

Thoughts about off-airport landings

- If possible, first check out the area on foot, observe soil, water, and plant growth, and how they will affect planned and emergency landing
- Inland tall grass meadows are usually too rough for wheel landings. Tall grass meadows in marine flood-tide areas are frequently satisfactory.
- Grass clumps on dry gravel often surround a rock - grass grows in the moisture under the rock. On tidal gravel the grass will surround a hole where drainage provides proper conditions for grass.
- In spring and summer, ice chunks buried in the sand and gravel on a sea beach will be melting, making some very soft spots. This condition can be detected usually by flying very low along the beach and watching for slight depressions in the surface. The beach at these places is soft enough to trip an airplane.
- In the spring where mud flats are exposed at low tide, ice cakes moving with the water current will drag in the mud leaving grooves. Grooves are prominent or faint depending on the size of the ice cake, consistency of the mud, etc. The length of time the ice grooves remain visible after the ice is gone depends on how much current there is in the water over the mud. Strong currents erase the tracks fairly quickly. Strong currents also carry away the extremely fine particles that make soft mud. Therefore, if you see ice grooves in the mud after the ice is gone awhile, the mud is soft and you probably shouldn't land there.
- A convex curved sea beach is usually steeper and more uneven than a concave one and presents unique landing and takeoff problems. Centrifugal force tends to pull the airplane toward the water and the roughness reduces the wheel's hold on the beach. Further, in 3-point attitude, the weight of the tail drags it downhill, turning the plane uphill. If tide, weather, and other conditions permit, early afternoon landings and takeoffs may be safer because an inland sea breeze may help counteract these forces.
- A lake situated at the foot of a mountain or long slope will receive considerable ground water. Sometimes small springs can be seen in the lake bottom on the side near the mountain or slope. These lakes freeze later in the year than others and frequently have thin ice on the side near the mountain.
- When flying very low and slow on takeoff or landing approach, do not fly over an abrupt drop-off such as a cut bank or steep lake shore. You can abruptly lose ground effect and begin to settle.
- When taking off in soft snow, sometimes setting full flaps at the start of the run will help the plane out of the snow. When speed is gained the flaps can be reduced to takeoff setting.
- Roads can be good emergency landing places. Make the approach parallel to the road to look for obstacles. Areas with power poles on one side mean there may be lines crossing the road, particularly where buildings are on the opposite side.
- During the summer, dense fog frequently lies very low over the arctic coast preventing VFR flight. Late at night when the sun is just above the horizon, the sunlight shines under the fog and can heat the ground enough to lift the fog enough to fly. During that part of the summer when the sun does not go below the horizon, VFR flying conditions are best about midnight because the sun dips below the overcast and travels low over the sea before rising above the overcast again.

Some things to consider when judging a landing site are:

- 1) Airplane load: obviously, ever gram counts.
- 2) Density altitude: You don't have to go into the mountains to get a change in density altitude.
- 3) Ground drag: A thawed gravel bar, even a dry one, presents considerably more drag than a frozen one.
- 4) Departure obstacles: An obvious thing, but if you've been flying off river bars in ground effect, it's easy to underestimate the additional space needed to clear a 15 foot obstacle.
- 5) Environmental trends: They are not so obvious; i.e.,

Situation A.

- CAVU
- Fall weather
- Barometric pressure high
- Air is dry
- Temperature is low
- Gravel bar is partly frozen River water is low
- Wind, breezy. -- Airplane performs very well.

Situation B.

- A warm front occurs
- Barometric pressure is lower Temperature is higher
- Air is wet
- River bars thawed and wet River water higher-bars shorter Wind calm -- Each of these environmental changes is small. In sum, they can overwhelm the aircraft.

Landings

If done correctly, helicopters stop and then land. Airplanes land and then stop.

Last but not least

IF IT DOESN'T LOOK RIGHT OR FEEL RIGHT - YOU CAN ALWAYS GO AROUND!