

ZMC-2: The Metal Clad Airship

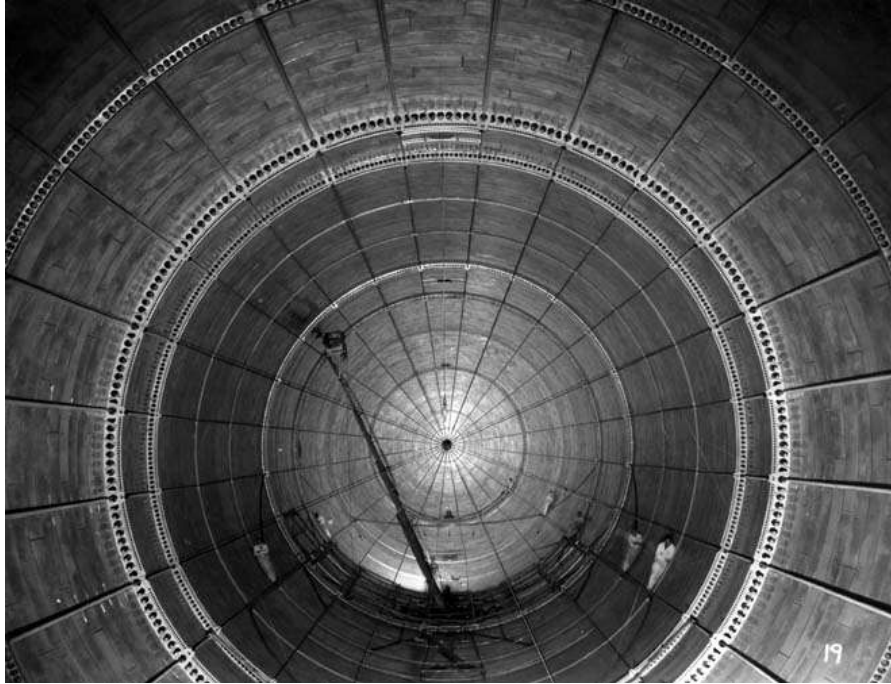
The Tin Blimp

The ZMC-2 was built by the Aircraft Development Corporation, a division of Detroit Aircraft Corporation. It was built at the Naval Air Station Grosse Ile on the Northwestern end of Lake Erie, south of Detroit.



*Looking toward rudder end of ship showing inflation tubes on top of ZMC-2
Charles Rosendahl LTA Collection – University of Texas - Dallas*

The airship's hull was made of "AlClad", sheets of duraluminum coated with aluminum (to reduce corrosion), which were riveted together and were reinforced by ribs on the inside. The helium inside the ship was held by the envelope itself, not contained in bags nor cells. There were also two ballonets for air equaling 25% of the total volume. These were used to control the pressure of the helium and to help trim the aircraft.



*Interior view of ZMC-2 Metal-clad Airship
Charles Rosendahl LTA Collection – University of Texas - Dallas*

The ZMC-2 was propelled by two Wright J-5 220 HP engines, each one driving a 9-foot propeller. The ship was controlled by eight fins, four acting as rudders and four as elevators.



U. S. NAVY METAL-CLAD AIRSHIP, NAVAL AIR STATION, LAKEHURST, N. J.

Since it was never equipped with a mooring mast attachment, it was always required handling by ground crews.



*The ZMC-2 at Lakehurst, New Jersey with handling crew
Photo courtesy of Ryan Crierie*

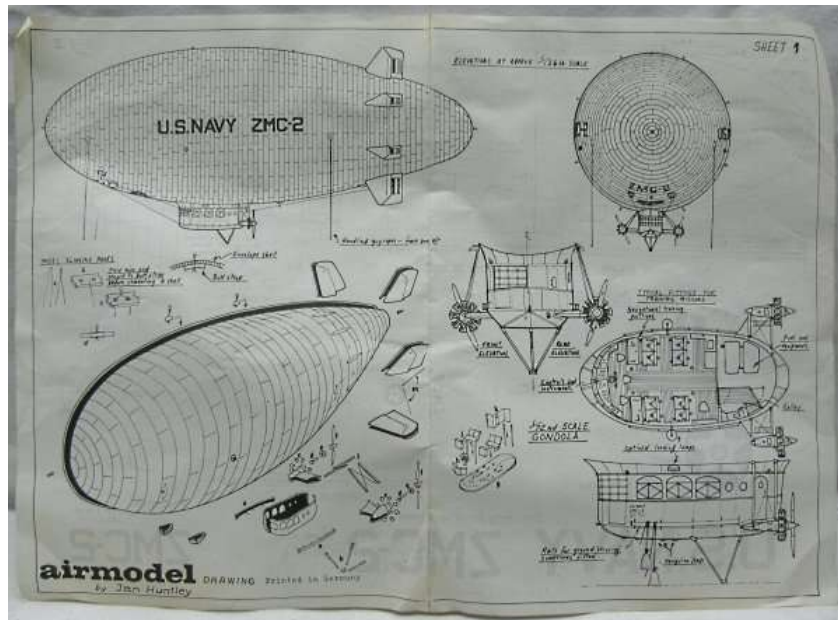
The airship made its first flight on August 19, 1929. During the following acceptance tests and flights all specifications were met or exceeded. However, the U.S. Navy had never shown any real interest in the project and gave the ship a lukewarm reception.



The ZMC-2 over Washington D.C.

Over a 10-year period of service at Lakehurst, New Jersey, the ZMC-2 logged 752 flights and 2265 flight hours. Its last flight was on August 19, 1939. It was removed from the active list and used for training purposes, without flying. It was disassembled and scrapped in 1941.

ZMC-2 Metal Clad Airship – General Specifications		
Volume	202,200 cu. ft.	5720 m ³
Ballonets (2)	Front 22,600 cu. ft.	640 m ³
	Rear 28,000 cu. ft.	793 m ³
Overall Length	149.5 ft.	45.5 m
Maximum Diameter	52.7 ft.	16.1 m
Fineness Ratio (length/diameter)	2.83	
Overall Height	64.5 ft.	19.7 m
Maximum Lift	12,250 lbs.	5,556.5 kg
Useful Lift	750 lbs.	340.2 kg
Maximum Speed (@440 HP)	62 mph	100 km/h
Cruising Speed (@200 HP)	50 mph	80.5 km/h
Endurance at Cruising Speed	11 hours	
Range at Cruising Speed	680 mi.	1094 km
Engines (2)	Wright J-5 220 hp	
Propellers (2)	9 ft. 2 in.	2.8 m
Fins (8, all metal)	440 sq. ft.	40.9 m ²
Control Car		
Length	24 ft.	7.3 m
Width	6.5 ft.	2.0 m
Crew	3	



Instructions for assembling a ZMC-2 model kit