

California Airlines Flight Center
For internal use only.



Pylon Racing League
Official Competition Rules
June 2007

Prepared by Randall Shore – Pylon Racing Chief Judge and Daniel Humphries

I. CAL AIR PYLON RACING LEAGUE

- A. Organization - The Cal Air Pylon Racing League is comprised of the following:
 - 1. Cal Air Executive Directors & Board of Directors - the League's governing Body
 - 2. Cal Air Race Committee
 - a. Chairman & Chief Judge
 - i. Responsible for appointing or terminating Flight Line Judges, and Scoring judges.
 - ii. Approves of all Race pilot certification.
 - iii. Organizes and manages all Race heats.
 - iv. Sets up and maintains a Race Scoring system where points may be awarded or revoked.
 - b. Flight Control - Responsible for controlling all race air traffic (takeoffs, emergencies and landings) during Practice and Race heats at Reno Stead.
 - c. Race Heat Scoring Judges - Responsible for examining all race heat flights in determining a racer's six lap flight times, adding time penalties for infractions

II. AIRCRAFT ELIGIBILITY & EQUIPMENT

- A. The only Aircraft certified to race at Reno Stead is the Cal Air EZ-Rocket aircraft which uses two small rocket motors.
- B. A Race Certified pilot is allowed to paint his EZ-Rocket, make in-flight adjustments to the Artificial Stability and Auto Pilot constants, re-arrange the EZ-Rocket panel components but must not remove the VHF radio for two-way radio communication with Race Control and VATSIM air traffic controllers.
- C. A Race pilot is "NOT" allowed to alter, add to or remove any part of the EZ-Rocket or make any modifications to the EZ-Rocket shape, flight model or airfoils. Doing so will disqualify the Pilot from participating in any Cal Air Racing event.
- D. Cal Air Pylon Race Committee will assign Race numbers upon application by eligible Race Certified pilots. Numbers will be assigned to the aircraft and requests for specific numbers will be examined on a case by case basis.

III. RACING QUALIFICATIONS

- A. All pilots must hold the title of Senior Captain (100 hrs).
- B. All pilots must be familiar with, and abide by, all rules and regulations governing closed course Pylon Air Racing as set forth in the Official Cal Air Racing Competition Rules.

IV. RACE RACECOURSE PROCEDURES

- A. Communications:
 - 1. All Race pilots must be able to communicate with the Flight Line Judge (Race Control) using the Cal Air Teamspeak Server.
 - 2. All Race pilots who want to practice or compete in a Race heat must contact Race Control using voice communications. Pilots should state their intentions and request a clearance from Race Control if they want to taxi, takeoff or land their aircraft.
 - 3. If voice communications should fail, a Race pilot must be able to use text to communicate with Race Control using the Cal Air company frequency of 122.90 MHz.

B. Pilot Briefing:

1. Race pilots must attend the pilot briefings for any race heat that the pilot intends to fly in or is scheduled to fly. Any attempt to fly without attending the pre race heat briefing will result in disqualification from the applicable race.

C. Practice Periods:

1. On race day, practice periods will be scheduled in advance of the race event to allow each competitor adequate time to become familiar with the race course and may be controlled by Race Control.
2. Non race day practice is permitted at pilots discretion but **MUST** get clearance to exceed 250kts below 10,000 ft around the Reno Stead race course from any ATC covering the area. (OAK_CTR or RNO_APP)

D. Race Course:

1. A Race pilot must use the Reno Stead Custom Scenery Race Course that has been designed, built, tested and approved by the Cal Air Pylon Racing League. The Reno Stead Custom Scenery Race Course can be downloaded from the California Airlines web site (<http://www.californiaair.net>).
2. A race pilot must have "remove flying surfaces in over-speed" and "remove flying surfaces in over-G" checked in Operations & Warnings and "dim under high G load or hypoxia" checked in Rendering Options.

E. Race Starting Procedures:

1. Air starts will be used for all Cal Air Pylon Racing events. A designated Pace plane will be utilized when available.
2. The Pace Pilot will be responsible for conducting the pre-race pilot briefing. When a pace plane is not available, the Poll position pilot will assume the duties of the Pace pilot.
3. The Pace Pilot will signify the release and race start by broadcasting the statement "Gentlemen, We have a Race!" over the Race Control channel. Upon hearing the race start, pilots will apply full power around the outside course. Lap times will start when crossing the "Home" pylon and will consist of 6 laps around the inside course.

F. Race Alignment:

1. No racer may fly ahead of the Pace plane in the (Grey) Chute area of the race course.

G. Laser Pylon Turns:

1. All aircraft will remain outside (to the right) of a line drawn that visually connects the racecourse Laser Pylons at all times during a race.
2. A Laser Pylon cut will be called anytime a Race plane's flight path line:
 - a. Passes to the LEFT of the inbound line that visually connects with the green Laser beam of the Laser Pylon.
 - b. Touches any part of the Laser Beam or Laser Pylon body.
 - c. Climbs ABOVE the 600' tall Laser beam or Descends BELOW the top of the Laser Pylon body which is 60' tall
 - d. Extends beyond the Reno Stead racecourse marked outer boundaries (1000 ft Radio towers and Runways 08/26).
3. The Scoring judge will determine a Laser pylon cut. A cut called by the Scoring judge is a judgement call, deemed official, and no protests will be accepted.

4. In the event of a Laser Pylon cut, the Race pilot will be assessed a 5 second per lap penalty, which will be added to the pilot's total race heat time which will be used to determine race heat airspeed.

H. Emergencies:

1. Any Race pilot experiencing a problem where he/she is unable to continue the race will announce over the radio "MAYDAY". The aircraft race number, position, and intentions will follow the call, if known at that time. After calling "MAYDAY", the aircraft will pull off the racecourse and climb to the Cool Down Area (6000 ft to 8000 ft ASL).
2. If an immediate landing is required, the aircraft will once again call "MAYDAY", race number, position, and land on the nearest runway.

I. Race Finish:

1. All Race aircraft must complete all six laps and after crossing the '0' home pylon on the last lap, will climb and bank left into the Cool Down Area (6000 ft to 8000 ft ASL) for sequencing to land.
2. Race Pilot must notify Control that he/she has completed the Race heat and request landing.

J. Landing:

1. Race Control is the controlling authority for landing at Reno Stead during a Race event.
2. All aircraft will land on the side of the runway opposite of the turnoff (hot side). Once the aircraft has slowed to a controllable speed it will move over to the turnoff side (cold side) of the runway and exit in sequence at the taxiway in use.
3. All Race heat pilots who have landed and taxied to the parking area on the ramp will then Save their Race heat flight as a Situation Movie. This Movie along with their data.txt file will be sent to the Race Committee so that a Scoring Judge can review the Pilot's race heat flight, check for Laser pylon cuts, assess time penalties, determine the pilot's overall race heat airspeed/ time and mark the pilot's score card. This information
 - a. will be forwarded to the Race Committee's Chief Judge.

K. Scoring:

1. Race Pilots will be awarded points per position as follows:
 - a. Position #1, 5 pts
 - b. Position #2, 4 pts
 - c. Position #3, 3 pts
 - d. Position #4, 2 pts
 - e. Position #5, 1 pts