



Monthly Primer

July 90

Our next monthly club meeting is July 18. (3ed Wednesday)

Time; 7:30 PM

Location; The Novato Fire District training room on Atherton Road, Novato.

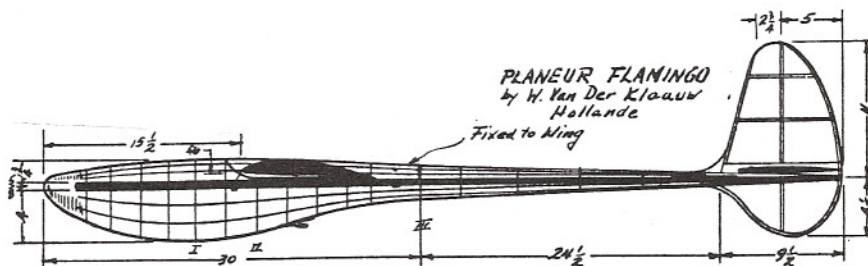
* * *

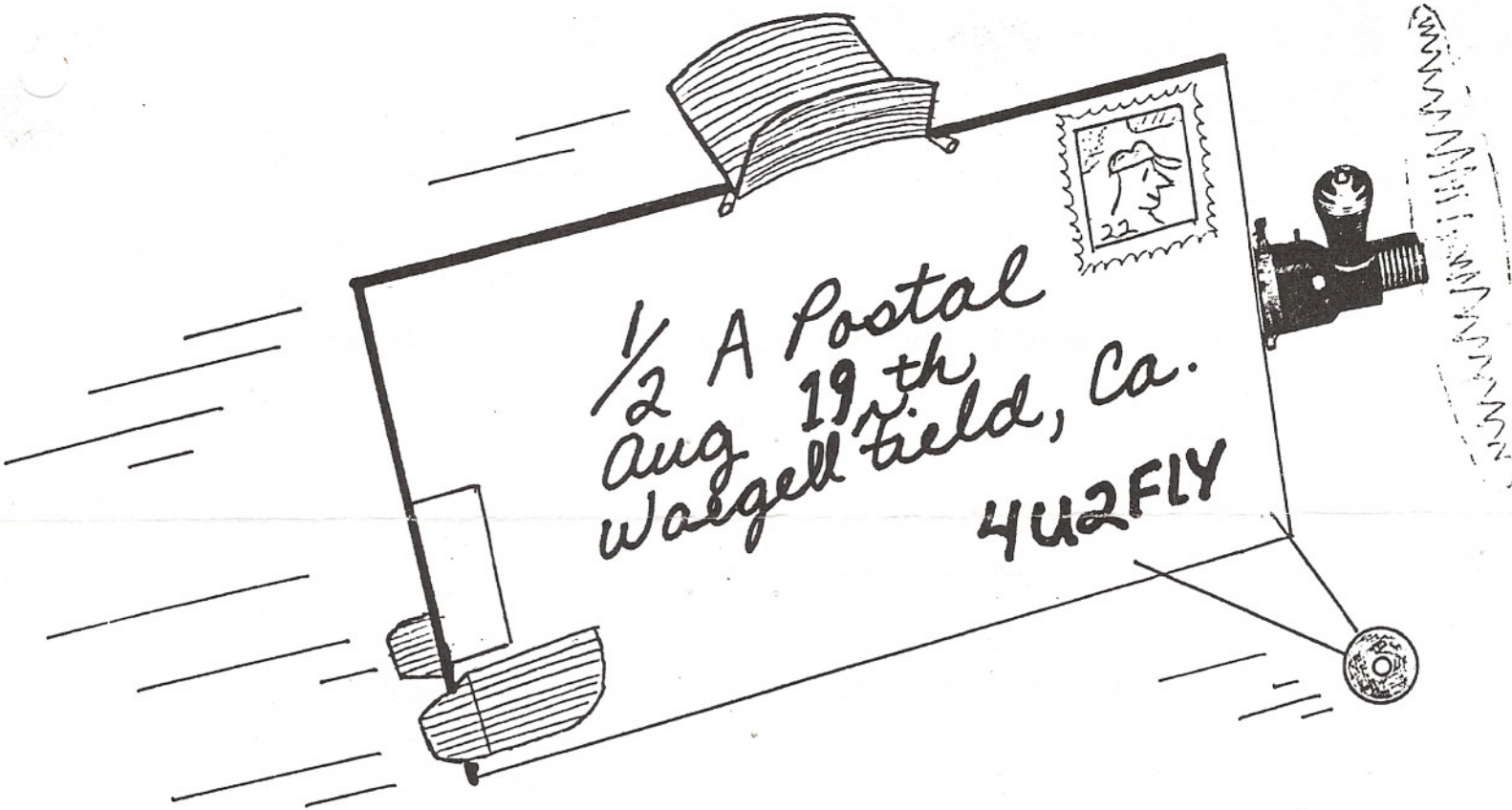
At last months meeting we discussed flying sights. The Napa Valley RC and the Ukiah RC clubs have fields that are possibly available for our use. If you have information on a field location let us know.

This year's SAM 27 CRASH & BASH is acoming, Sept 22/23. Mark it on your calander for some fun at the Loren Schmidt's Ranch. On top of the regular Old Time RC events there will be a GHQ Flyoff and a "Gollywock Gaggle".

Show & Tell; Rick Madden has a fine looking Italian "Vespa" that he brought in. Don Bekins had his beautiful O&R 23 powered "Foo 2 U". Ed Hamler's "Red Zephyr" (O&R 60) is nearing completion, very neat and light weight construction. Buzz Passarino showed a rare "Thermite .36" gas engine. Ron Keil passed around a huge "OS Gemini 160 Twin" engine. If you have an engine or plane - bring it in for Show & Tell, you may be a winner at the drawing.

Karl -





1/2-A TEXACO R.C. POSTAL EVENT

AUGUST 19

LOCATION: WAEGELL FIELD, SACRAMENTO CALIF.

(1/4 mile North of Jackson Road on Sunrise Blvd.)

COME JOIN IN ON THE FUN ! SAM 27 WILL BE FLYING
THE POPULAR 1/2-A POSTAL EVENT AT WAEGELL FIELD.
WE WILL BE COMBINING THE EVENT WITH THE NORTHERN
CALIFORNIA FREE FLIGHT COUNCIL CONTEST #4 AT THE
FIELD. BRING YOUR OLD TIMER RC AND GOLLYWOCK.

TIMER.

OHLSSON TUNING TIP #2A: Bill Schmidt, our member from Wichita has sent in an improvement to tip #2, which discussed timers and the use of Loctite to keep the two timer screws snug. Bill says to use #3 split ring lock washers under the two 4-40 screw heads inside the timer housing. Only a #3 split lock will go over the 4-40, yet still clear the close fitting housing inside. Tighten down then back off about 1/3 turn. This will leave a smooth friction free fit, which holds the setting, yet won't rotate under power. While you're at it, use one under the fixed point nut to keep the wire lug from loosening. The #3 split washers are hard to find Bill says, but Kustom Kraftmanship has them.

Immediately upon getting Bill's letter, I went in the shop, happened to find a few of the needed washers, and installed them on three Ohlssons. I haven't run any yet for the final vibration test, but the fix sure does feel smooth and seems to be a great improvement. Bill says the Loctite isn't needed with this fix, but if I find any loosening from running, you can bet I'll still add it. I looked up my last catalog from Kustom Kraftmanship, P.O. Box 3010, Fallbrook, CA 92028. Send 'em \$2 for handling plus 2¢ per each #3 split lock washer. Might as well get a lifetime supply.

FROM SAM 1 editor Art Grosheider comes the next article on ignition systems. I had prepared an article on ignition systems in general, with emphasis on Ohlssons, when I received Art's article. After reading them both over, I think they supplement, rather than duplicate each other, so I'll just run 'em both.

Here's Art:

IGNITION SYSTEMS (Being the main reason for premature and permanent hair-loss). I've been going to do one on this topic for a long time and my recent frustration with the Dallaire prompts me to finally do it. Most of us have had a life long love-hate relationship with the friggin things. I still find it fascinating to get an old sparker running no matter how many I've run. It somehow borders on MAGIC. What SATISFACTION (or frustration). Most of us are into Old Timers because we are STUBBORN. Since 1946 we've been trying to get that damn thing to run and, by God, we will if it's the last thing we ever do. No matter how good you are or how much experience you have, these little buggers will do a number on you. I have seen world renowned EXPERTS walk off the field on a given day. Of course, with the old engines, there are a lot of things that can ruin your day besides the ignition, but IGNITIONS can and are a major factor. If you have SPARK and FUEL coming in they ought to run - or at least pop a bit! As if we didn't have problems enough, we had to go and stick one in an RC ship. (If you shoot yourself in the foot, the hole is bad enough you don't need lead poisoning). Anyway, there is NOTHING WORSE than getting it all together, showing up on a perfect day in front of all your friends and spending your time flipping and cussing. AND, you're never too old to learn. So here we go....

The original ignition system was invented in 1908 by Charles F. Kettering for the Cadillac automobile. It is simple and inefficient and crappy at high speed. It is merely a set of contact points operated by a cam, a spark coil, battery and capacitor. It requires careful installation and frequent maintenance. When applied to model engines there are some common problems. Dry AA cells don't have the capacity for starting requiring boosters, all the primary current (about 3 amps must flow thru the points) and they are inefficient. Without a lengthy explanation, it is enough

to say they are replete with things to drive you NUTS. Because the primary current must flow thru the points, engine and etc. RESISTANCE is the booger. Oil, poor connections, wire and all kinds of things conspire to screw it up. Good current flow is CRITICAL in this set up and anything that causes resistance no matter how small is enough to ruin your day. Frankly, I will go on record right here and say don't use it. You may have gotten away with it for years and that's fine. Be stubborn. Be a purist what the hell. But if you're like me and you want it to be as fail proof as possible and spend your time flying rather than muttering, then read on. I HATE going to the time and trouble to go out to the field and not having an engine work - whether its a Cox, a OS or an O&R 23. You can never have the satisfaction of sticking your finger in a prop that ain't turning.

Thus the case for transistor ignition - this system uses a transistor as a current amplifier (or switch if you will). The points are only required to pass about 24 milliamperes or 1/120 of the current of the basic system. With the transistor boost all the resistance caused by oil, shitty points, poor grounding etc will NOT degrade system performance. This is its ADVANTAGE. It does NOT provide a hotter spark. It is especially effective at CRANKING speeds and eliminates maybe 90% of all hard start problems. It also takes a lot less current to work and is a LOT easier on batteries (you can start on a couple of AA's and probably fly all season on the same set). There are several systems on the market and also plans for those who fancy themselves engineers. I advise you buy one from a reliable source. What follows are more things you should OBSERVE and BE AWARE OF.

1. Batteries - you may use Alkaline AAs or NiCads. If you use NiCads use 3 to get 3.6 volts. NiCads are more trouble since you have to charge them and can't carry a boxfull to the field. Whatever, make sure they're FRESH (or charged).
2. Battery box - Most on the market are JUNK. Whatever method you use, make SURE you have good contacts. You may have to make your own or modify what you buy.
3. Wiring - Use nothing smaller than 20 Ga. preferably 16 Ga. Dinky wire will cause you grief. Make good solid solder connections and use electronic solder (not acid core). Make wiring as short as possible. Long wires cause resistance.
4. Points - Make sure they are clean and well adjusted. The width of a business card is not bad. Make sure they ain't flopping around. Many timers are cleverly designed so that when you put the wire on and tighten it, it causes the point to loosen up or to get loose when you aren't looking. Use a small wrench to hold the bottom nut while you tighten the top one.
5. Coil - Use a new one or one you KNOW is good. There isn't a really good coil test other than putting it in the circuit and seeing if it works. The solder lugs are the PRIMARY and the Button is the SECONDARY. With an Ohmmeter you should measure less than one ohm between the primary terminals. The secondary (between a primary terminal and the button) should read about 4000 ohms. HOWEVER, this means the coil is not shorted or fried. These things get old. It is also true that you can have one that will give you a neat spark visually but won't do it under compression inside the engine. They are subject to goo getting inside too; seal it up with epoxy if it is exposed to engine slime.
6. Capacitors - If you use a TI system forget it you don't need it. If you insist on the good old days, get a mylar or film type of about 0.22 ufd at 50 volts. Cut the leads short and solder on lengths of good flexible stranded wire. None are immune to oil seepage. Testing isn't practical. When in doubt, shit-can it.
7. Plugs - it should go without saying you should have a decent spark plug properly gapped. However, they too can give grief even while looking fine and sparking like mad. Too large or small a gap can give a problem. A lot of old ones have loose center electrodes that will climb up when you aren't looking. Some like Stitts won't work in something like an O&R 23 and work fine in something like an Atwood. Hoppe's #9 Solvent (gun shop) will clean carbon off.

Stick all this junk into an RC ship and there are still more things to look for...

8. Resistor lead - generally you need a resistor at the SPARK PLUG SIDE to squash interference with the radio. The general recommendation is a 10K resistor. If you make your own, solder it in and use about three layers of heat shrink tubing to keep it from falling apart.

9. Servo and radio placement. The ignition should be as far forward as possible. Servos behind and radio RX as far back as possible. Use NYROD to connect any kill switch to the servo. DON'T mount the servo and kill sw. together. The servo wires can pick up interference. So can the servos. So can your RX battery. So can everything! FM radios are more sensitive than AM radios to interference. If you're getting any glitching on the ground DON'T fly the thing. Take it from old Artie who ALWAYS learns the hard way. Get as much SEPERATION as possible from the ignition and all the RC gear! I have been told that the generally available micro switches are a bit crappy but that's up to you. Wisdom has it that you should place the coil corsswise (not lengthwise).

10. Odds and Ends - Believe it or not some spark plugs produce more interference than others. I connected a jumper to the points and with the plug out and grounded, pulled the jumper across the fins and could see the servos glitch with a brand new Champion V. Ditto a new NGK. But not a drop out of several Autolites. One more small source. Also make sure your ignition wiring isn't touching something and grounding out - it will right thru the insulation...esp the hi-tension lead. If your junk won't start (or run right) you could have: bad batteries, bad wiring, a bad coil, point problems, shorts, bad plug, or bad karma. You could also have a fuel problem such as the needle valve body hole facing the wrong way. You may also be an idiot for messing with ignition in the first place!

GOOD ADVICE: Use QUALITY stuff! Saving a nickle and using a system that isn't the best or junk of questionable quality is inviting frustration at the least and disaster at the worst. THINK out what you're doing in placement of components. Do a QUALITY job hooking things up and soldering. Make sure the thing WORKS right at home on the bench or in the plane. I get that TI ignition systems are much more popular with RCers than with Free-flighters. What's good for the goose etc. If you fly free flight why subject yourself to stone-age crap??? Do you still use a crystal set and drive a Model A? TI's don't weigh shit so that's no excuse.

Special thanks to those whose material I swiped and brains I picked for the foregoing: Phil Bernhardt of 77 Products, Joe Klause of Kustom Kraftsmanship, Floyd Carter of Aero-Ply, and Jack Albreck of Airtronics. Phil, Joe and Floyd make and sell ignition goodies and Jack has the reputation of being an expert par excellence in ignition RC flying. The neat thing about OT flying is that any one of these people will take the time to help with a problem - I bear witness to that!

HEALTH TIP OF THE MONTH:

It isn't necessarily an essential food just because your kid hates it.



LOOK - ALL I'M ASKING IS FOR YOU GUYS TO GIVE THIS NEW SYSTEM A FAIR SHAKE!"