



Doug Mayer, Scotty Crandlemire & 'Outrageous' Cassutt

**Torque Roll Issue #95
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**National Control Line Racing Association
456 Garvey Road S.W.
Palm Bay, FL 32908**

To:

PRESIDENTS' REPORT

BOB WHITNEY

Greetings from the Prez .Well it is getting closer to Nats time, hope everyone has all their new ships ready. AMA still does not have Mouse 1 listed on Friday, I have been in touch with Brenda but have not heard back. We are still looking for help running some of the events. I will not be there on Tuesday for sure, so someone needs to step up.

Along that same line last year I attended a couple of stunt contest in Huntersville N.C. run by the Metrelina Control Line Society. They are a great bunch of guys and have a good turn out of help at their contest. Sonny Williams, a speed flyer, is in their club. After the Oct contest I asked Sonny about them having the F2C team trials there and he said he would ask. The club prez Howard Shenton came down to the Rebel Rally to fly combat and spent Sunday with the racers and asked questions about running the trials, all the while sitting in and timing race's for us. He went back and presented it to the club at their next meeting. And got a Big OK to put in a bid. The N.J. guys also put in a bid. After the voting was done last week N.C. got the bid, and has already started working on the trials. The dates are Sept 3rd & 4th Dave McDonald has agreed to be jury head with Bill Lee and John Ballard the other two jurors Doc Jackson has agreed to be the FAI juror. The club has gotten together with the C.O.C and they are working on getting us some discounts on hotels... the field is about 20 min from the highway with hotels and food at the same exit. The field has two paved circles and a pavilion big enough the all team members can work under it.

At the KOI stunt contest last month, I was asked questions by a couple of the club members. I explained to them that this was not like stunt and we would be lucky to have 6 teams competing and they were good with that. They thought it was cool that they could do it for us... knowing everyone involved I think this will be a very well run trials.

Cabin Fever is coming up in two weeks hope to see everyone there. This is another case of stunt guys putting on a contest for us, so be sure to tell them how much we appreciate their hard work for us. And keep in mind that the speed guys and stunt

guys can always use help at their contest. The West coast guys seem to do a good job of helping each other.

Lastly if I haven't mentioned it Brodak has opened up their racing to everyone once again. Till next time. The Prez

SOUTHWEST REPORT

DAVE HULL

Racing has started for 2011! The SW district kicked off with SCAR #1 in February with the Denny Schauer Memorial Race at the club field at Whittier Narrows. This has been held at Sepulveda Basin the last few years, but it was decided to move it to Whittier to show more usage of that field, since it has been under fire with the planners and leaseholder—LA County Parks and Rec. We had enough guys to do some racing in several events. And, we had one new guy who got his racing wings. More in the contest report below.

Don't forget the big race put on by the Arizona crew coming up in late March. This one is always fun, so don't miss it! Dust off something and find a ride to Tucson.

Doug Mayer hasn't been doing much racing lately—but deep down he still likes planes, and especially *fast* planes. We got to talking a while back and he mentioned that he has several AMA Scale Racer designs drawn up. Since I'm supposed to building a new Lil Quickie, I was definitely interested just on general principles. (Mine is ready for assembly—or glassing, which ever comes first. I wish I knew which.) He brought out copies of a Polecat, Alleycat, Outrageous, Shoestring, Miss Reno, Hot Canary, Chico Puro among others showing two-view layouts; with some more detailed than others. Also, a fully detailed construction plan of the Ohm Special, including templates for the laminated fuselage (internal controls) and wing (internal leadouts). I need to finish my Lil Quickie, but the Hot Canary is now on my list too for a SCAR entry. I collected some scale documentation for this plane a few years ago to build one for Formula Unlimited to fly against Dave Dawson's Knight Twister, but maybe a smaller one would be easier on the arm? My recommendation would be to get the Ohm plans so you get all the design details like tank construction, controls installation, and

methods of laminating the parts (important for AMA Scale, but not so much for SCAR Goodyear) to go with any of the other designs you pick. Who knows, you might end up building both of them. Contact Doug for prices and delivery. For a preview, check out the SCAR website listed below. That reminds me, I need to write him a check....

SCAR Racing: Denny Schauer Memorial Race, February 20th

The Southwest district just held our first race of the year. As the day of the race approached, it looked like we were going to get rained (snowed?) out. But the weather moved out the night before, leaving more snow in the local mountains and a light dusting practically into the foothills. We watched this melt during a very sunny race day. Practically perfect conditions! We also had one new participant, and one future participant who is training to be a Mouse pilot. And the racers would like to thank the contest workers for counting, timing, and calling fouls when they had to.

For more photos and tabular results of this contest, go to Pete Soule's SCAR website at: <http://www.airacr.info/contest/11Sch/index.htm>.

Mouse I—We had a new entry with a new plane and new pilot. And that is news! Mike Callas brought a brand new, paint-practically-still-wet, modified SIG Skyray. It featured a cut down wing, v-tail, monowheel gear and stocker engine. (I couldn't actually tell it was a Skyray anymore. Best of all, it worked just fine.) He test flew for the CD to show basic racing safety skills—and got approved—so we changed the teams around and got right to it. (Don't believe that Hull flew one entry while pitting the other. 'Taint so, regardless of the results table!) Braun/Ascher provided the "traffic"—and got things done nicely. In the first race things went smoothly, the biggest challenge was getting it back into the pit. The second race improved, but the final ended early—and hard. Callas/Hull were slow getting fired up, but once airborne did a wingover into traffic. The resulting line tangle and dual crash will no doubt provide some memories of that "first race day." Mike immediately abandoned the McSlow "stick-type" handle and bought a real racing handle from Braun. Something with a shape that tells you up is really up. Welcome to racing, Mike!



Pilots have got to keep an eye on what their pitman is up to. Here, Mason Mayer oversees the prep for his first flight. Pops, aka Doug Mayer, is checking out the gear. This kind of cooperative effort is why so many father/son teams go on to fame. Photo: Dave Hull



An up and coming Mouse I racer with a Skyray. Young Mason Mayer shows off his new pilot certificate after getting some dual time on Ron's Club Trainer. He had a great time! Photo: Dave Hull

Clown—Again, we had three Clown entries and all survived the heat and the final. The way the battle turned out this time is that the Burly Dukes mostly got out of the pits without too much flippy. Holland/Braun had some flippy problems in the heat race, but improved somewhat in the final. Hull/Ascher were the slowest, and made up for it in the heat with good pits, but that strategy didn't pay off in the final. The Burly Dukes put up 313 laps (improved by three laps over their last race), Braun/Holland completed 300 (improved 42 laps over their last race!), and Hull/Ascher managed 288 (down 17 laps.)



The Clown pits after it was all over. Everyone survived a good pair of races. The plane second from the top, which would have been the fourth entry, was disqualified by the CD after a review of the rules. It was ruled that the wing outline and construction had been altered beyond the normal variation seen in the PDQ and Brodak kits. The pilot refused to comment on the decision. Photo: Dave Hull

F2C—Two teams were on the field looking for times to help qualify for the Team Trials Finals. Jim Holland picked up Dave Braun to pilot, and Dave Hull teamed with Lenard Ascher who pitted. After a short tuning session, CD Darrell ran off three successive rounds. Both teams were shaking off the cobwebs, but were flying safe. Hull/Ascher had a slight airspeed advantage, but chased a setting the pilot having overheated the setup immediately before the first race. Everyone was plagued with at least one slow pit somewhere, and the times showed it. Hull/Ascher lost laps after going to a “cool-down” setting and came up one lap short in the third round. But it was good to get some practice in, and figure out what needs improvement.

F2CN—This event was deferred in favor of another round of F2C by vote of the contestants.

SSR—There were three SSRs on the field but one was still untested, so only two entries in SSR. (Mike is getting ready for the next race!) Don Burke had some trouble in the first race, but ran the second one clean for an excellent time of 5:33. Hull/Ascher need to bring out the good stuff next time and give them a run for it. This time—they got whapped, mostly on airspeed.

NCLRA Quicky Rat/Cal 36—Nothing good happened in QR/C36 so the less said, the better. (Well, actually, the Burly Dukes did fine. They just

didn't have any competition. They put up a 3:15 heat. McSlow brought the Lumberyard out and for the third time in a row did not finish. It needs permanent retirement.... So someone else will have to be traffic at the next contest!)

Remember, if you *were* racing, you could be having *more* fun.... Be safe!

McSlow

NORTHWEST REPORT- LES AKRE

Not much going on in the way of activity, unless you count the building season. There is still time to submit proposals for the upcoming F2C Team Trials.

Feeling restless? Spring (hopefully) is around the corner, and Cabin Fever 2011 is fast approaching. Some of us in the North Central District take the opportunity to leave the snow and cold of winter for Sunny Tucson Arizona. This years contest is from March 25-27 (see the flyer in this issue). I should have a new Rat Racer ready, as well as a new "Little Mike" Goodyear Racer as a backup. The new hamster will use a modified Harters Rat pan, which leaves much more room available for a shutoff and fuel tank.

It should be a fun contest season, let's get ready.



Shoestring “Circus Circus” Doug Meyer photo

TREASURERS' REPORT

DAVE MCDONALD

12/27/2010 - 2/25/2011

	Deposit	Balance
Balance as of 12/27/2010		12,552.69
1/14/2011	Deposit-150.00	12,702.69
2/24/2011	Deposit- 80.00	12,782.69
2/24/2011-Transfer from PayPal-245.46		13,028.15

Income for the period was derived through member dues.

There were no expenses for this time period.

Respectfully Submitted
Dave McDonald

EDITORS' COLUMN-TIM STONE

I will keep it short this month as there have been some nice member contributions this month.

Doug Mayer sent me what I can only describe as a goldmine of information & plans for Goodyear racers. Doug is now listed in the suppliers' section of the newsletter as a source of plans. Doug is an architect for a large firm and his drawings are professional quality.

Don Burke also sent along some nice plans & building instructions for his slick F2Cn.

CLASS 1 MOUSE AT THE NATS- FRI, JULY 8
Apparently the Mouse 1 event at the Nats on Friday July 8th was left off the Nats entry form that AMA mailed out a few weeks ago. The event is live & will be run at the Nats on July 8th. If you want to fly in it you can register at NATS headquarters when you get there. If you are already entered you will just need to add an event.

daBLOB2 assembly – Don Burke

FUSELAGE

Nose length is different for Nelson or F2d type engine due to engine weight. For F2D type use the blue lines on the nose pattern – i.e. fwd engine lug hole on Nelson or aft engine lug hole on F2D type engines @2-1/16 from LE. Note F2D engines hole pattern width is .04 in less than Nelson pattern width.

- cut 3/8 maple or oak core with slots for engine and wing
- cut (2) 1/6 ply doublers, 3/8 balsa core and aft 1/16 balsa sides
- fabricate LG pocket from plywood w/bolt holes
- cut recess on IB side of balsa core for LG pocket install pocket
- cut slot for rudder, install rudder
- glue together with OB doubler in place, drill LG bolt holes through OB doubler
- add IB doubler, when glue is set cut outline shape, install brass inserts
- cut 1/2 thick soft balsa IB fuselage doubler full length, glue to IB side and shape to "pleasing" contour
- sand to max thickness of 31/32"
- Cover with 2-layers 3/4 oz cloth and resin, finish and paint

WING:

- start with balsa sheet 4 x 22-5/8, mark fuse CL 11-19/32 from one edge
- trim TE to triangular shape both sides of CL
- 1/4 x 2 x 11-19/32 sheet for IB fwd piece
- laminate 2 x 11-1/32 ob fwd- 3/32 top and bottom grain spanwise and 1/16 core grain chordwise
- Note: 2" wide sheet may be used full span for slight weight saving**
- imbed tip wt in core
- cut 1/32 x 1/4 slot in 1/4 x 1/2 hard balsa LE strip glue in .03 x .25 CF strip
- cut two aft 1/4" balsa 2-19/32" wide at CL, 2" at tips, length to match aft side of 1/4 core

(Continued next page)

(daBLOB2 Assembly - continued)

- cut two 1" wide med hard TE strips
- after gluing all pieces together, inset 1/16 ply bellcrank pads top and bottom.
- trim TE to 8-7/32 chord to setup hinge line, trim tips at 15° angle- glue 1/4 x 3/16 bass tips
- slot TE 1/32 x 1/4 deep for CF strip
- before shaping, trial fit fuselage to wing, mark fuse outline on wing
- shape to airfoil leaving center 1/4 thick to mate with fuse, 1/8 thick along elev hinge line, sharp TE outboard of hinge line. Thickness is tapered from 1/4" at CL to 3/16" at each tip
- finish airfoil shape
- (bag & press) with 3/4 oz cloth and resin.

ELEVATOR:

- 1/8 x 1-3/8 balsa taper TE to 5/8 wide at tips, add 1/8 sq bass LE and .05 dia CF TE strip. - shape to triangular x-sect
- cover (bag & press) with 3/4 oz cloth and resin
- sand smooth and finish

ASSEMBLY:

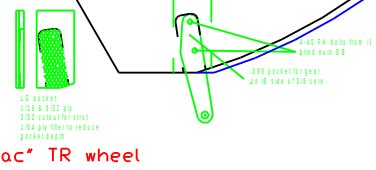
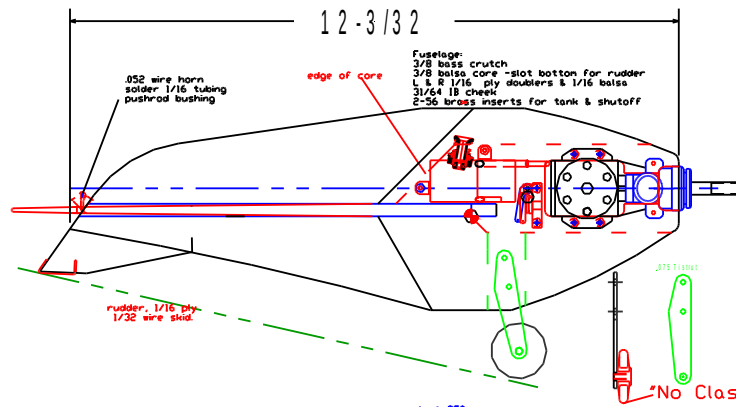
Glue fuselage to wing with epoxy - form joint fillet from epoxy

- install horn & hinge elevator with spiderwire
- install bellcrank - 2" Fox button bellcrank or custom as shown - rig shutoff tip wire from bellcrank or horn
- line guide - fab from alum or delrin
- tip skids - blobs of epoxy at LE & TE

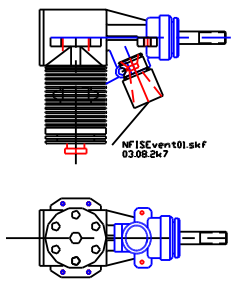
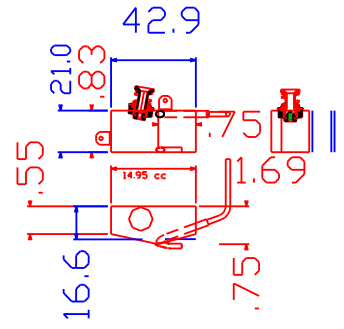
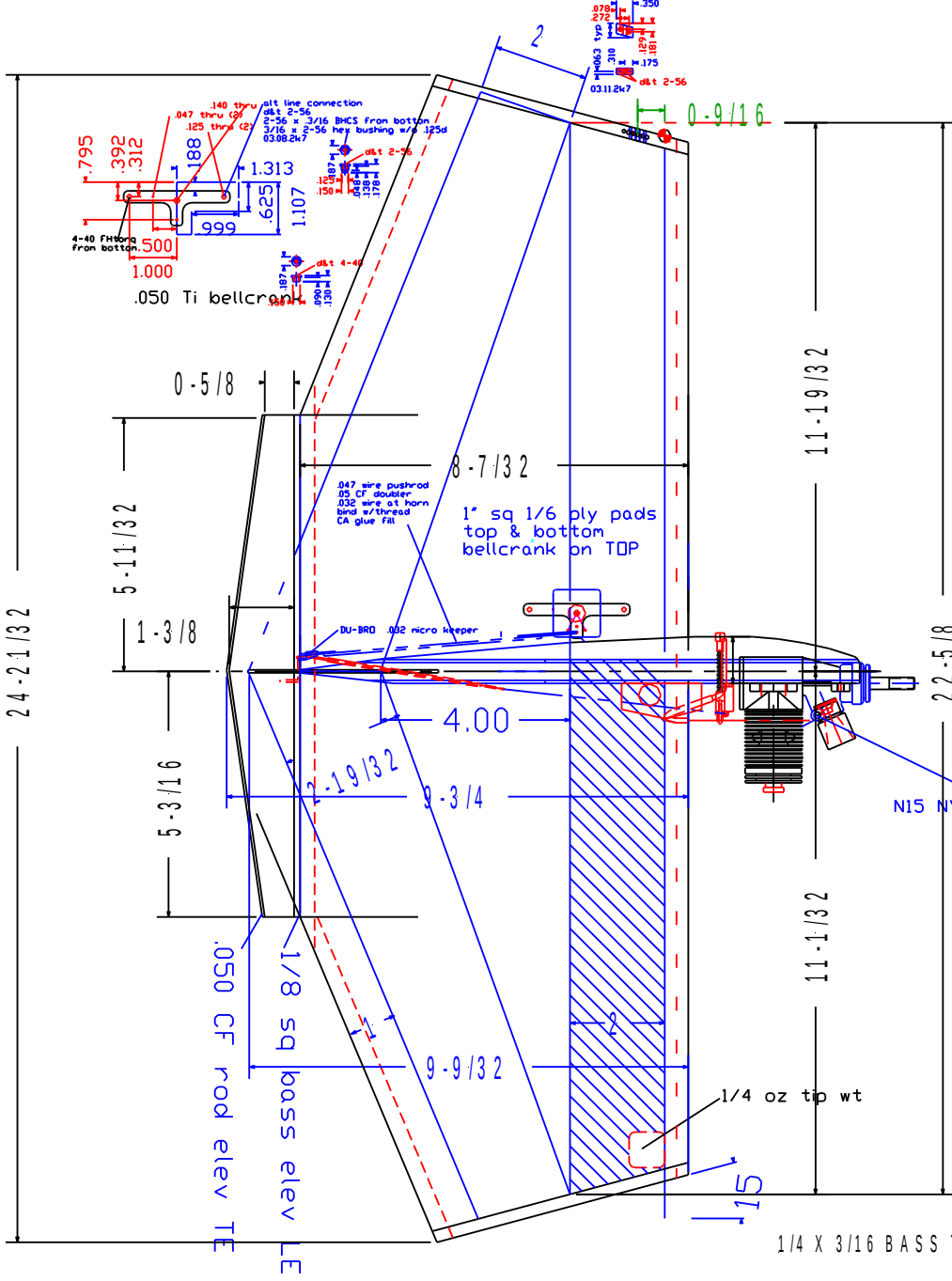
F23 top right - add edge thread with lead in g/h
 at 1/4" x 1/16" thread hole for 1/16" - 1/16" hole square

1/16" x 1/16" brass pin screw
 lap thru 4-40, turn head down to .350 dia
 lap sticks are 1/16" dia 1/16" dia 1/16" dia
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1/16" x 1/16" brass pin screw
 1/16" x 1/16" brass pin screw
 1/16" x 1/16" brass pin screw
 1/16" x 1/16" brass pin screw



"No Class Mac" TR wheel



WING CONST
 1/4 x 1/2 hard balsa w/.030 x .25 CF edge
 1/4x 1 hard balsa TE w/.021 x .25 CF edge
 DB 2/0 behind LE is three lams balsa 3/32, 1/16, 3/32
 center lam has grain fore aft.)
 1/4 balsa balance of shape
 3/16 x 1/4 bass tips
 1/16 ply bellcrank pads

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 0 1 . 1 6 . 2 k 1 1
 d . burke



‘Alley Cat’, ‘Mariah’ & ‘Outrageous’

Goodyear and Formula One Design by Douglas Mayer

Before I start, I should say that much of what you are about to read is my own personal opinion, based on my own experience, and not necessarily based on any scientific fact. On the other hand, I have done quite a bit of research of real Goodyear and Formula One aircraft. An amazing amount of fact has been derived from Robert S. Hirsch’s [Goodyear & Formula One Air Racing Volumes 1 & 2, available thru Zenith Aviation Books 1-800-826-6600]. If you are passionate about Goodyear racers, you should buy these 2 books and add them to your library. They are full of information on all of the races since Goodyear started in 1947 thru 1995 when the books were published. They have 3-view drawings and photographs of all of the important air racers from the glory days through the present day (1995 – published date). I can spend hours just looking at the 3-views and fantasizing about the next model that I want to build.

Resources:

Zenith Aviation Books: 1-800-826-6600 – Ask them to put you on their mailing list. The catalogue is great.

www.airrace.org – Official website for Reno Air Racing Association. You can search race results going back 50 years or more.

www.airracinghistory.freeola.com – Cool Historical Site, Info on all types of air racing.

www.if1airracing.com – Official website for International Formula One

www.yellowperilracing.com – Race plane Yellow Peril 92

www.aerophile.org Hundreds and hundreds of photos. Lots of links to other websites. Go to pictures , galleries 2007 and check out carbon slipper!!!

My passion for Goodyear racers started at an early tender age of 12. It was 1975, and I was in the local hobby shop looking at the COX plastic airplanes. They had a silver P-51D Mustang and a black Junkers Stuka Divebomber. Both of these planes were a piece of junk, and I knew it from my neighborhood friends. By chance of fate, I met my all-time control line mentor, a man by the name of Tom Hartman. We started talking, and he told me that he could help me to learn control line, and he would help me to build a balsa wood airplane from scratch. I got my mom and dad’s approval, and started a long fruitful friendship with Tom.

Tom had plans for Shoestring, and helped me to build my very first control line airplane from scratch. It was really a 1/2A AMA Scale Goodyear plane, but it served as my trainer and my first airplane. As time progressed, I joined Tom’s club, Harrisburg Area Modeling Society (HAMS for short). Anyway, we started driving to racing contests in Baltimore and Washington D.C. Me and the other kids flew 1/2A’s and the adults flew 15’s. Boy, did I want a .15 size Goodyear. They had aluminum landing gear, cool wheels, external fuel tanks and shut-off’s, pointy spinners, and tuned pipes!! Total ass kicking!! But what the hell, I was all of 12 or 13 years old, and it was all about COX .049’s for me.

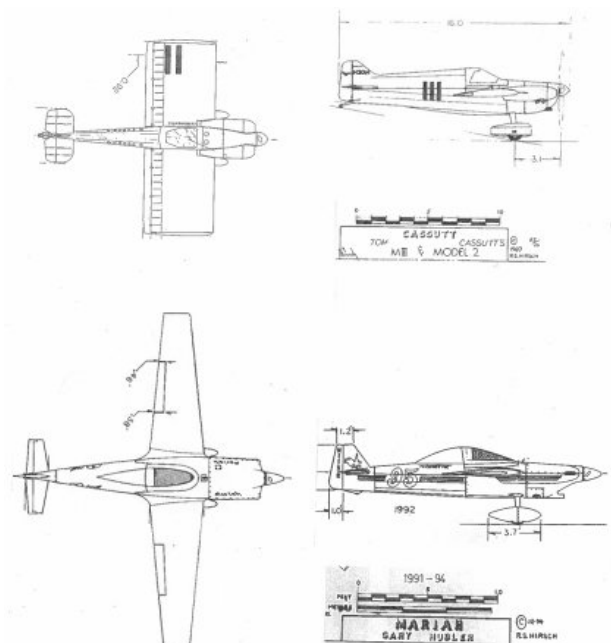
We didn't know it at that time, but we were building our 1/2A Goodyears too light. It wasn't until later in my life that I met Vic Garner (as an adult at age 34) and he told me that a mouse needs to weigh in at about 7 ounces, or you can't whip it back to the pits. Well, geez, when we were kids, the motor would die, I would try to whip it and the plane would glide a little or it would drop out of the sky. Poor Tom, that dude was always running around the circle after my shoestring. This was my first lesson in wing design, and my first understanding of aspect ratio.

I had caught racing fever!! I wanted to build as many Goodyear planes as I could. Back then, all of the racers were based on the original class of Goodyear racers from the late 40's and early 50's. Buster, Bonzo, Little Gem, Shoestring, Cosmic Wind, Rivits, Ol' Tiger, and a few designs you may not know, La Jolita (AKA Miss San Bernardino), Never Never (AKA Johnson Special), Deerfly (Mike Argander Special). I built a Never Never and La Jolita, and they definitely had what I would categorize as a medium aspect wing, approximately 4:1 and they glided without power pretty well. I built an Ol' Tiger which is closer to a 3:1 aspect ratio and it fell out of the sky like a brick. The irony is that the Shoestring had the highest aspect ratio of the bunch and glided pretty well, but I was no longer in love with my Shoestring because I had trained on it and crashed it and glued it back together so many times that I wanted to move on. My real lesson here was that a low aspect wing, such as Bonzo, Buster, Little Gem and Ol' Tiger did not translate to a good model airplane. The medium aspect wings and the higher aspect wings were more efficient and flew better for model airplanes. For comparison, look at our modern mouse racers, none of them look like Buster or little Gem, they all have long skinny high aspect wings.

Based on Robert Hirsch's book's what amazes me is that even in the late 40's and early 50's there were a few aircraft with high aspect ratio wings. Cosmic Wind and Dick OHM Special are examples. For some reason, the short stubby planes with short stubby wings were doing well and having a time at it. Over time, owners re-built their wings and moved to medium aspect ratio wings, such as Little Quickie and the modified Shoestring, and the current design in Formula One is for a high aspect ratio wing. In the 40's some of the wing spans were between 13 or 15 feet, maybe up to 18 feet. If a

wing is 15 foot span with a chord of 5 foot, it translates to a 3:1 wing. Modern aerodynamics will tell you that that's a lot of drag, inefficient, and worst of all, for a plane cranking around pylons, the wing can stall, causing a fatal crash. So Formula One moved on. If you go to Reno this year to the air races, you will not find a plane with anything less than a medium to high aspect ratio wing. Most all aircraft have low drag wing tips, elevators and rudders. They also realized that they needed bigger fins and rudders to keep the plane stable as they cranked around the pylons on knife edge. What happened? Modern science and aeronautical design took over, and 50 years of practice and experience has changed the design of a modern Formula One air racer.

Here is an interesting fact. Tom Cassutt designed the M III in 1954, commonly known as a Cassutt. The original Cassutt had a wingspan of 13'-8" and a chord of 5'-0". This is less than a 3:1 aspect ratio. Cassutt sold over 120 sets of plans for his design, and the Cassutt is by far the most common plane of all Formula One aircraft. This is evident by reviewing the race results, and "aircraft type". You can look at modern aircraft in the website galleries, and say, "That's a Cassutt!" It is very obvious sometimes. The crazy thing is that many owners strip down their aircraft to the fuselage framing and re-build 90% of the airplane. They replace the wing, the rudder and fin, the stabilizer and elevator, the canopy, the nose and engine fairings until the airplane bears no resemblance to a Cassutt.



Two of my subject models are Cassutt III M's, and you would never believe it. Outrageous and Mariah are both Cassutt M III. Mariah has the highest aspect ratio wing that I am aware of. It is 23'-4" span x average chord of 2'-9" which equates to a whopping 8:1 aspect ratio! This is one long skinny wing, and one very fast airplane. She won the gold in Reno, year after year with an average speed over 250 mph. Outrageous has a 21'-0" span with an average chord of 3'-3" which equates more than 6:1

Fast forward 20 years. I finished racing when I was 14 and didn't pick it back up until I was 33 or 34. A lot had changed in that time with control line racing and Formula One racers. I was living in San Francisco at the time, and once I got back into racing, I decided to go to Reno to the National Air Races. Holy crap!! If you have never been to Reno in September to see the air races for yourself, you need to make the pilgrimage. You owe it to yourself. You will never feel the same about racing your toy airplanes again. We are racing models of real airplanes that rip around pylons in the desert at 250 MPH. Unfortunately, sometimes racing kills the pilots. One of the things that becomes a reality from reading Robert Hirsch's books, is the mere fact of how many people have died and crashed from racing airplanes. I was doing some research on "Mariah" recently, owned by Gary Hubler, because she was one of my airplanes of interest, and I discovered that Mariah and Gary had a fatal crash in Reno in 2007. Gary is just another pilot in a long list of people who have died racing Formula One. It is very sad, but part of the reality of air racing.

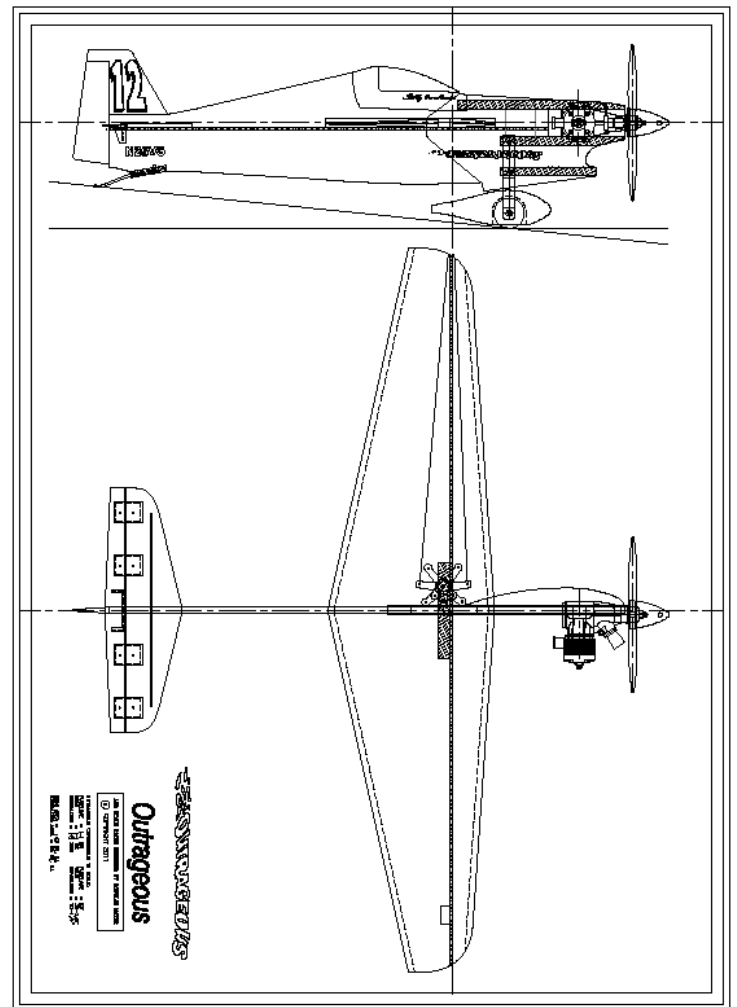
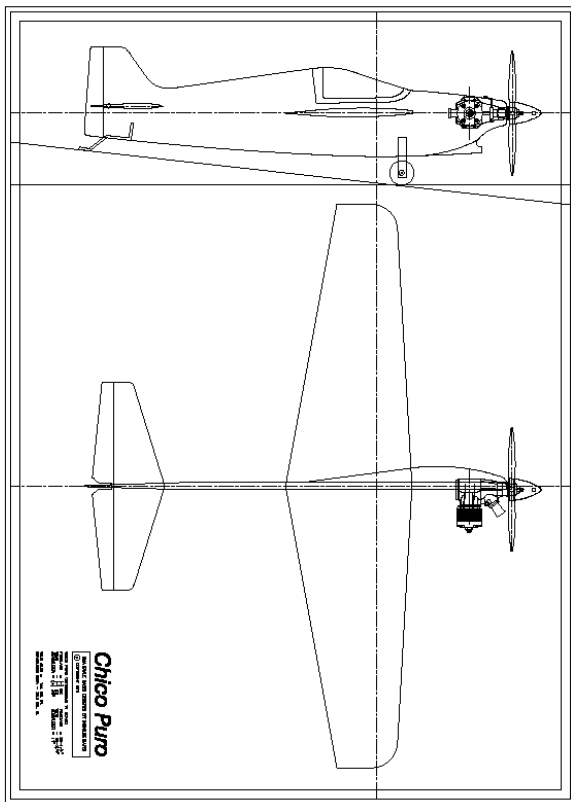


I went to the AMA NATS in 2001, 2002, 2003 and what did I see? Squadrons upon squadrons of Lil' Quickies. Gosh, I thought to myself, the

world can't be full of Lil' Quickies can it? (Incidentally, Little Quickie is now named "Alley Cat", she is still competing with race number 4 with a modified wing) I wanted something unique, something different. So I started to evaluate the 3-views of airplanes in the Robert Hirsch books and contemplate model airplane designs. Soon, I had compiled a few airplanes that I can call "Favorites". I then went into production mode and converted 3-view drawings from a book, to full size 3-view plans for AMA or Sport scale models. I have a technique where I can scan the 3-views from the books, and then import them into AutoCAD to create accurate model airplanes per the AMA guidelines. I always take advantage of the increased stabilizer by 25% rule and incorporate that into my designs. Right now I have a collection of drawings that I have created.

So what I have I looked for when determining if I thought an airplane design would translate to a good model airplane? This is where my own personal opinion takes over. I have several parameters that I consider when looking at the 3-views to see if they will translate well to a model design. Before I continue, I want to state that Lil' Quickie is a great design, and meets all of my own parameters, I just want to explore other options.

Wing Design: For me, I'm looking for a medium-high, to high aspect ratio wing. I like a wing shape that has a deep root chord with narrow tips. All of the planes that I have drawn up in outlines and construction model plans follow this rule. Some wings are a bit shorter than others, and some a bit longer. Obviously, I'm not a big fan of a short fat wing, but if I were to model Mariah, I do not think that this would make a good model airplane. The wing is so long that it would be long and thin and very flexible, and quite a pain-in-the-ass to pit. 23'-4" translates to a 35" wingspan. That's just too long to be realistic for our needs. Outrageous has a 21'-0" wing and calcs out to a 30-1/2" wing, which is probably the longest wing you want. Other planes Like Chico Puro and Shoestring have 19-20 foot wings that translate to perfect model airplanes. By selecting the right shape, you can sand your wing to a full 3/8" thickness at the chord which gives good lift, and taper the tips to a 1/4" where they get very narrow. In theory, this should give you a low drag wing with good lift.



Fuselage Design: Most F-1 planes have an average length of 16-18 foot. Anything outside of these parameters can be problematic. If the plane is too short, you won't have enough real estate to put the motor, tank and shut-off on the nose. Too long and you can get in trouble with a tail-heavy airplane. All of my airplane design fall within a 22-1/2" to 23-1/2" range except for (2) models. Kelly F1-D which is 24" and flew fine due to the long nose moment, and Polecat, which measures 25" long due to the swept back rudder. Alleycat/Lil' Quickie = 22-1/2", Outrageous = 23", Shoestring = 23-1/2". Anything longer seems to be a problem. Not only does Mariah have a long skinny wing, but she's really long as well, she calcs out at 26-1/4" which is probably too long. A shorter fuselage will shake down quicker after shut-off, and a longer fuselage will give a better cruise with less hunting. I flew Wayne Trivin's Shoestring at 2001 NATS to a 3rd place finish and that model grooved like it was on rails. Originally I thought Shoestring was too long, but my opinion changed after flying that beautiful airplane.

Wing Location: Most people do not like low wing aircraft because they tend to fly a little funny. Since the model's center of gravity is somewhere

above the wing, they tend to tilt in flight towards the outside (where the wingtip weight is). I'm not sure this is detrimental, but it seems a little bit uncanny. Therefore, most all modeled planes are mid-fuselage wing design. I did model the Kelly F1-D, which was a pretty cool looking aircraft, and definitely very different. It's hard to tell if she was competitive because I never put a hot motor on her, and had an unfortunate accident with her, (which is a totally different story). If you are interested, I've got a full collection of construction photos of this aircraft, but she's long, low wing and a bit odd.

Tail empennages: For this criteria, I just like the modern looking aircraft with low drag tips. I don't like the old rounded designs from the old school aircraft. Most modern aircraft have substantial fins and rudders, which you just have to go with, but most of the modern aircraft also have high aspect stabilizers and elevators. Nothing looks like Lil Gem or Cassutt M III these days. You would have a hell of a time with hunting, or trying to shake down your plane if you stab/elev looked like that.

In a nutshell, if the plane has a decent wing, the fuse is not too long or too short, and it looks cool, you should have a good model. Coolness factor is very important for pilots, because we have to look at our planes for 70 or 140 laps, and by gosh, it has to look cool while you are flying, or you just wasted a bunch of time building an ugly airplane.

I designed a Dick OHM Special for AMA rules with completely concealed controls. I used a technique where the wings and fuselage are created with layers of wood with cavities for the controls. It actually worked out pretty well. Mike MacCarthy built (3) of these planes at one time. I have one, Bill Cave bought the other two, he sold them out and I'm not sure who has them now. I've heard rumors over the years that Robert Hirsch made a mistake on the size of the wing on his 3-views. I have to say that I agree because when I lay it out in the computer, the wing does not equal the required 66 square foot minimum wing size for Goodyear and formula rules. I did not realize this when I designed the plane in 2001. Either Dick Ohm had an illegal wing or Hirsch screwed up his drawing. Interestingly, every other airplane that I have drafted has always come up to a minimum 66 sq. foot wing. Per the AMA rules, I do not believe the Dick Ohm is illegal, because it is based on a 1/8 scale of a published 3-view drawing. I don't know if any one will ever know the truth, because Hirsch is deceased. OH well? The plane has been built by many modelers over the years and lends itself well to a model airplane design. I have full construction drawings available for this design, and lots of construction photos. Maybe I'll follow up another day with an article for this design.

I also have a number of planes that I have converted to scale model outlines, per the AMA rules. This translates to a 1/8 scale plane, +/- 5%, and an increased stab/elev by 25%. The outline drawings are as follows: Alley Cat, Barbara Jean, Chico Puro, Pole Cat. I simply have not shown the hardwood stringers, bellcrank mounts and motor mounts, but you can easily do this for yourself.

Additionally, I have a number of planes that I have converted to scale model outlines, per the AMA rules that I have drawn up to show the construction intent for a sport scale plane. (Exposed controls, fuel tank and motor is per your local rules). What is cool about these designs is that I've pretty much laid out all of the hardwood stringers

and mounts that you would need to build, and carbon fiber reinforcing. I told Tim that I'll do a new construction article on building a sport scale Goodyear in the next few months. The planes with construction drawings are as follows. Kelly F1-D, Miss Reno, Outrageous, Shoestring (w/ mods).

I'm not sure how much room Tim has to print out all of the stuff that I'm sending to him, but I'll make this offer to anyone interested. I can e-mail you all of my .PDF files for you to look at. I have two formats, 8-1/2" x 11" and 30" x 42". You could take the 30" x 42" .PDF's to a local reprographics shop (blueprinter) and they can print you full size sheets. The other option, I will mail you a full size sheet (folded in a big envelope, not a tube) for \$10.00. For the Dick Ohm Special, AMA construction drawings = \$15.00.

On a closing note, I did the Outrageous 3-view drawings from scratch. I met the owner Scotty Crandemire at Nellis Air Force base at an air show and measured his plane, took 100 photos and generated my own 3-views. This will likely be my next sport Goodyear.....more to follow!.....Cheers!.....Douglas Mayer

CONTEST CALENDAR

NOTE! Confirm all contest details with Contest Director! NCLRA cannot be held responsible for errors or omissions! This calendar is compiled from data collected at the NCLRA website nclra.org. Members can log in there and submit contest details. All contest information must first be posted to the web site.

NORTHWEST DISTRICT

MAY 27-29--Eugene, Oregon (AA) Northwest Control-Line Regionals Site: Eugene Airport. Events: Class I Mouse Race, Northwest Sport Race, Northwest Super Sport Race, Northwest Flying Clown Race Sponsor: Northwest Regionals Management Association #4356. CD: John Thompson, 2456 Quince St., Eugene, OR 97404. Phone: 541-689-5553(day) E-Mail: john4051@aol.com WebSite: flyinglines.org

SOUTHWEST DISTRICT

MAR 25-27--Tucson, AZ (AA) Cabin Fever Site: Christopher Columbus Park, Tucson, AZ. Events: Friday: F2C, F2CN; Saturday: Mouse I, Mouse II, Slow Rat, Super Slow Rat, B-TR, Limited SW Sport Speed .36, Unlimited SW Sport Speed .36, 80 MPH SW Sport Speed, Perky .15 Speed, 1/2A Profile Proto (305), .21 Sport Speed (307), Formula .40 (308)

Sunday: Rat Race/60'F2C, NCLRA Clown Race,
SCAR/ACLA Formula Unlimited, NCLRA TQR.
Sponsor: CACLC #4116. CD: Ken Gulliford, . Phone: (623)
877-8823(eve) E-Mail: kgrtr@cox.net

- * F2CN - External Controls Requirement Waived
- * Mouse I - Modified Production Reed Valve Engines Only
- * Mouse II - Spring Starters Allowed, Any Fuel
- * Perky .15 Speed - Any .15, See AMA - NASS Rules
- * 60'F2C - Flown with Rat Race, 3 or more fly a separate final, Qualified F2C Airframe, 60' Lines. F2C lines accepted.
- * All Sport Speed Rules available from: George Brown, roxane1031@hotmail.com
- * Perky Rules available from: www.modelaircraft.org

SCAR CONTEST CALENDAR 2011

All contests are held at Whittier Narrows
All contests have a speed "Record Fraction" event held on Saturday and Sunday.
Except for the Virgil Wilbur, Racing contests are Sunday only.
The events for these contests are listed below
Sanction numbers will be available later
All contests are "memorial"

FEB: 19-20 6TH Dennis Schauer;
AMA Mouse 1 (Cox engine), NCLRA Clown, NCLRA S/S Rat, F2C, F2CN, and Q Rat

APRIL 17 13 TH Bill Nusz
Mouse 1, SCAR GY, F2C, F2CN, NCLRA Clown, and Q Rat

June: 19 5TH ANNUAL BEV&BILL WISNIEWSKI
MOUSE 1 (Cos engine), F2C, F2CN, S/S RAT, NCLRA CLOWN, Q RAT

Sept: 17 5TH ANNUAL WAYNE TRIVIN
Mouse 1, SCAR GY, CAL 15, NCLRA Clown and Q Rat

Oct: 15TH-16th 24RD ANNUAL VIRGIL WILBUR
Sat: Mouse 1 (Cox engine), B-TEAN, CAL 15, ORANGE CRATE
Sun: S/S Rat, NCLRA Clown, SCAR GY, Q Rat

Dec: -4th 21ST TOY FOR TOTS
Mouse 1, NCLRA Clown, NCLRA S/S Rat, Q Rat

NORTH CENTRAL DISTRICT

None

SOUTH CENTRAL DISTRICT

TX

APR 30-MAY 01--Dallas, TX (AA) DMAA Spring Warm-Up
Site: Dallas Samuell Hobby Park. Events: Saturday/Sunday:
(301-310) Flown to % of record (JSO); NASS Sport Jet;
Saturday: 312, NCLRA TQR, 313, Sportsman Goodyear, Fox Goldberg;
Sunday: 15 Profile Carrier, Sportsman Profile Carrier, 319-321 (JSO)
Sponsor: Dallas Model Aircraft Association #1902. CD: Patrick Hempel, 304 Becky Ln., Rockwall, TX 75087. Phone: 972-841-8766(day) E-Mail: ptrckhem@aol.com WebSite: <http://www.DMAA-1902.org>

TX

MAY 28-29--Houston, TX (AA) Texas Controlline
Championships Site: Scobee Field, Houston, TX. Events:
Texas Quickie Rat, Super Slow Rat, Foxberg. CD: Frank Williams, 15410 Park Estates Lane, Houston, TX 77062. Phone: 281-488-1371(day) same(eve) E-Mail: Lonestar_77062@yahoo.com

NM

AUG 20-21-- Albuquerque, NM (AA) High Desert Control Line Fiesta. Site: Maloof Airpark. Events: NCLRA Fox Race, NCLRA Super Slow Rat Sponsor: NM Coalition of CL Addicts #4323. CD: Richard L. Perry, 427 Live Oak Lane NE, Albuquerque, NM 87122. Phone: 505-263-0763(day) 505-856-7008(eve) E-Mail: tailhooker@comcast.net WebSite: <http://www.nmcccla.org>

MIDWEST DISTRICT

IN

JUL 04-08--Muncie, IN (AAAAA) 2009 U.S. National Championships Site: AMA National Flying Site. Events:
* Monday, July 4: Rat Race, NCLRA Clown Race
* Tuesday, July 5: Slow Rat, NCLRA Fox Race/Super Slow Rat
* Wednesday, July 6: Scale Race, NCLRA Quickie Rat
* Thursday, July 7: F2C, NCLRA F2CN
* Friday, July 8: Class I Mouse

Sponsor: AMA/NCLRA # . CD: Bob Whitney, 456 Garvey Road S.W., Palm Bay, FL 32908. Phone: 321-676-0554(day) E-Mail: f2cracer@aol.com WebSite: <http://www.NCLRA.org> (The schedule on the AMA website does not include Mouse I on Friday. We're getting that corrected.)
NCLRA Meeting will be held on Wednesday, site TBDL.

NORTHEAST DISTRICT

None

SOUTHEAST DISTRICT

None

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Tippett) e-mail: btippett@ameritech.net 734-266-7290

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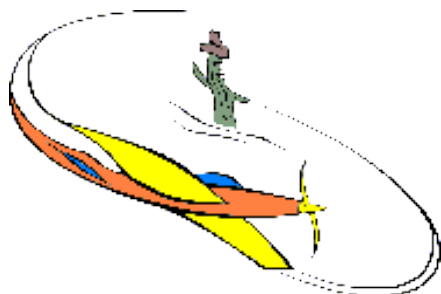
ZALP ENGINES

Zalp F2C&F2D engines- Bob Whitney
456 Garvey rd sw, Palm Bay FL 32908
f2cracer@aol.com

NATIONAL RECORDS

See previous *TorqueRoll*. Will return next issue.

2011 Cabin Fever - March 25, 26, 27, 2011



Contest Director: Ken Gulliford (623) 877-8823 kgtr@cox.net

Assistant Contest Director: Bill Lee Bill@WRLee.com

Friday CD / Event Director: Bill Lee

Saturday Speed Event Director: George Brown

Saturday and Sunday Event Director: LeRoy Black

Race Procedure:

Friday 25th - Diesel Day - North Circle, Open Flying, Tune, Tweak and Needle - South Two Circles

Saturday 26th - Speed Events - North Circle until 2:00 PM, Racing on the Center Circle, and Test and Tweak on the South Circle

Sunday 27th - Racing - Two South Circles, and Test and Tweak - North Circle

Mark Smith will call Race Infractions all day Saturday and Sunday. George Brown will call Speed Saturday.

Pilots Meeting: 8:00 AM Each Day, Racing Starts at 8:30AM Sharp

<u>FRIDAY(Diesel Day)</u> <u>EVENTS</u>	<u>SATURDAY</u> <u>RACE EVENTS</u>	<u>SATURDAY</u> <u>SPEED EVENTS</u>	<u>SUNDAY</u> <u>EVENTS</u>
F2C (318) *F2CN	*Mouse I (313) *Mouse II (314) Slow Rat (312) NCLRA Super Slow Rat B-Team Race	*Limited SW Sport Speed .36 *Unlimited SW Sport Speed .36 *80 MPH SW Sport Speed * Perky .15 Speed 1/2A Profile Proto (305) .21 Sport Speed (307) Formula .40 (308)	*Rat Race (311) NCLRA Clown Race SCAR / ACLA Formula Unlimited NCLRA Texas Quickie Rat

*RULES CHANGES / APPLICATIONS

- | | |
|----------------------|--|
| - F2CN | - External Controls Requirement Waived |
| - Mouse I | - Modified Production Reed Valve Engines Only |
| - Mouse II | - Spring Starters Allowed, Any Fuel |
| - Perky .15 Speed | - Any .15, See AMA - NASS Rules |
| - Rat Race / 60' F2C | - 60' F2C Flown with Rat Race, 3 or more fly a separate final, Qualified F2C Airframe, 60' Lines
F2C lines accepted |

AMA Rules available from: www.modelaircraft.org

NCLRA Rules available from: www.nclra.org

SCAR Rules available from: SCAR4641@aol.com

All Sport Speed Rules available from: George Brown, roxane1031@hotmail.com

Perky Rules available from: www.modelaircraft.org (in: Competition / Events, NATS, NATS Forms, NASS Perky OTS Speed Rules)

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Torque Roll is the official publication of the NCLRA. Published bi-monthly. All submissions are valuable & will be considered for publication subject to editing. Preferred format for publication is as a MS Word document using 10 point Times New Roman font. Any photos should be sent as a separate jpeg file, medium res. Email all as an attachment to Tim Stone at the address given on this page. While this is preferred format, we will take submissions in just about any format, they can be written, typed or mailed to Tim Stone.

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Note that a \$.90 (\$1.10 for foreign membership) surcharge is added for the PayPal charges.

OR VIA THE WEB: Membership renewal can be easily done via the NCLRA web site at
<http://www.NCLRA.org/>

IS THERE ANOTHER WORD FOR SYNONYM?

**WHAT DO YOU DO WHEN YOU SEE AN
ENDANGERED ANIMAL
EATING AN ENDANGERED PLANT?**

**WOULD A FLY WITHOUT WINGS BE CALLED A
WALK?**

WHY DO THEY LOCK GAS STATION BATHROOMS?