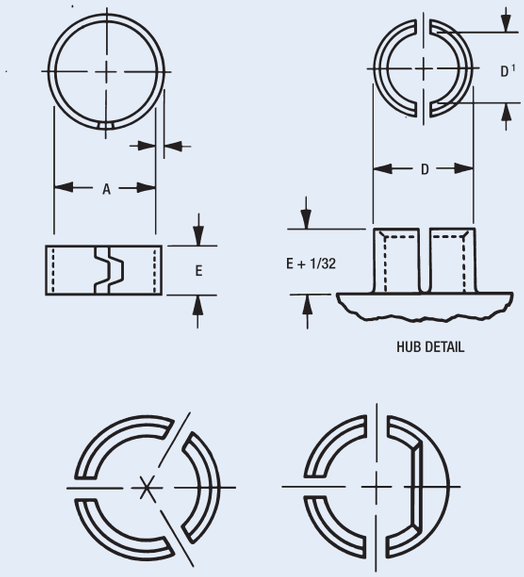
Material: All parts are **Spring Steel**, heat treated, unless otherwise specified.
The only variations available are those shown with suffix letters in the part number.
SS – Stainless Steel BE – Beryllium Copper P – Phosphor Bronze

Knob-to-Shaft Fasteners (Compression Rings)

Self-retaining Tinnerman **Speed Clips** solve a host of **Knob-to-Shaft** assembly problems. They eliminate inserts and setscrews for reduced molding costs and easier, faster assembly. Stresses are distributed evenly around the hub during application while the strength and durability of spring steel reinforces critical wearing points and harnesses cold-flow tendencies. Knobs can be removed and replaced repeatedly without danger of loosening or developing "knob-wobble".

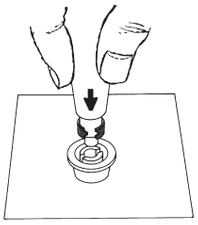
Two basic designs are available for standard applications. **Compression Rings** are for use on thermoplastic knobs with split hubs. They squeeze the hub around the shaft insuring firm, reliable retention. **Round, D-shaped** or **Knurled Shafts** can be used depending upon the hub cavity design. **"C" Clips** are recommended for die cast or thick-walled thermosetting plastic knobs. For use with D-shaped shafts only, they bear against the flat side of the shaft clamping it firmly within the hub cavity.

Where knob designs do not permit the use of either **Compression Rings** or **"C" Clips, Speed Clips** are available, or can be designed to fit within the knob cavity. Several variations are illustrated at the end of this section.



How to apply Knob-to-Shaft Speed Clip Fasteners

A simple tool picks up and expands the **Compression Ring.** The end of the tool is placed over the knob hub and the ring is transferred from the tool to the outer circumference of the hub in one easy motion. **"C" Clips** can be assembled over the hub with a similar tool or lightly rapped in place with a mallet. Data on these simple assembly tools is available on request.



D Hub O.D.	D1 Shaft Dia. Min.	D1 Hub I.D Max.	A Ring I.D.	E Ring Height	T Material Thickness	Part Number
.235 - .252	.125	.175	.220	.130	.017	C2133-017
.307 - .317	.182	.192	.280	.250	.014	C2304-014
.335 - .345	.245	.255	.300	.250	.014	C2122-014
.351 - .367	.219	.269	.320	.130	.017	C2684-017
.361 - .371	.234	.281	.320	.250	.014	C2401-014
.389 - .421	.272	.322	.370	.190	.028	C2155-028
.432 - .442	.375	.385	.410	.250	.017	C4101-017
.526 - .536	.362	.372	.470	.250	.025	C2166-025
.683 - .693	.558	.568	.600	.250	.020	D5794-020