

## PRESS INFORMATION



### **Sources of Lift (or Staying Up)**

Glider pilots rely on finding rising air in order to counteract the inevitable effects of. Soaring and racing cross-country is achieved by finding areas of lift, climbing in them to regain lost height, and then flying as efficiently as possible through surrounding air to the next area of lift. In some ways, racing a glider is like running a race along a river, using stepping stones and trying to keep your feet dry. Alternatively, you can think of height as being the equivalent of petrol in the driver's tank. When you are getting low, you need to stop to top up.

There are three main sources of rising air, all of which will be exploited by the skilled glider pilot.

#### Thermal

This is the form of lift used in most cross country flights. Thermals of rising air are formed when warmer air, heated by the sun, breaks away from the ground. When the atmosphere is damp, cumulus clouds form at the top of thermals and these provide the glider pilot with an excellent thermal marker. When the atmosphere is dry, the pilot must use ground features and his experience to estimate where thermals are most likely to form.

The pilot will attempt to circle in the core of the thermal, where the lift is strongest. Inaccurate flying can lead to the glider being 'thrown out' of the thermal in to the surrounding falling air.

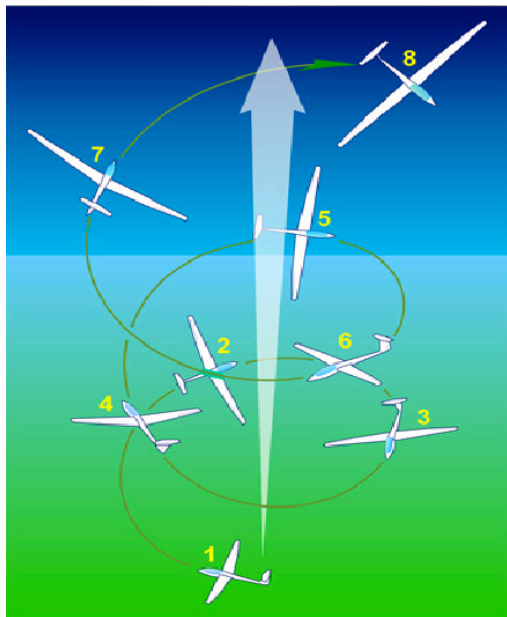
On a racing day, you can often see gaggles of gliders circling in the same thermal, trying to out-climb each other.

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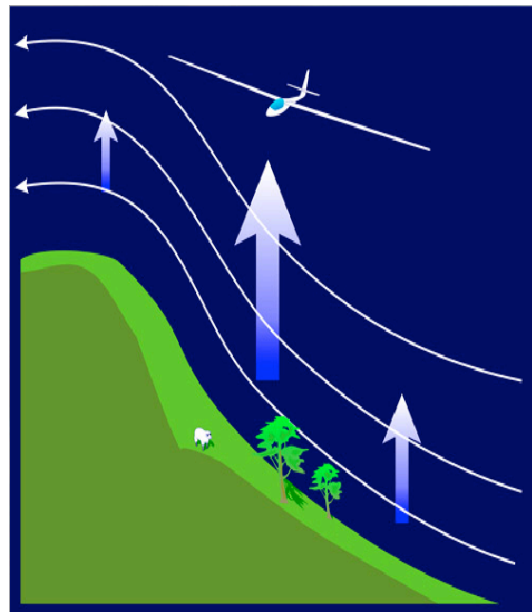
Hill (or Ridge) Lift

Quite simply, this involves the pilot flying his glider along the face of a hill where the wind is being deflected up and over the top of the hill. The mass of rising air will extend above the height of the hill and, by flying in this, the pilot and his glider will rise.

Ridge lift may be used to supplement thermal lift on a cross country flight. Exceptionally, a course may track along the into wind side of a mountain range and, in these situations, ridge lift can provide the conditions for fast straight line flying.



Thermal Soaring



Hill Soaring

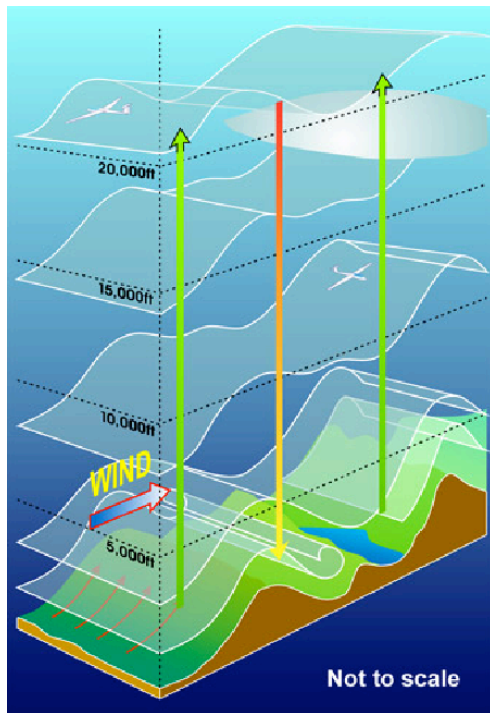
Wave

The final form of lift, which gives potentially the greatest heights, is the magical and very smooth form known as 'wave.'

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This is produced by lee waves which are sometimes formed downwind of mountain ranges where the air stream oscillates, much like the standing ripples that can be seen downstream of a rock in the middle of a river. Lee waves have been soared in the UK to heights in excess of 30,000 feet.



Wave Soaring

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