

Middle Point R/C Flyers



November 2017 Newsletter

Upcoming Events:

- December 7 – Membership Meeting
- January 4 – Membership Meeting
- February 1 – Membership Meeting
- March 1 – Membership Meeting
- March 17 – MPRCF Swap Meet
- April 5 – Membership Meeting
- May 3 – Membership Meeting
- June 7 – Membership Meeting
- July 5 – Membership Meeting
- August 2 – Membership Meeting
- August 24-25 – MTRCCA Fall Fly-In
– Dickson Airport
- September 6 – Membership Meeting
- October 4 – Membership Meeting
- November 1 – Membership Meeting
- November 3 – MTRCCA Swap Meet
– Antioch, TN
- December 7 – Membership Meeting

Prez Says

Fall is finally here. With the days getting shorter and with the clock's changing there is less daylight for flying. Too bad since this time of year has some of the best flying weather you can get. Often the winds are low, the temperature is comfortable, and the sky has a crisp and clear appearance.

We've pretty much stopped with the field improvements for the year, other than for any maintenance needs that come up. We had portions of the driveway and parking area wash out with the 4+ inches of rain that the area received a few weeks ago. A crew worked to place a drain pipe in the driveway and redistribute gravel in the parking area. I hope that the pipe is large enough to handle the water flow. Before the spring rains come we will need to improve the drainage at the entrance gate by extending the drainage ditch on the east side of the hill.

One of the actions that we need to take early

Continued

<https://www.facebook.com/groups/mprcf/>

www.mprcf.com

November Meeting Minutes:

The meeting, held at the field, was called to order by Dan Wandell @ 6:09pm. There were 17 members present. There were two guests.

The October meeting minutes were accepted as published in the newsletter.

The October Treasurer's report was read and accepted.

There were 2 new members added during October.

Old Business:

Upcoming local events:

- Association Fall Swap Meet at Antioch, TN – November 4
- Indoor Flying – Smyrna, TN – every Tuesday – contact Family Hobbies for info.
- Peeler Park Club Fly-In – November, 11 – Madison, TN

Association Swap Meet:

The Association's Swap Meet is this Saturday, November 4. All of the allotted tables have been sold but additional space is being secured to place more tables. It should be a great event. Volunteers are needed to help during the event especially concessions and registration. Members are reminded that the club benefits from their efforts as the proceeds are distributed to member clubs.

Continued

Prez Says (cont.):

next year is to install a solar charging station. I am looking for a member to volunteer to head up this effort, preferably someone with some electrical knowhow. We want to ensure that the system is both adequate for our use and safe. If you can help let me know.

Speaking of volunteering, did you know that we have a Newsletter Editor position? And did you know that the Newsletter Editor receives free membership dues? And did you know that I'm serving in that position now and that I need a break from it? Yes, for long hours and low pay you could be the next club Newsletter Editor. Let me know if you are willing to handle this important function for the club. I'd really appreciate the help.

On November 4, the Association held its Giant Regional Swap Meet at the Antioch United Methodist Church. Overall the Swap Meet was successful. The Association made a good return which will be shared with the member clubs. Some of the sellers did exceptionally well and others not so. Many of the buyers got some great deals. I want to thank Jessica Waggener for volunteering at the last minute to head up concessions when the previous volunteer fell ill. Thanks also to John Hagel, Jim Powers and Richard Ricca for manning concessions, and to Dick Tonan for manning registration, and to each for sticking around after the Swap Meet to help with cleanup. MPRCF did the bulk of the work associated with this Swap Meet, which we will correct in the future as we better spread the workload to the other clubs.

Continued

FAMILY HOBBIES
"Where Families Bring Fun To Life!"

Billy Clemons

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Smyrna, TN 37167
www.familyhobbies.net

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Cell: (615) 642-2528
email: billy@familyhobbies.net

November Meeting Minutes (cont.):

Field Development:

This will be the last meeting minutes where details of older completed items will be listed. In the future only recently completed items will be noted.

The following list of action items was discussed.

Completed Actions:

- Lease Agreement signed
- 2017 lease payment issued
- Certificate of Insurance Issued
- Announcement to general public
- Murfreesboro and Stones River airports notified
- Remove and burn trees
- Close/block unused service road entrances and place no trespassing signs at the Greenway entrances to the service roads
- Determined runway layout
- Determine pits and parking layout
- Determined driveway layout
- Small field – Board approved the field's use for drones, etc. – no further action until interest is expressed
- Establish sound abatement program
- Grade field and pit area
- Place rock/gravel on driveway – including drain pipes
- Improve road entrance to allow left turns
- Parking area – placed rock
- Install road gate
- Install field gate
- Put up entrance signs
- Porta-Potty delivered
- Add barrier fencing at field gate
- Move club items from Carl's
- Install windsock/flagpole base
- Install windsock
- Harley Rake the field and roll
- Seed pits and runway
- Install fabric runway

Since October Meeting:

- Install tape on center seam

Continued

Nov. Meeting Minutes (cont.):

- Installed pilot flight stations
- Prepared and seeded areas left bare after fabric installation

Pending Actions:

- Establish an address for emergency responders??
- Remove and spray weeds at fence line at entrance (remove fence?)
- Remove a few more trees at north approach
- Remove stumps in runway at the north end
- Remove rocks and other debris in the east runway perimeter
- Evaluate/repair starting stations
- Clean tables/chairs/bleachers
- Add "X" to runway ends?

Airplane Setup for Gerry Rollins:

Purchased an e-Flite 1.2m BNF T-28 from Family Hobbies. \$120 of budget remains for batteries and a charger.

Storage Container:

Need to install a ramp; John Dudinetz volunteered to handle. Need to install a locking dividing wall (maybe roll-up door?) and install vents for cooling and for battery venting.

Continued



**Next
Club Meeting !
December 7, 2017**

Prez Says (cont.):

Voting for the 2018 officers will take place at the December membership meeting. I suspect that those on the ballot will be duly elected, especially considering that there are no contested offices. 😊 An email was sent to each member listing the nominees.

On November 9, I had the chance to take a flight on the Experimental Aircraft Association (EAA)/Liberty Aviation Museum's 1928 Ford Tri-Motor. Later in the Newsletter are pictures. It was an interesting experience. They had the airplane open to anyone, regardless of if they were taking a flight or not, to thoroughly check it out. The flight was a blast. It was loud; it vibrated; it was slow; and it wasn't overly comfortable; but, it was a piece of aviation history that I'm glad I didn't pass up the chance to experience.

All of the hard work that members have given during the field development is now paying dividends. There has been a lot of flying activity going on at the field. It's great to see guys getting out and using the field, especially during the weekdays. We have missed having that opportunity the last few years.

I encourage members to join the club's Facebook group so that they can post when they are thinking of going to the field. It's a great tool for finding out if others are going flying. Not only is it safer to fly with others, it's more fun too!

If I don't see you before the Holidays, have a Happy Hanukkah, a Merry Christmas, and a Happy New Year.

Well...that's it for this month. Dan

November Meeting Minutes (cont.):

Charging Station:

We have batteries. The remaining equipment needs to be purchased and installed. No action since the last meeting.

Covered Structure:

We will be installing garage port structures. Inquiries were made with several local suppliers, Watson's Portable Buildings, and MetalMax Steel Buildings. Further evaluation will need to be made to determine size, number of units, placement, etc. prior to purchase.

Safety and Flight Rules:

The Rules were slightly amended as a result of input from the last meeting and they have been implemented. Members are now expected to adhere to these rules.

2018 Officer Nominations:

Dick Tonan reported the following officer nominations. Each has accepted the nomination. There were no nominations received at the meeting.

- President-Dan Wandell
- Vice-President-Dick Tonan
- Treasurer-John Hagel
- Safety Coordinator-Jim Powers
- Event Coordinator-Richard Ricca
- Field Maintenance Director-John Dudinetz

New Business:

Request from TN Veteran's Home:

An inquiry was received from the TN Veteran's Home asking if the club would be willing to make a presentation to their residents and perhaps allow them to visit the field sometime. Of course the club will do this. We will need a volunteer(s) to coordinate this effort.

2018 Events:

With us now having a field, we now have the opportunity to hold events. Members are asked to offer suggestions for events. For sure we will hold a Model Aviation Day event. Maybe we can host the Association's Spring Fellowship Fly-In?

EAA Ford Tri-Motor Tour:

The Tri-Motor will visit Murfreesboro from November 9-12 for rides. The cost is \$70 in advance or \$75 at the door for a 30 minute experience (15 minute flight).

Continued

Nov. Meeting Minutes (cont.):

Club Orientation Airplane:

Members discussed the club acquiring an orientation airplane to be used for introductory flights for potential members and for spectators. It was also discussed that an introductory drone might have value too. Any aircraft acquired for this purpose would not be used for flight instruction. Jerry Miller may have an airplane to donate. Further action tabled until later.

December Meeting Location:

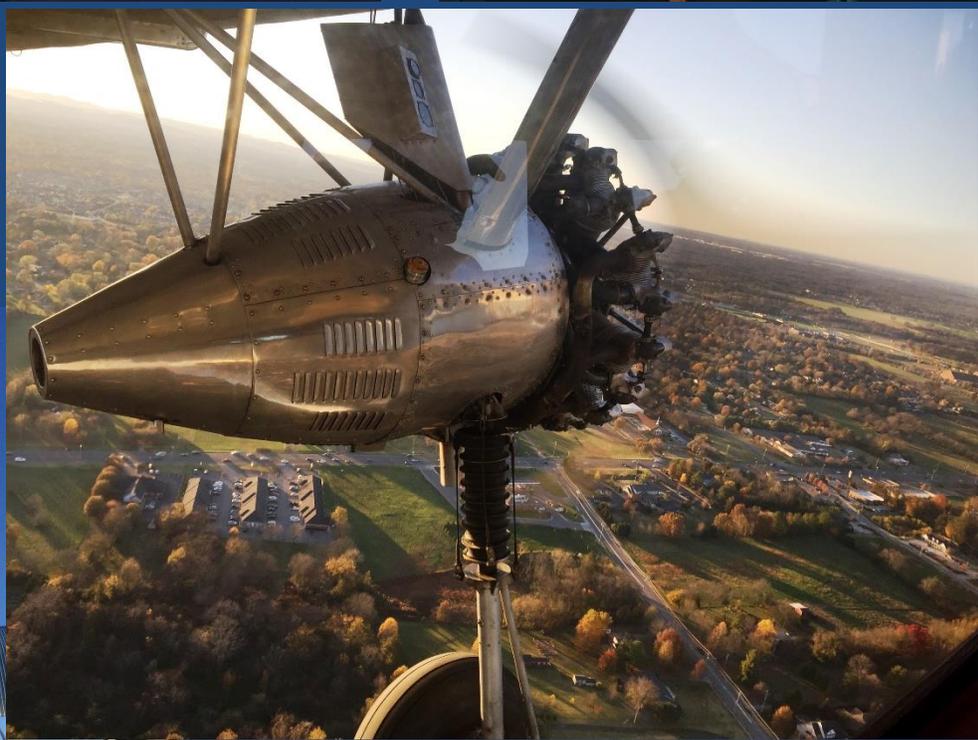
The December meeting will be held at O'Charley's. This will be a regular business meeting. It was noted that as attendance increases at the meetings we may need to look at alternate meeting sites.

Meeting adjourned at 7:43pm.



Ford Tri-Motor visit to Murfreesboro





Photos From the Field – November 2017





REVIVING

ESSENTIAL CONTROL SETUP FUNDAMENTALS IN AN ERA OF ELABORATE PROGRAMMING

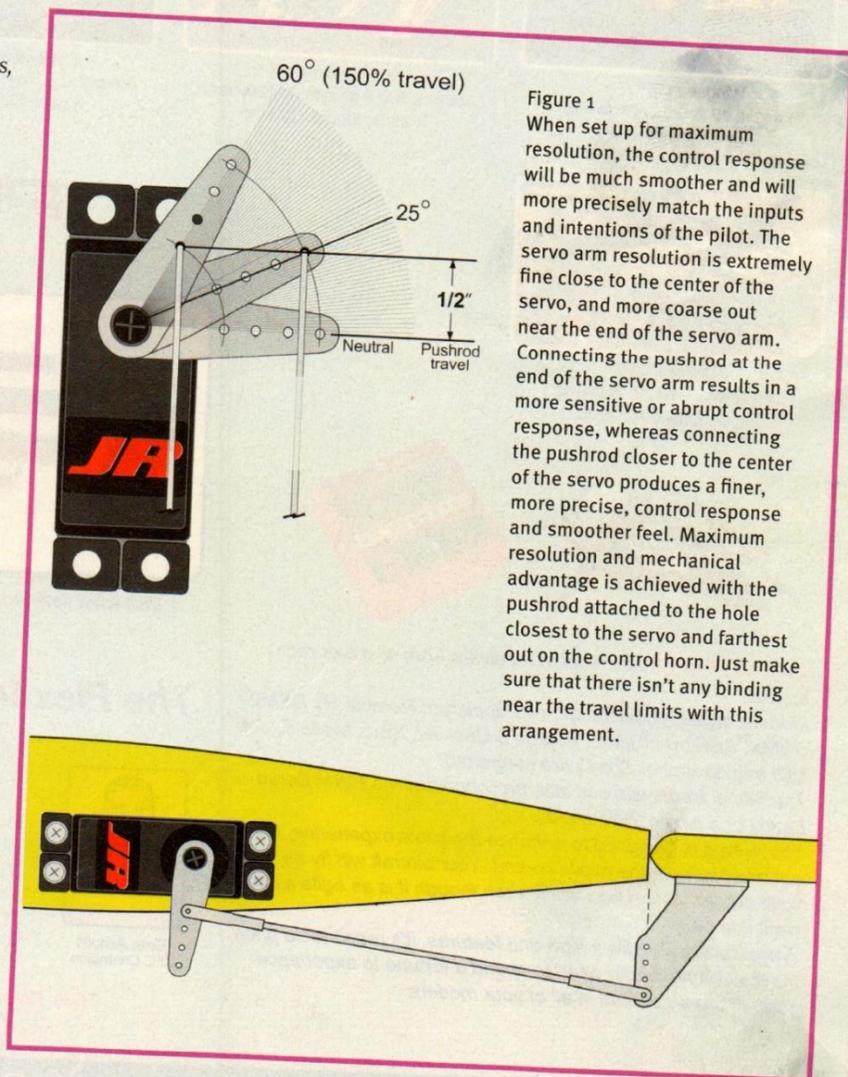
BY DAVE SCOTT | ILLUSTRATIONS BY THE AUTHOR

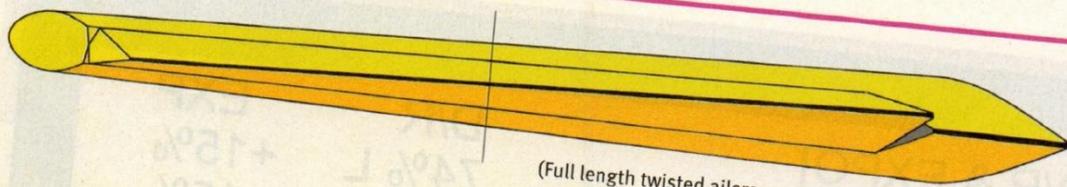
Although modern technology has expanded the capabilities of airplanes, the emphasis today on elaborate programming has made the process of setting up an airplane more complicated and, therefore, more subject to error. More importantly, the emphasis on complex programming often overshadows the fundamental control setup principles that remain essential to achieving a great-flying airplane.

Every year, perfectly good airplanes are faulted or wrecked simply because of too much control surface travel and/or excessive use of exponential; yet, people fail to make that simple (obvious) diagnosis because they presume that the solution must always lie in more sophisticated programming.

The aim of this two-part article is to revive the essential control setup fundamentals that will enable you to achieve the best-possible handling airplane that also matches your skill level.

The first step in this process is understanding that how a model handles (and thus the skills required to fly it) is primarily determined by how fast and how far the control surfaces deflect, regardless of whether the airplane is small or large, or high or low performance. That means that it is possible to make a small, high-performance aerobatic airplane relatively docile by reducing control surface travels, or make a primary trainer reasonably

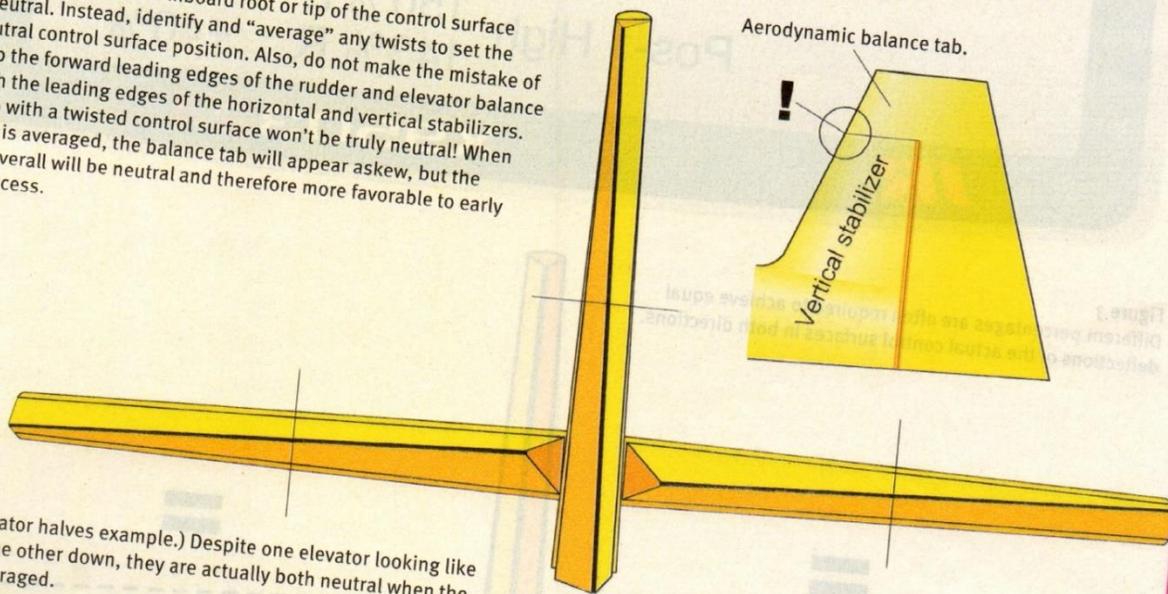




(Full length twisted aileron example.) Half span = true aileron neutral.

Figure 2

Do not exclusively use the inboard root or tip of the control surface to set neutral. Instead, identify and "average" any twists to set the true neutral control surface position. Also, do not make the mistake of lining up the forward leading edges of the rudder and elevator balance tabs with the leading edges of the horizontal and vertical stabilizers. Doing so with a twisted control surface won't be truly neutral! When the twist is averaged, the balance tab will appear askew, but the surface overall will be neutral and therefore more favorable to early flying success.



(Twisted elevator halves example.) Despite one elevator looking like it is up and the other down, they are actually both neutral when the twists are averaged.

responsive by increasing travels.

Most of the advanced programming features that draw so much attention today fit into the category of helping to fine-tune an otherwise good-flying airplane. Meaning, if you're unable to quickly achieve a high level of handling comfort, you need to focus on the basic setup, such as increasing or decreasing control surface travels before you dive into adding more exponential or mixes or adding modes and flipping switches.

On the other hand, if the general handling is good, but you want to make it better, the answer probably lies in utilizing some of your radio's more sophisticated capabilities.

A common mistake is making changes in the setup to try to improve an isolated condition or maneuver, but at the cost of overall handling comfort. Logic dictates the "best" airplane setup is the one that best complements the type of flying a person does most often. For most pilots, that means setting up their airplanes for better takeoffs and landings, precise patterns, and smooth sport flying.

Therefore, the following setup rules of thumb are aimed at maximizing "precision" control and handling, as opposed to the entirely different setup required to perform extreme 3-D maneuvers.

Maximum Resolution and Smoothness

When possible, the ideal control hookup for smooth precision flying begins with connecting the control pushrod to the hole closest to the center of the servo, and the farthest

"LOGIC DICTATES THE 'BEST' AIRPLANE SETUP IS THE ONE THAT BEST COMPLEMENTS THE TYPE OF FLYING A PERSON DOES MOST OFTEN."

out hole on the control horn, in order to achieve maximum resolution and mechanical advantage (torque), then increasing or decreasing the radio percentages to initially achieve the recommended travel and later the desired handling.

If you max out the percentage in the radio and still need more travel, you will obviously have to sacrifice some resolution by moving out on the servo arm and/or closer to the control surface (see Figure 1).

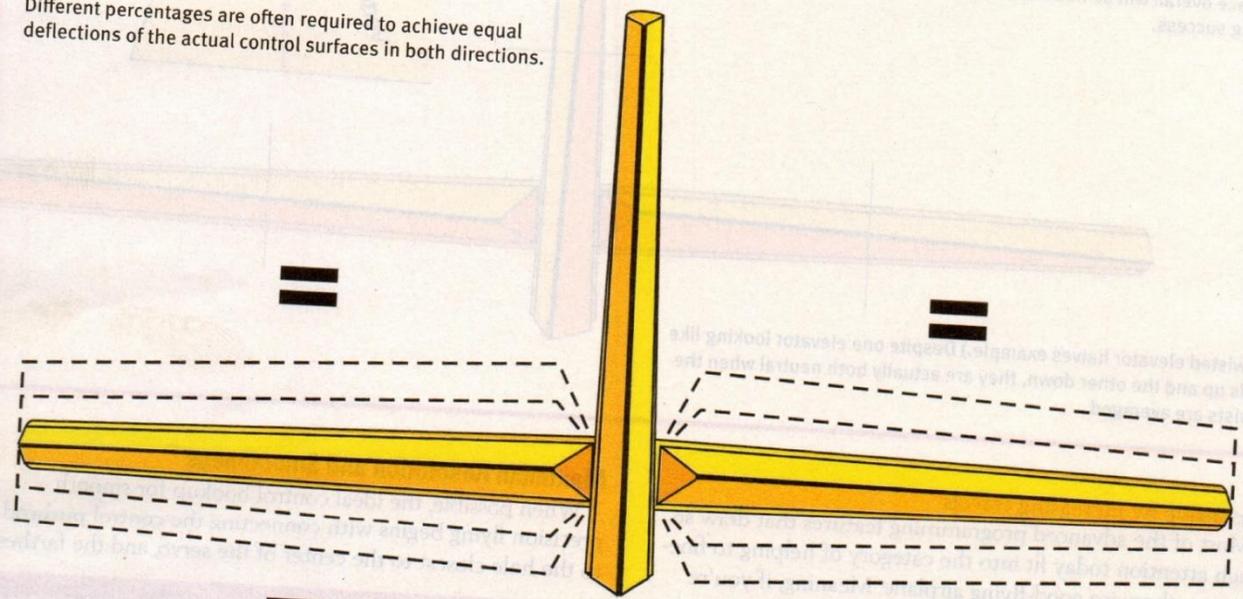
Resolution explained: Think of servos as moving a certain number of incremental "steps." Increasing and decreasing the travel percentage in the radio increases or decreases travel by adding or removing steps, yet the size of the steps remain the same. Connecting the pushrod closer to the center of

[D/R & EXPO]		D/R	EXP
AILERON	Pos-0 Low	74% L	+15%
		70% R	+15%
	Pos-1 High	150% L	+40%
		143% R	+40%

JR

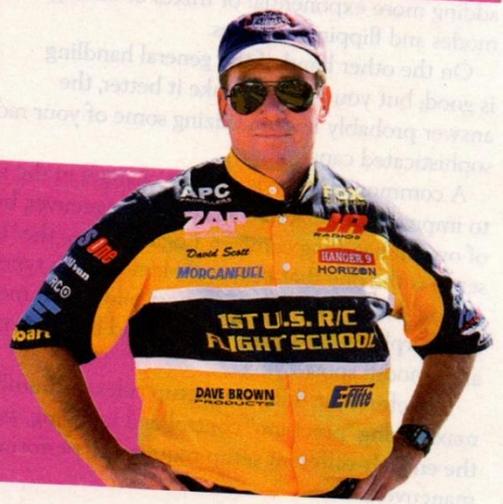
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Figure 3
Different percentages are often required to achieve equal deflections of the actual control surfaces in both directions.



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the servo means that a higher travel percentage will have to be programmed into the radio because of the small (fine) amount that each step is actually moving the pushrod, thereby increasing the "resolution" of a given control surface movement, leading to smoother (finer) control.

Conversely, connecting the pushrod near the end of the servo arm sacrifices resolution and results in a coarser (abrupt) control surface movement for each incremental step that the servo arm moves. Of course, 3-D pilots must sacrifice resolution in order to achieve the large travels necessary to perform extreme 3-D stunts. Airplanes set up for 3-D are consequently harder to fly precisely and feel less "connected" because of the large amounts of exponential they require.

Before attaching the pushrods, you'll need to decide whether the airplane will be used primarily for 3-D or precision flying and, if you're smart, determine the optimized setup for what you do most often.

True Control Surface Neutral

One setup mistake that almost everybody makes is lining up the inboard root or tip of a control surface at neutral while failing to step back and look at the position of the entire control surface. Most lightweight wood ailerons, rudders, and elevators are inherently twisted for part or all of their length, so you should never set neutral using only the end of the control surface.

You must look at the entire length of the control surface and identify any twists or bows, and then "average" the twist to set the true neutral position (see Figure 2). To reduce the potential for programming errors and to simplify things at the flying field, as a rule, always try to mechanically set the control surface neutrals, and then use the radio to fine-tune things when the limits of the mechanical adjustments have been reached during setup.

Dual Rates/Flight Modes

Although not mandatory for sport flying or precision aerobatics, it's nice to have the options afforded by dual rates/flight modes. "High rates" are typically set up to achieve maximum travels for extreme 3-D flying or when taxiing in strong winds, whereas "low (normal) rates" are set up to provide optimum travels for takeoff and landing, precision patterns, and aerobatics.

It is wise to put all of the dual rates/flight modes on one switch to make it simpler to switch back and forth. It might sound ideal to use dual rates to set up different control responses for different maneuvers, but those who attempt to do so often end up taking longer to achieve proficiency. That is because instead of mastering one airplane, these pilots are learning to fly multiple airplanes depending on the position of the dual rates switch!

It's no different from driving; it proves much easier to master one consistent setup and learn to change the size of your control inputs depending on the situation than it is to try to juggle different rates or deal with control that is not consistent. In short, those who most quickly identify appropriate setup changes and early comfort use dual rates principally to switch

between precision flying and 3-D or taxi mode, and seldom between or during maneuvers.

Tip: Page through any RC magazine today and it's clear that the sport is heavily oriented toward 3-D flying. Consequently, the emphasis on 3-D tends to bias manufacturers to recommend low rates that are less than high rates, but are still far too much for most pilots! Pilots aiming for precision handling will therefore almost always find it immediately necessary to reduce the manufacturer's low-rate percentages to be able to takeoff, maneuver, and land comfortably.

"... UNDERSTAND THAT NO AMOUNT OF ELABORATE PROGRAMMING CAN FIX A FUNDAMENTALLY FLAWED SETUP."

Confirming Equal Throws!

When setting up the control surface travels or after making adjustments, it is critically important that you physically measure the control surface deflections in all directions (see Figure 3). For a variety of reasons, it is likely that you will have to program different percentages to achieve the same control surface travel in both directions. Pilots often neglect to physically measure all of the control surface deflections in both directions because they assume that things are equal based on the "numbers" read off of the transmitter.

Many pilots end up unhappy with the way their airplanes handle, or assume that having to make numerous and/or large adjustments at the flying field is an indication of a faulty design. The problem is often no more complicated than one aileron deflecting more than the other, or one elevator half deflecting more than the other, and except for that, the airplanes are fine.

Conclusion

The sport is full of people whose bad habits and lack of appreciation for the fundamentals prevent them from becoming better fliers, and therefore have little choice but to look to elaborate programming to try to improve their flying, albeit unsuccessfully. It is my hope that you understand that no amount of elaborate programming can fix a fundamentally flawed setup. Only after addressing the control setup fundamentals that are essential to achieving a good-flying airplane can you begin to effectively take advantage of the more advanced programming capabilities to achieve a great-flying airplane!

On that note, next month we'll look at how to take advantage of exponential and mixing controls. Good luck! 🛩️

—Dave Scott
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SOURCES:

1st U.S. R/C Flight School
www.rcflightsschool.com