The Tailwind

AMA Charter No. 704

JULY — DON LEWIS, EDITOR — 2016

Next Meeting on Thursday, July 21 – At the Field!

Be sure to check out the website at www.fly-hrcc.org

Meeting Minutes

There was not a quorum for the June meeting, so no meeting was held.

Sizing Your Model's Prop

originally from Hooked-on-rc-airplanes.com

The manual for every engine will give you a range of propellers that is safe to use with that engine. The manual does not specify the exact size propeller because the propellers must be sized for the airplane they are used with. It is very important to stay within this recommended range.

You can also refer to the Top Flite propeller selection chart below to determine the range of propeller sizes that are acceptable for your engine size. Keep in mind that the Top Flite chart is sized for 2-stroke engines. Consult the manual for 4-stroke propeller sizes because these engines produce more torque at the slower speeds and will use a larger propeller.

The propeller puts a "load" on the engine. If the load is too small or too large it will damage the engine. You must choose a propeller within the recommended range that best suits your airplane and your flying style.

The characteristics of a propeller are defined by the diameter and the pitch. The diameter is the distance from one tip to the other. The pitch is defined as the distance the propeller would move the airplane forward in one rotation in a "perfect" world. Perfect world meaning that the propeller is 100% efficient and the air does not compress; neither of which is practical in the real world.

The "twist" of the propeller is what determines the pitch. Basically the length of the propeller and its twist defines its characteristics.

A model airplane propeller size is always referred to as its diameter x pitch. An 11-inch-diameter propeller with a 6-inch pitch is called an 11 x 6 propeller.

Generally speaking, the larger the diameter of the propeller the more thrust will be produced by the engine. The larger the pitch the more speed you will get out of your engine. A small diameter, larger pitch propeller will move a small volume of air really fast. A large diameter small pitch propeller will move a large volume of air at a slower speed.

Increasing either the pitch or the diameter puts a larger load on the engine. To keep the proper load on the engine, you generally change the pitch and diameter together. For example, 9 x 7, 10 x 6, and 11 x 5 propellers would all put a very similar load on the engine.

If you want to change the maximum RPM, then you change the load on the engine. Replacing a 11 x 6 propeller with a 10 x 6 propeller, or replacing an 11 x 6 propeller with an 11 x 5 will decrease the load on the engine and raise the maximum RPM. Changing from a 10 x 6 to a 10 x 7 propeller, or

changing from a 10 x 6 to an 11 x 6 will increase the load and lower the maximum RPM.

If the propeller load is too large, the engine will not turn fast enough to fly the airplane and could cause the engine to overheat. If the load is too small the engine will turn too fast damaging the engine. So it is important to stay within the window recommended by the engine manufacturer. It is also important to know that the engine must be tuned each time the propeller size is changed because of the change in load the engine sees.

When choosing a model airplane propeller you must keep in mind that you are choosing the propeller based on how you want the airplane to fly. This really has nothing to do with the engine other than the fact that you must stay within the recommended window of propellers to prevent damaging it. The same engine used on two different airplanes may be using two completely different propellers. If you have airplane with low drag designed for speed then you will want more pitch. If you have a slow airplane with a lot of drag, such as a biplane, you will want more diameter (thrust) and less pitch (speed).

Choosing a propeller that best fits your airplane and your flying style is a trial-and-error process. Pick up several propellers within the recommendation range. If your airplane seems too sluggish when taking off and accelerating, then change to a lower pitch, larger diameter propeller. If your airplane has plenty of pep and you want to make it go faster, then change to a larger pitch, smaller diameter propeller. It's really fun to experiment with different propellers and observe how the airplane reacts.

From the Suffolk Aeromodelers, Long Island, New York

Shop Preparation for Engine Running

From the Society of Antique Modelers

When we acquire a used engine that flips over okay, and generally looks and feels like it should run, it will usually do so. But, about half the time it may need some tweaking to exorcise some little problem that made the owner sell it. For this, a good mechanic is more helpful than a priest. For those of us who can't or don't like to run 'em at home, there are some basic things to check out before taking it to the field running session, and maybe being disappointed.

Checkout amounts to more than seeing if an engine props over okay and a glow plug lights. If the engine is stiff or frozen up you'll need to loosen it first thing. A glow engine was no doubt run on glow fuel, but if it's a sparker, it might have been run either on gas and oil or glow fuel. A glow plug in the head and a missing timer is a pretty good clue. A further test is to use a little of each fuel on a rag to wipe away some of the goo. The fuel last used will dissolve any residue the easiest. So, as a minimum pull the plug and flush things out with a fuel or solvent of the same base as the fuel last used. It may require soaking. A frozen engine can usually be loosened with a propeller installed and a heat gun applied. How much pressure you can put on the propeller without breaking anything is a matter of experience. (If something breaks, you used too much pressure.)

If the engine has ball bearings they need to be checked more carefully once things have been basically loosened up. With no propeller installed, rock the crank back and forth with the piston down below the exhaust opening. Carefully feel and listen for any bearing roughness. More soaking, or even disassembly may be needed. That's because congealed oil and/or even rust may be present. Congealed oil can make bearings skid in their races on startup and scuff the races or flat spot the balls. Sort of like losing your skateboard halfway down the steel handrail. Rust can be even worse, because it's abrasive and can grind up everything inside. Rust has to come out and new bearings may be needed. Fortunately, an old sparker that was last run on gas and oil is much less likely to have internal rust, or even bearings.

Most used engines are usually in really bad condition. Probably the most common reason an older engine won't start right away is poor or no fuel flow. Put a foot-long piece of fuel tubing on the spray bar, blow through it and listen. You should be able to close the needle so that no hiss is present,

then open it and hear the progressive hiss of flowing air. If not, use fuel to flush things out with the needle both in and all the way out. Check alignment of the spray bar. Best position for the outlet orifice is at right angles to the venturi's air stream or slightly downstream of that position. If you look into the intake and can't see the orifice looking back at you, you're probably okay.

Select the propeller you're going to use, install it, and flip the engine over to make sure the hole size is correct and the propeller nut and washer clamp down all the way.

Points on a sparker often have congealed oil, a misadjusted gap, or other problems. Check that points work by simply installing a continuity light or Ohmmeter between ground and insulated point. Slowly rotate the propeller and see that the light or meter kicks on for almost half the revolution. Check and set the timer advance at this time. Rotate the piston to top dead center by feel, or by peeping into the exhaust. Note the propeller position, and rotate it backward, and watch for the light or meter to kick on at about 20° before top dead center for easy hand starting.

Make sure you have a clean tank and filtered fuel. And if you have an external tank, or at least an external fuel line, using an inline fuel filter will eliminate a lot of potential problems. Check all screws for snugness to be sure someone didn't leave something loose at some time.

For hand starting, a heavy leather glove is a good idea. An out-of-time, or leaking crankcase on an Ohlsson using gasoline can bang your fingers as unmercifully as anything you'll ever encounter. Follow these steps as a minimum and you've just improved your odds of getting things running during the first attempt.

Celebrating Flight

Fairchild 24

As Detailed in Wikipedia

The Fairchild Model 24, was a four-seat, single-engine monoplane light transport aircraft that was used by the United States Army Air Corps as the UC-61 and by the Royal Air Force. The Model 24 was itself a development of previous Fairchild models and became a successful civil and military utility aircraft.

Fairchild Aircraft was hit hard by the Great Depression in the early 1930s as airline purchases disappeared consequently the company attention turned to developing a reliable and rugged small aircraft for personal and business use. The Fairchild 22 became somewhat of a hit and led directly to the new and much improved Model 24 which gained rapid popularity in the early 1930s, noted for its pleasant handling characteristics and roomy interior. Having adapted many components from the automotive industry (expansion-shoe brakes and roll-down cabin windows), the aircraft was also affordable and easy to maintain. In production continuously from 1932 to 1948 the aircraft remained essentially unchanged aerodynamically and internally, with the simple addition of extra passenger seating and optional equipment. The first models were equipped with only two seats, but in 1933 a third seat was installed and by 1938 a fourth was added. The interior was first created for the Model 24 in 1937 by noted American industrial designer Raymond Loewy. A minor airframe revision was made in 1938 with the redesign of the vertical fin and re-designation from C8 to F24G onwards.

In an innovative concept, the aircraft was available with two power plants, Warner's reliable Scarab and Fairchild's in-house 200 hp Ranger series in the F24C-8-D, E and F. Initially the 1932 model Fairchild 24C-8-B used a reliable and popular

Warner 125 hp radial engine, and the Fairchild 24C-8-C used the Warner 145 hp radial. American Cirrus and Menasco Pirate inline engines were also occasionally used in some earlier Fairchild 24s. Later models such as the popular 24Ws upgraded to the 165 hp Warner Super Scarab.

Designed for operations from relatively unimproved grass airfields, the sturdy undercarriage construction used a vertical oil dampened cylinder above the wheel with a pivoting strut attached to the lower fuselage. The result was a complex but undeniably solid undercarriage that could absorb large amounts of shock and was also adapted for the fitting of twin floats for water-based operations.

The sturdiness of construction of the aircraft has ensured many have survived to this day. Some suggest the massive spruce main-spars can be loaded up to 10g, and while that figure is unproved, all pre-war utility category aircraft were designed to withstand at least 4.1g as opposed to the 3.8g post-war design limit standard.

The Fairchild 24 built by Krieder-Reisner Aircraft, Hagerstown, Maryland, a division of Fairchild Aviation Corporation, remained in production from 1932 to 1948, essentially the same airframe but with various powerplant and configuration enhancements. In all, Fairchild constructed over 1500 Model 24s, with an additional 280 being constructed by the Texas Engineering & Manufacturing Company (TEMCO) in Dallas when that company purchased the manufacturing rights after World War II.

In civil use, the aircraft was a quick sales success with prominent businessmen and Hollywood actors purchasing the aircraft. In 1936, the US Navy ordered Model 24s designated as GK-1 and JK-1 research and instrument trainers. The type was also used by the US Army as a light transport and by the Coast Guard, with the designation J2-K. The Civil Air Patrol operated many Fairchild UC-61/24s and some aircraft were fitted with two 100 pound bombs for what became successful missions against German U-boats off the east coast of the United States in the early stages of the Second World War. The UC-61 was also procured by the US Navy as the GK-1 and by the British Royal Air Force as the Fairchild Argus.

In 1941, the United States Army Air Force (USAAF) placed an initial order for 163 Fairchild C-61s, however via Lend-Lease, 161 of these were shipped abroad. Under the auspices of this program, the majority of the 525 Warner Scarab Fairchild 24s/C-61s went to Great Britain. Most of these aircraft saw service as Argus Is and improved Argus IIs and were allocated to a newly formed adjunct of the Royal Air Force (RAF), the Air Transport Auxiliary (ATA). An additional 306 Ranger powered Argus IIIs were also used by the ATA. In British service, the majority of the Argus type operated with the ATA ferrying their aircrew to collect or deliver aircraft to and from manufacturers, Maintenance Units (MU)s and operational bases.

The Argus I was a Warner Scarab equipped aircraft identified by its wind-driven generator located on the starboard struts, and was equipped with a black-painted propeller. The Argus II was also a Scarab powered aircraft, usually with a transparent cabin roof. This mark was certified for heavier operational weight than the Mark I and was identified by its yellow propeller. The Argus III was equipped with the six cylinder inverted inline Ranger engine.

General characteristics

- **Crew:** one, pilot
- **Capacity:** 3 passengers
- **Length:** 23 ft 10 in (7.27 m)
- **Wingspan:** 36 ft 4 in (11.08 m)
- **Height:** 7 ft 8 in (2.34 m)
- **Wing area:** 193 ft² (17.9 m²)
- **Empty weight:** 1,813 lb (822 kg)
- **Max takeoff weight:** 2,882 lb (1,307 kg)
- **Powerplant:** 1× Ranger Engine L-440-5 inline, 200 hp (149 kW) or Warner Scarab 165 hp radial

Performance

- **Maximum speed:** 108 knots (124 mph, 200 km/h)
- **Range:** 404 nm (465 miles, 748 km)

- **Service ceiling:** 12,700 ft (3,870 m)

Editorial

Responsibilities

What are the primary responsibilities of a model airplane club?

This question usually sparks some pretty good, and often pretty lively, discussion with a wide variety of opinions. The one item that is the most important in practically everyone's opinion is to provide and maintain a flying site. Though there are other important items –providing fellowship, pooling knowledge, helping each other, etc. – all of them become secondary if the club does not have a flying site. Providing a safe, comfortable, and well-maintained site is the glue that holds the club together. Without the field, the club is just a discussion group.

By becoming a club member, you have basically stated that you want to help the club provide and maintain a flying site for at least the club members to enjoy. In our current situation, as it is with many clubs across the nation, our field is part of a park system and is open to non-members. We should consider this as the lease payment for the use of the land – that's pretty inexpensive in my opinion.

There are a variety of activities that the club must be involved in to fulfill its primary purpose. A short list includes:

- Establish and maintain a good working relationship with city officials and employees (our landlords).
- Maintain and improve the flying site's safety, comfort, functionality, and appearance.
- Maintain a positive reputation in the community and create awareness of the benefits of the hobby/sport.
- Provide help to those who show an interest in the hobby/sport by training them to fly models safely.
- Recruit new members to ensure the resources to accomplish the club's responsibilities.
- Provide the funding necessary for performing these activities.
- Plan for future needs and possibilities and maintain a funding reserve for them.

My opinion is that we are doing an excellent job in maintaining our working relationship with our landlords. The Parks Department has been extremely cooperative in our efforts for field improvements, space for safety buffers, and event scheduling. We have over the past 3 or 4 years gone from being an afterthought ("Oh, yeah, I forgot that the model airplane club was there.") to being in the communication loop with Parks Department officials. Our concerns are actually being considered when changes in the park are planned. It is critical that we maintain this type of working relationship and expand it to other city officials when the opportunities arise. This relationship is one of the critical issues in keeping our flying site. The ability to maintain and enhance this relationship should be one of the primary responsibilities of our club's elected officers.

Somehow, we always find the resources to maintain the site. Club members have volunteered to built tables, put up fences, grade the field, mow the grass, etc. Not all club members can contribute at the same level, nor are they expected to. Other priorities in each of our lives will dictate the level of contribution that we can make towards the club's activities. I know that there was a period of several years that I was not available to do much more than pay my annual dues. Then there were years that I was able to serve as a club officer, be on the mowing schedule, and help plan and work events. As our personal situations change, so must our level of contribution to the club. One thing I will say, though, is that during those times when I was unable to contribute at the level I had before, I NEVER complained about how others were doing the things that I was unable to do at that time. As long as they were making an effort to fulfill their commitments to the club and keep their promises to the club, I felt that there was nothing that justified any complaining.

Maintaining a positive reputation in the community and creating awareness seems to be our weakest skill as a club. We have, in the past, held successful events for charitable organizations, and we seem to have a positive reputation with those who know of the club. We do seem to have a great deal of difficulty in creating awareness of the hobby/sport and our club's role (or even that it exists). I would propose that we discuss ways to strengthen our club in this area. In my opinion, the club's participation in the Middle Tennessee R/C Club Association has provided additional resources for increasing awareness without negatively impacting the activities of our club. (It has also provided a source of funding that has required minimal effort from our club.)

Over the years, our club has maintained a training program and at least one club-owned training system. We have even gone as far as purchasing a computer simulator to loan to new club members to assist in learning to fly. We achieved a point at which we had three official trainers, each with a club training aircraft and radio system, and even had one or two more available from generous members. Our resources have dwindled over the past couple of years, and the entry point to the hobby has changed. Those now showing an interest are primarily entering at the park flyer level (usually due to the cost of entry), but we have no training program at that level. It is probably time that we re-evaluate the structure and equipment of our training program and bring it up to date with the current trends.

Recruiting new members seems to be another weakness, though this is being experienced by most other clubs and the AMA as a whole. Also, this same trend is being experienced by most other hobby and professional organizations in the country. Time and money are not as available as they have been in the past. With the down economy, many are having to work longer and make less money, requiring that "extras" be sacrificed. In addition to this, anyone who is a member of the AMA can fly at our field without being a member of our club. We need to discuss ways to make club membership more attractive and provide additional benefits that would justify becoming a member.

We have, to date, done fairly well in providing funding for most of the above. Our club's membership in the Middle Tennessee RC Clubs Association has helped our finances significantly by our share of the funds raised by the MTRCCA, though. We also have benefitted from the MTRCCA in our own fund raising events, as each member club does its best to support other member clubs' events. I am positive that pilot attendance at our events over the past couple of years would have been significantly lower had we not established relationships with the other clubs in our area.

The last item is one in which our club is very weak. We do very little, if any, planning for the future. I'm talking about 3-5 years in the future, not the fall event (which we usually don't plan far enough in advance, either). We have seen many changes in the park. I agree that this sleepy, forgotten, overgrown park was brought alive and make popular by the club and the efforts of the members at the time the club started flying in the park. The popularity of the park has grown significantly over the past 20 years. The sophistication and capabilities of the Parks Department have also grown over this time. They (the Parks Department) are now nationally acknowledged and respected. This draws organizations to our city parks system. Changes at the boat ramp (new, longer docks and the large, lighted shelter) have been implemented to service the fishing tournaments that bring a great boost to the city's economy. Are we prepared? I am concerned that the next modification to the park will require us to do more than just angle the runway. We have not even begun to plan for this. I was asked by a couple of different people why we needed more money in our treasury than we have been maintaining for about 15 years. If we were to have to lease land for a flying field, would you, as a land owner, lease to our club? The club in Cedar Hill leases its field for about $2000 per year. They showed how they could afford that by their past performance. Could we convince a land owner that we could pay $2000 to $4000 per year when our track record shows that we averaged about $1500 per year and never got over $2000? This is just one thing that we should be planning for – there are

many others. The time to plan is BEFORE we need it, not after we need it.

This is my viewpoint of the responsibilities of our club as an organization. As members we each have only one primary responsibility – to keep our commitments, indeed our promises, to the club. Seeing that the promises you made are kept is your responsibility – not one of the officers, committee heads, or another member (unless they, of course, agree to take responsibility). If for some reason you cannot keep your commitment, please make other arrangements or provide as much notification as you can to an officer or committee head that you will be unable to keep or continue that commitment so they can help you make other arrangements.

That's my opinion – it oughta' be yours! ☺

Letters To The Editor

Need to get something off your chest? Want to solve all of the club/s problems? Write a letter! I welcome anyone (member or not) to submit an opinion in writing so long as it is civil in its expression (I reserve the right to make that determination). You can email your letters to the editor to me at Don_Lewis@comcast.net, or just give them to me at a club meeting.

Novice Nuances

Plugged CA Applicators

By Don Lewis

I keep a wide mouth glass jar (that completely seals – like a Mason Jar) on a shelf half full of acetone. Why? The long, thin CA applicator tips work great, except when they're clogged or gummed up with dried glue. After you've finished using them, soak them in acetone; they will be clean and will last forever. This will even work for tips that have dried CA on them, and it works great on spray-can nozzles too. I use a long pair of tweezers or needle-nose pliers to get parts from the jar. Now these applicators are always ready to use – just take it from the jar, give it a few minutes for acetone on it to evaporate, use it, and put it back in to soak.

Balancing Props

I just read in a post about how a propeller was balanced by removing some of the tip of a blade. The better way to balance a propeller is by sanding the back (flat side) of the heavy side near the tip. You can also balance by applying clear dope, colored dope, or CA to the lighter blade. The CA can be sanded for smoothness.

Why Didn't I Think of That?

Don't Cut That Wire!

When your cell count gets too high for your speed control's BEC and you want to disable it, cut the positive (red) wire that runs from the speed control to the receiver. If you cringe at the thought of cutting the wire on your expensive speed control, here is a simple solution: buy a short servo extension and cut its positive wire. Plug the servo extension between the speed control and the receiver; now, if you want to use the BEC in another installation, just omit the extension!

Adding Pizzazz to Pushrod Linkages

By Bob Epp

Pushrod linkages are dull and flat gray and don't add any pizzazz to your aircraft. If you polish them with a little toothpaste o a rag, you'll be surprised by how they shine like chrome! This will also work on solder joints and brass-threaded ends. Auto wax/cleaners will work just as well.

Product Review:

Flyzone Playmate

By Mike Buzzeo

One of the newest trends in our sport is Micro Fliers. With technology growing at the phenomenal rate that it is, it never ceases to amaze me how small these things are getting! One of Flyzone's latest offerings is a fun little plane called the "Playmate".

The Playmate is not scaled after any particular full-scale plane, it's just a cute little backyard/indoor flier that comes with everything you need to get in the air.

That's right - No additional purchases required! Just pull it out of the box, install the "AA" batteries in the transmitter, charge the flight pack's LiPo from the transmitter and you're ready to fly!

The packaging is excellent. The box contains a foam insert that cradles the plane and transmitter, and the box can double as a carrying case to avoid damage while traveling to and from your choice of flying site.

The transmitter features 3 fully-proportional channels and digital trims, but here's the real kicker... It broadcasts on 2.4GHz!

Next, we install the four "AA" batteries (which are included) into the transmitter and plug the LiPo battery into the transmitter's receptacle to charge it. Once the LiPo is charged, it plugs into the plane and you are ready to fly!

It's time to write the flight report. Hmmm... It's hard to get serious with a little plane that I had so much fun with! But I'll try.

It was a cold, windy day and the rain was coming down at a light and steady pace. Not a day I would normally even consider flying. But it was the day of our Club's annual Mall Show and the Playmate was among the myriad of planes I had brought with me. I had charged it up so that I could demonstrate to passers by that a plane this small really worked and that it really was a radio controlled aircraft.

Well, you know how it is, I powered up the motor a few times, ran it around the floor for a bit. Then at one point, I noticed that the halls were relatively empty and the 14-year-old in me took over. With the Palymate sitting on the floor, I applied full power and took off.

I had to back the power off almost immediately to keep from hitting the ceiling, this thing has PLENTY of power! And while sharp turns were a must, due to the excellent slow-speed characteristics, I was easily able to fly it in a "T" formation through the hallway intersection where we were located.

I was having a blast!

For the rest of the day, I made short flights every half hour or so to the delight of shoppers and mall walkers, and to the dismay of shop owners. Of course, not every flight was perfect, there were a few times when I scraped a wall and the Playmate spiraled to the floor, and once I smacked the wall straight on, but the Playmate features a spring-loaded prop shaft which disengages the drive shaft from the motor during just such a head-on crash so it escaped without a scratch. Then there was one incident where... Well, let's just say that the woman who runs the jewelry store on that particular corner won't forget me anytime soon. But who cares? I had fun, the crowd liked it and I have no intentions of buying any diamonds in the near future.

These new Micro-Fliers are a blast and the Playmate is no exception. It is ready to fly right out of the box, flight times were much longer that I thought they would be and even the most basic beginner could handle it easily. And to say that everything is included for under $80 is astounding!

For ease of use and just plain fun, I think the Playmate is this millennium's answer to the Frisb... uh, you know, that flying disk thing!

SPECIFICATIONS- FLYZONE PLAYMATE

Price: $79.99
Wingspan: 18.5" (470mm)
Wing Area: 51 sq in (3.3 sq dm)
Length: 13.5" (345mm)
Flying weight: 1.0oz (30g) with Battery
Battery: LiPo - 130mAh - rechargeable from transmitter (included)
Channels: 3 total - Elevator, Rudder, and Throttle

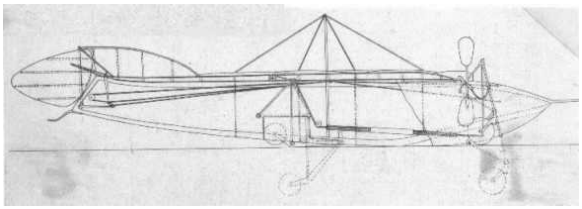
For the complete review and videos, go to:
http://www.rcuniverse.com/magazine/article_display.cfm?article_id=1248

Pioneers of Flight

Alphonse Penaud

From Century-of-Flight.net

When the Wright brothers conducted their exhaustive study of everything that had been done in aeronautics and aviation until their day, they paid particular attention to the work of two men: George Cayley and Alphonse Penaud. Penaud, trained as a marine engineer, applied his training to the field of aeronautics. In 1870, at the age of twenty, he became famous as the inventor of a helicopter toy powered by a twisted rubber band. In 1871, he used the same mechanism to power a twenty-inch (51cm) monoplane (single-wing aircraft) that he called a "planophore." Penaud's model incorporated many elements of Cayley's designs, but with some subtle differences.



Some distance behind the wings, Penaud placed a tail section: a vertical rudder and two small wings called "elevators" tilted at a downward angle. This counteracted all the destabilizing forces on the aircraft. Penaud's tail assembly did not just change the direction of the aircraft as it flew, which was all Cayley had attempted to do, but succeeded in making the aircraft stable in flight. The tests of his model represented the first flight of an inherently stable aircraft.

In 1876, Penaud patented a design for a large amphibious aircraft with such innovative features as retractable wheels, a glass-enclosed cockpit, a single-lever control for both the rudders and the elevators (the first "joy stick"), and twin propellers driven by an engine concealed in the fuselage. The design was amazingly ahead of its time, so much so that no engine existed that could drive such an aircraft and make it fly. Unable to raise money to build his design, in failing health and discouraged by jealous criticism of his work, Penaud committed suicide in 1880, when he was but thirty years of age. Next to Cayley, he ranks as the most significant aerodynamic theorist of the nineteenth century.

Sometimes You Just Have to Laugh…

A gynecologist had become fed up with malpractice insurance and HMO paperwork, and was burned out. Hoping to try another career where skillful hands would be beneficial, he decided to become a mechanic. He went to the local technical college, signed up for evening classes, attended diligently, and learned all he could.

When the time of the practical exam approached, the gynecologist prepared carefully for weeks, and completed the exam with tremendous skill. When the results came back, he was surprised to find that he had obtained a score of 150%. Fearing an error, he called the Instructor, saying, "I don't want to appear ungrateful for such an outstanding result, but I wonder if there is an error in the grade?"

The instructor said, "During the exam, you took the engine apart perfectly, which was worth 50% of the total mark. You put the engine back together again perfectly, which is also worth 50% of the mark." After a pause, the instructor added, "I gave you an extra 50% because you did it all through the muffler, which I've never seen done in my entire career."

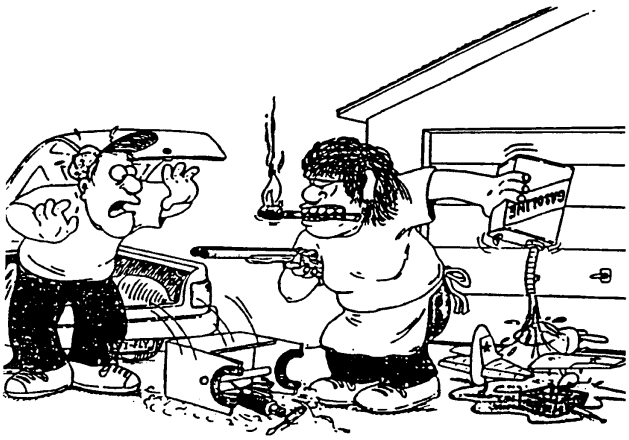
You Might Be An R/C Modeler If...

By Bill Atkins, Byron, GA

- ...With all your mail from AMA your postman thinks you're a doctor.

- ...You can blow gnats from your eyes out of the corner of your mouth and keep on flying.

The Lighter Side of R/C



"I guess this means that I missed supper again, huh?!"