

# The Flying Times

## The Official Newsletter of the Valley RC Flying Club

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### PRESIDENTS KORNER

Another month gone by... Been away for awhile and only got very limited flight time in the last month. I went to the field this past Sunday (22nd) only to find out that Joe Hash had crashed his new P47 warbird on it's second flight. Joe I feel for you, and hope that I don't ever have to suffer such a disaster with such a beautiful plane. It was not Joe's fault, but a manufacturers design problem. The wing came off on a straight level flight. Of course the wing fluttered down but the body came down like a lawn dart. From what I saw on the inside of the plane it was put together with very great care, a work of art. The problem was the 2 wood dowels that protrude from the leading edge of the wing that go in the fuselage to hold the front of the wing to the airframe. They both broke off flush with the wing. At first I could not figure out how they broke as in straight flight the pressure from the wing is in the up direction (low wing) pushing the wing to the airframe but after a little thought I

figured out that if you used a little aileron in a certain direction the forces on those wood dowels with be very great. The wing would become a very long lever pulling down on a very short leverage between the edge of the fuselage and the dowels which would create tremendous leverage pressure on the dowels. Like pulling a nail with a long handled hammer. Joe says that he had crash insurance with the maufacturer but that will never make up for all the time put into putting that work of art together again.

Thought I would tell you about a few experiences I have had in the last 2 weeks, not RC oriented but real flight oriented. First is taking off and landing from airfields in Kenya. The plane was a 4 engine Turbo Prop plane, high wing with wheels coming out the bottom of engines 2 and 3. The take off was normal but the problem was the width of the runway. The tire on my side of the plane kept running over grass and pavement on the very ragged and rough edge of the runway. The first

landing (total of 3) caught me by surprise as there was no pavement, just some gravel mixed with clay and other dirt. The other two landings were on similar surfaces. The final takeoff after landing 2 was even more exciting as it had been raining and the mud runway was full of mud puddles. That wheel kept splashing up mud and water and a couple of times I could not see the wheel or its struts at all, being obscured by the spray. On landing the whole wheel assembly and the bottom of the engine casing were covered in mud. How those pilots keep those planes on those narrow runways when landing with a heavy cross wind I will never know.

Was on a A330 coming from Amsterdam, what a nice plane. Lots of leg room, nice head rests that extended and even folded to make a cushion to rest your head on. The passenger in front could even put their seat back and not interfere with your lunch tray. The other thing I noticed was the ailerons were being used as flapperons on takeoff and landings. There were 2 large flaps extended and about 10 degrees of flapperon used on the ailerons. At first I thought that maybe he was turning but the horizon said no and when he got to altitude the 10 degrees went to zero. He also used flapperon mode on landing.

The other observance, which I have seen before is when they open the spoilers on approach. That wing looks like it becomes a biplane with 2 wings. Always amazes me as there appears to be very little wing supporting the plane up in the air.

Hoping to get together a nominating committee by the next meeting who will be given the task of picking prospective replacements for the new board next year. If you are asked to run for office give it serious and positive thought to running. Or should I say railroaded into serving. All kidding aside, it's been a joy serving as Pres for the last 2 years. The nominating committee is only going to pick one prospect for each office which also means that before the November elections, nominations can come from the floor.

If I don't forget again, I would like to see who wins the Broken Prop Award for September. So if you had a serious or funny flying event during September, bring it up and see if you can win this prestigious award.

Next meeting will be held at the Church of the Brethren in Bridgewater

On Tuesday October 2nd 7:30PM

Best Regards Pres. Dave B.

## SAFETY REMINDERS

We have an awesome safety record at our field but it seems like the longer we go without an accident or the more comfortable we feel with our planes, safety is the first thing we start forgetting about so I just wanted to point out a few things that I've observed lately:

Get someone to hold your plane while starting or use a restraint.

Wear a glove or use a starter

When starting your plane make sure to do it up against the safety fence; some people insist on starting back where we park which allows spectators to pass in front of the spinning prop

**STAY AWAY FROM THE INTERSTATE!!!!** All it would take is one plane to hit a car and it would probably be the end of our flying field.

If there is more than one pilot flying, the runway will be for taking off and landing only; fly byes and 3d will be at the edge of the corn field.

Check your planes for loose bolts, and make sure batteries are in good shape.

Watch out for the spectators: most of them have no idea what these planes are capable of

**JUST REMEMBER: SAFETY IS EVERYBODYS JOB !**

Randy Sampson  
(Safety Officer)

## **TAILDRAGGER**

Many of us, at some point in our RC airplane experience have become interested in flying an airplane that is a tail dragger. What looks like a pretty smooth transition from a tricycle gear set up, turns into a real

effort to control on the ground. There have been many times that I have had to make trips out to the runway to pick up my plane that has tipped over or that I killed the engine by flying to high on the tail and hit the prop.

Most of the planes that I like to fly now are tail draggers because they resemble a majority of the real planes. It took some time to develop a good ground handling technique and I hope that this article may help you avoid some of those pitfalls.

What defines a "good landing on a tail dragger setup is different depending on the type of model. For a pattern design, you want to land on all three at the same time. For most military planes of WWII you wanted to land on the main gear first and the ease back to the tail wheel. For the IMAC and giant scale 3D planes it is precision landing is what counts the most.

Let's take my all time favorite aircraft to fly (semi-scale P-51D Mustang) to use as our example. Landing this model used to be a real nightmare for me twenty years ago. It was fast on final and if I slowed it down with too much with flaps, it would tip stall on me and I would have another mess on my hand. So, I had to learn to bring it in hot and land on the main wheels first and then settle it down. Landing in this manner, the model often flipped over and stuck in the runway, flip it over and usually would break a prop or have it tumble over on it back right there on the asphalt runway.

My trips out on the runway to retrieve my upside-down aircraft were a source of shame. It often provided plenty of comments from the "peanut gallery" at the pavilion. Then, during one particular flight, the most amazing thing happened: I had a dead stick in flight. I had to make my approach with no power. It was the best approach and touchdown I had ever flown with the model. I even had a three-pointed landing.....sweet!

Why that made a difference I am not totally sure, but it made me concentrate more on the approach angle and less on the power. With a big military plane, you have to learn to fly the approach and keep a little higher RPM than on a pattern plane. Most of the time I was guilty of taking too much power off the approach and ending up diving the plane down and then having to burn off airspeed at the last moment which usually attributed to my landing being rough and tipping over the plane.

After some research and advice the two things that I found that made the biggest difference was the location of the main landing gear and toe-in or toe-out configuration of the main wheels. Also, the pitch of the prop can make a big difference. We'll discuss that in a later topic.

If you spend any time at all looking closely at the orientation of the main landing gear to the location of the wing you will notice that most WWII military airplanes had their axle about the center line with the leading edge of the wing. The reasons were simply that distribution of Center of

gravity and weight distribution required that this would be the optimal location. What this created was a headache for most engineers to try to come up with a way to retract the main landing gear. Several variations were developed and incorporated for the Corsairs, Skyraiders, Warhawks, Mustangs, and Tigers.

If you have your main landing gear too far back on the wing of a tail dragger it throws off your CG and you increase your chances of tip-overs. Try to put as much distance from the tail wheel and main gear as possible. Any main gear that is back behind the wing spar on a tail dragger is too far back on the fuselage. Try to keep it at the leading edge of the wing if possible. The connection points don't have to be located here, only the center line of the wheel axle itself does.

The other item that will help a lot is the tracking of the plane. You have to watch the plane as it moves down the runway. Does it track straight? Are the wheels parallel with the side of the fuselage centerline? If the front of the wheels point out or in, then you are not tracking straight. Toe-in means that your wheels are pointing in at the front edge and toe-out would be the opposite. You can check this by placing your model on a work stand up side down. Place a square edge down the centerline of your fuselage. Then measure the distance from that straight edge at the back of the wheel and again at the front. If you get the same measurement, then you are correctly aligned. If the front dimension is a

greater than the back, then you have toe-out situation. You may want to have a little toe-in but you will always want to eliminate any toe-out tendencies of your landing gear.

Why? Because it will cause your plane to not track straight. One wheel will be fighting with the other one to push the plane to the left or to the right. On a tail dragger this can be a real frustration due to ground looping. Ground looping is when the plane starts down the runway and ends up spinning around in a circle. This will make takeoffs a real nightmare. Most inexperienced flyers will simply take off the ground before it has sufficient airspeed to compensate for this or will place a large motor on the plane to provide power to achieve a short runway takeoff.

You can tell someone that has mastered a tail dragger when they start off at  $\frac{1}{4}$  -  $\frac{1}{3}$  throttle, allow the tail to rise and continue to use over half of the runway to do so and then proceed to apply power and lift off gently. It shows a real mastery of the control inputs to keep the plane tracking as it should down the runway. What keeps the tail down while you taxi? Using your elevator control. With a tail dragger you want to use plenty of elevator. Learn this from the beginning and you will have fewer tip-overs. Apply up elevator the whole time that you are taxiing the airplane. The more you move the CG backward, the more up elevator you will have to apply. On landing the same thing applies. As soon as the tail wheel has touched the ground, apply elevator

and make the tail section stick to the tarmac. After that is successful, then use plenty of up elevator to keep it there. Don't make the mistake of giving it down elevator. If you learned to use the rudder early on in your flight training, then you will know how to proceed with "breaking" the plane. Stopping the plane is as important as taking off and sometimes is not followed through with.

Begin with bleeding off airspeed and keeping the plane tracking straight down the runway. Once you reach that "no lift" speed, begin to apply a little right or left rudder and then a little in the opposite direction. This will help to bring the plane to a stop sooner by using friction from the swerving motion to reduce air speed. Unless, of course you have variable pitch props with reverse thruster capabilities, you just apply and stop! Once you have the plane at the proper taxi speed continue to apply plenty of up elevator and bring the plane back to the flight line and begin your post flight shut down procedure.

Well, that is about it for what I can tell you about flying a aircraft with a tail dragger configuration. Once you master the techniques you will enjoy the window of opportunities you will have with the huge array of aircraft selection that are flown as a tail dragger. Oh yeah....any plane can be converted to a tail dragger also. So when you are ready, just pull out that old trainer and move the main landing gear to the front of the wing and remove the nose wheel and put on a skid or tail wheel at the rudder

and there you have it! Good luck and happy flying.

Thanks for listening  
Tim B.

## CULLED FROM R/C REPORT

In his column "Radio Ramblings" in the March 2007 issue of *R/C Report* magazine, Tony Stillman gives some general guidelines for radio equipment maintenance that deserve notice, particularly for those of those who are newer to the R/C hobby.

Tony notes that many manufacturers are silent on the subject of preventative maintenance schedules for their equipment. He offers the following guidelines:

--Whenever our equipment is involved in an accident it should be thoroughly checked for damage (rarely applies to transmitters, although a transmitter occasionally gets dropped). Receivers are more likely to be suspect. Whenever any doubt exists about the airworthiness of a receiver, by all means send it to a qualified technician for inspection, testing and repair (Joe Hash did exactly this with his receiver and servos which had damage to their arms).

--Tony suggests that every transmitter and receiver be inspected and tested by a professional service technician at least once every two or three years.

--He also suggests that all connectors be subjected to a close, frequent, visual inspection for signs

of fraying or corrosion. Battery negative connections are particularly vulnerable to failure.

--Servos too can be "troublesome" but are not something that needs to be sent to a service center unless the cases are damaged. According to Tony, servos either work right or they don't. How *well* they work may be another matter. One of the most common modes of failure is the potentiometer which fails in a progressive manner and by the time it gets really bad it's usually easy to detect. Replacing the servo will usually solve the problem after which the bad servo can be sent in for pot replacement, if the servo is worth it. Those selling for less than \$20 are usually considered throw-away's because it's simply not cost effective to put \$20-25 worth of repairs (parts, labor, and shipping into a \$20 servo. For more expensive servos (costing \$50 or more), it can be cost-effective to have the unit repaired.

Also, the October 2007 *R/C Report* has a couple of equipment reviews which may be of interest to VRCFC members:

--Hitec Optic 6 Computer Radio

--Hobbico Accu-Cycle Elite Battery Charger.

If any VRCFC member is thinking about buying a new high value, highly-featured radio or battery charger, these reviews are a must-read.

Daryl Tonini