

THERMAL CENTRING

In all flying, **lookout** is of the utmost importance. On cross country and competition flights, it is even more so.

You will need to scan carefully, assuming that other aircraft are in your airspace and in the thermal you are about to enter. Don't assume that there are not because you haven't seen one or haven't heard any transmissions.

When entering, you must turn in the same direction as an aircraft already in a thermal, whether it be above or below. If you enter at approximately the same level, make sure it is on the opposite side of the thermal, and wave to the other pilot. If he or she waves back, you know they have seen you. If they don't, they may be unaware of your presence.

Throughout the climb, make sure of your separation, keeping in mind, the blind spots of the glider in which you are flying. Make sure you don't get into the other pilot's blind spots. At any time you are unsure of where other aircraft are, edge out of the thermal until you can find them, or leave it all together.

As thermals are limited in size, sailplanes usually circle to remain entirely inside the rising air. The sailplane's performance is reduced with increasing angles of bank and unbalanced turns. The radius of the turn is reduced little with angles of bank greater than 45°. Generally bank angles between 25° and 40° are used (producing circles of 150 m to 200 m diameter at usual sailplane speeds) to give a reasonable compromise between the size of the turn and sink rate due to angle of bank.

At all times the least angle of bank should be used, consistent with staying in the lift. Slip and skid needs to be eliminated.

Variometers all have some time lag, so allowance must be made for that. (PZL and Winter mechanical type - 3 seconds, electrical type - 1 second)

The aim of centring is to shift the circle of the glider into the thermal. When a pilot is low on hours or practice, the glider can be considered to be centred when flying in lift for almost the full turn, even if the lift is higher on one side than the other.

When flying into a thermal and the vario indicates up, if there is no indication of which way to turn (ie. birds, other gliders, lift under one wing), it doesn't matter which way you turn. If you keep a constant bank and speed, you will come back to the same place.

Monitoring the vario reading during the turn will build a mental picture of your circle and the thermal.

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Depending on how far you have to move, your circle can be shifted by taking bank off altogether for a short time or just reducing bank for a short time, then returning to your constant bank angle.

Make only one change each 360°. When centred in the thermal a higher rate of climb may sometimes be achieved by increasing your constant bank angle.

Remember accurate speed control is important. Keep the nose steady relative to the horizon. Small variations of speed will change the circle. At a constant 30° bank, each 5 Kt increase in speed will increase the diameter of your circle by 25%.