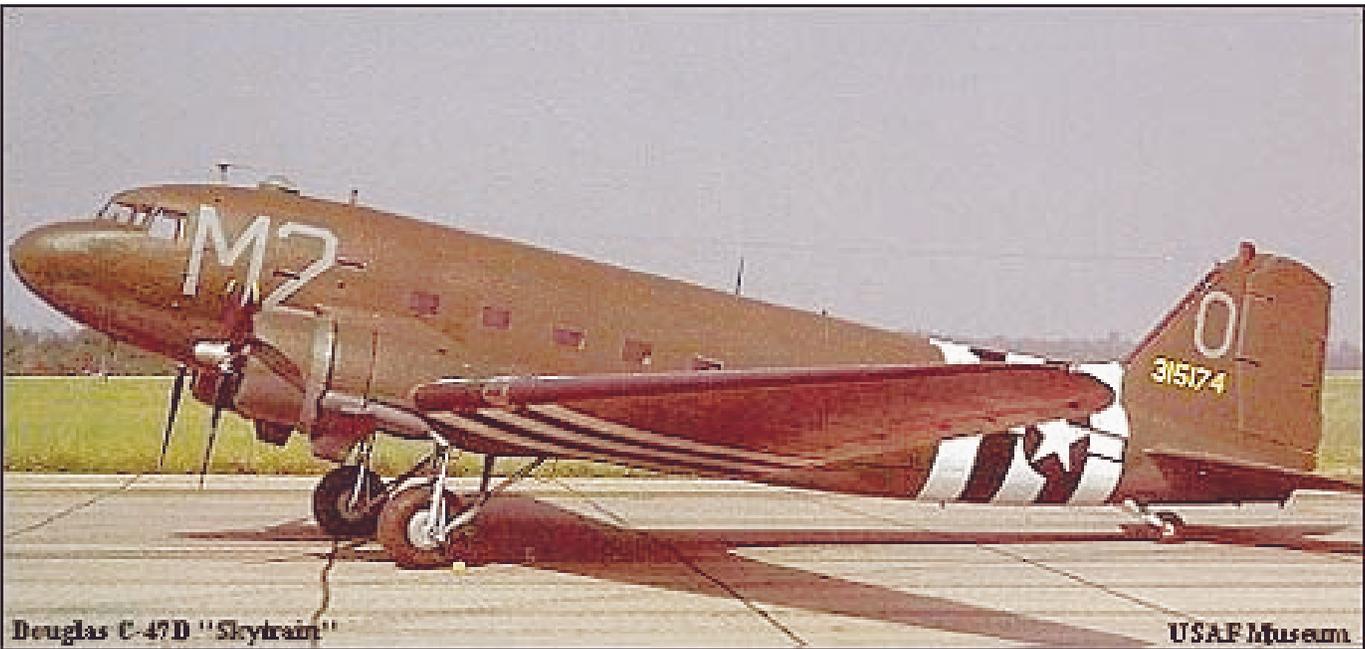


FlightLine

A Monthly Publication of Collins Model Aviators

July 1998



- Reminders:**
- Next CMA meeting is Thursday July 2nd
 - Don't forget to turn in your bylaws ballot or bring it to the July meeting.

July's Featured Photo:
 This month's featured plane the Douglas C-47D "Skytrain" cargo plane using in World War II. Cargo planes like this played a major roll in supplying American forces in WW II and served on through to Vietnam. For more information see Skytrain on page 3

James H. Doty, FlightLine Editor →

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President's Column

by Crist Rigotti

With this column, I start the second half of my term as your President. The last six months we have seen some changes to the Club. We've made some changes to the By-laws, addressed the ban on helicopters, SFA, , the bulletin board , and been informed that we are losing our flying site, just to name a few. The turn out on Training Night has been very good. I heard that the club picked up 2 more members this week. There is a lot of interest in model aviation! Let's all do our part in promoting the hobby!

Rich Dean had a very good suggestion. I will be bringing out the heli and flying it alongside the fixed wing pilots during this summer. That way, we will all get a feel on how well heli's and planes go together. So look for me, even on training night! That's because some seem only to fly then. The Zenith is all but trimmed out by now. A big thanks to Mark Woytaszek for helping me out. I am working on R/H approaches every time I fly it. That's my weak side. We all work on improving our "weak" sides, don't we? Already planning some changes to the Zenith for next year! Foam wing, higher turtledeck, longer fuselage, etc. Stay tuned!

I sent the ballots, for the dues change to the By-laws to Sandi, for dispersal this week. Be sure to vote even if you can't attend the meeting by sending in your ballot to one of the officers.

Got in some good flying this weekend. I noticed that on my Zenith 60 that some of the Sig Easy hinges are broken! The one on the bottom of the rudder and an inner one on the left elevator. The one on the bottom of the rudder is NOT taking any load from the tailwheel steering. It looks like I'll reHINGE with pinned hinges. Mark warned me, but I didn't listen- took the easy way out and now it will be tougher to reHINGE than to do it right the first time. Check your hinges regularly for failures and excessive "flexing".

I think we need to form a "Field Search Committee". Either that or some real input as to the effort the members are putting into looking for a new flying site. Time is ticking away. The sooner we find a new site the better! It also gives us more time to plan development, and improvements. It is feasible that we can loose as much as several months of flying next year planting grass, providing parking, etc. I'll bring it up at the next meeting. It'll take some effort by the members of OUR club.

For those of you who cut foam wings, I found a LOCAL source for foam. It comes in 3, 4, or 5 inch thickness. Each block is 2 feet by 4 feet. The cost is @ 3"- \$3.50, 4"- \$4.50, 5"- \$5.50. Eastern Iowa Supply (366-8993) stocks the stuff. It is called EFIS foam, and it is used to insulate the outside of buildings.

I feel the need to mention something that really concerns me at the field. It involves safety. I see pilots while starting their engines, holding on to their plane with one hand and with the other, operating the starter or "chicken stick". Then once started, they reach around the rotating prop to disconnect the glow starter and or adjust the needle valve. All this time they are kneeling either in front of or directly in line with the prop. Here's my suggestion. Usually we fly with somebody else at the field. Have somebody else hold the plane or use a "safety lanyard" during starting and adjustment. Once started, the pilot then moves BEHIND the wing to make adjustments and to remove the glow starter. All this time the aircraft is being held by somebody else or the "safety lanyard". I fail to realize why ALL pilots don't do this. It is just too much of a risk to be in front of or

in line of rotating props! Our hands can get oily and loose their grips. Props can and do fail! It only takes a "bumpy" landing from a previous flight. We read in our publications of pilots reaching through the prop arc to adjust the needle valve. It only takes a second of inattention to cause a permanent injury. Let's work on changing how we start our aircraft and keep safety in mind. And with that.....
LET'S GO FLYING!

Crist Rigotti, CMA President →

June 4, 1998 Minutes

by Doug Emerson

Crist Rigotti called the meeting to order. There were 20 people in attendance.

An updated treasury report was not available, Doug Emerson reported that it would be very close to last months figure of \$488.59 in the Rockwell account.

Old Business:

Members were asked to keep their eyes and ears open for a new flying site.

The Mowing schedule was sent out.

No report on the new web site

Rich Dean said there was no update on the sod farm frequency ban. He hasn't been able to find anyone at the site. He will keep trying and also see if this is a possibility for a new flying site.

Crist reported that Plenny Bates told him that according to a GPS survey, Bates' site is 3.09 miles away from the center of our runway. This indicates we don't have a 3-mile limit problem with AMA or potential interference problems.

There was discussion on helicopter flying. After the discussion a motion was made and carried that we should allow helicopter flying provisionally for 1 year. Another motion was made and carried that the helicopter committee should coordinate field rules for helicopters.

New Business:

It was reported there is no Channel 42 clip at the flying field. Frank Guitierrez volunteered to make a replacement.

The Fun Fly for this year was discussed. The scheduled date is for September 12, starting at 3 PM. Crist volunteered to run the events again this year. Rich Dean volunteered to get prizes. Dan Cooly volunteered to get soda, and Duane Smith, although absent, got volunteered to organize the grill/barbecue equipment since he has done such a great job in the past.

The \$7.50 provisional member fee was discussed. A motion was made and passed to change the by-laws and make the provisional member fee the same as the AMA junior membership fee (w/o magazine). In addition, the motion also changed the aged for the provisional member to "18 and under." This by-law change will require a ballot vote.

There was some discussion on whether or not we had a policy for providing potential new members introductory flights on the club trainer. This is would be a desirable way to recruit new members. Currently the bylaws require all pilots to have an AMA membership. Crist said he would check with AMA and see what their position on this is, and report back.

Doug Emerson, CMA Secretary →



DOUGLAS C-47D "SKYTRAIN"

From the US Air Force Museum web page:

Few aircraft are as well known or were so widely used for so long as the C-47 or "Gooney Bird" as it was affectionately nicknamed. The aircraft was adapted from the DC-3 commercial airliner which appeared in 1936. The first C-47s were ordered in 1940 and by the end of WW II, 9,348 had been procured for AAF use. They carried personnel and cargo, and in a combat role, towed troop-carrying

gliders and dropped paratroops into enemy territory.

After WW II, many C-47s remained in USAF service, participating in the Berlin Airlift and other peacetime activities. During the Korean Conflict, C-47s hauled supplies, dropped paratroops, evacuated wounded, and dropped flares for night bombing attacks. In Vietnam, the C-47 served again as a transport, but it was also used in a variety of other ways which included flying ground attack (gunship), reconnaissance, and psychological warfare missions.



The sturdy C47 Landing gear allowed it to land on rough grass runways.

The C-47D on display, the last C-47 in routine USAF use, was flown to the Museum in 1975. It is displayed as a C-47A of the 88th Troop Carrier Squadron, 438th Troop Carrier Group, which participated in the invasion of Europe on D-Day, June 6, 1944.

SPECIFICATIONS

Span: 95 ft.
Length: 64 ft. 5 in.
Height: 16 ft. 11 in.
Weight: 33,000 lbs. loaded
Armament: none
Engine: Two Pratt & Whitney R-1830s of 1,200 hp. ea.
Crew: Six
Cost: \$138,000

PERFORMANCE

Maximum speed: 232 mph.
Cruising speed: 175 mph.
Range: 1,513 miles
Service Ceiling: 24,450 ft.



One of the C47's two 1,200 hp Pratt & Whitney engines

<http://www.wpafb.af.mil/museum/> ➔

IN THE PATTERN

By Frank Gutierrez

This seasons flying has gotten off to a great start despite the weather. We have a growing number of new members and first time flyers. I have seen some very good model construction by these novice pilots and their planes are certainly the envy of many.

This is a new article that the club flight instructor's feel will help many new comers and old timers in model aviation. The article will provide maneuver of the week, new solos, and flying hints and tips to increase your knowledge and challenge your skills. More features may be added as time goes on. Suggestions are welcome.

CROSS WIND TAKEOFFS AND LANDINGS:

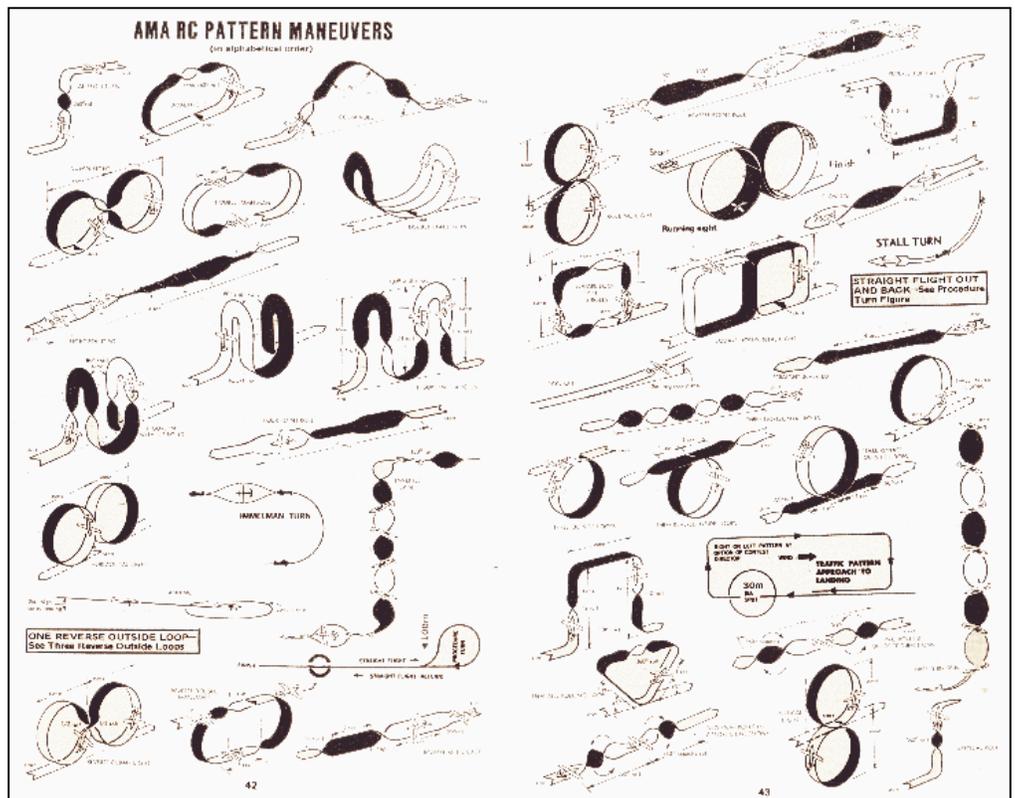
How do we fly in a crosswind and keep the airplane over the runway long enough to land? What is cross control technique?

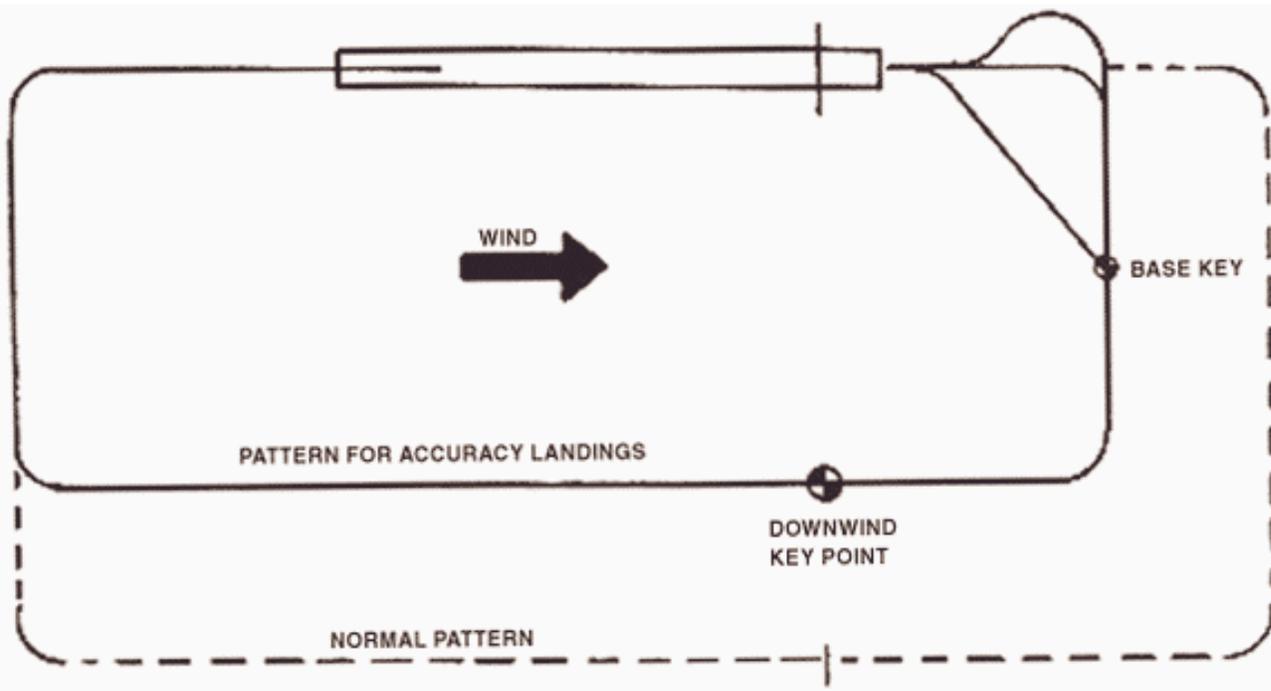
On June 12th Drew Gutierrez demonstrated 18 MPH direct cross wind landings at the CMA field. He carried a little speed and crabbed into the wind for runway alignment. Drew also practiced some cross control approaches that lined up the airplanes' longitudinal axis with the runway. Seven or eight very successful flights were made that day and it was a good experience for those people who tried their hand at flying our plane in the wind.

I am not suggesting that you look for 18 MPH cross winds to fly you airplane in, but with a good understanding of the technique used in cross wind takeoffs and landings, you may have many enjoyable flights when you might have stayed on the ground.

1. There are two main reactions to a crosswind and these reactions depend on the strength of the crosswind component. Weathercocking into the wind has a larger factor with tailwheel aircraft but will have some effect on the takeoffs and landings of tricycle gear airplanes.
2. Directional control is more difficult to deal with on takeoff in left crosswinds, since the left turning tendency caused by "torque" is aided and abetted by weathercocking.
3. The airplane should be held on the ground with elevator control during the takeoff roll for a little higher airspeed.
4. Put some aileron into the wind and then ease it off as the airspeed picks up. You may need enough opposite rudder so that the first few initial feet of climb is in a wing low attitude, keeping the centerline of the airplane parallel to its path along the runway.
5. Landing the airplane uses the same type of cross control technique and you will have much success with a stabilized approach using some basic rules for landing.

Remember that your joysticks will be opposing





movement for opposite aileron and rudder control. This may feel a bit uncomfortable but it works. Remember to use just enough rudder control to point the nose of your airplane straight down the runway and enough aileron control to correct for drift.

STABILIZED NORMAL APPROACH AND LANDING

A good landing starts with a good approach. A rule of thumb to follow is:

1. First make sure your stance is square with the runway. If you stand at an angle, your landing pattern will also be at an angle.
2. You begin by positioning your model on a downwind leg flying at a constant altitude approximately 100' to 175' feet high and 250' to 300' away from the outer edge of the runway depending on the size and performance of the model.
3. When the model is in front of you, reduce your throttle to 1/2, 1/4, or idle depending on type of approach, landing configuration, and wind.
4. Maintain constant altitude to slow the airplane down then establish the proper glide angle/speed for a stabilized decent. NOTE: Using trim will

help stabilize the glide angle. Just remember to reset the trim for go around or the next flight.

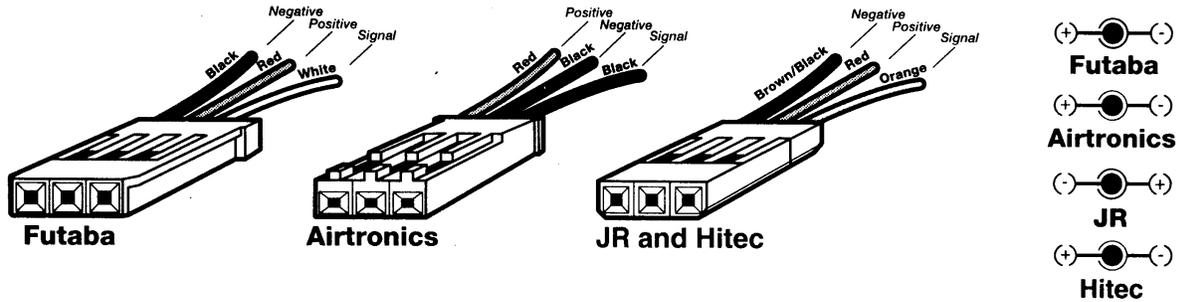
5. When the airplane is 45° from your position start your first turn (BASE LEG) toward the field and reduce your throttle a little more. NOTE: This turn should be a little tighter than the turn to final.
6. When the airplane close to the outer edge of the runway, start your turn to final. Judge your turn so the airplane ends up over your shoulder. This may look awkward but the airplane will line up very close to centerline. You can bring your throttle to idle when you know your landing is assured or adjust your throttle for spot landing.

A good way to practice getting ready for landings is by flying the traffic pattern many times maintaining a constant altitude and squaring off your corners. Work at putting the airplane where you want it to go and you will have many successful landings.

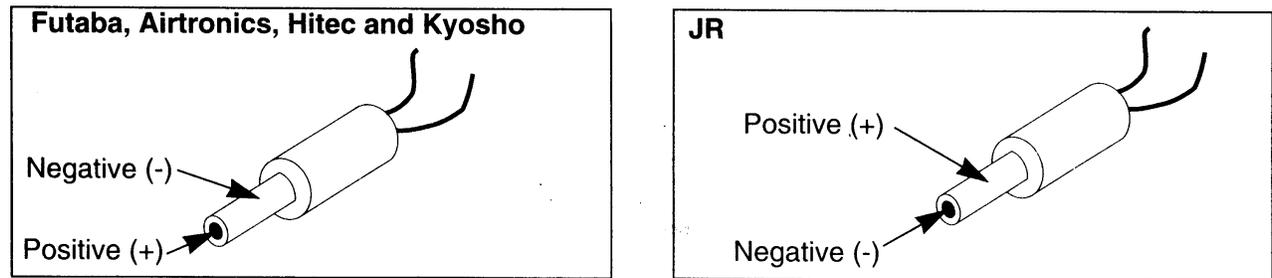
For those who would like to try a few aerobic maneuvers, here is a page from the AMA pattern maneuvers. In the next issue I will describe several maneuvers with accompanying diagrams starting with course reversal maneuvers and the difference between a wing over and a hammerhead stall turn.

Note: Signal wire is not used when charging airborne packs.

Receiver Pack Polarities



Transmitter Polarities



Rich Dean sent in this guide to the different brands or RC connectors

Till next time, Happy landings!

Frank G., CMA Flight Instructor →

Thanks to Frank

A special thanks to Frank Gutierrez for fixing up our frequency pins. He marked the pins for frequencies with potential interference problems by adding a yellow or orange card to the other side of the clip.

Jim Doty, FlightLine Editor →

Field Action

by Rich Dean

If your equipment has been charged and ready to go when the wind dies AND it is not raining this Spring you are probably getting some flight time in. Otherwise the scheduled flying evenings have been tough weather wise. One plus is Frank Gutierrez has been out with his sons Drew and Evan a lot and has been leaving messages on the Employee Services Hotline (295-8888). So be sure and check on those

off days if it looks like the weather is good enough to fly.

We are getting more instructing help from Dale Brech and the second club trainer aircraft which is a Goldberg Eagle II. He is getting it dialed in for new students and had Gregg Lind on the sticks for his initial flight this last week .Thanks Dale, your help is greatly appreciated.

Jim Doty has had his old timer out a few times and he is embarrassing the rest of us by flying way too slow, not using near enough fuel and taking way too long to land after his plane runs out of fuel! You have got to see this one fly. It is so smooth and graceful and looks really neat with the see through covering. If we have a slow race at this year's fun fly Jim is sure to win.

Co-op Brian Nowak has been flying an interesting three channel plane from the past. Seems his dad built it about fifteen years ago and did not fly it. We got it trimmed out and flying a couple of weeks ago. Last weekend Brian's folks were in town and his dad had a chance to see his "old" creation fly. It

flew very well and his dad got so enthused watching it fly that I heard he has some new R/C stuff on the way.

Troy Simonton stopped by one evening and said he was just about done with his classes and his plane was almost ready to go again after suffering a mid-air last fall. We look forward to having him out again.

Some of the new guys are really trying to stir things up. Ed Deruiter, Van Snyder and Kyle Chapman are really gung-ho on this flying stuff. So much so that they initiated getting together Saturdays at the crack of dawn to fly before the winds pick up. Frank was there to lead this initial "Dawn Patrol" and it sounds like it was a big success. I hope to make it out in the future. Ed says he will supply me coffee knowing that I do not move too fast first thing in the morning. So call the hotline on Saturday mornings and if the message says "Dawn Patrol is on" then you are probably late for the first sortie of the day!

By the time you get this FlightLine the days will be getting shorter bummer. See ya at the field.

Rich Dean, CMA Flight Instructor →



The following articles are reprinted from the AMA's National Newsletter

<http://www.modelaircraft.org/news/letters/aprnews98.htm>

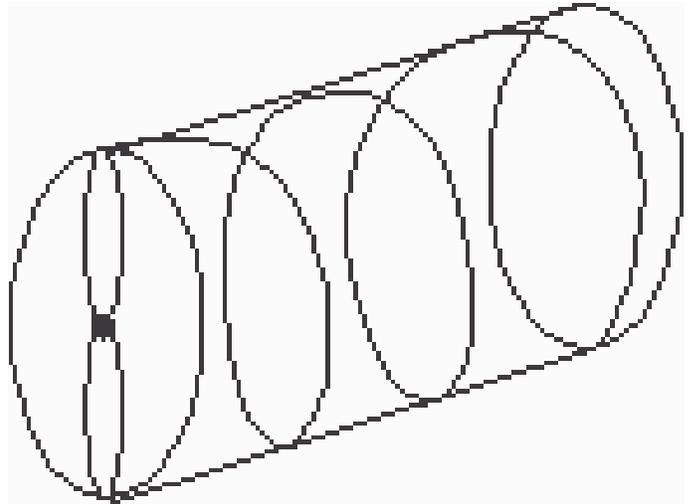
Classroom: Propellers as Screws

by Jim Ruggiero

We take propellers for granted, but the simple prop obviously does an important job on our toy airplane.

Actually, the prop does two important jobs: (1) Provide thrust for takeoff and climbing, and (2) Fly

the aircraft at a definite speed. Let's look at that last item first.



SPEED

Go to your workshop and thread a 1/4-20 nut part way onto a suitable bolt. Now carefully turn the bolt exactly one turn into the nut. Congratulations, you just advanced the bolt exactly 1/20 of an inch forward into that nut!

How do I know this? Simple. Nuts and bolts are made with a definite pitch. This means that our 1/4-20 bolt and nut have twenty (20) threads per inch of length. So turning the bolt one turn is the same as advancing it 1/20 of an inch. Two turns: 2/20ths, five turns: 5/20ths, etc.

The pitch of a propeller tells us how far forward the prop would pull the airplane through the air in one revolution in level flight. This pitch number is usually the second number in its size designation, like 10-6, 6-3, 12-5, etc.

So how fast can our aircraft fly? To find this out, we need to know the engine revolutions per minute, or RPM. This is conventionally measured before takeoff using a tachometer. Point the tach at the spinning prop from six inches behind the engine (for safety) and read the RPM.

A typical sport .40 engine should easily spin the typical 10-6 prop at 10,000 RPM. As a rough guess, use a simple formula that says: "Multiply the pitch in inches by the number of thousands of RPM, and that's the aircraft's speed." So 6 x 10 is 60 MPH. Quick and dirty.

What complicates the precise measurement of airspeed is: We have no little pilot in the cockpit to read an airspeed indicator on the instrument panel! So precise calculation depends on a number of factors, like the drag of the aircraft, the efficiency of the prop, and a fudge factor that sort of accounts for the shape of the airfoil that's used in the design of the propeller.

This last item, the prop's airfoil shape, is what distinguishes propellers from wood screws. Woodscrews don't have airfoils! The airfoil shape generates some "lift" in the forward direction as the prop spins, thus increasing the speed a bit compared to the forward motion due solely to the measured pitch of the prop expressed in inches. In any case, what's happening is that the prop is literally screwing itself through the air, like a bolt through a nut, or a woodscrew through pine.

But props aren't 100% efficient. Unlike screws, props "slip" as they screw themselves through the air! How much? It depends. As for airplane drag, it's obvious that a typical sport model, with three ugly wheels hanging down and ratty covering and a boxy shape, has a lot of drag. A scale WWI biplane, with struts and wires and a big, blunt nose, has a lot more drag, whereas, a racing aircraft, with retracting landing gear and a pointy nose, has a whole lot less drag. You figure it!

Those rare few fliers who have on-board instrumentation in their models, can tell you, via telemetry, how fast their aircraft are flying. You and I can only rely on a wild guess!

THRUST

Thrust is easy to measure on the ground. Hook up a fishing scale and measure the pull. (Thrust and pull are the same, of course.)

A fun thing to try is to change brands of the same-size props, say from a master Airscrew to an APC, and measure the difference in thrust. You'd be surprised!

Your Editor tried this on one of his electric motors in a test stand. He tried an APC 9-6 and a Master Airscrew 9-6. For the same power input, the Master

prop produced 2.0 pounds of thrust, whereas the APC produced 1.8!

Does this mean that the APC is a "bad" prop? Not necessarily. I have yet to fly an aircraft with these props. It may be that the APC flies an aircraft faster than a Master, though we know that's hard to measure. (Go back a few paragraphs and check it out.)

Where do we need thrust? Thrust is the big factor in takeoff and climbing, so the more thrust, the better.

But our toy airplane props are a compromise between the thrust we need for takeoff (when airspeed is zero) and climbing (when airspeed is low) and the top speed we want for flying fun (when airspeed is supposed to be high).

At zero (takeoff) or low airspeed a low-pitch prop gives more thrust, but doesn't yield good top speed at cruise because the pitch is too low; a high-pitch prop doesn't have good thrust for takeoff but has good top speed. No one prop can do both jobs well!

However... Long ago, the full-size airplane people got around the thrust-verses-speed problem with the variable-pitch, or constant speed propeller. This kind of prop changes pitch depending on the load on the engine. At takeoff, when airspeed is low and engine load is high, the prop has a low pitch for good thrust and also for climbing.

As the airplane approaches level flight cruising speed at cruising altitude, the prop senses the "unloading" of the engine and increases the pitch for higher speed.

Cool! Gimme some!

Unfortunately, constant speed props are not quite available for toy airplanes. Many years ago, Hi Johnson offered such a prop, but it tended to vibrate and shed blades. Nasty!

Very recently, Bob Kress has been advertising constant speed props for electric models. So far, I only know about these props from what I've read in advertising. It should be fun to read the tests in the model magazines in a few months. Stay tuned!

from Plan View
Jim Ruggiero, Editor
617 Piedmont Street
Blacksburg, VA 24060-4924

AMA's National Newsletter →

Local Events:

JUN 27—Keokuk, IA (AA) 2nd Annual Sailplane Meet for 442 and 444(JSO). Site: Double D Ranch. Robert Thompson CD, 326 N 5th Keokuk, IA 52632 PH:319-524-8084. Sponsor: EAGLE SQUADRON

JUN 27-28—Montezuma, IA (AAA) SIG CL Championships for 319-321, 323-326(JSO), 328-329(JS)(O). Site: SIG Field. Mike Gretz CD, PO Box 162 Montezuma, IA 50171 PH:515-623-5772. Skyray 35 carrier (JS)(O), Skyray 35 sport race (novice) (open), old time stunt and classic stunt (JSO). Sponsor: SIG MANUFACTURING CO

JUN 28—Grimes, IA (C) SAM Old Timer Meet. Site: Club Field. Al Grier CD, 13003 Castlebar Dr Sun City West, AZ 85375 PH:602-546-2205. SAM rules apply to all old timer models. (RC assist) 3 flights, 10 min max, 30 min total. 25 sec eng run for glow, 45 sec for elec, also a climb & glide event for any type model, same rules. Sponsor: DES MOINES MODELAIRES

JUL 11-12—Oelwein, IA (C-restricted) IMAA Fly-In. Site: City Airport. Robert Nelson CD, 433 Ardmore Waterloo, IA 50701. PH: 319-233-4771. Sponsor: BLACK HAWK R/C PILOTS

JUL 12—Lake Mills, IA (C) July Jubilee Fly In. Site: Lake Mills Airport. Delane Behr CD, 208 S. 4th Ave W. Lake Mills, IA 50450 PH: 515-592-4195. Site: Lake Mills Airport 1 mile east of care center on south 10th Ave. East. No landing fee, no contests, just fun, drawing for prizes 11am to 5pm. Sponsor: JULY JUBILEE COMMITTEE

JUL 12—Stormlake, IA (C) Summer Fun Fly. Site: Municipal Airport. Steve Swanson CD, 606 S. Main St. Alta, IA 51002. PH: 712-284-2506. Time 10:00am until dark \$3.00 landing fee. Any size RC planes welcome. Limbo, egg drop, spot landing, bean carry fun fly events during the afternoon. Sponsor: NORTHWEST IOWA RC CLUB

JUL 25—Marion, IA (C) Sky Hawks 5th Annual Heli Fun Fly. Site: Marion Field. Rich Michels CD, 1230 6th Ave. NE Independence, IA 50644. PH: 319-334-6883. Open flying, beginners help, demo flights. Events: bottleknock, dragraces, times hover awards for top 2 places in events 9am till dark. \$5.00 landing fee. Sponsor: CEDAR RAPIDS SKYHAWKS

JUL 25—Davenport, IA (C) DR/CS 3rd Annual Scale Fun Fly. Site: Seven Cities Sod. Phil Vernon CD, 237 W. 46th St. Davenport, IA 52808. PH: 319-386-8205. Models must be scale replicas of full size aircraft. Photo of subject is required. Models must fly to compete for major prizes. 3 classes - Giant, Military, & Civilian. Trophies awarded in each class based on popular vote. Registration start 8:00am. Open flying 10:00am-3:00pm. \$5 landing fee. Food! E-Mail - bigphil@qcom.net. On the web at www.2ask.com/syn23/dracs. Sponsor: DAVENPORT RADIO CONTROL SOCIETY

AUG 23 — LeMars, IA (C) WINGS Fun Fly. Site: Club Field. Bernard DeBoer CD, 414 So. Lynn Dr. LeMars, IA 51031. PH: 712-546-4609. Sponsor: WINGS R/C

AUG 30 — Iowa City, IA (C-restricted) Aerohawk Big Bird Fly-In. Site: Iowa City Airport. John Navara CD, 807 5th St. Coralville, IA 52241. PH: 319-354-5705. 600' X 150' paved runway, long distance and best of show awards, concessions on site benefitting local sertoma (service to Mankino) club, free breakfast to flyer and helper. Sponsor: IOWA CITY AEROHAWKS

SEPT 6-7--Vinton, IA (C) Benton Co. Propbuster Fun Fly. Site: Vinton Airport. David Wilson CD, 6419 16th Ave. Garrison, IA 52229. PH: 319-477-6241. Two days fo open flying, starting at 8:30 am. Grass or asphalt runway. Lunch will be available. Sponsor: BENTON COUNTY RADIO CONTROLLED PROPBUSTERS

SEPT 12-13--Council Bluffs, IA (C) Loess Hills Giant Model Air Show. Restricted to IMAA members. Site: The Field. D.K. Hutcheson CD, 268 Kenmore Ave Council Bluffs, IA 51503 PH:712-322-0038. Field - I29 to Nebr Ave exit 52 go S 1/2 mi to field. Camping, no hook ups. Sponsor: LOESS HILLS EAGLES

Local Vendors Special Offers

**Batteries Plus is having a sale on battery packs.
4 cell 4.8 VDC AA size**

650 mAh \$11.99

700 mAh \$12.99

800 mAh \$13.99

1250 mAh N-MH \$20.99

1350 mAh N-MH \$13.00

4 cell 4.8 VDC

1/2 AA size 270 mAh \$15.99

2/3 AF size 600 mAh \$16.99

8 cell 9.6 VDC AA size

650 mAh \$26.99

700 mAh \$27.99

800 mAh \$28.99
1250 mAh N-MH \$41.99
1350 mAh N-MH \$49.00

Bring your connector and they will weld up a pack to your spec. First-time customer appreciation cards will be available at the July meeting. Pick one up for an extra discount.

Heads Up, CMA Activities

Thursday, July 2, 5:00 pm — Club Meeting
Friday, July 24, 5:00 pm — FlightLine Deadline
Thursday, August 6, 5:00 pm — Club Meeting
Friday, August 21, 5:00 pm — FlightLine Deadline

Note: Meetings are held in the 35th street N.E. Facility (main plant) Cafeteria building 140.

Send your input for the CMA Web Page to:

Steve Plantenberg x5-9625
scplante@cacd.rockwell.com

For an AMA membership application:

<http://modelaircraft.org/Mem/Memapp.htm>

Flight Training

Flight Training has started and is held Tuesday and Thursday (weather permitting) every week during the summer. On Tuesdays one of the club trainers is usually available for beginner training.

New Solos

Congratulations to the following members who soloed in June

Ed DeRuiter
Drew Gutierrez
Evan Gutierrez

Frank Gutierrez said that Drew was making low inverted passes down the middle of the runway before he got signed off, but he won't make other people work so hard to get soloed.

1997 CMA Staff

President: Crist Rigottix5-0612
Vice President: Floyd Van Auken...x5-4057
Secretary/Treasurer: Doug Emersonx5-2356
FlightLine Editor: Jim Dotyx5-2931
Web Page Editor: Steve Plantenberg..x5-9625

Flight Instructors:

Rich Dean
Frank Gutierrez
Mark Woytassek

Flight Instructors in training:

Irv Anderson

Test Pilots for first flights of new airplanes:

Rich Dean
Mark Woytassek

Send your input for FlightLine to:

James H. Doty
MS 124-111
x5-2931
jhdoty@collins.rockwell.com

For membership information:

Contact: Doug Emerson
CMA Secretary/Treasurer
MS 153-260
x 5-2356
daemerso@collins.rockwell.com

AMA National Newsletter goes on-line:

<http://modelaircraft.org/News/Newsletters.htm>
For selected articles from AMA club newsletters around the country

1998 CMA Membership

<u>NAME</u>	<u>M/S</u>
Irvin Anderson	108-103
Geoffrey Barrance	108-166
Alan Bechtold	124-224
Bob Buschette	108-260
Kyle Chapman	124-111
Brian Collins	107-150
Dan Cooley	124-111
Rich Dean	124-115
Ed DeRuiter	124-111
Jim Doty	124-111
Mike Eastman	106-183
Doug Emerson	153-260
Scott Emerson.....	105-167
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