

GBR/CAA Masters Schedule Judging Notes

M-11.01 Take-off Sequence

Judging Notes

The take-off is possibly the most important manoeuvre of all, as it is the first manoeuvre you fly in front of the judges, so it is up to you to show how good you are. The take-off should be flown with the same precision and grace as all the other manoeuvres in the schedule; all turns should be as flat as possible to give a good impression to the judges of smoothness, control and gracefulness.

The procedure for take-off is as follows:

1. The model should be placed on the runway by your helper facing into wind with no forward movement and released. When released the helper should not touch the model again as this could be classed as an assisted take-off. However a point of safety should be considered in a crosswind or on rough ground where the model may 'weathercock' towards the pilot, judges, pits or spectator line. It may be necessary to hold the tail of the model while the propeller revs are increased and the model moves forward to overcome any resistance of the undercarriage wheels and the rudder has some authority.
2. The pilot slowly applies the power and the model moves off in a straight line. When flying speed is reached the model lifts off with wings level and a gentle rate of climb, which should not exceed an angle of 30 degrees. Power can now be reduced to allow the model to fly at the speed you like to fly through the schedule.
3. The pilot now proceeds to turn the model 90 degrees into a crosswind leg with the model still climbing towards the preferred baseline height. At the appropriate distance out, the model should turn upwind to start its 270 degree turn into the downwind trimming pass, which should be positioned over the 150 metre marker. When approaching the downwind marker the pilot initiates a turn-around manoeuvre of his choice. Do not rush the take-off, A rushed take-off normally leads to a rushed flight and points lost.

Possible downgrades

- Assisted take-off: zero points. (see notes above).
- Model does not track straight on take-off: 1-2 points. Be aware of the runway surface, i.e. ruts and pot holes on grass sites.
- Wings not level after take-off: 1 point per 15 degree rule.
- Rate of climb too steep: 1-2 points above 30 degrees.
- Model goes behind judge's line after take-off: zero points.
- Model retouches runway after lift off: 1 point.
- Bits come off model on take off: zero points. (This is just a reminder of the rules which apply to the whole flight).
- The 90 degree turn is not 90 degrees: 1 point per 15 degree rule.
- The 270 degree turn is not 270 degrees: 1 point per 15 degree rule.
- The model is flown in too close or too far out on completion of turn-around manoeuvre: 1-3 points depending on its severity. Judges need to be careful about what is considered to be too close or too far out. The criterion set out in the judge's guide suggests 100 to 175 metres.

M-11.02 **Reverse Split S and Split S Combo, 2/4-pt roll first, full roll second, inverted exit:** From upright, perform 2 points of a 4-pt roll, and push immediately to a half outside loop. Perform a full roll, followed immediately by a half outside loop, to exit inverted.

Judging notes:

- The outside half loops must follow immediately after the 2/4-pt roll and roll.
- The length of the upper horizontal line (including roll) is equal to the diameter of the half loops. The geometric shape is that of a Double Immelmann.

- M-11.03** **Half reverse Cuban eight, two ½ rolls in opposite direction:** From inverted, push to a 45 inverted up line, and perform two half rolls in opposite direction. Pull through 5/8 of an inside loop, to exit upright.
- Judging notes:
- The two opposite half rolls are treated as a reverse 2-pt roll; the pause between the two half rolls is equal in duration/length to the half rolls.
- M-11.04** **Three horizontal rolls in opposite direction:** From upright, perform three rolls on a horizontal line, each in opposite direction, to exit upright.
- Judging notes:
- Pauses between rolls are very brief, and equal in duration.
- M-11.05** **Stall turn, 2/4-pt. roll up, ½ roll down:** From upright, pull to a vertical up line, perform 2 points of a 4-pt. roll, followed by a stall turn. On the vertical down line, perform a half roll, and pull to exit upright.
- M-11.06** **Top hat, 4/8-pt. roll over top, inverted exit:** From upright, pull to a vertical up line. Push to horizontal, and perform 4 points of an 8-pt. roll. Pull to a vertical down line, and push to exit inverted.
- Judging notes:
- The geometric shape of the top hat is square.
- M-11.07** **Half outside loop:** From inverted, push to perform a half outside loop to exit upright.
- M-11.08** **Triangle loop, with ½ rolls in each leg, inverted exit:** From upright, push to a 45 degree down line and perform a half roll. Pull through 135 degrees to horizontal, and perform a half roll. Push through 135 degrees, and perform a half roll. Pull through 45 degrees to exit inverted.
- M-11.09** **Figure 9, two ½ rolls opposite on down line:** From inverted, push to perform ¾ of an outside loop. On the vertical down line, perform two half rolls in opposite direction, then pull to exit upright.
- Judging notes:
- The two opposite half rolls are treated as a reverse 2-pt roll; the pause between the two half rolls is equal in duration/length to the half rolls.
- M-11.10** **Stall turn, ¾ roll up, 1¼ snap roll down:** From upright, pull to a vertical up line, perform a ¾ roll, followed by a stall turn. On the down line, perform 1¼ snap roll, then pull to exit upright.
- M-11.11** **Pull-push-push humpty bump, ½ rolls up and down, inverted exit:** From upright, pull to a vertical up line, perform a half roll, and push through a half outside loop. On the vertical down line, perform a half roll, and push to exit inverted.
- M-11.12** **Reverse 4-pt. roll (2/4-pt. roll in one direction, 2/4-pt. roll opposite), inverted exit:** From inverted, perform 2 points of a 4-pt. roll in one direction, followed by 2 points of a 4-pt. roll in the opposite direction, to exit inverted.
- M-11.13** **Half square loop, full roll up:** From inverted, push to a vertical up line, perform a full roll, and push to exit upright.
- M-11.14** **Two outside loops from top, with fully integrated roll on top:** From upright, push to perform two consecutive outside loops, to exit upright. Perform a fully integrated roll during the last 45 degrees of the first loop, and the first 45 degrees of the second loop.
- Judging notes:
- The roll must be fully integrated on the circular flight path of the loops.

M-11.15 Two turn spin, inverted exit: From upright, perform two consecutive spins, and push to exit inverted.

Judging notes:

- Snap-roll entry, zero points.
- Forced entry, downgrade.

M-11.16 Cuban 8, with 4/8-pt. roll and full roll in 45 degree down lines: From inverted, push through 5/8 of an outside loop to a 45 degree down line, and perform 4 points of an 8-pt. roll. Push through 3/4 of an outside loop to a 45 degree down line, perform a full roll, and pull to exit upright.

M-11.17 Half square loop on corner, 1/2 rolls in 45 degree up lines, inverted exit: From upright, pull to a 45 degree up line, and perform a half roll. Push through 90 degrees to a 45 degree up line, perform a half roll in either direction, and pull to exit inverted.

M-11.18 45 degrees down, with snap roll, 1/2 roll on exit: From inverted, pull to a 45 degree down line, and perform a snap roll. Push to inverted, and perform a half roll to exit upright.

M-11.19 Landing Sequence

The landing sequence should be flown with the same precision as all other manoeuvres in the schedule.

On completion of the last manoeuvre a short straight and level flight should be flown. At reduced power the model turns 180 degrees into a level or descending downwind leg and then executes a second 180 degree turn upwind for the final descending approach to the runway, touching down inside the landing zone.

Landing is complete after the model has rolled 10 metres or has come to rest inside the landing zone.

The landing zone is an area described by a circle of 50 metres radius or lines across a standard runway spaced 100 metres apart where the runway is 10 metres wide.

Possible downgrades

1. Model does not follow landing sequence: zero points.
2. Landing gear retracts or wheels come off on landing: zero points.
3. Model lands outside the zone: zero points.
4. 180 degree turns not 180 degrees: 1-2 points.
5. Wings not level in downwind and upwind legs: 1 point per 15 degree rule.
6. Model does not track on runway after touchdown: 1-2 points.
7. Model bounces on touchdown: 1-2 points.
8. Model climbs and dives on downwind leg or final approach to runway: 1-2 points.
9. Model changes heading left or right on approach to runway: 1-2 points.

The landing will not be downgraded if:

1. The pilot elects sideslip to land due to crosswind conditions in which case the upwind wing will be low.
2. Wing dips due to cross wind turbulence and is corrected IMMEDIATELY.

The judging of the take-off & landing is scored 0-10, with a k factor of 2, using the downgrades stated above. This is how the members of the GBRCAA voted at the AGM.