

Newsletter of The River Valley Flyers

Club #948-----September 2021

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Treasurer.....	Bob O'Connor
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From The Club President: The summer seemed to fly by quickly again this year. Here we are, almost ready to celebrate the Labor Day weekend. They say time flies when you are having fun, or maybe the problem is that as we get older, we think it will slow down so we have more time to enjoy.

Either way, summer went by pretty fast again. I did not get out to the field as much in the second half of summer as I had originally planned, but I hear there was a good amount of flying going on this year, and not too many flying mishaps. I hope that everybody had a great time while at the flying field this summer, and hope that the fall will stay warm and sunny for everyone to enjoy more time at the flying field too.

The old frequency control board at the field has now been rebuilt and made into an information board. It will also be used as a windsock holder and will have the first aid station that was on the old board, and it will continue to display the club's name on top. I would like to post our club flying field safety rules and AMA safety

rules in it for all to view and be aware of, as part of our flying site safety awareness. We did have our club's safety rules posted inside the old frequency board in years past, but over time we stopped using the frequency board control system after 2.4 became popular, and then the safety rules stayed behind closed doors. It would be beneficial to have those in full display for all to see when out using the flying site. We may also want to hang a list of all the current club members inside there too. This would be a great use for our new club information center.

The flying field is looking pretty good this late summer, but we do have a few animals looking for food making some dig marks in it. I think the sandhill cranes out there are poking the holes looking for food, and I noticed a flock of them doing that when I came out one early morning to fly last month. Thanks to the tireless effort of the mowing crews that we have this summer, the field looks to be in great condition and is kept up well. We really appreciate their efforts.

Although I haven't been out as much as usual this year, I have had good time while out with successful flights on my helicopter (no mishaps yet). I also like to bring along my camera quadcopter to search and rescue the occasional downed airplanes that I hear of, but have not been very successful with finding anything yet.

The quadcopter keeps a flight record, so I know what area I've already flown over, but the problem for me is that the different bunches of wildflowers all look like a downed aircraft to me in the camera view. I'm still having a lot of fun trying to do that though, and it's fun just flying it around and viewing and capturing all the scenery out there.

Fall is coming, and club officer election time will be here again for AMA chartered clubs. Our club too will be having club officer elections this fall. Any club member may take any of these positions, and open are President, Vice President-Secretary, Treasurer, and Safety Officer. Please consider running for one of these necessary club positions this fall.

Let's have a September meeting at the field again on Wednesday September 1st at 6:30 P.M., or just before it gets dark. We can do some flying beforehand that evening if the weather is good. If the weather is bad, I will notify all of the change of plans. Hope to see everyone then.

Don

Upcoming Area Events

If anyone hears about any up coming events, please let me know. (Rick Ida)

Also, check out our Facebook page at <https://www.facebook.com/groups/124394500927324>

River Valley Flyers Monthly Meeting Notice:

The monthly meeting at the field unless rain. Stay tuned for email updates!

Website: www.RiverValleyFlyers.org

Secrets to Hovering — Master this 3D Move

[David Scott](#) - [Featured News](#), [Flight Techniques](#)



Of all 3D maneuvers, it's possible that none represent 3D flying more than hovering. While learning to hover can be

extremely challenging, you can make it easier for yourself by knowing the primary forces involved. Control while hovering is maintained solely by the propeller thrust or “prop-wash” over the tail surfaces and the inboard portions of the ailerons. It typically takes approximately half throttle to maintain a stationary hover but that usually provides only marginal control. Therefore, you need to continually pump the throttle higher while hovering in order to generate more propwash over the surfaces without holding the higher throttle positions long enough to cause the airplane to climb.

Next, understand that the “propwash,” generated by the turning propeller, spirals around the fuselage and strikes the left side of the vertical tail, thus producing a strong left yaw tendency during hover. Consequently, you’ll need constant right rudder inputs to keep the fuselage vertical. (Note: Building in a couple degrees of right thrust lessens the effect of the propwash while hovering, but it does not eliminate it.)

A great deal of the propwash also strikes the underside of the left stab, causing the plane to pitch forward during hover. Therefore, barring any wind, you can expect to regularly need up-elevator along with right rudder to keep the fuselage vertical while hovering.

There is also considerable left rotational torque while hovering, so you’ll need to hold in large amounts of right aileron to keep the wings stationary. If the plane continues to torque to the left despite holding in full right aileron, you may have to increase the right aileron travel. If you can’t keep the plane from torquing even with full aileron, you’ll have to boost

the throttle higher each time the plane starts to torque to further increase the effectiveness of the ailerons.

CONTROL TECHNIQUE

The standard entry into a hover starts by slowing the airplane and then abruptly pulling to vertical, causing the airplane to suddenly stop all forward movement. Be aware that you most likely will need to input some right rudder and aileron to counter the propeller forces while pulling up to vertical. Then immediately start pumping the throttle to maintain the same height as well as control.

A hover will quickly unravel if you are late correcting a deviation, so keep your fingers moving at all times, even when the airplane appears momentarily stable. This will make sure that you're always ready to respond to deviations the instant they occur.

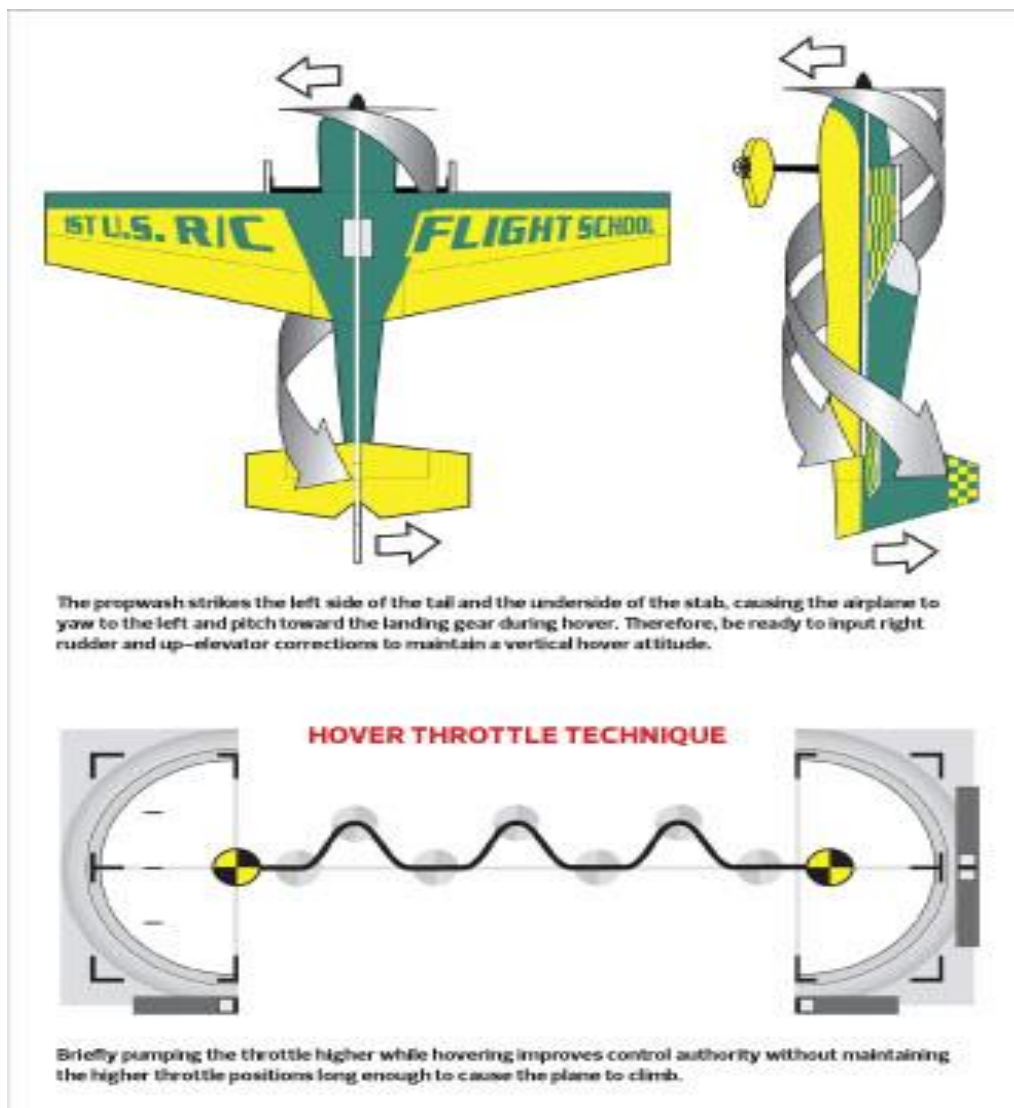
As a rule, if the tail swings more than five degrees from vertical while hanging on the prop, it will be very hard to stop the deviation due to the pendulum effect. To minimize over-controlling, you must try to limit your rudder and elevator corrections during hover to small brief bumps or jabs.

If a deviation is larger than five degrees and requires a larger correction, any large correction will have to be immediately followed by a quick opposite jab to keep the response from escalating.

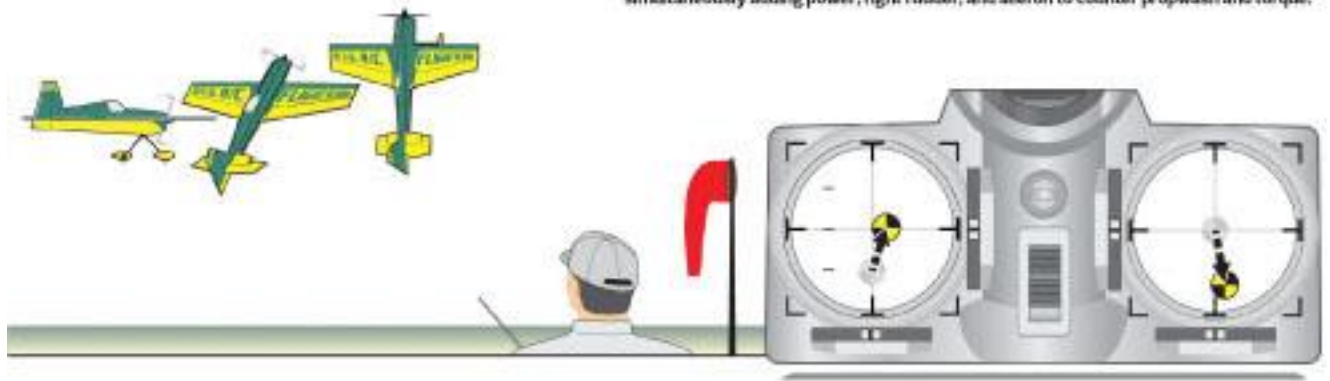
Try to limit over-controlling by keeping your inputs tiny and brief, and if you must input a larger bump, immediately input an opposite bump to limit the response.

ADVANCED HOVER TIPS

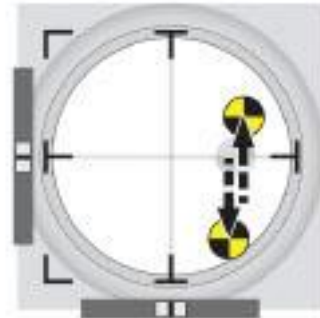
Since a sustained hover demands immediate corrections, use of too much expo will delay the control response and thus hinder hover success. If you feel that the plane is lagging behind your control inputs, reducing the expo settings will likely improve your ability to hover.



Enter a hover by reducing power and airspeed, then quickly pull to vertical while simultaneously adding power, right rudder, and aileron to counter propwash and torque.



CG Considerations



To avoid aggravating the pendulum effect, larger corrections will require returning the control stick past neutral into a brief opposite input to halt the response.

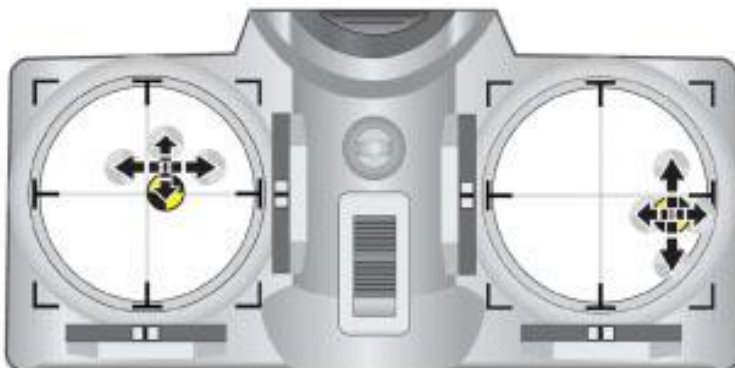


To avoid over-controlling, try to limit your rudder and elevator corrections to small brief bumps or jabs when working to keep the fuselage vertical during hover.

LARGE DEVIATION

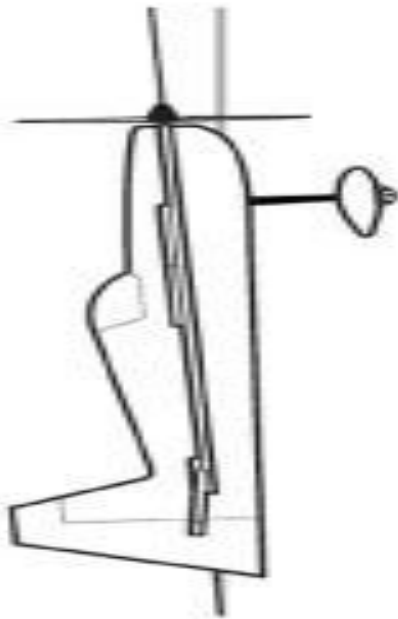


A Briefly pull

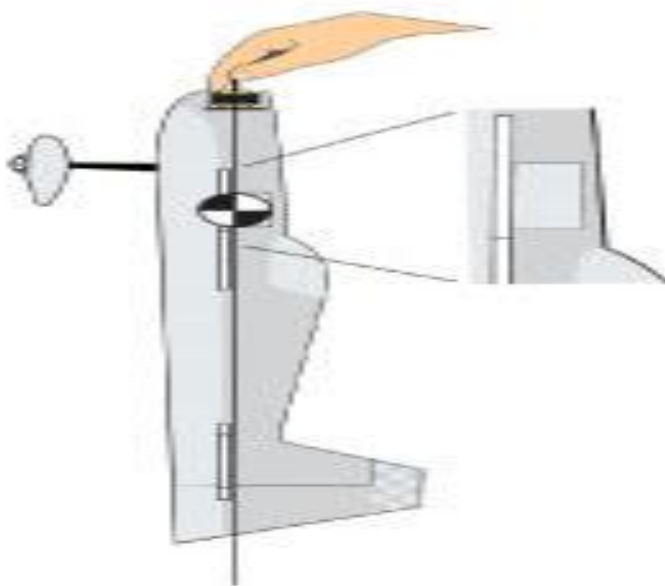


B Briefly push to stop the pull response from escalating

It has long been said that an aft CG makes an airplane easier to hover. While a tail-heavy condition helps flat spins and tumbling maneuvers, after years of 3D flying and testing, neither an aft nor forward CG has proven to have much



Most models lock into a more stable hover when the fuselage is held a couple degrees past vertical (tilted slightly toward the canopy) to compensate for the propwash striking the underside of the stab.



Check the vertical balance of your smaller 3D models by supporting them from the propeller shaft. When possible, move things toward the top of the fuselage to achieve a better vertical balance and a more stable, less-demanding hover.

impact on hovering flight. In fact, more and more professional 3D pilots set up their planes these days slightly nose-heavy to make them more predictable and less erratic. All things considered, most pilots are best served to go with a “neutral” CG (near the wing’s thickest point or approximately one third of the wing chord) to achieve the best overall performance.

Although it’s rarely possible to achieve a perfectly vertically balanced airplane, i.e., with the tail hanging straight down, getting it

as close as possible can make the airplane lock into a much easier hover. If you can, try to position the batteries and other items as high as possible in the fuselage to offset the weight of the landing gear, etc.



If over-controlling the throttle is a problem, some pilots find it helpful to flatten the throttle curve around the hover throttle setting to dampen the throttle response.



On the other hand, if over-controlling seems to be a persistent problem, i.e., the corrections you make typically end up causing more deviations. To solve this, in addition to practicing smaller control inputs, try increasing your

expo percentages.

If your airplane exhibits an especially strong tendency to pitch forward while hovering, putting in additional up-elevator trim

will certainly help. But the trick that works best is to aim to hover with the fuselage tilted a couple degrees toward the canopy.

Some 3D pilots like to determine the exact power setting that their airplane hovers at and then they flatten the throttle curve a bit around that setting to make the throttle less sensitive. On a similar note, using a lower pitch propeller affords a larger power sweet spot during hover in which the throttle is less sensitive and therefore less prone to over-controlling.

CONCLUSION

To avoid over-controlling, try to limit your rudder and elevator corrections to small, brief bumps or jabs when working to keep the fuselage vertical during hover.

While there will always be pilots who try to impress others by throwing the sticks into the corners until altitude forces them to recover, they don't come close to knowing the satisfaction that comes from learning to hover. It may be challenging, but you can take confidence from knowing that you're now armed with the knowledge to learn at a rate much faster than most! Good luck.

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September Safety thoughts

Hi guys,

So, here we go with another fun filled 3 or 4 minutes of me coming up with something interesting to rattle on about from a safety point of view when flying your model aircraft. See, I now have your full attention don't I?

Only reasonably new technology in the past 5 years or so has brought us to flying with the 2.4 GHz spectrum system and has really made the model aircraft world a much safer place to fly. Prior to this, everyone had to secure a discreet frequency from the frequency board thereby securing the use of that channel for that individual only. The system worked great until someone (we will not go there) inadvertently turned on a transmitter also on the frequency of someone flying resulting in the receiver in the airplane not being able to be controlled by two transmitters, crash was the only option.

Our club has eliminated the frequency board and the 72 MHz pins so the 2.4 system is the preferred method of aircraft control giving us virtually an unlimited number of aircraft in the air at one time. But wait just a minute. I happen to be one of the holdouts operating on the 72 MHz frequency, so are maybe 1 or 2 other members. As long as we 3 don't try to fly at the same time there is no problem. Please read the rest of this as it details the 2.4 GHz system very well.

2.4 GHz Systems

The newest type of radio system to enter the market is the 2.4 GHz spread spectrum systems. These are truly state of the art systems and operate on a frequency much higher than the 72 MHz; more than 33 times higher. The most unique feature of the new breed of radio control system is that you do not have to be concerned with a channel system and interfering with other modelers like you do with 72 MHz systems. Frequency of operation at the transmitter is automatically selected and the airplane receiver is "bound" to the

transmitter. Only the transmitter originally bound to the receiver can control it and only the bound receiver listens to that transmitter. The system employs state of the art “frequency hopping” technology that actually changes several hundred times a second. It is beyond the scope of this tutorial (and my knowledge) to present more than an overview of this type of system.

There are other brands that have developed their own spread spectrum systems or licensed one for their products. Other spread spectrum transmitters cannot cause interference to an operating system. This is the major attraction to this operating band. These are generally more expensive, but eliminate the concern of interference by an inadvertent “turn-on” by another transmitter. The airborne receivers are also less likely to be affected by interference from outside sources of radio frequencies.

As for your Safety Officer, I will be either getting out of model aviation or upgrading to the 2.4 system if for no reason other than safety. One must practice what one preaches! A bit long winded this month guys, sorry about that, hope you enjoyed the distraction.

Fly safe and I'll see you at the field,

Larry Chamberlin
RVFRC Safety Officer



FOR SALE (let me know when sold - Rick)

FOR SALE

Spad advanced trainer made from Coroplast-almost indestructible. YS45 for power, dual aileron servos, ski setup for winter flying also.



\$125.00

Tom Marty

715-340-1708

ysrcflyer@yahoo.com

GREMLIN flying wing combat plane. wings are fully sheeted.
YS45 for power.



\$100.00

Tom Marty

715-340-1708

ysrcflyer@yahoo.com



I have 2 brand new still in the package 1100kv motors complete with motor mount and prop adapter. I ordered them and then found out I didn't need them.

Asking \$8 each.

Thanks.

Don Horne



Hobby Eagle A3-L Stabilizer,
basic 2D, 3D style. New, decided
to use a different brand. Cost
about \$19.00, asking \$10.00

Thanks
Rick Ida

For Sale Continued...



FlightLine F7F-3 Tigercat 1600mm (63" wingspan)

It comes with the upgrade landing gear-not installed

I fly it with 2-4000mAh 4s batteries. It flies great. Batteries not included

I also have some spare prop blades

It has Callie Graphics "King of the Cats" graphics

It is in excellent condition.

\$300 with Admiral Receiver(RX600SP) which has gyro and recovery

Bob O'Connor oconnorfam1@gmail.com



River Valley Flyers Model Aircraft Club

2021 Membership Form

The “River Valley Flyers” are a model aircraft flying group interested in all aspects of Model Aviation and are located in Central Wisconsin. We are a chartered Academy of Model Aeronautics [AMA] club. All club members must also be AMA Members. We maintain a flying site in southern Portage County in the Township of Grant in the Central Wisconsin area.

Membership Categories and Dues

Full Adult Membership.... \$50

Age eighteen years and older by January 1st of the year of application. Includes voting rights and club field usage rights.

Family/Group Membership.... \$55

All members covered by a Family/Group Membership must have a direct spouse or offspring relationship, Father-Son, Husband –Wife and or Junior Member. Includes voting rights [except for junior members] and club field usage rights.

Junior Membership.... \$15

Under age eighteen years old by January 1st of year of application. All junior members need to be sponsored by a Full Adult Member even though they are not related by an offspring relationship. Includes field usage rights but no voting rights.

Guest Membership.... \$30 For someone who belongs to another local club but wishes to access our field for flying as well. Includes field usage rights but no voting rights. Must send a copy of current AMA and Local Club Membership Cards with application.

MEMBERSHIP APPLICATION (PLEASE PRINT CLEARLY)

Please bring completed application form below with proof of AMA to RVF meeting or mail to:

Bob O'Connor 2220 Lovewood Drive Wisconsin Rapids Wisconsin 54494

Make checks payable to **River Valley Flyers** (Only Cash or Check Accepted)

Name: _____

Address: _____

City: _____ Zip: _____

Phone: _____ E-Mail _____

AMA# _____ Membership Category: _____

Dues Enclosed: _____ (Cash or Check Only)