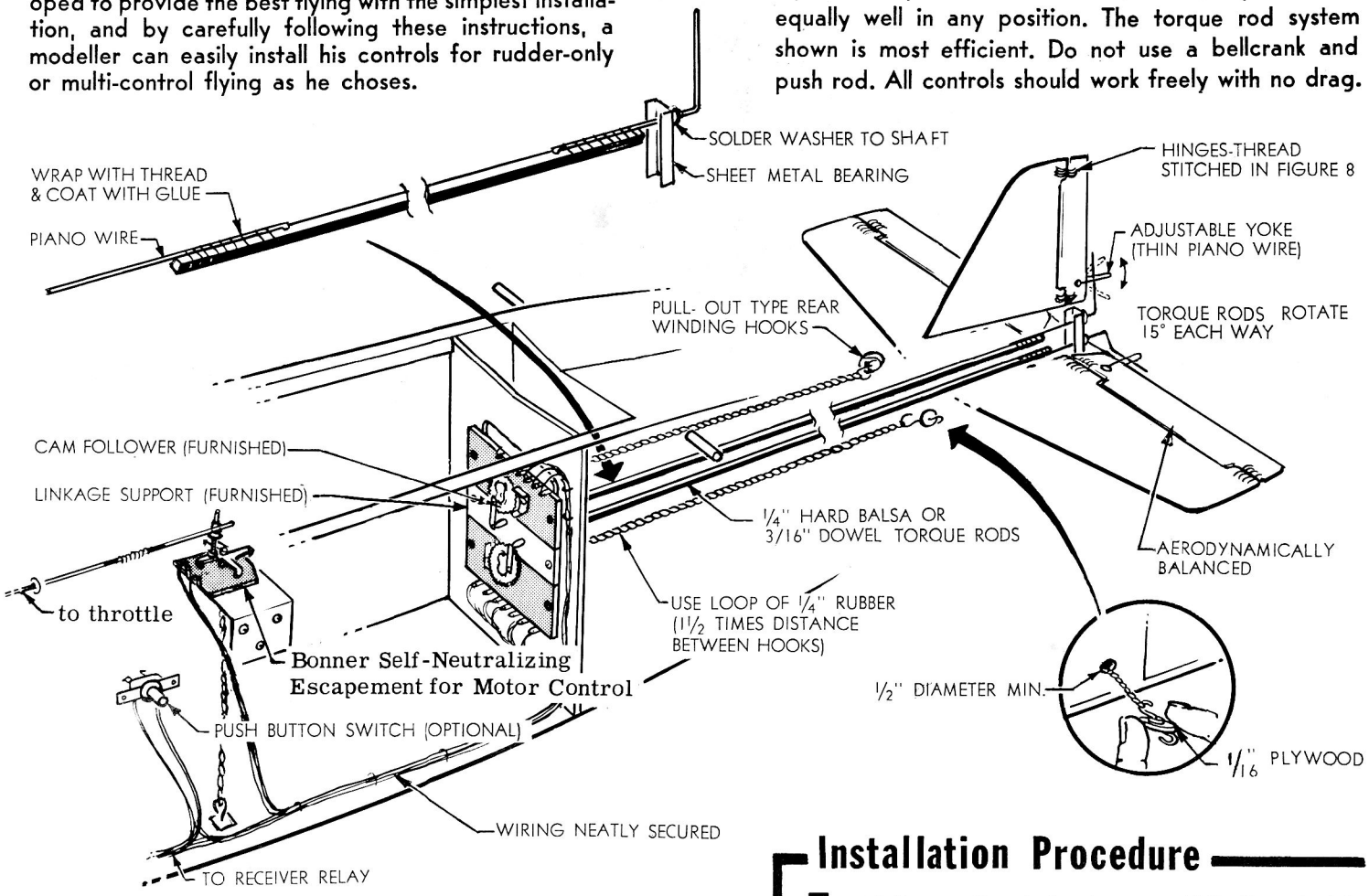
INSTRUCTIONS for the Bonner VariComp

Reading the enclosed brochure "Single Channel Multi-Controls" will provide the flyer with a closer knowledge of his equipment, and additional general information. However, the VariComp has been developed to provide the best flying with the simplest installation, and by carefully following these instructions, a modeller can easily install his controls for rudder-only or multi-control flying as he choses.

The most popular installation is shown below. Two VariComps are mounted flush against a bulkhead slightly ahead of the wing trailing edge. Many other layouts are possible because the VariComp will work equally well in any position. The torque rod system shown is most efficient. Do not use a bellcrank and push rod. All controls should work freely with no drag.



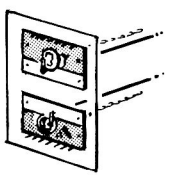
KEYING

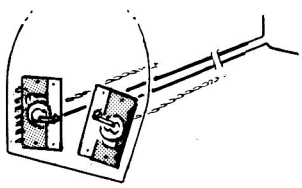
RIGHT — HOLD
LEFT —— PRESS HOLD
UP —— PRESS PRESS HOLD
DOWN — PRESS PRESS PRESS HOLD

TAP BUTTON TO CHANGE ENGINE SPEED

Anybody can key easily on the first try if he remembers to keep the time lapse between the press signals short.

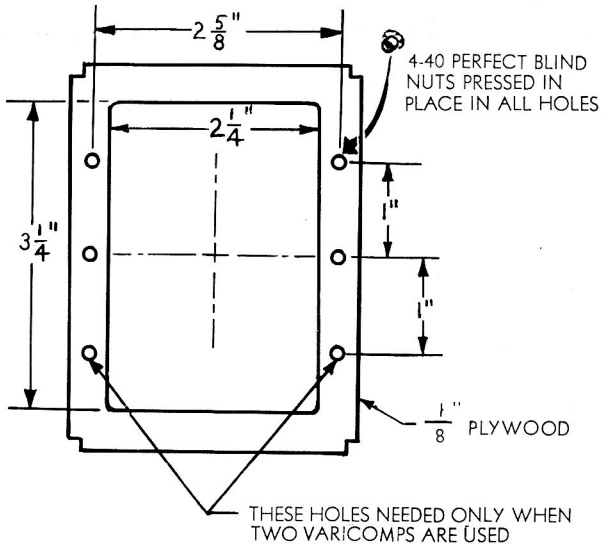
NOTE: It's best to practice Rudder Only flying before using elevator control. The above "full house" RME installation requires a BONNER Dual Linkage Support. Other, less compact installations shown below can be made with the type of linkage support that is furnished with one VariComp.





Installation Procedure

1 Drill mounting holes (approx. 1/8" diameter) in bulkhead.



2 Install linkage support with 4-40 screws and lockwashers.

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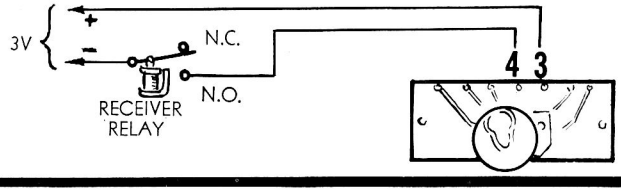
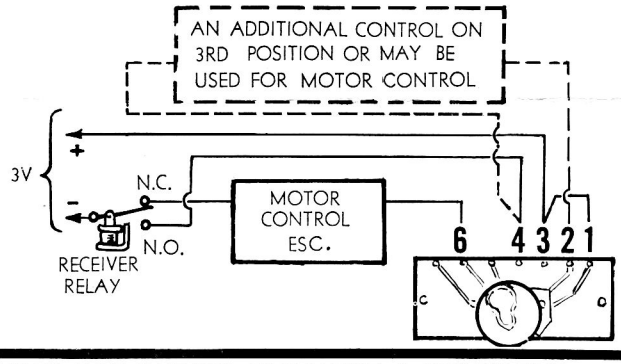
3 Wire up the VariComps for one of the systems shown below. (Refer to receiver instructions to determine which receiver socket terminals are connected to the N.C. and N.O. relay contacts, and to the (–)side of the escapement batteries). Connect wires carefully to the receiver socket, so as to avoid shorting the 45v receiver B battery. As with all electrical work, avoid using excessive heat when connecting wires.

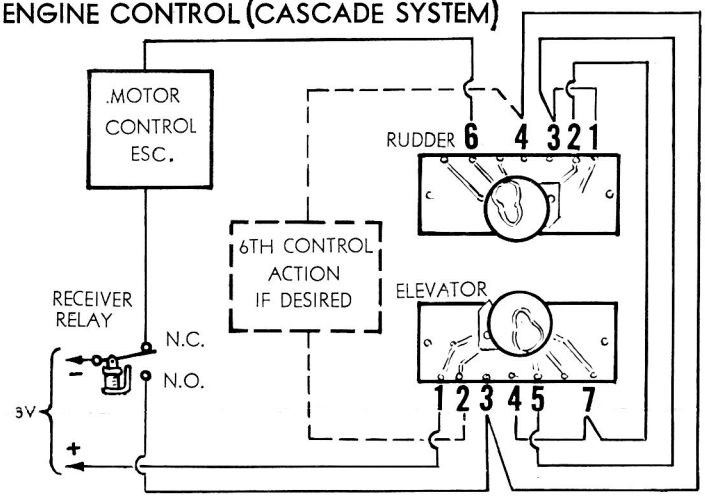
HOOK-UP FOR RUDDER ONLY CONTROL

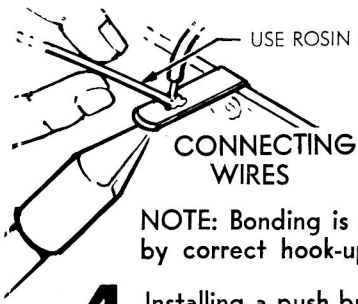


HOOK-UP FOR RUDDER & QUICK BLIP ENGINE CONTROL

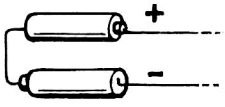


HOOK-UP FOR RUDDER, ELEVATOR & QUICK BLIP ENGINE CONTROL (CASCADE SYSTEM)





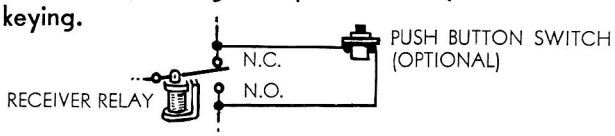
CONNECTING WIRES



FLASHLIGHT CELLS CONNECTED FOR 3 VOLTS

NOTE: Bonding is automatically accomplished by correct hook-up.

4 Installing a push button switch across the relay N.C. and N.O. contacts allows the modeller to operate the control system without using the transmitter, for engine adjustment and practice keying.



5 Attach the VariComp to the bulkhead with 4-40 screws and lockwashers.

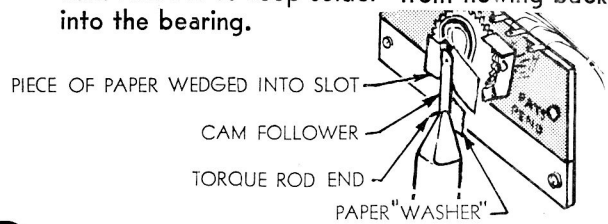
6 Install rubber and wind so that VariComp will stay at neutral. Hold rudder at neutral with a clothespin.

7 Tin the end of the torque rod and cam follower as shown.

8 Place the cam follower in position and temporarily hold it there by wedging a piece of paper into the cam slot as shown.

This protects nylon gear from burning during soldering and also assures correct axial alignment of cam follower pin.

Place a temporary paper "washer" behind the cam follower to keep solder from flowing back into the bearing.



9 Then carefully apply heat to connect the torque rod end to the cam follower as shown.

10 Remove paper and follow the same procedure to install elevator VariComp. Check that controls operate freely.

NOTE: In order to cascade more than two VariComps, make the hook-up so that power first goes through the change-over switch on the bottom VariComp in the stack and then goes to the next change-over switch above it, and so on until at the top of the stack, there is no change-over switch. The 3rd position at the top of the stack releases the change-over switch below it, and the same action continues to the bottom of the stack. When the signals are stopped at any point, the control system returns to neutral. Refer to brochure.

If the VariComp is to be used to trigger a servo follower substitute a Bonner servo switch plate for the standard linkage support. Refer to Servo Switcher instructions for installation and hook-up.

Motor control is usually rigged by using a Bonner Single S.N. escapement to operate a throttle.