

**From: National Control Line Racing
Association
Bill Lee, President
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TO



**2006 F2C World Champions (L-R)
Green: Yuriy Chayka/Valeriy Kramarenko-
Ukraine,
Yellow: Georges & Pascal Surugue- France
Red: Semen Lerner/Yuriy Bondurenko-
Ukraine
Roland Surugue in center.**

Torque Roll!!

**The Official publication
Of the NCLRA
Issue # 72
February 2007**

PRESIDENTS' COLUMN- BILL LEE

Welcome to the "new" Torque Roll!

For many of you, you will be reading this on your computer instead of the hard-copy that we have enjoyed for several years. As I am sure you know, we had a "sweet heart deal" with AMA and they produced and mailed our newsletter for us. HQs had excess printing capability and we took advantage of it. A BIG thanks to Steve Kaluf and his staff at HQs for all of the help they provided! But that deal is over and we are adapting.

With this electronic distribution, if you want a hard-copy, you will have to print it yourself. However, if you want to be sent a hard-copy instead of electronic (and for those without an e-mail address, that's what your reading), you can go online and change your personal method of distribution. But please understand that printing and mailing the hard-copy is an expense (and the NCLRA dues will have to be adjusted in the future when we get the printing sorted out (EDITOR'S comment))

If you want to see the back issues of the Torque Roll, they are available online under the "Members Only" section of the NCLRA web site:

<http://www.NCLRA.org/>

CL Racing Editor for Model Aviation: Jim Holland has been the CL Racing contributing editor for Model Aviation for the past year or two. But Jim has resigned this position and Bob Hunt, the MA Aeromodeling Editor, has asked me to see if I can find a replacement. As of this writing, no-one has been identified.

The CL Racing column in MA is quarterly. It should consist of 1500- 2000 words and a small number of pictures. AMA pays the columnist for the efforts. (You won't make a living being a MA columnist!)

Writing skills are not a prerequisite! I am fairly certain that NONE of the previous columnists were accomplished writers when they took over the column. I know I was sure not when I wrote it back in the 70's when MA first was published.

If you are perhaps interested, or know someone who would like to try their hand, please contact me.

NCLRA Elections: This is the year when we elect the District Representatives. Nominations will be accepted by the President and Newsletter Editor between March 1 and April 30 for each of the Districts. I know that at least a couple of the Districts will require new faces since the current representatives have either moved out of their District or have told me they do not intend to run

again. So please put on your thinking caps and get someone to take on the responsibility.

Being a District Representative is not a big deal. It involves being the eyes and ears for NCLRA in the area, writing something (a couple of paragraphs is enough) for the Torque Roll every couple of months, and being involved with decisions that the organization must make on occasion. The Representative doesn't even have to do the writing himself if he can get one of his buddies to put something together for him.

Along this same note: We are once again without a Vice President. Jim Holland has resigned and I need to appoint someone to fill that role until the elections in 2008. I would appreciate a volunteer.

New Member sign-up and Renewals: We have added a new feature to the NCLRA website: an on-line membership sign-up and renewal system. Coupled with this is the ability to pay dues using PayPal and credit cards.

If you are a current or previous member, you will need your "Members Only" user ID and password. If you have not ever established your own user ID on the site, you will be asked to enter a temporary user ID, and the system will then ask you to establish a permanent name and password.

Your temporary ID, if you need it, is on the label of this and previous issues of the Torque Roll. If you are getting this issue via e-mail, your temporary ID can be obtained by contacting Dave Rolley or me. Remember that a temporary ID is only provided until you have established your permanent user name.

The online system will ask you how you wish to pay for renewal: check, PayPal or credit card. If you ask for check, the system will give you a page that you can print and sent in to the Treasure, address on the form.

If you request PayPal or check, the system will take you to PayPal. PayPal provides a means to pay via a credit card without becoming a PayPal member. This gives us the ability to accept credit cards without the hassle of actually accessing the credit card companies themselves. And, of course, those with a PayPal account can use it in a normal fashion.

We hope this provides one more convenience for NCLRA members and newcomers.

NATs 2007: It's time for everyone to be thinking of the NATs this summer. Once again we will be using fuel sponsored by Ritch's Brew. Fuel for all events except Fox Race and SSR will be 10% castor oil, 10%

synthetic and 10% nitro. Fuel for Fox and SSR will be 20% castor oil.

If you have been a NATs contestant or mechanic within the past two years, you should have already received your NATs entry and associated information. If you haven't, please contact AMA Headquarters and they will send a packet to you. An interesting note: they include a sign-up sheet for the unofficial events as well as the official events. This is new this year. But this in no way means that we will not accept entries on the field for the unofficial events up until the close of processing for the event.

New CL Racing Rules: The 2007- 2008 rules are now available on the AMA website.

<http://www.modelaircraft.org/>

Once there, pull down the "Competitions" menu and bring up their main page. You can then navigate to the rules pages.

Some notes: as of this writing, the 2007 rules as published still have some errors in them. These have been identified and AMA HQs has promised a quick fix. Hopefully by the time you get this newsletter, they will be current and correct. For real-time information, keep an eye on the AMA site and visit the rules regularly. When they get fixed, they should have a revised publication date on the front sheet. You might also visit the Delphi CL Racing forum where we will announce when the corrections have been made. Or you can contact me directly.

If need be, we will make an unofficial set with all of the correct changes in them and put them up for all on the NCLRA site, but that will only happen if HQs is slow in getting the corrections made and published officially.

F2C Team Selection: The member sign-up program has been very successful as well as the program itself. Because of the impetus provided by the new program, we are seeing a regular set of F2C contests being held around the country. It is safe to say that there has been more F2C competition in the U.S. In the past year since the program started than occurred in the previous five years combined! And that kind of activity makes all of the teams better!

This year we already have several events scheduled starting with Cabin Fever in Arizona in March, Dallas in April, St. Louis and Topeka in May, and the NATs in July. In addition, the SCAR folks in Southern California have F2C and F2CN scheduled at all of their monthly contests throughout the year.

In order to gain full support and funding for the F2C team from AMA, we need to get 8 teams to the Finals. That may be tough, but the new program is

giving folks an opportunity to become proficient, and there is great hope for the future.

The qualifying results are kept for all to see on the NCLRA web site. They can be found under the "F2C Team Selection" button and then to the "2008 WCHs Program". On that page is a link "Qualifying Results" where all of the results from the past year are collected and summaries presented.

NORTH CENTRAL- LES AKRE

As I sit here typing out this month's column, staring periodically at the gloomy snow clouds threatening to release their load on an otherwise unsuspecting city, my mind begins to drift to thoughts of Cabin fever 2007. For those of us who live in the "Far North", the Cabin Fever contest allows some of us to get our airplanes sorted out a bit earlier than normal. I am certainly looking forward to this, as it will be one of only two contests I will be able to attend this year due to staffing conflicts at work.

B team race plans

Duncan Bainbridge, the pilot end of the Bainbridge/Orchard racing team from the U.K., sent me a copy of builder/pitman Mick Orchard's fine "Clever" Barton "B" racer which they campaigned, and used to win this year's Barton B event at the 2006 British Nationals. This fine plan set comes with pictures, and a great set of instructions, as well as a full size hand drawn plan. Mike has some interesting ideas on engine cooling that are incorporated in his design. The plans are available from Duncan for the sum of 5 pounds sterling (\$10.00 U.S.), postage included. If you want a copy, contact Duncan at:

duncan.bainbridge@austinsmithlord.com

Sorry, but I don't have a regular mailing address available for Duncan.

Having trouble finding engines?

Like many of you, I have had to resort to ebay to find engines suitable for some of our racing events. As you know many of the popular engines we use in certain racing events are no longer manufactured, or the company that manufactured them doesn't exist anymore. Another problem is that few, if any manufacturers are replacing these obsolete engines with a newer variant suitable to our needs. This can make finding new engines of a particular design type for a specific event quite difficult. I don't particularly like this situation as it does not help the hobby shops and suppliers we depend on for most of our supplies. The less we buy from them, the less support the whole hobby industry has. Many U.S. engine importers/distributors are no longer carrying engines smaller than a .40 or .46, or have decided to handle only the larger 1/4 scale engines making

sourcing suitable engines for some events even more difficult.

In a perfect world, our event rules would be written to limit engine performance for certain events without dictating a particular design or type of engine be used.

Something to think about.

Project Rambler

Project Rambler is coming along, albeit slowly. I have removed all of the old silk covering, and all of the top planking and some of the formers. The wing has aluminum tubes set into it for the lead outs, and these were covered by some type of wood filler that has deteriorated. I will replace the tubes and fill in the gaps using a more modern material before fiber glassing. I will have to make a new bellcrank as well, as the old one was a poorly designed unit that would have eventually failed.



Quote of the month;

“If you always do what you've always done, you'll always get what you've always got”

See you next month.

NORTHWEST REPORT- MIKE HAZEL

Greetings fellow racers, and hello again! As previously announced, John Thompson wished to step down from this position, and he convincingly twisted my arm into doing it again.

Without wishing to bore you with lots of details, here's some recent personal history that has affected my modeling activity..... After years of being a city boy, the missus and I decided to pursue our goal of doing the dream house thing out in the country. In 2005 we purchased some acreage several miles away from our home in Salem. The acreage also includes an old rundown house and a barn/shop. After selling our city home, we moved into what will just be a temporary home for us. We will build our new home on this site in 2008, but meanwhile are keeping busy with cleaning up the property, site preparation, house plans, etc.

All of this has cut back time for modeling, including operation of my prop business which is now just limited to warmer months since I have to do the work in an outside shop building. However, it will all be worth the wait because the dream house will of course also have a dream shop. Oh, and my personal flying field will be nice, too!

The Northwest contest season will soon be kicking off, and the inclusion of racing events is again a bit on the light side. However, the one meet that bucks that trend is the Northwest CL Regionals. This will be the 36th annual edition, and as usual this large contest offers a vast array of events including those of the racing variety.

The exact lineup has been altered somewhat this year, due to lack of interest in some classes and requests for new stuff. The popular mainstays will include NW Sport Race (Fox 35), NW Super Sport Race, Mouse Race I, Clown Race, and Quickie Rat. Dropped from the lineup are Class II Mouse, and AMA Scale Race (Goodyear). The .15 Rat event has been retained, and it is suggested that any Goodyear entries just fly in that, two events in one as it were. Added to the lineup is the NCLRA Super Slow Rat, and B-Team Race will be tried again.

Contest dates are May 25- 27, 2007, and the site is the Eugene airport in Eugene, Oregon. The racing will be spread out over three days, which typically gives entrants some time to prep between events. For more information go to the NW district's website: flyinglines.org. If you need to request a hard copy flyer I can supply those for you.

Tight lines and quick pits! Mike Hazel, PO Box 126 Mehama, Oregon 97384. Phone: 503- 859- 2905 E-mail: zzclspeed@aol.com

NORTHEAST REPORT- JASON ALLEN

The days are short, the weather is tough and no flying in our neck of the woods right now. However, since it's the New Year we can start planning for the seasons to come. My Pitman and I have already started to plan for our upcoming F2C contest schedule. It looks like it's going to be a busy summer, getting ready for the Team Trials. It's fun to try and figure out what new equipment to buy, getting in touch with the suppliers overseas, and impatiently waiting for the mail. Remember to make sure all your support equipment is in good working order and ready to go when those first couple of flowers starts poking through the snow.

It's been a while since my father and I have had an event to really compete in. F2C has taken most of my time for the last few years. To make this year more fun, we've decided to compete in clown. Watching the recent contest results and other write-ups in Torque Roll and on the internet, clown looks like a really fun and competitive event. I originally steered away from this event because it seemed like a beginner's event, and I'm not a beginner anymore. In the last few years it's really taken off and become one of the more popular and most contested events. Engine selection seems wide open, the planes are easy to build and a pleasure to fly. I've heard good things about the new Zalp F2D motor and since I'm in pretty tight with the importer (my F2C Teammate and pitman, Bob Whitney) I think I should be able to get a good deal on one <wink>. So this year my dad and I are going to take this event seriously and try to put a whoopin' on some people out there. It should be fun.

In the next few months I'm planning on putting together an article on building an F2C plane and submitting it to Torque Roll. If anyone has any specific questions on the process, or something I might overlook (I'm not sure how detailed it's going to be). Please let me know and I'll be sure to include it in there.

See you in the center.

TREASURERS' REPORT- DAVE ROLLEY

A new way to join the NCLRA or renew your membership:

We now have a new membership sign-up and renewal system on the NCLRA web site. In addition to online sign-up and renewal, the system supports online payment as well. Credit card and PayPal payment options are now available.

<http://www.nclra.org/>

To join the NCLRA or to renew your NCLRA membership, click on the "Membership Information" button to the left of the NCLRA logo. This brings up the display that explains the dues and newsletter options.

Renewing members click the renewal link and new members click the join link. This will bring up another display.

For a current or former NCLRA member with your "Members Only" login information, you can log into the system and it will bring up your current membership information. You can then indicate how many years to renew, and how to pay. If you want to pay by cash or check, the system will give you a page to print and instructions on how to send it in.

If you've never been to the "Members Only" section of the website, you will need a "Temporary User ID". It is printed on the mailing label of a recent Torque Roll, in the upper right-hand corner. Or contact Bill Lee or myself and we will get it to you

For a new member fill in the personal information, indicate how many years you wish to join for, and how to pay. If you want to pay by cash or check, the system will give you a page to print and instructions on how to send it in.

If anybody tries the new system and encounters a problem, or has suggestions for improvement, please contact Bill Lee or myself.

It's renewal time!

As of January 30, 2007, we have received 70 renewals/new members. Roughly 10% have used Paypal for their renewal payment. Several folks have already taken advantage of the new online renewal mechanism. In addition to their dues, several of our member's have donated additional funds to support the F2C program or to be used as the organization sees fit.

The NCLRA is moving to electronic distribution of the Torque Roll for those members that can receive the newsletter in that manner. The move to electronic distribution has been necessitated by the loss of our previous publishing and mailing arrangement. When you renew, please indicate your preference for the newsletter delivery. If you have not already done so, please log in to the "Members Only" portion of the NCLRA web site and indicate your preference for newsletter delivery.

For a change, good news for our F2C Program!

At the 2006 NCLRA Annual Meeting the membership determined that the USA's F2C program is important to the NCLRA and authorized the payment of the F2C Program Participant's Fees for NCLRA members for the 2008 F2C Team Selection Program (TSP).

To date 36 members have indicated a desire to participate in the 2008 TSP in the manner. In addition, approximately 20 other folks have registered directly with the AMA for the 2008 TSP. The combined number breaks minimum required threshold for full AMA support for the USA's F2C team! Congratulations to everyone that has participated so far, you have shown the AMA that we want and will support the F2C program.

Remember, all moneys collected by the AMA for the 2008 TSP is used to directly support the 2008 TSP and the participation of the three teams that make up the USA's F2C Team at the 2008 World Championships!

As one of the potential members of the 2008 USA F2C Team, thank you.

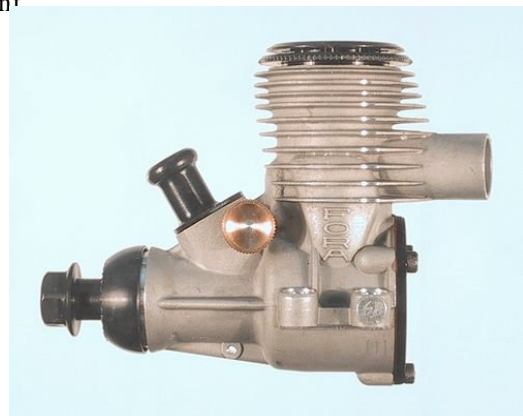
We do need some more folks actively racing F2C. Our goal is to get at least 8 teams to participate in the 2008 TSP Team Finals contest. Please see 2008 TSP information on the NCLRA web site. The button to get there is right under the "Membership Information" button mentioned above. Contact me if you have any questions.

EDITORS COLUMN- TIM STONE



Pictured above is a tool that I use the most during this time of the year. For those of you that live south of Illinois this is called a "space heater". As I am writing this, today's' forecast *high* temperature is 2 degrees. It even *sounds* cold outside now. Sound travels much better the colder it gets and you can even hear commercial jets at 35,000 feet quite clearly! Needless to say there is not much flying going on here right now, it is building season.

One event that is starting to interest me is Clown racing. I have not been too interested in the event until lately but after seeing some of the performances at the 2006 Nats, I might just give it a try. For better or worse this event has matured to the point of being pretty quick and competitive 3-up racing. I noticed this trend a few years ago when Nelson .15 and .19's were starting to be used and then diesels with their mileage advantage over glow motors. Currently there are several F2D (FAI Combat) engines that are quite competitive in this event.



Fora .15 available from Thomas Mejzlik at web address <http://www.mejzlikmodellbau.com> or George Cleveland at http://pages.prodigy.net/gcleveland_grsmodels. This engine was used by Ron Duly to win 1st place at

the 2006 Nationals with 331 laps for 15 minutes, a new record. Notice the tiny venturi with approx 3 mm (hole). These are exceptionally powerful & easy starting motors. Bob Oge used one of these with a larger venturi in Goodyear at the 2005 Nats but airspeed was below most Nelsons & Gillott Rossis. This engine uses a Nelson glow plug. Typical of current combat engines it features heavy duty mounting lugs, short needle valve and AAC piston/sleeve with rear exhaust angled away from center to clear the wing.



Bob Whitney also has sent me a photo of his addition of a spring starter to a Cyclon .049 for Mouse 2. Bob machines a new thrust washer, collet & prop nut to extend the front end long enough to accommodate the spring starter. The spring pictured is from Norvel. Crankshaft is left stock by using a 'recessed' prop nut. Contact Bob for drawings & details.

GLOW PLUGS- TIM STONE

Russ Green sent a couple of pictures taken on Jan 1 fun fly in Dallas. His Fora powered Clown is a fast setup but mileage needs some work I hear.



Zalp- K .15 distributed by Bob Whitney is an exceptionally well made engine. It has many features in common with the Fora. Very lightweight at around 130 grams (approx 4.5 oz) AAC piston & sleeve, uses a Nelson plug. Bob even reworks the venturi by inserting a 'drip tube' for better flow than the stock venturi. It even comes with a muffler!



Selection of glow plugs has never been a simple matter, however with knowledge gleaned over decades of their use the choices have become somewhat simpler. There are specific glow plugs for specific applications. As racers we are looking for top RPM, good starting ability & durability. Things like a reliable idle or a good transition from low to high speed are not important to racers. The maximum 10% nitromethane rule used for most events also makes selecting the right plug easier.

The huge popularity of R/C car racing has also led to growth in the number & variety of glow plugs available. The evolution of this segment of the hobby has given C/L racers better quality plugs & easier selection than ever before.

When I started racing in the early 1970's there was a limited selection of glow plugs suitable for our use. Like just about every other racing component, some competitors were quite secretive about what

glow plugs they used! I recall that some people even filed or ground the exterior of their glow plugs in order to disguise what they were! One of the really weak areas of glow plug construction early on was the insulator seal.

Some racers beefed up the insulator seal with a bead of high temperature epoxy. No plugs were really as durable as racers needed, and even with single bypass motors that would be considered low performance by today's standards, glow plugs suffered numerous failures. These were in the 'unlimited nitro' days when you could run any fuel that you wanted to. Glow plug life was usually the limiting factor as to how much nitromethane could be used..

Meet the new kid...

In the mid '70's the "Globee" glow plugs hit the market. They were probably the biggest innovation since the invention of the glow plug by Ray Arden. The Globee plug was developed by Harry Rowe working with manufacturer Fusite. Fusite was not in the modeling business but they specialized in designing and manufacturing metal to glass seals. This was an entirely new glow plug design featuring a flat coil element in place of the traditional tight spiral wound element.

Globee plugs were at first a prized 'secret weapon' distributed only to the top racers of the day. John Ballard and John Kilsdonk did the testing on their Rat & Goodyears. There was wild speculation as to how many more rpm's that could be realized using the Globee plugs, but it didn't matter to most racers; they just wanted them! Globee plugs were probably good for around a 2000 rpm increase over standard 1/4"-28 plugs. This was due to a more optimal shape of the combustion chamber than with conventional glow plug design. Globee plugs have been out of manufacture for many years now but Henry Nelson makes a 2 piece plug with a Globee type element.

Current Technology

Today there are 3 major glow plug types;

Standard (1/4"- 32 thread)

Turbo (5/16"- 32



Nelson (11/32"- 32 thread) one piece & 2 piece Globee type element. Note that the plug at left has a groove on the hex indicating it is a N3 Heavy duty version.

Proper Torque

Most of us have learned through trial & error how much we have to tighten glow plugs. The 3 main types of plugs require different amounts of torque to seat them properly. Of course there is no time to do this during a pit stop, but by measuring the actual torque with a torque wrench & then checking the tightness with a regular plug wrench you can develop a pretty good feel for it. You can get a 1/4" drive torque wrench for under \$25.00 and they come in handy for other tasks such as snugging down head bolts.

It is also a good idea to use a small amount of anti seize compound on the plug threads to make removing them easier, especially on the tapered seat plugs. Permatex 133a does the job pretty well & is available at most auto parts stores.

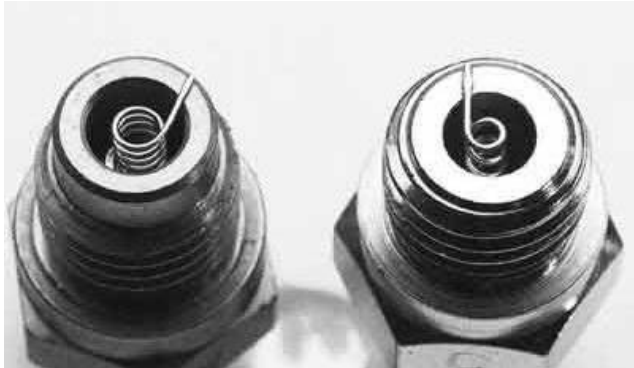
1/4"- 32 Standard plugs rely on the seal created by the soft brass washer and should be torqued at least 24 to 30 in/Lbs.

Nelson plugs form their seal by the fit of the tapered seat to the cylinder head, so torque is an issue. Ideal torque for a Nelson plug is 33 inch/Lbs as measured with a torque wrench. You have to be careful not to overtighten these plugs as they can become stuck or distort the combustion chamber.

Turbo plugs also seal to the head as Nelson plugs do, and should be torqued to about 30 in/Lbs. I have heard from several car racers that it is a common practice with these plugs to tighten them, loosen & then torque down a second time. You have to be careful tightening this type of plug as the 'hex' area that contacts the wrench is much shallower than a standard glow plug; a soft aluminum plug wrench can easily be stripped out by a overtightened turbo plug.

Nelson & Turbo type glow plugs allow a much cleaner combustion chamber shape & are probably good for about a 1500 RPM increase over standard ¼-32 glow plugs. In some applications using the Globee type Nelson plug will add about 500 more RPM, but they do not seem to be as durable as the Nelson 1 piece plugs.

Heat range of a glow plug is determined the size of the element, coil diameter, the composition of the wire element & the size of the hole that the element sits in.



“Hot” plug at left, “Cold” plug at right.

“Hot” plugs have a smaller diameter element than a “cold” plug. In the examples above also note the differences in the diameter of the coil wrap & the hole that the coil sits in. The heat range of a glow plug has the effect of advancing or retarding ignition. Hot plugs ignite the fuel/air mix sooner than cold plugs, thereby advancing the ignition. Cold plugs have the effect of retarding ignition timing. Simply said, hot plugs just glow brighter than cold plugs. The thicker element of a cold plug will usually be more durable than the smaller diameter wire used in a hot plug.

Using a plug that is too hot will result in a loss of power. The same is true if the plug used is too cold. **TOO COLD!** One way to tell if your plug is in the proper heat range is a change in RPM after starting the motor and disconnecting the glow clip. If there is a drop in RPM it means that the plug is too cold. Another sign of a plug that is too cold is excessive unburned fuel in the exhaust.

TOO HOT! A deformed or broken element is a sign of using too hot a plug, or too lean of a needle valve setting. Using too hot a plug will result in detonation (pre-ignition too far in advance of the piston reaching top dead center) and excessive head temperatures. If this gets bad enough you’ll risk melting the glow plug element and ruining your motor.

Choosing the right plug starts with some basic rules. Lower nitro normally means using a hotter plug to help ignite the less combustible fuel/air mix. Higher nitro percentages normally require a colder

plug to retard the ignition at high RPM’s. This gets somewhat muddled up by our use of 10% nitro fuel but sometimes high RPM. In most cases we wind up using a medium- cold plug for low nitro/high RPM events. Hi Nitro/Hi RPM events like ‘B’ Team race require a cold plug. Low nitro/Low RPM events such as Fox racing require a hot plug. Experimenting with different manufacturers’ plugs and different heat ranges can definitely make a difference in RPM’s as well as ease of starting. Here is a listing of Manufacturers & the heat ranges of their plugs; I have composed this list focusing on plugs that c/l racers would most likely use.

Fox Glow Plugs

Standard Short Hot 1.5 Volt, Standard Short Hot 2 Volt
Standard Long Hot 1.5 Volt, Standard Long Hot 2 Volt
Gold STD Long Plug Hot 1.5 Volt
Miracle Plug Hot 1.5 Volt
Pro 8 Short Cold 1.5 Volt
Pro 8 Long Cold 1.5 Volt

McCoy Glow Plugs & OS Equivalent

MC-8 Medium Hot #8
MC-9 Cold A5, R5
MC-55 Medium Hot A3, #8
MC-59 Hot

Rossi Glow Plugs

R1 Extra hot 0.8 to 2cc RB4 Hot
R2 Hot from 2 to 3.5cc RB5 Medium
R3 Medium from 3.5 to 6cc RB6 Cold
R4 Cold from 6 to 10cc RB7 Extra cold
R5 X-cold for nitro fuel & R/C RB8 Super cold
R6 Cold nitro 10 to 13cc
R7 Cold for nitro 13 to 15cc
R8 Cold for nitro 15 to 30cc

K&B

1L- Medium- Hot 1.5 volt
HD- Medium 1.5 volt
HP- Cold 1.5 volt

Nelson Glow plugs

N3 standard 1 pc Heavy duty
N4 2 Piece Globee type element; standard wire (.008) or HD “Green Marked” .0105 wire
N5 1 pc SuperHot (for Navy Carrier engine use)

Read your plugs...

Correct needle valve setting can be read from looking at the glow plug after a run. The color of the plug indicates rich or lean settings. If there is little to no discoloration at all, if the plug still looks

basically new you are probably running the engine on the rich side, and can lean it out. The optimum color is very nice "light" shade of brown (or tan). In this case you are very close to the optimum needle setting for the engine. The third category would be a dark brown or black color, which means you are running too lean and you should richen up the engine.

Part of being a racer is going through the trial & error process to determine which plugs will be the fastest & most reliable. Significant increases in power can be realized by tuning the glow plug selection. As with any sport, the more you practice the 'luckier' you get!

Thanks go out to Henry Nelson for his assistance on this article.

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

OR

MAY 25- 27- - Eugene, OR (AAA) NW Control Line Regionals. Site: Eugene Airport. Events: B-Team Race, NW Clown Race, Mouse Race I, .15 Rat Race, NCLRA Quickie Rat, NCLRA Super Slow Rat, NW Sport Race, NW Super Sport Race Sponsor: NW Regionals Management Association #4356. CD: Craig Bartlett, 205 NE Cedar Lane, Corvallis, OR 97330. E-Mail: sraigbart@yahoo.com WebSite: <http://flyinglines.org/> Additional contacts: John Thompson 541- 689- 5553 Mike Hazel 503- 859- 2905

Southwest District

CA

FEB 25- - Sepulveda Basin, CA (UnSanc) 2nd Denny Shauer Memorial. Site: Sepulveda Basin, CA. Events: AMA Mouse 1, NCLRA Clown, NCLRA Super Slow Rat, SCAR Goodyear, NCLRA B-Team Race, F2CN, and F2C Sponsor: SCAR #4641. CD: unknown

AZ

MAR 24- 25- - Tucson, AZ (AA) Cabin Fever 2007. Site: Christopher Columbus Park, Silverbell Road, Tucson AZ. Events: Saturday: F2C, Super Slow Rat, Mouse I, Mouse II, Clown Race, Fox Race, Sport Proto Speed; Sunday: B-Team Race, Rat, SCAR/ACLA Formula Unlimited, Texas Quickie Rat Saturday Sunday (if not flown Saturday): Sport Proto Speed

Sponsor: Central Arizona Control Line Club #4116. CD: Ken Gulliford, 10001 W. Colina Ct., Phoenix, AZ 85037. Phone: 623- 877- 8823(eve) E-Mail: KGRTR@cox.net Class I Mouse: Modified Production Reed Valve; Class II Mouse: Spring Starters - Any Fuel. Sport Speed - 300 sq. in. x 1 in. thick wing, Under \$100.00, .35 Front Rotor Engine, 60 foot .015 lines, gravity feed fuel, 14 laps from takeoff in speed pole. Any Fox Racer fits the bill. Additional contact: Mark Smith 623- 877- 8968

CA

APR 28- 29- - Whittier Narrows, CA (UnSanc) Bill Nusz Memorial. Site: Whittier Narrows, CA. Events: SUN: AMA Mouse 2, NCLRA Super Slow Rat, NCLRA Clown, AMA Rat, NCLRA TQR, F2CN and F2C Sponsor: SCAR #4641. CD: unknown

CA

JUN 09- 10- - Whittier Narrows, CA (UnSanc) 1st Bev Wisniewski Memorial. Site: Whittier Narrows, CA. Events: SUN: AMA Mouse 1 and 2, NCLRA B-Team Race, AMA Scale Race, NCLRA Clown Race, NCLRA TQR, F2CN and F2C Sponsor: SCAR #4641. CD: unknown

CA

AUG 04- 05- - Napa, CA (UnSanc) 3rd Annual Northern California C/L Racing Site: Napa, CA. Events: Sat: AMA Scale Race, NCLRA Clown Race, Formula Unlimited, NCLRA Super Slow Rat; Sun: AMA Rat, NCLRA B-Team Race, SCAR Goodyear, NCLRA TQR Sponsor: SCAR #4641. CD: Jim Perrson, tbd1, tbd1. Phone: 925- 846- 3999(day)

CA

SEP 08- 09- - Whittier Narrows, CA (UnSanc) 2nd Annual Wayne Trivin Memorial. Site: Whittier Narrows, CA. Events: SUN: AMA Mouse 1, SCAR Goodyear, NCLRA Clown Race, NCLRA Super Slow Rat, NCLRA TQR, SCAR Orange Crate Race, F2CN and F2C. Sponsor: SCAR #4641. CD: unknown

CA

OCT 20- 21- - Whittier Narrows, CA (UnSanc) Virgil Wilbur Memorial. Site: Whittier Narrows, CA. Events: Sat: AMA Scale Race, SCAR Formula Unlimited, AMA Rat, AMA Mouse 1 - 2; SUN: NCLRA Clown, NCLRA B-Team Race, SCAR Goodyear, NCLRA Super Slow Rat, NCLRA TQR, F2CN, F2C. Sponsor: SCAR #4641. CD: unknown

CA

DEC 01- 02- - Whittier Narrows, CA (UnSanc) Toys for Tots. Site: Whittier Narrows, CA. Events: Sun: AMA Mouse 1, NCLRA Super Slow Rat, NCLRA Clown Race, SCAR Formula Unlimited, NCLRA TQR, F2CN, F2C Sponsor: SCAR #4641. CD: unknown

South Central District

TX

APR 14- 15- - Dallas, TX (A) Dallas F2C. Site: Dallas Hobby Park, Dallas, TX. Events: F2C: three rounds each day. Sponsor: Dallas Model Aircraft Association #1902. CD: Bill Lee, 601 Van Zandt CR 4815, Chandler, TX 75758. Phone: 903- 852- 5599(day) 903- 852- 5599(eve) 903- 288- 6029(other) E-Mail: Bill@WRLee.com WebSite: <http://www.DMAA-1902.org/> Each day sanctioned separately for team qualification purposes.

TX

APR 28- 29- - Dallas, TX (AA) DMAA Spring Warm-Up. Site: Samuell Hobby Park, Dallas, TX. Events: Saturday and Sunday: (301- 310)Record Ratio. Sport Jet (JSO); Sunday: 312, 313, Goldberg, NCLRA Quickie Rat, Sportsman Goodyear (JSO) Sponsor: Dallas Model Aircraft Association #1902. CD: Patrick Hempel, 304 Becky Lane, Rockwall, TX 75087. Phone: 972- 841- 8766(day) E-Mail: phempel@dataconninc.com WebSite: <http://www.dmaa-1902.org/> Fuel and awards provided by DMAA. Contact CD for additional details.

MO

MAY 19- 20- - Valley Park, MO (AA) Midwest Speed and Racing. Site: Buder Park. Events: F2C team Race, Fox35 NCLRA, Texas Quickie, 317 Scale racing. And all classes of Speed. CD: John Moll, 7315 Elm Grove Ct, Hazelwood, MO. 63042. Phone: 314- 831- 4001(day) 314- 831- 4001(eve) E-Mail: JL172@sbcglobal.net Team race to be on Saturday, all other racing to be on Sunday, Speed on both days.

TX

SEP 29- 30- - Dallas, TX (Ts) F2C Team Selection Finals. Site: Dallas Samuell Hobby Park, Dallas, TX. Events: F2C flown per the F2C Team Selection Program and the FAI rules. Sponsor: Dallas Model Aircraft Association #1902. CD: John McCollum, 300 VZ County Road 4717, Ben Wheeler, TX 75754. Phone: 903- 852- 3033(day) 903- 852- 3033(eve) E-Mail: JohnMcCollum@WRLee.com WebSite: <http://www.NCLRA.org/> For additional information: Bill Lee 903- 852- 5599 Bill@WRLee.com

Dallas F2C

April 14-15, 2007
Hobby Park

Two days of F2C: three rounds each day.

**Each day scored separately for F2C
Team Qualifying**

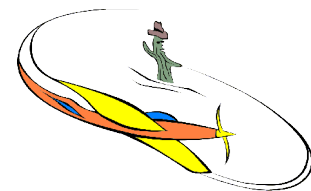
Contest Director: Bill Lee
Bill@WRLee.com
903-852-5599

Site: Dallas Samuell Hobby Park
Northwest Highway & Garland Road
Dallas, Texas

AMA Sanctioned

The Central Arizona Control Line Club PRESENTS

CABIN FEVER 2007



DATE: March 24th and 25th

**LOCATION: Cholla Choppers Flying Field,
Christopher Columbus Park, Silverbell Road,
Tucson Arizona***

FAI F2C	B-Team Race
Super Slow Rat (SSR)	NCLRA .15 Rat
Mouse I (Modified Production Reed Valve)	SCAR / ACLA Formula Unlimited
Mouse II (Spring Starters – Any Fuel)	Texas Quickie Rat
Clown Race	Sport Proto Speed
Fox Race	(If not flown Saturday)
Fox Race	
Sport Proto Speed (Time Permitting)	

Contact: Ken Gulliford for Rules Questions
(623) 877- 8823 kgtr@cox.net

2008 F2C Team Selection Results

Overall Rankings

(as of 2/1/2007)

Team (Slowest/Time)	2006 Cabin Fever R:4 H:1 N: R:3 H:2 N: 3 3 3:26.09 3:27.76	2006 St. Louis Speed and Racing Contest R:2 H:2 N: R:1 H:2 N: 2 2 3:31.57 3:33.91	2006 U.S. NATs R:3 H:1 N: R:2 H:1 N: 2 2 3:40.99 3:48.69	2006 World Champs R:1 H:1 N: R:4 H:1 N: 2 2 3:28.08 3:30.03	2006 Virgil Wilbur R:1 H:1 N: R:2 H:1 N: 2 2 3:20.96 3:25.14	2006 Toys for Tots R:1 H:1 N: R:2 H:1 N: 2 2 3:45.11 3:48.80	#Heats/A verage N:6 3:26.34
Ascher/Ascher 3:30.03	R:3 H:2 N: R:4 H:2 N: 3 3 3:28.94 3:34.50	R:1 H:2 N: 3 4:28.98	R:2 H:2 N: R:1 H:2 N: 2 2 3:58.16 4:50.64				N:6 3:26.34
Ricketts/Lee 3:48.69	R:1 H:1 N: R:3 H:1 N: 3 3 3:26.74 3:37.50						N:6 3:36.43
Rolley/Rolley 4:29.00	R:2 H:2 N: R:1 H:1 N: R:2 H:2 N: R:4 H:1 N: 3 3 2 2 3:35.22 3:47.74 4:00.35						N:6 4:09.77
Allen/Whitney 4:00.35	R:2 H:1 N: R:1 H:2 N: 3 3 3:26.74 3:37.50						N:5 3:44.59
Dziak/Oge 3:39.60							N:4 3:33.19
Wallace/Wallace 4:59.19	R:1 H:1 N: R:2 H:1 N: R:1 H:2 N: R:3 H:2 N: 2 2 2 2 4:33.12 4:59.19 3:39.98 3:44.53						N:4 4:14.20
Fluker/Lambert 3:33.30	R:2 H:1 N: R:4 H:1 N: 3 3 3:18.16 3:28.55						N:3 3:26.67
Hart/McDonald 3:42.95							N:2 3:40.66
Stone/Oge 4:13.83	R:2 H:1 N: R:3 H:1 N: 2 2 3:55.64 4:13.83						N:2 4:04.74

Code: Times used in Average calculation.

NATIONAL RECORDS

SLOW RAT

JR (70 LAP) 5:16.20 SCOTT MATSON
7/10/00

(140 LAP) 6:47.37 SCOTT MATSON
7/10/00

SR (70 LAP) 4:29.63 HOWELL PUGH
7/20/94

(140 LAP) 10:58.47 DOUG SHORT
7/10/00

OP (70 LAP) 2:36.31 BOB OGE
7/18/91

(140 LAP) 5:24.94 MIKE GREB
7/19/90

½ A MOUSE 1

JR (50 LAP) 2:37.57 SCOTT MATSON
7/15/99

(100 LAP) 5:17.68 SCOTT MATSON
7/17/99

SR (50 LAP) 2:44.68 DAVE ROLLEY JR
7/15/99

(100 LAP) 5:20.11 D.J. PARR
7/16/98

OP (50 LAP) 2:12.3 JIM HOLLAND
7/16/04

(100 LAP) 4:22 RYAN&GIBEAULT
7/15/99

½ A MOUSE 2

OP (70 LAPS) 3:01.24 MACCARTHY/KERR
7/11/03

(140 LAP) 7:16.03 WHITNEY/HALLAS
7/11/03

SCALE RACING

JR (70 LAP) 2:50.65 BOB FOGG III
7/16/91

(140 LAP) 6:08.55 BOB FOGG III
6/23/92

SR (70 LAP) 3:15.12 DOUG SHORT
7/11/00

(140 LAP) 5:40.05 BOB FOGG III
7/11/95

OP (70 LAP) 2:39.38 WILLOUGHBY/OGE
7/15/97

(140 LAP) 5:33.04 BOB FOGG SR
7/16/91

F2C TEAM RACING

OP (100 LAP) 3:15.46 LAMBERT/FLUKER
9/04/05

(200 LAP) 6:57.36 LAMBERT/BALLARD
7/15/98

F2CN (NCLRA RULES)

100 LAPS JULIO ISIDRO
7/11/05

200 LAPS BOB WHITNEY & DAVE HALLAS
7/11/05

`B' TEAM RACING

OP (35 LAPS) 1:24.34 BURKE/DULY
7/12/05

(70 LAPS) 3:11.51 BURKE/DULY
7/12/05

(35+70 LAPS) 4:35.85 BURKE/DULY
7/12/05

(140 LAPS) 6:45.1 BURKE/DULY
7/13/04

RAT RACING (.15 RULE)

OP (70 LAP) 2:44.6 JIM HOLLAND
7/15/04

(140 LAP) 5:33.1 JIM HOLLAND
7/15/04

JR-SR NO RECORD ESTABLISHED

NCLRA FOX

JR (100 LAP) 5:57.11 SCOTT MATSON
7/11/99

SR (100 LAP) 5:28.09 SCOTT MATSON
7/16/02

OP (100 LAP) 5:32.55 TIM STONE & BOB OGE
7/10/05

NCLRA CLOWN

OP (15 MINUTES) 331 LAPS RON DULY/JOHN
MCCOLLUM/RUSS GREEN

7/12/06

OP (7 ½ MINUTES) 160 LAPS DON BURKE & RON
DULY

7/13/05

NCLRA TEXAS QUICKIE RAT

SR (70 LAPS) 3:04.22 SCOTT MATSON
7/12/01

SR (140 LAPS) 6:20.20 SCOTT MATSON
7/12/01

OP (70 LAPS) 3:04.28 JIM HOLLAND/BILL CAVE
7/14/05

(140 LAPS) 6:07.01 JOHN MCCOLLUM & BILL
LEE 7/14/05

NCLRA SUPER SLOW RAT

(100 LAPS) 6:27.59 DON BURKE & RON DULY
7/10/05

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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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