THE AIR EXPERIENCE INSTRUCTOR RATING

THE GLIDING FEDERATION OF AUSTRALIA

The Air Experience Instructor Rating.

Contents

1. INTRODUCTION

The Air Experience Instructor Rating is an authorisation issued to pilots in command of Air Experience Flights carrying persons who may not be members of the Gliding Federation of Australia. It is assumed that such visitors have an interest in the sport of gliding and wish to experience it before committing themselves to membership. Therefore it is also assumed that some instruction, albeit limited, will take place in the course of the Air Experience Flight.

It is emphasised that the holder of an Air Experience Instructor Rating is not authorised to carry passengers "for hire or reward" under the terms of a Charter Licence and covered by the Civil Aviation Carriers' Liability Act. Such flights require a GFA Charter Rating, which is outside the scope of this document. Clubs holding Charter Licences and wishing to operate under their auspices should consult the GFA Operational Regulations.

2. REQUIREMENTS

Candidates for an Air Experience Instructor Rating must meet the following requirements before commencing training.

1. At least 50 hours experience. Power pilots may count 10% of their power hours towards this requirement, provided they have a minimum of 10 hours gliding.
2. C. Certificate
3. Thoroughly conversant with the Rules of the Air.
4. Have no basic flying faults.

3. TRAINING SYLLABUS

The training syllabus for the Air Experience Instructor Rating shall be carried out by the club CFI or a suitable experienced Qualified Instructor delegated by the CFI.

The syllabus shall consist of the following -

1. Stalling and spinning sequences in accordance with the Instructor's Handbook and emphasizing the recognition of the symptoms of an accidental spin .

2. All relevant launch emergencies.

3. Accurate circuits without reference to the altimeter.

4. Running out of height in the circuit

5. Flying a tandem two-seater from the rear seat.

6. Correct handover/takeover procedure.

7. Objectives of an Air Experience Flight

8. Talking while flying - Basic conversational "patter".

9. Coping with adverse passenger reactions, sickness, fear, etc.

10. Pre-flight briefing - post flight debriefing.

11. Flight safety.

Items 1 to 6 use the GFA Instructor's Handbook as a working reference. Items 7 to 11 are covered in Section 5 "The Conduct of Air Experience Flights" in this document.

Completion of the above syllabus of training shall be notified by the following logbook entry.

"This certifies that.....has completed the syllabus of training for issue of Air Experience Instructor Rating as laid down in the GFA document "The Air Experience Instructor Rating".
An authorisation card was issued on.....

Name of CFI.....Club.....

Signature.....Date.....

4. PRIVILEGES, LIMITATIONS AND RENEWALS

Privileges. The Air Experience Instructor Rating is a requirement in order to carry out air experience flights with persons who wish to sample the sport of gliding. Pilots holding such ratings must be trained in accordance with the syllabus at Section 3 and shall be issued with a yellow Air Experience Instructor Card. Air Experience Instructors are covered by the GFA Instructor/Inspector Contingent Liability Insurance.

Limitations. The Air Experience Instructor Rating is limited **solely** to the conduct of Air Experience Flights. The Air Experience Instructor is not entitled to act as pilot-in-command of a flight for hire and reward under a Charter Licence, unless that pilot also holds a GFA Charter Rating.

The Air Experience Instructor must carry out all launches, circuits, approaches and landings, and is not authorized to permit another person on the controls below 800ft AGL.

Renewals. The Air Experience Instructor Rating is renewed annually by check flight and a minimum experience requirement. The minimum annual experience to retain a rating is 25 hours or 100 launches total gliding, of which at least 5 hours or 20 launches must be air experience flights. Annual renewal is carried out by the club CFI or his delegate and the number of Air Experience Instructors in the club shall be shown on the annual return to the RTO/Ops. The CFI shall endorse the Air Experience Instructor's card annually with the appropriate launch methods.

5. THE CONDUCT OF AIR EXPERIENCE FLIGHTS

The following section is based on notes produced by the Lasham Gliding Society, UK, whose permission to use them as a basis was sought, obtained and is gratefully acknowledged.

INTRODUCTION

The first thing to realise when you start to take people up for their first flight is just that - it is their first flight and not yours at their expense. The impressions you give during that first flight are extremely important - you can sign up a new member or turn him or her off flying for life! In this sense your responsibility is even greater than that of the instructor - a student who does not get on with a particular instructor will seek another instructor whereas a newcomer having an unpleasant experience on his first flight will probably not even take another flight. He or she will go away thinking flying is not for them, and probably never come back. The aim of these notes is to help ensure this does not happen. It will help a lot if you bear in mind your own first experiences as you read through.

CONFIDENCE

It may seem an obvious thing to say, but you must be confident of your own ability to fly safely and accurately. Not only this, you must convey this confidence to the other person, especially if you do not know each other. Put yourself in his place - you have come here of your own volition to be exhilarated, but in the back of your mind is the thought "I hope nothing goes wrong..." What you really want is to get down again safely, and if you enjoy it immensely so much the better. You are introduced to someone (a good pilot you hope) about whom you know nothing, and he says such things as "I haven't flown one of these gliders for ages" or "I hope the rope doesn't break" or "I hope the wings don't fall off". Maybe an exaggeration, but if you had any sense you'd be off like a shot or you might sit through the whole flight petrified. Loose talk, even if intended as a joke, can get you off to a really bad start. (More about loose talk later). What you would want to hear is that things will not go wrong, and if they do that your pilot will be able to sort them out in a trained professional way. You will want to hear him say (about the glider) "It might look flimsy, but it's actually as strong as a brick built outhouse!" or (about the launch) "Rope breaks are extremely rare, but if we do have one, we'll land in one of those paddocks over there, or if we're high enough we'll land back on the airfield".

Notice the **WILL** and not **'MIGHT'** or **'MAYBE'**, and the fact that your pilot is making decisions and preparing for any eventuality. You think to yourself "I can trust this man with my life" because that is in fact what you are doing. So let him know you are going to look after him by being positive and decisive. Needless to say, all this exuded confidence should have its basis in ability.

EARLY SENSATIONS

Most people on their first few flights will experience fairly vivid sensations of positive and negative 'g' and of slip or skid, though they probably will not know what they are called or why they happen. The fact that they do not know why these sensations happen will merely make them even more vivid. Let's face it - this person has spent 99%+ of his life at 1 'g' and he suddenly finds that not only does he lean over every time you turn, but he also gets pushed into his seat. And no sooner has he adapted to this extra body weight, then you come out of the turn and he feels light-headed going back to 1'g'. It may be very disconcerting - he may think he'll never make a pilot - he hasn't the constitution for it. The moral should be obvious - be honest and tell him about these sensations before you fly. Reassure him by telling him that everybody has these same sensations of high and low 'g' on their first few flights; that the sensations will disappear thereafter, once his eyes have learnt to discern the small changes in attitude that cause them. It is equally important not to talk about "high and low 'g'" and "attitude" - they are technical words and will probably not mean a lot to him. Much better to explain in everyday terms e.g. "...that hump-back bridge feeling" or "... that sensation you get at the bottom of the slope on a big dipper". He will know immediately what you are talking about, and what to expect. It is also something you can reinforce when you are airborne, and you fly through (say) a down gust causing low 'g'. You could say "Did you feel that? Remember that hump-back bridge feeling I talked about before we took off...etc?" It is reassuring to your charge to know that he is not the only one who felt something not altogether pleasant!

Just one last point about sensations before we move onto preflight briefing. Most people adapt quite quickly to positive 'g', whilst negative 'g' (or less than 1 'g') takes somewhat longer. An extremely small percentage of people never completely overcome it, and may become extremely concerned the moment the glider becomes loaded at less than 1 'g'.

If you want to know more about early sensations of flight, read the relevant chapter in "Beginning Gliding" by Derek Piggott.

PREFLIGHT BRIEFING

The essence of a good briefing is just that - KEEP IT BRIEF! Tell your budding pilot about the things that will concern him, namely what to expect from the flight, and how to enjoy it.

Unless interest is shown in the instruments, controls or other technical points do not volunteer lengthy explanations. Short and simple are the watchwords.

Once he is aboard and comfortable and you have shown him how the harness works (that is important to his well-being) tell him very briefly about his environment for the next 15 minutes. For example: "As you can see we have a control stick here (point) and some pedals on the floor (point). I'll be using these all the time to control the glider, so please keep clear of them until I say - I'm sure you'd like to have a go when we get up there. If you want something to hold onto, use this bar (on K-13 across the top of the instrument panel) not this yellow knob, or the white/red knobs (explain why!). The only other important control is this blue lever here (point) which works the airbrakes. You might see me moving that as we come into land. You've got some instruments here which tell our height, speed and whether we're going up or down, but don't worry about them - I've got some too. Much better to keep your attention outside and enjoy the view." Apart from explaining about the sensations, something like this is all that you need say. Obviously amplify your description if you are asked, but don't get yourself bogged down by intricate details of how and why everything works. Don't be evasive, but keep your explanations brief and untechnical.

Bear in mind the technical knowledge you have has been assimilated over several years - if you try to impart all this knowledge in a few minutes, the newcomer may well think you a superman for being able to operate all those knobs and levers at once and read all the instruments at the same time, but he might not come back as a student if he thinks it will be all too complicated for a mortal such as himself! So - be **BRIEF, TRUTHFUL, but UNTECHNICAL,** and **REASSURING.**

PATTER

You will find that after a few trips you will start developing your own patter. The aim of this section is not to tell you exactly what to say, but to give a few hints on how and when you say it.

You may well find it difficult at first, but try to keep a steady even conversation going on. This is important for two reasons; the even (not monotonous) speech will be more reassuring than a sudden high-pitched babble when for example, the cable has just broken and secondly, the 2-way talk will give you an insight as to how the other person is coping with 3-D motion. He will also feel more part of the flight than nose-ballast. Talk about what you like but try to make it interesting. For example, on tow you might talk about the gliding club, the aerodrome, the hills, in fact, anything that is different (therefore interesting) from his everyday life. If he lives locally, try to keep his interest outside the cockpit, try to get him involved in the conversation. He does not know how to fly the glider, but he can (hopefully!) talk.

The other important part of good patter, hence good introductory flying, is to keep the other person informed about the flight - for instance, warning him before every

manoeuvre and if needs be, what to expect. Almost every sensation will be new to him - tell him before it happens. A couple of examples:

(i) (On coming off tow) "Any moment now I'm going to bung off tow and do a climbing right-hand turn". The elements are there, and it is truthful, but "bunging-off" might suggest a violent manoeuvre, and a "climbing right-hand turn" may mean very little. Compare that with "Any moment now - I'll tell you when - I shall be releasing the towrope, and as soon as it has gone, I'll bank the glider over gently to the right. The rope will leave us with a bit of a jolt - it's quite normal. OK? - I'm releasing...NOW". See the difference? - he is now prepared for everything he is going to feel whether or not he is actually sitting through a climbing right-hand turn or not.

(ii) (On preparing to land) "Well we're down to 800ft and it's about time we got ourselves established on the downwind leg of the circuit. I'll try to get us down by the aerotow point, but it might be tricky in this crosswind. I'm increasing speed and retrimming onto the downwind leg now, 55 knots should be enough for today's wind gradient. A fairly steep turn now onto finals and open the brakes. Still 55 knots and going well etc., etc.,...." All good stuff and very truthful. Read it through again and see where it went wrong. Before you read the next version try to think about what you would say.

Let's take it to pieces bit by bit:

	Your words	His thoughts
...	800 ft ...	How does he know? Why 800ft anyway?
...	downwind leg of the circuit	What is a downwind leg? a circuit? - We're flying straight.
...	try to get us down	Somehow! Who is this guy? I thought he was a pilot.
...	by the aerotow point.	Where is that?
...	might be tricky	Why did I ever consent to take off?
...	In this crosswind	How does he know? Why did we take off if crosswinds are dangerous?
...	and retrimming	What is that?
...	55 knots ...	I give up!
...	wind gradient	What?
...	finals ...	Please get me on the ground safely
...	brakes. Still 55 knots ...	He's put on the brakes and nothings happened, we're not slowing down.HELP!

Grossly over-technical to the point of confusion, and not very reassuring is it? O.K. it's an exaggeration, but serves to illustrate the point. Saying what you are thinking, or thinking out aloud, is not good enough. Try this version:

"We're getting lower now and it is time to prepare for landing. (Getting nicely positioned on downwind leg). What I'm doing at the moment is getting us positioned so that we will land on that strip of grass at the end of the airfield where that blue glider has just landed - just down there on the right. See it? We need extra speed for a safe approach to land, so any moment now I'm going to lower the nose slightly - you'll feel that hump-back bridge feeling as I do it and hear the airnoise get louder. (Lowers nose and retrims). I'm going to bank a bit steeper than I have so far on the flight - you will get to learn it's the safest way to turn when you're nearer the ground - one more turn like that and we'll be lined up for a landing just to the right of that blue glider. We've still got plenty of height so I'm going to start to use the airbrakes. It might look like we're going to dive into the ground, but we won't, don't worry, we always approach very steeply in gliders etc. etc." The difference here is that this pilot is adjusting his own thoughts to what the other person can understand, pre-empting his apprehension, and certainly not mentioning his own thoughts of downwind legs, crosswinds and wind gradients. Saying the right things is often simply not saying the wrong things!

ADVERSE REACTIONS

Apart from the extremely unlikely event of flying somebody who is acutely low 'g' sensitive the main problem you may encounter is airsickness.

Whilst it must be said that some people are prone to any sort of motion sickness, a large proportion of sickness on early flights can be attributed to extended circling, unnecessarily violent manoeuvring and inaccurate flying by the pilot.

So, the general rule is no aerobatics, no steep turns, and definitely no dolphin flying! It is also not a good idea to take more than 2 or 3 turns in a thermal, as continuous circling is liable to disorientate the newcomer. And unless you are sure he is happy, these turns should not be as steeply banked as proper thermalling turns. Naturally you should be keeping your conversation going, but if the other person is quiet or unresponsive, especially if his head is tucked down and his vision <u>inside</u> the cockpit suspect that he is not feeling very bright. Do <u>not</u> ask "Are you feeling sick?" - you will find out very quickly and very messily! Perhaps: "If you're happy, we'll go in and land now - I'm sure someone else is waiting for our glider". It may not be strictly truthful, but it should at least provoke a response. Or you could try - "How are you managing - feeling O.K? If the reply gives you any cause for doubt then it is time to head back. The main thing is to keep his attention directed <u>outside</u> the cockpit from square one. Not only will he gain very little knowledge or enjoyment

from staring at the instruments, his lack of visual awareness of the glider's motion will make all his sensations much more vivid and alarming. Try it yourself on your next flight - do a gentle pushover (low 'g') looking at the horizon then do the same manoeuvre looking downwards at the stick. That is what your hapless victim will feel.

LETTING HIM FLY

Showing somebody the effects of the controls and how they are used to manoeuvre the glider is really a job for a qualified instructor. However, with a little practice you will be able to show them what the controls do and how to do turns, but it is not an easy lesson to teach well and correctly. There are a lot of potential pitfalls in teaching or saying the wrong thing which the newcomer's subsequent instructor will find out to his dismay. And first impressions being very strong may be very difficult to erase afterwards. Before you try yourself out on some unsuspecting air experience pilot, try it first on an instructor who will clarify any problems you may have. The check instructor will look at you very carefully in this area.

THE CHECK-OUT.

The conversion to flying the 2-seater from the back seat should cause no problem once you have become accustomed to the fact that you can't see as much as you can see from the front. It is presumed that you can fly accurately and safely by the time you have 50 hours so the majority of the check-out will be concerned with how you handle the simulated newcomer. It is a false situation knowing that the chap in front is a lot more experienced than you, but just accept it for that and try your best! You will find it very much easier with a real novice.

SOME DO'S AND DONT'S

DO reassure your charge - understand his problem.

DO use analogies whenever you can to explain something - this is far better than the technical truth.

DO keep his attention outside the cockpit - get him to help you lookout - make him feel useful.

DO warn him what you are going to do before you do it.

DO fly smoothly.

DO, if you can, fly your friends first - they already know you and probably trust you - you will already have overcome the biggest hurdle.

DO NOT do aerobatics

DO NOT spend a long time continuously thermalling or circling.

DO NOT do steep turns, but ...

DO NOT compromise safety, inasmuch as you may have to turn steeply to avoid collision, or to do a well-banked final turn.

DO NOT apologise. For example, do not say "What a sloppy turn I did there!" or "what a dreadful take-off". This person has trusted you with his life - he doesn't want to hear things like that from you!

DO NOT use loose-talk. Example above. Think what you want to say, and think how it will be received before you say it.

DO NOT fly air-experience flights in rough conditions or on a 40 degree C summer day.

FLIGHT SAFETY AND THE CIRCUIT

Having read this far you should by now have realised that things are not always the way they might seem to other people, and vice versa. Flying a safe circuit is no exception. What is to you, the pilot, a perfectly safe and controlled "running out of height" situation might come across to the other person as an emergency with things getting rapidly out of control. Even more so if you have already told him where you are going to land and then say you won't be able to make it. What I am really saying is that the margin of safety that you accept for your own solo flying is not enough when you have someone else's well-being to consider as well.

As a guideline to what I consider to be adequately safe, you should always be at such height and position as to allow you to:

(1) Fly a complete circuit, without having, of necessity, to cut it short,

and

(2) Use at least half airbrake for the whole of the final approach.

In summary, running out of height and turning in early, or even worse, stretching it and ending up with a splitarse turn at treetop height is simply not on. Misjudging things so badly that the only safe course of action be a field landing is really inexcusable. There is always a greater element of risk in any field landing than in a normal landing back on the site. As cross-country pilots we know and accept that additional risk. We have no right to expose others to it.

Notwithstanding any of the above you must, of course, take whatever action is appropriate and necessary to avoid an accident.

A FEW FINAL COMMENTS

Introducing others to your sport can be very rewarding. You will find it is almost like learning to fly all over again

and it will certainly add another dimension to your gliding. However, don't collect a rating for the sake of having another piece of paper. In order to give your best to prospective new members you should genuinely want to do that. And once you have the rating, use it whenever you can. Not only will staying current help your flying to be safer, and more accurate, you will be giving much better value for money. It is his flight after all.

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