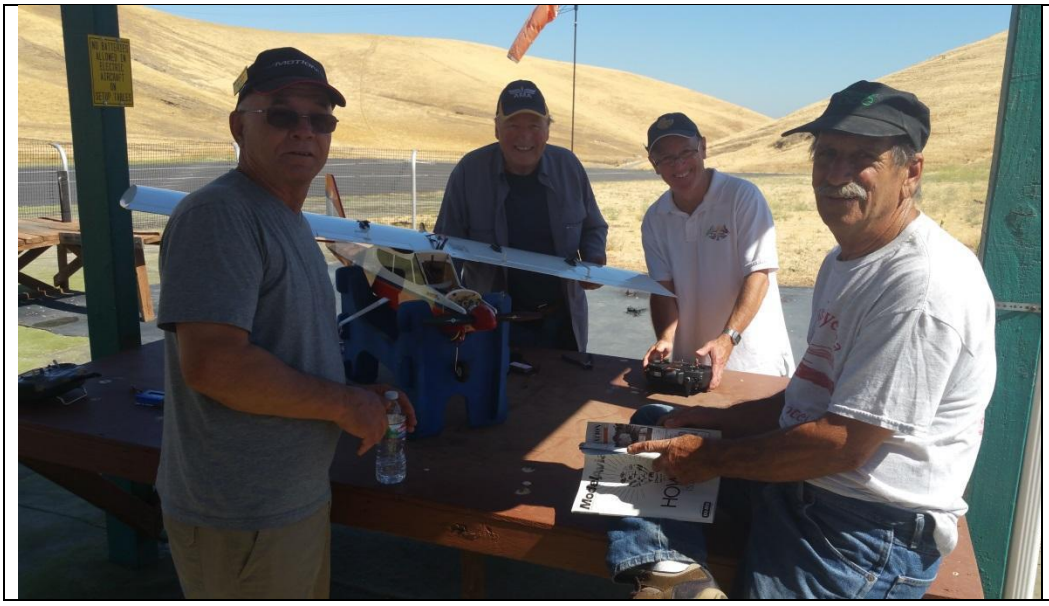
Air Currents

The Official Newsletter of Diablo Valley Radio Controllers

Werner Hoch's plane, DVRC 2017 Open House



DIABLO VALLEY
RADIO CONTROLLERS

President's Corner

December was one of our wettest months for many years and I kept my fingers crossed that the rain didn't washout our runway; and thankfully, it didn't.

Now, January is turning out to be one of the driest on record. However, this has also allowed many of us to enjoy flying on those sunny days aided by calm conditions, or gentle breezes.

The pandemic still seems to be with us, but we are still able to fly and build/repair in our spare time. Current life isn't all bad.

Our club Covid restrictions remain in place, being that if you are not vaccinated, please wear a mask (preferably N95 or KN95) in the pits for protection of yourself and others and, socially distance yourself.

Earlier in January, it was brought to my attention that some members were flying their planes at our club without renewing their club membership, or AMA card. This is a liability issue and cannot be tolerated. Therefore, I have introduced the wearing of our membership card and AMA card (preferably clipped to your jacket, shirt etc.) when flying at DVRC. This display of membership and AMA cards is quite common with many flying clubs these days.

I have purchased clips and badge holders for all members to use and have distributed them to our regular flyers. I have also put the remainder of the Badge Holders in our Lockbox at the Pits, so please ask Mel Nash or Ron Williams for a Badge holder when you next see them. Alternatively, they will be handed out at our next General Meeting, scheduled for March 12th. Please display your valid AMA card on one side of the holder and our club membership card on the other side.

I know many of our current flyers have aircraft with flaps, but don't always use them while flying. Therefore, I have written an article about the use of Flaps which appears later in the Newsletter; please check it out.

I like to use flaps for landing and, in the case of my powered glider, it's like hitting a kill switch, when applied. The glider has such a high Lift/Drag (L/R) ratio that without flaps, I doubt I could land it successfully on our 500 ft. runway, especially when landing from the south end. With flaps fully deployed the glider slows up significantly and descends controllably at a fairly steep angle where it can be flared to a normal landing.

That's all I have, but I will leave you with an aviator joke I found on the internet:

Try to keep the number of your landings equal to the number of your takeoffs.

Happy Flying,

Nigel Watson, President, DVRC

Upcoming Events (weather permitting)

DAY	DATE	TIME	EVENT
Saturday	3/5/2022	9am	Work Party (first Sat of each month)
Saturday	3/12/2022	9:45am	General Club Meeting (outside, in the pits)
Saturday	4/2/2022	9am	Work Party (first Sat of each month)
Saturday	4/9/2022	9:45am	General Club Meeting (outside, in the pits)
Saturday	5/7/2022	9am	Work Party (first Sat of each month)
Saturday	5/14/2022	9:45am	General Club Meeting (outside, in the pits)

Volunteers and Leadership in Action

Thanks to Mel Nash for replacing our weather station working so that we can check wind speed before heading to the field.

Thanks also to

- Ron Williams who completed the North end of the Pits Petromat covering.
- Marshall St. John who securely fastened several of the Start-Up benches this last month.

Notes From The Membership Coordinator

Another flying Year 2022!!. As of this week, we have 76 active members.

New Members

We have several new members in the last few months. Please welcome them to DVRC.

Paul Abrinko and his son
Paul "J" Abrinko. J has already qualified for a yellow Pilots Badge
Ruben Martinez
Miles Moore
Ana Maria Perez
Dan Sharoni
Alyssa Simon … Ray Simon's daughter!!
Eric Ennis
Felix Tan

City of Pittsburg Waivers

The City of Pittsburg requires DVRC to have signed waivers for ALL active members as a requirement to use the flying field. Please, if you receive an email from me with a blank Waiver attached, please print the Waiver, sign it and send the original back to me. Send it to

Diablo Valley Radio Controllers
P.O. Box 9411
Pittsburg, CA 94565
We are required to have originals on hand.

If there is any member that is in need of an instructor to qualify for a Pilot's Yellow badge, please contact me either by phone or email.

Gordon LaPorte
925 997 0709
Gordon@K1VHR.US

Gordon LaPorte, DVRC Membership Chairman

Notes From The Safety Officer

Hello DVRC Members:

We have entered another year injury free at DVRC. That is great news and it is due to our members being attentive and mindful of safety. Safety-wise we are in great shape and that makes it difficult to come up with subjects for a safety article. It a good situation to be in unless you're the one writing safety articles.

I will simply state a few reminders and leave it at that for this edition of the newsletter. The AMA Safety Rules are posted in the impound area at the field and it doesn't hurt to review them periodically, just to refresh are memories. Please put your fire extinguisher near the "start-up" table when flying gasoline powered aircraft. Taxiing in the pits is never permitted. Always try to work from the rear of a battery powered aircraft when installing the battery and once the battery has been installed. Batteries should be installed at the "start-up" table, this includes drones. Do not install batteries on the "set-up" tables.

It is about to start warming up, that means snakes will start roaming. Watch where you step or place your hands when retrieving down aircraft.

I hope to see you at the field, take care and be safe.

Ron Penn
DVRC Safety Officer

Member Contributed Content

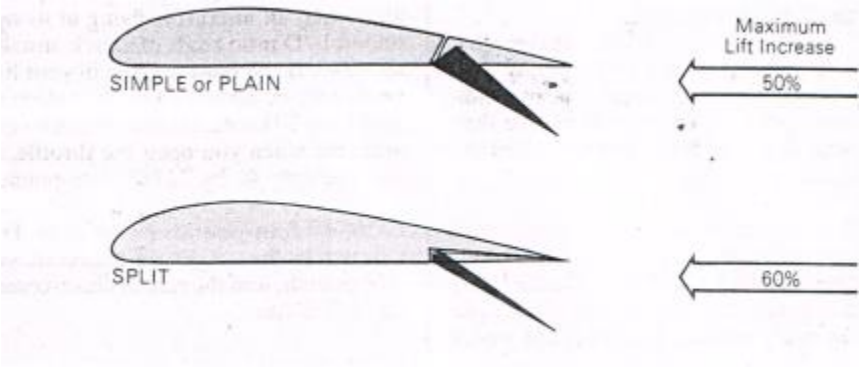
All that Flap

by Nigel Watson

Over the last 10 years, wing flaps have become more common on our R/C aircraft, across all types of aircraft from trainers to jets. However, many pilots don't feel comfortable using them during flight, but they can be very useful, particularly during landing.

I found a good article on the internet that addressed the use of flaps on full scale aircraft and thought that much of it also relates to the flying of our RC aircraft.

The Figure below shows a couple of types of flaps that are commonly found on RC aircraft, and what can be expected from them.



Typically, the first 15 to 25 degrees of flap extension provides a major increase in lift and a modest increase in drag. The deployment of full flaps, say down to 70 degrees, provides a smaller amount of additional lift, but a marked buildup in drag. The relative increase of lift and drag depends on the design of the flap.

The most common type of flaps incorporated in our model aircraft are Simple or Plain, and Split flaps. These flap designs generate a maximum increase of wing lift by 50% for the Simple flap, and 60% for the Split flap.

By increasing lift, flaps reduce aircraft stalling speeds, but how much of that depends on the type of flaps and their size relative to the rest of the wing. Often overlooked is the fact that even the best flaps only reduce stalling speed by a small percentage of the "clean" or no flap, stall speed. Therefore, flaps are of greater value in their full flap configuration as drag-producers and should be used during approach and landing unless there is a high crosswind, which may affect aircraft stability.

When early aircraft had two pairs of wings and wing struts, including a system of bracing wires, they created so much drag that when it was time to land and the throttle was closed, the biplane descended as if gravity had just been invented. Most prewar biplanes had a glide ratio of about 7:1 or worse.

As monoplanes developed, struts and wires were no longer needed and the "clean" monoplanes had glide ratios of up to 15:1. Drag reduction is a worth-while goal until it's time to land. Glide path angle is directly related to the Lift/Drag (L/D) of the wing. Improve the L/D and the aircraft glides flatter; reduce the L/D and the aircraft descends more steeply. Flaps enable a pilot to adjust the L/D of the wing to meet different needs.

It is quite common for many RC pilots to use half flaps for takeoff, but seem reluctant to use full flaps for landing, which is what they are there for. Unfortunately, aircraft generally "balloon" when flaps are deployed, requiring necessary changes to elevator trim (or employing flap/elevator mixing). Furthermore, when full flaps are initiated on final approach, additional motor power is needed to overcome the drag of the full flap condition. All these changes in trim and power can be a handful to deal with for some pilots, so they tend not take advantage of the drag inducing benefits that full flaps offer during landing.

There are some basic rules about the use of flaps for aircraft:

Takeoff. Check out your instruction manual that came with the aircraft and make sure that a flap of, say, 25 degrees is recommended for takeoff and if not suggested, don't use it. Our runway is 500 foot long so there is no need to use a short takeoff approach. Furthermore, once airborne, you need to retract your flaps quickly for fear of stressing them as the plane accelerates to higher flying speeds. Again, retracting your flaps may change the pitch of the aircraft requiring additional trimming.

Cruising. Half flaps can be used at any time when you want to do some slow speed cruising around the skies or "down and dirty" flying with the gear down. Please don't deploy your flaps when you are at high speed as they will be subjected to high stresses and may even destroy the flap servos.

Landing. For landing, it is convenient to lower the flaps in stages. Half flaps are good on the downwind and base leg segments of a landing approach. This slows and steadies the aircraft in preparation for landing.

When you are on final and lined-up with the centerline of the runway, transition to full flaps. However, don't use either half or full flaps for your aircraft's first landing pattern until you know how the pitch of the aircraft changes with each level of flap that is deployed. Fortunately, with the advent of modern computer radios, it is possible to program flap/elevator trim in real-time at altitude (3 mistakes high), by assigning the flap/elevator mix to an analog knob or slider. Otherwise, the flap/elevator mixing can be satisfactorily dialed-in over one or two test flights. In addition to these adjustments, the speed of the flap servos should subsequently be programmed for a 1 to 2 second deployment rate which will create a smoother transition.

After reading this article, please give flaps a try when you next fly a flap-equipped plane. You will find that the aircraft will have a steeper glide angle and a slower airspeed as the plane approaches the runway, yet you will remain in complete control of the aircraft and have a normal landing flare, as the plane nears the ground. - Good luck and happy landings.

Keeping Things Simple and Fun

by Ray Simon

I'm an engineer by training and a tinkerer at heart. I enjoy building as much as flying. I was excited when my 8 year old daughter showed interest in RC. She didn't want to build. She wanted to fly. My first reaction was to help her develop good flying habits from day 1. Then I read an article in the December issue of Model Aviation by Dave Scott. Dave is a commercial pilot and runs an RC Flight School.

Dave's article is "Fostering an Active Flying Club in the Modern Era". One key point is that many people who show interest in RC don't want to invest a lot of time or money right away. They just want to try it and see if they like it. If you are reading this article, you've probably tried it, liked it, **and then** dove into spending more time and money.

I took this advice and bought a trainer plane with auto-stabilization which limits pitch/bank angle and can self-level the plane. This went against my instinct, but I trusted Dave's words.

The result was I could give my daughter the controls right away. The plane gently responded to her stick inputs. Soon she figured out left/right orientation because she was able to get (nearly) uninterrupted stick time for 6 to 8 minutes each flight. She had fun and we've flown several times.

Who knows if she'll stay with it. Many things are competing for young people's attention these days. If she does continue then soon she will want to fly in "advanced" mode which takes away auto-level and pitch/bank limits. Then we'll work on the finer details of managing stick input. The main thing is we kept it simple, let her have some early success, and hopefully she'll get bit by the flying bug.

Great Flyin' Days

After many months of crazy wind, and then rain, January and February gave us some great flying weather. See the turnout on a mid-Feb weekend!

DVRC Contacts

President: ***Nigel Watson;*** *(925)* 229-2336; Resolves questions on bylaws, policy, etc. Contact the president to get items put on the meeting agenda.

Vice President: ***Mel Nash;*** (925) 597-8142; If President is not available, same as above. Solicits items for and plans meeting program.

Secretary: ***Doug Schramm;*** (650) 222-8060; AMA dealings, keeps DVRC forms, records, correspondence. Takes minutes at Board Meetings and monthly Membership Meetings.

Treasurer: ***Ike Enriquez;*** (925) 759-5210; Collects dues, special assessments, other revenues. Pays expenses. Keeps financial records.

Board Members: All Officers listed above plus: Bill Selling, Phil Spina, Werner Hoch, Gordon Laporte, Marshall St. John

Membership Coordinator: ***Gordon LaPorte;*** (925) 997-0709; Maintains membership Manual. Sends out new member packages when requested and processes new members.

Field Manager: ***Ron Williams;*** *(925) 375-1494*

Safety Officer: ***Ron Penn;*** (925) 383-3232

Newsletter Editor: ***Ray Simon;*** (415) 310-3041

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