

Parts of a Blimp

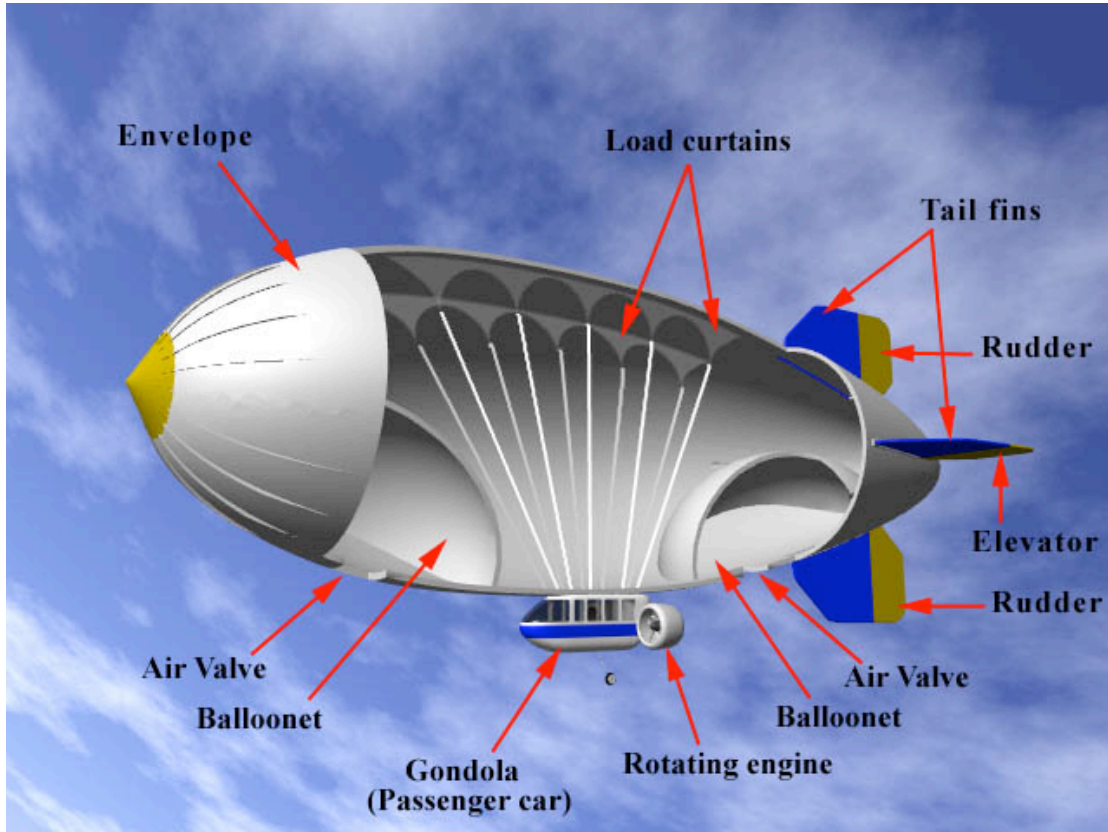


Image from <http://wings.avkids.com>

A blimp or airship controls its buoyancy in the air much like a submarine does in the water. The *ballonets* hold "heavy" air. When the blimp takes off, the pilot vents air from the ballonets through the *air valves*. The helium makes the blimp **positively buoyant** in the surrounding air, so the blimp rises. The pilot throttles the engine and adjusts the *elevators* to angle the blimp into the wind. The cone shape of the blimp also helps to generate lift.

As the blimp rises, outside air pressure decreases and the helium in the envelope expands. The pilots then pump air into the ballonets to maintain pressure against the helium. Adding air makes the blimp heavier, so to maintain a steady cruising altitude, the pilots must balance the air-pressure with the helium-pressure to create **neutral buoyancy**. To level the blimp in flight, the air pressures between the fore and aft ballonets are adjusted. Blimps can cruise at altitudes of anywhere from 1,000 to 7,000 ft (305 to 2135 m). The engines provide forward and reverse thrust while the *rudder* is used to steer.

To descend, the pilots fill the ballonets with air. This increases the density of the blimp, making it **negatively buoyant** so that it descends. Again, the elevators are adjusted to control the angle of descent.

When not in use, blimps are moored to a mooring mast that is either out in the open or in a hangar. To move the blimp into or out of its hangar, a tractor tows the mooring mast with the blimp attached to it.

(How Stuff Works: <http://science.howstuffworks.com/transport/flight/modern/blimp2.htm>)