COLORADO FREE FLIGHT

THE MAX-OUT

Newsletter of the Magnificent Mountain Men

AMA CHARTERED CLUB #177



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2007-4 (June-July)



PONDERINGS DEP'T

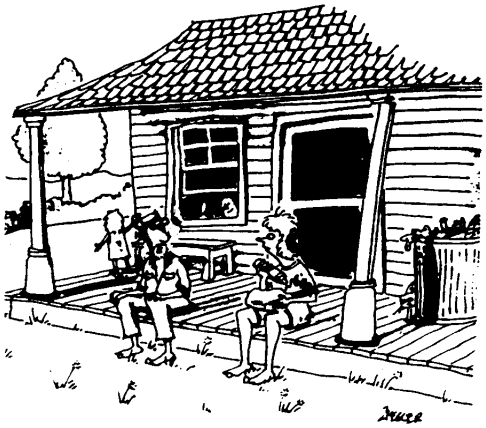
Ahhh….summer is here. The May contest was wonderful; no wind, plenty of thermals and the June contest was the same. I didn't make the June contest as I was busy in the ER with a broken finger (Xtreme trout fishing) but I got the message that the day was the same. Everyone raves about poor field and weather…which makes me wonder, why more FFr's don't just pack up the wife and kids and just move here?

The bad news is I have to have surgery on the finger tomorrow and then 8-10 weeks later maybe I can get some of that Murphy Mist spilled on it. I did figure out that I *can* cover the whole splint with a condom to keep the castor out. At last! A useful purpose!

Cass and I are making a great attempt to go to he NATs this year and I hope she doesn't rummage thru the field box too much…wrong ideas?

There are two things I really enjoy…Free Flight and Fly Fishing. What a combination…open fields and open water…

Thermals..Rick



Ma…since I broke my finger and can't start that Rossi, would it be OK if you flip the prop for me?

"The MAX-OUT" newsletter is printed about the second or third (?) week of the month. Submissions should be not later than the end of the prior month.

TO JOIN THE CLUB OR SUBSCRIBE

- Full membership is offered to any current AMA member: $40
- SAM-1 Crossover membership: $20
- Newsletter Subscription Only: $15
- Send $ to:
  Chuck Etherington
  33946 Goldfinch Dr.
  Elizabeth, CO 80107-7419

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Rick Pangell 303-798-2188

Flying Field Weather Line: 303-766-0020

NEAR TERM EVENTS:

MMM MTG! Next one - 5/15	**Every Third Tuesday at 7:00 PM, Dinner at the Castle Cafe in Castle Rock.**
Wings Over the Rockies Indoor 7711 E. Academy Blvd. in the former Lowry AFB Denver	Various Sundays of every month from 1-5pm. Admission $. A good clean site, 24' height Al Yuhasz at al-yuhasz@worldnet.att.net to receive notice by E-Mail.
JUNE 29-30, JULY 1	**FAI ANNUAL 14 ROUNDER**
JULY 22	**MONTHLY w/ 1/2A BOUNTY HUNTER!**
AUG 11	**MONTHLY w/HLG**

Note: For those of you who wish to have a real live MMM Club Member Name Tag, you can order them yourself through:

Sun Signs
4420 Tennyson
Denver, CO 80212 - 2310
(303) 477-1594

Call and tell them you are with the Magnificent Mountain Men FF Model Airplane Club. The cost is about $5 delivered to your door.

MMM Decals!
Self adhesive, black on thin, clear mylar

Prices: (shipping not included)
$2 per sheet (5 assorted sizes per sheet)
3 sheets for $5 -- save 17%
15 sheets for $20 -- save 33%
Contact the Editor

NOTE: !!!!
Going to the field Monday-Friday!
Don't forget to call the Corps of Engineers trailer on Quincy Rd,
The number is (303) 690-3816

Prez Says, June 2007
By Pete McQuade

The outdoor season is well underway, and we've been blessed with some terrific weather. The May and June contests, covered in this issue of the MaxOut, were just fabulous, with excellent turnouts. Come on out for the Annual FAI contest June 29 – July 1! Remember, it's not just for FAI anymore.

As you probably know, the June contest almost didn't happen, because Mr. Pancost, the rancher who has leased part of the field for many years, was required to vacate the land, and the Land Board asked us to not be on the field while his move-out was underway. However, it was completed by the required date, and Melissa Yoder, the Lowry Range Manager, gave us the thumbs up in time to hold the contest on the 10th.

As part of Mr. Pancost's move, Melissa Yoder has changed the lock on the field gate. Please note the **new combination: 2675**. Please remember to lock the gate after you've passed through. We must obey the Land Board's rules, and Melissa makes occasional visits to the field. Let's not do anything to endanger our access to this magnificent field.

Which gets us back to flying. It's been good to see so many Magnificent Mountain Men on the field lately. This is shaping up to be another great season of outdoor contests. Hey, let's go flying!

2007 MMM Monthly – Results

CD: Pete McQuade May 20, 2007

AMA Gas Combo

Contestant Name	Event flown	Time
Rick Pangell	1/2/A	515

SLOP/Nostalgia Gas Combo

Contestant Name	Event flown	Time
Rick Pangell	SLOP	314

2 Minute Combo

Contestant Name	Event flown	Time
Don DeLoach	P-30	360
Bill Leppard	P-30	360
Marc Sisk	P-30	343
Darold Jones	P-30	274

3 Minute Combo

Contestant Name	Event flown	Time
Jerry Murphy	Gollywock	144

FAI 3 Minute Combo

Contestant Name	Event flown	Time
Pete McQuade	F1A	1124
Chuck Etherington	F1C	1023

CLG

Contestant Name	Time
Mark Covington	350
Marc Sisk	285
Neil Myers	239
Frank Menanno	194
Roland Solomon	183

HLG

Contestant Name	Time
Todd Reynolds	400
Randy Reynolds	304
Mark Covington	135
Neil Myers	116
Marc Sisk	100

Classic Towline

Contestant Name	Time
Randy Reynolds	460
Don DeLoach	303
Todd Reynolds	253

DISCUSS LAUNCH GLIDER – SO EASY A CAVE MAN COULD DO IT DEP'T

The Future of HLG?

At the SWR, Todd Reynolds, otherwise known as my first born, managed to attempt to fly his Honda retrieval bike over a concrete irrigation canal. In this he failed to max but was charged with an official attempt. The result we learned today was an immense bruise that looks like an impressive sunset in the upper part of his chest that is now diagnosed as a broken collar bone. This will not require casting but he is out of commission for the indoor HLG events and will have to do several weeks of therapy after the pain goes away.

Here is the amazing thing: The day following his crash he flew his discus launched glider and came within a few seconds of beating National Cup Glider Champ Tim Batiuk for third place.

Naturally, Todd being left handed broke his left collar bone but flew anyway.

So this is proof of: (select one)

1. Left-handers are determined to not use their right hand for anything.
2. Reynolds men aren't complainers. (OK, one of us isn't)
3. Discus launching is mighty easy on the upper body.

Of course as I think about it we then did a 900 mile ride home unloading RV, bikes and bike trailer and unpacking models during which Todd did his fair share and more. Personally I would be headed for the hospital and looked for all the sympathy I could have gathered.

Regards, Randy (Reynolds)

Response #1

A simpler way of doing it is to launch upside down into an interrupted loop...an extended bunt, so to speak....of course a folder fits that task nicely. A conventional ship might work if the dihedral isn't a real factor in keeping it in the groove. Little air vane devices work well as timing release agents. I have a whole bunch of parts I'm trying to sort out... a couple of ideas for catapult and a whole bunch of the discuss launch variations using the fixed-line Twirl and Toss technique. One problem with the idea is cyclic zooming happens when spinning around in a wind...the ship wants to quickly translate its horizontal circle into a vertical one!

Very off-putting in a dual sense. I'm looking into a simple way to have the stab temporarily operate independently via centrifugal force. And it may be that the location of the line to the c.g. may be a bigger factor than I had visualized in dampening out this unexpected "booming" effect.

I am surprised that the discus launch has worked so well in FF...my early experiments gave me a negative impression because of (I thought) dihedral/small fin causing tumbling. But all in all I think the short fixed line is a better option ...and gets a better leverage boost by extending the arc radius to match that achieved by the bigger RC gliders.

I have the feeling that for free flight large sized gliders may suffer in that they are less capable of utilizing small patches of lift. Lots of things to think over!

I feel rather odd in that for so many years I was on the leading edge of so much gimmickry yet now I find myself trailing behind eating dust as I try to catch up.

Billious G (Bill Gieskieng AKA Skyflieng)

Reply to response #1

Randy is very high on DLGs after this weekend. He thinks one of their main advantages is their ability to milk marginal lift at low altitudes—lift that would never sustain a smaller javelin glider.

--Don

DISCUSS LAUNCH GLIDER-cont'd

Response #2

Regarding Randy Reynolds' commentary and observations on his SWR experiences. …

They are cogent and match Ken Bauers' answer to my queries. I asked what he thought was they better road to take: Javelin-thrown bunter E-timer HLGs or DLG-types, also using E-timers.

He said:

"Maybe you should try throwing mine before you decide to build one. Honestly I think if you want to try something new you might be better off going to the DLG. This would allow your arm to last much longer, has the ultimate performance capability, and is where I'm going to end up anyway. I made my big 60" electronic DLG a few years ago and it worked, but was just very difficult. Next I want to try a smaller DLG like Stan, but maybe about 40", but with electronics of course. That will allow it to go straight up and bunt like my "mini-bunter" from Sunday, but will get even higher."

I just need to get mine built to join the DLG fun brigade!
Ciao,
Leeper (Lee Hines)
DLG wannabee
A bunter HLG? ...it was only time.

Some other commentary from Billous Skyslinger:

"About HLG. it has been said that gliders are the easiest models to build and to fly ...but on the other they are the most challenging to master and fly to perfection."

"I didn't think that it was possible to discus launch a normal Free Flight HLG because of its light weight, small fin, generous dihedral and a more rearward c.g. all of which augers well for tumbling rather than zooming."

It seems I was overly pessimistic.

DLGs seem a near perfect match up with physically able flyers that can avoid tripping over their own feet.

I think that the coming season will be a very exciting one with the appearance of numerous Discus glider designs. I for one will be out there spinning around like a whirling dervish. it would be helpful if we had a couple of locations that were tailored for pig pen usage. Clumps of grass and such can really trip/dump one on their butt when trying to do the light fantastic. Avoiding sprained ankles shouldn't be a part of the challenge.

For those interested in the discus launch I would suggest doing some level of pre-training. It is a fact that the best Olympic discus throwers are in their thirties...the reason given is the difficulty of mastering the technique.

There is a big difference in that the discus weighs some four Lbs. The heavy weight means that the turn must be powered all the way around ...no leaping into the air like a ballerina. Our much lighter gliders offer a different athletic challenge with a little more leeway since we are not confined to an eight foot circle so and can utilize forward travel without fouling out.

Without going into the footwork involved one can prepare by doing a simple exercise. Stand with your feet about shoulder distance with knees bent in a quarter squat. Clasp your hands in front of your chest. With your upper body like an upright column **rotate** your hips and torso right and left in a twisting fashion. The aspect to work on is in powering the movement of the hips with a scissors like pressure from your legs. Without this bit of kinetics becoming a learned habit you won't have the essential body's core strength coming on line when needed. Without your body knowing what is required to do the arm will try to take over...and it ain't strong enough to do the job.

DISCUSS LAUNCH GLIDER-cont'd

I would suggest that one stop several times a day to do this deceptively simple twist....once that is down then it will be time to add on the special footwork that incorporates the spin. incidentally, one can do a standing toss without the spin, but that sacrifices about 20% of the available power.

One of the hardest skills to learn is in letting the throwing arm lag behind to remain a mere extension. in between the start and finish there is a tendency to swing the arm forward during the turn which means it will then lag behind causing a jerk.

Another point is that the left arm starts out being extended, but at the very end it is then best retracted back into the torso with the elbow jammed into the left side of the abdomen. This maneuver is called "blocking" and adds more thrust to the throw. (DeLoach is permitted to ignore this banging into the gut technique until his scrambled innards are fully healed, again)

I've gone into this technique business because of my own problems with grasping the right approach. I was attracted to the discus back in my high school days. I was about 25' short from making the team...but I kept showing up because it was fun. I was advised that the secret lay in using the legs. Well, duh! I was standing on them wasn't I? My arm and chest were my strongest body parts so it was natural for me to use them. I didn't understand it at the time but the lower body just went along for the ride.

In years to come I kept a lighter woman's discus around, I would occasionally take it out to the park to sling around. Even though I was doing weight training, and supposedly getting stronger my throws were coming up shorter. The final humiliation came when I watched some trim young high school girls whirl the damned thing further than I could...and these weren't behemoth androgens but slender girl-next-door types.

Anyway, that's my gratuitous posting for the day...time to go sell gas and candy bars.

(Editors Note: Bill is currently nursing a sore twisted something or other…)

So, I asked Mark Drela for his take on FF DLG

The professor kindly obliged:

The benefits of DL strongly depend on the span. The max legal span is 1.5m, and this seems to be close to the ideal. I think for a 24" span there won't be much altitude difference between DL and a conventional javelin launch (JL) assuming a strong JL thrower. But a weak thrower will see an advantage with DL down to quite small spans. BTW, what's wrong with making a big FFHLG? I know that indoor HLG has a 100 in^2 limit, but there seems to be no such restriction for outdoor HLG. Besides the very large launch height gain, two practical advantages of DL have become apparent in RCHLG:

1) The dependence on the flyer's physique and strength has diminished. With JL, the launch heights for 90% of the flyer pool varied from 35' to 80' -- more than a factor of 2. Now they vary from maybe 110' to 150' -- much closer percentagewise. Results depend more on reading air and piloting skill, rather than a huge launch. The latter is still important, but much less than it used to be.

2) The stress on the body has gone from severe to practically nil. One can now do a hundred hard launches in one day with no ill effects. A number of people who quit RCHLG for physical reasons have re-entered it when DL came on the scene.

DL for FFHLG is tough, but I think it can be handled. You want an unusually long tail arm for good yaw damping and spiral dive resistance. The kite carbon booms will probably be essential to take the stress. The pitch trim conflicts between launch, climb out, rollout, and glide might be solved with a suitable combination of tail tilt, aeroelastics, and maybe a hinged elevator actuated by high airspeed.

If this works, the 2 minute max may need to be increased. An RCHLG with a good launch can easily exceed 2:00 in dead air.

Bill Gieskieng AKA skyflieng

(Editors Note: Did you ever get the feeling you were reading an A.A. Milne novel?)

USFFC's from Don

My new Nos Wake flew great in 15-20 mph winds. I won Nos Wake and AMA Mulvihill with the same model. All maxes except one near miss. Wind was brutal and chases long on Sunday. Saturday and Monday were very nice with winds less than 5mph, hot temps and decent lift. Tricky picking though! My third B gas flight went to 500 ft in 7 seconds and I looked up and couldn't find it. That's because it was on the ground in less than 2:00. HUGE downers just like Denver.



I got 2nd in B Gas, 3rd 1/2A, 2nd Classic Towline. 4th in Dawn Gollywock with a 4:06 flight. Dawn Gollywock was really a lot of fun—15-20 models going up at once in the cool morning air. We're gonna have fun with this event at the RMC.

I was surprised to get AMA Events Champ and won the Sweepstakes Award as well! First non-Californian since 1984 to win Sweepstakes I'm told.

Murph did the best of any of us, winning P-30 with seven maxes in a crowded field of about 15 flyers. He picked all his own air and nailed every flight, even making it look easy. Awesome performance. He also won Small Rubber Cabin with a single max flight in the brutal wind on Sunday. All the other pansies had packed up and gone home that day!

Chuck had a very solid performance in F1C. He was about 7th place in a field of 13. He maxed 5 of 7. Only 2 F1C flyers maxed out--a testament to the tricky thermal conditions.

Undoubtedly the highlight of the contest was watching (MMM member) Tim Batiuk's domination of HLG with his "Turn-Up" DLG design. It is a 36" span all-balsa wing bird, very similar to Buddenbohm's Twirly Byrd. Tim put up a near-record string of 11 maxes plus 93 sec. for the blowout win--scarcely one max short of the record! Tim was not deterred, though. He expects the record to fall this summer…in Denver!

USIC's

I got 4th in Pennyplane. Bill Leppard: 1st in HL Stick, Romash 2nd in Ministick. I can't remember the rest. Got to www.modelaircraft.org and click on competitions, NatsNews for the other results of MMM flyers. Gary Baughman. picked up a couple of plaques in scale I know.



Gary Baughman and Murph

From the Monmouth Model Airplane Club, Inc. Keansburg, New Jersey

(Editors Note: At last….something useful?)

Li-Poly Battery Basics
by Paul Gentile

The popularity of electric-powered aircraft has soared (pun intended) over the past few years. Part of the reason behind the recent popularity has been the advent of Lithium Polymer or Li-Poly batteries.

- Li-Poly batteries pack a high energy-to-weight ratio when compared to their Ni-Cad and NiMH battery cousins. This stored energy has good and bad potential, and we will touch on both here.
- Li-Poly battery cells are 3.7 volts, as compared to Ni-Cad and NiMH batteries which are 1.5 volts per cell.
- When Li-Poly batteries are wired in parallel, they do not discharge like other batteries. In addition, when you wire cells in parallel, each cell only sees half the total current, or amp draw.
- Total current is very important for Li-Poly batteries and is identified with a C rating. You may see Li-Poly batteries advertised as 3C, 6C, 8C, 10C.
- This means that a 3C 1500 mAh (1.5 amp) Li-Poly battery pack should never be discharged at a rate higher than 3 x1500 mAh or 4500 mAh (4.5 amps).
- Discharging a Li-Poly beyond this rating could cause damage to the cells or even fire; A very serious concern.
- Changing a propeller on your airplane can change the current draw and cause higher than expected discharge rates. So it is beneficial to have a current meter on hand. The manufacturer's specifications for the motor, speed control, and propeller combination you are running also come in very handy.
- The other letters on Li-Poly packs refer to S for serial wiring of cells and P for parallel wiring of cells.
- A 3S pack would be 3.7 volts x 3 cells = 11.1 volts. A 3P pack would mean three parallel cells, or 3.7 volts and a higher C rating. A 3S 3P pack would have 3 cells in serial (11.1 volts) and 3 cells in parallel.
- Li-Poly batteries also do not require cycling, or discharging like other batteries. In fact, you never want to cycle down Li-Poly batteries. You should always leave a partial charge, to avoid damage.
- Chargers and speed controls should always be rated for Li-Poly use. Do not attempt to use your Ni-Cad or NiMH equipment. An improper charge rate could cause a Li-Poly pack to explode and burn at over 2000 degrees. A non Li-Poly rated speed control could cause over discharge and cell damage.

Here is a list of do's and don'ts for your Li-Poly packs:

• *Never* put your Li-Poly packs in water and never put water on the packs.
• *Do Not* leave your Li-Poly batteries unattended while charging. See www.modelaircraft.org for this year's list of people whose cars and houses have burned down while leaving packs unattended during charging.
• *Do Not* puncture or short out Li-Poly batteries.
• *Do Not* fully discharge your Li-Poly packs, this will damage the cells.
• *Do Not* put the Li-Poly battery in your car, or leave it in your airplane after a crash. If the battery is damaged internally, you may not notice. According to the AMA, several members' cars have already burned up this year due to this scenario.
• *Do* use common sense and respect the energy that is stored in that little package.
• *Do* follow all manufacturer ratings and specifications for use and storage.
• *Do* store your Li-Poly packs in a fire-proof container.

Li-Poly batteries are used everyday safely in cell phones, laptops, consumer electronics, and iPods. In our hobby, we are pushing these batteries to their limits, charging and discharging them at high rates and sometimes smashing them into the ground at high speeds. We need to respect their potential and keep it safe. Enjoy the power and convenience of electric flight with Li-Poly batteries; I do. Just respect the energy stored in that little Li-Poly package and it will reward you with some of the fastest, 3-Dest (if that is a word), most fun flying you will have.

Li-Poly Battery Basics – cont'd

Li-Poly Quick Reference
C = Current
S = Serial
P = Parallel

Li-Poly Cell Voltage
Cells x 3.7 = voltage
1 cell = 3.7 volts
2 cells in series = 7.4 volts
3 cells in series = 11.1 volts
mAh = milliamp hour rating of a battery's capacity under load. 1000mAh = 1 Amp

HELPFUL HINTS DEP'T

GLAD Press 'N Seal plastic wrap makes a great masking medium for spray painting. It is sticky on one side and will stick to itself, or the item you want to paint. It is much easier to work with than paper because it clings to the surface without lifting the paint off when removed.
—From Flightline, Casper Airmodelers Association, Casper, Wyoming

UPCOMING STUFF DEPT

SAM Talk; free flight mailing list
Subject: A book on Gollywocks

Dear Listers,
Many of you would be interested in the arrival of our new publication: " The Great Gollywock Saga", a book devoted exclusively to the history, development and construction of this amazing model, the Gollywock, and its close brothers: the Jabberwock and the Dynamoe. Several FFML and SAMTalk listers have contributed generously of their time and expertise in the writing of this book. The 44 pages of this booklet in the two-column format familiar to readers of Free Flight Quarterly contain nine chapters that include:
Origins and Versions, Trimming and Flying the Gollywock, Motors and Propellers for the Gollywock, Timer installation, Airfoils.
In addition to the research by Peter Money in the early chapters,

- Gene Wallock describes his system of hinge construction for perfect folding,
- Al Pardue has written and illustrated a chapter on building, finishing and decorating a Gollywock, while David Mills examines a possible sibling to the Gollywock: the Ray Smith Mulvihill, adding his recollection of an evening with Wally Simmers, and discoursing on the Simmers Dynamoe, and its excellent performance in the Moffett Trophy. The book includes also a new full size plan for the Gollywock II version in three A3 sheets.

It can be ordered from our website: www.freeflightquarterly.com, or directly from the editorial offices:
Free Flight Quarterly
37 Windsor St
Kingston Beach 7050
TAS, Australia
the price is $17 postpaid.

Hi Guys,
An old friend is selling out his world class model collection and asked me to spread the word. His collection consists of engines of all sorts, cars, boats and many other items of interest. If you're in the market for anything having to do with models, don't miss this sale.
The sale will be at Bill Zarlingo's home at 90 Greenspointe Ct., Highlands Ranch, CO., during the hours of 9-4 on June 23-24th. For further information call 303-791-4422.
Could you guys please e-mail this notice to our club members? Thanks,
Bill Lovins

MORE HELPFUL HINTS DEP'T via Bill Lovins,

In case your Denver group somehow misses this info, I'm sending it to you. Sounds like a winner for the old engine crowd.
Bob Gutai

Subject: Fwd: Laser Cut Gaskets

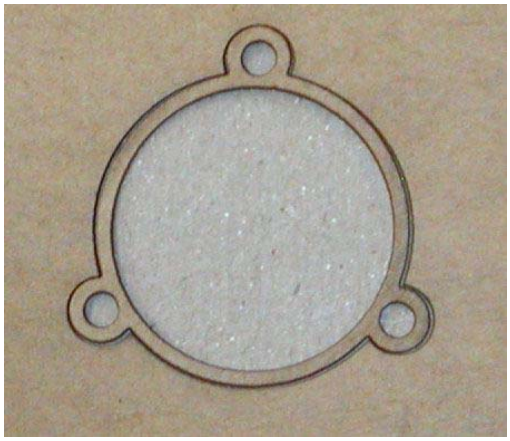
In a message dated 5/14/2007 2:06:43 P.M. US Mountain Standard Time, tandyw@flash.net writes:

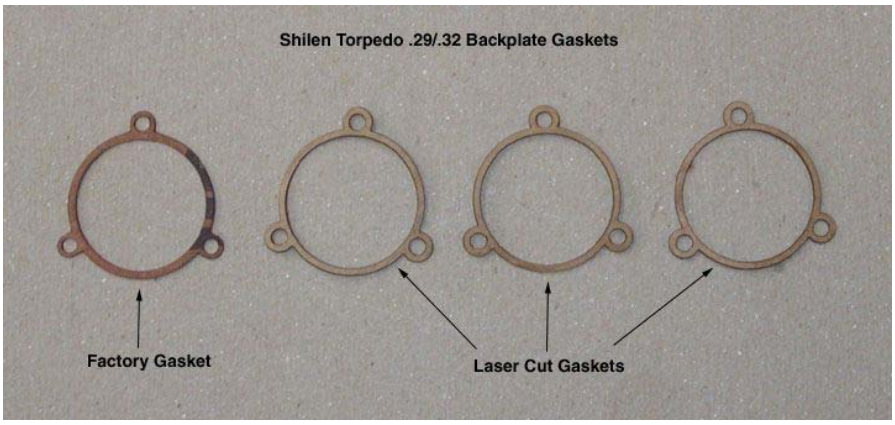
Let me ask you a question: Have you ever had a prize vintage model engine and could no longer find gaskets for it? Well, I now have a source for gaskets for any model engine.

I have another friend with a laser cutting setup shown below that I approached on laser cutting some new Torpedo backplate gaskets for me. He took some measurements and made the art work from which he developed a gasket digital file for input to the laser cutting software.

The picture below shows how the software drives the laser cutting head in a raster scan to cut out two gaskets at a time. Jerry Burk provided me with a correct sheet of .025" gasket material. The picture below shows how the software drives the laser cutting head in a raster scan to cut out a single gasket. The white spots are again the multiple laser firings.







This picture compares the factory stamped out gasket with three of the laser cut gaskets.

My friend is just getting started, but for a nominal fee *(to be determined by him)* he will cut a particular gasket for a particular model engine for anyone needing one. If you ever have need of his service, e-mail me and I will forward your message to him.....Tandy

28th Annual Magnificent Mountain Men
14-Round FAI Annual
June 29, 30 and July 1, 2007 / Denver, Colorado

America's Cup and NFFS National Cup Competition

June 29 (Friday)—5 rounds of F1E / America's Cup sanctioned.

June 30 & July 1 (Saturday & Sunday)—7 rounds each day of F1A, F1B, F1C, F1P, F1Q—(14 rounds total)
3 rounds each morning of F1G, F1H, F1J, F1K—(6 rounds total)



Saturday, June 30

*Round 1	0730 – 0900
*Round 2	0900 – 1030
*Round 3	1030 – 1200
Round 4	1200 – 1300
Round 5	1300 – 1400
Round 6	1400 – 1500
Round 7	1500 – 1600

Sunday, July 1

*Round 8	0730 – 0900
*Round 9	0900 – 1030
*Round 10	1030 – 1200
Round 11	1200 – 1300
Round 12	1300 – 1400
Round 13	1400 – 1500
Round 14	1500 – 1600

Flyoffs start at 1630 on Sunday

* Rounds for F1G, H, J

Bonus Events - AMA/NFFS rules apply, no rounds:

Saturday, June 30
HLG, P-30, Fast Gas Combo*, Slow Gas Combo**, OT Rubber Combo, Mulvihill***

Sunday, July 1
CLG, Classic Towline, Fast Gas Combo*, Slow Gas Combo**, Nos Rubber/Wake Combo, Moffett***

*Fast Gas Combo: 1/2A, AB, CD, 1/2A Classic (Cl), AB Cl, CD Cl. Contestants may fly any/all events on either/both days and take their best score for awards purposes. All scores will be kept separately for NC points purposes. All flights for an individual event must finish on the same day started.

**Slow Gas Combo: 1/4A Nostalgia (Nos), Early 1/2A Nos, 1/2A Nos, Nos A, Nos B, Nos C, MMM Slow Open Power (SOP). Cat II engine runs and maxes. 180 max and 12 sec engine runs for Nos and SOP. Contestants may fly any/all events on either/both days. Only their best score will count for awards purposes but all scores will be kept separately for the purpose of NC points. Must finish all flights for each individual event on the same day started.

***No awards for these events but NC points will be earned. Fly either day, but you must finish all fights on same day.

Miscellaneous:
Free RV and tent camping on the field, no hookups or dumping. Porta-potty permanently on site. Banquet Saturday night at 7:30—inquire at the field.

Accomodations:
Super 8 Inn and Suites (20 min. from the field, 5 min. from banquet venue and other restaurants and shopping; ask for MMM Club group rate) $71.10 Single / $80.10 Double) 6230 E. Pine Lane Parker, CO 80138 (720) 851-2644.
Country Manor Motel (the old standby, 15 minutes from field, 25 minutes from banquet, very limited restaurants nearby) 32681 East Colfax Avenue, Watkins, CO 80137, Phone: 303-261-9650 or 800-834-9925

Directions to the Field:
(From the east side of Denver) The field entrance is located on Quincy Rd. about 7 miles east of its intersection with the E-470 toll road. The fee for entering or exiting E-470 at Quincy is $0.75 (exact change only). Head east on Quincy for about six miles and look for a "T" intersection with Watkins Road. Now precede one more mile east on Quincy and slow down when you see a plant entrance on your left with "For Sale" signs. Now look to the right and you will see the MMM sign and gate. The lock combination is 1933. **Please re-lock the gate** behind you.

More information:
Chuck Etherington, 303-646-3705, chuck.etherington@jeppesen.com
Bill Lovins, 303-758-7011, lovins80210@att.net

Detach, Fill Out, and Mail to:
Chuck Etherington, 33946 Goldfinch Dr., Elizabeth, CO 80107
At-Field Fee Payment: $20 per event for F1A, B, C. $15 per event for F1E, G, H, J, K, P, Q. $10 for non FAI events. $30 maximum fee **or**
Send money NOW and pay only $25 for unlimited events!!!

NAME _____

ADDRESS _____

CITY / STATE / ZIP _____ **AMA #**

Circle events entered: FAI (F1A, F1B, F1C, F1E, F1G, F1H, F1J, F1K, F1P, F1Q); Glider (HLG, CLG, Classic Towline); Rubber (P-30, OT Rubber Combo, Nostalgia Rubber/Wake Combo, Mulvihill, Moffett); Gas (1/2A, AB, CD, 1/2A Classic, AB Classic, CD Classic, 1/4A Nostalgia, Early 1/2A Nostalgia, 1/2A Nostalgia, Nostalgia A, Nostalgia B, Nostalgia C, MMM Slow Open Power).

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LAST ISSUE UNTIL YOU PAY YOUR DUES!

COMING EVENTS

MONTH AND DAY	EVENT	FEATURE EVENT
JUNE 29-30, JULY 1	FAI ANNUAL 14 ROUNDER	SEE FLYER INSIDE!!
JULY 22	MMM MONTHLY	½A BOUNTY HUNTER
AUGUST 11	MMM MONTHLY	HAND LAUNCH GIRDER
SEPTEMBER 1-2	FAC MOUNTAIN STATES SCRAMBLE!	SEE FLYER INSIDE!!!
SEPTEMBER 23	MMM MONTHLY	F1H (A-1 TLG)