

1. Introduction

- This document covers the RW Advanced Pilot Competency test.
- Safety is the highest priority. The objective of all competency related matters is to achieve the highest levels of safety and performance.
- This test performed by a pilot of higher competency level, all paid up RCASA members in good standing.
- The pilot is allowed to land for battery replacement or refuelling.
- The pilot can use the craft of his choice within the applicable class.
- Only 1 flight required, landing for refuelling or battery replacement allowed.
- Any action that is seen as a breach of safety in any way, will result in a complete NYC of this test.
- We see RW crafts as high risk and needs to be treated with utmost respect. All relevant people to maintain a safe distance and well within all relevant safety rulings at the specific venue/club.

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 rotary wing craft? (6.5kg)
 - iii. What is the maximum noise level allowed? (96 dBA at 3m)
 - iv. What must you do in case any Full-Size craft approaches the field? (Opposite direction, lower and land)
 - v. Where can you find the fly and no-fly zones at the RCASA venue? (Club Notice Boards, Safety Officer on duty)
 - vi. What is most important when starting up? (Must be in Designated start up area, no people in front or in line with Tail rotor, Check area behind, Check throttle setting)
 - vii. What must you do before take-off and landing? (Shout out! "TAKE OFF or LANDING")
 - viii. What must you do in the case of Dead stick or any unwanted response or problems? (Shout out! "DEAD STICK" and step forward)
 - ix. 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)
 - x. What is good practice to do before take-off? (Double check controls working in correct direction and check wind direction)
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- xi. If flying at a different venue, what must the pilot do before flying? (Check to see if local Safety officer/Instructor is present and ask what the rules of the RCASA venue are)
- xii. If more than one AC or Heli are flying, is it necessary to know the circuit direction before flying? (Yes)
- xiii. Briefly explain the aerodynamics of your craft and the working of all controlled parts. (Explain rotor and related mechanics and working)

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
- 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 bind check and check all radio inputs produce the desirable reactions on the craft, ie Tail blade movement direction, Throttle setting before start up, etc.
- v. Start/test the engine or plug in batteries. Observe if pilot ensure a safe/slow start/spool up action.

c. Flight test

70% Competent results is 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. Take off vertically to a safe height above eye level. Hover in the position, tail in, for 30 seconds maintaining height and stay within 1m radius.
 - ii. Whilst in the same position, rotate 90 degrees left, pause, 180 degrees right, pause, 90 degrees back to the tail in stance.
 - iii. Whilst tail in, move to the left, on a virtual parallel line with respect to the pilot line from takeoff, about 5 meters from centre.
 - iv. Repeat the 90 degrees left, 180 degrees right and 90 degrees back to tail in stance with the pauses as indicated above. End position is tail in, at a similar height as entered.
 - v. Move opposite 10m to repeat the above rotations and move back to the centre, tail in.
 - vi. Vertical triangle with a 180 deg pirouettes, one on the up line and second on the down line.

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- vii. Perform a Nose in Circle.
 - viii. Perform a vertical square with 360 deg pirouettes in up line and down line of square.
 - ix. Fly out, gain height and perform a 540 deg Stall turn to side of pilot's choice.
 - x. Fly straight and level and perform a roll. (Depending on Heli capability)
 - xi. Perform a horizontal figure eight at a safe and comfortable distance, as 2 circles intersecting in the centre whilst maintaining height up and down wind.
 - xii. Land safely, test 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.