

# ROTORCROSS AUSTRALIA GENERAL RACE RULES



## Aircraft Rules

### **Model Specification limits: (maximums unless specified)**

**Weight:** 1.4kg (to allow for Street League)

**Size:** 399mm (motor to motor- from Street League Rule Book V3.2.0)

**Battery:** 6s (25.2V MAX)

**Motor Tilt:** 15°

**Number of Drone Arms/ Motors:** 4

**Prop Size:** 7 inch (to allow for street League)

**Radio Control:** 900MHz, 2.4 GHz digital

**Video transmitter frequency:** 5.8 Ghz band

**Video transmitter output:** 25 mW, 25 Mbit/s (DJI/Walksnail)

### **Airworthiness:**

The model airframe is of solid construction, with no items are loose or in danger of becoming separated from the aircraft during flight and causing a risk or injury.

All wiring is contained and not loose or at risk of becoming loose during flight and becoming entangled in the propellers.

All wiring and connectors are of sufficient construction.

Propellers are securely attached in the correct direction and free from damage. No steel or full carbon fibre propellers allowed, composite or ABS plastic/ polycarbonate props only.

### **Video System:**

Video transmitters must transmit on the 5.8GHz band, within the expected band-width and at no more than 25 milliwatt (mw) transmitted power (See "ROXD012 Digital Video System Rules" for more details). Video transmitters must be able to transmit on the channels designated by the Race Director.

Changing channels and testing video transmitters has the potential to interfere with flight operations and cause safety issues.

**NEVER POWER UP A VIDEO TRANSMITTER DURING FLIGHT OPERATIONS!**

There will be specified times during the race meet designated by the Race Director for changing channels and testing video systems.

### **Failsafe:**

The failsafe mechanism MUST shut off all motors and cause the aircraft to drop immediately. No self-leveling, Return To Home or auto-land features are allowed as part of failsafe.

All motors must stop within three (3) seconds of the failsafe being initiated.

When testing failsafe operation ensure your props are off!

### **Aircraft Scrutineering:**

Pilots must submit all aircraft being raced for scrutineering and inspection prior to the race commencing.

During this time the aircraft will be inspected to ensure safety and compliance (as per Aircraft Specific Rules).

For scrutineering ensure the aircraft's props have been removed and you have your transmitter and a battery.

If a pilot is using more than one aircraft during the race meet they must ensure all are inspected and cleared upon request.

If an aircraft fails the scrutineering inspection they have the opportunity to correct the defects and resubmit the aircraft for scrutineering (if time permits).

### **Race Meet Rules**

#### **Race Director:**

The race director is to maintain order, inform pilots, spotters and spectators of basic rules and ensure the race proceeds smoothly and safely. The Race Director has ultimate control over the race and must be complied with at all times, if the Race director tells you to disarm; you are to do so immediately.

#### **Spotter:**

The Race Director may require a spotter be allocated to each pilot station. It is the responsibility of the Spotter to notify the pilot if they fail to re-do missed obstacles or if they stray out of bounds, and call out the number of laps completed. They will also inform their pilots of any potential hazards, and aid the Race Director in determining the pilot's position of finishing if required.

#### **Field Layout:**

The field will have a flight line, pits and a spectator area.

The track must be setup in accordance with CASA and MAAA guidelines and consider all aspects of safety compliance and free of potential hazards.

The track setup will be conducted by nominated officials and must pass all safety and flight operations conditions. The final say on the course is made by the Race Director.

A track boundary will be clearly marked out during track setup. Aircraft are to remain within the specified track boundary at all times and never to fly over the pits, flight line or spectator area for any reason.

A 'track walk' will be conducted before racing commences to inform pilots of the track direction and layout of obstacles.

**Pits:**

No powering up in the pits unless approved! If you need to change frequency or test your video transmitter you will need to wait for the designated times (usually between heats at the discretion of the Race Director).

Powering up unless given direct permission from the Race director may result in disqualification and/or removal from the event.

**Flight Line:**

The flight line consists of pilot stations, one for each nominated frequency.

Each analog pilot station consists of a chair and base station with power (2.5mm barrel connector) and video lead (3.5mm 4 pole Fatshark).

Pilots can either use the provided base station or use their own (at the discretion of the Race Director).

The Race Director may require digital video system users to sit in an allocated digital video system ('digital') pilot station away from analog pilots to prevent video interference. For the purpose of receiving DVR to the Race Director's computer, each digital pilot station will have a HDMI cable for the pilot to plug their goggles into, via a separate device such as a HDMI splitter or Raspberry Pi if required (See "ROXD012 Digital Video System Rules" for more details).

No one will be allowed into the flight line during flight operations unless they are a Pilot, Spotter or Race Director.

Pilots and spotters are to remain behind the flight line until all pilots have landed and the Race Director has cleared them to do so.

**Spectators:**

Spectators are to remain behind the spectator line unless given permission by the Race Director to inspect the pits. Spectators are NEVER to enter the pilot area until all craft are disarmed and the Race Director gives clearance.

**General Etiquette:**

ROX does not tolerate abusive behaviour or excessive swearing, you will be asked to desist from such behaviours and if not compliant, you will be asked to leave.

NEVER POWER ON WHILE OTHER PILOTS ARE FLYING!

**Race Specific Rules****Race Marshalling:**

Pilots must report to the flight line at least five (5) minutes prior to their heat and ready to race!

Failure to report to the flight line ready to go when your name is called may result in disqualification from the heat.

**Race Setup:**

Once the race heat is ready to begin, the Race Director will instruct the pilots to power up their aircraft and place them on the start line.

Once on the start line Pilots are recommended to test that their aircraft will arm and their video system is working correctly and on the correct channel.

If the aircraft has arming or video issues that cannot be immediately resolved (within two minutes) the pilot may be disqualified from the heat at the discretion of the Race Director.

If Pilots have backup aircraft, it is recommended to have it on hand ready to go with battery in case their primary aircraft has issues.

### **Race Start:**

The Race Director will conduct the following actions to start the race:

- Confirm with each Pilot and (any) Spotter that they are ready.
- Confirm that the track is clear.
- Warn pilots that the race is about to commence.
- Start the race heat on Trackside

If half or more of the pilots crash prior to reaching first obstacle the race may be restarted at the discretion of the Race Director. If a restart is required, the Race Director will call out "Race Restart" and

the remaining Pilots will be required to land immediately and place their aircraft back on the start line. (this needs updating to our current race rules. Change with this, taken from the race rules:)

A Knockdown (KD) is defined as a quad hitting the ground after a collision with another quad prior to entering the timing gate for the first time that heat.

Any KD will result in the race being reset and restarted.

If a KD quad is damaged the pilot is permitted to swap to a backup quad prior to the restart.

All Quads should pass through the timing gate under their own power as cleanly as possible.

Knocks and bumps that don't cause a KD are allowed, it's part of racing.

A single quad KD by racing collision between the timing gate and the designated obstacle is not a restart. The designated obstacle is decided on race day by virtue of track design (usually 1-2 obstacles after timing gate). 2 separate Quads that are both KD by racing collision BEFORE the designated obstacle is a restart, hitting the denoted obstacle and then crashing does not count.

If a restart is required, the Race Director will call out "Race Restart" and the remaining Pilots will be required to land immediately and place their aircraft back on the start line.

Pilots must communicate to the race director their KD status within reasonable time (after race finish is too late).

### **During the Race:**

In the event that the Race Director calls a halt to the race Pilots must follow instructions given.

All Pilots must follow the direction of the course line set out. If an obstacle is missed, the pilot must go around and reattempt the obstacle.

If a Pilot fails to follow instructions from their Spotter or Race Director they may be disqualified from the race.

Spotters will call out each time their designated Pilot completes a lap.

If a Pilot intentionally crashes into or causes another Pilot to crash, they will be disqualified from the race.

If a Pilot acts in a manner deemed unfair or unsportsmanlike they may be disqualified from the race at the discretion of the Race Director.

If a Pilot breaches safety or CASA regulations they will be disqualified from the race.

If a Pilot crashes during the race, but is able to re-arm and take off again they may do so provided that their aircraft is still airworthy and controllable.

If a Pilot crashes and is unable to continue they will receive a DNF (Did Not Finish)

At no time will a Pilot enter the Track during a race.

Pilots must complete the required laps including all obstacles, otherwise they receive a DNF.

### **Race Completion:**

The race is complete once all pilots have either completed all their laps or crashed out.

On completion Pilots must return to the designated landing area and dis-arm their aircraft.

Pilots that have completed the race, but are found to be deliberately interfering with those Pilots still racing will be disqualified from the race.

Once all aircraft are down and disarmed, the Race Director will instruct the Pilots to retrieve their aircraft.

### **Safety and Compliance**

#### **CASA and MAAA compliance:**

All competitors must ensure that they follow all directions by race officials when it comes to Safety and Compliance.

All competitors must ensure that they comply with any local, state and federal regulations/by-laws/laws as defined by said regulatory bodies such as local council, CASA and ACMA.

All competitors must ensure that they follow all MAAA MOP's (Manual Of Procedures) when flying.

Failure to do so will result in you being asked to land and possibly disqualified from competing further at the event.

#### **General Safety Concerns:**

Safety of Pilots, spectators and Officials is Rotorcross's primary concern.

It is every competitor's responsibility to ensure they operate themselves and their aircraft in a safe and professional manner.

A pilot's safety briefing will be performed prior to flight operations commencing, this is usually given by the Race Director and includes the course layout, any safety issues or hazards to be aware of and any emergency situations that might occur.

All spectators and visitors must be aware of the potential safety hazards and it is everyone's responsibility to ensure everyone is safe during the event.

**Fire Safety:**

Electronics and lipo batteries are potential fire hazards.

It is the responsibility of all competitors to ensure their equipment is in working order and that no batteries are left charging unattended.

If a fire occurs on the track during a race, the Race Director will direct all Pilots to land immediately. Once the fire has been dealt with, the race will be restarted.

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