FOUNDATIONS OF FLIGHT
RAM-AIR PARACHUTE AND CANOPY CHECK

AXIS Flight School®

Brought to you by Niklas Daniel and Brianne Thompson of AXIS Flight School at Skydive Arizona in Eloy. Images by Bruce Fournier.

WELCOME BACK!

After taking a two-year break since the last Foundations of Flight installment, AXIS is excited to announce that it is back with a new focus and look. Past articles (available at axisflightschool.com and parachutist.com) covered a wide range of skills and disciplines, but the new series is focused on specific canopy-piloting concepts. Using illustrations from the AXIS Skydiving app, this column will discuss one aspect—such as construction, a physics concept, a procedure or a flying technique—of a specific piece of equipment. Think of this column as a supplement to professional canopy coaching and a conversation starter rather than a substitute for training.

INTRODUCTION

There is much more to a parachute than just a nylon wing and some strings. Each component—which includes the canopy pilot—contributes to the performance of the parachute. A skydiving parachute is first and foremost a lifesaving device that is intended to be deployed at freefall speeds. Therefore, their design and construction are in many ways limited by their primary function. The canopy ride is not a necessary evil that lets you jump again, but instead completes the skydiving experience with a skill set all jumpers share. Developing skill under a wing that is appropriate for your level of experience and currency is much more rewarding than rapidly downsizing or relying on gimmicks. If you are looking for higher performance, approach the progression as growing out of a wing rather than into one.

EQUIPMENT: RAM-AIR PARACHUTE

A ram-air parachute is a nonrigid-textile wing with an aerodynamic cell structure. Inflated by the relative wind, a parachute requires constant pressurization to produce an airfoil shape. This is accomplished by using the airflow created as a parachute moves through the air, which gives it the name "ram-air." Most commonly made out of a ripstop nylon, ram-air parachutes are flexible wings which are capable of much more complex behaviors than a ridged fixed wing found on an airplane. Ram-air parachutes have an arc-anhedral design (curved), which places the wing tips below the level of the center of the wing. The arched wing shape has spanwise (side-to-side) bumps, which are the result of the bulging of each cell as they are inflated with air.

CONCEPT: CANOPY CHECK

To determine whether you have a properly functioning main parachute, ask yourself these three questions after you have thrown the pilot chute:

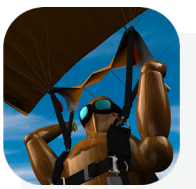
1 | **There?** Visually confirm that there is parachute fabric over your head.

2 | **Square?** Determine if the shape of the wing is symmetrical.

3 | **Flare?** Ensure you can steer and land the parachute using a controllability check. This entails making left and right turns, as well as a full flare (a simulated landing).

If the answer to any of the above questions is "no," and you are unable to remedy the situation, proceed with emergency procedures at or above your decision altitude.

Information about AXIS' coaching and instructional services is available at axisflightschool.com. *The authors intend this article to be an educational guideline. It is not a substitute for professional instruction.*



More educational skydiving content, as well as this free article, is available by downloading the AXIS Skydiving app on your smart device.