

1. Introduction

- This document covers the RC Instructor FW Competency test.
- Safety is the highest priority. The objective of all competency related matters is to achieve the highest levels of safety and performance.
- The test performed by a RC Test Officer FW (RCASA Member), the outcome is Competent (C) or Not Yet Competent (NYC).
- The pilot is allowed to land for battery replacement or refuelling.
- The pilot can use the craft of his choice within the category applicable.
- Any action that is seen as a breach of safety in any way, will result in a complete NYC of this test.

2. Expected outcome

The pilot must show competency in the following:

a. Oral questions

100% Competent is expected on the following questions

- i. Which Organisation controls RSA airspace? (CAA)
- ii. What is the maximum weight allowed for a fixed wing craft? (35kg)
- iii. What is the maximum weight allowed for a rotary wing craft? (6.5kg)
- iv. What is the maximum noise level allowed? (96 dBA at 3m)
- v. What must you do in case any Full-Size craft approaches the field? (Opposite direction, lower and land)
- vi. Where can you find the fly and no-fly zones at the RCASA venue? (Club Notice Boards, Safety Officer on duty)
- vii. What is most important when starting up? (Start in designated area, taking care of prop wash/blast. Ensure no-one in front or behind aircraft)
- viii. What must you do before take-off and landing? (Shout out! "TAKE OFF or LANDING")
- ix. What must you do in the case of Dead stick or any unwanted response or problems? (Shout out! "DEAD STICK" and step forward)
- x. What should be done if you Aircraft or Helicopter develops a servo failure during Flight? (If possible, steer craft away from No-fly Zones and declare you have an Issues, Ask instructor for assistance)
- xi. What is good practice to do before take-off? (double check controls are working in correct direction and check wind direction. Shout Take Off)
- xii. If flying at a different venue, what must the PIC do before flying? (Check to see if local Safety officer/Instructor is present and ask what the rules of the RCASA venue are)

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- xiii. If more than one AC or Heli are flying, is it necessary to know the circuit direction before flying? (Yes)
 - xiv. What is the main function of an instructor? (To assist with safety while training a student, to help evaluate and improve Students flying skills)
 - xv. During training of a pilot or test flight of an AC or Heli, is it good practice to check the installations of newly built craft before maiden flights. (YES, get as many people to check as possible.)
 - xvi. If an Aircraft or helicopter has had a heavy or bad landing. Should you continue to fly? (NO don't fly, Double check craft for and visible damage before flying again.)
 - xvii. While flying the wind changes direction, what should you do? (Shout Out! "CIRCUIT CHANGE")
 - xviii. What are three important checks to do before test flying a model after it is fully assembled and confirmed installation is correct? (1.C of G, 2. Direction of controls,3. correct amount of travel according to building manual)
 - xix. Briefly explain the aerodynamics of your craft and the working of all controlled parts.

b. Pre-flight checks

100% Competent is expected on the following questions

Ask the pilot to perform a complete pre-flight check and look for the following:

- i. Check all is fastened, engine and movable parts, complete check
- ii. Check all battery levels, craft, radio, all.
- iii. Ensure it is safe and correct switch on sequence, radio first then craft.
- iv. Perform radio check and check all radio inputs produce the desirable reactions on the craft, ie Rudder direction, etc.
- v. Ask the pilot to show his Dual Rates/Expo settings on his transmitter.
- vi. Ask the pilot to show and prove "fail safe" is setup and working correct per setup.
- vii. Start/test the engine. Observe if pilot ensure it is safe in front and behind him and is craft, start at the designated area if applicable.

c. Flight test

70% Competent results are expected on the following manoeuvres

- The pilot must be always in control during handling, starting, and flying of his craft.
- The pilot must never fly over the people present or "wrong side or close side" of the runway.
 - i. Show competency in take-off and landing without running off the runway.

- ii. Fly a horizontal figure 8 as 2 intersecting circles, testing his capability on up and down wind throttle control to achieve a symmetric figure eight, crossing at the same place whilst maintaining height.
- iii. Fly an inverted up-wind horizontal figure 8 as 2 intersecting circles, testing his capability on up and down wind throttle control to achieve a symmetric figure eight, crossing at the same place whilst maintaining height.
- iv. Fly inverted for at least 5 seconds whilst maintaining height and direction.
- v. Cut the throttle to idle at any time and perform a controlled approach at idle when he is asked to do so.
- vi. Fly a Half Reverse Cuban 8 at 150m distance, show good throttle control, symmetric with control always and maintain distance
- vii. Perform 2 inside loops as a circle starting from low to high, ending in the start position.
- viii. Perform 2 consecutive slow rolls, 1 before centre and one after whilst maintaining height and direction. The 2 rolls duration to be more than 5 seconds at any height.
- ix. Perform a slow pass into the wind, not higher than 1m above the runway.
- x. Perform a fast pass down wind, not higher than 2m above the runway
- xi. Perform 2 outside loops, ending in the start position.
- xii. Perform a stall turn with $\frac{1}{4}$ roll on up leg and $\frac{1}{4}$ roll on down leg. (Must exit in opposite direction of entry.)
- xiii. Be able to approach from all 4 directions, without landing but maintaining low speed and altitude whilst flying over the length of the runway.
- xiv. Land against the wind, the test is completed

3. Additional Notes

- Do a de-briefing pointing out all positive and negative aspects from the test and results.
- Discuss any findings in a positive manner.
- All tests to be logged on the RCASA portal, C and NYC for good record keeping.