

# CLASS 1

## ELIGIBILITY

The competition is open to all B.M.F.A members holding the B.M.F.A **achievement scheme power fixed wing B certificate**.

## MODEL CONFIGURATION

Any fixed wing model may be used weighing not less than 2 lbs up to a maximum of 11 lbs. It must be capable of taking off, landing and standing unassisted on its own fixed undercarriage of at least **one main wheel**.

Models must not be changed in configuration during the competition. There will be:

- No changing of wings or any other flying surfaces
- No changes in control surface area
- If a model is 'written off' during the competition, any substitute model must be of fundamentally the same configuration. The substitute model will only be allowed to be used at the CD's discretion.
- All IC engines should be fitted with an effective silencer. Tuned exhaust systems are permitted.
- Stability systems (gyros) are not allowed.

## MOTIVE POWER LIMITATIONS

IC Engine:	Two Stroke:	Up to a maximum of 0.61 cu.ins
	Four Stroke:	Up to a maximum of 0.70 cu.ins
Electric Motor:		Unrestricted

IC engines will be inspected at the CD's discretion.

## EVENT DETAILS

The competition will involve five events, as detailed below:

1. Longest Glide
2. Triple Thrash
3. Limbo
4. Touch & Go's
5. Mystery Round (Event randomly selected from the following: Deadstick Aerobatics, Blackjack, Touch & Go Bang and Roop).

The mystery event will be decided on day 1 of the competition by a random draw.

# CLASS 2

## ELIGIBILITY

The competition is open to all B.M.F.A members holding the B.M.F.A **achievement scheme power fixed wing B certificate**. Competitors who in the previous year placed in the first 3 places of the overall class 1 competition will be excluded from entry into class 2. Any of the previous year's class 2 entrants are eligible to enter class 2 the following year apart from the overall class 2 winner who will be excluded from entry into class 2 for a period of a further 2 years. **For example, the winner of class 2 in 2020 cannot enter class 2 again until 2023.**

## MODEL CONFIGURATION

Any fixed wing model may be used weighing not less than 2 lbs up to a maximum of 11 lbs. It must be capable of taking off, landing and standing unassisted on its own fixed undercarriage of at least **one main wheel**.

Models must not be changed in configuration during the competition. There will be:

- A maximum of four flight controls – Ailerons, Elevator, Rudder and Throttle
- No coupling or mixing of the flight controls. **Using the transmitter to replicate a mechanical mix (ie shortening the clevis on a control arm to droop the ailerons) is permitted. The CD will have the final decision in whether the mix would be achievable through a mechanical means and is within the spirit of class 2. If a mechanical mix is used it may not be switched in or out during the flight, must remain in operation from take off to landing and may not be altered (increased or decreased) in any way.**
- No changing of wings or any other flying surfaces
- No changes in control surface area
- If a model is 'written off' during the competition, any substitute model must be of fundamentally the same configuration. The substitute model will only be allowed to be used at the CD's discretion.
- All IC engines should be fitted with an effective silencer.
- Stability systems (gyros) are not allowed.

## MOTIVE POWER LIMITATIONS

IC Engine:            Two Stroke:    Up to a maximum of 0.42 cu.ins  
                              Four Stroke:    Up to a maximum of 0.52 cu.ins  
Electric Power:        Up to a maximum of a 3 cell Lipo battery.

Standard silencers only may be used, i.e. no tuned pipes. IC engines will be inspected and battery packs inspected at the CD's discretion. Fuel feed is to be by suction or exhaust pressure only.

## EVENT DETAILS

The competition will involve five events, as detailed below:

1. Longest Glide
2. Spins & Spot
3. Limbo
4. Touch & Go's
5. Mystery Round (Event randomly selected from the following: Deadstick Aerobatics, Water Carrying, Touch & Go Bang and Doughnut Drop).

The mystery event will be decided on day 1 of the competition by a random draw, but if either Deadstick Aerobatics or Touch and Go Bang are selected by Class 1 then that selected event will be withdrawn from Class 2's selection.

## **LONGEST GLIDE RULES**

The aim of this event is to climb under power for a set time period before cutting the engine and gliding for as long as possible. A time bonus of 10% is available for landing in the marked square. The dimensions for the marked square are shown in Figure 1.

- The throttle on the engine must be set so that the engine can be stopped on command from the marshal. Where electric power is used, demonstration that the motor stops when the transmitter stick is fully back must be shown. Also for electric motors, the motor 'brake' must be turned on, so the propeller cannot free wheel when the power is off. Observers will be watching throughout the flight for the propeller turning to ensure no power is being applied.
- Pilots will take off from inside the square and climb for 20 seconds from wheels off. Climb time may be reduced subject to weather conditions.
- After 20 seconds has elapsed pilots will be instructed by the marshal to stop the engine. The throttle should then be opened fully and left open for 5 seconds to ensure that the engine has stopped (This does not apply to electric models).
- If **one main wheel first touches** within the marked square, a bonus of 10% will be added to the time for that round. Touches on the line will be counted, but at the marshal's and CD's discretion.
- The pilot with the longest total time will be the winner.
- In the event of a tie, there will be a fly-off with a reduced engine run time of 10 seconds.

## **TRIPLE THRASH RULES**

The aim of this event is to take-off, perform 3 touch & gos, 3 rolls, 3 loops and another touch and go as fast as possible, in that order.

## **TRIPLE THRASH RULES Cont.**

- All touch & gos must be **with at least one main wheel first touching** within the marked square (Ref Figure 1). Touches on the line will be counted, but at the marshal's and CD's discretion. All touch & gos must be flown in the same direction.
- All loops and rolls will be judged by the CD and marshals as compliant with the rules. Pilots must complete vertical inside loops and complete horizontal rolls.

- A circuit and landing must be performed after the last touch & go. Timing will not stop if the model does not leave the ground and complete a circuit following the final touch.
- Timing will start from wheels off and finish when at least one of the main wheels touches the ground on the last touch & go.

## SPINS & SPOT RULES

The aim of this event is to perform as many spins as possible after using a total 'power on' time of 30 seconds to climb. A spot landing bonus is also available on landing.

- The pilot will take-off from inside the marked square. The 'power on' time of 30 seconds will then start from wheels off.  
The 'power on' time of 30 seconds does not have to be used in one go. The pilot may use it in parts to his or her choosing, i.e. the pilot may climb for 15 seconds, spin the model, climb for a further 10 seconds before spinning the model again. The remaining 5 seconds may then be used to help return to the square.
- 'Power on' time is used whenever the throttle stick is moved from its' bottom stop. (Idle).
- A slow idle should be demonstrated before take off. Slow idle will be deemed as a setting that will not provide an advantage to the pilot when returning to the square. This will be at the CD's discretion.
- After the 30 seconds 'power on' time is used up, the pilot may not open the throttle from its bottom stop again. Using more than 30 seconds power on to climb will result in disqualification from the event, but on landing, following **the** final spin and once **all** power on time has been used up, should **the pilot** open the throttle from its' bottom stop again, **the** landing bonus will not be counted, but the spins will still be allowed.
- The 30 seconds will be counted down every 5 seconds, then every second for the last 5 seconds.
- Should the engine stop before all 30 seconds 'power on' time have been used, no engine re-start will be allowed.
- 5 points will be awarded for every complete spin.
- A spin is defined as the model descending in a stall and rotating using input from rudder, elevator and aileron. Spiral dives are not allowed.
- The landing score will be wherever a main wheel **first** touches in the marked square, as shown in figure 2. The maximum score being 100 points for the centre square, 80 points for the second square, then 60 and finally 40 for the outer square. Whichever

## SPINS & SPOT RULES Cont.

wheel touches first will be taken as the score and if that wheel lands on the line between two scoring zones, the higher of the two scores will be taken.

- The overall score will be the points awarded for the spins added to the landing score. In the event of a tie, there will be a fly-off with a reduced 'power on' time of 15 seconds.

## LIMBO RULES

The aim of this event is to complete the highest number of clean passes through the limbo gate within 2 minutes. A clean pass will be scored if the model passes under and in between the tapes that form the limbo gate without touching the ground or cutting the tapes. The gate dimensions are shown in Figure 3.

- The pilot must take-off safely away from the gate into wind. The helper must retire immediately from the gate, but be ready to retrieve the model if the engine cuts.
- Timing will commence when the pilot performs a nominated starting pass over the limbo gate. The amount of practice passes over the top of the gate will be down to the CD's discretion on the day.
- All passes must be in the same direction.
- Touching the ground before, under or after the tape will not count as a limbo.
- If the engine cuts during the flight, it may be re-started and the event continued but the clock will not be stopped.
- Should the model become entangled in the tape, poles or grass then the helper may re-launch the model, but time will not be stopped.
- If the tapes that form the limbo gate are cut, only the clean passes up to that point will count. The pass cutting the tape does not count.
- If the tape is stretched, but not cut the pilot may continue.
- In the event of a tie, a fly-off will take place, but only over 1 minute.

## **TOUCH & GO RULES**

The aim of this event is to complete the highest number of touch & gos in the marked square as possible within 2 minutes (Ref Figure 1).

- Pilots must take-off into wind from inside the marked square.
- Timing will start from wheels off.
- All touch & gos must be flown in the same direction. To qualify as a touch & go, at least one main wheel must first touch within the square, (they may roll across the line after touching within the square), and then lift off. Touches on the line will be counted, but at the marshal's and CD's discretion.

## **TOUCH & GO RULES Cont.**

- If the engine cuts during the flight, it may be re-started and the event continued but the clock will not be stopped. In the event of a tie, a fly-off will take place, but only over 1 minute.

## **DEADSTICK AEROBATICS RULES**

The aim of this event is to climb under power for a set time period before cutting the engine and performing as many loops or rolls as possible. A bonus of 10% is available for landing in the marked square. The dimensions for the marked square are shown in Figure 1.

- The throttle on the engine must be set so that the engine can be stopped on command from the marshal. Where electric power is used, demonstration that the motor stops

when the transmitter stick is fully back must be shown. Also for electric motors, the motor 'brake' must be turned on, so the propeller cannot free wheel when the power is off. Observers will then be watching throughout the flight for the propeller turning to ensure no power is being applied after the climb. We understand that in a dive the propeller might turn slightly, so common sense will be used when observing.

- Pilots will take off from inside the square and climb for 20 seconds from wheels off. Climb time may be reduced subject to weather conditions.
- After 20 seconds has elapsed pilots will be instructed by the marshal to stop the engine. The throttle should then be opened fully and left open for 5 seconds to ensure that the engine has stopped (This does not apply to electric models).
- Pilots will be awarded 10 points for every complete vertical inside loop and **3 points** for every complete horizontal roll. The loops and rolls will be judged by the CD and marshals as being compliant with the rules.
- If **one of the main** wheels **first touches** within the marked square, a bonus of 10% will be added to the score for that round. Touches on the line will be counted, but only at the marshal's and CD's discretion.
- In the event of a tie, there will be a fly-off with a reduced engine run time of 10 seconds.

## **TOUCH & GO BANG RULES**

The aim of this event is to burst as many of the balloons and complete the highest number of touch and go's in the marked square as possible within 2 minutes (Ref Figure 4). This can be done in any combination the pilot wishes.

- Pilots must take-off into wind from inside the marked square.
- Timing will start from wheels off.
- All passes must be flown in the same direction.
- Pilots will be awarded 10 points for every balloon burst and 1 point for every touch & go. Balloons will only count if the model's wheels are off the ground. Taxiing into balloons or sticks will not count. The balloon must be burst by the model, so breaking

## **TOUCH & GO BANG RULES Cont.**

the stick or knocking the balloon off and it then bursting on the ground will not count either. To qualify as a touch and go, at least one main wheel must first touch within the square, (they may roll across the line after touching within the square), and then lift off. Touches on the line will count, but at the marshal's and CD's discretion.

- If the engine cuts during the flight, it may be re-started and the event continued but the clock will not be stopped.
- In the event of a tie, a fly-off will take place, but only over 1 minute.

## **WATER CARRYING RULES**

The aim of this event is to have a small cup of water attached to your model, then take off, fly a normal circuit and land while trying to keep as much of the water in the cup as possible.

- Pilots must take off safely into wind, once the cup has been filled with water.
- A big circuit (to be advised by the CD at the event) must then be completed and then the model landed in front of the pilot.

- The amount of water will then be measured. The pilot with the most water left in the cup will be the winner.
- The score will be doubled if a loop is completed at any time during the circuit.

## DOUGHNUT DROP RULES

The aim of this event is to fly over the marked square as described in figure 2 carrying a rubber ring slid over a pole (supplied by the CD), which is attached to your model, then drop the ring (doughnut) on the square. Points are awarded for getting the rubber ring as close to the centre of the square as possible.

- The supplied pole is 10cm in length and can be easily attached to the top of the model before the start of the event. The doughnut (rubber ring) is about 7cm in diameter and has a streamer attached. It is slid onto the vertical pole before takeoff.
- Pilots must take off into wind and then, when told it is safe to do so by a marshal, may drop the doughnut onto the target. The doughnut can be dropped in any way, for example, by rolling, looping, pushing forward etc.
- Points are awarded where the doughnut stops and not where it first touches. Maximum points are 100 for the centre square, then 80, 60 and 40 for the outer squares. Missing the square entirely is zero points. If the doughnut lands on the line between two scoring zones, the higher of the two scores will be taken.
- Each pilot has three drops, with a landing to get another doughnut after each drop, i.e. only dropping one at a time. The total score will be the three drops added together.

## ROOP RULES

The aim of this event is to complete as many pairs of a roll and a loop as possible within 1 minute.

- Pilots must take off from the marked square in figure 1, into wind. Time starts from wheels off and will be counted down every 10 seconds and then every second for the last 10 seconds.
- Once in the air, the pilot should complete as many pairs of a roll followed by a loop as possible in the minute allowed. A roll must be horizontal and a loop must be a normal vertical inside loop. All loops and rolls will be judged by the marshals and CD as being compliant with the rules.
- Each completed pair is worth 1 point, the winner being the pilot with the most points.
- The pilot must land, touching a **main** wheel **first** back in the marked square before the minute is up. If the pilot is still flying and not touched in the square when the minute is up, a penalty of 2 points per second over time will be deducted from the score.
- In the event of a tie, there will be a fly off with a reduced time of 30 seconds.

## BLACKJACK RULES

The aim of this event is to score 21 by performing touch and gos on a numbered marked square in the shortest time possible, without going over 21.

- The square as described in figure 2 will be marked out as follows: 10 points for the centre square, then 5, 2 and 1 point for the outer square.
- Pilots must take off into wind from the square and the time will start from wheels off.
- All touch and gos must be flown in the same direction and only one touch per pass is allowed.
- If the engine cuts during flight, it may be re-started and the event continued, but the clock will not be stopped.
- Points are awarded by touching the wheels in the sections of the square corresponding to either 10, 5, 2 or 1 points. Whichever **main** wheel touches first will be taken as the score and if that wheel lands on the line between two scoring zones, the higher of the two scores will be taken. The pilot will be told the score after every touch.
- The aim is to get a score of 21. The time will stop on the final touch that gets the pilot up to 21. The winner will be the pilot that completes the task in the shortest time.
- If, however, **the pilot goes over 21 (bust) then the score will revert back to the previous total before that touch and the pilot will keep performing touches until a score of 21 is achieved.**

## WILD CARD RULE

Each entrant in either Class 1 or 2 will be allowed 1 'wild card' flight per class during the competition. The 'wild card' enables the pilot to re-fly any 1 event during the time allocated to that particular event. The pilot must inform the CD of their intention to use the 'wild card' at which point the pilots' original score for that event will be scrubbed. In the event of a high number of entrants or bad weather, the wild card rule might be abolished for the duration of the competition.

## EVENT SCORING

The winner of each event will be given 100 points. The other pilots will score on a percentage basis according to their performance

i.e.:	Winner of Longest Glide	10 mins	=	100 points
	Second place	8 mins	=	80 points

The individual event scores will be added together to get the overall total. The pilot with the most overall points in each class will be the winner

## PILOT'S RULES FOR ALL EVENTS

- Every pilot must have a helper for all flights. No helper = no flight.

- The model must be returned to the pits area immediately on completion of the flight and the frequency peg and transmitter returned to the official compound (35mhz transmitters only).
- Hard Hats must be worn by pilots, helpers and marshals when they are out on the flightline. Individuals should supply their own hard hats (PPE) and satisfy themselves that they meet any such standards to provide adequate protection during the event.
- The CD, in consultation with a minimum of 2 marshals will judge all events. The CDs' decision is final.
- A 30 minute trimming session will be made available to test and trim models at the start of each day. This should be completed as quickly as possible to allow enough time for everyone to fly and is not to be treated as a practice session. A helper must accompany the pilot during the flight.
- Pilots must attend pilots briefing at the beginning of each day.
- If any model is considered by the CD to be unsafe to fly, it will be grounded.
- Dangerous flying will result in immediate disqualification.
- Each pilot must use the same model for each event. If a model is 'written off' during the competition, any substitute model must be of fundamentally the same configuration. The substitute model will only be allowed to be used at the CD's discretion.

### **PILOT'S RULES FOR ALL EVENTS Cont.**

- All pilots must take-off in a safe manner into wind. Whilst airborne, the pilot must be between the model and the spectators/other pilots.
- Every model must have coloured tape applied to each wheel to help with the judging of some events. This tape will be available from the CD at the beginning of the competition.
- Failsafes will be checked at the beginning of the competition. Model eligibility may also be checked at this time or at any time over the duration of the competition.
- **Have lots of FUN!!!**

### **CONTACT DETAILS**

If you have any questions or comments regarding this year's event, please feel free to contact:

James Gordon - Tel: 07966 439835, Email: jamesrrg@hotmail.com

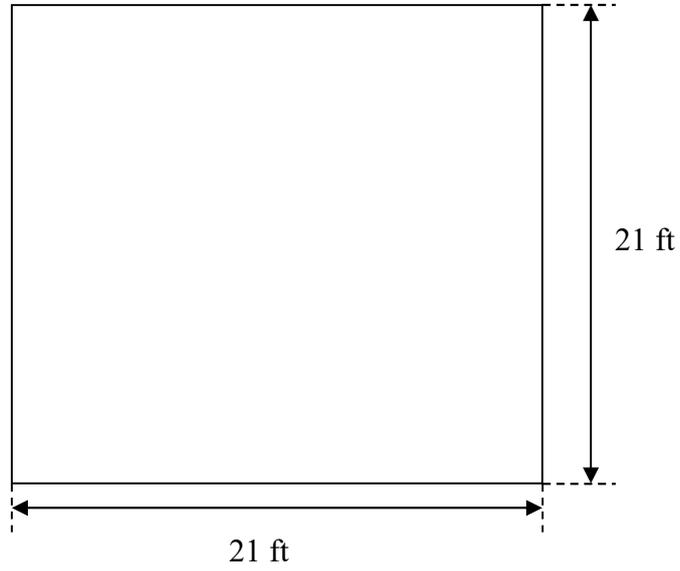
Gavin Barden – Tel: 07733 332414, Email: gav.barden@gmail.com

Nick Lester - Tel: 07966 236042, Email: nick\_lester@hotmail.com

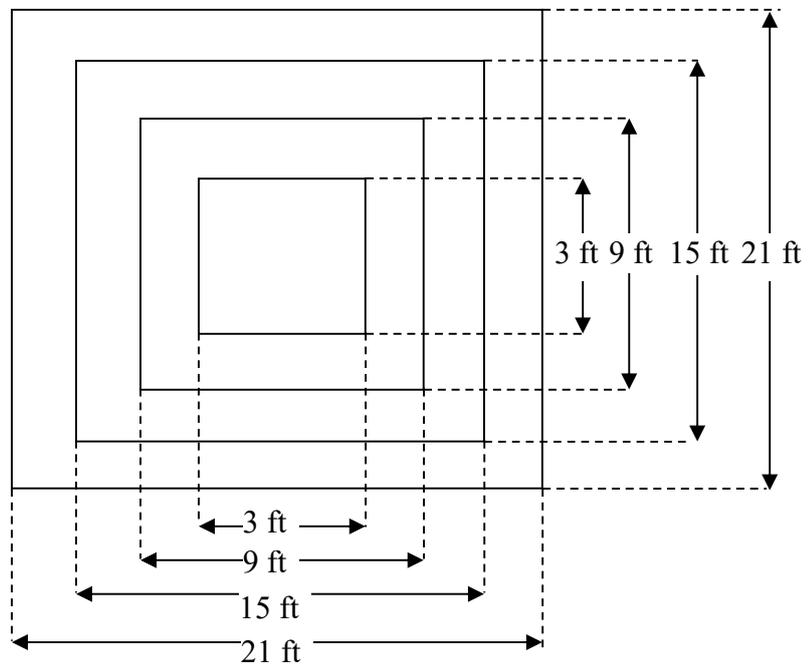
Last updated April 2019.



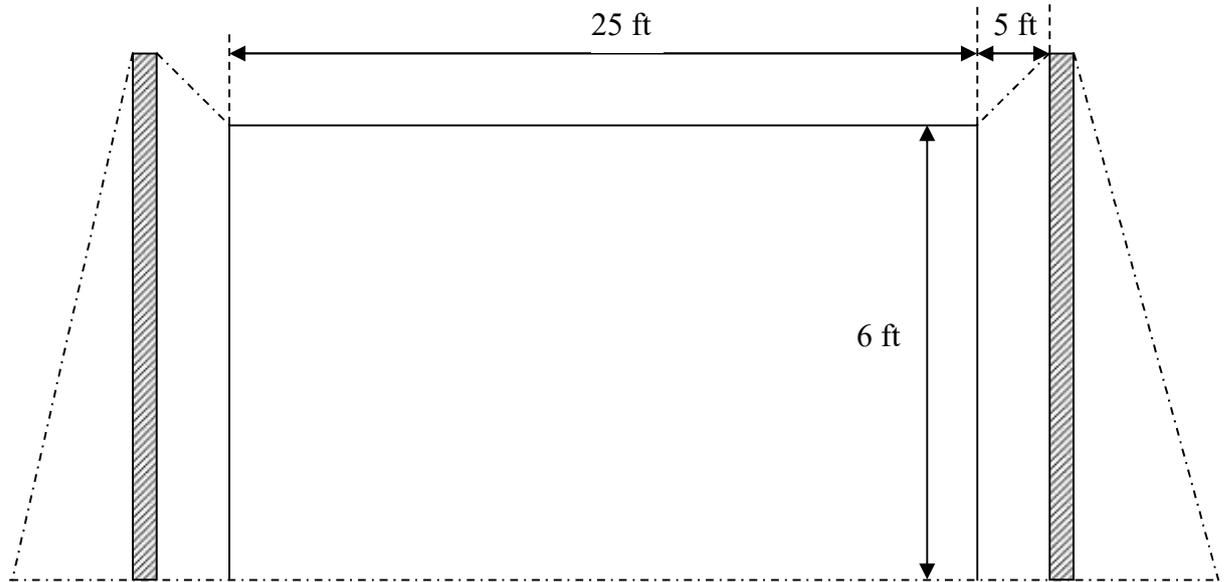
**FIGURE 1**  
Dimensions of marked square



**FIGURE 2**  
Dimensions of marked square for Spins & Spot, Doughnut Drop and Blackjack.



**FIGURE 3**  
Dimensions of limbo gate



**FIGURE 4**  
Dimensions of marked square & balloon positions

