Introduction to Safer Landings Through Understanding Visual Angles
by Bob Salvo

Will the pilot of this commuter airline mismanage the approach to land as the aircraft crosses over the runway and prepares to turn into his downwind leg? This is the question in my mind, as we neared our destination on this business trip. Weeks before this trip, when I had made my first approach using a crossover pattern while flying my Libelle (or was it my 1-26?), I turned onto my downwind leg too soon, because I became nervous when I could no longer see the 1200 foot airstrip. Turning too soon brought me in too close to the runway and I ended up landing hot, burning off altitude. Now on this day the air is so clear that the scenery from the airliner looked like a high definition TV, crisp and clear. As I peered out of the left window just in front of the wing, the runway disappeared and I wondered if the pilot would turn downwind too soon and find himself too close to the runway and end up landing hot, like I had done? His downwind leg to me looked too close to the runway, so I next wondered if he would extend his downwind leg to make up for his extra short base leg? As it turned out, we landed hot and used every foot of the runway before coming to a stop and turning on to the taxiway. Surprise, surprise, he had done the same thing I did, mismanaged the approach. What can we do to prevent this?

I like the "French" pattern, described in the pamphlet, where the glider enters the downwind leg at an angle of 26 degrees above the runway. As described, placing yourself next to the runway at a distance that is twice the distance you are above the runway, puts you at the angle of 26 degrees above the runway. This is easily done when using the normal entry into the downwind leg. But it is more difficult to do this when using the crossover pattern, as is done in Sterling. Using the same 2 to 1 ratio, when I am directly over the runway and it is about to go out of sight, I look straight ahead away from the runway and find a spot on the ground that is twice the height above the ground from the runway. This is where I turn downwind. All of this is done without the use of the altimeter. If I find myself a little close or too far from the runway while on downwind, I can easily move left or right to get the correct 2 to 1 ratio. As described in Figure 3, one can maintain the same angle throughout the base and final approaches if spoilers are used. This will place your base leg half way between the end of the runway and the highway when landing on 34. On windy days I use this method. On calm days when at the glider's position shown in Figure 3, I look at the distance to the runway and double it to find the spot to turn onto final (this yields a 14 degree glide slope on final). This method places the base leg over the highway and allows me to use less spoilers.

I hope you enjoy the pamphlet as I did. And I hope this helps you manage your approaches more easily.