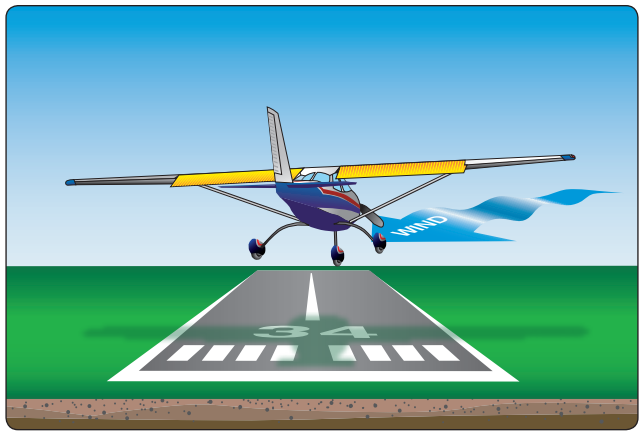

Figure 8-15. *Crabbed approach.*

airplane must be aligned with the runway to avoid sideward contact of the wheels with the runway. If a long final approach is being flown, one option is to use the crab method until just before the round out is started and then smoothly change to the wing-low method for the remainder of the landing.

The wing-low (sideslip) method compensates for a crosswind from any angle, but more important, it keeps the airplane's ground track and longitudinal axis aligned with the runway centerline throughout the final approach, round out, touchdown, and after-landing roll. This prevents the airplane from touching down in a sideward motion and imposing damaging side loads on the landing gear.

To use the wing-low method, align the airplane's heading with the centerline of the runway, note the rate and direction of drift, and promptly apply drift correction by lowering the upwind wing. *[Figure 8-16]* The amount the wing must be lowered depends on the rate of drift. When the wing is lowered, the airplane tends to turn in that direction. To compensate for the turn, it is necessary to simultaneously apply sufficient opposite rudder pressure to keep the airplane's

Figure 8-16. *Sideslip approach.*

longitudinal axis aligned with the runway. In other words, the drift is controlled with aileron and the heading with rudder. The airplane is now side slipping into the wind just enough that both the resultant flightpath and the ground track are aligned with the runway. If the crosswind diminishes, this crosswind correction is reduced accordingly, or the airplane begins slipping away from the desired approach path. *[Figure 8-17]*

To correct for strong crosswind, the slip into the wind is increased by lowering the upwind wing a considerable amount. As a consequence, this results in a greater tendency of the airplane to turn. Since turning is not desired, considerable opposite rudder must be applied to keep the airplane's longitudinal axis aligned with the runway. In some airplanes, there may not be sufficient rudder travel available to compensate for the strong turning tendency caused by the steep bank. If the required bank is such that full opposite rudder does not prevent a turn, the wind is too strong to safely land the airplane on that particular runway with those wind conditions. Since the airplane's capability is exceeded, it is imperative that the landing be made on a more favorable runway either at that airport or at an alternate airport.

Flaps are used during most approaches since they tend to have a stabilizing effect on the airplane. The degree to which flaps are extended vary with the airplane's handling characteristics, as well as the wind velocity.

Crosswind Round Out (Flare)

Generally, the round out is made like a normal landing approach, but the application of a crosswind correction is continued as necessary to prevent drifting.

Since the airspeed decreases as the round out progresses, the flight controls gradually become less effective. As a result, the crosswind correction being held becomes inadequate. When using the wing-low method, it is necessary to gradually increase the deflection of the rudder and ailerons to maintain the proper amount of drift correction.

Do not level the wings and keep the upwind wing down throughout the round out. If the wings are leveled, the airplane begins drifting and the touchdown occurs while drifting. Remember, the primary objective is to land the airplane without subjecting it to any side loads that result from touching down while drifting.

Crosswind Touchdown

If the crab method of drift correction is used throughout the final approach and round out, the crab must be removed the instant before touchdown by applying rudder to align the airplane's longitudinal axis with its direction of movement. This requires timely and accurate action. Failure to