

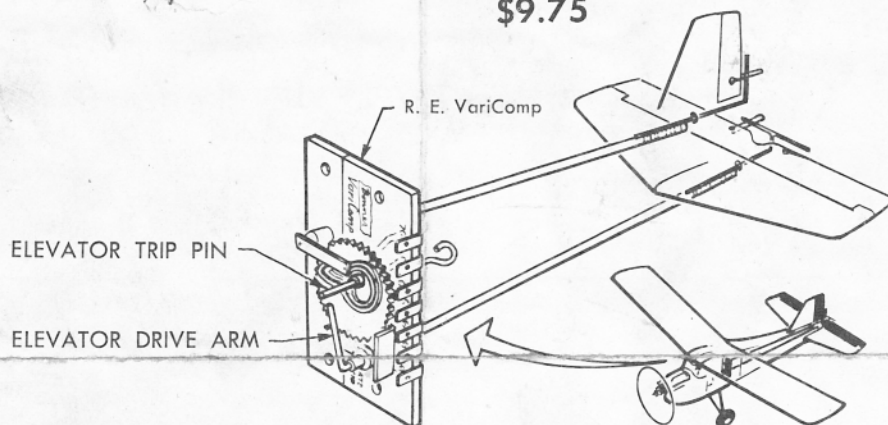
*We can go up in the Plane*

$2\frac{7}{8} \times 2\frac{1}{4}$  

# THE **Bonner** R.E. VariComp®

FOR RUDDER AND TRIP-ELEVATOR CONTROL ACTION WITH A SINGLE CHANNEL RADIO

**\$9.75**



● Compact installation for small models.

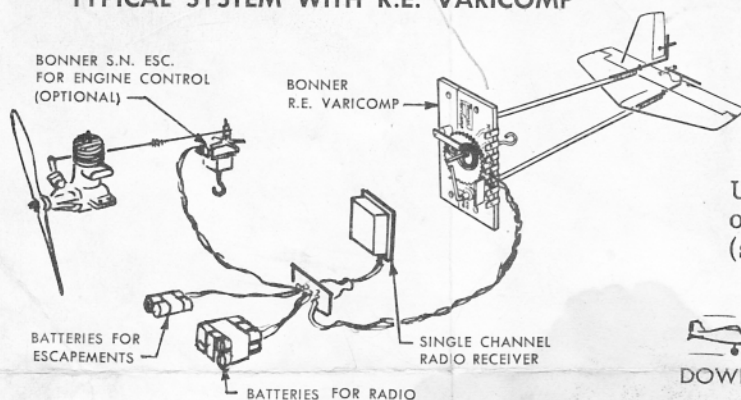
● Powerful control action for larger models.



The R.E. VariComp is a compound escapement which has the same powerful action as other Bonner Escapements. Printed circuit switching allows quick-blip engine control and cascading with other VariComps.

The elevator drive arm and trip pin are used on the R.E. VariComp to allow both rudder and trip-elevator action from one escapement. This setup allows a lot of good R/C flying, as shown in the sketches.

## TYPICAL SYSTEM WITH R.E. VARICOMP

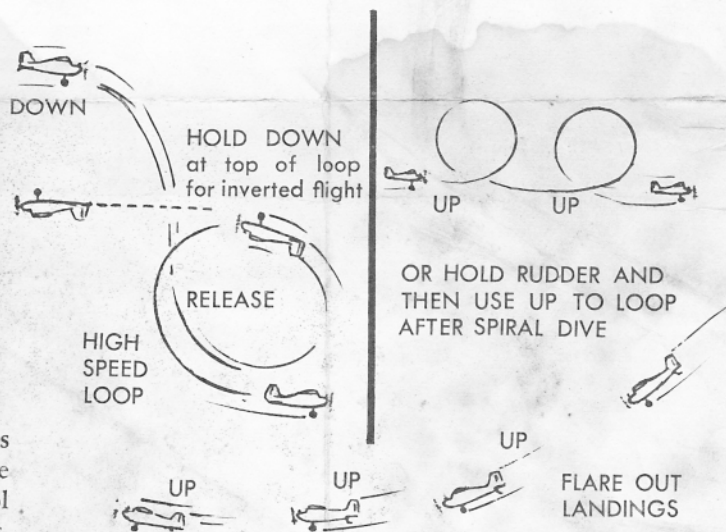


### KEYING

RIGHT — HOLD  
LEFT — PRESS HOLD  
UP — PRESS PRESS HOLD  
TAP BUTTON TO CHANGE ENGINE SPEED

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

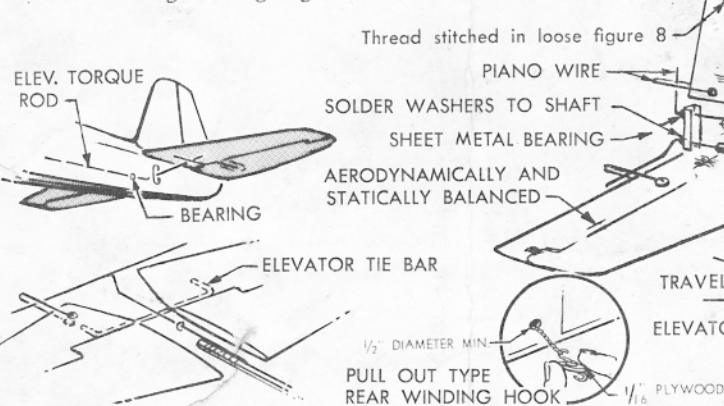
The model is trimmed for straight flight with perhaps a gradual climb. Each hold signal causes a definite change of course and the flier gets the degree of control action he wants by length or spacing of hold signals.



**BONNER SPECIALTIES, 2900 Tilden Ave. Los Angeles 64, California**

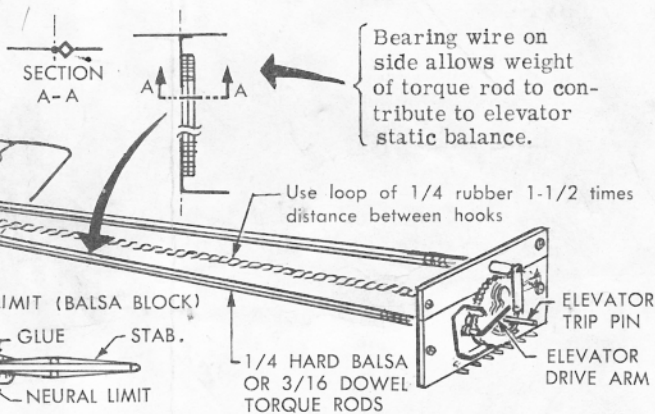
# INSTRUCTIONS

VariComps are usually installed flat against a bulkhead approx. 1" forward of wing trailing edge to allow access to rubber bands.



Whether elev. torque rod goes over or under elevator, and other installation details depend on the design of the airplane and preferences of the modeler. 2 alternate setups are shown above.

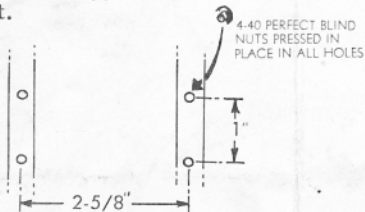
When R.E. VariComp is installed in position shown below, for up-elevator, "Z" layout of elev. linkage provides best static balance.



The R. E. VariComp can be installed vertically (as shown on front page) to reduce width for a small model. Using a "T-bar" at rear end of torque rod allows flying with with down elevator. Then it is necessary to remove the stop used for up and attach a stop on top of the stabilizer.

**1**

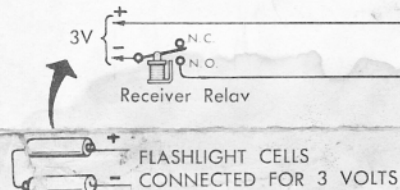
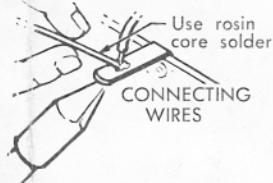
Drill mounting holes (approx. 1/8 Dia.) in bulkhead and install linkage support.



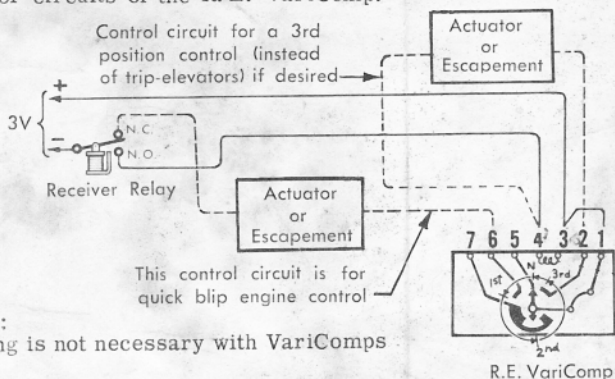
**2**

Attach wires from the batteries and your radio, to terminals 3 and 4 as shown in the diagram below, to get rudder and trip-elevator action. Refer to instructions of radio receiver being used to determine which receiver socket terminals are connected to the N. C. and N. O. relay contacts.

As with all electrical work, avoid using excessive heat when connecting wires.



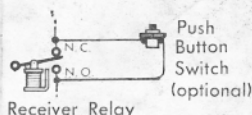
The circuit shown below indicates how to operate other escapements from the control circuits of the R. E. VariComp.



**NOTE:**  
Bonding is not necessary with VariComps

**3**

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

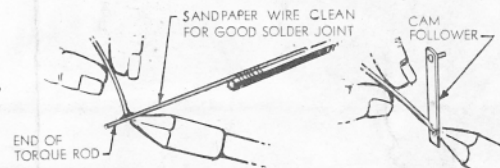


**4**

Attach VariComp to bulkhead with 4-40 screws and lock-washers. Then install rubber and wind so that VariComp will stay at neutral. Hold rudder at neutral with a clothes-pin.

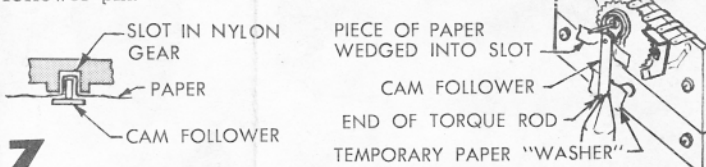
**5**

Tin parts as shown.



**6**

Wedge a piece of paper and the cam follower pin into cam slot as shown below. This protects nylon gear from burning during soldering and also assures correct axial alignment of cam follower pin.



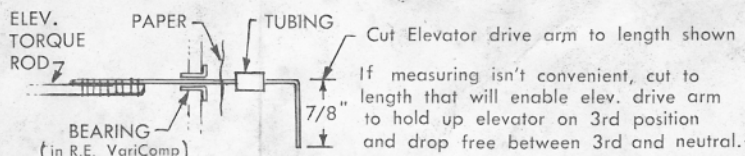
**7**

Place a temporary paper washer behind the cam follower as shown to keep solder from flowing back into bearing. Then carefully apply heat to connect the torque rod end to the cam follower as shown. Then tear out paper.

**NOTE:** Placing temporary paper washer on shaft (as shown above) is good practice when soldering wheel retainers or any similar attachment, because it keeps solder out of bearing, protects from heat, and thickness of paper provides proper clearance. Use this technique when rigging elevators (below) and when soldering washers to shaft at rear sheet metal bearing.

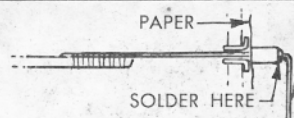
**8**

Insert elevator torque rod end through bearing and bend to 90 degree angle as shown.



**9**

Then slide back torque rod and solder as shown (after tinning as in step 5). Remove paper.



**10**

Install rear sheet metal bearing and complete installation at rear as shown in sketch at top of page.

Engine control is usually rigged by using a Bonner S. N. Escapement to operate a throttle.