

# NZMAA

## **Radio control aeroplane solo flight proficiency (Wings) programme**

### **1. Aim**

1.1. To provide certification of a basic proficiency level for Radio Control model pilots enabling them to operate unsupervised. Pilots achieving the required level are entitled to wear the NZMAA 'Wings' badge and will also meet the requirements of Civil Aviation Rule 101 for flying within 4km of aerodromes.

### **2. Use**

2.1. The NZMAA encourages all clubs, whether operating near aerodromes or not, to adopt this proficiency scheme and encourage all Radio Control pilots to obtain their "Wings". Many rallies are held on or near aerodromes and a badge is essential to fly at those sites. The badge also doubles as an excellent identification tag.

2.2. Trainee pilots should operate under direct supervision of a badge holder or an approved Instructor, and should not be considered safe to fly on their own until they have reached the wings standard.

### **3. Examiners**

3.1. Examiners are to be proficient flyers, appointed by the club to be an instructor. Clubs must forward lists of approved instructors to the Secretary NZMAA for recording on the Association database. NZMAA Council defines the criteria for an instructor, copies of this criteria are available on application.

### **4. Wings Badge**

4.1. The Wings Badge and certificates of competence will be issued by the NZMAA and are obtained when Club Secretaries forward the appropriate form, signed by the examiner. The NZMAA will maintain a register of all badge and certificate holders.

4.2. The badge has the club name at the top, the NZMAA wings in between, with the letters R/C in the centre, and at the bottom the name of the pilot.

### **5. Categories**

5.1. There are six categories of Wings badge/certificate qualification:

**S** Training/Vintage/Sport/Gliders Low wing loading models

**A** Pattern (Aerobatic) type. F3B gliders. Fan and Turbojet.

Scale models with high wing loading. Includes sport models of similar Wing loading.

**F** Pylon. Speed.

**M** MANZ (Over 2m wingspan monoplanes & over 1.5m wingspan biplanes)

**L** Large models and pilotless vehicles as defined by CAA

Each pilot must qualify on each aircraft.

**H** Helicopter

**5.2.** All badges will carry the designation "R/C" in the centre.

**5.3.** Certificate of Competence. For all categories other than "S", an NZMAA certificate for the particular category will be issued by the NZMAA to the pilot.

## **6. Testing Procedure**

**6.1.** There are four parts to each wings test:

- a) Pre-flight inspection of model
- b) Oral Test
- c) Pre-flight procedures test
- d) Flight Test

**6.2.** Each element of each test is marked at three levels:

- a) Inferior
- b) Acceptable
- c) Superior

**6.3.** To pass the test, there must be no more than one "Inferior" grade in each of the first three parts of the test, and in the Flight Test all elements must be of at least "Acceptable" grade.

## **7. Pre Flight inspection of model**

Check that:

- a) Receiver and battery are padded and servos secure and free from oil.
- b) Pushrods, ball links and other fittings are secure and that clevises have a keeper.
- c) All controls are effective, especially for binding links or slowing of servos.
- d) Engine is mounted securely and propeller has no cracks.
- e) Wings are firmly mounted and any bracing wires secure.
- f) There are no loose or missing nuts and bolts.
- g) Receiver battery pack is suitable, not single replaceable cells.
- h) All hinged flying surfaces secure.
- i) CG is in right position.
- j) General structure for strength, cracks and extreme warps.

- k) The radio switch free of fuel and oil.

And for Helicopters only check that:

- l) The gyro is correct and secure.
- m) Wiring is clear of mechanics.
- n) The receiver aerial in good condition with no chafing or damage and aerial cannot become entangled with any moving or rotating part.
- o) All main and tail rotor blades for damage, checking root at blade pivot hole and the tip weight installation.

## **8. Oral Test**

The candidate must display a good knowledge of:

- a) Local flying and field rules, for example flying times.
- b) Local no go flying zones
- c) Identify emergency landing area's
- d) Maximum altitude
- e) Local maximum noise levels
- f) Explain the frequency control system in use

## **9. Pre-flight Procedures check**

The following checks must be made:

- a) Correct frequency peg attached to transmitter.
- b) Radio switches on, battery OK.
- c) Basic Radio Range check (Tx aerial collapsed)
- d) Check controls working correctly, and in correct direction.

And for Helicopters only:

- e) Start engine, one hand holding head
- f) Run engine up at least 10m from pits. Check blade tracking and vibration.

## **10. Flight Test**

Following is a brief description of each manoeuvre required. Details of each test are at Appendices A, B and C

### **10.1. Fixed Wing Powered Aircraft**

- a) Take off
- b) Level flight
- c) Procedure turn

- d) Horizontal figure of eight
- e) Left hand circuit landing approach
- f) Overshoot
- g) Right hand circuit landing approach
- h) Landing, power on
- i) Takeoff (within 15 minutes of landing)
- j) Left hand circuit
- k) Landing, power off

Note: In the case where flying strip or wind velocity prohibits actually landing off both a left and a right hand circuit approach, an overshoot may replace one of the landings.

### **10.2. Gliders**

- a) Launch (bungee, winch or hand tow)
- b) Straight flight for 30 seconds
- c) Procedure turn
- d) Horizontal figure of eight
- e) Right hand circuit landing approach
- f) Landing within 3 metres of a spot
- g) Relaunch (within 15 minutes of landing)
- h) Left hand circuit
- i) Landing (within 3 metres of spot)

### **10.3. Helicopters**

- a) 10 Second Hover
- b) Hovering M
- c) Tail in Circle
- d) Take off, circuit and landing