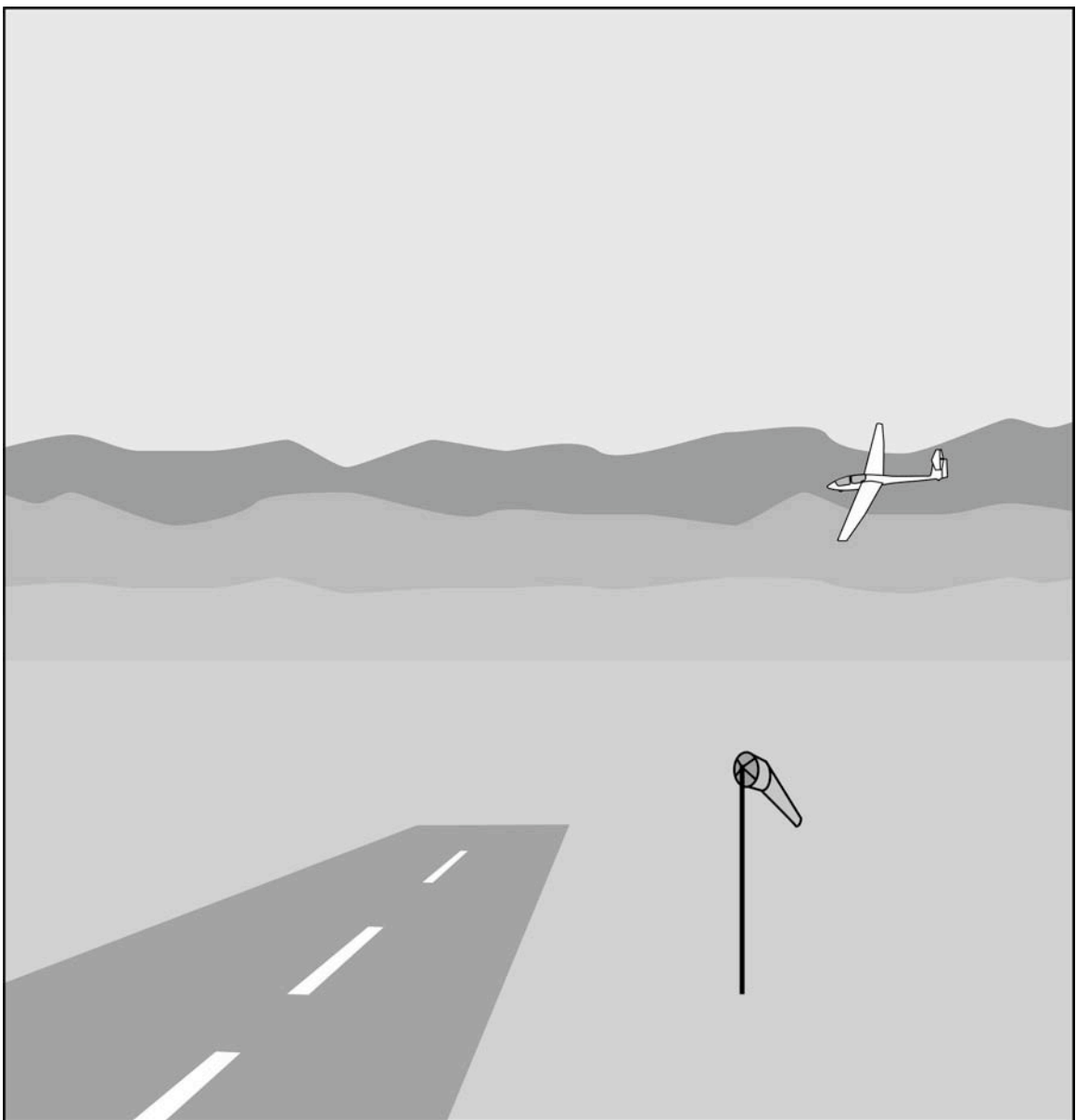


# CHAPTER 5: LANDING PATTERNS

The landing pattern serves various functions. It provides a transition into the airport environment, allowing for the smooth flow of traffic; it allows you time to examine the landing field to check for wind and obstacles on the ground; and it helps you to achieve a precise, smooth landing.

In this chapter, you will be introduced to the landing pattern, and you will learn to fly different types of patterns under various conditions.



## 5.1 Landing Checklist

### Purpose

A checklist is used to ensure that the glider is in the proper configuration for landing. In this lesson, you will memorize the pre-landing checklist and practice performing it before each landing.

### Procedure

The acronym "RUFSTALL" will help you to remember the landing checklist. You should commit the checklist to memory.

R - Radio

U - Undercarriage

F - Flaps

S - Speed

T - Trim

A - Airbrakes

L - Look

L - Land

When using a checklist, it is important to take the time to think about each item on the list. You should not simply mouth the words on the list and move on, or you may overlook important items.

You should start the checklist when you first enter the traffic pattern. You want to be close enough to the airport so that when you check the airbrakes, you can make it to the runway if they fail to close, but far enough away so that you have time to complete the checklist without being rushed.

*R - Radio*

You should check to see that the radio is on, set to the proper frequency, and that the volume is correctly adjusted. You should now make your pattern entry call.

*U - Undercarriage*

Even if the glider you are training in does not have a retractable undercarriage, you should include the "U" in the checklist. This will get you in the habit of checking the undercarriage and prepare you for the time when you do fly a ship with retractable gear.

If your glider has fixed gear, simply say, "fixed" for this part of the checklist. If the glider does have a retractable wheel, make sure you lower and lock the gear.

*F - Flaps*

While your training glider probably won't have flaps, get in the habit of including flaps in your checklist now.

If your glider does not have flaps, simply say, “fixed” for this part of the checklist. If your glider does have flaps, make sure they are properly configured for landing.

#### *S - Speed*

Decide what airspeed you will fly in the pattern. This should be the best glide speed for the glider, plus half the wind speed, plus half the maximum gust speed. For instance, if you have a 10-knot wind gusting to 20, you would add 5 knots for the wind and 5 knots for the gustiness. Call the speed that you have decided on aloud so that your instructor knows what speed you are aiming for.

#### *T - Trim*

Set the trim so that the glider will maintain the airspeed you decided on even if you take your hands off the stick.

#### *A - Airbrakes*

Open the airbrakes fully and confirm that they are operating normally, and then close them until you need them.

#### *L - Look*

Look for three things: traffic, wind, and obstacles. Look for traffic in the pattern. Look for the wind conditions on the ground. (Is the wind still from the expected direction? Is there gustiness?) Finally, look for obstacles on the ground, such as aircraft, people, or animals on the runway, or airplanes taxiing into position that might be a factor if they were to cut in front of you.

#### *L - Land*

Most people don't forget to do this one, but it makes the acronym look better! So for “land,” let's just say land safely and gracefully.

Once you have committed the checklist to memory, you should use it each time you enter the pattern, calling out each item in the list as you attend to it.

#### **Common Errors**

- Not starting the checklist early enough
- Failure to perform the checklist
- Skipping items due to distractions
- Failure to fly the glider while performing the checklist

#### **Completion Standard**

This lesson is complete when you have memorized the RUFSTALL checklist and use it before every landing.

## 5.2 Introduction to the Landing Pattern

### Purpose

A landing pattern provides for an orderly entry into the airport and gives you time to familiarize yourself with the airport and conditions. In this lesson, you will learn how to fly the landing pattern using the stick and rudder, while your instructor controls the airbrakes.

### Procedure

#### *The Pattern*

There are four “legs” to the pattern: the crosswind, the downwind, the base, and the final. A left pattern is one in which all turns are to the left, as shown in Figure 5.1, and a right pattern is one in which all turns are to the right. Unless otherwise specified, a left pattern is standard.

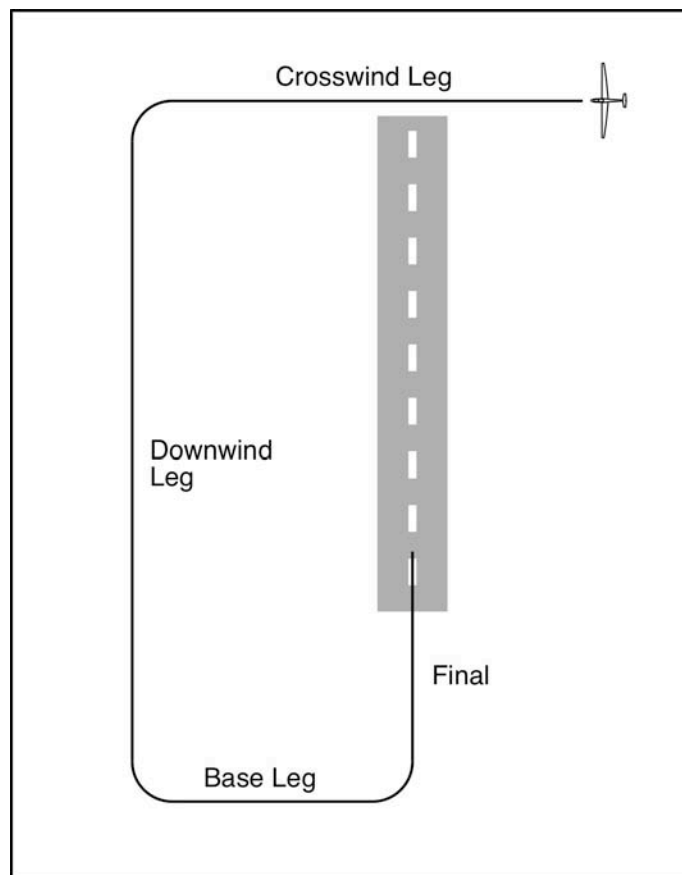


Figure 5.1 – The basic landing pattern

When entering the pattern, you should perform the pre-landing checklist you learned in the previous lesson. Most gliderports use an initial point (IP) as the beginning of the pattern. You should have between 800 and 1,500 feet of altitude AGL when you reach the IP. Your instructor will tell you the desired pattern entry altitude for your airport.

There are different ways to enter the pattern, though for the most part, you will be using either a crosswind, downwind, or "45" entry, as shown in Figure 5.2.

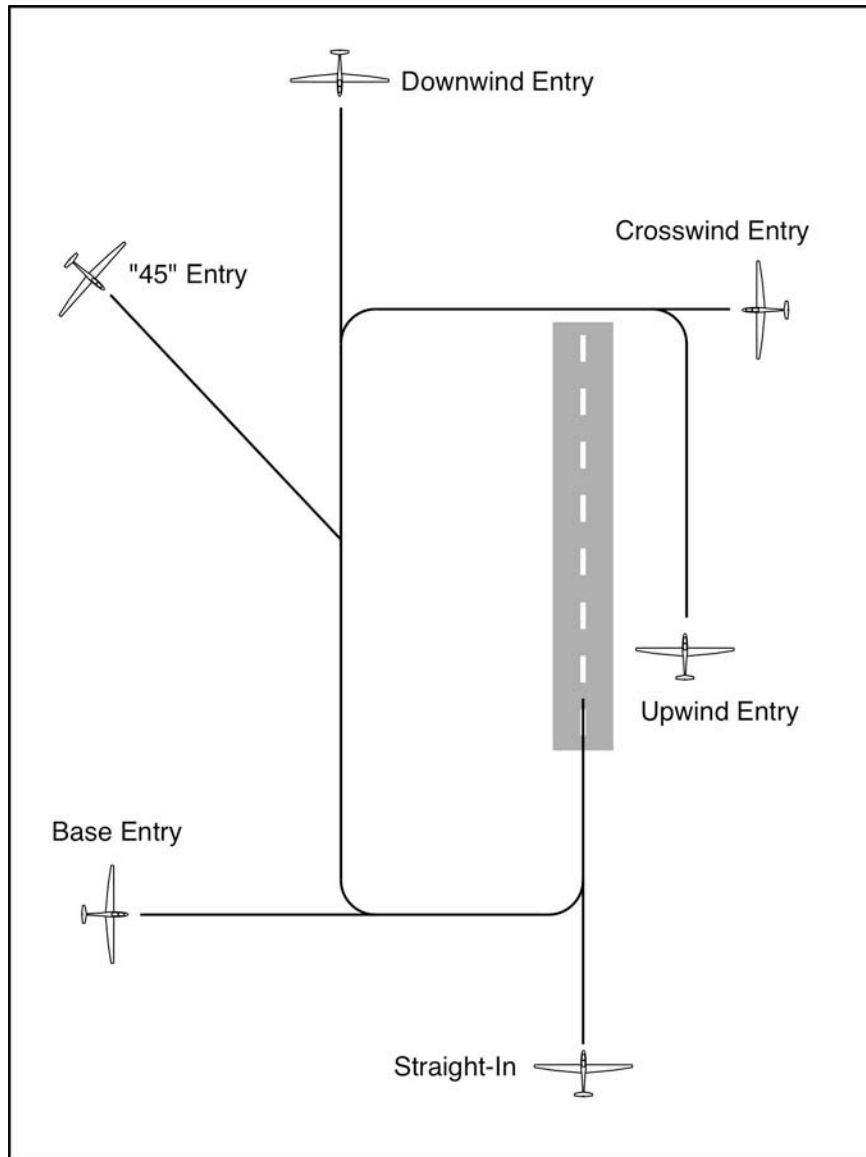


Figure 5.2 – Pattern entry options

A crosswind or upwind entry gives you the best view of the airport. You should only use a base entry or a straight-in approach if you do not have enough altitude for a normal pattern.

### *The Downwind Leg*

You should turn from your crosswind leg (or from your 45 entry) onto your downwind leg when the runway centerline, or an extension of it, is 25-30° below the horizon. Using angles automatically compensates for variations in altitude. If you are high, you will turn downwind further from the runway, and therefore