RULE BOOK

3. Drone Race (LOS)

TASK:

An LOS Drone Racing Challenge tests a pilot's skill in visually directing their drone through a dynamic obstacle course, strictly without FPV systems. The event is designed to highlight control precision, agility, spatial awareness, and quick reflexes under real-world conditions.

DESIGN SPECIFICATIONS:

- **Drone Build:** Drones be custom-built Drone with Proper Build Standard
- **Propeller Size:** Minimum 4 inch (40xx), Maximum 6 inch (60xx).
- **Cinewhoops:** Allowed, but will incur double hit points (2X) on obstacles compared to open bladed drones.Min Prop Size should be 3.5 inch
- **GPS Modules:** Not allowed. Optical flow modules can be used, but provide no scoring advantage/disadvantage.
- **Failsafe Configuration:** Drones must auto-disarm or throttle cut on signal loss.
- **FPV Equipment:** The use of FPV cameras, goggles, monitors, or any live camera feed is prohibited.
- **Batteries:** Each team must bring more than two batteries.Provision for charging Will be provided in the nearest Building
- **Drone Safety Inspection:** All drones undergo pre-race checks for frame, motor mounts, wiring, battery security, and prop guards (if used).
- **Wheelbase:** Minimum of 180mm for openbladed drones and 160mm for Cinewhoop style drones.Prop specifications are mentioned above.
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GENERAL GUIDELINES:

- **Gear & Tools:** Each team must use and bring its own gear and tools—sharing is not permitted.
- **Spotters:** Prohibited at all times; use is grounds for immediate disqualification.
- **Punctuality:** Teams must be ready to participate when called. Late arrivals are disqualified.
- **Arena Integrity:** Major damage to the arena is grounds for immediate disqualification.
- **Crash Limit:** Only two crashes (including touching the ground) are allowed. A third crash results in disqualification.
- **Mid-Race Repairs:** Only battery changes and Prop Changes are allowed; no other repairs or replacements during races.Each Repair time is 3 mins max.
- **Scoring & Penalties:** Lap counts, points per gate, and penalties will be announced on event day.
- **Rule Changes:** Organizers may change or update rules at any time to address disputes or safety concerns.

RACE FORMAT:

1. **Round 1: Static Time Trials**
    - Pilots are stationary at a fixed location for the full duration of the lap.
    - Focuses on maintaining control and situational awareness from a static viewpoint.
    - The top 8 fastest lap times advance to the next stage.
2. **Round 2: Dynamic Knockout Heats**
    - Pilots are allowed to move along the sidelines to keep their drone in line of sight.

- Head-to-head, elimination format: winner of each heat advances.
- Tests spatial judgement and adaptive positioning.

Track Design:

The track includes tight turns, elevation changes, and a mix of obstacles (gates, ramps). The layout is kept secret until the event day.Changes in Track will be Informed Before the start a a round

DRONE AND PILOT SAFETY:

- **Pre-race Checks:** All drones must pass a thorough inspection for structural integrity and failsafe settings.
- **Pilot Zones:** Clearly marked to separate pilots from spectators and ensure event safety.
- **Track Barriers:** Barriers, netting, and buffer zones protect all participants and prevent accidental flyaways.
- **Discipline:** Drones that crash or leave the track must be immediately disarmed.

JUDGING CRITERIA:

- **Lap Time:** The fastest lap(s) from each round are considered for qualification and advancement.
- **Obstacle Handling:** Smooth, accurate, and controlled maneuvering through obstacles is rewarded.
- **Durability:** Drones must complete the race; breakdowns or disarms during the run result in disqualification.
- **Pilot Skill:** Assessed based on precision, consistency, and adherence to the prescribed flight path.
- **Rule Compliance:** Breaches, such as FPV use or spotter assistance, incur penalties or immediate disqualification.

IMPORTANT SAFETY RULES:

- **No Physical Intervention After Start:** No contact with drones after the round begins unless directed by officials.
- **No Running on Track:** Pilots and team members must remain within their designated zones.Running alongside the track is strictly prohibited.
- **Battery Safety:** Only approved, undamaged batteries are to be used; unsafe handling leads to disqualification.
- **Safe Flying:** Reckless or dangerous operations will be penalized or may result in disqualification.
- **Emergency Stop:** Organizers may halt the event at any time if safety or technical issues arise.

Frequently Asked Questions (FAQ):

1. What types of drones are allowed to participate?

Only multi-rotor drones (quads) that meet the event's size and equipment specifications are eligible.

2. Is FPV (First Person View) flight permitted?

No, use of FPV cameras, goggles, monitors, or any live-feed is strictly prohibited. Line of sight piloting only.

3. Can teams share drones or equipment during the event?

No, each team must use only the drones and gear they bring; sharing is not allowed.Even Controller cant be Shared among other participants.

4. What happens if my drone crashes during a race?

Teams are allowed up to two crashes (touching the ground counts as a crash). A third crash leads to disqualification from that round.

5. Are repairs allowed between heats or during a race?

Only battery changes are permitted once racing starts. Repairs or replacements of drones or equipment during rounds are not allowed.

6. How will rule changes be communicated during the event?

Any rule updates due to discrepancies will be clearly announced and a revised rulebook will be distributed before the start of the affected round.

7. What are the judging criteria for the race?

Judges will assess lap time, obstacle handling, drone durability, pilot skill, and adherence to the rules.

8. Will there be a chance to practice on the track before the race?

A practice lap or familiarization session may be provided, depending on event scheduling. Details will be communicated at the pilot briefing.

9. What safety measures are in place for pilots and spectators?

Pilot zones, track barriers, and no-fly areas are defined for everyone's safety. Strict discipline is enforced regarding safe drone operation**.**

10. How do I get help if I have a technical or safety concern during the event?

Contact the designated event official or safety chief on site; their contact details will be available at the registration desk and in the event guide.

11: How is the winner judged?

Winners are determined using a combination of factors:

- Fastest Race Time: Pilots must complete the course in the shortest time possible.
- Clean Flight: Judging favors those who navigate obstacles smoothly, with minimal crashes or penalties.
- Quick Setup: Time taken by the team to prepare and set up their drone before the race counts toward their overall performance.
- Usage of Prop Guards: Teams using prop guards may receive considerations or bonus points for promoting safety, as well as for maintaining drone condition throughout the event.

- Overall Execution: The best score comes from a pilot who is fast, launches quickly, flies cleanly, and demonstrates responsible safety practices.