

Figure 10-38. Proper crabbing to stay in lift and effects of upwind turn (correct) or downwind turn (incorrect).

In the discussion thus far, a climb in the primary wave has been assumed. It is also possible to climb in the secondary or tertiary lee wave (if existing on a given day) and then penetrate into the next wave upwind. The success of this depends on wind strength, clouds, the intensity of sink downwind of wave crests, and the performance of the glider. Depending on the height attained in the secondary or tertiary lee wave, a trip through the rotor of the next wave upwind is a distinct possibility. Caution is needed if penetrating upwind at high speed. The transition into the downwind side of the rotor can be as abrupt as on the upwind side, so speed should be reduced at the first hint of turbulence. In any case, expect to lose a surprising amount of altitude while penetrating upwind through the sinking side of the next upwind wave. [Figure 10-40]

If a quick descent is needed or desired, the sink downwind of the wave crest can be used. Sink can easily be twice as strong as lift encountered upwind of the crest. Eventual descent into downwind rotor is also likely. Sometimes the space between a rotor cloud and overlying lenticulars is inadequate and a transition downwind cannot be accomplished safely. In this case, a crosswind detour may be possible if the wave is produced by a relatively short ridge or mountain range. If clouds negate a downwind or crosswind departure from the wave, a descent on the upwind side of the wave crest is needed. Spoilers or dive brakes may be used to descend through the updraft, followed by a transition under the rotor cloud and through the rotor. A descent can be achieved by moving upwind of a very strong wave lift if spoilers or dive brakes do not allow an adequately fast descent. A trip back through the rotor is at best unpleasant. At worst, it can be dangerous if the transition back into the rotor is done with too much speed. In addition, strong wave lift and lift on the upwind side of the rotor may make it difficult to stay out of the rotor cloud. This wave descent requires a good deal of caution and emphasizes the importance of an exit strategy before climbing too high in the wave, keeping in mind that conditions and clouds can rapidly evolve during the climb.

Some of the dangers and precautions associated with wave soaring have already been mentioned. Those and others are summarized below.

- If any signs of hypoxia appear, check the oxygen system and immediately begin a descent to lower altitudes below which oxygen is not needed. Do not delay!
- Eventually, a pilot becomes cold at altitude regardless of how warmly the pilot is dressed. Descend well before it becomes uncomfortably cold.

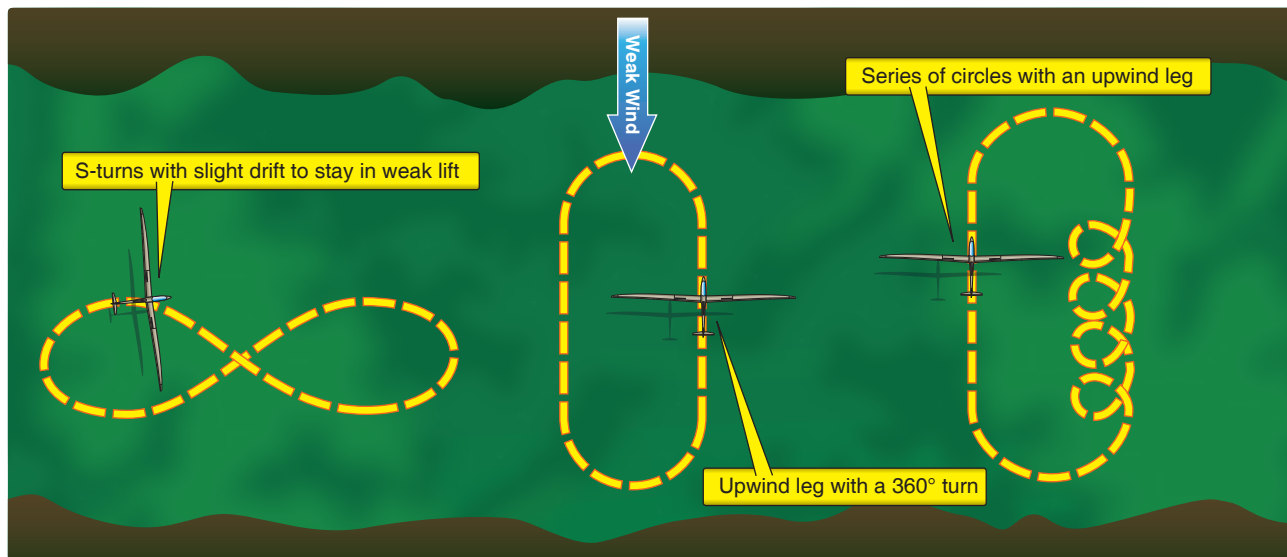


Figure 10-39. Techniques for working lift near the top of the wave in weak winds.