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Subject: PML News: Volume 13
Date: Monday, May 24, 1999 7:43 PM

PML News: Volume 13

New kits--New RKT files--Updated Kit & Motor/Altitude/Delay
Specs--Strengthening recommendations

Whew! It's been a heck of a last couple of weeks. There's so much to tell
you about I'll just pick somewhere and get started.

"NEW" KITS

First of all, we're about to re-release three of our very popular kits, the
Miranda, Explorer, and Tethys! These kits were always good sellers and flyer
favorites, but we had to move 'em out about a year ago to make room for new
products we released (like the AMRAAM-2, Phantom, Little Lunar Express, and
Lunar Express). Now that that's settled down, we're bringing back these
three great kits. The Miranda and Tethys will be reintroduced again in our
standard phenolic tubing, but the Explorer's back with our latest airframe
tubing, Quantum Tube (QT). All three kits will be available to order
starting in the beginning of June, 1999. Please see your dealer or call PML
direct (888-PUBLICM, orders only please) to order these kits. It's going to
take a while to get them on the webstore due to some website changeover
issues.

TRULY NEW KITS

Second, we're now announcing June, 1999 release of an all-new kit, expanding
our line of smaller versions of PML favorites.the 2.56" Small Endeavour! The
Small Endeavour is an exact duplicate of our Endeavour and Ultimate
Endeavour, only smaller and with our new QT airframe tubing. As above,
please see your dealer or order direct; the Small Endeavour may not show up
on the webstore for a while.

(By the way, now's a good time to mention that any of our kits that are
standard in QT can be made with phenolic if you prefer it. QT or phenolic,
your choice. If you wish to order any of our 2.1 or 2.56 kits that now come
standard in QT with phenolic instead, just specify phenolic when you order).

SPEC SHEET UPDATES

We've added the following kits to the Kit Spec and Motor/Altitude/Delay Spec
Sheets: Miranda, Explorer, Tethys, and Small Endeavour.

We've added a few simulations for some Thunder & Lightning and Quantum Leap
2-stage flights to the Motor/Altitude/Delay Spec Sheet.

We also added the Ultimate Endeavour on a single-54mm central motor to the
Motor/Altitude/Delay Spec Sheet. (Our simulation software, RockSim 4.0,
currently does not allow a central 54mm surrounded by (3) 38mm motors, so we
can't simulate "full-up" Ultimate Endeavour flights for you right
now.sorry.)

STRENGTHENING RECOMMENDATIONS

Many customers have, from time to time, asked us about strengthening
recommendations for certain "vicious" motors in certain kits. Frank has
always helped me sort through these questions, but I finally pinned him down

to come up with more than his (admittedly great!) "gut feel" for when a kit should be strengthened. So, after careful thought, our strengthening rationale goes like this:

Any of our kits that are 2.56" or greater that will reach equal or greater than 0.85 Mach need to be strengthened. (I'll tell you how to strengthen in a minute). Here are the calculations so you know the raw numbers:

Mach 1 @ STP (Standard Temperature & Pressure) = 1116 ft/s (fps) = 760.9 mph
1116 fps x 0.85 = 948.6 fps
760.9 mph x 0.85 = 646.7 mph

Therefore, PML kits 2.56" and larger should be reinforced for >950 fps or >650 mph flight.

Now, how to strengthen the kits? We recommend the following changes for any "yellow-highlight" kit and motor combination: fully-glassed airframe, thicker fins (0.063" should go to 0.093", 0.093" should go to 0.125"), fin-to-airframe joints should be glassed, and 30-minute epoxy should be used throughout the build. Also, we say so in all the instructions, but make sure you lightly sand any area to be bonded! This is important to get a good "bite" on the materials for the epoxy. As far as QT goes, we feel it should be fine going Mach. We've flown a couple test flights beyond Mach with it and it held up fine to the eye in a clear blue sky, but to be honest, we never did get the rockets back so we can't say for sure! What we can say is that we never saw them break up, and that "gut feel" of Frank's I told you about says the QT should hold up just fine. Something else to remember about strengthening your kits: you probably should upgrade one 'chute size to compensate for the weight of the 'glassing as well. Contact PML at 810-468-1748 9-5pm EST M-F to determine pricing changes for 'chute upgrades (I just handle the tech stuff!).

OK, I've also just finished updating the Motor/Altitude/Delay Spec Sheet to show kit and motor combinations for which PML recommends strengthening (basically, show you which motors should not be flown on a stock kit). This is shown in the spec sheet by a yellow color block on the kit/motor combo in question. This will print out as a light gray background on a black and white printer so you can still tell the which motor/kit combos are highlighted if you print out and put the spec sheets in your range box.

The Motor/Altitude/Delay Spec Sheet also has another form of highlighting to help you. Some of the newer super-long motor casings will not fit in our stock kits, though the kits may be able to be modified to accept the larger motor. Therefore, we've marked the kits which will require a custom motor mount configuration to have bold type for the altitude and delay data. Also, (no big surprise) most of the kits with the bold letters are also yellow, meaning they'll need strengthening as well as that custom motor mount. (By the way, the highlighting scheme is also noted on the spec sheet itself, so you don't have to remember all this!)

RKT FILES:

I've also posted RKT files, the files that RockSim 4.0 uses, for the following:

Miranda, Explorer, Tethys, Small Endeavour, Thunder & Lighting (2-stage sims added), Quantum Leap (2-stage sims added), Ultimate Endeavour (54mm sims added).

OK, I think that's about it. (That's enough for now, isn't it?). All this new information can be found on our Annex Site, and will eventually make its way to our main site. The PML Annex Site is at:
<http://members.home.net/adwaddell/>

I apologize for the rather lame Annex Site, but I'm a rocket guy, not a web guy, and the information's there. Good enough! Thanks again for your support, and feel free to email me at any time (even weekends) if you need help. That's why I'm here!

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