



The News Letter of the Burlington Radio Control Modelers Club

Box 85174 Brant Plaza, Burlington, Ontario, L7R 4K4

Next Meeting *Thursday, April 26* *Technical Sessions with several* *simultaneous demonstrations:*

Norm Harris will demonstrate resin applications for primary finishing (and I'll bring my much maligned P51. Ed.)

Laddy Mikalasko will talk about electric drives; sizing, battery requirements, propellers, motors, gear boxes etc.

Bill Woodward, sailplane chairman for MAAC, will talk about aero tows and scale sailplanes.

Warren Kelley & Ed Peacock, members of "SAM54" – the society of antique modelers will bring some examples of models from the 1935 to 1955 era.

And more (as they say on 60 minutes.)

May Meeting (24th)

This is by way of a pre announcement to give you time to prepare

We will have \$150 in prizes distributed for:

1st & 2nd prizes for the best sport airplane, any size or type.

1st & 2nd prizes for the best scale airplane, any size or type.

A prize for the best finished model of any kind.

And a draw for anyone who enters!



Norm Harris's Magnificent T28

Lost!

The Cliff Moore Trophy

Last seen at the February 22nd meeting, it was inadvertently left. Did anyone take it home? Does anyone know where it might be? If you have any knowledge about this, please inform a member of the Executive.

Editorial

This month, it is my pleasure to present part 2 of 2 articles by Charlie Chomos. Charlie has a life long interest in radio control technology as it is applied to our hobby. He has an extensive collection of antique radios most of which, I understand, still work! As reported in the September 2000 edition of Skywords, Charlie won a "Special Achievement" award from the (U.S.) Vintage Radio Control Society.



Kurt Fritz has prepared a most useful chart of the frequencies used by members. This will be particularly useful to those of you who are looking for a least used channel when buying a new radio.

Pssst! Got any old pictures? I would like to have pictures from member's long forgotten photo archives to see "the way we were" so long ago. In this edition I present two such archived pictures. Your guess.

I am always looking for input from the membership. I can be reached at 416-622-3705 or FAX 416-622-4134 or by E-mail: Lawrence.Cragg@Sympatico.ca or S-mail to suite 2010, 820 Burnhamthorpe Road, Toronto, M9C 4W2

THE BLACK BOX part 2 of 2

By Charlie Chomos

Well, the war is over, the second World War that is! The troops are back and the North American economy is changing rapidly from producing war materiel to household appliances, automobiles and much more. The hobby industry is changing too; in 1947 Ray Arden introduced the glow plug. Gone were coils, condensers and heavy ignition batteries. Gone were huge spark plugs too. The smaller glow plugs encouraged the first half-A engines such as the Torp .02 followed by the Spitfire .045 and the Cub .049.

The interesting thing about the model airplane of 1950 was its close relationship to the very first radio controlled models of the prewar days. The 1950 airplane was virtually standardized as a cabin job of some 6 ft. wing span weighing 5.5 to 8 lbs. usually powered by an engine of approximately .29 cu in displacement and equipped with a heavy single channel receiver requiring a monstrous battery supply. Transmitters were either "on" or "off" and this gave the pilot the single ability to turn a rudder left or right by means of an escapement. There was no motor control! If you got into trouble, which was frequently, the ship vanished over the horizon or into the clouds.

The design to which the 1950 airplane owed everything was the famous Good brothers "Big Guff" (as mentioned in part 1.) Also standard was the Good brothers receiver manufactured after the war by Beacon Electronics. Very tricky to operate by today's standards, it was just as good range-wise or even in reliability as any of the receivers that were to follow in years ahead. The general weight was around 16 to 18 oz.

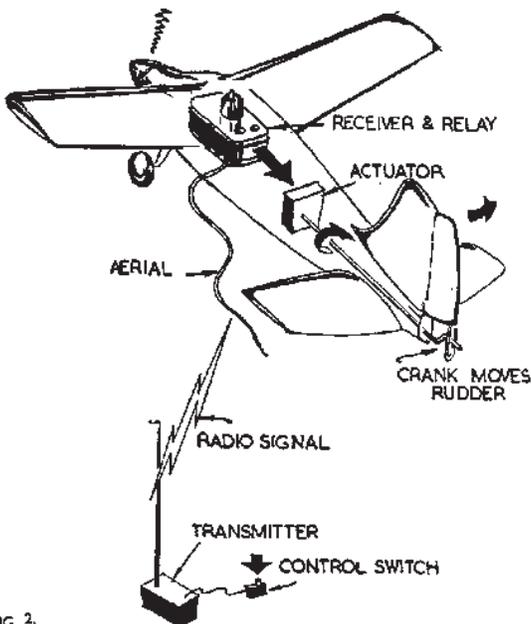
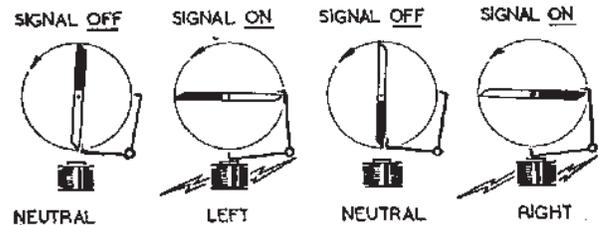


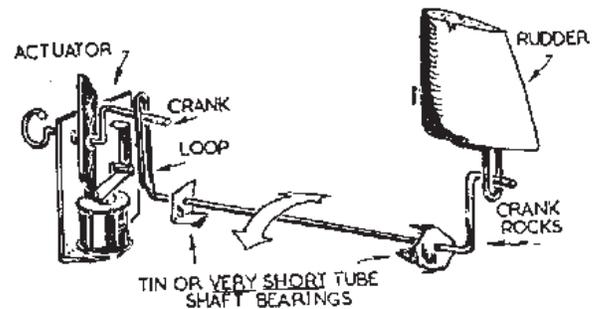
FIG. 2.

The Good brothers escapement, usually "powered" by rubber bands, was not self-neutralizing like the "compound" that was to follow. On holding a signal, it would give half rudder;

when the signal was let go, the rudder moved to the full position – there to stay! To return to neutral with the G.B. escapement, another signal would send it back to half rudder then to neutral when relaxed. Big dihedral would restore the ship to an even keel when neutral was sought but, while rudder was on, a turn continued and the buildup for a spiral was only constrained by the large dihedral. Opposite rudder required a repetition of the sequence. Thus, it took two signals (transmissions) for opposite rudder and four to repeat a turn. It was essential to remember what control you used last in order to know which was coming up!



With the self-neutralizing escapement one signal held gives full rudder; relaxation of signal returns it to neutral. The next signal (held) give full opposite rudder. Thus, the pilot thinks in terms of one signal for opposite rudder and two signals to repeat a turn on the same side. Frequent blipping of these double signals produced a crude form of pulse for continuous turning – when dihedral and balance were correct.



The climax of this early age came with Walt Good's Rudderbug of the late forties and early fifties. It was a six foot machine of improved performance and with tricycle landing gear to make take-offs easy. But in the early fifties everyone was in the same boat; refinements were showing up but planes were still basically the same. Even the radio seemed the same year in and year out until the mid fifties when miniaturization started to filter in. Big, huge ground based transmitters were the norm of the day (see photo) with the exception of a few hand held jobs. Flying was still limited; a loop after a spiral or a roll being the chief objectives.

The first popular deviation from this picture resulted from a years-old dream of E.J. Lorenz, radio editor of Model Airplane News, who foresaw small, light weight radio equipment. While Lorenz's missionary work opened the way to 35 inch planes, limitations were still imposed by die-hard modelers who still insisted on using heavy spark ignition engines. People in many respects just naturally thought BIG!

The Lorenz receivers were, in many respects, a great improvement over the Good brothers receivers but the nature of

the gas tube (thyatron) made them seriously defective in others. For example, the current change was poor. The idling current had to be low enough to let the relay drop out and the "signal on" current was relatively poor making for poor contact pressure, vibration troubles and fouled contacts.

Bonner, PCS, Ace, C&S, F&M, Minx Radio Corp, CRC (Canadian Orbit) etc. It is sad to say that none of those manufacturers exist today. Our present day radios are all from off shore. They also had their own distinctive colours from blue (dark) light, yellow (pale-dark) red, orange, green brown and even purple!



Relays from the electronics industry were big and not designed for operations at modelers voltages and contact pressures. With the advent of Lorenz's world famous new - two tube - in which the current in the second tube shot up from zero to, perhaps, 2.2 mA on signal, provided improved reliability and freedom from vibration. It was only in the middle fifties that specially designed miniature relays for R/C became generally available. It is interesting to note that one reason why multi-channel radios lagged behind was because of the size and weight of then available relays. Occasionally one could see all five channels hooked up to one channel - rudder!

By the late fifties and early sixties the advent of the transistor had a great impact upon the receivers of the day. Although the transmitters, single or multi channel, still utilized hard tubes and huge, heavy batteries, these were now all hand held. It wasn't until 1963-64 that the transmitters and receivers were 100% transistorized. Reliability improved ten-fold!

The mid sixties was the transition period in electronics - you might say that the space age had arrived. Radio manufacturers were advertising their rigs as "state of the art." Ironically, this age was very confusing for new-comers to radio control. You had lots of choices: you could still buy single channel escapement whether it be tube or the all new transistorized units. Same with multi-channel rigs (tuned reeds) and, of course, the new analog proportionals as well as digital - yes, digital; the same pulse width modulated format that we utilize today. There was also galloping ghost and all sorts of gadgetry. Confusing? You bet. You also had to be careful in that some hobby shops wanted to unload their not-so-state-of-the-art rigs.

Radio manufacturers were plenty. To name a few: Babcock, Citizen-Ship, Orbit, Kraft, EK Logictrol, Micro-Avionics,

A little food for thought: did you know that a \$1.00 greeting card with an electronic chime that plays a tune as it is unfolded has more electronic technology than all that this two part series has described? Think about it. Well, maybe not if you include computer controlled radios that were introduced circa 1985 - 1990. Not that long ago.

I hope that this two part series has given you a little insight into the history of our hobby; there may be a third part coming up next month!

Corrosion

At the February meeting, Len Ashdown showed his scratch built, 7-cylinder radial engine. Among other things, Len talked at some length about corrosion problems in four-stroke engines in general and radial engines, such as his, in particular. Len strongly recommended injecting some 10 cc of after run oil through the crank case breather hole at the end of each day. Len says he doesn't stop injecting oil until it runs out of the front bearing! Of course, when you start it, you might expect a wee bit of smoke until the oil is worked out. Len is not known as "Smoky" for nothing!

There is a Canadian developed product called "Corrosion Block" that was reviewed in an edition of RCM (Sorry, I don't know which edition.) The review by Theodore A. Noell, M.D. showed just how quickly bearings will rust when exposed to water - particularly salt water. We are talking about minutes, not weeks; thus reinforcing Len Ashdown's opinion.

Noell wrote that ACF-50 is a proprietary formulation which, when "fogged" into an aircraft structure, wicks into every crack and crevice. It even wicks *under* any water present, lifting it away from the metal, *preventing* the small electrical current that is necessary for corrosion to take place.

Corrosion Block is also sold as ACF-50 which, apparently, is specially formulated for aviation use. If you are interested, you might follow up with a contact to Corrosion Block Inc, P.O. Box 551625, Dallas, Texas, 75355-1625. For those of you on the net' try <http://www.learnchem.com/C.B.Page.htm>

Lastly; no I don't know where you can get it. I talked to Gavin at Hobby Hobby about this and he's never heard of it. On the other hand, Gavin's never experienced corrosion problems either.

So there you have it: Len Ashdown takes what might be called extreme precautions against corrosion while Gavin does very little and experiences no problems. What's your experience?

Len Ashdown does custom machining for hobbyists. He can be reached at 905-628-0391 or at 8 Crowley Court, Dundas, Ontario, L9H 6C6



Neil Allatt's Extra 300S ready for its maiden flight.

Your Editor's Progress

Those of you who have read recent editions of this newsletter will know that your editor is building a 1/7th scale P51.

Well, the wing fillets are done but, as with everything else on this model, not without a fight! I thought I would provide the initial fillet with foam. I have never worked with this and I don't have a hot wire cutter. This led to the discovery that you need a *very sharp knife* to cut this stuff with any reasonable hope of getting decent edges.

However, that was (more or less) done and the foam was glued to the fuselage and the wing fillet with carpenter's glue. When all was set, I filled in the basic shape with spackling compound and left it to set. Set! This stuff is as hard as a rock. So, if you're going to use this stuff, get the shape as near to the finished shape as you can. I didn't and I had one helluva job to sand it down. In places, I went through it to the underlying foam and then I had to try to sand a rock hard surface and one that's as soft as - well - foam. After much hacking accompanied by much cursing, I filled in the low spots with glazing putty, sanded roughly to shape then covered the fillets with finishing epoxy to provide a surface that I could finish with wet and dry paper. The resultant fillets feel reasonably smooth but look like hell.

Before painting, I had to build a fillet for the leading edge of the wing where it meets the fuselage. Not difficult to do but that was the only piece of sheeting that wasn't fibre glassed. Yep! No sooner said than put thumb through it. Oh well, fixed that and I have dumped every piece of scrap balsa from that kit so that I don't infect some other model with it.

The wing and fuselage have now been painted with undercoat, then rubbed down, then painted again and rubbed down to the final finish. Looks drab but otherwise not bad at all. The canopy is cut to shape and fitted with screws. Ailerons, flaps, elevators are painted too. So all is ready for final painting.

I'm now trying to devise a colour scheme for the model. I'm not all that keen on warbird drab and aluminum foil frightens the life out of me. So I'm thinking along lines of a privately owned Mustang painted to the owners taste. The owner/pilot in this case being a gorgeous blonde in the very best tradition of - oh well - never mind.

On another bench (figuratively, I only have one) the Giles came along nicely until I came to fit the wing to the fuselage. For reasons I can't explain, I could not get a good fit - nothing like as good as the first model of this type. I looked at the fit of the new wing on the old fuselage and visa-versa - but that only confused matters. Oh well, when in doubt: Fudge. Fudge a little here and fudge a little there; here a bit, there a bit, knickknack paddywack etc. I think I got that wrong but never mind. It looks quite good, it's straight and true. The wing incidence should be -1° but is mostly about half of that. That may be a clue to what went wrong: I didn't finish (sand) the wing before I mounted it and that certainly left some high spots which could have interfered with an otherwise near perfect fit. Oh well, over-confidence will do that every time.

Coming Events

These are the events that I know about so far.

- April 6, 7 and 8th Toledo
- April 26 Monthly meeting
- May 4,5,6, 2001 Toronto Aviation Show, Downsview
- May 24 Monthly meeting
- June 2-3 Float Fly, Christie Conservation Area
- June 9 Oshawa Float Fly
- June 9/10 OMFC Scale Aerobatics South Field
- June 16-17 Niagara, Chippawa Creek Float Fly
- June 23-24 Simcoe Fun fly (contact gaunt@nornet.on.ca)
- June 23-24 Long Sault Float Fly
- June 24 OMFC Air Show, North Field
- June 26, OMFC Electric Fun Fly, North Field
- August 18, Tri-Club Fun Fly, OMHC North Field
- September 15-16 Float Fly, Christie Conservation Area



Ready for takeoff, 1953

Who's this? Do you recognize this current club member?

Definition

Diplomacy is the art of saying nice doggie until you can find a large rock.

Zen Moments:

Never miss a good chance to shut up.
Experience is something you don't get until just after you need it.
There are two theories to arguing with women. Neither one works.

Frequency usage

This is from Kurt Fritz

Hello everyone,

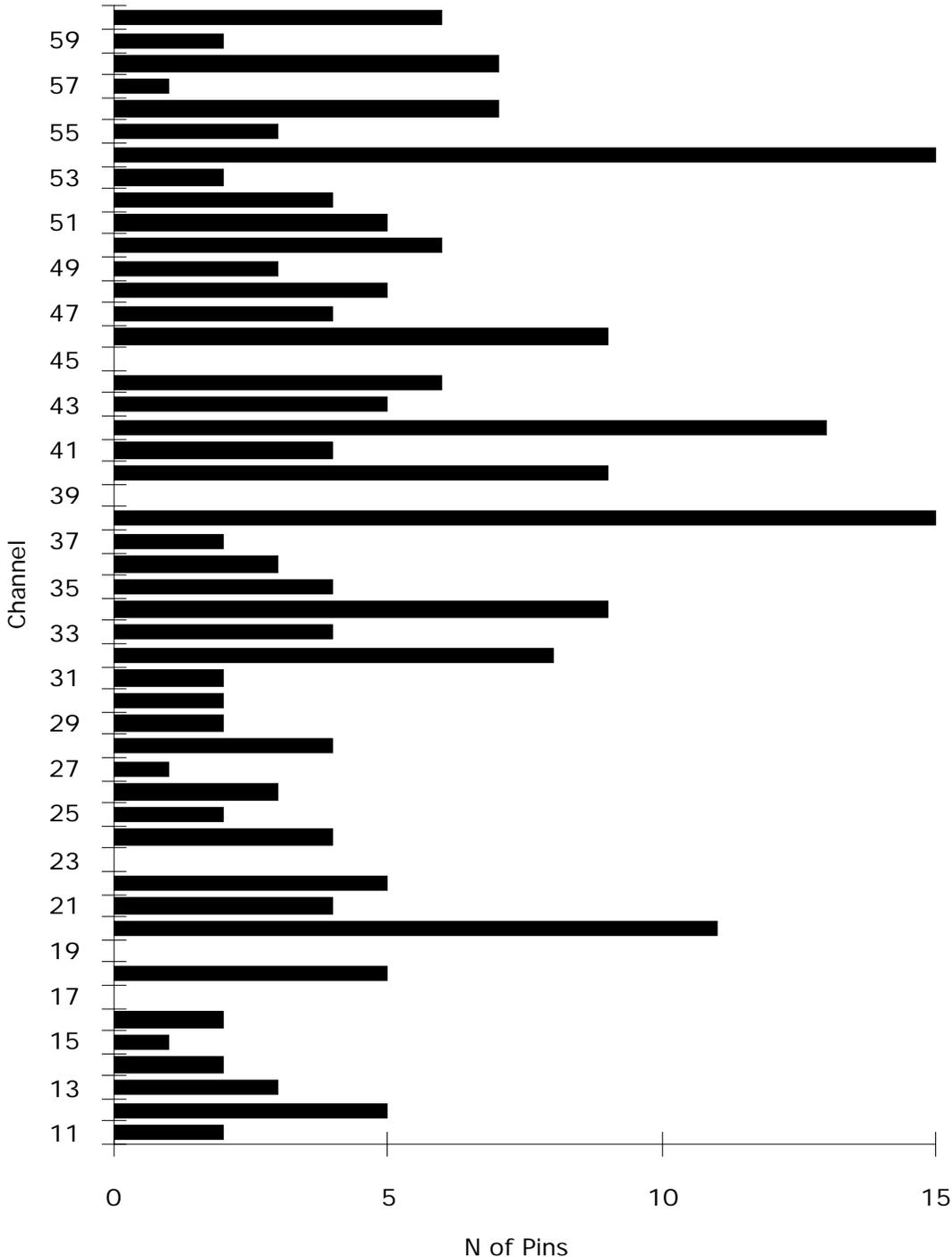
I have been appointed to look after the radio frequencies for this year. Our president asked me to do a survey of frequencies being used by our club members so I have prepared the following graph to show the current status. Against each channel, the number of transmitter pins provided in the year 2000 is represented by the bar graph.

This should help anyone in the market for a new radio to avoid the few overloaded channels and to select unused or less used ones.

When purchasing a new radio, avoid the following channels: 54, 38, 42, 20, 46, 40, 34 & 32.

Best choices would be 17, 19, 23, 39, 45, 15, 27 & 57

It would be very much appreciated if members who are still using pins other than the new design provided by the club in 2000 would inform me as to which channels/frequencies they are using. This would enable me to include them in the list and thus improve the overall accuracy.



Burlington Radio Control Modelers

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2001

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