

radio control news

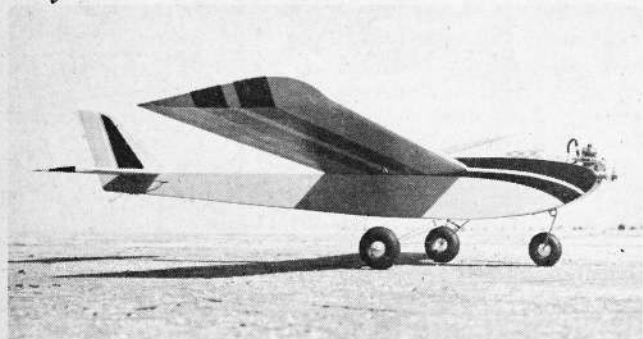
by EDWARD J. LORENZ



Max Bradley Army career man also made career of his modeling. Not often do we see such mixing of job and hobby. While with

Army in Europe he found time to win Army European RC Championships. Max with Torp powered Esquire with Citizenship RC gear.

AMAZING THE EXTENT TO WHICH THIS AREA OF MODELING HAS EXPANDED. GROWTH IS A NATURAL EXTENSION OF A HEALTHY BUSINESS, BUT HAVE YOU NOTED THE EVER INCREASING NUMBER OF NEW ITEMS EACH MONTH.



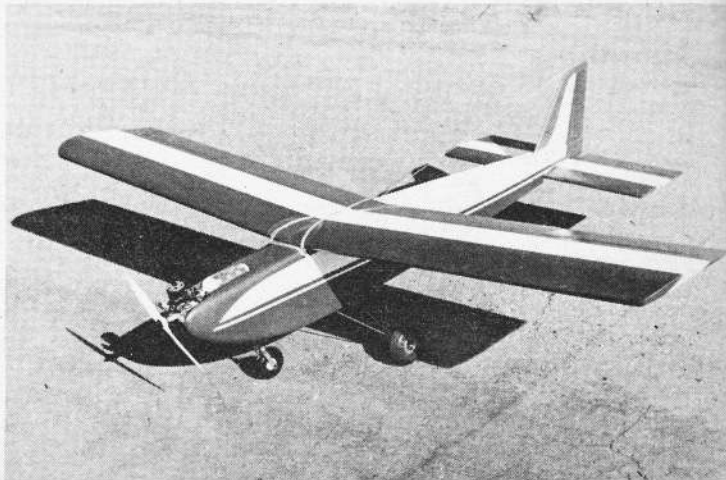
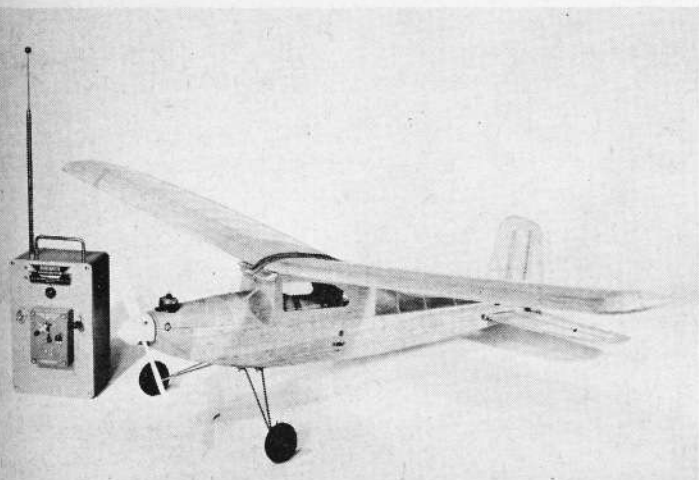
The rudder only model of Glen Spickler's which was used to develop airfoil sections shown in figures 1 & 2. Note swept landing gear.

We have heard and seen ready-to-fly packages but Polk's single channel RC job is complete with exception of fuel and batteries.

TECHNICAL TOPICS

► The Kraft receiver has received world acclaim since it was published in the March 1959 MAN. Mr. E. B. Chapman, 59 Crestwood Blvd., Poughkeepsie, N.Y. has submitted a relayless version. This circuit has been used for a summer of flying with excellent results. Figure 1—a shows the circuit from the transformer on and 1—b shows the changes necessary for converting the etched wiring chassis of the Ace kit. No trouble should be encountered, since several etched wiring conversions have been made plus a few conventional wired conversions. Here are the steps to follow: remove relay; remove emitter resistor from last transistor (33 or 56 ohms); remove arc suppressor capacitors and resistors (etched wiring chassis); remove 1mf

Glen Spickler's multi job which also used to test airfoil sections in fig. 1 & 2. Again a swept gear with a steerable nose wheel.

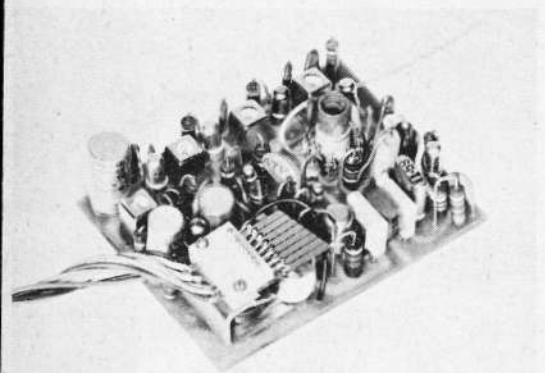




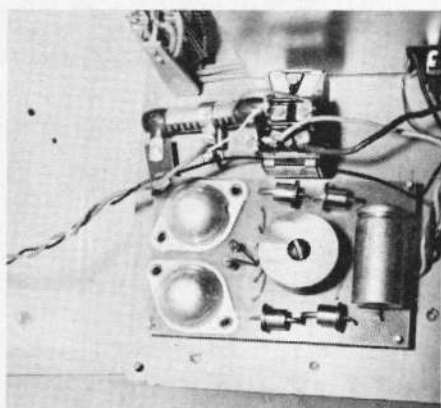
Modified "Gasser" is larger than Pat Page's very pretty wife. Maria is petite enough to fly in Pat's latest bird, even in pylon event.



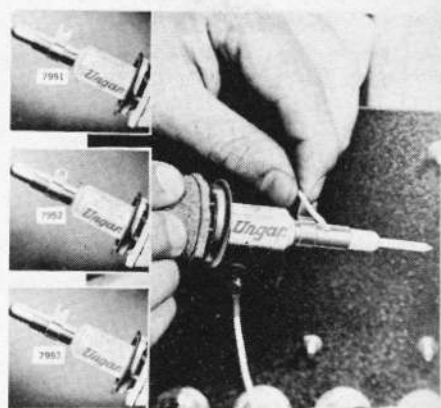
Some men enjoy their work. John Kramer Min-X engineer and his Torp .29 powered deBolt Cruiser are not a bit fazed by cold and snow.



Wonder if Min-X's 8-channel relayless r'cvr is in "Cruiser" in pic next door real test if so.



Editor's installation of Power-Mite converter in Rangemaster 2AP X'mtr. Adjust. resistor for 1.5v.



Ungar gives you a wide choice of wire strippers to be used with their soldering irons.

collector to emitter capacitor across final transistor; enlarge resistor mounting hole as shown, to allow for two leads; replace 33 or 56 ohm resistor with a 510 ohm unit; drill another hole as shown for mounting 80 to 100mf capacitor. NOTE—negative lead of capacitor connects to lead of 510 ohm resistor, two leads in hole; drill holes for transistor leads as shown and mount 2N223 or 2N224 transistor. Use care in soldering in transistor leads; connect new wires as shown. With carrier on the escapement, coil draws but a few microamps. Upon receipt of a tone signal the voltage to the escapement coil will jump to within about .2v of the power source. This circuit is good for escapement type actuators or for running motors in one direction only. The Kraft receiver can be reduced in weight with this circuit to about one ounce if a XXXP type chassis is used. Note the switch in the actuator circuit.

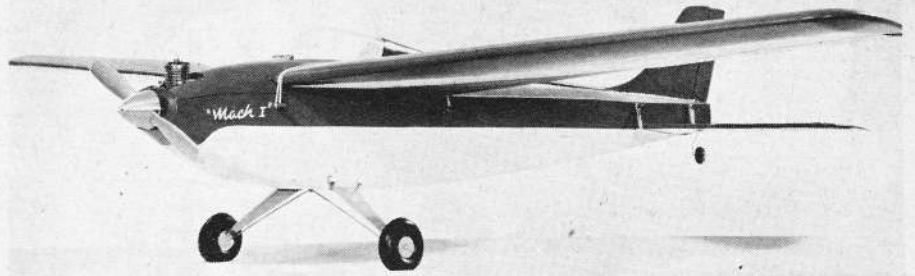
In talking with Dick Allen recently we asked him to what he attributes the return of tricycle gears. They were quite the rage several years ago, only to seemingly take second place to the conventional two wheel gears. Dick states the comeback of 'trikes' is due to lighter weight equipment and power supplies, thus allowing a little more for airframe work. Sounds reasonable. We've seen excellent takeoffs and landings with both type gears so take your choice.

From Glen Spickler, 1301 Kelly, Bakersfield, Calif., comes Figure 2, showing several airfoil sections. 1—a gives a multi section which is said to be fast, stable and have good stall characteristics. Note the generous trailing edge section, which along with the nose capping makes for a strong warp-free wing. The area within the dotted line is sanded off after the wing is built, the material being left on (top or bottom) for building on a flat surface. See photos of the rudder and multi ships on which these airfoils have been used. Glen points out some facts on these ships which might assist designers thinking of doing something along these lines. Incidentally, Glen and Milt Boone did the design work on the Charger. The rudder only job has an aspect ratio of five (54" span x 11" chord), tail moment is 45% and the horizontal stab is 16%. The multi job has a tail moment of 45% and weighs in at seven pounds. The rudder only airfoil can have the CG placed from 15% to 30%. The multi section should have the CG at the high-point or slightly ahead, but not behind.

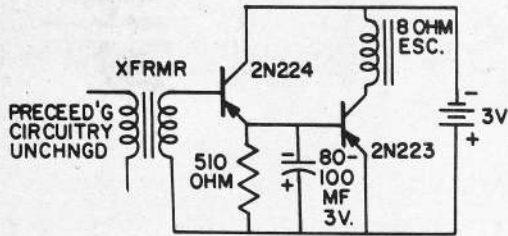
F & M Electronics, 153 Vermont St., NE, Albuquerque, N.M. advises that instructions can be obtained on request for using their Atlas-8 and Navajo-8 sets with the relayless servos. Also, the Hercules 8 transmitter can be converted to 10-channel operation, plus a complete checkout for \$10.00.

(Continued on page 34)

radio control news continued



The Mach 1 by V K Model Aircraft Co., is a good transitional machine for the rudder only flyer.



RELAY-LESS KRAFT CONVERSION. Fig. 1a

Min-X Radio gives the following information on the use of batteries. Due to the differences in voltages, from 1.3 to 1.5v, between dry cells (carbon-zinc), is their recommendation, for their equipment, to use nickle-cadmium cells. Three cells for receiver supply, giving a total of 3.6 volts, will increase receiver performance, especially at low temperatures (below 40F). Cells such as the VO-180 to VO-250's may be used for long life. A word of caution is to allow the receiver to operate on freshly charged cells long enough to drop the total voltage from a peak charged condition of four volts or more, to 3.6 volts before tuning or adjusting.

From Mr. R. L. Schellenbaum, Sandia Park, New Mexico comes Figure 3 and 4. Figure 3 shows a Class B modulator, acting in part as a converter. The unrectified AC output finishes power at the audio oscillator rate to the plate of the RF stage. A transistor oscillator (audio) was used in this example for use with an LC filter receiver. The more stable oscillators must be used for reed receiver operation. The drive, producing a negatively clipped AC sine wave, or square wave if over-driven, can be adjusted with divider R_1 - R_2 , totaling about 1 megohm. It is believed that T_2 could be a UTC-A20 or R-38A if the transformer shown is not used. A 7.2 volt nickle-cad supply produces an output of about 125v at 24ma. The equivalent of plate modulation, four times peak power, can be duplicated by doubling the secondary windings. Because of negative clipping in the AC output, optimum simultaneous operation cannot be obtained by mixing the output of two audio oscillators, as is commonly done. Another method for filter type receivers is to use only one audio oscillator covering the range necessary. Figure 2 is a double, free running neon switcher which alternately connects points X and Y to ground through the NPN transistors at about 100 cps. These transistors replace the tone switches in Figure 3 and the points X and Y are connected to the tone control pots with appropriate transmitter stick switching. The simultaneous signal is now a continuous transmission composed of bursts of two different frequencies at a high rate which the receiver cannot follow.

Other suggestions from (Continued on page 50)

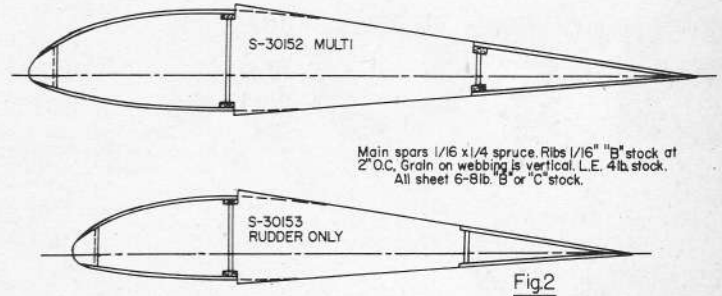
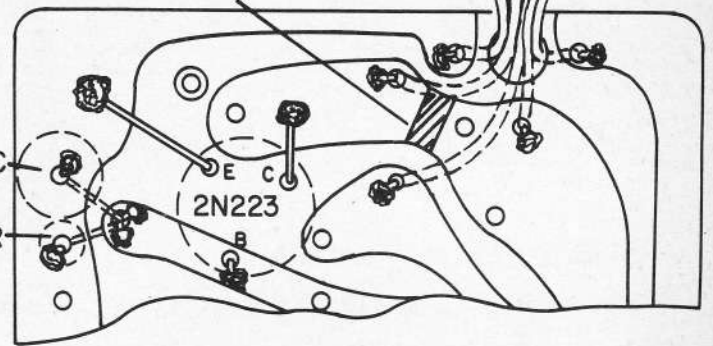
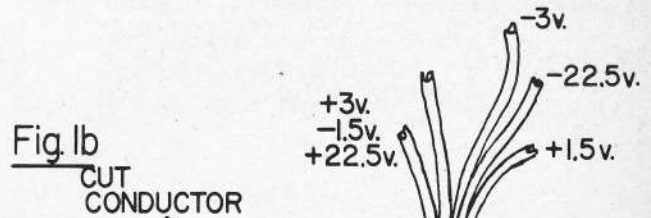


Fig. 2

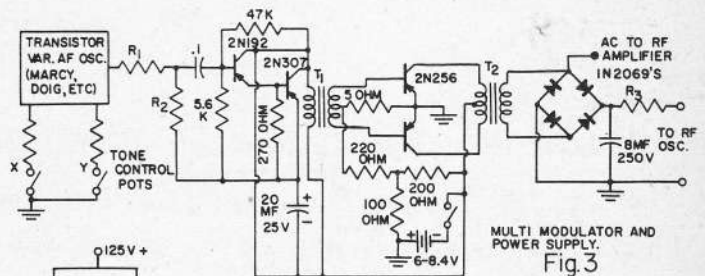


Fig. 3

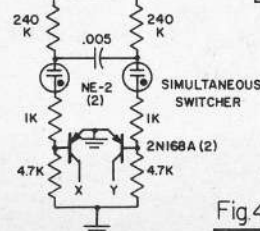


Fig. 4

T₁-LAFAYETTE AR-504
T₂-ARNOLD ENG. 3T-5340-DI TOROID.
PRI-48T CT NO. 26 EN.
SEC-576T NO. 36 EN.