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

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

**THE 'A' CERTIFICATE  
(SILENT FLIGHT - SLOPE)**

**2019 ISSUE 2**

**(May 2019)**

## Achievement Scheme Information & Communication

The BMFA Achievement Scheme provides every RC flyer the opportunity to set themselves an achievement target to aim for, and then have their progress assessed and confirmed by an examiner.

It is important that All those involved in training, examining and preparing for the tests, are well informed and up to date with all that the scheme has to offer. To this end, and to aid communication, important information regarding scheme developments, as well as details of all of the tests and their associated guidance documents, are made available to everyone via a number of sources, which include:-

- The Achievement Scheme website - <http://achievements.bmfa.org/>
- The BMFA website - <http://bmfa.org>
- The BMFA News
- The Achievement Scheme closed Facebook group

It's important to appreciate that **ALL** of the scheme documents are reviewed and updated on an annual basis. Whichever document you are using, you will know if you have the right one, simply by looking at the date on the front cover. If it's not dated with the current year, it's the wrong one!

Most BMFA Clubs have Club Instructors/Examiners who will be familiar with the scheme and what is expected of anyone thinking of participating. If your club does not have a club examiner then each BMFA Area has an Achievement Scheme Coordinator (contact details can usually be found on the BMFA Area website) who can usually help in coordinating tests, or answering queries about tests etc. All BMFA Areas have Area Chief Examiners who would normally undertake Club Examiner tests, but are also available to help out with club tests, if requested. Importantly, they are also very knowledgeable about the scheme and its requirements. Area coordinators can often find an ACE that is close to your club, if you are having difficulty arranging for a test.

All BMFA Achievement Scheme & training documents are available to download from the BMFA Achievement Scheme website <http://achievements.bmfa.org/>. You can also register your email address with the Achievement Scheme website and receive email notification of any news flashes, notification of scheme events and updates to documentation etc. as soon as they are published.

The Achievement Scheme also has a closed Facebook group (you just have to apply to be included) where comment and queries can be posted and examiners/instructors and members of the Achievement Scheme Review Committee can answer questions, or offer clarification.

If you have any query about the scheme or constructive comment on the scheme you can contact the Power/Silent Flight Scheme Controller ([RCPAS@bmfa.org](mailto:RCPAS@bmfa.org)), or the Achievement Scheme Review Committee, via the BMFA Office.

## General

The Achievement Scheme is run by the BMFA as a National Scheme and it is open to all model flyers. Where a non-member wishes to participate in the achievement scheme the examiner who will be conducting the test must inform the BMFA office via email or telephone no later than the day prior to the test being carried out of the non-member's full name, address and the date that the test will be conducted. This enables the BMFA to extend insurance at suitable levels for the day of the test. If this procedure is not followed the test will be invalid.

The 'A' Certificate is a measure of flying ability and safety which "may be equated to a safe solo standard of flying" and an increasing number of clubs use it as their 'solo' test. As an Examiner, the level of competence you should expect of a candidate should be based on that criterion; that is 'is this person, in your opinion, fit to be allowed to fly unsupervised'.

**A candidate wishing to take the 'B' must already have passed the 'A' in that discipline.**

The candidate should have studied the BMFA Member's Handbook 2017 (sections 8 through to 24 inclusive, including any amendments), the Achievement Scheme Handbook, and any local site rules (if applicable). Besides being excellent guides to the safe flying of model aircraft, most of the questions asked at the end of the test will be from these sources.

Conducting a slope soaring test will in all probability require the examiner to exercise a considerable amount of judgement and discretion in how the test is to be conducted; not only do the variable factors such as wind direction, wind speed, turbulence, curl-over or 'rotors' but also the very nature of the slope itself and how good a lift generator it is all effect the way the test will be performed, observed and rated by the examiner.

For this reason it would be good practice for the examiner to have personal familiarity with the slope to be used and to be able to make these judgements so as not to adversely affect the candidate's prospects of succeeding.

A further factor lies in the difficulty of actually having the right wind and weather on the right slope at the right time when both candidate and examiner can get together. This also requires a degree of judgement and discretion from the examiner so that there are not too many wasted trips to the slope when conditions are unacceptable and to avoid the frustration of aborting the test so as to frustrate the candidate's enthusiasm to take the test.

**Please note that Basic Proficiency Certificates are not applicable to silent flight tests.**

## **The Model**

Although slope soaring has brought about its own purpose designed type of model, usually aileron equipped with a quite high degree of manoeuvrability, the A test can be taken effectively with a rudder/ elevator basic trainer type of slope soarer or even a thermal soarer. Because of their slower flying speed and more stable behaviour a thermal soarer will be a more predictable model to use for the 'A' with the only drawback being possibly in the landing manoeuvre where its rudder control will make for a more difficult final approach; such models are usually incapable of handling the higher wind speeds encountered on the slope and thus the examiner may have to advise that if the candidate is using a r/e thermal type model the test may only be conducted in lighter conditions.

Many slope soarers are of a delta planform, particularly the very popular foamie machines, which are ideal for learning on because of their crash resistance. However, these machines are often incapable of a conventional stall and spin and hence may not be suitable because this is an essential part of the test.

The use of a gyro or autopilot is not allowed during the test.

Whatever model is to be used by the candidate it must be capable of conducting all the required manoeuvres; if the examiner believes that the candidate's model is not fit for this purpose, the detailed rationale should be explained. The examiner does not have the discretion to alter the test to suit the limitations of the model.

## **Buddy Box Systems**

Buddy leads and other dual control training aids must not be used during any achievement scheme test.

## **Launch Height, Flight Time and Weather**

It is expected that the candidate will have a reasonable level of competence and confidence before requesting the test.

However, flying on the slope introduces many variables and it is the examiner who must decide whether, in the event of the candidate having insufficient height to complete the full test on one attempt, it is because of pilot incompetence or cessation of slope lift over which the pilot has no control; this latter difficulty offers the examiner additional opportunities to observe how safely the pilot handles the model when struggling in poor air and how the forced landing is handled. A good performance in this should be credited to the pilot.

This latter problem should not be confused for the situation where the pilot puts the model into areas of poor lift or sink as a natural consequence of the slope configuration or wind direction. In these circumstances the pilot is showing an inability to 'read' the slope and the conditions.

As the 'A' test is often used as an indicator of the pilot's ability to fly safely when alone and so it would be desirable (but not mandatory) that the pilot launches the model. No matter who launches the glider the capability to quickly and safely put the model into a purposeful climb out from the slope launch is a key indicator to be looked for.

It would be sensible to use a launcher if the machine being used is large and possibly unwieldy giving rise to problems of holding the wings level prior to launch or in very cold conditions when the pilot may choose to use a Transmitter muff to ensure that the cold does not create an unsafe condition due to frozen hands.

Although unlikely, the pilot's use of ballast to assist the model's capacity to handle heavy conditions will be an area for the examiner to consider. This is a factor more likely to crop up in the B test rather than the A. Given that the test will normally be carried out in conditions of continued slope lift, there can be little acceptable reason for the pilot to fail to complete all the manoeuvres in the one flight.

## **Consistency**

It is required that the model should be positioned in the lift band out over the slope where all the manoeuvres, bar the landing, are to be performed. The pilot should demonstrate the confident use of down elevator to access and stay in this area; a tendency to be blown back over the slope or general poor positioning is generally a sign of inadequate preparation for the test and may be a contributing factor in failing the candidate.

Prior to the test, the examiner and pilot should clarify the positioning required, the area to be nominated for the landing and any other salient factors of that particular slope of which the pilot should be aware.

## **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 NOT what is expected. There will normally be additional sections of flight to position the model for the next element. You, of course, should be watching any extra sections just as carefully as the rest of the flight as they can tell you a lot about the competence of the flyer.

## **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 if necessary. If you see obvious signs that the model is out of trim and the candidate does not make any attempt to rectify the matter you should seriously question their basic competence.

On the other hand, if they do need to re-trim and are making attempts to do so, you should make allowances for a short time of flight with a somewhat erratic flight path. This should not be penalised unless it puts the model in any danger or unless the model flies into any unsafe area.

## **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 'A' certificate level the manoeuvres are simple and the candidate should be competent to fly them 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 tries 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 very easily be degrading the worth of the test. It must not, under any circumstances, degenerate into a series of 'practice' manoeuvres. Also be aware of the height of the model and the remaining manoeuvres required.

## **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 will be reasonably good pilots or they could be borderline cases. 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 plane 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.

## **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, launch it 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 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.

### **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 Flights

### PREAMBLE

The current test process may be carried out by any Silent Flight, Helicopter or Fixed Wing examiner.

Some sites have very specific rules about sharing with other users e.g. airspace sharing with hang gliders, para gliders, or other full-size aircraft, and ground based activities like walkers or riding. The examiner must ensure that he, as well as the candidate, is fully aware of these requirements before commencing the test.

Any failure by the candidate to observe these rules during the flight should result in a failure.

For all these reasons, it is good practice for the examiner to ask the candidate for his assessment of the risks observed at the slope before preparing to fly and to be clear how the candidate will conduct the flight so as to minimise any such risks. An insufficient grasp of these factors will normally be grounds to postpone the test, assisted by some mentoring from the examiner and further work with the candidate's trainer or club colleagues using that slope.

Another factor to take particular care over is frequency control; observe the candidate's approach to frequency control especially as it is not uncommon for there to be no peg board at a slope, or when there is nobody else present at the slope on arrival. Question the candidate carefully on his knowledge of the frequency control adopted at any particular site, as not all use the 'peg on' system.

Alignment and/or track of the manoeuvres should be discussed and agreed before commencement of the test, taking into account the existing/forecast wind direction, position of the Sun on bright days and any site restrictions and/or no fly areas. Where the test includes reference to wind direction (e.g. "into wind") this will form an important part of the discussion.

### **(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.

Slope sites are often areas of countryside frequented by visitors who have no concept of how un-powered model aircraft fly in slope conditions and show a complete disregard for their own safety by wandering into a designated landing area no matter how much effort is taken by the pilot to warn them; the onus for their safety thus is placed upon the pilot at all times even if it means risking the model to avoid a pedestrian; children, dogs running free, kite flyers, grazing livestock and horse riders also present real hazards. All of this requires the candidate to be alert to all or any of these factors present on the slope. Slope sites often have a limited area of lift which can be congested on good days with other slope users; the candidate must be aware of these other users and demonstrate sufficient spatial awareness to ensure the safety of the flight; the examiner may help here by informing other users of the slope that he is carrying out a test and ask for their consideration in staying clear of the immediate area if possible.

Another factor to take particular care over is frequency control; observe the candidate's approach to frequency control especially as it is not uncommon for there to be no peg board at a slope, or when there is nobody else present at the slope on arrival. Question the candidate carefully on his knowledge of the frequency control adopted at any particular site, as not all use the 'peg on' system



Points to look for are that the candidate has a steady and regular ground routine. Nerves may play a part but you should satisfy yourself that the candidate is actually in control of what they are doing when preparing their aircraft for flight.

Pay particular attention to the way the candidate uses the local frequency control system and make sure that they fully understand it and use the correct sequence appropriate to their model. For 35 MHz, this is usually 'get the peg, Tx on, Rx on'. For 2.4 GHz, the candidate should be aware of any local transmitter usage limitations and if a flight peg is required, it must be obtained before the usual Tx on, Rx on sequence. Some radio equipment and, occasionally, a specific model requirement requires that the Rx be switched on first and, if this is the case, the candidate should explain this clearly to you.

Watch carefully and take note that the transmitter controls, trims and switches are checked by the pilot.

All candidates are required to be aware of the local the frequency control system and anyone who is required to use it but switches their radio on before doing so 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 (and launching it if necessary) 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. Talk this over with the candidate in your pre-flight briefing.

The candidate must be fully familiar with any failsafe system fitted to the model and should brief you on the system and demonstrate it working at some time during the pre-flight checks.

Generally, they must show that they are paying particular attention to the 'transmitter on - receiver on' sequence.

### **(b) Launch the model and gain height.**

Here the candidate should demonstrate quick and effective use of elevator to suppress any ballooning up from the launch and to push out from any ground turbulence into the smoother lift band.

If the pilot launches the model himself he should demonstrate a purposeful level or slightly nose down, wings level launch, quickly establishing control.

Safety awareness needs to be looked for; check that the pilot has looked above and behind for any over flying models and that he does not launch into any passing traffic. Look for the pilot announcing 'launching' after checking all the above to warn any fellow flyers.

### **(c) Fly for ten seconds straight and level across wind.**

This should be completed with the model clearly pointing in the crosswind direction, which may not be parallel with the slope face if the wind is slightly off the slope; crabbing sideways is not acceptable. Any wing drop should be quickly corrected, with effective use of elevator to maintain a steady sustained height with no significant height gain or loss.

Some slopes may not be long enough to complete a ten second pass, in which case it is acceptable to ask the candidate to repeat this task so as to satisfy the examiner of sufficient competency.

**(d) Fly for ten seconds straight and level across wind in the opposite direction to (c).**

Comments in (c) apply.

**(e) Perform one 360 degree left hand turn.**

Starting from an into wind position this should be completed smoothly with a steady angle of bank such that the turn is steady and progressive; it may describe an ellipse rather than a circle as the model flies downwind. Again control of any tendency to balloon up when returning into wind should be expected. Given the constant state of slope lift there should be no appreciable height loss or gain.

**(f) Perform one 360 degree right hand turn.**

Comments as in (e) above

**(g) Perform two consecutive 360 degree 'thermal' turns, either left or right.**

If the model drifts back over the slope completing this task in a strong wind you should watch for positive actions to regain the main lift band (and of course any drift should not be allowed to take the model into a no-fly zone). Direction of exit should be the same as entry. Any tendency to stall or spiral dive should be marked down. Again smoothly flown elliptical 'circles' are perfectly acceptable as a function of the model following the 'thermal' downwind.

**(h) Fly into wind and perform a straight stall and recovery.**

When calling this task, expect the pilot to slow the model sufficiently to initiate a stall and then recover smoothly with the same track into wind after the stall recovery. In anything other than rather light wind conditions, it is possible that the wind speed may exceed the stalling speed of the model if the model is held stationary into the wind such that a stall is never precipitated; in these conditions it is acceptable to have the pilot induce a marked nose-up attitude to initiate the manoeuvre.

This increases the likelihood of the model dropping a wing and entering the early stages of a spin, so look for an immediate correction and a smooth return to flying speed.

**(i) Fly a rectangular circuit in front of the slope in the opposite direction to that chosen for the landing approach.**

This is to test the candidate's ability to control all aspects of a landing approach when that landing is not the pilot's favourite approach; most right handed pilots prefer a left hand circuit and approach and initially can struggle when asked to perform this, failing to co-ordinate the turns correctly, misjudging the need for down elevator on the downwind leg to avoid an apparent 'high speed' stall and crucially pulling too hard on the final turn to correct earlier misjudgements and dropping a wing into a stall or spin into the ground. Failing to orientate the model correctly as it travels downwind towards the pilot is also to be watched for.

**(j) Fly a rectangular landing circuit opposite to that flown in (i) and land within 20 metres of a pre-designated spot.**

Landing a slope model is always an interesting experience as there are so many more variables to be accommodated than a flat field thermal or powered model.

Before the flight commences the examiner and pilot should discuss the landing reference to the ease or difficulty presented by the slope. Such features may include curl-over or a 'rotor', obstructed approach because of trees or topography, or possibly risky because of members of the public in the landing area. Resulting from this, a landing area/spot should be identified which minimises or removes these risks; the pilot's awareness of these problems should be recorded and used in the overall assessment.

On some slopes the only way to get a model down is a 'slope-side' landing which requires a high degree of practice and experience to achieve satisfactorily.

The examiner should be looking for all the features described in (i) above, with a greater attention being paid to checking that the chosen landing area is clear at several stages in the approach and circuit. There is nothing wrong with the pilot wanting to do an approach and over fly to enable a proper judgement of distances and conditions on the circuit before committing to a final landing.

The objective of the task is to achieve a safe reasonably flat wings level landing at a speed comfortably above the stall, looking out for how the pilot adjusts the remainder of the approach if at any stage too high or too low and a comfortably high flying speed is maintained on the downwind leg, avoiding the novice's mistake of pulling up stick because the model's ground speed appears too high. This mistake can often lead to a too low a crosswind base leg with the pilot being tempted into a too early and sharp final turn resulting in the model landing too far downwind or stalling in.

If slope side landings are required, the examiner's discretion is called upon to judge whether the landing was safely and reasonably completed even if the 20 metres is not achieved. Again practice attempts are to be encouraged.

**(k) Remove model from landing area.**

The candidate should agree with the examiner beforehand whether they intend to take the transmitter with them when retrieving their model or choose to leave it with a competent person who can help here by holding in agreed deflections in windy conditions to prevent the model flipping over or even taking off again.

The candidate must explain the safety considerations behind their decision, which must be agreed with the examiner. If the candidate elects not to take the transmitter and no one else is available to hold it then you should offer. Whatever process is agreed, it must also be in accordance with any relevant club rules, as appropriate. Generally, for 2.4GHz operations and with suitable consideration, candidates should be able to give a robust safety based argument for taking their Tx with them to recover the model, if it has landed on the normal landing/take-off area. Conversely, it is difficult to see how any such argument could be made for candidates using 35MHz or 27MHz equipment.

Also carefully observe the pilot as he retrieves his model to see that he is checking on the movements of other models, which may be over flying the area or possibly landing.

**(I) Complete post-flight checks required by the BMFA Safety Codes.**

Expect to see the pilot checking for full and free control movements after a normal safe landing but a more rigorous airframe inspection if the landing has been somewhat abrupt, as can easily happen on rough terrain.

Check that the pilot frees up the used frequency in a timely manner if others are waiting to fly. When switching off verify that the Receiver is switched off first before the Transmitter.

## The Questions

Having successfully completed the safety and flying elements of the test, the candidate must then answer correctly five mandatory questions based on legal compliance, as well as a **minimum** of five further supplementary questions on safety matters, based on the BMFA Safety Codes for General Flying and local flying rules etc. 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 questions they should not pass.

### Mandatory Questions

From April 2016 it is a requirement of all tests that candidates must answer correctly 5 questions taken from the list of mandatory questions based on legal aspects of model aircraft flying. (See Appendix) The examiner should only ask 5 questions and if the candidate does not know the answer to any question the test must be considered as a fail.

**The examiner must indicate on the test form which questions have been asked.**

It is expected that examiners will select questions that are appropriate to the test being taken, however candidates should familiarise themselves with all of the questions on the list. Candidates are not expected to be "word perfect" with their answers but they should be able to demonstrate that they are fully aware of the legal controls for model aircraft flying. For example if a candidate gives the answer to Question 4 (What does article 241 of the ANO state?) when asked Question 3 (What does article 240 of the ANO state?) it is likely they are aware of both answers and the examiner should point out they have answered the wrong question and ask for the correct answer.

### Supplementary Questions

How many supplementary 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 five 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 five 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 five/eight and if you are not satisfied that they have actually read the safety codes, you should not hesitate to fail them.

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 of 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 might 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? There is always the possibility that the examiner may use the supplementary questions to further explore the candidates understanding of the mandatory questions.

Questions may also be posed on safety topics not necessarily covered in the Codes where special provisions apply on that slope or other slopes likely to be used by the candidate, which it would be reasonable to assume that the pilot should already be aware of them before flying there.

## Administration

There are specific forms for Examiners to use during the Silent Flight Slope 'A' test, and if you do not have one then a call to the BMFA Leicester office will have some in the post to you by return.

Completed forms should be sent to the Leicester office within seven days of the test and, whilst they must be filled in by the Examiner, they may be sent in to the office by either the Examiner or the Candidate. You should take great care that all the details are filled in correctly, especially the successful candidates **NAME** and their **BMFA number** (this can save a great deal of confusion). If the candidate is not a BMFA member then it is especially important that you get their name and address correct and in full.

This is very important as what is seen on the pass form is what will appear on the final certificate. It is embarrassing for you to have to send one back to be re-done and it gives the candidate a definite impression of sloppy work by someone.

## 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: -  
BMFA Member's Handbook 2017 (sections 8 through to 24 inclusive  
Achievement Scheme Handbook  
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 model position for general manoeuvres
  
- 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.
  
- 8 Question the pilot on Frequency control in use at this site and on what he  
intends to do with his Transmitter whilst retrieving his model.

## ‘A’ CERTIFICATE (SILENT FLIGHT - SLOPE)

### 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)	Launch the model and gain height		
(c)	Fly for ten seconds straight and level across wind		
(d)	Fly for ten seconds straight and level across wind in the opposite direction to (c)		
(e)	Perform one 360 degree left hand turn		
(f)	Perform one 360 degree right hand turn		
(g)	Perform two consecutive 360 degree 'thermal' turns, either left or right		
(h)	Fly into wind and perform a straight stall and recovery		
(i)	Fly a rectangular circuit in front of the slope in the opposite direction to that chosen for the landing approach		
(j)	Fly a rectangular landing circuit opposite to that flown in (i) and land within 20 metres of a pre-designated spot		
(k)	Remove model from landing area		
(l)	Complete post-flight checks required by the BMFA Safety Codes		
Answer five questions from the list of mandatory questions on legal aspects of model aircraft flying.			
Answer correctly a minimum of five questions on safety matters from the BMFA Safety Codes and local flying rules.			



## Mandatory Questions List

Revised 14/04/19

**Q(1) Who Regulates all civil flying activities over the United Kingdom, including model aircraft ?**

A The Civil Aviation Authority

**Q(2) How are the rules and regulations for flying established in law by Parliament (statute) ?**

A As a series of Articles contained within in the Air Navigation Order (ANO).

**Q(3) What does Article 240 of the ANO state, in relation to endangering an aircraft or any person in an aircraft?**

A 'A person must not recklessly or negligently act in a manner likely to endanger an aircraft, or any person in an aircraft.'

**Q(4) What does Article 241 of the ANO state, in relation to endangering a person or property?**

A 'A person must not recklessly or negligently cause or permit an aircraft to endanger any person or property.'

**Q(5) Who is legally responsible to ensure that a model is flown safely ?**

A The *remote pilot*.

**Q(6) Which Civil Aviation Publication (CAP) relates specifically to the use of model aircraft, and for which specific purposes only?**

A CAP 658 (as amended by CAP 1763), for sport and recreation purposes only

**Q(7) According to CAP 658 (as amended by CAP 1763), which model aircraft are required to have an operating failsafe and what is the minimum setting ?**

- A
- 1) Any aircraft >7kg.
  - 2) Any Gas Turbine powered aircraft.
  - 3) Any powered model aircraft fitted with a receiver capable of operating in failsafe mode.

As a minimum, reduce the engine(s) speed to idle on loss or corruption of signal.

**Q(8) What does Article 94 of the ANO say about the responsibilities of the *remote pilot* of a small unmanned aircraft ?**

- A
- 1) The *remote pilot* of a small unmanned aircraft may only fly the aircraft if reasonably satisfied that the flight can safely be made.
  - 2) The *remote pilot* must not fly a small unmanned aircraft within the flight restricted zone (FRZ) of a protected aerodrome unless permission has been obtained from aerodrome Air Traffic Control (ATC).

**Q(9) What does Article 94 of the ANO say about visual contact with small unmanned aircraft ?**

A The *remote pilot* must maintain direct, unaided visual contact with the aircraft sufficient to monitor its flight path in relation to other aircraft, persons, vehicles, vessels and structures for the purpose of avoiding collisions.

**Q(10) What is the maximum legal operating height for a small unmanned aircraft, and what is required before you can exceed it?**

- A
- (a) 400 feet above the surface.
  - (b) Within an FRZ, permission of the relevant ATC, or other relevant authority. Outside of an FRZ, permission is required from the CAA, either individually or via a published exemption. An agreed maximum altitude may be part of these permissions and unaided visual line of sight of the aircraft must always be maintained.

**Q(11) What does Article 94 of the ANO say about 'commercial operation' for small unmanned aircraft?**

A The *operator* of a small unmanned aircraft must not cause or permit a small unmanned aircraft to be flown for the purposes of commercial operations, and the *remote pilot* of a small unmanned aircraft must not do so for the purposes of 'commercial operation' except in accordance with a permission granted by the CAA.

**Q(12) How is a flight for the purpose of 'commercial operation' defined ?**

A Any flight for which *remuneration* or 'valuable consideration' is given or promised in respect of the flight or the purpose of the flight. Essentially any gain you may make from the flight/operation undertaken.

**Q(13) How is 'a small unmanned surveillance aircraft' defined ?**

A An aircraft which is equipped to undertake any form of surveillance or data acquisition (this includes all camera equipped aircraft) .

*NOTE: The provision of data solely for the use of monitoring the model is not considered to be applicable to the meaning of 'surveillance or data acquisition'.*

**Q(14) What are the separation requirements of Article 95 - for small unmanned surveillance aircraft - when operating over or within a congested area or organised open-air assembly of more than 1,000 persons ?**

A The aircraft must not fly over or within 150 metres of a congested area or organised open-air assembly of more than 1,000 persons

**Q(15) What are the separation requirements of Article 95 - for small unmanned surveillance aircraft - in respect of any vessel, vehicle or structure which is not under the control of the operator or remote pilot of the aircraft ?**

A The aircraft must not fly within 50 metres of any vessel, vehicle or structure not under the control of the *operator* or *remote pilot* of the aircraft.

**Q(16) Except during take-off and landing, what are the separation requirements of Article 95 - for small unmanned surveillance aircraft – in respect to persons not under the control of the operator or remote pilot?**

A The aircraft must not fly within 50 metres of any person not under the control of the operator and/or remote pilot of the aircraft.

**Q(17) What must be obtained before any flight within the 'flight restriction zone' of a protected aerodrome for any aircraft?**

A Obtain permission from the appropriate Air Traffic Control unit, or other relevant authority for the FRZ.

**Q(18) CAA General Exemption E 4457 - permits FPV flight without a buddy box, but with a competent observer. (a) How must the competent observer monitor the flight and (b) What is the maximum mass of aircraft that may be flown under this exemption?**

(a) The competent observer must maintain direct unaided visual contact with the model at all times and communicate with the *remote pilot*.

(b) The aircraft must be below 3.5kg including batteries and fuel.

**Q(19) Who has legal responsibility for the safety of an FPV flight a) conducted with a buddy box lead and b) conducted without a buddy box lead ?**

A (a) The *remote pilot* (master Tx) who must maintain direct unaided visual contact with the model at all times.

(b) The *remote pilot*, who must have a competent observer maintaining direct unaided visual contact with the model at all times.

**Q(20) According to CAP 658 (as amended by CAP 1763) what are the 8 'Only fly if' checks for an FPV flight of an aircraft over 3.5kg ?**

- A
- 1) The activity is solely for 'sport and recreation' purposes;
  - 2) Two pilots take part;
  - 3) A Buddy Box system is employed;
  - 4) The *remote pilot* operates the master transmitter;
  - 5) The *remote pilot* does not wear the headset or view a screen;
  - 6) The aircraft remains within the natural unaided visual range of the remote pilot;
  - 7) Reliable operation of the Buddy Box is established;
  - 8) A clear handover protocol is established.

**Q(21) What is a Flight Restriction Zone (FRZ) and how would you find out if you were operating in the FRZ of a Protected Aerodrome?**

- A
- (a) An FRZ is a large circular area centred on the reference point of a protected aerodrome, with the addition of rectangular extensions from the end of the runways.
  - (b) All FRZs are shown on a map on the CAA/NATS website at <https://dronesafe.uk/restrictions>

**Q(22) What is a Protected Aerodrome?**

- A
- (a) An EASA certified aerodrome i.e. what would typically be called an airport.
  - (b) A Government aerodrome i.e. a Military airfield.
  - (c) A National licenced aerodrome i.e. most smaller 'general aviation' airfields.

**Q(23) What is the definition of a model aircraft – legally a 'small unmanned aircraft'?**

- A
- A small unmanned aircraft is any unmanned aircraft, other than a balloon or a kite, having a mass of not more than 20kg without fuel, but including any articles or equipment installed or attached to the aircraft at the commencement of the flight.

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