

# Escape - hybrid personal airship concepts

Peter Lobner, updated 8 February 2022

## 1. Introduction



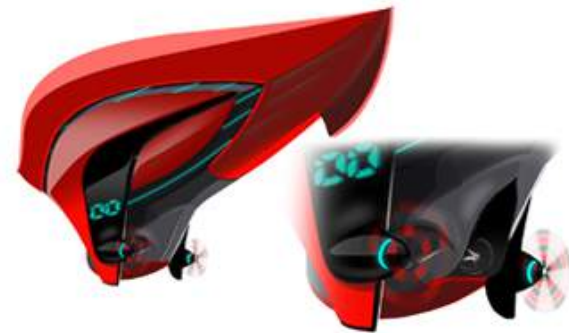
Escape is a set of novel design concepts, developed by Australian designer Robbie McIntosh in 2011, for small, personal airships carrying two to four persons, primarily for exploration and recreation. The initial set of designs included three concepts:

- **Concept 1 - Luxury:** An autonomous floating room seating three to four people. It featured a built-in vehicle personality that would serve as the occupant's chauffeur.
- **Concept 2 - Utility:** An all-purpose workhorse vehicle seating one or two occupants plus cargo.
- **Concept 3 - Sport:** A two-seater for a pilot and co-pilot. The concept is designed for recreation and competitive racing.

Novel engineering features were incorporated into these designs:

- Carbon fiber airframe structures
- Polycarbonate shell (Concepts 2 & 3) or leading edge facade (Concept 1)
- Inflated polyurethane tubing (air-beams) formed the load-bearing structure for the gas envelope (Concept 1)
- Customized exterior lighting effects (polyester weather resistant coated fabrics impregnated with optic fibers for visual display)
- Organic shapes

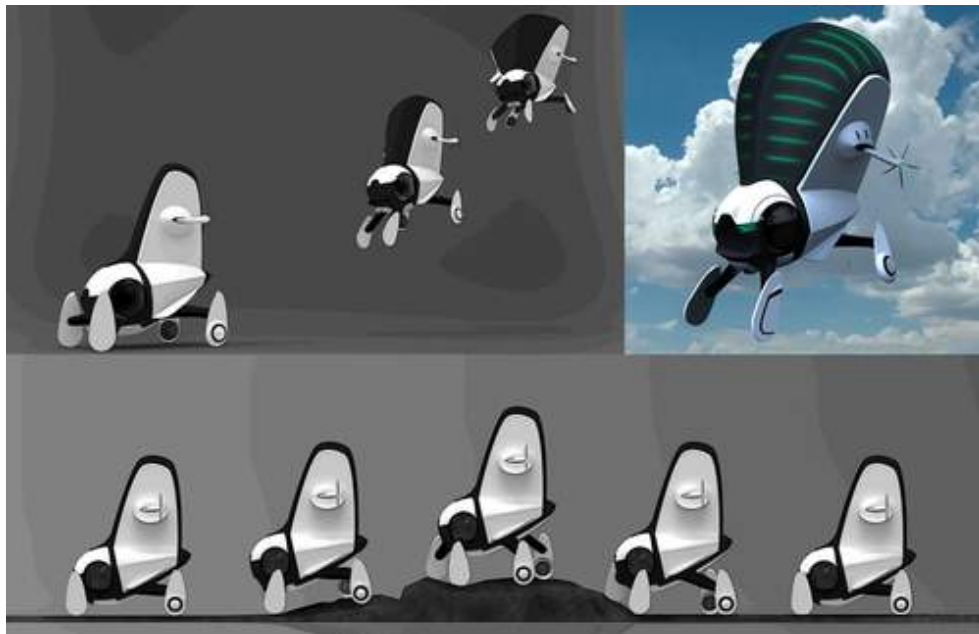
McIntosh commented, "Original concept designs for Escape received mixed reviews. Peers thought the concepts were too traditional and didn't push the fundamentals of the concept far enough. Therefore, a more drastic design was conceived." Although Concepts 1 to 3 weren't developed further, elements of their designs would be included in the next phase: Concept 4.



*Robbie McIntosh early ESCAPE design concepts.  
Concept 1 - luxury (left), Concept 2 - utility (center) & Concept 3 - sport (right).  
Source: Robbie McIntosh Design (2011)*

## 2. Escape Concept 4

This was a small, variable buoyancy, variable volume airship concept that features a helium lifting gas envelope that can be depressurized and folded within a compact fin-like structure, making the vehicle heavier-than-air while on the ground with the helium stored in a pressurized tank aboard the vehicle. To become airborne, the fin is opened and the helium is expanded into the full-size lifting gas envelope needed for lighter-than-air flight. Escape Concept 4 essentially is a small, flying sports utility vehicle (SUV) that can traverse rough terrain on the ground.



Escape Concept 4:  
*Top left: Descent and landing.*  
*Top right: In flight with gas envelope fully expanded.*  
*Middle: Driving over rough terrain.*  
*Bottom left: Secured for overnight camping.*  
*Source: Robbie McIntosh Design*

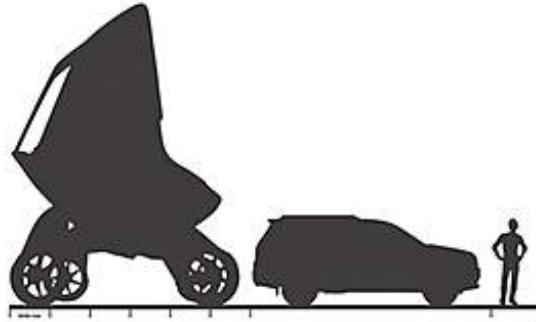
Further design iterations refined the shape of Escape, while retaining the basic functionality of Concept 4.



*Escape Concept 4, refined. Source: Robbie McIntosh Design*



*Anatomy of Escape Concept 4. Source: Robbie McIntosh Design*



*Relative size of Escape and a typical SUV.  
Source: Robbie McIntosh Design*



*Escape traversing rough terrain (left) and in flight  
with the gas envelope expanded (right).  
Source: Robbie McIntosh Design*

### **3. For more information**

- Robbie McIntosh, “Personal Airship Escape,” (Escape Full Project), 2011:  
<https://static1.squarespace.com/static/54d6ec02e4b05b179816fade/t/54e015f4e4b0409b065a1db8/1423971828757/CJ+ROBBIE+MCINTOSH.pdf>

## **Other *Modern Airships* articles**

- *Modern Airships - Part 1*: <https://lynceans.org/all-posts/modern-airships-part-1/>
- *Modern Airships - Part 2*: <https://lynceans.org/all-posts/modern-airships-part-2/>
- *Modern Airships - Part 3*: <https://lynceans.org/all-posts/modern-airships-part-3/>