

## Cobb Hobby Offers Series of R/C Escapements and Servos

■ A line of versatile control equipment for planes and boats by Cobb Hobby Mfg. Co. (Powder Springs, Ga.) can be used for single or multi controls in various combinations. For multi purposes, the control system would come under the Intermediate classification in R/C contest flying.

Heart of the system is the Selector "4," a compound escapement with a complex rotary switching system built in, and sufficient "stop" positions to operate same. This escapement has four operate positions and one neutral; it can be hooked up for plain rudder control, in which case only the first two positions are utilized. These give right and left rudder, by direct linkage between a shaft on the escapement via a torque rod to the rudder. The escapement can be operated with  $\frac{1}{8}$ " or  $\frac{1}{4}$ " rubber depending upon the size of the airplane. This is an ideal beginner's setup, as the transmitter can be keyed with a plain button.

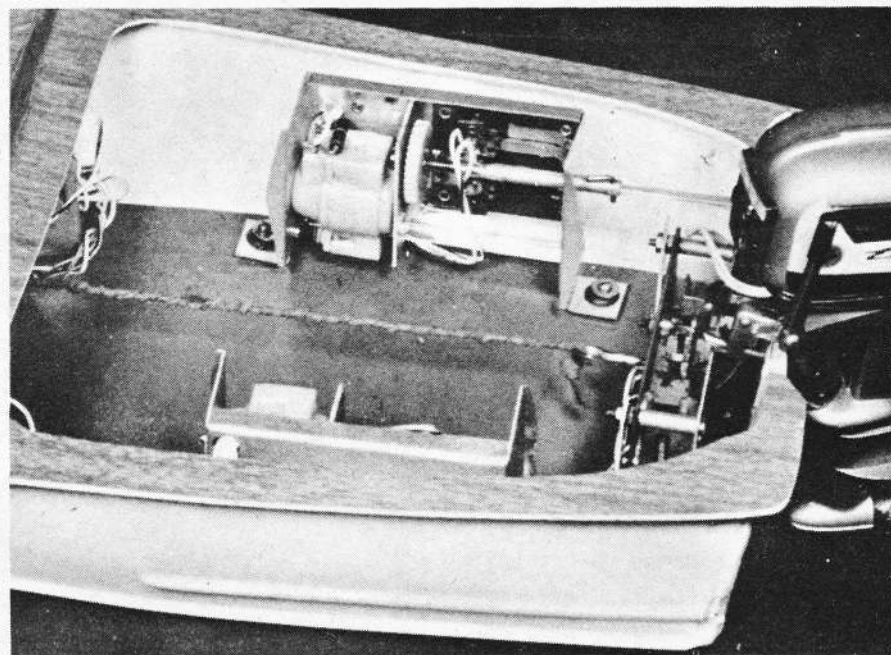
Next logical step in complexity might be addition of motor control. This could be the "quick-blip" type (which is triggered by an extremely short punch of the transmitter button) or the switching circuits of the escapement could be used to drive a motor servo for trimmable throttle. A motor control escapement could be worked by the switching contacts in the third escapement position if desired.

The "full house" control setup of rudder, elevator and engine controls, plus steering and brakes if you want, are ob-

tained by use of the Selector "4" as a switcher, this unit also serving to move the rudder as in the simpler setups. For the elevator, Cobb Hobby has available a light weight motor-driven servo they call the "Slim Line" due to its low silhouette. It has a double-magnet PM motor linked by nylon gears to a worm-driven jackshaft, the latter designed for push-rod linkage to the elevator (also for braking action if wanted). The Slim Line has the usual limit and neutralizing contacts, switching being accomplished by bronze wipers on a printed circuit plate. The same sort of switching facilities are found in the Selector "4."

To sort out the pulses necessary for multi control work in fast moving model planes, something better than an operator's thumb is advisable, especially for the less experienced R/Cer. Cobb Hobby has this too—it's called "Pilot Control," a spring motor driven control box of compact dimensions, with a single control stick projecting from the top. Side-ways movement gives rudder action, while fore and aft stick operation will cause the Slim Line servo to function. A push button is provided for quick-blip engine throttle operation. This Pilot Control has been well-tested, for it is almost identical to the old Ectron stick control box that was used with a special rudder-elevator escapement (owners of the old style boxes may have them converted to work with the new system for a nominal charge). This Pilot Control may also be used with other makes of

In boat setup, one Slim Line servo is used for steering, another serves for motor control. Selector "4" which is seen under the outboard works them both.



escapements or with Multi-Servos. For such use an additional set of internal contacts must be added by the user, so that the added control pulses used with the Selector "4" will not cause unwanted turns.

Cobb Hobby can supply an SN type escapement for rudder control, or the same escapement fitted to give 3 positions, for engine control. And to round out their control system offerings, they have a kit for adding steerable tail wheel and braking on this wheel.

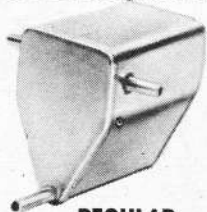
Full instructions are furnished with the various units to enable purchaser to arrange his own simple or complex control arrangements, and the various units carry a 5-year guarantee of satisfactory service.

*Selector "4" compound escapement and switcher:* 4 positions and 1 neutral. First two positions always used for rudder, with nylon positive-position cam guiding lever for linkage to torque rod. Large magnet coil provides reliable operation with strong return spring, current drain on recommended 3 volts being 400 ma. Unit measures about  $3\frac{1}{8}$  x  $1\text{-}7/16$  x  $\frac{5}{8}$ " thick, less shaft projections. Weight, 1.35 oz.

*Slim Line servo:* Motor driven unit that provides over 1 lb. push or pull for elevator operation. Also useful for steering boats and R/C cars. Operates on 3 volts, with about 500 ma current with

no load. Stalled current about 1.75 A. Travels from one extreme to other in less than 1 sec. Size less projections,  $3\frac{1}{4}$  x  $1\frac{3}{4}$  x  $15/16$ " thick. Weighs 2 oz. Nylon gears and motor bearings. Usable for self-neutralizing or full-trimmable action.

*Pilot Control box:* Spring-operated, will give 100 to 125 operations on one winding, can be wound while in operation. Time required for longest control operation, less than 1 sec.; can be slowed easily for slow-acting receivers. Size of box,  $4$  x  $2\frac{1}{4}$  x  $2\frac{1}{4}$ ". Weight about 6 oz.



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