



## SOARING SOCIETY OF SOUTH AFRICA

ATO Certificate Number: CAA/0099

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# FOREWORD

This South Africa Civil Aviation Authority

## TRAINING PROCEDURES MANUAL

Has been compiled in accordance with the  
South African Civil Aviation Regulations and

### SA-CARS-141

This volume is a working document to which changes will be incorporated from time to time.

This being an approved document, SACAA will be notified of all changes in writing.

The SA-CARs and SA-CATS, which are applicable, will be adhered to at all times, with specific reference to the following sections and their accompanying technical standards.

1. ICAO document 9376 (Preparation of Operations Manual)
2. ISO 9002
3. SA-CAR-Part 12
4. SA-CAR-Part 24
5. SA-CAR-Part 62
6. SA-CAR-Part 68
7. SA-CAR- Part 94
8. SA-CAR- Part 141
9. SA-CAR -Part 149







## GLOSSARY

A glossary of terms, definitions and abbreviations, limited to the use in this manual, shall be included for clarity of all personnel of the organisation.

<b>Terminology</b>	<b>Description</b>
AIC	Aviation Information Circular
AIP	Aviation Information Publication
ATC	Air Traffic Controller
ATO	Aviation Training Organisation
EET	Estimated en route time
CFI	Chief Flying Instructor
EFATO	Engine failure after take off
GPL	Glider Pilots Licence
GPS	Global Positioning System
HOT	Head of Training
IAS	Indicated Air Speed
Navaid	Navigational aid eg GPS, Radio navigation aid
Notams	Notice to airman
NTO	National Training Officer
RAASA	Recreational Aviation Association of South Africa
RAS (CAS)	Calibrated Air Speed
SA-CARs	South African Civil Aviation Regulations
SA-CATS	South African Civil Aviation Training Standards
SSSA	Soaring Society of South Africa
TAS	True Air Speed
TMG	Touring Motor Glider



# **PART 1:**

# **GENERAL**

# PART 1: GENERAL

## PREFACE

Users of this Manual of Procedure must note the following:

It is the responsibility of **The Soaring Society of South Africa, SSSA**, to ensure that all members of the **SSSA Affiliated Clubs** are familiar with each provision of the Manual of Procedure and Training Procedures Manual and to make any necessary amendment and additions.

**The SSSA** remains responsible for the accuracy and currency of this Training Procedures Manual.

## PART 1 - SECTION 1

### 1.1 ADMINISTRATION AND CONTROL

#### 1.1.1 Introduction

This **SSSA Training Procedure Manual** complies with the terms and conditions of the **SSSA** Operating Certificate, and with all applicable South African Civil Aviation Regulations, 1997.

This **Training Procedure Manual** is used for guidance of the Instructors of the **Affiliated Clubs** in the **SSSA**. In compliance with **SA-CARS ATO Regulation 141.02.2 –Training Procedures Manual**

Standards as laid down in this **Training Procedure Manual** shall be adhered to whenever practical in the day-to-day operations of **Affiliated Clubs**. The contents of this Training Procedures Manual are designed to aid all the members of **Affiliated Clubs** and should be regarded as a guide to all procedures. Specifically, it will not be regarded as a replacement for good judgment used in the interest of safety.

All Training Personnel from affiliated clubs will make reference to The Flight Operations or Flight Manual of each aircraft used in Training.

All personnel having questions with regard to this **Training Procedure Manual** will direct them to the:

**National Training Officer**

Or

**Their Clubs, Chief Flying Instructor**

The personnel responsible for flight training, administration, ground school and maintenance of aircraft and operational standards, are described in detail in this **Training Procedure Manual**.

The Executive Committee of the SSSA, H.O.T and all affiliated clubs remain committed to Aviation Safety, Safety in General and The Operational Health and Safety Act.

## 1.1.2 STRUCTURE OF MANUAL

The **Training Procedure Manual** contains Thirteen main sections plus Annexures:-

### **PART 1: GENERAL**

This part comprises the organizational structure, policies, instructions and procedures for the safe and efficient running of the society and complies with all relevant South African Civil Aviation Authority regulations.

### **PART 2: Aircraft Operating Information**

This part comprises a list of aircraft types and operating limitations used in the ATO

### **PART 3: Routes**

This part is not applicable to this ATO

### **PART 4: Staff Training.**

This part deals with the training system employed for the training of Instructors

### **PART 5: Training Plan**

This part deals with the practical outline of flight and theoretical training of students in the ATO

### **PART 6: Training Syllabus**

This section outlines the practical syllabus to be used by instructors within the club structure in compliance with this TPM

### **PART 7: Simulation Training**

This part is not applicable to this ATO

### **PART 8: Theoretical Knowledge Syllabus**

This section outlines the theoretical syllabus to be used by instructors within the club structure in compliance with this TPM

### **PART 9: Tests and Checks for the issue of a license or rating.**

This section comprises the mandatory tests and checks necessary for the issue of flight and type ratings in terms of Part 68 and Part 62.27

### **PART 10: Records**

This section deals with the necessary record keeping of clubs, storage and access.

### **PART 11: Safety Management System**

This part comprises all aspects of Safety Management and the **SSSA** Safety Management System.

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## **PART 12: QUALITY CONTROL SYSTEM**

This part is comprised of the procedures that are set out and implemented by the society for the assurance of quality control in the day to day running of the society and complies with document **SA-CARS-ATO 141.02.3**

## **PART 13: Appendices**

This part is comprised of the organizations Organogram, Aircraft lists, Glider Pilot License Training Program and Nonconformity Record Card.

## **PART 1 - SECTION 2**

### **1.2 AMENDMENTS AND REVISION**

#### **1.2.1 General**

(a) The **National Training Officer** is responsible for control of the contents of the **Training Procedure Manual**. He is responsible for the insertion of amendment's and revisions. He is responsible for the issue of each individual volume and for ensuring that appropriate amendments and revisions are dispatched to the holders of the individual volumes. Should this task be delegated to another individual, then it must be recorded in the **Amendment Record Sheet** and a written report attached as an annexure.

(b) Each volume will be numbered individually to ensure control of the volumes and their amendments. A record must be kept of all personnel in possession of all, or part, of the Training Procedure Manual. The National Training Officer shall ensure that sufficient copies are available to personnel for study and reference purposes.

(c) Amendments to the Manual of Procedure must be produced as new or replacement pages. Handwritten amendments to the Training Procedure Manual may only been permitted in situations requiring immediate amendment or revision in the interest of aviation safety. The new or replacement pages must be allocated an, amendment series number, date of issue and recorded in the Amendment Record Sheet. The signature of the originator of the amendment must also appear.

(d) Amendments will be issued to all holders of the Training Procedure Manual as soon as is practically possible. In cases of utmost urgency, because of the information contained in the amendment it will be necessary to issue a notice, or annotated change, to instructors and other concerned operational members. This notice, or annotated change, will be replaced by an amendment to the Training Procedure Manual as soon as possible.

(e) Amendment, revisions and additions to the Training Procedure Manual must be approved by the National Training Officer or his nominee. In reviewing or altering in anyway the contents of the Training Procedure Manual. The SSSA is aware that the South African Civil Aviation Authority is required to approve the contents of the Training Procedure Manual.

(f) SSSA will encourage its members to comment on the presentation and the information contained within the Training Procedure Manual to ensure that the document remains as user-friendly as possible.

#### **1.2.2 SPECIFIC REQUIREMENTS**

##### **1.2.2.1 Introduction**

The **SSSA Training Procedure Manual** is a document that details what Organizational and Quality Control measures are used for the running of the day-to-day business of the **SSSA**.

**SSSA** members are individually responsible for keeping themselves up to date with the contents of this **Training Procedure Manual**.

##### **1.2.2.2 Number of Copies**

Three master copies will be produced in typed (original) format and be submitted to the South African Civil Aviation Authority and RAASA for formal approval. Upon approval, one copy will be retained by the South African Civil Aviation Authority, one by RAASA and the other will be returned to the **SSSA**.

##### **1.2.2.3 Mandatory Distribution**

Copies will be made and distributed to all the Chief flying instructors of **Affiliated Clubs**. Amendments, revisions, notices or annotated changes will be distributed by the **National Training Officer** to all the Chief flying instructors of **Affiliated Clubs** in possession of this **Training Procedure Manual**. The Chief flying instructor will be responsible for the distribution of the **Training Procedure Manual** at the affiliated club.

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## PART 1 - SECTION 3

### 1.3 OPERATIONAL CONTROL AND SUPERVISION

#### 1.3.1 Supervision of the operation:

The Responsible Person for the implementation of the organizations policies and for the supervision of the operation is the **National Training Officer**. He is responsible for the establishment of standards and the maintenance of discipline within the society. Together with the **Chief Flying Instructors of the Affiliated Club who are** responsible for the day to day establishment and supervision of methods of record keeping, which will include the following categories:

STUDENT PILOTS	INSTRUCTORS
a) flight authorization sheet	a) type ratings
b) flight training record	b) endorsements
c) type ratings	c) instructor ratings
d) endorsements	d) flight folios
e) license renewal date	e) licence renewal date
f) medical renewal date	f) medical renewal date and class
g) progress reports	g) status reports
h) radio license	h) patter & briefing skills
i) skills test report	i) flight test reports

#### 1.3.2 Record Keeping Requirements:

(a) Electronic back-up systems used by SSSA are capable of storage, retrieval and archiving of all records in the categories required. In order to demonstrate compliance with regulations, training and qualifications records must be retained and filed.

(b) Details of each member are kept in SSSA's record centre. These would include an individual record of each pilot engaged in training as well as the following information:

- (i) The full name of the pilot
- (ii) Copy of the licence and rating that the pilot holds
- (iii) The pilot's aeronautical background and experience
- (iv) The pilot's duties and the date of assignment
- (v) The effective date and class of medical the pilot holds
- (vi) The date and result of each of the initial and recurrent competency tests and proficiency checks
- (vii) The pilot's logged flight time to determine compliance with flight time limitations
- (viii) Training files

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### 1.3.3 SSSA Affiliated Club produced information

Notices to Pilots will be made readily available to all members. They will relate information with regard to, service ability of aircraft, service ability and condition of runways, student pilot lecture times and any other information that **Affiliated Clubs** deems to be of value from a safety or organizational point of view.

### 1.3.4 SSSA Affiliated Clubs promulgated information

This would include AIP, AIC, Notams, RAASA, SSSA and Aero Club newsletters, notices originating from the manufacturer concerning matters affecting the airworthiness of aircraft. Or any other information that **Affiliated Clubs** deems to be of value from a safety or organizational point a few. Safety information, information of interest from other personnel within the organization or any other information that **Affiliated Clubs** deems to be of value from a safety or organizational point a view, will be displayed on the organizations notice board, websites or distributed by the monthly newsletters.

### 1.3.5 Operating and Reporting Forms

**The Affiliated Clubs** will have available for all members a supply of forms and documents. Some of these forms are produced by the South African Civil Aviation Authority and are used to notify or to make a report of specific occurrences. The **Chief Flying Instructor** has been charged with the overall control of these documents and will ensure the master copy of each is retained on file.

As well as the documents mentioned above, other documents and manuals are retained in the operations office for reference purposes, these would include, South African Civil Aviation Regulations, Aircraft Flight Manuals, Aircraft Performance Manual, RAASA Training and Safety Bulletins.

These manuals are amended and kept current as required.

### 1.3.6 Accident Prevention and Flight Safety Programme

The **SSSA** has accepted the safety risk levels established by the South African Civil Aviation Authority as the minimum acceptable and has incorporated the accident prevention and flight safety programme established by, RAASA, Safety Section, into its safety programme.

The **SSSA** has delegated the responsibility of accident prevention and flight safety to the **National Safety Officer**.

#### 1.3.6.1 Structure of the Accident Prevention and Flight Safety Programme

(a) All personnel within the organization are encouraged to attend and participate in accident prevention and flight safety seminars, especially those organized by RAASA or SSSA. The SSSA expects all instructors no matter what grade they hold, to attend an annual safety seminar. The emphasis being placed on a seminar structured and organized by RAASA or SSSA.

(b) The **SSSA** has a dedicated **Air Service Safety Officer**.

(c) A safety communication system has been introduced in the form of an internal organization incident and periodic safety opinion questionnaire. This requirement is in addition to the Civil Aviation Authority regulations with regard to accident/incident reporting form CA-12-03 and CA-12-04

(d) All student pilots are instructed in the procedure to follow should they be involved in accident or incident. Emphasis being placed on the solo cross-country flying whereby all students are given the telephone numbers of the Air Service Safety Officer, the Chief Flying Instructor and also the telephone numbers of the local air traffic control and police station. Student pilots are briefed before each solo cross-country flight on the procedures to be taken should they experience an accident/incident or make a precautionary or emergency landing. As part of the ground school lectures they will be taught the basic elements of first aid.

(e) An area within the organizations facility has been allocated to be used as an operations centre. This area is equipped with a bulletin board. Aviation periodicals containing information relating to safety are kept here and items of importance are pinned to the bulletin board, copied for broad distribution, or made the subject of a safety briefing.

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(f) The Affiliated Club must have scheduled aviation safety briefings. All members are encouraged to participate, the exchange of input helps to maintain a high level of awareness of current safety problems and provides the forum to discuss hazards as observed by Club instructors, pilots and student pilots.

(g) The Affiliated Clubs must maintain and retain all information relating to accidents or incidents within the clubs.

## **PART 1 - SECTION 4**

### **1.4 ORGANISATIONAL BACKGROUND**

#### **1.4.1 Society Profile**

The **SSSA** is a South African Civil Aviation Authority, PART 141 Aviation Training Organisation based at:-

**Physical Address:** 1 Leister Rd  
Kensington  
2094

**Postal Address:** 1 Leister Rd  
Kensington  
2094

**Contact Numbers:**

Phone: +27 011-615-2461

Fax: nil

Cell: 082-923-7147

Email info@sssa.org.za

The **SSSA** is a Society consisting of the following Affiliated Clubs.

See Annexure C

#### **1.4.2 Personnel**

The **SSSA** by way of Instructor seminars, Instructor briefings, workshops and annual flight tests, shall ensure that those personnel responsible for training or assessing students have a combination of competence and experience adequate for the level of competence required for such training or assessment, in compliance with SA CARs 141.02.4:

The **National Training Officer** shall establish liaison mechanisms with RAASA.

#### **1.4.3 Description of Premises**

The **SSSA** will fulfil the requirements of the South African Civil Aviation Regulation 141 where applicable.

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**The Affiliated Clubs** shall ensure that the accommodation, facility and equipment are adequate to enable the members of the clubs to conduct the standard aviation training covered in this **Training Procedure Manual**.

#### **1.4.4 Summary of Resources**

The Affiliated Clubs must have the following minimum facility and equipment available or have access on an ad hoc basis to this facilities and equipment:

- (a) Notice board
- (b) Briefing/lecture room with desks, chairs, maps of the local flying area and information regarding the local flying rules and circuit procedures
- (c) Operations centre with bulletin board and whiteboard
- (d) Administration office with lockable filing cabinet, computer with internet access, desk and chairs.
- (e) Camera Recording system with date and Time stamp where facility is to be used for online exams.

#### **1.4.5 Scope of Training**

- (a) Glider Pilots License (part 68)
- (b) TMG Rating (Part 68)
- (c) Instructors Rating (Part 68)
- (d) Category and Type Conversions (Part 68)
- (e) Tug & Tow ratings
- (f) Glider Aerobatics Rating

#### **1.4.6 Approved Sites for Training**

1.4.6.1 The approved airfield where the affiliated clubs training premises reside.

1.4.6.2 Where an away camp is organised by an affiliated club and notification within 7 days of the event is sent to SSSA HOT and NSO and approved by same in writing.

## 2.1 ORGANIZATIONAL STRUCTURE

SSSA Organogram: (See Annexure A)

### 2.1.1 National Training Officer

#### Authority:

The **National Training Officer** hereby undertakes that he will take appropriate action as may be required to exercise his responsibilities and to give effect to his commitment to the standard and reliability of the **SSSA** training operations. The responsibilities of the **National Training Officer** may be delegated in the absence of the said officer, during which time the duly delegated **National Training Officer** shall then assume all the aforementioned responsibilities which normally vests with the absent **National Training Officer**.

The National Training Officer has the Authority to co-ordinate and control all flying training conducted by the SSSA Affiliates on Gliders, Self Sustainer Gliders, Self Launch Gliders and TMG, and is answerable only to Board of the SSSA.

The National Training Officer may delegate the authorities invested in him to the Chief Flying Instructors at the Affiliate Clubs.

The National Training Officer has the Authority to suspend an Instructor or training at an Affiliated Club pending an investigation into breach of standards or safety by The Board of SSSA, SACAA or other delegated body.

The National Training Officer will hold a valid Grade A or Grade B Instructors rating in both Gliding and Touring Motor Glider.

#### Responsibility:

The **National Training Officer** is responsible for the Training affairs of the **SSSA**

### 2.1.2. THE AFFILIATED CLUB'S CHIEF FLYING INSTRUCTOR

#### Duties and Authority:

- i) all training members are versed in the content of the ATO training and procedures manual;
- ii) all training is carried out in accordance with the ATO Training Plan and that relevant regulations are complied with;
- iii) The theoretical training syllabi and ATO curriculum is adhered to as described in Part 4 of this document.
- iv) records are kept in accordance with Part 1 of this document;
- v) the flight authorization sheets as required in Annexure C are comprehensively completed and controlled in accordance with the ATO training and procedures manual;
- vi) a high standard of flying discipline is maintained in accordance with the policy prescribed in the ATO Training Procedures Manual.

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- vii) Oversight is carried out over instructors to uphold training standards and mentor instructors in preparation for upgrading as instructors, as applicable by;
  - aa) allocation of instructors to students and training flights;
  - bb) briefing of instructors on exercise to be carried out, recap on instructional techniques, common errors that may be expected from students and safety;
  - cc) the regular monitoring of pre-flight and post-flight briefings;
  - dd) evaluating instructor progress in relation to student progress;
  - ee) implementing and monitoring the instructors staff flight/practical training in order to assess if training is meeting the ATO and regulatory requirements prescribed in Part 4 of this document; and
  
- viii) oversight of student training with reference to Part5, 6, 7 ,8 and 9 of this Document:
  - aa) student progress, records and maintenance of student training files;
  - bb) the training plan
  - cc) training syllabi
  - dd) theoretical knowledge syllabi; and
  - ee) tests and checks

### **2.1.3. THE AFFILIATED CLUB'S DUTY INSTRUCTOR**

#### **Authority:**

The **Affiliated Clubs Duty Instructor** shall have the authority to stop or prohibit any training flight operation that they deem to be unsafe or could contravene any Civil Aviation Regulations. However, a full written report detailing why the flight operation was prohibited must be completed by the **Duty Instructor** and handed to the **Club Flight Safety Officer and Chief Flying Instructor**.

#### **Responsibility:**

The **Duty Instructors** are responsible to the **Chief Flying Instructor** for the safe and efficient operations of the training operations of **The Affiliated Clubs**. They are responsible for

- a) the general administration,
- b) overall discipline, welfare and morale of all duty team members and
- c) in conjunction with the **Chief Flying Instructor** for the efficient functioning of the flying section as a whole.
- d) With the help of the **Flight Safety Officers**, they will ensure that incident and accident reports are properly investigated, acted on and resolved as necessary.

In conjunction with the **Chief Flying Instructor** they will

- a) Establish training programs necessary to meet present and future operational requirements
- b) Maintain proper records regarding flight operations at the affiliated club.
- c) To undertake any other duties as may be assigned to him by the **Chief Flying Instructor**.

In the absence of the Duty Officer the duties and the responsibilities of this position will pass to the Senior Flying Instructor rostered for the day.

### **2.1.4 The Affiliated Club's Approved Persons**

#### **Authority:**

The **An Approved Person** shall have the authority to prohibit the use of any unsafe or unreliable aircraft. However, a full written report detailing why the aircraft was declared unsafe must be completed by the Chief AP and handed to the Duty Officer of the day. He shall ensure that the organization runs and operates in a safe and reliable manner with regard to aircraft maintenance, serviceability log airworthiness.

#### **Responsibility:**

- i) The maintenance and safe keeping of aircraft documentation;
- ii) The correctness of, addition, alterations and unserviceability entries made in the serviceability log book;
- iii) The handing over and acceptance from the applicable Approved Person.
- iv) Regular checking of the aircraft documentation and aircraft between servicing; and
- v) Maintain a projected maintenance schedule of the training aircraft.
- vi) Ensure that annual inspections are performed and Aircraft released safe for flight.
- vii) Ensure that all measuring tools are correctly calibrated.

## **2.1.5 The Affiliated Club's FLIGHT SAFETY OFFICER**

### **Authority:**

The Club's **Flight Safety Officer** shall have the authority to stop or prohibit any operation or action that he deems to be unsafe, unreliable or could jeopardise civil aviation safety.

### **Responsibility:**

The **Flight Safety Officer** shall ensure that all flight operations are conducted in a safe and reliable manner. That the **Affiliated Club** complies with the provisions of the Civil Aviation Offences Act, 1972 (Act No. 10 of 1972) as amended, and the Civil Aviation Safety Regulations, 2012, as amended. Furthermore, to ensure that the provisions of this Manual of Procedure are fully complied with in respect of Civil Aviation Safety Regulations, as amended.

He will ensure that the appropriate personnel have the experience, training and qualifications to perform their assigned duties in respect of and with regard to Civil Aviation Safety. He will identify record and report any safety or security problems as well as ensure that all accidents and/or incidents, with the correct information, are recorded on the correct forms as required in terms of this **Training Procedure Manual** and handed to the **Club's Chief Flying Instructor**.

- i) Safety oversight of all club operations
- ii) The co-ordination and management of a Safety Management System
- iii) The monitoring and implementation of the annual safety plan.

Together with the **Chief Flying Instructor** and working closely with RAASA, he will be responsible for the implementation and maintenance of an **Aviation Safety Program**. He shall further conduct regular audits on flight safety at the **Affiliate Club**. In his absence, his authority and responsibilities will be taken over by the Duty Officer.



# **PART 2:**

# **AIRCRAFT**

# **OPERATING**

# **INFORMATION**

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**This part is not  
applicable to this  
Training  
Procedures  
Manual.**

# **PART 3: ROUTES**

**This part is not  
applicable to this  
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Manual.**

# **PART 4:**

# **STAFF TRAINING**

## **PART 4: STAFF TRAINING**

### **PART 4 - SECTION 1**

#### **4.1 PROCESS AND QUALIFICATION CONTROL**

The **SSSA** shall ensure that all personnel whose work affects safety and quality is adequately trained and/or qualified for the work they perform. That all Affiliated Clubs' Instructors have current and appropriate rating and/or licence for instructing, as specified in the South African Civil Aviation Regulations and will be approved by the **National Training Officer** and that all contracted training will be carried out under controlled conditions. This procedure applies to both flight and ground school training.

Before training can commence the member will be asked to complete and sign an indemnity/application form. The structure of the course/service that the member is applying for will be outlined. A **Pilot Training Folder** will be opened in the Club Member's name and all future documentation relating to the student member will be placed in the Folder. When not in use, the **Pilot Training Folder** is stored, for safe keeping, in the **Record Centre at Club Level**.

The **Chief Flying Instructor** is responsible for process control related to flight training.

##### **4.1.1 Flight Training Instructors:**

All Instructors in the Affiliated Clubs of the SSSA will hold an Instructor's Rating and an Appropriate Licence. Refer to CAR Part 68, sub part 4 for the Requirements and Experience associated with becoming an Instructor.

Prior to flying new aircraft or using new equipment related to flying, all instructors will undergo specific training and qualification by means of a test provided either by the **SSSA** or the manufacturers and/or distributors of such aircraft and/or equipment. The qualification is recorded in the Instructor's Pilot Log Book and the Instructor's personnel file, which is kept in the **Record Centre**.

All Instructors in the SSSA are required to attend at least every second year any RAASA or SSSA Affiliate Instructors Training Seminar presented in their Region, regardless of the grade of Instructor rating held. New Instructors in the SSSA will first be tested by **A Grade (A) instructor with the applicable rating after recommendation by the Affiliated Club's Chief Flying Instructor** and will be under probation for a minimum 3 (three) month period. All Instructors in the SSSA will be conducting flight training at their own risk and will be responsible for the safety of their students. The Instructor will complete the students' **Progress Record** for the days training and verify that the student updated his online records to be a true reflection of his daily training.

Instructor renewal test flights will be done by an Instructor of equal or Higher Grade from a club other than the Club that the instructor normally trains from.

##### **4.1.2 Ground School Instructors:**

All ground school Instructors of the SSSA Affiliated Clubs may not necessarily be graded flight Instructors; however, all ground school Instructors will be fully conversant with the ground school course and qualified in the subjects they will be required to lecture in. There is no laid down format for the ground school subjects training, but it should be closely aligned to the knowledge required for the flight training exercises in order to produce an integrated course of training.

##### **4.1.3 All Personnel: (other than Instructors)**

All new Instructors are subjected to induction training that allows them to familiarize themselves with the organisation and its operations. Specific training by way of seminars, workshops and formal

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courses are attended, as necessary, to enable personnel to acquire in- depth knowledge of commercial, financial, computer and technical subjects. This ensures that personnel will be adequately trained and qualified for the duties they perform.

Training received by personnel is recorded in their personnel files, which are retained in the Record Centre.

#### **4.1.4 Responsibility:**

The Affiliated Clubs' Chief Flying Instructors are responsible for all aspects of training of flight and ground school personnel, and the Affiliated Club Committee's for all other personnel. That flight Instructors are also provided with copies of the **South African Civil Aviation Regulation, SA-CATS ATO** and the **RAASA, National Pilot Licence Training Syllabus** and that ground school Instructors are provided with copies of the relevant training syllabus as per the South African Civil Aviation Regulations and RAASA exam and ground school syllabus.

#### **4.1.5 Training Compliance:**

All detailed training information for the exercises listed in this **Training Procedure Manual** are documented in the **Training Syllabus File**. All training conducted at the Affiliated Clubs will be conducted in compliance with the training standards laid down by SSSA as follows:

##### **4.1.5a UN-POWERED GLIDERS:**

GLIDER PILOT LICENSING **Part 6.1 (Practical)**

GLIDER PILOT LICENSING **Part 8.1 (Theory)**

##### **4.1.5b POWERED SUSTAINER GLIDERS:**

GLIDER PILOT LICENSING **Part 6.2 (Practical)**

GLIDER PILOT LICENSING **Part 8.1 & Part 8.2 (Theory)**

##### **4.1.5c POWERED SELF LAUNCHING GLIDERS:**

GLIDER PILOT LICENSING **Part 6.3 (Practical)**

GLIDER PILOT LICENSING **Part 8.1 & Part 8.2 (Theory)**

##### **4.1.5d TOURING MOTOR GLIDERS:**

GLIDER PILOT LICENSING **Part 6.4 (Practical)**

GLIDER PILOT LICENSING **Part 8.1 & 8.2 (Theory)**

##### **4.1.5e AEROBATICS:**

GLIDER Aerobatics **Part 6.5 (Practical)**

GLIDER Aerobatics **Part 8.3 (Theory)**

#### **4.1.6 Instructor Requirements**

##### **4.1.6.1 Requirements for the issue of Assistant Instructor (Grade C)**

- a. 100 Hours Solo on any type of fixed wing aircraft, with a minimum of 50 on Gliders or TMG.
- b. 10 Hours of in flight logged patten with at least a GRADE B Instructor signed in the logbook.
- c. Attendance at a prescribed and SSSA approved Instructor training course with a pass mark of at least 75%
- d. Letter of recommendation from the Affiliated Clubs Instructor Panel and endorsed by the Chief Flying Instructor
- e. Flight Test with an appropriately rated Grade A Instructor.

##### **4.1.6.2 Requirements for the issue of Full Category Instructor (Grade B)**

- a. 100 Hours Instruction on any type of fixed wing aircraft, with a minimum of 50 on Gliders or TMG.
- b. Minimum 1 (One) year as Grade C Instructor.
- c. Assisted with at least 1 (One) prescribed and SSSA approved Instructor training course.
- d. Letter of recommendation from the Affiliated Clubs Instructor Panel and endorsed by the Chief Flying Instructor
- e. Flight Test with an appropriately rated Grade A Instructor.

##### **4.1.6.3 Requirements for the issue of a Testing Instructor (Grade A)**

- a. 300 Hours Instruction on any type of fixed wing aircraft, with a minimum of 150 on Gliders or TMG.
- b. Minimum 1 (One) year as Grade B Instructor.
- c. Given Training during at least 2 (Two) prescribed and SSSA approved Instructor training course.
- d. Letter of recommendation from at least 2 Grade A instructors.
- e. Flight Test with an appropriately rated Grade A Instructor.



# **PART 5: TRAINING PLAN**

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## PART 5 – TRAINING PLAN

### 5.1 FLIGHT TRAINING – GLIDER PILOTS LICENCE (GPL) AND TOURING MOTOR GLIDER (TMG)

Before a GPL licence can be issued, a minimum of:-

- a. **40 flights** must be flown and a skills test passed.
- b. A minimum of **20 solo** flights are required and
- c. A minimum of **10 flights** per launch method.
- d. A minimum of **6 hours** solo flight are required.
- e. One solo flight must be a minimum of **2 hours** duration.

Before a TMG licence can be issued a minimum of:-

- a. 35 hours total flying experience must be gained, and a skills test passed.
- b. 15 Hours of total time must be solo flight training with at least one landing and take-off at a Controlled airfield.
- c. TWO DUAL triangular cross-country flights of, minimum 90 minutes duration and one leg of 50Nm, of which one must be a Navigation skill test flown at normal cruising speed.
- d. One solo triangular cross-country flight of duration of not less than 90 minutes flown at normal cruise speed and which includes a full-stop landing at a point other than the point of departure.
- e. One solo flight must be a minimum of **30 minutes** duration.

Before a GPL or TMG can be issued, all students must comply as per the CATS and CARS minimum requirements.

Conversion of license Glider to TMG and vice versa may be achieved by Flight test and minimums for the category of license.

During training, the student pilot is tested by his/her respective Instructor for each exercise taught. The ability of the student pilot to understand and demonstrate correctly the exercises being taught is monitored and recorded by the Instructor on a **Student Progress Record**. At predetermined stages during training, the Instructors are required to submit the **Student Progress Record** to the **Chief Flying Instructor** for review and corrective action where required. Thereby ensuring that training is effective and the student is making the expected progress.

Due to the nature of flight training courses and to practical considerations, some students may not be able to complete some courses, or to complete them in the time frame originally specified, in which case the **Students' Progress Record** will be updated accordingly, and he/she will be advised as soon as the problem becomes evident.

**Student Progress Records** are filed in the relevant **Pilot Training Folder** which when not in use are placed for safe keeping in the **Record Centre**.

## PART 5 - SECTION 2

### 5.2 GROUND SCHOOL INSTRUCTION

Although there is no laid down format for the ground school subjects training, all training will follow the syllabus as recommended by RAASA. Course notes will be supplied by the SSSA and subject modules prepared by ground school Instructors.

**Students are encouraged to read the following literature:**

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Ken Stewart	The glider Pilot Manual
Various authors	The Cape Gliding Club Manual
The FAA	Glider Flying Handbook
Birch and Bramson	Flight Briefing For Pilots
Ann Welch	Pilots Weather
Robert Buck	Weather Flying
Snyder and Welch	Light plane Construction and Repair
Rotax	Two Stroke and Four Stroke Engines
Roy Vogel	Aeronautical Radiotelephony Procedures
Roy Vogel	Aviation Law and Regulations
South African Civil Aviation Regulations (Extraction) Issued by RAASA	
AIRPLAY AVIATION	TMG/LSA/GPL Flight Training Manual
Gary Whitecross /Sean Selkon	Syllabus for the Touring Motor Glider (6 MODULES)

**The subjects to be covered will include the following:**

- Module 1 - Principles of Flight
- Module 2 - Air Law
- Module 3 - Instruments, Airframes and (Engines – TMG, Self Launch and Sustainer Gliders)
- Module 4 - Navigation
- Module 5 - Human Performance & Limitations
- Module 6 - Soaring

Furthermore, the following concepts are to be covered:

Fire, First Aid, and Safety Equipment

### **5.2.1. Ground School Exams**

All student pilots will be required to successfully complete RAASA examinations at an approved RAASA test centre which will cover the subjects, as listed above in a controlled environment with a club appointed invigilator present.

A copy of all examination results are to be kept in the **Pilot Training Folder** at a **Record Centre**. At predetermined stages during ground school training the Instructors are required to submit the **Pilot Training Folder** and **Student Progress Records** to the **Chief Flying Instructor** who conducts regular meetings with the Instructors to monitor training.

### **5.2.2 Restricted Radio Licence Lectures and Test Training Programme**

To be conducted by an approved Radio License Instructor

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# **PART 6:**

# **TRAINING**

# **SYLLABUS**

# **PART 6 – TRAINING SYLLABUS SECTION 1**

## **6.1 UN-POWERED GLIDERS PRACTICAL TRAINING**

### **1. Aim of training course**

The aim of the course is to train a candidate to the level of proficiency required for the issue of a class and type rating for Un-powered gliders, and to provide the training necessary to act as pilot-in-command of any Un-powered glider, engaged in non-revenue flights under visual flight rules.

### **2. Practical training course**

#### **Exercise 1: Familiarization with the GLIDER**

**Aim:** To become familiar with the component parts, controls and system of the airplane.

- (1) Explanation of the Glider
- (2) Cockpit layout and control color coding
- (3) Systems
- (4) Check lists, drills, controls; and
- (5) Emergency drills, consisting of –
  - (a) Action in the event of fire on the ground and in the air;
  - (b) Equipment or system failures; and
  - (c) Escape drills.

#### **Exercise 2: Preparation for, and action after flight**

**Aim:** To understand how to prepare the aircraft and pilot for flight, and how to leave the aircraft after flight.

- (1) Local rules
- (2) Daily inspection acceptance
- (3) Serviceability documents
- (4) Required equipment, maps, etc.
- (5) External checks
- (6) Internal checks
- (7) Seat, harness and controls adjustment
- (9) Seating position – suitable clothing

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- (11) Ground handling equipment removal checks
- (12) Tow hitch function test
- (13) Parking, security and picketing
- (14) Completion of flight folio sheets

### **Exercise 3: Air Experience**

**Aim:** The aim of this sequence is to instill confidence in a learner who has previously flown very little or not at all, to impart some knowledge, and to familiarize the learner with the geography around the training base.

### **Exercise 4: Effect of controls**

**Aim:** To explain how each control affects the aircraft in flight.

- (1) The Primary and Secondary(consequential) effects of the elevator (pitch/speed)
- (2) Primary, secondary and further effects of the ailerons (roll/yaw/pitch/speed)
- (3) Primary, secondary and further effect of the rudder (yaw/roll/pitch/speed)
- (4) Effects of the following on glider performance
  - (a) airspeed
  - (b) Flap settings
  - (c) The use of air brakes
  - (d) Effect of change in weight

The first effects of controls exercise will prior to flight be conducted in the classroom with a demonstrative lecture identifying the control surfaces involved, the reason for their operation and a detailed explanation and understanding of their axial and consequential effects on the aircraft (Lecture time +/- 1 Hour)

### **Exercise 5: Ground handling**

**Aim:** To safely control the airplane while maneuvering on the ground in different wind conditions and on different surfaces.

- (1) Pre tow out checks
- (2) Ground handling equipment fitted
- (3) Correct number of people required for the specific aircraft
- (4) Correct length of tow rope if used
- (5) Turns in confined spaces
- (6) Tail-wheel dollie considerations (if applicable)
- (7) Parking area procedure and precautions

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- (8) Effects of wind
- (9) Effects of ground surface
- (10) Air field procedures
- (11) Airmanship

#### **Exercise 6: Straight glide**

**Aim:** To attain and maintain flight in a straight line glide at best glide speed

- (1) At best glide speed, attaining and maintaining straight line glide demonstrate trim
- (2) Demonstration of inherent stability
- (3) Control in pitch including use of trim
- (4) Demonstrate pitch speed relationship
- (5) Demonstrate lag in airspeed indicator
- (6) Use of instruments
- (7) Airmanship
  - a. lookout
  - b. spatial awareness

#### **Exercise 7: Climbing**

**Note:** In a glider, increase in altitude is dependent on rising air.

**Aim:** To establish the best attitude in rising air to achieve the minimum sink speed or best rate of climb speed, as required.

- (1) Enter rising air by normally raising the nose attitude to obtain the required speed.
- (2) Anticipate approaching the right speed and selecting the nose attitude to obtain that speed.
- (3) Rising air is normally encountered in thermals, ridge lift, wave formations, convergence or wind shear conditions
- (4) Use of instruments
- (5) Lookout
- (6) Airmanship

#### **Exercise 8: Descending**

**Aim:** To enter and maintain a steady glide-descent and then, at a predetermined altitude, to return to best glide.

- (1) Entry, maintaining and leveling off
- (2) Leveling off at selected altitudes
- (3) The use of air brakes and/or flap

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- (4) Use of instruments
- (5) Side-slipping/forward slipping
- (6) Airmanship

#### **Exercise 9: Turning**

**Aim:** To enter and maintain a medium (up to approximately 30° bank angle) turn whilst maintaining best glide speed and then to return to straight and glide on a new predetermined heading.

- (1) Entry and maintaining medium level turns
- (2) Resuming straight and level flight
- (3) Faults in the turn
- (4) Turns onto selected headings.
- (5) Judging bank angle by wing-tip reference
- (6) Use of instruments
- (7) Airmanship

#### **Exercise 10a: Slow flight**

**Aim:** The objective is to improve the student's ability to recognize inadvertent flight at critically low speeds and provide practice in maintaining the glider in balance should this situation occur.

- (1) Safety checks (HASSELL)
- (2) Introduction to slow flight
- (3) Controlled flight just before the stall.
- (4) The use of flaps if fitted
- (5) Airmanship

#### **Exercise 10b: Stalling**

**Aim:** To recognize and enter a fully-developed stall from both straight and turning flight, and to recover with minimum height-loss to a safe flight mode; to become familiar with the 'feel' of the airplane in slow flight just above the stall speed; and to recognize the symptoms of the incipient stall and to restore the airplane to safe flight before the stall occurs.

- (1) Airmanship
- (2) Safety checks (HASSELL)
- (3) Symptoms
- (4) Recognition
- (5) Clean stall and recovery
- (6) Recovery when a wing drops

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The First Stalling exercise will, prior to flight be conducted in the classroom with a demonstrative lecture identifying the control surfaces involved, and recap of the Bernoulli Principle and Newton's laws. The reason for the aerodynamic breakdown causing the stall and a detailed explanation and understanding of recovery of the maneuver (Lecture time +/- 1 Hour)

### **Exercise 11: Descending and Climbing Turns**

**Aim:** To enter and maintain a medium (up to approximately 30° bank angle) turn whilst maintaining a climb or descent, or to enter and maintain a turn from a straight climb or descent.

**Note:** Climbing turns can only be done in rising air.

- (1) Entry and maintaining medium descending and climbing turns
- (2) Resuming straight and level flight
- (3) Faults in the turn – balance/string
- (4) Turns onto selected headings.
- (5) Use of instruments
- (6) Lookout
- (7) Airmanship

### **Exercise 12a: Aero Tow Take Off and Climb to release altitude**

**Aim:** To be towed behind a tug aircraft to release altitude

- (1) Pre-take-off checks
- (2) Take off run behind tug
- (3) Maintaining relative position behind tug. Reference points
- (4) Transition from high tow to low tow, correct position
- (5) Preventing sags in the tow rope. Airbrake use.
- (6) Boxing the wake
- (7) Rope break procedures
- (8) Unable to release procedures
- (9) Release signals from the tug
- (10) Airbrakes deployed signal from the tug

## (11) Airmanship

The First AeroTow exercise will, prior to flight be conducted in the classroom with a demonstrative lecture identifying the signals involved, and principles of high and low tow positions and their relative advantages/disadvantages (Lecture time +/- 1 Hour)

### **Exercise 12b: Winch Launch Take Off and climb to release altitude**

**Aim:** Take off run, transition to climb and release at top of launch

- (1) Pre take off checks
- (2) Signals and procedures prior to launch
- (3) Take up slack and start of run.
- (4) Take off and initial acceleration to climb speed.
- (5) Transition to climb attitude. Speed control.
- (6) Release at top of launch.
- (7) Signals for high and low speed during the launch.
- (8) Cable break procedures:
  - a. Low height cable break
  - b. Medium height cable break
  - c. High height cable break
- (9) Airmanship

the first Winch Launch exercise will, prior to flight be conducted in the classroom with a demonstrative lecture identifying the ground and airborne signals involved, and rope break procedures with detailed runway layout (Lecture time +/- 30 Mins)

### **Exercise 13: Circuit, Approach and Landing**

**Aim:** To accurately anticipate the circuit and carry out a safe approach and landing.

- (1) Circuit procedures, downwind, base leg, key points
- (2) Circuit speed. Pitch, and bank angles
- (3) Use of airbrake
- (4) Decent to aiming point
  
- (7) Round out
  
- (8) Effect of wind on approach and touchdown speeds
  
- (9) Effect of ground surface and gradient on the landing run
  
- (10) Hold off, and touch-down
  
- (11) Roll out
  
- (12) Clearing the runway
  
- (13) Use of brakes wheel brakes

(14) Control during ground run

(15) Airmanship

The first Circuit and landing exercise will, prior to flight be conducted in the classroom with a demonstrative lecture describing the circuit runway layout and circuit procedure with its relative joining procedures. (Lecture time +/- 1 Hour)

#### **Exercise 14: Spins**

**Aim:** To understand and recognize the onset of situations that may lead to an inadvertent spin, and to learn how to instinctively avoid the onset of a spin and take the necessary control actions to effect a recovery back to normal flight condition before and after a spin occurs; i.e.: to recover at the prior, incipient and fully developed stages.

- (1) Cause of spin and avoidance
- (2) Recognition of incipient and full spin
- (3) Recovery from the incipient and full spin
- (4) Lookout
- (5) Airmanship
- (6) Identifying the difference between a spin and spiral dive.

Notes:- Full spins only to be conducted in suitably approved aircraft and at a minimum height to effect safe recovery.

#### **Exercise 15: First Solo**

**Aim:** To carry out a safe and accurate launch, approach and landing.

##### **One circuit only.**

The student must be checked out for first solo by a Full instructor and approved by the Chief Flying Instructor or panel of 3 Full Instructors.

Before flying solo a student must:

- 1) in addition to being proficient in exercises 1 to 14
- 2) be able to reasonably execute a simulated emergency landing from any position in the circuit.
- 3) He or she must also have completed a minimum of 6 (six) hours of dual instruction.
- 4) He or she must be the holder of a valid Student Pilot license and have successfully passed the student pilot exams.
- 5) He or she must be the holder of a valid current Pilot Medical.

During the next 3 hours of solo flight, the student must remain in the circuit area, not more than 5 n m from the airfield and consolidate exercises 9, 12 and 13. The student must receive a dual check-out after the first solo and at the start of each days flying, until the three hours

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solo have been completed. A supervising instructor must be able to make radio contact at all times with the student.

### **Exercise 16: Side-slipping**

**Aim:** The student must be shown and become convinced of the effect of side slipping on the relationship of between heading and ground path. How this out of balance manoeuvre can be used to increase the rate of descent for a given airspeed and its usefulness in cross wind landings. (While the student is learning to use the controls during a side slip, the exercise should be performed at altitude.)

- (1) Effects of controls in a side slip
- (2) Principles involved.
- (3) Types of side slip.
- (4) How exercise applies to flying.
- (5) Lookout and HASSELL checks
- (6) Airmanship

### **Exercise 17: Steep Turns**

**Aim:** To carry out a co-ordinated level turn at steep angles of bank and to recognize and recover from a spiral dive.

- (1) Steep 360° turns (up to 45° bank angle), recovering to straight and flight
- (2) Steep descending turns (up to 60° bank angle), completing a minimum of 2 complete orbits, then recovering to straight flight.
- (3) Disorientation
- (4) Stalling in the turn and recovery
- (5) Recoveries from unusual attitudes, including spiral dives
- (6) Lookout
- (7) Airmanship

### **Exercise 18: Use of instruments**

**Aim:** To develop the habit of checking constantly both navigational and flight instruments whilst keeping a good look-out for other aircraft.

- (1) Navigational instruments
- (2) Flight instruments

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- (3) Scanning techniques
- (4) GPS and other electronic navigation systems
- (5) Airmanship
- (6) Lookout

#### **Exercise 19: Low flying**

**Aim:** To safely operate the airplane at heights lower than those normally used.

- (1) Emphasis on regulations governing low flying
- (2) Low-level familiarization
- (3) Effect of drift
- (4) Effect of wind on ground speed
- (5) Effect of wind in inducing apparent skids and slips in turns
- (6) Joining circuit in poor weather;
- (7) Bad weather circuit
- (8) Lookout
- (9) Airmanship

#### **Exercise 20: Cross-wind Take-off and Landing**

**Aim:** To be able to handle both cross-wind take-offs and landings, including downwind landings in an emergency; to be able to input the correct amount of control to correct drift to ensure the track is a continuation of the take off or landing path of the glider

- (1) Aerodynamics and mechanical considerations
- (2) Cross wind take offs
- (3) The circuit
- (4) Approach and cross wind landings – crabbing method – forward slipping method
- (5) Lookout
- (5) Airmanship

#### **Exercise 22: Out landings**

**Aim:** To carry out a safe selection of landing field, descent, circuit and approach and landing in the event of not being able to soar and glide to the first intended landing.

**Note:** This exercise to be practiced at the training airfield, and commenced outside of the circuit pattern.

- (1) Out landing decision time

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- (2) Choice of landing area, provision for change of plan
- (3) Judging the wind
- (4) Descent plan
- (5) Key positions
- (6) Use of radio, retrieve crew.
- (7) Downwind
- (8) Base leg
- (9) Final approach
- (10) Landing
- (11) Actions after landing
- (12) Lookout
- (13) Airmanship

#### **Exercise 23: Action in Event of Fire**

**Aim:** Fire is extremely rare in modern gliders but it is essential that a pilot has a thorough knowledge of the procedures to be adopted in his or her particular type of glider in order to extinguish a fire both on the ground and in the air.

- (1) Identification of fire
- (2) Isolation / extinguishing of fire
- (3) Flight procedures / emergency actions
- (4) Airmanship

#### **Exercise 25: Unusual and dangerous attitudes / conditions**

**Aim:** To recognize potentially dangerous conditions of flight and to recover safely from unusual attitudes.

Note: this exercise must not be practiced by a student while flying solo.

- (1) Recovery from inadvertent mishandling of controls –
  - (a) at high speeds
  - (b) in stall recovery in various configurations
  - (c) in a steep turn
- (2) Lookout

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(3) Airmanship

**Exercise 26: Loose Formation / Group flying**

**Aim:** To safely fly in loose formation with other aircraft and particularly thermalling procedures.

- (1) Positioning in front, behind or alongside other gliders
- (2) Turning
- (3) Wake turbulence
- (4) Awareness of other aircraft
- (5) Blind spots and scanning techniques
- (6) Turning in front of other aircraft and the effect on them
- (7) Radio work
- (8) Air Law

**Exercise 27: Navigation**

**Aim:** To fly accurately and safely in VMC under VFR a predetermined route CAR 62.04.2 (1) (a) and (b), without infringing the rules governing regulated airspace. As in a cross country or a competition flight.

**A: Basic Navigation**

- (1) Flight planning
  - (a) Weather forecast
  - (b) Map selection and preparation
    - (i) choice of route
    - (ii) controlled airspace
    - (iii) danger, prohibited and restricted areas
    - (iv) safety altitudes
  - (c) Calculations
    - (i) magnetic heading(s) and time(s) *en route*
    - (iii) mass and balance
    - (iv) mass and performance
  - (d) Flight information

- (i) NOTAMS etc.
- (ii) radio frequencies
- (iii) selection of alternate aerodromes
- (e) Glider documentation
- (f) Notification of the flight
  - (i) pre-flight administrative procedures
  - (ii) recovery equipment in case of out landing
- (2) Departure
  - (a) Organisation of cockpit workload
  - (b) Departure procedures
    - (i) altimeter settings
    - (ii) ATC liaison in controlled / regulated airspace
    - (iii) setting-heading procedure
    - (iv) noting of ETAs
  - (c) Finding the best route to turn point or destination.
  - (d) Revisions of ETA and heading
  - (e) Log keeping
  - (f) Use of radio
  - (g) Use of nav aids (if applicable)
  - (h) Minimum weather conditions for continuation of flight
  - (i) In-flight decisions
  - (j) Transiting controlled / regulated airspace
  - (k) Uncertainty-of-position procedure
  - (l) Lost procedure
- (3) Arrival
  - (a) Aerodrome joining procedure
    - (i) Airfield operating procedures
    - (ii) altimeter setting
    - (iii) entering the traffic pattern



- (iv) circuit procedures
- (b) Parking
- (c) Security of the glider
- (d) Post-flight administrative procedures

**B: Use of GPS**

- (4) Entering weigh-points
- (5) Reading GPS information
- (6) Following GPS routes
- (7) Practical limitations

Note: Exercise 28 and 29 do not need to reflect practical flying. These exercises merely need to be endorsed in the student/ pilot's log book by the instructor. This endorsement can be done by an assistant or full instructor.

**Exercise 28: Pre-flight inspections**

**Aim:** To instill in the student the habit of systematic, thorough and regular pre-flights

(1) Fuselage

- a. Symmetry
- b. Structure
- c. Suspension
- d. Steering
- e. Sail / skin
- f. Cables
- g. Tubing
- h. Suspension
- i. Steering
- j. Brackets
- k. Instrument console, including power supply to instruments, intercom, radio and aerial connections.
- l. Wheels and tyres
- m. Srokes

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n. Seats and seat belts

o. Battery

(2) Systems

a. Water System

b. Electrical system

### **Exercise 29: Passengers**

**Aim:** To make the student aware of the requirements for passenger flying and of the factors that must be considered.

(1) Briefing

(2) Security

(3) Comfort

### **Exercise 30:Glider Rigging and De-rigging**

**Aim:** To teach the student the best general practices of rigging and de-rigging a glider.

(1) minimizing damage during de-rigging

(2) Cable, fabric, bracket and tube protection

(3) minimizing damage during transport

(4) minimizing damage during rigging

(5) special techniques and considerations

(6) Control connections

(7) Wind considerations

(8) Surface consideration

(9) Trailer towing considerations

## 6.2 POWERED SUSTAINER GLIDERS PRACTICAL TRAINING

### 1. Aim of training course

The aim of the course is to train a candidate to the level of proficiency required for the issue of a class and type rating for powered sustainer gliders, and to provide the training necessary to act as pilot-in-command of any powered sustainer glider, engaged in non-revenue flights under visual flight rules.

This annexure is to be read in addition to Annexure C to meet the requirements for the issue of this rating.

### 2. Practical training course

#### Exercise 1: Familiarization with the powered sustainer glider

As per Part 6.1

#### Exercise 2: Preparation for, and action after flight

As Per Part 6.1– plus in addition.

- (13) Engine preflight checks
- (14) Start up and check power if possible and or recommended
- (15) Check engine deployment for air start

#### Exercise 3: Air Experience

**Aim:** The aim of this sequence is to instill confidence in a learner who has previously flown very little or not at all, to impart some knowledge, and to familiarize the learner with the geography around the training base.

#### Exercise 4: Effect of controls

As per Part 6.1 plus in addition

- (5) The effects on the control of the Aircraft with engine raised or stowed
- (6) Effects of the above on glider performance
- (7) Effect of change in CG

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**Exercise 5: Ground handling**

As per Part 6.1

**Exercise 6: Straight glide**

As per Part 6.1

**Exercise 7: Climbing**

As per Part 6.1 plus in addition

- (7) The use of engine power to assist climb

**Exercise 8: Descending**

As per Part 6.1 plus in addition

- (6) The effects of additional drag when sustainer engine is extended

**Exercise 9: Turning**

As per Part 6.1

**Exercise 10a: Slow flight**

As per Part 6.1 plus in addition

- (6) The effects of additional drag when sustainer engine is extended

**Exercise 10b: Stalling**

As per Part 6.1 plus in addition

- (7) The effects of additional drag when sustainer engine is extended

**Exercise 11: Descending and Climbing Turns**

As per Part 6.1 plus in addition

- (6) The effects of additional drag when sustainer engine is extended

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**Exercise 12a: Aero Tow Take Off and Climb to release altitude**

As per Part 6.1

**Exercise 12b: Winch Launch Take Off and climb to release altitude**

As per Part 6.1

**Exercise 13: Circuit, Approach and Landing**

As per Part 6.1 plus in addition

(16) The effects of additional drag when sustainer engine is extended

**Exercise 14: Spin avoidance / Spin Recovery**

As per Part 6.1

**Exercise 15: First Solo**

**Aim:** To carry out a safe and accurate launch, approach and landing.

As per Part 6.1

**Exercise 16: Side-slipping**

As per Part 6.1 plus in addition

(7) The effects of additional drag when sustainer engine is extended

**Exercise 17: Steep Turns**

As per Part 6.1

**Exercise 18: Use of instruments**

As per Part 6.1 plus in addition

(8) Engine Instruments

**Exercise 19: Low flying**

As per Part 6.1

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**Exercise 20: Cross-wind Take-off and Landing**

As per Part 6.1

**Exercise 22: Out landings**

As per Part 6.1 plus in addition

- (7) The effects of additional drag when sustainer engine is extended

**Exercise 23: Action in Event of Fire**

As per Part 6.1

**Exercise 24: Starting sustainer engine in flight**

**Aim:** To be able to deploy and start the sustainer engine when required.

- (1) Decision time and height
- (2) Selection of out landing field in the event of engine not functioning
- (3) Engine start procedure
  
- (4) Correct air speed
  
- (5) Airmanship

**Exercise 25: Unusual and dangerous attitudes / conditions**

As per Part 6.1

**Exercise 26: Loose Formation / Group flying**

As per Part 6.1

**Exercise 27: Navigation**

As per Part 6.1

Note: Exercise 28 and 29 do not need to reflect practical flying. These exercises merely need to be endorsed in the student/ pilot's log book by the instructor. This endorsement can be done by an assistant or full instructor.

**Exercise 28: Pre-flight inspections**

As per Part 6.1

**Exercise 29: Passengers**

As per Part 6.1

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**Exercise 30:Glider Rigging and De-rigging**

As per Part 6.1 plus in addition

- (10) The safe stowage and / or removal of fuel before rigging / de-rigging

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## 6.3 SELF LAUNCHING GLIDERS PRACTICAL TRAINING

### 1. Aim of training course

The aim of the course is to train a candidate to the level of proficiency required for the issue of a class and type rating for self launch gliders, and to provide the training necessary to act as pilot-in-command of any self launch glider, engaged in non-revenue flights under visual flight rules.

This annexure is to be read in addition to Annexure C and Annexure E to meet the requirements for the issue of this rating.

### 2. Practical training course

As per Part 6.1 and Part 6.2 plus in addition

#### Exercise 5: Ground handling

**Aim:** To safely control the glider while maneuvering on the ground in different wind conditions and on different surfaces.

- (1) Pre-taxi checks
- (2) Starting, control of speed, and stopping
- (3) Engine handling
- (4) Control of direction and turns
- (5) Turns in confined spaces
- (6) Tail-wheel considerations (if applicable)
- (7) Parking area procedure and precautions taking special note of wingspan
- (8) Effects of wind and use of flying controls
- (9) Effects of ground surface
- (10) Freedom of rudder movement
- (11) Marshalling signals
- (12) Instrument checks
- (13) Air traffic control procedures

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- (14) Emergencies (brake and steering failure)
- (15) Airmanship
- (16) Obstacle clearance with specific reference to wingspan and low wings.

### **Exercise 12: Take Off and Climb to Downwind Position**

**Aim:** To safely take-off and climb the Self Launch Glider to position on the downwind leg at circuit height; to land safely in the event of an engine failure after take-off or at any time in the circuit; and to decide against continuation of the take-off – taking the appropriate action – if for some reason continuation would be unsafe.

- (1) Pre-take-off checks
- (2) Factors affecting the length of the take-off roll and the initial climb
- (3) Into wind take-off
- (4) Wing runner considerations
- (5) Drills during and after take-off
- (6) Short take-off and soft-field procedures / techniques, including performance calculations
- (7) Undulating (rough field) considerations
- (8) Aborted take-off
- (9) Engine failure after take-off (EFATO) up to early downwind.

**Note: This exercise may not be practiced by a solo student**

- (10) Airmanship

### **Exercise 13: Circuit, Approach and Landing**

**Aim:** To accurately anticipate the circuit and carry out a safe approach and landing.

- (1) Circuit procedures, downwind, base leg, key points
- (2) Circuit speed. Pitch, and bank angles
- (3) Use of airbrake
- (4) Selection of reference point and adjusting configuration and attitude accordingly.
- (5) Effect of wind on approach and touchdown speeds.
- (6) Effect of ground surface and gradient on the landing run

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- (7) Round out
- (8) Hold off and touch down
- (9) Roll out
- (10) Clearing the runway.
- (11) Use of the wheel brake.
- (12) Control during ground run
- (13) Practice with engine deployed and running and wind milling

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## 6.4 TOURING MOTOR GLIDER PRACTICAL TRAINING

### 1. Aim of training course

The aim of the course is to train a candidate to the level of proficiency required for the issue of a type rating for TOURING MOTOR GLIDERS, and to provide the training necessary to act as pilot-in-command of any touring motor glider for which he or she holds a valid type rating, engaged in non-revenue flights under visual flight rules. This course needs to be conducted in terms of CAR's 62.17 and the associated CATS.

### 2. Practical training course

#### Exercise 1: Familiarization with the Touring Motor glider

**Aim:** To become familiar with the component parts, controls and system of the glider.

- (1) Characteristics of the Touring Motor Glider
- (2) Cockpit layout and control color coding
- (3) Systems
- (4) Check lists, drills, controls; and
- (5) Emergency drills, consisting of –
  - (a) Action in the event of fire on the ground and in the air;
  - (b) Equipment or system failures; and
  - (c) escape drills.

#### Exercise 2: Preparation for, and action after flight

**Aim:** To understand how to prepare the glider and pilot for flight, and how to leave the glider after flight.

- (1) Local rules
- (2) Flight authorization and motor glider acceptance
- (3) Serviceability documents
- (4) Required equipment, maps, etc.
- (5) External checks
- (6) Internal checks
- (7) Seat, harness and controls adjustment
- (8) Deployment and retraction of airbrake system
- (9) Starting and warming-up checks including safety, people, animals, aircraft and air law
- (10) Seating position – suitable clothing

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- (11) Starting and warming-up checks
- (12) Power checks
- (13) Running down and switching off of engine
- (14) Parking, security and picketing
- (15) Completion of authorization and flight folio sheets

### **Exercise 3: Air Experience**

**Aim:** The aim of this sequence is to instill confidence in the student who has previously flown very little or not at all, to impart some knowledge, and to familiarize the student with the geography around the training base.

### **Exercise 4: Effect of controls**

**Aim:** To explain how each control affects the aircraft in flight.

- (1) Methods of assessing aircraft attitude
  - (2) Primary effects when laterally level and when banked;
  - (3) Further effects of aileron, elevator and rudder and their effects on –
    - (a) airspeed
    - (b) slipstream
    - (c) power changes
    - (d) trimming of controls
    - (e) flaps and / or spoiler systems
    - (f) other controls, as applicable
- (4) Use of engine controls
- (5) Airmanship

### **Exercise 5: Taxiing**

**Aim:** To safely control the glider while maneuvering on the ground in different wind conditions and on different surfaces.

- (1) Pre-taxi checks

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- (2) Starting, control of speed, and stopping
- (3) Engine handling
- (4) Control of direction and turns
- (5) Turns in confined spaces
- (6) Tail-wheel considerations (if applicable)
- (7) Parking area procedure and precautions taking special note of wingspan
- (8) Effects of wind and use of flying controls
- (9) Effects of ground surface
- (10) Freedom of rudder movement
- (11) Marshalling signals
- (12) Instrument checks
- (13) Air traffic control procedures
- (14) Emergencies (brake and steering failure)
- (15) Airmanship
- (16) Obstacle clearance with specific reference to wingspan and low wings.

### **Exercise 6: Straight and level flight**

**Aim:** To attain and maintain flight in a straight line under power and power off glide at best glide speed

- (1) At normal cruising power, attaining and maintaining straight and level flight
- (2) Demonstration of inherent stability
- (3) Control in pitch including use of trim
- (4) Demonstrate pitch speed relationship
- (5) Demonstrate lag in airspeed indicator
- (6) Lateral level, direction and balance, trim
- (7) Use of instruments
- (8) Airmanship

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### **Exercise 7: Climbing**

**Aim:** To enter and maintain a steady full-power climb, and then return to level flight at a predetermined altitude, and to enter and maintain a steady cruise-climb.

- (1) Entry, maintaining the normal and maximum rate climb and leveling off, with and without flaps (if applicable)
- (2) Leveling off at selected altitudes
- (3) *En route* (cruise) climb
- (4) Maximum angle of climb
- (5) Use of instruments
- (6) Airmanship

### **Exercise 8: Descending**

**Aim:** To enter and maintain a steady glide-descent and then, at a predetermined altitude, to return to best glide.

- (1) Entry, maintaining and leveling off
- (2) Leveling off at selected altitudes
- (3) The use of airbrakes
- (4) Use of instruments for precision
- (5) Side-slipping/forward slipping
- (6) Airmanship
- (7) Glide, powered and cruise descent (including effect of power and airspeed)

### **Exercise 9: Medium Turns**

**Aim:** To enter and maintain a medium (up to approximately 30° bank angle) turn whilst maintaining best glide speed and then to return to straight glide on a new predetermined heading.

- (1) Entry and maintaining medium turns at best glide speed
- (2) Resuming straight and level flight

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- (3) Faults in the turn
- (4) Turns onto selected headings.
- (5) Judging bank angle by wing-tip reference
- (6) Use of instruments
- (7) Airmanship
- (8) Lookout

#### **Exercise 10a: Slow flight**

**Aim:** The objective is to improve the student's ability to recognize inadvertent flight at critically low speeds and provide practice in maintaining the glider in balance should this situation occur.

- (1) Safety checks (HASSELL)
- (2) Introduction to slow flight
- (3) Controlled flight just before the stall.
- (4) The use of flaps if fitted
- (5) Application of full power with correct attitude to achieve flying speed, correcting for torque and pitch
- (6) Airmanship

#### **Exercise 10b: Stalling**

**Aim:** To recognize and enter a fully-developed stall from both straight and turning flight, and to recover with minimum height-loss to a safe flight mode; to become familiar with the 'feel' of the airplane in slow flight just above the stall speed; and to recognize the symptoms of the incipient stall and to restore the airplane to safe flight before the stall occurs.

- (1) Airmanship
- (2) Safety checks (HASSELL)
- (3) Symptoms
- (4) Recognition
- (5) Clean stall and recovery without power and with power
- (6) Recovery when a wing drops
- (7) Approach to stall in the landing configuration, with and without power, recovery at the incipient stage
- (8) After engine failure while climbing steeply at full power

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### **Exercise 11: Descending and Climbing Turns**

**Aim:** To enter and maintain a medium (up to approximately 30° bank angle) turn whilst maintaining a climb or descent, or to enter and maintain a turn from a straight climb or descent.

**Note:** Ideally, climbing turns should not exceed 15 deg bank angles, to optimize rate of climb.

- (1) Entry and maintaining medium descending and climbing turns
- (2) Resuming straight and level flight
- (3) Faults in the turn – balance/string
- (4) Turns onto selected headings, use of either gyro heading indicator or compass
- (5) Use of instruments
- (6) Lookout
- (7) Airmanship

### **Exercise 12: Take Off and Climb to Downwind Position**

**Aim:** To safely take-off and climb the Self Launch Glider to position on the downwind leg at circuit height; to land safely in the event of an engine failure after take-off or at any time in the circuit; and to decide against continuation of the take-off – taking the appropriate action – if for some reason continuation would be unsafe.

- (1) Pre-take-off checks
- (2) Factors affecting the length of the take-off roll and the initial climb
- (3) Into wind take-off
- (4) Noise abatement procedures
- (5) Drills during and after take-off
- (6) Short take-off and soft-field procedures / techniques, including performance calculations
- (7) Undulating (rough field) considerations
- (8) Aborted take-off
- (9) Engine failure after take-off (EFATO) up to early downwind.

**Note: This exercise may not be practiced by a solo student**

- (10) Airmanship

### **Exercise 13: Circuit, Approach and Landing**

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**Aim:** To accurately anticipate the circuit and carry out a safe approach and landing.

- (1) Circuit procedures, downwind, base leg, key points
- (2) Powered and non Powered approach and landing
- (3) Nose wheel / tail wheel considerations
  
- (4) Effect of wind on approach and touchdown speeds, use of flaps or Spoiler or Airbrakes (if applicable)
  
- (5) Glide approach and landing
  
- (6) Short-landing and soft-field procedures / techniques
  
- (7) Missed approach / go-around
  
- (8) Correcting bad approaches
  - Hot and High
  - Low and slow.
  
- (9) Noise abatement procedures
  
- (10) The hold-off period and touch-down
  
- (11) Effect of ground surface and gradient on the landing run
  
- (12) Use of brakes (if applicable)
  
- (13) Control during ground run
  
- (14) Airmanship

**Exercise 14a: Spin avoidance**

**Aim:** To understand and recognize the onset of situations that may lead to an inadvertent spin, and to learn how to instinctively take the necessary control actions to effect a recovery back to normal flight condition before a spin occurs; i.e.: to recover at the incipient stage.

- (1) Cause of spin
- (2) Recognition of incipient spin
- (3) Recovery from the incipient spin
- (4) Lookout
- (5) Airmanship
  
- (6) Identifying the difference between a spin and spiral dive

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(7) With engine deployed in a full power climb

**Exercise 14a: Full Spin**

**Aim:** To understand and recognize the onset of situations that may lead to an inadvertent spin, and to learn how to instinctively take the necessary control actions to effect a recovery back to normal flight condition after a spin occurs; i.e.: to recover at the fully developed spin stage.

(1) Cause of spin

(2) Recognition of full spin and maintenance of spatial orientation

(3) Recovery from the full spin, with special note to monitoring “G” Load and airspeeds.

(4) Lookout

(5) Airmanship

(6) Identifying the difference between a spin and spiral dive

(7) With engine deployed in a full power climb

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### **Exercise 15: First Solo**

**Aim:** To carry out a safe and accurate launch, approach and landing.

#### **One circuit only. Then full stop.**

The student must be checked out for first solo by a Full instructor who must be present and in contact with the student at all times during the flight.

Before flying solo a student must:

- 1) in addition to being proficient in exercises 1 to 14
- 2) be able to reasonably execute a simulated emergency landing from any position in the circuit.
- 3) He or she must also have completed a minimum of 6 (six) hours of dual instruction.
- 4) He or she must be the holder of a valid Student Pilot license and have successfully passed the student pilot exams.

During the next 3 hours of solo flight, the student must remain in the circuit area, not more than 5 n m from the airfield and consolidate exercises 9, 12 and 13. The student must receive a dual check-out after the first solo and at the start of each days flying, until the three hours solo have been completed. A supervising instructor must be able to make radio contact at all times with the student.

### **Exercise 16: Side-slipping / Forward slipping**

**Aim:** The student must be shown and become convinced of the effect of side slipping on the relationship of between heading and ground path. How this out of balance manoeuvre can be used to increase the rate of descent for a given airspeed and its usefulness in cross wind landings. (While the student is learning to use the controls during a side slip, the exercise should be performed at altitude.)

- (1) Effects of controls in a side slip
- (2) Principles involved.
- (3) Types of side slip.
- (4) How exercise applies to flying.
- (5) Lookout and HASSELL checks
- (6) Airmanship

### **Exercise 17: Steep Turns**

**Aim:** To carry out a co-ordinated level turn at steep angles of bank and to recognize and recover from a spiral dive.

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- (1) Steep 360° turns (up to 45° bank angle), recovering to straight and flight
- (2) Steep descending turns (up to 60° bank angle), completing a minimum of 2 complete orbits, then recovering to straight flight.
- (3) Wake turbulence / Disorientation
- (4) Stalling in the turn and recovery
- (5) Recoveries from unusual attitudes, including spiral dives
- (6) Lookout
- (7) Airmanship

### **Exercise 18: Use of instruments**

**Aim:** To develop the habit of checking constantly both navigational and flight instruments whilst keeping a good look-out for other aircraft.

- (1) Navigational instruments
- (2) Engine instruments
- (3) Scanning techniques
- (4) GPS and other basic electronic navigation systems
- (5) Airmanship

### **Exercise 19: Low flying**

**Aim:** To safely operate the airplane at heights lower than those normally used.

- (1) Emphasis on regulations governing low flying
- (2) Low-level familiarization
- (3) Effect of drift
- (4) Effect of wind on ground speed
- (5) Effect of wind in inducing apparent skids and slips in turns
- (6) Joining circuit in poor weather;
- (7) Bad weather circuit
- (8) Lookout
- (9) Airmanship

### **Exercise 20: Cross-wind Take-off and Landing**

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**Aim:** To be able to handle both cross-wind take-offs and landings, including downwind landings in an emergency; to be able to input the correct amount of control to correct drift to ensure the track is a continuation of the take off or landing path of the glider

- (1) Aerodynamics and mechanical considerations
- (2) Manufacturers limitations
- (3) The circuit
- (4) Approach and cross wind landings – crabbing method – forward slipping method
- (5) Cross-wind take-offs
- (6) Lookout
- (7) Airmanship

#### **Exercise 21 : Precautionary landings**

**Aim:** A precautionary landing is one not contemplated before the flight commenced and where engine power is still available, enabling the pilot the opportunity of selecting and inspecting a suitable landing area before executing a landing in an unfamiliar place.

- (1) Occasions necessitating
- (2) Full procedure away from aerodrome to break-off height
- (3) In-flight conditions
- (4) Landing area selection -
  - (a) normal aerodrome;
  - (b) disused aerodrome
  - (c) ordinary field.
  - (d) habitation for after-landing assistance
- (5) Inspection of landing area
- (6) Circuit and approach
- (7) PAN call
- (8) Actions after landing
- (9) Airmanship

#### **Exercise 22 - Forced landing**

**Aim:** To carry out a safe descent and landing in the event of the engine failing during flight.

**Note:** This exercise to be practiced at the training airfield, and commenced outside of the circuit pattern.

- (1) Forced-landing procedure

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- (2) Choice of landing area, provision for change of plan
- (3) Gliding distance
- (4) Descent plan
- (5) Key positions
- (6) Engine cooling
- (7) Use of radio, Mayday call
- (9) Base leg
- (10) Final approach
- (11) Landing
- (12) Actions after landing
- (13) Airmanship

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### **Exercise 23 : Action in Event of Fire**

**Aim:** Fire is extremely rare in modern motor gliders but it is essential that a pilot has a thorough knowledge of the procedures to be adopted in his or her particular type of airplane in order to extinguish a fire both on the ground and in the air.

- (1) Identification of fire
- (2) Isolation / extinguishing of fire
- (3) Flight procedures / emergency actions
- (4) Airmanship

### **Exercise 24 : Normal shutdown and restart of engine in flight**

**Aim:** To instill the correct in flight engine shutdown and restart procedures in the student. Aircraft engines are mechanical and therefore subject to failure at some stage, therefore engines will at some time or intentionally stop whilst in flight. It is important that the learner does not panic but is prepared mentally for and able to cope with the situation.

- (1) Shutting down engine.
  - a. Sufficient height for a restart if detected thermal cannot be maintained.
  - b. Establishment of buoyant air or thermal.
  - c. Cooling down of engine and safe shutdown procedures.
  - d. Operation of vent systems and Cowl Flap.
  - e. Engine shutdown procedures
- (2) Restart of engine in flight.
  - a. Decision height for engine start or out landing.
  - b. Preparation for start and cold start checks unfeathering.
  - c. Warm Start and Cold start using Starter.
  - d. Start using starter and assisted airflow.
  - e. Dive start using airflow and unfettering technique.
- (3) Airmanship

**Note:** This exercise must not be practiced by a learner while flying solo. It must be within easy glide to the training field, to be treated as a simulated emergency until engine is successfully restarted.

### **Exercise 25: Unusual and dangerous attitudes / conditions**

**Aim:** To recognize potentially dangerous conditions of flight and to recover safely from unusual attitudes.

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Note: this exercise must not be practiced by a student while flying solo.

- (1) Recovery from inadvertent mishandling of controls –
  - (a) at high speeds
  - (b) in stall recovery in various configurations
  - (c) in a steep turn
  - (d) following hitting wake turbulence in a 360° steep turn at 45° to 60° bank angles
- (2) Lookout
- (3) Airmanship

### **Exercise 26: Loose Formation / Group flying**

**Aim:** To safely fly in loose formation with other aircraft and particularly thermalling procedures.

- (1) Positioning in front, behind or alongside other gliders
- (2) Turning
- (3) Wake turbulence
- (4) Awareness of other aircraft
- (5) Blind spots and scanning techniques
- (6) Turning in front of other aircraft and the effect on them
- (7) Radio work
- (8) Air Law
- (9) Taking off and landing considerations

### **Exercise 27: Navigation**

**Aim:** To fly accurately and safely in VMC under VFR a predetermined route CAR 62.04.2 (1) (a) and (b), without infringing the rules governing regulated airspace.

#### **A : Basic Navigation**

- (1) Flight planning
  - (a) Weather forecast
  - (b) Map selection and preparation
    - (i) choice of route

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- (ii) controlled airspace
- (iii) danger, prohibited and restricted areas
- (iv) safety altitudes
- (c) Calculations
  - (i) magnetic heading(s) and time(s) *en route*
  - (ii) fuel consumption
  - (iii) mass and balance
  - (iv) mass and performance
- (d) Flight information
  - (i) NOTAMS etc.
  - (ii) radio frequencies
  - (iii) selection of alternate aerodromes
- (e) Motor glider documentation
- (f) Notification of the flight
  - (i) pre-flight administrative procedures
  - (ii) flight plan form

(2) Departure

- (a) Organization of cockpit workload
- (b) Departure procedures
  - (i) altimeter settings
  - (ii) ATC liaison in controlled / regulated airspace
  - (iii) setting-heading procedure
  - (iv) noting of ETAs
- (c) Maintenance of altitude and heading
- (d) Revisions of ETA and heading
- (e) Log keeping
- (f) Use of radio

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- (g) Use of nav aids (if applicable)
  - (h) Minimum weather conditions for continuation of flight
  - (i) In-flight decisions
  - (j) Transiting controlled / regulated airspace
  - (k) Uncertainty-of-position procedure
  - (l) Lost procedure
- (3) Arrival
- (a) Aerodrome joining procedure
    - (i) ATC liaison in controlled / regulated airspace
    - (ii) altimeter setting
    - (iii) entering the traffic pattern
    - (iv) circuit procedures
  - (b) Parking
  - (c) Security of motor glider
  - (d) Refueling
  - (e) Closing of flight plan, if applicable
  - (f) Post-flight administrative procedures
- (4) Airmanship

**B: Navigation at low heights and in reduced visibility**

**Note:** This is not to be accepted as standard cross country technique. The student should know to avoid situations where it may be encountered.

- (1) Actions prior to descending
- (2) Hazards (e.g. obstacles, other aircraft)
- (3) Difficulties of map reading
- (4) Effects of wind and turbulence
- (5) Avoidance of noise-sensitive areas
- (6) Joining the circuit
- (7) Bad-weather circuit and landing
- (8) Airmanship

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## **C: Use of GPS**

- (1) Entering weigh-points
- (2) Reading GPS information
  
- (3) Following GPS routes
  
- (4) Practical limitations

Note: Exercise 28 and 29 do not need to reflect practical flying. These exercises merely need to be endorsed in the student/ pilot's log book by the instructor. This endorsement can be done by any grade instructor.

### **Exercise 28: Pre-flight inspections**

**Aim:** To instill in the student the habit of systematic, thorough and regular pre-flights

#### (1) Fuselage

- a. Symmetry
- b. Structure
  
- c. Suspension
  
- d. Steering
  
- e. Sail / skin
  
- f. cables
  
- g. tubing
  
- h. suspension
  
- i. steering
  
- j. brackets
  
- k. Instrument console, including power supply to instruments, intercom, radio and aerial connections.
  
- l. engine mount
  
- m. wheels and tyres
  
- n. brakes
  
- o. seats and seatbelts
  
- p. fuel-tank

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q. battery

(2) Engine, exhaust and gearbox

- a. Oil leaks
- b. Spark plug caps
  
- c. Cables and electrical wiring
  
- d. Carb rubbers
  
- e. Fan belt / Radiator / Cooling system
  
- f. Exhaust blow-by
  
- g. Exhaust springs
  
- h. Air filters
  
- i. Carburetors Systems
  - a. Fuel system
  - b. Electrical system

### **Exercise 29: Passengers**

**Aim:** To make the student aware of the requirements for passenger flying and of the factors that must be considered.

- (1) Briefing
- (2) Security
- (3) Comfort

### **Exercise 31: Gliding Engine Off and On**

**Aim:** To fly cross country with limited or no engine using only the energy of the surrounding air to sustain flight, student will be required to demonstrate sustained flight demonstrating altitude maintenance or gain to the satisfaction of a Grade A instructor. These maneuvers will not be practiced solo within the first 10 hours of solo.

- (1) Awareness of airspace and vertical and lateral limits.
- (2) Gliding engine on
  - a. Identification of buoyant air or thermal.
  - b. Observation of other traffic that may be using the same thermal.
  - c. Entering and maintaining core of the thermal.
  - d. Right of way rules and vigilant and constant lookout.
  - d. Operation of Flap systems if any.

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- e. Best thermalling speeds.
  - f. Awareness of stall in a thermal and early detection
  - g. Exit from thermal.
- (2) Gliding engine off
- a. Identification of sufficient thermal.
  - b. Observation of other traffic that may be using the same thermal.
  - c. Entering and maintaining core of the thermal.
  - d. Right of way rules and vigilant and constant lookout.
  - d. Operation of Flap systems if any.
  - e. Best climb and thermalling speeds.
  - f. Awareness of stall in a thermal and early detection
  - g.. Exit from thermal.
  - h. Best glide and sink rates speeds between thermals.
  - i. Identification of potential thermal triggers.
- (3) Sustained gliding and high altitude flight.
- a. Operation of supplementary oxygen system.
  - b. Awareness of surrounding airspace and limits.
  - c. Awareness of altitude gains and onset of Hypoxia.
  - d. Awareness and use of Hydration systems.
- (4) Mountain or ridge soaring.
- a. Traffic Observation and ridge rules.
  - b. Awareness of lee side rotor and turbulence.
  - c. Awareness of proximity to high ground and avoidance of changing terrain.
  - d. Awareness and identification of pressure lift band.

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## 6.5 GLIDER BASIC AEROBATICS PRACTICAL TRAINING

### 1. Aim of training course

The aim of the course is to train a candidate to the level of proficiency required for the issue of a type rating for Basic Aerobatics, and to provide the training necessary to act as pilot-in-command of an acrobatically approved glider performing the approved list of basic aerobatic maneuvers. This course needs to be conducted by an Instructor with the necessary Aerobatic Ratings.

### 2. Practical training course

#### Exercise 41: The 45 Deg down Line

##### Description

A short horizontal line should be followed by a pitch transition to a 45 Deg down line held steady for a few moments before pitching back to another straight horizontal line. The radius of both segments should be identical, the 45 Deg angle is judged on the Fuselage angle.

- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting slow entry speed and exit at correct speed
- e. The Completion

#### Exercise 42: The 45 Deg up Line

##### Description

This maneuver is the reverse of Exercise 41

- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting entry speed and exit at correct speed
- e. The Completion

#### Exercise 43: The 360 Deg Turn

##### Description

This maneuver should consist of a horizontal line followed by a rapid roll to a 60 Deg banked turn which should be accurately maintained in both height and radius and must be completed with a roll out on the original heading.

- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting entry speed and exit at correct speed,height and heading.
- e. The Completion

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## **Exercise 44: The Spin**

### **Description**

From level flight the spin entry should give the impression that the glider drops directly into a steady spin with no apparent pitch up of the nose or hesitation or other interruption to the flight path. The spin should be symmetrical and uniform with a crisp stop in a vertical nose down attitude at recovery. A short vertical down line is then held, followed by a high speed horizontal line on the pre-defined heading.

- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting stall speed and exit at correct speed and heading
- e. The Completion

## **Exercise 45: The Loop**

### **Description**

A loop should be a horizontal line followed by a constant radius circle in the vertical plane with a horizontal exit line at same altitude as entry. The roundness is judged by the path of the gliders C of G track so adjustments need to be made for wind effect.

- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting the unloading of the wings at inverted position, special note on entry speed and exit at correct speed and heading
- e. The Completion

## **Exercise 46: The Chandelle**

### **Description**

A Chandelle is a horizontal line followed by a 45 Deg up-line. At the top there is a 180 Deg constant radius turn at an angle of bank of 45 Deg. The rollout of this turn should be into a 45 Deg down line parallel with the up-line. The up and down lines should be of equal length.

- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting the wings at knife edge on the top, special note on entry speed and exit at correct speed and heading
- e. The Completion

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## **Exercise 47: The Climbing Turn**

### **Description**

The aim is to achieve a 180 Deg turn at a constant angle of bank and radius while losing speed to complete the maneuver just above the stall.

- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting the unloading of the wings at inverted position, special note on entry speed and exit at correct speed and heading
- e. The Completion

## **Exercise 48: The Cloverleaf**

### **Description**

The glider should pitch up from the horizontal line as for a loop, but it should roll at the same time during the second quarter making a heading change of 90 Deg, as the inverted part of the maneuver is reached the roll should be stopped and continue as for a loop, 4 such consecutive maneuvers would see a 360 Deg heading change, the maneuver is judged on the accuracy of heading change and roundness of the loop.

- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting the accuracy of the 90 Deg roll and unloading of the wings at inverted position, special note on entry speed and exit at correct speed and heading
- e. The Completion

## **Exercise 49: The Stall Turn**

### **Description**

From a horizontal line the glider should pitch up vertically, at the top it should pivot about one wingtip in the vertical plane at 90 Deg to the entry line. This yawing motion should be smooth and symmetrical and ideally within one wingspan of the glider. The down line should be vertical and the same length as the up-line ending with a crisp exit.

- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting the vertical position and the rudder input at the correct speed, special note on entry speed and exit at correct speed and heading
- e. The Completion

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## **Exercise 50: The Half Flick roll**

### **Description**

From horizontal flight the glider should appear to flick quickly and without undue pitching up of the nose on to its back. The rotation should stop accurately with the wings level and the nose pointing down 30-45 Deg, the glider should then proceed with the second quarter of a loop to exit on the horizontal plane on a reciprocal heading.

- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting the entry speed and exit at correct speed and heading
- e. The Completion

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## **6.5 GLIDER ADVANCED AEROBATICS PRACTICAL TRAINING**

### **1. Aim of training course**

The aim of the course is to train a candidate to the level of proficiency required for the issue of a type rating for Advanced Aerobatics, and to provide the training necessary to act as pilot-in-command of an acrobatically approved glider performing the approved list of basic and advanced aerobatic maneuvers. This course needs to be conducted by an Instructor with the necessary Aerobatic Ratings.

### **2. Practical training course**

#### **Exercise 51. The Humpty Bump (Canopy Up and Down)**

##### **Description**

This maneuver should start with a horizontal line followed by a crisp up-line, at the top there should be a small radius half loop. This loop may be either over backwards (canopy Down) or pushed over forwards (Canopy up) accordingly. This is then followed by a vertical down line and a crisp horizontal exit line.

- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting the entry speed and exit at correct speed and heading
- e. Careful note to be made to ensure controls are against the stops should the maneuver timing not be correct to avoid damage.
- f. The Completion

#### **Exercise 52: The Tail Slide (Canopy Up and Down)**

##### **Description**

From horizontal flight the glider should appear to flick quickly and without undue pitching up of the nose on to its back. The rotation should stop accurately with the wings level and the nose pointing down 30-45 Deg, the glider should then proceed with the second quarter of a loop to exit on the horizontal plane on a reciprocal heading.

- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting the entry speed and exit at correct speed and heading
- e. The Completion

#### **Exercise 53: Inverted Flight**

##### **Description**

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From horizontal flight the glider should appear to flick quickly and without undue pitching up of the nose on to its back. The rotation should stop accurately with the wings level and the nose pointing down 30-45 Deg, the glider should then proceed with the second quarter of a loop to exit on the horizontal plane on a reciprocal heading.

- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting the entry speed and exit at correct speed and heading
- e. The Completion

#### **Exercise 54: Half Slow Roll – Erect & Inverted**

##### **Description**

From horizontal flight the glider should appear to flick quickly and without undue pitching up of the nose on to its back. The rotation should stop accurately with the wings level and the nose pointing down 30-45 Deg, the glider should then proceed with the second quarter of a loop to exit on the horizontal plane on a reciprocal heading.

- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting the entry speed and exit at correct speed and heading
- e. The Completion

#### **Exercise 55: Full Slow Roll**

##### **Description**

From horizontal flight the glider should appear to flick quickly and without undue pitching up of the nose on to its back. The rotation should stop accurately with the wings level and the nose pointing down 30-45 Deg, the glider should then proceed with the second quarter of a loop to exit on the horizontal plane on a reciprocal heading.

- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting the entry speed and exit at correct speed and heading
- e. The Completion

#### **Exercise 56: Half Cuban Eight**

##### **Description**

From horizontal flight the glider should appear to flick quickly and without undue pitching up of the nose on to its back. The rotation should stop accurately with the wings level and the nose pointing down 30-45 Deg, the glider should then proceed with the second quarter of a loop to exit on the horizontal plane on a reciprocal heading.

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- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting the entry speed and exit at correct speed and heading
- e. The Completion

### **Exercise 57: The 360 Deg Inverted Turn**

#### **Description**

From horizontal flight the glider should appear to flick quickly and without undue pitching up of the nose on to its back. The rotation should stop accurately with the wings level and the nose pointing down 30-45 Deg, the glider should then proceed with the second quarter of a loop to exit on the horizontal plane on a reciprocal heading.

- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting the entry speed and exit at correct speed and heading
- e. The Completion

### **Exercise 58: The Pull through from Inverted Flight**

#### **Description**

From horizontal flight the glider should appear to flick quickly and without undue pitching up of the nose on to its back. The rotation should stop accurately with the wings level and the nose pointing down 30-45 Deg, the glider should then proceed with the second quarter of a loop to exit on the horizontal plane on a reciprocal heading.

- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting the entry speed and exit at correct speed and heading
- e. The Completion

### **Exercise 59: The Reverse Half Cuban Eight**

#### **Description**

From horizontal flight the glider should appear to flick quickly and without undue pitching up of the nose on to its back. The rotation should stop accurately with the wings level and the nose pointing down 30-45 Deg, the glider should then proceed with the second quarter of a loop to exit on the horizontal plane on a reciprocal heading.

- a. HASELL Checks and start and finish altitudes.
- b. Entry and exit speeds before and in preparation for the next maneuver.
- c. Understanding of how the maneuver should appear to an observer.
- d. Mechanics of the maneuver noting the entry speed and exit at correct speed and heading
- e. The Completion

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# **PART 7: SIMULATION TRAINING**

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process of  
development.**

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# **PART 8: THEORETICAL KNOWLEDGE SYLLABUS**

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## Part 8 THEORETICAL TRAINING COURSE

### 8.1 Theory common to all License types catered for in this TPM

#### 1. Aim of training course

The aim of the course is to train a candidate to the level of proficiency required for the issue of a part 68 Glider License, and to provide the training necessary to act as pilot-in-command of any glider for which he or she holds a valid type rating, engaged in non-revenue flights under visual flight rules.

#### 2. Theoretical knowledge course

2.1 The theoretical knowledge course must cover the subjects as detailed in the syllabus:

- (1) Principles of Flight
- (2) Air Law
- (3) Aviation Meteorology
- (4) Aircraft Engines, Airframes and Instruments
- (5) General Navigation
- (6) Human Performance Limitations and Passenger care
- (7) Principles of gliding.

2.2 Restricted Radio Telephony Operator's Certificate as prescribed in AIC 30.9

#### 3. Theoretical knowledge course syllabus

##### 3.1 Principles of Flight –

##### 3.1.1 General

##### (1) PHYSICS AND MECHANICS

- (a) Speed, velocity, force
- (b) Pressure – Bernoulli's Principle
- (c) Motion of body along a curved path

Note: The student must have a good understanding of the speed squared law as applicable to Lift with specific reference to gusts and lulls, and their effect on your flight path.

##### (2) AEROFOILS, LIFT AND DRAG

- (a) Air resistance and air density

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- (b) Aerofoil shapes
- (c) Lift and drag – Angle of attack and airspeed
- (d) Distribution of lift, Centre of pressure
- (e) Drag – Induced, parasite – Form, skin, interference
- (d) Lift/drag ratio and aspect ratio
- (e) Wake turbulence

(3) EQUILIBRIUM

- (a) The four forces: Lift, weight, thrust and drag
- (b) Centre of gravity (C of G) position
- (c) The balance of the four forces: Straight and level
  - Climbing
  - Descending

(4) STABILITY

- (a) Positive, neutral, negative
- (b) Lateral and directional stability
- (c) Longitudinal stability
- (e) Wash-out

(5) LOOSE FORMATION/ GROUP FLYING

- (a) Law Governing
- (b) Procedures and hazards

(6) TURNING FLIGHT

- (a) The forces in the turn
- (b) Compensation for loss of lift

(7) THE STALL

- (a) Airflow separation
- (b) Stalling angle – Relationship to airspeed
- (c) Wing loading
- (d) Wing loading increase with bank angle increase
- (e) High-speed stall

(8) AIRCRAFT PERFORMANCE

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(a) Power curves

Effect of temperature, altitude, density, moisture etc.

Range and endurance

(b) Climbing performance

Rate of climb

Angle of climb

(c) Take-off and landing performance

Take-off run available

Take-off distance available

Landing distance available

(d) Take-off and initial climb - performance

Effect of –

wind, wind gradient and wind shear

weight

pressure, altitude, temperature and density

ground surface and gradient

(e) Approach and landing – performance

Effect of –

wind, wind gradient and wind shear

weight

turbulence and gusts

ground effect

**3.1.2 Principles of flight - Conventional control specific**

(1) FLYING CONTROLS

(a) The three axes: Vertical, Lateral, Longitudinal Yaw, Pitch, Roll

(b) Operation and function of elevators, ailerons and rudder

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- (c) Principles and purpose of mass and aerodynamic balance
- (d) Operation and purpose of trimming controls
- (e) Operation and function of flaps
  - (f) Operation and function of spoilers, spoilerons and tip rudders

(2) WEIGHT AND BALANCE

- (a) Limitations on aircraft weight
- (b) Limitations in relation to aircraft balance
- (c) Weight and centre of gravity calculations

(3) THE SPIN

- (a) Causes of a spin
- (b) Autorotation
- (c) Effect of the C of G on spinning characteristics

(4) PERFORMANCE

- (a) Use of flaps
  - take off and initial climb performance
  - Approach and landing performance – effect of use of flaps
- (b) Cross control
  - Forward slipping
  - Side slipping

(5) STABILITY

- (a) Relationship of C of G to control in pitch

(6) LOAD FACTOR AND MANOEUVRES

- (a) Definition of load factor –  $V_n$  envelope
- (b) Effect on stalling speed
- (c) In-flight precautions

**3.2 Air Law**

- (1) Applicable acts, regulations and other documents

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(2) Structure and function of ANR's, CAR's, CAT's, AIP's, Notams, AIC's and AIP supplements.

- (3) Classification of aircraft
- (4) Aircraft documentation
- (5) Aircraft equipment
- (6) Aircraft radio equipment
- (7) Aircraft weight schedule
- (8) Documents to be carried on board
- (8) Documents and records to be maintained and produced on request
- (9) Offences in relating to documents and records
- (10) Airworthiness aspects
- (11) Flight crew licensing
- (12) Microlight aeroplane pilot - Privileges and limitations
- (13) Microlight aeroplane ratings
- (14) Personal flying logbook
- (15) Airspace classification
- (16) General flight rules
- (17) Visual flight rules
- (18) Special flight rules
- (19) Flight operations
- (20) General provisions
- (21) Air traffic services
- (22) Flight plans
- (23) Air-proximity reporting procedures
- (24) Incident/accident reporting
- (25) International operations
- (26) Operation of Non-type certified aircraft
- (27) Marine living resources act and Proclaimed nature reserves

### **3.3 Aviation Meteorology**

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(1) THE ATMOSPHERE

- (a) Composition and structure
- (b) Vertical divisions

(2) PRESSURE, DENSITY AND TEMPERATURE

- (a) Barometric pressure, isobars
- (b) Changes of pressure, density and temperature with altitude
- (c) Solar and terrestrial energy radiation, temperature
- (d) Lapse rate
- (e) Stability and instability
- (f) Effects of radiation, advection subsidence and convergence

(3) HUMIDITY AND PRECIPITATION

- (a) Water vapour in the atmosphere
- (b) Dew point and relative humidity

(4) PRESSURE AND WIND

- (a) High and low pressure areas
- (b) Gradient wind
- (c) Vertical and horizontal motion
- (d) Effect of wind gradient and windshear on take-off and landing
- (e) Relationship between isobars and wind, Buys Ballot's law
- (f) Turbulence and gustiness
- (g) Local winds, land and sea breezes, berg winds, valley winds

(5) CLOUD FORMATION

- (a) Cloud types
- (b) Convection clouds
- (c) Orographic clouds
- (d) Stratiform and cumulus clouds

(6) VISIBILITY

- (a) Fog, mist and haze
- (b) Radiation, advection, frontal
- (c) Formation and dispersal
- (d) Reduction of visibility due to mist, snow, smoke, dust and sand
- (e) Hazards of flight due to low visibility, horizontal and vertical

(7) AIRMASSES

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(a) Weather associated with pressure systems  
(8) FRONTS

- (a) Formation of cold and warm fronts
- (b) Associated clouds and weather, cold front

(9) ICE ACCRETION

- (a) Conditions conducive to ice formation
- (b) Effects of hoar frost, rime ice, clear ice
- (c) Effects of icing on microlight performance
- (d) Precautions and avoidance of icing conditions
- (e) Powerplant icing

(10) THUNDERSTORMS

- (a) Formation – airmasses, frontal, orographic
- (b) Conditions required
- (c) Development process
- (d) Recognition of favourable conditions for formation
- (e) Hazards
- (f) Effects of lightning and severe turbulence
- (g) Avoidance of flight in the vicinity of thunderstorms

(11) FLIGHT OVER MOUNTAINOUS AREAS

- (a) Hazards
- (b) Influence of terrain on atmospheric processes
- (c) Mountain waves, windshear, turbulence, vertical movement, rotor effects

(12) CLIMATOLOGY

- (a) General world circulation
- (b) South African summer patterns
- (c) South African winter patterns
- (d) The South Westerly Buster
- (e) The Cape Doctor
- (f) The Black South Easter

(13) ALTIMETRY

- (a) Operational aspects of pressure settings
- (b) Pressure altitude, density altitude
- (c) Height, altitude, flight level

(14) THE METEOROLOGICAL ORGANISATION

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- (a) Forecasting service
- (15) WEATHER ANALYSIS AND FORECASTING
  - (a) Weather charts, symbols, signs
  - (b) Significant weather charts
  
  - (c) Prognostic charts for general aviation
- (16) WEATHER INFORMATION FOR FLIGHT PLANNING
  - (a) Reports and forecasts for departure, *en route*, destination and alternate(s)
  - (b) Interpretation of coded information METAR, TAF
  
  - (c) availability of ground reports for surface wind, windshear, visibility
- (17) METEOROLOGICAL BROADCASTS FOR AVIATION  
ATIS, SIGMET
- (18) MICRO-METEOROLOGY
  - (a) Rotors
  - (b) Venturies
  
  - (c) Katabatic and Anabatic winds
  
  - (d) Thermal activity and thermal triggers.
  
  - (e) Dust devils
  
  - (f) The immediate environment.
    - 1. Wind indicators
    - 2. Cloud forms
  
    - 3. Topography

### **3.4 Aircraft Airframes and Instruments**

- (1) AIRCRAFT AIRFRAME
  - (a) Structure
  - (b) Materials
  
  - (c) Wear and tear considerations
    - Repairs
  
    - Sail assessment
  
    - Wind
  
    - UV
  
    - Turbulence
  
    - Hard Landings

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(2 & 3) listed in 8.2

(4) INSTRUMENTS

(a) Airspeed indicator

(b) Altimeter

(c) VSI

(d) Magnetic compass

- Precautions when carrying magnetic objects

- Errors

(e) Engine instruments

(f) Temperature and pressure gauges

(g) Digital instruments

(h) RPM

(i) Variometer visual and audio with / without total energy probes.

**3.5 General Navigation**

(1) FORM OF THE EARTH

(a) Axis, poles

(b) Meridians of longitude

(c) Parallels of latitude

(2) DIRECTION

(a) True north

(b) Earth's magnetic field, variation – annual change

**(c) Magnetic north**

(d) Magnetic influences within the microlight

(e) Compass deviation

(f) Turning, acceleration errors

(g) Avoiding magnetic interference with the compass

(3) DISTANCE

(a) Nautical mile, statute mile, kilometre

(4) AERONAUTICAL MAPS AND CHARTS (TOPOGRAPHICAL)

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- (a) Projections and their properties
- (b) Scale
  
- (c) ICAO 1:250 000 and 1: 500 000 charts
  
- (d) main properties
  
- (e) Scale
  
- (f)** depiction of height
  
- (g) Topography
  
- (h) Relief
  
- (i) Cultural features
  
- (j) Aeronautical symbols
  
- (k) Aeronautical information

#### (5) CHARTS IN PRACTICAL NAVIGATION

- (a) Plotting positions
- (b) Latitude and longitude
  
- (c) Bearing and distance
  
- (d) Use of navigation protractor
  
- (e) Measurement of tracks and distances
  
- (f) Conversion of units

#### (6) PRINCIPLES OF NAVIGATION

- (a) IAS, RAS (CAS) and TAS
- (b) Track, true and magnetic
  
- (c) Wind velocity, heading and ground speed
  
- (d) Triangle of velocities
  
- (e) Calculation of heading and ground speed
  
- (f) Drift, wind correction angle
  
- (g) EET and ETA
  
- (h) Dead reckoning, position, fix

#### (7) FLIGHT PLANNING

- (a) Selection of charts
- (b) Route and aerodrome weather forecasts and reports

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- (c) Assessing the weather situation
- (d) Plotting the route
- (e) Considerations of controlled airspace, airspace restrictions, danger areas, etc.
- (f) Use of AIP and NOTAMS
- (g) ATC liaison procedures in controlled airspace
- (h) Fuel considerations
- (i) *En-route* safety altitude(s)
- (j) Alternate aerodromes
- (k) Communications and radio/navaid frequencies
- (l) Compilation of flight log
- (m) Compilation of ATC flight plan
- (n) Selection of check points, time and distance marks

( 8) PRACTICAL NAVIGATION

- (a) Compass headings, use of deviation card
- (b) Organisation of in-flight workload
- (c) Departure procedure
- (d) Maintenance of heading and altitude
- (e) Use of visual observations
- (f) Establishing position, checkpoints
- (g) Revisions to heading and ETA
- (h) Arrival procedures, ATC liaison
- (i) Use of minute marker graph.

(9) GLOBAL POSITIONING SYSTEM (GPS)

- (a) Limitations
- (b) Application
- (c) Principles
- (d) Presentation and interpretation
- (e) Coverage
- (f) Errors and accuracy

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(g) Factors affecting reliability and accuracy

(h) Legalities

### **3.6 Human Performance Limitations and Passenger care**

#### **3.6.1 Human performance limitations**

(1) Introduction

(2) Oxygen

(a) Hypoxia

(b) Hyperventilation

(4) Barotraumas

(5) Common ailments

(6) Decompression

(7) Air sickness

(8) Hearing

(9) Sight

(10) Toxic hazards

(11) Blood pressure

(12) Epilepsy

(13) Alcohol and drugs

(14) Knowledge and the senses

(15) Disorientation

(16) Avoiding the air proximity

(17) Stress

(18) Management of stress

(19) Emotional factors

(20) Social psychology

(a) The Ego Factor

(b) Intermediate syndrome

#### **3.6.2 Passenger Care**

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- (1) Embarking / Disembarking
- (2) Seatbelt and comfort
- (3) Briefing
  - (a) Open cockpit flying
  - (b) clothing, long hair and security
  - (c) cameras and loose articles
- (4) Human performance limitation as applicable to your passenger
- (5) Eye-contact and communication
- (6) Air law as applicable to passengers
- (7) Passenger seat and flying control access
- (8) Signing of indemnities

### **3.7 Principles of gliding.**

#### **3.7.1 Thermalling**

- (1) Introduction to thermals
- (2) Thermalling techniques.
- (3) Rules in a thermal and right of way.
- (4) Structure of a thermal and effects of prevailing wind and lapse rate.

#### **3.7.2 Ridge Soaring**

- (1) Introduction to dynamic lift
- (2) Lift and pressure bands.
- (3) Ridge Rules and right of way.

#### **3.7.3 Cross Country flight.**

- (1) Introduction to Cross country flying
- (2) Out Landings and recovery.
- (3) Flight planning.

## **8.2 Engines**

### **(2) POWERPLANT AND SYSTEMS**

- (a) Engines – general
  - principles of 2 and 4 stroke engines
  - Maintenance
    - spark plug replacement
    - air-filter cleaning
    - cooling system

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- V-belt adjustment
- gearbox oil change
- renewing carb rubbers
- adjusting idle
- exhaust springs
- manufacturer maintenance schedule

- lubrication

(b) Ignition systems

(c) Carburetion and Fuel system

- Principles of float type carburetor
- Fuel-bypass (choke)
- Recognition of faulty mixture
- Methods to maintaining correct mixture ratio
  - carburetor jetting and needle and seat inspection
  - balancing carburetors
- Carburetor icing
- Emergency use of Fuel-bypass (choke)

(d) Fuel

- Types
- Suitability
- Hazards of avgas
- Contamination
- Fuel strainers and drains
- Fire hazards
  - containers
  - transportation
  - de-canting

(e) Electrical system

- general
- batteries
- circuit breakers and fuses
- recognizing malfunctions

(3) PROPELLOR

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- (a) nomenclature
- (b) forces on blades
  
- (c) designs
  
- (d) effect of blade pitch changes
  
- (e) maintenance and car
  
- (f) constant speed and full feathering propellers

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# **PART 9: TESTS AND CHECKS FOR THE ISSUE OF A LICENSE OR RATING**

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## **PART 9 - SECTION 1**

### **9.1 Test and Checks for the Issue of Glider Pilots Licence**

#### **9.1.1 Proficiency Check**

- 9.1.1.1 Proficiency checks for the issue of an Initial Licence must be conducted by an appropriately rated Grade A instructor or Club CFI
- 9.1.1.2 Proficiency checks for the renewal of a licence may be conducted by any Instructor Grade A-C listed in the Instructors list Appendix C
- 9.1.1.3 Proficiency Checks are to be carried out using the form RA GPL-05a
- 9.1.1.4 Forms RA GPL-05a along with application RA GPL-04 need to be submitted and accepted by RAASA within 30 Days of the Flight Test.

### **9.2 Test and Checks for the Issue of Touring Motor Glider Pilots Licence**

#### **9.2.1 Proficiency Check.**

- 9.2.1.1 Proficiency checks for the issue of an Initial Licence must be conducted by an appropriately rated Grade A instructor or Club CFI
- 9.2.1.2 Proficiency checks for the renewal of a licence may be conducted by any Instructor Grade A-C listed in the Instructors list Appendix C
- 9.2.1.3 Proficiency Checks are to be carried out using the form RA GPL-05b
- 9.2.1.4 Forms RA GPL-05a along with application RA GPL-04 need to be submitted and accepted by RAASA within 30 Days of the Flight Test.

9.3 An application for the issue of an Initial Licence must be accompanied by:-

- a. Student Logbook with notations on each line and signed and stamped by Instructor where the Student has met the requirements for the issue of that license in terms of Part 68
- b. A summary of all hours flown by type for the last 12 Months signed and stamped by testing Instructor in the logbook below the last entry where flight test took place.
- c. A Restricted or General Radio License
- d. Valid and current medical
- e. Certified copy of ID Document
- f. Fees as prescribed in CAR 187

9.4 An application for the issue of a renewal Licence must be accompanied by:-

- a. Logbook with a summary of all hours flown by type for the last 12 Months signed and stamped by testing Instructor in the logbook below the last entry where flight test took place.
- b. Valid and current medical
- c. Fees as prescribed in CAR 187

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# **PART 10: RECORDS**

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## **PART 10 Record Keeping Requirements:**

### **10.1 Student Training files:**

Student training files need to be stored at the affiliated clubs training premises in a locked secure cabinet. The following information needs to be contained in the file and each section of the training syllabus needs to be signed off and stamped by the CFI as complete as the student progresses.

A training file containing 4 sections

- a. Details page
  - i.) All personal details of the student including contact information and next of kin, Physical and Postal address and photograph.
  - ii.) Waivers and Indemnity.
- b. Syllabus pages.
  - i.) The complete Practical syllabus with each exercise and its description on a separate page with date, training instructors signature and student signature and remarks for each flight on that exercise.
  - ii.) Additional pages should the single page per exercise exceed the space.
- c. Summary Page  
The summary section should detail each key requirement for the issue of the license with the date achieved and flight number and sign off by CFI.
- d. Licence and Renewals.  
All copies of current licence including student license, medical and copies of previous ratings.

### **10.2 Instructor files:**

Instructor files need to be stored at the affiliated clubs training premises in a locked secure cabinet and a copy submitted to the SSSA HOT on every renewal.

A training file containing 2 sections

- a. Details.
  - i.) All personal details of the Instructor including contact information and next of kin, Physical and Postal address and photograph.
  - ii.) Waivers and Indemnity.
- b. Licence and Renewals.
  - i.) All copies of current licence including Pilots license, medical and copies of previous issued ratings.
  - ii.) Copy of last page of logbook as at last renewal date.

### **10.3 Aircraft files:**

Training aircraft files need to be stored at the affiliated clubs training premises in a locked secure cabinet. The following information needs to be contained in the file.

- a. Aircrafts Airframe and Engine Logbooks

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- b. Copy of the Flight Manual
- c. Original or certified copy of the Certificate of Registration
- d. Original of the current Weight and Balance.
- e. Duplicate pages of the Flight folio
- f. Copy of the current Radio station license
- g. Original of the Current Authority to Fly.

#### **10.4 Club Records:**

Club training records need to be stored at the affiliated clubs training premises in a locked secure cabinet. The following information needs to be kept for inspection at all times.

- a. Flight authorisation sheets.
- b. Daily inspection records.
- c. Launch Equipment inspection and maintenance records.

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# **PART 11: SAFETY MANAGEMENT SYSTEM**

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# **PART 11: SAFETY MANAGEMENT SYSTEM**

## **PART 11 - SECTION 1**

### **11.1 SECURITY**

#### **11.1.1 INTRODUCTION**

The broad objective of this **SSSA Security Plan** is to permit the safe, regular and efficient use of the **Affiliated Clubs'** aircraft and facilities. This is not a comprehensive or exhaustive document, but attempts to provide the members of the **SSSA** with guidelines in order to ensure that safety and security are always a critical priority.

The **Affiliated Clubs' Safety Officers** shall be responsible for all matters that impact on safety and shall use their discretion and initiative to make their Clubs activities safe and enjoyable.

#### **11.1.2 APPLICABILITY**

This **Security Plan** applies to all members of the **SSSA**

#### **11.1.3 RESPONSIBILITIES OF THE AFFILIATED CLUBS' SAFETY OFFICERS**

The **Club Safety Officer** reports directly to the **Club Committee**

1. . Ensure training standards are met regarding training of:
  - 1.1. Instructors.
  - 1.2. Ground personnel.
  - 1.3. Other personnel.
2. . Establish and monitor airfield operating procedures.
3. . Establish and ensure special handling procedures for the handling of:
  - 3.1. Visitors who are making use of daily membership.
  - 3.2. Visitors who are attending open day fly-ins.
4. . Comply with and monitor Safety plans for groups attending flying at away venues.
5. . Comply with and monitor Safety plans for competition flying.

## **PART 11 - SECTION 2**

### **11.2 EMERGENCY RESPONSE PLAN**

The Affiliate clubs of the SSSA shall have an emergency response plan as outlined in the SSSA MOP section 5

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### **11.2.1 General Information**

1. It is the objective that all SSSA members should know what rescue and medical equipment is available on the airfield, and where to find it.
2. Emergency contact numbers are to be displayed in at least two prominent places on the airfield, along with the names of club members who are doctors or who have been trained in first aid administration.
3. Accidents must be reported using the correct procedure and forms as laid out in THE SSSA MANUAL OF PROCEDURES. In any event, the CAA is to be notified of any incident within 24 hours.

### **11.2.2 PROCEDURE TO BE FOLLOWED IN AN EMERGENCY.**

1. Alert the Duty officer or any Safety officer.
2. Contact the nearest emergency service. In all emergencies, when contacting an emergency service:  
State your emergency / crisis (accident, heart attack, unconscious victim).
3. Give exact address and crossroads and suburbs and landmarks.
4. Report any complications, e.g:
  - a. Scene – spilt fuel, high-rise building, and trapped patients.
  - b. Patient – not breathing, amputation, bad fractures.
5. Supply your name and telephone number.
6. Hang up LAST and report back to the accident scene.

### **11.2.3 PROCEDURE TO BE FOLLOWED FOR A MISSING AIRCRAFT:**

1. Notify the Safety Officer immediately.
2. Inform the Safety Officer of all known and available information concerning the missing aircraft.
3. Do NOT make any statements to the media.
4. Do not divulge any information to any person other than an identified CAA inspector or emergency service official.

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### 11.2.2 EMERGENCY NUMBERS

The following presentation is a sample of the information type which each Affiliate must compile and have on display in a prominent position for quick and easy access to the members of the club's.

<b>Emergency Service</b>	<b>Contact Number</b>
<b>National Emergency Number</b>	<b>10177</b>
<b>Netcare 911</b>	<b>082 911</b>
<b>Cell Phone Emergency</b>	<b>112</b>
<b>Cell C Emergency</b>	<b>148</b>
<b>ER 24</b>	<b>084 124</b>
<b>SAPS</b>	<b>10111</b>
<b>Rescue Services: Aviation</b>	<b>(011) 928-6454</b>
<b>Springs Emergency Services:</b>	
<b>Fire / Rescue / Ambulance</b>	<b>(011) 811-1112</b>
<b>SAPS</b>	<b>(011) 811-6600</b>
<b>Traffic</b>	<b>(011) 360-2154</b>
<b>Brakpan Emergency Services:</b>	
<b>Fire / Rescue / Ambulance</b>	<b>(011) 744-1111</b>
<b>SAPS</b>	<b>(011) 744-4940</b>
<b>Traffic</b>	<b>(011) 741-2311</b>
<b>Magalies Gliding Club:</b>	
<b>Chairperson: Walter Cross</b>	<b>084 543 2884</b>
<b>CFI: Jan Malan</b>	<b>082 246 1873</b>
<b>Safety Officer: Sipiwe Ramatsobi</b>	<b>083 448 1858</b>

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<b>Johannesburg ATC</b>	<b>(011) 921-6911</b>
<b>Search &amp; Rescue (Santie White)</b>	<b>082 823 8493</b>
<b>CAA Accident Reporting:</b>	
<b>Mr Du Plessis</b>	<b>(012) 346-5566 / 082 809-2426</b>
<b>Mr Grobler</b>	<b>(012) 346-5566 / 082 809-2424</b>
<b>Hospitals:</b>	
<b>Far East Rand Hospital, Hospital St, Springs</b>	<b>(011) 812-8300</b>
<b>Nigel Hospital, Dunnottar</b>	<b>(011) 734-2111</b>

#### **11.2.5 SYSTEMATIC APPROACH AT EMERGENCY SCENE**

The most senior person on duty at the airfield must immediately assume authority at the accident scene.

- The prime concern at the emergency scene is the safety of everyone concerned, including victims and rescuers.
- The secondary concern is the preservation of the scene and evidence for investigation.

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# **PART 12:**

# **QUALITY**

# **MANAGEMENT**

# **SYSTEM**

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# **PART 12: QUALITY MANAGEMENT SYSTEM**

## **PART 12 - SECTION 1**

### **12.1 DEFINITION**

Quality Control System means a system implemented by the **SSSA** whereby all of the organisations policies, distribution of responsibility and authority, procedures, practices and standards are monitored, controlled and maintained. This is achieved by following Procedures, as listed below under Part 12: Section 2.

#### **12.1.1 Review of the Quality Management System**

At least once per year, the **National Training Officer** holds a meeting together with all office bearers to review the quality system in order to identify deficiencies and non-conformity in the system and to identify as to whether the system needs to be improved or otherwise updated to meet new requirements. He will initiate corrective action for the above, in accordance with the organisations procedures. Information tabled at the meeting to help review the training system would include records of, corrective action records, student pilot record sheets, instructor qualifications, internal and external audit reports, accident and or incident report forms, non-conformity report forms and process control records. It is fully understood that any amendments to this **Training Procedure Manual - Quality Control System** shall be presented to RAASA for approval, in triplicate, before being incorporated. On approval this **Training Procedure Manual - Quality Control System** and all controlled copies thereof will be amended accordingly.

#### **12.1.2 Implementing the Quality Management System**

To ensure that the organisations **Quality Management System** is documented and implemented in accordance with the specified requirements of the South African Civil Aviation Regulations/SACATS ATO, consideration is given to the following:

- a) the planning and documentation of the system
- b) the identification of controls necessary to achieve and maintain quality with regard to, inspection techniques, human resources, product and services.
- c) the identification and preparation of quality records.

#### **12.1.3 Responsible Persons**

The implementation of the **Quality Management System** in terms of policies and procedures is the responsibility of the **Chairman of the Board of SSSA**. However, the **Responsible Person's** listed below shall ensure that all members under their control, who are involved flight training, have access to this Manual of Procedure -Quality Management System and that the information contained herein is understood, implemented, maintained and adhered to by them:

- (i) National Training Officer**
- (ii) National Safety Officer**
- (iii) Affiliated Clubs Duty Instructors**
- (iv) Affiliated Clubs Approved Person**
- (v) Affiliated clubs Safety Officers**

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## PART 12 - SECTION 2

### 12.2 QUALITY MANAGEMENT: PROCEDURES

To provide the assurance that the **Quality Management System** is both transparent, user-friendly and that standards are maintained, the following Procedures have been instituted by the organisation.

#### 12.2.1 Procedure for Contract Review

All students applying for training courses with **The Affiliated Clubs** are required to complete and sign an application / indemnity form, to provide **The Club** with all the information necessary to ensure that they receive the training of their choice and to enable **The Club** to comply with the rules and regulations of this **Training Procedure Manual**.

All Such applications form part of quality records and are subject to SACARs: 141 as applicable - Procedure for Quality Records. (see para 12.2.6 below)

#### 12.2.2 Procedure for Document and Data Control

Documents are categorized into three levels, as follows:

**Level 1: Training Procedure Manual.**

**Level 2:** Documents that deal with **Quality Control** and **Quality Assurance Procedures**.

**Level 3: All quality related documents** not categorized under Level 1 and 2.

They would typically consist of the following: Records and record forms on which quality and safety related information/data are captured and stored. This would include corrective action records, non-conformity reports, summaries of routine quality reports and process control records.

The **SSSA** has a Record Centre where all the organisations level 1, 2, and 3, master documents are maintained and **Controlled Copies** issued. The Record Centre incorporates a system whereby all documents are registered and listed. This is known as the **Record Index**. **Controlled Copies**: are copies that are issued according to a distribution list. They are identified by a stamp reading "**CONTROL COPY**", stamped on the first page of the document.

#### 12.2.4 Procedure for Process Control

This procedure applies to the process of flight training as well as, trading in products related to flying and aircraft. It provides assurance that all processes will be carried out under controlled conditions.

Personnel involved in training or in trading are provided with Level 2 or Level 3 documentation so that they may be able to ensure that their work is done correctly, that equipment used is in a good condition and that all personnel, therefore, have the means of working in conformity with quality requirements.

All aspects of the work process are monitored at various intervals to ensure the smooth running of the organisation, however, should errors in the day-to-day running of the organisation be observed, they can be addressed and acted on as early as possible. Where possible, observations made doing process monitoring are recorded. These records will be reviewed by the **Affiliated Club Committee** with the assistance of the **Chief Flying Instructor**, should problems of nonconformity or detrimental trends become obvious then these records will be tabled at the next meeting of committee.

#### 12.2.5 Procedure for the Control of Nonconformity

For **The SSSA** nonconformity means, errors, defects and faults made by personnel during ground and flight training, that results in deviation from prescribed procedures and standard practices. Nonconformity does

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not include errors of judgment or understanding made by student pilots during part of their training programme.

The purpose of this procedure is to provide assurance that all nonconformities will be identified, recorded, and reviewed, that the necessary steps will be taken to rectify them and prevent their repeated occurrence. This procedure will apply to all activities where the occurrence of nonconformity impairs the quality and effectiveness of training provided by the organisation.

#### **12.2.5.1 Nonconformity: Aircraft**

Whenever nonconformity is identified on an aircraft, it is immediately recorded in the relevant Aircraft Snag Book and as soon as practically possible, verbally reported to the **Chief Flying Instructor**. The Aircraft Snag Book is reviewed by the **Chief AP** after every day and all nonconformities recorded are investigated, evaluated and rectified prior to the aircraft being flown again.

#### **12.2.5.2 Nonconformity: Training**

Whenever nonconformity is identified in training the reason for nonconformity must be recorded in writing by the Instructor responsible and handed as soon as is practically possible to the **Chief Flying Instructor**. Should he feel it necessary the written report will be handed to the **National Training and Safety officer**, who, in consultation with the **Chief Flying Instructor**, will decide what further action should be taken.123.2.5.3 Nonconformity: Quality Control System

All quality control system nonconformity, including member complaints, must be brought to the attention of the **Chief Executive Officer** as soon as it is practically possible, or in his absence, to the attention of the **Chief Flying Instructor**. The person responsible for nonconformity or the person handling the customer complaint must complete a **Nonconformity Record Card** (see Annexure "D" for example). The Card with part A completed and endorsed is then forwarded to the **Chief Executive Officer** for following up and corrective action.123.2.5.4 Nonconformity: Preventative Action

**All nonconformities recorded, reports, aircraft snag books and nonconformity record cards together with any corrective action records are analysed monthly by The Club Committees to**

detect and eliminate causes of nonconformity and to initiate the actions necessary to prevent their re-occurrence. All records of nonconformity are held in safe keeping in the **Club Record Centre**.

#### **12.2.6 Procedure for Quality Records**

This procedure shall enable the club to identify, collect, index, store, maintain and control all records relating to information collected for the purpose of evaluating, reporting and analysing quality information and will specifically include records of each quality control review, records of each person who conducts training, including particulars of competence assessments and experience of each such person. Records of each student being trained or assessed by the organization including particulars of enrolment, attendance, modules, instructor comments and any flight or ground school practical sessions and assessments.

All records in which quality information are captured shall be identified by means of a title and code number relating to the specific element of the system for which they are generated. They are filed into identified folders and placed for safe keeping, when not in circulation, in the **Club Record Centre**.

All records pertaining to quality information shall be legible and are retained by the organization,

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for a minimum period of five years.

### **12.2.7 Procedure for Auditing**

The **Club Committee** shall at least once per year audit the procedures of the quality control system to ensure and verify conformity with the requirements of the South African Civil Aviation Authority. If and when a deficiency or nonconformity is found, the **Club Chairperson** shall immediately initiate corrective action in accordance with this **Training Procedure Manual** and follow-up to verify and ensure that the corrective action taken was effective.

**The Affiliated Clubs** shall permit an authorized officer, Inspector or authorized person to carry out such safety inspections and audits which may be necessary to verify the validity of any application made in terms of regulation 141.02.7 or regulation 141.03.2, as the case maybe. Also, to verify and determine compliance with the appropriate requirements prescribed by the South African Civil Aviation Authority

### **3.2.3 Procedure for Initiating a New Document**

To create a new document, a draft with a proposed title is submitted to the **Chief Executive Officer** for registration, review and finalization. The draft is assigned a level 1: code number and clearly marked, DRAFT. If changes or corrections are requested then the document must be re- submitted for approval and authorization by the **Chief Executive Officer**.

The authorized document is then given the **CONTROL COPY** stamp, a level 2: code number and registered into the **Record Index**. The original may also be stored in a computer memory, but must also be available in hard copy form, to be authorized and held in safe keeping in the **Record Centre**.

**Controlled Copies** of the document are issued to personnel occupying positions indicated on the distribution list.

This procedure shall apply to the issue of all new manuals, procedures, work instructions, record and reports containing data related to quality, as well as changes made to such documents already issued in the quality system.

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SACARs: 141.02.15 Refers:

- (1) The holder of an aviation training organisation approval to conduct standard aviation training, shall-
  - (a) keep copies of all relevant documents which may be necessary-
    - (i) for the specified standard aviation training conducted by such holder;  
and
    - (ii) to determine compliance with the appropriate requirements prescribed  
in this Subpart; and
  - (b) established procedures to control the documents referred to in paragraph (a)
  
- (2) The procedures referred to in sub regulation (1)(b) shall ensure that-
  - (a) all documents are reviewed and authorized by the appropriate personnel before the issuing thereof;
  - (b) current issues of all relevant documents are available to those personnel involved in planning, conducting or supervising the specified standard aviation training undertaken by the holder of the approval;
  - (c) all obsolete documents are promptly removed from all points of issue or use;  
and
  - (d) changes to documents are reviewed and authorized by the appropriate personnel.
  
- (3) The holder of the approval shall establish procedures to identify, collect, index, store and maintain all records which may be necessary.
  - (a) for the specified standard aviation training conducted by such holder;
  - (b) to determine compliance with the appropriate requirements prescribed in this  
Sub-part.
  
- (4) The procedures referred to in sub-regulation (3) shall ensure that-
  - (a) a record is kept of each quality control review of the holder of the approval;
  - (b) a record is kept of each person who conducts the specified standard aviation  
training including particulars of competence assessments and experience of each such  
person;
  - (c) the record is kept of each such student being trained or assessed by the holder of the approval,  
including particulars of enrolment, attendance, modules, instructor comments in any flight  
or similar practical sections and assessments of each such students;
  - (d) all records are legible; and
  - (e) all records are kept for a period of at least five years calculated from the date of the last entry  
made in such records.

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# ANNEXURES

- A Organogram
- B Aircraft and Instructor List
- C Club Agreement and Acceptance
- D Non compliance Records
- E Emergency Number List
- F Statement of Compliance
- G Acceptance Of Responsibilities

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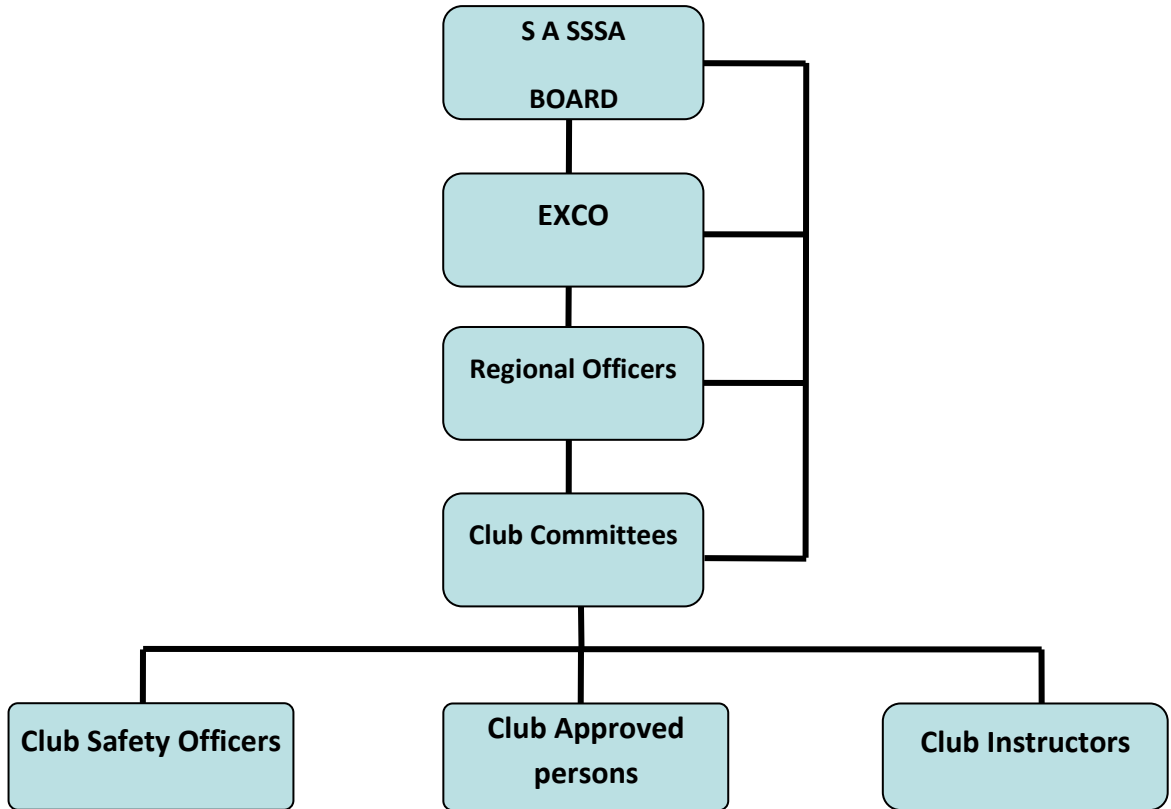
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**Annexures**

**Annexure A- Organogram  
Society ORGANOGRAM**



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## Annexure B - Aircraft and instructors list

(Affiliated Club) : AIRCRAFT LIST

AIRCRAFT TYPE	REGISTRATION	OWNER	INSURED

ALL LIGHT AIRCRAFT AS REQUIRED BY OWNER TRAINERS

(Affiliated Club) INSTRUCTORS LIST

	NAME	LICENCE NO	GRADE
1			
2			
3			
4			
5			
6			
7			
8			

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## **Annexure C – Agreement Between Clubs and SSSA**

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## **Annexure D – Non Conformity Records**

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## **Annexure E – Statement of Compliance**

1. CEO

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## **Annexure F – EMERGENCY Contact Numbers**

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## **Annexure G – Acceptance of Responsibilities - Postholders**

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2. Safety Officer

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3. Quality Assurance Officer

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4. Responsible Person Aircraft

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5. Instructors

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## 6. Safety Themes

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