Pushbutton Control — continued

operation checked. If higher than 30 volts is used and the cable is very wet, it is desirable to bake the cable in a 150° F oven for about half an hour to reduce power losses. There are two methods: one of the former procedure that is satisfactory; the first is the operator-launched type where the cable is laid in a straight line in direction of take-off and comes back on itself to the plane. The operator launches the model near to and parallel with its own cable. The second hand-launch type take-off is accomplished with the cable laid out in the same manner but the plane is brought 10 or 20 ft. back of the operator who bends down before the plane is hand launched toward him. The launcher in this case should be practiced and trustworthy. With either type of launch the operator has about half the cable length in which to make the model turn or become a free flight.

The Dmecco trainer uses a two-wire cable system of 350 ft. length. A Bonner compound escapement and varied holes from jacks, switches and antenna is all that remains of the control equipment. Power is .075 Cub diesel. Wing loading is now a wear-and-tear saving .08 ozs. per square foot. Three inch airwheels are used on grass but 3½ or 4 inch wheels with a more narrow tread would provide better take-offs—the narrower the tread, the more prone to ground looping and more responsiveness to rudder control.

A doorbell type push button switch is use to pulse the escapement. When the “doorbell” rings twice you get left rudder. With the Bonner compound the third position with the switch can be used to stop the engine or slow it down with a solenoid choke type of control and batteries in the airplane for power. If an escapement without switch is used, another line can be used with a separate switch on the ground without any batteries required in the model.

The cable of 350 ft. length consists of two No. 30 nylon-coated copper wires twisted; 45 volts in the operator’s pocket gives the compound escapement coil over ¼ amp current whenever the button is pressed. With the high voltage used, some attention should be given to insulation since escapements were not designed with more than 4½ volts in mind, although most switches, plugs and all escapements that we have seen will take the pressure.

For long cables, snag-free flying territory is difficult to find. Unless a golf course, airport runway, lake ice or smooth snow can be used, frayed and broken cable will have to be repaired or discarded. Fortunately, copper wire in these sizes is inexpensive.

Very small models, with rudder, elevator, aileron and engine control using the very small engines such as the Cox 020 should also be possible.

---

Wind

---

Schematic for escapement installation. Note the third line on engine control. Extra controls can be worked by batteries in plane.

---

Upper half of the schematic represents the airplane and of the system. Lower half, from battery and switch, up to the airplane.

---

Recommend technique for hand launching or take-offs. That 100 feet of cable can seem mighty long when you fly any small ship!