THE NOON BALLOON

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The Official Newsletter of THE NAVAL AIRSHIP ASSOCIATION, INC.

No. 88 WINTER 2010

2010 NAVY AIRSHIP ASSOCIATION MOFFETT FIELD REUNION WRAP UP ISSUE

Zeppelin Nt #02 in happier days above Japan.

Johathan R. Trappe and his 'Chairway To Heaven' in a Jim Koepnick photo. This was flown under Part 103 (ultralight) rules. Insert photo shows Trappe in flight over Lake Winnebago as photographed from airship *Spirit of Goodyear* by crewman Mark Keitel.

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The only disability in life is a bad attitude.
~Scott Hamilton

One final look...perhaps...Moffett Field Hangar One

Photographs of the 2010 Moffett Field Reunion were provided by Ross Wood, Eric Brothers, Mark Lutz, Donna Forand and your editor.

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

THE NAVAL AIRSHIP ASSOCIATION

www.naval-airships.org

President
Ross F. Wood
13811 West Via Tercero, Sun City West, AZ 85375
Tel: 632-544-9435

Vice President \ Membership Chair
Fred Morin, Email: frmorin@comcast.net
PO Box 136, Norwell, MA 02061
Tel: 508-746-7679

Secretary - Treasurer
Peter F. Brouwer, Email: peterfbrouwer@bellsouth.net
1950 S.W. Cycle St. - Port St. Lucie, FL, 34953-1778 Tel: 772-871-9379

History Committee Chair
Al Robbins, Email: simplicate@comcast.net
5543 Old Colony Rd., Indianapolis, IN, 26226-1700, Tel: 317-547-7914

Technical Committee Chair
Norman Mayer, Email: normanmayer@verizon.net
1804 Mason Hill Dr., Alexandria, VA 22307-1933, Tel: 703-765-6060

NNAM / NAMF Liaison
Joe Hajcak, Email: jghajcak@juno.com

Small Stores
Donna Forand, Email: donna.forand@hanscom.af.mil

Executive Committee Member-at-Large
George Allen, Email: georgewallen@bellsouth.net

Immediate Past President
Herm Spahr, Email: herm1032@gmail.com

Reunion Chairman
Mort Eckhouse, Email: georgewallen@bellsouth.net

EDITORIAL

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

A 1980s comedy film opens to laughs as a professor complains about the "…short attention span of today's youth. Weaned as they are on television, young people today can't pay attention...[click] as the channel is changed. Skip forward a generation and the problem is far worse; internet advertisers only dream of keeping your eyeballs on their screens long enough [click] and the webpage is skipped. I used to complain our-airships-always-blow-up TV producers would never play the end of Herb Morrison's record, where he says "I sincerely hope you...you don't think it was as bad as I made it sound there at first." But today even their sound bite has given way to the short-download byte.

In an effort to offer public education to anyone staying awake past "The *Hindenburg* Exploded!" level, our VP Fred Morin suggested the creation of one-sheet USN-LTA history summaries. Each limited to a single sheet of paper to cope with today's information overload, with carefully selected photos, four distinct eras were targeted. Past-Pres. Herm Spahr came up with the postwar summary, Ed. composed the WWI, Rigids and WWII sheets, then all were passed around for comment. Posted on our site, downloaded or just printed and handed out the old fashioned way, perhaps we can add a little accuracy out there. In a recent example where they might have helped, the deadline-oriented internet search background for ABC News Diane Sawyer reported, "A big development in the skies above the Gulf today. An old Navy blimp moved to its Mobile, Alabama, base for its new mission, patrolling the waters and offering a new vital view of what's going on. Steve Osunsami is on the Gulf tonight." Steve reported, "the Government decommissioned it decades ago *[!]* but they brought it to the Gulf hoping that it can help them find exactly where the oil is washing up ashore. This airship is half the length of a football field and it left New Orleans this morning. It will hug the shoreline and officials plan to use it to identify wildlife caught up in oil slicks, and figure out where to send containment vessels and skimmers. The government says it makes more sense to use a blimp because it moves slowly and can stay in the air for long periods of time and they can put a full crew on board with cameras and heavy equipment off-loading at a few thousand feet in the air."

Even the 18-year service of the old J-4 would be proud of that longevity!

It was my pleasure to lend a hand – or in this case, a shoulder – to help support the NAS Richmond/Miami Military Museum. **Don Connover** had donated some outstanding keepsakes of his late father, and our own CWO **Anthony Atwood** (left) accepted them for the fledgling collection. Wilmer Connover had saved the Miami newspapers reporting the devastating hurricane-swept fire, the family having been stationed there at the time. More about that brick sitting on the post later on.

Debbie and I enjoyed the company of fellow Reunion attendees during one of the most memorable NAA gatherings in recent history. The world's most advanced airship, the Zeppelin NT, wowed the crowds. Those who chose to purchase a ride were amazed at the advancements made in LTA since the earlier Navy days. Thanks to the efforts of our treasurer, local members and friends at the MFHS a great time was had by all. (We were up against the deadline for this issue trying to co-ordinate all the many wonderful images submitted.) To have such a happy event marred by such an unfortunate traffic accident was unthinkable, and we can only pray that the Mayers and Ashfords are again hail and hearty by the time they read this. Ω

View From The Top: PRESIDENT'S MESSAGE

I am writing this initial letter, to the NAA membership, the day after the Reunion at Sunnyvale, CA. Before I could even get started, I was advised of a near tragic accident involving six of our members. Past President Bob Ashford and his wife, Phyllis, Paul and Helen Larcom, and Norm & Margaret Mayer, left the Sunnyvale Sheraton Hotel on Monday morning, after the Reunion. They were in a hotel shuttle van, going to San Jose Airport. At 1130, I received a cell phone call, from NAA member Donna Forand, advising me that the van had been rear-ended on the 101 freeway. The initial report was that everyone was taken to a hospital. Paul and Helen were uninjured and had been able to continue with their plans. Norm & Margaret were shaken up and Margaret had a possible hand injury, which turned out to be a bad bruise, and returned to the hotel. Bob & Phyllis had serious injuries and were being taken to the Stanford Medical Center Hospital. I was halfway to Los Angeles, to visit friends, and was unable to get further information until late afternoon. Bob and Phyllis had been in the back seat of the van. The young lady driving the van had been driving at 65 mph, but the traffic in their lane slowed suddenly to 20 mph. The van slowed but not the vehicle behind them. It was a classic "whiplash" situation and Bob & Phyllis got the worst of it. The initial examination at the hospital indicated that both had broken necks, with Bob being the worst. Fortunately, there was no paralysis. Bob was operated on the next day and Phyllis the day after. They will probably be in the hospital for one to two weeks. By the time you read this we will know far more. We all hope that the Ashford's have a complete recovery and return home as soon as possible.

Moving on to the Reunion, we had outstanding weather and enjoyed the Sheraton Hotel and Moffett Field. There were approximately 120 NAA members in attendance and about 40 of them took a flight in the Airship Ventures, Zeppelin, "*Eureka*". For me, it was the first time I had been in an airship, since June of 1960. For my wife, Ileana, it was her first flight and she was thrilled with the quiet, comfort and visibility. Airship Ventures is totally booked in the San Francisco Bay area. They do take the ship to the Los Angeles and Seattle area on occasion, and are very well received wherever they go. Looking ahead, they definitely plan on bringing more Zeppelins to the U.S. This, plus renewed military interest in LTA, is the wave of the future for the NAA. Speaking of the NAA, our organization is in excellent shape, thanks to the dedication and hard work of our retiring Pres., Herm Spahr, our Vice-Pres. & Membership Chairman, Fred Morin, and our own "Energizer Bunny", Sec. & Treas. Peter Brouwer. With Pete, we get two for one, because Betty Brouwer is a great asset. The Exec. Council remains largely unchanged and I will discuss that in the next report. The "glue" that holds this Association together is our own publication - "The Noon Balloon", most ably managed by Editor, Richard Van Treuren and published by David Smith. Richard is a prolific writer, but

he depends on the membership to supply him with tales of days gone by and the occasional photograph. Also, when you find someone who has an interest in LTA, tell them they can subscribe to a great magazine - TNB - for $25 a year, and we will throw in a free membership to the NAA! Such a deal! See you in the Spring.

Ross Wood - NAA President

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Volunteer Staff

Contributing Editors: NAA Members

Masthead Artwork: *Bo Watwood*

www.navyblimps.tripod.com

Editor: *Richard G. Van Treuren*

www.airshiphistory.com

Publisher: *David R. Smith*

www.gyzep.com

MEMBERSHIP COMMITTEE UPDATE

There is not a lot to report since the last update in TNB #87. Problems with a new computer have slowed my work in compiling an index of TNB articles and other relevant data for the website. This additional data input should make the website attractive to potential new members who are looking for technical information or doing LTA research as I have reported earlier.

The 100th anniversary of Naval Aviation will be celebrated in 2011 and we are currently compiling (4) data sheets on LTA to submit to the Navy centennial committee for inclusion in their centennial newsletter. The sheets cover the early years, the rigid airships, WWII, and the post Cold War years. The data sheets will be posted on our website as well. The Navy will also be hosting events around the country in conjunction with Navy Week events in major cities and at airshows, most featuring the Blue Angels. We are in the preliminary stages of discussion with the Navy for the NAA to have an official presence at some of these events. The Association of Naval Aviation, the AIAA, the Navy League, and several other Navy associations will also be present at certain events. We would like every NAA member that can to try to attend one of these Navy events. Wear your ZP caps, NAA cap or lapel pin and pass out some brochures (we have a large number printed, just let us know how many you want). It is important to celebrate this milestone in Naval Aviation history and the LTA contributions to that history.

As I am writing this the Goodyear blimp is sailing by my window on a flight to Plymouth Harbor, how coincidental.

Finally, as vice president and membership committee chairman I would like to personally thank our out-going president Herman Spahr. Herm has been a great supporter of my efforts to increase membership in traditional markets and non-traditional markets. He understands what has to be done to continue growing the membership rolls of the NAA. He has listened openly to my suggestions and ideas, encouraged me to go forward and has offered expert council when needed. It has been an honor and privilege to work with him and I hope to continue seeking his input and suggestions with new ideas.

Fred Morin, Chairman

TREASURER'S STRONGBOX

Happy Winter!! We were very happy to hear that everyone attending the reunion had a great time in sunny Sunnyvale, California, especially those that flew in the *Eureka*. I would like to thank Herb Parsons, president of The Moffett Field Historical Society, for his generous assistance in making this reunion a great one. Herb offered the use of the museum for the barbeque and our guest singers, "The Singing Blue Stars of the U.S.S. *Hornet*." Lots of good music from the 30's and 40's. We would also like to thank Pam Wright of Airship Ventures for her expertise in scheduling our 60 plus members who made the flights, and Brian Hall, founder and C.E.O. of Airship Ventures, as our guest speaker. Thanks to all!

We are in the process of collecting dues for 2011. Your renewal information was enclosed in your fall issue of *The Noon Balloon*. Financially, the NAA is in great condition. We thank each and every one of you for your generous donations. Check our website, www.naval-airships.org. New articles, pictures, memorabilia are always being added to the site. For information regarding the NAA website, contact Bo Watwood, Don Kaiser, or Pete Brouwer. If you have a story to tell, send it to our editor. After all, all you "poopie baggers" made airships a part of our history and what better way than a firsthand account.

WELCOME ABOARD TO OUR NEWEST MEMBERS!

Robert A. Greenleaf, Westfield, MA
Don Hartsell, Houston, TX
Hildred Isakson, Oceanside, CA
Tyson F. Wood, Medford, OR
Benjamin "Ben" King, Lancaster, PA
Bob Cook, Levittown, PA
Loren R. Wood, Sun Valley, ID
Craig C. Wood, Garden City, ID

DONATIONS
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James Vaughn
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Paul E Cyr
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Herman G Spahr
Arthur J Sullivan
William R Spahr
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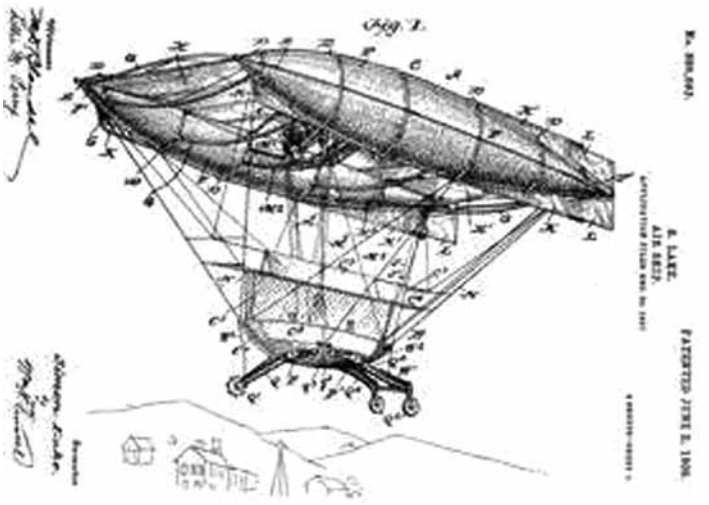
Edmund J Libera
Daniel Bowser
Fran Mayfield
Art V. Van Nostrand
Jack Bernstein
Jack Fredman
John D Martel
Raymond F Brahn
William Crawley
Don Hoover

DONATIONS (Con't)
Roseanne Belsito - in memory of her father, Natale "Tony" Belsito
Edward Pietrzak
Thomas C Slate
RobertJ Koeberie
William A Wright
Paul W Sedelmeyer
Pamela Kelly
Donald E Maurer
Chuck Myers
Woodrow W Smith
William F Whitbread
Harlan Wilson
James Yarnell
John Craggs
Kenneth P Braun
Robert L Delaney
Bruce G Bohl
Robert Kiefer

Peter F. Brouwer Secretary/Treasurer

Pigeon Cote



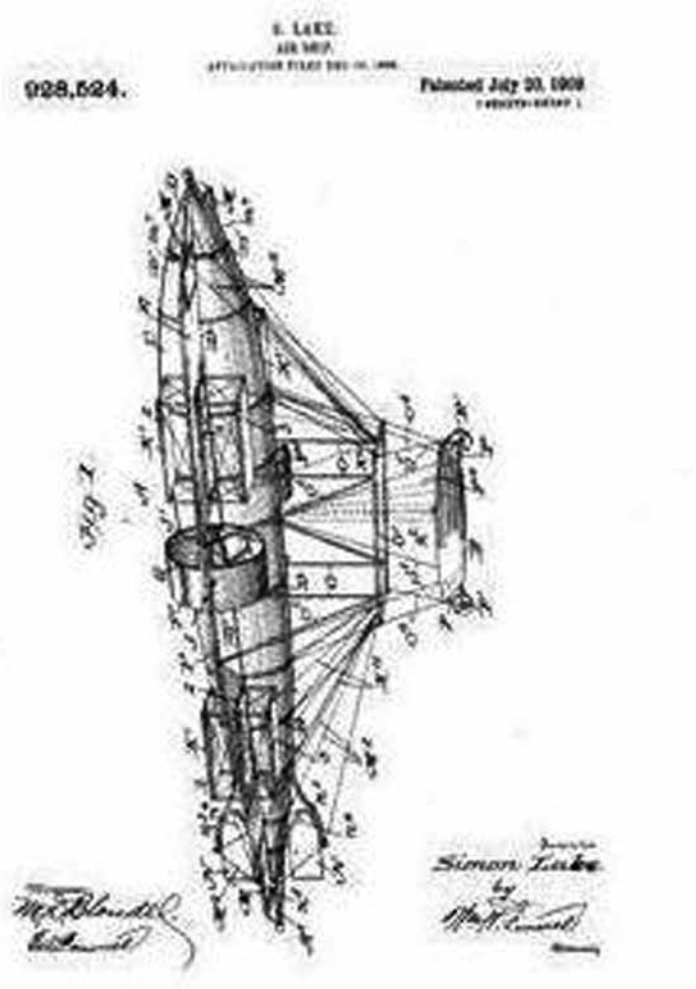
Al Robbins is working on building an LTA patent source, e-mailing: "My data base presently includes over 4,000 U.S. Utility patents related to lighter-than-air; nearly two-thirds of them issued before the introduction of the modern computer-based patent system. Older patents normally require at least two pages (The first figure and the Front page.) In addition, I've been developing an LTA Patent Calender, see attachment, superimposing the reduced figure and some notes, on the second column of the Front page. Since patents have been issued on every day of the year (including the 29th of February). Normally it is easier to read a patent on GOOGLE Patents than on the USPTO website, you can just scroll down through the entire patent. Google attempts to provide search capability on patents that are not available in full text format patents issued before 1975, but with very poor results.

Searching on UPSON's name surfaced only one patent. I've found 29 of Upson's LTA patents which can be read on either website; but only if you know the patent numbers. Of the other prolific inventors (Arnstein 25, Durr 16, Hall 29, Huch 15, Moore 17, Powelson 15, Struble 17, Yost 20) only one William Huch patent surfaced. Most of Upson's patents were assigned only a single modern subclassification (of the 30 primarily applicable to lighter-than-air technology).

It's a waste of time and money to submit a patent application which will almost certainly be denied, in whole or in part, because of prior art. Examining the prior art might prove very useful, before trying to advance the art; there have been a few advances in materials and processes since 1975.

According to Wickipedia, Simon Lake obtained nearly 200 patents during his lifetime (probably many were European patents). You can't find any of his patents searching by inventor's name either on the USPTO website, or on Google Patents. Checking on GOOGLE Patents under Inventor's name, you'll find only one U.S. patent listed. However, you'll find 124 if you search for "Simon Lake" under Exact Phrase (and limit the search to the period between 1880 and 1946. He died in 1945), primarily associated with submersibles, concrete construction processes, and marine engineering. Several of his patents preempted the German's Schnorkel "invention" by 10 to 20 years. He also received four aeronautical patents between 1908 and 1917; all four were incompletely or incorrectly classified when the Patent Office digitized their data base in the early 80's. You can find all three searching by patent number. In the first, p/n 889,693, he partitions a large hollow structure and fills it with a lighter-than-air gas. In the second, p/n 924,524, the large hollow structure may be filled with a lighter-than-air gas, particularly for long flights. The third, p/n 1,247,412, which references (improves on) his two earlier patents, is exclusively a heavier-than-air machine; no lighter-than-air gas involved.

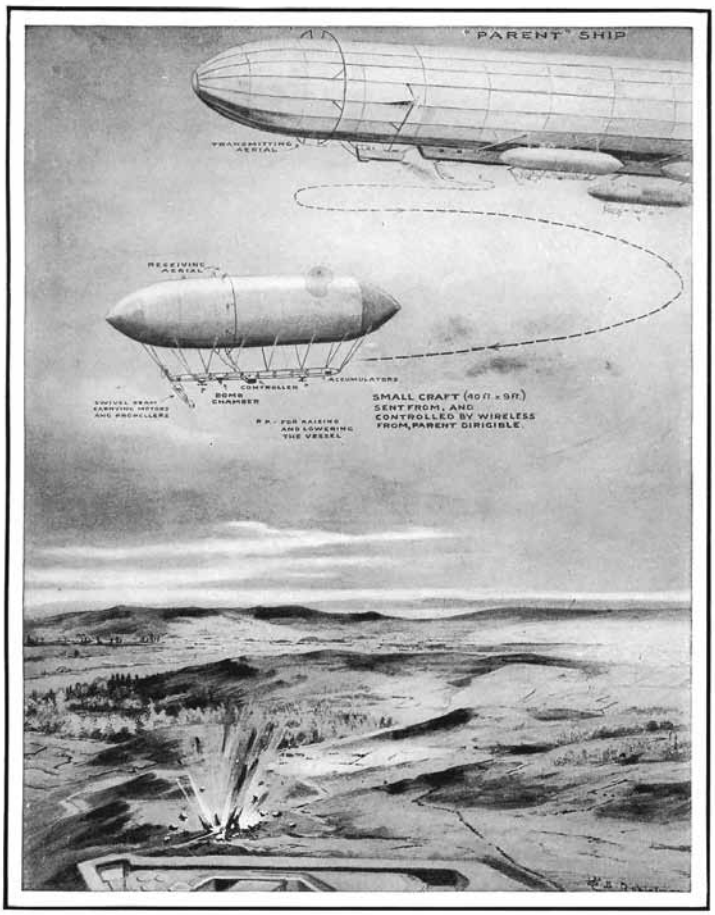
Unfortunately, the patents didn't explain why he continued to use a large hollow shape. (I haven't found anything to document that he tried to build any one of his three "air-ships", or had any other involvement with aircraft, except the fourth Heavier-than-air patent (p/n 1,772,049). Have any of you?" Ω



Bill Whitebread wrote Pres. Spahr, "I have enjoyed reading the Noon Balloon over the years. However, a recent issue let me know my senior pilot **Dick McComb** passed on. I kept in touch for many years – even two visits. I extended my sympathy to son Richard Jr.

I joined Dick's crew in Glynco, GA ZP-15 and after 6 months we went to ZP41 Sao Luiz Brazil for about 2 ½ years. We finally ferried a K-ship for major repair to Richmond, FL, and stayed there for temporary duty. The war ended soon after. We lost our ship to fire. The hangars were destroyed – many airships and HTA planes and autos lost. I think the picture *[above]* of McComb & company was taken at a ZP-42 base – *[possibly]* Fortelaza, Brazil. We were on an overnight visit. How or why I do not remember. Back row *(L to R)* 2nd Mech Freidman, LT Dick McComb, ENS Bill Whitebread, ENS Chuck Fenster-maker, Rigger J.S. Thomas; front row, (L to R) Radioman J. Rose, Rigger L.M. Thomas, 1st Mech McAloon, 2nd Mech Kelstrom. Ω

C P Hall found this concept *(right)* from back in the days when no one thought aeroplanes would amount to much. This is likely the earliest "flying carrier" concept, prior to WWI. Ω



TORPEDOES OF THE AIR; BOMB-DROPPERS DIRECTED BY WIRELESS

We have here a dream of the future when an airship will launch crewless, miniature airships, steered by wireless waves, and carrying bombs which can be dropped in any desired spot.

Norm Mayer *responded to Editor's request that veterans of formerly classified or just plain undocumented LTA projects come forward least they be the last ones left with such knowledge, e-mailing,* "A few comments on NB 86: Page 29 -YGAR - The photo shows a *[4]* K-ship so it looks like the Navy conducted the test. However, the requirement for remaining was part of the design for the ZS2G (5K) and had to be demonstrated by Goodyear. I was the Navy's witness on board the airship. All other personnel were Goodyear employees. The surface vessel was a small carrier. The test began with three people on the carrier deck standing in the basket. It is my impression that communication was by radio but it could have been by a phone line. Control of the winch was by one of the people in the basket. A significant amount of time was consumed before a hoist began due to the difficulty of the airship to maintaining a stable station above the carrier. The hoist had to begin with a vertical motion to avoid any sidewards motion across the carrier deck and perhaps spilling the basket. The first lift was finally accomplished. Verne Smith, one of the basket passengers and a veteran Goodyear pilot lost no time in reaching the cockpit and dressing down the pilots for not maintaining station better. Next was a demonstration of a descent to the carrier. I was invited to take the ride but declined. It was well done, however.
Page 30 - The photo of the vertical fin and the ZS2G. The airship was fully equipped with recording equipment for flight tests. One test was measurement to determine the forces on the fins. Pressures were taken on the vertical fin and one side fin during various maneuvers. These resullts were compared with those taken on a 1/15 scale wind tunnel model tested at the NACA Langley Research Center. The technician in the flight tests rode in the car. I hope this will remove some of the mystery regarding the photos."

Thanks to Norm for this unpublished info. Now what about you other guys… anyone ride in the YGAR basket? What was going on with what looked like an oversize fuzzy beach ball and simple rectangular cube frame suspended under an M-ship, that we have on motion picture? How were the heavy depth charges winched up and secured in flight on the 5K? And what about those other projects, incidents or even accidents no one ever put down on paper? Remember, gentle reader, YOU might be the last of your "kind." Get the story (and/or the photo) in the pages of NOON BALLOON before it's too late. Ω

J. Gordon Vaeth *wrote Ed.*, "One of the Lakehurst chapters I remember most was the series of free balloon flights made in 1945 by Lieutenants Paris F. Smith, USNR, and William J. Gunsher, USNR. Re-investigating, he practically resumed the Gordon Bennett races, having come up with one unusual flight after another. I knew both well. Smith was best man at my first wedding. Their most talked about flight was from Lakehurst to north of Québec, riding winds as high as 85 knots. Eventually, they landed at La Tugue in Canada after 1120 miles and 14 hours. Balloon and pigeons were lost -- Smith and Gunsher survived. He has written a description of the event and plans to send it to you. *[See page 26]* It… will fascinate readers of Noon Balloon. Included is his revelation that following the flight, Rosendahl placed him "in hack" because he had been ordered not to fly out of the state of New Jersey. Keep up the good work with the Noon Balloon. It keeps getting better every issue!" Ω

Herman Van Dyk – whose terrific new book was reviewed last issue – spotted one of ABC's A-150s on its unusual tripod mast at his local airport. This near sister of our Navy MZ-3A spots the industry's "most advanced video display screen." Ω

Al Robbins *was concerned about all the rumors of the second Zeppelin NT, operating in Japan (inside front cover photo), having "crashed." Al wrote to our trusted contact in NAC and received this reply:*

Dear Mr. Robbins,

Thank you for your contact and being worry about NAC airship's status. NAC had started new sight seeing flight service from central area of Tokyo Metropolitan from this April as per attached photo. *[Above.]*

NAC were going to increase its capital \300,000,000.- (USD 3 million) at the end of April by a candidate of new mother company, however they suddenly postpone to invest us one month that means end of May. Then at the end of May they did not do it finally after 6 months consideration. They prefer gold trade and real estate business for rich Chinese rather than our airship business.

We could not maintain working capital because of this sudden change mind of new mother company so that we had to start a process of bankruptcy of NAC. After that the Court of Jurist appointed an administrator of lawyer for NAC, I was removed from President nor director of NAC, then they dicided to finish NAC. The airship Zeppelin NT was owned old mother company Tochiki Kisen Co. Ltd. who also decided to disassemble the airship on July which is you saw by the photo. It was not accident but intentionally disassemble work of the airship. *[Below]*

I am very sorry to say that our all efforts to maintain airship operation in Japan had finished. Now I am on the process of company's and private bankruptcy by the Court according to Japanese law which will be continue about 6 months. We surely hope any people or companies of north America, success to you!

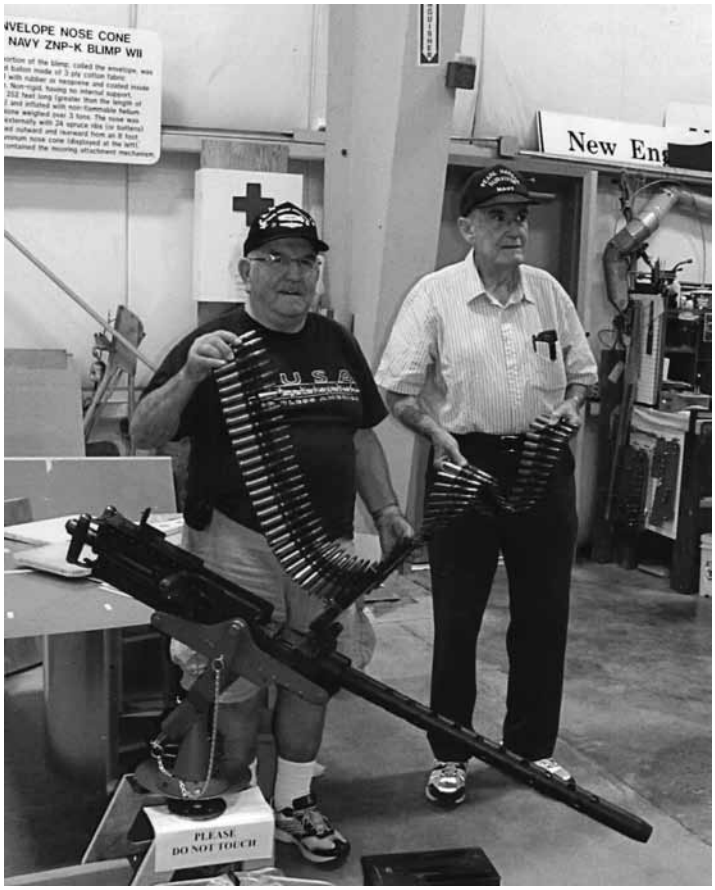
Many thanks, Hiroyuki Watanabe Ω

Excerpt from past POOPY BAG BALLONET:

Dick Leaman sent an interesting article which appeared in APPROACH September, 1958. He was the command pilot of a ZS2G-1 airship which had been forced to land in Bermuda due to severe weather conditions and, with both the weather and inexperienced ground handlers on the ground, plus some very tired men in the airship, he was instructed to "rip the ship." The AAR stated: "(T) he crew's ingenuity and 'can do' was called upon several times to refuel by non-standard emergency methods...." On board, besides Leaman, were CDR E.D. Nunnery, LT O.J. Shuler and Ensign A.A. Cather. Ground personnel: LCDR C. Manship, LCDR H.C. Kock, LT F.N. Klingberg (Wasn't he at Weeksville in the 50s?), LT. L.A. Ahrendts, ENS J.M. Gowdy, Jr., and CPO Makowski. (Note: I believe John Sciambra was the ground handling officer.)

To me, one of the most exciting things I received was from Bob Forand. It was some copies of FLEET AIRSHIPS ATLANTIC Monthly News Letter. In it were names which many of you may recognize, such as the list of those 26 officers who received medals for the first mass transoceanic blimp flight; of Lt (JG) C.A.H. ReKredre's delivery of medical support to Army personnel; of Lt (jg) Rapstine's search for a missing C-54; of Lt (JG) B.W. Alderman's F7F search; of the rebuilding of the K-123 and of it being christened with a bottle of champagne from Ensign Symington's larder; of the assist given by Lt (JG) DeForest, Engineering Officer; and of the K-96 out of La Chorrera being diverted near the conclusion of its training flight to assist in the recovery of a downed P-39 pilot floating around in his one man raft. The mission was accomplished and received a "thanks and well done" from Fighter Command. The pilot? LT (JG) **Harry Titus**.

I received some clippings: Jim Flenner sent a story on NAS Richmond, its building and its loss during the hurricane. Fourteen of the 25 blimps destroyed were inflated and of the 366 planes lost, 213 were Navy. John Iannaccone sent info on Frank Piasecki's Heli-Stat which costs $37 million or more. More, according to the GAO who says it's an Albatross. Hollie Bunnell sent some on the new Canadian airship undergoing tests for the Coast Guard at Weeksville. Peter Buckley, formerly with Goodyear, is the pilot. Gary O. Briggs wrote with poop on the Grace airship being built in Oregon. He has several works on airships he'd like published. Ω

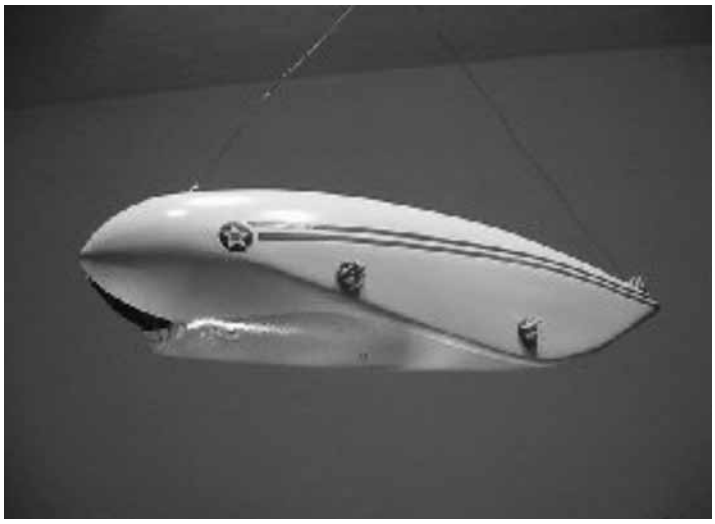


John Craggs e-mailed, "NAA members **Dick Trusty** (above, left) and **Bob Greenleaf** (right) have donated a .50-caliber machine gun belt to the New England Air Museum in Windsor Locks, CT, for display with K-28. Dick donated the live rounds and Bob deactivated and reassembled them, and mounted them on the belt. Every fifth round is a tracer. Dick is a former blimp crew member. Bob is a Pearl Harbor veteran, and a gun and ammunition expert. They both live in Massachusetts." *[Ed reminds members the NEAM effort to restore the K-28 to wartime trim is the only realistic chance we have of showing a K-type airship as it was in WWII. Although purchased by Goodyear and de-militarized following the war, its structure was not cut or otherwise heavily modified. Our magnificent ZP3K-47 in NMNA was of course extensively improved as a 3K and is now restored to this postwar elegance. The NASM's ZP2K, while still in possession of its machine gun turret, is unlikely to be retro-fitted backwards when it gets to the head of the restoration line in Washington. "Bravo Zulu" to the K-28 restoration team at NEAM.]* Ω

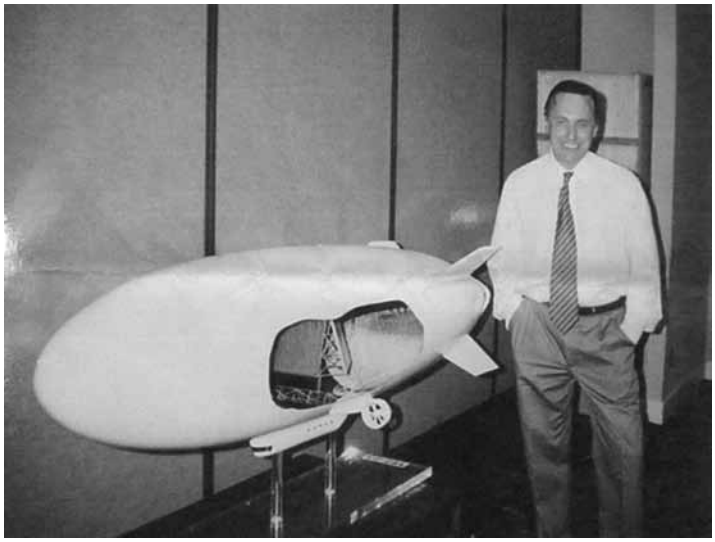
Roy Gibbens e-mailed, “Just took a picture of my 1983 "Hybrid Airship" from a low front view. How does it match with the Northrop Grumman low front view?

My sister-in-law, Marjorie (Scanlan) Gibbens worked in an office on Dinner Key during the war and she sold enough bonds to "Win a Flight" on a K-ship stationed at Richmond.”

Roy, seen in this 1999 photo, has adapted his earlier design, and also e-mailed: “This *[new]* design replaces my 1983 (Hybrid) airship, however, it still retains a "Lifting Body" and uses cycloidal propellers for additional lift and thrust. The propellers are set at an angle to keep the area under the airship clear from the down wash (common with standard propellers) while loading/unloading cargo. Through the use of cycloidal propellers the airships "Tail Fins" are no longer required, thus reducing large surfaces and their heavy structure.



The ship (above) is designed to be "Rigid" with an aerodynamic composite shell to allow for airspeeds above 100 knots. The use of a rigid shell allows the ship to retain it's shape regardless of pressure and temperature and it will make it more "Damage" resistant. The shell, if damaged, can be easily repaired. (In the term "AirLighter", "Lighter" is for the "Transportation of goods", not lighter than air.)



Roy also sent along this photo of the U.K.’s Roger Munk in happier days, when the Navy was funding a new radar-carrying airship and it looked like the long wait was finally over. How ironic that Munk passed away, as we reported in issue #86, a matter of days before his company’s partner Northrop-Grumman signed a contract with the U.S. Army for their new hybrid airship, the LEMV. Ω

Harry Titus *e-mailed,* "In the Fall, 2010, edition of the NOON BALLOON, I read some interesting things, things I either knew about or was involved with.

One item was Case 16: The loss of the K-64 on 16 October, 1943. I was a cadet at Lakehurst then, having come from Moffett in that first contingent of Cadets and APs to do so. (Incidentally, that cross-country trip will never be forgotten by those of us who made it.)

While undergoing more training at Lakehurst, the powers-that-be decided that the Lakehurst group would graduate first since we Moffettiers had not had all of the training required—according to them. In that first group was one cadet (we will call Brown) who had a distinctive feature different from most of us: One brown eye; one blue eye. On this newly commissioned Ensign's first flight, the K-64 was ripped by the K-7 and it crashed into Barnegat Bay with a loss of eight men, the newly commissioned Brown being one of them.

When the car was returned to Lakehurst, we cadets examined it out of curiosity, only to be shocked when we saw Brown's new flight jacket lying on the deck.
How lucky for our group not to have been first.
Another item: Drift sights. When navigating on those long night patrols, I spent a lot of time utilizing one to determine wind direction and speed. (I became known as "Drift Sight" to my crew members.)

On one dark and stormy night, I was taking my hour of rest in one of the soft chairs when I was suddenly awakened by the Command Pilot asking: "Harry, where are we?" How in the hell would I know. I had been asleep. Anyway, back to the drawing board and the drift sight, I recomputed track and distance, took some bearings on radio station's beams and gave the CP our current position. (He was a strictly-trained Lakehurst pilot and had very little night-over-water time.) Another time: Landing very light airships at Richmond." Ω

Hugo "Bud" Keller *e-mailed,* "Comments on two articles in Issue 87 of TNB: First - "Fire - K-ships WW2" Case l7 K94. K94 was a ferry trip from Richmond to Trinidad ZP-5l.

Until August l944, ZP-5l had no hangar. All servicing was done on mast. After a year the fabric of the envelope was considered unsafe so new bags were installed at Richmond.

The official version denies that there was a collision but there were Puerto Rican fishermen who observed the fiery collision, which occurred over the Puerto Rican Trench, the deepest in the Atlantic. The only wreckage recovered was the radar spare parts box, burned to the waterline.

Second - "Nose Art". A K-ship at Atkinson Field British Guiana had its nose adorned with a portrait of Ilonna Massey, a Hollywood star or starlet who was with a USO troop. She was attracted to Jay Kurtz, blimp pilot - said attraction mutual. She stayed four days - a knockout, beautiful woman. B.G. was a satellite base of ZP-5l.
I was an ART l/C ZP-5l from April, 1943, to August, 1944. Noon Balloon gets better and better - thanks to the great staff. Ω

Dr. Addison Bain *e-mailed,* "I note in NB #87 "Gas costs for the few remaining blimps increased ten-fold when NASA took over helium management from the Navy and began stocking only the purest helium."

The Helium Act requires all Government users to purchase all major helium requirements from the Bureau of Mines. Prior to about 1960, helium was available through the Air Force Logistics Command under their stock fund arrangement to support early Cape Canaveral Air Force Station needs. When the first converter/ compressor facility (CCF 34/37) was built in 1962 NASA purchased all helium from the BOM. Helium was delivered to an offload station at Complex 39 south of the VAB via railcar. Helium was transferred to tube trailers and dispatched to using sites. When CCF 39 was completed, the helium was delivered directly by railcar. In 1996 KSC constructed a liquid helium receiving and conversion (to gaseous helium) station at the CCF 39. This was prompted by three factors. One was the 1996 amendment by Congress of the Helium Act that caused the Government to cease the production and refining of helium. The second was that the railcars had a 40-year limit on their use for transportation. The other is that liquid helium was commercially available (this had to be reported to BOM). In 1963 Air Products and Chemicals, Inc., proposed a helium recovery plant at CCF 39 to recover and purify the product for reuse. The project was not considered practical at the time. The "price" on helium was set at $35 per thousand SCF and was expected to remain at that price. The other factor was we were told there was enough helium to last 100 years. NASA bought helium to Mil spec P-27407. We did not "stock" helium. Ω

MZ-3A Gulf Deployment

Our last cover story having reported MZ-3A's reactivation and deployment to Yuma, we were able to slip in some media reports about its journey cross-country. As reported at last issue's press time, NAA Pres. **Herm Spahr** *had urged the CG Commandant to consider use of the Navy's and other airships, Herm received an answer:*

"Dear Mr. Spahr:

Thank you for your letter dated June 12, 2010, recommending the use of airships for the Deep Water Horizon spill response. Airships indeed serve as a valuable force multiplier. For that reason, we are employing the Navy's MZ-3A ship for command and control of skimming operations, and to survey the spill area. The airship plays an important role in our coordination of this historic response.

As of July 8, 2010, the Unified Area Command (UAC) was coordinating over 100 sorties of aircraft daily in the operating area in addition to the nearly 800 flights that normally operate in the Gulf. However, I have forwarded your letter to the UAC for their awareness of your suggestion. Should a need arise for this capability, the UAC will consider the deployment of commercial airships in the response.

Thank you for your suggestion, and for your service to our country. [Signed] Kevin C. Kiefer, CAPT, US Coast Guard, Staff Director, National Incident Command.

With reports coming in from The Wall Street Journal to Popular Science to local newspapers, we will try to include highlights though there have been many mentions, even on TV (See Editorial), beginning with the move from Yuma late in June:

Navy blimp stops at Las Cruces airport
By Steve Ramirez / sramirez@lcsun-news.com
Posted: 06/28/2010 10:55:48 PM MDT (excerpt)

LAS CRUCES - It wasn't one of those new-fangled space vehicles that will be flown out of Spaceport America, north of Las Cruces, but the U.S. Navy blimp that has been at Las Cruces International Airport is just as interesting. "It's roughly the same size [as the Goodyear blimp]," said Adam Creadore, a contractor for the Navy who flies the blimp. "But it has many more utilitarian uses." Creadore said the blimp is a good use by the Navy. "This will be an excellent airship to use over the Gulf because it has the ability to loiter in air over one particular place," Creadore said.

"It's also a great 'green' aircraft to use because it uses far less fuel, creating far less emissions, than other airships."

[Next stop] MOBILE, Ala. - The U.S. Navy MZ-3A airship arrives at Brookley Field in Mobile, Ala., following oil-spotting duty in the Gulf of Mexico, July 12, 2010. The airship was requested by the U.S. Coast Guard to support Deepwater Horizon response operations."

[Next] NEW ORLEANS – The Navy's "MZ-3A Airship" is currently en route to the Gulf Coast to be used in the Deepwater Horizon response, the largest oil spill response in history. The airship is more economical to operate and can stay aloft for longer periods of time than helicopters or airplanes already in use. Because the airship travels slowly, it will be a helpful platform for aerial observers looking for marine mammals and other wildlife that may be in distress.

While the airship's primary mission is spotting and monitoring oil to support command and control of skimming operations, the locations of animals will also be passed to the Incident Commands so that vessels and crews can be dispatched to assist wildlife. The airship will play an important role in achieving the goal of saving a way of life with the massive response.

The airship, the first to be used in the oil spill response, began its flight last month in Yuma, Ariz. It is expected to arrive in the Gulf Coast sometime after July 6, weather permitting.

The airship will operate from a mooring three miles southeast of the Mobile Bay shoreline. "The airship will operate relatively close to shore, primarily supporting skimmers to maximize their effectiveness," said U.S. Coast Guard Capt. Kevin Sareault, Deputy Area Commander for Aviation, Unified Area Command, Deepwater Horizon Oil Spill Response. "While different sensors are being considered, one of the primary means for locating

oil will be by simple visual observation by the embarked aerial observers. The mission of overflights is to locate and direct surface assets to actionable oil - that is oil that can be burned, dispersed or skimmed."

Some of the sensor options under consideration include electro-optical, infrared and radar sensors, tools already in use on other response aircraft. The sensor packages are scheduled to arrive during the week of July 12 and will take several days to install, test and evaluate.

Two potential advantages of airship monitoring of oil in the Gulf:

1. The airship can operate for a 12-hour endurance period, much longer than airplane or helicopters.
2. The airship is more economical because it can monitor a larger area and is less expensive to operate compared to fuel and manpower costs for several helicopters to cover the same area.

Popular Science (7/6, Dillow) reported, "The Navy's massive MZ-3A airship is expected to arrive in the Gulf sometime today (or perhaps a bit later -- airships travel slowly and are subject to the whims of the weather) to support and coordinate skimming efforts and keep an eye out for injured animals along the coastline." The airship will begin its travel from Yuma, Arizona. The "real advantage of having an airship on hand is its low operating speed. The MZ-3A can stay aloft continuously for 12 hours while monitoring a large swath of territory at low speed, greatly enhancing the capacity for raw visual observation and helping crews to coordinate skimming, burning, and dispersing efforts below."

"A blimp airship recently arrived in Gulf Shores, Ala. from New Orleans, July 10, 2010. The airship completed its first full operational mission and is now scheduled to fly twice daily, weather permitting. The blimp airship has been successful in providing useful data that has aided in directing skimmers to oil, detecting broken/damaged boom, and is capable of detecting oil-distressed wildlife."

Hickory *Daily Record*, July 10, 2010, ran a photo with the caption: "The Navy's MZ-3A airship flies over boats docked in Lake Pontchartrain to support the largest oil spill response in US history. The Coast Guard requested the support of the Navy vehicle to help detect oil, direct operations and look for wildlife that may be threatened by oil." Coast Guard Capt. Kevin Sareault was quoted as saying, "The airship will operate relatively close to the shore, primarily supporting skimmers to maximize their effectiveness." The paper also reported, "The blimp also will be used to spot marine animals and other wildlife in distress, officials said. Officials are interested in using the blimp because it is less expensive to operate than helicopters and airplanes, and it can stay in the air for longer -- up to 12 hours per mission. It only burns 10 gallons of fuel per hour at cruising speed. By comparison, a Bell 206 police/news helicopter burns about 25 gallons per hour. A Black Hawk helicopter burns more than 150 gallons per hour."

Seacoastonline.com reported: (Above) U.S. Coast Guard Operations Specialist First Class Tony Lombardi, an Exeter native, was part of a team sent to fly over the Gulf of Mexico in a 178-foot blimp.

GULF OF MEXICO - U.S. Coast Guard Operations Specialist First Class Tony Lombardi, an Exeter native, recently got a bird's-eye view of clean-up efforts for the Deepwater Horizon oil spill. The 1999 Exeter High School graduate was one of a six-man team sent to fly in a 178-foot blimp over the Gulf of Mexico. Lombardi and his crew were sent to spot oil from the blimp and then relay the information down to oil skimmers on the water.

Permanently based at Air Station Cape Cod, Mass., Lombardi spent 30 days, starting in early July, in the Gulf patrolling the open ocean and shorelines from Pensacola, Fla. to New Orleans. Lombardi, 30, was the Coast Guard's mission commander aboard the MZ-3A airship, which was on loan to the Coast Guard from the U.S. Navy. This was the first time the Coast Guard has ever used a blimp as an aerial platform.

In addition to spotting oil, Lombardi and his team searched for, and reported, damaged absorbent boom and distressed wildlife. The blimp flew at an altitude that ranged from 100 to 700 feet. Ω

Shore Establishments: Lakehurst

The Navy's MZ-3A airship Buno #167811 is returning to Joint Base McGuire-Dix-Lakehurst for electrical system upgrade and general maintenance. This concludes a five-month deployment which took the airship to Yuma, AZ, and the Gulf Oil Spill area where it performed various tasks to the overall satisfaction of numerous sponsors and clients.

My latest task (and not as easy as it sounds) was to get a dig permit for the screw stakes for the mooring mast..... even on an area like the Lakehurst field you have to get a permit every time you want to put something in the ground, even when you use the same holes as the last time (gas company, electric utility, water and then the permit has to pass through ten signatures...originally they wanted distance measurements from street intersections...on a military base that they don't even have full maps for???... thank God they now accept GPS coordinates but it still takes a week....my solution is to leave the screw stakes in the ground....since we have extras.....and then we don't have to go through this again!)

Rick Zitarosa

NLHS newsletter THE AIRSHIP reports BuNo 176811 reappeared at Lakehurst on 17 AUG 10 and features two photos, including Rick heading out to the arriving ship. ISS Inc. continues its contract to operate and maintain the airship in its assignment to VXS-1 of Pax River, where she had stopped briefly along her return to Lakehurst. Ω

Richmond

As mentioned last issue the reinforced but original Administration building has been lowered onto its new foundation. It is now perpendicular to the last remaining tower that previously housed the hangar doors. *(above)* Ω

Moffett Field

Navy rethinks plans to trash lights, walls and buildings inside historic structure, by Daniel DeBolt, Mountain View Voice Staff (excerpt)

As a Navy contractor mobilizes to deconstruct much of Moffett Field's landmark Hangar One to remove contaminants, preservationists and NASA Ames employees questioned the necessity and cost effectiveness of removing several historically valuable interior structures last week. In its attempts to remove the hangar's toxic siding and lead paint, preservationists say the Navy is removing much of the historic value of the best-preserved 1930s airship hangar in the world. One by one, the Moffett Field Restoration Advisory Board last Thursday discussed preserving as many artifacts and structures as possible. That included hundreds of explosion-proof light fixtures from the 1930s. The Navy is planning to dispose of the lights because of their asbestos gaskets, but told the RAB that the lights could be re-used without the gaskets. The Navy has budgeted $75,000 to preserve historic artifacts inside the hangar. Hangar One's owner, NASA Ames Research Center, is on the hook for the rest of any necessary preservation costs, such as $1.2 million to preserve the hangar's windows and the unknown cost of removing lead paint from the hangar's elevator guideways and eight overhead man crane tracks if the hangar's unique people-movers are ever to function again. NASA Ames management was largely silent at the meeting.

The Navy has awarded a $22 million contract to Amec Environmental for Hangar One's deconstruction. Crews of workers have already set up equipment around the hangar, including a decontamination rig to make sure that trucks leaving the site do not spread toxic dust offsite. Downwind of the hangar, a trio of air quality sensors will detect if toxic dust is blowing away from the site, which may become more challenging to contain as the hangar's PCB and asbestos-laden siding is removed next spring, opening the massive structure to winds from the bay. AMEC Environmental's president, Mike Schulz, appeared sympathetic to preservationists at the meeting. He was given a tour of Hangar One recently by historians, along with several RAB members. "It's pretty fascinating." Schulz said, pausing during a presentation. "I enjoyed that tour."

In an e-mail after the meeting, founding Moffett Field Historical Society board member Bill Wissel lamented the loss of Hangar One as many know it.

"Moffett Field was the most sophisticated rigid airship base ever built," Wissel said. "Everything that had come before Moffett Field, like the zeppelin sheds in Germany, the British hangars at Cardington, even the U.S. hangars at Lakehurst and Akron, everything that was learned from all of those structures was incorporated into the facilities at Moffett Field. "Right now, Moffett is also the most "untouched" airship base in the world. All of the zeppelin hangars in Germany are gone. Lakehurst has been modified; even Akron has had a lot of changes. But Hangar One at Moffett and Shenandoah Plaza represent the most unspoiled lighter-than-air complex left standing. It's almost like a time capsule. And it is all in structurally sound condition."

History salvaged from Moffett Federal Airfield hangar set for demolition, By John Dugan (excerpt)

While removal of the siding and roof from Hangar One isn't scheduled until December, crews are working right now to save pieces of the site for display in Navy museums and at the NASA Ames Research Center. Some of the salvaged items include a Historic Civil Engineering Landmark plaque, the special corrugated windows in the roof and two sections of the original exterior siding. The hangar is individually eligible for the National Register of Historic Places, and the Navy and NASA have been working closely to retain much of the historical significance of the site "The Navy has been working with NASA throughout the process on removal action project coordination," said Kathryn Stewart, base realignment and closure environmental coordinator for Moffett Field. The NASA Historical Preservation Office will take the plaque, windows, original siding and other items, while the Moffett Historical Society will receive a 10-foot tall painting of Moffett Field, a U.S. Coast Guard signal bell and a pair of large wooden doors that led to a holding cell. The Navy and NASA have also been discussing how best to mitigate the effects of the removal actions. NASA has not determined if it will utilize the empty hangar as part of its Ames Research Center, but if so, NASA has agreed to re-create the exterior look of the hangar to maintain historical relevance. The project should be completed by spring 2012, Stewart said. Ω

Akron

High Altitude Airship is inflated, floating in Airdock. Company also shows off tethered surveillance vehicles, by Jim Mackinnon, Akron Beacon Journal Published 31 AUG (excerpt)

Company executives, at an event Monday afternoon in the Airdock to celebrate Lockheed Martin's related military blimp program, say money is in place to launch a completed 500,000-cubic-foot, high-tech unmanned prototype next summer. The multimillion-dollar project, announced with great fanfare early in the decade, was postponed after running into federal funding delays in recent years.''Will you hurry up and get that big boy out the door? Because we're all going to be loving to see that,'' Akron Mayor Don Plusquellic said as he finished addressing a crowd of about 300 Lockheed Martin employees in the Airdock. Three of the 74,000-cubic-foot, securely tied-down aerostats provided a floating backdrop inside the Summit County-owned hangar on the Lockheed Martin campus. Lockheed Martin is hoping to demonstrate new technology with the HALE-D. A full-size, 400-foot-long unmanned and untethered airship can be put to use above the jet stream for such things as missile defense, surveillance and communications. Lockheed Martin has struggled to find funding to complete the project: for instance, the company's High Altitude Airship brochure refers to a summer 2009 launch date for the HALE-D. Lockheed Martin has the money to finish and launch the helium-filled prototype, said Ron Browning, business development director for the project. The HALE-D will stay where it is, tethered inside the Airdock, until completed and then ''launch out of the north end of the hangar and get to altitude,'' Browning said. ''Everybody wants to see it fly.'' Ω

REUNION 2010

Our hosts, the Moffett Field Historical Society, threw open the doors of their Museum and welcomed NAA members to enjoy their magnificent exhibits. For most it will be the last time to see historic Hangar One as the Navy seems intent on stripping its outer covering.

Tom Slate, a stowaway on his uncle's airship *City of Glendale* on its 1929 rollout, finally got his rigid airship ride 81 years later. **Mark Lutz**, right, son of a WWII airship pilot, talked with many vets.

Nearby, the Hiller Museum featured this flown replica of the Reconstruction era *Avitor Hermes Jr.* which flew at a nearby racetrack some 150 years ago.

Flight crew two loads into the AV transport car as the third mission heads for points north aboard Zeppelin *Eureka*.

Lyn May, a survivor of ZP5K accidents, relates his experiences to **Dr. Robert Hunter**, who is continuing his postwar LTA studies.

Richard Crosby and **Lavern Shaw** (right) purchase Small Stores items from **Donna Forand** (seated) in the Ready Room, including new NAA-affiliated DVDs. **Don Morris** mentioned posting a video at http://www.youtube.com/watch?v=nQdVffAHRFg.

World War II airship pilots and crew members enjoy Moffett reunion and memory fest, By Patrick May, San Jose Mercury News (excerpt)

The Naval Airship Association is a group of naval veterans from all over the United States who flew on the U.S. Navy's airship fleet before, during and after WWII, as well as airship enthusiasts who admire their service. Association members flew on the Airship Ventures airship throughout the day.

At times, when they were talking about the war, you could see it in their eyes, that faraway look at that dream drifting wondrously across the sky. "Big is what I remember the most," said Capt. Bob Ashford from Naples, Fla., now 86 and with plenty of time for remembering the majestic military airships that once filled the skies. "Unbelievably big. And to imagine that they flew!" It was Saturday morning at Moffett Field, back where it all began for Ashford and many of his fellow World War II veterans who piloted and crewed the Navy's airship fleet. About 100 of the 800 members of Naval Airship Association were in town for a reunion, each poignantly aware that since 2007, 56 of them had passed on. So there was the barbecue lunch and the champagne toasts and the 30-minute zeppelin ride just for old times' sake. Oh yes, and plenty of those faraway looks in their eyes." I was a little kid growing up in Northeast Philly," said Ashford. "On our Sunday drives, my dad would take us to see the big airships over in Lakehurst, New Jersey. We saw the *Akron* and the *Macon* and the ill-fated *Hindenburg*, too. And we felt so privileged." When a church friend joined the Navy as a cadet, a light bulb went on in Ashford's head, and so he followed. Good grades helped him get a chance to become a blimp pilot, and in 1943 he was off to Moffett to earn his wings. "I flew them for 13 years," said Ashford, a cherub-faced man with soft blue eyes.

"Close calls? If the definition of flying is hours of boredom, punctuated by moments of stark terror, I've had my share of those moments," including the time off Key West, Fla., when the sonar device they were dragging popped out of the water and nearly clipped the skin of the airship.

But for these pilots and crew members, there was far more wonder to the job than worry. Mark Lutz, whose now-deceased father, John, also served at Moffett and then flew "over the Pacific looking for Japanese subs and guarding Naval task-force ships," says there was one memorable flight experience his dad never got over.

"He loved flying low over a school of hammerhead sharks," Lutz said. "He was a naturalist, so for him that was a favorite moment."

Boarding a shuttle to take them to their zeppelin ride, the men told stories, savored stories from others and dreamed in between the two. So did the women on hand -- the wives of pilots and the widows of engineers. Even Rose Lesslie, a "Rosie the Riveter" who started working on blimps in 1942, when she was 16 years old -- "I lied and told them I was older. I came to Moffett to find a job, and I'd never had a tool in my hand in my life," she said after her ride in the sky. She worked on fins and rudders and then in the metal shop, helping to keep the airships afloat. Like Ashford, Lesslie had been smitten at an early age. "The Macon was the first airship I'd seen. I was a just a kid in Mountain View, and we'd play in its shadows as it passed overhead, and the crews would drop marshmallows from the air. It was the most magical time in my life."

(Con't next page)

Many of our Members were excited about the opportunity to fly in the only semi-rigid airship that has graced our west coastal skies in decades. The recent arrival of the airship Eureka and the historical significance of Moffett Field are major reasons we have elected to hold our reunion in Sunnyvale.

When I wrote my personal memories of lighter-than-air in 1963 I stated: "As long as there are people with vision to fill a need, there will be another era for airships." We thank Bryan Hall and Airship Ventures for having that vision and wish him well.

Herman G. Spahr, Past President

Two Jims -- Flenner, 89, from Key West, and Harris, 87, from Akron, Ohio -- sat quietly on folding chairs, waiting for the bus to take them to the barbecue. White-haired with weathered faces, they were bookends to a biography no one ever took the time to write, yet one that so many of the people here today had memorized by heart. Those blimps may have been big, but today, decades after they were taken out of commission, the airships' magic fits nicely into a handful of words.

Flenner: "We were following the coast of South America. I had to take a nap, so I told my co-pilot to just keep the land on his right. When I woke up, we were heading west. I got mad and he said, 'The land IS on my right.' But he had turned and taken us 50 miles up the Amazon River by mistake."

And Harris: "One of my jobs was sweeping out the hangar. But I got to go up twice. I'll never forget the swaying, the noise and the beauty of the land below."

The Singing Blue Stars of the U.S.S. *Hornet [sang]* at a reunion of the Naval Airship Association at the Moffett Field Museum at Moffett Field in Mountain View Calif., on September 25, 2010. *[End of newspaper text]*

Debbie Van Treuren and Eric Brothers visited the USS *Hornet* museum. The ship is anchored at Alameda. NAA then donated a copy of the John Fahey-sponsored rigid airship history DVD introduced by the late NAA activist RADM Carl Seiberlich, CO of CVS-12 when she recovered the Apollo 11 (note gangway inscription).

Bob Forand and **Sidney Shaw**, formerly of ZP-11 (Sid designed the squadron patch Bob is wearing) relax in Airship Ventures' guest lounge, whose walls were adorned with treasures of airship advertising memorabilia from past decades.

John and Sherry Kumkee enjoy the wide stern window on their Zeppelin flight, this being their first NAA Reunion.

Moffett Field Historical Society hosted lunch at their Museum facility. As the Zeppelin flew overhead, the Singing Blue Stars from the USS *Hornet* museum ship entertained the troops with nostalgic tunes and dances.

Delton Gates and **Dan Brady** *(right)* enjoy an original painting by Stan Jones. Behind Dan is a girder from USS *Akron*'s infamous tail smash of 22 FEB 32 which Neil Sausen brought along from his collection. Dan's nephew Ken was videotaping the Reunion.

NAA Chaplin **Stan Jones**, quite the modeler and artist himself, enjoys MFHS's case showing the relative sizes of USN LTA vehicles. Stan had created four eight-foot-tall K-ship graphic displays for the RR.

Passing the gavel to incoming NAA President **Ross Wood** *(right)* is immediate Past President **Herm Spahr** as re-elected VP **Fred Morin** looks on. **Warren Winchester** officiated at the banquet as Master of Ceremonies. Reunion adjourned with the promise to meet again in 18 months! Ω

Technical Committee

A significant boost to airship and aerostat development was given by the U.S. Department of Defense during the past year with awards of contracts for design and construction. Civil operations in advertising have decreased somewhat but sightseeing flights continue to be popular in the US and Germany.

The U.S. Army Space and Missile Defense Command awarded the Northrop Grumman Corp. a $517 million contract to develop three Long-Endurance-Multi-Intelligence-Vehicle (LEMV) hybrid airship systems. The basic LEMV performance requirements include a 3-week endurance, optionally unmanned, 20,000 ft. operating altitude, 2500 lb. payload, 16 kW of payload power, an 80 knot dash speed and a 20 knot station keeping speed. A 5 year period of test and support will include delivery in 18 months followed by tests and demonstrations in Afghanistan. Other members of the development team include: Hybrid Air Vehicles in the U.K. which developed the three-lobed envelope shape and has been testing a one-sixth scaled version, ILC Dover, which will fabricate the nonrigid envelopes, Warwick Mills supplier of the fabric, AA1 Corp. furnisher of UAV control systems software and SAIC to provide the ground environment for processing and dissemination of sensor data.

Near Space Systems Inc. has received a $2 million one-year contract from the Navy to design a high-altitude long-endurance airship for real-time communication relays. The Navy will specify the engineering requirements in terms of systems, structures, avionics, command and control and launch and recovery to achieve a complete operational system.

SAIC plans to develop several nonrigid airships of different sizes designated as SKYBUS with envelope volumes of 80,000 (currently operating), 138,000 and 185,000 cu. ft. Each could be piloted or remotely controlled. They would carry a variety of sensors and telecommunication equipment that can support security, intelligence and communication applications with payloads of 1,000-2,000 lbs. They will hover on station for long periods and fly at top speeds of 50-55 knots. Operational altitudes vary from near sea level to 20,000 ft. A 1,500,000 cu. ft. cargo transport airship also is under study.

SAIC has teamed with Zeppelin Luftschifftechnik in Germany to produce a pilot-optional version of the NT-07 semirigid airship designated MPZ-07. It will be a new multipurpose airship combining Zeppelin's decade of operational experience and technology with SAIC's system design and engineering in the aircraft field.

Deutsche Zeppelin-Reederei carried the 100,000th passenger since operations began in 1997. Zeppelin has developed a long-distance kit which includes additional fuel tanks and transfer pumps. It was demonstrated during a 24-hr. 40-min. flight covering 783 nautical miles. 690 kgs. of fuel was consumed. The flight took off 600 kgs. heavy and landed 250 kgs. light. No helium was released since the airship touched down by using vectored thrust. Airship No. 5 is under construction with 15 passenger seats. Zeppelin bought NT-07 No. #2 from the Japanese Nippon Airship Corp. which has ceased operation. No. 2 probably will be rebuilt in Friedrichshafen.

E-Green Technologies has acquired 21st Century's rights to develop the Bullet 580, a cylindrical and

conical-shaped airship. It is designed to carry various payloads up to 2,000 lbs. at 20,000 ft. altitude. Seven helium cells are carried within the air-filled 230-ft.-long Kevlar outer envelope. The airship can be flown by a crew or remotely. It will be tested in the summer and will carry a NASA and Old Dominion University payload to measure moisture content in soil. Each Bullet 580 will cost $8 million. E-Green currently flies a 125 ft. scaled version.

American Blimp Corp. (ABC) has consolidated its organization in Oregon and at its Lightship Group (TLG) in Orlando. All spares will be located at TLG. Current activities include development of a heavy-fuel engine pod, Delta Hawk, for retrofit on the A-170 airship. A new Lightsign and an A-60R engine upgrade are under development. The ABC-built Navy airship MZ-3A was flown from Yuma, Arizona, to Mobile, Alabama, to assist in monitoring the Gulf oil spill. It was expected to be more effective than airplanes and helicopters by flying at low speeds and altitudes and staying aloft for 12 hours. Trained Coast Guard personnel were onboard to observe and communicate with surface vessels. The MZ-3A concluded its five-month deployment by returning to its Lakehurst, New Jersey, base.

TCOM LP has developed a new tactical aerostat system designated 22M™. It will carry double payloads at twice the altitudes and twice the power compared with 17M^{r} tactical used in Iraq. TCOM has been awarded contracts for 13 22M™ systems beginning in April, 2010. TCOM is currently testing two JLENS systems in the Utah Upper Test & Training Range.

Lockheed Martin received a $133 million contract for eight aerostat Persistent Threat Detection Systems (PTDS) in October 2009. They will be used in Afghanistan and Iraq. A total of 40 PTDS envelopes will have been delivered to Lockheed Martin by ILC Dover by the end of 2010. In addition, ILC will deliver a 420,000 and a 275,000 cu. ft. aerostats for Tethered Aerostat Radar Systems (TARS) supplied to Lockheed Martin.

Airship Ventures, based at the former Moffett Field Navy base, continues its sightseeing flights along the California coast. Scientists from the SETI Institute and NASA were assisted by Ventures' airship to study the salt ponds and microscopic organisms in San Francisco Bay during October, 2009. The slow speeds and low altitudes flown by the Zeppelin NT-07 enabled the scientists to take high resolution spectra and images. In May 2010, the NT-07 flew from Moffett Field to San Diego to establish a new class record for the 10-hour, 459 mile flight.

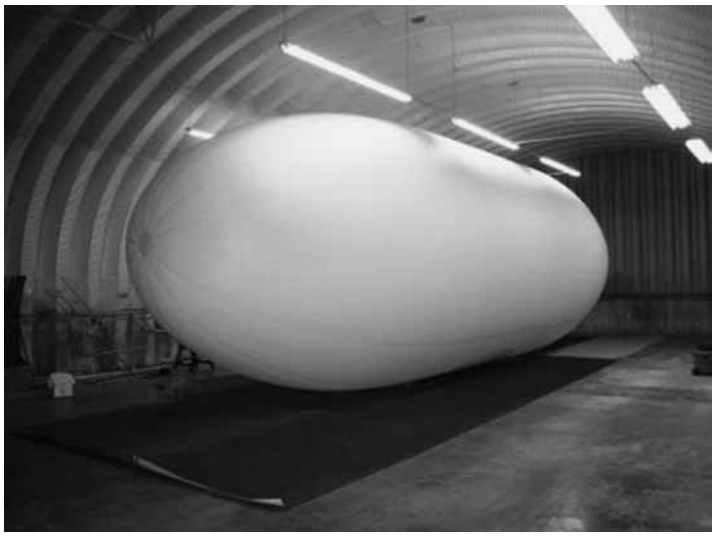
Sanswire Corp. received its 111 ft., STS-111 (Stratellite) multi-segmented airship from the TAO organization in Germany. Sanswire has also developed its 126 ft. SkySat. The airship is designed for intelligence, surveillance and reconnaissance missions to fly up to 45,000 ft. altitude. It will be developed further to upgrade its viability for defense and communications operations. It will be tested and demonstrated to potential customers by the Global Telesat Corp.

Digital Design and Imaging Services has built a balloon-supported "9-Eye" camera which it uses for documenting surveillance tower placement.

The India Department of Science and Technology (DST) is developing an unmanned high altitude airship (HAA). The National Aerospace Laboratories has prepared a feasibility study which will be submitted to the DST for approval. A small technology demonstrator will precede the final version. The final version will carry a 2,000 kg. payload flying at 21 km altitude.

Canada-based SkyHook International Inc. has reported that progress on the Skyhook heavy lift aircraft which combines helicopters and airships has been delayed due to lack of funds. Completion is now aimed at 2015. Ω

Norman Mayer – Chair, Technical Committee



Airship Research is pleased to announce that it has been awarded a contract to design and build an unmanned airship to be used for environmental resource management in South Africa. The airship will carry a suite of sensors that will monitor soil type and condition, crop growth and be able to detect areas of diseased plants. If operations with the first airship are successful, additional aircraft will be deployed. The company will also design and build a gyro-stabilized platform to hold the sensor payload. For information about Airship Research visit www.airshipresearch.com Ω

Lockheed Martin still pursues hybrid airship future
By Stephen Trimble (excerpt)

Losing a half-billion dollar contract award will not discourage Lockheed Martin from continuing to pursue hybrid airships as a future business. The company's advanced development programmes (ADP) division instead has released a new marketing campaign, with a promotional video posted on YouTube on 24 August revealing new details about the company's technology. Lockheed systems engineer Bob Ruszkowski confirms the company "absolutely" sees opportunities for new business… The ADP, or Skunk Works, division manufactured a demonstrator aircraft called the P791, which first flew in January 2006. "The P791 demonstration aircraft still exists. It's still in our hangar. It's available to use again for other demonstrations," Ruszkowski says. "We learned quite a bit from it, and we're exploring other opportunities for hybrid airships." In spite of (or because of) losing the LEMV contract, Lockheed Martin has released a new video on YouTube showing previously unseen details of their prototype P-791. The link is:
http://www.lockheedmartin.com/products/p-791 Ω

European Roundup

The 8th International Airship Convention was held at the Park Inn Hotel, Bedford, England, 29 SEP- 2 OCT 2010. For the first time the Airship Heritage Trust was able to schedule an event to co-exist with the UK's Airship Association, in conjunction with the former's efforts to mark the anniversary of the R-101. The Welcome Reception Thursday night mixed with delegates and presenters from 12 countries. Friday morning began with the Keynote speech as Gordon Taylor of Hybrid Airships presented an overview of LEMV activities. (Rumors persisted that Cardington's Hangar #1, home of the famous R-100 but long neglected and eventually condemned, would be restored and recovered. This was supposed to be accomplished by its new owner as a condition of property development or LEMV money, depending on who was spreading the rumor.) Professor Gabriel Khoury, who'd sorted out all the submissions, kept presenters on schedule manning the computer.

Surprise presenter at the 8th Int'l Airship Convention was Gordon Bennett Balloon Race participant Leonid Tyukhtyaer, shown here speaking through interpreting project manager Alexandra Semenishina. He and fellow gas balloon pilot Stanislaw Fuodoroff lifted off from England even as the NAA Reunion had started. They rode the winds for two days and nights, alighting in France's Med coast near the Spanish border. (They then traveled non-stop to reach the Convention in time.) The 2010 Gordon Bennett winners, Swiss Teammates Kurt Frieden and Pascal Witpraechtiger, remained aloft from Bristol all the way to Romania, some 1051 KM. As the Convention closed an American team was missing and presumed lost *(see page 35)*.

During the Friday Banquet Mr. Dick Chadburn was given a hero's ovation for his 17 years' service as AA Chairman, handing the reins over to oncoming chair Peter Ward.

On Friday 1 OCT Dr. Bernd Sträter gave the Day 2 Keynote address with his overview of current World LTA efforts. The former head of Zeppelin, who oversaw the company's return to buoyant flight, offered his assessments. Another Friday speaker was Linde Gas' Dan Baciu, who calmly announced to the assembly that the price of helium had that day gone up 16%. Previously allowed to float closer to the Consumer Price Index annual rise, the unprecedented new fiscal year increase was a result of BLM policy. Baciu downplayed the most pessimistic assessments of recent helium investigators, stating the industry hopes to develop new sources of helium previously impractical because of BLM's controlling the price. The billions in cash needed for new natural gas liquidation plants in key countries will come when the American helium stockpile is depleted in 2014 and the price will then reflect supply and demand. No word on what that price, just increased to $75, will become, nor whether the US will have to become a helium importer as early as 2014.

The UK's Airship Heritage Trust, long searching for a museum building in which to display their vast and rich collection, had found kindred spirits at Bedford's own Art Gallery in time for the great rigids' 80th anniversary. A stunning display of large graphics, hardware and personal effects from those days brought tears to the eyes of visitors. Open for only a short time before the Museum is closed for extensive renovation, Ed. highly recommends the world-class display to anyone fascinated with the colorful British rigids' story.

The presentations, which included papers from the UK, US, Japan, France, Belgium, the Netherlands, Korea, Mexico, Russia, and Germany, even tolerated Ed.'s paper on the ZRS movie airship design philosophy. The paper sessions were closed with Australian Jeremy Fitton's proposal for a saucer-shaped airship delivering useful self-contained modules fitted for various purposes. Jeremy was unique in that he had provided scale models of his heavy-lift proposal.

John and Anne Baker provided the gathering with a staggering collection of LTA books and papers ranging from rare 1800s documents in French right up through the latest periodicals on the subject. Noon Balloon publisher **David Smith** brought along TNB copies and NAA brochures in an attempt to recruit as many kindred spirits into our organization as well.

On Saturday 2 as the wonderful R-100 & R-101 exhibit opened, the Model Airship Regatta was gassing up at the nearby Dame Alice Harpur School's Sports Hall. Highly maneuverable racy-looking airships responded to pilot's controls in a timed race event. Attendees marveled at the miniature blimps' varied designs and their multiple characteristics, putting in practice design ideas – such as tapered-hull, wake-prop stern propulsion – long overdue in full size vehicles. A suggestion was made young people might be attracted to develop new airship design concepts if a competition with significant prizes was presented challenging their skills in accomplishing tasks in miniature.

On Sunday 3 October invited guests braved the rain to gather at St. Mary's Church in Cardington for a Service of Thanksgiving and Remembrance. There was a wreath-laying ceremony at the R-101 crew communal grave in St. Mary's Churchyard.

The following Monday, just a day before the 80th anniversary of the infamous R-101 crash, the Royal Aeronautical Society in London hosted a presentation on its history. DIRIGIBLE editor **Dr. Giles Camplin** and his colleague Peter Davison, who have conducted extensive research on the subject, gave a public lecture to an enraptured crowd at the RAS HQ, the former Duke of Wellington's residence.

The Convention had broken up with delegates promising to meet in Paris in 2012. Ω

LEMV Update

Following up on last issue's cover story, Ed. was granted an interview with Mr. Alan Metzger, director of Northrop-Grumman's LEMV program in his Melbourne office. Congratulating him on his team for their astonishing win over heavily favorite rival L-M, my first question was obvious: How did they do it?

Metzger explained the N-G team had vast experience working with the US Army, and their proposal reflected a knowledge of the Army's needs. This included looking at the entire system – not just an airship carrying a sensor rack, but the command stations, ground support, and integration into the troop's existing airborne platforms.

Other seemingly staggering deadline-oriented challenges had long since been addressed by their team. Joining with the U.K.'s Hybrid Airships Ltd. gave them a ready-made airship design already flying in scale prototype. The Brits will develop the airframe and its control systems using an ILC Dover envelope. Stateside, N-G will develop the radar and other sensor mountings and provide system integration. Assembly of the largest airship in the last 50 years will of course require an airship-sized hangar, and as of this writing N-G is looking at sites, including Tillamook and Tustin (the old NAS Santa Ana.) Rolling out – ambitiously hopeful they will be flying by next summer – testing would begin immediately at a Government range, possibly Yuma, just as with the Navy's own MZ-3A last spring.

The initial contract calls for three LEMVs to be built and tested, with unit one scheduled to be delivered in just 18 months after award. Ed advised Mr. Metzger of the vast experience of NAA members and recommended he join to avail the company of our technical committee. However, we all can realize the N-G LEMV team will be rewriting the rules of airship development with this overwhelming combination of entirely new concept, design, construction and onboard systems on an unprecedented rapid development timeline. Our quarterly magazine format will be hard pressed to even keep up with what will be very quickly unfolding milestones in the program, but we will do our best. – Ed. Ω

Northrop-Grumman gets deal for blimps, By Patrick Peterson • *Florida Today* • 4 JUL 10 (excerpt)

By next year, a Northrop-Grumman Corp. blimp designed in Melbourne could be heading for testing over Afghanistan, where it will spend three weeks at a time watching the battlefield from a safe distance. The company won a $517 million contract in mid-June to develop an unmanned surveillance airship or blimp. The effort will employ only 100 Northrop-Grumman workers in Melbourne... if the 18-month development program succeeds, 300-foot blimps might become a regular sight in Melbourne. "We'll look to enhance our Melbourne facility with an environment that can accommodate our airships here, so that we can leverage our expertise," said Alan Metzger, Northrop-Grumman program manager for the airship program. They will have four diesel engines, full-motion video, radar and the ability to relay communications between soldiers in the field. From 20,000 feet, where they are barely visible, the blimps will provide surveillance over battlefields and eventually could be used to secure U.S. borders. "Any contract demonstrates an understanding by important and deep-thinking people of the importance of airships to do a useful task," said **Gregory Gottlieb**, a council member of the Airship Association, who formerly worked with the British government's airship acquisition program. Gottlieb believes the airships will prove to be economical, safe and effective. The quick success of this program could be pivotal to the industry because if the first of the three airships is successful within 18 months, more will be ordered. "Having this as a quick program is really very clever," Gottlieb said. "Before people have time to think about canceling it, there will be something in the field." Ω

Member **Waldo Jones** *sent a clipping from a Deleware paper to Treas.:* ILC Dover building airships for U.S. Army, By John Starkey (excerpt)

ILC Dover, the Frederica company known for making spacesuits for NASA, is adding jobs by building blimp-like airships the U.S. Army is using for surveillance in Iraq and Afghanistan.

Delaware Gov. Jack Markell and his economic development chief, Alan Levin, joined ILC officials Thursday afternoon for a ribbon-cutting ceremony at the company's new 60,000-square-foot production warehouse at the Kent County AeroPark in south Dover. Ω

ZR-1 75th Anniversary Remembrance

By Wick Elderkin-Houghton

Crew descendants at ZR-1 Monument (L to R) Wick Elderkin-Houghton, Florence Maguto, CDR Lanny Lansdowne USN (ret) – Herm Spahr photos

"His Ship Shall Fly No More" was the refrain sung from the 1925 song "Wreck of the *Shenandoah"*, at the 85th Reunion /Ceremony before an audience of 450 residents, spectators, students and news media held on a sunny September 5th in Caldwell, Ohio. The event marked the 85th commemoration of the U.S. Navy's first rigid airship. Smart stepping patriotic music played by the Shenandoah High School Marching Band accompanied by the American Legion Post full color guard set the tone for this poignant and patriotic event. Six grandchildren from the late Lt. Commander Zachary Lansdowne, captain of the ZR-1, who lost his life aboard the ship were present. Remarks of tribute, appreciation and thanks were presented by their eldest, Commander C. Lanny Hunt U.S.N. (retired). It was my honor to both represent NAA and my family on behalf of our late grandfather Lt. Arthur Reginald Houghton, officer of the watch, who also was killed in the control car at his station along with LCDR Lansdowne. My remarks focused on the ZR-1 being a teacher - a platform of learning for the LTA efforts within the U.S. Navy. My challenge to the young people in the audience is to take another look at the USS *Shenandoah* and her successors. She represents an incredible array of disciplines covering a wide range of skill sets that they can experience in their academic subjects, classroom and in applied and industrial arts. The ZR-1 is a wonderful example of geometric and metallurgical technology/function and as the world's first rigid zeppelin to use helium, she is also an outstanding example for demonstrating the properties of inert gas in chemistry with ancillary references to laws of physics and thermal dynamics. Her historical significance in aircraft development is equally valuable. As a platform for learning she provided the foundation for the future of the non-rigid program of blimps essential to WWII coastal/convoy patrols and cold war reconnaissance and much more. Both Commander Lanny Hunt and myself stressed the need for the legacy and heritage of the ZR-1 and sisters must now be passed to a new generation and beyond.

A wreath laying followed the presentations in which grandson Zack F. Lansdowne (namesake of the Commander) accompanied by 15-year-old Kyle Hunt (great great grandson) took place at the base of the 1937 monument dedicated to the fallen heroes. The American Legion Post rendered gun salutes followed by the reverence of taps. To the surprise of myself and the Lansdowne/ Hunt family we were all presented with a shadow box commemoration containing mini pictures of the ZR-1 with small pieces of her outside skin and gas cell fabrics along with a section of "X" brace from her duralumin girders. 93-year-old Mr. Willis McDonald, whose father was also a first responder to the stricken ship presented us with sections of the rope his father used to help secure the bow section when it crashed at the Sharon, Ohio, site.

Several displays added wonderful support to this event. An incredible scale model with lights and working propellers of the ZR-1 was operational for all to enjoy. The model involved almost 10 years of meticulous attention to detail and captured the imagination of many. Members from the Lighter-Than-Air Society came down from Akron, Ohio, to set up a very informative presentation with dynamic pictures and schematics. Free refreshments were provided by Bryan Rayner's mother and her church members demonstrating once again, the deep comment and pride this community holds for the spirit of the USS *Shenandoah*. Likewise, commemorative postcards were made available via the Caldwell US Post Office to further highlight this reunion celebration.

The Celebration's organization and outreach continues to be in keeping with the long-standing traditions maintained by Bryan and Theresa Rayner. Bryan's grandfather was one of the first responders to reach the crash site to render aid and assistance to the stricken crew that fateful morning.

A trailer museum containing many outstanding artifacts and pictures of the USS *Shenandoah* (which is maintained and operated by the Rayners) was eagerly explored by young and old alike. Without question the hometown character of this community made the event so meaningful. The Rayners graciously escorted the

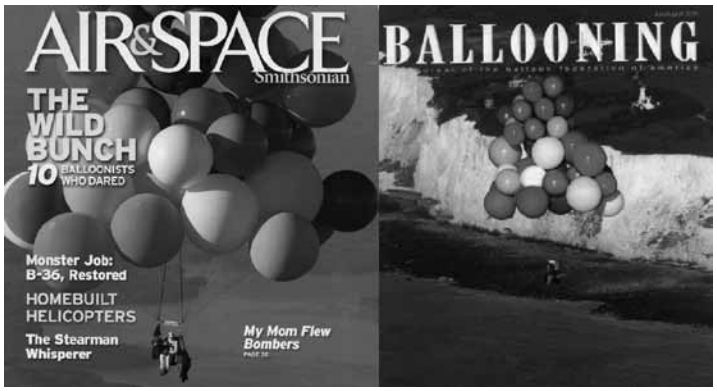
Lansdowne/Hunt family and myself to all three crash sites for private viewings and reflections. It was a privilege to be present and to enjoy a very special moment in time and custom thanks to the tireless efforts of Bryan and Theresa Rayner - true, devoted and loving friends of the USS *Shenandoah*. Ω

3rd Gen.: Dr. Zachary Lansdowne, CDR Lanny Lansdowne, 4th Gen.: Betty, Robyn, Patricia and Julia Hunt; 5th Gen.: Kyle Anthony Hunt

Herm Spahr, senior NAA officer present, got the last room in Caldwell, Ohio, and was invited to dinner with nine descendants and the Rayners, who organized the event. Herm wrote, "The next morning Bryan gave me a private tour of his museum *[below with Theresa]* in Ava, where the ceremony was to take place at 2 p.m. In appreciation of his interest and dedication to preserve the history of this tragic event, I presented Bryan with a gold pen and pencil set emblazoned with "The Naval Airships Association." I also gave him a large official US Navy photo of the ZR-1 which I had salvaged from military records in 1962 that were destined for destruction. The ceremony lasted 90 mins.; the crowd of several hundred stood

quietly and listened in the hot sun. Only the Landsdowne family and other special guests were seated." Ω

Media Watch



Ed notes the irony: This point in LTA history - like the glory days of 1917 - with all three major aerospace companies building or already testing large manned airships, the mainstream media is just now playing catch-up by reporting on cluster balloons. AIR & SPACE SMITHSONIAN for August 2010 carried a multi-page article by Mark Karpel covering the history of the cluster balloon, including the infamous "Lawnchair" Larry Walter's illegal 1982 flight. (He survived to be arrested; several other pioneers did not.) Both covers feature channel-crossing cluster balloonist Jonathan R. Trappe, who also drifted into Oshkosh this year. BALLOONING Editor Glen Moyer, thought it undoubtedly strains precious resources, routinely reports on airship news. In that issue he not only reviewed a new book "Indianola: Ballooning Capital of America" but also saw to it **William Althoff's** FORGOTTEN WEAPON was given a review. (Likewise, A & S also ran a terse review of Bill's F.W. by "Blimp Book" author George Larson.) And that's not to mention three pages devoted to a story showing how Air Force test pilots are given check rides in Goodyear's California *Spirit of America*. AIAA's Daily Summary jumped the gun by announcing, "Modern Day Airships Being Used In Afghanistan" (sic!) The Wall Street Journal (8/27, B8, Pearson) reports the US Army is utilizing Northrop-Grumman-made airships, some as large as three football fields, in Afghanistan to help monitor the terrain. The actual article, clipped by our own **CP Hall**, does not actually claim the LEMV is already there, but rather will be. Meanwhile, Losing the LEMV contract does not seem to have slowed down Lockheed-Martin's cargo airship effort one bit. These are exciting times for LTA, and hopefully you'll be reading about major events in all media, not just Noon Balloon. Ω

History Committee

The author wrote in his cover letter, "Helen Horan, widow of my friend Tom Horan, with whom I served in Brazil, suggested that the NOON BALLOON may be interested in printing the attached "Musing Of An Old Balloonatic".

MUSINGS OF AN OLD BALLOONATIC
By **H. F. SMITH USNR (Ret.)**

In desperation I stood on the edge of the wicker basket and tried to tie the appendix bridle outside the load ring to no avail! Five thousand feet below, the wind roared thru the Canadian conifers. A torrent of icy water and sleet streamed down the line I was holding, down the fleece-lined sleeves of my Navy winter flight suit. What water didn't fill my fleece-lined flight boots, collected in the bilge of the basket float which held two pontoons in place for a water landing. The sleet on the envelope above and the water ballast below was driving us down toward the trees. They would rip us to shreds. I jettisoned the contents of one 35-lb. sandbag then another distant lightning flashed in the pre-dawn blackness, glistened on the somnolent features of copilot Bill Gunther, sacked out in the hammock stretched on the long side of our 4x5-foot basket. Bill's feet extended into space 12 inches. I shook his shoulder and announced in best CPO vernacular, "Rise an' shine, cadet, we're about to land!" Bill slid off the hammock—fortunately on the correct side -- "Where are we?" asked Bill, wiping sleet from his eyes. "We're up in this doggone balloon!" said I, paraphrasing the oldest, sickest balloon gag. I yanked a wet chart out of the pocket, aimed two-cell Eveready at Quebec, showed him our track from Montreal three hours back. We were nearing the St. Maurice River where it widens into the pulpwood pond of the International Paper Co. at LaTuque. "Safer to land on water than trees at this speed, Bill," "Why land here?" asked Bill. "We're HEADING straight for Labrador. We brought emergency gear, food for six days, everything!" I hesitated a moment. After WWI a balloon had landed in northern Quebec and the pilots were found barely alive after a month of privations. "I took off with a cold yesterday. I'm soaked to the skin. We're going down," I decided. As command pilot Bill's senior by three months, my word inside that basket was law! I sealed the order with a sneeze! "Look for the mill pond, Bill." The eight-cell Eveready, our only light, abetted by lightning, was slowly supplemented by icy-fingered dawn. Soon the pond appeared a mile ahead and half a mile below. The mountainous terrain and the 60-knot wind made the basket pendulum in the turbulence—the first breeze we had felt in 14 hours because a balloon is part of the air mass that moves it. "Valve 5 seconds of helium, Bill, we're too high." Wait ten seconds for reaction. "Five more, Bill." We had started our landing approach too late. "We're going to miss the pond and hit the mill, Bill!"

Flashback - Sixteen hours earlier and 800 miles south I had just been called by the Lakehurst Aerologist on duty: "Come look at the weather map, Mr. Smith; perhaps this is the night." The helium-filled free balloon Navy 48241 was waiting in Hangar I. On orders from Admiral Rosendahl, we were making night balloon flights to check the feasibility of post-WWII training flights in the crowded middle-Atlantic skies. Our first flight two weeks before through the New York-Washington air lanes with only two kerosene lanterns and an eight-cell flashlight to illuminate the aluminum envelope was a bit hairy. But then, a balloon has the right of way over all other aircraft! Ole '41 found a 'perfect box'. We flew southwest a hundred miles into Maryland, climbed to a mile-high wind in the opposite direction the next day, and were on a collision course with Hangar I by dusk. I gave an ETA and requested landing instructions, but the sunset lull, when the wind dies, stalled us over a cranberry bog only 2 miles from the base—two turkeys in trouble, 25.4 hours in the log book, and wet feet! Bill and I were contemplating the revival of the Gordon Bennett Balloon Races when distance records were broken annually. Our survival gear included rations, three radios, liferaft, lifejackets, snakebite serum, .45-caliber pistol—not to mention a half ton of sand ballast hung outside the basket.

I studied the not too promising weather map. "Where will we be tomorrow morning? I asked the Aerologist. "Somewhere around Newark." he said. I forgot to ask which country. In 1945 you didn't need a .45 pistol in Newark, New Jersey! "O.K. Let's go" I said. It took only seven men to walk the balloon out of Hangar I downwind. Fully garbed, Bill and I weighed 350 lbs. Off came ten 35-lb. bags of sand. "Hands off," I said. Fourteen hands let go the basket. "One man lift." We were slightly heavy. Three handsful of sand from the open pouch and we were in static equilibrium. We slid across the blacktop in the five-knot breeze. Two more and we were off. No roar of engines, no whistle of wind in the wires. Short of a scientifically constructed sound-proof cell, a helium or any gas balloon gondola is a symphony of silence. Until you valve gas and let the flaps snap shut to ensure closure, the only sounds emanating from the craft are the homing pigeons rustling in their box, and a few grains of sand falling from the inside crown of the envelope and bouncing on the bottom. They ping loudly! Sounds from the ground reflect upwards and the envelope amplifies them. Voices a mile below can be understood. We lifted off at 1605 30 October 1945. Winds southeast five knots. We lowered the radio antenna and contacted NEL Lakehurst. By dark we had lowered the running lanterns and kissed the four homing pigeons 'goodnight.' Altitude at 8 o'clock 2000 ft. ground speed 40 knots. Goodbye Newark, hello Easton. Radio fixes at 11 p.m. put us beyond Scranton. The roar of wind through trees below was frightening, but I knew that in this frontal system that had sneaked up on us, the higher we went the faster we would go; so we stayed low—too low. We approached Binghamton, NY, at 50 knots and 200 feet above the ground. Suddenly, at the top of a hill before us appeared two radio towers about 500 feet high. Ablaze with blinking red lights. Braced by cables and probably connected at the tops by antenna wires, they were there to ensnare us. Too late to rise above them, we prayed. Ole '41. 55 feet tall and 32 feet across the bust, went between the towers, the cables and the wires! She didn't...bust! Having just said his prayers, Lt. Gunther retired to the sleeping bag-on-canvas, and slept soundly. It was the witching hour of midnight on the eve of All Hallows Eve, and spooky in the silence of the basket, with an occasional pigeon rustle, a grunt from comfortable Gunther, and the cyclone wind beneath. I had climbed to 5,000 feet above sea level and checked the chart for Adirondack peaks that might reach out a casual claw to pluck us from the sky. We headed straight for Rome.. New York. With no electrical interference from engine ignition and with the radio reflector in the stratosphere, called the Kennelly-Heaviside E Layer, we were still talking to NEL Lakehurst, normally a 15-mile range! NEL said we had been spotted near Hazelton, PA, as an airship in distress, and the constables were combing the county for wreckage. West of the Adirondack Mountains we were hitting 85 knots, with trouble ahead. I switched to the Montreal tower frequency. No answer to Navy call letters in either English or French. I'm sure when we dragged the runway at 200 ft. not a soul was awake to see the apparition, let alone give us clearance to enter the country. Back up to a safer altitude, snow began to fall. Moving with the wind, wet snow sticks to a balloon envelope and pushes it down. Sand must be dropped to keep us in the air. Freezing rain came next. This is heavier and can cover the sides, the net and the foot ropes. Too much ballast dropped in flight leaves nothing for breaking the descent on landing except 300 lbs. of gear...and Bill. 5 am... still snow and sleet, plus distant lightning, signaling either line squalls or cumulo-nimbus rain clouds—thunderheads! Both are death to balloons. 6 a.m. By dropping two full bags of sand in the pond without dumping them we missed the mill, shot up to 500 feet, and I hung on the helium valve to bring us back down before we left La Tuque and civilization. We headed up the St. Maurice River Gorge, with rocky cliffs on the east side and railroad tracks hugging the west bank. Too late to haul in the lights or antenna, we wiped them off when we hit the cliff and slid down toward the river. The 40-knot wind above the cliff dropped down to about 30 at the water. I dropped the drag rope to slow us down further. But loss of gas, caught the wind like a spinnaker jib and we lay over on the side pontoons, lip of basket just above the water. "Let's ride the high side like a surfboard," said Bill, so we climbed out and hung on to the foot ropes and load ring. "Life jackets!" I lay down and groped with a free hand. We put them on with alacrity... and straps. What's that? A rock? An alligator? The dark object which flashed past the basket was a ten-foot pulp log, fixing to stove in our tender craft! More log torpedoes, more near misses. Gradually the corkscrew wind whipping up the gorge worked us across the narrow river. Just before we hit the west embankment, Bill reached into the basket and threw a bundle ashore. I yanked the red ripcord. Within seconds the helium, second lightest element, daughter of the Sun,

escaped skyward. The basket sank and we were under water, struggling to swim clear of the rigging and net which almost had two pilots in its grasp. We clambered up the bank, having forgotten to inflate those precious life jackets... fortunately, for we would have floated into the net. We reached the tracks in time to watch Ole '41 sink beneath the whitecaps as the current swept it south. "The pigeons!" I wailed. An answering wail came out of the snow. We hit the ditch. A Canadian National freight train screamed past our heads. Bill suddenly slid down the bank and retrieved the bundle—his khaki pants and wallet—the only jetsam from the wreck. We hiked south a half hour. Above the wind we heard a motor behind us. A side car loaded with duffle hid two lumber jacks pushing it downhill into the wind, with the motor wide open. We tried to thumb a ride. "NON!" We didn't offer to push. More hiking and jogging to dry out the Navy winter fleece-lined flight suits. We crept across the raging river on the railroad bridge, trying not to look between the ties, trying to hear a whistle in time to lie on the ties. 7 a.m.: Just beyond the bridge, a farm house, where Madame Hardy and three gamins were breakfasting on oatmeal. We joined them gaily and gratefully. Handcrank phone on the wall reached Adm. Rosendahl collect. My accident report: "Lost: one balloon, 4 pigeons, no pilots." Response: "Didn't you like Newark?" Mme Hardy called the police, not for protection, but for our transportation to the Company Club House in La Tuque. Mr. Barraclough took one look at me, showed me to the bedroom, brought a glass and a third of a fifth of Canadian Club, saying, "Drink ye all of it... after you're in bed!" Twelve hours later, I think, I arose, wafted out to the assembly hall to join the Halloween costume party.

We caught the midnight sleeper into Montreal, bummed a plane ride from the American Consul, and were met at Hangar 3 with ruffles, no flourishes and the Admiral's invitation to dine...alone in my room for one week!

Admiral "Tex" Settle, Gordon Bennett record holder, stratosphere balloon pilot of the 1934 "Century of Progress", relieved Adm. Chas. E. Rosendahl in 1946 as Chief of Naval Airship Training & Experimentation. Out of house arrest H.F. Smith, USNR was appointed engineer and pilot of Project Helios, the design and dream of Dr. Jean Piccard, like twin of Dr. Auguste Piccard. Both long-haired inventors had taught ballooning in the Swiss Air Corps. Both had made stratosphere flights, Jean with his wife Jeannette as pilot, from Dearborn, Michigan, in the same balloon flown by Settle the year before. The Piccards later flew a cluster of small balloon cells he called the Pleiades after the Seven Sisters, daughters of Atlas and the nymph Pleione who ended as stars in the constellation Taurus. By amplifying the size of each cell to 100,000 cubic feet and the number to 100, a craft weighing 9,400 lbs., including a crew of 2, 500 lbs. of scientific instruments and a ton of ballast, inflated with hydrogen, could reach 100,000 ft. altitude and stay for 10 hours, a stable platform for research where 99% of the atmosphere is below, and at a time when knowledge of outer space as an environment for man was nil.

Our roster of scientists assisting in instrumentation to be lifted aloft include 14 PhDs—leaders in fields of cosmic radiation, spectroscopy, magnetism, biology. Lt. Smith was to be a human guinea pig in the same jar with the fruit flies. The Office of Naval Research, Special Devices Center, contracted with General Mills Mechanical Division to build the aircraft with Jean Piccard as Scientific Supervisor. Work went well, with mock-up and welded-up gondola almost complete, but no one had the courage to tell Jeannette that Smith would be the pilot – not she. Months later, when helium, not hydrogen, was stacked at NAS Ottumwa, Iowa, for the inflation, someone had the courage to tell Lt. Smith, USNR, that Commander Spicer, USN, would be the pilot. Having enjoyed a year contemplating an ascension, I concluded that the best way to serve my country was to get off the government payroll, and that someday a president would put an end to the proliferation of appointment of liberal arts majors to engineering projects!

Those were exciting days—the late '40s. The upper atmosphere was a new challenging frontier to be conquered, and modern research was providing the tools. Polyethylene envelopes designed by Jean Piccard and Otto Winzen eventually lifted our Helios gondola to two record heights, and successfully carried hundreds of unmanned instrument packages to the top of Earth's atmosphere for collecting data demanded by space technology before men could be sent up in rockets. Projects Sky-Hook, Strato-Lab and Man-High were offspring of Helios. Several pilots were killed, and I'm here to sing their praises. They rose and fell unknown so that astronauts could blast off to fame and glory!

The third and current endeavor, sport ballooning, is sweeping the world. Our club balloon flew at the Albuquerque Rally in '72 with a few dozen others. This year over a thousand hot air balloons will rise enmasse to fill the sky with color and the grass with champagne corks. Closer to home let us recall a flight on October 22, 1977, 32 years after La Tuque. Dick Layton and I took off from our farm in the Tewksbury Tangerine, then known as Puff, The Magic Melon (it has changed its stripes). My wife Betts rode in the chase car as navigator. We tree-topped over to Bernards Mt., then popped up to 2,000 ft. so the chase crew could see us; but like the Hazleton cops, they thought we were down in the trees and didn't look up. We dropped back to 500 ft. and buzzed, or blasted, the Basking Ridge football game, descended into the Great Swamp for an intimate glimpse of fellow aeronauts, the water fowl. Thence over the Summit at an unauthorized altitude and up again to 1,000 ft. to seek a landing spot. Alas, in place of fallow fields we saw naught but highway, high tension and high towers ahead. The only open space short of Montclair was the reservoir just west of the Livingston Mall. "Stand by for a water landing, Dick." Dick stood by. We splashed in at five knots. The partially empty propane tanks acted as pontoons. We stood on the aluminum rail of the gondola. The balloon, relieved of its load, did a slow motion bounce up to 50 feet and down again. We dragged thru the water a hundred yards and ran out of reservoir. "Rip it." The bag lay down on the north bank like an exhausted swimmer. We climbed the bank and began dismantling. Within minutes an off-duty cop in a pickup was there to help, and to load up the gear. He radioed the Water Company guards to unlock the gate and free the balloon. They wouldn't without an interrogation to make sure we had not poisoned the drinking water. On the Mall, a call to Checkpoint Charlie, Dick Layton's home put us in touch with our chase crew, which had given us up for lost and glad of it. They reluctantly trekked to the Mall. A good time was not had by all, but we saved the balloon that time...war, science and sport...are there any questions before the surprise quiz? At the end of my lecture, there will be a short quiz. I will ask the questions—you will give the answers. So listen closely, take notes, remember well! Everyone will receive an award: I will stop talking! On September 4, 1924, I received a windup model of the dirigible balloon, rigid airship, or zeppelin USS *Shenandoah* for my fifth birthday, on my sixth it crashed. Lt. Chas. E. Rosendahl free-ballooned the severed nose and saved seven lives. As a child I felt the thrill of just standing near a plane. As a youth I knew the thrill of my first plane ride. As a seaman 2nd Class, I thrilled to piloting an open-cockpit trainer over Idlewild salt marshes. As a cadet I was exhilarated by every hour of dirigible balloon training at Lakehurst Naval Air Station. As an airship command pilot I was embarrassed that war was so thrilling, trying to keep the surface convoys separate from the u-boats, from Maine to Rio. But the supreme ecstasy of aerial navigation was the free balloon, le balloon libre, gossamer craft of celestial confection and ethereal perfection, a willow gondola to carry one aloft to heavenly vistas. After thousands of hours and narrow escapes, one feels near to the Almighty suspended beneath a fragile sphere of gas. The thrill of youth has become the devotion of age!

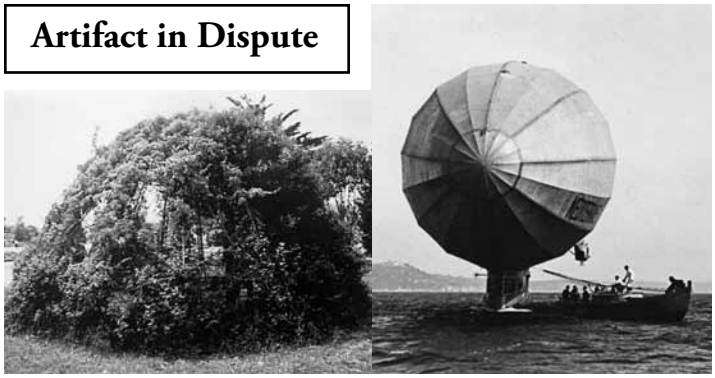
Free balloons have served three fields of human endeavor: 1-scientific research, 2-military service, and 3-sport. I have been fortunate to participate in each. In the third century before Christ, Archimedes discovered that 1-a body (balloon) immersed in a fluid (air) is buoyed up by a force equal to the weight of the fluid displaced. He leaped from his tub at the public baths, shrieking "Eureka" and ran home without his clothes—history's first streaker. 2-In the 17th Century after Christ, Robert Boyle found that at a fixed temperature, the volume of

a gas is inversely proportional to its pressure. 100 years later, M. Jacques Charles discovered 3-that at a fixed pressure, the volume of a gas is directly proportional to the absolute temperature. Charles invented the Charliere, a gas balloon, and flew one filled with hydrogen a few weeks after the Montgolfier Bros. flew their first hot air balloon. Both balloons were unmanned; but by the end of that astonishing year 1783, the list of aerial voyagers included a cock, a duck, a sheep, Pilatre de Rosier, the Marquis d'Arlandes, Charles and Nicolas Robert. The year 1784 got off the ground with delirious enthusiasm when La Flesseles carried 7 people to 3,280 ft.

Let's take a close look at this magnificent flying machine, virtually unchanged since its invention nearly 200 years ago. The envelope contains hot air, hydrogen, coal gas or helium. Hot air is cheapest, safe and available, coal gas and hydrogen burn, helium is safe but expensive. Gas balloons are usually spherical, with a net over the envelope to support the car. The pilot drops ballast to go up, valves gas to come down. Intermediate landings to change passengers or pilot is simple in open fields along the track the wind takes you. A final landing before ballast is gone is effected when the pilot pulls the rip cord (red), tearing a replaceable panel out of the crown to deflate the balloon quickly. Hot air balloons are usually pear-shaped, carry tanks of liquid propane instead of ballast, rise or fall depending on the internal temperature relative to the outside temperature. A 100-degree differential is normal. A drag rope 1 to 300 feet long acts as automatic ballast over open land or water. The earliest envelopes were made of varnished paper and cloth. The latest are urethane-coated dacron or nylon. Size varies from 20,000 cubic feet to 10 million cubic feet, depending on the use. Before we all fall in statistical stupor, let us go aloft. Ω

Editor notes: Landing even as we went to press 11 OCT 10, Barbara Fricke and NAA member Peter Cuneo were declared victors in the America's Challenge 2010, setting down near the Canadian border after flying from Albuquerque (1,350 miles) in 57.5 hours. Danielle Francoeur and NAA member Linda Ellis (who'd attended Reunion just a week before) took second flying 1,223 mi. in 57:15. The top three distances in the race this year were all achieved by female primary pilots: Barbara Fricke, Danielle Francoeur, and Cheri White. It was the second win for Fricke/Cuneo. Ω

Artifact in Dispute



In France a melodrama about the nose cone structure of the dirigible Méditerranée [above, right] came recently to an end. That duralumin structure which is about 13 meters diameter was used since 1926 as an amusing decoration in the garden of the officers mess of the French NAS at Cuers-Pierrefeu [above, left]. But the navy establishment is being decommissioned and therefore the question was raised about what to do with it.

Last year the Zeppelin museum people paid a visit to Cuers and expressed their interest for getting it in back to Gerrmany. The deal was almost stricken but came to the ears of The French Air and Space museum of Le Bourget, just North of Paris, which was so far not giving a damn about that artifact. They then jumped in the air and said there was no way that this precious metallic piece, given to France as 'dommage de guerre" was going to leave the French territory.

Therefore, it was dismounted at Cuers in May 2010 and transferred to Le Bourget, where it will sit in the reserves for a number of years. *[Below]*
WWI is not finished yet!

Robert Feuilloy

(Ed. notes the last German WWI reparations payment was actually made on 3 OCT 2010!) Ω

R-101 at the Cardington mast. This view clearly shows how vulnerable the forward engine cars are in the event of a forced landing or stranding.

THE R-101 LOSS REVISITED

Supplied by the LTA Institute, Auckland, NZ

With the 80th anniversary of the loss of the British airship R-101 on 5 October, it seems timely to examine some aspects of its design and construction. For various reasons the disposable lift of the airship was well below that designed, so that a new bay was added in the third quarter of 1930, prior to the ship attempting a voyage to Karachi, India, to pioneer an Imperial Airship Scheme, joining the far-flung outposts of the British Empire. The ship's workmanship was of a high standard. Even R-100's Chief Calculator Nevil (Shute) Norway, stern critic of the "socialist" ship, wrote: "The finish and workmanship struck us as extraordinarily good, far better than that of our own ship." (Slide Rule, p. 94) There were some unusual features though, which apparently unimportant at the time, could have had a bearing on its loss. This article will examine them.

DESIGN FEATURES

(a) The Hull Profile: This was developed to minimize drag, which it did very well, having a resistance of only 2% that of a flat plate of the same max. diameter.

The enlarged ship was very nearly the size of the USS *Macon* but held 1,000,000 cubic feet less gas. By following the fatter fore and aft profile of the U.S. ship for very little extra weight penalty, there would have been a large gain in net lift, especially forward where it would exert a useful righting moment to the ship when pitched downwards. This has been admirably discussed by CP Hall in Ref. 1.

(b) Engine Location: R-101 (and R-36) were the only rigid airships to have forward wing cars located under the "chin" of the hull, a vulnerable place in the event of stranding, which of course in R-101's case, did happen.

(c) Passenger Accommodation: Unlike several other airships which had their accommodation within the hull profile, it was an independent unit suspended either side at Frames 6, 7 and 8, and was thus free to move slightly fore and aft, when the ship pitched up or down. This made static stress calculations simpler by reducing redundancies, but the momentum of its movements accentuated pitching moments in undulating flight.

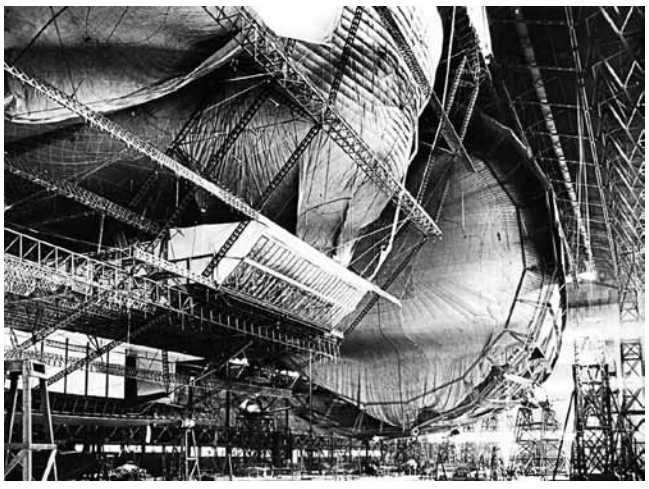
(d) Control Car Position: This was much further back from the bow than on most other airships, at 34% of the ship's length (R-36 also with forward wing cars was 36%) Compare this to other ships:
British: R-38 – 21%, R-100 – 28%
German: LZ-127 – 22%, LZ-129 – 21%
US: ZRS4 & 5 – 17%.

This meant that any crew member sent forward in any emergency situation had much further to travel than on most other ships. So, at the final stranding of the ship, rigger Church did not have time to reach the bow ballast bag to release water to aid the ship's recovery

from its second dive. A further point was that only part of the forward ballast could be rapidly released from the control car, and this had already been done at the unmasting when the ship started out. So, in effect there was no "emergency" ballast available forward at any part of the flight.

(e) Bolted Connections: It emerged that, particularly after the letting out of gasbag wiring in a desperate attempt to gain extra lift, the bags rubbed or chafed on bolts protruding from the longitudinals in many thousands of places. This caused multiple small holes which effectively allowed much gas to escape. As a result, extensive padding was installed, which cost much in time and labour, and added (when wet in bad weather), to the total weight of the ship. The sizing of bolts to prevent protrusion, was in retrospect, a serious failing.

(f) Reefing girder stresses. These girders were lighter section longitudinals placed between each main one to tauten the outer fabric, which gave the ship its "smooth" appearance compared to other rigid airships. These reefing girders were supported on brackets at the mid-point of each chord member of the main transverse frames. They were assumed by the designers to carry no stresses, but was this so? When flying of course the airflow impinges on the entire surface area of the hull, not just in the region of the main longitudinals, so there would surely have been lateral forces via the reefing girders onto the frame members, causing bending moments in them, which would vary according to the speed and attitude of the ship. To have apparently ignored this feature would seem to be a serious omission.



R-101 looking aft when parted for insertion of the new bay. The passenger accommodation, left foreground is an independent structure supported from the transverse frames. This allowed for accurate static stress calculations, but its momentum as it sways slightly in climbs and dives adds to the ship's pitching moments.

THE FINAL FLIGHT

The ship left Cardington at 6:36 p.m. on 4 October 1930. About four tons of water ballast was dropped forward to let the ship clear the mast – all that done directly from the control car, which had important ramifications later. The ship proceeded south in gradually worsening weather conditions, until just after 2:00 a.m. on 5 October, when the ship was south of Beauvais, France. A new watch had also just come on duty. Near Allone, the ship went into a steep dive, briefly levelled off, and then made a final steep dive, landing on its nose cone, then bouncing forward some 60 feet, landing on it's "chin", in the process crushing some of the forward frames; fire immediately broke out and the craft was completely destroyed. Only eight of the crew managed to escape, two of them dying later of their injuries. The remaining 48 aboard all perished in the fire, which started at the bow and travelled rapidly aft. Both forward engines were running on impact, the starboard one's propeller making several lateral grooves in the ground, before the car was swung completely around, to face the opposite way to normal. During the stranding the bow section was crushed backward some 32 feet; also amidships the bay between Frame 8A and 9 (one behind the new bay) had telescoped 29 feet. Between the two dives, Disley, the electrician, who survived, mentioned the Chief Coxwain George (Sky) Hunt, had walked past his bunk (by the main switchboard) saying to the off-duty crew aft, "We are down lads". This comment has been used to justify the belief that the crew knew the ship was doomed. This matter will be returned to later.

THE SITE INVESTIGATION & INQUIRY

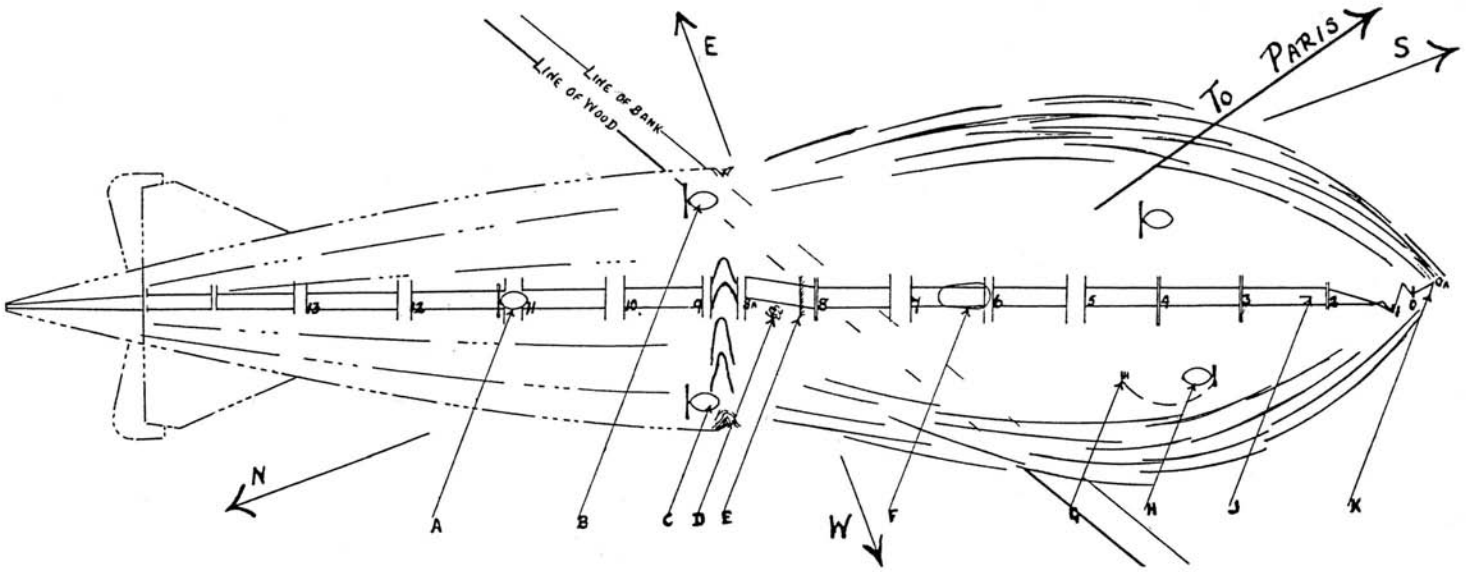
A UK investigating team was hastily assembled, and it reached the site later that day. Among them was Professor Leonard Bairstow, who with Prof. A J Sutton Pippard were independent consultants to the RAW monitoring the theoretical design calculations on the ship. At that time they were still engaged in calculating whether the ship with the new bay added, was in compliance with the design requirements for strength. So it would have been a nasty surprise for him to see the major truncating of Bay 8A-9. It raised the possibility of a structural mishap before the ship touched down. As at that time he and Pippard did not know the outcome of their theoretical examination - to find it structurally deficient would have been very unpleasant. Fortunately a suitable diversion was at hand. One of the cables to the elevators was found to be broken. Did it break down under strain before the stranding, or did it part as a result of the intense heat of the fire? Samples were taken and extensively examined

later by the National Physical Laboratory: they had failed after heating. No samples from Bay 8A-9 members were taken to see if the major failure there was before or after the fire! During the 13-day-long Inquiry that followed, that cable was referred to often, ultimately taking up around 14 pages of the 710-page minutes (Ref. 3). Frame 8A-9 was not mentioned at all, either in the Preliminary Investigation Committee Report (Ref. 2), or in the Minutes, or final Report (Ref. 4). The only reference is in two of the drawings accompanying the Preliminary Report prepared by French surveyors, which no one discussed. At the Inquiry, it was decided during the examination of Bairstow, the first witness, that no structural failure of the ship had occurred, probably much to his relief. However E F Spanner (see Ref. 5) pounced on this omission, and devoted all of Vol. 2 to propounding his explanation of the ship's loss (Vol. 1 was devoted to demolishing the Court's conclusions). When Bairstow and Pippard finally prepared their assessment of R-101's strength with the new bay, it was carefully worded; they judged that it was strong enough to satisfy the requirements of the original specification. This is almost certainly correct, in the literal sense, but of course conditions pre-stranding were much more severe. The dives were steeper than usual, thus allowing the accommodation unit, now full of passengers, to exert more than its usual impact on the pitching moment. Due to the new bay, even with 10 tons of available fuel tankage (not necessarily in use at the time), the ship's centre of lift was almost certainly moved rearward, further exacerbating pitching moment. It is also probable that the steeper dives in the strong headwinds prevailing would have increased the longitudinal bending moments by 25–35%, placing a more than usual compressive loading on the lower longitudinals of Bay 8A-9. Since Frame 8A (the new one) was of slightly smaller diameter than the original #8, it also meant that those longitudinals were pulled in somewhat to fit the smaller dimension, thus introducing a residual compression in the two inboard tubes of the longitudinals which was not in the ship as originally built.

CONCLUSION

The Report of the R-101 Inquiry (Ref. 4) postulated that as a result of one or more of the forward gas cells becoming rapidly deflated, the airship went into steep dives, ultimately hitting the earth. However in Appendix VI of the Report, p. 120, National Physical Lab. calculations showed that with forward gas loss it should have landed tail first which it definitely did not. The fact that the ship was able to bounce and move ahead some 60 feet, in the strong headwinds of the night, suggests that there was little if any loss of gas forward up until touchdown. So now, using that well-known and useful device 20/20 hindsight, it is possible to form an alternative hypothesis, which is probably no more speculative than the official one. Before doing so it is necessary to return to the "We are down lads" quote referred to earlier. It is important to understand the circumstances under which Disley heard it. He had been asleep in his bunk beside the main switchboard, parallel to the axis of the airship with his head forward. He was woken by the first steep dive and found himself with his head down, his feet up. Feeling that things were not right he attempted to swing his feet out and stand up. It was in this half-awake state when the ship was between the two dives that he heard Hunt, not with a raised voice, but in normal tones. Known for his forceful language Hunt would almost certainly have been more outspoken if a forced landing was planned, a point well made by Norman Peake (Ref. 6). This writer believes Disley genuinely misheard the remark in his half-awake state. (He had no recollection of tripping one of the main switches, but when at the Inquiry it was pointed out that one was tripped, he agreed that he must have done it.) At the time Hunt spoke the ship was not down of course. This writer believes that Disley misheard him saying "We are DONE lads" (writer's emphasis), meaning that "we've done our dash, we're heading back." Had a forced landing been in hand, he would have been more likely to have said: "We are GOING down lads". (writer's theorising). This in more urgent tones to get the crew mustered and the passengers alerted.

So now we can propose the following scenario, utilizing as many of the known "facts" as possible. The ship was heading south in worsening weather conditions which the altered ship had not met before. (The one trial flight with the new bay was in calm weather.) Pitching would have been accentuated by the accom. section in the rougher conditions. Michael Rope, who had designed the gasbag wiring system, was known to be continuously looking over the ship, and he had been seen aft of the control car shortly before the stranding. It seems highly likely that under these adverse flying conditions he found some structural problem in the region of Bay 8A-9, or its connections with Frame 9; important, but not at that time catastrophic. On informing those in the control car, the decision would be made to return to Cardington on reduced power, aided by a strong tailwind. To add stability, rigger Church was sent forward to release half a ton of water ballast. The craft touched down before he could get there with the



A is the after engine-car.
B and C are the port and starboard engine-cars.
D is the 10-12 foot high tree which stood undamaged between frames 8 and 8A.
E is the after end of the accommodation platform swung aft of its normal limit at Frame 8.
F is the control-car which was squashed flat and showed no signs of forward movement relative to the ground.

G are the three marks cut by the propeller of the car.
H which was found, as shown, aft side foremost.
J is the groove cut by the nose fitting which was found at
K slightly to the rear of the foremost part of the wreckage.
0A, 0, 1, 2 mark the positions of the Frames of the airship as these lay on the ground.

well known consequences. (Having it released from the control car could have made a difference. That option was lost when unmasting.) Hunt meanwhile, went to the crew's quarters to let them know of the decision. Some photos of the wreckage show the upper rudder in a port position suggesting a gentle turn was being started. It is probable that the first steep dive overloaded Frames 8A-9 longitudinals in compression and they started to buckle (not break), so that the stern section of the ship would start to sag downwards, helped by the windage on the top of the hull. Survivor Binks, who was in the rear engine car, stated that he thought the second dive was flatter than the first, lending circumstantial evidence to the hull bending theory.

Thus by an unfortunate combination of small, seemingly unrelated series of events and decisions, the ship was stranded and lost. They comprised: hull profile – 1,000,000 cu. ft. less gas volume than could have been provided; forward engine cars in a vulnerable position; passenger accom. - able to sway fore and aft, adding to pitching moments; control car position – much further to travel in an emergency, since vital quick release ballast had already been used; change in centre of lift with the new bay; using protruding bolts which caused many hundreds of small holes in the gasbags.

This combination of events led to a disaster which was instrumental in ending British involvement with rigid airships, and indirectly, afterwards, adversely affecting the Zeppelin programme. Construction of LZ-128, then being built at Friedrichshafen was abandoned, and a new larger ship (LZ-129 *Hindenburg*) took its place. Originally planned for *[partial]* helium inflation it was instead, filled with hydrogen but the valving system installed for helium was not altered, which may have been in turn, a factor in that ship's loss in 1937. And that was the end of the large commercial airship age.

Diagram of the wreckage. From Spanner (Ref. 5). The telescoping of the Bay 8A-9 is clearly shown. Note the accommodation section has been forced rearward of Frame 8 as the ship settled. This diagram was made from a drawing prepared for the Preliminary Investigation Committee by French surveyors on site at Allone. The original of the drawing had been mislaid by the National Archives when the writer visited in January 2008.

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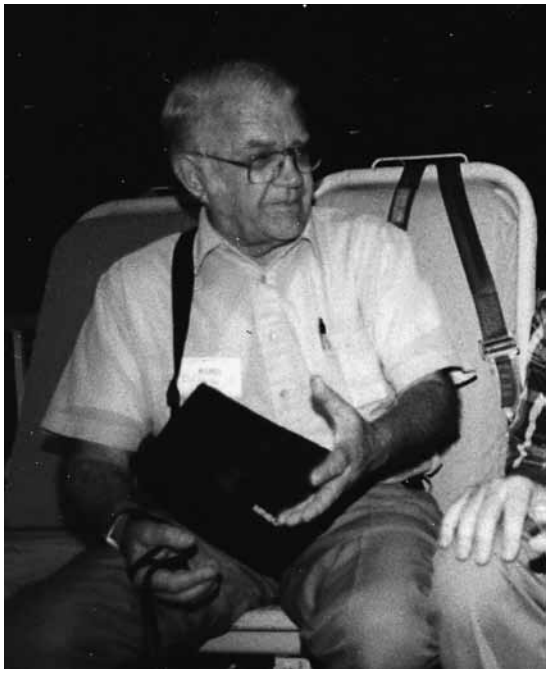
Ω

Black Blimp



Ford Ulrich Ross passed 23 SEP 10. The son of a U.S. Ass't Sec Def, Ford served the USN for 21 years, including LTA service at NASL and NAF Weeksville, logging over 6,000 flight hours, retiring as an avionics chief. He was one of the resident experts with the AN/APS 20 radar systems, AN/ASQ-8 MAD and ASW LOFAR and CODAR equipment used in blimps. Chief Ross had two confirmed sightings of enemy submarines while on patrol during the Cold War and was awarded the Navy Good Conduct Medal 5 times. Ford was an avid camper, scuba diver, numismatist, philatelist and loved A cappella harmony singing. Ford is survived by his loving wife Mary Ruth, three children, four grandchildren, and four great grandchildren. Ω

James R. Shock (right), 85, passed 5 OCT 10. Jim served in the U.S. Army, both in Germany and Japan where he received two Bronze Stars. He was a graduate of Ohio State University with a degree in Civil Engineering. He joined General Motors and worked as a Plant Engineer at the GM Tech Center in Warren, MI, where he retired after 40 years of service. Jim has been called the "Dean of Airship Historians." His major works include US NAVY AIRSHIPS, US ARMY AIRSHIPS, AMERICAN AIRSHIP BASES AND FACILITIES and THE GOODYEAR AIRSHIPS, 3rd Edition. Jim is survived by his loving wife Patricia, children Patricia, Victoria Patrice, Douglas James, Kathleen Elizabeth, and three grandchildren. Ω

Gordon Bodek, 89, passed 10 SEP 10. Graduating from U of Penn in 1942. Gordon entered the USN and LTA training, joining ZP-14. He received the Air Medal and a British citation as OinC of ZP-14's Malta detachment. In 1957 Bodek joined Bobrick Manufacturing and became its President in 1970. He founded Leo-Baeck Temple and served as VP of the LA Nat'l History Museum. Gordon is survived by his loving wife Muriel, a son and two daughters. Ω

Transitions

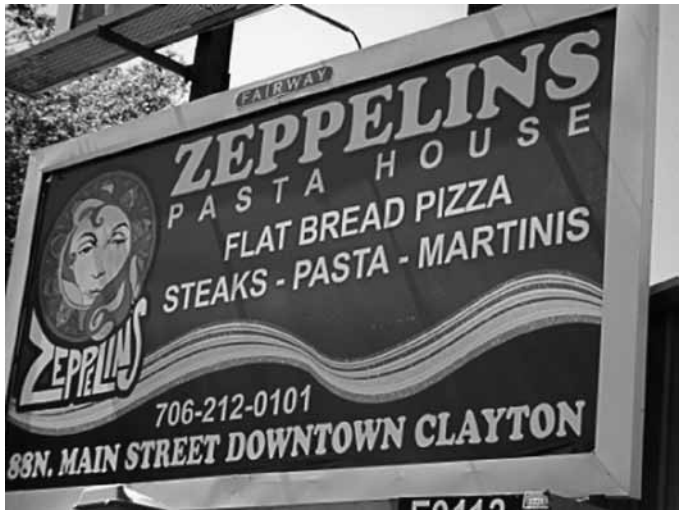
Following the NAA Reunion the hotel shuttle bus heading to the airport was struck from behind. Several NAA members were injured: **Paul & Helen Larcom, Norm & Margaret Mayer, and Bob & Phyllis Ashford.** They were taken to three different hospitals in the San Jose area. Paul & Helen were released and went to the airport to catch a later flight home. Norm & Margaret sustained moderate injuries, but were released from hospital and they returned to the Sheraton to rest and catch a flight home the following day. Bob & Phyllis were sitting in the back of the shuttle and sustained the heaviest level of injury. Bob underwent several surgeries but as of this writing both he and Phyllis are back home. Ω

During the memorial service at the Reunion's Membership Meeting, the bell was rung and names read aloud that have not appeared in previous editions of Black Blimp. More losses will unhappily be noted at Renewal time, as happens every year. Members who have lost shipmates are urged to send a photo and a few words to the Ed. for a proper notice – we can't run it if you don't send it in. We will attempt to re-create the loss list for the next edition. Ω

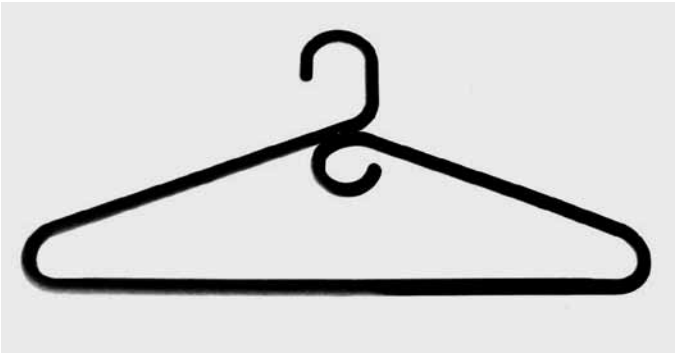
The Associated Press reported 8 OCT 10 that the Italian coast guard has called off the search for Richard Abruzzo, 47, of Albuquerque, N.M., and Carol Rymer-Davis, 65, of Denver, after a robotic vehicle scanning the seabed of the Adriatic Sea failed to find any sign of the two or their balloon. The veteran pilots were last heard from on 29 SEP while flying above the Adriatic Sea. Thunderstorms were present in the area. The balloon was equipped with a satellite telephone, VHF radios, radar transponder and two mobile telephones, as well as with survival suits, lifejackets and two single-person life rafts. Race organizers said that radar showed the balloon had plunged into the Adriatic at 50 mph and that the two likely didn't survive. The data shows that the balloon had a moderate descent rate initially which then increased into a high rate of descent, to around 50 mph. It is the opinion of the Gordon Bennett 010 Flight Control Team that the balloon appears to have suffered a sudden and unexpected failure." Ω

Lighter Side of LTA

Not sure about this new Government dental extraction plan for LTA vets… ☺



AAA Guide book warns of this joint's bad gas. ☺



Old Airshipman's Exercise Plan

Remove hanger from closet. Place hanger on the floor. Walk around it twice.

Sit down and rest.

Then when someone asked if you've exercised today, you tell them, "Are you kidding!? I walked all the way around the hangar twice!" ☺

Inside Cover (Left): Clockwise from upper left: Airship Ventures' ground crew worked the fine art of loading and unloading Zeppelin passengers including Ed.'s wife **Deborah**.

Bob Forand and daughter Donna

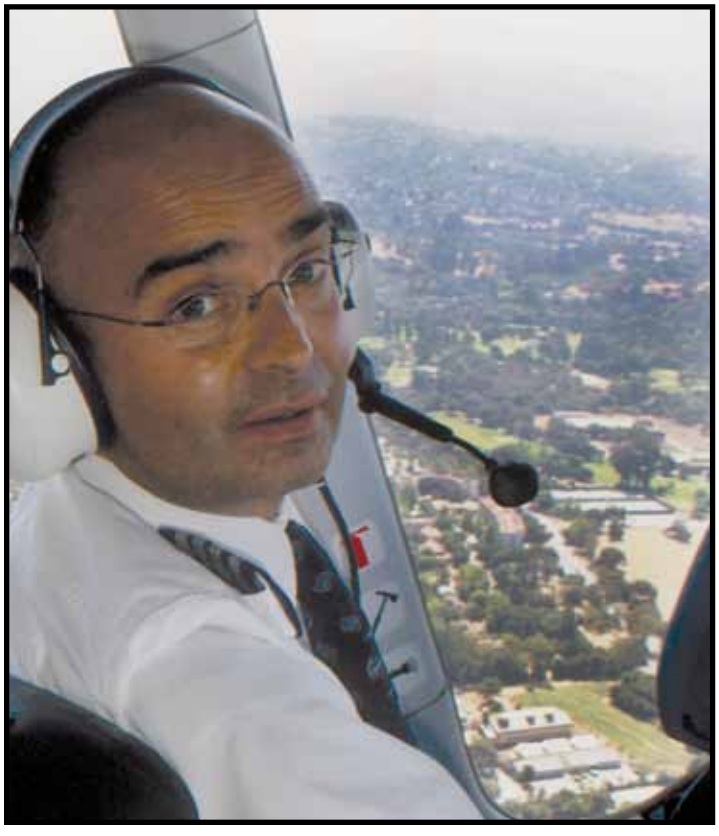
Jackie Nelson, Susan Garrison, Del Gates, Carol Sphar, Herm Spahr and Richard Schively enjoy their flight on the airship *Eureka.*

Relaxing flight aboard the Eureka.

NAA Treasurer **Peter Brouwer** gets with the *Singing Blue Stars* as they sang for the assembly at the MFHS lunch. The singers, from right, are: Cindy Shon, Darliyn Phillips, Gloria Duarte and Cindy Moreno. Camera shy **Betty Brouwer** stood by in case Pete needed medical attention. (**Gordon Dieter** struck this same pose for the San Jose *Mercury News*.)

With over 90 years of LTA experience between **Norman Mayer** (left) and **Robert Ashford** (standing) advice is offered to Airship Ventures founder **Brian Hall**, who addressed the Reunion banquet and who is now an honorary member.

Pilot Paul Strohele and flight attendant Carol Stedman (rt) on the flight deck of *Eureka* during one of several flights carrying NAA members at Reunion 2010.



Veteran Zeppelin NT Captain Hans Paul Strohel at left.

Herm Sphar's daughter, Jackie Nelson, looks back into the *Eureka's* car while in flight. *Above*