Internal Rotary Driver System by Harley Michaelis.

This system works on most any size airframe to operate hinged surfaces, such as ailerons, flaps, elevators, rudder, elevons, flaprons, etc., Where the fixed surface can house a servos. Review web site to custom spline inserts for use with micro servos, and to successfully do installation on the first try.

(1) Turn self-threading 6/32 set screws into assembled sleeves.
(2) Mark inner and outer plastic sleeves for correct reassembly.
(3) Drill inner sleeve to fit drive shaft, pilot hole is 3/36”.
(4) Press spline adapter that fits your servo, on servo output shaft.
(5) Put outer sleeve on adapter, and tighten servo screw inside sleeve.
(6) Align your marks on sleeves and reassemble coupler.
(7) Rethread 6/32 screws into sleeves.
(8) Insert shaft through bushing, and into coupler.

Drive shafts can be made from standard and stainless welding rod, or K&S music wire. Size of wire is determined by the size of the airframe. The actuating bend must be as small a radius as possible, and be just in front of control surface hinge line. Debur both ends of shaft. File or grind flats for the set screws to tighten against on the shaft end that is inserted into the coupler. Bushings can be made with K&S Brass tube.

The pocket can be made from any hard counter top plastic, such as Formica, Nevamar, Wilsonart, etc., or .060” Lexan Sheet, spaced apart with balsa saturated with CA. Take care that CA does not run onto control surface of pocket.

IMPORTANT spacing is critical to eliminate slop and bind during deflection. The pocket must be a snug fit on the drive shaft. Mount the pocket about 1/16” behind the hinge line of the control surface.

Hitec
Volz Alu-Star
“Standard Servos”
Airtronics
JR, Multiplex
Futaba
FMA 300 Series
Critter Bits
Some Ace

Volz, except Zip & Alu-Star
“Micro Servos”
FMA, 80/90/95/100
Cirrus CS 20/21
Ace 8112
MPI MX-30

See “CUSTOM SPLINING” on Web Page to make adapters for other Servos.

Contents
2 Sets Plastic Couplers
2 Spline Adapter Trees
4 6/32 Set Screws
1 Allen Hex Wrench
Balsa spacers are wick-joined around edges of Formica. Then trim excess & fill grain with CA.