

4 Control of Operations

4.1 General Requirements

Hang glider and paraglider pilots of any type must only fly aircraft models specifically designed to be flown by pilots **with their level of experience** and for the type of operation being conducted.

HGFA certified pilots may only fly HGFA registered weight shift Microlights and RA-Aus certified pilots may only fly RA-Aus registered weight shift Microlights.

Hang gliders and paragliders, including powered versions (PPG & PHG), must be operated in accordance with the Operations Manual and shall:

- (a) Be certified where operations involve passengers or training operations,
- (b) When operating at a height in excess of 300 feet above ground level, carry a serviceable altimeter which meets the standards specified within section [9.4](#), and:
 - (i) is set to area QNH;
 - (ii) is set to indicate height in feet; and
 - (iii) is easily read by the pilot at all times whilst in flight.
- (c) Any ancillary equipment used either in flight, or during the launch or landing phase that directly affects the safety of the pilot, such as support harnesses, helmets, parachutes, suspension loops, release mechanisms, weak links and the like shall be of a type that is designed, manufactured in accordance with standards accepted by the HGFA (See [9.1](#) & [9.4](#) & [9.5](#)), or as specified in the HGFA Towing Procedures Manual (Doc. OTM-05 - See [1.3](#) - Operational Documents Register).
- (d) Always carry a reserve parachute, certified for the number of occupants, when taking part in a HGFA recognised contest.
- (e) Always carry a reserve parachute, certified for the number of occupants, when taking part in tandem training flights.

Note: Reserve parachutes must be of appropriate size for the combined weight of the aircraft, harness, pilot and passenger. Additionally, a parachute must be fitted if specified by the manufacturer.

Note: The wearing of a reserve parachute for all operations in excess of 300 feet above ground level, is highly recommended

4.1.1 Aircraft Maintenance and Pre-Flight Inspections

Hang gliders and paragliders of any type and weightshift microlights must be operated in accordance with this Operations Manual and shall:

- (a) Be subject to a pre-flight inspection (by the prospective pilot in command prior to EACH AND EVERY flight operation) in accordance with the procedures outlined in the aircraft manufacturer's manual, or if not available then as specified in Pre-flight Inspection Standards, section 9.6.1, and
- (b) Be maintained in accordance with the maintenance procedures outlined in the manufacturer's recommendations, or where the manufacturer's manual does not include maintenance standards as specified in section 9.6, "Assembly, Inspection and Maintenance Standards".

4.1.2 Helmets

The wearing of a helmet is mandatory for all HGFA student pilots and highly recommended for all pilots, thereafter.

4.1.3 Pilot in Command

No person shall act as a pilot-in-command of a hang glider, paraglider of any type, or weightshift microlight unless:

- (a) He or she is a current member of the HGFA,
- (b) He or she has obtained the pilot certificate and endorsement(s) required for the flying activity intended to be performed,
- (c) He or she is medically fit to the standard required for the flying activity intended to be performed, and
- (d) Has attained the age of 15 years and where the applicant is under the age of 18 years, written parental consent must be granted.

4.1.4 Health Standard, General

For issue and renewal of all Pilot Certificates, a standard of health equivalent to that required for the issue of a private motor vehicle driver licence in Australia, is required.

4.1.5 Health Standard, Specific to Instructional Operations

The pilot or applicant must:

- (a) Hold and provide a signed statement from a General Practitioner (GP) who has undertaken a medical examination of the pilot or applicant, in conjunction with the use of the HGFA form INS-12 (HGFA Instructor Medical Examination - See [1.3](#) Operational Documents Register), indicating that the pilot is fit to the standards as specified within INS-12 and therefore, for operations with students. **or**;
- (b) Hold and provide a current, equivalent or higher, Aviation Medical Certificate from the CASA or an alternate RAO, and therefore, is fit for operations with students. **and**;
- (c) Provide a copy of the completed INS-12 form or equivalent certificate, to the HGFA office, when required or requested.

4.1.6 Failure to Meet Health Standard

- (a) It is the responsibility of all members holding a pilot certificate to report to the HGFA any change in their health status which would cause them to be below the minimum health standard required for that certificate or endorsement.
- (b) Where the health standard of a member falls below the minimum required, the HGFA Operations Manager may suspend or cancel the members HGFA Pilot Certificate(s), after due consideration to the nature, severity and term of the illness, incapacity or disability.

4.1.7 Alcohol and Drugs

Pilots must not be under the influence of any alcohol, drugs or other intoxicating substances whilst in control of an aircraft, administering, or carrying out any aviation related task or duty. e.g. conducting maintenance on an aircraft or performing the role of a duty pilot etc, in accordance with the HGFA Drug and Alcohol policy.

Pilots must not consume any alcohol, drugs or other intoxicating substance within EIGHT (8) hours immediately prior to flying a hang glider or paraglider. A pilot must never have a blood alcohol content of more than 0.02 or be under the influence of illicit drugs, whilst in control of an aircraft or carrying out other aviation related tasks or duties.

Note: Prescription drugs which do not cause drowsiness or impair judgement in any way are exempted.

4.1.8 Provision of Pilot Instruction

No person shall give either ground or flight instruction unless:

- (a) They are at least 18 years old,
- (b) They are the holder of a current Instructor Certificate issued by the HGFA that is valid for the level of instruction being given and valid for the type of aircraft being used and they conduct the instruction under the supervision of a CFI, or
- (c) They hold a Chief Flight Instructor certificate, or
- (d) They are approved by the Operations Manager.
- (e) They are approved by the Executive Committee of a HGFA Affiliated Club to operate from Club sites.

4.1.9 Carriage of Passengers

HGFA pilots shall not carry passengers in any aircraft under HGFA oversight unless:

- (a) He or she is the holder of a valid Tandem endorsement for the aircraft type issued by HGFA; and
- (b) The aircraft is certified to carry the combined weight of the pilot and passenger and for the type of launch and landing operation being operated;
- (c) The aircraft is certified by an *Engineer* or Type Certified, as defined in Aircraft Design / Construction (Passenger), sections [9.1](#) & [9.3](#);
- (d) The aircraft used has been maintained in accordance with any requirements of this Operations Manual, see Section [9.6](#) "Assembly, Inspection and Maintenance Standards",
- (e) The aircraft used has been maintained in accordance with the requirements of its manufacturer's schedule; and
- (f) Where the passenger is under 18 years of age, written parental / guardian consent is granted.

4.1.9.1 Instructional Carriage of Passengers

Passengers shall not be carried for hire or reward unless the flight is for bona fide instructional purposes. In this instance the pilot in command must be the holder of an appropriate instructor certificate and the flight conducted by an HGFA approved flight training facility, the passenger must be a current member of the HGFA, have signed a HGFA Waiver and be a minimum of 10 years of age (with parental consent) and if the passenger is under 18 years of age, the Instructor must comply with the HGFA Member Protection Policy and hold a current Working With Children's Check in accordance with the relevant legal requirements for each state where that activity is undertaken.

4.1.10 VHF Radio Operator Endorsement

No HGFA Pilot Certificate holder shall operate aeronautical frequency VHF radio equipment unless he or she has been issued with an appropriate endorsement or is undergoing training under the direct supervision and control of an appropriately qualified person for the purpose of gaining a radio operator endorsement.

4.1.11 Cross Country Operations (HG/PG/PPG/WM)

No pilot certificate holder shall act as pilot in command of a hang glider, paraglider, powered paraglider or weightshift microlight at a distance greater than 25 nautical miles from the point at which the aircraft was initially launched unless:

- (a) They are the holder of a valid Advanced HG or PG5 Pilot Certificate whilst engaged in non-powered flight operations, or
- (b) They are the holder of a valid PPG or WM Cross Country Endorsement whilst engaged in powered flight operations; or
- (c) The flight is conducted within a designated flight training or competition area, and
- (d) The proposed flight is approved in advance by a HGFA FI or CFI.

4.1.12 Air Displays (HG/PG/PPG/WM)

Pilots must hold an Advanced HG or PG5 Pilot Certificate with the relevant endorsements, Powered Paragliding or WM Pilot Certificate and gain the written recommendation of the HGFA Operations Manager before being permitted to fly in public displays.

Air displays require the written approval of the Civil Aviation Safety Authority – Written application for approval must be made not less than twenty-eight days prior to the proposed display.

4.1.13 Parachute Descents

Parachute descents, other than necessary emergency descents shall only be made in a manner approved by the Civil Aviation Safety Authority. CAR 152

Note: The Operational Regulations of the Australian Parachute Federation contain the written specification for sport parachute descents made by APF members.

4.2 Sites

4.2.1 Land Owner Rights and Pilot Responsibilities

Operations on or over private or public property must be conducted with due regard to the rights of the landowner.

Hang Gliding, Paragliding, Powered Paragliding and Weight-shift Microlight operations rely on the good will of landowners. When out landing, pilots should endeavour to contact the land owner to explain their situation and thank the land owner for use of their property; refrain from having retrieve vehicles drive across paddocks; and walk from the paddock taking care to leave fences, gates and any other property as you found them.

4.2.2 Operations within Vicinity of a Non-Controlled Aerodrome.

If operating *within the vicinity* of a non-controlled aerodrome, carriage and use of an airband VHF radio is required in accordance with the established protocols or the aerodromes requirements. Not all non-controlled aerodromes require VHF radio use.

Within the vicinity means:

- (a) airspace, other than controlled airspace, and
- (b) a horizontal distance of 8km from the aerodrome (reference point), and
- (c) a height above the aerodrome (reference point) that could result in conflict with operations at the aerodrome.

For more information, refer to Civil Aviation Regulation (CAR) 166. Visit www.casa.gov.au.

4.2.3 Hang Gliding and Paragliding Sites

A Duty Pilot shall be elected from those Pilot Certificate holders present:

- (a) Where the Operations Manager or HGFA Affiliated Club SSO is of the view that the conditions of a site are such as to require a Duty pilot; or
- (b) When Supervised HG and/or PG2 pilot Certificate holders of any type are operating; or where “mixed operations” are being conducted.

The Duty Pilot will wear a designated badge, armband or t-shirt for easy identification.

The Duty Pilot will have the authority to control, direct and coordinate operations to ensure that they are conducted in accordance with Civil Aviation Regulations as amended from time to time, this manual, and in accordance with any conditions set by the owner of the site.

Where aircraft or aeronautical operations other than hang gliding and/or paragliding of any type are being conducted from the flying site then the HGFA Duty Pilot shall co-ordinate with the other duty officers to ensure that all operations are conducted in a safe and orderly manner and:

- (c) Only appropriately certificated or endorsed pilots may fly from the site.
- (d) Pilots shall obey all directions and instructions given by a Duty Pilot or Safety Officer, including grounding of pilots and / or aircraft if directed.
- (e) When operating at a flying site where a Duty Pilot is appointed, that is not their home site, pilots must report to the Duty Pilot prior to undertaking any operations, or further operations, from that site.
- (f) Visiting pilots **MUST** ensure they are properly briefed on local requirements and conditions. Proof of HGFA membership, Log books, (VHF endorsement and radio operations if required) should be produced on request by an Instructor, Safety Officer, or Duty Pilot of the HGFA.
- (g) If it is intended to fly cross country it is recommended that a detailed flight note be left with a responsible person stating the intended direction of flight, destination and intended time of return.
- (h) It is recommended that the flight note contains the phone numbers of the RCC and ATSB.
- (i) It is highly recommended that pilots carry a current personal satellite GPS messenger device or a current Emergency Position Indicating Radio Beacon (EPIRB) or a current Personal Location Beacon (PLB).

- (j) The Australian Maritime Safety Authority has developed and maintains guidelines for aviation search and rescue. For more information, visit www.amsa.gov.au
- (k) Hang glider and paraglider pilots should be aware that when operating at airfields and in joint operations with sailplanes, ultralights and weightshift microlights that additional operating requirements can apply. Consult the Duty Pilot or Safety Officer controlling operations for details.

4.2.4 Weightshift Microlight Operations

- (a) Where weightshift microlights are operating without radio carriage and are used from a flying field where VHF carriage and use is not mandatory, a Duty Pilot must be elected from those Pilot Certificate holders present.
- (b) The Duty Pilot will have the authority to control and direct operations that are not conducted in accordance with Civil Aviation Orders, Civil Aviation Regulations as amended from time to time, this manual and any conditions set down by the owner of the field.

Note: For further information on the nomination and responsibilities of Duty Pilots, refer to section [3.1.3](#).

- (c) Where aircraft or aeronautical operations other than hang gliding or paragliding of any type, or weightshift microlighting are being conducted from the flying field then the weightshift microlight Duty Pilot shall co-ordinate with the other duty officers to ensure that all operations are conducted in a safe and orderly manner.
- (d) Where aircraft operations are operating from a field that is a training field, the Chief Flying Instructor of the Training Facility will have the authority to control and direct weightshift microlighting operations.
- (e) Flying is to be conducted only during daylight hours and in Visual Meteorological Conditions (VMC).
- (f) Only appropriately registered aircraft are to be operated from the field.
- (g) Only appropriately certificated or licensed pilots may fly aircraft from the field.
- (h) Pilots shall obey all directions and instructions given by a Chief Flight Instructor or Duty Pilot, including grounding of pilots and/or aircraft if directed.
- (i) When operating at a flying field that is not their home field, pilots must report to the Chief Flying Instructor or Duty Pilot prior to undertaking any operations, or further operations, from that field.

Note: Visiting pilots **MUST** ensure they are properly briefed on local requirements and conditions. Proof of HGFA membership, and Log books must be produced by the visiting pilot on request by an Instructor, Safety Officer or Duty Pilot of HGFA.

- (j) Assemble and inspect all aircraft well clear of runways, taxiways and or other areas where aircraft are being moved under their own power.
- (k) All vehicles shall be kept clear of aircraft, particularly those aircraft being refuelled or moving under their own power.
- (l) Engines must NOT be started in any location that could present a danger to any persons or property.
- (m) Before starting the engine, the aircraft must be in an operational area and precaution must be taken to ensure that the propeller blast will not endanger any person or aircraft.
- (n) Prior to starting an engine a visual check and the call "CLEAR PROP" must be made in a loud clear voice.
- (o) Weightshift microlights with engines operating shall not be left unattended at any time and engines must not be started without an appropriately certificated pilot at the controls.
- (p) Pilots must ensure that members of the public and people not directly associated with the operation of a weightshift microlight are advised of the danger and not permitted near the aircraft whilst the engine is running.
- (q) When ground testing and running-up aircraft engines, wheels must be adequately chocked and the aircraft tied down, as required.
- (r) The aircraft should be correctly parked after flight. Ignition off, controls locked, wheels chocked and clear of active areas. Tie down as appropriate.
- (s) Pilots must not consume any alcohol, drugs or other intoxicating substance within EIGHT (8) hours immediately prior to flying a weightshift microlight. The consumption of liquor on the flying site is not permitted.
- (t) A pilot must never have a blood alcohol content of more than 0.02 or be under the influence of illicit drugs, whilst in control of an aircraft or carrying out other aviation related tasks or duties.

Note: Prescription drugs which do not cause drowsiness or impair judgement in any way are exempted.

- (u) NO SMOKING or NAKED FLAMES are permitted within 15 metres of any aircraft or aircraft refuelling point.
- (v) refuelling inside hangars is not permitted.

(w) Adequate fire fighting equipment must be in an operational area and on hand during all refuelling operations.

4.2.4.1 Taxiing and Taking Off

Aircraft must be taxied slowly. Fast taxi speeds reduce safety response times and can cause ground controllability issues, particularly in gusty conditions. Fast taxi speed also causes excessive wear on airframe components.

When moving in to the “movement area” any aircraft must give way to aircraft which are landing or taking off and shall conform to the rules regarding “right of way” (the same as in the air).

Aircraft should be taxied to the take-off end of the strip and STOP at right angles to the strip so that the pilot can observe all traffic in the circuit.

Immediately before take-off a pilot must conduct a pre-take-off check in accordance with the aircraft manufactures operators manual or otherwise appropriate for the aircraft type.

4.2.4.2 Fuel Quantity

It is critical that fuel quantity be checked as being sufficient for the proposed flight, including an adequate safety margin. It is recommended that tank is topped up prior to each flight as changing conditions, eg., an unexpected headwind may increase the expected consumption.

4.2.4.3 Turning after Take-off

During initial climb-out, the turn onto crosswind should be made appropriate to the performance of the aircraft, but in any case not less than 500 FT above terrain so as to be at circuit height when turning onto downwind.

When departing from the aerodrome circuit area, aircraft should depart by extending one of the standard circuit legs.

However, an aircraft should not execute a turn opposite to the circuit direction unless the aircraft is well outside the circuit area and no traffic conflict exists. This is required to be at least 3 NM and no less than 1,500ft from the departure end of the runway. The distance may be less for aircraft with high climb performance. The distance should be based on pilots being aware of traffic and the ability of the aircraft to climb above and clear of the circuit area.

Note: Pilots of departing aircraft should be aware of traffic intending to join the circuit by the recommended overfly procedure as they can be 2000 FT or higher above aerodrome elevation.

4.2.4.4 Circuits

An increasing number of approvals are being gained for hang gliding and paragliding operations in the vicinity of airports and airfields and therefore more pilots are involved in joint operations with GA aircraft, ultralights and weightshift microlights (known as “mixed” operations). It is therefore important that all pilots understand the circuit procedures used by powered aircraft.

Left Handed Circuits

A standard left-handed circuit is to be observed unless impractical or otherwise specified in ERSA.

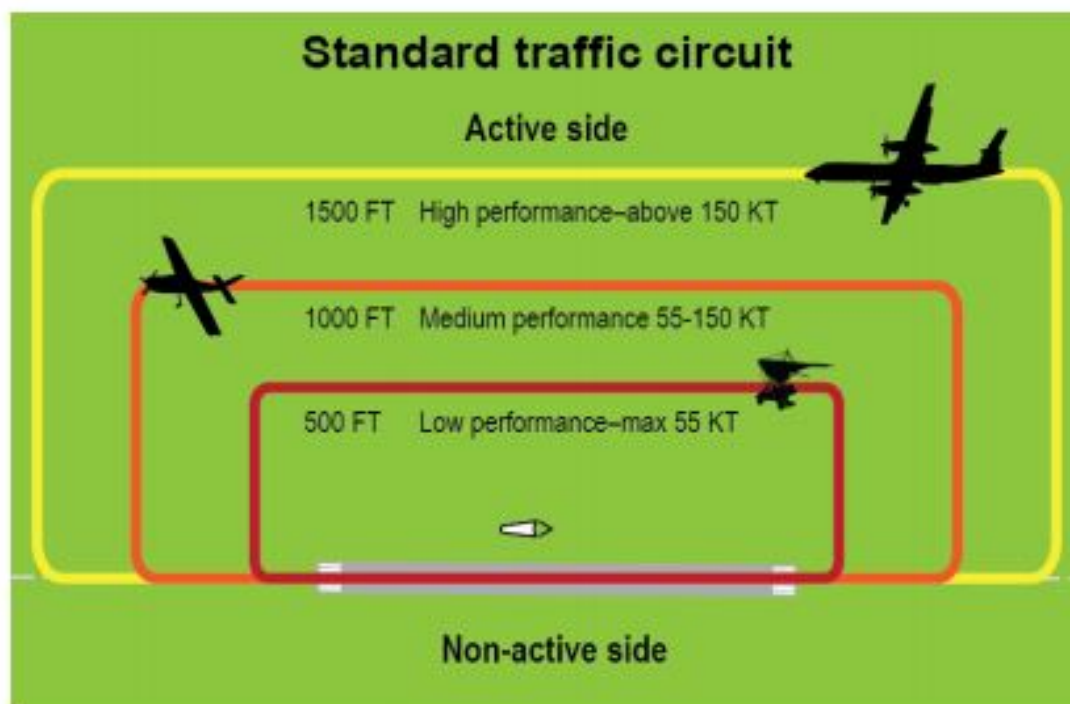
Aircraft may join the circuit pattern upwind, crosswind, downwind or on base leg as the case may be. A straight-in approach may also be carried out in accordance with CAR 166B.

The height at which aircraft join the circuit depends on the type of operations and local operational procedures.

CAAP 166-1 requires aircraft of differing performance to fly at different circuit heights above airfield elevation as per the table below.

Type of aircraft	Standard circuit speed range	Standard circuit height
High performance (includes jets and many turboprop aircraft)	Above approx. 150Knots	1,500ft above aerodrome elevation
Medium performance (includes most piston engine aircraft)	Between 55 and 150 knots	1,000 ft above aerodrome elevation
Low performance.	Approximately 55 knots maximum	500 ft above aerodrome elevation

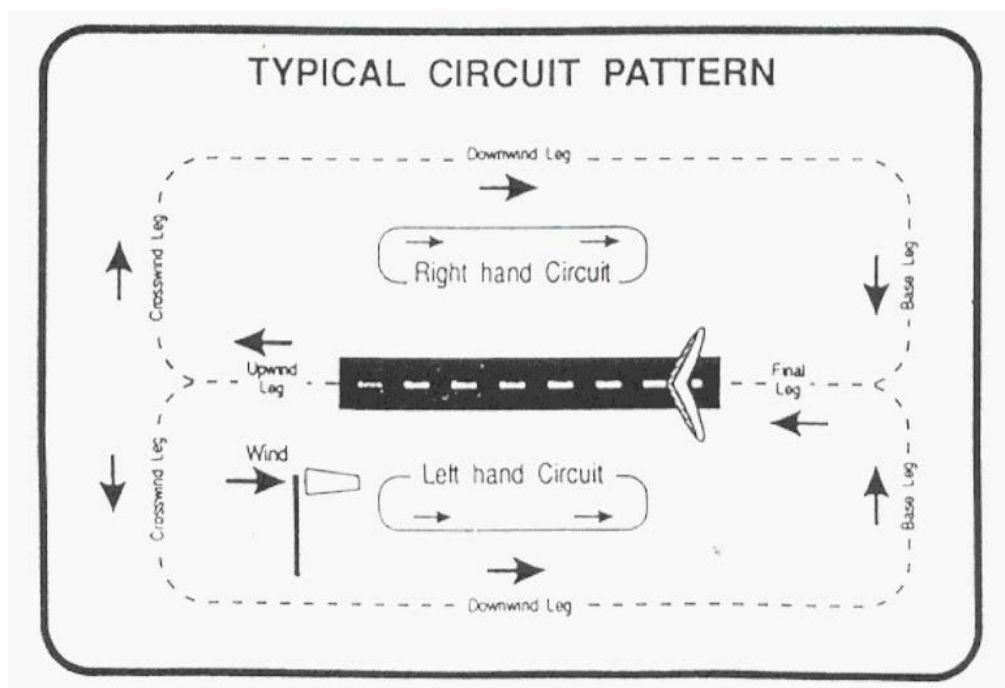
Figure 2: Standard Left Hand Circuits



CAAP 166-1 defines circuit procedures at non-controlled (CTAF) aerodromes, but these circuit procedures are considered standard practice for any landing area.

Weightshift microlights must conform with the standard circuit procedures set down, flying the circuit no lower than 500' AGL.

Special procedures for airports are published in ERS (Enroute Supplement Australia) or can be determined by telephoning the Aerodrome operator prior to operating at, or flying into the airfield.



When mixed operations are being conducted a Duty Pilot should be nominated and specific procedures determined to ensure no conflict between aircraft.

To minimise the likelihood of conflict, it is recommended that hang gliders and paragliders approach the airport above circuit height (at least 2000' AGL), lose altitude on the "dead" side, and fly the "standard" circuit direction below and inside the general aviation circuit. Gliders should then land on the verge of the runway on the circuit side, thus never crossing low over the runway.

NOTE: The "dead" side is the side of the runway which is not being used by powered aircraft in circuit, i.e. the side opposite the circuit area. Powered aircraft may use this side of the runway to lose altitude prior to joining circuit.

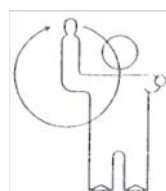
No aircraft may land, unless the runway is clear of other aircraft. After landing move clear of the runway as soon as possible. The "runway" includes the area inside the white gable markers surrounding the runway strip. If a hang glider has to land, it has right of way. However the intent should be made clear to other aircraft at the aerodrome.

After landing adjacent to the runway, the glider pilot must move the glider from the runway strip as soon as practicable, i.e. outside the boundary formed by the gable markers.

4.2.4.5 Ground Marshalling Directions

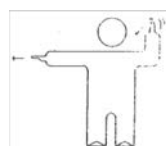
Start Engine

- Left hand pointing to specific aircraft.
- Right hand moving in a circular motion at head level.



Turns

- Arm pointing to the direction of turn.
- Other hand moved up and back.
- Speed of movement shows rate of turn.



Stop

- Arms repeatedly crossed above head.
- The rapidity of the arm movement shows the urgency of stop!



Move Ahead

- Arms a little to one side moved repeatedly upwards and backwards.



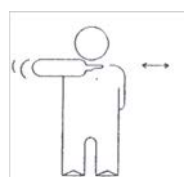
Slow Down

- Arms down close to side moved up and down several times.



Cut Engine

- Hand level with shoulder.
- Hand moved sideways across the throat.



4.2.4.6 Registration of Weightshift Microlights

Weightshift microlights must be operated in accordance with this manual and are required to:

- (a) have a current HGFA Registration Certificate (The period of validity is 2 years and is subject to the satisfactory completion of the relevant Airworthiness Inspection as stipulated in section 9.7.7.1); and
- (b) display HGFA registration markings.

4.2.4.7 Aircraft Registration Markings

Weightshift microlights registered with the HGFA under CAO 95.32 have the prefix T2 followed by a hyphen and the registered number; e.g. T2-2512.

Weightshift microlights registered with the HGFA under CAO 95.10 have the prefix T1 followed by a hyphen and the registered number; e.g. T1-2123.

The registration numbers allocated on the registration certificate shall be displayed as follows:

- (a) Location of Marks: Registration marks shall be affixed to the undersurface of the port wing midway between the keel and the wing tip and midway between the leading and trailing edges of the sail with the base of the numerals towards the trailing edge. The line made by the base of the numerals shall be parallel to the leading edge.
- (b) Measurement of Markings:
 - (i) The letters in each group shall be of equal height;
 - (ii) The width of each letter (except the letter 1) and the length of the hyphen shall be two-thirds of the height of the letter;
 - (iii) The letters and hyphens are to be formed by solid lines the thickness of which shall be one sixth of the height of a letter and which shall be of a colour contrasting clearly with the background;
 - (iv) Each letter shall be separated from that which it immediately preceded or immediately follows by a space not less than one quarter of the width of the letter (including the hyphen); and
 - (v) The heights of the marks on the wings shall be at least 300 millimetres.
 - (vi) To ensure uniformity, the numbers must be sourced from the HGFA.

4.2.4.8 Instrumentation – Weightshift Microlights

Weightshift microlights shall:

- (a) Carry a serviceable altimeter which complies with the standards specified within AC 21.46 and:
 - (i) is set to area QNH;
 - (ii) is set to indicate height in feet; and
 - (iii) is easily read by the pilot at all times whilst in flight; and
- (b) Be fitted with a serviceable airspeed indicator which can be easily read by the pilot at all times whilst in flight; and
- (c) If the microlight is to be flown on a cross country flight (>50 miles):
- (d) Be fitted with a compass; and
- (e) The pilot must carry an accurate timepiece;
- (f) If operating under CAO 95.10, carry a current personal satellite GPS messenger device or a current Emergency Position Indicating Radio Beacon (EPIRB) or a current Personal Location Beacon (PLB), or an approved ELT, or an approved portable ELT, as defined in regulation 252A.
- (g) If operating under CAO 95.32, carry an approved ELT, or an approved portable PLB, as defined in CAR 252A.

Notes:

Some weightshift microlights may be required, as part of aircraft type certification, to be fitted with other aircraft instrumentation such as an engine hour meter.

Aircraft flying within the vicinity of certain aerodromes or CTA require an airband radio, instrumentation and the pilot endorsement to use it. In some cases this instrumentation, including a transponder is required to have checks of those instruments in accordance with CAO 100.5 requirements. For more information, see OPS-6.3.8.5 "Radio Operator Endorsement (WM)"

4.2.5 Identification of Powered Paragliders & Powered Hang Gliders.

The owner of a powered hang glider or powered paraglider is required to prominently display the last 4 numerals of their HGFA number on the underside of the wing, or on a vertical surface on both sides of the harness, frame or wheelbase, as follows:

- (a) If the numerals are displayed on the harness or wheelbase, they must be clearly visible when standing at 90 degrees to the direction of travel.
- (b) Each numeral is to be Western Arabic and have a hi-contrast background that allows for the markings to be clearly visible from a distance of no less than 100 meters.
- (c) If on the wing, each numeral must be a minimum of 150mm in height and 80mm width.
- (d) If on the harness or wheelbase, each numeral must be a minimum of 70mm in height and 30mm width, or where space is not available, the height to be as large as practicable.
- (e) The numbers must be maintained and are to remain legible at all times during flight.
- (f) The seller is required to remove the numbers upon selling the wing, harness or wheelbase.
- (g) The purchaser of a new or 2nd hand wing, harness or wheelbase is required to place the last 4 digits of their HGFA number upon the craft, prior to any use of the craft.

4.2.6 Powered Paragliders/Parachutes over 70 KG (Empty Weight).

All craft over the 70KG empty weight, as stipulated in CAO 95.08, must be registered under CAO 95.10 or CAO 95.32.

They will be required to display allocated registration numbers. As such, these craft will be exempt from the identification requirements stipulated in 4.2.5