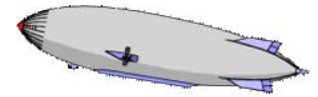
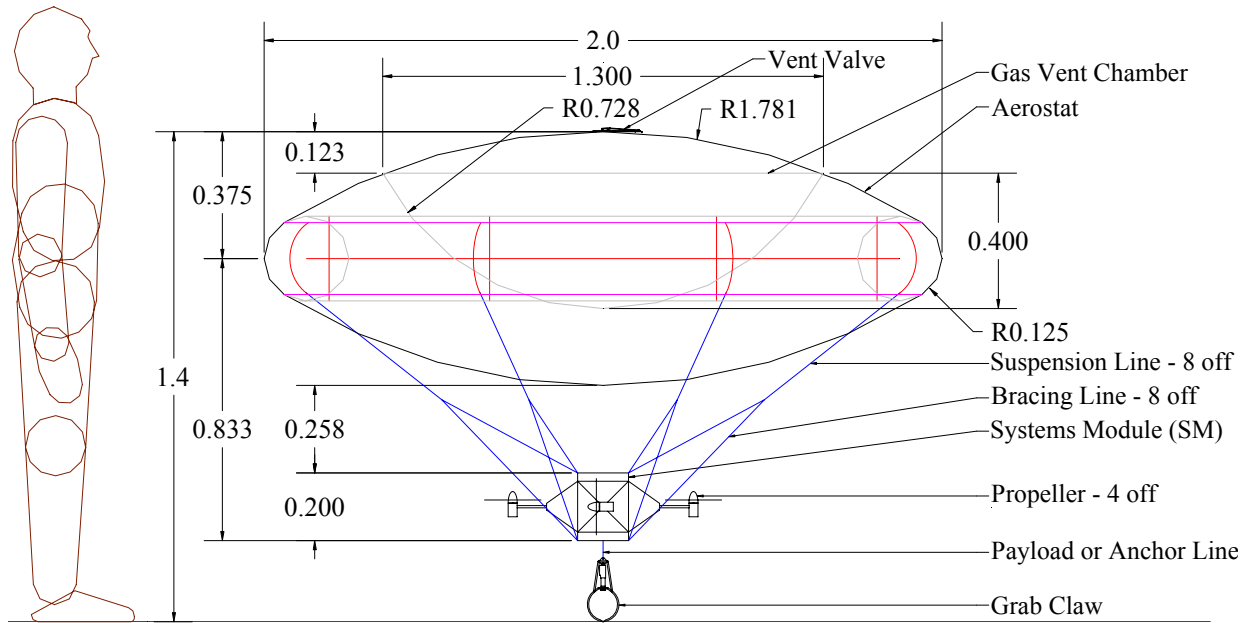


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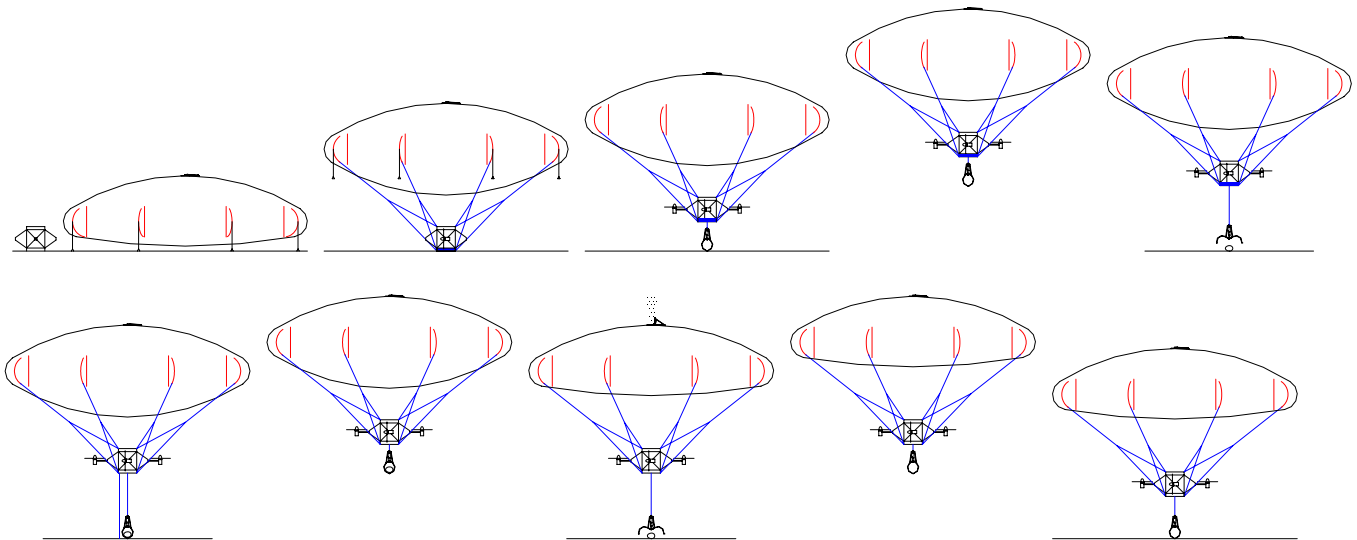


SkyBird (LS-L2) Micro *Luffship*

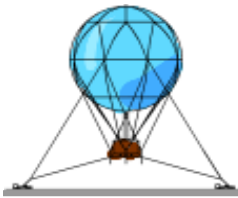


Key Aspects:

- An omni-directional motorised gas balloon for simple operation like helicopters (always upright)
- Low drag variable geometry lenticular (discus form) aerostat
- Quiet operation, also able to fly routinely as a silent un-powered free balloon
- Stable flight characteristics – generally for indoor operation - pseudo VTOL, UAV, autonomous programmed and R/C
- Doesn't need aerodynamic stabilisers, elevators or rudders – controlled with thrust
- Fixed when moored - cloaked for protection and storage
- Compact (smaller than equivalent unidirectional airships)

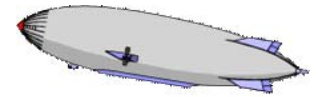


Role: Configured with a variable geometry lenticular aerostat (no ballonet), the LS-L2 was arranged as a miniature aerial crane for transport of small under-slung masses up to 100 g. The design features a lower grab claw to pick up or set payloads down. The above illustration shows how it was intended to transport an egg; where water would be dumped for load exchange when picking the egg up and gas subsequently vented to restore equilibrium when later setting the egg down. Even so, it also could do this with thrust, but that reduces endurance. Propeller thrust otherwise is for position, orientation, height & flight control purposes. Alternatively, it could be configured with camera or other systems to suit different roles. If flown with constant weight it doesn't need the ballonet, but that provides a way for recovery when power is low, if it floats up to the ceiling.



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SkyBird (LS-L2) Micro *Luffship*

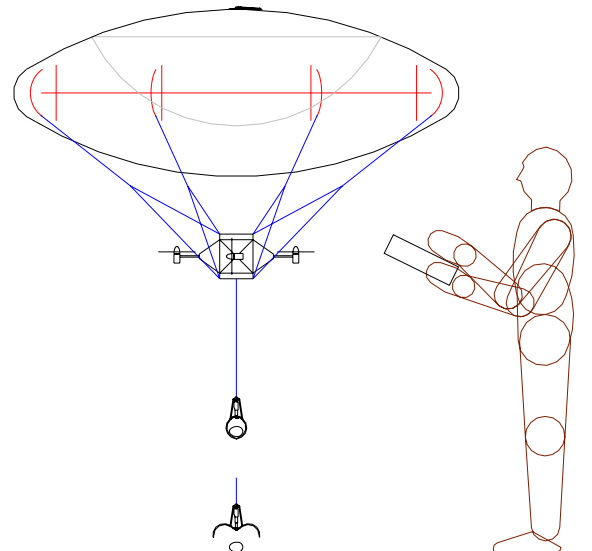
General specification:

Gas fill / Overall aerostat volume	1.34 cu m (47.32 cu ft) / 1.41 cu m (49.79 cu ft)
Aerostat maximum diameter	2 m (6.562 ft)
Aerostat height when full / after gas vent	0.75 m (2.46 ft) / 0.5 m (1.64 ft)
Overall airship height	1.4 m (4.59 ft)
Payload	100 g (0.22 lb)
Propulsion	4 off electrically driven propellers

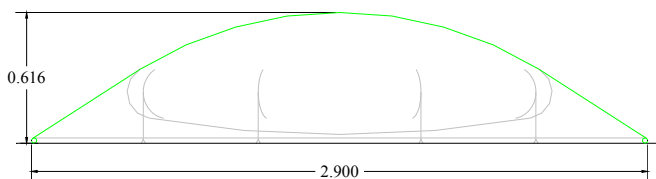
Operation:

The LS-L2 is a new lenticular *Luffship* (an airship deigned by the author) to fulfil indoor aerial duties without assistance. It was designed as a test model to evaluate flight characteristics for much bigger manned versions. However, it also was to provide a stable aircraft for sensitive payloads up to 100 g. People may expect a practical, easily-maintained arrangement with low acquisition and operating costs that is fun.

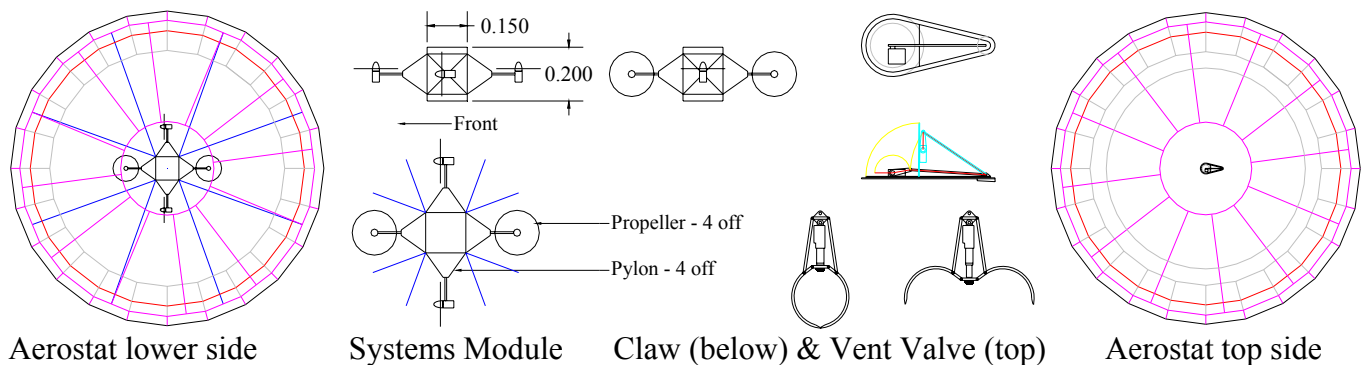
The SkyBird is quick and easy to set up, less than 30 mins out of its carry bag by 1 person and simple R/C operation.



Aerostat ground protection cloak



Features



Current status

The design is complete and was produced/flown as pictured right, but with a different supplier designed systems module & propeller configuration that wasn't suitable. It was used 'as built' for a November 2013 Airship Association Egg Competition commitment. It thus needs upgrade to the design intended before flying again, although it was used later as a teaching aid to show new people what not to do. Configured as originally requested and shown above it functions well, known from other models flown. Other sizes thus also are available.



LS-L2-1 SkyBird

Contact as below.