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## Amateur-built & Experimental Aircraft

### WHAT ARE EXPERIMENTAL AIRCRAFT?

Experimental aircraft is another name for amateur – or home-built aircraft. The amateur-built and experimental aeroplanes all have one thing in common: they have been built or restored by individual aircraft enthusiasts and have not flown straight out of a factory. Many have undertaken epic flights and their history goes right back to the origins of powered flight; the Wright Flyer, the first powered aircraft to maintain sustained and controlled flight, was built by two amateur builders, Wilbur and Orville Wright. More recently, the first non-stop flight around the world was achieved by Dick Rutan’s Experimental “Voyager”. Many of the aircraft on display have been restored to their original condition by skilled and enthusiastic home-builders and are a delight to see taking to the skies again. Moreover Solar Impulse, the aircraft that flies solely with the energy of the sun, is on its way to complete its Round the World Mission in 2016. Many more solar-powered aircraft are under construction, and we will soon see an increasing number of experimental aircraft with fuel-cell power plants, using electricity generated with hydrogen.

### HOW IS IT SCORED?

Aircraft in the workmanship class are judged on various criteria: quality and difficulty of the construction, innovation, environmental impact, economy of the construction and operation, fidelity to the original design and quality of accompanying documentation (in case of renovation). All aircraft must comply with the “51% rule” – meaning that more than half of the effort put into building or restoring the aircraft must have been completed by the owners. Eligible aircraft can therefore include balloons, microlights, gliders, aircraft, gyroplanes and even helicopters.

### WHO IS TAKING PART?

There will be three different showcases at the Games: the public assembling of a “Magny Gyrocopter”, which has to be ready for flight before the end of the Games, and of the “Cherry BX-2” which presents one of the finest examples of amateur-built aircraft in the world; last but not least, as part of the Youth Motivation and Education Program, scholars and students are welcome to join a competition to paint the wings, then assemble and build their model airplanes and finally have them fly.

### TELL ME MORE!

Experimental aircraft are often new concepts designed to push the boundaries of aviation knowledge and this is particularly evident in the solar-powered aircraft. The continual development of solar panels, batteries and construction materials have all led to flights of greater duration and longer distance. Such flights demonstrate the capability and suitability of solar and electric flight. The role of fuel cells for hydrogen is increasingly important.

« *Innovation, expertise, dedication* »