Examiners and Candidates Checklist

The following is a short checklist of matters to discuss with the candidate taken from this document. This checklist can be used to ensure that all points raised above have been discussed with the pilot prior to any flights:

1 Has the candidate read:-

The MFNZ members manual, Local site rules (if applicable) Safety Code. ☐

2 Discuss whether the model is suitable in 'these conditions'. ☐

3 Any 'no fly zones' need to be identified. ☐

4 Remind candidate to talk you through anything that the helper does for them as the test progresses (includes Tug pilot briefing if an aero tow is being used). ☐

5 Agree model position after the launch and straight flight tasks (d & e) are completed. ☐

6 Agree any Airspace requirements that need to be pre-determined by the Examiner and Candidate prior to the commencement of the test flights. ☐

7 Clearly identify the landing target and agree with the candidate the required landing pattern that is being looked for (This includes the upwind position from which the manoeuvre starts). Possibly agree the general area to be used in the case of a baulked landing. ☐

Examiners Check List. Advanced Thermal Glider (AG)

Candidates Name	MFNZ Number	Date	Signature
Examiners Name	MFNZ Number	Date	Signature

	FLIGHTTASK	Comments		
		Flight 1	Flight 2	Flight 3
(a)	Carry out all pre-flight checks as required by the MFNZ Safety Codes			
(b)	Check that the launching equipment is laid out correctly			
(c)	Check that the launch area and landing area are clear, ground and air			
(d)	Call 'launching' and launch the model			
(e)	Fly straight and level for at least 15seconds			
(f)	Half loop or half roll to inverted, hold straight, controlled inverted flight for a minimum of five seconds, half loop or half roll back to level flight			
(g)	Fly a thermal search pattern, the model to pass over three points			
(h)	Fly consecutive 360^{O} thermal turns to a minimum of 100m down wind			
(i)	Fly the model a minimum of 150m up wind			
(j)	Perform a stall turn into wind.			

(k)	Fly a cross wind stall			
(l)	Fly a down wind stall			
(m)	Call 'landing' and fly an approach			
(n)	Land the model into wind within 10 metres of a predetermined spot			
(o)	Retrieve the model from the landing area			

Answer **five** questions from the list of mandatory questions on legal aspects of model aircraft flying.	
Answer **five** questions on safety matters from the MFNZ Safety Codes for General Flying and local flying	

Annex I Oral questions

Mandatory Questions for all Disciplines (1-15)

1. Describe the airspace class you are currently flying in?

2. Where would you find information about the airspace class?

3. What are the requirements and limitations of the airspace?

4. What is the altitude limit for the current site?

5. Explain the requirement of consent from the property owner prior to flying

6. What are the requirements for flying with 4km of an aerodrome?

7. What are local flying field rules? Noise Requirements?

8. What would you do if a person walked into the flying area?

9. What frequency control, including for FPV, is currently in place?

10. What are the requirements for an observer? What is their role?

11. Describe “Line of Sight” operation

12. What is required for flying in controlled airspace?

13. Describe the legal requirement s for aircraft between 15-25kg? 25kg+?

14. Can you fly at night?

15. How would you respond to a manned aircraft entering the airspace you are operating in?

General Questions (16-29)

16. What is the purpose of a transmitter range check before flying?

17. Describe the pre-flight checks that should be done on an airframe before flying

18. Why do we not fly behind the flight line or over the pits?

19. Describe the importance of the correct centre of gravity on an aircraft

20. Why is it good practice to balance propellers/blades/fans?

21. What do you look for when checking the condition of propellers/blades/fans?

22. Explain the precautions associated with charging batteries

23. Describe the power on/power off sequence of your model

24. How do you check the centre of gravity of a model whilst on the ground?

25. What is meant by dual rates on a transmitter and how does this affect the control surfaces?

26. What is meant by exponential function on a transmitter?

27. Describe the failsafe function of your radio/flight controller

28. What are the hazards associated with carbon fibre used in construction?

29. Describe Pitch / Roll / Yaw of an aircraft

Pilot Specific Questions (30-44)

30. Why models should be restrained whilst starting?

31. How should the receiver battery status be checked before flying?

32. Describe safe tools that can be used to start an IC engine

33. Why do we check the control surface integrity and direction before flying?

34. Why is it good practice to disconnect the motor pack on an electric model whilst in the pits?

35. Why is it good practice to test a receiver battery using a load tester?

36. Why it is good practice to cycle NiCad or NiMh receiver battery packs?

37. Describe flight line etiquette

38. What happens when a model stalls and the best way to attempt to correct a stall?

39. What is the best action to take when experiencing an engine failure on take-off?

40. What is the best action to take when an engine stops in mid-flight?

41. When starting an engine (IC or electric) where should you insist bystanders position themselves in relation to the model?

42. How do you find out if a receiver battery pack has reduced capacity?

43. What is aileron differential?

44. What is the effect of low airspeed on control surfaces?

Multirotor Specific Questions (45-56)

45. Why is calibrating accelerometers and gyros important?

46. Why do we use lock nuts, or reverse threaded shafts, to secure blades?

47. How do controller gain settings affect the model?

48. Describe various flight modes

49. Describe the failsafe settings currently in use

50. How is flight pack voltage monitored?

51. What is HDOP and how can it affect GPS based flight?

52. Describe how your aircrafts configuration would respond to a motor/esc/propeller failure

53. What would cause your multirotor develop oscillations in a specific axis?

54. Why should you not take off and land in non-GPS modes?

55. Why should you not use exponential on the flight controller and your radio?

56. What is compass calibration and why is it important?

Glider Specific Questions (57-63)

57. Describe some ways to get your glider down safely from a thermal when it is getting carried away?

58. What is wash in and wash out. What are the advantages and disadvantages of each?

59. What might happen if you over speed your glider and describe some ways you could avoid it if you are up high and getting carried away?

60. Where should a tow-hook be situated in reference to the centre of gravity? What are the problems with having it too far forward and too far back?

61. The elevator compensation required for flaps down is elevator up/down?

62. Why do you wind down the line after a winch launch?

63. What other dangers are associated with winches? (Line breaks, chutes through turnarounds, locking pins)

Heli Specific Questions (64-72)

64. How do you check tail compensation direction?

65. What ESC startup setting should be enabled and why?

66. How and why do you check CG?

67. How tight should main blades be?

68. Why is heli blade tracking important?

69. Explain the purpose of throttle hold and 2 occasions you use it

70. How do you check the state of flight packs and/or RX packs in flight and before/after?

71. Give 5 examples of pre-flight checks required before any flight?

72. What is the recommended distance to fly away from the pilot when throwing down?

Large Model Specific Questions (74-83)

74. State the purpose of the Large Model certification scheme

75. Define Category 1, 2 and 3 aircraft.

76. Which Wings badge/s must be held when operating large models?

77. Are redundant Receivers and batteries mandatory for all categories?

78. Describe the two methods of choosing suitable servos for certified aircraft.

79. Define the 3 sequential parts of the certification process and give brief description of each process.

80. Where must test flights be performed, who may be present during the test flights and how many aircraft are allowed in the air during test flights.

81. How long is a Category 1, 2 & 3 permit valid for and which Category aircraft require a flight log book be kept?

82. When must checks of a certified aircraft be carried out and to what level?

83. Explain what validates a Permit to Fly at Public sites.

FPV Specific Questions (84-92)

84. What VTx frequencies and power levels are legal to use in New Zealand?

85. What are the requirements of FPV flying in New Zealand in regards to observers?

86. Can you mix and match right hand and left hand polarization antennas between VTx and VRx?

87. What tests should be performed before flying an FPV model each day?

88. Can you show me how to change your VTx to another frequency?

89. Briefly describe the difference between direction and non-directional antennas and how they would be used

90. What does a diversity VRx provide?

91. If you are using RTH or similar technologies what important steps should be done each day you go flying?

92. What happens with most VTx's during power on or channel change and how might you deal with this?

High Speed Specific Questions (93-101)

93. What is the extent of the flying area?

94. What is flutter, what causes it, and how is it avoided

95. What noise regulations exist at the flying area

96. What is the ceiling of the flying area?

97. Why is a throttle lock a good idea on a high performance electric model?

98. Why is an independent control & power system required?

99. What is 2.4Ghz carbon shielding and how is it avoided

100. What failsafe exist on the model, and why?

101. Why is a separate battery pack powering the Rx desired on the high-performance electric?

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