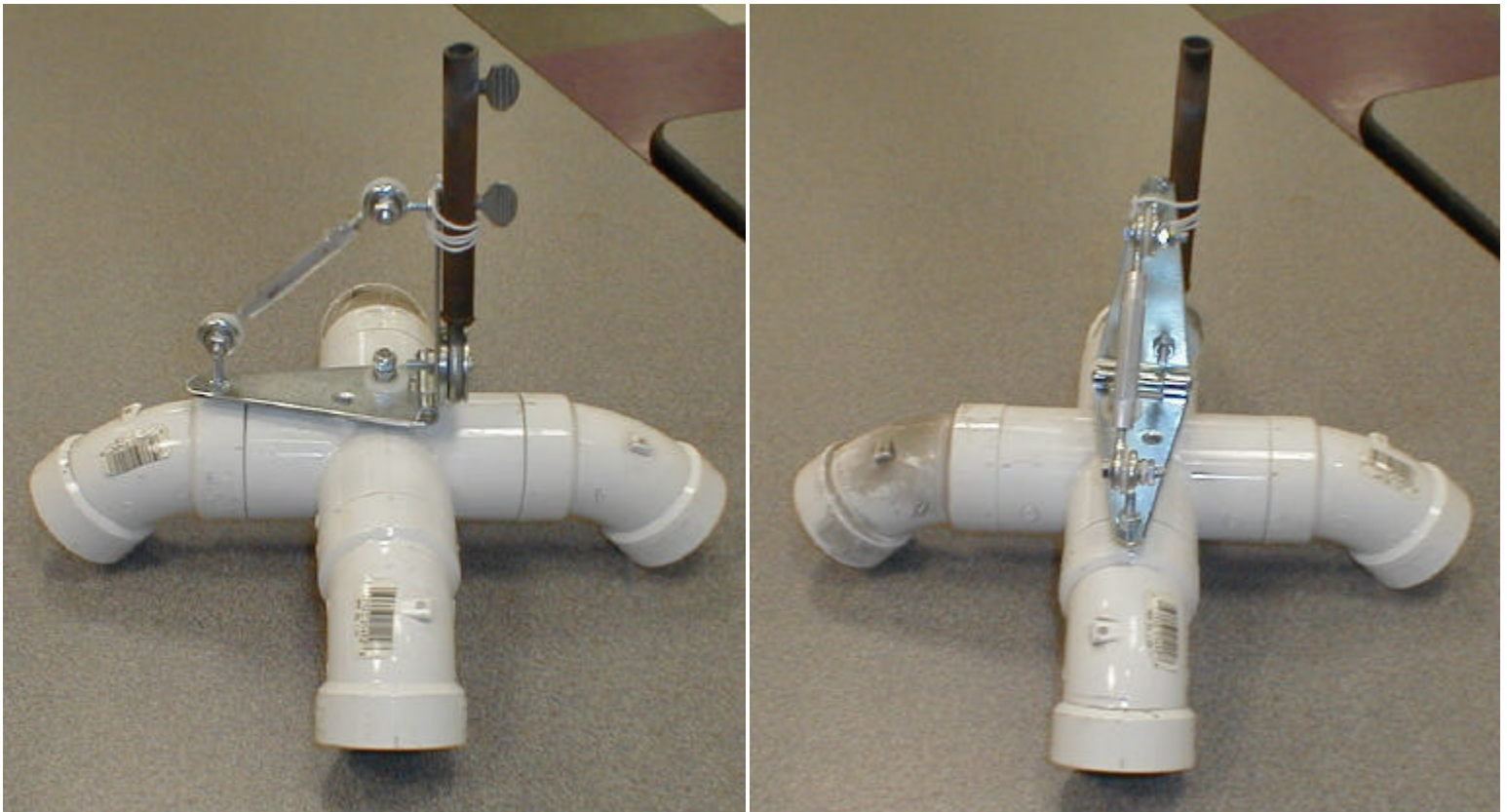


# MASA PLANET

Winter 2001

Volume 4 Issue 1



## Patent Pending

By Glen Overby

I've made a nice upgrade to my MASA-type launch pad so that it can safely support heavier rockets than it could previously. At our launches I've seen problems of heavy (2lbs and up) rockets falling over in the wind while sitting on the pad. The problem is not the pad's ability to handle the weight, but the swivel point. For those of you not familiar with the pads, they're made from 1 1/2" PVC pipe and use three eyebolts as a swivel. Two eyebolts are bolted to the PVC 4-way coupler that forms the center of the pad. The third eyebolt points up and has a 1/4" pipe welded to it to hold the launch rod. Two thumbscrews in the pipe hold the launch rod in place. This is just like the pad described in Rocketry Online's INFO central ([www.info-central.org](http://www.info-central.org)) under Ground Support -> Build a Launch Pad.

My design change replaces the eyebolt swivel with a 4" strap hinge and a turnbuckle. The old launch rod pipe is bolted to one side of the hinge, and the other side is bolted to the legs of the pad.

Continued on page 2

# Glen's Launch Pad Modification

The turnbuckle forms the 3rd side of the triangle and is attached using two eyebolts and screws. I bolted the hinge to the pad with #10 threaded rod (I didn't have any bolts that were long enough). I put a nut on each side of the 4-way coupler and sandwiched the hinge in between a pair of nylon washers in hopes that it could still turn. This is now the weak point of the design and if it proves to be flimsy I will bolt the hinge solidly to the 4-way coupler.

The turnbuckle is the type that has an eyebolt on each end. These are bolted to a pair of 3/4-inch eyebolts on the ends of the hinge sides using #8 screws and washers. I put a nylon washer in between the eyebolts to help them rotate easier. The first time I assembled this joint, I didn't use any spacers between the screws and eyebolts and the joint had a lot of "slop". I tried several types of spacers, finally settling on a short piece of clear 1/4 inch PVC tubing inside the smaller eyebolt, and a short piece of yellow plastic spacer that I found in my junk collection.

Finally, I bolted the old launch rod support pipe to the hinge using a #8 screw and 3 fender washers. I tied it near the top with some wire. This is another weak point; if I had a welder, I'd weld the pipe to the hinge. Since I've started showing people my changes, I've received several suggestions for improvements, and others have made their own variations of this. A suggestion from Jeff Hove was to cut slits through the hinge and attach the rod using an automotive clamp. I believe Jeff used a small U-bolt found in the electrical section of hardware stores. Damian Kostron has an excellent replacement for the threaded tube that holds the launch rod: he uses three 1/4" eyebolts mounted in a line on the vertical hinge flange. The upper and lower eyebolts are mounted solidly to the bracket, while the center one floats free with a wing nut. He then mounts the launch rod by sliding it through all three and tightening the center eyebolt to hold it. Damian used carriage bolts to attach the turnbuckle to the eyebolts, and did not need any spacers.

## Parts List:

- 1 4 inch strap hinge
- 1 8 inch turnbuckle
- 2 3/16 x 3/4 inch eyebolts
- 2 #8 nuts for eyebolts
- To attach turnbuckle to eyebolts:
  - 2 #8 nuts
  - 2 #8 screws
- Alternatively:
  - 2 carriage bolts
  - 2 nuts that fit those bolts
- To attach hinge to pad "T":
  - 1 long #8 bolt or threaded rod
  - 3 #8 nuts
  - 4 Nylon washers
  - 4 #8 washers
- To attach launch rod pipe to hinge:
  - 1 #8 screw
  - 1 #8 nut
  - 3 1 1/4" fender washers
- Alternative for holding launch rod:
  - 3 1/4" eyebolts (to hold launch rod)
  - 1 wing nut for above eyebolts

The MASA PLANET is the official newsletter of the Minnesota Amateur Spacemodeler Association, Section number 576 of the NAR, The National Association of Rocketry. It is published quarterly as a service to its members. Submissions may be made to the editor at: [agibbens@usfamily.net](mailto:agibbens@usfamily.net). The preferred formats for electronic articles and illustrations are .doc, .txt, .rtf and .jpg.

Our official Web site is found at:  
<http://www.mn-rocketry.net/masa/>

### Officers:

President	Alan Estenson
Vice-President	Steve Robb
Secretary/Treasurer	Dave Fergus

Editor	Art Gibbens
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# The President's Page

Hiya,

Most of you know me, but I figured that I should formally introduce myself. My name is Alan Estenson, and I am your newly elected MASA president for 2001.

A little bit about myself:

I've been flying rockets since 1982 (with only a few gaps over those years). I'm currently a member of both NAR and TRA, and I hold level 2 high power certifications in both organizations. I've been around MASA almost since the beginning, and I've served as club webmaster for the last couple of years. I fly rockets of all shapes, sizes (micromaxx through J power), and , um, "weirdnesses". In addition to MASA, I also fly rockets with Tripoli Minnesota. Professionally, I'm an aerodynamic test engineer working for Aero Systems Engineering at their laboratory in Plymouth. I hold bachelors and masters degrees in Aerospace Engineering, so, yes, I am a rocket scientist. <grin> I'm also the staff rocket guru for Hub Hobby Center in Little Canada where you'll find me for a couple hours each week.

What are my goals for MASA for this year? Well, I don't see the need for any big changes. (We've got a nice club, just the way it is.) However, I think that some things could be improved, and I'd like to try a few things a bit differently. I'll go into more detail at a later date, but here are a few things on my list.

- Return to having the occasional summer evening launch just for club members
- Try out the "misfire alley" approach during those evening launches (more on that later)
- Encourage more active club participation by the members. (If something needs to be done, I'll pester you until I get volunteers.)
- Expand the newsletter. Line up people to regularly contribute to it.
- Have more themes, contests, and fun events at the launches. Line up volunteers to help make this happen.
- and there will be more!

If you have any ideas or suggestions, or if there's something particular that you'd like to volunteer to do, please let me know!

Email should be sent to me at this address ([estenson@minn.net](mailto:estenson@minn.net)). If you need to call me, the phone number is 651 639 8019. Leave a message if I'm not home.

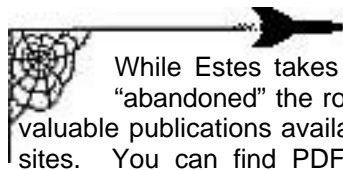
If you need to send me something by regular mail, it's:

Alan Estenson  
2395 3rd St NW, #201  
New Brighton, MN 55112

I'm looking forward to a great year!

My new motto - "Being responsible sometimes means pissing people off."  
(Colin Powell)

Alan

 **Stuck on the Web** by Alan Estenson

While Estes takes a lot of flack these days for having "abandoned" the rocket hobbyist, they have made some valuable publications available for free download from their web sites. You can find PDF versions of such goodies as "The Classic Collection"; launch systems guide; guides for teachers, clubs, and camp leaders; study guides; technical manuals; stuff on boost gliders; certificates; posters, and much more!

<http://www.estesrockets.com/publications.cfm>  
<http://www.esteseducator.com/cfusion/publications.cfm>

# Steve Robb - VP

I've been involved with the club for about a year now and have thoroughly enjoyed all the different aspects of the club - meeting new people with similar interests, the club meetings, the launches. Unlike a lot of you, I'm not returning to the hobby after several years absence, but rather, stumbled across it last fall when I was looking through a hobby store that I discovered in my neighborhood. I started out with the typical Estes kits and soon progressed to getting my L1 certification this past summer using a scratch built 3" rocket of my own design. It flew well then and it's still one of my favorites. I also enjoy building and flying some of the more non-traditional designs like boost gliders and helicopters.

Other than trying to get in some of my own rockets launched, I'll have 4 main objectives that I expect to achieve over the course of the next year:

1. Help to organize and support safe, fun launches
2. Ensure that monthly meetings are informative and interesting to all the different skill levels and interests of the club membership
3. Promote the club in a number of different ways so that the club membership continues to grow and that anyone who has an interest in the hobby has a chance to participate
4. Promote educational activities with local school groups or other interested groups to demonstrate how much can be learned by participating in a safe, enjoyable hobby I'm looking forward to the coming year and hope to get to meet everyone at some point in time.



## Dave Fergus

**Bio:** I grew up in eastern Colorado. I barely got into Estes for a couple of years or so as a kid. I remember launching an Alpha on D engine and losing it. I also had a Sprite that flew a couple of times. I think I had an Interceptor that I never finished, but my Mom dis-avows all knowledge of what happened to a lot of my old toys. I had a Trident that a lot of allowance and time went into and it blew a transfer tube off at ejection and came down in pieces. That, my Dad's lack of interest, and the launch system that relied on 8 D cells inside the red box was enough to discourage me. My Mom saved a Goblin and a SAROS that I had finished but never launched.

Four years or so ago, I bought an Estes starter set "for the kids", and currently, with the kids, have finished and flown 61 different rockets with another 20 or so kits not started but in inventory. Our family has had 224 flights since we started flying in Nov97. I also believe in volume buying of motors from hobbyinc.com to save shipping charges so I have 244 motors in inventory right now. (a little excessive I know) I currently have two medium power rockets that have flown, with another in final build. I spent 10 years in the nuclear submarine service, and am a Commander in the Naval Reserve drilling in Milwaukee once a month. My wife Susan and I have two children, Sarah 11 and Brian 9. I am an engineer by background, and currently manage a small manufacturing company in Elk River.

### Member Database/Dues:

Just another friendly reminder to get your dues paid for 2001 and fillout the membership data form completely. Some of you that are renewing memberships are saving time by writing "same" in all the address blanks. That is OK, but the recent area code change has probably affected you, and we still have a lot of 612 and 651 area codes in the database that I suspect are now different. Don't assume we have your most current

# Out going President - Russ Durkee

Masa Members,

We have come to the end of another successful launch season and the end of my term as president of MASA. It is hard to believe that it was three years ago when Damian, Mark, and I sat around Mark's dinner table discussing plans for "our" new rocket club. The conversation centered around how we would run the first launch, what we would do at our club meetings and how many people might show up at the first informational meeting. We seriously wondered if anyone would even show up! Three years and about 3000 rocket flights later, Masa has grown into the club we dreamed about. I want to thank every member for making MASA so successful and so much fun.

I know Mark, Damian and I are looking forward to being a regular members next year. Creating and running the club was a lot of fun, but also a lot of work. Don't worry though, we are not going to disappear. We will be actively participating in club launches and meetings. You will definitely see me flying my Cuda a little more and I may actually paint some of my newer rockets this year.

Thank you everyone for all your help and support.

## Dave Fergus Cont.

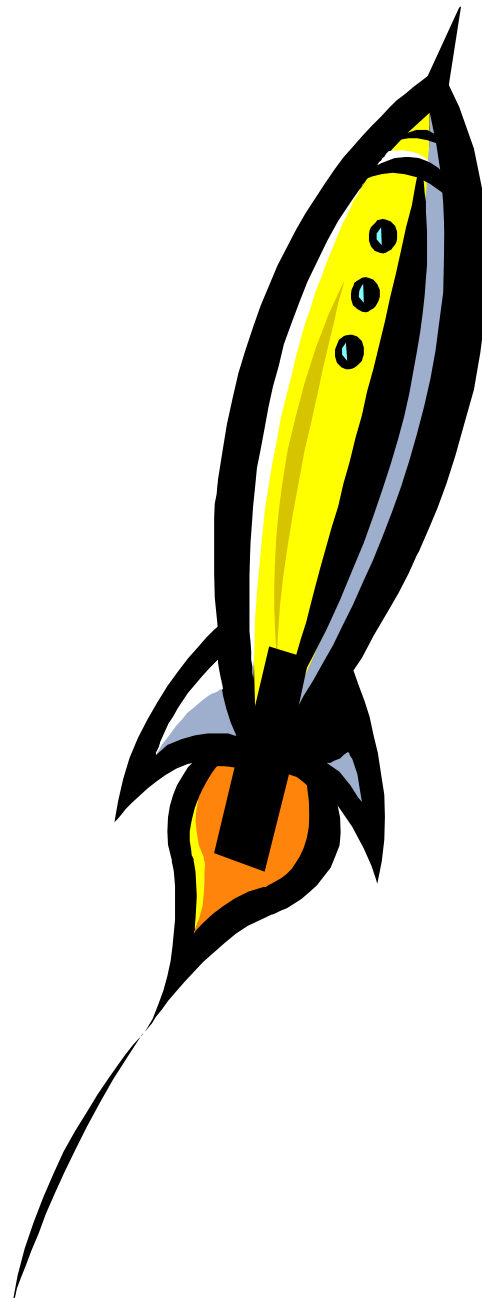
Russ

Those of you earlybirds who mailed your apps to Damian using the old form need to at least answer the question on the new form concerning whether you want the newsletter mailed to you or whether you will download it in \*.pdf off the web. If your answer is download, please make sure I have an up to date e-mail address so we may notify you it is available. If you suspect that I don't have all the correct info, and you have already sent in your application, just e-mail me at [dfergus@dynetic.com](mailto:dfergus@dynetic.com) to answer these few other questions.

Finally, I just wanted to remind those few of you who have been regular attenders but are not members that we keep the dues low on purpose so it is not a financial burden to join. Your dues go towards section dues and insurance, admin supplies and newsletters, as well as prizes and a gift to the Blaine sod farm owner. Please consider joining. I also wanted to remind at least one of you that launch "E" or higher that our charter requires MASA membership. The rule is quoted below. It would be nitpicky to go back over past launch reports and figure out who was not a member and launched a big motor; so we will rely on the honor system, and just ask you to join this year.

Thanks again.  
David W. Fergus  
MASA Club Secretary/Treasurer  
[DFergus@Dynetic.com](mailto:DFergus@Dynetic.com)

**Membership Rule:**  
You do not need to be a MASA member in order to launch model rockets (weight under one pound and "D" motors or smaller) at an official MASA launch. We do require MASA membership if you wish to fly rockets that weigh more than one pound or that use "E" or larger motors. Persons wishing to fly High Power rockets ("H" motors or larger) at MASA launches must have current MASA membership as well as the corresponding High Power Certification Level with either NAR or TRA.



# Launch Ideas - to be Realized

Please see my original email for the ideas that I proposed. Here are the ideas you suggested for launch themes or events. I've added some of my comments. [in brackets]

Joel Henry:

How about a launch event just for new rockets, repaired, or modified. Give them a chance (or more than 1) to prove themselves. We would naturally want to step up safety due to increased level of failure expectation. [Well, this tends to happen naturally in the spring and early summer as the rockets appear that "grew" over the winter. Having everybody try out their screwy ideas on the same day, well, worries me. Plus, all of our usual RSO volunteers may go off and hide...]

Glen Overby:

\* I think it would be fun to do a judging at the Scale fest launch. Points for scale accuracy and how good it looks. [Could be neat, but who would volunteer to judge it? Plus, a true Pink book style Scale contest gets pretty complicated in terms of judging and having supporting information.]

\* How about a traveling CATO (cato, crash, shred) award?

[This, I don't want to encourage this too much. We'd be too likely to end up with some kids trying to make things go wrong with their flights.]

\* I like the "odd-balls" idea.

\* I'm more interested in the fun themes and relaxed contests than the NAR competitions. Some of those guys were just a little too serious... OTOH, it might be interesting to fly some of carnage-heavy pink book contests ;-)

\* I want to do a Comanche-3 drag race, and I think Lee is up for it. I'm guessing that this could turn into a 3-stage anything drag race if there aren't enough Comanches left out there.

\* How about a cluster day?

\* Anyone up for flying eggs on the 27th?

Ken Corey-Edstrom:

I have a couple of Egg Lofter kits from a MASA meeting sometime last year, don't think we've had a group event to use those since (or is that too NARish?)

[Several people mentioned an egg loft competition. The egg loft meeting done last year had slipped my mind]

Steve Robb:

\* I've been interested in trying an altitude type event using a 'Standard Altitude Marker' mentioned in Stine's book. The idea is that each flight would eject an identical streamer (12" x 1" x .0001" polyethylene with a 3 gm weight on one end) which is supposed to fall at a constant 18 ft/sec. Measure the time it takes to fall and you've got a close approximation of the altitude. Seemed like an easy way to determine the altitude without needing theodolites, etc.

\* I'd also be up for an informal egg lofting event on the 27th.

Ted Cochran:

\* (I'll let you look back at Ted's email for details) Ted managed to convert my simple little cumulative spot landing contest into something huge and enormously complicated. Ted is required to write "Keep It Simple, Stupid" 100 times on the blackboard. <grin>

\* [on the subject of a club rocket competition] This is tricky if only because I'd want to keep everyone involved. But if you broaden the rules ust a tad....

How about using Fat Boys for the basic kit, but building Gooney Birds (Missile Toe, Galaxy Guppy, Zoom Broom, etc--see JimZ, kits #850-854) or derivatives of that ilk?

\* [on the subject of a multi-stage day] Qualified (ie safe) flights only, I might suggest. You should give one slip for each stage, too--more Comanches (and carnage) that way :-)

\* Same as above could be done with a cluster day--one slip in the hat for every motor over the first that actually lights. Qualified flights only.

\* Build and fly drag race: An event in which entrants get some standard unbuilt kit (3FNC, parachute recovery), On your mark, get set, go. Winner is the first to have a successful flight. Think of the possibilities: CA and accelerant, or masking tape?

Further ideas? Volunteers?

Thanks, everybody!

# Launch and Meeting Schedule

Meeting - Tuesday, March 13 (one week later than normal)  
Location: Science Museum of Minnesota, St. Paul  
Time: 7pm to 8:30pm  
Notes:

NARCON - March 23 through 25  
Irving, TX

Launch - Saturday, March 24  
Location: White Bear Lake  
Time: 10 am - 2 pm  
Theme:  
Fun Events:  
Contests: 1/2A streamer duration  
Contest Director: Alan Estenson  
Notes:

Meeting - Tuesday, April 3  
Location: Science Museum of Minnesota, St. Paul  
Time: 7pm to 8:30pm  
Notes:

Launch - Saturday, April 28  
Location: Elk River  
Time: 10 am - 2 pm  
Theme: Weird looking? Fly it anyway!  
Fun Events: odd-rocs roundup  
Contests: C eggloft duration  
Contest Director: ?  
Notes:

Meeting - Tuesday, May 1  
Location: Science Museum of Minnesota, St. Paul  
Time: 7pm to 8:30pm  
Notes:

Launch - Saturday, May 19  
Location: Blaine  
Time: 10 am - ? pm  
Theme: Going crazy (but in stages)  
Fun Events: Staged rockets  
Contests: A boost glider duration  
Contest Director: ?  
Notes: Launch scheduled one week earlier than normal to avoid Memorial Day weekend.

National Sport Launch - May 26 to 28  
Rush Valley, UT

Meeting - Tuesday, June 5  
Location: Science Museum of Minnesota, St. Paul  
Time: 7pm to 8:30pm  
Notes:

Launch - Saturday, June 23  
Location: Blaine  
Time: 10 am - ? pm  
Theme: Circle your wagons!  
Fun Events: Cluster rockets  
Contests: Altitude competitions using standard marking streamer  
Contest Director: ?  
Notes:

**MASA Planet**  
**9392 Hale Ave South**  
**Cottage Grove, MN 55016**