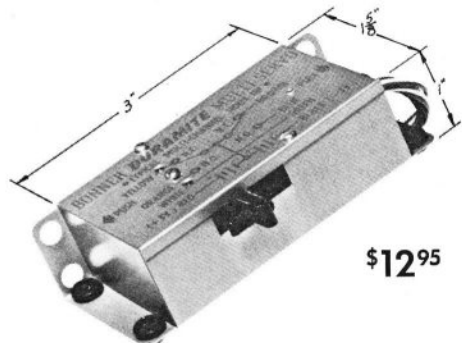
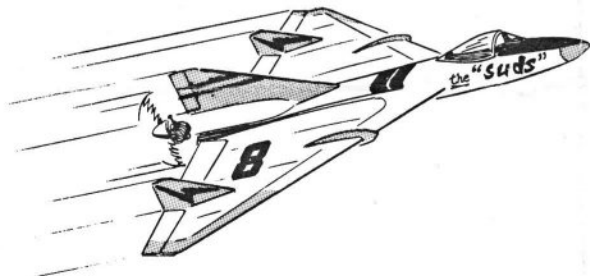


Bonner

DURAMITE

MULTI SERVO
SELF NEUTRALIZING TRIMMABLE
OR PROPORTIONAL
RADIO CONTROL SYSTEMS



WE ARE PROUD OF THESE SPECIFICATIONS

OVER 4 LBS. THRUST—WEIGHT: 2 1/2 OZ.
VOLTAGE: 2 TO 4 1/2—TRAVEL: 3/8"
CENTERING: PLUS OR MINUS .007
BATTERY DRAIN: NO LOAD 200-300 MA.
WINDING 3 OHM
SHOCK TEST 60 G
VIBRATION TEST 5-600 C.P.S. AT 0.3"
AMPLITUDE UP TO 30 G ACCELERATION O.K.
AVERAGE TRANSIT TIME=0.4 SEC.

IT'S THE MOST!

POWERFUL • DEPENDABLE • LIGHTWEIGHT • EASY TO INSTALL
VERSATILE SHOCK MOUNTING • FINE ADJUSTMENT SCREW
FEATURING OUR OWN MOTOR! NOT AN IMPORT!

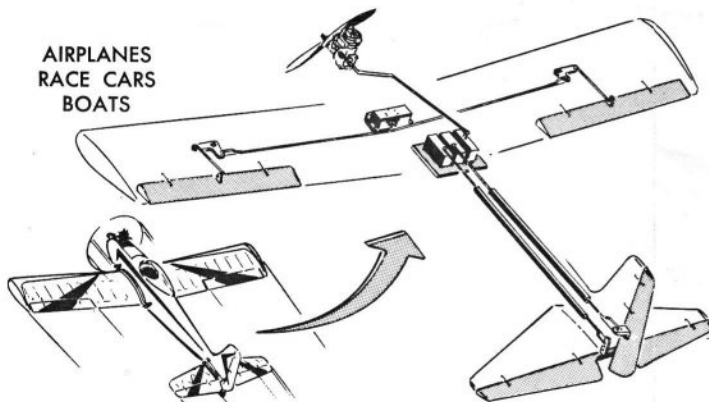
DESIGNED AND BUILT IN OUR OWN PLANT ESPECIALLY FOR SERVO USE

OILITE BEARINGS—93% SILVER BRUSHES—NYLON INSULATED ARMATURE—TURNED

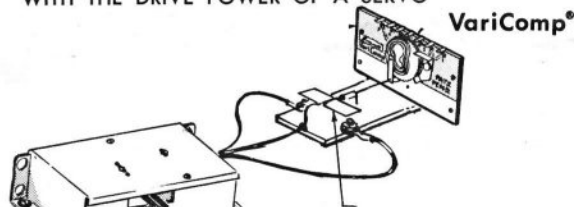
AND UNDERCUT COMMUTATOR—NYLON HOUSING—TEMPERATURE AND SHOCK TESTED

TEST MODELS OPERATED FOR OVER ONE QUARTER MILLION COMMANDS

AIRPLANES
RACE CARS
BOATS



SINGLE CHANNEL OPERATION, TOO!
GET QUICK ESCAPEMENT SWITCHING
WITH THE DRIVE POWER OF A SERVO



USE BONNER DURAMITE WHEREVER
MULTI CONTROLS ARE DESIRED

PRECISION BUILT AND TESTED - EACH DURAMITE MULTI SERVO IS PUT
THROUGH A THOROUGH VISUAL AND OPERATIONAL CHECK TO ASSURE
COMPLETE SATISFACTION AND TROUBLE FREE PERFORMANCE

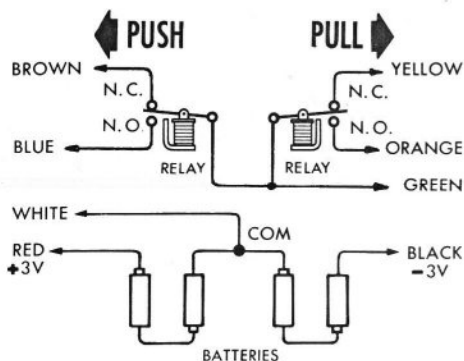
BONNER SPECIALTIES, 2900 Tilden Ave. Los Angeles 64, California

INSTRUCTIONS

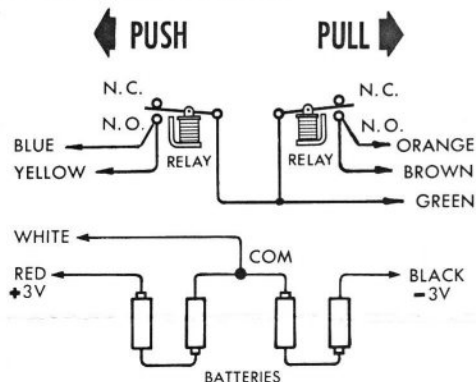
The Bonner Duramite may be bolted directly through the rubber shock mounts to either a mount-plate or cross beams in an R/C airplane, boat or car. Tighten screws or bolts only enough to just start compressing the rubber feet. Excessive tightening

loses the shock absorbing effect of the servo. For side mounting move rubber grommets from base holes to the four holes on the side. Connect wires to the servo for one of the circuits shown below. Refer to the instructions of the radio receiver being used to determine which receiver socket terminals are connected to the N.C. (normally closed) and N.O. (normally open) relay contacts.

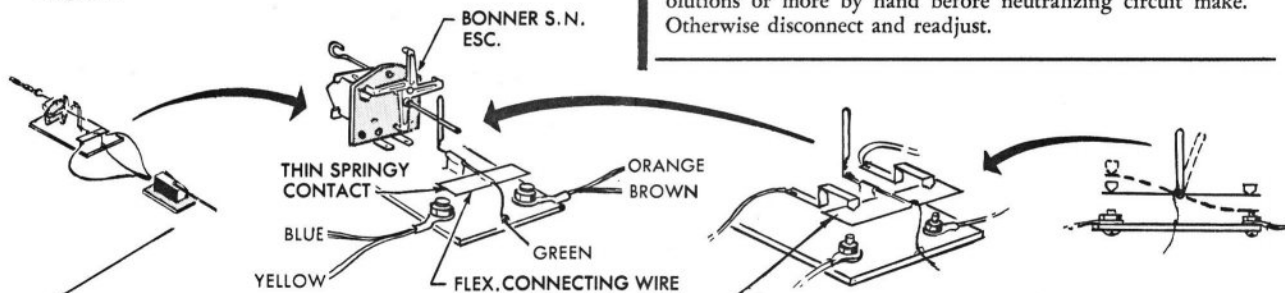
CIRCUIT FOR RETURN-TO-NEUTRAL (SELF-NEUTRALIZING) CONTROL



CIRCUIT FOR TRIMMABLE CONTROL

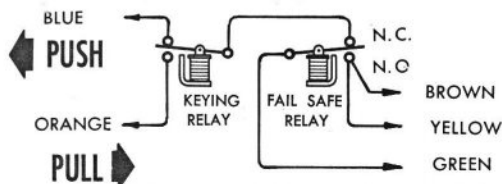


A trimmable or progressive control rudder on a single channel boat or car may be obtained by using an escapement operated switcher shown below in place of the two relays in the circuit diagram.



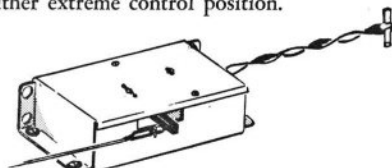
To boat rudder or car steering or to variable throttle when just one channel is available.

CIRCUIT FOR WAG PROPORTIONAL CONTROL



Use typical battery connections as previously shown. Method of connecting Duramite with WAG Dual Proportion System so that "fail safe" relay drives servo back to neutral, not dependent upon rubber return. Very light centering may be used.

For proportional control this servo has exceptional output power and has the distinct advantage of using *no* electrical power in either extreme control position.



When used as actuator for proportional control, use loop of rubber on motor shaft for center loading.

ADJUSTMENT FOR NEUTRAL

The circuit board may be adjusted for tight or loose centering. Moving the screw in the center of the cover shifts the circuit board, for wider centering shift board with screw toward output arm.

CAUTION: If contacts touch both neutralizing segments at once a 6 volt short circuit occurs. Guard against this by making adjustments with power disconnected. On connecting power, immediately check that the motor shaft can be turned 1½ revolutions or more by hand before neutralizing circuit make. Otherwise disconnect and readjust.

Or, for self-neutralizing servo application, use flex. contacts to operate like relays in S.N. Circuit.