Annex E

Basic Jet Turbine (BT) and Advanced Jet Turbine (AT)

The Model

The candidate for the Basic Gas Turbine Test (BTB) will need to fly a gas turbine powered model that is capable of flying the aerobatics manoeuvres required, but that does not necessarily mean either a scale or competition aerobatic model. In fact the test can be performed with any sport/trainer jet models.
Another important point to remember is that the candidate is not expected to build or necessarily own the model they use. There is no reason why a flyer who does not own a suitable model could not borrow one from a friend or club mate by arrangement.

The use of an autopilot is not allowed during the test. If any such system is fitted to the model it must be disabled during the test and you should check that this has been done.

The use of an aircraft stabilisation gyro is acceptable and permitted.

Crossing Distance

The distance out from the pilot is important. Any crossing manoeuvres during any one flight should be performed at a consistent distance out from the pilot and this should be between 30 and 80 metres, depending on the size of the model being used to take the test, and you should establish this with the candidate prior to the test.

The Basic Test

The pilot must stand in the designated pilot area for the entirety of the flying part of the test.

(a) Carry out pre-flight checks as required by the MFNZ Safety Codes, including failsafe operation. The examiner should discuss the following points with the pilot during the pre-flight process.

Understanding of frequency control measures for all approved frequencies.
Describe the functions of a flight line observer and the pilot's interaction with them.
Check model integrity, control surfaces, wing and tail mounting and exhaust ducting if fitted.
Check of control surface direction when operating transmitter for correct sense/throws/mixers.
Carry out range check and describe purpose/ function of fail safe.
Candidate to perform a complete and thorough safety check of model including installed systems.
Candidate to describe purpose and importance of centre of gravity indicating position on aircraft.
Candidate to discuss and describe flight dis-orientation and corrective actions.
Candidate to discuss and explain the protocols of flying etiquette.
Check and display batteries are charged, describe understanding of charging/cycling/testing same.
Describe starting precautions with turbine models including safety procedures for helpers.
Describe safety procedures for controlling bystanders.

(b) Start-up and Taxi to the take-off position

Carry out fueling process display understanding and purpose of fuel tap, check for any leaks.
Describe the operation and application of a CO_2 fire extinguisher if needed during start or fire.
Ensure model facing into wind and exhaust efflux not affecting other fliers, onlookers or property.
Fit and monitor hand data terminal during start cycle, awareness of high exhaust temps etc.
Carry out high power checks ensuring engine parameters within limits.

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Demonstrate Fail Safe function is set (engine to idle then shut down or straight shut down).
The model must be physically restrained during start-up and until it reaches the taxi point, the use of wheel brakes alone is not sufficient.

The model must taxi out from the taxi point to the take–off position. Taxying out of the pits is an instant fail. Prior to taxying out the pilot should inform other pilots flying that the model is going out onto the active area.

(c) Take-Off and join the circuit in whichever direction is appropriate for the conditions.

Just prior to take-off the pilot should describe the procedure they will follow in the event of Flame-out on takeoff or during flight.

Take off must be performed with the model a safe distance from the pits area and on a line which does not take the model towards the pits, other people or any other danger area. The pilot must stand in the pilot's area during the take off. If the pilot has to stand out on the strip behind the model when it starts its run then he is not ready to take this test.

Take off should be straight with the model not being pulled off the ground too soon. Abandoning the take-off for genuine reasons should not be penalised. It's far better that the candidate shows that they are thinking about what they are doing rather than trying to continue with a deteriorating situation. If a take-off is aborted in a safe manner you should immediately reassure the candidate that they will not be penalised for taking correct actions, even though these may conflict with what the test requires.

Climb out should be at a steady angle and straight until operational height is reached when the model will turn into circuit, level out and maintain constant circuit height.

The type of circuit can be either racetrack or rectangular this pattern should be maintained for the duration of the flight unless a certain manoeuvre calls for otherwise.

(d) Level Flight

On completion of the circuit, the model will be flying into wind past the front of the pilot and just beyond the far edge of the take off area. Model must pass parallel to the far side of the runway maintaining constant speed, height and heading.

This first pass in front of the pilot is extremely important as it sets the standard height and line for the rest of the test and this standard height and line will be referred to in these notes.

(e) Procedure Turn

The model approaches upwind at standard height and line in straight and level flight on a line parallel with the pilot. As the model draws level with the pilot it commences a 90° turn away from the pilot. The model maintains this track momentarily before commencing a 270° turn in the opposite direction, completing the manoeuvre on the reciprocal heading at the original height and on the original approach line.

~~(d)~~(f) Figure Eight

Fly a "figure of eight" course with the cross-over in front of the pilot, height to be constant. The examiner will expect this manoeuvre to be flown accurately, but allowing for any adverse wind conditions.

The model approaches up wind straight and level , turns performed are of approximately equal radius, constant speed and height maintained. Cross over point should be directly in front of pilot with exit at

same height and heading as entry.

~~(e)~~(g) **One roll**

From straight and level flight down wind, maintain entry and exit at constant height and heading. The model rolls at a constant rate through one complete rotation resuming straight and level flight on exit. Minimum duration 2 seconds.

~~f)~~(h) **One loop**

Run in height and line should be standard and into wind the manoeuvre should be performed exactly in front of the examiner. A perfect loop is not required, but the entry and exit height and line should be very close to the standard.

Watch for appropriate throttle management during the manoeuvre.

~~g)~~(i) **Stall**

Angle of attack is increased at low power until the model stalls, the nose drops and speed is increased until level flight resumes. Discuss appropriate height for recovery as model is set up.
This manoeuvre may be omitted at the examiners discretion dependent on model type.

~~(f)~~(j) **Fly Inverted straight and level flight for a minimum of 3 seconds with a half roll to inverted and from inverted.**

Run-in line should be standard, and the manoeuvre should be performed with the centre of the inverted portion positioned exactly in front of the pilot.

After the 3 second run the model should be half rolled to upright before any climb-out. The entry and exit rolls may be in either direction.

Throughout the duration of the manoeuvre, the heading and height of the model should not deviate substantially although minor deviations are acceptable.

Note that this manoeuvre is NOT a slow roll.

~~h)~~ **(k) Fly a landing circuit and approach and overshoot at 5m altitude. Note that this manoeuvre is an aborted landing, not a low pass.**

Watch out for the downwind leg not being flown parallel to the upwind leg and the turns being flown either too tight or too wide.

The throttle should be reduced as appropriate for the approach and consideration should be given to the fact that many gas turbine powered models may require the throttle to be retarded significantly earlier in the landing pattern, when compared to other forms of propulsion.

Once established on final approach, on line and descending, the throttle may be adjusted to achieve the desired descent rate. The aim of all this is to have the model at a speed, position and rate of descent which will guarantee an accurate touchdown on the landing area. Only when this is **QUITE CLEAR** and the model is at approx. 5 metres altitude should the throttle be opened and the model climbed straight ahead at constant climb angle back up to circuit height.

The pilot should call this manoeuvre out loudly as an **OVERSHOOT.**

(l) Perform a landing circuit appropriate to the site and conditions wheels to touch within 30 metres of a pre-designated point.

The pilot should call **LANDING** when on downwind for final.

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Model approaches straight and level, maintaining height and heading in turn to downwind leg and maintaining constant rate of descent and heading into base leg and onto final.
Model enters final lined up with runway centerline maintaining heading and descent.
Model is gently flared to a touchdown point within 30 metres of pilot centre line with minimum bounce and maintains heading parallel to runway while rolling to a stop, the model should decelerate and turn off the runway in a controlled manner.

It should be appreciated that for many gas turbine powered aircraft the throttle may have to be reduced early in the landing pattern. Once established on final approach, on line and descending, the throttle may be adjusted to achieve the desired touch down point.

~~i)~~(m) **Taxi back, stop and shutdown engine**

The model should taxi in from the landing area, stopping at the taxi point a safe distance from the pits and other pilots etc. and the engine shut down, ready for recovery.

~~(m)~~(n)**Complete post flight checks as required by the MFNZ Safety Codes.**

The post flight checks are set out clearly in the members manual but the Examiner should watch particularly that the 'Rx off, Tx off (unless the equipment manufacturer specifies otherwise), frequency system cleared' sequence is followed correctly.

This is also a good time for the examiner to discuss any areas of concern with the pilot and make suggestions for improvement if required.

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Examiners and Candidates Check List

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 and Local site rules (if applicable) ☐

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 may do for them as the test progresses ☐

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

6 Clearly identify the landing area and agree with the candidate the required landing pattern that he will be flying and you will be looking for. ☐

Examiners Check List. Basic Jet Turbine (BT)

Candidates Name	**MFNZ Number**	**Date**	**Signature**
Examiner's Name	**MFNZ Number**	**Date**	**Signature**

(a)	Pre start checks.	
(b)	Starting	
(c)	Take off	
(d)	Level Flight	
(e)	Procedure Turn	
(f)	Figure Eight	
(g)	One roll	
(h)	One loop	
(i)	Perform a stall and recovery.	
(j)	Inverted Flight	
(k)	Left / Right hand circuit and overshoot.	
(l)	Landing, wheels to touch within 30m of a pre-set point	
(m)	Taxi back, stop and shutdown engine	
(n)	Complete post flight checks as required by the MFNZ Safety Codes	
	Answer five questions from the list of mandatory questions on legal aspects of model aircraft flying.	
	Answer satisfactorily a minimum of eight questions on safety matters based on the MFNZ Safety Codes for General Flying and Model Flying Displays and local flying rules.	

Advanced Jet Turbine (AT)

General

The Advanced Test (Gas Turbine) has been designed to give a pilot who has already attained a Basic Certificate an opportunity to take a further test to show more advanced skills.

The Model

The candidate for the Advanced Test will need to fly a gas turbine powered model that is capable of flying the aerobatic manoeuvres required, but that does not necessarily mean either a scale or competition aerobatic model. In fact the test can be performed with any sport/trainer jet models.
Another important point to remember is that the candidate is not expected to build or own the model they use. There is no reason why a flyer who does not own a suitable model could not borrow one from a friend or club mate by arrangement.

The use of an autopilot is not allowed during the test. If any such system is fitted to the model it must be disabled during the test and the examiner should check that this has been done.

The use of an aircraft stabilisation gyro is acceptable and permitted.

Crossing Distance

The distance out from the pilot is important. Any crossing manoeuvres during any one flight should be performed at a consistent distance out from the pilot and this should be between 30 and 80 metres, depending on the size of the model being used to take the test, and the examiner should establish this with the candidate prior to the test**.**

Caller/Spotter

The candidate is allowed to have a caller/spotter standing with him during the flight. The caller's only duty is to remind the pilot of the manoeuvre to be flown next or to alert the pilot to any safety issues, for example an approaching full size aircraft. No prompting of the pilot during manoeuvres is allowed and the caller may not discuss any matters with either the candidate or the Examiner during the flight. Failure to abide by this will mean that the candidate fails the test.

The rules allow two attempts at the test in a day. If the candidate fails the first of these the examiner must consider their performance in deciding what to do next. Many failures are generally good pilots and the failure could be a borderline case.

The Advanced Jet Test

The pilot must stand in the designated pilot area for the entirety of the flying part of the test.

(a) Carry out pre-flight checks as required by the MFNZ Safety Codes, including failsafe operation

The pre-flight checks are laid out clearly in the MFNZ members' manual. The candidate should also go through the pre-flying session checks, also laid out in the members' manual. Ask the candidate to go through their checks as if the test flight was their first flight of the day and also ask for a demonstration of the fail safe.

Points to look for are that the candidate has a steady and regular ground routine, especially immediately prior to and during engine start-up. Nothing less than a competent performance is acceptable, the candidate must be fully in control of what they are doing when preparing their aircraft for flight.

A neat, uncluttered and safe ground layout is essential and is to be expected from AT candidates.

(b) Risk Assessment and Pre-Start

Demonstrate an awareness of a risk assessment process for the flying site.
Identify and prioritise the key risks and mitigation measures required.
Describe flame out procedure for the model on this site for three events: 10m altitude climbing after take-off, 30m altitude heading upwind over the centre of the strip, and 30m altitude heading upwind at the upwind end of the strip. Demonstrate knowledge of decision points re flaps undercarriage etc.
Demonstrate a satisfactory safety and pre flight check of the model including:

Check of correct model on Transmitter, voltage on Transmitter in safe range
Check of control surface direction and mixers operating correctly
Check security of control surfaces, turbine, tailpipe and fuel system
Describe the radio and gear installation of the model to demonstrate adequacy for purpose
Confirm flight and ECU batteries charged and operating in safe range
Perform range check and demonstrate awareness of attitude, direction on radio signal.
Describe fail safe functions operating in the model.
Describe risks and procedure for failed starts with a kerosene ignition engine.
Describe procedure for dealing with hot start/fire including briefing to any helpers.

(c) Start-up and Pre-Flight

Prior to starting, the candidate and the examiner should agree the location of Pit and Start- Up areas, as well as the Taxi and Take-off points, which must be consistent with the site operations and safety requirements.
Demonstrate safe starting procedure for the engine/s, model position, helper/s.

Demonstrate fail safe functions ….turn TX off with model held by helper, engine must drop to idle revs or shut down or combination of both depending on the engine. Flight controls recommended to set to neutral or hold (justify reasoning).

(d) Flight Test

The Advanced certificate Flight test should show the pilot is able to place the model at a desired height, speed and position. Accordingly the flight manoeuvres should be carried out and judged against objective criteria, in this case the FAI judges guide for the F4C scale flying schedule. Each manoeuvre should be able to be scored a five to pass. After the trim pass is completed the flight maneouvres must be completed in the order nominated, one maneouvre per pass. Pilot can choose to fly procedure turns or turnaround style positioning manoeuvres.

(e) Take-Off and Position.

Just prior to take-off the pilot should describe the procedure they will follow in the event of Flame-out on takeoff or during flight.

Take off must be performed with the model a safe distance from the pits area and on a line which does not take the model towards the pits, other people or any other danger area. The pilot must stand in the pilot's area during the take off. If the pilot has to stand out on the strip behind the model when it starts its run then he is not ready to take this test.

Take off should be straight with the model not being pulled off the ground too soon. Abandoning the take-off for genuine reasons should not be penalised. It's far better that the candidate shows that they are thinking about what they are doing rather than trying to continue with a deteriorating situation. If a take-off is aborted in a safe manner you should immediately reassure the candidate that they will not be penalised for taking correct actions, even though these may conflict with what the test requires.

Climb out should be at a steady angle and straight until operational height is reached the model is then turned into a racetrack style circuit and levelled out and constant circuit height maintained.

Free pass downwind for trimming, model sets up for flight schedule.

d) Level Flight

The model will fly into wind past the front of the pilot and just beyond the far edge of the take off area. Model must pass parallel to the far side of the runway maintaining constant speed, height and heading.

This first pass in front of the pilot is extremely important as it sets the standard height and line for the rest of the test and this standard height and line will be referred to in these notes.

e) Slow Roll

The manoeuvre should be flown at standard height and line with the model flying downwind. The centre point of the roll should occur as the model passes in front of the pilot. The roll should be of at least three seconds duration and the application of both elevator and rudder control at the appropriate times should be obvious to the examiners.

Throughout the duration of the roll, the heading and height of the model should not deviate substantially although minor deviations are acceptable.

f) One Loop

The model flies into wind with standard run in height and line and the manoeuvre should be performed exactly in front of the pilot. A perfect loop is not required, but the exit height and line should be very close to the original.

Skewing out is a sign that the model has not been trimmed correctly or that the wings were not level at the start of the manoeuvre. The pilot should not get into this situation to start with, but if they do then they must be able to compensate.

Watch for appropriate throttle management during the manoeuvre and penalise the pilot if they fly the manoeuvre at a constant high throttle setting.

The Candidate should perform 4 manoeuvres from the following list alternatively downwind and upwind starting with the first manoeuvre performed downwind.

g) Reversal

The model should run in on the standard line in straight and level flight **at a height sufficient to ensure completion of the manoeuvre at a height of not less than 15m.**

As the model passes the position of the pilot the model performs a half roll and when inverted performs half of a circular inside loop and resumes straight and level flight on the standard height and line, in a direction opposite to that of the entry.

Skewing out of the loop is a sign that the model has not been trimmed correctly or that the wings were not level at the start of the half loop. The pilot should not get into this situation to start with but if they do then they must be able to compensate.

In order to avoid the potential for overstressing of the airframe, appropriate use of the throttle and energy management are important for this manoeuvre. The manoeuvre should be flown smoothly, with the throttle retarded early and only opened as appropriate to resume normal flight.

h) Immelmann Turn

The model should run in on the standard line in straight and level flight. The model then pulls up into the first half of a circular loop and when inverted, performs a half roll before resuming straight and level flight on the opposite track.

Skewing out in the half loop is a sign that the model has not been trimmed correctly or that the wings were not level at the start of the manoeuvre. The pilot should not get into this situation to start with, but if they do then they must be able to compensate.

The exit path should be the reciprocal of that at entry.

i) Two rolls in the same direction

These should be performed from standard height and line and must be continuous rolls with no hesitation between them. The model should be half way through the two rolls when it passes in front of the pilot although the examiner may allow a little leeway here.

There should be no serious loss of height or direction during the manoeuvre although slight barreling of the rolls is permissible. The speed of the rolls should be such that the pilot has to make noticeable elevator inputs to maintain the model's height.

'Twinkle rolls' that are so fast that no visible elevator input is required are NOT acceptable.

J) **Two rolls in opposite directions**

These should be performed from standard height and line and must be continuous rolls with no hesitation between them. The model should be half way through the two rolls when it passes in front

of the pilot although the examiner may allow a little leeway here.

There should be no serious loss of height or direction during the manoeuvre although slight barreling of the rolls is permissible. The speed of the rolls should be such that the pilot has to make noticeable elevator inputs to maintain the model's height.

'Twinkle rolls' that are so fast that no visible elevator input is required are NOT acceptable.

k) Four point roll

The manoeuvre should be flown at standard height and line. The model should be rolled 90^0 and should stop momentarily before rolling a further 90^0 in the same direction to the inverted. The inverted centre point of the roll should occur as the model passes in front of the examiners although you may allow a little leeway here.

The model is then rolled a further 90^0 in the same direction and the roll again stopped momentarily before rolling through a further 90^0 to the upright. The manoeuvre should be at least three seconds duration and the application of both elevator and rudder control at the appropriate times should be obvious to the examiners.

Throughout the duration of the roll, the heading and height of the model should not deviate substantially, although minor deviations are acceptable. A scale model may require a slight nose up altitude when initiating the manoeuvre.

l) Cuban Eight

The model should run in on the standard line in straight and level flight at a height between approximately 50 and 100 feet. After passing the position of the examiners the model pulls up into a circular inside loop and completes approximately 2/3 of the loop until it is inverted 45^o nose down. The model is then half roll to upright directly in front of the examiners position. The model then commences another inside loop until it is once again orientated 45^o degree nose down inverted. The model is then half rolled to the upright and recovered to the original entry height and line.

Skewing out is a sign that the model has not been trimmed correctly or that the wings were not level at the start of the manoeuvre. The pilot should not get into this situation to start with but if they do then they must be able to compensate.

Appropriate use of the throttle should be made during the manoeuvre and the recovery to straight and level flight should be on the same height, line and direction as the original entry.

n) Half Reverse Cuban

Start with the 45° climb and half roll then downward loop to finish level with entry

o) Three Turn Spin

From straight and level flight, the model decelerates into a stall and commences the spin through three turns and recovers to level flight on the same track as the initial flight direction. During descent the model may drift with the wind.

p) Inverted Pass

Run-in line should be standard and the manoeuvre should be performed with the centre of the inverted portion positioned exactly in front of the pilot. If the initial run-in is upright the model must be half rolled to the inverted before the 3 second run commences.

After the 3 second run the model should be half rolled to upright before any climb-out. The entry and exit rolls may be in either direction.

Throughout the duration of the manoeuvre, the heading and height of the model should not deviate substantially although minor deviations are acceptable.

Note that this manoeuvre is NOT a slow roll.

q) Derry Turn

The model should approach on the standard line in straight and level flight. As the model approaches the pilot's position it commences a steep banked turn (approximately 45° angle of bank) so it is flying directly away from the pilot, i.e. 90° to the original direction.

When centered in front of the pilot the model then makes a 3/4 roll in the same direction as the entry to the turn, i.e. if the initial turn was to the right, then the roll should also be to the right. In other words the model effectively rolls from upright in a right hand bank through the inverted to upright in a left hand bank. The model is then immediately transitioned into a 90° left hand turn and completes the manoeuvre when it flying in the same direction as at the start, but displaced further away.

On completion of the optional manoeuvres the Candidate should perform the following compulsory manoeuvres.

r) Circuit and overshoot

Commences with into wind pass with gear extended to check gear status. The downwind leg should be flown parallel to the upwind leg turns being flown not too tight or wide.

Descent shouldn't start before downwind leg with base leg exiting to final lined up with the runway, rate of descent and heading remain constant.

The throttle should be reduced as appropriate for the approach and consideration should be given to the fact that many gas turbine powered models may require the throttle to be retarded significantly earlier in the landing pattern, when compared to other forms of propulsion.

At about 5m altitude the pilot calls overshoot and climbs away on a constant heading and climb rate to rejoin circuit

Only when this is **QUITE CLEAR** and the model is at approximately 5 metres should the throttle be opened and the model climbed straight ahead back up to circuit height. Watch out for correct throttle control.

The pilot should call this manoeuvre out loudly as an **OVERSHOOT.**

s) Landing

This may be a rectangular circuit with four turns or 'racetrack' with two. The examiner will watch out for the downwind leg not being flown parallel to the upwind leg and the turns being flown either too tight or too wide. Whichever circuit is flown, the throttle should be reduced at an appropriate point to achieve the desired decent rate and to establish the model on the desired path towards the landing area.

It should be appreciated that for many gas turbine powered aircraft the throttle may have to be reduced early in the landing pattern. Once established on final approach, on line and descending, the throttle may be adjusted to achieve the desired touch down point.

The pilot should call **LANDING** when on final. Visual checks of the active area are still very important and must be seen to be done even at this stage of the landing.

If the candidate opens the throttle and climbs away then they should have a very good reason, such as people on the runway. Any reasons offered by the candidate for an unscheduled overshoot cannot include not being lined up correctly or anything similar. However, a forced overshoot for good reasons should not be penalised and a new approach and landing should be allowed.

Model is gently flared to a touchdown point within 25 metres of pilot centre line with minimum bounce and maintains heading parallel to runway while rolling to a stop, the model should decelerate and turn off the runway in a controlled manner. Ground loops and heavy or nose over landings are not acceptable at this level.

t) Taxi back, stop and shutdown engine

The model should taxi in from the landing area, stopping at the taxi point a safe distance from the pits and other pilots etc. and the engine shut down, ready for recovery.

If the model does not taxi in then the Examiners should take this into account when assessing the candidate's flight as a pilot at this level should be capable of controlling his aircraft in all active phases of the flight. If the candidate has performed an excellent flight then not taxying in might not weigh too heavily but it might well affect the decision if the Candidate's flight was average but passable. In borderline cases, it might be appropriate to ask the candidate to repeat the take-off/landing manoeuvres so that safe taxying out and in may be demonstrated.

u) Complete post flight checks as required by the MFNZ Safety Codes.

The post flight checks are set out clearly in the members manual but the Examiner should watch particularly that the 'Rx off, Tx off procedure is followed (unless the equipment manufacturer specifies otherwise).

The test must be completed in one flight. Exceptionally, at a pre-determined point in the flight, an intermediate landing may be permitted for the sole purpose of re- fuelling. This landing may only be made with the prior consent of the Examiner. The pre-determined point may be either after a specific manoeuvre or at a specific time of flight, whichever is requested by the candidate and agreed by the Examiner.

The candidate may be offered a chance to correct a manoeuvre or landing deficiencies at the examiner's option in the event of unfavourable external events during the flight or weather conditions…i.e. excessive crosswind or gusty wind conditions.

Full pre and post flight checks are not normally required during an intermediate landing and take-off unless the model suffered a hard landing. However, the candidate should give the model at least a quick visual examination whilst on the ground.

Examiners and Candidates Check List

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:

a. Has the candidate read the MFNZ members manual and Local site rules ☐

b. Discuss whether the model is suitable in "these conditions" ☐

c. Any "no fly zones" need to be identified ☐

d. Remind candidate to talk you through anything that the helper may do for them as the test progresses ☐

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

f. Clearly identify the landing area and agree with the candidate the required landing pattern that he will be flying and you will be looking for ☐

Examiners Check List. Advanced Jet Turbine (AT)

Candidates Name	**MFNZ Number**	**Date**	**Signature**
Examiner's Name	**MFNZ Number**	**Date**	**Signature**

(a)	Risk assessment and Pre start.	
(b)	Start-up and Pre Flight.	
(c)	Take off and position.	
(d)	Level Flight	
(e)	Slow roll	
(f)	One loop	
(g)	Select and perform four manoeuvres from the list below to be perform alternately upwind and downwind	
1	Reversal/Split S	
2	Immelmann turn	
3	Two rolls in the same direction	
4	Two rolls in opposite directions	
5	Four point roll	
6	Cuban eight	
7	Half reverse Cuban	
8	Three turn spin	
9	Inverted pass	
10	Derry Turn	
(h)	Perform a landing circuit appropriate to type, the site and prevailing conditions and overshoot	
(i)	Perform a landing, wheels to touch within 25m of a pre-set point	
(j)	Taxi back, stop and shutdown engine	
(k)	Complete post flight checks as required by MFNZ Safety Codes	
	Answer five questions from the list of mandatory questions on legal aspects of model aircraft flying.	