# Waikato Aviation

# Safe Operating Requirements

# Manual (SORM)

WAIKATO AVIATION

*Go Beyond*

**Rev 1.1** 06 Sept 23

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## Record of Revisions

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## Introduction

The Waikato Aviation (WA) Safe Operating Requirements (SOR) manual governs the private flight and flight training operations carried out by Waikato Aviation as governed by the NZ Civil Aviation Rules. It is a Controlled Document as defined in the Organisation's Health and Safety Management System.

The purpose of the SOR manual is to specify the requirements for carrying out private flying and flight training operations at Waikato Aviation so that these flight activities are legal, and a safe operating culture is defined and embraced by all. Waikato Aviation's air operations either air transport or commercial transport operations are covered under Waikato Aviation's Pt119/135 Operations Manual.

The SOR manual is issued by the Waikato Aviation Chief Flying Instructor (CFI). Its provisions covering Waikato Aviation private flying and flight training operations are mandatory for Waikato Aviation staff, community/club aviators and student pilots. All staff, community and student pilots shall read the SOR manual on becoming a member and before flying with Waikato Aviation.

Errors or omissions identified or suggested amendments to the document should be submitted to the CFI. Amendments will follow the documents control processes outlined in Waikato Aviation's Health and Safety Management System. The CFI may issue advanced notices of amendments in the form of Notices to Pilots (NOTOPs). NOTOPs supersede the requirements contained in the SOR manual until an approved amendment to this manual is issued by the CFI or the NOTOP's period of validity expires.

Where a conflict occurs between a NZCAA regulation and this manual, the most restrictive requirement shall apply.

Pilots are also advised to refer to the Waikato Aero Club Bylaws and Flying Rules where specific requirements are stated for community activities extending beyond flight and procedural requirements specified in this manual.

William Nicol

Chief Flying Instructor

Waikato Aviation

1st August 2022

# Part A - General Requirements

# 1. Definitions

| | |
|---|---|
| Licenced Pilots | Refers to all pilots flying Waikato Aviation aircraft who hold a current pilot's licence or validation issued by the NZ CAA and are flying privately. |
| Student/Training Pilots | Refers to all pilots flying Waikato Aviation aircraft or under instruction of a Waikato Aviation instructor who are being trained either as part of the Academy Diploma programme or through the community training programme. |
| All Pilots | Refers to all pilots flying Waikato Aviation aircraft excluding pilots flying commercial air operations (whose flying activities are governed by the Pt 119/135 Operations manual). |
| Pilot in Command (PIC) | The person ultimately responsible for the operation and safety of the aircraft. This person may be an unlicenced student pilot carrying out solo flight, a licenced pilot or an instructor providing dual instruction. |
| Instructors | Refers to all Waikato Aviation employed/contracted instructors who are delivering training or competency checks e.g. BFRs. |

**Note:** Pilots who hold a PPL but operating under a training syllabus flight shall comply with the applicable Student / Training pilot requirements until they have completed their full course of training.

# 2. Arrangement of the SOR Manual

The Waikato Aviation SOR Manual is arranged in two parts as shown below -

- Part A – General Flight Requirements.
- Part B – Operational Flight Requirements.

# 3. Administration

## 3.1 Function

The purpose of Waikato Aviation (Waikato Aero Club) is to promote general aviation activity within the Waikato region of New Zealand for recreational pilots, carry out Part 135 Charter operations and conduct Part 141 professional flying training courses approved by the NZCAA and NZQA. This manual applies to private flying and Pt 141 flight training. Commercial air operations are governed by Waikato Aviation's CAA approved Pt119/135 Operations Manual.

### 3.2 Organisation

The Waikato Aviation organisational structure is shown in Appendix 1.

## 4. Responsibilities

### 4.1 Training Manager

The Training Manager is a nominated Senior Person responsible to the General Manager for the overall management and delivery of the training courses approved by NZCAA and NZQA. The Training Manager's authority and responsibilities are specified in the Training Manual.

### 4.2 Chief Flying Instructor

The Chief Flying Instructor (CFI) is a nominated Senior person responsible to the General Manager for training and checking standards and the safety of all flying activities, staff and training personnel. The CFI's authority and responsibilities are specified in the Training Manual.

### 4.3 Flight Instructors

The Flight Instructors (FIs) are responsible to the CFI for delivering standardised and professional flight instruction. The FIs authority and responsibilities are specified in the Training Manual.

## 5. Scheduling of Flights

### 5.1 Student adherence to training schedules

5.1.1 Students are to arrive at the training facility at least 30 minutes prior to the scheduled booking time for local training flights and 60 minutes prior to the scheduled booking time for cross country navigation flights, or earlier if required by the instructor (or lesson requirement).

5.1.2 In the case of a simulator flight, the student is to arrive 30 minutes before the scheduled booking time.

5.1.3 Students must arrive for theory training classes in sufficient time to begin the scheduled training on time.

5.1.4 Repeated instances of late arrival for lessons will result in a meeting with the Training Manager or CFI to discuss expectations for punctuality and potential outcomes if continued non-compliance occurs.

### 5.2 Pilot adherence to flight schedules

5.2.1 Pilots shall arrive at Waikato Aviation no less than 10 minutes before the period in which the aircraft for hire is scheduled.

5.2.2 The scheduled period for hire shall include the time required to pre-flight the aircraft, complete the flight, and return the aircraft with sufficient fuel to the flight line.

# 6. Compliance

## 6.1 New Zealand Airspace

6.1.1 Pilots operating in New Zealand Airspace are to comply with NZ Civil Aviation Rules (CARs).

6.1.2 No requirement defined in this manual shall override the NZCARs.

## 6.2 Non-Compliance with this SOR Manual

6.2.1 Pilot actions reported or observed that are in contravention to these requirements or the CARS will be managed in accordance with Waikato Aviation's Just Culture process by the CFI.

# 7. Authorisation of Flights

## 7.1 Scope of Authorisation

7.1.1 All private and training flights undertaken at Waikato Aviation must be authorised in advance by a Waikato Aviation instructor who is approved by the CFI to authorise flights. Pilots undertaking commercial air operations will self-authorise their flights.

7.1.2 The following persons are permitted to hire a Waikato Aviation aircraft -

7.1.2.1 Pilot and student members of Waikato Aviation.

7.1.2.2 Pilot and student members of other clubs affiliated with Flying New Zealand and who are authorised by the Waikato Aviation's CFI to undertake the flight.

## 7.2 Authorisation using the Waikato Aviation Flight Authorisation Form (B7)

7.2.1 All solo flights except commercial air operations shall be authorised using the Waikato Aviation Flight Authorisation Form (Form B7) so that required planning and safety items are considered carefully. Dual training flights are exempt from completing the Flight Authorisation Form.

7.2.2 As part of the Flight Authorisation, pilots should provide Threat and Error Management strategies relevant to the flight to be carried out covering Terrain, Weather, Operational and Planning. (TWOP).

## 7.3 Authorisation of Dual Flights

7.3.1 When carrying out a dual instructional flight, instructors not under direct supervision shall self-authorise the flight.

## 7.4 Authorisation of Student solo or PIC Training Flights

7.4.1 Solo or PIC training flights are to be authorised by a Waikato Aviation instructor who has briefed the flight. If the briefing instructor is not available to authorise the flight, the authorising Instructor is to ensure that the student pilot has been properly briefed.

### 7.5 Authorisation of cross-country navigation solo PIC training flights

7.5.1 A minimum of 30 minutes shall be scheduled with an authorising/briefing Instructor before each cross-country navigation flight to ensure flight preparation demonstrates the competency required for the PPL or CPL navigation flight (as applicable) and contingency planning and risk mitigation is evident.

7.5.2 Students carrying out pre-PPL cross-country navigation flights shall only be authorised by a Category A or B instructor.

### 7.6 Authorisation of First Solo Day and Night Flights

7.6.1 First solo day or night flights are to be authorised by an A or B Category instructor only.

### 7.7 Authorisation of Flights by Licenced Pilots

7.7.1 Flights by Licenced pilots are to be authorised as per 7.2.1 by a Waikato Aviation Instructor who is not under direct supervision. Such authorisation merely confirms that the nature of the intended flight, the weather conditions and risk controls are acceptable to Waikato Aviation.

### 7.8 Authorisation of C Category Instructors under direct supervision

7.8.1 C Category instructors under direct supervision must have their instructional flight authorised by a supervising instructor (A or B category).

### 7.9 Authorisation of Activities

7.9.1 The following activities involving Waikato Aviation aircraft shall be notified to the CFI -

7.9.1.1 Aircraft races or rallies.

7.9.1.2 Competitions.

7.9.1.3 Community/Club fly-aways.

## 8. Recording of Flights

### 8.1 Flight Dispatch Sheet (Form B6)

8.1.1 The Flight Dispatch Sheet shall be checked for correctness with relevant details filled in before the flight with all remaining information completed at the end of each flight so that the following information is reliably recorded (Required info*).

- Aircraft registration*.
- Name of Instructor and Student / Student only / Pilot only*.
- Dispatch person.
- Flight Hours details (Hobbs)*.
- Flight Hours details (Tacho)*.
- Oil Added*.

- Fuel Added*.
- VFR Charges, en-route, flight plan, circuits, airways, landing fees.
- IFR Charges.
- ATIS information.
- Notes.
- Fuel Log*.

8.1.2 The Flight Dispatch Sheet shall be returned to front desk at the end of the flight.

8.1.3 Flight Records shall be archived for a minimum of 12 months from date of issue.

### 8.2 Aircraft Technical Log CA006 (Form B4)

8.2.1 The Aircraft Technical Log shall be carried onboard all flights.

8.2.2 The PIC shall check as part of the pre-flight Inspection that the aircraft is airworthy for flight. The following items are to be checked including those with a prescribed 'due date' or 'hour' limit.

- Aircraft type and model.
- Registration.
- Operator details.
- Maintenance programme.
- Annual Review of Airworthiness next due date.
- Next scheduled inspection due 'hours' and 'date'.
- Maintenance due before the next scheduled inspection 'due date' and/or 'hours'.

8.2.3 If a defect is identified, the PIC is to record the defect in the Flight Dispatch Sheet and inform the maintenance controller or delegate through the front desk. Defects should not be written into section 3 of the Technical Log without the approval of the Maintenance Controller or delegate.

### 8.3 Flight Schedule Pro

8.3.1 The details of all flights on return to Waikato Aviation are to be entered into Waikato Aviation's Flight Schedule Pro record management software programme by administration staff.

## 9. Scheduling of the Flying Programme

### 9.1 The Flight Training Schedule

9.1.1 The Flight Training Schedule is to be prepared no less than one day before the planned flight by the Training Manager (TM) or delegate. The programme as approved is to reflect the priorities as determined by the Training Manager considering -

- Forecast weather.
- Course and individual student progress.

- Ground school attendance.
- Expected aircraft and SIM availability.
- Expected instructor and student availability.
- Known airspace restrictions and NOTAMs.

9.1.2 In allocating aircraft to instructors and students, the scheduler is to consider the -

- Aircraft equipment requirements of different syllabus lessons.
- Allocation of instructors to students as determined by the CFI (i.e. the primary instructor should be first choice, followed by the student's secondary instructor).

9.1.3 The flying programme is to be displayed using Flight Schedule Pro so that the instructor and student is adequately informed of the -

- Names of the pilot/instructor.
- Aircraft or simulator to be used.
- Reservation period.
- Flight type.
- Training Lesson number.

9.1.4 The flying programme may display additional information such as ground school lectures, classroom allocation and mass briefs, but not such that it detracts from or obscures the mandatory items at paragraph 9.1.3.

9.1.5 The flying programme also displays flights scheduled for licenced pilots hiring a Waikato Aviation aircraft for recreational purposes and flights scheduled for Part 135 operations. Pt119/135 commercial air operations have priority over training or other flights in the three aircraft assigned to commercial air operations.

9.1.6 The next day's flying programme should be published no later than 15:00 local time and any late changes required after 18:00 must be reported directly to the student by scheduling staff.

9.1.7 The flying programme should only be amended by the Training Manager or delegate to account for amended changes to the published programme.

9.1.8 It is the responsibility of students and pilots to check Flight Schedule Pro up until 18:00 the day prior so that they are informed of their flight schedule.

# 10. Licencing of Pilots

## 10.1 Solo Flight

10.1.1 Before flying solo in a Waikato Aviation aircraft, the pilot shall hold as a minimum a Class 2 or DL9 medical and be approved to operate solo by a Waikato Aviation instructor.

### 10.2 Pilot in Command

10.2.1 Before acting as PIC in a Waikato Aviation aircraft, all pilots (other than student pilots flying a syllabus solo lesson) must carry a valid pilot licence and medical during the flight. To be deemed valid -

10.2.1.1 The licence and medical certificate must both be valid and, where required, signed by the licence holder.

10.2.1.2 The licence or, where appropriate, the logbook, must show a valid class or type rating for the aircraft to be flown.

### 10.3 Instrument Flight

10.3.1 Before acting as PIC in a Waikato Aviation aircraft under IFR, the PIC's licence must show a valid instrument rating and the PIC shall be current for flight hour and approach currency requirements.

### 10.4 Night Flight

10.4.1 Before acting as PIC in a Waikato Aviation aircraft at night, the PIC's licence or, where appropriate, the logbook must indicate a valid night rating unless authorised for night solo as part of an approved training course.

### 10.5 Instructional Flight

10.5.1 An instructor must hold a valid instructor rating to provide flight instruction.

## 11. Requirements to Operate as PIC in a Waikato Aviation Aircraft

### 11.1 Competency Check

11.1.1 All pilots are to demonstrate their competence to a Waikato Aviation Instructor before flying as PIC in a Waikato Aviation aircraft for the first time or after a period of 180 days since last flown, either under dual instruction or as PIC.

11.1.2 A Waikato Aviation instructor may determine that a pilot is required to complete a dual competency check before 180 days

### 11.2 Knowledge of Flight Requirements

11.2.1 Before flying PIC in a Waikato aircraft all pilots shall be knowledgeable of -

11.2.1.1 This SOR Manual.

11.2.1.2 Health and Safety requirements.

11.2.1.3 General flight procedures.

11.2.1.4 Hamilton aerodrome operational and flight procedures, route requirements and operational and flight procedures for the destination and alternate airfields.

11.2.1.5 CAA Rules appropriate for the nature of the flight.

### 11.3 Permission to Operate a Waikato Aviation Aircraft

11.3.1 No person is permitted to pilot a Waikato Aviation aircraft as PIC if they -

11.3.1.1 Do not hold a current licence or medical.

11.3.1.2 Have had their licence revoked by the NZCAA.

11.3.1.3 Have been prohibited from flying by another aviation organisation unless approved by the Waikato Aviation CFI.

11.3.1.4 Are in debt to Waikato Aviation unless approved by the General Manager.

11.3.1.5 Are under investigation for a breach of the CARs or have demonstrated unsafe airmanship unless approved by the Waikato Aviation CFI.

### 11.4 Permission to taxi a Waikato Aviation Aircraft

11.4.1 No person is permitted to taxi a Waikato Aviation aircraft solo, until they have achieved their first solo flight.

## 12. Last Landing Time (day flights)

### 12.1 Training Pilots

12.1.1 Training pilots must be on the ground 30 minutes before Evening Civil Twilight (ECT) when operating in the circuit and must have joined the circuit 45 minutes before ECT when arriving at the destination aerodrome from a local or cross-country flight.

### 12.2 Licenced Pilots

12.2.1 Licenced pilots must be on the ground 15 minutes before Evening Civil Twilight (ECT) when operating in the circuit and must have joined the circuit 30 minutes before ECT when arriving at the destination aerodrome from a local or cross-country flight.

## 13. Licenced Pilot Currency

### 13.1 Day Flights

13.1.1 Before carrying passengers, licenced pilots must have conducted 3 take-offs and landings as the sole manipulator of the flying controls, in the same class or type of aircraft, within the previous 90 days.

### 13.2 Night Flights

13.2.1 Before carrying passengers at night, licenced pilots must have conducted 3 take-offs and landings in the same type of aircraft, within the previous 90 days at night.

## 14. Supervision of Training Flights

### 14.1 Solo Training Flights

14.1.1 All solo training flights shall be supervised by a Waikato Aviation instructor who is not under direct supervision. This supervision involves -

14.1.1.1 A pre-flight sign out by an instructor covering the Flight Authorisation Form (B7) and discussion ensuring all relevant safety factors are planned and considered.

14.1.1.2 Flight following by Waikato Aviation's administrative team using V2 or Spider Tracks which includes emergency monitoring of the flight and the onsite presence of a Waikato Aviation approved instructor.

# 15. Flight Training Currency

## 15.1 Pre-PPL Training Pilot

15.1.1 A pre-PPL training pilot must undertake a dual flight by day or by night with a Waikato Aviation instructor before flying solo in a Waikato Aviation aircraft if they have not flown during the 21 days before the flight.

15.1.2 A Pre-PPL training pilot shall have completed a dual instructional flight within the preceding 5 hours flight time unless otherwise authorised by an A or B Category instructor.

## 15.2 Post PPL Training Pilot

15.2.1 A Post-PPL Training Pilot must undertake a dual flight by day or by night with a Waikato Aviation Instructor before flying PIC in a Waikato Aviation aircraft if they have not flown during the preceding 28 days before the flight.

# 16. Responsibilities of the Pilot-In-Command

## 16.1 Pre-Flight Planning

16.1.1 The PIC is to sign the Flight Authorisation Form before flight. This is taken to confirm the following -

16.1.1.1 The weather has been checked as suitable for the planned flight and any syllabus training requirements applicable e.g. PPL navigation.

16.1.1.2 The aircraft and its equipment are serviceable and conforms with the minimum instrument serviceability requirements.

16.1.1.3 The aircraft is operating within its weight and balance limits and meets the take-off and landing performance requirements.

16.1.1.4 The pre-flight check has been completed in accordance with the flight manual.

16.1.1.5 There is sufficient fuel and oil for the intended flight, plus reserves (refer sections 29.3 to 29.9.

16.1.1.6 There is sufficient time available on the aircraft to complete the programmed flight before the next scheduled maintenance or expiration of calendar timed items, and all other necessary aircraft documents will remain valid for the period of the flight.

16.1.1.7 All NOTAMs relevant to the proposed flight have been checked.

16.1.1.8 Appropriate maps, charts and navigational equipment are available during the flight.

16.1.1.9 Adequate flight following is available for the complete flight, or a flight plan has been filed with Airways including a SAR time.

16.1.1.10 All other crew members and passengers have been briefed, or will be briefed before engine start, on all safety matters, particularly actions in the event of an emergency.

16.1.1.11 The flight will be conducted in accordance with CARs and the requirements of the Waikato Aviation's SOR and Training Manuals.

# 17. Carriage of Passengers

## 17.1 Carriage of Passengers on Dual Training Flights

17.1.1 Passengers carried on dual training flights require the permission of a flight instructor and shall either be -

17.1.1.1 A Waikato Aviation staff member.

17.1.1.2 A Waikato Aviation student pilot.

17.1.1.3 A person(s) approved by the CFI, or when the CFI is not on duty, the senior B Cat Flight Instructor who is.

17.1.2 Passengers are not permitted on dual training flights where the following exercises are being trained or practiced -

17.1.2.1 Simulated Engine Failures.

17.1.2.2 Simulated Forced Landings.

17.1.2.3 Stalling.

17.1.2.4 Low Flying.

17.1.2.5 Exercises in which there is an elevated risk of the aircraft entering an undesired aircraft state (UAS) or the passengers suffering from motion sickness.

## 17.2 Carriage of Passengers on local solo PPL licenced training flights

17.2.1 Passengers are not permitted on local PPL licenced training flights except with the permission of the CFI, or when the CFI is not on duty, the senior B Cat Flight Instructor who is.

## 17.3 Carriage of Passengers on solo PPL licenced cross-country navigation training flights

17.3.1 Passengers are permitted on some PPL cross-country navigation training flights as per the requirements of section 17.1 of this manual but shall be briefed as part of the sign out on the nature of interactions permissible between the PIC and passengers.

# 18. Passenger Briefing

## 18.1 Contents of Briefing

18.1.1 Passengers are to be briefed before engine start on the following items -

18.1.1.1 Comfort items available to them during the flight, e.g. sick bags, location and operation of air vents.

18.1.1.2 The use of the seat belts and advised that these must be always worn except with the express permission of the PIC.

18.1.1.3 The operations of normal and emergency exits and the actions to be taken in the event of an emergency.

18.1.1.4 A ditching briefing if flights are planned over water.

18.1.1.5 The location of the fire extinguisher, first-aid kit, and life jackets if relevant.

18.1.1.6 Activities or items prohibited inflight, e.g. smoking and use of particular electronic items.

18.1.1.7 Any passenger occupying the front seat is briefed not to interfere with the flying controls or any other aircraft equipment.

18.1.2 Where possible, passengers should be briefed in the order of the emergency passenger briefing communicated during a forced landing.

# 19. Operational Documents

## 19.1 Documents to be Carried on an Aircraft

19.1.1 The following documents shall be carried on all Waikato Aviation Flights -

19.1.1.1 Aircraft Technical Log (CA006).

19.1.1.2 Pilot licence and medical, and for student pilots flying solo, a copy of a valid medical certificate in accordance with section 10.1.1 of this manual.

19.1.1.3 Approved Aircraft Flight Manual for the aircraft, containing the Certificate of Registration, Certificate of Airworthiness, and the Approval of Aircraft Radio Installation (CAA2129).

19.1.1.4 Weight and Balance Data (CAA2173).

## 19.2 Documents not to be carried on an aircraft.

19.2.1 The following logbooks are to be maintained by the Maintenance Controller or Maintenance Provider and must not be carried in the aircraft -

19.2.1.1 Airframe.

19.2.1.2 Engine(s).

19.2.1.3 Propeller(s).

19.2.1.4 Aircraft Airworthiness.

19.2.2 The following logbooks maintained by the pilot must not be carried in the aircraft -

19.2.2.1 Pilot flying logbook.

# 20. Retention of Documents

## 20.1 Daily Flight Record – Form B6

Authorisation sheets are to be kept for a period of at least 12 months.

## 20.2 Aircraft Technical Logs - Form B4

Technical logs are to be kept for a period of at least 12 months.

# 21. Pilot Qualification Records

## 21.1 Student Pilots

21.1.1 Records of student qualifications and medicals, including dates of expiry, are the responsibility of the student and are stored so they are accessible to the student and instructor.

## 21.2 Instructor Pilots

21.2.1 Records of instructor qualifications and medicals, including dates of expiry, are in the instructor's personal file managed by the CFI.

# 22. Revalidation of Ratings and Medical Certificates

## 22.1 Instructors

22.1.1 Each instructor is responsible for ensuring all the qualifications necessary to perform their role as a Waikato Aviation instructor are kept valid.

22.1.2 If revalidation requires a proficiency check, instructors must bring this to the attention of the CFI at least one month before the expiry date so that suitable arrangements can be made to complete the check.

22.1.3 Instructor proficiency checks may be linked to periodic standardisation training.

## 22.2 Students

22.2.1 Each diploma student is responsible for ensuring their Class One medical remains valid during their flight training unless otherwise agreed with the CFI. A copy of their current medical certificate is to be stored securely either electronically or on paper file.

22.2.2 Each community student is responsible for ensuring their Class Two or DL9 medical remains valid during flight training, unless otherwise agreed with the CFI.

# 23. Duty and Flight Limitations

## 23.1 Rationale

23.1.1 Flight and duty limitations are not mandatory for students or flight instructors carrying out flight training activities in New Zealand. Waikato Aviation will apply flight and duty limitations to its flight training to ensure fatigue levels are managed so that safety is maintained.

## 23.2 Application

23.2.1 Flight and duty limitations apply to –

23.2.1.1 Academy student pilots carrying out a diploma course.

23.2.1.2 Community student pilots carrying out training for a PPL or CPL licence or other ratings.

23.2.1.3 Instructors undertaking all instructional activity at Waikato Aviation.

# 24. Student Duty Period Restrictions and Flight Time Limitations

## 24.1 Definitions and Clarifications

24.1.1 The term 'duty period' is defined as the period from arrival at Waikato Aviation (or other premises if applicable) to begin activities related to flying and ground training until the end of such activities.

24.1.2 Activities undertaken at Waikato Aviation initiated by the student e.g. solo simulator sessions or self-directed learning shall not be designated as duty time.

24.1.3 Cancelled activities or events due to factors outside of the control of Waikato Aviation shall not be designated as duty time when the period on site specifically related to the cancelled activity or event does not exceed 2 hours.

24.1.4 For these rules, flying hours include aircraft flying and simulator flying, and all other flying, including non-course flying. Students must obtain permission from the CFI if they wish to undertake any non-course flying.

## 24.2 Duty Restrictions and Flight Time Limitations

24.2.1 Students must not undergo flying or ground training for more than 6 days continuously.

24.2.2 The maximum duty period for a student is 12 hours.

24.2.3 Students must not be programmed or authorised to fly solo after 8 hours on duty.

24.2.4 The maximum duration for training flights is 3.5 hours. Flights may extend beyond 3.5 hours (for example, positioning flights) with the permission of the CFI.

24.2.4.1 The only exception to the requirements specified in paragraph 24.2.4 is the cross-country navigation qualifier. The duration of this flight is approved at 5 hours but comprises of three legs with two intermediate stops. These stops must be a minimum of 30 minutes.

24.2.5 Students may not fly more than 3 training flights of more than 20 minutes duration in any duty period.

24.2.6 Students may not fly more than 40 hours in a rolling 28-day period. The 40 hours may be extended to 50 hours with CFI/DCFI approval after a fatigue assessment interview has been completed by the CFI/DCFI. This assessment is to be completed with the student and include an assessment of their progress and performance with the flying syllabus, the ground training syllabus, and include a review of the pilot's sleeping and eating habits and the time free from all duty. Under no account shall an extension be granted that will exceed 50 hours flight time within a 28-day period. The duty limit of paragraph 24.2.1 must be met before and during the extension.

24.2.7 The minimum period between the landing and take-off times of training flights is one hour, except under the following circumstances -

24.2.7.1 Syllabus dual to solo flights.

24.2.7.2 Solo flights planned to be of a duration of 1 hour or less, following a dual proficiency check or between the 3 sectors of the 'qualifying cross country' flight.

24.2.7.3 The night solo circuit exercise following the dual night circuit exercise, subject to the total flight time of both exercises not exceeding 2.5 hours.

### 24.3 Rest Period

24.3.1 The minimum period of rest between duty periods shall be 10 hours. Where the rest period follows a duty period more than 10 hours, the minimum rest period will be at least 1 hour more than the duty period.

## 25. Instructor Duty Period Restrictions and Flight Time Limitations

### 25.1 Duty Restrictions and Flight Time Limitations

25.1.1 An instructor shall not be rostered for a duty period more than 11 hours (but this may be extended to 12 hours to complete a disrupted schedule).

25.1.2 An instructor shall not be rostered to instruct in flight and/or simulator for more than 8 hours in any duty period and 20 hours in a 72-hour rotational period.

25.1.3 Instructors may not carry out flight or ground training for more than 6 days continuously and 11 days in a 14-day period. No instructor may commence or continue a duty if they are fatigued or are likely to suffer from fatigue during the flight that may endanger the safety of the flight.

### 25.2 Rest Period

25.2.1 The minimum period of rest between duty periods shall be 10 hours. Where the rest period follows a duty period more than 10 hours, the minimum rest period will be at 1 hour more than the duty period.

### 25.3 Ground Theory and Flight Instructors

25.3.1 Flight instructors nominated to give ground theory instruction when carrying out dual duties, shall not be rostered for a duty period more than 11 hours (but this may be extended to 12 hours to complete a disrupted schedule). Within this dual duty period -

25.3.1.1 The instructor shall not be rostered on for more than six hours classroom contact time and should not exceed 30 hours contact time in any week.

25.3.1.2 The instructor shall have a stand down period between ground and flight duties of no less than 30 minutes. This time is used to prepare for the next training duty.

25.3.1.3 The instructor shall not be rostered on more than (x) hours flight and/or simulator instructional time where (x) equals 8 hours minus the ground school contact time plus the stand down time. For example, a flight instructor, after delivering a 2 hour ground school lesson and after taking the minimum 0.5 hour stand down period, shall not instruct in flight or in a simulator in the same duty period for more than 5.5 hours; x = 8 – (2 + 0.5).

### 25.4 Full Time Ground Instructor

25.4.1 A full-time ground instructor should not be rostered to instruct Waikato Aviation Students for more than 8 hours classroom contact time within any duty period and should not exceed 35 hours contact time in any 1 week.

## 26. Pilot's Logbooks

26.1.1 All pilots are required to keep logbooks in accordance with NZ CAR Part 61. Details of all flights must be entered into the logbook as soon as practical after a flight and, in any case, within 7 days. Training pilots shall identify each syllabus flight and any turning points in navigation exercises must be indicated.

26.1.2 Instruction given in an approved simulator shall only be credited as instrument ground time, but the time must be certified by the instructor in the pilot's logbook.

26.1.3 Student logbooks are to be summarised with the applicable logbook stickers before the following competency checks and flight tests -

26.1.3.1 First Solo.

26.1.3.2 PPL Flight Test.

26.1.3.3 CPL Cross Country Navigation Flight Test.

26.1.3.4 CPL Flight Test.

26.1.3.5 Instrument Rating Flight Test.

26.1.3.6 Instructor Rating Flight Test.

# 27. Safety

## 27.1 Health and Safety Management Manual

27.1.1 Waikato Aviation's Health and Safety policies are to be found in the Health and Safety Management System Manual. All staff and all pilots are to familiarise themselves with this manual, especially sections 1.5, 5.3 and 5.4. All pilots shall familiarise themselves with the location of fire extinguishers, fire exits, and first aid kits on the ramp and within the offices.

## 27.2 Health and Safety

27.2.1 The airside environment is full of potential hazards. For the safety of everyone, it is essential that knowledge, vigilance, and care are maintained at all times. It is the responsibility of all Waikato Aviation pilots with access to airside areas to be aware of Foreign Object and Debris (FOD), to avoid depositing FOD, and when they find any FOD, to remove it from airside areas.

27.2.2 High-visibility jackets are to be always worn on airside areas by visitors so that a clear identification of people unfamiliar with aviation is evident.

27.2.3 Smoking is strictly forbidden in airside areas. Waikato Aviation also operates a no smoking policy within its premises.

27.2.4 Mobile phones and other portable electronic equipment are a distraction and therefore potential hazard to the safe operation of aircraft equipment. All such electronic devices should be silenced and only be engaged with when the pilot is free of any aviation tasking e.g. pre-flight, or during an instructor brief, as examples.

27.2.5 Electronic devices may only be switched on (or maintained in standby mode) during flight, with the express permission of the pilot-in-command. In addition, mobile phones must be switched to silent in facility designated training areas (such as briefing rooms and classrooms) but may be used in the designated rest areas.

## 27.3 Consumption of Alcohol or Drugs

27.3.1 Staff and pilots are to comply with the Waikato Aviation's Drug and Alcohol policy (refer to Appendix 1 of the Health and Safety System manual).

27.3.2 The Drug and Alcohol policy prohibits all Waikato Aviation staff and pilots from carrying out their responsibilities or operating an aircraft under the influence of drugs and alcohol.

## 27.4 Post-Accident / Incident Procedure – Pilot Management

27.4.1 Following an accident or incident all pilots involved shall be suspended from flying pending the results of an enquiry into the circumstances. This action in no way implies blame or pre-empts the outcome of the enquiry but is in place to ensure a duty of care to all involved.

## 27.5 Emergency Response - Ground

27.5.1 All staff and pilots must be familiar with the Waikato Aviation Emergency Response plan (refer to Health and Safety Management System Manual section 2.2).

## 27.6 Emergency Response – Aircraft Accident or Incident

27.6.1 In the event of an accident or incident involving a Waikato Aviation aircraft, the procedures outlined in the Health and Safety Management System Manual section 2.3 and 2.4 are to be followed. All staff shall be familiar with -

27.6.1.1 Requirements regarding management of the accident site.

27.6.1.2 Requirements regarding notification of the accident to relevant authorities and services.

27.6.1.3 Coordination and management of Waikato Aviation's response to the accident or incident.

# Part B - Operational Flight Requirements

# 28. Aeroplane Technical and Procedures

## 28.1 Aeroplane Technical

28.1.1 The CFI is responsible for procuring or producing technical notes for the PA28, C172, R2160 and DA42 aircraft.

28.1.2 Before acting as PIC of an aircraft, pilots must have demonstrated their technical knowledge of the aircraft as detailed in the Aircraft Flight Manual.

## 28.2 Aeroplane Procedures

28.2.1 Checklist structured procedures are to be used in multi-engine aircraft. The use of approved and controlled checklists is therefore required.

28.2.2 Memory structured procedures are to be used in single-engine aircraft supported by abbreviated checklists. Checklists are recommended to be referenced for single-engine aircraft.

28.2.3 All checklists will comply with guidance provided by the aircraft manufacturer. Pilot use of all approved checklists must comply with Waikato Aviation procedures.

28.2.4 Unapproved and uncontrolled checklists shall not be used.

# 29. Flight Planning, Loading and Performance

## 29.1 Operational Minima

29.1.1 Pilots are not to operate outside the limitations of their qualifications, assigned or legal meteorological minima or limitations of the aircraft.

## 29.2 Crosswind Limitations

29.2.1 Student pilots shall not take-off and land in conditions that exceed their personal maximum crosswind limit as specified on the B7 Authorisation Form. Student pilots when suitably trained and with the required experience and currency may be approved by an instructor up to the aircraft's maximum demonstrated crosswind limitation.

29.2.2 Licenced pilots should normally not operate in exceedance of the aircraft's maximum demonstrated crosswind. Operations in crosswinds exceeding the aircraft's maximum demonstrated limit are only permitted with the specific approval of a Waikato Aviation instructor and signed off on the B7 Authorisation Form.

29.2.3 Instructors should normally not train pilots in exceedance of the aircraft's maximum demonstrated crosswind. Training in crosswinds exceeding the aircraft's maximum demonstrated limit shall only occur with the specific approval of the CFI.

## 29.3 Navigation Documentation

29.3.1 Training Pilots

29.3.1.1 When operating VFR within the local area, training pilots are to carry a current topographical chart and a selection of aerodrome charts covering all airports in the local area.

29.3.1.2 When operating on VFR navigation flights, training pilots are to carry current topographical chart(s) and a selection of aerodrome charts covering all airports along the intended route, including all likely diversion airports. In addition, pilots are to carry a copy of the weather forecast for their intended route, relevant NOTAMS, a flight log for the route (including a fuel log), and a current AIP Volume 4.

29.3.1.3 When operating an IFR flight, training pilots are to carry current IFR chart(s) and approach plates covering the intended route and all potential destination or diversion airports. In addition, pilots are to carry a copy of the weather forecast and NOTAMs for their intended route and flight and fuel log.

29.3.2 Licenced pilots shall comply with the requirements of section 29.2.1 above but this information may be provided by an electronic tablet if the required information is also available in paper format or via a second electronic tablet powered from a separate independent source (e.g. with a separate battery backup).

## 29.4 Minimum fuel requirements for day VFR - Solo Training Flights

29.4.1 Fuel for the calculated flight time at cruise consumption plus -

29.4.1.1 A 30 minute fixed reserve.

29.4.1.2 And an additional minimum 45 minutes of fuel for contingencies.

## 29.5 Minimum fuel requirements for day VFR - Dual Training Flights

29.5.1 Fuel for the calculated flight time at cruise consumption plus -

29.5.1.1 A 30 minute fixed reserve.

29.5.1.2 And an additional minimum 30 minutes of fuel for contingencies.

## 29.6 Fuel requirements for Day VFR flights – Licenced pilots

29.6.1 Fuel for the calculated flight time at cruise consumption plus -

29.6.1.1 A 30 minute fixed reserve.

29.6.1.2 And an additional minimum 15 minutes of fuel for contingencies.

## 29.7 Fuel requirements for IFR Training Flights

29.7.1 Fuel for the calculated flight time at cruise consumption to destination and alternate (if required) plus -

29.7.1.1 A 45 minute fixed reserve.

29.7.1.2 And additional contingency fuel for foreseeable weather or ATC delays.

29.7.1.3 And an additional minimum 30 minutes of fuel for contingencies.

### 29.8 Fuel requirements for Night VFR flights – All pilots

29.8.1 Fuel for the calculated flight time at cruise consumption to destination and a night alternate plus

29.8.1.1 A 45 minute fixed reserve.

29.8.1.2 And an additional minimum 75 minutes of fuel for other contingencies.

### 29.9 Fuel Policy

29.9.1 The actual level of the fuel in the tanks must always be checked visually and by dipstick by the PIC (or student given the responsibility by the PIC).

29.9.2 The fuel in each tank must be sampled for water or other impurities before each flight.

29.9.3 The fuel calculation section on the flight log form is to be completed for all flights other than those which depart from, remain within 25nm, and return to the departure aerodrome.

29.9.4 All pilots should note that the fuel gauges in the aircraft may be inaccurate and must not be relied on to show the fuel status at any time.

### 29.10 Oil Policy

29.10.1 Waikato Aviation engineers will determine the oil suitable for an engine at any time. Their advice should be sought if there is any doubt about the correct grade of oil to be used.

29.10.2 The minimum oil level required for flight is stated in the AFM. The PIC is responsible to ensure there is sufficient oil to complete the flight. Sufficient oil for the flight means the oil level must remain between the upper and lower levels for each engine type (and will remain within the levels for the duration of the flight, assuming normal oil use). The normal operating levels specified for each aircraft type are -

- C172 6 - 8 US quarts.
- DA-42 5 - 6 litres (between red marks on dip stick).
- PA28 6 - 8 US quarts.
- R2160 6 - 8 US quarts.

### 29.11 Filing of Flight Plan

29.11.1 Pilots operating Waikato Aviation aircraft are not required to file a flight plan where an alternative flight following system is operating for the intended flight. Alternative flight following options are -

29.11.1.1 A serviceable V2 system.

29.11.1.2 Another monitoring system approved by the CFI.

29.11.2 Training pilots flying dual, or solo are required to file a flight plan with an ATS unit activating SAR watch capability when required as part of their navigation syllabus. This is normally carried out when flight in controlled airspace is to be incorporated as a lesson competency.

### 29.12 Weight and Balance

29.12.1 A weight and balance calculation is required and must be completed for all Waikato Aviation private and training flights. The PIC must confirm that the aircraft is within its weight and balance limits before take-off. The aircraft's weight and balance may be calculated using the FSP hosted calculator instead of by manual calculation with the determined figures entered on the B7 Flight Authorisation Form.

### 29.13 Performance

29.13.1 The PIC should be satisfied that the runways to be used for take-off and landing (including any planned alternates) are suitable (e.g., length and surface) for the actual and forecast weather (wind direction and strength, density altitude, precipitation, braking action, and other relevant factors).

29.13.2 Reduced length take-offs are permitted from sealed runways to improve the efficiency of aircraft movements only if the remaining take-off distance available meets the necessary performance requirements specified in section 29.12.3 or 29.12.4 below. Pilots should also carefully consider what effect the reduced length take-off will have on safety margins on the initial climb out and in the event of an engine malfunction during this phase of flight.

29.13.3 For all training flights, the Group Rating system performance requirements may be used as a minimum.

29.13.4 NZ CAR Part 135 performance requirements shall be used for the CPL navigation phase of training, CPL revision flights and CPL flight tests.

## 30. Aeroplane Handling and Ground Handling

### 30.1 Aircraft Refuelling Procedures

30.1.1 Aircraft shall not be refuelled with passengers on board or if they are within 15m of the aircraft.

30.1.2 Before refuelling

30.1.2.1 The aircraft must be bonded using the bonding wire and clip provided at the refuelling point.

30.1.2.2 All aircraft switches, e.g., master and electrical, are off.

30.1.2.3 No ignition risk is present within 15m of the aircraft (e.g., flame, mobile phones).

30.1.3 For all training flights, the Daily Log is to record the fuel uplift before the flight, the fuel available for the flight, and the post flight fuel. Fuel and oil are to be accurately recorded and managed.

### 30.2 Aircraft Taxiing

30.2.1 A brake check shall be completed normally within 2 m of taxi.

30.2.2 Aircraft shall be taxied at a safe speed (normally no faster than a fast-walking pace) with a continuous lookout and controls positioned for the wind direction and surface conditions.

## 30.3 Aircraft Checks Before Flight

30.3.1 Before each flight, the PIC is responsible for ensuring the aircraft is checked in accordance with the approved checklist for that aircraft. Particular attention must be paid to the following items -

30.3.1.1 Fuel and oil, ensuring that there is sufficient for the planned flight with adequate reserves.

30.3.1.2 The fuel has been properly checked (using a sampler) for the presence of water or other contaminants.

30.3.1.3 In winter, ensuring the airframe is free of all ice, snow and frost before moving any control surfaces and de-icing the aircraft in accordance with Waikato Aviation de-icing procedures.

30.3.1.4 Before take-off, ensuring all doors, windows, and all seat belts, are secure.

## 30.4 Airframe Icing

30.4.1 The PIC is not to take off with ice, frost or snow on the aircraft wings, propellers, control surfaces, windscreen, or on any system (e.g. aerials) necessary for the flight.

## 30.5 Pre-Flight Inspection

30.5.1 A pre-flight inspection shall be carried out by a licenced pilot or training pilot for each flight. The inspection shall be in accordance with the aircraft flight manual.

30.5.2 The licenced or training pilot who completed the pre-flight inspection shall sign on the B7 Flight Authorisation Form that this inspection has been completed.

## 30.6 Final Walk Around Inspection

30.6.1 After completing all elements of the pre-flight inspection and passenger emergency brief as required, the pilot shall carry out a final walk around inspection to ensure that all fuel caps, covers, blanks, doors and hatches are secured or removed as applicable. During this inspection the pilot shall recall a mental picture of the oil cap being secure.

## 30.7 Turnaround Inspection Procedures

30.7.1 When a flight consists of several legs that include intermediate stops, a turnaround inspection shall be completed by a licenced or training pilot.

30.7.2 The turnaround inspection must follow the normal inspection direction as specified in the aircraft flight manual and must remain structured. As part of the turnaround inspection -

30.7.2.1 Fuel, oil and anti-ice fluids (where applicable) should be checked, and a fuel drain carried out after refuelling as required.

30.7.2.2 A walk around the aircraft which should include an inspection for fluid stains, the security of covers and doors, the condition of tyres, the condition of the airframe, the control surfaces and propellers.

## 30.8 Aircraft Ground Handling

30.8.1 Aircraft are to be manoeuvred on the ground either under their own power or by using the tow bars provided. They are not to be pushed, pulled, and turned primarily by applying a force to the propellers. Areas of the airframe used to apply a force for manoeuvring an aircraft shall be limited to struts, undercarriage and wing spar strengthened areas and other areas of the airframe approved for such purpose by the aircraft manufacturer.

## 30.9 Precautions when Starting Engines

30.9.1 Before starting the engines, the pilot shall ensure they are aware of the position of the nearest fire extinguisher and shall carry out a comprehensive lookout to the front, sides and behind the aircraft. Consideration shall be given to the slipstream effect.

30.9.2 Pilots are to ensure that, if they are unable to see whether people are clear of the aircraft before start, they are to shout “clear prop” in such a manner that anyone near the aircraft will hear the warning.

30.9.3 No engines are to be started when the aircraft is partly or wholly inside a hangar, or when the slipstream will be directed through open hangar doors or may disrupt or damage other aircraft or equipment or injure people.

30.9.4 Before starting the engines, pilots are to ensure there is sufficient space ahead to taxi the aircraft safely.

30.9.5 During the day, the aircraft’s rotating beacon shall be turned on before starting. At night, pilots are to ensure that the navigation lights are illuminated in addition to the rotating beacon and the landing light is flashed twice before starting the engines.

30.9.6 Students are not permitted to start engines by hand swinging the propeller.

30.9.7 Licenced pilots may be permitted to hand swing the propeller but only if the following conditions are met -

30.9.7.1 The aircraft is located away from a maintenance base and there is no other electrical means to start the aircraft.

30.9.7.2 The pilot hand swinging the propeller has been trained and has had previous experience of hand swinging a propeller and briefs the pilot in the cockpit on start procedures and required communications.

30.9.7.3 The wheels of the aircraft are chocked, or the aircraft is restrained by secure pickets.

## 30.10 Engine Testing and Run-Up Before Take-Off

30.10.1 Where possible, the aircraft is to be positioned into wind before performing run-up checks. Where this is not possible, the aircraft is to be positioned at an angle of approximately 45 degrees to the taxiway to avoid slipstream damage to the aircraft behind.

30.10.2 Pilots are to ensure the area behind the aircraft is clear of people and obstructions before using high-power settings on the ground.

30.10.3 Pilots are to use designated run-up areas for engine checks and run-ups.

30.10.4 Engine high power runs over stones or loose debris must be avoided.

30.10.5 Immediately after setting runup power, a check to ascertain the brakes are holding should be carried out.

### 30.11 Aircraft Covers

30.11.1 After completing the last flight of the day, the pilot(s) responsible shall ensure that the aircraft is protected over night by applying the covers provided.

## 31. VFR Flights

### 31.1 Wearing of Restraints

31.1.1 All pilots and passengers on Waikato Aviation aircraft are to always wear restraining seat belts during flight.

31.1.2 Shoulder harnesses may be loosened only during the cruise phase of the flight

### 31.2 Weight and Balance

31.2.1 Under no circumstances shall a Waikato Aviation aircraft be operated in contravention of its weight and balance limitations.

### 31.3 Turns After Take-off

31.3.1 Pilots are not to commence turns after take-off until more than 500ft above ground level, except where required by published noise abatement orders or when requested by ATC to help expedite the flow of departing traffic. When requested, the turn shall not begin below 300ft AGL and the angle of bank shall not exceed 15 degrees until the aircraft has reached 500ft AGL.

### 31.4 Pre-Landing TEM assessment and touchdown point identification

31.4.1 When either overhead or downwind, pilots should carry out a TEM assessment to assess present risks and apply mitigations to ensure safe landing operations. If the risks identified and mitigations considered will not provide safe margin, the pilot shall continue with an alternative plan.

31.4.2 As part of the pre-landing TEM assessment, the pilot shall nominate a touchdown point by which the aircraft shall be on the ground and braking. If during landing the aircraft is not on the ground and braking by this point, the pilot shall execute a go around. Normally this point should be no greater than 1/3 of the landing distance available.

## 31.5 Stabilised Approaches

31.5.1 Pilots shall ensure that all standard approaches are stabilised on finals and before 200ft AGL. If the approach is not stable at 200ft AGL, the pilot shall execute a go around if available. The stabilised criteria for a standard $3^{o}$ approach are;

31.5.1.1 Reference airspeed +/- 5 kts

31.5.1.2 Vertical speed no greater than 500 fpm

31.5.1.3 Aircraft configured for landing

## 31.6 Low Level Passes

31.6.1 Low level passes below 500ft are prohibited except

31.6.1.1 When part of a flight training exercise under dual instruction

31.6.1.2 When flown as part of a club competition exercise

31.6.1.3 With the approval of the CFI

## 31.7 Aerobatic Manoeuvres and Spinning

31.7.1 A HASELL check is to be completed before any course approved aerobatic manoeuvre is carried out.

31.7.2 Aerobatic manoeuvres may be flown only as permitted by the flight manual and the pilot is qualified in aerobatic manoeuvres with the associated logbook endorsement. Pilots undertaking dual aerobatic training must be accompanied by an appropriately qualified Waikato Aviation instructor. Pilots undertaking solo aerobatic training manoeuvrers must be authorised by an appropriately qualified Waikato Aviation instructor.

31.7.3 Recovery from aerobatic manoeuvres and spinning is to be achieved by 3000 ft AGL.

## 31.8 Stalling Manoeuvres

31.8.1 Before carrying out an initial Stall, a HASELL check is to be completed. A HELL check shall be completed between stalls.

31.8.2 Recovery from stalling manoeuvres is to be achieved by 2000ft AGL under dual training or 2500ft AGL for solo practice.

31.8.3 During flight tests and checks conducted by approved examiners, stalling may be conducted at a lower altitude, provided that the recovery is achieved by 2000ft AGL.

## 31.9 Formation Flying

31.9.1 Formation flying in Waikato Aviation aircraft is prohibited except when authorised in advance by the CFI.

## 31.10 Low Flying

31.10.1 Pilots are to always comply with low flying regulations CAR 91.131.

31.10.2 Aircraft are not to be flown below 500ft AGL, except within the low flying areas, where the minimum height is to be 200ft AGL.

31.10.3 Pilots are only allowed to operate in a designated low flying area below 500ft under dual instruction or when authorised by the CFI.

31.10.4 Pilots on cross-country flights are to comply with all the rules concerning low flying, such as the minimum height over built up areas and the ability to glide clear of hostile terrain in the event of an engine failure.

### 31.11 Dropping of objects from an aircraft

31.11.1 The dropping of any object from a Waikato aircraft is prohibited except with the permission of the CFI.

### 31.12 Mandatory Broadcast Zones (MBZ)

31.12.1 All pilots shall make calls when flying within an MBZ. Broadcast calls shall be transmitted on -

31.12.1.1 Entry.

31.12.1.2 When joining the circuit.

31.12.1.3 When entering a runway for take-off within a MBZ.

31.12.1.4 And at other time intervals prescribed.

### 31.13 Flight Over Water

31.13.1 Flights over water are only permitted in accordance with the following conditions -

31.13.1.1 There are sufficient life jackets for each person on board the aircraft and accessible during flight.

31.13.1.2 A briefing on ditching is provided before flight and cover how to put on the life jacket.

31.13.1.3 The exposure time of a water landing in the situation of an engine failure does not exceed 20 minutes unless permitted by the CFI.

### 31.14 Meteorological Minima

31.14.1 All pilots must comply with meteorological minima applicable to the type of flight. For VFR flights during day and night operations refer to CAR 91.301.

31.14.2 For VFR night operations out of the circuit, the meteorological minima shall be a cloud ceiling of 2500ft and 8km visibility.

31.14.3 Flight above 4/8 OKTA (scattered) cloud cover is prohibited under VFR flights.

31.14.3.1 The weather minima for solo navigation flights carried out by unlicensed pilots operating under VFR shall be that specified in CAA AC61.3 Appendix II.

### 31.15 Wake Turbulence Separation

31.15.1 Wake turbulence is an insidious and serious threat to flight safety. To facilitate safe and efficient flights, Waikato Aviation instructors are permitted to accept reduced separation clearances from Airways and only then after careful consideration has been given to all contributory factors.

### 31.16 Carriage of Dangerous Goods and/or Freight

31.16.1 Under no circumstances may a Waikato Aviation aircraft carry dangerous goods as defined by CAA rules.

31.16.2 Baggage and/or freight shall be securely contained within specified freight areas so that it cannot present a hazard to the safe conduct of the flight. Aircraft equipment (e.g. pickets, spare oil) shall be secured so that there is no risk of any items becoming loose in flight.

31.16.3 Both freight and aircraft equipment shall be included in the weight and balance calculations.

### 31.17 Airfields

31.17.1 All pilots operating Waikato Aviation aircraft are only to operate into and out of certificated and non-certificated airfields listed in the AIP. Prior approval from the CFI is required before operating into the following airfields. A prior demonstration of competency to an instructor may also be required -

31.17.1.1 Coromandel.

31.17.1.2 Raglan.

31.17.1.3 Waiheke Island.

31.17.1.4 Waihi Beach.

31.17.1.5 Wharepapa South.

31.17.2 NOTAMs applicable to the airfield should be reviewed before arrival and the owner or operator should be contacted if prior permission is required for use.

31.17.3 Flights into private airstrips (not published in the AIP) are not permitted unless approved by the CFI.

31.17.4 Flights using the DA42 Twin Star aircraft are limited to those aerodromes with sealed runways. Taxiing may be permitted on unsealed surfaces only with the approval of the CFI.

31.17.5 Flights to the South Island (and intended airfields) must also be authorised by the CFI.

### 31.18 Cross Country Navigation Overnight Stops

31.18.1 When planning overnight stops away from home base, picketing gear should be carried in the aircraft. Every care is to be taken to protect the aircraft from the weather and the aircraft is to be picketed when left unattended.

### 31.19 Aviation Events

31.19.1 The flight demonstration of a Waikato Aviation aircraft at an aviation event is only permitted with the prior approval of the CFI.

# 32. Simulated Emergencies

## 32.1 Simulated Engine Failure After Take-off Single Engine

Simulated Engine failures in single engine aircraft are not to be initiated by an instructor below 300ft AGL.

## 32.2 Practice Forced Landings

32.2.1 Pilots shall practice forced landings under the supervision of an Instructor.

32.2.2 Solo practice of forced landings is to be carried out only after a briefing by an instructor. Pilots may conduct glide approaches at their own discretion once they have been cleared solo for the exercise.

32.2.3 Repeated practice of forced landings away from an airfield are not to be carried out in the same area to minimise disruption to people and animals on the ground. Pilots must make themselves aware of any particularly noise-sensitive areas and avoid them.

32.2.4 When a practice forced landing is conducted away from an airfield, the go-around is to be initiated by 500 ft AGL, or 500ft above the highest obstacle within 150m, whichever is higher.

32.2.5 When carrying out dual practice forced landings flights within approved low flying areas the go-around may be initiated as low as 250 ft AGL, or 250ft above the highest obstacle, whichever is higher, but only if the instructor can ascertain that the aircraft will not come within 500ft of any person, vehicle, animal, structure or vessel.

32.2.6 Engine Failure after Take-off (EFATO) is to be initiated only by an instructor or Examiner. Aircraft are not to be placed in a position which contravenes the low flying rules. When required ATC should be notified in advance by the instructor prior executing the EFATO and the climb away. EFATO simulation may not be initiated until the aircraft is at least 300ft AGL.

## 32.3 Use of Circuit Breakers

32.3.1 Electrical circuit breakers (CBs) shall not be pulled in flight to simulate emergency scenarios.

32.3.2 If a CB is activated in flight because of a system malfunction the PIC should comply with safest practice and normally not re-set the CB. However, if the electrical system is critical to safe flight the CB should only be reset once.

# 33. Night Flight

## 33.1 Single Engine Night flying

33.1.1 Single engine aircraft shall not operate outside of the circuit at night for a period exceeding 1 hour unless with the approval of the CFI. The one-hour period applies to a single planned flight or training exercise.

33.1.2 When operating outside of the circuit at night, an electronic tablet with a minimum screen size equivalent to an ipad mini shall be carried with current aviation maps installed and a charge capacity of at least 85%.

# 34. IFR Flight

## 34.1 Weather Minima

34.1.1 The selected operating minima shall be based on the classification of the DA42 aircraft as a category 'A' aircraft but operated so that category 'B' minima shall apply.

34.1.1.1 **Take-Off.** The weather at the time of take-off must not be less than the landing minimum requirements, both in terms of visibility and cloud ceiling. Adequate planning for a suitable alternate must be made if either the actual weather at the time of take-off is only marginally above the minima required, or the forecast weather at the time of intended landing is close to the minima required,

34.1.1.2 **Landing.** The minima for landing are those published in the NZ AIP, but with an absolute minimum of 800 metres RVR for an (ILS) instrument approach.

## 34.2 Simulated Flight

34.2.1 Pilots under training may only log simulated flight as per CAR 91.125 and only under dual instruction.

## 34.3 Icing conditions

34.3.1 Flight in known or forecast icing conditions is prohibited in a Waikato Aviation aircraft unless -

34.3.1.1 The aircraft is approved to fly into known icing conditions.

34.3.1.2 Before the flight, the PIC satisfies themselves that the anti-icing equipment is serviceable and is like to remain so during the flight.

34.3.1.3 A watch is to be kept on any build-up of ice to ensure that the anti-icing system can remove the ice as it accumulates.

34.3.1.4 The anti-icing system is operated as specified in the aircraft flight manual.

## 34.4 Flight in IMC with Thunderstorm Activity

34.4.1 The DA42 is not to be operated in IMC where known or forecast embedded thunderstorms are expected, except when supporting meteorological evidence (radar images and recent reports provided by pilots and/or ATC) indicates that the actual conditions are better than forecast and approval has been granted by the CFI.

34.4.2 The DA42 storm scope is not to be relied upon to provide accurate information on thunderstorm activity. Its primary purpose is to provide a broad picture of distant activity to help make an early decision to navigate clear of the affected area.

# 35. Multi Engine Flight

## 35.1 Intentional Engine Shutdown in Flight

35.1.1 The intentional shutdown of an engine in flight is to be performed only in a multi-engine aircraft and under the supervision of a qualified instructor or authorised multi-engine examiner.

35.1.2 The engine shutdown (and subsequent restart procedure) is to be completed in accordance with the aircraft flight manual.

35.1.3 Before moving a critical switch or lever as part of an intentional engine shut-down drill, the crew member carrying out the drill is to receive verbal confirmation from the other crew member that they have their hand on the correct switch or lever. After such confirmation is obtained, there is to be a momentary pause between touching the item and moving it.

35.1.4 The PIC is to ensure that the engine shutdown is completed in VMC above 3000ft AGL, except that the CFI may permit an engine shutdown at a lower altitude if further compensating safety factors are applied.

## 35.2 Simulated Engine Shutdown Multi Engine

35.2.1 To simulate an engine failure, the instructor or examiner is to close the throttle of the appropriate engine, while masking the view of the throttle from the student. In no event is the mixture to be used to simulate an engine failure.

35.2.2 The student is to clearly identify the failed engine by calling out “left (or right) engine failure”, followed by the appropriate touch drill for simulated engine shut down.

35.2.3 After the touch drill, the instructor is to set ‘zero thrust’. On the DA42, the zero thrust setting is 12% load.

## 35.3 Asymmetric Committal Altitude and Asymmetric Go Around

35.3.1 The following definitions are used in this paragraph.

35.3.1.1 Asymmetric Committal Altitude (ACA): the lowest altitude from which a light multi-engine aircraft can make a successful ago-around when asymmetric, whether IMC or VMC.

35.3.1.2 Engine Out Allowance (EOA): the height needed for the transition from descending to climbing flight when asymmetric. The engine out allowance is added to the decision altitude on a precision approach when asymmetric and should be considered when determining when to initiate a go-around when carrying out a non-precision approach using a notional glidepath technique.

35.3.1.3 Blue Line Speed: the best rate of climb IAS in a light multi-engine aircraft when asymmetric.

35.3.2 When asymmetric (during training or actual asymmetric), the following rules apply -

35.3.2.1 The ACA is to be 300ft above runway elevation.

35.3.2.2 The EOA is to be zero.

35.3.3 On an asymmetric approach, the landing flap setting is not to be selected until the decision to land has been made, and at least Blue Line Speed must be maintained.

35.3.4 During an asymmetric go-around, Blue Line Speed and balanced flight must be maintained accurately while reducing drag, i.e. gear and flaps are to be retracted as soon as possible.

### 35.4 Take-off and Landing – DA42 Aircraft

35.4.1 DA42 aircraft may only take off and land from suitable sealed runways. Take-off and landing from grass is not approved unless specifically authorised by the CFI.

### 35.5 Touch and Go or Stop and Go Landings in Multi Engine Aircraft

35.5.1 The following procedures must be always followed in the interests of safety, to avoid, for example, the inadvertent selection of gear up -

35.5.1.1 For flights where the pilot is being trained or checked under single pilot operations, after landing and when the aircraft is under full control, the instructor is to select the flaps and trim to the take-off position and shall initiate the command either to “go, go” or “stop, stop”. Until the command “go, go” is called, the student PF must not start to apply power.

35.5.1.2 For other flights, e.g. multi engine instructor training, the use of the undercarriage and the flaps shall be thoroughly briefed before taxi so that each pilot is fully aware of their responsibilities.

35.5.1.3 Solo touch and go landings are permissible only in multi-engine aircraft without retractable gear.

### 35.6 Accelerated Stop – DA42

35.6.1 The accelerate stop exercise must be pre-briefed and the permission of ATC obtained before the exercise begins.

35.6.2 The instructor is to begin the accelerated stop by calling “stop, stop” (after full take-off power has been applied). The student is then to smoothly fully close both throttles together, maintaining directional control on the centreline of the runway. Brakes should be to the minimum required for safety.

35.6.3 For examinations, an examiner may require the demonstration of control after an engine failure during the take-off roll. For the purposes of this demonstration only, the mixture control (where fitted) may be used to simulate the failure of an engine. The student is to be fully briefed before the demonstration. All other requirements of 34.2 apply.

35.6.4 The instructor must not move the engine controls during the accelerated stop (unless they need to take control for safety reasons).

35.6.5 Runway length, width and prevailing conditions must be considered when deciding on the initiation speed and will not normally be greater than 50% of take-off speed.

## 36. Altimeter Setting Procedures - DA 42

36.1.1 Waikato Aviation altimeter setting procedures are defined in the aircraft checklists. Detailed guidance on altimeter setting procedures can be found in the NZ AIP.

36.1.2 A systematic and rigorous practice of altimetry must be adhered to during all phases of flight

36.1.3 During an approach, the altimeters are to be checked, both having the correct QNH setting and both reading the same altitude (within 50ft). This should specifically be carried out at the final approach fix (or final approach point).

36.1.4 In addition, correct altitude against defined positions, e.g. DME distance or overhead a NDB, is to be practiced as defined on approach plates, both for non-precision and precision approaches.

# 37. DA42 Technical Systems

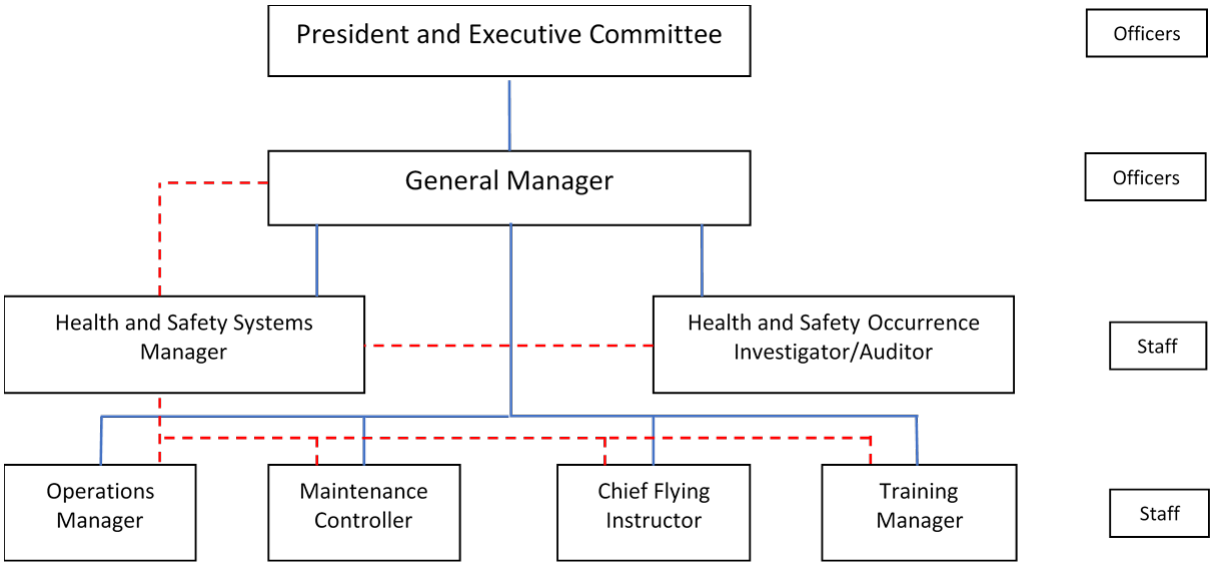
## 37.1 Fuel System Indication

37.1.1 The fuel indication system in the DA-42 is inconsistent and nonlinear in its indications due to anomalies in its design.

37.1.2 During flight, the gauges must not be considered reliable for the period when the fuel level side is calculated to be greater than 12 US Gal. (This period is to be calculated using Waikato Aviation standard fuel flow figures for cruise and approach phases of flight).

37.1.3 If ambiguity exists regarding the fuel remaining after flight, the fuel quantity should be a checked using the 'alternative means of fuel quantity indication' device.

## Appendix 1




Waikato Aviation's governance and management structure and the Health and Safety Management System structure (Health and Safety structure shown in red dashes)