recovery system awareness

by mike and pam barton

Pam and Mike Barton are the founders of b2 Rocketry Company, manufacturers the SkyAngle recovery system. Both have been involved in high power rocketry for many years and are very active in the sport rocketry community.

One of the most appealing features of our hobby lies in it's room for diversity. Some of us love the design aspect of our projects for instance, while others really get into the construction phase. There are those who join clubs and attend launches simply for the fellowship and camaraderie to be enjoyed. And of course, everyone has met at least one "propellant junkie" who seems to just want to burn AP any way possible! Regardless of your interests and capabilities, there really is something for everyone in rocketry.

Within this world of varying specialties, however, it's sometimes easy to loose sight of how a lot of things have to come together just so for a successful flight. Ignoring how interrelated the essential aspects of rocketry are virtually guarantees you are not going to get your rocket back safely and/or intact. Too much focus on one aspect may not hurt, but not enough attention to other aspects can spell failure. Nowhere in rocketry is this axiom more true than in matters of recovery.

We'll concede recovery may not be the most glamourous aspect of rocketry to some of you. (We even know those that in fact see it as a necessary evil!) But it certainly is one of the most important concerns of a flight, and perhaps the least understood and appreciated. In contrast, we could easily argue that propulsion is the most emphasized aspect of rocketry. Most fliers are understandably very aware of the make, type, and characteristics of the motor they are about to ignite, and we certainly applaud this. But it never ceases to amaze us how rocketeers spend hours discussing engine selection and performance while quoting chemical composition, ISP info, and thrust curve data points from memory and yet know beans about their recovery system.

We know fliers—advanced fliers at that—who couldn't tell you the recovery weight of their rockets or the capacity of the chute(s) they use. And even if they were willing to plug in a drag coefficient into a descent rate equation, where would that number come from? Would it be accurate for the specific chute in question, or just a wild guess?

It's painfully clear to us that, in general, the average person's criteria for selecting a parachute is far less sophisticated than what transpires in choosing a motor. And yet the stakes are just as high, if not more so. Poor judgment in recovery can be more serious than poor judgment in motor usage. What's needed is more information, awareness and education.

The suppliers of parachutes for our hobby must bear the lion share of responsibility for this condition, in our opinion. Let's face it, enormous amounts of testing and data collection is done by and on behalf of motor makers. Legal and certification requirements aside, the information supplied as a result is expected and demanded by fliers wanting to make informed decisions. This is not the standard with companies who provide parachutes, however, and that's unfortunate. This is not to say we want regulation like that found in the motor side of the industry. We certainly do not. But fliers too often have to take it on faith that what little info, if any, supplied by their recovery company is valid and the result of scientific testing. It is our experience that this is rarely the case and claims of weight capacity in particular are frequently exaggerated or omitted altogether. This we see as a disservice to the hobby. Those of us who make recovery products need to contribute more when it comes to documenting the use of the data we provide and support for the items we sell. A slick full color ad or web site with lots of bold marketing claims may be fun to look at, but it doesn't mean all that much in the real world on the field when it's time to fly.

We invite High Power flyers to take a closer look at their recovery choices and their reasons for those choices. You spend a great deal of time and money on your projects. It's the parachute that brings this investment back. More often than not, it's the parachute that determines a safe flight after altitude is reached. So we urge you to not make any less effort in parachute selection than you would motor selection. And don't let your parachute maker off the hook by not demanding sufficient reliable data on his product that you can count on and use.

To further recovery system awareness and education, we feel Prefectures and Sections should make it a point to have a place on their flight cards for the brand, make, and size of the recovery system in use. LCO's should mention this information as a normal part of the flight dialog and commentary. RSO's and TAP members need to insist on the submission of adequate recovery-related documentation appropriate to the rocket they are approving. Doing so can only improve the current state of recovery in rocketry. We salute those individuals and groups who already take the recovery side of their launches this seriously.

Above all, we call on manufacturers and suppliers of recovery systems who haven't already done so to make available accurate and truthful assessments about the performance of their products so a flyer can make an informed choice.

Note: The opinions expressed in this article are those of the author and do not necessarily reflect the opinions or attitudes of Extreme Rocketry magazine.