

Barnstorming with a Blimp; The Cruise of the “Wonder Ship” NC900SH

By Robert A. LoVece

***Editor’s Note:** At one time or another many of us have looked up into the night above the leading cities of the nation and seen a flashing light slowly edging its way across the sky, accompanied by the low monotonous drone of engines. As this phenomenon drew closer one may have been startled to see a flying red horse, complete with flapping wings, or a giant whale swishing its tail, or perhaps a great flamingo winging its way through the darkness. Sights such as these have captured the imagination of millions of people around the country and given a great deal of pleasure to youngsters. They have even had some humorous side effects. One gentleman, upon leaving a bar in the Santa Monica area, looked up and saw the famous red horse-and promptly took the pledge.*

Former AAHS member Bob LoVece had a very large and interesting part in the cruise of the “WONDER SHIP.” He was persuaded to set down his account for the Journal, told herewith.

Most of the credit for the visions of loaves of bread, giant whales, flying red horses, and the like, cruising in the sky above the larger cities goes to a Mr. Douglas Liegh, famous for his awe-inspiring Broadway advertising signs; and considered tops in outdoor advertising. What better way is there to bring a message to millions of people at once than to float it over the rooftops and command their attention by such startling displays as those mentioned above.

To accomplish this the Douglas Liegh Sky Advertising Corp. was formed with bases set up at Lakehurst, N.J., Moffet Field, and Santa Ana, California. Naturally the vehicle most likely to fill the requirements of this type of advertising was the old non-rigid airship. The veteran of countless hours of sustained flight, of fighting the U-boat in form of the glorious Navy Blimp. The slow speed, massive envelope area, and endurance potential made it the logical choice.

It was the year 1946, and already there were half a dozen airships of the “K” class, combat patrol type, which waged

Specifications for the Navy L Class Blimp

General Characteristics

Crew: 2
Length: 147 ft 6 in
Diameter: 39 ft 10 in
Height: 34 ft 0 in
Volume: 123,000 cu ft
Useful lift: 2,540 lb
Powerplant: 2 × 145-hp Warner
R-500-2 radials

Performance

Maximum speed: 61 mph (53 knot)
Cruise speed: 46 mph (40 knot)
Range: 2,205 mi
Endurance: 12 hours

There were 10 L-class blimps made for the U.S. Navy. L-8 was acquired by Goodyear and became “America.” It is thought that possibly L-22 became the “Wonder Ship.” Note: While BuNos can be found for the K-Class blimps, we have been unable to find any for the L-Class.

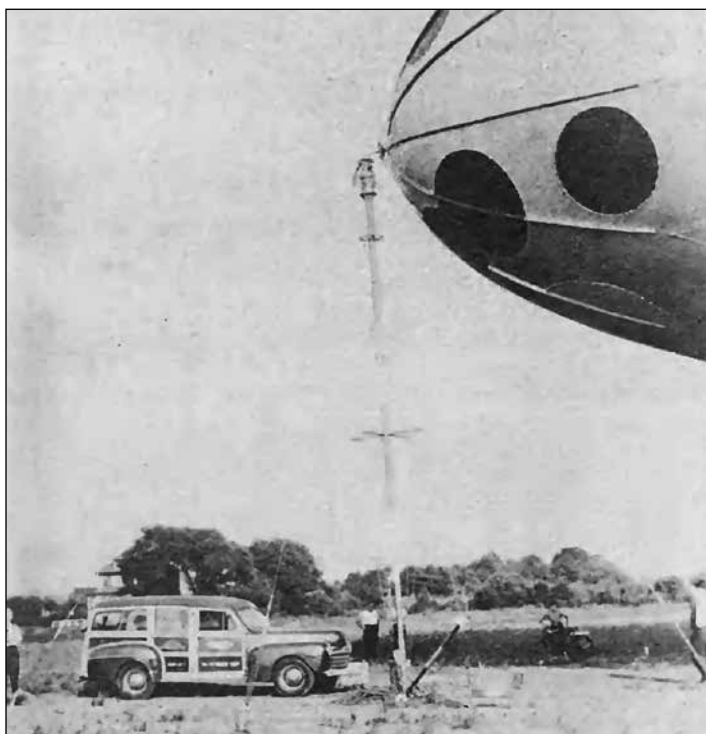
war against German subs and never lost a ship from a convoy under their protection, at work on both Coasts, displaying their wares. These airships had displacements of 320,000 cubic feet, were powered by R-1340 Wasp engines, and could do better than 65 knots over a range of 2,000 miles. Late in 1946 the Continental Baking Company of New York, makers of Wonder Bread, were persuaded to embark upon a campaign similar to those of its predecessors, Mobilgas, Tidewater, and others, to outfit a blimp.

The significant difference was that this was to be a nationwide barnstorming operation lasting two years and covering some 100 large cities. Plans were drawn up and in November I was assigned to the crew of what was to become the “WONDER SHIP.” For this length of operation, it was decided that the “K” ship would require too much maintenance and ground crew to be practical, so an “L” ship similar to those used by Goodyear Aircraft Corp. for so many years in its own advertising, was chosen. The “L”

ships were not designed for cruise or combat patrol work but were used for training in the Navy’s lighter-than-air program. The envelope capacity was only 123,000 cubic feet, and two 145-hp Warner engines gave it a top speed of 60 knots and 12 hours endurance at 40 knots.



The start of our journey - warming up at Lakehurst August 18, 1947 (All photos from the author)



Portable mooring mast

Construction was started immediately. The electrical display was unique in that it used nearly 6,000 light bulbs and could be continuously changed by a moving tape, similar to a player piano tape, operating through an electrical controller with nearly 500 separate relays. Each relay was connected to a

cluster of five bulbs on the side of the bag. As the tape moved through the controller it energized relays and sent current to the bulbs. Thus, a message could be sent, of any length. The message was usually punched out prior to flight, but it could also be changed during flight. This message was sent down the starboard side.

On the port side of the airship the stationary overlay "Wonder Bread," flashed on and off, alternating with a 60-foot loaf of bread, complete with colored bubbles. The nose and tail of the airship were also decorated with large colored "bubbles" and would flash on and off. Power for the apparatus was obtained from an aircraft type 400-amp generator mounted on the starboard outrigger and belt-driven by a flywheel between propeller and engine on that side.

Our crew consisted of pilots, mechanics, riggers, and electricians, a total of 15 men, some of whom doubled as drivers of our rolling stock consisting of shop vans, station wagons, radio trailer, and trucks to carry the masts, spare parts and extra helium gas. In charge of the expedition, or "Circus" as it was sometimes called, was "Ike" Walton. Walton and two others of our crew, Messrs. Bijerre and Prost had flown a giant "M" ship (725,000 cu. ft.) to a world record for sustained flight, 176 hours.

The "WONDER SHIP" was test flown in August 1947 and shortly afterwards headed West. It started out under adverse conditions, and made three attempts before moving the short distance from Lakehurst to Youngstown, Ohio. The first two were stalled by high winds that kept the airship motionless for hours trying to make headway. The third try was successful and we embarked on a journey that was to last two years, cover



The crew of the "Wonder Ship" cruise

20,000 miles and span the country twice.

To relate all of the many experiences, mishaps, and tense moments that befell us would take pages. I will try to highlight some that are still fresh in memory.

We had been assigned a public relations expert from the Continental Baking Co., whose prime purpose, we thought at the start, was to sell his company's products – namely bread and cake. As it turned out, some of us later swore that his intention was to wreck the old gas bag. He believed that the only way to catch the public eye was by doing something spectacular. After we got to know him better, we could tell when he was working on something that would border the ridiculous because little beads of perspiration would become evident on his forehead. When this happened, it was time to take nerve pills.

It was early fall in Akron, the home of Goodyear Aircraft Corp. and all the "Blimps." The football season had just begun, and the opening game was to be played at night in the Rubber Bowl before a record crowd. The plan was for us to fly our airship into the stadium with signs blazing from both sides, toss out the ball to the referee to start the game, and then take off. I quickly reasoned that this was like dropping a B-17 in on a carrier. When I questioned the sanity of the plan I was met with icy glances and scoffed at as an unbeliever in lighter than air. I found out some time later that those others weren't sure it could be done either, but they weren't about to sell the old gas bags short.

Anyway, you could die just as easy in a 40-knot balloon as

you could in 300-mph airplanes. Besides, look at the publicity and all the bread we'd sell! It took some time to convince the local CAA office that there was no risk involved. I remember the parting comment of the gentleman in charge to the effect, "That if anything went wrong, we'd be raked over the coals."

We took off that evening and headed for the stadium. It was cold enough so that we knew we'd be in a "heavy" condition since that gas would not expand in that temperature and increase our lift. We knew we'd have to fly this thing all the way in and out. The field came into view and we lined up as best we could. Naturally there were trees all over the route in and we were low.

It was then we noticed our first blunder. We had forgotten to stow the long ground handling lines that hang from the ship's nose. There wasn't much we could do about it now, so in we went.

We dropped down over the top rim of seats, dragging our lines through the spectators and expecting at any moment to yank some hapless creature out of their pants or skirt. We found out later that our coming was not announced and it was a complete surprise to many of the people there. This I suppose accounts for the wide-mouthed, frantic faces we observed below us, many of whom were petrified in the seats at this awesome sight. I understand some dozen people fainted that night. One reporter described our entrance as comparable to that of a fire breathing dragon, a well-fed dragon anyway.

Strangely enough we came down right on the 50-yd. line, dumped the ball, pushed the throttles all the way, and headed



The "Wonder Ship" over the Chicago's skyline

for the opposite goal posts that, by some miracle, we just cleared for the extra point and headed right for the stands. The last I remember before clearing those seats was frantically waving the spectators out of the way from the gondola but they didn't need any prompting from me. They evacuated in nothing flat. There was no question in my mind. It was spectacular!

By the time we hit Stinson Field, near Chicago, Ill., we had a few months of operation under our belts, and we also had Wonder Bread and Cup Cakes coming out of our ears. It was common practice for the local office of the baking company to load us up with all the goodies whenever we arrived at a new destination. Consequently, we attached no importance to a delivery of 20 loaves of bread to us upon our arrival at Stinson Field and promptly threw the entire box away.

The next day the local sale people approached us inquiring as to how we enjoyed the bread. We couldn't understand why they attached so much importance to the bread until we found out that each loaf contained a 10-dollar bill. There was a mad rush for the garbage dump, but not a trace of those loaves of bread was ever found.

It was during the Stinson Field operation that we were faced with an embarrassing situation. Upon the arrival at a new location, it was customary to salute the city by punching a special display tape that, in this case, would read, "The Wonder Ship salutes the city of Chicago. Wonder Bread Builds Bodies

- Eight Ways." Well, a tape was punched installed and the electrical apparatus checked. We took off for the tour of the city. About an hour later the phones began clanging. Calls from the police, CAA, local societies and countless other agencies, to get that balloon down on the ground. After all the excitement died down and the ship was on the mast we located our problem. Seems our electrical staff became a little bored and decided to liven things up a bit. So, when the tape was punched for the running sign, it read, after the usual salutation, "Wonder Bread Builds Boobies - Eight Ways"!!:

There were many other instances during those two years of operation that drew a few chuckles by all concerned. I recall the time we used the trailing antenna, dangling from the gondola, to hunt pheasant in Iowa. This was not too difficult since the shadow and noise of the low flying ship drove all forms of wildlife for cover. So after spotting a covey bunched together in the brush, we simply dragged the antenna weight through the brush, which always resulted in clobbering a few of the birds. The station wagon would follow along on an adjacent road and pick up the birds.

After a while we became very expert at this operation, much to the delight of the hotel chef. But all good things must come to an end. One day we spotted quite a large covey of birds not very far from the Ames, Iowa, airport. We immediately alerted the station wagon and they raced to join the hunt. In

our exuberance we came in too low and too fast, causing the antenna weight to smack the ground violently and bounce back up through the bottom of the gondola. This almost severed some of the fuel lines and put an abrupt end to our yen for breast of pheasant.

It was during this period that we became involved in mortal combat with the local peasantry. We were on a run out in the boondocks covering the large farming areas when we suddenly realized we were under attack.

After circling and investigating the origin of all the shooting, which by now had made a few punctures in the lower bag just forward of our gondola, and some others that we were not yet aware of, we saw the culprit on a barn roof. He was pumping his lever action rifle and doing his best to give us ulcers.

Our dander was up and we wheeled to the attack. I left the rudder control wheel and went aft to where our ballast was stored, in the form of 20-lb sand bags. I took and positioned one at gondola entrance. Walton was in control of the ship and after a few proven anti-sub maneuvers, lined up for a run on the barn. The pass was made at 30 knots with 500 feet altitude. At the signal I pushed the bag over the side. It hit the roof about 25 or 30 feet from where our sharpshooter was perched and sent up a shower of splintered wood and shingles.

This revolting development unnerved the irate farmer and the last we saw of him he was clambering down a ladder to the ground. Naturally we were jubilant with our success and prowess and began eying the ground for additional targets. Perhaps a run on the back of the house would be just retribution, sort of a coup de grace.

We decided to head back to the airport and check the extent of damage to the ship.

Upon landing, the incident was reported to the proper authorities and the person responsible was apprehended.

There were some six or seven holes that had to be patched up so the riggers started at it. The ship was swinging freely in the wind, nose to the mast. The problem was how to anchor the tail for a short while so we could get a ladder up to do the patching. The local fire department came to our rescue by supplying a truck with telescoping ladder and a small pickup truck they had filled with extra hose and other type of paraphernalia to tie the tail mooring lines to.

I must explain that the mooring provisions on air ships are designed to allow complete circumvention of the mast. Or in other words, to allow the tail to swing free, always keeping the ship headed into the wind.

The ship was steadied, with the truck tied to the tail, and the repairs started. In order to take the load off the landing gear, we unloaded most of the ballast to make the ship light. The repairs were taking longer than anticipated. With a wind shift apparent, plus an increase in velocity, the old bag started to heave, tug, and roll. Well, with the ship in a "light" condition it began to lift and shift with the wind. In doing so, much to the horror of the fire department, it lifted the front end of the small pickup off the ground and was in the process of dragging it around to line up with the new wind direction. This caused a halt in the activities for the afternoon and that was the last we saw of the local fire department

Winter was approaching and we headed south into Missouri, Arkansas, Oklahoma, Texas, and on to Yuma, Ariz., where we readied for the flight to Tucson for a week engagement. It was late evening as we approached Tucson, battling a cold front and high winds, and then into freezing rains.

We didn't know it at the time but the advance crew with our mooring mast had encountered mechanical trouble and were almost two days late getting to Tucson (usually they were three or four days ahead). Add the fact that it had been raining, turning the mast site to mush and necessitating a mast location change to firmer ground. We found out later that they had erected the mast at three different sites without success.

The high winds cost us precious time and fuel. We were carrying about 75 extra gallons in five-gallon cans, which I started pumping into the main tanks. With the coming of the rain the bag began icing up, killing our lift and increasing fuel consumption. Then all the gondola lights went out due to water impingement in the control box. We were in complete darkness and no flashlights. The temperature was down to 20°, the windshield and windows so badly iced up that we couldn't see out except through open panes. Then the elevator wheel, too, began icing up so that it was difficult to grip. Some of the instrument glasses had frosted over to the point it was impossible to read them. We were checking our fuel gauges by striking matches.

We had lost all concept of time, distance, and speed. We were on course but where? We didn't know where, and we were over some mountains losing altitude, and in fact were flying below the peaks. The gas pressure in the bag was beginning to drop. If continued would cause the bag to go limp.

Tucson Tower was contacted and made aware of our condition. They indicated we were about 70 miles from town, and they would send State Police cars out to locate the blimp. Then they said that the cars would be traveling with emergency lights on and beacons pointing straight up. The ship was to follow the lights straight to the airport.

It was about 20 minutes before we saw the first lights from our open window. We were still on course thanks to Navy navigation. The Wonder Ship followed the lights to final approach, at which time one engine quit from lack of fuel and a frozen stiff crew.

But there were still problems. It was early morning and still dark when the landing was made. The mast was not yet secure. There were some thousand people at the airport, all of whom came to help light up the field with their cars. Now help would be needed to steady the ship while last minute adjustments were being put to the mast. Without waiting for instructions from the ground crew the eager "helpers" charged the ship, pulling and tugging at any line that was convenient.

The bag itself was in bad shape from lack of gas pressure and this didn't help things. In fact the ship was almost rolled over on its side from the willing hands nearly digging the prop of the one still-running engine into the ground.

Finally, the ship was righted and attached to the mast and the auxiliary air blower hooked up for that needed shot in the arm.

The next day the sun shone bright and the sky clear. The



The wrecked ship in February 25, 1948

old bag swayed gently in the morning breeze, none the worse for wear.

With the conclusion of the Tucson stay, the Wonder Ship headed west across mountains and desert to California. First to Indio, Palm Springs, and then to San Bernardino.

In San Bernardino we hooked up a loudspeaker under the fuel air valve and played recordings to attract attention and even ran a disc jockey broadcast from the gondola. We usually started the recordings with a record that screamed "Look Up! Look up: Keep your eyes on the sky." It worked fine until everyone started getting out of their cars to see what was going on. You can imagine the traffic problems this created. Before long there was a city ordinance prohibiting any broadcasting from the air.

Our barnstorming tour took us to Santa Ana and Long Beach where during a landing the ship was hit by a sudden gust of wind. We looked up to see half the crew dangling 10 feet in the air from the lines. They quickly let go when they realized it wasn't coming back down in the very near future.

The next day on another landing attempt the ship was waved off because it was coming in too hot. One of the crew got caught in the lines and was dragged about 100 feet.

We continued our trek up the coast to Santa Monica, Santa Barbara, and finally into Moffett Field. For the first time in almost a year a hangar was available for the ship. The ship was reworked, patched, painted, and the helium purged, and began

operating between San Francisco and Sacramento.

It wasn't until some months later that the law of averages finally caught up with the Wonder Ship. The ship had just left Abilene, Tex., on the return trip to the east coast and a jaunt through the southern states when the port engine froze. We didn't know why since all indications showed normal oil pressure, oil temperature and cylinder temperature. It just stopped dead in the air. The ship returned to the field and preparations were made for engine change.

Ordinarily this would have been a simple job to change as the engines are on outrigger mounts. But the engine mounts no longer lined up with the outrigger because the torque caused by the sudden stoppage had warped the outrigger frame. With the aid of some two by fours, crowbars, and a tow truck borrowed from a local garage we finally got the engine in the mount the following afternoon.

To make things worse it had been raining for the last few days and the landing gear would mire down in the mud and tilt the ship on its side, strewing parts, tools and men on the ground. The wind was picking up and the rain became a downpour so work was abandoned for the rest of the day.

The watch took over and we returned to our hotel. About 10pm that evening we received a call from the field that the wind was increasing and that help was needed to keep the ship under control. We all raced down to the cars just in time to see the front lobby of the hotel blown in by a terrific gust of wind.

It took us some 40 minutes to finally get to the field.

By that time that bag was swinging crazily on the mast and becoming limp from loss of pressure. The portable blower had been knocked off and there was no way to maintain air pressure in the ballonets.

The only thing to do was to get that one good engine started and fly the ship on the mast. After some manipulating, we managed to get the ship close enough to the ground so that some of us could climb aboard and man the controls. The engine was started and the wild ride began - like a roller coaster gone mad.

At times that ship was riding at a 60° angle off the mast and our air speed indicator went bouncing from 40 to 60 knots with gusts to 80.

For almost an hour the fight with nature went on, trying to keep the ship into the wind. The gusts were so high and coming from all directions that it was impossible. The wind and rain increased and the ship tugged and strained at the mast. We could see the mast guide wires and anchor cables go slack at every gust of wind.

Now the strain was showing. The anchor stakes began to bend and pull out of the rain-soaked ground and the wooden nose batons on the ship began to snap in two. If the mast gave way or the nose tore loose the blimp would be blown into the next state.

The only option left to do was to release the helium and deflate the bag. This would save the ship and it could be erected again. In cases of emergency a 6-ft rip panel was provided in the top of the bag connected to a yank cord just outside the gondola door.

The order was given to deflate. The cord yanked but nothing happened. The cord had broken away somewhere inside the bag without deflating.

Now we had a problem! It was solved a few seconds later when the batons on the nose started to break loose.

Abandon ship!

We started stepping out of the madly careening balloon into wet darkness, except that the first step was a long one, about 15 ft into the mud below.

Except for having the wind knocked out, there were no injuries. The finale came when the nose supports tore loose, deflating the bag, slamming the gondola to the ground, then bouncing some 40 or 50 ft in the air. Finally coming to rest upside down on top of the bag and taking the mast down with it.

Ironically, a few minutes later the wind died down to a breeze and the rain to a drizzle as if it had accomplished a vengeful task and would now rest.

The battered, ripped remains of the old gas bag, beaten into submission by the forces of nature, lay quiet and prostrate in the mud, soulfully viewed by a somber crew milling aimlessly around the scene of its last encounter with the elements.

This was the official end of the first cruise of the Wonder Ship, NC900SH.

Salvage operations began immediately and the crew and remains left for Moffett Field to erect another Wonder Ship for the continuance of the program.

The author in no way has any interest in increasing the

sales of Wonder Bread. Unless, of course, there are still 10 dollar bills in each loaf.

About the Author

Robert LoVece, born October 4, 1925, grew up like many kids between the wars – building model planes and dreaming of flying. He actually pursued this dream, attending Harren High School of Aviation in New York City, where the curriculum included aviation related classes three days a week. On graduation, he went to work for American Airlines as a cargo handler, later transferring to maintenance as an apprentice mechanic.

When WWII started, LoVece enlisted in the Army Air Corps and entered pilot training in 1943, and the B-17 factory school at Lockheed in Burbank, Ca., later that year. When the army decided it had too many pilots, LoVece ended up being transferred to flight engineer school. He noted, “Most of the flight engineers at the time were gunners on the B-17s and B-29s. I was the guy who sat in the top gun turret, navigators were at the side turrets and bombardiers were at the nose turrets.”

Following the end of the war, LoVece was not immediately discharged because the Army Air Force considered flight engineers a critical military occupational specialty. After a stint as a flight engineer instructor in Mississippi, LoVece learned that they had miss-assigned him and he was supposed to have gone to an air rescue squadron of converted B-17s. The squadron having no B-17s was eventually given some Navy PBY Catalinas that were converted to OA-10A for air rescue work. He was discharged from the Air Corps before the unit received their B-17s.

LoVece then joined Douglas Leigh Sky Advertising Corp. flying non-rigid airships as a flight engineer as described in this story. Not mentioned was CAA rules required that every flying member of the crew also be a pilot. From there, he joined Pan American Airways as a mechanic in 1948, where he traveled the world fixing disabled airliners.

LoVece also was a member of the N.Y. National Guard, and ultimately the USAF Quality Control Branch. His background landed him a position with Republic Aviation as an aircraft quality control inspector where he served as a project officer on the F-84, F-103, and F-105. He was transferred to Vandenberg in 1960. At the time he wrote this piece he was a Project Inspector on Northrop's T-38 production line.

LoVece was an avid model plane builder and later delved in to aviation art. After his passing on December 12, 1981, at age 56 after a battle with cancer, his family donated most of his model and art collection to the Santa Maria Aeronautical Museum and Exhibits, now the Santa Maria Museum of Flight (circa 1985).

MOVING

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