

Hi, everybody...hope your flying season's going well so far. The weather in Michigan's been a little rough lately for flying (LOTS of rain), but hope yours is going well.

Today we have five different new developments at PML to tell you about!

### **Quantum Leap II Kit**

The new Quantum Leap II kit! The Quantum Leap has been a favorite two-stager for many experienced high power flyers, and with the development of our recent Interstage 3000 interstage coupler system, we've now integrated that system into the Quantum Leap as well, making it into the Quantum Leap II. The QLII is essentially identical to the QLeap you may have seen flown or flown yourself, except for the addition of the Interstage 3000 system (and the addition of 1/2" to the overall length of the rocket because the IS3000 is 1/2" longer than the original interstage coupler). The old Quantum Leap is gone forever; long live QLII! (You can find more information on the Quantum Leap II in the webstore at [www.publicmissiles.com](http://www.publicmissiles.com) in the Extreme Altitude section).

Also, PML highly recommends that you install an electronic parachute deployment system on the sustainer stage of the Quantum Leap II. This will help prevent the sustainer stage from coming in ballistic if the motor of the sustainer stage fails to ignite (which obviously will mean no motor ejection charge ignition!). Of course, everyone's design is different, so you may need to modify the kit with additional airframe or other parts not included. Don't feel comfortable with scratchbuilding your own electronic deployment system for the sustainer? Not to worry, read on...

### **Quantum Leap 3000 Kit**

So, not comfortable designing your own sustainer electronic recovery? No problem...not everybody wants or likes to scratchbuild, so we've already done the hard work for you. Introducing the new Quantum Leap 3000 kit, with our CPR3000 electronic parachute deployment system AND the Interstage 3000 system already integrated into the kit! Of course any high-power two-stage kit is going to be capable of awesome altitudes, and we've always wanted to bring our CPR system into the Quantum Leap, and now it's here. Everything you need for a CPR-equipped two-stage HPR monster is in this kit, ready to go (except of course, for electronics), including an even MORE detailed instruction booklet than usual.

So, want an HPR two-stager with a little room left for your own creativity in design? Get the Quantum Leap II, and design in your own electronic deployment system for the sustainer. Want a complete turn-key solution for one of the most exciting, high-tech, and high-performance kits available in high power rocketry today? Order up a Quantum Leap 3000! (You can find more information on the Quantum Leap 3000 in the webstore in the CPR-Based Kits section).

### **Quantum Leap II and 3000 Additional Data**

We've also provided additional data on the Quantum Leap II and Quantum Leap 3000 on the website for you. There is a ZIP file of the RockSim files for the QLII and QL3k on

the RockSim page of the website. The KitSpecs and Motor Recommendations Charts on the Specs Page have also been updated with the new Quantum Leap kits as well.

### **Daveyfire N28F Electric Matches**

In the last PML News we told you about one of our newest offerings, the Daveyfire N28BR electric match. It's great for CPR electronic (or scratchbuild electronic) ejection charge ignition, but isn't the best for motor ignition in onboard electronic systems. It simply burns too quickly to generate enough heat for reliable motor ignition. Now we also carry the Daveyfire N28F electric match! The N28F is much better suited for onboard motor ignition, though it is advisable to dip the N28F in one dip of Magnelite igniter pyrogen to give it a little extra "oomph" to ignite a motor. Of course, we recommend our Magnelite or Rapidfire igniters for ground-based motor ignition where current requirements aren't an issue. But for onboard airstart ignition of cluster motors or of second stage motors, we now carry the Daveyfire N28F (and the Magnelite pyrogen as well). See our Igniters Page in the webstore for info on all our igniter offerings.

### **Parachute Packing Volume Matrix**

One of the questions we get a lot is "how much room does it take to pack an X" parachute into your Y" diameter tubing?" Well, we've now produced a Chute Packing Matrix and put it on our Recovery Page in the webstore to answer those questions for you. (We also put our Tubular Nylon shock cord in there, too). So, next time you're scratchbuilding using PML components and need to figure out how much room to leave for the chute and TN, come to our site and get a copy of this handy little chart.

All the data in the chart was produced by folding our 'chutes as we recommend in the link also on the recovery page. (Though for some chutes you'll see a dramatic difference in length necessary from one size to the next larger one. This is because for the smaller diameter tubing, we folded the chute as we recommend in the link, but then rolled it tight to make a "hotdog" that would fit into the smaller tube. If we hadn't done this, the chute simply wouldn't have worked in that size tubing. For the larger diameters up from that size, the chute packed without the "hotdog" rolling, and were measured as they fit folded per our instructions). Of course, the specs given in the chart are approximate, and I'd always want to leave a bit of "wiggle room" to make sure you have enough room in your project.

That's it for today. We're always trying to produce new kits, new systems, and provide new, useful information to you. Have fun, fly safe, and thanks for your support of PML!

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