



The FLYER

Devoted to the Building and Flying of Radio Controlled Aircraft

Vol. 2024, Issue 4

The Monthly Newsletter of the Livermore Flying Electrons RC Club

April 2024

Everyone is Welcome to LFE Meetings!

LFE club meetings are held at 11am on the first Saturday of each month at the LFE field.

2024 LFE Board of Directors

Group A (2023/2024 term):

Lenny Farin (650)766-4864
Julius Bertolucci (925)373-1687
Jay Raimondi (510)459-5185
Lou Rodriguez (925)640-3496
Jeff Hollfelder (415)559-5156

Group B (2024/2025 term):

Tom Bilotti (510)207-6076
Jerry Crans (510)504-0744
Ed Becker (925)518-0674
Billy Truelove (925)895-7554

2024 LFE Club Officers & Flight Instructors

President	Lenny Farin
Vice President	Julius Bertolucci
Treasurer	Tom Bilotti
Secretary	Gerry Crans
Membership Chairman	Lou Rodriguez
Safety Officer	Brian Dethier
Field Maintenance Chairman	Tom Bennett
Quartermaster	Jay Raimondi
Flight Instruction Coordinator	Jeff Hollfelder
Flight Instructors (Fixed Wing)	Tom Bennett Chris Orsini Eric Schellenberger

Newsletter Editor and Web Master: Edward Becker

Email: Newsletter@lferc.com

Newsletter Deadline: Any information to be included in The Flyer should be submitted to the email listed above no later than the 25th of the month for inclusion in the next newsletter. All submissions should be in plain text or Microsoft Word format in 12-point Arial. Permission is hereby granted to reproduce any part of "The Flyer" provided source credit is given.

Club Information:

Real-time weather and field cameras – www.lferc.com and select "Weather & Cameras"

Board of Directors: directors@lferc.com

Mailing Address:

Livermore Flying Electrons RC Club, Inc.
P.O. Box 2182
Livermore, Ca. 94551

From The Editor
By Ed Becker
 LFE Newsletter Editor



Greetings LFE club members! Thanks to all those who helped spread gravel in the low spots of the parking lot before the last club meeting. It's much improved! Please drive carefully in the parking lot.

The Board of Directors recently held a meeting to discuss several agenda items, including field maintenance and improvements. The LFE flying site is in good condition and I am pleased to report that there are no significant field improvements or maintenance projects identified for this year, other than regular maintenance. As always, all club members are invited to submit ideas for flying site improvements to the Board. You can do this in person at a club meeting or send an email to directors@lferc.com. The Board also discussed the club's First-Person View (FPV) policy and affirmed that LFE follows the AMA rules for FPV flight operations. Everyone flying FPV must use a spotter and be familiar with the other requirements in [AMA Document 550](#). Finally, the Board discussed model car operation in the pits area and while it is allowed, for example driving a car in front of you when going to and from the racetrack, please do so responsibly.

The club has started scheduling events for the year. The first event is a Spring Swap Meet on Saturday, April 13th. Come out and peruse the many items for sale, you might find something that you need! Here is a link to the flyer→<http://www.lferc.com/downloads/2024SwapMeet.pdf>

LFE will also have its first FunFly event on Saturday, April 27th. Here is a link to the flyer→<http://www.lferc.com/downloads/2024SpringFunFly.pdf> More information to follow.

The club's annual warbird event is scheduled for Friday and Saturday, August 16th & 17th. Please see the LFE Website for more information about this and other events and let me know if you would like other events listed.

See you at the field and at the next meeting!

-Ed Becker

LFE Hot Items

April 2024

Bulletins and Reminders

By: Lou Rodriguez

There are no Hot Items for April

Have fun! But do it safely.

Perfecting the square loop

by Eric Henderson
Glen Grulke, editor

Loops with straight lines can look very attractive if done well. This month we will take on the case of a loop with four straight lines. It may not even look too difficult. New square-loop attempters tend to just pull the elevator hard four times, but looks, as we all know, can be deceiving. You may have performed the perfect square loop; however, to be sure check out the following.

We will begin with a square loop because it is easier to ascertain your success. The square loop belongs to a family of loops with lines. Other loops are the three-sided, the six-sided and the eight-sided, all of which can be performed inverted or right side-up. Additionally they can have a whole range of rolls on the lines. Scared you off yet?

The square loop is much more obviously right or conversely wrong. Humans seem to be able to spot squareness more readily than roundness. This precise maneuver, if done perfectly, is very impressive to watch.

It is comprised of four 90° corners, and four straight lines of equal length. To start, pull the airplane into a quarter-loop from level flight, and climb to a comfortable distance. If your plane starts to lose too much speed, start again and climb for a shorter height or time.

The next element is another quarter-loop. With the airplane inverted, fly the distance as in the vertical climb. Then pull a third quarter-loop and let the plane head back toward the ground. Our old amigo, gravity, is helping out again. Lastly, the fourth quarter-loop is pulled

Wind Correction

Headwind:

- Pull a little less elevator for the upwind corners and more when pulling into the wind.
- Try to lean the airplane into the wind on the up line and the down line. If you don't, the airplane will drift back as you climb.

Crosswind:

- The same rudder is held all the way around, but the plane is leaning off the vertical or horizontal. The smart move is to straighten the airplane up with rudder before or just as you pull the 90° corner. Then put the rudder back in to deal with crosswind only when on the straight lines.

and level flight is resumed again with a straight line to exactly where the square loop began.

Now let's do that all again with some control input advice. Fly straight across in front of you about 100-yards away. This may be uncomfortable at first but it presents the maneuver in a much more viewable, and possibly favorable light. Select about three-fourth throttle and fly past the imaginary center line in front of you. Pull the quarter-loop and apply full throttle as you begin to go vertical. This will allow you to pull a tighter corner without sliding too far horizontally. Concentrate on holding a vertical line. Do not be surprised if your airplane goes a little to the side. Hold in a little bit of corrective rudder or elevator or both. Before you run out of vertical speed pull the second corner. (It is a good idea to release any corrective inputs, before pulling the corner). Be careful not to pull as much elevator displacement because gravity will be helping and will cause a pinched corner if you let it. You will need to be ready with some down elevator to prevent the airplane from diving while inverted. As the line is being established and held, it is time to slowly come back on the throttle. Some pilots tend to throttle back too quickly causing the plane to slow down and sink. If the aircraft slows too much, you'll need too much down-elevator in a hurry. It is much better to throttle back slowly right up to the third corner.

By now your throttle should be all of the way back. Pull the third corner like you did the second. You are looking for the same radius as the first and second corner. The airplane will gain speed on the down-line, and care should be taken to try and reproduce the curve of the last corner,

You must also avoid stalling the elevator as you pull out of the dive. The secret is to plan a square loop backwards. Find out what the airplane is capable of on the last corner and start the square loop with that radius. A smart move is to try a few down lines and pullouts to see what both you and your airplane are comfortable with. Armed with this information,

you can then plan a square loop that uses this down line radius as the standard for the first, second, and third radii.

There is a common, but very wrong, myth that square loops have to have tight corners. Please ignore any guidance based on this misconception. Equal radii and equal straight lines are the rule. We even have it in writing in the AMA rule book! In fact excessively tight corners are to be considered as a downgrade.

The short form of the above description is to remember that what you are trying to achieve is four equal corners, four equal lines, all in the same plane. You will definitely need a friend to tell you if you are doing this one right. Time and distance awareness will play tricks on you as the airplane changes speed in the four lines.

Some of the hard parts to get right in this maneuver are the different radii that your airplane will pull at different airspeeds. You will need a lot less up-elevator when pulling the top two corners than when you pull the bottom two.

Five musts of basic model aircraft set up

John Hice, editor

There are five aspects of aircraft design that are crucial to desired flight performance—call them the Fab Five. There are others, but these five are fundamental, easy to check, and should be understood by every pilot. They are:

- 1) Balance: fore and aft
- 2) Balance: wing tip to wing tip
- 3) Wing incidence
- 4) Engine thrust line: up or down
- 5) Engine thrust line: left or right

These are all usually specified on plans or building instructions. If not, such as with many almost ready to fly models, it is important to know an appropriate starting point for each, and to verify all five before attempting flight.

Tip-to-tip balance: It is either good or it isn't. You may need help from another person to check it. Hold the front by the spinner or propeller shaft and the rear at the center of the fuselage. It may help to insert a pin or hook at the rear to aid in suspending the airplane. High wingers should be held upside-down. If either wing drops, add weight to the opposite wingtip until balanced. A heavy wing condition will cause the ailerons to trim with one up and one down.

Fore-to-aft balance: The airplane should balance at a point about 25 to 35% back from the LE of the wing. This is the envelope or range of balance that will provide safe, controllable flight.

A tail heavy airplane is unstable in flight, difficult to control, and if excessively tail heavy, it can be unsafe—a danger to persons and property.

A nose-heavy airplane may be difficult to trim in flight, drop the nose when power is reduced, and require a lot of down elevator when inverted. It's better to be a bit nose heavy, however, than the opposite. Flight testing will determine if a change in balance is desired.

Wing incidence: It is normally a few degrees "positive" for sport flying. This means the LE of the wing is higher than the trailing edge in reference to the plane of the elevator. You can hold a straight edge on top of the elevator surface and draw a line along the fuselage with an erasable pen as a reference line. Then measure from this line to the E and TE to find the incidence. You can plot this on paper and measure the angle.

Flight performance will indicate if a change is necessary. Too much positive will make the airplane climb as power is added, zoom upward when pulling out of a dive, and tend to climb when turning. Negative, or too little positive incidence, causes a diving tendency throughout flight.

Engine thrust up or down: A small amount of engine down thrust is common in sport models. It helps to counteract the climbing effect of

positive wing incidence as power is added without affecting the glide angle at low throttle. Too much down thrust may require excessive up trim for level flight, and may cause the model to nose up when power is cut. Up thrust will cause the opposite of these.

Engine thrust right or left: Some right engine thrust, usually two or three degrees, is essential to counteract the torque of the engine. If there is too little right thrust, the model will pull to the left as it loses speed in a steep climb. It will also pull to the left at the top of a loop. Too much right thrust will cause the opposite. *Technical Editor's Note: Torque causes the airframe to rotate opposite of the propeller, therefore, right-thrust would have no effect on torque reaction. In fact, most aircraft have their engines set at zero right or left thrust. The turning effect that torque is blamed for happens on the ground at relatively slow speeds. Some claim that the turning effect is due to the P-factor (or P-effect), but that claim runs into large difficulties when you consider that the tricycle geared airframes (the full sized P-38, for example, before the rotation of one of the engines is changed) shows the same tendency to turn right under power while still on the ground.*

The flight effects of changes in these Fab Five are contingent upon whether airframe was been built and assembled straight and true. A slightly warped wing, cocked rudder, twisted fuselage, etc., can cause similar effects and make it difficult to achieve a well-mannered, predictable model in flight. And everything is a trade-off. Changing one thing will often require changing something else. Be prepared for a lot of checking, trial and error. A good performing plane with no bad habits is worth the effort. It makes flying enjoyable.



The Secretary's Report

By Jerry Crans
LFE Secretary

Technology group report: Ok

New Business: Young Electrons Innovation Fair at the Alameda Fair Grounds April 13th 2024

Show and Tell: None

Adjournment: 12:02pm

Next Meeting: April 6th, 2024

Minutes for the April meeting provided by Billy Truelove

Meeting of March 9th meeting at LFE Field

Number of attendees: 35

Meeting called to order by Lenny Farin @11:30

Introduction of Guest/New Members: 1 Rande

Approval of minutes of last meeting.

Committee Reports

Membership: 156 members 8 being youth

Treasurers Report reported by Julius on behalf of Tom B.

Events Chair: Billy discussed upcoming FunFly April 27th 2024. Mike, young kid, spoke about possible War Bird Races. Close to a dozen attending members showed interest.

Instructors Report: No training

Quartermaster Report: OK

Safety Officer Report: Low Passes to be made south of center line, preferably over the artificial grass.

Field Maintenance: Mower has been repaired and part of field has been mowed. Gravel was spread around the parking lot.