



Gliding

From passenger to pilot



Steven Longland

Second edition

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8 Preparation for Flight

CENTRE OF GRAVITY (CG)

Before you fly you will definitely be asked how much you weigh. It is vital for safe and controllable flight that you and your instructor's combined weights lie within the limits that are placarded in the cockpit (see later note on the placard). Most instructors are good at judging a person's weight, but they need to ask to be sure, and for you to be safe, so don't be embarrassed or make something up. The range between the maximum and minimum allowable cockpit weights can vary considerably from glider to glider, but, generally speaking, if you are somewhere between ten and sixteen stone you will be fine. If you are lighter than about ten stone, ballast weights can and must be added. If you are too heavy, the club may look around for its lightest instructors, but if you really are very heavy indeed, or very tall, you may not fit into the cockpit, and unfortunately, that could decide whether gliding is the sport for you or not.

PUTTING ON A PARACHUTE

The parachute is a safety device that in all likelihood you will never need, but it does help to know how to use it. On one side of the parachute pack (the left if you are wearing it) there is a metal ring, known as the 'D' ring, attached to the rip-cord. When the 'D' ring is pulled a small spring-loaded drogue chute is released from the pack, and if the airflow is sufficient, this drags out the main canopy behind

it. The main chute requires some airflow in order to inflate fully, but whether it is the wind or you falling, there can be a delay of a few nail-biting seconds before this happens.

Oddly enough, glider pilots' parachutes are deployed far more often by accident than design. If you pick up the parachute by the 'D' ring or accidentally catch it on something, the drogue will spring out and the main canopy will probably follow suit, cascading in colourful nylon folds onto the ground. If there is anything more than a light breeze, it may then inflate and drag you off downwind. Clearly the parachute would have worked if you'd had to use it. Unfortunately, once it is out there is no way you can just stuff it back into the pack to use later. To do its job a parachute has first to be correctly packed by someone qualified to do so, which normally means sending it away for a few days.

When you put on a parachute for the first time either your instructor or another club pilot will help you with it and do up the straps for you. The ground rules are:

- 1) Don't pick up the parachute by the 'D' ring
- 2) Put your left arm through the left riser first – it helps prevent accidental deployment
- 3) Clip the parachute straps together, starting with the chest strap, then the leg straps. Do them up tightly. When you sit in the cockpit they will loosen up
- 4) After landing never unclip the parachute before getting

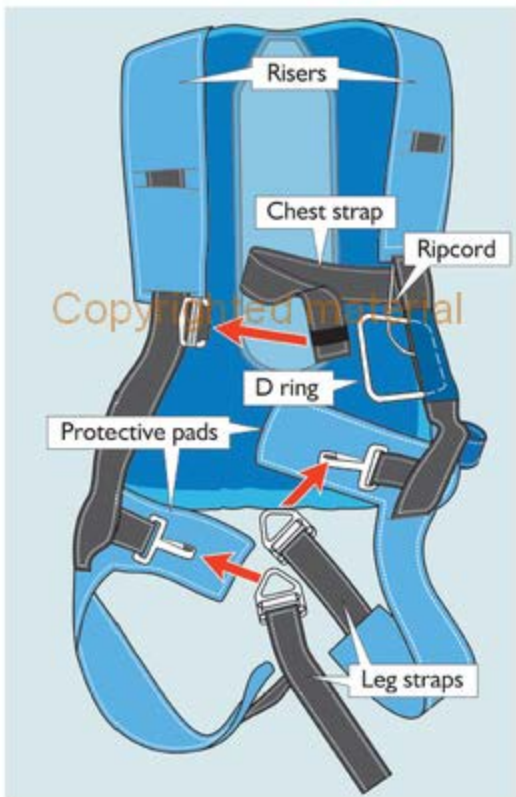
PREPARATION FOR FLIGHT

out, leaving it behind on the seat. In an emergency you may not be thinking quite straight, and you will do whatever you have always done when getting out of the cockpit. If you leave the parachute behind when you bail out you won't be able to go back for it.

5) On the ground, outside the glider, remove the parachute

by undoing the chest strap first, then the leg straps. Hold the right hand riser and let the parachute slide off your left shoulder first. That way you are less likely to pull the 'D' ring.

6) It is a safety device so treat it well. Don't drop it on wet ground or allow it to get damp.



USING THE PARACHUTE

If you do have to use the parachute, undo the seat straps, which in most cases will mean turning a central locking buckle through about quarter of a turn. The seat strap connections vary in design so before you fly check how the ones you are using are supposed to undo – it may not be the reverse of what you did to lock them. In an emergency, pull the appropriate levers (again they vary from glider to glider) to jettison the canopy and then push it away to one side, hard. The airflow can try and hold it shut, but when it does go make sure it doesn't hit you on the head. Circumstances will determine what's possible, but go over the cockpit side and if possible fall under the wing to avoid hitting the tail assembly. Once clear of the

glider, pull the 'D' ring. Look at it before you take hold of it, just in case you accidentally grab hold of something else. Put your right thumb into the 'D', close your right hand to cover and lock the thumb, then push down on your right hand with your left, as firmly and as far as you can. Once the parachute has deployed you will find yourself gently swinging about underneath it.

During the last 50ft or so of your descent the ground will come up at a rush. A good body position is important when landing under a parachute, so get your feet and legs tight together with your feet flat to the ground and knees slightly bent. Keep your chin on your chest to avoid whiplash injury, and keep your arms as high as possible, holding the suspension lines (or steering toggles, if fitted) with your elbows in. If you are going forwards or backwards over the



Putting on a parachute.

LIMITATIONS PLACARD		BGA/267/P	
B.G.A. No	4840	TYPE Grob G103C Twin 2	
CATEGORY: SEMI AEROBATIC/CLOUD FLYING			
SPEED LIMITATIONS (Knots)			
Auto/Winch	65	Rough Air	92
Aero Tow	92	VNE	135
WEIGHT AND C.G. LIMITATIONS			
Max. Wt. (dry)	1279	Max. Wt. (water)	N/A
Empty Wt.	907	Min. Solo Wt.	151
Max. Solo Wt.	242	Date Weighed	28 Apr. 06
Note: Refer to Flight Manual for full limitations			
Issued by _____		Dated _____	

COCKPIT LOADING DATA		
Grob G103C Twin 2		BGA.4840
Rear Cockpit Load	Front Cockpit Max	Min
0	242	151
120	242	114
140	232	107
160	212	101
180	192	100
200	172	100
220	152	100
242	130	100

Weights in pounds

Where appropriate, the limitations placard may show other detail, such as flap limiting speeds, and/or the cockpit loading limitations that apply if the glider is not in the non-aerobatic category

Flight limitations placard for the semi-aerobatic version of the G103 Grob.

ground, rather than sideways, turn your feet so that you present the side of your leg to the direction of travel. Allow yourself to collapse progressively onto your calf and thigh, so that you lie down onto your side; don't attempt a 'stand up' landing. Any residual movement can be absorbed by rolling over, swinging your feet up and over as you go.

After touch down, release the chest clip on the parachute first, and then both thigh clips. This action is important to avoid being dragged headfirst over the ground if there is any appreciable wind. If you land in trees or get hung up in some other obstruction, don't release the harness until help arrives, as you may fall and seriously injure yourself.

THE PLACARD

The placard (see diagram above) should be attached to the cockpit wall somewhere within your view. It provides you with basic and vital information, some of which needs checking before every flight.

Category

Gliners are automatically assumed to be for soaring, and the category will indicate what else is allowed. The G103 ACRO – a fully aerobatic version of the G103C whose placard limitations are shown above – is cleared for the full range of manoeuvres, which include inverted flights, Cuban eights, flick rolls and other stomach churning antics. The overwhelming majority of gliders belong in the semi-aerobatic category; cleared for basic aerobatic manoeuvres only, which includes spins, loops, and chandelles (a posh French name for a type of wing-over). Cloud flying isn't always allowed because gliders with low drag levels at high speed – which includes most modern gliders – are rather 'slippery' and can gain speed easily and quickly if allowed to do so. The airbrakes of most gliders will prevent the speed exceeding the limit indicated by VNE (Velocity Never Exceed – see below), but only if the dive angle is no greater than 45 degrees. For some the limiting angle is only 30 degrees, which is not that steep.

Gliding is for everyone who has ever dreamt of riding the air currents with the view stretching to the horizon, and with barely a sound to disturb the moment. Written by an experienced instructor, this book guides you through the first steps to realising that dream, and goes on to explore the many opportunities offered by this compelling and exciting sport.

- A history of the sport from early experiments to post-war sporting gliders
- An introduction to gliding clubs, getting started and what to expect
- An explanation of how gliders fly, and their controls and instruments
- Sections on learning each stage of flight, safety and weather
- Ideas for post-solo progress, including cross-country and competitive flying
- Illustrated throughout with line drawings and photographs, all in full colour

Steven Longland's thirty-year career as an instructor has included being chief instructor of the Cambridge Gliding Club and a regional examiner for the British Gliding Association. He holds a Gold Certificate Badge with the coveted three diamonds, continues to fly solo and has amassed 5,000 hours in gliders and flown approximately 80,000km cross-country, both abroad and in the UK.

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