

SkyRanch SAFETY TIPS – General Overview

** At no time should anything in this document take priority over your approved aircraft flight/operating manual.*

→ **In most cases, it is preferable to depart RWY 24 and land on RWY 6.**

The combination of altitude, slope (2%), surrounding terrain, and relatively high ambient temperatures can pose significant performance challenges. Always factor in density altitude (see attached chart), wind, slope, and departure path terrain when choosing runways. Departing RWY 6 and Landing RWY 24 is perfectly acceptable in good conditions as long as proper pilot technique is utilized. A greater margin of safety is generally achieved by making takeoffs downhill (RWY 24) and landings uphill (RWY 6).

→ **Treating SkyRanch as a high density altitude, short field airport will lead to performance planning and flying techniques that yield the maximum margin of safety. Aggressively fly on-speed to your aim-point in the touchdown zone.**

The SkyRanch airport elevation is 2,568' and temperatures in the 100 degree range are not uncommon. At 85 degrees the density altitude is 4,864.' At 100 degrees it climbs to 5,724' which means an indicated speed of 85KTS produces a true airspeed of 95KTS. At this speed, you are covering 160'/second. In 5 seconds of float at 85KTS indicated airspeed, you will use up 800' of runway. For RWY 24 this represents almost 23% of the available landing distance (3,500').

→ **Establish some “red lines” for yourself along the runway that will signify the point after which you will abort the landing attempt and go around.**

A good aim point for actual touchdown is midway between the numbers and the first 90⁰ taxiway on your right.

For most aircraft, touching down no later than the beginning of the “SkyRanch at Carefree” paint should be considered an absolute red line for a go-around. 2,400' remaining (2100' on RWY24 with slope factored in)

→ **Get familiar with the takeoff and landing data for your aircraft throughout the operating weight and temperature range at SkyRanch.**

Be sure to correct data to reflect the runway slope (2%), wind effects, and density altitude. Remember that the data in the flight manual is based on a set of conditions that may be more aggressive than your flying techniques. If

performance is a factor, consider adding a safety buffer over and above what the book says. The breakeven wind component for runway selection is approximately a 6-10 KTS component depending on takeoff and approach speed. This does not take into consideration issues such as the effect of sloping terrain on takeoff/go-around, optical illusions, or the fact that RWY 24 available landing distance is 500' less than RWY 6. This has the effect of further increasing the breakeven wind component by approximately 5 KTS. This makes the actual breakeven wind component anywhere from 11-14 KTS.

→ **The down-slope on RWY 24 creates the illusion of being too low. The up-slope of RWY 6 creates the illusion of being too high.**

Review short field and night operations as necessary.

→ **Strong southerly winds can create significant turbulence along with up and downdrafts.**

In general, the approach and landing will be more stable landing on RWY 6 than RWY 24. These conditions can be a factor just after liftoff when a takeoff is made to the east (RWY 6). Be prepared for variable lateral wind component changes and up/down drafts at the east end of the runway.

→ **In many cases, due to the rising terrain to the East, light twin-engine aircraft do not have adequate engine-out climb gradient when departing RWY 6.**

Consideration should be given to departing RWY 24 even in slight tailwind conditions. In the event of an engine failure during takeoff, a slight left turn to the southwest results in a decreasing terrain gradient all the way to the Deer Valley (DVT) airport. Field elevation at SkyRanch is approximately pattern altitude at DVT. Terrain gradient to the east of SkyRanch increases to 3%.

→ **Since it is common and desirable to use Runway 6 and 24 simultaneously, exercise vigilance and proper radio techniques(frequency 122.725).**

Be alert for the position and intentions of other aircraft on the frequency and always clearly state yours as well. If other aircraft are in the same general vicinity, the coordinated use of different altitudes and landing lights is desirable until each aircraft is in sight.

- Accept the fact that there will be times when conditions are not acceptable.

- Execute a Go-Around if your approach or flight conditions become too unstable.

- Low Visibility/IFR operations require special considerations regarding legality and safety.