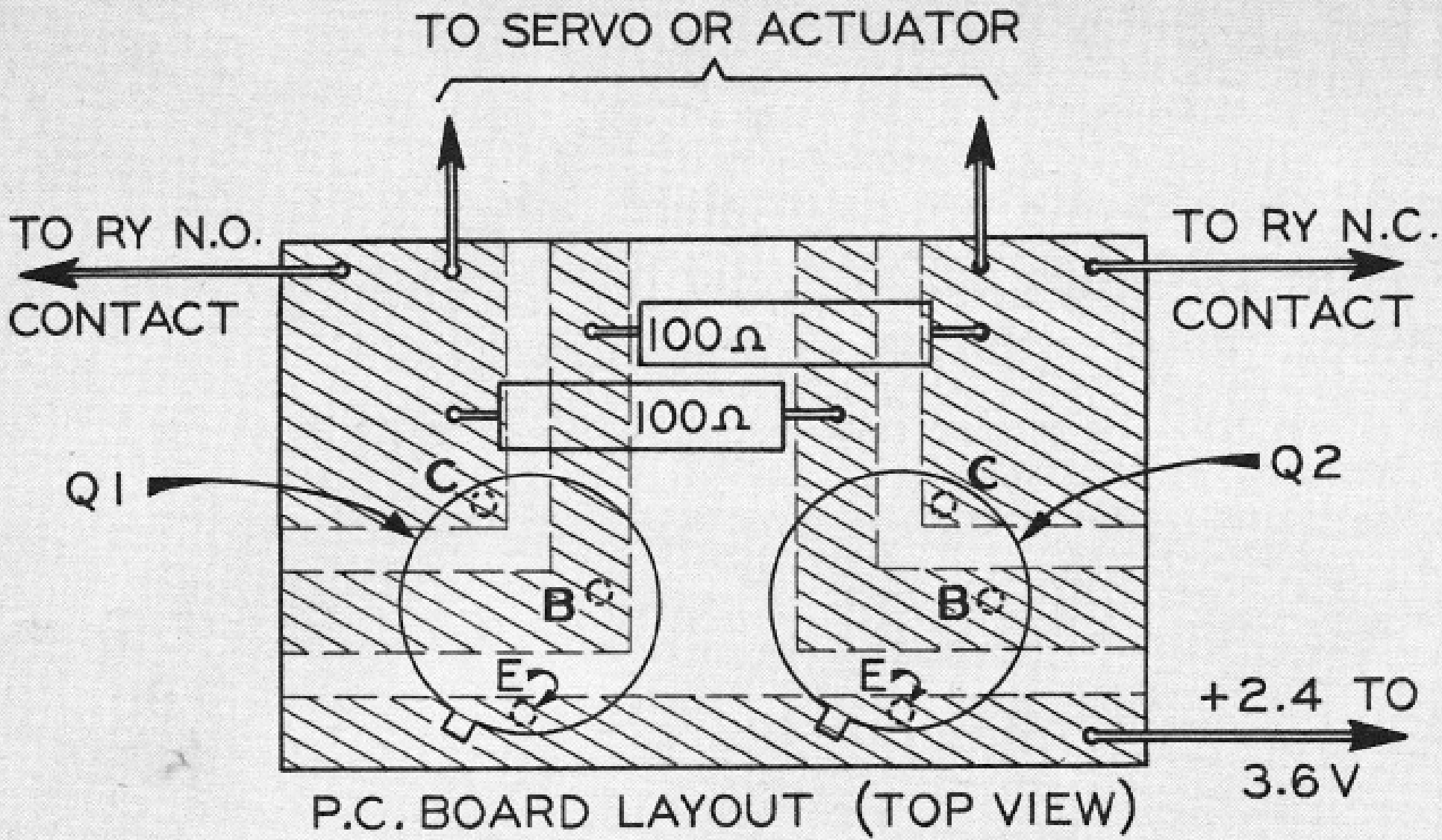
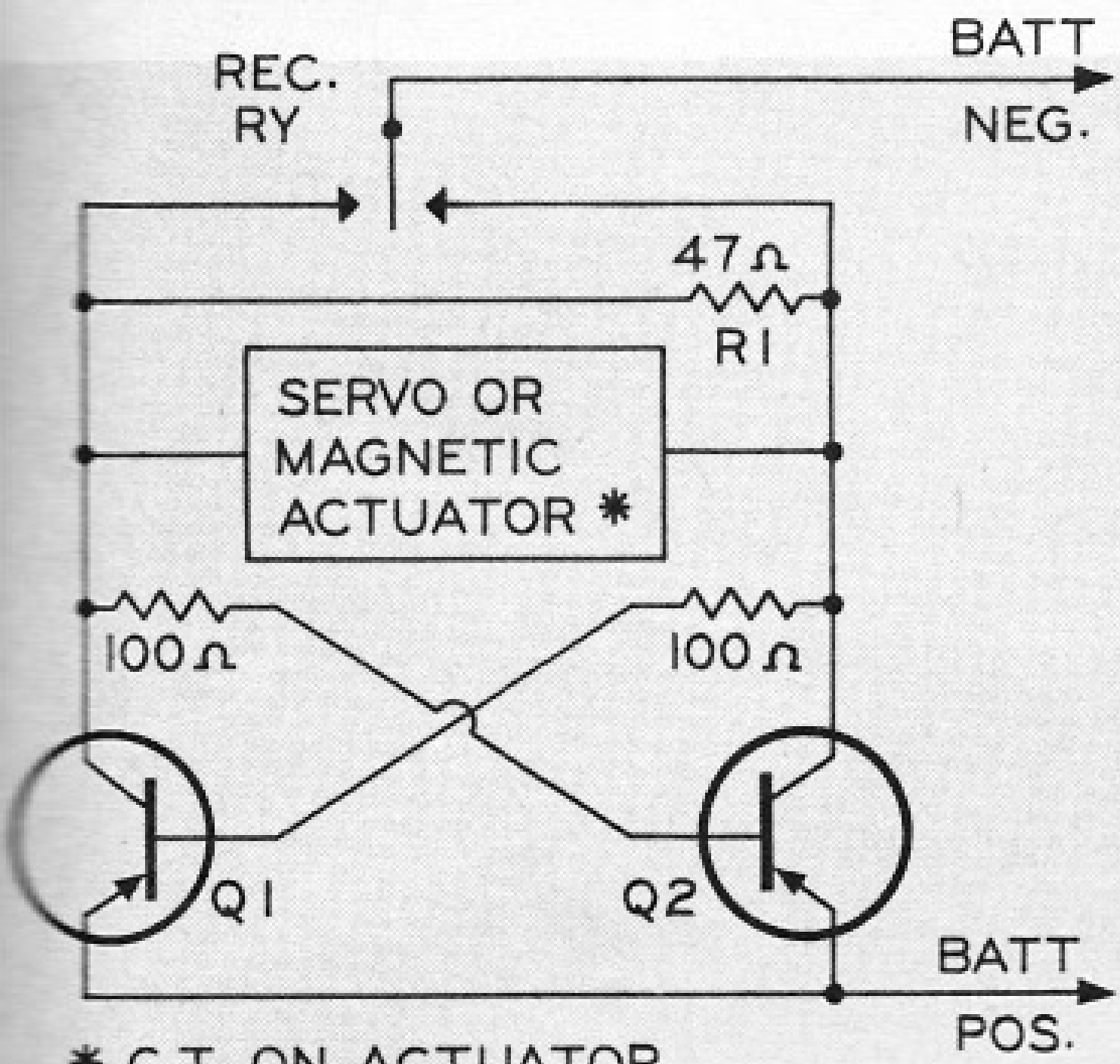
Servo Switcher. Several advantages claimed by Fred Marks (118 Central Ave., Gaithersburg, Md. 20760) for switcher that he uses with a relay receiver, on a single set of batteries. For one thing, you cannot get unbalanced servo action (which shows up as neutral drift), as is possible with two sets of cells. When used with a magnetic actuator (use the entire actuator winding and disregard the center tap on such units as the Adams), Fred notes you can get twice the amount of actuator power with same current drain, if the voltage is raised sufficiently to maintain this current on a single battery.

Fred's switcher did not use resistor R1, which is found in the very similar Controlaire NND switcher (he point out that lazy types who don't want to bother building their own can get fine results from the commercial NND) marketed some time later. R1 gives a little better stability. Fred has used the switcher cemented right to an LR-3 Rand servo, as seen in photo; silastic bathtube seal is the cement, also shock-isolates the switcher. All elements of the simple installation for a Jr. Falcon are seen, including taped-up 3-cell 500 mah nickel-cad battery. Plane was modified with 1/8" ply firewall same size as #2 bulkhead. Hardwood 1/4 x 3/8" motor bearers are cemented to firewall and fuselage sides, retaining desired amount of downthrust.

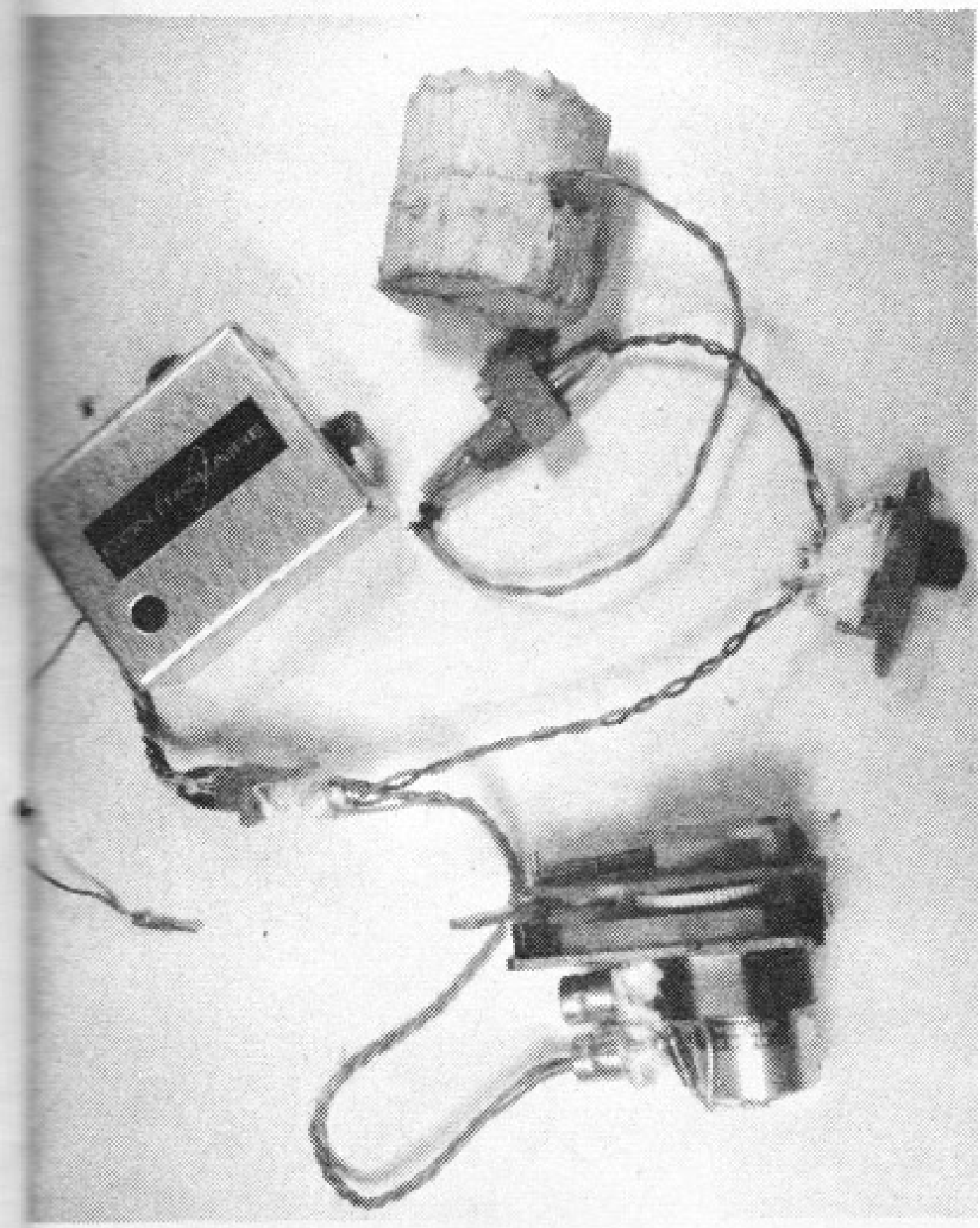
Engine is mounted to a sheer plate of 1/16" glass epoxy. Throttle control is via nylon tubing and flex cable to the LR-3, and a hatch cover carved from 3/8" sheet is held in place with rubber bands. Receiver is Controlaire SH-100. Fred had one gear on the LR-3 strip, but the makers replaced it with a tougher variety which has lasted very well. He found the motor was secured in the servo base with cement which loosened, so suggests occasional check on this, and on the gears. Transistors are two 2N3638 Fairchild, 1304 or 2N404 G.E.'s.


TO SERVO OR ACTUATOR
TO RY N.O.
CONTACT
TO RY N.C.
CONTACT
100Ω
100Ω
Q1
Q2
C
B
E
C
B
E
+2.4 TO
3.6V
P.C. BOARD LAYOUT (TOP VIEW)



* C.T. ON ACTUATOR
NOT USED

Not much to this schematic. It is very similar to the Controlaire NND-1 Switcher.



Fred glues the switcher on to the Rand servo with Silastic bathtub sealant. For vibration isolation and convenience.