# HOLDFAST MODEL AERO CLUB INC


# Members' Handbook

**(2024 v1.0)**

**Issued 15 October 2024**

This Handbook is authorised by the Committee and explains the operating guidelines for the flying of radio control models at the Holdfast Model Aero Club flying field.

The Committee may amend this Handbook from time to time to reflect any changes to the Club's operations.

All members are expected to observe these guidelines and ensure they undertake flying in a safe and responsible manner.

# Holdfast Model Aero Club Inc.

## Members' Handbook

### 1 Compliance with Regulations and Procedures

As outlined in the HMAC By-laws, the flying of models is subject to the provisions of the Civil Aviation Safety Regulations (CASR) and Model Aeronautical Association of Australia (MAAA) Manual of Procedures (MOP). The basic rules specify that the model is:

1.1 Not flown in a way that creates a hazard to a full size aircraft, another person, or property.

1.2 Flown with visibility that allows it to be continuously kept in sight.

1.3 Not flown at a height greater than 400 feet above ground level.

1.4 Not flown at night except in accordance with MAAA MOP.

1.5 Not flown closer than 30 metres to people not involved in the operation of model aircraft.

### 2 Radio Control Equipment

2.1 Radio Control equipment must be labelled by the manufacturer, indicating that the equipment complies with Australian legislation under the Telecommunications Act (1992). This is indicated by a "C-Tick" (Australia) or a FCC number (USA) or an ETSI Number (Europe). It is the responsibility of any user of radio equipment to ensure that it has the correct range for safe operation of the aircraft and that it does not interfere with other users. This is particularly important when video relay equipment is in use. Refer to MAAA MOP058 for further information.

2.2 Club members using other than a 2.4 GHz radio are required to insert a key in the Frequency Control Keyboard. The key must be placed to indicate the channel in use and have the Member's name clearly displayed (MOP013). You may be held accountable for any crash resulting from failure to identify your channel use with a key.

### 3 The following persons are permitted to fly at HMAC:

3.1 Financial HMAC Members. Club fees (along with affiliation fees for MASA and MAAA) are due on 1 July annually. If fees have not been paid by 1 July then the Member is 'Non-Financial' and is not permitted to fly. (MOP042)

3.2 Visiting Members from other Australian Clubs. Any visitor who holds a current MAAA registration can visit and fly at the HMAC field. Visitors must sign the Visitors' Book and the entries must be countersigned by a HMAC Member. Visitors must comply with Club Rules. Visits are normally limited to four times in each calendar year unless the MAAA members are specifically invited to the Field by the Club. The requirement to sign the Visitors' Book is waived when an invitation is extended to MAAA members for a specific flying function. (MOP042)

3.3 Visiting Flyers from Overseas Clubs. These visitors may be permitted to fly if they sign the Visitors' Book and the entry is counter-signed by a HMAC Member. The overseas visitor must demonstrate his/her flying ability to an Instructor or Committee Member. Radio equipment must meet the requirements of the MAAA MOP (various). These visits are limited to four times in each calendar year. (MOP042)

3.4 Prospective New Members. A prospective new Member may fly under the guidance of an MAAA Instructor or approved Club Instructor. Instruction may be carried out using Club supplied equipment under the Low Cost Integrated Flight Training (LIFT) program. The participant must complete a Visitor Registration Form prior to commencing any flying activity. The number of trial flight visits is limited to four (4).

## 4 Flying Standards

4.1 Members must have achieved Solo Standard as assessed by two MAAA Accredited Instructors or approved Club Instructors in accordance with the HMAC Logbook before flying without an Instructor. This rule applies equally to Fixed Wing and Rotary Wing operations. At the discretion of the assessing Instructors, specific limitations may be attached to the Solo accreditation for a given model, such as the need for built-in stabilisation, Geo-fencing, Return to Home, etc.

4.2 Members of Solo Standard are only permitted to fly those models authorised in their Club Logbook. When progressing onto other models, Solo Standard Members must fly with an Instructor to prove their abilities with the new model, and have this model endorsed by the Instructor. It is recommended that a Solo Standard pilot should practice for several months to gain experience before taking the Bronze or Silver Wings Test.

4.3 On obtaining Bronze or Silver Wings standard there is no restriction on models flown, except for normal MAAA weight restrictions for the particular Wings award. Members with low experience are advised to seek assistance with test flights. It is recommended that a Bronze or Silver Wings pilot should gain experience over twelve months before taking the Gold Wings test.

4.4 It is recommended that the Gold Wings standard should be held for at least 12 months before taking the MAAA Instructor Course.

4.5 The Committee may authorise certain Gold Wings holders to act as "Club Instructors" under the supervision of an MAAA Accredited Instructor pending the availability of an Instructor Training Course.

4.6 Models requiring a Heavy Model Permit to Fly must only be flown by persons holding MAAA Gold Wings.

4.7 If a member has a disability that requires the presence of an assistant to perform setup, pre-flight checks and carry the model to and from the flight line, the member must be accompanied by the assistant when flying the model. The assistant must be appropriately registered with the Club to perform these duties by completing the relevant forms.

## 5 General Behaviour

5.1 Members must not fly if they are under the influence of drugs or alcohol.

5.2 Members must use their own judgement if they are suffering from a medical condition which may affect their ability to fly a model aircraft (MOP055).

5.3 Members are encouraged to report any incidents involving unsafe flying to the Committee.

5.4 Smoking is not permitted in the shelters, clubrooms or on the flight line.

5.5 Members must show respect for others at all times and cooperate in a sensible manner when sharing the airspace.

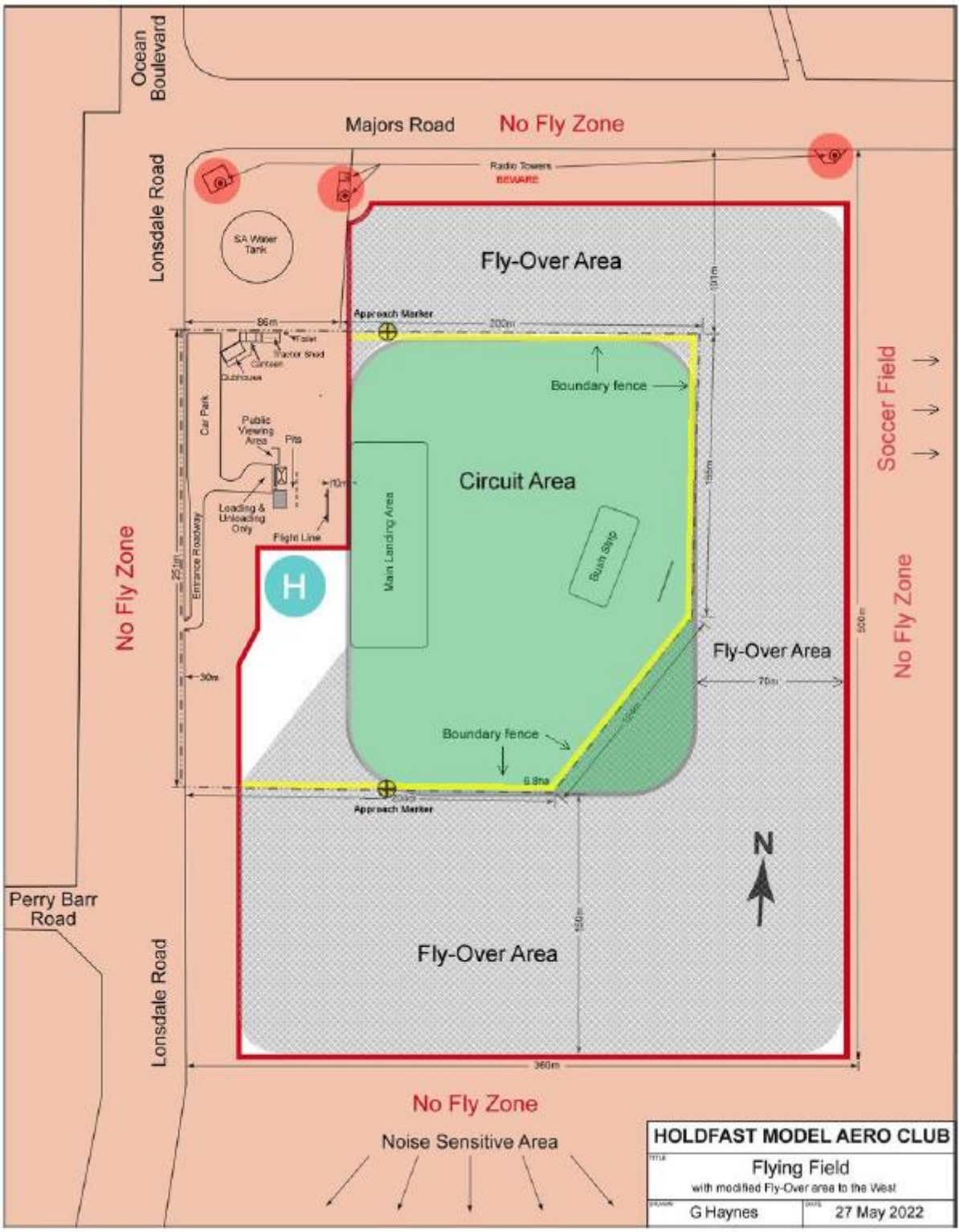
## 6 Flying Training

6.1 Flying Training is conducted on Sunday mornings from 10:00 AM until 12:00 PM with rostered Instructors in attendance. General Flying is not permitted on Sunday morning. Flying training may also be conducted at any time within normal hours of operation provided that General Flying is not restricted by the training operation. Instructors must be MAAA Instructors or approved Club Instructors.

6.2 The use of a buddy box for initial flights and for landing practice is encouraged. When using a buddy box the crystal should be removed from the slave transmitter (if applicable). Instructors who are not familiar with buddy box operation should seek advice from other Instructors.

## 7 No Fly Zones

7.1 There are defined No Fly Zones, which have been declared at the field. These are shown on the following map.


Ocean Boulevard
Majors Road
No Fly Zone
Lonsdale Road
Radio Towers
BEWARE
SA Water Tank
Fly-Over Area
Approach Marker
86m
200m
101m
Toilet
Tractor Shed
Canteen
Clubhouse
Car Park
Public Viewing Area
Pits
Boundary fence
Soccer Field
Circuit Area
10m
Loading & Unloading Only
Flight Line
Main Landing Area
Bush Strip
H
25m
Entrance Roadway
No Fly Zone
No Fly Zone
30m
Fly-Over Area
70m
500m
Boundary fence
6.8ha
Approach Marker
N
Perry Barr Road
Lonsdale Road
Fly-Over Area
150m
360m
No Fly Zone
Noise Sensitive Area
HOLDFAST MODEL AERO CLUB
Flying Field
with modified Fly-Over area to the West
G Haynes
27 May 2022

7.2 Great care must be taken to avoid flying over Majors Road and Lonsdale Road.

7.3 Models must not be flown west of a line joining the flight line to the radio masts just east of the water tank at any time. Pilots must be especially vigilant during take-off and landing to avoid this Zone.

7.4 Members must not fly over a noise sensitive area situated approximately 300 metres south of the southern fence. Keeping the model no further south than the visible tree line will avoid this area.

7.5 The radio towers on Majors Road can be easily avoided by keeping your aircraft's flight path close to the boundary fences of the flying field during take-off and landing.

## 8 Incident Reporting

8.1 Whenever your aircraft lands/crashes anywhere outside the red border, as shown on the field map, you must notify a Committee Member as soon as possible and submit an MAAA Incident Report.

8.2 If your aircraft lands/crashes inside the red border but outside the yellow border, you must notify a Committee Member within 24 hours of the incident. Depending on the circumstances, you may be asked to submit either a Club Incident Report or an MAAA Incident Report. These forms are available for download from the Club website.

8.3 If the incident results in property damage (other to the aircraft itself) or injury to anyone, you must submit an MAAA Incident Report regardless of where the incident occurred.

8.4 It is your responsibility to remove all debris associated with the crashed aircraft from the Club premises. Do not place it in a Club rubbish bin.

## 9 The Flight Line

9.1 A safety/protective barrier is provided for protection of Members on the flight line and pit area. When operating RC models from the flight line pilots should stand behind designated barriers.

9.2 When it is necessary to walk onto the field to get behind a model for take-off or to retrieve a model, the pilot should check the position of other airborne models and notify intentions by calling out 'ON THE FIELD'. When safe, the pilot may enter the area whilst keeping a watchful eye on other models. The pilot should return to the flight line or to the pits as soon as practicable.

9.3 Models must not be operated close to other pilots on the flight line. Models should not be landed close to the flight line. Take-off, landing or a flypast should never be closer than 10 metres to the flight line. Landings and take-offs shall not be made directly towards the flight line or the pits.

9.4 Taxiing inside the pit area is prohibited. Taxiing behind persons flying at the flight line is discouraged because pilots are concentrating on flying. Models should be kept close to the pits barriers. Models should not be taxied between individual barriers on the flight line or the pits.

9.5 Models must always be restrained when starting the engine/electric motor. Standard restraints are available in the pit area for all Members to use. When operating a large model it may be necessary to use a larger restraint or have another person securely hold the model. Elevated starting tables with anchor points are available for all models but it is the member's responsibility to ensure that the model cannot be blown off the table. Members should be mindful of others wanting to use the tables.

9.6 Engines/Motors shall not be started under the shelters.

9.7 A green ribbon Safe Tag (as described on the Holdfast Model Aero Club website) which ensures that the battery is not connected to the speed controller must be used to indicate that an electric model is not armed. An electric model not correctly displaying a Safe Tag is considered to be armed. Electric motors shall not be armed under the shelters. No armed electric model is to be left unrestrained or unattended in the pits.

9.8 The following protocols should be observed by all pilots:

9.8.1 Prior to taxiing onto the field in order to take-off, and if there are other aircraft flying, the pilot should notify intentions by calling out 'ON THE FIELD' or 'TAKING OFF'.

9.8.2 If an engine fails in flight the pilot should call out 'DEAD STICK' to alert other pilots. On hearing the 'DEAD STICK' call, other pilots should position their aircraft clear of the dead stick aircraft, giving that pilot landing priority.

9.8.3 Before landing a pilot should call out 'LANDING' and include the direction of landing unless it is obvious to all.

9.8.4 A landing aircraft has priority over any departing aircraft.

9.8.5 If there is more than one aircraft flying, pilots shall conform to an agreed circuit pattern (left hand or right hand).

9.8.6 Take-off and landing to the north requires a right hand circuit. Take-off and landing to the south requires a left hand circuit.

9.8.7 Certain wind directions may require operations not aligned with the normal north/south runway. This is permitted provided the model is not pointed directly at the flight line, the pits or the Public Area.

## 10 Helicopters and other Rotary Wing Aircraft including Multi Rotor systems

10.1 Hovering practice shall be done in an area that is not in conflict with other flying operations. An area generally suitable is immediately south of the southern shelter. Pilots must maintain 30 metres separation from the shelters, Lonsdale Road and spectators.

10.2 In all other aspects of flight, helicopters and other rotary wing aircraft must conform to the pattern in use by fixed wing aircraft if both types of aircraft are operating at the same time. Rotary Wing flights may be made on the flight line by arrangement with other users. As a general rule do not attempt to fly and hover in the same airspace currently in use by fixed wing models. Similarly, fixed wing aircraft should not enter the airspace currently used by a multirotor for hovering or aerobatic manoeuvres.

## 11 First Person View (FPV) and Self Guided Model Aircraft (SGMA)

11.1 Any pilot flying aircraft of this type must comply with MAAA MOP066 FPVs and SGMAs.

11.2 The basic rule for FPV flying is that the observer must have the knowledge to operate the Remotely Piloted Aircraft (RPA) and is responsible for the safety of its operation. The aircraft must be kept in visual line of sight of the observer at all times independently of any electronic viewing devices.

11.3 Specific implementation of SGMA is a Return to Home capability whereby if selected the aircraft will automatically fly back safely to a predetermined location. Pilots must be aware of the Home location in relation to obstacles and safety distances.

## 12 Jet Models

The flying of models powered by gas turbines (jet engines) is not permitted at the HMAC field. This restriction does not apply to ducted fan models powered by electric motors or glow engines.

## 13 Noise Abatement

13.1 All powered model aircraft are subject to noise limits at HMAC. The noise level as recorded by the Club noise meter must be no greater than 96dBA, measured over a grass surface, at a distance of three metres. Noise readings should be made on a relatively calm day. The sound meter should be held at a height of 300 mm above ground level.

13.2 Internal combustion (IC) engines are restricted to operation between the hours of 10:00 AM and 7:00 PM daily. There is no time restriction on the operation of gliders or electric powered models; however some ducted fan jets or high speed electrics may be subject to the same restrictions as IC models.

13.3 Test running of engines shall not be conducted in the pit area in such a manner as to create a nuisance to other Members. A test stand is available next to the Tractor Shed for prolonged engine running.

## 14 Public Area

14.1 The Club operates from an area that is well known to the public. Many visitors call in to watch our operations. All Members must be conscious of safety aspects at all times and operate their aircraft accordingly. The Club gains many Members as a direct result of public viewing. Please try to be polite and respond to enquiries when possible. Keep the area clean and tidy.

14.2 A Public Viewing Area with seats is provided. Members of the public are not permitted in the pit areas or under the shelters unless specifically invited by a Club Member. The Club Member is then responsible for keeping the visitors at a safe distance from all aircraft operations in the pits and on the flight line.

## 15 Car Parking

15.1 There is a designated car park area and it must be used. On busy days Members are encouraged to use the western (Lonsdale Road) side first. This will allow casual visitors to park and view from their vehicles.

15.2 Members may drive their vehicles up to the pits area to unload and load their equipment only. Vehicles must be promptly moved to the normal car park.

## 16 Security

16.1 Access to the field is via the entrance on Lonsdale Road. The entrance is normally padlocked but the combination can be obtained from any Instructor or Committee Member. Once opened, the padlock must be snapped onto the chain to prevent theft of the lock. The gates must be fully opened and tied back. The last Member to leave the field must ensure that the entrance is locked.

16.2 Access to the main Clubroom is restricted. The building is normally locked and protected by an alarm. If you require access to the Clubroom please approach a Committee Member.

16.3 The old shed or 'Canteen' should be kept locked when not in use. A key to access the Canteen is available for a small fee. The last Member to leave the field must ensure the door is locked (the door is self-locking). The outside toilet is not locked.

## 17 Reference information/checklist

17.1 This section lists the items that should be checked during your pre-flight inspection:

| |
|---|
| Propeller - condition and security |
| Engine/muffler security (internal combustion engine [IC]) |
| Motor/ESC security (electric) |
| Fuel system cleanliness and installation (IC) |
| Main power battery condition and security (electric) |
| Receiver mounting and security |
| Receiver battery security and charge condition |
| Wiring and plugs security |
| Servos - security and operation |
| Pushrods and/or control runs |
| Control surfaces - hinging and slop |
| Antenna condition and orientation – Tx and Rx |
| Wing to fuselage – security and alignment |

| |
|---|
| Undercarriage alignment and security |
| Centre of gravity check |
| Range test and failsafe check |
| Correct movement of control surfaces when Tx sticks/switches areoperated |

17.2 Prior to first flight of the day - starting and stopping the engine/electric motor.

16.2.1 Comply with safety precautions, use/remove electric safe tag, use model restraints and observe pit etiquette.

16.2.2 Set throttle and mixture (IC).

16.2.3 Engine/motor to stop with transmitter kill switch or throttle trim lever.

17.3 Pre-take off checks.

16.3.1 Transmitter and receiver switched on and trims set.

16.3.2 Range check.

16.3.3 Fail safe check.

16.3.4 All control surfaces and throttle operating in the correct direction.

16.3.5 Establish wind direction/circuit pattern and direction.

17.4 Handy tip – remember C.A.T.

**'C' for Controls**

Check that all control surfaces move in the correct sense when you move your transmitter sticks. Don't just wriggle the sticks and watch the surfaces move. Make sure that they move in the intended direction and will make the model respond correctly. A good tip is to watch and say "Left aileron moves the Left Aileron UP. Right aileron moves the Right Aileron UP". Make a similar check for elevator and rudder. Double check that your transmitter's computer screen shows the correct model name or number. Make sure that your rate switches are in the correct position for the flight.

**'A' for Antenna**

For 2.4 GHz equipment, make sure that your adjustable transmitter antenna is tilted upright or to one side (not applicable to a fixed antenna) and make sure that your receiver antennae are orientated in different planes. This should be checked when you assemble the model. If you have a 29 or 36 MHz transmitter make sure that your transmitter antenna is fully extended. Also make sure that your receiver antenna is visible or that you know it is at full length inside the model.

**'T' for Trims**

If you have an older style transmitter with mechanical trims, make sure that the aileron and elevator ratchets are in the correct position for straight and level flight. A modern transmitter has digital trims which can only be altered when the radio is switched on.

## 18 Schedules for flight tests

### 18.1 HMAC Solo

This rating is achieved prior to gaining MAAA Wings proficiency levels. It has certain restrictions and allows the student to practice for the Bronze Wings in his/her own time.

In obtaining Solo flight status the student shall consistently demonstrate setting up, safe starting, ground handling, take-off, flying and landing the model aircraft. The student should have also read and understood the Club By-laws and Members' Handbook, basic principles of flight, and demonstrate knowledge of the etiquette of model aircraft flying.

### 18.2 MAAA Bronze and Silver Wings (MAAA016 Fixed Wing Powered)

Bronze & Silver Wings (Power) are awarded when a member demonstrates, in the course of one session, that he/she has the skills to perform the manoeuvres listed in the tasks below, in a competent manner and to the required standard.

#### *1* Dexterity

The pilot must be able to locate all the transmitter controls quickly without fumbling.

#### *2* Theory

The pilot must be able to name all major components of the aircraft and define functions, including effect of controls, and have a thorough knowledge of safety rules and regulations.

#### *3* Airframe & pre-flight check

The pilot checks the engine mounting, plumbing (for internal combustion engines), centre of gravity location, security of batteries, undercarriage and signs of structural or covering problems that could affect flight e.g. presence of warps which could affect trim. The pilot also performs a safe start up sequence (including arming electric motors if appropriate), checks that controls are neutral and control throws correct, and checks throttle setting, state of battery and performs a range check.

***4*** **Take off**

The pilot demonstrates gradual application of power while keeping the aircraft straight, and using a little elevator to lift off, makes a gentle climb out with wings level until safe altitude is reached.

***5*** **Trimming**

Pilot shows ability to trim the aircraft in flight. Displacement and re-trimming both the primary roll control and elevator should be demonstrated.

***6*** **Procedure turns**

One procedure turn in each direction. The pilot's ability to perform the following steps in the procedure turn will be assessed:

a. level flight segments should be straight and level;
b. aircraft should pass directly over the landing area;
c. turns should be at a constant altitude;
d. turns should be completed in order that upwind and downwind tracks are superimposed.

***7*** **Figure eight**

Pilot to demonstrate either an inward or outward figure eight. This is a flat eight circuit without loss of height and with the change of turn directions directly in front of the pilot.

***8*** **Landing circuits**

Pilot to demonstrate in both directions, with all turns of 90 degrees. With high performance aircraft, the power needs to be reduced much sooner than at the turn onto base leg. The upwind and downwind legs are parallel to the landing strip. The first three legs are maintained at a constant height and a gradual approach angle is started at the beginning of the base leg.

***9*** **Approach & landing**

Pilot demonstrates an engine assisted landing, using a suitable power setting that allows the model to descend, controlling nose attitude with elevators (airspeed), and using the throttle to stabilise the rate of descent. The aircraft should be flown over the threshold at an altitude of about 1.5 metres, the throttle closed gradually, and the round-out or flare initiated. The "hold-off" period is then commenced where the aircraft is gradually allowed to sink and settle on the ground in a slightly nose high attitude.

***10*** **Simulated dead stick landing**

At a safe and high position, the pilot will reduce the throttle to idle and perform a descending circuit to show his/her ability to safely glide the model without engine power to a position where a landing approach can be executed.

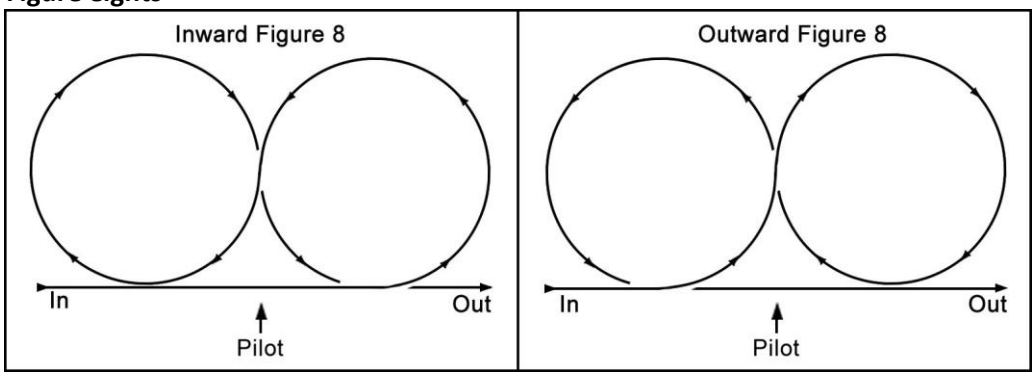
18.3 **MAAA Gold Wings (MAAA017 Fixed Wing Powered)**

Gold Wings (Power) are awarded when a member demonstrates, in the course of one session of not more than 4 consecutive flights, that he/she has the skills to perform the manoeuvres listed below, in a competent manner and to the required standard. The flights may be undertaken on two separate days. Weather conditions (wind direction) and type of aircraft (trainer, sports or aerobatic) must be allowed for.

**Manoeuvres**

1 Pre-flight - dexterity with equipment - theoretical knowledge - pre-flight checks.
2 Start-up, taxi and positioning for take-off.
3 Take-off.
4a Outward figure of eight, left to right.
4b Outward figure of eight, right to left.
5a Inward figure of eight, left to right.
5b Inward figure of eight, right to left.
6a Procedure turn, $90^{o}$ to $270^{o}$, left to right.
6b Procedure turn, $90^{o}$ to $270^{o}$, right to left.
7a Immelmann turn, left to right.
7b Immelmann turn, right to left.
8a Three inside loops, left to right.
8b Three inside loops, right to left.
9a Cuban eight, left to right.
9b Cuban eight, right to left.
10 Spin, three turns.
11a Inverted flight, five seconds, left to right.
11b Inverted flight, five seconds, right to left.
12a Three horizontal rolls, left to right.
12b Three horizontal rolls, right to left.
13a Landing circuit, left to right.
13b Landing circuit, right to left.
14 Landing, roll-out and stop.

**19 Figure eights**




**20 Procedure turns**