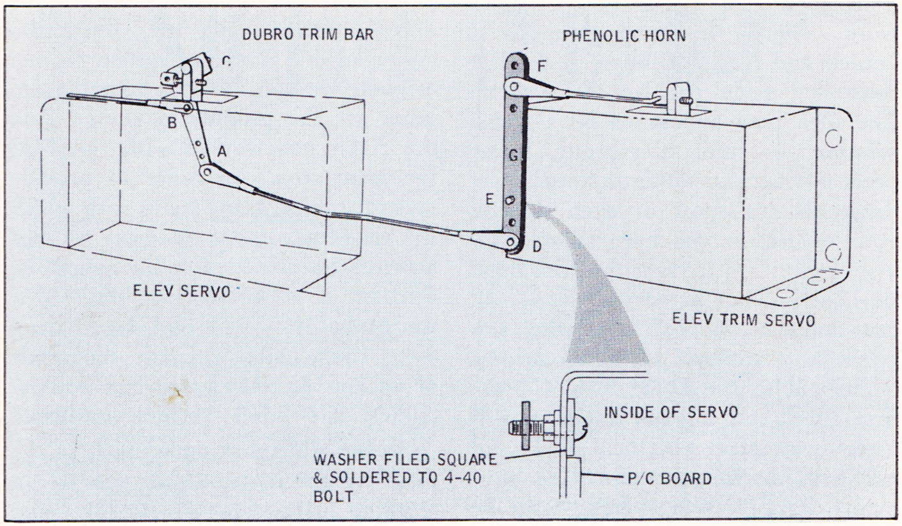
SHOP and FIELD



With the regular type trim bars it is hard to obtain correct elevator movement and trim movement. If the push rod is moved away from the trim servo, on the trim bar, true, the trim movement is cut down, *but* the perfectly shaped loops you had previously, become akin to knot holes. Of course, the opposite is true if the elevator push rod is moved toward the trim servo. This makes it difficult to trim a plane out in the modern trend of full elevator control loops, full up trim take-offs, and full down trim inverted flight. With this trim set up, once the elevator throw is established, by adjusting the elevator push rod at the elevator horn and at Point B on the elevator bar, the trim can then be altered all you want without changing the elevator throw. This is how it works: The Du Bro trim bar on the elevator servo pivots at A. The amount of elevator throw is governed by the hole in which the elevator push rod is put on the trim bar at B and also by the position of the push rod on the elevator horn. To make a trim change the trim servo pushes at F, pivots the trim bar at E and the link hooked on at D transmits the motion to A on the elevator trim bar. If you want more or less trim travel, all you do is change the position of F or D. You will notice that we have not changed the position of A at all, therefore, the elevator movement still remains the same.

I use a Du Bro trim on my elevator servo. My trim servo pivot bar is made out of 1/16" phenolic with an extra small piece added at E to make a total thickness of 1/8" where the ball goes through, I drill and tap the hole to 4-40. Then, I take a 4-40 ball and solder it to a washer, and cut flats on it. I drill a hole in my servo about half the way down the end in such a way that the flats on the washer lock in place between the end of the servo can and the P.C. board. A nut put on the outside with contact cement locks it in place. Then, just screw the trim servo in place. No lock nuts are needed, it will never come off. — *Harry Tom.*

FOREIGN TRANSISTOR SUBSTITUTION CHART

Many R/C Modeler readers have asked for an American equivalent chart of the transistors commonly called out in construction articles presented in the British magazine, Radio Control Models & Electronics. For this reason, we have gone back through several issues of RCM&E and listed some of these transistors and diodes along with their equivalent U.S. substitutions. Unless otherwise specified, all are PNP germanium types.

Low Power Transistors

Foreign	U.S. Substitution
AC 107	2N2494, 2N1516
AC 125	none
AC 127	none
AC 128	none
AF 114	2N1516, 2N1177, 2N1179, 2N1180
AF 115	2N1516, 2N1177, 2N1179, 2N1180
AF 116	2N1516, 2N1177, 2N1179, 2N1180
AF 117	2N1516, 2N1177, 2N1179, 2N1180
AF 118	2N1516, 2N1177, 2N1179, 2N1180
AF 124	2N370/33, 2N371/33
AF 125	2N370/33, 2N371/33
AF 127	2N370/33, 2N371/33
GET 114	none
GET 115	none
GET 116	none
OC 44	2N2089, 2N2090, 2N2091, 2N1516
OC 45	2N2494, 2N2495
OC 70	2N279, 2N283
OC 71	2N283
OC 72	2N518, 2N404A
OC 75	2N369, 2N633
OC 76	2N518, 2N044A
OC 80	none
OC 81	none
OC 82	none
OC 83	none
OC 84	none
OC 139	2N438, 2N439
OC 169	2N1177, 2N1179, 2N1180, 2N1516
OC 170	2N1177, 2N1179, 2N1180
XA 701 (NPN)	2N1995, 2N377

Power Transistors

Foreign	U.S. Substitution
OC 22, OC 23, OC 24	interchangeable, no substitution
OC 25	2N1182, 2N297
OC 26	2N1314
OC 28	2N1666
OC 29	2N1667, 2N1668, 2N1669
OC 35	2N1668, 2N1669
OC 36	2N1667, 2N1668, 2N1669

Diodes

OA 70	1N60
OA 79	1N295
OA 81	1N60
OA 90	DN34A
OA 91	DN34A
OA 95	1N618