



Queensland Rocketry Society

How to fold a Hexagonal Parachute

By Logan Groth

There are many ways to pack a parachute to fit into a rocket airframe. Some people have success with the scrunch-roll-and-stuff approach. Other people just cram the parachute into the airframe any old way they feel like at the time. Here is a step-by-step approach to turn your bulky parachute into a compact bundle and still give you reliable deployment.

The folds performed are slightly different depending upon the shape of the parachute canopy. These instructions describe how to folder a hexagonal-shaped parachute. The QRS website contains separate articles for folding octagonal parachutes and X-form parachutes.

1. It is a good practice to use a swivel and a snap connector to attach the parachute to the shock cord or the nose cone of the rocket. The picture on the right shows a swivel with snap connectors on both ends. The swivel reduces the likelihood of tangles in the shroud lines, and the snap connector enables you to attach and detach the parachute quickly and easily.



These instructions assume that the parachute is detached from the rocket between flights. The folding process is just a little easier when you don't have to work around the shock cord.

2. Lay the canopy of the parachute out on a flat surface with the underside of the canopy facing up. Pull the shroud lines towards you.



If the parachute canopy is made of plastic, it is a good idea to lightly dust it with talcum powder (baby powder). This will prevent the plastic from sticking if it "sweats" in humid weather. Ripstop nylon does not normally "sweat" so it doesn't need talcum powder.

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3. Fold the canopy in half (along the dotted line in the picture), by bringing the "top" half of the canopy down toward you.



4. Line-up all the corners and pull the shroud lines towards you.



5. Fold the left side and the right side of the canopy inwards (along the dotted lines in the picture) to form a triangle.



then



6. Line-up all the corners and pull the shroud lines towards you.



7. Lay the shroud lines down the centre of the canopy so that only a short length is protruding past the edge.



9. Fold about 1/3 of the left-side of the canopy over, toward the centre. Then fold about 1/3 of the right-side of the canopy over.



Then



10. Keep folding the parachute until the widest part of the canopy is about the same width as the rocket's airframe.



10. The canopy should now be a long thin shape. Fold the canopy in two places (along the dotted lines in the picture) to form a zig-zag shape.

If your rocket airframe is very narrow, you can just fold it in half (i.e. make just one fold). If the airframe is relatively wide and short, you can make more than two folds to form a concertina shape.



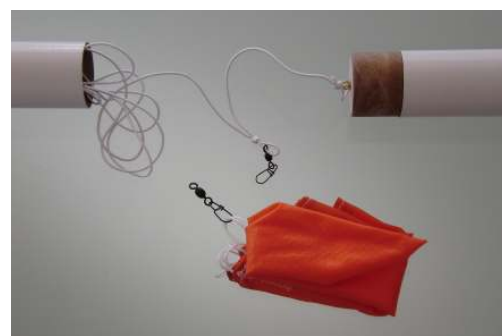
11. The parachute should now be small enough to fit inside the airframe.



12. Unless the rockets has a piston or ejection baffle, place wadding or some other type of ejection shield into the airframe.

Do not wrap the shock cord around the parachute.

Neatly coil the shock cord into the airframe before you insert the parachute. This way, the shock cord will be pulled tight before the parachute is unbundled and snaps open. "Zippers" in the airframe can be caused when the shock cord is loose when the parachute snaps open.



13. Pack the folded parachute into the airframe so that the end with the shroud lines is pointing upward (i.e. pointing toward the nose cone). Most of the shock cord should already be inside the airframe, with only enough hanging out to allow you to attach the parachute.

Open the snap connector using pliers and attach the parachute to the shock code or to the nose cone.

Your parachute is now ready for lift off. Happy flying!

