THE MAX-OUT

Newsletter of the Magnificent Mountain Men

AMA CHARTERED CLUB #177

Issue 2026-02
(March-April)

Is anyone else disturbed by the fact that this new carb only costs $49.95 on Amazon?

In This Issue

Club Website: themmmclub.com
Group Chat: MMMFreeFlight@groups.io

Upcoming Events

Indoor at Beth Eden	June 12	John Christensen
Casino Cup	June 13-14	Jack Murphy
Indoor at Beth Eden	June 26	John Christensen
June Scramble #2 (Changed to Norris)	June 28	Frank Menanno, Sean McEntee
14-Rounder (Lowry)	July 11-12	John McGrath, Sean McEntee
Outdoor NATS (Muncie, IN)	July 20-24	AMA
Gollywocks & Guillow's Galore (Norris)	Aug 2	Don DeLoach, Bernie Olson

From John Christensen: "Anyone not receiving announcements about indoor at Beth Eden can be added to the email list by contacting me at: cloverdale1955@gmail.com "

MMM Club Officers and Contact List

President
Chuck Etherington **720-201-6218**

Vice President:
Bernie Olson **682-333-4802**

Sec'y / Treasurer and Flying Site Coordinator:
Chuck Etherington **720-201-6218**

PR:
Don DeLoach **719-964-7117**

Newsletter:
John McGrath **719-963-9227**

Indoor Coordinator:
Sean McEntee **314-910-2097**

Club Records Monitor:
Don DeLoach **719-964-7117**

Safety Officer
Ken Phair **303-771-3263**

Club Points Monitor:
Jace Pivonka **720-202-2936**
Pete McQuade (backup)

The President's Corner

By Chuck Etherington

Lowry Ranch lessee meeting:
Bernie Olson and I attended the meeting on 21 May. Many of the other lessees reported on what is happening with their particular ranch use. Very little pertained directly to us but one report caught our attention. In an update on the Titan I missile complex ground water contamination monitoring, Jace Pivonka's dad, Lee, was brought up. He was a groundwater hydrologist for the state and was in charge of the Titan site for 20+ years. His name was spoken with a sense of reverence and loss due to his retirement. The lessee meeting notes are printed elsewhere in this newsletter.

Darold Jones' honor dinner:
Also on 21 May we held a dinner in honor of our dear friend, Darold. We gathered at Darold's favorite restaurant, La Unica, in Colorado Springs, and celebrated his life. Darold's wife, Sue, and daughter, Tracy, were honored guests.

Fire extinguishers and weather radio:
Our safety officer, Ken Phair, added new fire extinguishers to our Lowry and Norris clubhouses (porta-potties), and also secured a weather radio for the CD briefcase. In case of a buildup of storm activity we can get real-time data. It would have been very handy to track the tornado paths at the May scramble last year.

National Records:
At last week's scramble (June) two national records were set. Frank Menanno (F1S) and Don DeLoach (A-Electric) were battling it out for top scramble honors and both managed a string of 10 maxes. Don won the scramble by the narrowest of margins, but more importantly, both set new national records! The CD, Sean McEntee, submitted the application forms. Congratulations guys!

Indoor World Championships:
As I write this, Tom Norell (MMM member and indoor flyer extraordinaire) is heading to Moscow, Idaho for the Indoor Senior and Junior World Championships. Tom is serving as the Senior Team Manager and we're very proud of him. Good luck Guys!

Dr. Beeman: On a sad note, Dr. Marvin Beeman died Sunday (14 June). He was at the Lowry Ranch exercising the hunt club's hounds when his horse stepped in a hole, went down and rolled over him, killing him instantly. Over the years he had many falls, including recently breaking his neck when his horse slipped on some ice. Even at 92, there was nobody tougher nor sharper. On several occasions he told Nick Trainer, the rancher, "I want to take my last breath on the back of a horse hunting out here." Sad, but also happy that he got to go out the way he wanted. We should all be so lucky as to go out chasing a model airplane.

Dr. Beeman co-founded the Littleton Large Animal Clinic and began practicing in 1957. He served as president of the practice for 29 years and was the official veterinarian of the National Western Stock Show (NWSS). He was a lifelong member of Arapahoe Hunt and served as the club's veterinarian.

On a personal note, I met him 41 years ago when Arapahoe Hunt moved from the Phipps owned "Highlands Ranch" to Lowry, and my wife, Susan, worked with his wife, Euni, at the NWSS. He was at the Lowry Lessee meeting three weeks ago and was as warm and friendly as ever. He will be missed.

I will see you at the next scramble on 28 June. Please note that the location has changed to the Norris site.

Lowry Ranch Lessee Meeting Notes
(Attended by Pres. Chuck E. and VP Bernie O.)

Date: May 21, 2026

Time: 10:00 am – 11:30 am

Location: Lowry Ranch Shop (31390 E Quincy Ave, Watkins, CO 80137)

1. Welcome & Group Introductions

- Presenter: Rachel Turner

2. State Land Board Strategic Plan & HB 1332 Working Group

- Presenter: Eliot Hoyt
- Updates: Strategic Plan updates have been posted live on the website.
    - There are 25 full members involved in the HB 1332 working group.
        - DNR Work Group Webpage shown
    - The next working group meeting is scheduled for May 28.

3. General Lowry Updates (Reclamation & Weed Management)

- Presenters: Rachel Turner, Lindsey Brandt, and Carla DeMasters
- Updates: Recommendation Document
    - LowryRanch_Reclamation Draft.pdf presented
    - Lowry Seedmix

4. UXO Safety Reminders

- Presenter: Colorado Department of Public Health and Environment (CDPHE)
- Key Reminders (The 3 Rs): Recognize, Retreat, Report.
  * If you see an object: Don't pick it up!
    - Take photos of the location and note any relevant location information.
    - Immediately call 911 to dispatch the Arapahoe County Bomb Squad.
        - UXO_Handout_CDPHE.pdf shown
        - UXOSafety_Handout_CDPHE.pdf shown
- Site Status & Cleanups:
    - There are 15 total cleanup areas across the ranch/former gunnery range.
        - 3 areas still remain to be addressed.
    - Focus remains on residual sites, sensitive areas, pipeline/electrical corridors, and the area near Tetra Tech/Xcel.
    - The Army Corps of Engineers is currently delineating and re-surveying areas using new technology.

5. Lessee Updates

- SM Energy / Civitas *(Presented by Dan Harrington)*
    - Lowry Ranch Lessee Meeting 2026 - SM.pdf
    - Lowry Range CAP Updates: Active pipeline and road improvements are underway.
    - La Plata: Heavy operations are complete; turning units on within the next 2 weeks.
    - Harvard Yale: Successfully drilled.
    - Wetterhorn: Drilling on this site is done; turning on in approximately 2 weeks (expected 3rd Quarter).
    - Eastern Road: Infrastructure improvements and pipeline construction are complete.
    - Sunlight / Long: Located southwest.
    - State Blanca: ECMC hearing is scheduled; work is blocked for a week and a half.
    - Snuffles: Located north of Quincy; drilling slated for 2027–2028.
    - All scheduled project drilling across these tracts is tracking to be completely wrapped up by 2029.
    - Road and pipeline work is currently underway in the western area, alongside active UXO clearance.
    - Sunlight Long Pad: Drilling is scheduled to start in the 4th Quarter. They will drill Blanca before moving to Sunlight, leaving Snuffles for last.
- Pure Cycle / Rangeview *(Presented by Brent Brouillard & Geoff Greenman)*
    - Water Decree Updates: Settlements have been reached with opposers, and the water decree is officially updated.
    - County Line & Quincy: 4 new alluvial wells were established last summer.
    - Plumbing for these wells was completed last summer, though some elements remain on hold due to Right-of-Ways (ROWs). Pipeline work will resume shortly.
    - Surface Water Diversion: Using an inflatable dam. When inflated, they can successfully divert surface water.
    - Infrastructure Projects: Currently designing and working on new 24" pipelines to drastically improve distribution capacity and route water to storage ponds for system distribution.
    - A formal feasibility study is underway for constructing future reservoirs.
- GMT Exploration *(Presented by Maxwell Blair)*
    - Summer Activity: Development is planned across 2 distinct sites.
    - Secret Stash 35: Construction has officially begun on the entrance.
    - North Rim: Plans to be "in" by the 28th.
    - Infrastructure: Improving Ridge Road up to the County Line, specifically from the north down to the pads.
    - Drilling Schedule: Scheduled to begin drilling in late June.

- Pipelines: Laying a pipeline from Secret Stash East to connect to an existing 10-foot pipeline.
- Arapahoe Hunt Club (AHC) *(Presented by Dr. Marvin Beeman)*
  - Historically known as the Masters of Fox Hounds, operating since 1934 at Highlands Ranch.
  - Conducts 60-75 hunts per year. Sessions run during mornings from September through April.
  - Introduced a new Huntsman to the group.
  - Membership consists of approximately 133 individuals, with 30 to 40 riders actively participating per event.
  - Actively expanding outreach via the Pony Club, introducing kids and families to the sport.
  - Confirmed that local helicopter flyovers have not negatively impacted their operations or animals.
- Flyover / Air Traffic Updates
  - Helicopter Traffic: Noticeable influx of extra helicopter traffic
  - Notice to Air Missions protocols are actively managed by Sergeant Rice.
  - UAS / Drone Operations: Operating under a nationwide Certificate of Authority. Unarmed drones weighing under 8 lbs are permitted to fly at altitudes up to 400 feet.
  - Regional Air Traffic Concerns: Monitoring nearby Amazon warehouse buildings, growth around Buckley Space Force Base, and micro-nuclear development sites for energy.
  - Ranch Request: Lessees request advance notice of ranch seeding timelines so they can adjust operations and ensure soil treatments "don't blow away."
  -
- Crosswinds RC Club Updates
  - July 17–19: Hosting two Aerobatics contests (The 5th Annual Crosswinds RC Summer Pattern Showdown)
  - Labor Day Weekend: Annual Fun Fly club event featuring a BBQ, warbird model flights, and skills contests (Airplane Limbo, spot landing, flour-bag "bomb drops").
  - September: Upcoming Helicopter Event flyer
    - 2026 MHHSD wsponsors (1).png
  - October 3: Single-day aerobatics event scheduled.

6. Wrap-up & Questions

- Presenter: Rachel Turner

Notes by VP Bernie Olson

- A five-year strategic plan for state trust lands establishes three central strategic goals. Lowry was recognized as a model for other sites around the state.
  - **Enduring Revenue**: Distribute dependable and growing cash flows for current and future beneficiaries.
  - **Resilient Land**: Advance the economic productivity of trust lands through sound stewardship, including protecting and enhancing the beauty, natural values, open space, and wildlife habitat for this and future generations.
  - **Connecting People**: Ensure long-term organizational excellence by empowering staff and building trust among diverse networks.

    Together, these goals reflect a balanced, portfolio-based approach to managing trust assets—one that recognizes both the importance of reliable revenue today and the need to adapt to changing environmental, economic, and social conditions over time.
  - *My notes: Although we don't provide much income, it seems the Land Board appreciates having active, respectful recreational users of the site. It provides credibility for the state that the land is being widely used by Coloradans. We absolutely must continue to be good stewards.*
- The UXO safety items are a good reminder for all of us concerning unexploded ordinance.
- The Lowry airspace use was good to include.
  - No longer pursuing an MOA over Lowry due to cost and time required for its establishment
  - In addition to helicopter activity, Lowry also operates unmanned aircraft over Lowry. They are operated by line-of-site and below 400 feet agl. I believe these are quads not fixed wing.
- Other interesting items:
- Civitas is now SM Energy
  - Another energy drilling company, GMT, is active on the SW portion of Lowry.
- Doc Marvin Beeman gave an update for the Hunt Club
  - They hunt coyotes, not fox.
  - On the east side of the Lowry site, along Box Elder creek, tracks can still be seen from a portion of the Santa Fe trail.

22nd Annual Pikes Peak Ceiling Climb

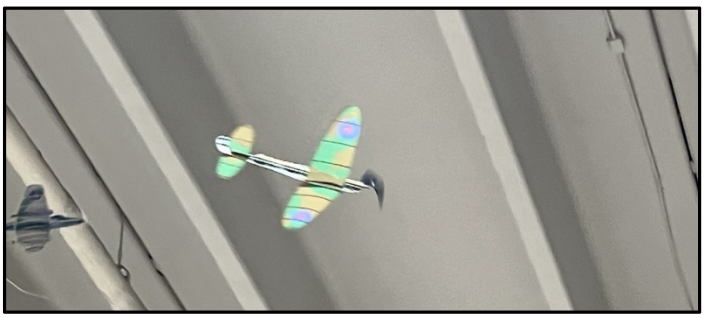
Manitou Springs High School
25'-3" Cat. II
April 13, 2026
Don DeLoach, CD

It's hard to believe twenty years have passed since the first Pikes Peak Ceiling Climb indoor champs. Back then we had been flying at the Colorado Springs City Auditorium for a few years. When Indoor legend Rob Romash moved to Colorado in 2004 our club became much more interested in Indoor. Within a couple years Rob and I started talking about holding a proper annual indoor meet, and the PPCC was born. Since the first PPCC in 2007 we've hosted a number of former World Champions and lots of other elite flyers. Several times it was a two-day contest. Several AMA records have even been set.

David Aronstein's Gloster Meteor No-Cal

Following a shakeup in Auditorium staffing and loss of access we've held the PPCC elsewhere since 2020—twice at Galloogly center at UCCS and four times now at MSHS, our nifty 25'-3" standby site.

The 2026 PPCC was a dandy, featuring stable air inside, a solid turnout and excellent competition in most events.

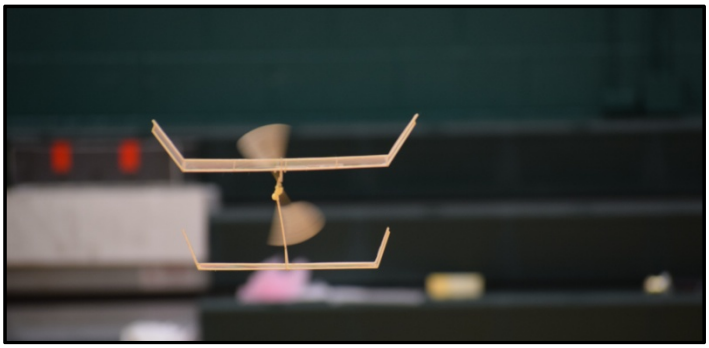


Bernie looks happy about his biplane LPP!
(He should be happy. That model is magnificent.)

Tom Norell turned in another championship performance with everything he flew, but in particular his stunning Peanut Scale B.A.T. Monoplane, scoring a 1:50 best flight. Just amazing. Tom also won Dime Scale, A-6, P-24 and P-24 Mass Launch.

Tom watches his A-6 cruise by. Concentration!

The most popular event was P-18 with seven flyers. The top three were separated by only 3 seconds, part of why I love P-18 so much.



John Christensen's A-6. Great forward view.

David Aronstein has long been the master of No-Cal and this year was not different. He easily won WWII Mass Launch with his battle-tested Meteor. But his new model for regular No-Cal—a Fairy

Spearfish—is surely one of the most amazing No-Cals in history. Featuring a rolled motor stick and thread (yes, thread) fuselage outlines to save weight…it weighs an astounding 1.7g without rubber. Best flight in this contest was 5:29 with a second best of 5:07. Surely, if David keeps plugging away, he'll eventually figure out this Free Flight stuff!

David and John closely inspect David's Spearfish for flaws.
(I saw none!—Ed.)

Finally, congrats to Tom Norell for another hard-earned PPCC Grand Championship.

See you next year for PPCC XXI!

AMA HLG

Don DeLoach	18.3+19.3	37.6

Standard Catapult Glider

Don DeLoach	21.8+21.0	42.8

Unlimited Catapult Glider

Bernie Olson	27.7+27.4	55.1

Tiny Glider

John Christensen (3.19")	12.5+12.6	5.99
David Aronstein (4.0")	9.5+9.6	3.82
Tom Norell (2.19" wing span)	3.0+3.1	1.94

Jet Catapult Scale

Tom Norell	Heinkel	9.8+10.1+10.9	30.8
David Aronstein	F-4	8.8+8.3+9.3	26.4
Don DeLoach	Heinkel	2.3	2.3

Phantom Flash 5g

John Christensen	1:12
Chuck Etherington	1:11
Jerry Murphy	1:07

WWII No-Cal Mass Launch (2 rounds)

David Aronstein	Meteor	winner
Tom Norell	SBD	2nd
John McGrath	Spitfire	3rd
Don DeLoach	Spitfire XII	4th

FAC No-Cal Scale

David Aronstein	Fairey	5:29
John McGrath	Spitfire	1:27
Bernie Olson	Cessna	1:07

Limited Pennyplane

Don DeLoach	5:11
Bernie Olson	4:39
John McGrath	4:28
Jerry Murphy	3:44
Bob Radney	1:51

FAC Peanut Scale

Tom Norell	BAT Monoplane	167.0
David Aronstein	Boeing Mailplane	135.0
John Christensen	Lacey M-10	113.0

Easy B

Bernie Olson	5:34
David Aronstein	1:41

A-6

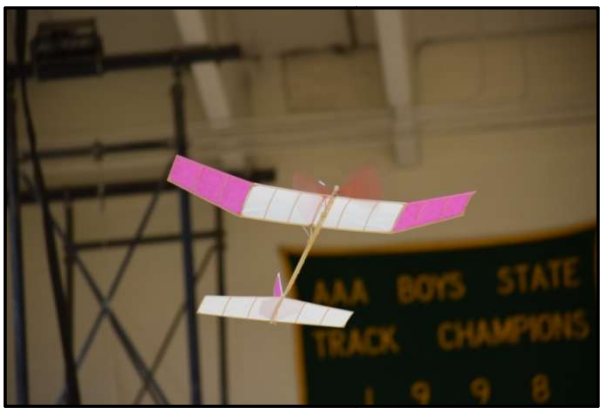
Tom Norell	4:36
John McGrath	1:58
John Christensen	1:57
Bob Radney	:38

P-18

Don DeLoach	2:09
David Aronstein	2:08
John McGrath	2:06
Chuck Etherington	1:47
Frank Menanno	1:45
Bob Radney	1:40
Bernie Olson	1:26

P-18 Mass Launch

John McGrath	winner
Don DeLoach	2nd
David Aronstein	3rd
Chuck Etherington	4th
Bob Radney	4th



P-24 Mass Launch

Tom Norell	winner
Chuck Etherington	2nd
Frank Menanno	3rd

P-24

Tom Norell	2:25
Chuck Etherington	1:56

Murph launches his extremely well working Phantom Flash

Phantom Flash 5g Mass Launch (2 rounds)

Jerry Murphy	winner
Chuck Etherington	2nd
Don DeLoach	3rd
John Christensen	4th

Bostonian

John Christensen	:57

Dime Scale

Tom Norell	Martin MO-1	51
David Aronstein	Luscombe	49
Don DeLoach	Martin MO-1	23

Grand Champion "Colorado Cup"

Tom Norell	16
Don DeLoach	15
Bernie Olson	14
John McGrath	13
David Aronstein	13
John Christensen	11

Bob Radney's Zaic-inspired Limited Pennyplane. (Is that design versatile or what? Bob's 4th variation on that theme—at least.)

April Scramble

John McGrath, CD

Is this April? After claiming for years how susceptible the April Scramble's been to bad weather, we had what has to be one of the most perfect flying days ever for our April contest. In fact, if I'm counting right, it's been three years since we've failed to pull off the April scramble. Still—as I write this there's a forecast for a little bit of snow later on, so it's not summer yet.

Early bird Frank Menanno was already at the field around 0800 and was putting up plenty of flights with his electrics—notably a beautiful elliptical-wing B Electric that Frank had acquired from Todd Reynolds that had been one of his father Randy's F1Q models some years ago. It flew beautifully, and looks like it's going to be a serious contender.

Veep Bernie Olson was out early as well, and was prepping his brand new Viking E-36 for its maiden flight(s). What a gorgeous model. We saw it develop over the course of the last few months as a plan in the Maxout, then uncovered in the bones at the Annual meeting in January and finally in the last issue of the Maxout with photos of the completed model. How did it do? It did take to the air, but during the trim flights it suffered a fuselage break aft of the pylon and so is back in the shop for a repair. Chuck told the story of a previous acquaintance, who used to build very light models. When they'd break—which was inevitable--he's simply repair the breaks, ultimately winding up with a working model at minimum weight. I guess that's one way to do it!

Bernie about to launch. (*Looking pretty gangsta there, Bern*)

My own E-20 now has the new BMK E-20 Pro RDT board on it, and I have to say the difference is very noticeable! There's a lot more metal in the board to help hustle the current from the cell to the motor, and all connections are made with solder—not connectors. My model isn't especially light, and I always carry a few grams of tracker aboard, but on the same motor as last year, I was definitely getting higher. I did lose a round of *Power Trim 20 Questions* with Chuck, though. At first my model was climbing but very loopy, turning fast tight circles to the right. Chuck: Why do you think it's going that? "Wing twist?" Nope. "CG?" Nope. "Downthrust?" Nope. Finally I said "Incidence" just as Chuck was about to walk away in disgust. Well, I didn't actually mess with the incidence—I just added a smidge of left thrust, which is an easier adjustment on my model. Worked okay, but at the end of the motor run the model's going straight up and stalls hard.

Along came Bill and Karren Groman (below), who are coming on like gangbusters flying Cat-launched gliders. (I was going to call them the club's power couple, but that's not quite right…). Bill knocked out three maxes—and almost a fourth—to take 2nd place in the contest. Bill's work on his own design is extremely impressive, and his work with Karren involving some some high-speed videography at the launch has really paid off.

It was great seeing Sean McEntee and Clara out at the field. Sean's had some challenges getting to club events lately. Between his academic work, the need for a speed run back to St. Louis and I'm sure life as a single dad, it's been a tough Spring!

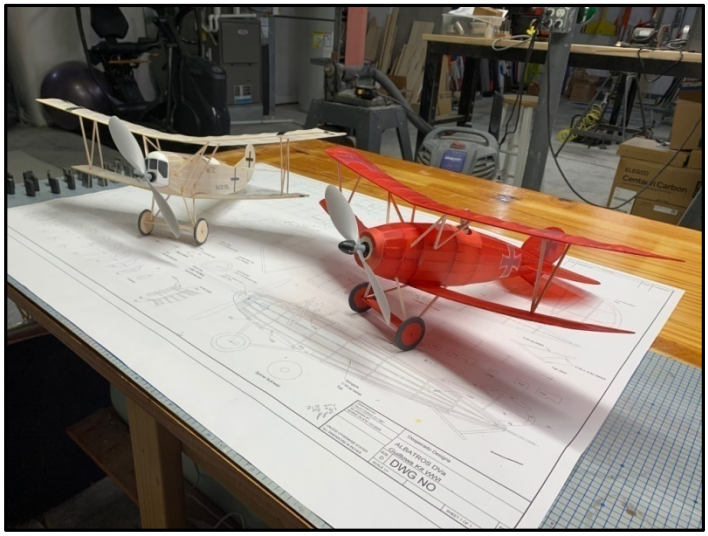
Also at the field were Murph and Rick (who was Assistant CD). Both were timing plenty of flights (as was Chuck of course) and enjoyed a nice day in the sun. These CAVU days are tough to beat! Best of all, Rick reported a bit of an upswing in Cass's condition, and of course we all hope that's a sign of good things for the future. We miss you, Cass.

First place? The sticker went to Frank, for his six straight maxes in B Electric—and except for dropping his 7th by only 10 seconds, he'd have had even more. Congratulations, Frank!
Here's to a great season.

Projects and New Builds

Oh man, we have a lot going on this month! Let's kick off with…

Bernie's Guillow's Biplanes—Updated

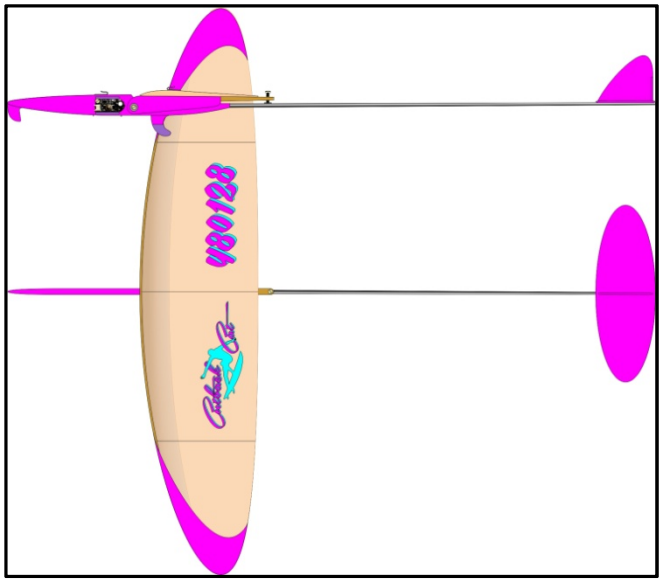


From Bernie: "Well, the bipes are covered in relatively easy color schemes. The Albatross (Manfred von Richthofen) came in at 31.35 grams and the DVII (Hermann Goering) at 37.63."

Bill's Cutback Cat-Launched Glider

From Bill: "Not sure if these are too late to make it in, but here are some pics of my CLG and a two-view drawing. I'm still waiting for results from testing to finalize details but when I get them I'll submit a line drawing with full dimensions.

The word Cut in Cutback Cat derives from all the testing I did last year trying to cut weight and drag from the modified CataKids I was flying. Last summer I was building a new glider every week, reducing material sizes until failures crept in, and reducing drag wherever I saw an option.



The word Back refers to sweepback. I eventually decided to abandon the CataKid wing and tail volume numbers in order to test some speculations of mine regarding pure elliptical surfaces, and also with control of micro-vortices induced by spanwise flow over swept leading edges. A pure ellipse is hard to beat in regard to maximizing "good area" near the root, and minimizing "bad area" near the tips, so I started with a mathematically perfect ellipse of appropriate major and minor axes. To get sweepback, I then took the vertices and incrementally moved them back until I had the amount of average LE sweep I wanted to start with. The challenge, of course, is taking something mathematically exact and transforming it into balsa, but patient sanding and measuring is part of CLG anyway.

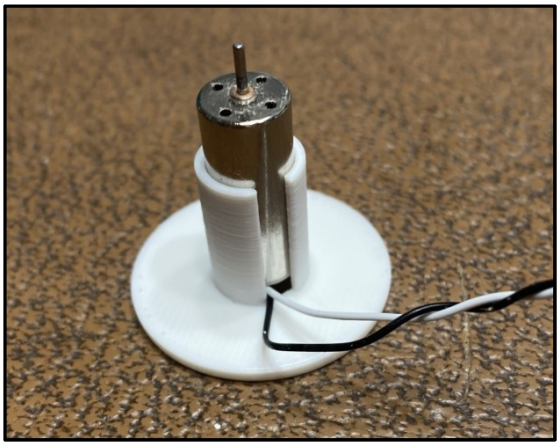
I also tested new options for tail volume, sizing the surfaces to work together with the swept wing for improved transition while reducing spiral instability. The graphic on the wing is a drawing I made of my son surfing, performing (of course) a Cutback."

Bob Radney's Condor P-24

From Bob: "I had cut all the ribs a couple of months ago but side tracked by trying to build a E20. The condor went together rapidly once I figured out the motor stick size. I was confused by the pylon diagram which showed the use of 1/16x1/4 balsa. The orange tissue is Esaki and the striped tissue is from the Dollar Tree store. I attached it to the airframe with Elmers glue stick. The striped tissue is heavier but can't find Jap tissue in stripes. If I remember correctly it weighs about 13.7 grams waiting to get a chance to go to Beth Eden for maiden flight"

Fantastic job, Bob! Love the invasion stripes ☺

Bob's E-20 Motor Mount



From Bob: "John told me he thought that my P18 design might make an interesting E20, so I sat down and put on paper. After looking at other E20s I wanted to design a motor mount that could be used with a carbon tube fuselage, and could be easily removable if the motor went bad or the prop shaft got bent.

One of the guys in the Pikes Peak Soaring Society (Bob Avery) has been 3d printing stuff for guys in the club for years. I drew up the plan and emailed it to him, he had 4 of them done by the next day. The motor fits well and is held in place with a dab of E6000 adhesive at the front of the slot for the wires.

The fuselage I built as a test bed is built up from 1/8 sticks and 1/32 sheet balsa. I also built two wing versions one built up and the other from sheet balsa which at this time I do not have a photo of. Weight is 50+ g and awaiting for a calm day to test glide. It has an older BMK timer /burner w/o RDT for now. OBTW the mount plate can be reduced in size and uses 3 screws to attach it to the fuselage."

Looking forward to seeing it fly, Bob!

Fabricated a DT bellcrank pivot/bearing on a 3D printer that works smoothly and reliably. The GPS tracker is installed in the wing. Wingspan is 54 ½ inches, area is 419 sq inches. Finished weight of the model came in at 15 oz with 450Mah 3S battery."

Photos don't do Bernie's front end justice. There's beautiful fairing from the fuselage to the firewall.

Bernie's A Electric Super J

From Bernie: "John--Finished a Super J kit from CB Model Designs in order to provide Frank with a victim in A-Electric. Construction was straight forward. It's powered by a Cobra C-2213-12 motor and a Cobra 33A ESC. The timer is an eMax II from Texas Timers. This was my first attempt at covering with Icarex following Harry Grogan's article on page 34 of the Nov/Dec 2016 NFFS Free Flight Digest. It was easy to apply, looks nice and supposedly fairly puncture resistant. I'd gladly cover with Icarex again.

Bob's Javelin and Spitfire

From Bob: "These two birds were both die cut kits from Guillows. The Javilin I bought probably 7 to 10 years ago. It built fairly fast once I got all the parts cut out as the die cutting was really bad. It's not quite finished yet as I need to figure out a DT system. I think a drop weight should work as the stab is glued down per the plan (I guess they didn't use pop up stabs back in the day). Again, I used domestic tissue

from Dollar Tree, applied with Elmer's glue stick, and one coat of thinned dope. Haven't weighed or test glided yet as I want to change the prop (it's a 5.75 in dia.) to a 7 in Sig power prop. Again, waiting for a calm day.

The Spitfire is another story. Most of the die cut parts came out easy. Not all were cut correctly. All the fuselage formers were not cut or even marked for the stringers. It was the hardest to build yet. This kit came from a PPSS member and had been opened, with a couple of plastic parts missing. Luckily there were duplicate plastic parts and decals in the box (apparently one set for scale and one for flying.)

The motor shaft bearing is plastic, about ½" in diameter and fits directly into the plastic nose cowling. Way too small to feed a 1/4 in loop of rubber into, so I opened the hole up to about 3/4 in and made a ply plate to fit. Oh by the way, that prop that comes with the kit weighs 5 grams. I scraped 2.5 grams off of it. It's still too fat. Used the gray tissue that came with the kit. Base paint is grey with a camp green applied over the grey . The decals break very easy while applying them."
Bob—you are going to be ready for the Guillow's and Gollywocks contest!

Frank's Ramrod 600

From Frank: "Repaired my Ramrod 600. It's got a K&B .29 green head, TM (Team Menanno) RDT timer. This is the one that had the wing fold on me during y first flyoff flight at the 2026 SWR in C Nostalgia. When I received gthis plane it needed a wing repair. This is the second time I've repaired this wing and I'm loooking forward to flying it again!"

John's Gollywock

Years before I ever got around to building one, Murph said the Gollywock is pretty much the lab standard for rubber models. After building one, I'm starting to get it. There's so much lore and history (and differing opinions) with a model like this, you're

kind of afraid to put one foot in front of the other at first, but two things stood out for me. One, there's still a little room for doing your own thing. On this model, I used the same DT system I've been using on pretty much all of my models for the past few years. Plus I did a little original work with the front end thrust bearing business. The other thing is that with a model like this, you're really surrounded by helpers. This one really took a village! I got a short kit from Darold. He also provided a copy of plans with Bill Gibbons' annotations, which were very informative. Don led me through my first wood prop, plus provided first flight support, Murph provided some inspiration during a fuselage inspection at Red Leg in addition to providing me some magnets and a really nice screw-together rear peg. About five years back, Jace gave me a stranding stick that I'm just now putting to use. Here's to the MMM club!

The model? It came out to 75g all up, which is about mid-range, judging by other weights provide in the excellent Free Flight Quarterly book, which Don lent me. The fuse is covered with Polyspan, and seems bulletproof. I'm still working on thrust line and a little wing wash-in on the starboard wing (or should I go with wash-out on the port?) to get it to climb smoothly, and I now realize I need to figure out how to solder a certain brass washer in the front end. Overall—I'm happy.

John's Super Pearl 202

After Frank asked me to give some thought to creating a small-package button/servo/mousetrap frame based on the BMK E-36+ timer board, it was obvious I couldn't really do that without having an E-36 on which to try it. I had one of Don's short kits and a plan that I'd been given some years ago, so I got a CF stick of the right kind from Kites and Fun Things and got to work.

The wing went together remarkably quickly (like 1.5 sessions), but as I learned later in my first flight, I should have replaced the spars with spruce instead of the hard balsa. (See the buggered up wing in the photo.)

Button, vertical-axis servo, switch, mousetrap. Business card for size comparison. I'm working on making it smaller still.

I used some of Don's Mongolian carbon fiber (bond paper) for cap-stripping the inner ribs, and I created the trailing edges using a printed sanding tool I made for the occasion. Covering was tissue all around, which made for a really stiff wing, but prone to field damage, I know.

For the pylon, I wanted to fiberglass it for toughness but I didn't have any good two-part resin. Instead, I tried using regular red-label Titebond. First I put down a quick layer of Titebond thinned with water, then laid the glass on top of it. Immediately I brushed more of that thinned Titebond right through the 1-oz. glass. It really worked well. It came out rock hard, and because most of Titebond evaporates away, I believe it to be very light. I'd definitely use the technique again, and you can't beat the lack of fumes and odors. (Good for domestic felicity.)

The model came out to 130g with battery, which is a little heavier than the 120g minimum weight for E-36. The motor is a Cobra 2800kv E-

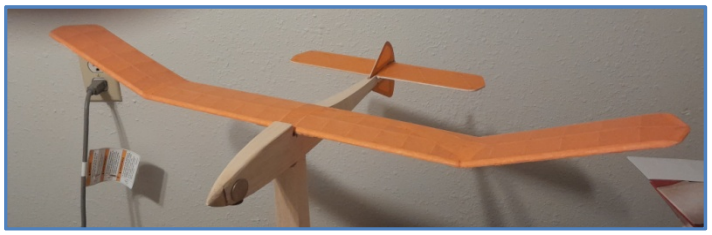
36/F1S model. This isn't the current state of the art, but it seems fine to me. I'm starting with a 6 x 6 prop, but may drop down to a 6 x 4.

The first flight was this past scramble (June). Don showed me an E-36-style hand glide, which was a fast throw with the nose just below the horizon. The object is to make sure the model has some positive stability. We added a turn of the incidence screw, then I launched it with a 2-second motor run. To my surprise, it climbed very steeply and 'rationally'—no funny business. However, with just a 2-second run, it reached a pretty good height under power, then pitched over into a dive. I hit the RDT button after a couple of seconds, but by then it was moving fast. The hard stall buckled the top main spar just outboard of the joiners. Back to the shop to replace those spars with spruce and 'actual' CF and recover the middle of the wing. Still—I'm excited! One model—four events.

Dan Cooper's towline gliders

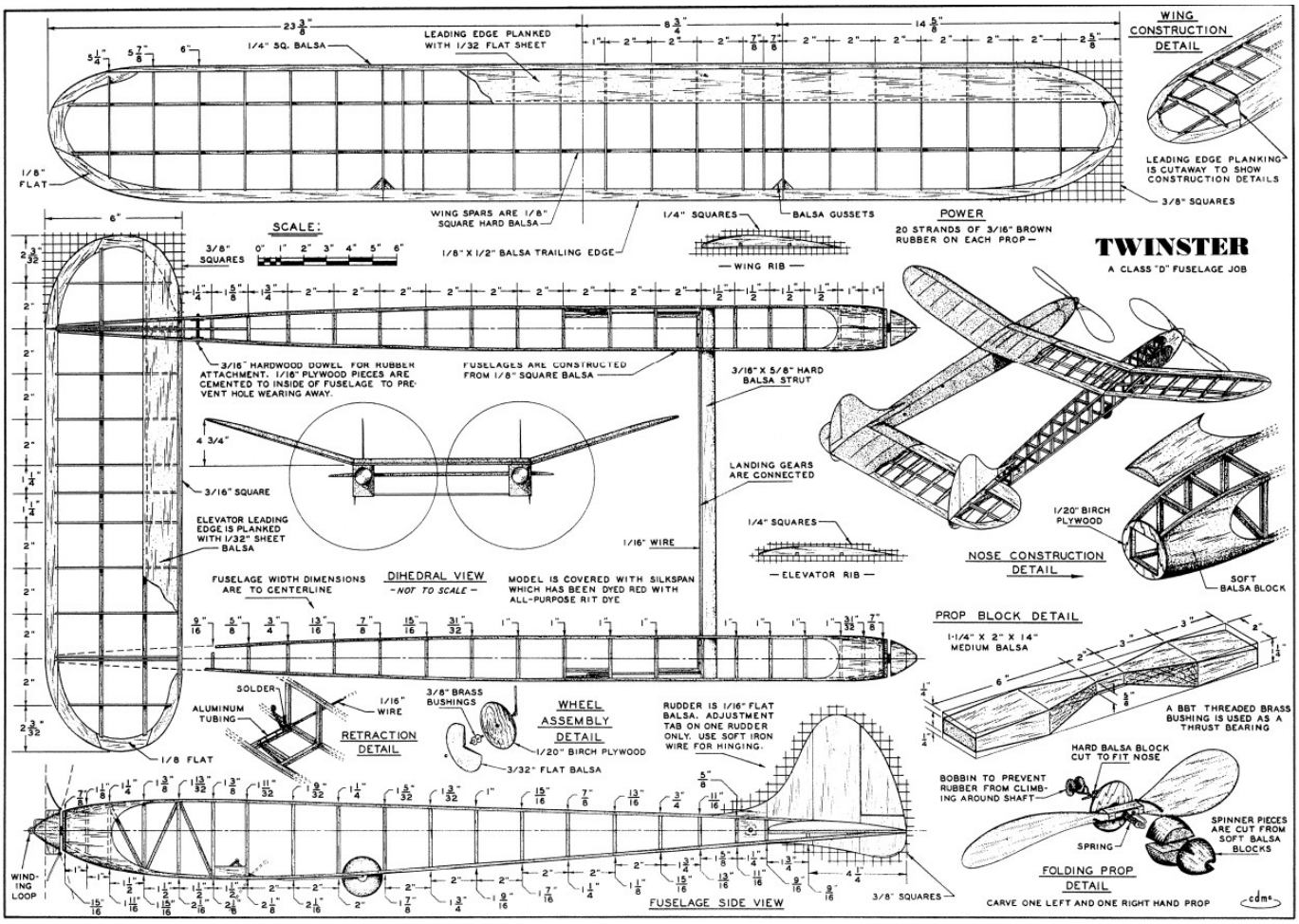
Dan is a new member of the club (and new to free flight), and he's sent me some fantastic shots of his towline gliders. These are all in the 30-32" range and would be great candidates for the NFFS Hi-Start event.

Petrel



Lulu Baby

Great job, Dan, and welcome aboard! Dan also provided to me a PDF of this really cool 1947 Class D Twinster (below). Dan aspires to make multi-motor electric free flying models.



A Deep Dive into David Aronstein's Gloster Meteor No-Cal

What a treat: This is the galley proof of David's 2006 Flying Models article on the model, and we also have some of David's earlier photos and plan at the end. Thank you, David!

Editorial Galley Proof

OCTOBER 2006 issue

Gloster Meteor No-Cal Rubber Model
By David Aronstein

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Time does not allow for mail-in corrections

FLYING MODELS

P.O. Box 700, Newton, N.J. 07860

I just had the pleasure of reading Chris Starleaf's article (July 2006 ***FM***) on his Fairey *Barracuda* full-fuselage scale model, built for outdoor FAC WWII Mass Launch flying. I can only agree heartily with everything he says about competing in Mass Launch events. Consistency, consistency, consistency, is what my Dad taught me, and many design features of this model reflect that advice.

It is also serendipitous that Chris's subject is the *Barracuda,* because my arch-rival in the indoor Mass Launches in Oklahoma City is also a Fairey *Barracuda* built and flown by none other than the illustrious FLYING MODELS freeflight columnist, Larry Kruse.

Background

My Gloster *Meteor* was designed to be a competitive World War Two Indoor No-Cal. The clean design, large wing chord, and long slender fuselage of this early jet make it a nearly ideal subject. The same qualities would make it a good contender in any No-Cal contest, or a fine sport flier, in addition to which it is distinctive and historically significant.

The Gloster *Meteor* was the only Allied jet fighter to enter combat in World War Two. The first combat missions were flown against German V-1 flying bombs over the English Channel, starting in the summer of 1944. In early 1945, *Meteors* were sent to Belgium and flew primarily ground attack missions. The Meteor never engaged its famous counterpart, the Me.262, directly in air-to-air combat. Development, production, and deployment continued extensively after the war, and *Meteors* were used by Argentina, the Netherlands, Belgium, France, Denmark, Egypt, Brazil, Syria, Israel and Sweden, serving in some of these air forces into the 1960s.

The plans presented here are for a World War Two *Meteor*. Post-war variants had more squared-off tail surfaces, and some had a significantly longer nose to house a second crew member and/or a radar system. While this could be advantageous for a rubber model, I needed a WWII model, and the nose on the WWII version is quite long in any case.

The *Meteor* model has done well in several seasons of local contest flying, plus a lot of fun flying, in the 3½ years since I built it. I have logged 99 flights totaling over 250 minutes in the air; entered more than 15 WWII mass launches; and won 11 of them (although not in a field of 60 competitors like you might find at the FAC Nats). Typical contest performance in a 37-foot ceiling (where I usually fly) is between 3:10 and 3:25. My best time in a mass launch was 3:26, but on that day I came in second; Larry Kruse made 3:28 with his Fairey *Barracuda*. I have not had a chance to really wring out my *Meteor* in a high ceiling, but I suspect the ultimate capability is well over five minutes.

WWII No-Cal is commonly flown with 6.2 gram minimum weight (without motor), 7-inch maximum propeller diameter, and, of course, 16-inch maximum wingspan. The *Meteor* is a big airplane, and you will have to use light wood to keep it close to 6.2 grams. Mine is a little over. It came out at 6.2 grams with no ballast, but the nose weight brought it up to 7.0 grams. By moving the rear rubber hook forward (as shown on the plans), I was able to bring the total down to 6.5 grams.

No-Cal Scale is a Flying Aces Club (FAC) event, with published rules (contact facghq@velocity.net), but local clubs often add their own variations. If you are building the *Meteor* for competition, you should be aware of the rules and flying site conditions at the meets where you intend to fly. If the weight minimum is different, build heavier or lighter to suit. If you are building primarily for sport flying, it will certainly fly well if you do build it a little stronger. A plastic propeller would simplify things quite a bit, while supplying some of the necessary nose ballast.

To the best of my knowledge, the 7-inch prop limit is only used in WWII events. So if you are building for general No-Cal competition, and not WWII, the 7-inch prop limit probably does not apply. In this case, you could increase the propeller diameter to 8 inches or even 9 inches, but do *not* use endplates. They are only helpful when the propeller diameter is less than optimum, when constrained, for example, by contest rules or limited ground clearance (see propeller discussion). Also, you probably do not need to increase the blade width or the pitch. The blank shown on the plan has plenty.

Construction

I hardly ever use balsa wood heavier than 6 pounds per cubic foot, if I can help it. Use medium-light (5- to 6-pound) wood for the body framework, motor stick, wing spars, and tail structure. To get sticks that light, you'll probably have to strip your own from good light sheets. Make sure the sheets have straight grain and relatively uniform density before you strip, and check that your sticks come out pretty straight. If not, don't use them.

Better to use heavier sticks and build true surfaces, than to build warped surfaces from light sticks. But use the lightest balsa you can find (4-pound) for wing ribs, any other sheet parts, and for the propeller block. Not that weight is critical for the propeller, but a lighter block will take you many less hours to carve!

The motorstick is built into the body profile frame, not added on later. Aft of the rubber hook, it is tapered to reduce weight, but leave enough to provide a good stiff tailboom. I always make the motorstick the structural "backbone" of my No-Cal models, and avoid relying on the body profile for structural support! You will notice solid sheet connecting the wing to the motorstick, and beefed-up vertical tail structure supporting the stabilizer. The body profile will be covered on the right side, with the motorstick protruding slightly to the left of the rest of the framework. The rubber motor itself runs along the right side.

The motor stick is specified as ⅛ × ¼, but it could be ⅛ × 5⁄16 for high ceiling flying (where you can power it up more), or ⅛ × 3⁄16 for very low ceiling flying (i.e., 25 feet or less, where lightness will serve you better than carrying capacity). The forward rubber hook location is recommended for ceilings less than 40 feet, and the rear hook location for higher ceilings or outdoor flying. If you use the forward hook location, then move the winding-stand tube and begin the taper farther forward as well.

At the front end, I use a Peck-Polymers nylon bearing (the one with the 1⁄32 hole, not the 3⁄64 hole!) mounted with about 2 degrees left and 3 degrees down thrust. It is mounted on a solid block, bound with thread and glue. You might wait until after you've done some test flying before adding the thread binding, in case you need to adjust the thrustline. My feeling is that I would rather cut it and re-glue it a couple of times during the initial testing phase, than worry about it changing every time the model hits anything forever after!

As drawn, the left wing is longer than the right, for left turn trim. If you prefer right turns, then build the wing symmetrically or even with the opposite offset. The wing is also drawn longer than 16 inches, so that it will have 16-inch span after the dihedral is added. Note the spliced dihedral joints for strength and stiffness. I do not recommend building any wash-in or wash-out into the wing (that's more advice from my Dad). The offset provides adequate compensation for motor torque.

My wing has the "alternate" ribs with spar notch on top. With this wing construction, you could probably go down to 1/16-inch square on all the leading and trailing edges. Indoor-style sliced ribs, without the spar, would be lighter but less stiff. I don't like my models to change shape very much during flight. Some models, if they hit the ceiling and go into a dive, never recover because the wing twists and deforms at high speed. My *Meteor* with its stiff wing (and generous tail incidence) has very rapid recovery, and this has saved it in many contests!

The vertical tail is built integral to the fuselage frame. Make sure especially to get a solid connection between the motor stick, and the parts that will support the stabilizer. The stabilizer slot was intended to provide room for adjustment, but mine ended up right at the top; so you might want to provide even more room for adjustment that way (that is, a more negative angle on the stabilizer). Also, the trailing edge of the vertical tail across the stabilizer slot is a weak point; you might add a little bit of reinforcement there.

Propeller theory

The propeller blank shown is very "aggressive", with wide blades and high pitch. My intention was to keep the rpm down. In retrospect, I believe the performance in low ceilings would be just as good with a lower pitch prop, using a longer and thinner motor. The motor stick is long enough to accommodate much longer motors than what I actually use under a 37-foot ceiling. But, if you are flying in a high ceiling, the "big-bite" prop will really pay off, as it will let you carry a lot of rubber and use it slowly and efficiently. If you prefer sheet balsa or foam-cup propellers, that is fine also, but I cannot tell you how to make them.

My blank was originally 9-inch diameter, with the taper continuing as shown on the plan to an ultimate depth of 2 1/32 inches at the tips. (That's because I had overlooked the 7-inch limit!) You could use those dimensions if you do not plan to compete under a 7-inch limit. I did not put tip plates on the original 9-inch prop. They were added when I cut it down to 7 inches.

A few words about the tip plates are in order. A prop is a wing that flies in a circle. A prop tip suffers the same limitation as a wingtip. Specifically, the closer you get to the tip, the closer is the air on the lower surface, to the air on the upper surface. As the distance decreases, so does the pressure difference that can be maintained. Thus the lift per unit span diminishes to zero as you approach the tip. The end plate extends the partition between the upper and lower surfaces. Now you can carry some useful pressure difference, right out to the tip of the original surface, taking advantage of the full span of the wing (or the full diameter of the prop).

So, the advantage of the endplate is more lift on a wing at a given airspeed, or more thrust on a prop at a given rpm. The disadvantage is the parasite drag of the endplate itself. A propeller diameter is "optimum" when the parasite drag of any additional diameter would exactly counteract the benefit of having that diameter. An endplate is slightly less efficient than a diameter extension, so if the diameter is already optimum, you definitely do *not* want to add an endplate. But if the diameter is constrained to be less than optimum (for example, by rules or by ground clearance), you may stand to benefit from an endplate.

The parasite drag is a more serious concern on a prop, than on a wing, because on a prop the endplate is going faster than most of the "working surface" of the blade. So don't try this unless you're serious about it, and willing to take the time to make it neat and true.

I have had record-setting performance in the Bostonian and Federation R.O.G. events with endplates on the props. I cannot offer back-to-back comparisons for the same model with and without them; I can only say that my "pinnacle" models in both of those classes had endplates. Both of these classes have a 6-inch limit on the prop diameter. I also have endplates on the prop of my Limited Pennyplane, although I cannot claim to be competitive in that event with or without the endplates.

Propeller construction

Follow standard prop-carving methods. If you are not familiar, I will briefly summarize here. Select a nice light block with true shape and straight grain. Drill the shaft hole on a drill press before you do anything else. Then measure and cut the block to the dimensions shown. Cut it to "bow-tie" shape as seen in the front view. As seen from the side, it should be left full depth across the middle, but taper the ends of the block. Now carve the lower surface, diagonally from edge to edge of the block. The shape of the block will give you the proper amount of twist. Carve initially with a straight blade, then with a curved blade to add the undercamber. Now sand the undercambered surface with sandpaper on a cylindrical sanding block, such as a 1" dowel or a small bottle. Start rough to eliminate the knife marks, then progressively finer to get a nice surface.

Now the upper surface. Use a straight blade, and as you get close to the final shape, hold the blade up to a light. You'll be able to tell where it is thick, and where it is thin, by how much light shows through the blade. After roughing out the top surface, you can cut the blade to the final planform. This involves only minimal rounding of the corners on the outboard region, but a lot of cut-out at the back of the inboard region. I do all my cutting-out from the back, so that the uninterrupted wood grain across the front will provide strength for wall and ceiling impacts. Now finish the top surface.

The scribing tool shown on the plan will help you to trim the tip so that the endplate will wrap around a theoretical cylinder of exactly 7.0 inches outside diameter. This will ensure that it does some good with a minimum drag impact. Make it from light 1/32-inch or .020-inch sheet, with the grain running parallel to the prop shaft so that it will wrap properly. Try to glue it on *exactly* 90 degrees straight back, so that it doesn't exceed the 7" diameter, but also doesn't come inboard at all either. It is exacting work, but when you're done, you will have a unique (and intimidating) propeller.

Covering and markings

I covered my model entirely with blue Japanese tissue. You can fade the tissue slightly by taping it up in a window for a few days before you draw the markings on. (Don't leave it up too long! Also make sure the window does not collect condensation on the inside at night.) All markings are drawn on the tissue with permanent marker, prior to putting the tissue on the framework. Do not use water-based marker, as this will wrinkle the tissue. Camouflage is done with green marker on the blue background. You'll want to use a wide-tip marker because of the large areas involved. Insignia are red inner circles, blue outer circles.

I use aliphatic (yellowish) carpenter's glue, thinned 50/50 with water, for covering adhesive. Dope will probably do as good a job, but I don't like the fumes. I try to keep my modeling operations non-toxic.

The rule for covering light models is smooth, but *not* tight. For wings, I tack the tissue down to trailing edges first, then "roll" or "wrap" it over the airfoil to reach the leading edge, tacking down to the end ribs as I wrap. A *little* bit of spanwise pull as I wrap helps achieve a smooth contour. I deal with wrinkles by gently pushing the paper down onto the framework where the wrinkle is, *not* by trying to "pull" them out. If you can't get all the wrinkles out, that's okay. Wrinkles are better than warps! Do not shrink or dope the tissue after application, either, on a model this light.

Flight trimming

Get the c.g. roughly one-third of the way back on the wing chord, and make some test glides. You can do this without a motor. The midpoint of the motor is close enough to the c.g. that the motor will have little effect. When the glide is good, add a moderate-sized motor for initial powered flights. If your model is close to 6 grams, try a motor 0.085 inch or so wide (roughly 3/32 inch) and 18 inches long.

In the pitch axis, I needed as much negative incidence in my stabilizer as the oversize slot allowed, and about 3 degrees of downthrust. Plenty of incidence, together with a relatively forward c.g., provides good pitch stability. This gives consistency, plus rapid recovery from ceiling strikes.

For turn, my model required some left rudder bent in (carefully, so as not to compromise the integrity of the stabilizer mount) and about 2 degrees of left thrust. Use rudder to get the turn correct at low power. Then, if the turn becomes tighter or wider at higher power, reduce or increase the amount of left thrust *very slightly*.

If you've already added the thread wrapping around the thrust bearing, you can still make limited adjustments by cutting through the wooden bearing support without breaking the thread. Rotate it slightly for up/down thrust, or drive shims in ahead or behind for right/left thrust. Then re-glue. It's a bit of a hassle, but once you get it right it will always be right. To me, that makes it worth the extra trouble during the early stages.

Motor selection and winding for low ceilings

For indoor flying, you should select a motor which provides level flight or very slight climb on 50% winds. Add thickness if underpowered, reduce thickness if overpowered. If you want to be competitive, a rubber stripper is necessary to get fine control of your motor thickness.

For high ceilings, the rule is to use the longest motor you can put on (probably 30 inches or more!). You will have to increase

the thickness a little bit also, to carry the increased weight of a long motor.

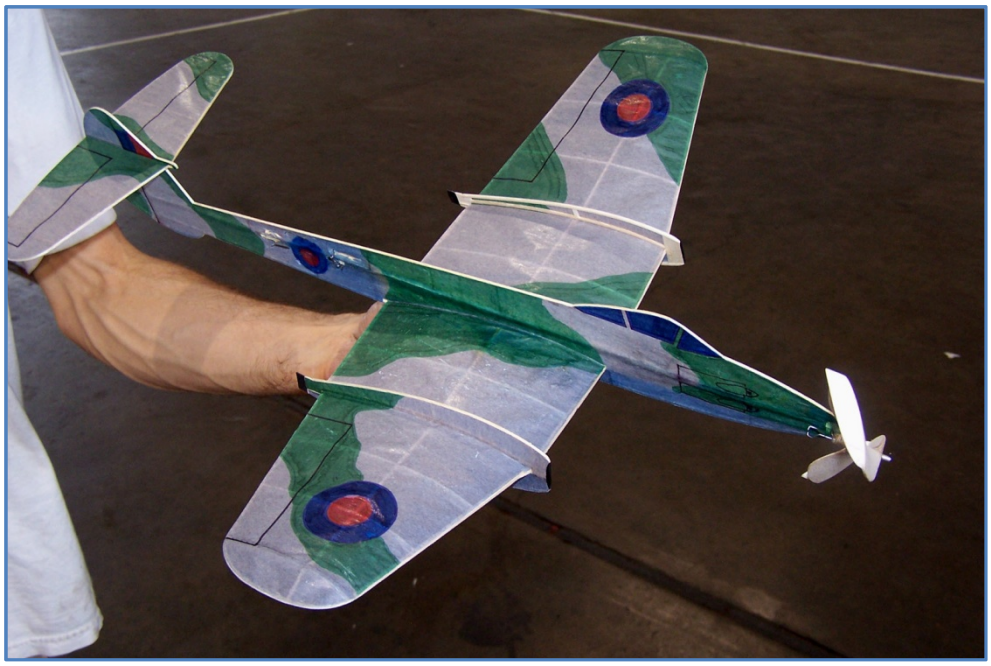
For low ceilings with girders (where you can't safely scrape around on the ceiling), you'll find that you can't ever use all the winds that you can put into such a long motor. I do most of my flying with motors of 18 inches to 25 inches length, and 0.084 inch to 0.094 inch width, which in my experience can take 2100 to 2700 turns. The shorter motors give more consistency, but slightly less ultimate capability. I wind short motors almost all the way to my best estimate of the maximum turns. A longer motor I may only wind to 90% of its capacity. But either way, I back off 5% to 10% of what I put in.

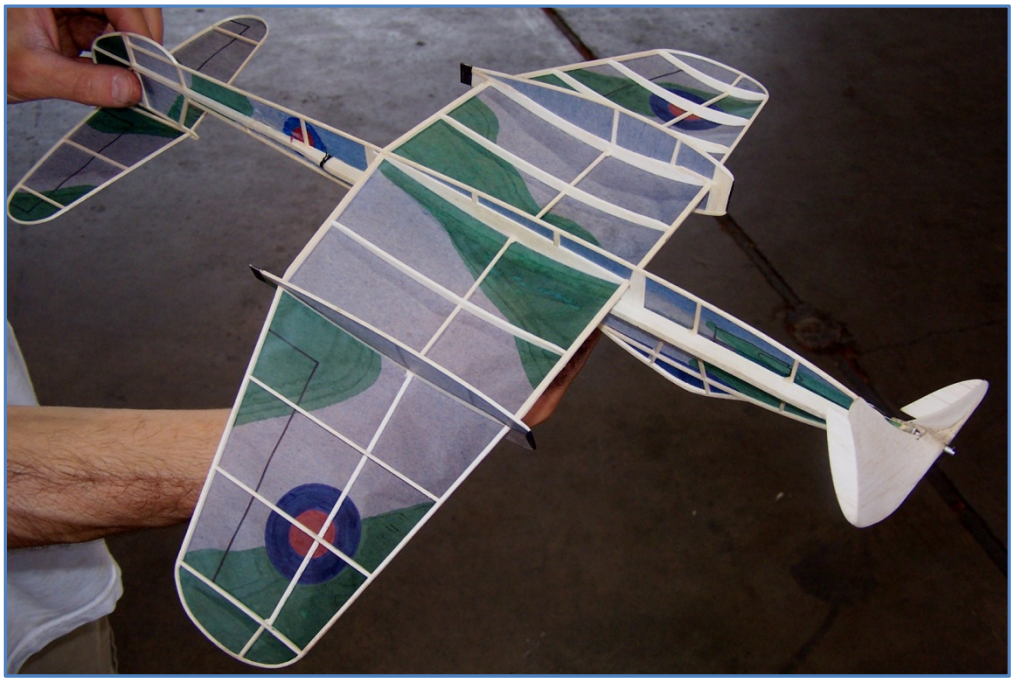
Backing off is a critical part of flying in low ceilings. This flattens out the power curve (i.e., the variation in power as the motor unwinds), and consequently flattens the flight profile. The exact amount to wind and back off will vary from one motor to another. To find the right winds for a given motor, start with a flight at around 60% of its estimated maximum turns. It should climb a little bit, maybe 10 feet. If it doesn't climb at all, you probably need more thickness. If it climbs more than a third of the way to the ceiling, you're probably overpowered and should reduce thickness. Now add winds gradually until you're getting near the ceiling.

When you get within about 10 feet of the ceiling, add a few more winds—maybe 5 on a 15:1 winder—but back off 2. See what happens. By creeping up in this way, you should be able to increase the flight time without increasing the peak altitude. Log your flights—motor, turns in, turns backed off, altitude (estimated), time, and turns remaining (in approximate terms, such as "half row of knots", if you don't want to take the time to count them after every flight). This will help you build on your experience, avoid repeating mistakes, and simply remember what works from one flying session to the next.

Many fliers use a torque meter to improve consistency. Although I personally do not use one, I can appreciate the benefits, and recommend you at least try it if you are getting into Indoor flying. The principle is that if you wind to a given torque value, you should get similar performance from flight to flight. Backing off is still important, and you should establish the torque to wind to, and the torque to back off to.

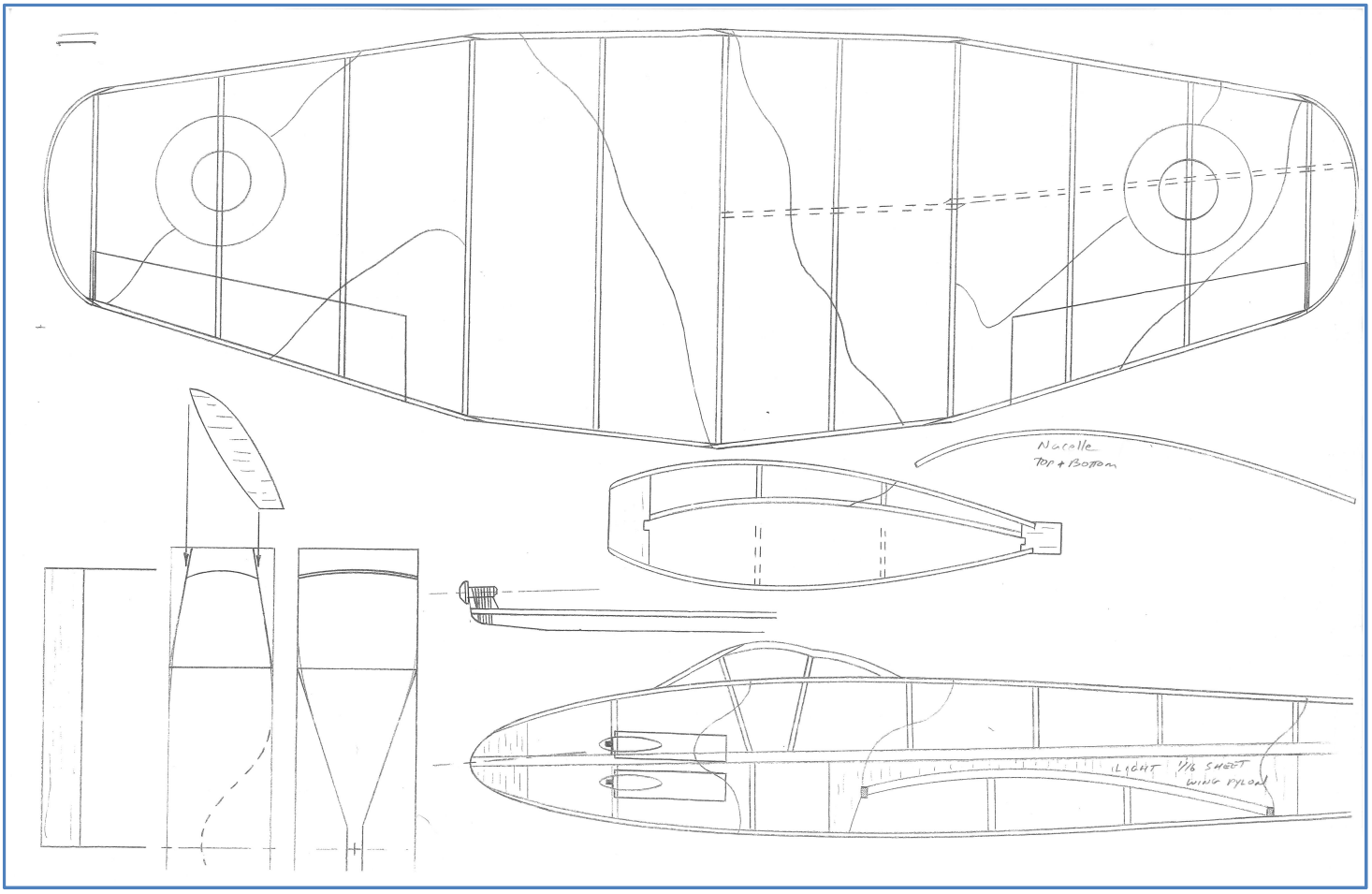
A few final words about care of motors. Keep rubber in a cool dry place. I do not keep mine in a refrigerator as some modelers do, but it's in the basement near a wall that provides fairly uniform temperature, in cardboard boxes or paper bags. I avoid plastic bags because some are believed to have adverse effects on rubber. I keep stripped rubber in paper envelopes labeled with the thickness, and the batch of rubber that it came from. For consistency, I buy rubber by the pound. Then, when I get something I like, I know I have a good supply of it. Lube early and often; never wind a dry motor.

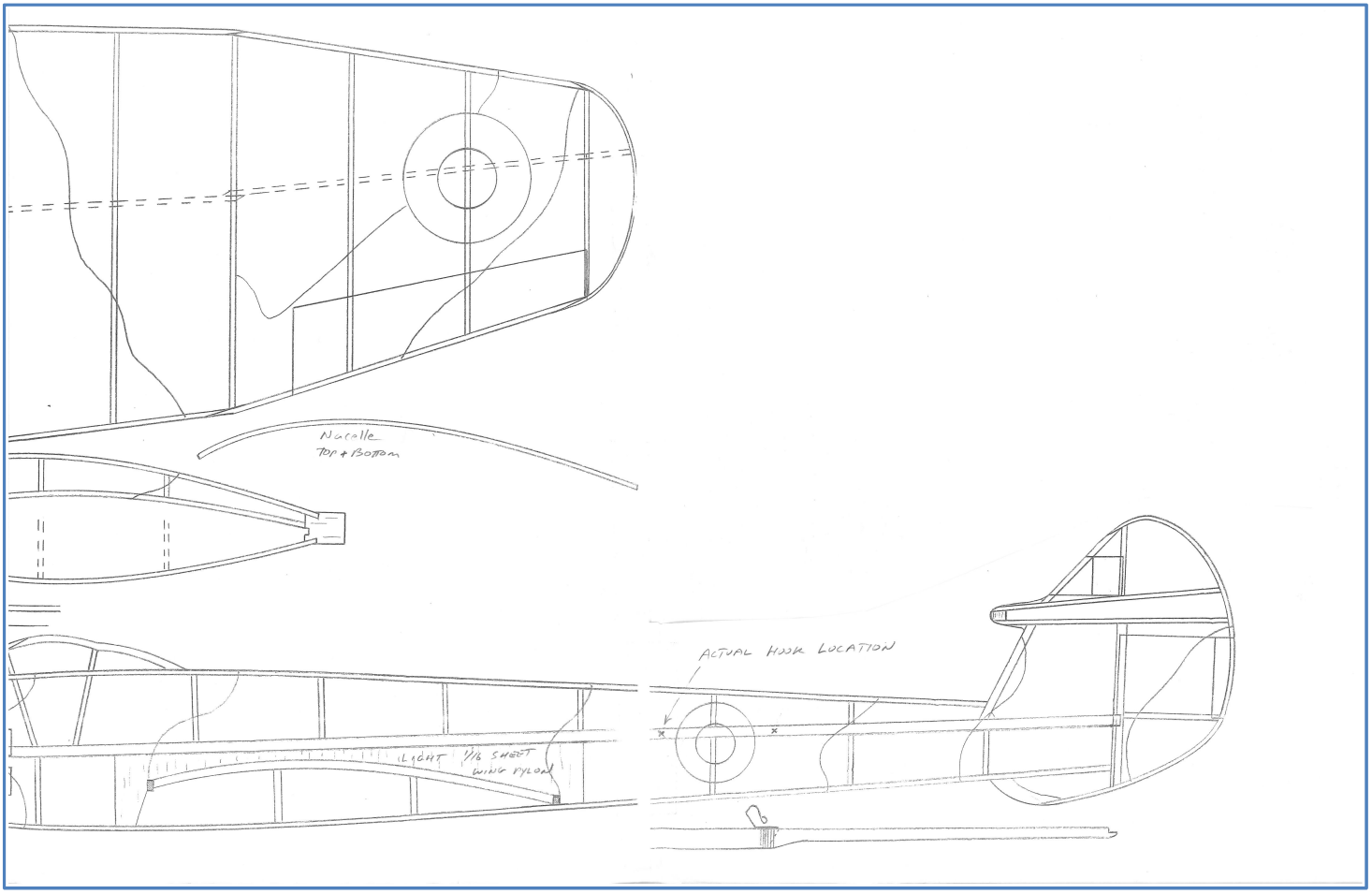




Talk about a model that looks good from any angle! Thanks so much, David, for sharing this with us.

For those new to the scene, David is perhaps the country's leading thinker on low-ceiling rubber endurance. For more on his thinking, read his article in the NFFS 2019 Symposium **"Optimization of Global Factors in Indoor Model Design"**


Nacelle
Top + Bottom
LIGHT 1/16 SHEET
WING PYLON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47th MMM 14-Rounder

July 11-12 2026

Come fly with us at the largest and most beautiful flying site in North America.
Within the 14-R are the Centennial and Columbine Cups, separate 7-round FAI competitions. Traditional MMM perpetual silver trophies for F1A-B-C/P-Q and perpetual silver cups for F1G-H-J-S will be awarded based on combined performance over the regular rounds in both competitions. (Ties will be broken with flyoffs.) Only eight MMM Master Sportsmen have earned ***Blue Jackets*** since 1980. Earn one by flying a perfect fourteen 180-second maxes over the two days in F1A, B, C, P, or Q.

July 11 (Sat.) - 7 rounds of Centennial Cup: F1A, B, C/P, Q; 5 rounds of F1G, H, J, S

July 12 (Sun.) - 7 rounds of Columbine Cup: F1A, B, C/P, Q; 5 rounds of F1G, H, J, S

Flying Site: Lowry Ranch, Arapahoe County, CO. Near intersection of Watkins Rd. and Quincy Ave. Email for map.

Contest Hours: Saturday and Sunday, 8 a.m.–5:30 p.m., weather dependent. Flyoffs TBD.

Tentative Rounds schedule: 8:00 a.m. start; first 5 rounds Saturday and Sunday are 90 minutes; final 2 rounds each day are 60 minutes.

Accommodations: Hotels are available in nearby Aurora and Parker. Primitive RV and tent camping is allowed on the site for no fee. No hookups are provided. No dumping is allowed. There is a porta-potty on site.

AMA/NFFS/SAM events: 8 a.m. to 5:30 p.m.

No rounds. In combined events, fly any/all events you wish; we will use your best single event score for awards purposes. HLG/CLG will use a launch pen.

Saturday, July 11: Catapult Glider, P-30, Fast Gas Combo*, Andrade Rubber, SAM OT Rubber Combo, E-36, E-Nos. Combo.

Sunday, July 12: HLG, Classic Towline, Slow Gas Combo**, Sm./Lg. Nos. Rub. Combo, Mulvihill/Moffett, A/B Electric Combo, E-20.

* ***AMA Gas: 1/2A, 1/2A Classic, A, B, AB Classic, C, D and/or CD Classic.***

CDs: John McGrath, <johnmcgrath2@comcast.net>, 719-963-9227; Sean McEntee, <sean.p.mcentee1@gmail.com>, 314-910-2097.

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Detach, fill out, and mail to: John McGrath 2711 West Bijou Street Colorado Springs, CO 80904, or send image by text (719-963-9227) or email to <johnmcgrath2@comcast.net>.

Name _____ **AMA #** _____ **Entry Fees enclosed $**_____

Entry fees: $20 for first event, $10 each additional. $50 maximum ($10 for Jr./Sr.) for unlimited events, or ***$40 if postmarked by 6/30/26.*** *Check payable to MMM, or PayPal to <mmmffclub@gmail.com>. Past World Champions shall pay no entry fees. Circle events entered* **(14-Rounder):** F1A F1B F1C F1G F1H F1J F1P F1Q F1S **AMA/NFFS/SAM:** HLG CLG Classic Towline P-30 SAM OT Rubber Sm./Lg. Combo Andrade Rubber Nos. Rubber Sm. /Lg. Combo. Mulvihill/Moffett E-36 Electric A/B Combo E-20 Slow Gas Combo: Nos. 1/4A, Early 1/2A, 1/2A , A , B , C, MMM SLOP E-Nos. Combo: 1/2A, ABC Fast Gas Combo: 1/2A Classic, AB Classic, CD Classic, 1/2A, A, B, C, D