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Soaring - A never ending learning experience

Contributed by Jill McCaw

LEARNING to glide is a never ending process. Maybe the correct terminology would be learning to soar. Gliding implies passively coming back down to earth and glider pilots hardly ever do that. Certainly that's what the aircraft will do when the air is still but there is nearly always energy causing air to rise somewhere and a glider pilot will do their utmost to find it. Soaring is about using the energy in the atmosphere to climb your glider and use it to go where you want to go. Going solo and getting your Glider Pilot's Licence (GPL) are only the beginning of the learning process.

Once you've worked your way through the curriculum, from flying straight and level, through stall and spin recovery and tow rope breaks you are fully trained to fly a glider. You can take off and land safely but most newly solo pilots are completely unable to soar. Soaring is a skill pilots spend many many hours developing. Soaring involves reading the air, advanced decision making and precise clean flying skills. While you'll have been introduced into all aspects of these in training, it isn't until you get out and fly and fly and fly that you start to get the instinctive "feel" for how it is done.

Gliders gain height by finding air that is rising faster than the aircraft's descent rate. This is called finding lift. There are three main types of lift and all can be found around most New Zealand gliding sites. The most common are thermals, columns of heated air rising from the ground and capped with a nice cumulus indicator cloud. Of course you can get thermals on "blue", no cloud days, just to make things more challenging. Another very common type of lift is from air rising over ridges that are crossways to the wind. The skill here is in reading the wind direction and finding slopes facing the right way, when variables such as sunny slopes, ridge assisted thermals and air swirling around headlands can all make what seems like a guaranteed lift source not work. Our third form of lift is New Zealand's celebrated wave lift. This is generated downwind of mountains in a similar way to ripples being formed downstream of a large rock in a river. Wave clouds (except on "blue" days) are capped by the long lenticulars very familiar to South Island residents and those who live near the Central Plateau.

Learning to read the weather patterns, both nationally, in the local area, and as it pertains to finding lift wherever you are flying, is a long term learning experience for a glider pilot. It is also a useful skill to have for showing off at parties. You get enormous kudos from being able to look at the sky and say with certainty; "The weather's changing. The front will be through by lunchtime." Glider pilots usually get their weather forecasting right. The one I love is driving through drizzle and announcing, "It will be clear on the other side of this pass."

Once the pilot has found lift he then has to be able to utilise it. To thermal the pilot has to be able to hold the glider in tight, evenly banked circles to make the most of the strongest area of lift. Thermalling works best if the mechanics of flying the aircraft

are instinctive and the pilot doesn't have to think about how much rudder to use in a turn. Before even making that turn into lift, being current and comfortable in his glider will mean that he will probably feel the air lifting one wing and be turning in that direction before his instruments have even registered the rising air.

Flying along ridges, sometimes barely more than a wingspan from the rocks and at speeds around 70 knots requires clean flying, intense concentration, accurate decision making and a very good lookout. There may well be another glider travelling equally as fast in the opposite direction. Planning for "what if" scenarios



Ridge soaring requires clean flying, intense concentration and a good lookout for traffic!

also needs to be in the pilot's mind as curl over, wave 'dumping' on the ridge, thermals lifting off the ridge and other local weather phenomenon can rapidly cause the situation to change.

Wave flying too has its own challenges, not least of which is how to contact it. Local knowledge can make a big difference here. Pilots who have been flying in an area for a while tend to know where to contact wave in certain conditions and they are generally happy

to share this information. The glider will probably climb in ridge or thermal lift to at least 6,000 feet before having any chance of contacting the smooth wave lift. Once established in wave pilots can find themselves at high altitudes quite quickly. High altitude flying brings a new set of problems for the pilot to deal with. Oxygen must be used over 10,000 feet, there are airspace regulations, and dealing with the cold, as it affects both the pilot and his equipment.

We are a friendly and supportive group of people and many highly experienced pilots are happy to share their knowledge, not just on the ground but by flying in two seaters and showing novice pilots how they do what they do. I had a flight a month ago with Mike Oakley, one of our top cross country pilots. It was quite extraordinary to see how far Mike could go on a day that had what to my mind was very marginal conditions. We launched from the Canterbury Gliding Club's site at Hororata and flew exactly 100 km north to turn at the Hurunui River within sight of the Hanmer basin. Most of the flight was at or below ridge top height. Mike talked me through his decision making and it all seemed quite rational, even though I would never attempt it myself, well not without at least a full season with about 100 hours flying under my belt. Sadly that is unlikely to happen.

However I can take what I learnt from Mike and use it in my own, less ambitious flying. Every glider flight is different and you never stop learning. I think that is one of the things I really enjoy about the sport.

I am Jill McCaw and I'm the editor and publisher of SoaringNZ, the official journal of Gliding New Zealand. For more information on gliding in your area and for subscriptions to the magazine please see the GNZ website. www.gliding.co.nz