

October 2017 Meeting Minutes:

Provided by John Roach, NVRC VP

Doug Fig continued his **Quad Copter Building Session** from 7 till 7:30 pm prior to the regular meeting. This session focused on tweaking its flight parameters. He suggested that you first leave the default values in place and only set up the ESC units and features you want to enable using tuning software such as Beta Flight, Race Flight, KISS or Leverpilot.

Mark Franke called the meeting to order shortly after 7:30 with 30 attending. Willy Selbronik introduced himself as a guest along with Ed Becker, who has flown RC for years, and Michael from Hobby Hanger. Mark announced that the Board proposed the following candidates for office: **Jon Pruett**, President; **John Roach**, Vice President; **Carl Hampton**, Secretary; **Paul Lukas** and **Tung Phung**, Member at Large; **Carl Lydick**, Editor; **Tony Claridge**, Flight Instructor. The NVRC Treasurer is an appointed position. **Bob Frease** will remain Treasurer through 2018, after which we will need a new treasurer.

Mark's mystery plane was identified as a Zwelling Twin, a Nazi glider tug. His group buy proposal for this month was part ownership in a Gypsy Tiger Moth for only \$150K. The Treasurer was unable to attend, so Mark shared that we are solvent. The **Chicken Fly** attracted 13 flyers. The weather was good. **Pat Dunlap** won as usual. The **Big Event** featured 20 drone and 10 racing wing entries. The event organizers learned by experience that it was necessary to clear the field to recover an errant wing from a tree. The **Toys for Tots** entry fee was set as one, unwrapped toy, worth at least \$10 for each spectator or flyer, rain or shine. **Pat Dunlap** announced that he was moving out of the area next spring and encouraged others to CV an event by announcing that if a member is the CV for an event, the NVRC membership fee would be reduced by \$25 for each event for which that member is the CV. The **Club Banquet** will be held on **9 December** at Firehouse #3 in Fairfax, in the room where we hold our monthly meetings. The **Winter Fun Fly** will be 20 January. There will be one flight with the winner chosen by attrition. The Lorton dues surcharge will be reduced for people who mow or otherwise volunteer at Lorton.

Charlie Koustenis was then turned loose to share what he has learned about the care and repair of gas engines. The first part of his talk was about model airplane engine safety while the second part applied to trouble-shooting and repair of any two-stroke engine. He began by reminding us that big props are very dangerous. It is necessary to quickly control whether they are ON or OFF. Cutting the throttle is not fast enough, so he described construction of a kill switch that is external to the airframe that will

disable the motor. Its link to the motor ignition battery is fiber optic which does not create RF interference. This link is run through an external switch and then thru a DLE device attached to a switchable empty channel. When used, it cuts off the Hall Effect ignition and an LED that would normally light up if the ignition is hot. The result is an external motor kill switch to disable the motor in the pits and a radio motor kill switch that may save your engine by shutting it down before a crash rather than throttling back and hoping it stops before impact. He advised us to never run a gas airplane without external and radio ignition kill switches. A member of the audience wanted to know how to kill a magneto ignition. Charlie described how to make a magneto kill switch with a servo and a micro-switch. The servo toggles the switch which then grounds out the magneto. It was asked if there were any non-magneto ignitions. Charlie replied that Hall Effect ignitions are disabled by cutting the power from the battery to the module.

Charlie then turned his presentation to two stroke gas engines by explaining that they will run if they have fuel and ignition. The predominant two-stroke carburetor design is Walbro. If your two-stroke weed whacker or whatever motor suddenly runs poorly, there are three things that can cause this: 1) The yellow Tygon clunk in the fuel tank gets rigid with age. Ethanol can accelerate this aging. Sullivan sells tubing that does not get stiff with age. Use their tubing or buy black Tygon that resists ethanol aging. 2) If the motor suddenly runs poorly, 99.9% of the time, the problem is that something is in the carb. There are three screws on one side of the carb and one big screw on the other side. Remove this big screw and check the fine screen behind it to see if it is clogged. 3) The diaphragm has two tiny nipples. The gasket is a check valve for these two tiny holes. If the flapper gasket does not lie down on each hole, the diaphragm will not pump gas. A black gasket is attacked by alcohol. The new gaskets are clear Mylar. If you have a black gasket, replace it with a Mylar gasket and clean the screen. Also unscrew the needle valves and squirt cleaner in to the openings to remove any oily stuff obstructing the flow of fuel. The two needles provide fuel at high and low engine speed. Be sure to mark which is which and adjust them under the correct operating conditions. The HI needle is set at one turn out from closed. Then set the LOW needle to 1-1/2 turns out from closed. The engine will run with these settings. Next, adjust the LOW needle up to half throttle to achieve proper low speed operation. The HI needle setting is very sensitive. The maximum turn from its initial setting is 1/8 turn. Once adjusted, leave it alone. Some manufacturers seal off access to adjusting these needles for this reason, but if you need to clean them, you need to access them, so you can cut away the seal to access the needles. Just be careful not to cut away part of a needle. As for the isolator block, there are two holes in it. One goes thru, the other does not. The crankcase pulses make the fuel pump work, so be sure to correctly re-assemble the isolator block if you take it apart. In closing, Charlie mentioned that he prefers STIHL Ultra Oil in to make a 50:1 gas:oil mix for two stroke engines.

Col **Frosty Seder**, USMC (retired), considers his experiences flying F-4 Phantom and F-18 aircraft, as the most fun someone could have with pants on. He began his career as a carrier pilot over North Viet Nam and concluded it with Cats and Dogs exercises. Four thousand of his 7500 hours of flight time were in the F-4. He described the F-4 as a testimony to the triumph of brute power over wing loading. Frosty was chosen as the USMC Aviator of the Year when he landed an F-4 on one main gear.

VP's Report: Mowing my Way to Muncie

By John Roach

The report briefly described efforts to keep all mowers in working condition. I regularly post reports of equipment repairs and found aircraft on our forum on RC Groups,

<https://www.rcgroups.com/forums/showthread.php?1959354-Northern-Virginia-Radio-Control-%28NVRC%29-club-thread/page118>

Few members access our forum, so I reiterate posts at meetings. In keeping with my report, I described visiting AMA HQ in Muncie because I wanted to see how the AMA managed to mow that much grass. It turns out that they hire people to mow it. Our volunteer work at Poplar Ford and Lorton offsets the rent we must pay to the County for our air fields, so hiring someone to mow for us is not feasible or affordable. Following one of the mowers at Muncie brought us past a fabric landing strip, so I stopped to take a look at how it was holding up. Weeds had sprouted through it in several places and it had a lumpy and uneven feel to it. Winter snows and spring rains would turn our soil to mud under a fabric strip and would deform under every foot step. A fabric strip would not work for our air fields. No matter, however, because our agreements with the County specify that we rely on grass runways to minimize our environmental impact.

