

Recession Proof Your Rocket Club

Crazy-Insane Ideas that You Can Use to Grow Your Organization (Part 2 of 2)

Question and Answer Corner

More On Designing Rear Ejection Rockets, Finding the Burnout CG Location Using RockSim, and Why Do I Talk So Much About RockSim?



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Building Your Rocket Club During a Recession

By Tim Van Milligan

In the last newsletter (<http://www.ApogeeRockets.com/education/downloads/Newsletter212.pdf>), I presented some ideas that could help your rocketry club grow and get more members. I listed three crazy-insane ideas to start with. I call them crazy-insane because I know that your club has never done them before, and they may seem strange and new.

In actuality, they are not new. They are borrowed from the business world, where it is important to be as efficient as possible. If you are wasting your energy and money on things that have little chance of bringing in a big return, then your club will eventually wither away and you'll lose those hard-core members that are vital to a vibrant organization.

We'll pick up where we left off in the last article, and dive into the next three ideas to use to grow your club.

Crazy-Insane Idea #4 – Work with manufacturers, instead of ignoring them

Manufacturers and rocketry vendors have a very similar mission to your club. They want to find the "A-Level" rocketry prospects that will stick around a long time.

Your club's "A-Level" members are probably in my list of "A-Level" customers.

It is important that you see the implications of this statement, because if you do, you will realize that clubs and rocketry vendors can team up and help each other to grow the hobby in ways that neither can do on their own. We can do this by reducing the leg-work need to find the "A-Level" people. We can share resources instead of duplicating the same work.

Why doesn't this happen now? That is a great question that needs to be discussed.

My hypothesis is that rocketry clubs feel that they know more than the vendors about how to attract new people to their rocketry organizations. I can understand where the belief comes from. After all, almost everyone in the hobby considers themselves a "rocket scientist." And for the most part, that statement is true; there are more smart people in rocketry than you'd find anywhere else.

However, this is a marketing issue, not a technical one. Marketing is a lot different than coming up with a new and cool-looking rocket design. When it comes to getting new people into the hobby, I'd like to propose to you the crazy-insane idea that capitalists (vendors) are far more efficient at getting people hooked on rocketry. A big part of the reason why is that rocketry organizations made up of volunteers recruit only on a part-time basis, while the capitalists are doing it full-time. If they are successful about it, their business grows. If they are unsuccessful, they die.

I propose to you that it may be possible to have vendors grow your membership. In fact, I believe some of this has been going on for a long time and you don't even know it. But before I present the proof of that, let me explain what currently happens.

Rocketry organizations think that growing their organization can be done by holding events and giving away freebies to visitors. The concept is that if you give away a rocket kit for free, the people receiving it will come back to the club in the future to launch that rocket. Seems to make sense, doesn't it?

With this assumption in mind, the club assigns a person as a vendor liaison to request donations for the door-prizes. In return for the donation, the club offers up something in return. And that something is always the same thing: "exposure." The club will announce the vendor's name over the public-address system, and put their logo on their web site.

Before I go on, let me say this so that you have no doubt in your mind: all "donations" are in the category of being an advertising expense to the vendor. They donate in hopes that it will bring a return in new business. If it doesn't bring a return, then it was a wasteful investment, and it probably won't be repeated.

So when the club offers advertising exposure, what does that really mean? And who are the people that are being targeted with the advertising exposure?

Think about that for a second. They fall into one of two groups of people. The first group is current club members that are already the company's current customers. Why

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About this Newsletter

You can subscribe to receive this e-zine FREE at the Apogee Components web site (www.ApogeeRockets.com), or by sending an e-mail to: ezine@apogeerockets.com with "SUBSCRIBE" as the subject line of the message.

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would a vendor want to spend the money on people that are already aware of his products? The second group is spectators that the vendor has no idea about. These spectators are probably in the D-Level or C-Level category of prospects. At best, they might be a "B-Level" prospect because they are there at a rocketry event.

But remember what I said in the previous crazy-insane idea: "only go after A-Level prospects with your advertising and marketing dollars." Do you think that only applies to clubs? That also applies to vendors too; and vendors are acutely aware of that as they are paying bills every single day they are in business. When the club asks for donations, they are asking the vendor to chase "C-Level" prospects.

What about the website exposure that the club offers? Isn't that worth anything? Unfortunately, it isn't worth more than a dollar or two. Actually, it is probably only worth a few pennies, but I'm being generous by rounding up significantly. I study this stuff, because I run an internet business. I look at conversion rates, which are the number of people that buy things versus the number of people that visit a web site. What do you think a good conversion rate is among rocket vendor sites? Would you believe it is lower than 0.1 percent? That means that one out of every 1,000 new visitors that come to a vendor's web site are going to buy

something.

And the exposure is worse than that, when the advertisement is on the club's web site. If the club's website has a click-through conversion rate of 0.1 percent, that means 1000 people have to see the ad before even one person goes to the vendor's web site.

This is simple math. You'd need 1000 new people to see the advertisement on the club web site in order for one person to get to the vendor's web site. And the vendor needs 1000 people to come to his web site to get a single order. So how many new people need to see the advertisement in order for the vendor to get that first order? It is 1000 times 1000 -- or 1,000,000 new visitors to the club's web site.

Be realistic. The club is not going to get 1 million hits to the page containing the vendor's advertisement.

Do you see how the exposure of a simple "logo" placed on the club's web site is not worth even a few pennies to the vendor?

I wrote about this problem 8 years ago (see *Peak-of-Flight Newsletter #13*). The vendor doesn't want to spend money advertising to "D-Level" prospects. It is a waste of precious money. He would be giving up control and has no

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way of knowing what value-level of prospects he is spending his advertising money on.

Because of this, the “exposure” the club is offering is vastly overrated. In fact, I contend in another crazy-insane idea that it doesn’t work at all for increasing vendor sales. In other words, it is a contributing factor that could put vendors out of business altogether.

It is not a win-win situation from the vendor’s perspective, and therefore the response rate of donation requests is pretty low. Ask your club’s vendor liaison if I’m not right. If it was a lucrative situation for the vendor, they would be beating down your club’s door to offer prizes for the club to give out at launches.

I’ll go out on a limb here and say that a majority of vendors probably feel like they are being exploited by clubs in this type of situation. They feel that if they don’t offer up prizes that the club will retaliate and say bad things about the vendor being too cheap. I’ve heard some nasty things said about Estes in this regard, so I believe that it is at least partially true.

There has got to be a better way for clubs and vendors to work together. Wouldn’t you agree? After all, both parties have the same objective of finding long-term rocketeers.

In *Peak-of-Flight Newsletter #13* I offered up a few options to the basic “please send donations” letters that clubs send vendors. If you read through the suggestions, you’ll notice an underlying theme. It is: “How can our organization help you, the vendor?”

That is a crazy-insane concept, isn’t it? It seems to put some burden on the club to help someone else make money. And you’re right; it does.

It doesn’t seem fair, does it? I contend to you that it is the only way to change the status quo of vendors throwing your donation requests into the trash can.

What clubs don’t realize is that vendors and manufacturers have been doing a lot of the recruitment for rocketry organizations around the country. They see it as they’ve already helped out the club. They are waiting for some reciprocal exchange from the club to even up the score.

Here’s an example of how it works (and this happens every day with nearly every vendor). Say a vendor does some advertising and generates some interest for rocketry in a potential customer. That person goes to the vendor and identifies himself as an “A-Level” prospect. He does this by asking the vendor some well thought out questions, one be-

ing: “where can I launch this rocket?”

In order to close the sale and make money, the vendor is then going to push that “A-Level” prospect to the local club in their area. Without doing anything, the organization got a new recruit that has been identified as having a high potential to be an “A-Level” member.

Sure, the vendor got the sale. But two things are going through his mind. First, he paid for that sale in the advertising that he had to do to get that potential customer to come to his store. And second, he helped out the club by bringing them a pre-qualified prospect.

That second thing sticks in his mind, because there hasn’t been an equal exchange from the club to help him grow his business. So when the club comes and asks for donations, the vendor is thinking: “I’ve already donated, and now you want even more?”

You probably don’t even realize it, but there is an adversarial relationship that exists between clubs and vendors because of this situation. It needs to change for the hobby to grow as the economy goes further into the recession. That leads us to the next crazy-insane concept...

Crazy-Insane Idea #5 – Recognize that all vendors have a different value to the organization.

If individuals bring different value to the club, it stands to reason that each manufacturer/vendor will have a different value too. Some vendors bring more recruits and help the club more than other vendors.

Can you think how your club might rank vendors/manufacturers? As a starting point, think of what might be the outcome if vendor “XYZ” were to go out of business and remove all its products from the market. What impact would that have on your club?

Immediately, the companies that come to my mind are Estes and Aerotech. They would have the biggest impact on rocketry clubs if they went out of business because they are the major suppliers of motors.

I would rank Apogee Components near the top too, but for a different reason. While we aren’t a big donator of kits and raffle-prizes, we give away far more FREE stuff than any other company. Just look at the free downloads that we have on our web site. I ask you to compare this useful information to any other vendor. Apogee is a supplier of indispensable rocketry information that helps you learn more and have more fun in the hobby. You’re reading this and

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learning something new, right? We are also on the leading edge of rocketry and talk to more newbies than most other vendors. We funnel a lot of potential club members to you (see: http://www.apogeerockets.com/Launch_sites.asp)

Why rank vendors? Because it will help you to set a priority and so that you can develop a rewards system for them like you do for your own members.

Is there a parallel to this in the business world? You better believe it! It is rewarding your suppliers. Here at Apogee, we have certain suppliers that rank higher than others, and we treat them better. We give our best suppliers more business than the ones that don't rank as high. We even tell our lower-ranking suppliers what they can do to raise themselves up. Mainly that involves keeping their ship-date promises.

You need to start rewarding your best vendors, or they will take their business somewhere else. Why? Like the way people know what their value is (example: a First-Class passenger on an airplane), every manufacturer has a good idea where they rank in value to a club or organization. And they expect that they will be treated differently based on that.

How do you come up with a rewards system for vendors? I already mentioned that. You simply ask them, "How can our organization help you, the vendor?" They will be more than happy to help you come up with a rewards system. I can assure you that it will be more than fair. I

don't know any vendor that is unethical and would take advantage of a organization's offer to help them make more money. For one thing, I think a vendor would be flabbergasted to hear a club say they want to help them out. It is something as rare as a \$2 bill.

Crazy-Insane Idea #6 – Solicit help from your national organization that you are affiliated with.

I was very pleased to hear that Tripoli has recently offered money grants to its local prefectures to help them upgrade equipment. In fact, I was stunned! This has to be the first new program in the last six years coming from a national organization that has a direct benefit to the local clubs.

I can think of only a few programs that the HQ's have in place that benefit the clubs by helping them get new members. The best program of all has to be high-power certification. In order to get certified, a new person has to go to a local club. There need to be more programs like that, and that is what I'm talking about in this crazy-insane idea.

Another program that has a potential benefit to the local clubs has been the TARC competition. Here again, the schools are forced to go to the local clubs, and that is great. The only problem with TARC (from a recruitment standpoint) is that it targets a group that I'd consider "D-Level" status. The students in TARC don't have a high probability of staying with the club for more than 10 months.

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Model Rocket Design And Construction

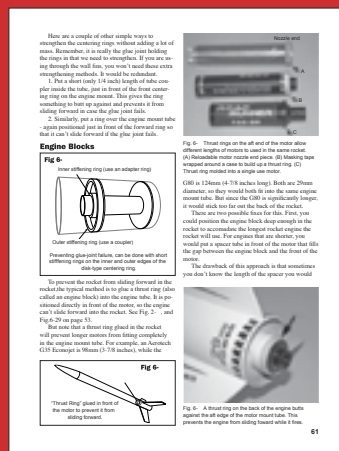
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But the point is, when was the last time you asked the NAR or Tripoli headquarters for help in recruiting new club members? A better question might be: what can the national organization do to help you in recruiting new club members?

I think back to crazy-insane idea #5 where the organization can team up with manufacturers to grow the hobby. There is nothing like that going on at the national level. You might ask why not.

Conclusion

I wrote this article because I want to help clubs to grow. It has some different tactics on growth than what you've probably heard of in the past. But then again, I'm not one to buy into traditional methods of doing things. If everyone is doing them, then they have a low probability of success.

To be honest, I'm not going to hold my breath while I wait to hear about any club that will try these ideas. As I mentioned in this article, I wrote stuff 8 years ago about how to approach manufacturers for donations, and still clubs ignore that advice and try the same approach that they used in the past, expecting a different result. Now what again is the definition of "insanity?"

About The Author:

Tim Van Milligan (a.k.a. "Mr. Rocket") is a real rocket scientist who likes helping out other rocketeers. Before he started writing articles and books about rocketry, he worked on the Delta II rocket that launched satellites into orbit. He has a B.S. in Aeronautical Engineering from Embry-Riddle Aeronautical University in Daytona Beach, Florida, and has worked toward a M.S. in Space Technology from the Florida Institute of Technology in Melbourne, Florida. Currently, he is the owner of Apogee Components (<http://www.apogeerockets.com>) and the curator of the rocketry education web site: <http://www.apogeerockets.com/education/>. He is also the author of the books: "Model Rocket Design and Construction," "69 Simple Science Fair Projects with Model Rockets: Aeronautics" and publisher of a FREE e-zine newsletter about model rockets. You can subscribe to the e-zine at the Apogee Components web site or by sending an e-mail to: ezine@apogeerockets.com with "SUBSCRIBE" as the subject line of the message.

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PEAK OF FLIGHT

Question and Answer Corner

Why So Much Talk About RockSim? More Rear-Ejection, and Finding the Burnout CG Point

By Tim Van Milligan

S. Mason writes: "First off, thanks for the Peak of Flight publication. I always look forward to seeing it. I know it takes a lot of work to put out a newsletter every month or so.

I'd just like to make a request if I may. Lately the newsletter focuses so much on RockSim. I understand that the newsletter is also a marketing tool but not everyone who is a rocketeer uses it. You used to include a lot of info that pertained to rocketry in general without so much specific RockSim info. Would you please consider devoting at least part of the newsletter to those of us who do not use RockSim?"

The reason a lot of the newsletter is about Rocksim is because it is a common topic that people ask me about. When I start the process of working on a newsletter, I am like everyone else; I get writer's block too. To break through that, I start looking at recent emails from customers and the questions they ask me. That sparks the idea for the newsletter topic.

About 50 percent of the questions I get are about RockSim. And another 30% are questions that can be answered by using RockSim. The article that brings this to my mind is found in Newsletter 208, where we talked about using an altimeter to figure out why a flight didn't achieve its objective. It turns out that using RockSim was a great

way to dig into that problem too. It seems like I discover something really unique about RockSim every time I use it. The next two questions in this section are also uses for the software, even though they aren't traditional "design" questions. It shows the versatility of the program.

I know that when people first see the price of RockSim, they get sticker shock. But RockSim is an investment, similar to buying a reload casing is an investment. The difference is that RockSim can pay for itself the first time you use it. In my opinion, it is one of the most valuable products in all of rocketry; every rocketeer *needs* RockSim!

Don't fight the decision to get your own copy of RockSim. Once you own it, you'll be like all the other users that want to know more about how to use it. You'll be begging me like they do to write more articles about using it.

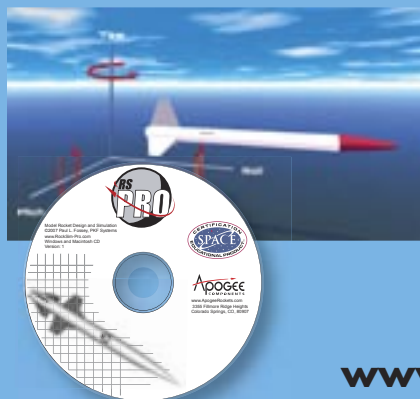
And thanks for taking notice of the tremendous effort that is required to produce a newsletter that comes out every two weeks. I pour out my energy and soul to come up with things to write about to get them out on a regular basis. I have to literally stop all I'm doing for about four days every two weeks to produce this newsletter. When you look at the time I put in the newsletter, I hope that people realize how much Apogee Components is doing for the hobby of model rocketry. I want it to grow and to be around for future generations. The articles are meant to help modelers

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Sim Your Rockets With The Confidence of 6-Degrees-of-Freedom

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Question and Answer Corner

become better and then share what they've learned with newbies. In this way the hobby can grow, and hopefully Apogee can grow with it.

Can you think of any other rocketry company that puts this much investment in its customers? Personally, I don't think any can even come close to the money I've spent on producing this newsletter.

Mike Konshak writes: *"I commented to several people at the regionals I've been to, that your company provides more resources, invaluable tools and general rocket 'stuff' which help promote the sport, than any others I've run across. Your free newsletters provided all sorts of technical data and construction techniques that fill in the voids and questions for rocketeers that are trying new designs. I apologize for the many times I've been lazy and called you to get a question answered or to receive competition advice, when I could just have easily researched your library of newsletters. Thank for you for your patience and your willingness to get involved with individuals."*

Your latest newsletter (#212) addresses a major problem in rocket clubs, where a small number of members do most of the work. Additionally, when the club is invaded by non-members (ie Boy Scouts and school groups) to use the club's equipment, the few that are dedicated to help,

are buried, and the other club members lose the ability to launch their own rockets readily. This discourages every member of the club. The bottom line is that **MEMBERSHIP HAS ITS PRIVILEGES**. If the club, NAR or Triploi is supposed to grow, the existing members must be given priority to the point that others will want the same privileges. In other sports, especially motor sports, novices do not have the same benefits as the experienced competitors. The clubs can no longer be baby-sitters for unsupervised one-timers. Thank you for being candid in your newsletter.

As a side question, related to the rear-eject topic in the newsletter... I have a two-stage design, a scale model of a Nike-Tomahawk, with single motors in each stage, and the booster section appears to be aerodynamic once separated. Left alone Rocksim says it will lawn dart in. I'm trying to figure out a recovery scheme for the booster, which is difficult if using black powder motors. I know I could make it larger and go to electronic timers with composite motors, but my goal is to keep it small. Would a rear-eject system simultaneously ignite the sustainer by throwing hot debris into the motor above, separate the booster from the sustainer, and have enough pressure left to deploy a chute out the back end?"

Answer: The direct-staging with rear-ejection system

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Question and Answer Corner

you de-scribe will work. But it is not as reliable as ejecting out the front. You're asking for three distinct events: ignite the upper stage, separate the booster stage, and eject the core of the booster. As any experienced modeler would tell you, the more flight events, the more chances there are for things to go wrong. I built something similar for the 1992 World Space Modeling Championships. The system worked fine throughout test flights. But then at the contest, the pod in the booster didn't eject far enough for the streamer to unwind and unfurl. I was disqualified in the event for an unsafe recovery, even though the CG shifted rearward enough for the booster stage to tumble instead of streamlining in like a lawn dart.

Q: I have heard that mounting a shock cord/streamer to the outside of the body tube so the rocket hangs horizontally as it descends can increase the descent time of the rocket. How do I know where to attach it if I don't have an empty engine casing to balance it?

Answer. This is another good use for RockSim.

Start by creating your design, but leave the nose cone off. The nose is attached to the streamer, so by eliminating it, we'll only get the CG position of the rocket in its descent orientation. See the figure shown below.

Next, load the rocket motor into the design. The CG will shift back. But this is not the burn-out location, so we don't want to balance it at this new location. We need to find out the burnout CG position, not the lift-off CG location.

You can do this by running a simulation. Don't worry

Streamer Model
Length: 10.5000 In., Diameter: 0.9760 In., Span diameter: 5.1140 In.
Mass 17.041 g, Selected stage mass 17.041 g
CG: 6.1487 In., CP: 8.3435 In., Margin: 2.25
Shown without engines.

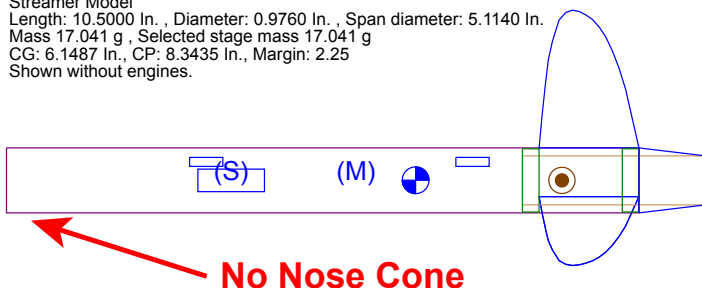


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about the rocket going unstable at this point.

You can add the nose cone to the rocket later and run real simulations. Right now, we only care about finding the burnout CG point.

Once the simulation is done, plot out the graph showing the CG position versus time. You'll see something like the graph shown below. Notice how the CG moves forward as the engine burns, until it gets to the burnout location. You can read off the chart the burn-out CG location. This is measured from the tip of the body tube.

There is a second place in RockSim you can get the numbers. That is by displaying the 2D flight profile of the simulation, and showing the "Details." Doing it this way, you can see the exact CG location.

