FOUNDATIONS OF FLIGHT
LONG SPOTS—DETERMINING RANGE POTENTIAL

AXIS Flight School®

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To determine your personal range potential, you must train your eyes to see a specific phenomenon that occurs as you travel though space. We covered this topic in "Foundations of Flight—the Accuracy Trick" (April 2014 Parachutist). The video is also available on AXIS FlightSchoolTV on YouTube.

In this installment, we are going to elaborate on the trick by introducing a skill-building exercise. During a long spot, you will be traveling in a straight line for most of the canopy flight. This provides an excellent opportunity to work on your visual acuity. Attaching a small piece of tape to your goggles or visor in front of your dominant eye will help you identify your glide slope by calibrating your eyes. Ensure that the tape is small and barely visible so it doesn't interfere with your normal operations. During this exercise, continue to scan for and remain aware of any traffic in your immediate vicinity. Discontinue the discovery drill by 2,000 feet AGL.

The objective is to increase your visual acuity to locate the termination of your system's glide slope. Experienced skydivers call this "the spot that doesn't move." You can use this skill to forecast range during long spots, as well as to become consistently accurate on landing. Just know that the spot is more apparent when you're near the ground and in close proximity to objects. Through experience and refinement, you will be able to pick up on it from greater heights and distances. Remain in one continuous flight mode to keep the flight path stable. Changing the glide slope through the application of canopy inputs changes the location of the "spot that does not move." In addition, wind influences your system's range potential (addressed in the next installment).

Let's first look at the two extreme ends of the spectrum:

Looking straight down—Position the tape so you're looking between your feet and you will notice that objects on the ground move toward the tape from above. This illustrates how, when you're looking below the glide slope, objects move *down* in your visual field.

Looking at the horizon – When you position the tape on the horizon, you'll notice that objects move toward the tape from below. This shows that when you're looking above the glide slope, objects move *up* in your visual field.

The glide slope is located somewhere in between the two extremes.

The Accuracy Trick

While in flight, position your head in such a way that the piece of tape eclipses a particular object on the ground located in the direction of your trajectory. As you continue to fly in a straight line, notice whether you must raise or lower your nose to keep that object eclipsed. If you must move your nose down, that means you will fly past (overshoot) the object. If you must move your nose up, then you will not reach (undershoot) that object.

The goal is to be able to identify the viewing angle at which the tape eclipses a part of the ground that does not require your head to rotate up or down. Once you have figured out how to determine your range potential at trim speed (full flight), try experimenting with using rear risers or brakes to visually verify what affect these inputs have on the glide slope. Are you able to increase your range (repositioning the "spot that does not move" closer to the horizon)? If that spot moves closer to your feet, your range is decreasing. With practice, you will be able to identify the spot that does not move without the visual guidance from the tape. The "trick" in "accuracy trick," is to place the spot that does not move on top of your landing target through the application of inputs and relative position to the target.

Abnormal sight pictures

- When all objects are moving up in your vision and getting larger, then you are either coming straight down or traveling backward across the ground. This is typically associated with flying into a strong headwind.
- When all objects are moving down and getting smaller, then you are climbing. This can happen temporarily under canopy when encountering a strong thermal or when generating lift through inputs.

In next month's installment, we will expand on the materials covered here by taking a closer look at a canopy pilot's energy footprint.

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