

FlightLine

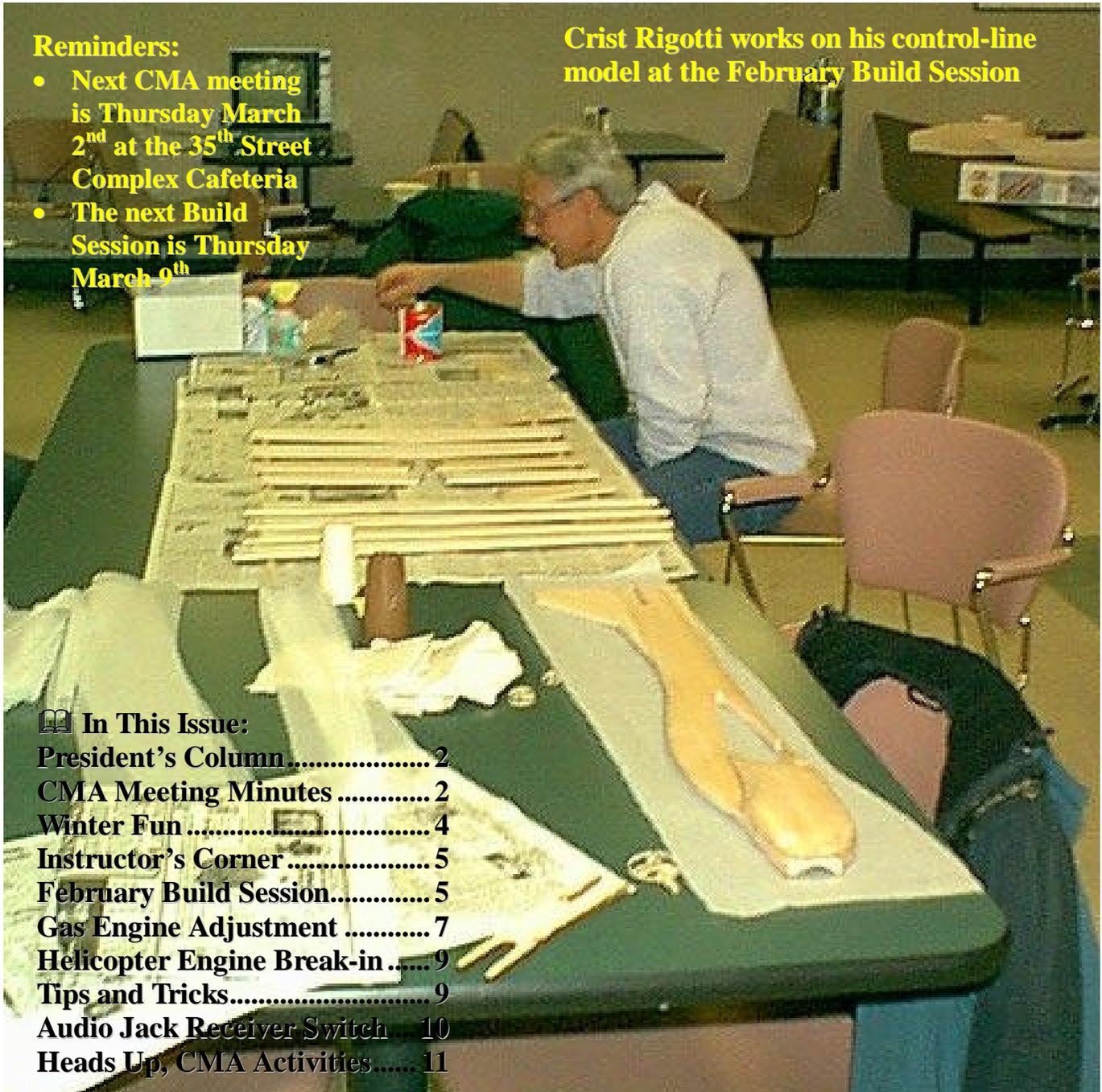
A Monthly Publication of Collins Model Aviators

March 2000

Reminders:

- Next CMA meeting is Thursday March 2nd at the 35th Street Complex Cafeteria
- The next Build Session is Thursday March 9th

Crist Rigotti works on his control-line model at the February Build Session



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CMA Web Page Addresses:

<http://bbs.cacd.rockwell.com/data/clubs/cma/>
<http://members.xoom.com/cma3257/>



Collins Model Aviators
Academy of Model Aeronautics
Charter Club #3257



President's Column

March 2000

By Jamie Johnson

February has literally flown by! I have been very busy working on the F-14 for Tony from AMA, as well as rebuilding my old M.E.N. trainer (Old Faithful) for my son James to fly. The M.E.N. was my first RC aircraft and after giving me many years of satisfying flying, it had the misfortune of meeting a very large British Columbia pine tree and about a second later the hard paved surface of a old tennis court. I believe an article on the life and times of Old Faithful may be in order once she has been put back together.

I'm glad we all survived the "Big Storm", it would have been classified as a mere dusting in Canada, but it dropped enough snow for Frank to really check out his LT-40 on skis. With spring like weather and the Beauty Contest only a little over one month away, there is not much time left to get your aircraft ready for the fast approaching flying season. There are only two build sessions left, so

come on out and show your fellow members what you have been working on all winter long.

The February Build Session was great, with new and experienced members getting together and having an awesome time. Aircraft varied from giant scale to the .15 Kombat Komet. Christ was on had with some of his control line aircraft he is currently working on, and was showing off his latest covering techniques. Wow, that resin sure added to the atmosphere! Paul was paying close attention to the Monokoat covering video and was able to watch Jim's real life demo while he worked on covering his Sweet Stik. Frank showed off his foam wing sheeting and Aaron his killer Kombat Komet. Many thanks to the all members that showed up!

Not many members made it out to our February Club Meeting but we pressed on with trying to resolve a number of important issues facing the club. If you didn't make it to the last meeting, please review the minutes in this month's FlightLine. You should have already received your Bylaws Change Ballot, please return your ballot via company mail to any club officer or bring it to the March 2nd Club meeting.

Congratulations to me, the winner of February's \$5 gift certificate. Attend the next club meeting and it could be YOU!!

Remember you can keep current on club events by visiting our web site and also by visiting the discussion group on the Collins Intranet at "collins.rec". I look forward to seeing you at the next club meeting, so until then take care and happy modeling!

Jamie Johnson, CMA President→

CMA Meeting Minutes

By Chris Heald

3 February, 2000

Jamie Johnson called to meeting to order in the Main Plant Cafeteria (35th Street Facility). Eight members were in attendance. The minutes from the previous meeting were approved as written. Chris Heald gave the treasury report.

OLD BUSINESS:

Chris Heald brought the LT-40 trainer for everyone’s inspection. It was decided to replace the hinges and push rods add bigger tires.

Mark Woytassek accepted the nomination for Field Marshall. Mark was elected to the position by unanimous vote.

The club is still looking for volunteers for the Beauty Contest. This years contest will be on April 17th from 10am to 2pm in the 106 Auditorium.

Chris Heald will send out an email concerning the Y2K budget. Members are to respond with estimated dollar amounts for each item.

Gregg Lind and his committee put together some Field Rules for review. It was noted that the existing Bylaws allow all types of aircraft to fly on dedicated nights. The topic was opened to discussion.

An emergency field rule was enacted by Jamie, Gregg, Crist, and John. This was enacted as follows: The field is always open to all types of aircraft on non-dedicated nights.

John motioned to strike field rule #16:

Helicopters are allowed to fly at the Martinson Sod Farm flying site the first Wednesday of each month.

And replace it with:

The field is always open to all types of aircraft on non-dedicated nights.

Jim seconded the motion. It passed by unanimous vote.

The Vice President called for a motion to change Bylaw 6.3.1.1 from:

Field rules may be created or amended by two-thirds (2/3)-majority vote at two consecutive regular scheduled monthly meetings.

To:

Field rules may be created or amended by simple majority vote of those members attending a regular scheduled monthly

meeting provided the Field Marshall, Safety Officer, and Senior Flight Instructor agree to the change prior to the vote. Any change to the field rules must comply with the AMA safety code as well as CMA and Flying Site Owner policies.

The motion was made by Crist and seconded by Frank. The motion passed by unanimous vote. A ballot will be sent out to the membership for vote.

Frank motioned to add section 4.1 Proxy Votes to the Bylaws. The motion read, “CMA recognizes the right of its voting members to convey their voting rights, by proxy, to another CMA member. All proxies must be in writing stating the extent of the proxy and signed by the member giving the proxy.

Jamie seconded the motion. The motion passed by unanimous vote. A ballot will be sent out to the membership for vote.

NEW BUSINESS:

Jamie won the night’s gift certificate.

Frank motioned and Steve seconded that the meeting be adjourned.

Chris Heald, CMA Secretary➔

Any Volunteers for FlightLine Editor

When I started the club, I wrote a few articles for the FlightLine. I wrote my articles using Word for Windows, but the current Editor was using Interlief. Because of the importing process, when my articles were published, the photos and figures had shrunk and moved around.

I recommended that we should use Word to edit the newsletter. That is how I became FlightLine Editor.

If you submit an article, I will try to preserve the spirit of your formatting, but changes are often necessary to fit into the FlightLine format. If you have a better idea on how to put together the newsletter, we are always willing to take volunteers.

James H. Doty, CMA FlightLine Editor➔





Winter Fun at the CMA Field!

Slippery sliders February 5th at the CMA field.



The wind was high but OK to fly. Straight out of the West and the sock was nearly full. If we had a wind meter handy we could have taken a calibration reading on the windsock that day.



My LT-40 on skis and Geoff's Semi Scale Supermarine S6B floatplane. Are readied for winter action.



The full-scale S6B became the fastest vehicle on Earth when, on 29 September 1931, it set an absolute speed record of 652 km/h (407.5 mph).

Seventeen days earlier the same aircraft had won the Schneider Trophy outright by winning the international contest for the third successive time.



I practiced many approaches, some right side up, some not. The plane with skis handled well in flight as well as on the ground.



The S6B sliced through the wind like a hot knife through butter. The sun glinted off its silver wings against the clear



blue sky. (Is it real or is it Memorex?)

We practiced many takeoffs and landings. The ground roll slide was very short as the skis and floats were very slippery on the snow and icy grass. With a good stiff headwind the planes took off in 15 to 20 feet.

It was a good day for Geoff and I as we were able to burn a full tank of fuel practicing formation flight. The LT-40 got in some spins as well as other aerobatics maneuvers. If anyone else wants to try flying their plane using slippery sliders we would enjoy your company in having some winter fun!



Tipping the plane helped get glow fuel into the cold cylinder. A small bit of flooding and a hot glow start helped get things going.

Frank Gutierrez, CMA Senior Flight Instructor →

The above article was heavily reformatted to resemble the author's original page layout (while still keeping in the FlightLine's page dimensions). The small text and reduced size photos were selected by the author to help pull the article together, and give a concise article in a single page. The text and figures could not be enlarged without completely reformatting the article.

If you would like to see more of this new compact style, you should ask Frank to volunteer for 2001 Newsletter Editor.

Jim Doty, FlightLine Editor



Instructors corner!

By Frank Gutierrez

The club purchased an LT-40 to replace the old PT-40 as the new club trainer. It is the ARF version of this aircraft and will undergo some modifications before it is ready to use as a club trainer.

The plane was purchased with an O.S. LA .46 motor. The previous owner said the plane and engine had eight flights before we purchased it.

The construction looks fairly good and the dihedral of the wing is twice what the normal LT-40 plans call for. This will make the plane super stable and have less of a tendency to roll.

The modifications include:

- replacing all CA hinges with pin hinges
- replacing the pushrods
- mounting the ST 45 in place of the O.S. 46
- mounting larger wheels for the thick grass
- Misc. repairs to servo mounts, etc.

Repairs have been started and the LT-40 ARF will be ready for training this spring.

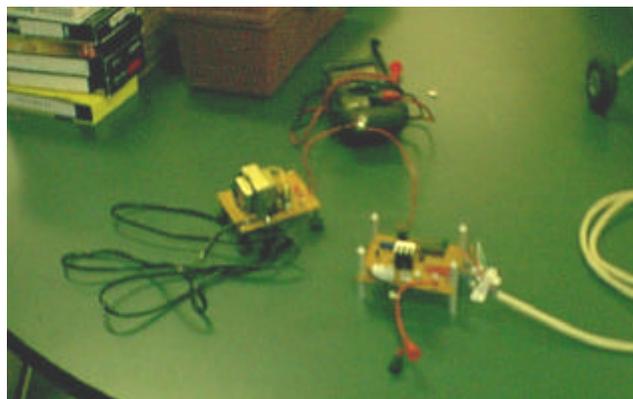
Frank Gutierrez, CMA Senior Flight Instructor →



February Build Session

By Jim Doty

The February Build Session was again fairly well-attended, with many people bringing in a wide variety of projects.

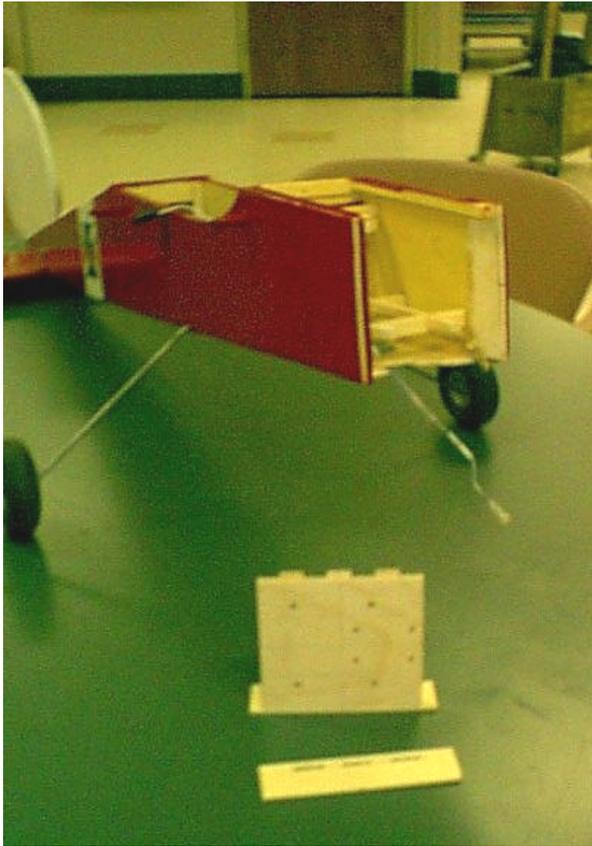


Steve Plantenberg brought in his new computer-controlled battery discharge circuit. He found the original design on the web at:

<http://home.c2i.net/proxxon/btest.html>

Steve also brought in his Sweet Stik. These models have the tendency to lose their firewalls in any hard landing (I know from experience with my own plane). To better hold it in place, Steve cut tabs into the outer edges of the plywood firewall. These tabs fit into slots cut in reinforcing plates that are glued inside the fuselage sides.

We will need to watch this year to see if the improved design gives the firewall an improved lifetime.



The firewall looks like it would be hard to cut, but Steve said that it wasn't hard to split the tabs out of the center layer of the plywood.



Crist Rigotti worked on his RD-1 Stunt Trainer control-line model. He covered the parts with fiberglass 3/4 oz cloth for strength using two coats of uncut nitrate dope, and then laid on tissue wet with clear nitrate doped to produce a smooth surface. The plane looked great when he was done, but the fumes got pretty intense for awhile.



Dave Shema had his Top Flite Cessna 182 model ready to finish. It looked good and he may try the tissue and glass finish demonstrated by Crist at the meeting.



Greg Lind brought in his ME163, Kombat Kommet and his Colt Fold-and-Fly. Looks like they are about ready to fly.



The Colt has a removable tray for mounting the engine fuel tank and servos. He showed how easy it was to pull everything out of the airplane.



The new club trainer complete with engine. Frank Gutierrez is doing a little cleanup work replacing the hinges and getting it ready to fly.



Frank Gutierrez brought in his LT-40 complete with skis for winter operation. He said he is thinking about leaving the skis on for summer, because they may be better than wheels over thick grass.

Frank noted that the new trainer has much more dihedral than his LT-40. This will make some maneuvers more difficult (e.g., flying upside down), but stability should be great, and the plane should have excellent flight characteristics for beginning flyers.

I was still covering my Sweet Stik fuselage at the meeting, but I am almost done. All I need to do now is install the servos and motor.

James H. Doty, CMA FlightLine Editor →

The Following articles are from the January 2000 AMA National Newsletter:

Gas Engine Adjustment

by Floyd Hamilton

I've received quite a few positive comments about the May column explaining the needs of engines relating to lubrication. I found that we are missing some of the most basic understandings about ignition and carburetor systems. What really surprised me is that most of the questions were from the seasoned flyers. I'm not sure why that is, but it did bring me to the realization that we all need a quick refresher course.

I dug through my tech manuals and found that I couldn't understand half of what they said! It's



From the AMA National Newsletter

no wonder that the technicians we train leave the training sessions with doubting looks. No one wants to admit to the others that they haven't got a clue about what was said!

The tip-off to me was an overheard conversation at a club meeting that I attended. One fellow had problems and asked the other for some help. I overheard the symptoms, and the very positively stated fix. It was wrong, very wrong. Because I know the two fellows involved, I realized that my correcting the situation would only ruffle some very macho feathers. It wasn't that the aircraft would crash because of my dereliction of duty. The engine wouldn't run more than 10 seconds per start with the fix the owner received. Later that weekend, after 10 or 15 attempts to run the engine, the owner asked me for some help.

What happens is the "Hey, Martha" syndrome. No kidding, this is a valid term. It refers to the man of the house running into a problem with his gas trimmer, he fiddles and pokes, pulls and pushes, nips and tucks, and all of a sudden the unit starts to work better—so he yells out to his wife, "Hey, Martha—I fixed it!"

Well the "Hey, Martha" fix is not good enough for a huge and expensive aircraft. I asked a batch of fellows some questions and I found that the place to start is at the very beginning. So I dug out a set of instructions that fit the situation.

Spark Plug Adjustment

Every 50 hours of operation, remove the spark plug, check its condition, and reset the gap or replace with a new plug as necessary.

Before removing the spark plug, clean the area around the base of the spark plug to keep dirt and debris out of the engine.

Disconnect the spark plug wire and remove the spark plug from engine.

Inspect the spark plug for carbon buildup and clean if necessary. Replace the plug if it is badly burned or if reuse is questionable.

Note: Do not clean the spark plug in a machine which uses abrasive grit. The grit may remain on the

spark plug and enter the engine causing extensive damage.

Check the spark plug gap using a wire feeler gauge. Set the gap to 0.025 inch.

Reinstall the spark plug and torque to 190-210 in/lb.

Carburetor Adjustment

These engines are equipped with a diaphragm-type carburetor. The carburetor has been carefully calibrated at the factory. In most cases, no further adjustment will be required.

If you are using an air filter, the condition of that air filter is very important to the operation of the engine. A dirty air filter will restrict the air flow to the carburetor. This, in turn, upsets the fuel-air mixture in the carburetor. An enclosed cowl will give the same sort of results! The resulting symptoms are often mistaken for an out-of-adjustment carburetor. Therefore, check the condition of the air filter before adjusting the carburetor.

If the following conditions are experienced, it may be necessary to adjust the carburetor.

- The engine will not idle.
- The engine hesitates or stalls on acceleration.
- The loss of engine power, which is not corrected by cleaning the air filter.
- The engine operates in an erratic or fuel-rich condition (indicated by excessive exhaust smoke from the muffler).

Note: Follow these carburetor adjustment procedures carefully. An incorrectly adjusted carburetor can cause severe engine damage.

Make sure the unit is fully assembled before making carburetor adjustments.

The carburetor has three basic adjustments: the idle speed adjustment, the idle mixture adjustment, and the high-speed mixture adjustment. (Figure 1).

Initial Idle Speed Setting:

Turn the idle speed adjustment counterclockwise until it does not touch the throttle lever. Now turn

the adjustment clockwise until it just touches the throttle lever, then continue turning two full turns.

If so equipped, remove the rubber cap from the high speed mixture adjustment.

Turn both the high speed mixture and idle mixture adjustments clockwise until they are lightly seated. Then turn them counter clockwise the following number of turns:

High Speed Mixture Adjustment: 1-1/4 turns

Idle Mixture Adjustment: 1-1/4 turns

Note: Turn the high speed mixture and idle mixture adjustments finger-tight. Do not force them with a screwdriver as this can damage the tips of the needles and the seats in the carburetor body.

Start engine and allow it to warm up for 3 to 5 minutes.

Note: For the following steps, use a 2-cycle engine tachometer to monitor engine speed.

Final High Speed Mixture Setting:

Open the throttle to the full (wide open) throttle position. Turn the high speed mixture needle clockwise or counter clockwise to set the high speed rpm.

Release the throttle trigger and let the engine idle. If the engine stops, turn the idle speed screw clockwise 1/8 turn at a time until the engine idles.

Final Idle Mixture and Idle Speed Settings:

Adjust the idle mixture and idle speed as follows:

Turn the idle mixture needle clockwise until the fastest idle RPM is reached, then turn the needle counter clockwise 1/8 turn.

Open the throttle. If the engine falters or hesitates as it accelerates, turn the idle mixture needle counter clockwise 1/16 turn at a time until the engine accelerates rapidly.

If the idle speed has changed significantly because of steps a and b above, readjust the idle speed.

from Aero News
Floyd Hamilton, editor →

Helicopter Engine Break-in

by David Jensen

Install the engine in the helicopter and set up normal pitch curves. Negative one degree on the bottom, five degrees at hover, and eight degrees on the top will be sufficient. Open up the needle 1 1/2 turns more than normal. You want the engine so rich that it has a difficult time making the transition to running rpm (you may need to leave the glow plug driver on while you make the first hover).

You want to just be able to get the helicopter off the ground at 3/4 to 7/8 throttle. The helicopter should be spitting smoke and running almost in four-stroke mode.

Run the engine for only five minutes and shut it down to let it cool. Do this twice, then lean it out about 1/4 turn. It should still be very rich and just able to hover for the rest of the tank. After that, lean it out about two clicks each flight until you get a good 1700 rpm hover and good power while still smoking.

I also add three ounces of oil to the first gallon of fuel I use. After that add one or more ounces to each new gallon.

from David Jensen,
dnjensen@wans.net →

Tips and Tricks



Pin Organizer

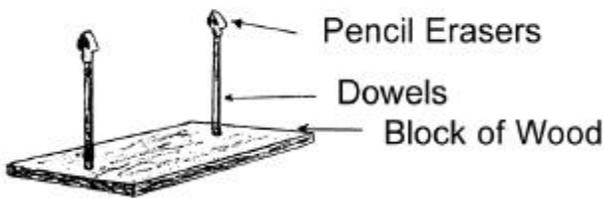
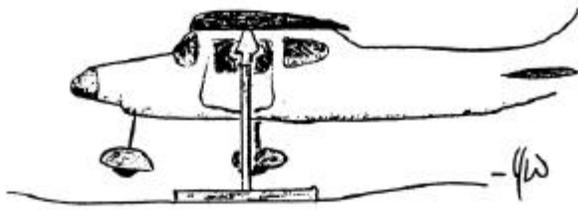
Okay so you're asking exactly what is that thing anyway? Well this is one of those little jewels you come across now and again that make life just a little easier. This is a handy little building pin holder.

What we have is simply a block of Styrofoam that has been shaped into a horse shoe shape,

glued onto a scrap of plywood and has two plastic tubes glued on each end to hold the cleaner. Then acetone is put in the jar so when CA gets on the pins, they can be tossed into the jar. You can also use a magnet on the outside of the bottles to bring the pins back out of the jar. Then, divide the foam block into three sections. One section is used for each of the three sizes of pins. This is very simple but it does keep the pins close, clean and out of your fingertips!

I can see several ways to modify this design to fit your work area. In our kitchen I put up a new paper towel dispenser. It is the type that the frame is made of Plexiglas and the part you put the roll of towels on is a 12 inch piece of one inch dowel with the ends cut down to fit the holder. A piece of 1 inch foam pipe insulation fits nicely over the bar and you then have a pin holder that you can mount on the wall next to your building area. It is off the building surface so the pins are always easy to find and reach.

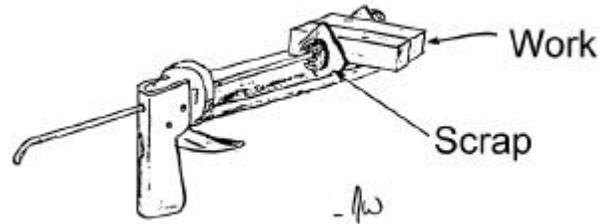
from Propwash
 Jeff Sorg, editor
 jsorg@ptw.com →



Model Balancing

Balancing a new model aircraft correctly is very important. Proper balancing can have a profound effect on the character of your aircraft in flight. A popular way to balance the model is on your fingertips and eyeballing it, but I like to use a fixture

made for this purpose and get it more accurate. Two dowels, two pencil erasers and a block of wood is all you need. This needs no instructions. The diagram below tells it all. Just remember: Always measure the CG with no fuel on board and start with the CG point suggested by the manufacturer.

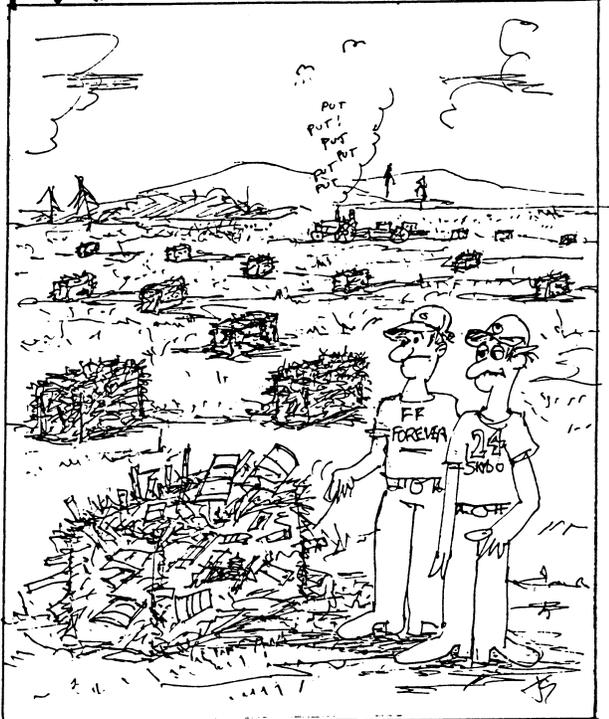


Clamps

Here's a neat idea for making a handy dandy clamp for your work shop. It's cheap, easy, and effective. Take an old caulk gun (or new) and glue a piece of scrap wood cut square, or in the shape of your choice, to the stationary end, and one to the plunger as shown below. The wood protects the work and provides for a flat surface for even pressure. The ratcheting-style guns work best.

both above from The Signal Squeaker
 Jerry Wino, editor PO Box 614
 Garden City MI 48135 →

PLANE CORN by Joe Slovack



BY THE LOOKS OF THINGS - THERE'S NO QUESTION THAT YOU DIED IN THIS HAY FIELD - WE'LL HAVE TO GO ASK THE FARMER - WHAT'S HIS CHEAPEST PRICE FOR A BALE OF CLASS "C" HAY

Heads Up, CMA Activities

- March 2000**
 2-Mar 5-6 PM Meeting
 9-Mar 6-9 PM Build session
 17-Mar 5:00 PM Flightline deadline
- April 2000**
 6-APR 5-6 PM Meeting
 13-Apr 6-9 PM Last Build Session
 17-Apr 10 AM to 2 PM Brown Bag & Beauty Contest 106
 Conference room C-Ave. Complex
 15-Apr 2:00 PM First Open Flying day
 18-Apr 5-? PM Basic airplane training
 20-Apr 5-? PM Advanced airplane training
 21-Apr 5:00 PM Flightline deadline
 25-Apr 5-? PM Basic airplane training
 27-Apr 5-? PM Advanced airplane training
CMA voice bulletin board 295-8888

✉ Send your input for FlightLine to:
 James H. Doty
 MS 108-205 x5-2931
jhdoty@collins.rockwell.com

Local Events:
 3/05/00 Bloomington, IL (E) SIRS Swap Meet. Site: Bloomington High School, 1202 East Locust St. For info: Jeffrey A Carnahan, 1305 Andersen Bloomington IL 61701 PH:309-828-9806. 15th annual swap meet. Set up time 8:30AM. Admission \$3, 80+ tables, tables \$8 each. Refreshments and door prizes. Sponsor: CENTRAL ILLINOIS RADIO SOCIETY

AMA events web page:
<http://www.modelaircraft.org/Comp/Contest.htm>

For an AMA membership application:
<http://modelaircraft.org/Mem/Memapp.htm>

Send your input for the CMA Web Page to:
 Steve Plantenberg x5-9625
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- ★ 2000 CMA Staff**
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Vice President: Gregg Lindx5-0008
Secretary/Treasurer: Chris Healdx5-0793
Field Marshal: Mark Woytassek x5-4332
Safety Officer: Crist Rigotti.....x5-0612
FlightLine Editor: Jim Doty.....x5-2931
Web Page Editor: Steve Plantenberg x5-9625
- Senior Flight Instructors and Test Pilots**
First flights of new airplanes:
 Frank Gutierrez
 Mark Woytassek
First flights of new helicopters:
 Crist Rigotti
Flight Instructors in training:
 Irv Anderson
 Jamie Johnson
 Steve Plantenberg

✉ For membership information:
 Contact: CMA Secretary Chris Heald
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cdheald@collins.rockwell.com

Build Sessions
 Build Sessions are held every second Thursday of the winter months in the Main-Plant Cafeteria, to provide hints, tips, and help in building models. Build Sessions are open to everyone who is interested in RC model building.





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