CONDUCT OF FIELD LANDING TRAINING

Introduction.

Recent discussions and events have highlighted a need for more guidance on the way that field landing training is carried out in motor gliders (MGs). This is in addition to the advice given in the BGA Motor Glider Handbook (MGH), which will be amended in due course. While realism is desirable in any training context, the overriding consideration should always be the safety and legality of the flight. This paper will discuss how to achieve the balance between these sometime conflicting requirements.

Legality

The Rules of the Air State that aircraft should not fly closer than 500' to any person, structure, vehicle, or vessel, unless landing or taking off normally. It does not say the aircraft should stay above 500' at all times. Field landing training, and indeed simulated engine failure after take-off, does not qualify as normal aircraft operation and is therefore subject to the rule. It is worth noting that if an aircraft goes below 500' in an apparently remote area, and a person out of sight behind a hedge is approached within 500', the aircraft captain is liable to prosecution. If animals are present in the area, they may be frightened by the sudden appearance of a MG even if it is above 500'. This in turn may give a landowner reason to start legal action.

Engine Handling

Most MGs do not have the safety of twin magnetos or electronic ignition. All suffer to some degree from carburettor icing, whether or not they are fitted with a carburettor heater. Before even starting a descent, instructors should ensure that the carburettor is clear of ice by early use of the carburettor heater, and that the oil temperature is well above the minimum specified by the manufacturer. The carburettor heater should be used throughout the descent, and oil temperature monitored. A small amount of power should be continually used to keep the engine warm and to simulate the performance of the glider. An occasional application of full power will ensure a response is available. This response check is essential around the base leg. If the engine does not behave normally at this point, the exercise should be terminated and the instructor should land in the chosen field. The go around must be planned in such a way that an engine failure on climb out also results in a successful field landing.

Threat and Error Management

Field landing in gliders always carries a higher risk than landing on an airfield. Training for field landing in MGs carries a similar, but often higher risk factor as there are more things to consider for an instructor, and more opportunities to make mistakes. Risk increases exponentially as height is lost, particularly if the exercise is continued below 500'. A normal glider circuit descends through 500' somewhere between low key and base leg. As soon as the base leg is commenced, it should be obvious to both instructor and student whether the approach will be successful, so there is very little reason to continue lower, into the high-risk area. EVEN WHERE LEGAL, LOW APPROACHES CARRY TOO HIGH A RISK TO BE JUSTIFIED ON TRAINING GROUNDS. If a student cannot successfully fly the approach, the airfield is the right environment for remedial action. With more experienced pilots practicing field approaches, the exercise can usually be abandoned at low key, or earlier as the selection is likely to be the major learning point for them.

The Future

Much of our field landing training is carried out by MGIR instructors, who, provided they maintain their gliding Full Rating and licence privileges (inc any refresher training/checks), are not additionally checked as instructors in MGs. This system was adopted a number of years ago in the expectation that Part-FCL would be in place by now. As Part-FCL adoption is still nearly 2 years away, it is probable that the BGA will reintroduce a checking system for MGIR instructors sooner. In the short term, examiners using a MG for 5 yearly refreshers of MGIR qualified instructors, or FI SLMG/TMG revalidation, should require the candidate to teach field landing as a primary or secondary exercise. Further ahead, the MGH will be rewritten to encompass the best advice possible for MG instructors.

Conclusion. The MG accident rate has been too high for several years. Many of these accidents involve propeller strikes, all of which are unnecessary, but are not life threatening. Recently however, there has been an increase in serious accidents, none of which have been shown to have technical causes, but all potentially include issues of threat and error management, particularly at low altitude. A more considered approach to field landing training is essential if the gliding is to retain the independence to train and assess our pilots safely, and without overly restrictive regulation.

Paul Whitehead - BGA MG Lead

Colin Sword – Chairman, BGA Instructor Panel

11 July 2018