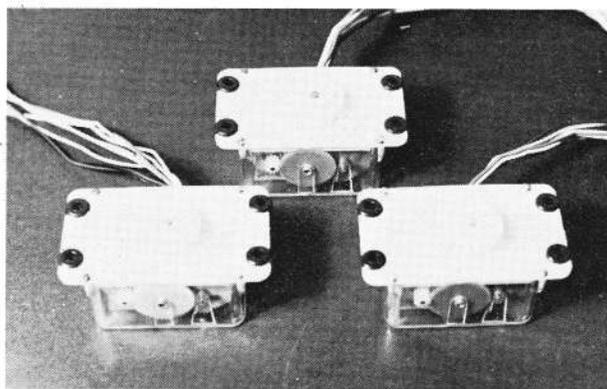


RUDDER, ELEVATOR, and MOTOR for Single Channel With The NEW ROYAL SERVOS

RCM PRODUCT REPORT



IN the November 1964 issue, RCM had the pleasure of reviewing the Royal Single Channel Servo system, distributed by Royal Products Corporation of Denver, Colorado. This was the first breakthrough into what had been primarily "escapement territory"—a single channel rudder and motor servo that worked to perfection both mechanically and electronically. Since their introduction in RCM, the Royal servos have virtually captured the majority of the single channel rudder-only market, proving beyond doubt in the field what we had found, and subsequently reported to you, in the product report on those units.

We are equally pleased to announce the newest addition to the Royal Products line—a **complete** and versatile single channel servo system consisting of a rudder (and/or aileron) servo, Model #13RA; elevator servo, Model #13E; and motor control servo, Model

#13M. This combination, coupled with a superhet relay receiver, will enable the single channel flyer to obtain rudder or ailerons, or coupled rudder and ailerons, plus elevator and throttle control—all from a powerful and reliable single channel package!

Each of the new Royal Single Channel Servos has been injection molded to assure the most precise unit of its kind ever manufactured. Weight of each individual servo is 2¼ ounces with overall mounting surface dimensions of 2½" long by 1¾" wide. Servo depth is 1" with an additional ⅝" for the output disc. Output is of the wheel type with four output holes on each disc. The servo motor is the extremely popular and efficient Mitsumi unit. Current drain is 60-70 Mah as the servo travels from control to control, with approximately 400 Mah fully stalled.

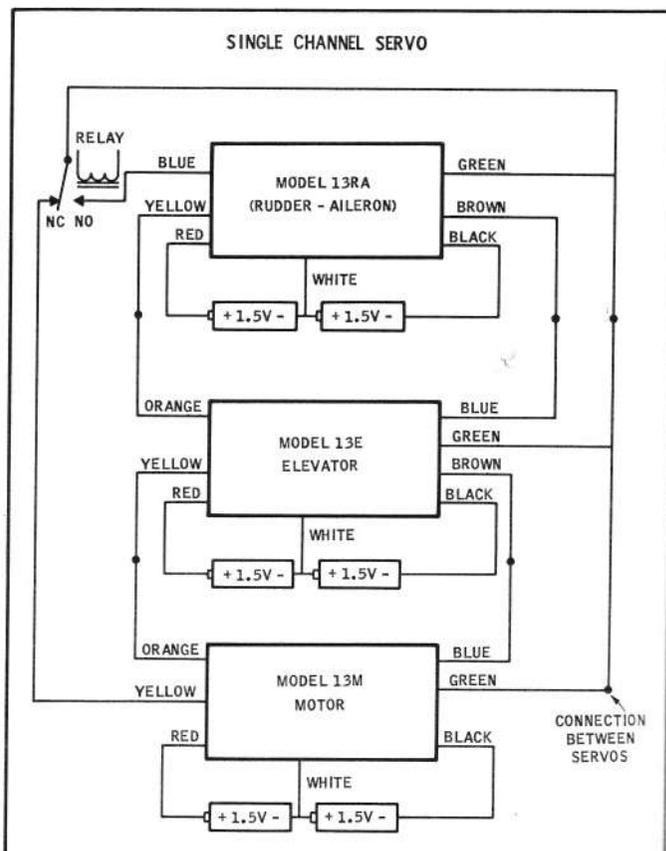
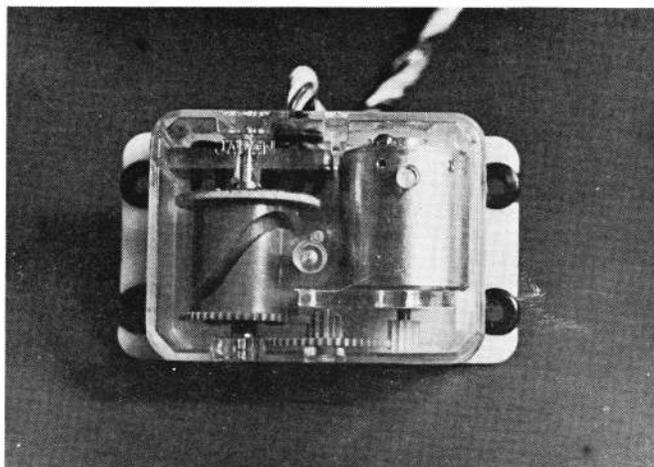
One of the most unique features of Royal's single channel servo system is in

the matter of pulsing. The accepted procedure of one pulse=right, two pulses=left, three pulses=up elevator, four pulses=down elevator, and five pulses=motor control still applies. However, the innovation comes in the extremely easy manner in which the modeler may pulse these signals. Although difficult to explain in print, the rudder servo has three positions—right, left, and third. The fourth and fifth positions come from the elevator servo, rather than trying to cram five separate positions into the rudder servo alone. And from this factor is derived a great deal of the reliability that these units offer the RC'er. The motor control servo has three throttle positions—high, medium, and low.

The battery complement required for

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New Royal servos evidence highest quality engineering and workmanship. Provides servo powered rudder, elevator, and three position throttle for single channel fliers. 225 Mah nicad pack can be used for lightweight installations.



ROYAL SERVOS

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the entire system is six nickel cadmium cells (225 to 500 Mah) or six pencells, plus whatever voltage is required for your individual receiver. A complete wiring diagram is included with this article. All up weight of the system with a Controlaire SH-100 superhet receiver, six 225 Mah nicads, three Royal servos, plugs and wiring harness, is 14 ounces.

Our own conclusions, following testing of this trio of servos, is that these units will allow the single channel flier to update his present rudder only flying to a Class II type system that will give him many years of dependable, trouble-free service. From construction through final performance, the Royal servos are outstanding and carry the RCM Tested and Approved recommendation.

Prices on the Royal servos are as follows: Royal #13RA (rudder-aileron): \$13.95; Royal #13E (elevator): \$14.45; Royal #13M (motor): \$13.95.