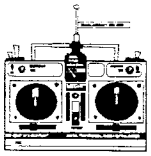
The Transmitter

SUBURBAN R. C. BARNSTORMERS, INC.



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April, 1995

In Memoriam of Jim Paulus

Modeling is a wonderful and exciting hobby. It allows us to fly the fruit of our hard work, we learn so much and it provides us the opportunity and privilege of meeting wonderful people.

In this regard, it is with a great deal of sadness that I have to inform you of the passing of our good modeler and friend JIM PAULUS, on April 24.

I first met Jim when he joined the West Suburban Rc'rs in the spring of 1968. He was an avid and skillful modeler who loved scale airplanes. I still remember when I flew his first "Proctor Antique". Up to the time of his death he still had two "Antiques" among the large collection of airplanes he had built.

Jim was born February 13, 1921. He studied art both in the United States and in Mexico. Later he became a teacher, and finally the Dean of the Chicago Academy of Fine Arts for 10 years. Then he joined the McCormick Junior college as Art Consultant and teacher, retiring about 8 years ago. An accomplished artist, he also had his own Gallery for a couple of years.

Jim leaves a wonderful family. Wife Chris, and two sons Dean and Kimon and their families, to whom we extend our sincere and deepest sympathy in this time of sorrow. Jim was a generous man who always helped those in need. He donated his time to our club in many capacities, the last being a Liaison Man with the DuPage forest preserve which he was compelled to resign due to his illness.

Goodbye dear friend. We will miss your good humor, your talent and your generosity. We trust your skies are blue and clear for a great flight.

-Hugo O. Mosquera

Up Coming Events

May 1 Business Meeting
Bloomingdale Pub. Lib. 7:30 P.M.

May 7 Giant Scale Warm-Up
Pratts Wayne Woods 9:00AM

May 14 Fun Fly #2
Pratts Wayne Woods 9:00AM

June 5 Business Meeting
Bloomingdale Pub. Lib. 7:30 P.M.

June 11 Fun Fly #3
Pratts Wayne Woods 9:00AM

Barnstomer Clothing Sale

Hats
(in stock now) Black or Yellow $6.00

Jackets (includes embroidered name)
Baseball syle - black color only. $45.00
Coach Style -black or yellow $35.00
Sizes available: S,M,L,XL, XXL
(size XXL add 10% to above prices)
Club minnimum order 2 jackets.

Sweatshirts
Black color only, 7.75oz material.
Hooded pull over $22.00
Crew neck pull over $20.00
Sizes available S, M, L, XL, XXL
(size XXL add $2.00 to above prices)
Club minnimum order 2 sweatshirts.

Polo Shirts
Hilton Club shirts w/pocket, 50-50 poly./cotton
Black or yellow colors available. $20.00
Sizes available S, M, L, XL, XXL
(size XXL add $2.00 to above prices)
Club mimimum order 3 polo shirts.

Payment terms are cash on order. For more info, contact John Sikorcin .

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The Transmitter

This newsletter is published monthly by the SUBURBAN RC BARNSTORMERS, INC.

We reserve the right to edit all information forwarded to us. Permission is hereby given to reprint any article that we publish as long as proper credit is given.

Material can be submitted for publication at a meeting or by mailing it to the editor. (Electronic media preferred.) To be printed in the next issue, articles must be in by the 3rd week of the month. Material can be mailed to the following address:

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Think Safety

SUBURBAN R.C. BARNSTORMERS, INC.

Competition Flying

by Scott Thomas

Trimming an Airplane

In our last article, I cut it off kind of short during a discussion about flight trimming. No matter what kind of flying you do, there is nothing more important than having a properly trimmed airplane. Considering that many of you will be going out to start trimming your new planes soon, this seemed like a good subject to continue on now, and maybe for a couple more articles.

I always enjoy a chance to fly someone else's' airplane at the field and the first thing you'll catch me doing is some basic maneuvers to characterize how "trim it is." Sadly, the majority of these test subjects, especially trainers, have trim problems which can usually be resolved. One seemingly common attitude toward the subject is "it's only a trainer" and this somehow makes the problems unimportant. In my opinion, a properly trimmed airplane can really help someone who is learning to fly because they won't have to fight the plane to fly it. I believe that all planes should be properly trimmed and one of the difficulties with having a trim airplane is understanding what "trimmed" means. To further complicate the subject, there are many plane kits out there and they are all designed with different types of flying in mind, er, eh, they have different limitations which could be misinterpreted as trim problems.

What does "trimmed" mean? To me, it means that a particular aircraft flies "the way I want it to" in every regard. Don't worry, for practical purposes, that is an impossible set of criteria to satisfy as the requirement is relative and intangible. To boot, even the atmospheric conditions affect the trim of a model somewhat. As you become a better pilot and learn more about flying, you will want more out of your planes and be more able to recognize trim problems. In short, this means that no plane is ever "done" being trimmed, so relax, you're never done and you'll never know everything.

This is a very big topic, because it literally concerns everything in the model. The problem you are faced is that the kit maker had you build the plane a certain way, from one end to the other, and then you 'gotta figure out how to correct some characteristics, if they can be. One of many things could have happened that affected the performance of the model, including building errors. One significant challenge that I have incurred is purchasing used airplanes and trying to make them fly right. For some reason, this is always a troublesome process compared to the planes that come out of my shop. It can be done, I have done it, more than once, it is possible.

One question you should get answered right away is whether the characteristics you want to change are applicable for the type of model in question. Don't get stuck trying to get something out of a plane that only a plane of a different design will be able to do, it just won't work. For example, it is unlikely that entry level aircraft (a high wing trainer) will do a straight outside loop under any conditions. In addition, there are many planes out there that just fly like ship, it isn't your fault, and you can't do anything about it. Ask around and see if what you want is sane.

I you ask me, flight trimming starts in the shop. Recommended pre-flight check list: Wing to stab alignment; engine thrust incidence; wing incidence; stab incidence; lateral balance; longitudinal balance; twists in wings or stab; control throws set to plans; hinge gaps sealed; control surface lash; engine run or broken in on test stand; radio receiver range check; battery pack rated; radio equipment secure; receiver antenna fully extended; servo wires routing; pressure test fuel system; all landing gear hardware secure; test retracts; engine mounting; exhaust system mounting; covering seams loose; install lock washers or lock nuts everywhere; weigh the plane in ready-to-fly configuration. I actually make check lists for final assembly and shop trim out, and they are followed. If I think of something that isn't on the list as things go along, it's added to the list. Be anal, like the FAA, it's your plane after all.

One thing that gets me sometimes is that during the building process, I tend to assemble and test fit components and one handy way to do this is with short bolts that only hold by a few threads. In light of this, make sure that all bolts are the correct length, that they are tight and have lock washers or jam nuts. Look for any other "temporary arrangement" such as control linkages not soldered, things tack glued, "I was 'gonna..." (insert phrase here), etc..

Why do all of this work at the shop? I know some guys take their planes out and fly them before checking almost anything, especially crucial flying related alignments. You really have to choices, do it now or do it later. If you want your plane to trim out, you've got to do your homework. When you get to the field and fly the plane, you want to be able to recognize and correct small errors. In other words, if you were a scientist, which you are, you would want to have a "known base line" from which to begin before you started making adjustments to the airframe. Trust me, when you initially do those things listed above, you will find that the errors that need correction are always subtle ones.

Shop Set Up

Engine: There are people out there who take an engine apart to inspect it before they ever run it, and I am one of them. Put the motor on a test stand for break in and trial running. Perform a break-in run and get to know how to adjust it and start it. During this process you want to finalize what glow plug, fuel, and propeller you will use on the plane. Likewise, this is the time to set up the exhaust system as well. You might want to test some muffler and propeller arrangements for noise levels. If you are running a tuned pipe, get that set up for the prop you will be running. For breaking in engines I made some "soup" or break in fuel by adding extra castor oil to my regular fuel, it's about 25% oil.

Incidences: For setting up incidences you must have an incidence meter, ignore any other suggested methods of setting incidences, they don't work. So far, every model I've owned has needed more right and down thrust than the respective plans call for, so be prepared to add more. Try to set up the motor mount so that thrust lines can easily be changed. On a model with a fixed stab, incidences are normally referenced to the stab, so the stab is "zero."

Alignment: This friends, is what makes an airplane fly, the alignment of the airframe. The wing (and stab) must be straight, put an incidence meter on the inner and outer panels of each wing half and then compare them, they better be the same. This implies that neither wing panel has any change in incidence that is not supposed to be there (wash-in or wash-out). Don't wait until the wing panels are finished off the do this, start doing it as you build the wing, just about anything can be corrected beforehand. This measurement is super-critical for one piece wings. A two piece wing is aligned on the fuse when it is mounted. When joining wing panels for a one piece wing, make sure the wings have the same incidence, don't worry about how the leading or trailing edges lining up exactly at the center, they probably won't. Use your incidence meter to "jig up" the wing joint before it is glued. The vertical fin must be ninety degrees to the stab and the stab must be exactly parallel to the wing. Repeat all measurements many times to ensure they are correct and nothing moved on you. Be paranoid about this stuff being correct.

Balancing: Planes have two important balances that should be right; longitudinal and lateral. The longitudinal balance or more commonly "the CG" is located somewhere in the plans. Figure out how to hang

Safety Corner

by Bob Hellem

I recently received my Spring issue of "High Flight,"published by IMAA (International Miniature Aircraft Association). There is an article on Propeller Safety that I thought helps emphasize the subject. I also realize some of our members have seen the article, however most of our members do not get the IMAA publication. The following article was written by Mr. Kirk Gullach, IMAA Safety Officer.

Safety has always been a very important necessity in our hobby. Considering the possible dangers in all aspects of R/C modeling, from building, to the pits, to flying, to landing, safety demands to be part of our basic routine. Being recently selected by the Board of Directors as IMAA Safety Officer, it is my pleasure and desire to share ideas with you.

First, let me describe the plane. A Reno type racer (P-51) with 7.4 cu.in. engine at about 12 horsepower pushing a 24" propeller shaped like 2 stiletto knives. Everyone wants to see this rocket fly. Finally, the plane is being pushed to the flight line. All the other pilots are now viewing the scene silently with great anticipation. It is a real treat for all when one of these power houses get airborne.

The spotter steps over the fuselage and the pilot chokes the carburetor. He then turns the engine over by the prop several times. By now the spectators are on the edge of their seat. The pilot gives the spotter the signal to hold on tight. By the way, did I mention that the spotter is slightly out of shape? The spotter (standing over the fuselage) leans over the fuse and grabs the wings leading edges with a hand on each wing. The other pilots that are watching gasp at the way the spotter is holding the airplane.

No one has the courage to stop this scene before something bad happens. I suppose the spectators think the pilot and spotter know what they are doing. And besides, who are they to criticize the pilot's intelligence towards safe practices?

The pilots flips the engine and it springs to life. The pilot tells the spotter to really hang on because he intends to run up the engine. The spotter nods 'OK'. The pilots shoves the throttle to the stops. There is a jerk as the spotter is trying to brace himself from the sudden increase in thrust. The spotter's head is now six inches from, and directly over the arc of the prop (which is now 24 inches of stiletto blades turning 8500 RPM)!

The pilot pulls the throttle back to get ready to check the throttle response, again throwing the spotter off balance. The pilot again throws the throttle forward forcing the spotter to over compensate the force of the thrust again. This time, the spotter falls forward and engine stops, but not until the prop lets the spotter have 300 gashes across his face.

Now you may be wondering how much of the above story is true? All of it.... except for the last sentence. Even without the punch line, when I witnessed this scene, my heart dropped to my knees, which was also true of the others around me.

I would like to see the flight line officials encourage safety, and perhaps step in when they witness situations such as described above. People have a natural tendency to not interfere, thinking that someone's feeling might be hurt, or to avoid confrontations. When at local fields, safe practices should be everyone's responsibility.

While on the subject of propeller safety, I frequently see pilots that don't take into consideration the possibility of a prop blade being thrown. They pay no attention as to where their plane is pointed when running up an engine. I've seen the planes pointed at the pit area, at pilots on the flight line, and even spectators. A turning prop has a danger zone that is 90 degrees to the left of the prop, arcing across the front of the prop, over to 90 degrees to the right of the prop. I also see pilots, who should know better, standing in this danger zone. A safe distance from the prop danger zone is hard to determine. Common sense will tell you that, in the danger zone, standing 30 feet from the turning prop is much safer than standing 3 feet away. We need to also consider the possibility of the spotter losing their grip on the plane, and the plane pulling away, out of control.

Acceptable places to start an engine or to run an engine is at the edge of the runway, a designated engine run-up area, or at an end of a flight line, with the plane pointed away from everybody at all times.

While the above article was written with 1/4 scale and larger aircraft in mind, it applies to all size models, large or small. A prop spinning becomes almost invisible. As a safety recommendation, paint the tips of your propeller a bright color, and this will make the tips visible while the engine is running Be sure to check your props for balance after you paint the tips. The paint itself can be used to help balance a prop.

From a safety viewpoint always adjust your running engine from behind, reaching over a spinning prop is asking for trouble.

Quote of the month from AMA Safety Code.

"I will perform my initial turn after takeoff away from the pit or spectator areas, and I will not thereafter fly over pit or spectator areas, unless beyond my control."

Remember if in Doubt, Don't Fly. Thanks for listening! -BH

the plane by this point so the CG can be test checked during the building process and afterward. Try to balance the plane by changing equipment location rather than by adding ballast weight. When there is no other choice but to add weight, try to make it ""useful" weight by changing things such as: a larger capacity battery pack, bigger fuel tank, beefier landing gear, quieter muffler, etc.. The lateral balance is all-to-often overlooked, and probably because it's more of a pain to check. To check the lateral balance, you need to hang the plane from two points, forward and aft, at the exact center of the fuselage. This is a really troublesome thing to do on anything but a boxy fuse, so there is a compromise method: make sure the rudder is centered and take the right thrust out of the engine mounting; hold the plane up by the bottom of the rudder and the spinner, and see which wing drops. Make sure the engine is not in a compression stroke or you won't get a true balance assessment.

Control Surfaces: The initial alignment of the control surfaces matters! You can end up with funny tendencies that won't trim out from control surfaces that are not aligned to the major surface or the complimentary control surface. Ailerons and split elevators must initially be aligned to the respective wing and stab and also to one another. The attachment of the control surfaces is important as well. All hinge lines must be at the exact center of the trailing edges. As well, the control surfaces themselves should not be wider than the trailing edge such that they protrude out into the slipstream when there is no surface deflection. Test hinge the controls many times and shim the hinges up or down if necessary to get the correct alignment. If they are too wide, sand them down to the correct thickness. It is my understanding that mis-aligned and mis-hinged controls cause extra drag and worse yet, unbalanced amounts of drag and this can adversely affect the flight performance of the aircraft.

It is critical that split elevators are the same exact size, aligned to one another, and have the same exact amount of deflection. Ailerons are a little less critical that elevators, but all of those things should apply to them as well. Hinge gap sealing is important and don't think otherwise, it keeps the high pressure air where it belongs and keeps it from leaking out the other side. I have yet to fly a plane that will perform a straight outside loop without sealing the hinge gaps on the ailerons. This can solve other problems as well, like not being able to get enough control response because a surface is mechanically out of throw as the controls become more effective when the gaps are sealed.

Servo Linkages: An otherwise perfect airplane can be degraded or even destroyed by poor servo linkages. What doesn't help matters here is that there are many pre-packaged linkages out there that are goofy, unreliable and likely to crash your airplane. Each linkage must be mechanically sound and free of lash or end play. Set up the servo to use as much travel as possible for a given amount of throw. As a rule-of-thumb, use the smallest servo wheel and the tallest control horns. Once the plane has been flown and the control throws are set, re-evaluate the amount of servo travel being used, if it is not real close to 100%, then I suggest going in on the wheel or up on the horn until it is. In my book, a linkage is adequate when the only lash in the mechanism is from the lash in the servo. You can reduce or eliminate servo lash, by buying better servos.

Here are some things to watch out for; ny-rods anywhere; elevator joiner rods; and aileron torque rods. Ny-rods are great for tail wheel steering and throttle linkages, but not anywhere important as they are difficult to impossible to get a truly solid linkage. The split elevator joiner rods in most kits are inadequate, as they allow the other side to flex as the joiner wire twists. Aileron controls have the same problem two fold as the wires can twist and if there are no bearings, the whole wire can move around and make more lash. The solution to these problems is easy: heave the junk you get with the kit.

Next time we'll go some real trim problems. -ST

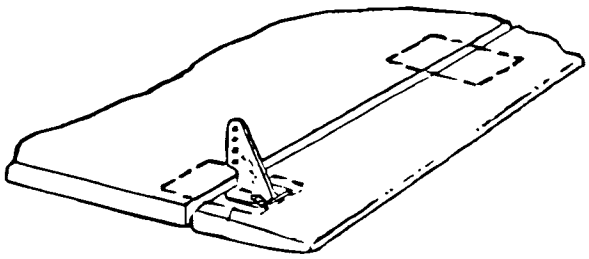
Editors Blurbs

I would like to get the newsletter on a regular schedule. There are many problems associated with getting each issue all the way out to you and all of the can hold up an issue. It seems as though, for whatever reason, that the more important it is to get the newsletter out, the more things go wrong in the entire process. There is no explanation for this phenomena, well there is one, but it's different every time.

I am the editor and it's my job to do the editing. This refers to the process of putting content into the empty pages. This is usually balanced out between officer reports, club event announcements, member authored articles and whatever can be ripped off from anywhere else. One problem we have is getting the content in time. In my purview, every issue should have a president's message, a business meeting report from the secretary, a safety article from the safety chariman and announcements of any club events. I rely heavily on all the people that are in charge of this stuff to get their material in on time. Are you listening GUYS? It would be great if their were alternate people, say for things like the presidents' message. (Hugo's working on it.)

So far in this adventure, I have always waited for stuff to run the newsletter and sometimes that has resulted in it being drastically late. I'll take the blame. So, some people ask "Why don't you run it anyway?" Well, that's a sensible question, but doing so puts me in a panic on how to fill up the previously allocated space at the last second. I have been trying to keep the newsletter at a full twelve pages, or six pieces of paper, the most that we can send for the price of a regular postage stamp. So, my excuse reads something like "quality over timely" but even I get irritated (with myself) about how late the paper goes out sometimes.

We will endeavor to get the paper out more regularly, right team? Starting with the monthe of May, I will try to get the paper back onto a more "normal" schedule. In order to do this, a dealine will be imposed, and stuck to. To get something printed in the current issue, articles must be in to me no later than the end of the 2nd week, or maybe beginning of the third week of the month. The idea is to get the finished edit to Simon with a week left to go in the month.



Control Horn Installation

by Tom Doucette

When installing hinges and control horns on surfaces, here's an easy way to reinforce the horn mounting surface and eliminate some of that unwanted twisting motion. Simply put a hinge (like Sig's Easy Hinge) where the horn will be installed. This effectively pins the the hinge in place. The CA toughens up the area and the location of the hinge with the horn provides a good solid and direct mount.

Engine Value Analysis

by **Hogo Mosquera**

What is wrong with American made Model Engines?- Nothing! United States has been making the best engines in the world, ever since Bill Brown built his famous Brown Jr. in 1931.

United States is and has been the leader in technology, innovation and productivity in just about every field, and every body has copied us.

Then why the recent lack of popularity of our own model products and the preference for the foreign made goods.

Because we always think that the grass across the street is greener, even if it is full of weeds!

We Americans are supposed to be the most educated, sophisticated and informed customers in the world, unfortunately most of the time, we let many popular fliers or the big advertisements of the industrious and gutsy importers, dealers and sales people guide our decision of choosing Engines.

Of course some of these people are not always looking for what is best for you, they are looking only for what produces the most for them. The next time you need an engine why don't you consider this:

The Fox engines have been producing quality engines for the last 48 years, and they have been always known for their broad line of products at attractive prices, specially with parts.

K & B has been another leader in technology and innovation for about 45 years. They produced engines of great power and quality at the most affordable prices. Great parts availability and a very extensive line of products.

RJL has a wonderful line of American made, quality engines, like the K-61 (designed by Phil Kraft) or, the HP line (formerly made in Austria) two cycle and four cycle, and if you like old timers they have a complete line of Old timer's reproductions (Conquest .15, Forster 29, 35, & 99, Edco Sky Devil 65 & Cunningham Bluestreak 65).The prices are very reasonable and the parts availability is good.

Cox has a fantastic line of small engines, and have been the best in the world for many years. Their prices are the most affordable.

Fitzpatrick, Nelson, Jett. If you haven't seen any of these engines you have missed the best that America has to offer. Their quality, metallurgy and technical design are the best in the world. Expensive? Of course Not, when you consider the quality of engines you get. They are out this world. Of course the foreign copy cats will soon try to copy them with cheap imitations.

Come on fellow modelers, give the American Industry a chance, in addition to their long experience and great reputation they produce wonderful high quality products at very reasonable prices and when you need a part you don't have to part with your whole wallet to get it.

Don't get me wrong, I believe the foreign competition has excellent products, and some times are the only available in the size or class of engines we are interested, but unfortunately most are overpriced, especially with parts, when you can get them!

Have you compared the price of glow plugs?; ours are just as good if not better at 1/3 the price of the imports!.I think that we should be the ones, to help and protect our Industries of the engines we use.

Buy American products and buy smart!

Engine Idle

by the late Duke Fox

A good reliable idle is a great confidence builder. Most motors will idle reliably if the plug is good, fuel is fresh and the mixture is set lean enough. If the mixture is too lean, the engine will idle well, but when you give it throttle, it will run dry, cough and die. If it is too rich, the engine can continue to idle for quite a long period, but fuel gradually accumulates in the case and when you give the motor the throttle, the liquid fuel splashes up into the cylinder and drowns the plug. The way to go about adjusting the idle mixture is to pinch off the fuel line and see how the engine acts when the fuel is shut off. If, after stopping the fuel, the motor runs more than 10 or 12 seconds, then you have the mixture too rich. If it shuts off in less than four to five seconds, your mixture is too lean. This check should be made after the engine has been idling for 15 to 20 seconds so the crankcase accumulation can stabilize. Once you have an adjustment that seems to work, it's best not to fool with it.

Now for the things that can foul up the detail. (1) A plug that has become oxidized or (2) fuel that doesn't have enough nitro. Assuming that you have a good plug, fuel that is fresh and contains the right nitro, if the engine still doesn't idle reliably, the thing to look for is air leaks. Air leaks could come from a rear cover that is loose, a leaky gasket, a worn main bearing, a worn piston skirt, leaks around the carburetor barrel or leaks around the high speed needle threads. These will all contribute to an unstable idle.

Tightening the rear cover or replacing the gasket will usually take care of that kind of problem. A bit of fuel tubing between the high speed needle and seat can stop an air leak around the needle valve. If you have a worn piston skirt or a worn main bearing, there is nothing but a major engine repair that will do much good.

If your engine seems to idle satisfactorily with the glow plug heater on, but slows and dies when the glow plug heater is off, try a hotter plug. If that fails, try changing fuel. An inverted motor is always more difficult to get to idle reliably. Avoid inverted installations whenever possible.

Don't be a person who thinks 0 RPM is the proper idle speed, yet grumbles when he hits the throttle for a go-around and nothing happens. Not one in a hundred models can't be landed with a 3000 RPM idle speed. Most properly adjusted motors are better than 99% reliable at this RPM.

As the motor wears and you start to get more leakage, the first symptoms to appear are idle problems when the engine is hot. That is, your motor will seem to idle quite nicely when you first start it up and taxi it around on the ground. When you take it up and run it around hard for awhile and get it good and hot, then pull it back for an idle, the oil that seals around the piston skirt and the bearing is too thin and doesn't hold compression like when it was cooler. The result, it quits.

Sometimes its pretty hard to convince a person whose motor has run like gangbusters that it quits at idle because it has seen too much flying time.

Now, the opposite situation. A brand new motor will seldom idle reliably until it has run enough to free up. A motor that is nice and free can misfire a time or two and still carry on, whereas a tight motor will stop if it misfires once.

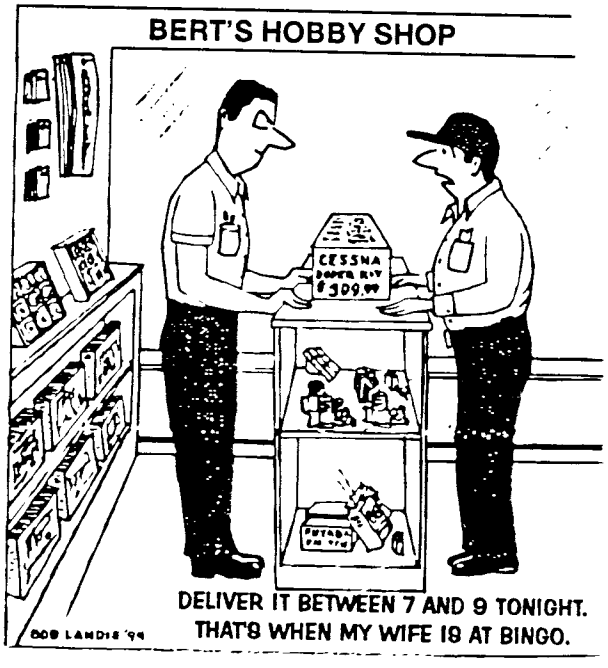
Getting a nice working linear carburetor with no lean or rich spots is pretty much a matter of luck. This is because of the wide variations of fuel used, props used, the way various manufacturing tolerances may accumulate and the small amount of fuel flow. Also, as a motor settles in, it's demands may change. A carb that works beautifully on one motor doesn't always work as well on another of the same make and model.

reprinted from Transmitter
Darwin Evelsizer, Editor
Mascoutah, IL

Call a Doctor!

After an accident, a woman stepped forward and prepared to help the victim. She was asked to step aside by a man who announced, "Step back please! I've had a course in First Aid." The woman watched the procedures for a few minutes, then tapped him on the shoulder. "When you get to the part about calling a doctor," she said, "I'm already here!"

from Larks Lip
Dallas Wilhelm, Dennis Towns, Frank Gourley, Editors
Hastings, NE



Getting It Right

by Scott Thomas

Learning to Paint: Masking

Well, last month we left off making on the paint boundry lines with the vinyl tape. I found out that this tape comes not only in different widths, but different thicknesses as well. The thinner tape is, is easier it is to do real curvy designs or mask humpty objects, but the disadvantage of thin tape is that when you pull on it, the tape stretches easier and this can have ill-effects such as descreasing the width of the tape, which can really hose up close pin striping. The tape thickness is coded by color, the tape I use is a dark blue color.

My only gripe about the blue tape is that it is "awfully sticky" in that it's really hard not to pull the covering back up off the wood when removing it. I have experimented with some techniques for working with and removing the tape that may help. Don't mask the paint lines on until you're sure the plane will be painted soon. I made the mistake of masking the wings months before they actually got painted and this made the tape much more difficult to remove. When it comes time to remove the tape, go slowly and pull the tape at a 180 degree angle or straight back. While you are doing this, a very sharp exact-o or razor blade can be used to help the adhesive break loose. Warming up the tape with a heat gun helps too, but heat is a dangerous thing to use on a completely finished model surface. I would like to experiment with reducing the stickiness of the tape by wiping the back of it with alcohol or acetone before applying it. I think the guys at 3M were way too worried about the tape sticking to 747's right behind the jet engines that were running while it was being painted or something. Just what does the tape need to be so damn sticky for? Maybe John Sukup can tell us, he's a professional painter.

Mask on the paint lines very carefully and make sure that you pay attention to the points you marked off earler. One handy trick is to lay the tape on upside down to get an idea how it will go on. When you actually do stick it down, do it gently as you might want to pick it back up if you don't like the line. If you don't rub or stretch the tape it comes back up fairly easily. If the covering gets slightly pulled up in some small spots, don't fret about it as it can be easily corrected later with a heat gun. If you get a big 'ol ugly wrinkle it might be a good idea to get rid of it right away. It is difficult, at least to me, to get a straight looking line on a complex curved and tapered surface like a wing. One rule of thumb here is that all of the lines will only look straight from one perspective, which is straight on from the top. As you go along with taping, prop the wing up and look at it from across the room, just to see if it "looks right." From this perspective you may catch an error, you'd be surprised how much a small error can stick out when viewed in the perpective of the entire layout. Paint mask lines can be moved, a painted surface can not, this is your chance to get happy with the line masking. Hubbard says that your eyes are accurate to thousanths of an inch, and after he said that to me three years ago the meaning of these words is finally sinking in.

In many cases it is impossible to use one continuous length of tape for a given line. Between curves, angles and hinge grooves, sooner or later you'll hit a spot where the tape will bunch up when you try to change directions. When this happens, cut the tape and continue on with a new piece. Hinge gaps are especially annoying to mask and you have the choice of tape making all the way into the groove or cut small pieces of paper to fit under the tape. Both of these techniques are equally annoying and time consuming. On the ailerons I used paper pieces under the tape and on the deeper rudder grooves I maked the hinge groove area with tape.

Once you've completed the mask lines, its time to start paper masking. Materials absolutely needed for this step are: masking tape; making paper; and Kleen Edge tape. Before you begin, get a strategy together as to what colors are going where and what order they should go on. For instance, all areas that are the same color should go on at the same time. Because paint is used in small amounts on models, more paint can be wasted cleaning up the gun that goes on for a given "shoot." Considering this, for every color, try to paint as many things as you can at the same time. For instance, I did both wings and stab halves at the same time. Here's where the full size cutouts can come in handy, cutting the masking paper as they can be used as templates.

What you want to do it to cut out paper pieces that are slightly smaller than the areas that are taped off. You only have to get close, as the paper will be taped to the vinyl tape with masking tape, but try to overlap the vinyl tape with the paper mask. Regular masking tape sticks something awful to covering and leaves behind an adhesive residue. Do a neat job of paper masking as it will likely be necessary to remove and replace the paper multiple times as various colors are shot. Put the paper masking on in the reverse order that the colors will be shot, or you will end up doing some extra work if overlapping masks must be removed to get at a lower one. With a marker pen, write the color of area on the respective paper masking. For areas like wing and stab tips, the masking does not have to wrap over the end but rather it only needs to protrude past the end a couple of inches, that is unless you're a real slob with the spray gun.

For areas that are going to stay masked you can be a little sloppier. Put this masking down first so it is not necessary to ever remove it. While doing this it can be difficult to get a piece of paper to cover an area perfectly. The Kleen Edge tape can help for masking off small odd sized areas that get left behind. There is also nothing wrong with using multiple pieces or using scraps. Make sure that you cover up any control linkage hardware that might get fouled by the paint. A side benefit of sealing hinge gaps is you don't have to worry about getting paint in the hinges.

When completed, you will have completely mummified looking parts with paper and tape all over them. Put all of the masking on and look it over to see if everything is masked off good enough. As well, think about how you are going to hold on to the piece as you paint, this is more important than you can imagine. Remove the masking from the areas that will be shot first. Do a "dry run" by holding the piece and then act out painting it. Be most aware of how close your hand will get to any wet paint as you work. You don't want to horse around in the paint shop thinking about any of this crap at the last second. Go to the paint area and think about it out there too, ask yourself some of the following questions. Do you need to turn the piece over? Can you turn it around end for end? Do you have to hold it? Can you jig it up so it does not need to be held? Do you need someone elses' help for an operation? Are you sure you won't get close to touching a wet painted surface? When you are done painting, where and how will the pieces be put to rest for drying? Have a solution for these problems before there's any paint in the gun.

One idea this touches off is to build jig apparatus to hold the fuse and wings so you can paint "hands free. For two piece wings and stabs this would be easy....if I could get the time. We'll move on to the magic art of fuselage masking next month. -ST

Fun Fly #1 Results

The following is the results of fun fly #1 that was held on 3/30/95. It was a very cold, wet, rainy day, but 19 guys showed up to give it a puff. Amazing, eh?

Fun Fly #1 Results		
Place	**Name**	**Total Time**
1	Ron Walker	25
2	Jeff Peca	30
3	Glenn La Rocco	45
4	Victor Zark	53
5	Simon Hernandez / Al Dyer	55
6	Russ Carlson	61
7	John Anzalone	64
8	Scott Taylor	65
9	Vic Fortino	119
10	Jerry Polz	123
11	Matt Hamm	139
12	Dave West	142
13	Tom Teducci	148
14	Jim McCorkle	154
DNF	John Howe	-
DNF	Steve Dietrich	-
DNF	Mike Majewski	-
DNF	Dennis Majewski	-
DNF	Ron Hilger	-

Are You Infected?

Answers of yes to more than five of the questions below is a strong indication of a serious infection called Hobbypox.

1. I need another radio. Add one YES for every radio you own over five. (Two channel and AM radios count as 1/2 YES.)
2. I have more than one large box of balsa scraps.
3. I save pieces of Monokote that are as small as an inch square.
4. I keep broken props.
5. Two hundred dollars extra for a four cycle engine is worth it because it sounds better than a two cycle.
6. I have more than three functional flyable airplanes. (Add one YES for each airplane over four.)
7. I have parts to more than three airplanes that are not functional and never will be.
8. I need a more powerful engine.
9. I have thought of buying a new vehicle so I could buy a larger airplane.
10. I recognize my spouse and children less than two out of three times. (Two YES responses if divorced because of your illness. Three YES responses if you just noticed that they left at the beginning of last flying season.)
11. I have snow skis for my airplane. (Two YES responses if your plane(s) are fitted with wing deicing equipment.)
12. I wish twin rotor helicopters were more of a challenge.
13. I can guess the RPM of an engine within five RPM.
14. I have a still in my basement, but only to make my own fuel.
15. I have never noticed the model holding the model airplane in advertisements.
16. I have deliberately crashed an airplane so I would have an excuse to buy/build another one.
17. I bought a VCR just to watch model airplane videos.
18. I visit hobby shops when I am on vacation instead of going to the beach.

Stolen from Talespins, newsletter of the Aeromasters of Fredricksburg, Virginia, Charles T. Rector, Editor, who borrowed it from Flightline News, Greater Cincinnati R/C Club.

Four Star Forty Pylon Racing Rules

by **Simon Hernandez**

Race Rules

1. Flying over the flight line or pit area disqualifies you for that heat.
2. The aircraft must be built according to the plans.
3. All planes must have the stock canopy, no open cockpits are allowed.
4. The landing gear must be stock. The wheels must be two and one half inches tall at a minnimum width of five eights of an inch.
5. Spinner, plastic or aluminum.
6. The only propeller allowed is the 10-6 Master Airscrew.
7. Fuel for the races will be provided by the club and it will have 10% nitro content.
8. The engine must be a 40 size that has plain bushing bearings. No modifications to the engine are allowed. No fuel pumps or one way valves may be used on the fuel system. The engine must run in such a manner that it can idle on the starting line.
9. All airplanes will take off at the same time.
10. Each heat will consist of 10 laps.
11. If your engine stalls or a mid-air collision happens you will receive place points for last place.
12. All pilots must have a caller.
13. At the end of the season, the four top point scorers will go to the championship race.
14. Six races will be flown in the season. The total score for each pilot will be determined by the sum of the best five scores, one race will be thrown out.
15. One trim flight is allowed per race.
16. The race course will be a three pylon style course.

Point Scoring System

Each pilot will get ten points for completing the race. Additional points will be awarded for first through fourth place as follows: the pilot finishing first gets five additional points; second place gets four points; third place gets three points and fourth place gets two points. Two points will be deducted for each pylon that is cut.

According to this system, barring any cuts, a race would be scored as follows:

Four Star Forty Race Scoring Example			
Place	**Finish Pts.**	**Place Pts.**	**Total Pts.**
1st	10	5	15
2nd	10	4	14
3rd	10	3	13
4th	10	2	12
Deduct 2 points from above for each pylon cut.			

PRIZES

Prizes and *medals* will be awarded for first through fourth place. All pilots will receive medals and gift certificates. The first place winner will get his name on a plaque.

Race Field Staff

Running a race takes quite a few people and all of their help is appreciated. The Race Director is Simon Hernandez; Pylon Judges are Glenn Gross and Mel Wiere; Race Starter is John Nowicki. Thanks to Tom Taducci for pitching in too.

Racing Results

The following is the results of the first race.

Four Star Forty Race #1 Results		
Pilot	**Plane No.**	**Total Score**
Ron Walker	1	44
Phil Pedigo	20	44
Russ Carlson	46	40
Simon Hernandez	34	39
Vic Fortino	00	37
Albert Dyer	43	35
Victor Zark	40	23

The Hobby-Works 3rd Annual

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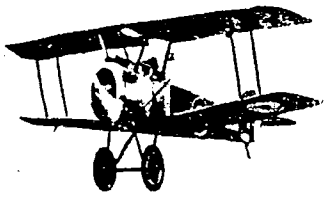
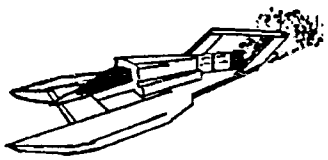


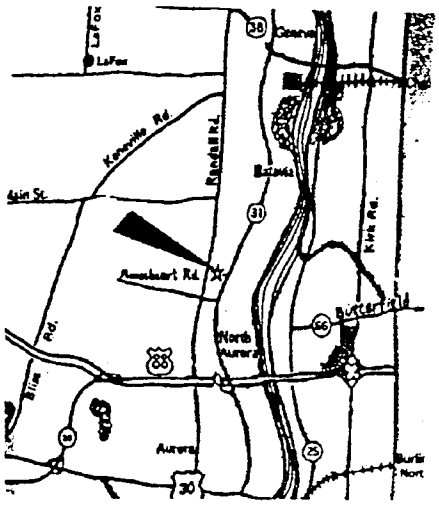
- *Radio-Control Planes, Helicopters*
- *Control-Line Planes*
- *Radio-Control Boats*
- *Raffle Drawings for Great Prizes*



R/C Swap Shop for Bargain Hunters...

Table rental available for $10. Mail checks to the Hobby-Works, Inc. for advanced table registration by May 7th. On-site registration opens at 9:00 a.m. and is first-come-first-served.

Date: May 13, 1995
Time: 10 to 4
Location: Mooseheart Child City
Route 31, Mooseheart, IL
Admission: FREE



The entrance is off Rt. 31, between Batavia and North Aurora Take Rt. 31 exit from I-88

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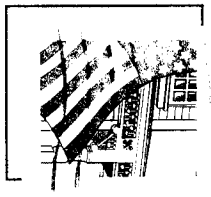

Suburban R/C Barnstomers

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Membership applications can be brought to a club meeting or mailed to the club at the following address:

Suburban RC Barnstormers
P.O. Box 524
Bloomingdale, IL 60108