



**BRITISH MODEL FLYING ASSOCIATION
THE R/C ACHIEVEMENT SCHEME**

**TEST STANDARDS for CHIEF EXAMINERS
and CLUB EXAMINERS**

GUIDANCE for TEST CANDIDATES

**THE 'B' CERTIFICATE
(FIXED WING)**

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General

The 'B' Certificate is “designed to recognise the pilot's more advanced ability, and a demonstrated level of safety suitable for flying at a public display”. As an Examiner, therefore, the level of competence required from a candidate should be based on the question; 'has this person demonstrated their flying ability to me in a satisfactory manner and how do I feel about them appearing in public, possibly at a large display, on the strength of the certificate which I may be about to award them'.

For many years the 'B' Certificate has been seen as a 'display licence' but, in fact, it has always been much more than that. It was set up in the first place as a method of encouraging club flyers to gain further flying skills by meeting and being tested to a recognised national standard.

Whilst it certainly has its uses in the context of display pilots, the real aim of the 'B' certificate has always been to give the club flyer a personal attainment goal beyond the 'A' Certificate; a level of competence and safety which is attainable by the average pilot with a little thought and practice. The long term strategy behind this is that if enough club flyers qualify for their 'B' certificates then the general standard of flying both within your club and nationally cannot help but rise. Examiners should be pressing this concept positively within their clubs and discouraging the idea of the 'B' as just a 'display licence'.

A pilot capable of flying to 'B' certificate standards and wishing to go straight to the 'B' test without taking the 'A' test may do so but candidates should on no account be forced along this path. A flyer, known within a club to be a good pilot, going through the 'A' before taking the 'B' can be an excellent example to the rest of the club members and this should be pointed out to any candidate wishing to go direct to the 'B'.

The candidate for the 'B' should have studied the BMFA handbook and be familiar with the 'Safety Code for General Flying', any local site rules (if applicable), the 'Operational Guide, All Models and Radio Control' and the 'Safety Code for Model Flying Displays'. Most of the questions asked at the end of the test will be from these sections of the handbook.

The Model

It is a common misconception that the candidate for the 'B' Certificate needs to fly an 'aerobatic model'. In fact the test can be performed with most powered fixed wing models. The options allowed in the test mean that even a three channel trainer can cope if well trimmed and flown.

Having said this, on no account may the candidate use the performance of the model as an excuse for a poor performance on their part. For instance, a candidate flying a three channel model through the rolling manoeuvres accurately deserves the credit but one who makes a mess of the rolls with the same type of model cannot say that it is the fault of the model. You should make no allowances on this point.

You do not have the authority to alter the required manoeuvres to suit a model and if, in your opinion, the model is unsuitable for the test then you should explain this to the candidate and tell them that they cannot use that model. The selection of the model to do the test is the responsibility of the pilot and it is they you are testing, not the model.

Similarly, the type of model presented cannot be used as an excuse for not completing certain manoeuvres. A pilot cannot turn up with a twin, for instance, and then say that the spin is too dangerous because the model would not pull out of it.

Another important point to remember is that the candidate is not expected to build or even 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 clubmate.

The use of a gyro or 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.

Electric Powered Models must be treated as if the motor will be running as soon as the system is 'live' (i.e. main flight battery connected irrespective of Radio state). The arming sequence should be clearly understood and discussed/demonstrated to the examiner.

Height and Speed

The 'B' certificate candidate should be a confident pilot and this should show in the height and speed at which they fly the test. The height for the majority of the test should be between 100 and 150 feet (that is roughly three to five houses high) and the pilot should make intelligent use of the throttle throughout the flight. This is an important factor and you should particularly watch out for it. A pilot who flies at take-off power throughout the whole flight should not pass; they are not thinking.

Consistency

The combination of appropriate heights and good use of the throttle should mean that, although the model will be flying at various heights throughout the test, these heights will be flown in a steady and consistent manner and you should note if the height flown varies significantly when it doesn't need to.

It is a requirement that "all manoeuvres are carried out in front of the pilot" with the implication that the model will be crossing in front of the pilot just beyond the take-off and landing area on several occasions during the flight. Care should be taken by the pilot that the line of approach each time is consistent and you should take particular note if it is not.

Unnecessary varying of height and inconsistent lines are valid reasons to fail a candidate at this level as they give a good indication of the flyers general level of competence and they should strongly influence your final decision. Poorly flown height or lines are a sure sign that the flyer has either not practised the test or has not reached the required standard of flying and are legitimate reasons to fail them.

Continuity

Although the manoeuvres are set out in such a way that they can be flown one after the other as a schedule, this is **ABSOLUTELY NOT** what is expected. The candidate can opt to fly the test in this way but it is not mandatory. Most flights will have a combination of direct transitions and positioning circuits between manoeuvres and will help if you discuss this with the candidate before the flight. You, of course, should be watching any extra circuits just as carefully as the rest of the flight as they can tell you a lot about the competence of the flyer.

A pilot who transitions directly from one manoeuvre to the next is not to be penalised as this is quite acceptable but watch out for the pilot who hasn't practised enough. Trying to fly the test in this way can get them into some very awkward positions.

The 'B' certificate allows an intermediate landing. The exact wording of the rule that appears in the member's handbook is - 'The schedule 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 refuelling or the fitting of a freshly charged battery. This landing may only be made with the prior consent of the Examiners. Two attempts per examination will be allowed in any one day.

This obviously makes it easier to take the 'B' with electric or turbine powered models although in exceptional circumstances it could apply to any model. You should be aware of the possibility of such an intermediate landing but under no circumstances must you allow an unscheduled landing to be passed under the rule. It must be applied exactly as written and any landing must take place at the point in the schedule agreed prior to the flight.

Trim

It is expected that the candidate will start the test with a model that has been trimmed out previously but they should be able to trim the model out in the air very quickly if necessary. If you see obvious signs that the model is out of trim and the candidate makes no attempt to rectify the matter you should seriously question their basic competence.

Any re-trimming should be done on the first circuit and if the pilot cannot accomplish this then you should again seriously think about their basic ability, especially if they put the model in any danger or the model flies behind the pilot or in any other unsafe areas.

Nerves

Quiet competence is what you are looking for during the flight but most candidates will be nervous and you should make some allowance for this. If the flyer is very nervous you should seriously consider abandoning the test for the time being and offering the candidate a coaching flight or two to settle them down before re-taking the test. This can be done on the same day and can really help those candidates who have trouble with nerves when flying in a test situation.

Repeating Manoeuvres

At 'B' certificate level the candidate should be competent to fly the test with very few errors. If you see any major faults the test should be taken again. It may be, however, that the candidate will make a **minor** mistake on a manoeuvre and if you are not fully satisfied with what you have seen you should consider asking for the manoeuvre to be repeated.

Some judgement is called for on your part here. A major mistake is grounds for failing the candidate, especially if loss of control has occurred or a dangerous situation has arisen. You should definitely **not** let them have multiple attempts at each manoeuvre until they get it right but you must give yourself the best chance of assessing the competence of the pilot you are testing.

You should consider what you have seen the model do and if you think to yourself "could be better" then a request that the manoeuvre be repeated may be considered. Be extremely careful about using this option, however, as you could be degrading the worth of the test. It must not under any circumstances degenerate into a series of 'practice' manoeuvres.

Repeating the Test

The rules allow two attempts at the test in a day. If the candidate fails the first of these you must consider their performance in deciding what to do next. Many failures are reasonably good pilots or borderline cases and in these circumstances it might be appropriate to offer one or two coaching flights and then a repeat of the test. Remember that many of the candidates will be unfamiliar with flying under pressure and might do very well on the second test.

On the other hand, it will probably be obvious to you on many occasions that the pilot you are testing is simply not ready for the test they are taking. In this situation it is better that you tell them so quite clearly. It could then be extremely useful for you to offer to fly a demonstration test for them (assuming that a suitable model is available to you and that you are happy to do so) so that they can gain an idea of the standard of flying required, especially if they have shown a lack of understanding of the manoeuvres and positioning. This, possibly along with a little coaching, is far more useful to everyone than simply telling the candidate that they have failed.

Interruptions to the Test

A possibility that may occur during a test is an engine failure part way through which could very well lead to a damaged model. If this is the case then the test obviously cannot continue and you should invoke the rule that the test should be performed in one flight and count the flight as one of the two attempts allowed during the day.

Genuine engine trouble or even engine-out situations during the test may be dealt with in one of three ways.

If the test was being generally flown in a satisfactory manner and the problem can be rectified quickly then the candidate may be allowed to continue the test from the start of the manoeuvre in which the problem occurred.

If the problem cannot be rectified quickly but you consider that it was a genuine unforeseen occurrence, you may annul the test and not count it as one of the two attempts.

If the test up to the point of failure was not satisfactory, you have the option to cancel the rest of the test and count the flight as one of the two attempts allowed during the day.

Obviously, you will have to use your judgement on this matter as there will rarely be black and white situations but how they handled the emergency should be of great interest to you when you come to review the candidate's overall standard of flying.

Designated Landing Area

The landing has to be performed on the 'designated landing area' and the wheels are to touch 'within a pre-designated 30 metre boundary'. The exact definition of this landing area must be left to the examiner as it will obviously depend on the flying site and possibly the weather conditions at the time of the test.

Helpers for Disabled Candidates, Young Candidates and Others Who have Requested Help During the Test

When disabled or young candidates present themselves for the test it may be that they will not physically be able to perform all the actions that most candidates can. At times, other candidates may also request help with certain physical aspects during the test (they may, for instance, have an injured finger). There will be times when you, as an Examiner, will think 'how much can I relax the test requirements for this person'.

Some Examiners make the decision to make no allowances at all but this effectively bars many people from attempting the tests. If we think of the achievement scheme as a true national scheme then we must consider how we can accommodate candidates, not how we can stop them from participating.

The answer, of course, is that you, as an Examiner, must make on-the-spot decisions about what you will allow during the test and, in such cases, you are within your authority to take such decisions. The guidelines set out below may help but at all times the two items at the end of this section must take precedence. They are not negotiable and mean that, whoever the candidate is, they have to convince you that they know what they are doing or what is happening for the full duration of the test.

For instance, a disabled flyer may have difficulty handling the model and may not be able to carry it out to the strip, release it for launch or retrieve it after the flight. The sensible use of a helper is certainly allowable in such cases but it is essential that they only do what the candidate asks them to do. Pre-flight checks and engine starting may be another problem area that can be overcome by a helper but you should expect the candidate to do as much of the work as possible themselves and they should be able to talk you through anything that the helper does for them. Be sure to discuss all this with the candidate before starting the test.

All of these comments can apply to younger flyers too but there is an added complication with engine starting. Many parents are very unhappy about letting their children near a running engine and will not allow them to start their own engines. This is a perfectly valid view and, again, is a case where a helper can be used. If this situation does occur with the younger candidates, however, you should insist that they do all the pre-flight and preparation work themselves, up to applying the starter to the engine. If they cannot do this then they should not pass.

After engine start, the helper can adjust engine controls and carry the model but only on the instructions of the candidate.

In all cases:

(1) If, at any time, the helper takes over the decision making process from the candidate then the candidate must fail.

(2) You can make no allowances whatsoever for anyone during the flying of the test. The candidate can either perform the flight manoeuvres as specified or they can't. If they can't then they must not be passed.

Make sure in your briefing that both the candidate and the helper are fully aware of both of these points.

The Test

(a) Carry out pre-flight checks as required by the BMFA Safety Codes.

The pre-flight checks are laid out clearly in the BMFA handbook. The candidate should also go through the pre-flying session checks, also laid out in the handbook. Ask the candidate to go through their checks as if the test flight was their first flight of the day. Particular attention should be given to airframe, control linkages and surfaces.

Points to look for are that the candidate has a steady and regular ground routine, especially when starting and tuning the engine. Nerves should not play a part in the pits and you should satisfy yourself that the candidate is fully in control of what they are doing when preparing their aircraft for flight.

A neat ground layout makes a good impression and is to be expected from 'B' certificate candidates.

A poor performance in this area is not grounds for failing the candidate, however, but it is inevitable that you will be making mental notes of all aspects of the candidates competence and this is one that might have an effect on a real 'borderline' case.

Pay particular attention to the way the candidate uses the local frequency control system and make sure that they understand it and use the correct sequence of 'get the peg, Tx on, Rx on'. Also watch carefully and take note that the transmitter controls, trims and switches are checked by the pilot.

Any candidate who switches their radio on before checking the frequency control system should be failed on the spot.

If there is no one else available then there is nothing to stop you aiding the candidate by holding the model for the power check, carrying it out for take-off etc. but any such actions must be performed by you directly on the instructions of the candidate. You must not prompt them or carry out any actions of your own accord.

(b) Take off and complete a left (or right) hand circuit and overfly the take-off area.

Take off must be done 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 may stand where he chooses but if he stands out on the strip (behind the model when it starts its run) he should inform other pilots flying that he is going out onto the active area.

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 coax a model with a sick engine into the air. 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 throttle should be brought back to cruise power, the model levelled out and the first turn of the circuit started.

The type of circuit is not stated so either racetrack, rectangular or circular is acceptable. This choice of circuit type applies to the rest of the flight as well except when a type of circuit is specified for a manoeuvre.

On completion of the circuit, the model will be flying into wind past the front of the pilot and, for safety reasons, just over the far edge of the take off area. Tell the candidate prior to the flight the line that you want them to be following.

You must make sure that the candidate is clear on this, the line will be set by the model flying across in front of them on a heading which should be agreed before the flight (usually, but not always, into wind) and passing over a set point. 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 often in these notes.

(c) Fly a "figure of eight" course with the cross-over in front of the pilot, height to be constant. The examiners will expect this manoeuvre to be flown more accurately than the similar manoeuvre in the 'A' Certificate test.

The manoeuvre should be flown slightly better than as shown in the 'A' Certificate diagrams in the handbook. The crossover point must always be in front of the pilot and, after a run in at standard height and line, the model **MUST** be turned through ninety degrees in the first turn so that it is flying exactly away from the pilot.

The first circle must also end with the model flying exactly away from the pilot, through the crossover point before it is turned into the second circle. Both circles should be of the same diameter as seen from the ground and this implies that they will be flown at varying bank angles.

The main problems with this manoeuvre nearly always happen on the first circle and if they do not get it right they will either finish up with the crossover way downwind, fly too near the pilots line or panic as the model accelerates towards them as it begins to come downwind and pull far too much bank (vertical!) to get the crossover point correct. This is not a sign that they have thought about the manoeuvre or practised it.

The second circle (3/4 circle actually) is rarely a problem. The manoeuvre finishes, as in the 'A' certificate diagrams, with the model flying at standard height and line across the front of the pilot, not with another turn away.

(d) Fly into wind and complete one inside loop,

Run in height and line in should be standard 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; if they cannot then you have to draw your own conclusions. Watch that the throttle is used during the manoeuvre and penalise the pilot if they fly the manoeuvre at a constant high throttle setting.

(e) Fly downwind and complete one outside loop downwards from the top i.e. a bunt.

The climb to an appropriate height for the manoeuvre should be executed neatly and, after tracking in on the standard line, the bunt should be executed directly in front of the pilot. A perfect bunt 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; if they cannot then you have to draw your own conclusions.

The throttle should be closed for the first part of the manoeuvre but don't expect it to stay off for too long. Many models will not complete this manoeuvre if throttle opening is delayed to the bottom of the bunt.

For aircraft (scale aircraft specifically) which for reasons of structural strength or control limitations cannot perform an outside loop, a Split S or Reversal (from level flight, half roll to inverted, hold, then pull through half loop to recover in level flight) may be accepted by the examiner.

The candidate may request that they fly this option and you will have to decide if this can be allowed. In making your decision, bear in mind that you are testing the pilot, not the model. If, in your opinion, the model is capable of performing an outside loop, then you should request that the pilot flies that manoeuvre. Only if you are certain in your own mind that the model will not bunt should you allow the option.

If you do allow the option, the manoeuvre may be done either upwind or downwind and should be performed on the standard line but from higher than the standard height to allow sufficient room for a smooth safe recovery. The manoeuvre is not performed in front of the pilot and the model should be flown, in level flight and on the correct line, past the pilot for a distance of around 100 yards before the manoeuvre is initiated.

The inverted hold should be for a second or two and there should be no noticeable deviation from level flight during the short time the model is inverted (a small 'down elevator' input may be required). Whilst inverted the throttle should be closed and, as the model slows, a smooth half loop is performed to recover in level flight and on the standard line. A recovery that is significantly off line or too low or a half loop that is pulled too tight are signs that the manoeuvre has not been practised and are not acceptable.

(f) Complete two consecutive rolls into wind.

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

There should be no serious loss of height or direction during the manoeuvre although slight barrelling 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, you have to be sure that the pilot is using the elevator. Slow rolls which require elevator and rudder input are acceptable if the pilot can perform them but are **NOT** a requirement.

Don't forget to note which way the model rolls.

(g) Complete two consecutive rolls downwind using the opposite direction of roll rotation to that use in (f).

All the comments in (f) above apply but you can allow a little more leeway on the centring of the manoeuvre as the model will be travelling faster over the ground. You should, however, be satisfied that the pilot is making a reasonable effort to centre the manoeuvre. Make sure that the model rolls in the opposite direction to (f).

(h) Complete a stall turn either left or right.

This should be flown from standard height and line but not directly in front of the pilot. The model should be flown past the pilot for about 100 yards before the manoeuvre is performed, returning past the pilot at standard height and line when the manoeuvre is complete.

The direction of the stall turn should be nominated by you and it should be performed away from the flight line behind the pilot i.e. if the wind is from the right, the model is flown past the pilot from left to right, pulled up and stall turned to the LEFT.

Although you should not expect a perfect manoeuvre, it should be a recognisable stall turn, not a chandelle or a wing over. The 'vertical climb and dive' should be near vertical, the throttle should be used in the appropriate manner and the model should not 'fly' over the top in a semi-circle.

(i) Gain height and perform a three turn spin. For aircraft which will not spin, a spin attempt resulting in a spiral dive (not necessarily of three turns) will be acceptable. In each case the initial heading and the recovery heading must be into wind and the model must fall into the spin (no 'flick' spin entry).

The spin should be performed in front of the pilot but a little further out than the other manoeuvres. The height should be appropriate to the type of model being flown and the pilot should gain that height in a smooth and neat manner.

There is only one way to perform the spin.

The model must be flown into wind and before it reaches a point in front of the pilot the throttle must be closed. As the model slows down, level flight must be maintained by steadily increasing amounts of up elevator until, at a point approximately in front of the pilot, full up elevator is reached **(the model should be slow and nose up at this point but not climbing)**.

Full rudder must then be applied and the model allowed to fall into the spin. The model should not stall and then spin but it should be flying close enough to the stall so that applying full rudder will cause one of the wings to stall and initiate the spin

Ailerons may be used in the spin (and many models will not stay in a spin without aileron being used) but they must **NOT** be applied until the model has begun to fall. Note that this does not mean that the model must actually be **spinning** before the ailerons are applied but it must at least be **falling** into the spin.

A 'flick' entry, which is not allowed, will always result in one wing of the model **rising** as the manoeuvre is entered and part of the first rotation will take place in the horizontal plane instead of the vertical. In most cases it will then be very difficult to decide exactly when to

start counting the turns of the spin, especially if the manoeuvre has been entered at too high a speed. Look carefully for all these points and insist on a correct low speed 'falling' entry to the manoeuvre.

After an appropriate time (depending on the model) controls must be centralised, any anti-spin actions taken (sometimes necessary) and the model recovered onto the same heading it had when the manoeuvre was started. An 'aerobatics' spin which finishes in a vertical dive is not required but is acceptable.

Allowances should be made for the heading of the model to be slightly off line (no more than ten or fifteen degrees) as the spin finishes but this should be corrected during the pull out. Do not accept a manoeuvre which requires more correction than this during the pull out.

If the pilot cannot take the model at least through the beginning of the spin in a competent fashion it is a sure sign that they have not practised the manoeuvre. If they make a good job of the entry but are not accurate enough on the exit, you might consider allowing another attempt at the manoeuvre as the spin can, on some occasions, be a difficult manoeuvre to predict, depending sometimes on the model as much as the pilot.

It may be, in fact, that the model will genuinely not spin without fundamental changes to control movements and/or centre of gravity and this is not what you are testing. In this case a spiral dive is acceptable although you should note that **this is not an option**. You may only accept a spiral dive if the model has proved to your satisfaction during the test that it will not spin.

Bearing all this in mind, if the model shows a reluctance to spin you should allow the candidate two or three attempts before accepting the spiral dive and moving on, each attempt following the entry procedure outlined above. Note that the requirement for accurate recovery from a spiral dive is exactly the same as for a spin and you should make no allowances beyond those noted above.

Do not accept any excuses from the pilot that his model is too fragile to spin; the section on the suitability of models applies.

(j) Fly a rectangular landing approach and overshoot from below 10 ft. Note that this manoeuvre is a baulked 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 (most will try to fly them too tight and almost try to put a ninety degree 'snap' turn in, which is not a requirement). Throttle should be reduced either just before or just after the last crosswind turn with the crosswind leg descending into the turn on to final approach.

Once established on final approach, on line and descending, the throttle should be closed to idle to set up the final 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 below 10 feet 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** and you should take note that he has visually checked the active area before and during the manoeuvre (watch for head movements).

Anything less than this is not satisfactory. Discuss this with the candidate before the flight as, if the overshoot is simply flown as a low pass, the candidate should fail.

Note that electric models are expected to follow typical 'i/c' flight patterns and that they can sometimes quite easily do that with propellers stopped. Don't be surprised if this happens, just take note that the flight path the model takes is what you would expect of an i/c model. These comments apply to the landing too.

(k) Fly a rectangular circuit in the opposite direction to that in (j) at a constant height of not more than 40 feet.

The comments above about parallel upwind and downwind legs and the type of turns required all apply. Height control should be good with no wavering and 40 feet is just over one house high.

(l) Fly a rectangular landing approach and land (wheels to touch within a pre-designated 30 metre boundary).

All the comments in (j) above apply accept that the pilot should call **LANDING**. The visual checks of the active area are very important and as in (j) you should watch for head movement.

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. At this stage they should be capable of getting it right.

(m) Complete the post flight checks as required by the BMFA safety Codes.

Including;

Exceptionally, at a pre-determined point in the flight an intermediate landing may be permitted for the sole purpose of either re-fuelling or the fitting of a freshly charged flight battery. This landing may only be made with the prior consent of the Examiners. 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 Examiners.

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.

The candidate should NOT take their transmitter with them when retrieving their model. If no one else is available to hold it then you should offer. When the model has been retrieved and returned to the pits area the transmitter should be returned to the pilot.

The post flight checks are set out clearly in the handbook but you should watch particularly that the 'Rx off, Tx off, frequency system cleared' sequence is followed correctly.

Remember that electric models must be assumed to be 'live' until the flight battery has been disconnected and the handling of the aircraft by the candidate must reflect this during retrieval and in the pits area.

The Questions.

The candidate then "must answer satisfactorily a minimum of eight questions on safety matters, based on the BMFA Safety Codes for General Flying, Model Flying Displays and local flying rules."

Remember that on **no account** can a good performance on the questions make up for a flying test that you considered a failure. If you have failed the candidate's flying you should not even start to ask the questions. On the other hand the achievement scheme is a test of both flying ability and knowledge. It doesn't matter how well the candidate can fly, if they cannot answer the safety questions they should not pass.

How many questions you should actually ask will depend on the circumstances at the time. For instance, if the candidate has done a good flying test and answers the first eight questions with confidence then you need go no further. An acceptable test but with some rough edges can be offset to an extent by the candidate performing well in the first eight questions.

A candidate who has done a test which you found only just acceptable and who hesitates on the questions should be asked a few more than eight and if you are not satisfied that they have actually read the safety codes, you should not hesitate to fail them.

There is some debate as to whether a list of 'approved' questions should be published for examiners to use. Current opinion is that if such a list is published then candidates will also be able to study the list and will not need to study the BMFA handbook and this is probably not a good idea.

As an examiner, however, you should prepare yourself thoroughly for any testing that you do and you may wish to sort out your own personal and private list of sensible questions. Don't forget that you can use any local rules which you know and which the candidate should be aware of.

Remember that the majority questions you ask are to be BASED on the BMFA Safety Codes; you are not expected to ask them 'parrot fashion' and the candidate is not expected to answer that way either.

This opens up the possibility of asking a candidate if they can think of reasons behind specific rules, for instance, why is the club frequency control system operated as it is and what could go wrong?, why should operating transmitters not be taken out when retrieving models from an active flying area? or why should models not be taxied in or out of the pits area?

Issue 1. Ratified by Areas Council, October, 1994.

Issue 2. Ratified by Areas Council, May 1997

Issue 3. Ratified by Areas Council, February 2004

Issue 4 Ratified by Areas Council, June 2006

Issue 5 Minor Modifications, June 2008

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 BMFA handbook
Local site rules (if applicable)
'Safety Code for General Flying'
'Operational Guide, All Models and Radio Control'
Code of Practice for Model Flying Displays
- 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
- 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 Discuss the various manoeuvres and any options that may be available so that there can be no misunderstanding during the test
- 7 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.

‘B’ CERTIFICATE (FIXED-WING)
Examiners Test Flight Check List

Candidates Name	BMFA Number	Date	Examiners
FLIGHT TASK		COMMENTS	
(a)	Carry out pre-flight checks as required by the BMFA Safety Codes		
(b)	Take off and complete a left (or right) hand circuit and overfly the take-off area.		
(c)	Fly a ‘figure of eight’ course with the crossover point in front of the pilot, height to be constant		
(d)	Fly into wind and complete one inside loop		
(e)	Fly downwind and complete one outside loop downwards from the top (a bunt). For models unable to bunt, a Split S or Reversal may be acceptable		
(f)	Complete two consecutive rolls into wind		
(g)	Complete two consecutive rolls downwind using the opposite direction of roll rotation to that used in (f) above		
(h)	Complete a stall turn either left or right		
(i)	Gain height and perform a three turn spin		
(j)	Fly a rectangular landing approach and overshoot from below 10 ft		
(k)	Fly a rectangular circuit in the opposite direction to that in (j) at a constant height of not more than 40 feet		
(l)	Fly a rectangular landing approach and land (wheels to touch within a pre-designated 30 metre boundary)		
(m)	Complete post-flight checks as required by the BMFA Safety Codes.		
<p style="text-align: center;">Answer satisfactorily a minimum of eight questions on safety matters based on the BMFA Safety Codes for General Flying and Model Flying Displays and local flying rules.</p>			

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