

## CHAPTER 11

### **AIRMANSHIP AND GENERAL NOTES FOR THE GPL EXAM**

*These notes are designed as a prompt for the student, to initiate discussion and further reading. They are not intended to be all that needs to be studied to pass the examination.*

#### **What is Airmanship?**

Airmanship means using your skills, knowledge and experience to identify practices which could lead to accidents or fatalities. Many accidents are the result of a **series** of errors or omissions. Airmanship includes a good lookout, considerate behaviour in the air, keeping ahead of events, and being courteous to other air users. It is not only protecting ourselves from harm but avoiding putting others at risk and being helpful to them as well. Airmanship is good manners and caution, it is not aggressive behaviour or “bad mouthing” people on the radio. Good airmanship means that nothing very dramatic happens.

Airmanship is in fact a state of mind and begins before you leave home to go to fly –

assess your physical and

psychological condition before you fly – use the mnemonic “**I’m Safe**”. (*Illness, Medication, Stress, Alcohol, Fatigue, Familiarity, and Eating*). If you cannot honestly say “I’m Safe” then do **not** fly.

Considering other peoples' accidents may seem to be negative, but somebody's life (maybe yours) could depend on your airmanship. Accident prevention involves constant vigilance- and this can only be achieved by continued reinforcement of the safety message.

Don't be afraid to refuse to do something you aren't comfortable with. Remember that all pilots are not equal, so everyone's ability is not the same. Just because one pilot can continue under certain conditions doesn't mean that all can.

Don't be afraid to question. If you see something you consider unsafe, discuss it with others. Your opinion may or may not be right.

What's always been done may

not be the best way to do things. However, look at all aspects of new suggestions.

E.g., High or Low Tow, Fully stalled landings or “wheelers”.

To call or not to call.

If you have any doubt about a procedure, examine the reasons for it, and discuss with others and draw it to the attention of the Duty Instructor who can follow it up further.

### **Sources of information**

- Training and Experience.
- Pupil logbook, Student's Blue Card, Glider Operator's Handbook.
- Books, e.g. Derek Piggott's “*Beginning Gliding*” or “*Gliding*”, Magazines, Club newsletters, Instructor's Briefs, Cloudbase and the Notice Board.
- Common Sense.
- Accident and Incident reports.
- Bar talk. ( but at times beware!)

***Consider Safety at all Times as This Is the Basis of Airmanship.***

## **1. Structure of Gliding in South Africa**

### **1.1 Aero Club and the Soaring Society of South Africa**

CAA has delegated authority for the CGC – CLOUDBASE

control of gliding to the Aero Club, which manages

it through the SSSA and the Clubs. The SSSA issues GPLs, Instructors' Brevets and badges. The SSSA also arranges 3rd Party insurance for all pilots (not for the aircraft) and Instructor's insurance to all registered instructors. Annual inspection of gliders is also controlled by SSSA. The Approved Person carrying out an Inspection forwards the documentation to the Technical Office of the SSSA.

### **1.2 Clubs**

The CFI is responsible for all flying matters at a club. He delegates this responsibility to the Duty Instructors. The Duty Pilot is the Duty Instructor's assistant. Approved persons in the club are trained to inspect gliders for Annual Inspections and after repairs. Repairs are carried out with the approval of the Club Maintenance Officer and the Regional Approved Person.

## **2. Before you fly**

### **2.1 The Equipment**

Airframe - Walk around, look for damage, blocked

tubes, soft tyres, cracks, wrinkles.

Controls - Check for

excessive Play, correct operation, positive checks, safety pins in L'hotellier connections.

Cockpit - Check LS1 sticker. Check straps, cables, cockpit minimum and maximum loads, colours of controls and knobs. Parachute must be kept clean and have not been exposed to water, acids, oil, etc. -check re-packing slip to see if parachute is still valid. Check placard for  $V_{NE}$  and maximum manoeuvring speed.

Rigging - Do you know how to rig this glider? If not, find someone who does. What should you do after the glider is rigged?

## 2.2 Yourself

Are you in good health?  
Have you been drinking?  
Are you on any prescribed medication? Can you honestly say "I'm Safe"?  
(see above)

Set your goals for the flight and prepare accordingly, e.g. maps, food, water, urination, clothing, oxygen, out-landing kit, retrieve arrangements, barograph, and camera.

## 3. Ground Operation

### 3.1 Duty Pilot

Operates under authority of Duty Instructor and is responsible for the

management of flying and should take the lead in ensuring a safe operation. However, anyone must take appropriate action if confronted with an unsafe situation. If you see, or hear of, anything unsafe, you must act (this applies to everyone on the airfield.) There must be sufficient hands for safe operation. If not, stop flying. Strong winds require more hands. ***Ensure that all people helping with the launch know what they are doing. (hooking-up, signals, runway and approach clear, etc.)***

### 3.2 Aerotow

Make sure that the rope is OK, that the rings are not cracked. What speed is correct for your glider? Do any necessary communication with the tug pilot before take-off commences. Close the canopy and make sure that you can see the dolly is off before you accept the rope. Release checks.

***Emergency signals.*** Abort take-off -

### 3.3 Winch

Release checks - under tension, no tension (drop

release), back-release. Do you know what speed range is correct for your

glider? Are you carrying water?

#### 4. Launch and Tow

##### 4.1 Aerotow

Pros and cons of high tow  
- extra height for low rope breaks, rope falls clear of glider, can “up-end” tug.

Pros and cons of low tow - Combination stable (long tows/turbulent conditions), tug safe, rope may wrap around glider in the case of a break, glider must go to high tow to release.

Consider the factors that could affect your take-off - temperature, length of runway, slope of runway, wind speed and direction. Do you have a plan for emergencies? Be ready to release if necessary. What is your action in the event of a rope break? Are you familiar with the Tug emergency signals?

i)

Release immediately. – ii)  
Check air brakes.

After release, check that rope is clear, and if clear, turn away from the tug (usually a gentle climbing turn to the right). Note that this is not universal, nor is it compulsory. The tug should fly straight to ensure a separation of the two aircraft.

If you can't release - Use

radio first. If this fails, fly out to left, waggle wings.

If the tug can't release either, you will have to land on tow using a little airbrake to keep some tension on the rope Use full dive brakes after landing to the side of tug if runway is wide enough.

##### 4.2 Winch launch

Do you launch if there is an aerotow in progress? To signal “too fast”, yaw glider **noticeably**, for “too slow”, lower nose and be prepared to release if the speed isn't right after calling for more speed on the radio. What do you do if there is a cable break? What is the effect of the towing load on the glider's stall speed?

#### 5. Problems in the air

##### 5.1 Baling out

Do not leave decision too late. Dirty glider, i.e. deploy brakes, flaps, u/c. Undo seat straps, withdraw legs from under panel, jettison canopy, locate parachute handle, stand up, jump clear, pull rip cord out completely. Just before touch down, make sure that your legs are together and that your knees are slightly bent. Note that you should practise getting out of the

glider while wearing the

*below.*)

parachute. Think about

bale-out procedures in different circumstances. The most important rule is, ***“Don't leave the decision too late!”***

### 5.2 Jammed controls

Think about what you could do if your elevator, rudder or ailerons fail. What about instrument failure?

## 6. In the Air

When two aircraft are on converging courses at approximately the same altitude, the aircraft that has the other on its right shall give way, except that power aircraft should give way to airships, gliders, balloons and aircraft which are seen to be towing other aircraft. Gliders must give way to balloons.

When two aircraft are approaching head-on, or approximately so, and there is danger of collision, each shall alter its course to the right. (*See under ridge soaring below.*)

An aircraft that is being overtaken has the right of way. The overtaking aircraft shall keep out of the way of the other aircraft by altering its course to the right. (*See under ridge soaring*

### 6.1 **Thermalling.**

The first glider in the

thermal dictates the direction of turn. Don't change direction in the thermal. Don't fly so slowly that you could stall onto a glider below you. Keep your eyes outside the cockpit. Don't insist upon your “rights”. If someone is barging around, rather leave the thermal than get yourself in a dangerous situation. Remember .... ***Lookout,lookout!***

### 6.2 **Ridge soaring**

Approach speed is a safe speed to fly when close to the ridge. All turns must be away from the ridge. Overtake on the ridge side of the other glider. When passing head-on, the glider with the ridge on its left side gives way (to the right). Keep on the upwind side of the ridge. ***Lookout, lookout!***

### 6.3 **Wave flying** (*see also Chap.18 pg. 4*)

Oxygen must be used above 12 000 ft, but may be needed before then depending on your physical requirements. Continuous flow systems are good to about 30 000 ft. The symptoms of lack of oxygen (Hypoxia) are euphoria, impaired judgement,

tunnel vision, drowsiness, unconsciousness, and coma. If your oxygen fails you period of useful consciousness is shown in

and the CFI. Do **not** allow the glider to fly again until it is cleared to do so.

the table on page 6.

Other problems that can occur are icing of the wings and control surfaces and fogging/icing of the canopy. The extreme cold can affect your ability to fly.

Don't be a hero. Watch the clouds all the time in case the gaps close. What should you do if you get into cloud?

If you have a radio failure while in controlled airspace, land and phone ATC.

**Period of useful consciousness.**

Altitude in feet	Useful consciousness
18 000 ft	20-30 minutes
22 000 ft	10 minutes
25 000 ft	3 - 5 minutes
28 000 ft	2.5 - 3 minutes
30 000 ft	1 - 3 minutes
35 000 ft	30-60 seconds
40 000 ft	15-20 seconds
43 000 ft	9-12 seconds

**7. Circuits and landing.**

Look out for other traffic in the circuit and on the runway. Check the wind direction and either estimate the wind speed or ask people on the ground. Consider the affects of wind gradient, a crosswind, and gusting or other wind effects. Make radio calls appropriate to your position in the circuit.

At all times be aware of other aircraft and be prepared to change your plan if necessary.

If you have a hard landing or have over-stressed the glider, report it to the CTO

***Consider safety***

***at all times.***

***This is the basis***

*of Airmanship.*