselink wants to test landing procedures for larger UAVs, which, in contrast to small UAVs used for home delivery services, “will be needed to carry goods to out-of-town distribution centres,” he argues. Hesselink is currently “building a consortium of financial backers to fund the test runway at Valkenburg.” Ω

UPS Signs \$5.65 Billion Order For 14 747 Cargo Jets Bloomberg News (2/1) reports that The Boeing Company won a “\$5.65 billion lifeline for the endangered” 747 jumbo jet as UPS has decided to exercise an option to purchase 14 additional aircraft. The deal comes just “weeks after Delta Air Lines Inc. parked the last of its 747 aircraft, marking the end of U.S. passenger service for the iconic humpbacked plane nicknamed the Queen of the Skies.” Ω



On the west end of the Roswell (NM) air field on August 8, 2017, Shelter Structures began standing up arches of a mobile hangar that is to house airships up to 250 feet in length and accommodate both manufacturing and maintenance activities. The 130’ wide by 300’ long tension fabric hangar will be 90 feet tall. Washington-based Sceye, Inc. plans a helium-filled airship up to 250 feet long designed to rise to the stratosphere and operate for extended periods of time. It’s said to monitor earth activities and aid in telecommunications. There have been no press releases or further information on the airship to Ed.’s knowledge at press time, however, the original plan called for test flights last year and Sceye has an FAA registration number. Ω



Ed. note: This artist's conception has often been reproduced cropping out the lower left C-130. This and other information suggests one airplane will launch the RPVs and another will recover them.

Air Force Could Test “Flying Aircraft Carriers”
(compiled from Internet reports)

DARPA -- the U.S. Defense Advanced Research Projects Agency – has Gremlins. Their Gremlins project calls for the creation of a new class of small, reusable drones that can be launched midair from a modified C-130J transport, disperse to surveil (or, depending on the payload, attack) targets as much as 300 miles away, then return to a flying airbase to dock for refueling and rearming.

The key objective of the Gremlins effort is to extend the range at which U.S. air forces can operate in a contested environment characterized by an adversary employing A2/AD (anti-access/aerial-denial) tactics. These include the use of cruise missiles to keep aircraft carriers at bay, forcing airplanes to fly long distances to reach their targets, and SAMs, which make it hazardous for nonstealthy aircraft to get too close to hostile territory by air.

At one point, there was a chance that the defense giant Lockheed Martin, which makes the C-130J, would also be chosen to build Gremlin drones to fly from the C-130 in Phase 3. This hope was dashed in March, however, when DARPA tapped two other large, privately owned defense contractors to lead the Gremlins effort.

Dynetics and General Atomics (maker of the Predator drone) are currently building competing Gremlins prototypes for DARPA to review in “Phase 2” of the Gremlins project. Phase 3, which has not yet begun, will see DARPA choose one of the two prototypes to develop into a “full-scale technology demonstration system,” the one that will be test-flown in 2019. At an estimated unit cost of “under \$500,000,” the ultimate value of the Gremlins program to investors will depend largely on how many Gremlins can fit aboard a mothership. Dynetics is known to have enlisted the publicly traded defense firms TransDigm, Moog, and Kratos Defense & Security on its team as subcontractors to help with its effort. Whether this is the team that will win the Gremlins contract or whether all the money will go to

privately owned General Atomics could be revealed later this year, assuming the Phase 3 award is announced ahead of its capstone event: the flight demonstration.

Obviously, nonstealthy C-130 air transports aren't the best way to penetrate A2/AD defenses. After Phase 3 of the Gremlins project is complete and the unique drone is flying, the Air Force will likely want to order up a stealthy “mothership” to take over the role of “flying aircraft carrier.” Such a mothership -- perhaps a modified version of Northrop Grumman’s new B-21 bomber, or the yet-to-be revealed CV-launched MQ-25 Stingray, could fulfill this role.

Incredibly, one plan calls for the new design mothership airplane to launch and recover from a flat-top aircraft carrier ocean vessel – fully loaded with RPVs.

Setting aside the initial investment in modifying C-130J(s), later funding would seek this more advanced mothership to fly stealthily into hostile airspace, undetected by radar. This concept sees enemy radar screens suddenly lighting up as dozens of unstealthy Gremlin drones appear seemingly from out of nowhere to conduct strikes, then return to a mothership, to simply vanish into radar-invisibility once again. The mothership would return to base, never having been detected. Ω



Ed. note: Winter 2015 NOON BALLOON (#108) was devoted to Flying Carriers, with a previously unpublished first-person historical account of 1930s hook-on flying ops as well as a reprint of our submitted proposal to DARPA to use long-proven LTA technology in this role. Follow-on airship proposals by AIAA LTA Tech Com members and their companies were even mentioned in Aviation Week, but we have no indication any LTA based technology was ever given serious consideration by DARPA or DoD. Not only setting aside LTA's success, this ignores the experience of the B-36/Goblin program and the more recent Iranian capture and apparent cloning of a US stealth drone. Having to first develop purpose-built RPVs, then adapt at least one launcher and one recovering C-130J aircraft to carry them, let alone the challenge of developing an entirely new carrier airplanes – even one for land operations, another for flat-top vessel basing as well - could suggest cost was not the primary consideration in the selection. Ω

Naval Airship Association Reunion

READY ROOM

We are getting very close to our 2018 NAA Reunion and the details are coming together. We will be sending details plus a registration form, all pertinent details and pricing very soon. We have tried to make a very complete and interesting itinerary and hope everyone enjoys it.

We start with arrival and hotel check-in on Wednesday, the 26. We have also established the Holiday Inn Express Hotel as our Reunion headquarters. They have given us a very good rate and excellent package for the Meet & Greet and Ready Room. The address is 898 Arlington Ridge East, Akron. Telephone 330-644-5600 and mention the Naval Airship Association for the Reunion special rate. The hotel is conveniently located for all of our activities.

That evening we will have an informal Meet & Greet reception and this year we will also have a 10 or 20 minute speaker to set the stage for our coming days activities. Thursday we will head for the Goodyear Wing Foot Lake hangar and hopefully get to see the just recently, this year, newly completed Zeppelin NT, *Wingfoot Three*. Wingfoot Lake is "Home Base" as well as the overhaul and repair station and construction facility of the New Technology Zeppelins her in North America. We will also take time to explore some Goodyear sites around the Akron area. The large airdock and the Akron-Fulton airport will be a special stop. The Akron and Macon rigid ships were built there as were the non-rigid blimps. Unfortunately, the Air Dock is a Department of Defense controlled area for Lockheed-Martin and is closed to the



The Goodyear Airship base at Wingfoot Lake is often referred to as "The Kitty Hawk of Lighter-Than-Air" and is the oldest airship base in the United States.

public at this time. On Friday we intend to visit the MAPS Museum at the Canton-Akron airport and tour their extensive aircraft displays and restoration shop. A number of other stops and side trips are being planned and details will follow. We will also make time for a tour of the Lighter Than Air Society workshop. The LTAS has quite an extensive collection of airship memorabilia that is extraordinary.



n Akron, Ohio ~ September 2018

On Saturday we will have a business meeting and cover the state of the NAA as well as present a new slate of officers. The rest of Saturday will be open to optional trips around Akron area or just relaxing. Saturday evening we will have our closing banquet, This year we will combine with the LTAS annual dinner. They have a busy evening of activity and I am sure the NAA members will enjoy it. We have the author of a recent book on the wreck of the USS *Shenandoah* as the guest speaker and there will also be some surprising presentations as well. I am sure everyone will find it exciting.

Hopefully we will have 3 days of exciting tours planned that everyone will enjoy.

– **Frederick R. Morin**

An email link will be sent out to everyone for discount motel rate from Holiday Inn Express in Akron. Here is the phone number for those who don't have email or would prefer to call the Holiday Inn, 330-644-5600.



We will hopefully see the new *Wingfoot Three* NT Blimp, which is home based at the Wingfoot Lake Hangar.



MAPS is the home of 42 aircraft including the Goodyear GZ-22 Advanced Airship Control Car. To this day the the GZ-22 was the worlds only turbine power airship.



The workshop and display rooms of The Lighter-Than-Air Society in downtown Akron.

Photo by Keith Adams



lin Air Dock at the Akron Municipal Airport will be on our tour schedule.



LUV STORY PLUS ONE

By Kiddy Karr

In June 1917, the Navy opened up a dirigible school at Wingfoot Lake near Akron, Ohio, where flight training was to be given in the Goodyear non-rigid dirigibles of the B-class as well as kite and free balloons. *[Photo, under construction, above.]* The commanding officer was Lt. Louis H. Maxfield, a mighty fine man. He had a big airedale named Lanny who quickly became the favorite of all hands except on chilly or rainy mornings when he would nose his way into the tents in which we slept and try to get in bed with us to get warm. He was very playful. If we paid no attention to him when he wanted to play, he would lightly grab our pant leg and try to pull us out, or gently nip a hand or leg to let us know he was there. His favorite sport was chasing rabbits in a nearby swamp. He would come back, joyfully galloping up the company street, covered with slimy mud. Then someone would go out and turn the hose on him, which he thoroughly enjoyed.

I believe it was in July when an inspection party arrived from Washington. It included the Assistant Secretary of the Navy, a couple of Admirals and some civilians. We were all lined up between the tent rows in undress whites but the officers were in dress whites with medals and campaign ribbons - a fine sight. Just as the inspection party started down the street, we saw Lanny emerge from the swamp and head for camp. The inspection party was right in front of me when Lanny approached from the opposite direction. He was dripping mud and green scum from the swamp but he was so happy to see his master he reared up, threw his legs on both sides of Lt. Maxfield's neck and plastered mud all over the front of that beautiful white uniform. "Down! Dammit!" he shouted, but the damage was already done. Maxfield was a sight!

No one dared to laugh, although it was a most

comical sight! At last, one of the civilians could hold it no longer and let out a rousing haw, haw, haw and everyone followed suit. The inspection parade went on, with a newly decorated skipper. From that day on, the name "Lanny" was never heard again. He was "Dammit" to all hands, even his master.

Dirigible flying always started very early in the morning when the air was most stable. Handling lines hung down all around the ship with a crewman on each. The pilot would sing out, "Hands off," and, if the ship did not rise fast enough, the pilot would order, "Hold it," and the lines would be grabbed and pulled down and more sand ballast would be unloaded. When the lift was satisfactory, he would yell, "Hands off," and open the throttle of the Curtiss OXX engine and away they would go into the wild blue yonder.

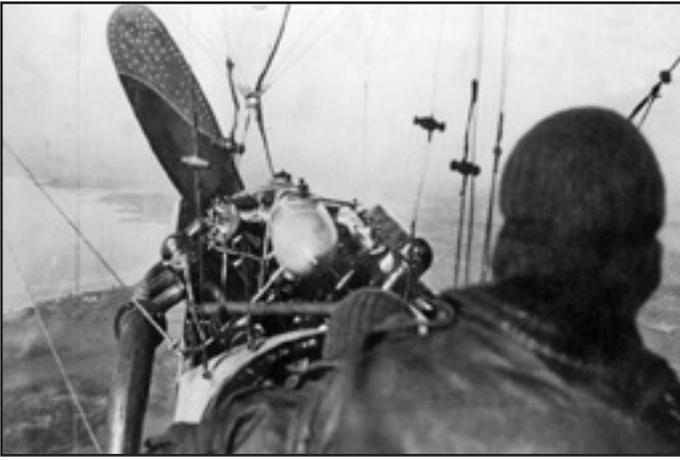
Dammit got the idea it would be fun to grab one of the handling lines and let it lift him off the ground and then drop back. Someone said, "Dammit is getting in his flight instruction!" It was a joke until Dammit got to hanging on too long and seemed to get a kick out of swinging around and wiggling before he would let go and drop down. This worried us all, so Lt. Maxfield ordered him tied to the framework of the hangar door just before takeoff. This made Dammit furious.

Nearly a week went by, but the leash held the dog. One morning, just as the crew got the "hands off," Lt. Maxfield gave it the gun, Dammit lunged against the leash and it broke!!! Like a shot he tore after the ship and gave a leap. He caught a handling line and was "up-up-and away." He hung on until he was at least 40 feet in the air. Evidently he did not realize how fast the ship was rising and, of course, hanging by his jaws he could not see how far below the ground was.

He was about level with the pilot's cockpit, so it must have been sheer torture for Lt. Maxfield. He had to look out and see his dear dog twisting and turning as he hung onto the line with his jaws while the ground slipped rapidly away. He couldn't do anything about it. The ship would have to be over 100 feet in the air before gas could have been valved out to bring it back to earth. And this would take time - far too long to expect Dammit to support his body with his jaws. So the flight had to go on.

It affected all of us. A cadet put his arm across his eyes and said, "I





don't want to see him hit..." Lt. Coil kept shaking his head and saying over and over, "No, no, no." At last, at about 40 feet, Dammit's jaws relaxed. He fell away from the ship. I saw him give a jerk and level out which likely saved his life. If he had hit on his tail it would no doubt have broken his back. Luckily, the ground where he hit had been plowed in the spring and was a little softer than the turf. But he hit with a loud thump and lay motionless.

One of the students picked him up and carried him into the hangar and laid him on a pile of ballast sacks. Everyone was sad because Dammit was a favorite with all hands. Then, one leg twitched and someone shouted, "He's alive!!!" and we all rushed over to him. Evidently the shock had knocked the breath out of him for he soon raised his head and wagged his tail. Later he got up on shaky legs and walked! There were no broken bones and in half an hour he was running around good as new and seeming to enjoy all the extra attention he was getting from everyone.

As Lt. Maxfield's ship approached for a landing, Lt. Coil said, "Get Dammit out there on the field so Lt. Maxfield can see him as he comes in." He did see him for he started madly waving his arms. So did the others when they saw Dammit was alive. It was touching to watch Lt. Maxfield when he got out of the ship. There were tears in his eyes when he took him in his arms for he had not expected to see him alive again. It must have been a very trying instruction flight for him with his mind on both subjects at once.

After quarters the next morning, instead of falling out and going to get the blimp out of the hangar, the duty officer just stood there waiting. When Lt. Maxfield and Dammit came around the corner of the hangar, Lt. Pennoyer called out, "Dammit, front and center." Lt. Maxfield marched him out in front of the company and said, "Sit." - Dammit sat! Then Lt. Pennoyer read to the animal an official reprimand for disobedience of orders (and general mopey on the poop deck) followed by designating him a "K-9 Aviator for lighter-than-air." Then a metalsmith hung a huge pair of wings made of tin around Dammit's neck.

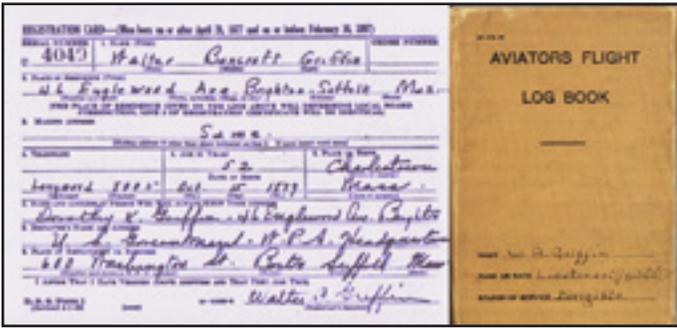
When he said, "Fall out." Dammit proudly trotted over to Lt. Maxfield to show him his "blimp wings," for he had indeed soloed in a blimp. Dammit had learned his lesson.

Never again did he make a move toward catching a handling line when a blimp started up! Ω



Ralph Pennoyer has given Dammit his cap for this pose of the first LTA class while air station Akron was still under construction. To his left is J.P. Norfleet, E.P. Culbert, Goodyear's Ralph Preston, and the C.O., L. H. Maxfield. E.W. Coil sits on the end. Preston had already set a record for flying the first B-ship from outside Chicago to near Akron.

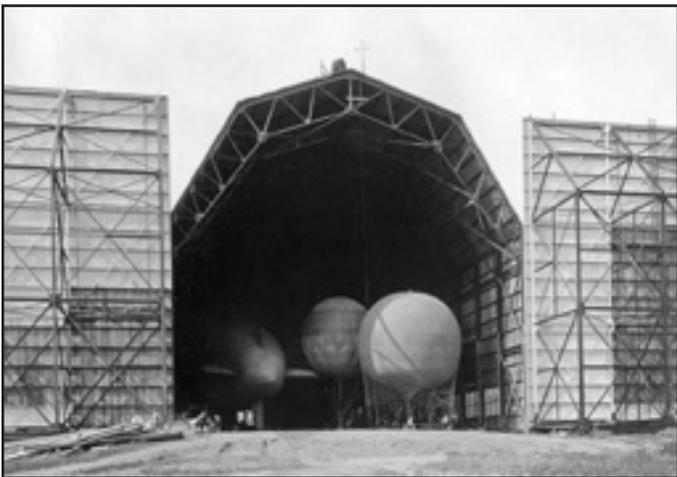
The Logbook of LTJG Walter Bancroft Griffin



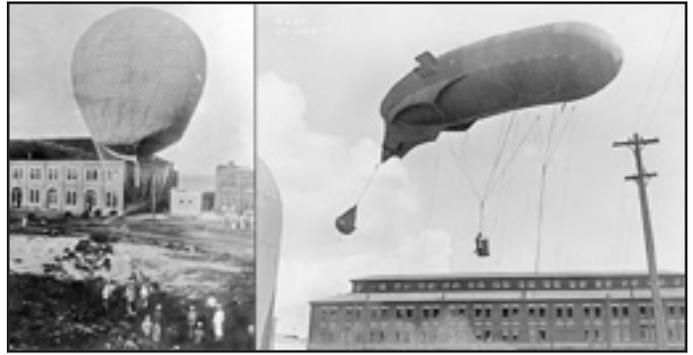
History Chair Mark Lutz has been working with Lorne Bohn (pg.23) to fill out more details about this WWI aviator, whose logbook reveals a great deal about the early days of LTA in the USN. There are two draft registration cards (between them, three different numbering schemes), a number of receipts for personal articles, and even a U.S. Railroad Administration form, authorizing the bearer to purchase a reduced fare while traveling on furlough. Note the “Branch of Service” blank is filled in “Dirigible!”

Date	Flight No.	Type of Balloon	No. of Hours	Character of Flight
1917				
Oct 4	1	FREE BALLOON	5:12-3:14	AKRON
" 5	2	"	5:19-2:05	"
" 11	3	"	5:11-3:45	"
Nov 9	4	"	5:15-1:40	"
" 16	5	"	5:41-1:43	PILOT
" 19	6	"	5:01-1:59	"
" 21	7	"	5:16-1:45	"
1918				
Feb 5	8	"	4:29-1:15	PILOT PENSACOLA
" 5	9	"	1:00	"

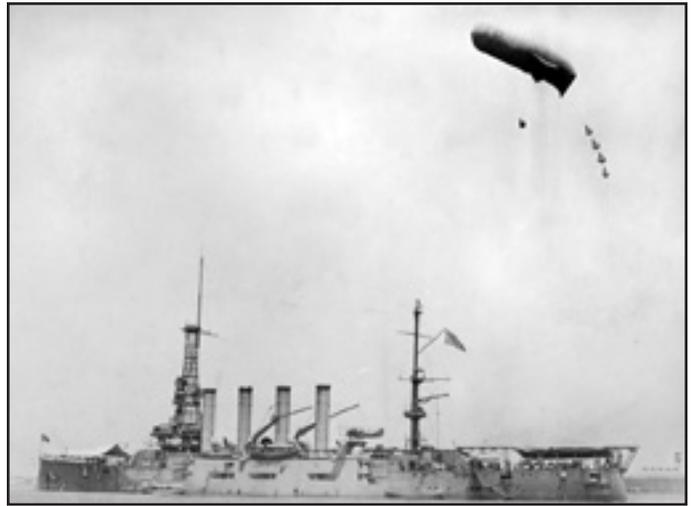
Hot on the heels of the first LTA class (see above), the log shows Griffin took free-balloon training at Akron; below, note the two balloons in use, next to the dirigible.



Griffin was then transferred down to Pensacola 100 years ago. There, more free -and kite-balloon flights followed.

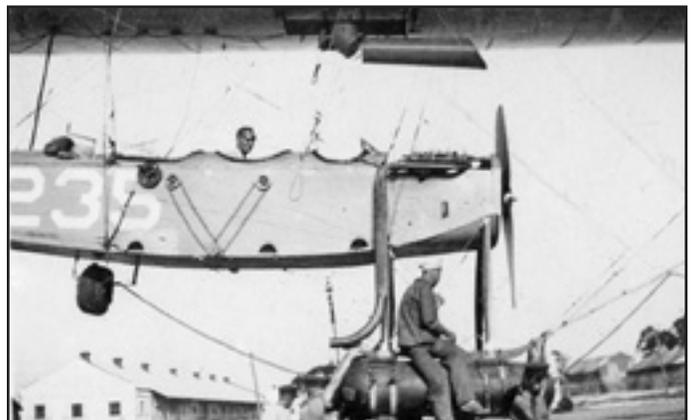


According to Pensacola’s history, their hydrogen generator was located between the buildings in these photos. Kite balloon flights from BBs *Oklahoma* and *Pennsylvania* are noted in the logbook, similar to the *North Carolina* below.



Griffin’s dirigible training began at Pensacola the first month of 1918, aboard “A-249” (later B-15), similar to the “A-235” (later B-1) but with a Connecticut Aircraft envelope, pictured at NASP below. (Note exhaust stack.)

Date	Flight No.	Type of Balloon	No. of Hours	Character of Flight	Remarks
1/10	1	"	"	"	"
1/28	2	"	"	"	"
1/28	3	"	"	"	"
1/29	4	"	"	"	"
1/31	5	"	"	"	"
2/1	6	"	"	"	"
2/4	7	"	"	"	"
2/6	8	"	"	"	"
2/6	9	"	"	"	"
2/6	10	"	"	"	"
2/4	11	"	"	"	"
2/7	12	"	"	"	"
2/7	13	"	"	"	"
2/2	14	"	"	"	"
2/2	15	"	"	"	"
2/2	16	"	"	"	"



Griffin won his FAI-ACA-B license in January, designated military aviator #311 and DBP #29. “Character of Flight” for the JAN-MAR 1918 page reads, “Flights made in training day and night- instructed by Boatswains Shade, Harrigan and Mullinax, USN.” Separate pages were used for free and kite balloon flight recording, noting “Flights #1 to #10 were made for the instruction of the enlisted men quarter-masters in the Dirigible Division.” After a couple more March flights in -249, Griffin was transferred to the brand new Naval Air Station, Chatham, Massachusetts, with its huge new hangar big enough for two dirigibles. Picking up with A-241 (later B-7) on May 22, and then A-246 (later B-12) the log reads, “All Chatham flights to July 19, 1918, were patrol flights over courses as given by the Commanding officer, except flights#19, 20, 28, 29, 36 which were tests.”



One of these operational missions is listed “convoy” at a rather incredible 43.5 hours. A hand written page reads, “Dirigible A-246, Heel brace on vertical stabilizer broke off at the rudder junction. Operated as a free balloon and salvaged by Swedish ship *Skagen* on July 21. No responsibility attached to the pilot. No disciplinary action taken. Envelope is at Akron for repairs. (signed) P. B. Eaton” James Shock’s book notes differing official accounts of the exact date, and has it as a Norwegian steamer. The airship (later designated B-12) and her crew were actually free-ballooning & ocean bobbing for some



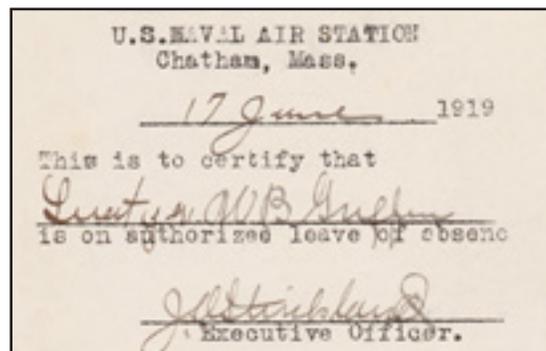
two days and nights before the steamer happened along.

Photos indicate a break in serial number assignments during which time airplane production had numbered in the thousands. Several B-type cars were rebuilt and assigned new numbers, including the A-5464 (later B-17) shown. Griffin flew the A-5465 (later B-18) about a month after the armistice. Sometime after this point, the serial number was no longer painted on the cars.



This is the only known photo of an ad banner attached to a B-ship, from the Library’s collection at NMNA. Griffin’s log shows the purpose of one mission was “Liberty Loan,” so it’s likely he was sporting a banner similar to this one which reads, “Wanted Blimpers Join The Navy.”

Griffin flew the A-5257, the seldom photographed “stretch” B-ship later designated B-20. The log’s last page covering 1919, shows the serial numbers no longer being listed under “Number of Machine,” with B-numbers taking their place. Though records suggest Griffin also served at Montauk and Hampton Roads, the log book only lists Montauk as a destination. He was out in the B-19 for two hours on May 20, “in search of the body of Lt. Ostridge.” The last flight listed, June 30, 1919 was a short hop in B-19 for a radio check.



Records suggest LTJG Griffin was discharged in 1921, MIT education is shown as “1927”, and he is listed as being a project engineer with Goodyear-Zeppelin on the ZRS-4 and -5 rigids. Returning to his native Plymouth, Walter Bancroft Griffin died at the age of 60 on July 23, 1949. Ω

Seventy-Five - Year Airship Mystery

By Commander John A. Fahey USN (Ret.)

There are two opposing versions of what happened to the Navy blimp K-13 on November 8, 1943. One month after this tragic airship accident, I was commissioned a Naval Officer and designated a Naval Aviator (Airship) at Naval Air Station, Lakehurst, New Jersey and ordered to fleet flight duties at Naval Air Station, Glynco, Georgia. I first learned about the K-13 disaster upon reporting for duty at ZP-15. I was assigned to the squadron's communications department. The first material to come to my attention were photographs of the crash of the K-13. The Communications Officer, a lieutenant, informed me that the photos were of no use, not classified, and mine to keep or place in the burn bag. I decided to keep them, thinking they may have some future historical value. On its reverse side, each photograph had the location (eight miles from NAS Glynco, Georgia), date taken (November 9, 1943), and a notation that it was not to be published by the press.

Although I was only a high school graduate, naive and even too young still to vote, I was well aware of airship tragedies. On June 8, 1942, the airship disaster closest to my family occurred off the coast of New Jersey. Two Navy blimps, G-1 and L-2, collided at night on a secret mission, entangled, 400 feet above the ocean, and plunged into the sea. My first cousin, Ensign Howard Fahey, was the only survivor of the 13 Navy crew and scientists in the two aircraft. Howard was a copilot in the L-2 and managed to escape through a window and swim underwater clear of the wreckage. Regardless of the classification of this wartime operation, the details of the tragedy were published newspaper headlines and subsequent official records, which has been the practice in the case of all airship disasters except that of the K-13.

When I possessed the photographs, I was told that K-13 would be rehabilitated. Five months after the crash, it was back on line. I flew as copilot in K-13 on April 1, 1944 and June 2, 1944. On June 19, 1944, I qualified as Senior Pilot. On July 13, 1944, I was combat airship commander of an 11.5 hour K-13 flight.

In more recent years, several sources claim the K-13 on that date exhausted its fuel in a 19.5 hour flight and was forced to make an emergency landing near Charleston, South Carolina. Both James L. Shock's excellent book, U. S. Navy Airships 1915-1962, published by Atlantis Publications in 1992/2001 and a *Houma Today* article in 2007 support this account. A call to Jim Shock had revealed that his source for the statements about the K-13 were from official Navy records. The absence of a K-13 crash on November 8, 1943 in any list of airship crashes

seems to confirm the information of an emergency landing near Charleston.

However, based on personal information, experience, and photographs, I am able to counter these accounts based on official records.



As can be seen by the photograph above, when the K-13 was found the day after the crash, the blimp's envelope and catenary curtain completely engulfed and tightly sealed the control car. There is no visible evidence that any occupants were able to exit. After the envelope was partially parted to reveal the left side of the control car, the plight of the crewmen (two radiomen, two mechanics, two riggers, and at least three pilots) was hopeless at the moment that the airship struck the ground. The attitude of the control car's impact caused all occupants to be hurled and piled into a heap in the front portion of the car. As can be seen in the photograph, the downward angle of the control car at impact indicates that the pilot had no control after fuel was exhausted in flight.

The wooded site is over 100 miles from Charleston, South Carolina area where the second version claims an emergency landing of the K-13 and then the deflation of the envelope.

In 2000, fifty-seven years later, I published my book, Wasn't I the Lucky One, which contains four photographs of the K-13 crash. At the time of publication, I had no knowledge of the false "emergency landing" Naval history version. Subsequent revelation of James Shock's book based on careful research of Naval records, and press articles like that which appeared in *Houma Today*, seem to explain why today the crash of the K-13 does not appear in any list. At present, it is an unsolved mystery why a violent crash, which very likely caused injuries (and possibly death), is being recorded in Naval history as an emergency landing over one hundred miles from the actual scene. Ω

The Many Talents of the French Balloonist “Nadar”

by Lorne Bohn

Gaspard Félix Tournachon (right, self-portrait circa 1860), more commonly known as “Nadar,” was deeply interested in science and politics but he made contributions in many fields as well. Nadar developed a fascination with ballooning at a time when most people believed the prospect of flying to be pure fantasy.



Tournachon earned the nom de plume “Nadar” because of his political cartoons and soon the name was shortened to “tourne à dard”-- the one who stings or twists the dart. The nickname was chosen by his Parisian Bohemian friends in 1839. He liked it so much that he shortened it to “n à dard” and finally to “Nadar.” He became very successful as a political cartoonist and in 1851, his banker encouraged him to expand into the new field of photography. His first real breakthrough came in 1851, when he came up with the idea of a visual record of the 1,000 most prominent Parisians in painting, music, theatre, opera and literature. He called it the Panthéon Nadar and intended it to have several installments. As a result of this success, Nadar became interested in photography because it provided an ideal way for him to keep track of all his subjects as they aged. This in turn interested Nadar to pioneer stereoscopic aerial photography which was an important step in the development of photo mapping and photographic reconnaissance.

The significance of photography in early aviation is often not fully realized. The late nineteenth and early twentieth century were a time when there was great interest in all sports. Aviation was regarded as a spectator sport and it drew large crowds who purchased rides and watched daring young men perform feats with their flying machines. Nadar became a pioneer in both aviation and photography. In 1858, Nadar became the first person to take aerial photographs. The Collodion photographic process did increase exposure times and caused problems in Nadar’s balloon photography. The balloon’s escape valve needed to be open to allow for ascents and a chemical action was formed on the photographic plates from gas escaping from the balloon and caused the plates to be contaminated by the escaping hydrogen gas. Once he discovered what the problem was, Nadar solved it by keeping the valve closed at crucial times and by fitting a thick insulating tent of a gas proof cotton cover over the balloon basket. His first aerial photograph “...was a view of the French village of Petit-Becetre taken from a tethered hot-air balloon, 80 meters above the ground. This was no mean feat, given the

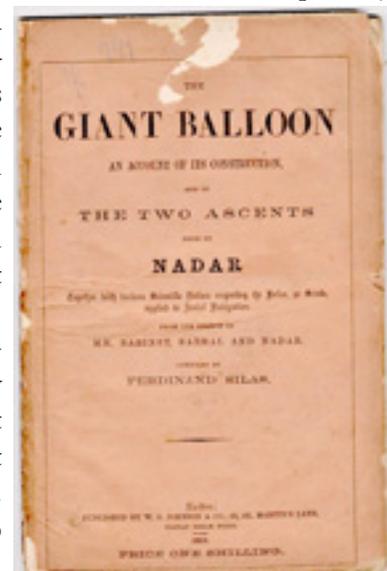
complexity of the early collodion photographic process, which required a complete darkroom to be carried in the basket of the balloon!”

By 1860, Nadar moved his studio and his home to 35 Boulevard des Capucines. The long exposure time required by the Collodion process led Nadar to invent photographic lights in order to conduct his photography. In 1861, he took out a patent for artificial photographic lights which he powered with Bunsen cell batteries. By the middle of the 19th century, Nadar had built one of the most successful photo businesses in the world.

The famous balloonist, Eugene Godard, the brother of Luis and Jules, was the Emperor’s Aeronaut and also a friend of Nadar. No doubt it was through Godard that Napoleon III requested that Nadar take photographs for the French government in the war against Italy, but Nadar refused, mainly on political grounds. Napoleon III even offered Nadar 50,000 francs to set up a military aerial photography corps for his upcoming war with the Prussians, but Nadar hated Napoleon III and declined.

Nadar thought that a good way to bring manned flight to public attention would be to use existing technology to build a balloon “of previously unheard of dimensions.” In order to show his own commitment, he used the money he had earned from his photography to finance the project and planned to recoup his costs by charging for rides. In 1858, at the age of 43 and being flamboyant and possessing a flair for theatrics, Nadar commissioned the prominent balloonists Louis and Jules Godard to construct a balloon that held 6,000 m³ (210,000 ft³) of hydrogen gas, 196 feet (60 meters) tall, calling it *Le Géant* (The Giant). His balloon was three times larger than a standard balloon and required more than 300 seamstresses to assemble. It took more than 22,000 yards of silk and required 5 years to complete. It drew considerable attention in Paris even while it was being constructed. The first English publication on its construction and the first two ascents were compiled by Ferdinand Silas entitled “The Giant Balloon— an account of its Construction, and of the Two Ascents” and is an English translation of the French version written by M.M. Babinet, Barrot and Nadar.

Le Géant was Nadar’s most noteworthy balloon accomplishment even though it was not a great financial success, because it only made two flights.





“Nadar’s Giant Balloon at Paris” wood engraved print published in *The Illustrated London News*, October 1863.

(Below) *Le Géant* being inflated in Paris as seen from the Camp-de-Mars on its maiden flight on October 18, 1863. The smaller balloon is 17,500 ft³. *Le Géant’s* gondola is just visible between the two balloons. Both the unusual event of balloon flight and its sheer size attracted a huge crowd. The launch was viewed by a crowd of nearly 20,000 spectators who were supposed to pay a franc each for admission. Many watched outside the ‘paying’ area.

The gondola of *Le Géant* had a balcony and was divided into six separate compartments which included a lavatory and a room for Nadar’s camera and equipment. It had small cabins, a lavatory, galley, darkroom, and space for up to 20 passengers. It first flew on October 4, 1863, and carried 13 passengers who paid 1,000 francs each.

When Nadar visited Brussels for a flight with *Le Géant*, he created quite a stir to the point that he erected mobile barriers to keep the crowd at a safe distance. The crowd control barriers that were used are still known in Belgium as Nadar barriers.

Le Géant’s second flight began well and was even witnessed by Napoleon III and the King of Greece. However, it became badly damaged when the balloon was carried along by a gale for 17 hours. A landing was attempted when the wind had subsided to around 30 miles-per-hour, but the landing anchors gave way and the balloon was dragged and bounced for miles before finally deflated. Nadar broke his legs and all the passengers, including his wife, Ernestine, were injured. This episode did not deter Nadar from his interest in aviation. Later, Nadar brought the balloon to England and exhibited it at the Crystal Palace exhibition hall.

In 1870, Nadar’s native home of Paris was put under siege by German forces, which cut off the majority of food shipments. This took place for four-and-a-half months beginning in September 1870. During the Siege of Paris, Nadar established himself with the title No. 1 Compagnie des Aérostatiers, with only one balloon, *Neptune*. He was instrumental in organizing balloon flights, which also carried mail to reconnect besieged Paris with the rest of the world. Some balloons also carried passengers in addition to the cargo of mail.





What was left of the basket of *Le Géant* after its 2nd flight of October 18, 1863.

At the beginning of the siege, tethered ascents were made to observe Prussian troop movements, but once it became obvious that the city was under siege, this became pointless. The focus of the balloons shifted to inform the world of the situation in Paris and a regular mail service was eventually established with a cost of 20 centimes for a letter.

Two workshops were established to manufacture balloons. The flight of one balloon accidentally set a world balloon distance record when it eventually landed in Norway. Of the 66 ascents that were made, five balloons were intercepted by the Prussians and three went missing, presumably coming down in the Atlantic or Irish Sea. The number of letters that were carried has been estimated at around 2.5 million.

In order to receive mail, the balloons also carried homing pigeons in order to create a "pigeon post". At first the pigeons were only used for official communication, but by November 4, the public was allowed to send messages up to twenty words at a cost of 50 centimes per word. Only 57 of the 360 pigeons released reached Paris and 60,000 of the 95,000 messages that were sent got delivered. Another Paris photographer, Rene Dagon, had developed the technique of photographing multiple letters mounted on a flat board. A single roll of collodion negative film could contain over 1,000 letters and was small enough to be carried by a carrier pigeon.

The siege lasted into 1871 and the result was the consumption of nearly every animal in Paris including horses, donkeys, dogs and even zoo animals which included wolves, an elephant, and even rats. Bismarck had ordered the city to be bombarded with large Krupp siege guns, which prompted the city's surrender. The siege ended on January 28, leaving a demoralized and starving populace in Paris that was damaged from shelling. Paris sustained

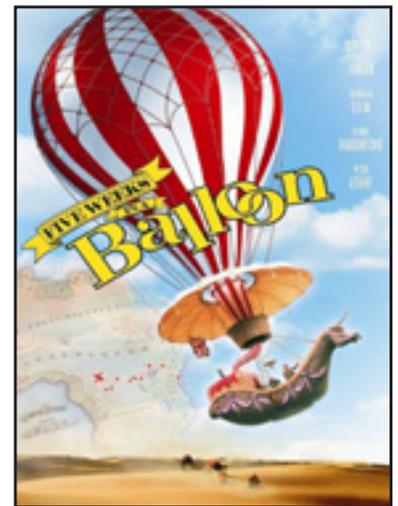
more damage in 1870-1871 than in any other conflict. The capture of the city by Prussian forces led to the defeat of the French in the Franco-Prussian War, which in turn played a major role in establishing the German Empire.

(Note for further reading: An American doctor, Robert Lowry Sibbet, from Pennsylvania, trapped in Paris during the siege, wrote a 580-page book about his experience in "The Siege of Paris by an American Eye-Witness," published in 1892. This book may be read on-line at the Library of Congress website.)

By April of 1874, Nadar lent his photo studio to a group of painters with whom he had become friends to present the first exhibition of the Impressionists. They included such names as Monet, Degas, Renoir, and Cezanne. Nadar's primary photographic interest remained in taking portraits but he also photographed Victor Hugo on his death bed in 1885. Nadar is credited the following year with having published the first photo interview, the subject of which was the famous chemist Michel Eugène Chevreul, who was then one hundred years old.

Gaspard Félix Tournachon, Nadar, was a most curious character of nineteenth century Paris and one of the last survivors of the romantic Bohemians. He once wrote that the three supreme emblems of modernity were 'photography, electricity and aeronautics.'

Nadar was an inspiration in other ways as well. Although Jules Verne was not an inventor, Nadar's balloon did inspire him to write the novel, "Five Weeks in a Balloon" [made into a film in 1962]. Nadar was also Verne's inspiration for the character Michael Ardan in his book, "From the Earth to the Moon."



Nadar led a very rich and fulfilled life and his story does have a happy ending, even though his exploits almost bankrupted him, but he managed to regain much of his wealth by 1885.

Nadar died in Paris on March 23, 1910 at the age of 89 and was buried in Paris at the Père Lachaise Cemetery. His studio continued under the direction of his son and long-term collaborator, Paul Nadar (1856-1939). Today, he has an annual prize, "the Prix Nadar" awarded in his honor for an outstanding book on photography that is published in France. Ω

MEDIA WATCH

The DEC 2017 issue of PROCEEDINGS of the U.S. Naval Institute offers an issue-closing photo of USS *Macon* in flight over Akron, Ohio. Inside, USNI VP A. Denis Cliff gives a brief introduction and then reprints a small portion of RADM H. B. “Min” Miller’s oral history concerning *Macon*’s final minutes. Years earlier, when making our first VHS video, the Ed. had asked to check out a copy of this oral history transcript, and as a USNI member, it was mailed for only the cost of postage. Decades later, when preparing the “Flying Carriers” issue of NOON BALLOON (Winter 2015), the policy had changed: no hard copy, but a digital copy could be downloaded for a price. Since our NOON BALLOON was going to re-create a slide show presentation put on by Miller that did not include very much about the airship’s loss, Ed. paid for the download and included this excerpt to fit chronologically in our presentation re-creation:

“One of the other pilots and I had made a scouting flight on the second afternoon [Feb 12th ‘35] returning to the *Macon* about four o’clock. At that time, the Commander-in-Chief gave us orders to return to Sunnyvale at our discretion. Shortly after five, after we had been flying at 1200 feet in a fog for about ten minutes or so, the bow suddenly gave a tremendous lurch to starboard and she nosed down violently. There were about ten of us in the [officer’s] smoking room, just abaft the control car proper. We were told to hurry to the bow--in the very extreme portion where the ship was moored to the mast when on the field... By this time we all had on life preservers and had broken out our life rafts--carbon dioxide inflated. By dropping the remaining ballast... slow up the rate of fall sufficiently to give us the gentlest of landings. Just like a feather pillow... When clear of the hull, a fire started and at last the cover burned off as she went down.”

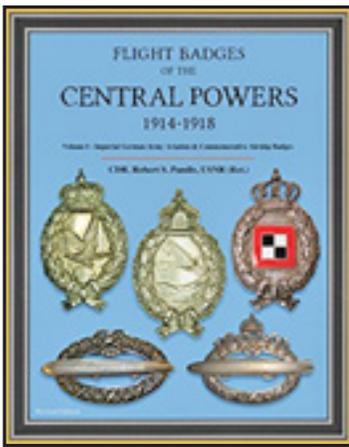


Oddly, though the PROCEEDINGS page was devoted to Miller’s loss recollections, this wording was not included in the recent USNI page. How is that possible? Probably because there are actually two sessions of Miller’s oral history that were transcribed in the document. And, like Miller’s recollections of that night as told to a popular magazine, some given details are different. (In a contemporary magazine interview, Miller notes the aluminum-rich flames were so bright they were reflecting off the water’s surface, illuminating the roundel.) Miller was not in the control car as stated on page 92; as one sees, the other version places him in the officer’s smoking room, and then heading to the bow. (William Clarke, at the rudder wheel, had told Ed. that skipper Wiley had ordered everyone but watchstanders out of the control car.)

Part of the fun of reviewing media’s efforts concerning LTA is spotting typos, from which sadly none of us are immune. In the USNI piece, the photo below left is i.d.ed as being Miller, but in fact it’s his shipmate, RADM Leroy Simpler, whom Ed. was so lucky to have spent a few hours with in 1980. Simpler was playing checkers with another pilot when he experienced the ship’s first roll. He said it was “old” (later VADM) Scot Peck who appeared to tell them to move forward. The very similar “selfie” below right, that actually is Miller in the F9C-2, was run and i.d.ed in USNI’s definitive but long out-of-print book on the subject by Dr. Richard K. Smith.

We’re always happy to see any LTA mention in any media, especially anything associated with the Navy, even if most of the time it’s from liability columns rather than the accomplishments side. With the utmost clarity we’ve ever seen in print, USNI included a newsreel frame enlargement of twin wheel-less Sparrowhawks hanging from *Macon*’s keel, the only know images of this late operational configuration. Too bad the only surviving example of an F9C-2 is currently just sitting on its wheels in NASM’s U-H Center as if it were but an ordinary airplane. Ω





Flight Badges of the Central Powers 1914-1918

Volume 1 – Imperial
German Army Aviation &
Commemorative Airship
Badges (Revised Edition
2015)

By CDR Robert S. Pandis,
USNR (Ret.)

Reviewed by C. P. Hall II

This book is the first of four volumes, two regarding Flight Badges of the Central Powers and two of the Allied Nations, all from World War I. It is a beautiful work, 8 ½ X 11 inches, hard cover, and just over 300 pages. The primary contents are photographs of the badges, front and back, with the occasional added photo of related personnel and aircraft.

Of special interest to NOON BALLOON readers is the section beginning on page 241 labeled VII. Commemorative Airship Insignia. The histories are brief, the photo reproduction, on glossy paper, is quite good. The author himself says, “The main purpose of this book continues to be establishing a baseline for the prominent badge producers. The study of silver marks plays heavily into this effort because the forger relies on ignorance of this subject matter to pass his wares. Fantasy engravings, aging techniques, original cases, crash damage, along with the classic veteran’s stories are all common means to fool the collector. In most cases, the forger does not know the history or the design details of the original badges so they get it wrong. Gaining both knowledge and understanding of original pieces will be your best defense against such counterfeits.”

Full disclosure, this reviewer (C. P. Hall) is not a collector. When a dealer calls me and says, “I have two copies of that book you are looking for: One in good condition for \$50, and an autographed copy for \$250.” I take the \$50 copy because I want the contents, not a souvenir. In this case, I am not one to appraise the value of the information because it is not a subject of which I am knowledgeable. The book strikes me as comprehensive. The author seems willing to admit areas of ambiguity which many writing such a book would not do. I am favorably impressed but acknowledge my own limitations.

I have no information regarding price and availability. The copy lent to me is a “Collector’s Edition.” This “revised edition” was originally copyrighted in 2011 and, again, in 2015. Library of Congress: 2015908219, the ISBN:978-1-4951-3784-6. Imperial House Antiques, St. Petersburg, FL 33706. The internet offering is w.w.w.imperialhouseantiques.com Ω

The JAN ‘18 AOPA PILOT features an article about the Kansas Cosmodrome Spaceworks, whose technicians “can scratch-build an airplane, or just about anything, and make it fly.” Their replica of Apollo 13 was made for the movie, and their replica of the Apollo Command Module is touring Europe in a traveling display. Their artisans and craftsmen are not necessarily former aerospace technicians nor are they supermen, just well supported, talented folks on mission. Likewise, Ed. continues to feel strongly our LTA community is perfectly capable of reproducing a 1918 “B” ship car if we put our minds to it.

The JAN ‘18 KITPLANES illustrates John Norman’s efforts to cover his *Spirit of St. Louis* part-for-part replica with authentic Grade A Cotton, for the last 25 years only being produced in England, and very expensive: \$26 per sq. meter. (Likewise local Irish linen, used for recovering after mob-frenzy Parisians had torn off souvenir patches, is \$47 m³.) While John bit that bullet for authenticity, avoiding just substituting modern longer lasting, less expensive Dacron or Poly-Fiber, “He has made a concession to history in avoiding nitrate dope. At the time the original *Spirit* was built, nitrate dope was used for the first three to four coats... but nitrate is highly flammable, even when dry. During WWI, when nitrate was used exclusively, a lot of pilots died when their planes caught fire. The burn rate is almost explosive, so John’s replica has no nitrate.”

Doubtless some would nonetheless cry foul to this common-sense concession to the fire marshal and insurance men. If we of NAA/LTAS/MFHS/NLHS ever do undertake re-creating a B-ship car, there will likely be disagreements as to how far we take the effort to re-create both form and function. When constructing their LZ-129 section replica, Zeppelin workers found a docile yet authentic-looking substitute covering that satisfied Museum underwriters. The KITPLANES article notes John Norman was given rare access to NASM’s original *Spirit* during an on-wheels cleaning, and he described its covering condition as “frail.” All its cotton string ties have long since rotted away. Perhaps they could share Popeye’s lament when fabric he’d grabbed started peeling off his airplane, “I need more Mucilage to me’ Fuselage!”

The February AIR & SPACE SMITHSONIAN cover story details the extensive flying museum collection of billionaire Paul Allen. At this spending level, seemingly hopeless wrecks and combat victims have been completely rebuilt into flying aircraft; in fact, the more combat history, the better. These include such rarities as a FW-190 D-13 model, with its Jumo V-12 engine, which will only be flown if another museum puts such a model on display. They evidently did some soul-searching when painting their otherwise absolutely authentic P-40 as a “Flying Tiger,” because though it had seen combat in Russia, that particular serial number did not serve with the AVG.

An earlier A&S issue covered a new company, ME262 Project, devoted to re-creating the legendary jet fighter. Their re-creations strive for authenticity but accept compromises - such as the substitution of more reasonable General Electric engines, carefully disguised inside authentic-looking nacelles. Plenty pricey, this simply won't do for the Flying Heritage and Combat Armor Museum. However, the ME-262's original Jumo 004 engines, one of the first jet designs committed to production, had a service life of only about 25 hours. So, even at the stratospheric spending level, some reality must creep in. Paul Allen's team hired Aero Turbine to analyze the primitive motors and improve the weak points with modern materials and techniques. Some would say their progress to date, which has tripled the projected life of the Jumos, is a good thing, making this piece of flying history a bit more practical to operate on an acceptable schedule. Others would disagree.

Doubtless similar debate will flare if we attempt to re-create a B-type airship car, similar to the "Project Zero" effort to re-create an SS-type airship car. Where is the learning experience, they would argue, if we don't nitrate-dope an acre of fabric to simulate the envelope? Where is the example of the dangers they faced 100 years ago? It would be similar fabric to the observation balloon of Lt. Cleo Ross, the only US Army balloon observer lost in action, when his balloon's flaming fabric fell on his parachute. Fire Marshall be damned, they would argue, it's living history. These guys aren't happy the L-8, ZP3K-47 and K-28 are not displayed complete with helium-leaking envelopes. How much is too much, how far is too far?

Since absolutely authentic materials may be uninsurable or have unrealistic shelf lives, any re-creation effort must walk the line between them and the possible substitution of modern, less expensive, longer-lasting similar-looking materials. Surely we can find a happy medium so the layman can appreciate most of the technology of our Nation's first production airship, 100 years ago, without its fabric suddenly bursting into flames from a careless cigarette. -Ed. Ω

NEGLECTED SKIES

By Angus Britts

Reviewed by C. P. Hall II

This could be just one of several books about how the Royal Navy had a head start in the development of aircraft carriers and naval aviation at the end of the first World War and 20 years later had fallen far behind both the United States Navy and the Imperial Japanese Navy, well footnoted perhaps, but nothing special; but it is not! This well researched little volume does cover that ground from 1919 to 1939. The author follows the Royal Navy's

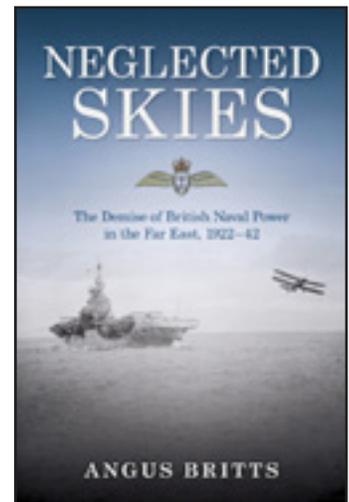
struggles and successes utilizing its aircraft carriers against the two Axis Powers without carriers of their own. The text follows a predictable pattern from the loss of HMS *Courageous* to the destruction of Force Z (*Repulse* and *Prince of Wales*) on 10 DEC 41.

The Japanese First Air Fleet attacked Pearl Harbor on 7 DEC 41, moved south in March to attack Darwin, Australia, then sortied into the Indian Ocean in an attempt to defeat the Royal Navy's Eastern Fleet and disrupt trade routes in anticipation of returning to confront the United States Navy in the Pacific. This Indian Ocean engagement, from the Australian perspective, is what sets this book apart. Most historians have declared that the sinking of *Repulse* and *Prince of Wales* was the moment that Australia felt vulnerable to the aggressive Japanese for lack of support from Great Britain. Angus Britts points out that by the end of March, 1942, Britain had assembled a task force of five battleships, three aircraft carriers, supporting cruisers and destroyers in the India Ocean under Admiral James Somerville who formerly commanded Force H at Gibraltar whose *Swordfish* torpedo planes had crippled *Bismarck* the year before. In this case, the Royal Navy had an intelligence advantage, a secret base of operations, and land-based air support. In this circumstance, what happened, what did not happen, why, and the eventual consequences is what makes this book worth reading.

I gave *NEGLECTED SKIES* four stars out of five when I reviewed it for Amazon. I would have given it five stars had the author done any one or more of three things:

- 1) Contrasted the Royal Navy's unwillingness to engage in April with the U. S. Navy's willingness to engage at Midway in June (which might have cost him a favorable hearing in the UK).
- 2) Had more than a single mention of lighter-than-air in the entire book.
- 3) Noted that when the Japanese threaten the American-Australian sea connection, the U. S. reaction was to invade Guadalcanal before the Japanese air base was completed.

The American version of this book is offered by the United States Naval Institute, has likely just been deleted from the holiday half-price list, but is an engaging read for those interested in the history of naval aviation. I suggest that you call now and ask if you can still get the holiday price! Ω



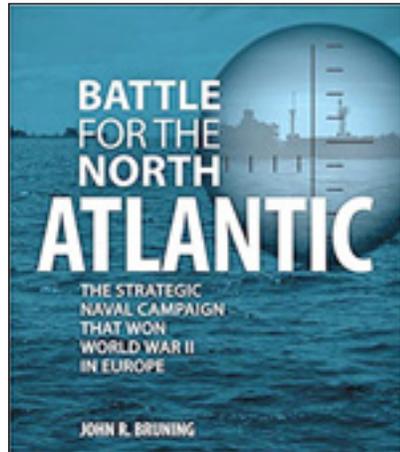
Battle for the North Atlantic: The strategic naval campaign that won World War II in Europe

by John R. Bruning

Reviewed by R. G Van Treuren

A while back, this new volume appeared to add to the mighty pile of tomes on the subject. (Of these, possibly the most famous are the books devoted to the subject by the closest author the USN had to an official historian for WWII, RADM S. E. Morison.) Discussing a book already being found on bookstores' remainder tables, and whose electronic version is at this moment notably more expensive to download than to actually hold-in-your-hands hardcover, might be reflective of Ed.'s expenditures for books with at least some LTA content to review. However, this one is notable I believe in its graphically rich format, starkly contrasted with, say, earlier books that had no photo sections, or the more common half-tone insert photo section in the middle of text pages.

What makes this book notable? Today, one tends to judge such a book not by its cover, but its many illustrations throughout, a fact leading to art directors often having the upper hand in their creation. Art directors love color and human interest, following



guidelines not necessarily driven purely by subject matter. A good example, a caption that actually is one of only three LTA- involved images therein, is found on page 95 in the chapter covering 1940: "While the convoys were ravaged by the likes of Prien and Kretschmer that fall, fast liners like the *Queen Elizabeth* (seen here), made swift transatlantic crossings, often alone. Their high top speed made them difficult targets for U-boats." It's a sharp, beautiful color photo occupying half the page. One can even see an escorting K-ship... in fact, I'll wager this was taken from the sable vantage point of a blimp. That's because what's pictured is not the *Queen Elizabeth* (described as a "battlewagon" elsewhere in the book) but rather the *Queen Mary*, and it's not 1940, but rather after V-E day, as the *Queen Mary* was loaded with returning troops. Escorting blimps were also taking motion pictures that day. "But, it's such a beautiful photo," I can hear an art director lamenting.

The sole text mention of LTA captions a standard PBY and K-ship pose as: "Two workhorses of the Atlantic War: A USN Consolidated PBY Catalina flying boat and an ASW blimp. Blimps were used by the United States as antisubmarine warfare platforms well into the early 1960s with postwar operations devoted to tracking Soviet submarines." We sure wish that date was right!

Its press release offers this summary: "The Battle for the North Atlantic began on the first day of the European war and lasted for six years, involving thousands of ships and stretching over hundreds of miles of the vast ocean and seas in a succession of more than a hundred convoy battles and as many as a thousand single-ship encounters..."

The book's epilogue uses an uncredited seldom-published view of a K-ship covering the surrender of the U-858, bypassing an available color photo or the more popular M-ship overfly of the escort. As of this writing the book can easily be found on bookstore's bargain tables, and of course on line. Ω

In response to the original USNI article we mention on page 26, MG William A. Gorton, USAF (Ret.) wrote into USNI PROCEEDINGS, stating in part, "It was particularly interesting to me because my father, Lieutenant A. W. Gorton, naval aviator number 1720, was the first [to hook on a U.S. Navy airship]. In 1929, he hooked up on the USS *Los Angeles* (ZR-3) during the Cleveland Air Races. Upon being hoisted up the airship, Lieutenant C. M. Bolster transferred to the front cockpit of the Vought UO-1 they unhooked, and landed at the Cleveland airport. Thereby, Lieutenant Bolster became the first person to change from an airship to an airplane in the air."

(Ed. will attempt to get a copy of this issue to MG Gorton.) Ω

A fairly long film about a small airship used for research in the tropical rain forest, "White Diamond," can be found at:

<https://www.youtube.com/watch?v=CjosaLvUoo&feature=youtu.be> Members will note some historical hiccups but the main subject seems interesting. Ω

Extensive discussions concerning cargo airships can be found at: <https://www.sciencedirect.com/journal/research-in-transportation-business-and-management> with some co-authored by our own Dr. Barry Prentice. Ω

Lockheed-Martin offers its entirely new plan to inspect the envelope of its hybrid airship at: <https://www.youtube.com/watch?v=86EAzvXrESg> Ω



As this is the final issue for 2017, we are looking into making a few changes to how we run the Club in order to keep operating costs down for 2018 without raising dues. Our largest expense yearly is the National Reunion held each year at Wynkoop Airport in Mt. Vernon, Ohio. Even with free use of the airport by owner Brian Wynkoop, Reunion costs are well over \$7000 with insurance, tent, tables, chair, Port-A-John and dumpster rentals, as well as food, water and miscellaneous other items required to put on a successful gathering. Thanks to generous individuals, about half of this is offset with donations during the Reunion as well as proceeds from our Reunion auction. Newsletters for the year run about \$2600 per year for printing and mailing. We then have around \$400 a year operating expenses to include printer ink, membership cards, envelopes, paper and other office items to keep things running.

The first item we have discussed is sending the newsletter to you via email instead of mailing or printing. This would allow you to receive full color newsletters and also have the ability to print them out if desired.

FOR OWNERS, RESTORERS, AND ENTHUSIASTS OF THE GREATEST AIRPLANE BUILT "ASK ANY PILOT"

The newsletter above, the first one of the year for the National Waco Club, came to Ed. by way of a member of that organization who'd flown in for our EAA Chapter breakfast and stayed for a chat. The photo of one of two Waco commercial airplanes purchased by the Navy, skyhook equipped and designated XJW-1, has not been published before to the Ed.'s knowledge. Note they are also considering an e-newsletter to avoid print costs. Ω



A yacht designer name of George Lucian has come up with a super new design he calls *Dare to Dream*. It appears to be inspired by radar-fooling new stealth design warships. For its mega-rich owner, Lucian equips the boat with a mooring mast capable of supporting operation of a rather exotic looking airship seemingly inspired by the classic rigids. Devil in the details, as they say. Ω



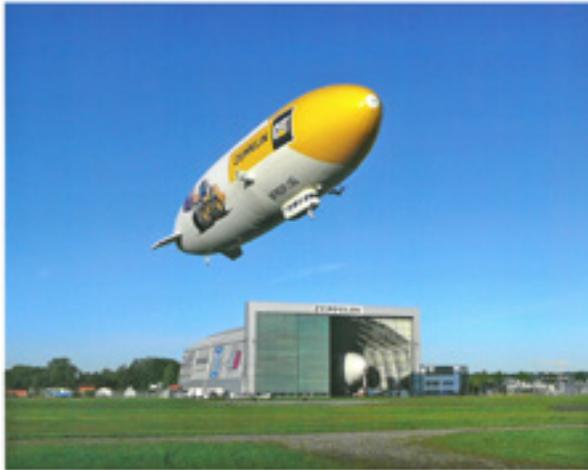
Friends of the Zeppelin Museum put out another interesting issue with discussion including the recent tour in association with the NordBau trade fair. Ω



One notices on the real airship social media hashtag: #FREIFLUG. If it seems unusual to associate a buoyant craft with heavy machinery, the companies have been sales partners for over 60 years – and it was not uncommon to see European heavy cranes, backhoes, front-end-loaders and the like emblazoned with “Zeppelin!” The issue ran the captioned photo below showing the observance of the 20th anniversary of the new tech Zeppelin. Ω



Von links nach rechts: Jesse-Scott Danneker, Jürgen Fecher und Stefan Unzicker, die Erstflug-Crew des Zeppelin NT, nach dem Jubiläumsflug 20 Jahre später, am 18. September 2017. Foto: © ZLT



Our comrades in the UK also covered the Zep-Cat tour story, as well as other news and an interview with a UK woman who brought her LTA experience to fly for Zeppelin.

Zeppelin NT (Promotion) - bel CMC



Revell 04820 - CMC-Versand.de

Revell appears to be re-issuing its Zep NT model kit with a new decal set reflective of the current tour color scheme.

An internet search for a LTA subject inadvertently landed this image, one of several showing how balloons are being used to loft irrigation equipment over Chinese crops. Ω



READY ROOM



NEWCOMEN
 The International Society for the History of Engineering and Technology



**ON THE ROYAL AIRFORCE CENTENARY, RAF100
 LEONARDO TORRES QUEVEDO AND THE RNAS**

Dr. Francisco A. González Redondo

Associate Professor of History of Science, Universidad Complutense Madrid
 Member of Newcomen Society, Airship Association and Airship Heritage Trust

On 1 April 1918, the Royal Naval Air Service (RNAS), the air arm of the Royal Navy, was merged with the British Army's Royal Flying Corps (RFC) to form the Royal Air Force (RAF). The RFC had been established on 13 April 1912 with a naval wing, a military wing a central flying school and an aircraft factory. Separated from the RFC, the RNAS existed formally from 1 July 1914, when three non-rigid airships built for the Army were taken over by the Navy: the *Wildebeest*, the *Parseval* ... and *Astra-Torres XIV*.



Manufactured in 1913 by French Société Astra to a tri-lobed design by Spanish Engineer Leonardo Torres Quevedo, at the outbreak of WWI Astra-Torres XIV became HMA No. 3, and was followed by more Astra-Torres airships (HMA No. 8, HMA No. 16) purchased in 1915. While the French Navy continued operating Astra-Torres airships, the original Spanish design was imitated in RNAS own manufactured autogrigids Coastal, Coastal Star and North Sea classes, almost 60 tri-lobed airships which played a role saving the UK from the German submarines menace since 1916 to the end of the War.

Venue: 75 Cowcross Street, London EC1M 6EL
 Date: Friday 16th February 2018, 6:30pm



DEUTSCHE GESELLSCHAFT FÜR LUFT- UND RAUMFAHRT
 - LUFTKUNST - OBERTH E.V.
 - Wissenschaftlich-Technische Vereinigung -
 &
 University of Applied Sciences Bremen
 Institute for Aerospace Technology



**Announcement
 - Call for Papers -**

**DGLR - Workshop XV
 Aircraft Lighter Than Air**

**„Morphology of Airship Design“
 - Application oriented design of airships, in the
 past and today -**

May 25/26 2018

at University of Applied Sciences Bremen
 Room ZIMT 409
 Flughafenallee 10, 28199 Bremen

**Please send your Proposals for Presentation until
 31/04/18 to:**

DGLR Fachausschuss L 2.3 - "Luftfahrzeuge leichter als Luft":

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 Hochschule Bremen
 Universitätsallee 10

Dipl.-Ing. Jürgen Fecher
 Zeppelin Luftschifftechnik GmbH Co KG
 Am Zeppelinpark 1

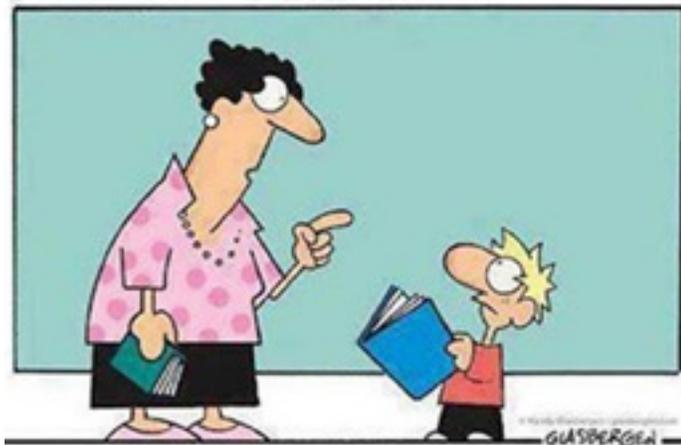
Naval Airship Association Reunion Akron, Ohio
 See pages 15-16)

BLACK BLIMP

John Chilcoat passed in August 2017. John joined ZP-3 in the summer of 1958, but after two and a half years, the LTA squadrons were decommissioned, so he spent twenty-six years flying Navy helicopters. He retired as CDR to a farm life. John is survived by his wife Marilyn and two sons. Ω



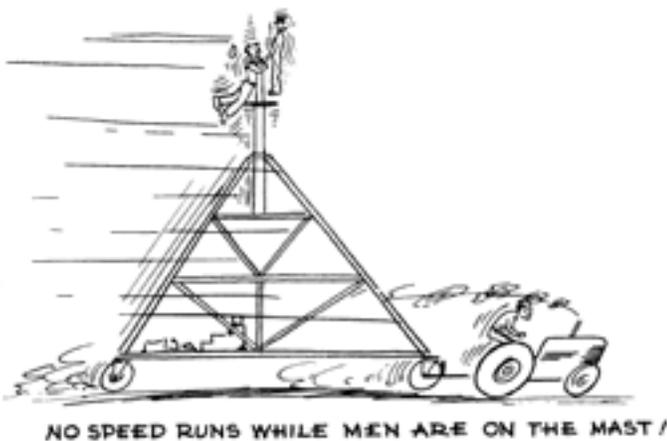
Farmer Jones reminds us that life is simpler when you plow around the stump, a bumble bee is considerably faster than a John Deere tractor, and always, always, drink upstream from the herd. ☺



It's called **reading**.
It's how people install new software into their brains.



Good judgment comes from experience, and a lotta that comes from bad judgment. So, remember, if you find yourself in a hole, the first thing to do is stop digging. ☺





Balloonfest, Albuquerque, New Mexico, Courtesy Steve Adams

Goodyear's Carson, CA Facility, Photo by Neal Sausen.

