

THE NAVYS NON RIGID AIRSHIPS

by

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While the non rigid airship is probably the least glamorous of the Navys air arm, she has set up a record of submarine discouragement unequaled by any other weapon or combination of weapons. In peacetime she is about as popular as a sob sister at a frosh dance but, let war come, then she takes on all the glamour of a prima donna.

According to captured German sub log books the airship was the biggest single thorn in the subs side. If the sub entered waters patrolled by the airship she would be under constant danger from an unseen foe over head. If the sub surfaced and fired a single shot she was marked and tracked to her doom. Even in this age of guided missiles she still has to give her position away hence her advantage in order to attack an airship.

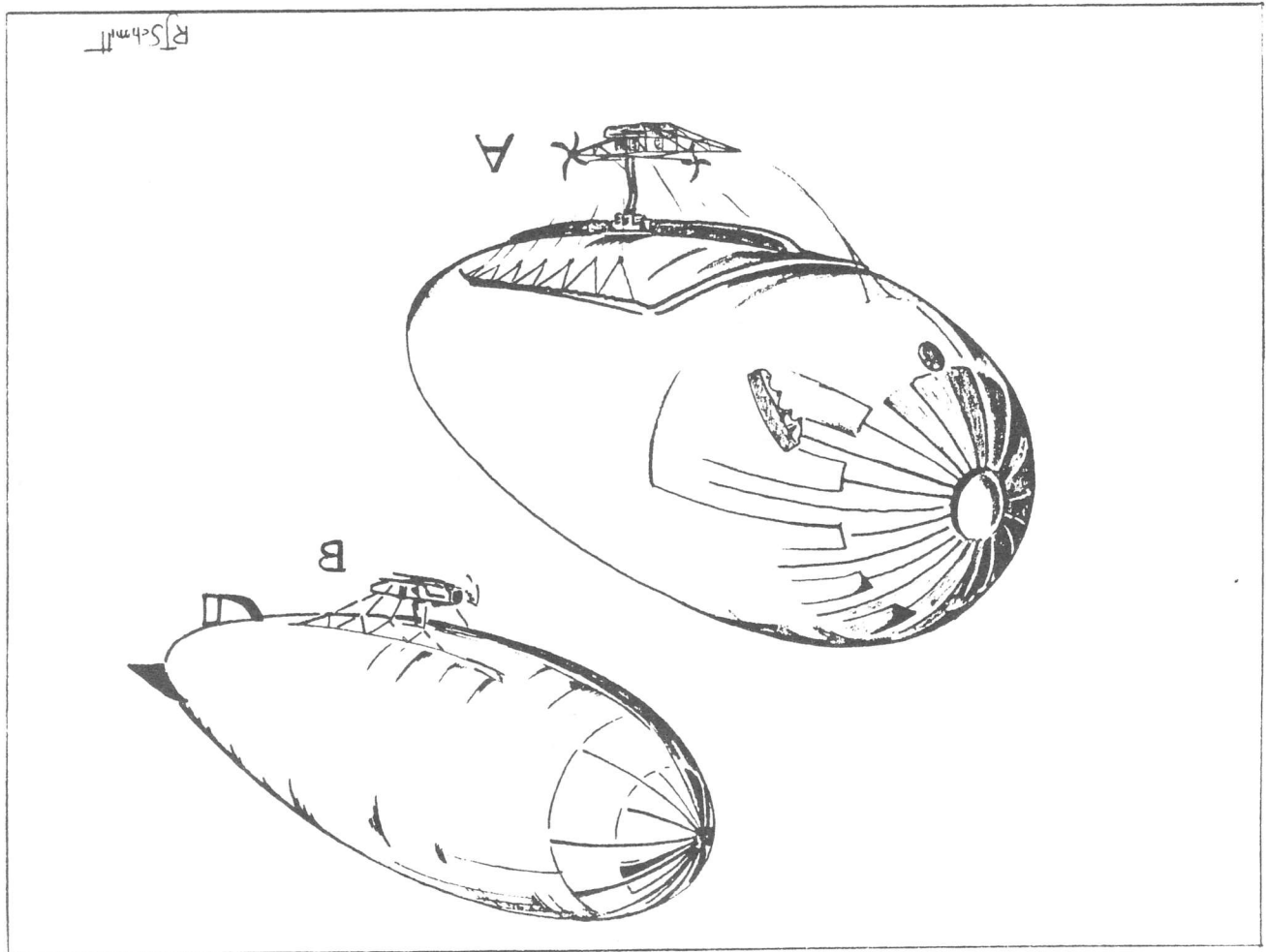
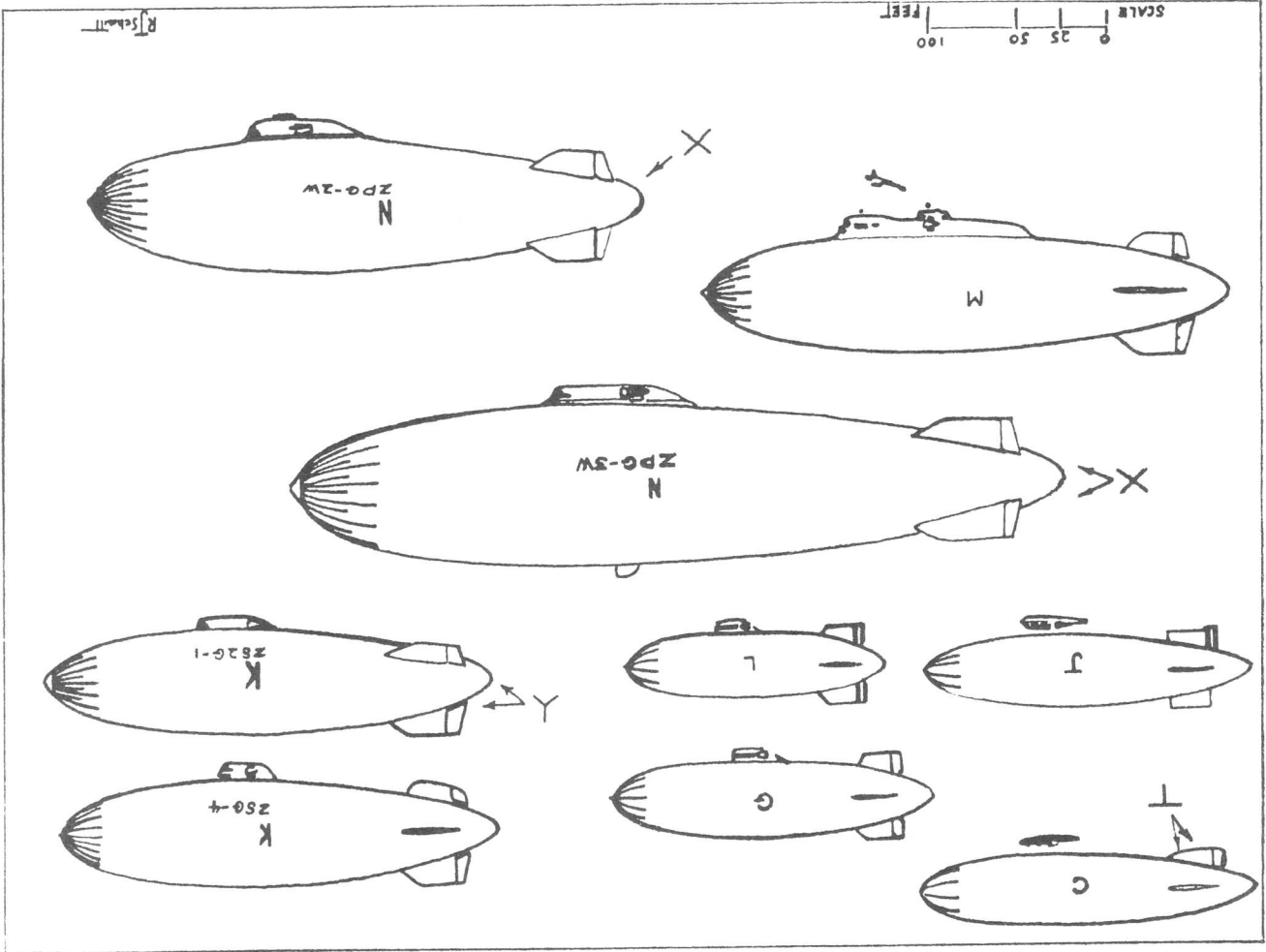
The Navy realizes the airships particular attributes and the naval requirement she fills. Thus we have for the past forty odd years been active in the design and development of such lighter than air ships.

The Navys first blimp, the DN-1 (Dirigible Non-rigid, One) or "A" ship - 1, was placed on order in 1915 which was some seven years after the Army accepted its first non rigid. This fact is inserted in view of the popular belief that the Navy pioneered the airship on this side of the globe. The DN-1 was contracted by the Connecticut Aircraft Company by virtue of low bid. She was found unacceptable but the contractor was paid off for acting in good faith. The DN-1 after two years of rework by the Navy was put in service as a training ship. The full story of this ship was carried in Volume 3 Number 1 of the A.A.H.S. Journal.

The second blimp was known as the D-2, or "B" ship - 1. This was the first blimp built entirely by Goodyear and evolved into a very usefull training ship. This blimp made its first flight on May 29, 1917, being flown from Chicago (where she was assembled in a park) to Medina, Ohio, by pilots Ralph Upson and Herman Kraft.

The blimp realized its first coming of age in the "C" ship. This was the first design resulting from operational experience. These ships displaced 180,000 cubic feet of hydrogen and were 192 feet long being 43 feet wide and 46 feet high. The "C" had a speed of 42 mph and a range of a little better than 1,000 miles. The C-5 established a record for U. S. built blimps when in 1919 she flew from Montauk Point to Newfoundland, a distance of 1,115 statute miles, the longest distance non stop to that date. This flight which was made on May 14-15th was to be the first leg of an attempt on the still undefeated Atlantic. Due to mooring troubles and high winds at Newfoundland the attempt had to be abandoned.

The "D" ship was of World War I vintage and little information can be found except that she was similar to the "C" in general.



"E", "F" and "H" were experimental post World War I one of a kinds. No "I" ship was ever built.

The "G" ship was an experimental design to use the then (1919) obtainable for the first time, helium. This ship however was not built until the late thirties as an off the shelf design. The "G" was used for training in W.W.II.

It will be noted that the era of the old B-Limp type ship ended with the last hydrogen ships. Helium afforded a saving in weight and overall drag in allowing the car to be an integral part of the hull, thus the modern non rigid was born. The reason for the car being hung low on the hydrogen ships was to lessen the chance of engine exhaust and possible car sparks from igniting the lift gas above. The "J" ship was the last of the old breed and was a work horse. She was engaged in experimental work ranging from water pick-up (water was picked up at sea to compensate for fuel burned thus allowing a constant equilibrium) to high sea crew changes and was even active at the onset of World War II as a trainer.

The "L" ship was a peace time Goodyear design converted to a training ship to replace the "J". She displaced a scant 123,000 cubic feet of helium. More Navy L.T.A. pilots were trained in the sturdy little "L" than any airship before or since.

The "K" or King ship is the first example of a truly modern non rigid airship. Her 80 mph speed was previously unknown in a non rigid. With 416,000 cubic feet of helium gas she was nearing some of the semi rigids in total displacement. Later "K" type ships carried up to 527,000 cubic feet and measure some 256 feet in length. This ship is familiar today as the ZSG-4 in use by the weekend warriors. The K's being built today are known as ZS2G-1 and differ from the ZSG-4 in inverted Y tail, car design as shown in the drawings, and the addition of 123,000 cu. ft. in gas capacity. The ZS2G-1 is also fitted with one man control yokes, full all weather automatic pilot and radar navigation aids.

The "M" ship was an entirely new design built for extreme range and load carrying. This ship was 200,000 cubic feet over the "K" and had the largest car of any non rigid to its day. The car of the "M" was 125 feet long and was articulated to give with the hull under air current varience. At one time the "M" was experimentally fitted up with a light plane to further her patrol range. The "M" ship in its ability to range far out to sea was highly respected by the Nazis, this according to a press interview of German Admiral Doenitz then-in command of U-boat operations. The Germans were in constant fear of overhead attack from as far as 500 miles out due to such ships as the M.

With the N-1 of 1950 a new era of L.T.A. was ushered in. The "N" type airship displaced 870,000 cubic feet as compared to the M's 750,000 cubic feet. In size she was 324 feet long and 71 feet in diameter as against 310 feet and 71 feet for the M. The N-1 was officially known as the ZPG-2 and was later expanded in the ZPG-2W to a record 1,000,000 cubic feet. The "N" or NAN ship as she is known by her crews has actually broken records made by rigid airships. On March 14, 1957 Commander Jack R. Hunt broke the old full payload distance and endurance record made by the Graf Zeppelin back in the twenties. CDR Hunt flew the "SNOWBIRD" 8,216 nautical miles in 11 days and 15 minutes. Earlier in 1957 five NANs maintained a station 200 miles off the east coast for 10 days, staying put in the worst weather in 75 years for that locale. The weather was so bad that even military flights through that local were cancelled and surface shipping had to be diverted.

The ZPG-3W is the latest of the modern non rigids and by far the largest of her type ever constructed. In length she compares to many World War I zepps and in displacement she is larger than most W.W.I zepps. Her payload compares with the rigid U.S.S. Los Angeles and her range and power are greater. The ZPG-3W displaces nearly 2,000,000 cubic feet and is over 400 feet in length. This ship carries the largest radar antenna ever airlifted and is to be used in DEW line operations.

With these recent records, the recent American Legion, Navy and Air Force pushing, it looks as though the Atomic powered flying aircraft carrier is but a matter of time. The old zepps will be to modern L.T.A. what the model T is to the 59 Thunderbird.

References:

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WHY? Has America No Rigid Airships, Allen & Litchfield Corday and Gross Co., 1947.

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Aboard A Blimp Hunting U-Boats, July 1943 National Geographic Mag.

The Story Of The Airship (NON RIGID), Hugh Allen, The Lakeside Press, R.R. Donnelley & Sons Co., Chicago and Crawfordsville, Indiana, 1943.

Advertising The Army (NO CREDIT) Colliers Mag., Oct 10, 1908.

U.S.Navy Class (C) Dirigible, (NO CREDIT) Aerial Age Weekly, Aug 25, 1919.

Ralph Block, Akron L.T.A. Society, Editor L.T.A. Society Bulletin.

G.T. Ralston, Staff Representative, Goodyear Aircraft Corp.

Jack R. Hunt Commander U.S.N.

SHELLBACK INSIGNIA

Since writing the article on Navy Markings, which mentioned the Shellback Turtle insignia (Volume 2, page 157), the following documentary evidence has been discovered:

New York Times, March 21, 1931, page 2; Washington, D.C., March 20: The first two aviators to gain official recognition as "Shellbacks of the Air" were announced today by the Navy Department. They are Lt. W. V. Saunders of Toledo, and Ensign J. R. Lee of Washington. The craft in which they flew across the Equator have been assigned a special winged turtle design with one chevron.

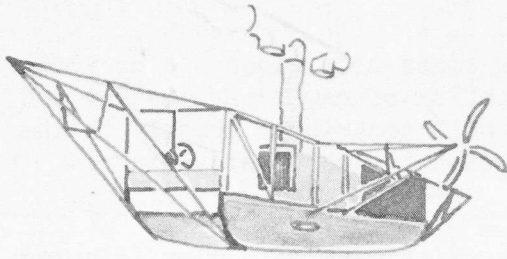
The fliers joined the subjects of "King Neptune and the Raging Main" recently while attending the naval manoeuvres. They were ordered to reconnoiter the Galapagos Islands, 675 miles westward of the coast of Ecuador.

1915 - 20

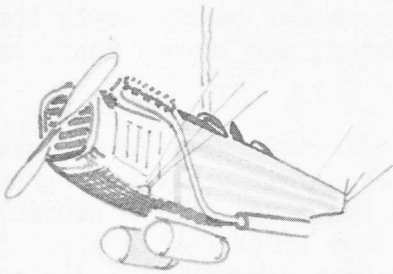
AIRSHIP

CAR DESIGN

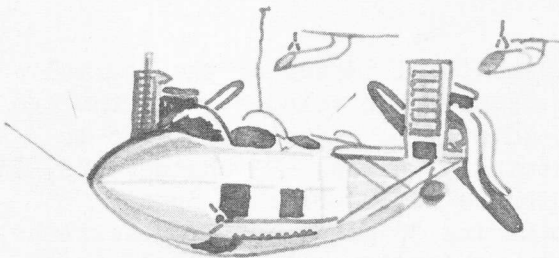
A



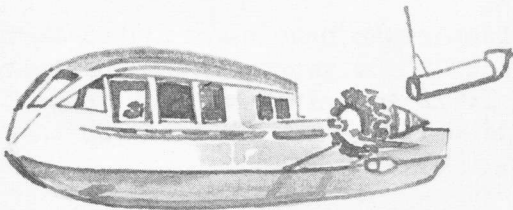
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C

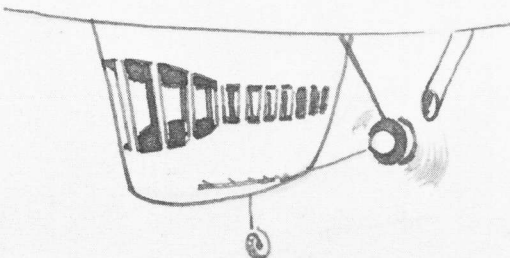


J



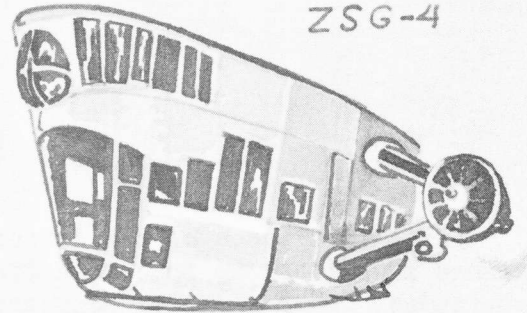
1920 - 40

G-L



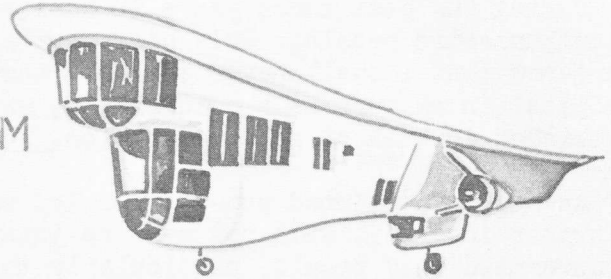
K

ZSG-4

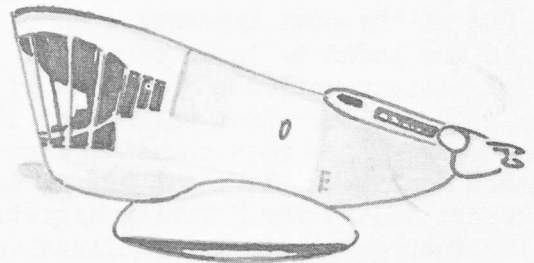


1940 - 50

M

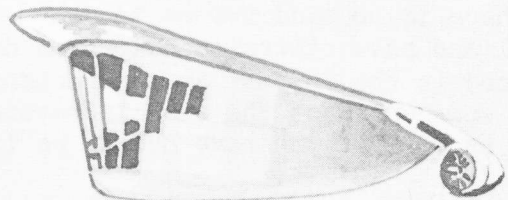


N ZPG 2



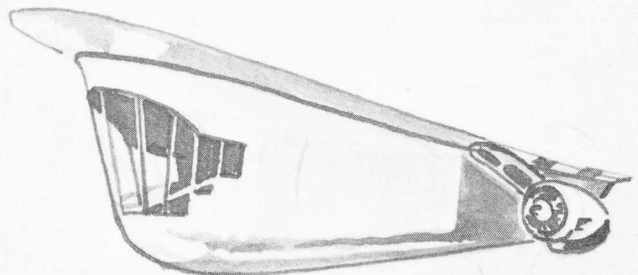
1950 - 58

K ZS2G-1



N

ZPG-3W



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