The Tailwind

AMA Charter No. 704

JUNE — DON LEWIS, EDITOR — 2016

President: Lynn Perkes *Vice-President*: Bill Pruner
Treasurer: Lynn Perkes *Secretary*: Don Lewis
Safety Officer: Carl Tackett *Instructors*: Bill Pruner, Lynn Perkes

Next Meeting on Thursday, June 16 – At the Field!

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

Meeting Minutes

Meeting called to order at 7:06 by L. Perkes.

Attendees: L. Perkes, B. Pruner, C. Tackett, D. Lewis

- Minutes for April meeting were published in the Tailwind. Motion to accept made by D. Lewis; seconded by C. Tackett; passed unanimously.
- Motion by B. Pruner to hold club meetings for June, July, August, and September at the field (weather permitting); seconded by D. Lewis; passed unanimously.
- L. Perkes presented the Treasurer's Report (below). Motion to approve by D. Lewis; seconded by C. Tackett; passed unanimously.

Old Business

- Stop Leak seems to have worked; new tire purchase for mower has been tabled.
- 2 boards on trailer were replaced
- Mower has been relocated to B. Pruner's house. Those needing the mower will need to contact him for his address.
- J. Wiedman offered to repair trailer tongue. B. Pruner to photo trailer damage and send to John. L. Perkes to take trailer to job site for repair.
- Though spring event was rained out, trainers were tested and flown that afternoon.
- First car show to attend will be on June 10.

New Business

- D. Lewis to check with Parks Department for conflicts on 7-9 for replacement event.
- May 28th will be a work day at the field.

Motion to adjourn at 7:47 made by B. Pruner; seconded by C. Tackett; passed unanimously.

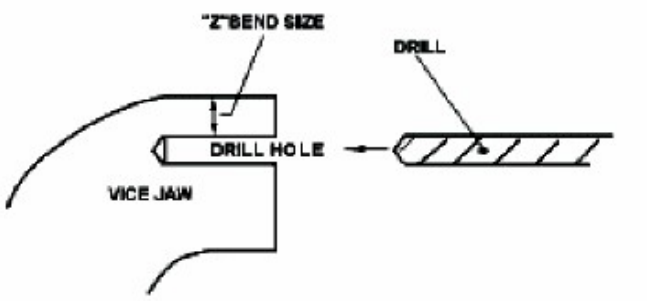
Treasurer's Report

Opening balance	$ 1,169.83
Income	25.00
Expenses	(99.85)
Closing balance	$ 1,094.98

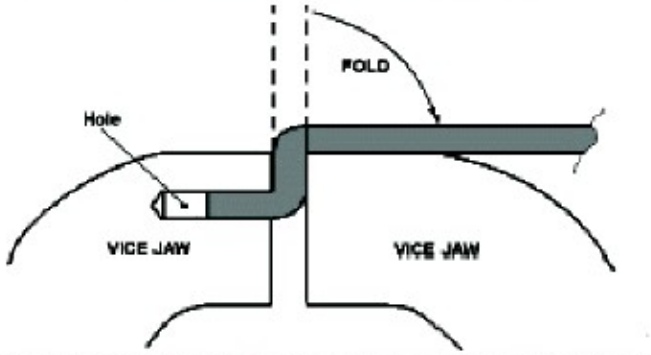
The Perfect Z-Bend

By Ed Olszewski

We all know a "Z" bend is the best way to connect a control rod to a servo horn. But often, bend results vary from good and tight, to a snakelike curve. A perfect "Z" bend can be made with your bench vise, with only one minor modification. Drill a hole in the vice jaw slightly larger than the rod you are using, down from the top of the vise the length you want the "Z" bend to be. The "Z" bend tool is complete. You are now the envy of every modeler you know.

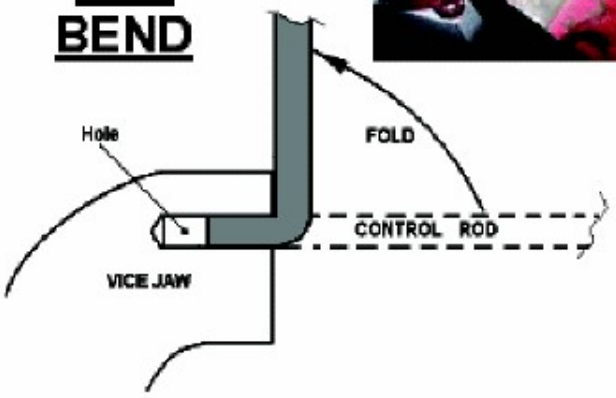


Modify Vice by Drilling Hole

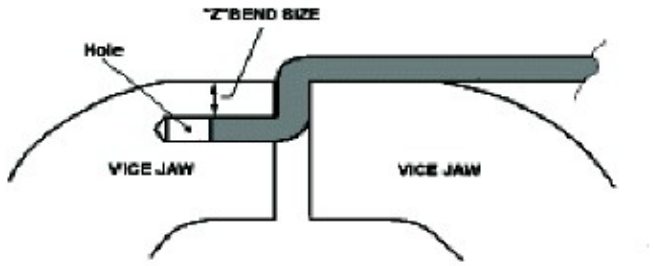


Next; close the vice to complete the first bend. Then; bend the rod down over the vice jaw to form the second bend.

MAKING THE BEND



First; Open the vice as far as possible and slide the rod into the hole, then bend it upward to form the first bend.



Finally; tap with a hammer to set the top bend.

Distraction Action

By Don Nix

Once upon a midnight dreary, as I pondered weak and weary….

Actually, it was last night, considerably before midnight, not dreary at all, while I was pondering what to write for this column. Then I began to recall some incidents where distraction at the flying field had caused crashes. Here are two in which I was personally involved.

As I've mentioned in past columns, when I lived in Southern California most of my flying was done at Mile Square Park in Orange County. Mile Square was the busiest RC park I ever saw, and quite possibly the busiest in the US. I say "was," because it was closed to model flying some years ago.

The runway was an abandoned WW II military airfield, the RC part 2,000-feet long. There were 12 pilot stations, and on good weather weekends it was not unusual to have 50 or 60 fliers at the field and all 12 stations "hot" at the same time. One particular distraction incident remains clear in my memory although it took place more than 20 years ago.

A good friend of mine did a lot of teaching. When newbies came to fly for the first time, they were usually directed to George to get them on the buddy box and start learning. One Saturday, George called me over just before starting a beginner's engine.

"Don, before I get this fellow on the buddy box, you take his transmitter. After takeoff, I'll trim mine, then turn it over to you to get his box trimmed out so he won't have to struggle with it." I agreed, and after George made a couple of circuits said, "Okay, Don, you take it and trim his box."

I had control of the model for perhaps a hundred yards when we heard someone scream, "HEADS UP!" followed by the unmistakable sound of a model under full power and, even without seeing it, could hear it was coming toward us.

Naturally, we ducked and a split second later the airplane crashed hard on the pavement three or four yards from our feet. As soon as we realized we had not been hit, our attention turned back to the model we were test flying. This happened to be at a moment when almost all the other stations had models in the air at the same time. The sky looked and sounded more like a swarm of large bees than a model flying field.

Scanning the air for our model, George yelled, "I've got it!" quickly followed by, "No, that wasn't it; I think it's that one!" The sun was at the point where most of the airplanes in the air appeared to be almost silhouetted against the sky and were hard to distinguish from each another in the flock on the far side of the circuit.

George repeated the phrase two or three times over the next 15 seconds, until it was obvious that none of the models were ours and that it was apparently gone into Never-Never Land out of sight somewhere beyond the trees in the distance. There was nothing to do but hand the owner's transmitter back to him, tell him we had no idea where his model had gone, followed with a heart-felt apology. Understandably, the fellow was somewhat bewildered and heartbroken, having no idea such a bizarre thing could happen. However, this story does have a happy ending.

About a half-hour later, while the owner was packing up his gear to leave, a van bearing the logo of a gas station/auto repair shop came driving up. The driver got out, picked "our" model, totally unblemished, out of the back and asked, "Does this belong to someone here?"

After we got control of our astonishment, he explained: He and another mechanic were working on a car when one of them looked up in time to see the model, propeller stopped, rolling up quietly into an empty service bay. One exclaimed, "Where the (bleep) did that come from?" By then, several had gathered around, and one commented that a lot of such models were flown at Mile Square Park, a couple miles distant, so they decided to give it a try. Obviously, the plane, perfectly trimmed by George, had flown the distance, run out of fuel and glided to a stop, just yards from a busy street.

I realize the above sounds totally unbelievable, but I was there.

There is also a good lesson hidden in that incident. The last time I looked, a couple of lines in the AMA rule book clearly state that each model should have the owner's name, address, and phone number somewhere on or in it. This is a rule that is rarely taken seriously.

The second incident of distraction disaster took place back in the 1990s after I had moved back to Texas and was living in a small town near Austin. A friend from out of state was visiting, expressed curiosity about RC flying, and I, anxious to show off, said, "Hey, I have permission to fly models at our little local airport. C'mon … I'll show you how these things work!"

I took my favorite, a big 1.20-powered aerobatic model. As I was putting the wings on, getting fueled up and ready to go, I was being a smart guy, explaining how everything worked. My friend stroked my ego with admiring comments. I started the engine, taxied to the takeoff spot, shoved the throttle full forward, broke ground and started a great climb-out. What happened next wasn't pretty.

Almost immediately, the model became uncontrollable, trying to roll from side to side. Within another two or three seconds it rolled on its back, diving straight into the pavement. I was stunned. We went over, picked up the wreckage and took it back to my van. I took the wings off, commenting lamely that the only thing I could think of was radio interference, which I had never experienced at that field.

I unbolted the wing, lifted it off and reached to disconnect the aileron servo leads from the receiver and found I didn't have to. In my eagerness to impress my friend and basking in the glow of his comments, I had never connected them.

Having been a full-scale pilot for decades and thousands of flying hours in addition to years of flying RC, I truly believe this was the single, solitary time in either that I never checked for full movement of all the controls before takeoff.

We should never, ever be complacent about safety, no matter what the level of our experience—novice or expert.

Celebrating Flight

Avro Baby

As Detailed in Wikipedia

The Avro 534 Baby (originally named the "Popular") was a British single-seat light sporting biplane built shortly after the First World War.

The Avro Baby was a single-bay biplane of conventional configuration with a wire-braced wooden structure covered in canvas. It had equal-span, non-staggered wings which each carried two pairs of ailerons. Initially, the aircraft was finless and had a rudder of almost circular shape. There were later variations on this. The main undercarriage was a single-axle arrangement and there was the usual tailskid.

The first Babies were powered by a water cooled in-line Green engine of pre-1914 design that had previously been installed in the Avro Type D, though thoroughly remodeled post-war by the Green Engine Co. Ltd. It produced 35 hp (26 kW). Most of the later Babies also used this engine design, new-built from original Green drawings by Peter Brotherhood Ltd. of Peterborough, though some variants used either a 60 hp (45 kW) ADC Cirrus 1 or a 80 hp (60 kW) le Rhone. These new build Greens were about 6 lb (3 kg) lighter.

The prototype first flew on 30 April 1919; it crashed two minutes into the flight due to pilot error. The second prototype flew successfully on 31 May 1919.

The type 534A Water Baby was a floatplane version with an altered rudder and large fin. The fourth

(counting the short-lived prototype) Baby was designated Type 534B, distinguished by its plywood-covered fuselage and reduced-span lower wing. The Type 534C had both wings clipped for racing in the 1921 Aerial Derby. The 534D was a Baby modified for hot climates and was used by a businessman in India. All 534s were Green engined single seaters.

The Type 543 Baby was a two-seater with a 2 ft 6 in (76 cm) fuselage extension. It too was initially Green-powered, but in 1926, this was replaced by an 80 hp (60 kW) ADC Cirrus 1 air-cooled upright in-line engine.

The final version of the Baby was the type 554 Antarctic Baby built as photographic aircraft for the 1921-2 Shackleton-Rowett Expedition to Antarctica. This had a 80 hp (60 kW) le Rhone engine, raised tailplanes, rounded wingtips and tubular steel struts replacing rigging wires to avoid the problems of tensioning rigging wires with gloved hands. Like the Water Baby, it was a floatplane.

By far, the strangest Baby was one modified by H.G. Leigh in 1920. The original wings were removed and instead the aircraft had a short, conventional, shoulder-mounted wing, bearing projecting, and full-span ailerons. Above it was a strongly forward staggered stack of six very narrow chord wings of about the same span as the lower wing, hence each of very high aspect ratio and therefore with low induced drag. This complicated structure added about 60 lb (30 kg) to the weight. This "Venetian blind" wing design was proposed and previously explored by Horatio Phillips in the last decade of the 19th century.

The Babies were raced in the early 1920s by a variety of pilots but are best remembered for the flights of G-EACQ in the hands of Bert Hinkler. On 31 May 1920 he made a non-stop flight from Croydon to Turin in 9 hours 30 minutes - a flight of 655 mi (1,050 km) and celebrated at the time as "the most meritorious flight on record". On 24 July, he won second place in the Aerial Derby at Hendon, and on 11 April 1921 set a new distance record in Australia when he flew the Baby non-stop from Sydney to his home town of Bundaberg 800 mi (1,280 km) away, making the flight in 8 hours 40 minutes. Hinkler's Baby is preserved at the Queensland Museum in Brisbane.

In June 1922, another Baby made the first flight between London and Moscow when the Russian Gwaiter collected his machine from Hamble and flew it home.

The Antarctic Baby (or most of it) accompanied Ernest Shackleton on his final expedition to the Antarctic. Unfortunately, their ship, the Quest, delayed by engine trouble was not able to pick up the missing parts previously transported to Rio de Janeiro and the Avro was not used at the Pole.

General characteristics

- Crew: 1
- Length: 17 ft 6 in
- Wingspan: 25 ft 0 in
- Height: 7 ft 7 in
- Wing area: 180 ft²
- Empty weight: 610 lb
- Loaded weight: 825 lb
- Power plant: 1× post-war Green C.4, 35 hp

Performance

- Maximum speed: 80 mph
- Cruise speed: 70 mph
- Range: 200 mi

Rate of climb: 500 ft/min

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

Good Cleaner

By Unknown

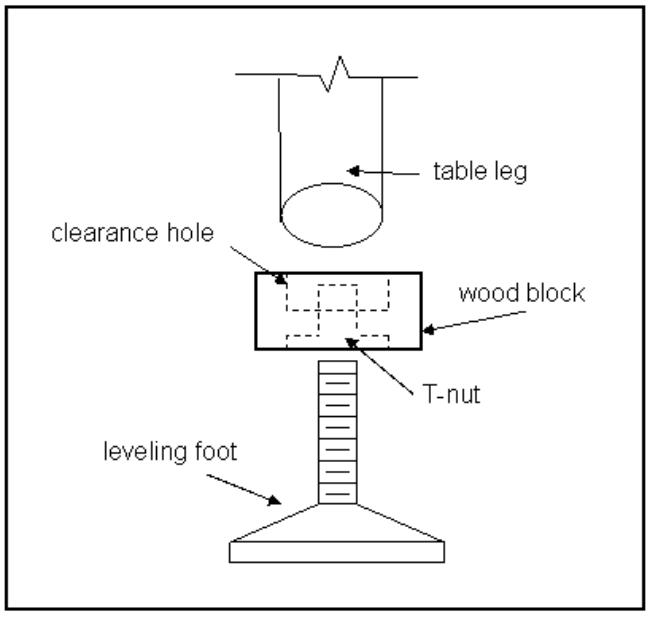
In an empty spray bottle, add a tablespoon of dish washing detergent, then fill the bottle halfway with regular rubbing alcohol, and top off with hot water. It works really well for cleaning the oil off of the wings and fuselage after a days worth of flying. Strong cleaner but will not hurt the covering or take the colors off.

New Life to Old Wire Landing Gear

Did you ever have a problem where your wire landing gear seems to get weaker and weaker? A possible solution is to remove the gear from the airframe and remove all the hardware from the gear wire (i.e. the wheels, collars, pants, etc). Preheat your kitchen oven to 450°F. Place the wire on a cookie sheet in the oven for one hour. Turn off the oven and toss the wire into cold water to cool it off quickly. What you have just done is to re-temper the music wire and you should have put new life into that old gear. Note that soldered joints should not be harmed as solder doesn't melt until about 700°F.

Mixing Epoxy

When mixing epoxy use an old coffee can lid, after the epoxy hardens just flex the lid and the epoxy will pop off.



Why Didn't I Think of That?

Adjustable Foot for Table Leg

By Don Lewis

I was lucky enough to get a few solid core doors to use as workbenches. For legs I bought replacement banquet table legs. The work great, will hold 1,000 pounds, but the tables rocked back and forth. Yep, my floor, like almost any floor, is not absolutely level. Also, the benches were a little low for me. I came up with the gadget in the drawing to make an adjustable table leg for my work benches. I got the swivel feet from an online store, the T-nuts from Lowe's, and cut up a ¾ X 2 piece of oak to make the blocks. 15 minutes and I was done.

Product Review:

ParkZone Ultra-Micro J3 Cub

By Geoff Barber

Ask almost anyone what a Piper J-3 Cub is, and they'll probably be able to describe the bright yellow 'barn-storming' plane with the black lightning bolt down the side. The J-3 Cub is a small, simple, light aircraft built between 1937 and 1947 by Piper Aircraft. With its tandem seating, it was intended for flight training but became one of the most popular and best-known light aircraft of all time. The aircraft's standard yellow paint has come to be known as "Cub Yellow", which seems to be known world-wide by aircraft enthusiasts. It is also one of the most modeled airplanes today, comparable to the P-51 in its popularity.

SPECIFICATIONS

Price: $119.99 (RTF)
Price: $89.99 (BNF)
Wingspan: 18.2 in (460 mm)
Length: 12.4 in (314 mm)
Flying weight: 1 oz. (28 g) with Battery
Radio Used:2.4 GHz DSM2 (Included)
Battery: 120mAh 1s 3.7 V LiPo (included)
6-10 Minutes Average Flying Time
Channels Used: 3 total - Elevator, Rudder, and Throttle
(Also Available as Bind N Fly for $89.99)

While there are lots of J-3 Cub models on the market today, there are very few indoor flyers. ParkZone, a familiar name in park flyer aircraft, has introduced the newest addition to their line up of micro indoor planes. In this review, I will be covering both the Ready-To-Fly and the Bind-N-Fly versions of the new Ultra-Micro J-3 Cub.

The J-3 Cubs arrived on my front porch in the standard brown shipping packages. The colorful boxes inside cased the Cubs in secure foam cradles. Each J-3 comes pre-assembled, and they look scale- especially when you consider the very small size of these aircraft! The box also doubles as a convenient and safe way to transport the Cub.

There are a few features that I liked. The battery is really easy to install in the underside of the plane, the instruction manual helps you get your J-3 in the air quickly, and the scale details added to these micro-flyers make them stand out in a crowd!

Assembly begins (and ends) with installing the batteries in the charger base and the transmitter, and plugging the LiPo flight battery in for a charge. The plane itself comes completely assembled!

After the battery has completed charging, insert it in the pocket in the underside of the nose. If you have the BNF version of the J-3, you must bind the plane to your DSM2 transmitter. The manual has instructions for binding several different JR and Spektrum radios, and also other ParkZone transmitters.

For the BNF Cub, I'll be using a Spektrum DX7 transmitter. Binding is easily done in three steps:

1) Plug the battery into the receiver on the plane. At this point the LED on the receiver will start to flash.
2) Move the transmitter sticks on the transmitter to the desired failsafe positions.
3)Press the bind button on the back of the radio while turning the radio on. The light on the bind button will start to flash, and you can release it after 2-3 seconds. Once the LED on the receiver glows solid, the binding process has been completed.

The pictures above are right from the repair section of the manual. I think it's great that ParkZone included this section which shows you in detail how to repair your J-3 Cub in the event of those occasional mishaps. It covers replacing the propeller, replacing or repairing the prop shaft, and even includes a troubleshooting guide.

Two cool features included with the RTF transmitter are the dual-rate set up and servo reversing. The radio comes set in the high rate position, but you may want to switch to the low rate for your first flights. To switch between high and low rates, simply press in on the right stick. The LED will flash and you'll hear a beep. Servo reversing (if necessary) is done by pushing in on the digital trim button of the desired channel and holding while the radio is turned on. After approximately five seconds, you'll hear an audible tone signifying that the change has been made.

The maiden flight on the ultra micro Cub was done on a less than desirable day- from the airplane's standpoint. The wind was blowing at five to seven MPH, but the weather was warm for a March day in Minnesota. I decided to try the little plane in the wind to see how it would react. The Cub flew really well, considering it weighs an ounce ready-to-fly. Take off was accomplished in about a foot of forward travel, and the plane took to the skies like it was

meant to be there. Although the wind was a little strong for the Cub, it had no problems flying around. The plane flew motionless at around half-throttle, and I had to give it more speed just to make forward progress to land!

The second flight was done on a much calmer day, but it was almost dark and very hard to see with the video camera. I flew it this time at a ball park down the road from my house. The little Cub floated around as if it were held in the sky on a string. I could not get it to stall except at full up elevator and no throttle. To regain flying speed all that is needed is to point the nose downward and you'll be flying once again. The ultra micro Cub is limited to three channel aerobatics, but you'll never miss the ailerons- you'll be having way too much fun! I now leave it in the back seat of my truck for spur-of-the-moment flying.

As the battery was running low, I looked at my timer. I had gotten 10 minutes of flying with a little throttle management. As far as landing the Cub, pull back the throttle and watch it settle- it's that easy to land!

For the complete review and videos, go to:
http://www.rcuniverse.com/magazine/article_display.cfm?article_id=1239

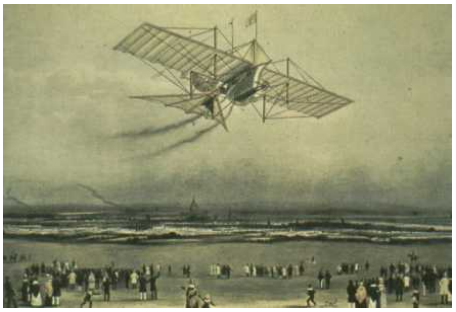
Pioneers of Flight

Henson & Stringfellow

From Century-of-Flight.net

Born in 1812,William Samuel Henson was, like his father, a successful industrialist in the lace making business in Somerset, England. In 1840, under the influence of Cayley's early writings, Henson and an engineer who also worked in the lace making industry, John Stringfellow, designed a steam-driven airplane they called an "aerial steam carriage."

There were many elements of the design of the Ariel (as Henson called it) that proved to be prophetic of later aircraft, and a simple glance at the design makes one feel as if one is looking at a cartoon prototype of the modern airliner. In fact, Henson and Stringfellow planned to create an international airline, the Aerial Transit Company, and proceeded to raise investment capital. They embarked on a massive publicity campaign that involved illustrations of the Ariel in flight over London and exotic settings in Egypt, India, and China.



They hoped that the illustrations would make people believe the aircraft was an established fact. These illustrations appeared in newspapers, magazines, on handkerchiefs, trays, wall tapestries, and lace-frilled placemats. The public was caught unprepared for this barrage, and instead of taking to the idea, investors who might have supported it withdrew. Henson then appealed to George Cayley, who declined to invest (or even to endorse the idea until they built a working model of the Ariel).

The pair built a model in 1847, but the steam engine Stringfellow had designed was simply not powerful enough. Finally, Henson abandoned the entire project and emigrated to the United States, but Stringfellow stayed on and in 1848 tried once more to fly a model with an improved steam engine. The results were disappointing—nothing more than a short, uncontrolled hop.

At this point, Stringfellow also gave up, and the entire episode was forgotten. But the Ariel did have some positive effects: its design prompted Cayley to rethink wing configuration and come up with the multiple-wing design, a feature of nearly all the early successful aircraft. The plane itself was logically designed and inspired many later builders. In spite of the scorn heaped on Henson and Stringfellow's outrageous publicity, the many illustrations that found their way all over the world placed the issue of aviation and the possibility of comfortable flight to faraway places squarely before the popular consciousness.

Sometimes You Just Have to Laugh…

The Goldberg Brothers –

Inventors of the Automobile Air Conditioner

Here's a little factoid for automotive buffs or just to dazzle your friends.

The four Goldberg brothers, Lowell, Norman, Hiram, and Max, invented and developed the first automobile air-conditioner. On July 17, 1946, the temperature in Detroit was 97 degrees.

The four brothers walked into old man Henry Ford's office and sweet-talked his secretary into telling him that four gentlemen were there with the most exciting innovation in the auto industry since the electric starter.

Henry was curious and invited them into his office. They refused and instead asked that he come out to the parking lot to their car.

They persuaded him to get into the car, which was about 130 degrees, turned on the air conditioner, and cooled the car off immediately.

The old man got very excited and invited them back to the office, where he offered them $3 million for the patent.

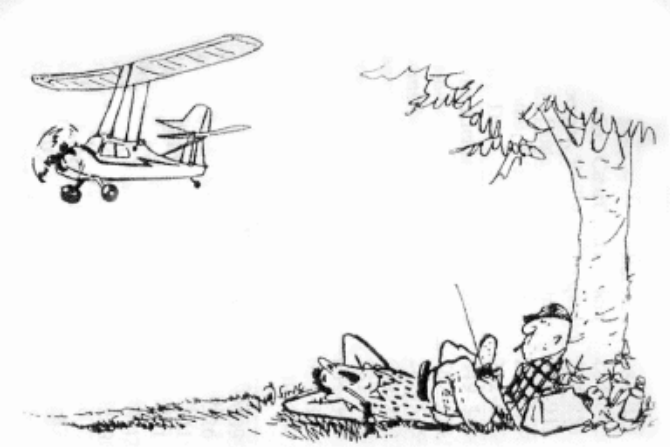
The brothers refused, saying they would settle for $2 million, but they wanted the recognition by having a label, “The Goldberg Air Conditioner”, on the dashboard of each car in which it was installed.

Now old man Ford was more than just a little anti-Semitic, and there was no way he was going to put the Goldberg's name on two million Fords.

They haggled back and forth for about two hours and finally agreed on $4 million and that just their first names would be shown.

And so to this day, all Ford air conditioners show -- Lo, Norm, Hi, and Max -- on the controls.

The Lighter Side of R/C



“Gotta replace them gum bands one of these days ...”

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

By Bill Atkins, Byron, GA

- ...You smell Windex and it reminds you that you need to clean your planes.

- ...Your wedding anniversary falls on a Fly-In weekend and you actually think about your choices.