



RAFGSA
CRANWELL GLIDING CLUB

FLYING ORDER BOOK

Last Reviewed: 01 Jan 2024

Next Review: On or Before: 01 Jan 2025 (by the Club's CFI)

Sections

1. Flying Orders.
2. Standard Operating Procedures.
3. Administrative Orders.

01 Jan 2024

RAFGSA CRANWELL GLIDING CLUB

ROYAL AIR FORCE GLIDING AND SOARING ASSOCIATION

AUTHENTICATION

1. RAFGSA Cranwell Gliding Club is a member of the Royal Air Force Gliding and Soaring Association (RAFGSA), which operates under the authority of the RAF Sports Board as laid down by RAF GAI 1048.

2. This document contains the Orders for the RAFGSA Cranwell Gliding Club and is issued under my authority as Chairman of the Club.

M THORNTON

OC Ops

Wg Cdr

Chairman – CranwellGC

PERIODIC READING OF RAFGSA CRANWELL GLIDING CLUB FLYING ORDER BOOK

1. Club members, including those of the co-located University of Nottingham Gliding Club (UoNGC), and visiting pilots are to read the and record their reading on the Club's website. The hard-copy FOB which is held at the launch point (bus) is available for those without access to the website, or for visitors wishing to fly solo. It is also available on the Club's website, cranwellgc.co.uk

- a. On joining the club and before flying as Captain if not signed within the previous 12 months.
- b. Every 12 months **with a review completed by the CFI for the first weekend of Jan XX.**
- c. **Prior to first Solo.**

AMENDMENTS

- d. Club members are to record as having read and understood any amendments to the flying order book:
 - i. Before next flight, where flight safety implications exist.
 - ii. Within one month of the amendment issue or before next flight if longer than one month from issue.
 - iii. **A stop-press will be issued to accompany important amendments.**

RAFGSA CRANWELL GLIDING CLUB FLYING ORDER BOOK

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Distribution:

External:

Information:

RAFGSA (2): Chairman
 Ops Member
 RAFGSA Sec

Internal:

Action:

Chairman (OC Fg Wg)
 Dep Chairman / OIC Gliding Club
 Airfield Bus
 Club House

Club Webmaster – for reading access online via cranwellgc.co.uk

PART 1 - FLYING ORDERS

GENERAL

1. **Rules of the Air.** The BGA online publication, [Laws and Rules for Glider Pilots](#), now links to the CAA website for Rules of the Air. All pilots are to read and understand the 'Rules of the Air' with the focus being [SERA.3210 Right-of-way](#) as this forms essential knowledge towards collision avoidance. Glider Pilots are not to fly from RAF Cranwell without being familiar with this order.
2. **Log Books.** Each member is to maintain an accurate record of launches and hours flown in an approved log book (hard copy or electronic). BGA log books may be purchased from the Club. Log books are to be presented to the CFI for inspection on demand and for all annual check flights, including field landing checks, and instructor renewals.
3. **Medical Requirements.** Before a pilot may fly solo, they must meet the medical requirements as laid down in BGA Laws and Rules (possess an EU Driving Licence, CAA declaration, Self-Declaration (for those under the age of 25) or an aircrew medical), indicating their fitness for solo flight. This is to be produced for inspection on demand **and a copy held by the Membership Sec.**
4. **Drinking and rest periods.** No member or guest is to fly in a Club aircraft, or from RAFC Cranwell, or operate any equipment in connection with flying operations, within eight hours of consuming any alcoholic drink, or within six hours of completing a night shift.
5. **Smoking.** With effect from 01 October 2020, RAFC Cranwell has been smoke free between the hours of 0800-1700, there will be no smoking on the unit between the mentioned hours, this currently does not include vaping.
6. **Parachutes.** Parachutes are always to be worn in RAFGSA gliders unless dispensation has been obtained from the RAFGSA Air Member. At cease flying the last pilot to fly the glider is to return the parachute(s) to the parachute room and fit the outer protective bag to the parachute.

PRE-FLIGHT CHECKS

7. **Inspection of Aircraft.** Before flight the pilot of any aircraft is to satisfy their self that it is fit to fly, in particular, that the daily servicing has been carried out - including positive control checks - and properly signed for. It is the pilot's responsibility to call for cable release checks if required.
8. **Limitations and Characteristics of Aircraft.** The pilot of any glider, before flight, is to acquaint their self with any limitations or restrictions imposed on it, with the operation of all controls and with its flight characteristics. **Any pilot flying a type of glider for the first time is to be given a specific briefing on that type by a suitably qualified and experienced pilot nominated by the Duty Instructor after having sought the CFIs authority for progression. See Annex E for details.**
9. **Checks.**
 - a. **Aircraft acceptance walk-round check** (note: this is not a repeat of the DI)

A – Airframe: walk around the glider for a visual check that tyres have not deflated, there is no obvious structural damage and for general good order.

B – Ballast loading is correct for the intended flights.

C – Controls: working in the correct sense as viewed from outside the cockpit.

D – Dollies: ground handling aids are all removed (wing and tail dollies).

b. **Pre-Take-Off Checks.** Immediately before every flight, and in addition to any other inspection or check, the pilot is to carry out the following drill of vital actions:

C - Controls	Test movement of all flying controls for full, free and in the correct sense.
B - Ballast	Check crew weight is within limitations. Dollies removed.
S - Straps	Parachute and seat harness both tight and secure.
I - Instruments	Ensure: Set, Serviceable and Secure. Radio is set to dual watch with the Cranwell frequency (124.450) on the secondary.
F - Flaps	Check for full and free operation, set for take-off (if fitted).
T - Trim	Full and free range of movement, set for take-off (recovery attitude).
B – Brakes	Check for full, free and symmetrical operation. If the wheel brake is connected to the brake lever circuit, ensure it is activated. Ensure closed and positively locked for launch.
E - Eventualities	Brief of actions to be taken in the event of a launch failure, taking into consideration airfield limitations, transient obstacles, and weather conditions, including wind direction. This is TEM and as such is to be considered before EVERY launch.
C - Canopy	Ensure that the cockpit canopy(ies) is/are correctly closed and locked and does not yield to upward pressure.

c. **Pre-circuit Checks.** Pilots are to have completed the following checks by the time they are at the High Key position.

W - Water Ballast	Jettisoned (may take up to 8 minutes).
U - Undercarriage	DOWN and LOCKED and picturegram checked to confirm.
L - Loose Articles	Phones, maps, cameras etc stowed or secure, crew straps tight and secure.
F - Flaps	Set as required (if fitted).

LAUNCHING

10. **Launch.** No pilot is to commence a launch until they are satisfied that the area in front of, above and behind the glider is clear via the wing-runner: this usually falls to the duty instructor to check and to ensure where 2 gliders are both awaiting a launch that the downwind glider is prioritised.

11. **Flaps.** Flaps (where fitted) are to be used as detailed in the aircraft's Flight Manual.

12. **Over-Run of Cable.** If a glider over-runs its launching cable, there is a danger that the cable or parachute may become entangled with the skid, wheel or other part of the aircraft. If the

pilot suspects that this has happened, they are to immediately release the cable, call STOP and ensure that the cable is moved clear of the glider.

13. **Launch Failures.** If the launch fails, or the speed decreases below 50 kts, the pilot's first aim should be to place the glider in a safe flying attitude by lowering the nose to an appropriate recovery attitude and then checking the speed **is at or exceeding the pre-determined approach speed** before landing on a suitable part of the airfield. If the aircraft attitude isn't lowered sufficiently after a launch failure at anything more than a few hundred feet, the airfield perspective will look wrong and there won't appear to be sufficient room to land ahead. *Guidance* on the action to be taken is given below:

- a. **On the Ground.** Pull the cable release knob (twice) and steer the glider clear of the cable to avoid entanglement.
- b. **When Airborne.** Should the launch fail, the glider's attitude is to be immediately lowered to the appropriate recovery attitude and the cable released by pulling the release twice. The glider is to be landed straight ahead if there is room to do so safely. The glider must NOT be manoeuvred or the airbrakes opened below the selected approach speed as indicated on the ASI.
- c. **Insufficient room to land ahead.** After the initial actions and having the selected approach speed indicated on the ASI, should there be insufficient room to land ahead, commence a turn away from the centre of the airfield, downwind from any crosswind component, continuing the turn and landing into wind using the airbrakes as appropriate. **Do not** turn or open the airbrakes until you have your approach speed indicated on the ASI.
- d. **Abbreviated Circuit.** If there is sufficient height to carry out an abbreviated circuit, having attained the safety speed and released the cable, turn in to the circuit direction and fly a tighter than normal circuit keeping a good lookout for other aircraft. The final turn should be completed by 300 ft agl.
- e. **Strong Wind Conditions (above 15 kts).** In strong wind conditions it *may* be possible to land the glider straight ahead from greater heights.
- f. **Cable hang-up.** If after a launch failure the pilot suspects that the cable is still attached to the glider, they should avoid flying over any obstructions (in particular, family quarters) and keep the glider within the airfield boundary during the recovery phase. The landing should be made with **10 knots extra speed** and well into the field.

14. **Cable Release Failure.** The failure of a glider to release the cable after a launch is extremely rare. Nevertheless, if such a failure does occur, the following action is to be taken after the cable has been guillotined by the winch driver:

- a. Immediately lower the glider's attitude and open the airbrakes, whilst maintaining a safe flying speed. When overhead the winch, commence steep turns over it in order to build up 'slack' in the cable. In strong wind conditions it may be necessary to straighten up momentarily in-to-wind to ensure that the glider maintains its position overhead the winch.
- b. When sufficient height has been lost the glider is to be flown downwind, the airspeed should be kept higher than normal. Any manoeuvres thereafter during the recovery should be within the airfield boundary, avoiding any obstructions. The situation may require the landing to be made down wind, but this should be avoided if possible. Throughout the recovery phase the cable release should be pulled frequently or, if possible (eg two-seat aircraft, double crewed), held open continuously.

LAUNCH FAILURES CAN BE DANGEROUS – BE PREPARED – EVERY LAUNCH

15. **Maximum Launch Height.** The Air Navigation Order does not permit gliders at RAFC Cranwell to be winch launched above **3000 ft agl**.

CIRCUIT PLANNING

16. **After Release.** After release the glider is to be flown from the top of the launch by turning right or left as appropriate in the direction of the circuit.

17. **Downwind Leg.** The downwind leg should be arranged so that the glider remains within approximately 30° elevation of that part of the airfield on which it is safe to land. Gliders returning from soaring flights are to join the circuit on this leg with sufficient height to allow them to fit in safely with other circuit traffic. The high key point is 800 ft minimum upwind of the winch position; before this point, the pilot is to have completed their pre-circuit (WULF) checks. Low key is approximately 600 ft abeam the landing area. The diagonal leg, base leg and the approach are to be flown at the approach attitude and speed. Final turns are to be completed with wings level by no lower than 300 ft - **all heights quoted in this paragraph are MINIMUM heights agl**.

18. **Circling.** 360° turns below 600 ft are prohibited within the circuit area, except in an emergency. Below this height all turns outside the airfield perimeter are to be made towards the airfield. For minimum soaring heights see para 30.

19. **Minimum Circuit Airspeed.** Minimum recommended circuit airspeeds are 45 kts for wooden gliders and 50 kts for glass fibre gliders. Higher speeds may be necessary due to turbulence etc. Higher performance aircraft may require to be flown faster to provide adequate handling.

20. **Minimum approach speed.** Minimum Approach Speed is calculated as 50 kts plus half the wind speed at ground level, with a minimum approach speed of 55 kts for two-seater gliders. The aircraft should be at this speed and be in-trim the time the low key position is reached.

21. **Base Leg.** The Base leg follows the diagonal leg and is to be adjusted to cater for wind strength and errors in circuit planning to ensure that the glider is lined up on the correct approach path by 300 ft agl with the wings level. Excess height on the base leg may be lost by use of the airbrakes. **The use of 'S' turns or side slipping on the base leg is discouraged.**

22. **Critical Height.** The Critical Height is to be 300 ft agl. Should a pilot consider that they are unable to reach the normal landing area from this position, they are to turn in early and execute a landing into the nearest safe area. Attempts to 'stretch the glide' are infinitely more dangerous than properly executed overshoots and will be regarded as breaches of flying discipline.

23. **Finals (Final Turn).** The turn onto Finals should be completed by 300 ft agl and a straight-in approach made from this point. Should the base leg be misjudged, the provisions of para 22 are to apply. Obstacles on the approach are to be cleared by twice the obstacle height; approaches over Lighter than Air Road are to clear the road by a minimum of 100 ft.

24. **Sideslipping.** With effective and efficient airbrakes, sideslipping is not normally required. However, sideslipping may be carried out providing that:

- a. The pilot has received dual instruction, has been certified competent to carry out the manoeuvre by an instructor
- b. The recovery is completed by the following heights:
 - (1) Full-rated Instructors - 50 ft agl.
 - (2) All other solo pilots - 150 ft agl.

c. Flights by solo pilots carrying out the manoeuvre as part of a training syllabus are to be individually authorised by the Duty Instructor, who is to ensure that the manoeuvre is authorised and observed. Training is not normally to be given until the pilot has more than 20 hours total gliding.

25. **After Landing.** In gusty conditions or when the surface wind exceeds 15 kts, pilots are to remain strapped in the glider with the airbrakes open and the canopy locked until assistance arrives. Where the aircraft is equipped, pilots are to turn transponders to the 'Standby' position on landing and switch off electrical instruments when not in use after flight.

CURRENCY AND TYPE CONVERSIONS

26. a. **Currency.** The currency requirements are detailed at Annex D.

b. **Type Conversions.** The criteria for type conversions are detailed in Annex E

c. **Private Owners.** Pilots intending to acquire a new type of privately-owned aircraft and who wish to operate it from RAF Cranwell are to seek prior approval from the CFI.

SOARING

27. **Duration.** Local soaring flights in club gliders will normally be limited to one-hour duration for single seat aircraft and the Duo Discus or 30 minutes for the K21 / Acro. This may be varied by the Duty Instructor where appropriate, for example numbers of members wishing to fly.

28. **Sea Breezes.** Sea Breeze Fronts are a common weather feature at Cranwell and their passage may result in the surface wind changing through 180° (with strengths of 15 to 20 kts) in a matter of seconds. **The DI is to ensure radio calls are made to airborne gliders to alert for a change of landing direction.**

29. **Thermal Turns - Direction.** A glider joining another in a thermal shall circle in the same direction as that established by the first. In the event of two gliders entering together, the higher glider is to determine the direction of the turn.

30. **Minimum Height Limits.** Thermal soaring turns are not to be attempted below 700 ft agl. Whilst soaring during cross country flights, and particularly above difficult terrain, the minimum heights used must be sufficient to ensure a safe out-landing.

31. **Ridge Soaring.** Cranwell is not a ridge site, but where Club members and Club assets are being flown from ridge sites (on exped) the minimum heights used when ridge soaring will be at the discretion of the authorising club Instructor who is to take into account the following factors:

a. Local regulations.

b. Pilot capability.

c. Characteristics and performance of the glider being flown.

d. Relationship of suitable landing areas to the ridge.

e. Number of gliders soaring.

f. Local and approaching weather conditions.

CROSS-COUNTRY FLYING

32. **Authorisation.** All cross-country flights in Club gliders are to be authorised by the Duty Instructor. Pilots may not fly cross-country until they possess a BGA Bronze 'C' badge and Cross-Country Endorsement, successfully completed annual field landing checks and passed a navigation training exercise and have the Duty Instructors approval. At least one aeronautical chart (current half million scale) covering the expected route, showing airways and other controlled airspace is to be carried.

33. **Briefing.** All briefings, including self briefings, for cross-country flying are to include:

- a. Meteorological information.
- b. Landing areas along the intended route. **There will be periods (mid summer) where the availability of suitable landing fields is severely limited by standing crop. This period is potentially not suitable for early cross-country unless there is a very high cloud-base.**
- c. Controlled air space near the intended route.
- d. The following specific heights:
 - (1) "Going away" height - minimum 2000 ft agl. For pilots with less than three out-landings, the minimum will be 3000 ft agl. At least one of these out-landings must have been in a field.
 - (2) Selection of landing area height - minimum 2000 ft agl.
 - (3) Specific field selection is to be completed by 1500 ft agl. Pilots may continue to local soar within range of the selected field down to 700 ft agl when they are committed to land.

34. **Competition Finishes.** Low fast finishes may be practised with the approval of the Duty Instructor, not below 100 ft agl and not over built-up areas or where people are gathered, eg sports fields and are to remain clear of the South airfield, if active. Pilots returning from task are to request permission from the Duty Instructor on the **Cranwell GC frequency** at least five minutes before finishing. **Pilots must receive a positive radio call to confirm that launching is not taking place and that the circuit is clear of traffic if they intend on conducting a high energy arrival.**

35. **Field Landings.** Pilots landing in fields should always remember that they are committing a technical trespass and that gliding as a sport is dependent on the continued generosity of land owners. The following code is to be followed:

- a. Select a field that is not only safe to land in (prime consideration) but one which causes the least inconvenience to the landowner (secondary).
- b. Particular care should be taken when standing grass and cereal crops cover large areas of the countryside, as landing in these crops could cause significant injury and damage to the glider.
- c. Care should be taken to land as far as possible from livestock.
- d. Immediately after landing and securing the glider, endeavour to discourage onlookers from coming into the field. For this reason, it is preferable not to land in a field adjoining a residential area.
- e. **Contact the Duty Instructor on the Club's mobile.**

- f. Contact the landowner, or their representative, and explain the circumstances for the forced landing.
- g. Keep the retrieve vehicle and trailer out of the field if it is likely to do any damage (manhandle the glider to the vehicle).
- h. Ensure that no animals escape while gates are open and that all gates opened are properly closed and secured before leaving.
- i. If any damage has been done, exchange names and addresses with the landowner (or their agent), as well as the address of the Club. Explain that you are not permitted to accept liability as this is a matter for the insurers. If possible, take photographs of the glider in-situ to (dis)prove any excessive damage claimed by the landowner.

36. **Debrief.** On their return, pilots are to advise the log keeper and Duty Instructor of the distance flown, turning points, time and place of landing-out and any badges claimed.

37. **Overdue Action.** Overdue action is to be taken on a glider unaccounted for at sunset plus thirty minutes (sunset time is given on the Met Office cross-section), or if there is good cause to believe that the aircraft is missing.

CLOUD FLYING

38. Cloud flying is permitted in RAFGSA gliders only under the following conditions:

- a. The aircraft is to be fitted with serviceable blind flying instruments, a parachute and a radio. For aircraft with speed limiting airbrakes the minimum instrumentation is a turn and slip; for all other aircraft, an artificial horizon is to be fitted in addition to a turn and slip.
- b. The glider must be cleared for cloud flying.
- c. The pilot must possess a BGA cloud flying endorsement (Part FCL Sailplane Cloud Flying Rating)
- d. The pilot is to carry a suitable chart marked with controlled airspace in the local area.
- e. The altimeter is to be set to indicate height above mean sea level (amsl)/flight level (FL) as appropriate.
- f. Cloud flying is allowed under the flight rules of the country concerned.

39. In the UK, the BGA cloud flying frequency 130.545 is to be selected before entering cloud and a broadcast call made giving position, altitude amsl and immediate intention. If contact is established with another glider in the same area, collision avoidance is to be by mutual agreement maintaining a vertical separation of 500 ft in cloud.

AEROBATICS

40. **Policy.** It is RAFGSA policy that aerobatics form only a minor part of the accomplishments of glider pilots. The permitted manoeuvres must be formally taught, within the limits of the glider as per the relevant Aircraft Manual and carried out when specifically authorised. Furthermore, it is RAFGSA policy that competition gliders will not normally be used for aerobatics.

41. Training. Pilots may be trained in accordance with the BGA Aerobatic Endorsement, or BGA Aerobatic Badge requirements. Training may be given when the pupil has completed the BGA Bronze Endorsement. Aerobatic training flights are to be recorded in their logbook, which is to be endorsed with "Certified competent to carry out (enter specific manoeuvre)", and signed by the CFI/BGA Aerobatic Instructor when training is complete.

42. Authorisation. Aerobatic sorties are to be individually authorised by any RAFGSA RAFC Cranwell Gliding Club full rated instructor or a BGA aerobatic instructor who is to ensure:

- a. The pilot has completed training for the intended aerobatic manoeuvres to be flown and is in current aerobatic practice.
- b. The pilot is in current 28 day flying practice, and 56 days aerobatic practice. Full Cat and Aero Instructor – 90 days aerobatic practice.
- c. The weather is suitable for the execution of aerobatics.
- d. The pilot is wearing a serviceable parachute.

43. Gliders. Only those Club gliders specifically cleared and fitted with a serviceable accelerometer may be used for aerobatics.

44. Excessive 'G'. Pilots are to ensure that aerobatic / spinning manoeuvres are conducted within the limitations stated in the relevant Aircraft Manual. Where limitations have been exceeded, it is to be noted as an entry in the glider servicing log and in the Change of Serviceability record. The entry is to be cleared following an inspection of the aircraft structure by a BGA Inspector.

45. Height and Location. Recovery from all aerobatic and spinning manoeuvres is to be completed by the following heights, unless a higher limit is stated in the Aircraft Manual (eg, K21 with spin weights fitted).

- a. Full instructors/ BGA Aerobatic Instructor (dual or solo) - 1000 ft agl.
- b. All other pilots - 1500 ft agl.

46. Minima's. Special clearance for different types of glider, and for lower height limits for display purposes, are to be sought from the RAFGSA Air Member. Under no circumstances are aerobatics to be performed over built-up areas.

AIR TESTS

47. All air tests on RAFGSA aircraft are to be flown by full category instructors unless specifically authorised otherwise by the CFI. For air tests to check the instruments in the other cockpit of a dual-seat gliders a competent club member may be used.

HIGH ALTITUDE FLYING

48. **Limitations.** Gliders may be flown up to 12,000 ft amsl without additional oxygen. If oxygen is carried it is to be used above 10,000 ft amsl. In the event of illness in the air, from whatever cause, the airbrakes are to be extended and an immediate descent made to below 10,000 ft amsl.

49. **Oxygen.** The preferred equipment for GSA gliders is Mountain High pulse systems as fitted to R2. Where portable sets are used, they are to be secured sufficiently so that in the event of an impact or heavy landing, the pilot does not suffer injury through loose equipment.

50. **Decompression Sickness.** Above 25,000 ft amsl there is a risk of decompression sickness and this risk increases significantly above 30,000 ft amsl. Pilots are to descend immediately should they suffer pain in joints or any other symptoms of altitude. Flights are not to be planned above 35,000 ft without aeromedical advice.

51. **Hypoxia.** Hypoxia is a real danger when flying and each person will have their own limitations. A feeling of euphoria is key indicator and will mean that cognitive function is being impaired. If oxygen is carried, consider using from 8000'.

RADIO

52. Whenever fitted, the radio in a glider is to be used. For local flying in VMC a frequency of 129.980 MHz should normally be selected for communications with **Cranwell Gliders** and a watching/scanning frequency of 124.450 (South airfield) monitored. When flying outside controlled airspace, 130.105 MHz can be used. In IMC for those with a cloud flying endorsement, the BGA cloud flying frequency of 130.535 MHz is to be selected if available. The alternative BGA frequencies of 129.980 MHz (ground-ground) and 130.130 (lead and follow) may also be used when appropriate. **Frequencies may change: it remains the pilots responsibility to communicate on the correct frequency.**

53. Pilots are not to transmit on any aeronautical frequency other than the ones specifically allocated to gliding without:

- a. Possessing a Certificate of Competency for Flight Radiotelephony Operator (CAP 413 refers).
- b. Having received corresponding training in the use of R/T.
- c. **Notwithstanding the points above, if an RT licence is not held, the BGA and CAA would prefer for 2-way communications to be established in the event of airborne problems, and in particular if lost. A location service is available on 121.500**

TRANSPONDERS

54. Where fitted, transponder equipment is to be used. For normal flying, the transponder should be selected ON and the SSR code (squawk) 7000 set, unless receiving an Air Traffic Service and another squawk is requested by an ATC controller. If the aircraft is at rest between flights and crewed, the transponder should be set to STANDBY (SBY) during pre-flight checks. If the aircraft is off line, the transponder should be turned OFF to preserve battery power.

55. For aerotow operations, the tug aircraft is to set the SSR code 0034.

ELECTRONIC CONSPICUITY

56. Due to activity on the South Airfield, all aircraft operating from Cranwell North are to be fitted with FLARM for additional conspicuity. Should the FLARM become unserviceable, the aircraft is not to be flown from RAF Cranwell until the equipment is repaired or replaced.

57. FLARM equipment in club aircraft is to be regarded as a fixed installation and is not to be removed, other than for servicing, unless authorised by the Committee.

58. Some club gliders are equipped with SkyEcho units. If this part of the glider's inventory, it must be fitted for the daily inspection and removed post flight.

FORMATION FLYING

59. **Formation Flying.** Formation flying is only to be carried out when specifically authorised by the CFI. If authorised, the following criteria are to be observed:

- a. The pilots undertaking flying in formation are to have sufficient experience to be considered competent to undertake the task.
- b. Details of the intended formation is to be briefed to the captains of all aircraft involved. This briefing is to include procedures for initial formation, lost contact termination of formation, who is in charge of the formation, and who is responsible for lookout.
- c. Weather minima is to be VMC.
- d. All participants are to be in radio contact with each other and Cranwell Gliders.

60. It is envisaged that formation flying will only be flown for performance comparison or for air-to-air photography. Any intended formation flying for display purposes is to have the prior approval of the RAFGSA Chairman.

61. **Display Flying.** Display flying mounted from RAFGSA sites or using RAFGSA equipment is to have the prior approval of the RAFGSA Air Member.

62. **AIRPROX.** Any pilot involved in an AIRPROX is to file an AIRPROX report in accordance with current CAA regulations through the CFI.

63. **Incidents involving financial loss to the Club.** Gliding has inherent risks that are reduced to as low as is reasonably practicable. Where a glider sustains significant damage that results in an insurance claim being made or a large repair bill to the Club, the Club's executive Committee must consider the level of accountability through application of the DA FAiR II model found within the Manual of Air Safety. Dependent upon the findings, the pilot could be asked to contribute from 50% of the insurance excess up to the full excess where the mistake entered into the realms of a violation or recklessness. Damage sustained to gliders whilst away from Cranwell (i.e expeditions), the default will be 50% of the excess (1% of hull value) so as to ensure future viability of expeditions.

ORDERS FOR THE OPERATION OF THE MOTOR GLIDER

64. Orders for the operation of the motor glider are at Annex A.

ORDERS FOR THE OPERATION OF TUG AIRCRAFT

65. Orders for the operation of tug aircraft are at Annex B.

Annexes:

- A. Orders for the operation of the motor glider.
- B. Orders for the operation of tug aircraft.
- C. RAFGSA Cranwell Gliding Club - Flying Currency.
- D. Type Conversions.

ORDERS FOR THE OPERATION OF THE MOTOR GLIDER

1. The aircraft is the property of the RAFGSA and is to be operated in accordance with the following orders:

AUTHORISATION

2. The CFI or Tugmaster of the RAFGSA Cranwell Gliding Club is to maintain the following lists of personnel:

- a. Those with powers of authorisation.
- b. Those authorised to fly civil-registered motor gliders.
- c. Those authorised to service the motor glider.

These lists are to be kept with the motor glider Log Book.

QUALIFICATIONS

3. To fly the motor glider as PIC a pilot must:

- a. Hold a current UK or EASA Flight Crew Licence and a NPPL or EASA medical certificate.
- b. Have been checked by the CFI RAFGSA Cranwell Gliding Club or other instructor delegated the responsibility and be a flying member of the Club.
- c. Have their powered aircraft licence endorsed for self-launching motor gliders (SLMG), touring motor gliders (TMG) or SEP rating with differences training signed in their log book.
- d. A check flight if more than 28 days has elapsed since their previous motor glider flight.
- e. Have specific authorisation of the CFI RAFGSA Cranwell Gliding Club or Duty Instructor.
- f. Have 10 hours gliding or hold a CAA FI rating and be authorised to instruct.

4. Details of Motor Glider Instructors Ratings (MGIR) are at Appendix 1 to this Annex.

COMPETENCY

5. All motor glider pilots flying under the auspices of RAFGSA Cranwell Gliding Club are to remain in date with respect to valid medical and class rating, except for those pilots who are flying under the legal supervision of a CAA Flying Instructor for the purposes of gaining a licence or rating.

CURRENCY

6. The following currency requirements must be met prior to flying in a motor-glider being operated under the auspices of RAFGSA Cranwell Gliding Club

- a. **No Self-Auth Category** At the discretion of the Duty Instructor
- b. **Self Authorising (Local)** 28 Days
- c. **Self Authorising (Land-Away)** 28 Days

7. Where a RAFGSA Cranwell Gliding Club member has recently flown a different type of motor glider within the time frames stated above, they must have flown the motor-glider they wish to fly within the previous 90 days as well as meeting their individual currency requirements.

CHECK FLIGHTS

8. The following items to be included as a minimum in check flight:

- a. Pre-flight preparation (NOTAMs, Weather)
- b. Licence and Medical are both valid.
- c. EFATO drills
- d. Stalling
- e. Engine Start / Stop (Air Start if applicable)
- f. 1 x 'touch and go'

9. The flight must be conducted to the satisfaction of the instructor. If the instructor has concerns or is not content that the minimum level of safety is maintained, they can prevent solo flying pending further training.

USE OF MOTOR GLIDER

10. The motor glider is for RAFGSA use and is not normally to be used for purposes other than:

- a. Familiarisation flying for club members.
- b. Initial and reinforcement exercises for members training to the initial solo standard in winch launched gliders.
- c. Initial and reinforcement training for aero tow launches (simulated rope breaks)
- d. Intermediate exercises and check flights for members below Bronze C standard in winch launched gliders.
- e. Field landing practice.
- f. Navigation and turning point training.
- g. Flying towards the issue of SLMG PPL or TMG extension training.
- h. RAFGSA communication flying on RAFGSA business.

- i. Ad-hoc flying by suitably qualified pilots at the duty instructor's discretion.

11. Any use of the aircraft other than those specified is to be specifically authorised by the CFI RAFGSA Cranwell Gliding Club.

12. The motor glider is to be self-supporting and economic flying rates are to be periodically examined and agreed by the Executive Committee of RAFGSA Cranwell Gliding Club.

PRE-FLIGHT RESPONSIBILITY

13. a. Servicing of the motor glider is to be carried out in accordance with CAA/BGA regulations under the supervision of an appropriate member of the Club. (para 2c refers).

b. The pilot is to ensure that a 'Check A' has been signed for during the same day, prior to flight. As a minimum, this is to include:

- (1) Check Aircraft hours and Servicing Schedule.
- (2) Check Fuel Drain for water evidence.
- (3) Perform a Daily Inspection walk-round as per the flight manual.
- (4) Ensure all documentation is current and in place.

c. Responsibility for pre-flight inspections is to rest with the pilot who is to next fly the air system.

d. Hand swinging of propellers (other than the circulate oil in the Rotax 914), jump starting or starting whilst connected to any form of charger, unless equipment specific to the aircraft connected to a bespoke connection point, is NOT to be carried out at any time.

WEATHER

14. The weather minima for flying are to comply with civil flight minima for VFR flight

a. Clear of cloud and in sight of land.

b. Flight visibility of 3 kms.

15. The MG is not to be flown when the wind speed exceeds 25 kts (15 knots crosswind limit).

16. The MG is to be flown only between sunrise and sunset.

FUEL

17. The motor glider fuel tank contents gauge indicated fuel capacity in fractions. Careful note of the fuel state is to be taken when planning sorties. The aircraft should not to take off with less than 1/4 indicated. Suitable fuel contents should be maintained to enable the pilot to divert if required.

CARRIAGE OF PASSENGERS

18. The pilot must have completed 3 take-offs and landings in the preceding 90 days prior to carriage of a passenger, in line with the ANO requirements.

19. A passenger is defined as any person not authorised to act as PIC of the aircraft concerned. Once a pilot has been awarded self-authorisation status, they may carry a passenger, provided that the pilot sits in the designated primary flying seat - normally the left-hand seat.

20. During the flight, the pilot is not permitted to allow the guest to fly, unless that pilot holds a relevant Instructor rating.

MUTUAL FLIGHTS

21. Two RAFGSA Cranwell Gliding Club authorised pilots may conduct a mutual flight together subject to the following:

- a. Pilots must both be licensed, hold a suitable medical and be authorised to fly that type.
- b. PIC may only be changed over on the ground when stationary.
- c. A pilot may only fly as PIC from the secondary seat (right hand seat) if specifically checked-out and authorised to do so.

OPERATING REGULATIONS

22. No pilot is to fly the motor glider until they have been fully briefed and signed out the aircraft in the motor glider authorisation book.

23. The pilot is to ensure:

- a. The aircraft has been serviced as detailed in para 13.
- b. The vital action checks detailed in Appendix 2 have been completed.

24. After starting, the motor glider is to be taxied to a position abeam the airfield bus where the pilot is to await a positive take-off signal from the Duty Instructor.

25. Pilots are to remain vigilant during take-offs, taking note of winch lines and aircraft operating on the main (South) airfield. They are to arrange their take-off runs to avoid flying over family quarters or built-up areas of the College.

26. No pilot is to divert from their brief without the specific authorisation of the CFI RAFGSA Cranwell Gliding Club.

27. When returning to land with the engine running the built-up area is to be avoided as far as possible. If it is to overfly the built-up area, sufficient height is to be maintained to reach the safe landing area.

28. 'Touch and go' landings are normally **NOT** permitted, other than for check flights. However, after consultation with the Duty Instructor, Motor Glider INSTRUCTORS may arrange **before the sortie** for circuit training to be carried out, provided positive radio contact is maintained with the Duty Instructor.

29. Turns after landing are to be away from the cable line (extra care is to be taken as gliders may landing on the out-side of the aircraft). If unsure, contact by radio with the Duty Instructor is to be established for further advice to continue.

30. Motor glider take-offs and landings are to be conducted taking into consideration any cross-wind component. The safest options are always to be taken.

31. Air starts are prohibited unless specifically required for MG license training and when captained by a fully rated motor gliding instructor or CAA examiner.

TRANSPONDER

32. In accordance with SERA (Standardised European Rules of the Air) 13001(a)., when an aircraft carries a serviceable SSR transponder, the pilot is to operate the transponder at all times during the flight, regardless of whether the aircraft is within or outside airspace where SSR is used for ATS purposes. Pilots are to operate the transponder if equipped and to the full extent of its capabilities. If the transponder is unserviceable, it does not preclude use of the aircraft. For aerotow operations (for those holding the qualification), the transponder should be set to 0034.

Appendices:

1. Motor Glider Instructor's Rating.
2. Motor Glider Pre-Start and Pre-Take-off Checks.

BGA MOTOR GLIDER INSTRUCTOR'S RATING (BGA MGIR)

1. Before giving gliding instruction in a self-launching motor glider, an instructor must hold a Motor Glider Instructor Rating. There are currently two entirely separate Motor Glider Instructor Ratings, the BGA MGIR and the CAA FI (SLMG). These two ratings are both gained and renewed separately.

THE BGA MOTOR GLIDING INSTRUCTOR'S RATING (BGA MGIR)

2. **Privileges.** Where a valid gliding instructor rating is held, instructing gliding exercises in a motor glider, appropriate to the group and stage held and where the instructor has a valid certificate of medical fitness.

3. The endorsement is issued separately on two groups of motor gliders:

- a. **Group 1 – Wooden and GRP Motor Gliders**
- b. **Group 2 - Retractable Engine Motor Gliders**

4. In addition to the above groups, each group has three separate stages:

- a. **Stage 1 - Glider handling, upper air exercises, circuits, approaches and landings**
- b. **Stage 2 - Stage 1 exercises plus map appreciation and glider navigation**
- c. **Stage 3 - Stage 1 and 2 exercises plus simulated aerotow rope breaks, field selection and landing simulation and final glide simulation.**

5. **Experience Requirements.** Either a BGA Full Instructor Rating (gliders) or, for BGA MGIR Stage 1 only, a BGA Assistant Instructor Rating (gliders), and an appropriate licence for the class of aircraft flown.

6. **Initial Issue.** The BGA MGIR is issued by assessment with a BGA Regional Examiner or BGA FIE who holds a BGA MGIR.

7. **Renewal.** Providing the MGIR requirements (above) remain in place, a BGA MGIR does not expire but there remains a requirement to fly with an examiner for at least a 60min flight every 2-years.

8. **Currency.** **For the BGA MGIR to remain valid, the instructor must maintain a current medical certificate as required by the relevant regulations, be within 28 days (RAFGSA guidance) and have had a 2-yearly check with an FE.**

THE CIVIL AVIATION AUTHORITY FLYING INSTRUCTOR (SELF-LAUNCHING MOTOR GLIDER) (CAA FI (SLMG))

8. **Privileges.** Instruction in SLMG aircraft under the auspices of the BGA. Only those instructors who additionally hold a valid BGA Full Instructor rating or BGA Flight Examiner authorisation may carry out any qualifying checks or assessments for gliding qualifications and/or ratings, for example Bronze field landings.

9. **Experience and Requirements.** An applicant for the CAA FI (SLMG) must have:
- a. A Current BGA Full Instructor Rating.
 - b. An appropriate licence for the class of aircraft flown
 - c. Completion of bespoke training and assessment conducted by a BGA Examiner with a CAA FIE rating.
10. Candidates who do not hold a BGA Full Gliding Instructor Rating must attend a CAA Flying Instructor course run by a CAA approved flying training organisation.
11. **Renewal.** The CAA FI (SLMG) is revalidated biennially by assessment with either a CAA FIE (SLMG) or a BGA Panel Examiner or EASA Part-FCL equivalent. A BGA Panel Examiner is defined by the BGA as a BGA SRE or RE who also holds a CAA Examiner Authorisation and the FI (SLMG) rating.
12. **Currency.** For the CAA FI (SLMG) to remain valid, the instructor must maintain a current medical certificate as required by the relevant regulations.

MOTOR GLIDER PRE-START CHECKS

The following checks should only be considered as part of a sequence of flights: always refer to the MG's FRCs.

Acceptance Walk-round check (Similar to glider ABCD checks): remove Pitot cover if fitted.

- | | |
|-------------------|---|
| C - Controls | Full and free movement in the correct sense. |
| B - Ballast | Weights and balance within limitations (fuel state). |
| S - Straps | Tight and secure. |
| I - Instruments | Pitot cover removed. Instruments apparently serviceable and set correctly. Transponder set to the appropriate SSR code (squawk 7000 or 0034). |
| F - Flaps | Not fitted. |
| T - Trim | Full and free movement. Set for take-off. |
| B - Brakes | Full and free movement both sides. Locked closed. Parking brake set ON. |
| E - Eventualities | Actions in the event of an EFATO. |
| C - Canopy | Closed, locked and does not yield to upward pressure. |
| ----- | |
| P - Petrol | Sufficient for task. Fuel ON (minimum ¼ fuel indicated). Fuel pump ON. |
| P - Propeller | Correct pitch. Prop clear. |
| T - Throttle | Set for start. Check friction. |
| M - Mixture | (Choke) Set as required for start. |
| I - Ignition | Contact. Ignition ON. |

NOTE: PPTMI is a much reduced set of checks: the FRCs detail the full checks prior to take-off, during flying checks, recovery checks, shut-down checks and emergencies: know your drills!

ORDERS FOR THE OPERATON OF TUG AIRCRAFT

1. The club motor glider may also be utilised as a tug aircraft. When operated in this role, the following additional orders apply.

AUTHORISATION

2. The CFI or Tugmaster of the RAFGSA Cranwell Gliding Club is to maintain the following lists of personnel:

- a. Those with powers of authorisation.
- b. Those authorised to fly SLMG/TMG with aerotow endorsement, categorised as fit to:
 - (1) Tow from home base.
 - (2) Tow from nominated airfield.
 - (3) Tow from all airfields.

These lists are to be kept with the aircraft log book.

QUALIFICATIONS

3. **RAFGSA Requirements.** The minimum qualifications are:

- a. CFI approval.
- b. PPL with SLMG / TMG endorsement.
- c. Possess a FAI Silver "C".
- d. Pilot must demonstrate maturity and above average pilot skill.

4. **Cranwell GC Requirements.** To qualify for the Cranwell GC tug a Pilot must:

- a. Satisfy the RAFGSA requirements (Para 3).
- b. Flown a glider or motor glider solo within the previous 28 days.
- c. At least 5 hrs P1 or P1(S) in SLMG aircraft.
- d. Normally to possess an instructor Category with at least 200 hrs gliding experience or Silver "C" plus 50 hrs P1 on light piston aircraft or motor gliders.
- e. Been checked out as a tug pilot by the Cranwell Tug Standards member.
- f. Have their powered aircraft license endorsed for glider towing.
- g. (1) A check flight if a maximum of 28 days has elapsed since their previous aerotowing flight.

(2) In the event that no tug pilot is current, for example, extended periods of inclement weather, the senior qualified tug pilot is authorised to fly a sortie to make their self current and then may then complete currency checks as authorised by the CFI/Tug standards member.

5. The number of Club aerotow endorsed pilots is normally limited to 8, to ensure that there is both appropriate availability but also that all pilots can retain currency.

OPERATING REGULATIONS

6. **Weather.** The weather for aerotowing is to comply with civil flight minima for VFR flight, and RAGSA handbook Para 106:

- a. Clear of cloud and in sight of land.
- b. Visibility not less than 3 km.

The windspeed at ground level is not to exceed 25 kts nor a cross wind component of 10 kts. The tug aircraft may operate from Cranwell North only between the hours of sunrise and sunset.

ALL TUG PILOTS ARE TO READ RAGSA HANDBOOK ANNEX O – REF TUG OPERATIONS IN STRONG WINDS.

7. **Seating.** When flying dual, the first pilot is to sit in the left seat unless specifically authorised by the CFI. The right seat is not normally to be occupied during aerotow operations unless authorised by CFI or Tug Standards Member.

8. **Take-Off.** Pilots are to arrange their take-off runs to avoid flying over family quarters or built-up areas of the College. They may taxi forward but are not to take-off until they receive positive clearance to do so. Pilots are to be particularly vigilant during all take-offs, taking note of winch lines.

9. **Safety of Tug/Glider Combinations.** Whilst towing a glider, tug captains are responsible for the safety of the tug/glider combination. Nevertheless, should the tug develop an engine fault or other defect, the glider should be ordered to release, or if time is critical, jettisoned.

15. No pilot is to divert from their task of local aerotowing without the specific authorisation of the CFI RAGSA Cranwell Gliding Club or their delegated deputy.

18. **Tow Rope.** Pilots of tug aircraft are to ensure that the tow rope is retracted prior to recovering to the airfield. If a failure of the retraction system occurs and they are forced to make an approach to land with the tow rope extended, they are to ensure that they cross the field boundary so that the tow rope remains not less than 100 ft agl, particularly when crossing "Lighter than Air Road". They are to ensure that no part of the tow rope touches the ground outside the boundary of the landing area. This minimum does not absolve pilots from the responsibility of taking any other avoiding action which may be necessary to safeguard vehicular or other traffic crossing the approach path.

19. **Field Retrieves.** The MG (G-SACN) is not suitable for off airfield (field) retrieves.

20. **Radio.** MG/Tug pilots will hold an RT license and should make good use of radio communications with other airspace users.

21. **Dual Towing.** Dual towing (the towing of more than one glider at a time) is not permitted.

22. **Use of Transponder.** Where the transponder equipment is serviceable, it is to be used as per Pt 1, Annex A, Para 32 of the RAFC Cranwell Gliding Club FOB. For glider towing duties, the allocated SSR code 0034 for glider towing is to be used, unless otherwise directed by an air traffic controller.

RAFGSA CRANWELL GLIDING CLUB – FLYING CURRENCY

1. Listed below are the limits for currency at the RAFGSA Cranwell Gliding Club.
2. Flying currency is:

AIRCRAFT TYPE	PILOT QUALIFICATION	CURRENCY REQUIRED	NO OF “DUAL” FLIGHTS REQUIRED
Glider	Post-solo (on checks)	Daily check	Before each group of solo flights
	Pre-Bronze (off checks)	As required (subject to weather conditions)	Minimum of 2 flights (including 1 launch failure)
	Pre-Silver	28 days	Minimum of 2 flights (including 1 launch failure)
	Pre-Gold	28 days (or CFIs discretion)	Minimum of 1 flight
	Gold / Instructor	28 days (or CFIs discretion)	Minimum of 1 flight
Motor Glider	Pre-SLMG PPL *	Daily check	*Before EACH solo flight
	Post-SLMG	28 days	1 Circuit (20 mins min)
	MGPPL IR	28 days	1 Circuit (20 mins min)
	Aerotow endorsement	28 days	CFI's discretion

3. All pilots are to ensure they maintain good currency and/or seek a dual flight with a suitable pilot.

NOTE: The CFI is the only supervisor who can give dispensation from the periods of currency indicated and may carry out check flights at any time for the maintenance of personal flying and instructional standards.

4. Notwithstanding the above, pilots should be honest with themselves and consider their currency against experience - is a pilot with a Silver C and 50 hours maintaining 'currency' through a 20-minute circuit every 28 days really current? Pilots are encouraged to monitor their currency utilising the BGA Pilot Currency Barometer, reproduced overleaf.

PILOT CURRENCY BAROMETER

How safe a pilot am I?

Hours Launches

Using the barometer

Add up your hours and launches for the last twelve months. Put the figures on the barometer. Where the line drawn between them crosses the white line, read the appropriate advice for the box colour.

Example shows pilot with 25 hours and 12 launches

EXPERIENCE

What is your experience? Your total hours and launches represent experience, BUT your currency is just as important - maybe more so!

CURRENCY

If you intend flying and have flown fewer than three take-offs and landings in the previous 90 days, you are advised to first have a check flight

WEATHER

Difficult weather conditions:

- wind above 15kt
- rain showers
- crosswind take-off/ landing

AM I SAFE FOR FLYING?



GREEN SECTION

YOUR STATUS IS GOOD BUT TAKE CARE

The number of basic errors can increase rather than decrease with experience. For example:

- bad approach
- poor cockpit check
- glider not properly rigged
- unprepared for launch failure
- field landing errors

THE LAW OF GRAVITY STILL APPLIES TO YOU

YELLOW SECTION

YOU ARE NOT AS GOOD AS YOU THINK!

Be cautious when special conditions apply. For example:

- a new airfield
- new type of glider
- type of launch rarely used
- unknown terrain

Be even more cautious when the WEATHER CONDITIONS are DIFFICULT

RED SECTION

YOU ARE RUSTY!

You may not be able to cope with difficult conditions, a new type of glider, or a type of launch with which you are not familiar or in practice

If it is more than two months since your last flight, talk to an instructor (see CURRENCY)

If the weather conditions are difficult, talk to an instructor

TYPE CONVERSIONS

1. **For an upward type conversion**, the member requires:
 - a. The authority of the CFI/DCFI/Authorised Full Rated Instructors.
 - b. Meet the criteria at Appendix 1 to this Annex.
 - c. To have read the relevant aircraft manual and receive a conversion brief from a suitably qualified on-type instructor.
 - d. Privately owned gliders - with the CFI approval for the conversion, the Duty Instructor may authorise a conversion brief to be given by the owner.
2. Having achieved the above, the member is to -
 - a. IF CONVERSION IS TO A 2-SEAT GLIDER -
 - (1) Fly with an instructor until competent and authed for solo flight by a Full Category instructor.
 - (2) Achieve a minimum of 3 sorties under the direct supervision of their supervising instructor.
 - (3) ALL subsequent sorties to be local soaring in gliding range (within 5 nautical miles) until signed OFF CHECKS.
 - b. IF CONVERSION IS TO A SINGLE-SEATER GLIDER -
 - (1) Sufficient DUAL training in a relevant type with suitably qualified instructor.
 - (2) Full brief on type a suitably qualified instructor.
 - (3) ALL subsequent sorties to be local soaring in gliding range (within 5 nautical miles) until signed "OFF CHECKS".

GLIDER AND PILOT QUALIFICATIONS

The decision to convert an individual pilot to a different aircraft is based on their personal skills and airmanship. There is no entitlement to advance at a particular level of experience. In accordance with the RAFGSA Operations Manual and, subject to the **CFI's approval**, the minimum qualifications required for pilots to fly certain types of aircraft operated from Cranwell GC are:

<u>SAIL PLANES</u>	<u>PILOT QUALIFICATIONS P1</u>
ASK 21 / Grob Acro	Instructor approval
Astir (all variants)	Minimum of 10 solo glider flights Check flight with full Cat instructor Spinning signed off
Discus	*40 hrs gliding and full Bronze C Spinning signed off
LS8 (15m wings)	*100 hrs gliding and full Silver C
LS8 (18m wings)	*100 hrs gliding and full Silver C 10 successful landings with 15m wings
Duo Discus	*150 hrs gliding and full Silver C Full Cat instructors may fly cross country as P1 from either seat. Ass Cat instructors are to fly as P1 from the front seat only unless authorised by the RAFGSA Ops Member.
<u>PRIVATE GLIDERS (USUALLY ON-SITE)</u>	<u>INSURANCE REQUIREMENTS</u>
ASK 6CR EDG	
ASW 24 T9	
ASH 25 RC	
ASW 27 15C	
DG200 58	
LS6 126	
LS8 F1	
ASW20 LD	

***CFI APPROVAL:**

1. Subject to CFIs discretion and on a case-by-case basis.
2. Suitably experienced Qualified Service Pilots may be converted with less than the minimum P1 qualifications stated in the table above.

PART 2

STANDARD
OPERATING PROCEDURES

PART 2 - STANDARD OPERATING PROCEDURES

INTRODUCTION

1. This part of the document describes the organisation of the RAFGSA Cranwell GC for flying operations and lays down the Standard Operating Procedures (SOPs).

ORGANISATION

2. All flying is to be authorised by the Duty Instructor. Their responsibilities are as detailed at Annex A. Should any deviation from SOPs be necessary, they is to ensure that all concerned are aware of any implications for them and of the need for greater awareness on their part.

3. The Duty Instructor will normally be an RAFGSA/BGA Full Cat Instructor. However, in the absence of a Full Cat Instructor, the duty may be assumed by an Assistant Cat Instructor. In these circumstances, only solo flying may be authorised, no instruction may be given, nor passengers flown, and the CFI is to be contacted for guidance on experience levels before any operation takes place.

4. The Duty Instructor is assisted by a Duty Pilot who is responsible for detailing suitably qualified Club personnel to act as timekeeper, winch operator and cable retrieve driver. Detailed orders for these personnel are at annexes B-E.

GENERAL

5. **Vehicles.** All Service, club and private vehicles parked on the airfield, are to be left unlocked with the key left in the ignition switch.

6. **Driving and Operating Club Equipment.** No member is to drive or operate any club equipment unless authorised to do so by either the CFI, the MT member or the Duty Instructor.

7. **Powered Aircraft.** Members are not to approach powered aircraft until observed by the pilot and then only to approach from the rear quarter.

8. **Trailers.** Club owned trailers should only be used to transport its associated glider. In exceptional circumstances, and with specific approval of the CFI, a Club owned trailer may be used for other purposes. Drivers are to ensure that tow vehicles are equipped with the appropriate hitch; if not, club trailers are not to be towed. Drivers are to ensure that the trailer weight does not exceed the maximum permitted kerb and hitch weights stated in the tow vehicle's handbook. Great care is to be taken when towing trailers in strong winds.

9. **Daily Inspections.** A full daily inspection (DI) is to be carried out on each aircraft before flying. Only members signed up as competent by an instructor may carry out DIs.

10. **Airfield Signage.** The appropriate airfield signs should be placed on the **downwind** boundary as appropriate (Yellow 'North Airfield Active – No Stopping' for approaches over Lighter Than Air Road, Red 'Caution gliders approaching from your left / right...' for approaches from the east end of the airfield) and are to be displayed whilst flying is in progress.

11. **Airfield Grass Length.** The recommended grass length for gliding operations should be less than 100mm (GAI 1048). CAP 772 recommends maintaining swards at between 50 and 100 mm in take-off, landing and low-level operation areas of the airfield.

12. **Accidents and Incidents.** Any accident or incident is to be reported immediately to the Duty Instructor. He is to take charge of the situation and act in accordance with the procedure laid down in his orders at Annex A.

INTEGRATED OPERATIONS

GENERAL

13. Cranwell North Airfield is used primarily by the RAFGSA Cranwell Gliding Club. Visiting aircraft may use the airfield, but ONLY with prior permission from Station Operations. The North Airfield may also be overflowed by Typhoon aircraft making an emergency recovery (straight in approach) to RW 08 at RAF Coningsby. Cranwell South Airfield is used by the East Midlands University Air Squadron (EMUAS), 7 Air Experience Flight (7AEF) and Cranwell Flying Club whilst gliding is in progress. The safe integration of these various activities requires that special measures are agreed and observed by all concerned.

14. When Gliding Club and power operations are scheduled to take place simultaneously, the following procedures are to be adopted:

- a. Gliders and motor gliders are to fly circuits to remain north of the dividing line – Cranwell Avenue, and normally north of the Gliding Launch Line.
- b. Layouts of the airfield for various wind speeds and direction as at Annex F.
- c. Gliders are only to fly south of Cranwell Avenue when:
 - (1) Above 3000 ft QFE (ensuring return to North Airfield can be achieved over 3000 ft) QFE.
 - (2) When the South Airfield are using Rwy 01/19.
 - (3) The glider pilot considers that such a course of action is the safest one open to him following a launch failure.
- d. When gliders and powered aircraft are taking off simultaneously, captains are to be responsible for maintaining lateral separation.

15. The procedure to be followed when RAF Coningsby is active and RW 08 is in use is given at Annex G.

16. The procedure to be followed when Cranwell South is open for limited operations is given in Annex F.

17. Whenever information is received from Cranwell ATC via Management Radio Equipment in respect of other aircraft operating in the vicinity of RAF Cranwell (ATZ / MATZ Crossers, Air Ambulance etc) the Duty Instructor is to acknowledge receipt and re-broadcast on 129.980 for the situational awareness of all pilots airborne. The Club's base radio is to be set to 124.450 to ensure communication relevant to the gliding operation are received and to ensure cover whilst ATC is not manned.

18. **Shuttle Launching.** Shuttle launching may take place at the Duty Instructor's discretion providing that:

- a. The cables are at least 50 yds apart.
- b. Sufficient experienced personnel and vehicles are available.
- c. There is negligible risk of cables becoming crossed.

19. **Crosswind Landings.** At times it may be necessary to set up an additional special landing run to practice cross wind landings. The setting up of such runs is to be the responsibility of the Duty Instructor who is to ensure that:

- a. The run is orientated to give a reasonable cross wind component for the exercise (recommended component is 6-12 kts) the maximum is not to exceed 15 kts. See table at Annex I.
- b. The approach and landing run is situated well clear of other airfield users, particularly in an overshoot situation.
- c. Other pilots are advised of the temporary run whilst the exercise is in progress.

20. **Hangar Flights.** Flights terminating near the Club Hangar may take place providing that the following conditions are observed:

- a. The Duty Instructor is to:
 - (1) Authorise the flight.
 - (2) Brief the pilot on the landing area, direction of approach and any restrictions.
 - (3) The glider is to remain on the airfield side of the pedestrian path.
- b. Pilots should have at least 50 hours and hold a Bronze badge, and they must have completed conversion on the glider being flown.

21. Gliders are not to land within one wings' span of any other aircraft or obstruction. Wingspan is determined by that of the landing glider.

K21 SPINNING

22. Spinning flights are to be authorised by the duty instructor (full category). Flights with tail weights fitted are only to be launched by aerotow. The aircraft is not to be spun solo with the tail weights.

23. The crew are to be conversant with the K21's flight manual tech-note 4b (K21 spin mod). They are to weigh themselves dressed as they will fly in the aircraft, including parachutes. The crew are then to calculate the number of tail weights required in conjunction with the aircraft-specific table and show and agree the calculation with the authorising instructor (DI). These details are to be recorded in the daily ops diary and endorsed by the DI.

24. A full brief is to be conducted prior to flight, to include the aim and scope of the exercise, confirmation of spin recovery actions, aircraft limitations (airspeeds, g-loading), minimum spin entry, minimum recovery (to straight and level flight) and minimum abandonment heights, in conjunction with the Aircraft Manual.

25. Prior to flight, the appropriate weights should be fitted to the aircraft by the crew concerned with the felt pads facing the aircraft skin and the assembly secured using the butterfly nut and 'nappy-pin' (stowed on the front cockpit instrument panel when not in use). Immediately post-flight, the butterfly nut and 'nappy-pin' are to be returned to the aircraft stowage and tail weights placed back in the appropriate storage on the bus.

GROUND HANDLING

26. **Introduction.** Because of their construction, gliders are always more vulnerable whilst on the ground. The ground handling drills detailed below are therefore to be followed at all times.

27. **Lifting.** Gliders are only to be lifted by using the provided handling positions. Gliders are never to be lifted by means of struts, trailing edges of wings, any control surfaces, tail planes or ply or fabric covered areas.

28. **Towing.** The towing-out equipment provided (tail dolly, wing dolly and towing arm) should only be used when it is safe and clear to do so. The trees, shrubs and airfield signage must all be given sufficient clearance.

29. If using a towrope the length should be **at least** the wing span of the glider. The tail dolly is to be fitted to prevent damage to the rear wheel or skid. There is to be an assistant on the up-wing wing tip and at the nose of glider. Their role is to help prevent the glider being lifted by the wind or over-running the towing vehicle.

30. **Releasing the Towrope.** Members are **NOT** to release the towrope by putting their arm through the DV panel as there is a high risk of damaging the canopy - the canopy is to be opened first.

31. **Moving Gliders by Hand.** The mainplane leading edges of gliders are robust and provide good surfaces for applying motive force. Under no circumstances are gliders to be moved by pushing or lifting on trailing edges or tailplane surfaces.

32. **Wing Tip Holder.** The wing tip holder is responsible for steering the glider. When the glider is being towed, keep it positioned directly behind the vehicle. In the event of a cross wind, they are to position their self at the into-wind wing tip. When changing wing tips to someone on the opposite wing, they are to ensure that the second person has full control of the wing tip before he letting go.

33. **Towing Speed.** When being ground handled, the maximum speed of a glider is not to exceed a brisk walking pace. The driver is to monitor the ability of the assistants to manage the pace.

34. **Strong Wind Conditions.** When moving gliders in strong wind conditions, they are to be double manned, except at the wing tip. Club members sitting in the cockpit as ballast are to be properly strapped in. Glider canopies are particularly susceptible to damage in these conditions and are to be locked closed.

35. **Glider Parking.** Wooden gliders are not to be left unattended without being properly secured. In light wind conditions it will be enough to park the glider crosswind with the into wind wing tip weighed down by two tyres, and an additional tyre placed on the downwind side of the tail fin to prevent the glider weather-cocking. In stronger wind conditions, the weight should be increased. However, the weight should not be concentrated in one position as this may cause damage to the structure. Tyres or weights are never to be placed such as to cause damage. Glass fibre gliders are less susceptible to wind and may be left without weight on the wing tip. In strong winds over 20 kts, a weight bag will reduce wing rock. It is acceptable to park glass fibre gliders with the down wind wing on the ground in winds of 20 kts or less.

36. **Look-Outs.** Whenever gliders are being moved in a confined space ie hangar area, look-outs are to be positioned to prevent the glider hitting any obstructions in the immediate vicinity.

LAUNCHING PROCEDURE

37. **WARNING!** Winch cables are potentially dangerous and must always be handled with care. Always hold cables in such a way that it would pull out of the hand if tensioned rather than through

it. **DO NOT** put fingers through the cable rings. **DO NOT** step into or stand in a loop or cable. At the launch point a cable is always to be considered '**LIVE**'.

38. **Cable Attachment.** Slack cable is to be placed ahead of the glider in "S" bends in such a way that no person or object can be caught up with it when the slack is taken up. Before the cable is attached to the glider, the **release rings are to be checked, any crack or deformity** is to be reported immediately to the Duty Instructor. The cable is only to be attached to the glider on instruction from the pilot and only when the pilot is fully prepared for the launch. Before a glider is launched for the first time each day, the cable release mechanism is to be checked for satisfactory forward and backward release operation. The person attaching the cable rings to the release unit is to ensure that they are free in the hook mechanism and give a firm pull to ensure they are securely attached. Once the cable is attached, no one is to walk in front of any part of the glider. Ensure the correct weak link for the glider to be launched is connected to the short stop.

39. **Wing Tip Holding.** Only one wing is to be held during the launching operation. In cross winds, the **DOWNWIND** wing tip should normally be held. The wing tip holder is responsible for passing the instructions to the DI/launch marshall.

40. **Signalling Methods.** Only the following methods of signalling are to be used for gliding operations:

a. **Lights – primary method.**

- (1) **"Take Up Slack"**. One second flash at 3 second intervals.
- (2) **"All Out"**. One second flash at one second intervals.
- (3) **"Stop"**. A steady light.

b. **Bats.** Approximately 13 ins in diameter and covered in dayglo.

- (1) **"Take Up Slack"**. The bat is to be swung in a semi-circle downwards from waist height.
- (2) **"All Out"**. The bat is to be swung in a semi-circle above the head.
- (3) **"Stop"**. The bat is to be held motionless and vertical above the head.

TRAINING

41. Pilot training and the syllabus to be followed is contained in Annex J.

EXPEDITION FLYING

42. Club expedition flying and the regulations governing its organisation and administration are in Annex K.

CODE OF PRACTICE FOR GLIDING LESSONS

43. The code of practice sets out the legal position for flying training, see Annex L. All student pilots are to have read and understood the contents of Annex L.

Annexes:

- A. Orders for the Duty Instructor.
- B. Orders for the Duty Pilot.
- C. Orders for the Log Keeper.
- D. Orders for the Winch Driver.
- E. Orders for the Cable Retrieve Driver.
- F. Procedure for Glider Flying when Cranwell South is active.
- G. Coningsby Restrictions.
- H. Accident Actions.
- I. Crosswind Component Table.
- J. Training Syllabus
- K. Expedition Flying.
- L. Code of Practice for Gliding Lessons.

ORDERS FOR THE DUTY INSTRUCTOR

GENERAL

1. The Duty Instructor - DI (normally a Full Cat BGA Instructor) is to be responsible for Club activity on the day for which they are appointed. Unless relieved by another CGC Full Cat they are to remain in the vicinity of the launch point. However, should the DI wish to fly, they may delegate the responsibility to a suitably qualified instructor or pilot and ensure they are briefed and handed the radio.
2. The duty will normally commence no later than 0845 hrs and continue until all requirements, covered by the heading "At Cease Flying" below have been complied with.
3. All club Full Cat instructors are to be Field Treasurers. The Duty Pilot and / or log keeper are empowered to collect flying and membership fees under their authority. However, this is a reducing requirement as society moves towards a cashless environment. The Club is currently cashless.

BEFORE FLYING

4. Before equipment is moved onto the airfield, the Duty Instructor is to:
 - a. Ensure a weather forecast is obtained and operations planned accordingly. The following weather minima are to be observed:
 - (1) **Full Cat Instructor, Dual Flying.** 800 ft cloudbase/3 km visibility/steady wind speed of 25 kts or less. If there is no instruction expected, an Assistant cat instructor can perform the role of DI.
 - (2) Note: Flying can be authorised in wind speeds greater than 25 knots by the CFI/DCFI. Gliders are not be launched in moderate or heavy rain.
 - b. Ensure that the aircraft have been daily inspected (DI's signed for) and that MT is DI'd.
 - c. Select a launch point and winch position and determine circuit direction. (See Annex F). The launch point is to be at least 200 m from the downwind boundary and sited with due regard to:
 - (1) Obstructions.
 - (2) Rough Ground.
 - (3) Local Turbulence Effects.

The winch must not be positioned within 50 metres of the "Lighter Than Air Road" boundary, the Southern or Eastern end of the airfield.

- d. Ensure the Ops brief is delivered to the Club members in attendance, following the guide within the Duty Instructors folder (held on the bus). The Duty Pilot is to be briefed on aircraft to be DI'd.
- e. Contact all appropriate stakeholders using the flowchart at Appendix 1 to Annex A to Part 2 of the CGC Flying Order Book. All telephone calls are to be logged in the Log Book.

DURING FLYING

5. The Duty Instructor is responsible on each flying day for ensuring that:
 - a. NOTAMS, weather and information on aircraft/airfield movements, are available at the launch point before first launch.
 - b. The first flight daily, and any test flight required after assembly or inspection, is carried out by a suitably qualified pilot.
 - c. There are no infringements in the 'dip' by unauthorised personnel before each launch. The DI is responsible for taking any actions necessary to ensure that area is clear.
 - d. All flights are properly authorised. In addition, he should check periodically that they are being correctly logged on Glidex and flying fees are being paid.
 - e. Pilots are properly briefed.
 - f. Any infringement of flying regulations, incidents or indiscipline in the air is reported to the CFI.
 - g. All members comply with Service and Club regulations.
 - h. When aerobatics take place, the pilots are supervised.
 - i. When Cranwell South is active, the provisions of part 2 Annex H are adhered to.
 - j. Hangar flights are carried out in accordance with Part 2 para 18.
 - k. All flying is completed before sunset plus 30 mins.
 - l. Motor Glider flying (including aerotows) is completed before sunset.

ACCIDENTS

6. In the event of an accident, all flying in Club aircraft is to stop and the Duty Instructor is to carry out the actions laid down in the Crash Action Folder

FIRST SOLOS / CONVERSION TO TYPE

7. Before any first solo flight or conversion to type is made they are to ensure the winch is manned by an experienced person: ie – no training is taking place.

AT CEASE FLYING

8. At cease flying they are to ensure that:
 - a. All Club equipment (including broken strops) is removed from the airfield and stowed in the hangar.
 - b. All fire precautions are taken regarding F&L and electrical equipment.
 - c. They personally check all aircraft and vehicles to ensure that:
 - (1) All electrical systems including radios have been switched off.
 - (2) All parachutes have been removed and stowed.

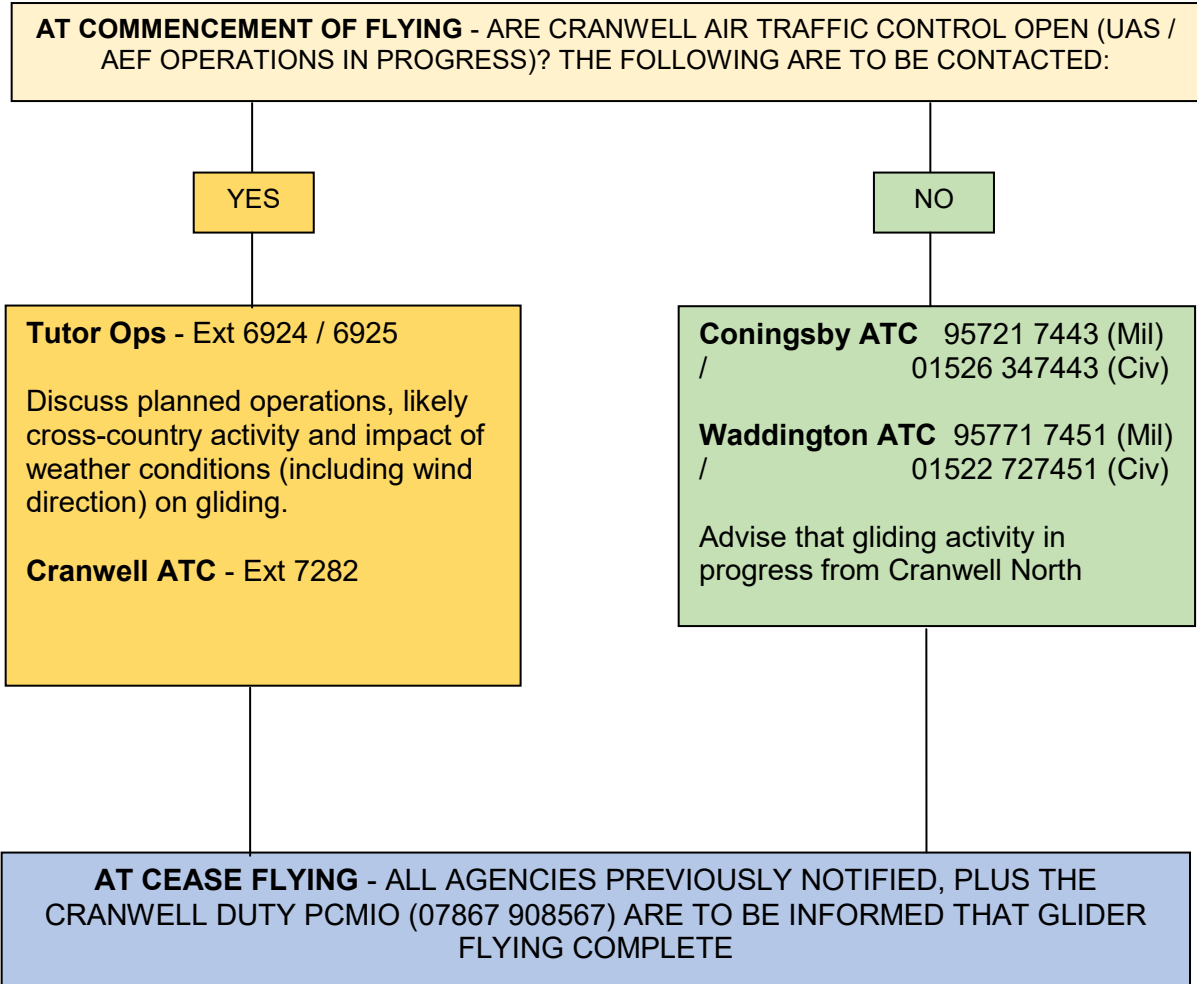
- d. Satisfactory arrangements have been made for the compilation of aircraft log books and Club statistics.
- e. The operations log is closed.
- f. They direct the DP to collect any money and forms from the bus and take the flying fees for the day. Flying logs from GlideX are to be made available as soon as practicable.
- g. Make a list of all unserviceabilities and inform the CFI/DCFI/Aircraft Member or MT member as appropriate on the white board outside the main workshop.
- h. Contact all appropriate stakeholders using the flowchart at Appendix 1 to Annex A to Part 2 of the CGC Flying Order Book and advise that gliding operations are complete. All telephone calls are to be logged in the Ops Log Book.

NON-FLYING DAYS

9. On non-flying days, the Duty Instructor is normally responsible for organising the work programme. Where possible attention to be given to the following:

- a. Hangar husbandry.
- b. MT vehicle repairs and servicing.
- c. Glider/SLMG servicing and repairs.
- d. Inspection/repair/replacement of winch cable.
- e. Husbandry of:
 - (1) Bar areas.
 - (2) Briefing room and kitchen area.
 - (3) Aircraft workshop.
 - (4) Parachute room.
 - (5) Bunk house.
 - (6) MT Workshop.
 - (7) Bus.
 - (8) Outside toilets.
- f. That theory lessons on aerodynamics, air law, meteorology, glider design, flying operations, cross-country techniques etc are given in the Club House briefing room.

APPENDIX 1 TO
ANNEX A TO
PART 2 OF THE
CGC FLYING ORDER BOOK



All telephone calls made, even if unanswered, are to be logged in the Ops Log Book.

ORDERS FOR THE DUTY PILOT

GENERAL

1. The Duty Pilot - DP (an experienced solo pilot), is to be responsible for organising operations on the airfield on the day that they are appointed, but operating under the direction of the Duty Instructor (DI).
2. The duty will normally commence with the Key bunch 64 being collected from the guardroom to allow the Club to be opened up not later than 0845hrs until all requirements, covered by the heading "At Cease Flying" below, have satisfactorily complied with.
3. When flying is in progress, the DP is to remain in the immediate vicinity of the launch point and before leaving this area, they should appoint a deputy. If the nominated DP is unable to carry out the duty on the appointed day, they are to arrange for another pilot to assume the duty and they are to notify the day's duty instructor and OiC (for the weekend's emailed brief).

BEFORE FLYING

4. Before flying commences, the Duty Pilot is responsible for ensuring that:
 - a. Personnel are detailed to carry out Daily Inspections of aircraft and MT.
 - b. The following are available at the launch point:
 - (1) Glidex laptop.
 - (2) Membership forms (full and temporary).
 - (3) Signalling bats.
 - (4) First aid kit.
 - (5) Tyres for wing tips.
 - (6) Aircraft ballast weights.
 - (7) Sufficient parachutes placed in individual aircraft.
 - (8) Flying list of personnel.
 - (9) Fire extinguishers.
 - (10) Airfield radios (ground-ground, air-ground transceiver, SMRE)
 - c. The following equipment is positioned on the airfield after consulting the Duty Instructor or in their absence, another instructor:
 - (1) Winch.
 - (2) Bus.

- (3) Fire fighting equipment fitted in a serviceable vehicle (if aerotowing / motor gliding is scheduled).
- (4) Cable retrieve vehicle(s).
- (5) Gliders, as authorised by the Duty Instructor.

DURING FLYING

5. During flying operations, the Duty Pilot is responsible for ensuring that the following duties are carried out satisfactorily:

- a. A list is maintained of qualified members, present on the field, for the purpose of allocating:
 - (1) Winch driving. (Default 1hr, max 2 hours)
 - (2) Cable retrieve driving. (Default 1hr, max 2 hours)
 - (3) Signalling and time-keeping (GlideX is to manned at all times)
- b. The flying list is maintained, including ensuring pilots are entered on to the flying list on Glidex. The DP is responsible for running the flying programme as directed by the Duty Instructor.
- c. Gliders are promptly retrieved and if required, positioned for the next launch.
- d. Pupils are allocated appropriate instructors and are nominated to fly.
- e. All aircraft are properly attended or correctly parked.
- f. Cables are used as detailed by the Duty Instructor.
- g. The launch point area is kept free from obstructions and that vehicles are safely parked away from the flying area or behind the launch point, parallel with the landing run.
- h. Any infringement of regulations, incidents or indiscipline in the air are reported to the Duty Instructor.
- i. They consult with the Duty Instructor before any hangar flights are made.
- j. Spectators / visitors are made welcome, looked after and properly supervised.
- k. Collecting flying and membership fees under the authority of the Duty Instructor.

ACCIDENTS

6. In the event of an accident, the Duty Pilot will assist the Duty Instructor as per the Crash Action Folder.

AT CEASE FLYING

7. At cease flying the Duty Pilot is to:

- a. Inform the cable retrieve and winch drivers of the last launch.

- b. Assist the Duty Instructor in the removal of equipment from the airfield.
- c. Ensure that the Glidex laptop is taken to the club office and that the daily flying log is printed off for members. The DP is to collect all flying fees, including MG fees. It is club policy that members and visitors pay fees due by Debit / Credit card.
- d. The duty ends with the fees having been taken and hangar doors closed.

ORDERS FOR THE LOG KEEPER

1. The Log Keeper will be appointed by the Duty Pilot and is responsible for:
 - a. Raising where necessary and completing entries in the Flying Log on Glidex for all glider launches.
 - b. Inserting the following information:
 - (1) P1 Pilot's name.
 - (2) P2 Pilot's name, where applicable.
 - (3) Glider type and tail letters or numbers as appropriate.
 - (4) Type of launch, and for aerotow launches, the release height.
 - (5) Recording the accurate take-off and landing time of each glider.
2. Collect flying fees during their duty period, when safe to do so, and sign-in any payments (credit/debit cards only) received on Glidex, under the authority of the Duty Instructor.
- 3 The Duty Log Keeper is not to relinquish their post without the permission of the Duty Pilot / Duty Instructor.

ORDERS FOR THE WINCH DRIVER

GENERAL

1. The winch driver will be appointed by the Duty Pilot. Club members may only operate the winch under supervision of a qualified operator until they have been passed as competent by the Winch member or his appointed deputy. Winch drivers under training are not to operate the winch unless specifically authorised by the Duty Instructor on each occasion. Qualified winch operators are to ensure their qualifications are entered in their log book.

BEFORE FLYING COMMENCES

2. Before flying commences, the first winch driver of the day is to ensure that:
- a. The winch, prime mover (tractor) and associated equipment is serviceable, fully topped up with fuel, oil and water (including batteries) where appropriate.
 - b. The following are available:
 - (1) Bolt croppers (for cutting cable).
 - (2) Wire cutters.
 - (3) Cable Repair Gear (cleats and cleating press).
 - (4) Spare weak links (for cable towing).
 - (5) Serviceable signalling light (normally integral with winch).
 - c. They ascertain the winch siting from the Duty Instructor and the sequence of cables for launching.
 - d. The winch is properly lined up with the launch point, the handbrake applied, and the wheels chocked.
 - e. The winch is properly earthed using the earthing spike provided.

DURING FLYING

3. The duties of the winch driver during flying are:
- a. To act promptly on all signals from the launch point.
 - b. To delay launching if any obstruction or danger to flight or personnel is apparent. This includes aircraft seen to be vertically or laterally presenting a potential conflict to the glider launching sequence. The winch driver should therefore be meticulous in their look-out prior to accepting a launch signal. No launching of gliders should take place if a Tutor is visible during its initial climb; prior to deviating to the east to depart when RW01 is in use.

- c. Abandon the launch if the engine falters during take-off or early part of the launch and not to wind in the cable until the glider has landed and they are certain it is clear of the cable run.
- d. In the event of failure to release by the glider, to stop the drum and guillotine the cable using the device in the cab.
- e. To signal "Stop" in reply to any "Take up Slack" signals from the launch point, if for any reason they are unable to commence the launch or in need of assistance.
- f. To signal by radio the cable retrieve driver when clear to move off.
- g. To deal expeditiously with any breakdown in launching arrangements.
- h. To periodically check fuel, oil and water and top up as necessary.
- i. To keep unauthorised persons well away from the winch, using the in-cab warning horn.
- j. To ensure the engine is stopped and the drum is stationary before allowing anyone to touch the cable or winch mechanism.
- k. Not to leave the winch during the period of duty unless properly relieved by another authorised operator. The person relieving is to monitor at least one launch by the person relinquishing, to enable issues with weather (eg cross-winds) to be observed.

WHEN TAKING OVER

- 4. When taking over, to check the following with the previous winch driver:
 - a. Fuel state.
 - b. Location of items at para 2b above.
 - c. The sequence of cables for launching.

AT CEASE FLYING

- 5. At cease flying, the winch driver is responsible for ensuring that:
 - a. The winch and associated equipment is refuelled and returned to the hangar.
 - b. The area in the vicinity of the winch is cleared of all loose cable etc.
 - c. Any unserviceabilities are reported to the Duty Instructor.

ORDERS FOR THE CABLE RETRIEVE DRIVER

RETRIEVING

1. Each cable retrieve driver is to ensure that:
 - a. The vehicle has enough fuel.
 - b. They maintain a look-out for signals from the winch driver. (Normal signals are to be used as per Part 2 para 24).
 - c. Only approved weak links are used for connecting the cable to the towing vehicle and that spares are carried on the vehicle.
 - d. They take up slack and slows down gently (ideally without braking) and does not use excessive speed. (Max 20 mph).
 - e. The vehicle is not driven closer than 3m to any aircraft.
 - f. They do not drop the cables inside the sterile area around the bus (min 3m).
 - g. They never leave the vehicle without applying the hand brake.
 - h. He pays particular attention to aircraft movements, particularly in the vicinity of the launch point.
 - i. **THEY NEVER ATTEMPT TO TOW THE CABLE(S) WITHOUT A DEFINITE “TAKE UP SLACK” SIGNAL/RADIO CALL FROM THE WINCH.**

MULTIPLE CABLES

2. If a cable becomes detached from the retrieve vehicle whilst retrieving, the driver is not to stop and collect it, but is to proceed to the launch point with the remaining cable. If there is any doubt as to what has happened, they are to release the remaining cable and return to the winch.
3. When more than one cable is being towed, it is essential to maintain a straight path right up to the launch point, to prevent the cables from crossing.

CABLE BREAK PROCEDURE

4. In the event of a cable break, the driver is to watch where the broken end falls (should they fail to observe this, then locate the parachute and trace back to the broken end) and retrieve it to the winch immediately before any other operations continue. They are to keep well to the side of any other cables whilst retrieving the broken end. If the broken end falls on the wrong side of the other cable, it is to remain on that side when towed to the winch and the winch driver informed.

NOTE: Whilst the repair is undertaken, the cable retrieve driver is to continue towing duties with the serviceable cable.

PROCEDURE FOR GLIDER FLYING WHEN CRANWELL SOUTH AIRFIELD IS ACTIVE

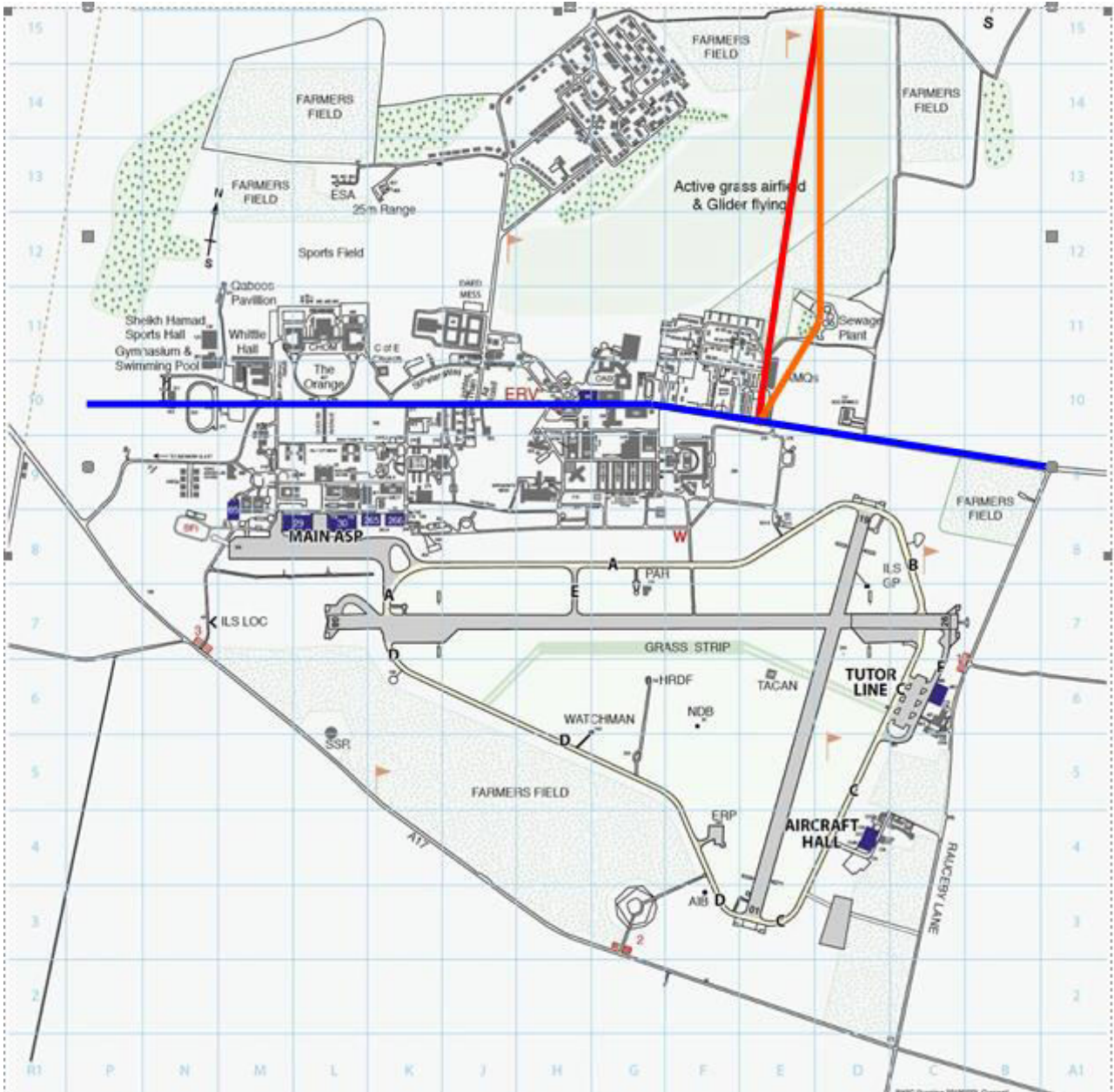
(REPRODUCED FROM RAFC CRANWELL FOB, VERSION 8.0 EFFECTIVE FROM 21 JAN 19, SECTION B, PART 2, ORDER B211 - CRANWELL NORTH AIRFIELD)

INTRODUCTION

1. The North Airfield is not available for routine use by any unit other than the Gliding Club.
2. Planned North Airfield operations by any other user will require a bespoke Risk Assessment and advance approval by OC Ops Wg.
3. During weekends and occasional evenings Gliding Club activity may take place on the North Airfield whilst the South Airfield is active. The following deconfliction procedures routinely apply:
 - a. When RWY 08RH/26 is in use, Cranwell Avenue delineates the boundary between South and North Airfield circuit patterns up to Byards Leap Junction then the A17 NW. Air systems are not to cross Cranwell Avenue below 3000' without specific clearance by CWL ATC.
 - b. When RWY 01/19 is in use, the following procedures are to be adopted:
 - i. Visual circuits at CWL South are to be flown to the East of the RWY (i.e. RWY 01RH and RWY 19LH) and instrument approaches are to be flown to RWY 08RH. Low level circuits are not to be flown.
 - ii. Gliding Club aircraft are to remain West/North of the CWL South circuit and the RWY 08RH instrument final approach below 3000'. The area for gliding use is shown at Annex A. Aircraft are not to cross the red boundary line below 3000' unless cleared by CWL ATC.
 - iii. The Gliding Club may request that the 'Gliding Wedge' be activated by ATC. The 'Wedge', shown as an orange line on Annex B, has a top height of 400ft QFE, will remain under the control of ATC and may be deactivated at any time. When the "Wedge" is activated aircraft joining for RWY 01/19 via the IP are to remain not below 800ft QFE.
4. **Note of advice for Combined Tutor and Glider Ops from RAFC Cranwell.** The following recommendations are incorporated from the Note of Advice dated 27 Aug 15:
 - a. **Visual references for area separation.** Whilst the Orders throughout this FOB provide the overarching guidance on operating areas and departure lanes, aircrew are advised that the A17 provides a clear, unambiguous dividing line between North and South for RAFC Cranwell when aircrew are approaching or departing to or from the North/West. It is recommended that, where possible, gliders remain North of the A17 and Tutors remain South of the A17, until outside of the vertical and horizontal confines of the MATZ.
 - b. **Standard departures/arrivals.** For easterly departures/arrivals on RWY 26/08RH, the standard departure will be that aircraft will stay south of Cranwell Avenue until the A15 then east of a line from the A15-Cranwell Road junction to the Digby Hangar until clear of the MATZ with the reverse for arrivals. When departing on RWY 01RH, aircraft will turn right to at least 020 deg, when safe to do so, until clear of the MATZ.

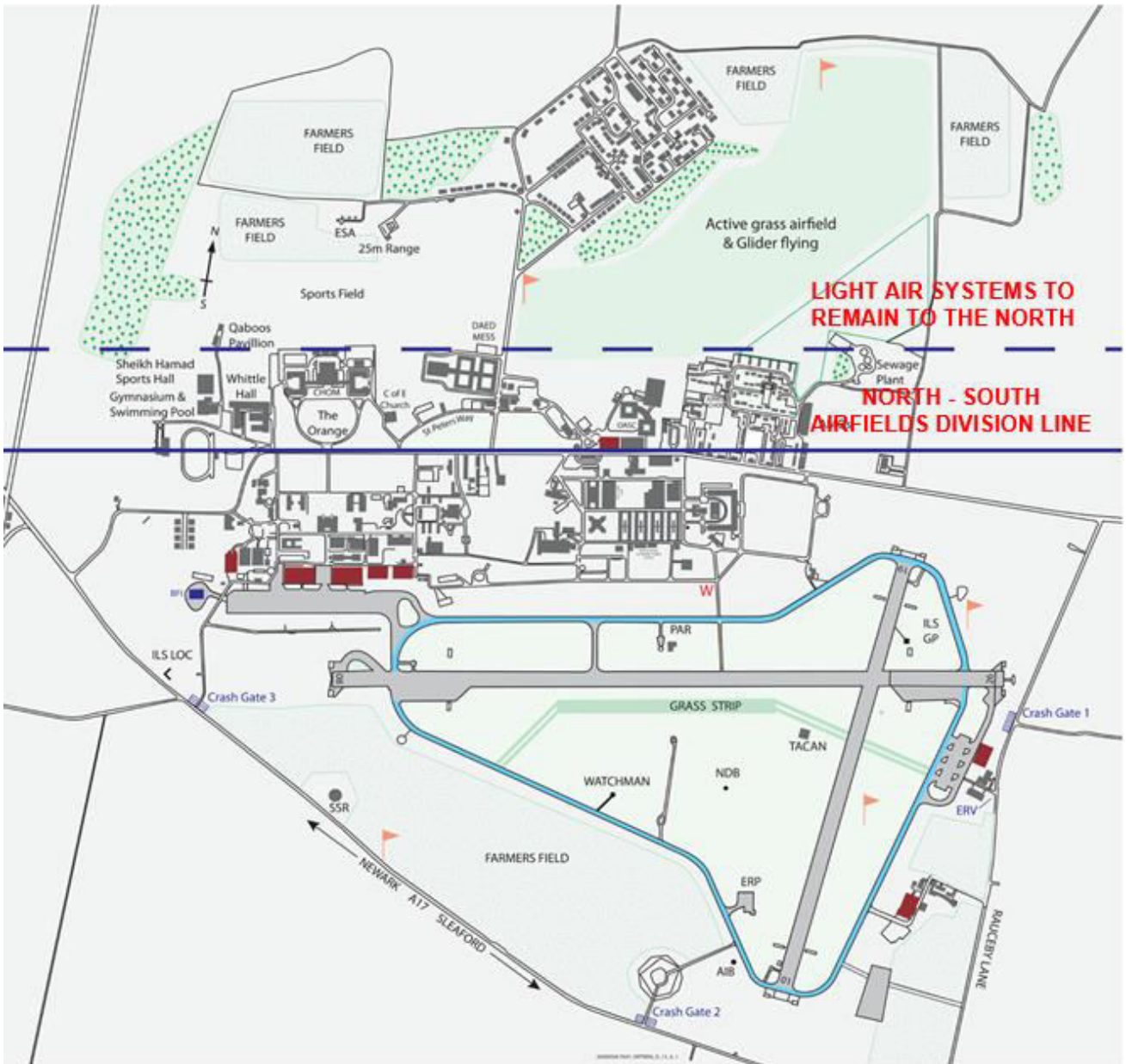
c. **Communication.** To improve situational awareness and mutual understanding of airspace issues, the Gliding Club Duty Instructor (07970 869501) and EMUAS Ops (01400 266924) are to establish communication prior to commencing the daily flying programme to discuss operating areas and likely traffic density. This is particularly pertinent on days where multiple tug launches of gliders to a greater operating height are planned.

WEEKEND CIRCUIT DECONFLICTION – RWY 01/19 IN USE



Reference: Cranwell FOB, Annex B to Order B211

POWER AND GLIDERS LANDING EASTWEST



Ref: Cranwell FOB Annex A to Order B211

COORDINATION BETWEEN CRANWELL GLIDING CLUB AND CGY RWY 07RH RADAR PATTERNS

1. The CWL Gliding Club operates from the North Airfield during times when ATC is closed, particularly during weekends and weekday day summer evenings. If CGY is open and using RWY 07RH, the radar pattern passes adjacent to the north eastern edge of the CWL ATZ, whilst the heavyweight or swept wing approaches will be vectored overhead the main airfield.
2. Prior to the CWL Gliding Club commencing flying, a member of that organisation will contact CGY ATC (RAFTN 95721 Ext 7443) to establish whether CGY is flying and, if so, to determine the RWY in use.
3. Should any AS in emergency require an extended approach to RWY 07RH at CGY when CWL North airfield is active, CGY are to broadcast a warning on both VHF 124.450 MHz and 129.980 MHz. A second broadcast will be made when the emergency AS has cleared the CWL area to the east. CGY should attempt to contact the CWL Gliding Club Duty Instructor (07561 287994) to warn of the emergency AS. If a club member receives the call, another warning will be broadcast on the aforementioned frequencies. Further take-offs / glider launches are to cease until the emergency AS is clear. CGY will make similar broadcasts and efforts to contact the Club by telephone once the emergency AS is clear. Details of the preceding procedures are to be included in the CWL Gliding Club Order Books.

ACCIDENT ACTIONS

1. If an accident occurs on the airfield the duty instructor is to cease flying immediately and dispatch a team to the accident scene with the fire truck to render first aid as required.
2. The Duty Instructor is to summon the emergency services as required. When the UAS/AEF are operating ATC can be contacted via landline or radio using 129.980, 124.450 or 121.775 who will then alert the necessary duty personnel. Medical cover is available from the station when the south side is active. Outside of UAS/AEF operations, medical support can be obtained by dialling 999 from any BT/mobile telephone.
3. The Station fire section can be contacted using the emergency phone on the outside of the hangar or dialling 222 from a Service phone. This will raise the domestic fire service on Station, who will be able to assist in any rescue efforts or deal with an aircraft fire. **YOU MUST TELL THE OPERATOR YOU ARE AT RAFC CRANWELL.**
4. The Duty Instructor should then follow the guidance contained in the Crash Action Folder.

OVERDUE ACTIONS

5. If a glider on cross country or local flying fails to return and no contact has been made with the club, the Duty Instructor is to consider instigating overdue action. These are:
 - a. Try to establish radio comms using an aircraft that is airborne.
 - b. Request assistance of ATC at RAFC Cranwell, RAF Waddington or RAF Coningsby, giving them details of the glider (callsign) and cross-country route and request they attempt to contact the pilot on all the glider frequencies. Their radios have more power and may be picked up by the pilot.
 - c. Attempt to ring the pilot on their mobile phone in the event they have landed out.
 - g. Ensure the CFI/DCFI's are aware and be prepared to use the motor glider to fly the route to look for the missing glider, assuming there is sufficient daylight remaining and weather conditions are suitable to do so.
 - e. Ring local gliding clubs to check if the glider has landed there.
 - f. Be prepared for ATC to contact the Distress and Diversion (D&D) Cell at Swanwick on Civ 01489 612691 (121.5MHz) as they have more resources to locate an aircraft.
6. It is not possible to determine at what point the Duty Instructor is to declare an aircraft overdue. Common sense should be applied to prevent wasting the rescue services' time for a glider that is 'scratching' low down and has a flat battery. However, it must also be considered that the longer action is left, the harder it will be to locate a crashed glider as night falls. If in doubt seek the advice of the CFI/DCFI's.

CROSSWIND COMPONENT TABLE

		Angle between wind direction and runway heading								
		10°	20°	30°	40°	50°	60°	70°	80°	90°
Wind Speed	5 kts	1	2	3	3	4	4	5	5	5
	10 kts	2	3	5	7	8	8	9	10	10
	15 kts	3	5	8	10	11	13	14	14	15
	20 kts	4	7	10	13	15	17	18	19	20
	25 kts	4	8	13	16	19	22	23	24	25
	30 kts	5	10	15	19	23	26	28	29	30

Source: RAF 1 AIDU, Flight Information Handbook

To calculate the crosswind component, work out the angular difference between the runway in use and the wind direction and then apply the wind speed.

For example, if the runway direction is 24(0) and the given wind is 270/15kts, the angular difference between runway and wind directions is 30°. With a 15kt wind the crosswind component is therefore 8 kts.

TRAINING SYLLABUS

INTRODUCTION

1. It is RAFGSA policy that pilot training should be continued beyond the ab-initio stage in order to operate the Association's wide range of gliders safely. Many of the accidents that have occurred in the past indicate the need for such a policy of formal training to a more advanced level.

OUTLINE OF THE SYLLABUS

2. The syllabus is divided into 3 sections, Ab initio, Intermediate and Advanced. The training to be covered under these sections will be as follows:

a. **Ab Initio.** Initio training to solo standard will be carried out in the K21, or for UoNGC trainees, the G103 Acro. All lessons listed on the BGA syllabus are to be covered satisfactorily before the trainee is allowed to start intermediate training or convert to the Astir.

b. **Intermediate.** The purpose of Intermediate training is to introduce the trainee to those aspects of medium- and high-performance gliders not previously covered during Ab Initio training and to consolidate the lessons taught during the Ab Initio stage. Trainees must achieve a satisfactory standard of proficiency during this phase of the syllabus prior to progression on to Advanced Training.

c. **Advanced.** The purpose of Advanced will be to check on the trainee's progress during solo flying and to introduce them to more advanced flying techniques. This will involve further instruction, coupled with solo flying to consolidate dual training, as he reaches certain levels of experience. This instruction will cover:

- (1) Navigation.
- (2) Use of radio.
- (3) Turning point techniques.

(4) Field landing training.

EXPEDITION FLYING

1. **Policy.** Club expeditions away from the site are encouraged to further flying experience by Club Members. The timing and venue of all expeditions will be decided by the Executive Committee, approved by the RAFGSA Ops Member. Any expedition financial arrangements are to be approved by the Executive Committee. Normal rates for soaring fees are to be paid to the club on return.
2. **Mid Week Loaning of Aircraft.** Aircraft may also be taken from the site mid-week by individual Club Members when available, with the permission of the CFI. The requirement for a Full Category Instructor may be waived by the CFI when the venue is at a “flat site”. Captains of RAFGSA gliders on detachment may make it available to qualified pilots of another RAFGSA Club on the understanding that payment of the insurance excess in the event of an accident will be the liability of the Club of the Captain at the time of the accident. The glider is to be returned for normal weekend operations unless prior arrangement had been made with the CFI.
3. **Pilot Qualifications.** The qualifications of expedition flying will largely depend on the choice of venue. Since there is an increased chance of pilots having to make emergency landings whilst ridge or wave soaring, they must be cleared for field landings and hold at least a Bronze “C” before flying solo on expeditions. Pilots not holding the minimum qualifications laid down for an expedition may be accepted on the expedition to gain experience but are only to fly dual.
4. **Expedition Leader.** The Expedition Leader will be responsible to the Executive Committee for organising expeditions in accordance with the above policy. Responsibilities will include:
 - a. Arranging suitable accommodation when required.
 - b. Co-ordination of transport for equipment and crews.
 - c. Liaison between the Club and the expedition site.
 - d. Checking members participating, specifically their qualifications and experience, and their allocation of aircraft. This is to be completed in consultation with the CFI.
 - e. Organising administrative tasks, eg safe custody of parachutes, temporary treasurer, etc.
5. **Flight Authorisation.** All flying is to be authorised by the CFI if present, or by a Full Category Instructor appointed by them: they are to be present at the site during operations and to ensure that:
 - a. All members have a dual check flight unless they have previously flown at the site within the last 12 months.
 - b. The Flying Orders of the host club are to be adhered to. However, where the RAFGSA Cranwell Gliding Club Order Book has more restrictive standards or limits, these are to override any local Orders.
 - c. Pilots are properly briefed in accordance with the relevant Order Book(s) and additionally on local hazards, site regulations and (if applicable) the use of oxygen and the effects of hypoxia.

- d. Only those persons specifically authorised by the CFI fly Club aircraft.
- e. The weather minima in Part 2, Annex A, Para 3 are observed.
- f. Aircraft and equipment are secured safely against high winds etc at cease flying.
- g. Any breach of flying regulations or indiscipline in the air, is dealt with promptly by the expedition leader and the CFI informed

BRITISH GLIDING ASSOCIATION CODE OF PRACTICE FOR GLIDING LESSONS

INTRODUCTION

This Code of Practice sets out the legal position for flying training at BGA affiliated gliding clubs in the UK. It is the only means by which payment can be made by a member of the public for the privilege of flying in a glider. It is intended to ensure there is complete understanding of the legal position. The individual receiving the lesson is considered to be a member of the flight crew and not a passenger and therefore the flight is not public transport as defined in Article 119(2)(a) of the Air Navigation (No 2) Order 1995, which provides that a flight shall not be for the purpose of public transport if valuable consideration is given or promised for the carriage of passenger(s) on that flight. A passenger is defined at Article 118(1) of the Order as being a person other than a member of the flight crew. Therefore, flights which fall outside those covered by this Code, and for which valuable consideration is given or promised, may be deemed to be "Public Transport", and as such may be illegal.

The Code.

1. The instructor must clearly explain the purpose of the flight to the student. The primary intention of the instructor in carrying out the flight is to give flying instruction, and the primary intention of the student is to receive flying instruction, and as such the student is a member of the flight crew.
2. The student, instructor, and if applicable the pilot of the aeroplane towing the glider, shall be members of the club operating the flight.
3. The instructor carrying out the flight shall hold a valid British Gliding Association instructor rating and be in current flying practice.
4. The flight shall be conducted in accordance with the instructional procedures laid down within the British Gliding Association Instructors Manual.
5. New trainees will generally have little knowledge of how gliders (and powered aircraft) operate and must be supervised when on an operational part of the airfield. A safety brief shall be given regarding the general operation of gliding sites and the specific hazards which may be encountered.
6. A thorough pre-flight briefing shall be given, not necessarily by the instructor undertaking the flight, indicating the purpose of the flight, and how the flight is to be conducted. The student must be made aware that on an instructional flight the gliding club is not required to comply with public transport requirements applicable to passenger carrying flights.
7. Clubs wishing to advertise the availability of flying instruction to potential members must clearly indicate that any such flights are "LESSONS".

PART 3

ADMINISTRATIVE ORDERS

PART 3 - ADMINISTRATIVE ORDERS

DISCIPLINE

1. **General.** All members are to maintain a high standard of personal behaviour both on and off the airfield. Senior members of the club are to guide the less experienced in respect of the conventions that apply to membership of a Service club. Disciplinary action may be taken against any member who brings the good name of the club into disrepute.

AIRFIELD

2. **Children.** It is club policy to encourage family membership. However, there are areas of risk associated with gliding operations and anyone with children in his or her care must ensure their safety and that they do not hazard operations or damage club property. Children are therefore to be supervised constantly. Whenever anyone responsible for children is detailed for flying or any supporting activity (eg winch driver) he or she must make specific alternative arrangements for their care. Under no circumstances are children to be allowed to:

- a. Play at or in front of the launch line level with the front of the bus, or around any aircraft, vehicle or winch.
- b. Ride in MT, other than in the saloon compartment of the bus or retrieve vehicles.
- c. Enter the log-keeping post at the front of the bus.
- d. Rules for children in the club bar are at para 7d below.

3. **Operating on the North Airfield.** As a privilege, members may drive their own cars or motorcycles on North airfield, whilst on gliding club business, subject to the following conditions:

- a. Vehicles are to give way to aircraft at all times.
- b. Drivers are to observe the airfield speed limit of 20 mph.
- c. Drivers are to avoid damage caused either by harsh braking or acceleration or by cornering at excessive speed.
- d. It is strongly recommended that private vehicles are adequately insured for air-side risks.
- e. When flying operations have ceased, unless on gliding club business, eg, carrying out an inspection or change of winch cable, searching for lost strops etc, the North Airfield is deemed out-of-bounds as per Station Standing Orders.

Any member who causes damage to the grass by driving with insufficient care will have this privilege withdrawn.

4. **Dogs on the North Airfield.** Dogs are not normally permitted on the North Airfield. As a concession, however, dogs may accompany members on the airfield, provided they are kept on a secure lead, are not deemed a nuisance to other members and visitors and any fouling of the grass is immediately cleaned up by their owner. Failure to heed this Order will lead to the owner being invited to remove their animal(s) from the airfield.

USE OF HANGAR

5. **Litter.** It is the duty of all Club members to keep Hangar 69 and the area surrounding it in a clean and tidy condition at all times. Litter is to be collected and put out for disposal, either in the bin, or one of the skips adjacent to Hangar 69. Metal waste is to be segregated so that it may be disposed of separately.

6. **Fire Hazard.** Fire is an ever-present hazard in aircraft hangars. All members are to be fully conversant with the hangar fire and evacuation Orders: Annex A to this order.

7. **Use of the Club Bar.** The club bar is available for use subject to the following constraints:

- a. The club bar is for the sole use of members and their guests.
- b. The bar may be opened on weekday evenings and at the Duty Instructor's discretion, on flying days, normally at cease flying.
- c. The bar may remain open until 2359 hrs on Saturdays and 2300 hrs on all other days.
- d. As a concession, children may accompany their parents when the bar is open at cease flying. However, they:
 - (1) May not consume alcoholic drink.
 - (2) Are not under any circumstances whatsoever to be allowed behind the bar.

Annex:

A. Hangar 69 Fire and Evacuation Orders.

FIRE ORDERS - HANGAR 69 (GLIDING CLUB)

Reference:

- A. Station Standing Orders, part 11, Annex E.

APPLICABILITY

1. This order is applicable to all members of the RAFGSA Cranwell Gliding Club. Visitors are to be made aware of the order by the host member and comply with them.

AIM

2. The aim of this order is to amplify the actions in Reference A.

RESPONSIBILITIES

3. **OIC.** The OIC Gliding Club is responsible for fire prevention and fire emergency procedures in relation to the use of Hangar 69 by all club members.

4. **Fire Safety Member.** The duties and responsibilities of the Fire Safety Member are laid down in their terms of reference.

5. **All Club Members.** All members of the Gliding Club are to familiarize themselves with:

- a. This order.
- b. Fire Posters displayed in and around Hangar 69.
- c. Use of First Aid Fire Appliances (FAFAs).

IMPLEMENTATION

6. There may not be sufficient time to carry out all the actions. The main consideration must ALWAYS be the **PRESERVATION OF LIFE**.

INITIAL ACTION

7. Fire:
- a. Raise the alarm.
 - b. Shout for assistance.
 - c. Operate the Fire Alarm (Red Break Glass Units).
 - d. Call the Fire Service:
 - (1) Dial 222. State your RANK, NAME, TYPE, SIZE and LOCATION of the fire.
 - e. Prepare for evacuation.

EVACUATION PROCEDURE

8. On hearing the alarm bell, all personnel not required for fire-fighting are to leave the building immediately using the nearest exit. All exits are clearly marked. If time permits, doors and windows are to be closed.

MUSTER POINT

9. a. All personnel are to muster at the Bike Shed in the main car park for the DofR&S.
- b. The senior person present is to take a roll call for all persons and identify any who may still be in the hangar. They are also to co-ordinate fire-fighting/rescue/salvage operations until relieved by a professional fire-fighter, Service or civilian, of whatever rank.

FIRST AID FIRE APPLIANCES

10. FAFAs are located at the following points:

a.	Hangar 69 Fire Points	4 x 2-gal 4 x 2-gal	Stored Pressure Water Stored Pressure Foam
b.	Crash Vehicle	4 x 2-gal 1 x 6 kg 1 x 2.5 kg	Stored Pressure Foam Stored pressure Powder CO ²
c.	Airfield Bus	1 x 1.2 kg *1 x	BCF Fire Blanket
d.	Airfield Workshop	2 x 2-gal	Stored Pressure Foam
e.	MT Workshop	1 x 2-gal	Stored Pressure Foam
f.	Winch	1 x 2-gal	Stored Pressure Foam
g.	Bar Area	3 x 2-gal	Stored Pressure Water
h.	LPG Bund	1 x 6 kg	Stored Pressure Powder
i.	Kitchen	1 x	Fire Blanket
	Total FAFAs	7 x 2-gal 13 x 2-gal 1 x 1.2 kg 2 x 6 kg 1 x 2.5 kg 2 x	Stored Pressure Water Stored Pressure Foam BCF Stored Pressure Powder CO ² Fire Blankets

Note: Item indicated * not on inventory.

REPORTING PROCEDURE

11. In addition to the emergency services, the following personnel are to be informed:
- a. OIC Gliding Club.
- b. CFI/DCFI.
- c. Duty Instructor/Duty Pilot.

FIRE PREVENTION

12. The following orders are to be observed by all personnel in Hangar 69.
- a. RAFC Cranwell is a No-Smoking environment, with designated areas being the only place for smoking.
 - b. Fire doors are always to be kept closed, except fire door giving access to the toilets, which may be opened for access. Fire lanes, access to fire doors, fire exits and fire appliances are to be kept clear of obstructions at all times.
 - c. A clean and safe working area is essential. To that end:
 - (1) Drip trays are to be used whenever required. However, they must not be allowed to accumulate fuel or oil in any quantity. Any spillages are to be cleaned up immediately.
 - (2) Waste combustible materials are to be removed from the hangar and not allowed to accumulate.
 - (3) Paints, dopes, thinners or other inflammable liquids are to be returned to the oil store when no longer required. Containers are to be resealed immediately after use.
 - (4) Oxygen equipment is to be kept away from all oils and greases. Hoses are to be blanked off when not in use.
 - (5) Unauthorised interference with electrical wiring or fittings is prohibited. All electrical apparatus is to be fitted with fuses of the correct rating.
 - (6) All electrical appliances are to be switched off and unplugged when not in use. Only the refrigerator, deep freeze and any battery chargers in use may be left on when the hangar is vacated.

CLOSE-DOWN CHECKS

13. The person returning the hangar keys to the Main Guardroom is responsible for ensuring (with the assistance of the last Club Members to leave) that:
- a. The provisions of Para 12 above have been observed.
 - b. All doors and windows are closed.

WELDING

14. Arc-Welding operations are occasionally a necessary maintenance requirement: the following precautions are to be taken:
- a. In addition to the welder, a second (safety) person is always to be present when welding is in progress.
 - b. The second person is responsible for the safety of the operation. They should have one or more fire appliances immediately to hand.
 - c. The area around the welding operation is to be cleared of all combustible material.

- d. Suitable goggles are to be worn by both the welder and safety person.
- e. After welding, both the structure and welding equipment are not to be left unattended until they have cooled to a safe temperature.