



SANDERSON FIELD R.C. NEWS



CHARTER NO. 3079

CLUB MEETING

*This months meeting will be held
on Thursday March 10th at 7:00
p.m.*

at PUD #3

At 3rd & Cota

The February meeting was pretty short, We've taken one more step in getting the jet issue resolved. If you wish to read the proposal put before the Port of Shelton, it's on the web site at <http://sfrcf.quintex.com/news>. It's in .pdf format so you'll need Acrobat Reader (you can follow the link on the newsletter page). This proposal will be incorporated into our Safety Procedures and also posted on the web site.

I only went to the Expo on Friday so I didn't experience the big crowds and lines at all the booths I wanted to get stuff from. It was bad enough but nothing like past years when I went on Saturday. I did find most things I needed for my P-47 project and should have bought things I didn't think I needed.

Dick Robb also went Saturday and reports that the crowds were bigger and the number

of vendors was also bigger. He also noted a much larger presence of electric products.

It's getting to the time of year when the various people who use the runway start scheduling, below is a list of who's doing what. The list is never complete but you

can get the whole thing on the web site. Go to the Events page and scroll down. So far only October has dates that we can't use the runway at all.

For March and April...

March 5th -

Fire district 11 - North end

April 4-10th -

Mason Cnty Deputies-North end

April 16-17th -

DOL - North end

April 20-21st -

WSP cadets - North end

April 23-24th -

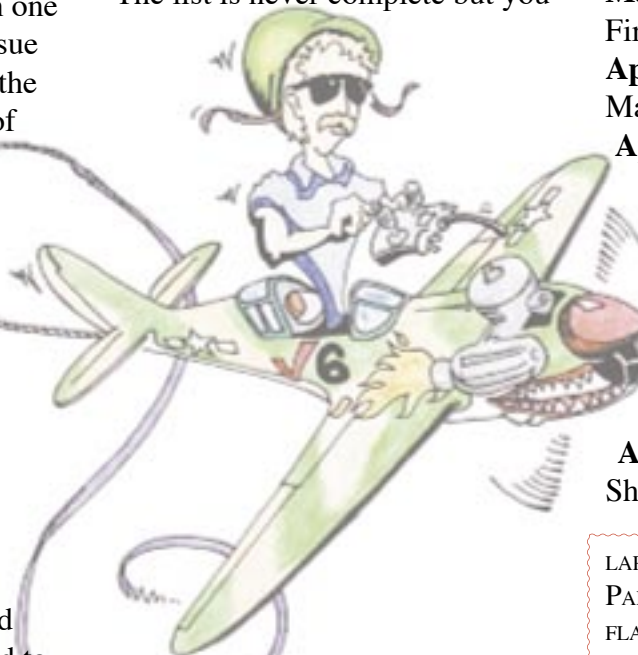
DOL - North end

April 26th -

WSP - North end

April 30th -

Shelton Police Reserve - North end



LAR BILL, THE FLAG FLYING OVER THE PARLIAMENT BUILDING IS AN AMERICAN FLAG.

THINK YOU KNOW EVERYTHING...

* TWO-THIRDS OF THE WORLD'S EGGPLANT IS GROWN IN NEW JERSEY.

* THE LONGEST ONE-SYLLABLE WORD IN THE ENGLISH LANGUAGE IS "SCREECHED."

* ON A CANADIAN TWO-DOL-

* NO WORD IN THE ENGLISH LANGUAGE RHYMES WITH MONTH, OR-ANGE, SILVER, OR PURPLE.

* "DREAMT" IS THE ONLY ENGLISH WORD ENDING IN 'MT.'

* ALL 50 STATES ARE LISTED ACROSS THE TOP OF THE LINCOLN MEMORIAL ON THE BACK OF A \$5 BILL.

LEARNING TO TORQUE ROLL

A mini-lesson
by Mike McConville

You've seen those super-low hovers and torque rolls in demonstrations and in model magazines and you've probably wondered just how they are done.

Super human flying ability? Hi-tech gyro gismos and big, expensive models? Certainly, you say, torque rolls can't be in the flight plan of a sport modeler who likes to fly normal sport models can they? Well, actually, they can. It takes practice and an airplane. It'll take practice, of course, and plenty of it. But saying just practice is like saying if you want to paint like Picasso, just start painting. The major stumbling block for most pilots is knowing what to practice. And then there's the airplane. What kind of model do you need? Maybe you're a sport modeler and don't want an expensive Tournament of Champions model—if that's what it takes.

How they are done

Relax, because besides lots of practice and a good airplane, learning to torque roll takes one more thing: a plan. And we've got it right here. So read on and I'll let you in on how the pros became pros. It's still going to take practice, but here's what to practice and what to practice with.

The right airplane

No, it doesn't take an expensive

TOC model. It doesn't even take a scale aerobatic airplane. It does take a model with some specific qualities though, but you can find these qualities in some fun, economical sport models.

The aircraft has to have plenty of elevator and rudder authority. This is important since, while in a hover, you need to be able to maintain pitch and yaw control with the only airflow over the tail coming from the propeller.

Great power-to-weight ratio is a big help, too. While learning—and even if you are a torque roll master—at times you will need to get out in a hurry. The safest direction to get out is naturally the opposite direction of our nemesis, the ground. To hang on the propeller and to blast out vertically, you need great, reliable power.

One of the best models I have seen for this task is the Hangar 9 Ultra Stick powered with the awesome Saito 1.80. The Ultra Stick is perfect. It was designed for all out fun aerobatics, so it has the elevator and rudder power needed to keep it under control while hanging on the propeller.

The Saito 1.80 is all the power the Ultra Stick will ever need, and then some. It'll get you out of trouble as fast as a rocket. Not to mention the all-out fun you'll have flying your Ultra Stick with all of its tricks and its punch.

For unbelievable vertical performance with your Saito 1.80 powered Ultra Stick, try using 30% high-performance helicopter fuel and an APC 16 x 8 propeller. Up to 30% nitro in your Saito is fine

as long as the oil content is high enough. Helicopter fuel is recommended because it has the oil to keep the engine cool.

Learning torque rolls lower to the ground is much easier because you can see better and make corrections faster—but one mistake and it's that old nemesis again. CRUNCH! The Catch-22 of torque rolling is that practicing up high gives you the altitude you need to recover when you get crossed up, but it's a lot harder to do. So try to practice with as much altitude as you can.

Step 1:

Like learning to ski, you need to know how to fall down and get back up first. You will make mistakes, even when you have it mastered. So, don't worry about how to control the roll yet. Concentrate on learning to catch the model and fly out of mistakes without losing altitude, regardless of the attitude the model falls into. This is the key to the torque roll.

How to do it:

At a safe altitude, pull the model vertical at about one-fourth throttle and begin to hover. Use just enough throttle to pull vertical, but not enough to sustain a hover. Let the model begin to fall out; it may fall to the side, the top, bottom or any combination. Practice catching it with the correct elevator and/or rudder input, and get the throttle in it. Focus on flying out level. After you start to get the hang of it and react faster, fly out vertical.

LEARNING TO TORQUE ROLL (CONT)

Trickiest Part:

Don't get confused and give the wrong input. Be careful, especially when the model falls with the nose toward you. That's why we start at a safe altitude.

Step 2:

You've now crossed the biggest hurdle in learning the torque roll. You can recover no matter which way the model falls out. You have confidence that you can save the aircraft every time. Now you can concentrate on two new things. First, work on reacting with the correct rudder and elevator inputs to keep the model vertical. (The good news is Step 1 has already sharpened your orientation and reaction skills.) Second, learn to fly the throttle stick to maintain altitude in a hover.

How to do it:

Bring your airplane down to a lower altitude. Start at about 25 feet, low enough to see the model and still high enough to give you a little reaction time before terra firma. Again pull to vertical, only this time add a little more power so the model hangs motionless in the air. Once you've got the throttle figured out, concentrate on flying the rudder and elevator to keep the model vertical.

Don't worry about ailerons; they aren't going to do much while you're hovering. This is a simply a balancing act, like riding a unicycle. The model may hover or it may begin to roll to the left. Don't

worry about rolling, this happens naturally.

The model will begin to roll once it is very close to dead vertical. The better you can hold the model vertical, the faster it will torque roll.

Hint:

Choose a calm day to practice. Wind makes torque rolls much harder. You will also need lots of control surface throw to maintain control use as much as you can get, similar to a 3-D set-up if possible. While you'll need this much control at times, it also makes it much easier to over control the model, so use some expo. I suggest 25% on rudder and 40% to 50% on elevator. Now you'll have the control power when you need it, but a soft feel around neutral so you won't over control when making little corrections.

Trickiest part:

Learning to keep up with the model's orientation as it rolls to give the correct elevator and rudder inputs is the hardest part. It takes time to get good. One wrong input and the model will fall out, but you know how to fly out of a mistake so set up and try again. Also don't over control. Even too much of the right correction will make you fall out. Flip back to low rates as the model falls out so you don't over control and stall the airplane. Use that expo feature in your radio. Once you've got the hang of it, try backing the throttle down a few clicks as you are torque rolling and slide the model down closer to the ground.

And that, in a nutshell, is just about it. So now you've got a plan and you know what kind of model, all that's left is practice, practice, practice . . .

from Airmailer
Benton County Radio Control Club
Jim Trump, editor
Corvallis OR

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FLYING IN THE COLD

[Editor's note - I thought I'd throw this in to show what some people will do to fly.]

Now that the cold is here again, here are a few reminders about flying in freezing weather.

1. Keep the batteries in your flight box, ni-starter, and radio equipment well charged. The cold cuts back on the efficiency of batteries. They don't hold their charge as long as in summer. Leave your radio, flight box, etc., inside your car or somewhere warm when not in use (as long as you leave your car running like almost everyone does).

2. Switch to a higher nitro content in winter (15%). The engine will run better because of the higher operating temperature. Keep your fuel warm too, if possible.

3. Keep your airplane in a warm place. It usually is the difference between getting your engine started and ready to fly or just going for a nice drive. A trick to try—set your airplane under the engine of your car if you have the ground clearance to do so.

If you keep your airplane in your car with the skis on, make sure when you bring it out you immediately push it around in the snow until the skis are cold, otherwise the snow sticks to the skis and the airplane won't glide well.

4. After you get your engine running, leave the ni-starter or plug lead on for a little while. Let the engine run until it warms up.

You don't need to rev it up or stab at the throttle. Just let it run for a few minutes. You'll probably have to set the idle speed up slightly higher, even after the warm-up period.

5. In the winter, you can also connect an exhaust tube to the muffler in order to keep the fuel from freezing to your airplane. If fuel freezes to the muffler, it is difficult to remove until you warm up the airplane. Then it runs all over. You'll probably have to richen the engine some, but it's nice having a clean airplane to take home. For tubing, I use a piece of clear plastic fuel line that can be purchased in any auto store. A hose clamp will hold the tubing on, and to keep the clamp from coming loose due to vibration, Hot Stuff or epoxy works well.

from the Twin City Flyers Newsletter
Dan and Yvonne Twomey, editors
Festus MO

***IF YOU HAVEN'T PAID YOUR DUES YET
IT'S AFTER JANUARY 1ST NOW AND
DUES ARE \$40.***

***IF YOU PAY BY MAIL SEND YOUR DUES,
PROOF OF 2005 AMA MEMBERSHIP
AND A SELF ADDRESSED STAMPED EN-
VELOPE TO THE TREASURER:***

***CHUCK KENTFIELD
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WASHOUT:

advantages and disadvantages

“Every airplane needs washout, even a biplane,” said Claude McCoullough, the famous designer for Sig.

I'm not sure that every airplane needs washout, but most do, especially the scale airplanes that Claude designed.

Washout is a twist in the wing from root to tip. This twist is usually three degrees but in rare cases can be more.

Washout forces the wing near the fuselage to meet the air at a more positive angle than the tip. As the model pulls its nose up and increases the overall angle at which the wing meets the air, it will eventually achieve the stall angle at which lift ceases.

With washout, the inner wing will stall first and gradually progress towards the tips. This is desirable because the loss of lift at the center will lower the nose and prevent further stalling. Meanwhile, aileron control is maintained even though the wing is partially stalled.

But there's much more. Consider the typical World War II fighter. A fighter will have a wing incidence at the root of about 2-degrees and a washout of about one and a 1/2-degree. At top speed, the incidence angle of the tip is 0-degrees. Drag at the tip is minimized and there is very little loss of lift by air creeping around the wingtip—very

efficient for maximum speed. In addition, the up-going aileron causes the same drag as the down-going aileron, so that roll causes no yaw. Yawing with the rudder does not change the lift at the tips, so yaw does not induce roll. This is just what the fighter pilot needs for gun aiming, and what the modeler needs for precise scale flight.

Washout is a must in airplanes with long, thin, or pointy wings. Some can't fly without it. Next time you are at the airport, notice the washout of the airliners there. It's huge for safety and fuel efficiency. Most biplanes don't need washout because one wing is typically set at a higher incidence angle, and one wing will stall before the other. Ailerons must therefore be on the wing with the lower incidence angle.

Washout has a dark side; it can interfere with aerobatic performance. In inverted flight, washout becomes washin and all the bad things that washout prevents in upright flight become worse in inverted flight. Snap rolls and spins, which require the wing to stall on command, can be difficult to start and control. Adverse yaw varies with airspeed. Scale models of fighters are only mildly aerobatic. Fully aerobatic airplanes generally do not include washout.

Summary: Washout improves aileron response at all airspeeds, reduces adverse yaw and softens the stall, but only in upright flight.

from Flare-out
Twin City Radio Controllers
Jim Cook, editor
Minneapolis NM

Tip: Mounting windshields

A trick I used to help glue the windshield to the fuselage of the Spartan is cut a piece of scrap 1/8-inch thick balsa into a triangular shape. Make one of the angles correspond to the tilt-back of the interior of the windshield. Tack glue this piece of balsa with Elmer's along the centerline of the fuselage. Locate the proper fore-and-aft location so that the forward point corresponds to the windshield location on the centerline.

Hold the windshield in place and put a small drop of Elmer's at the base of the windshield along the centerline—dry completely. The balsa scrap will now hold the windshield at the proper angle while you bend the windshield and place additional drops of glue to hold it in place.

FROM MAX FAX · D.C. MAXECUTERS · ALLAN, EDITOR · WASHINGTON DC

BELOW ARE THE SCHEDULED EVENTS FOR 2005

Club Scheduled Events for 2005

January.....Annual 1st fly of the year
February
March
April 23rdSanderson Field RC flyers annual swap meet 9:00 to 12:00 SHS Sub
May
June 11thDisplay at Walmart
June 12th.....Public Fly-In
July 9th.....fly-in 9:00 a.m. to ?????
August 20th.....Scale fly-in 9:00 a.m. to ????
September 10th.....Fly-In 9:00 a.m. to ????
October
November.....
December

It's time for 2005 dues, Dues are \$40 after December 31st

Check out our web site at <http://sfrcf.quintex.com>