



## **Roundwood Model Aero Club**

# **Safety**

## **General Club Safety Rules.**

- 1. No flying over the following areas.  
A) Car Park B) Pits Area C) Club House**
- 2. flying below the line parallel with the top of the safety fence unless taking off or landing, turn away from the fence line after take off  
Exemption: Called touch and go; Called overshoot  
Pre- approved demonstration flying**
- 3. No taxiing in the pits.**
- 4. No engine starting in the Car park, including electric motors (Danger due to loose gravel)**
- 5. Safety device must be fitted to electric powered models so prevent unintentional motor start**
- 6. Safety retainers must be used for all models**
- 7. Please keep main gate closed.**
- 8. 35 MHz users must assure that their frequency is free and other users must be informed**
- 9. 2.4 GHz binding should be done at Home or away from any other 2.4 GHz transmitter**

## **10. NO motor test runs and lengthy adjustments in the pits**

### **Safety Matters**

#### **Part 1: Before setting out for the field**

**The following checks must be completed for all models.**

##### **1 Propeller.**

Is the propeller the correct size for the model? Too small a prop can result in the engine over revving, while too large a prop places excessive loads on the engine. It should be free from nicks and other damage, and properly balanced. Otherwise a prop may be shed when rotating at high speed. An unbalanced prop can lead to excessive vibration in the airframe, giving rise to many problems from radio failure to bits falling off the airframe. When a spinner is fitted it should not exert pressure on the blades on the propeller. It may be necessary to cut away the spinner where it wraps around the blades to prevent contact.

##### **2. Engine and Silencer**

Are the engine and silencer securely mounted? Even in the best constructed model there is some vibration present. The vibration has the effect of loosening the screws, allowing bits to fall off. Locking washers or locking compound should be used on all critical screws and nuts.

### **3. Batteries**

Are the receiver and transmitter batteries fully charged? A discharged battery will result in total loss of control, and loss of the model. Partially discharged batteries may appear to function correctly while operating the model on the ground, but when the model takes off and the distance between transmitter and receiver increases loss of control may be experienced due to range problems. Hence the importance of range checks. The types of cells used in most r/c equipment (usually MnNiH and others) have discharge characteristics where they will operate normally when discharging and then without warning go flat. A full charge in accordance with the manufacturer's recommendations is required (typically 14 hours) before a flying session. One must be particularly wary of old batteries, or equipment laid up for a number of years. It is a false economy not to replace all such batteries.

The aerial also needs to be installed in accordance with manufacturer instructions. Range checks should take place before flying any new model or when equipment is first used after an accident, or when any equipment is changed in a model. The model should be range checked on the ground with the engine running. The signal then checked as per manufacturers instruction.

#### **4. Centre of Gravity**

Has the centre of gravity been checked and adjusted where necessary? The balance point of a model has a major effect on the stability of a model. If it is too far back the model may be so unstable as to be uncontrollable. A forward CG will normally result in a more stable model. The desired balance point should be indicated on the plan or instructions, which came with the model. If it is not as indicated it must be adjusted, preferably by moving existing equipment, for instance the receiver battery pack forward or aft, or, if this is not possible, by adding weight to the nose or tail.

#### **5. Control Surfaces**

Are all the control surfaces and hinges secure? Do they move in the correct directions? Looking at a model on the ground it is difficult to imagine the stresses and forces on the airframe and surfaces in flight. It is imperative that all control surfaces are well secured. Hinges should be well glued and pinned where necessary.

#### **6. Control Movements**

Are the control movements correct? The elevator controls pitch, the aileron controls roll, and the rudder controls yaw on an aeroplane. It is vital to check that all the surfaces move in the correct direction and that the amount by which the surface moves is appropriate for the particular surface and model. An experienced

modeller should always check this aspect of the model set-up.

### **7. Engine Stop**

Does the engine stop when the stick and trim are fully back? Apart from the fact that it is normally necessary to be able to stop the engine after landing, it can also be useful at other times. For instance during a test flight if the model is virtually uncontrollable, stopping the engine can slow things down enough to make flying manageable, and allow the model to be landed “dead stick”.

### **8. Linkages**

Are all the linkages secure? Plastic clevises split easily and can detach from the control horn or servo arm. The clevises should be screwed on to the threaded end sufficiently far to ensure adequate grip. When cables or snakes are used the outer casing must be securely supported at both ends and in the middle if the run is long.

**9.** The following mechanical checks should be made; loose or missing nuts or bolts, fuel tank and piping secure. Electric: are batteries safely fixed  
Are all power cabled secure and no bare wires (short circuit prevention)

**10.** Has the model got its MACI Registration number attached?

If the model exceeds 7kg weight a large model registration form is required.

## **Part 2: On arrival at the field.**

- 1.** Are the weather conditions suitable for the model, and for your experience level? Wind condition and visibility must be taken into account.
- 2.** Do not switch on the transmitter despite the use of 2.4 GHz radios it is still important to advise all present when switching on the TX, especially when binding a receiver to the TX. Users of 35 MHz must assure their frequency is free before switching the TX
- 3.** As an added precaution call out your channel number loudly a few seconds before switching on (35 MHz) so as to alert other pilots to a possible clash.
- 4.** Ensure that the wings are properly secured to the fuselage. If rubber bands are used ensure that they are of sufficient quality and quantity. A minimum of six is recommended.

## **Part 3: Starting the engine ( IC motors)**

- 3.1.** Have someone trustworthy to hold the model securely and **use a suitable restrainer.**

- 3.2. Ensure that all leads, tools, clothes etc. are well clear of the prop and the throttle stick is at “low” setting.
- 3.3. **ELECTRIC:** The throttle stick must be at 0 throttle and the safety device active before connecting batteries and before switching on the Radio
- 3.4. Ensure that nobody is standing in line with the prop disc. Any bystanders should stand behind the model to avoid danger.
- 3.5. If flick starting the engine, use finger protection or ‘Chicken Stick’
- 3.6. When the engine has started perform all adjustments from behind the model.
- 3.7. Ensure that the model is restrained at all time when the engine is running. Run the engine at full throttle and hold the nose of the model up to ensure that the engine will not lean out and stop.
- 3.8. **ELECTRIC** do not run the motor full power in the pits area
- 3.9. Models should be started and adjustments made only in the pits area



## **Part 4: Flying the model**

- 4.1. The model must not be flown behind the pilot line, over the pits or carpark or any other area which would constitute a hazard for peoples, equipment, cars and club house in the event of loss of control, or an engine cut.
- 4.2. “Dead stick” must be called out in the event of an engine failure to alert other fliers to give priority and to keep the runway clear.
- 4.3. “Landing” must be called clearly to alert others in the area.
- 4.4. All take offs and landings must take place into wind.
- 4.5. Pilots should stand together when flying, with their backs to the pits area where possible.
- 4.6. Last thing before takeoff; check all controls for correct movement and direction. In an emergency the model is the lowest priority. Ditch if necessary, to avoid people, is the cardinal rule.

## **FOR USERS OF 35 MHz EQUIPMENT:**

Channel numbers should be displayed on your transmitter in the form of an easily identifiable pennant, orange background with white numbers.

## **RMAC DOES NOT OPERATE A PEGBOARD FOR 35 MHz USERS**

### **Pennant**

A pennant should be attached to your transmitter displaying your frequency in white letters on an orange background, in large enough letters that it is clearly visible to other flyers

## **All instructions on safety also apply to users of the LAKE**

Water is a Hazard and care must be taken.  
Children are only permitted near the lake in the company of Her/his responsible parent or responsible adult.  
**No entering the water is permitted**

## **General Safety and security**

**As the Club stores valuable Equipment on site and in the Club House it is of Vital**

**Importance to Sign In and Out when using the Facility.**

**Any unusual observation must be communicated to the committee or an Owner as soon as possible**

**Remember:**  
**Safety tomorrow is a day too late!**



## **Safety First**