

Tinnerman® Stud Receivers One-Piece, Self Locking

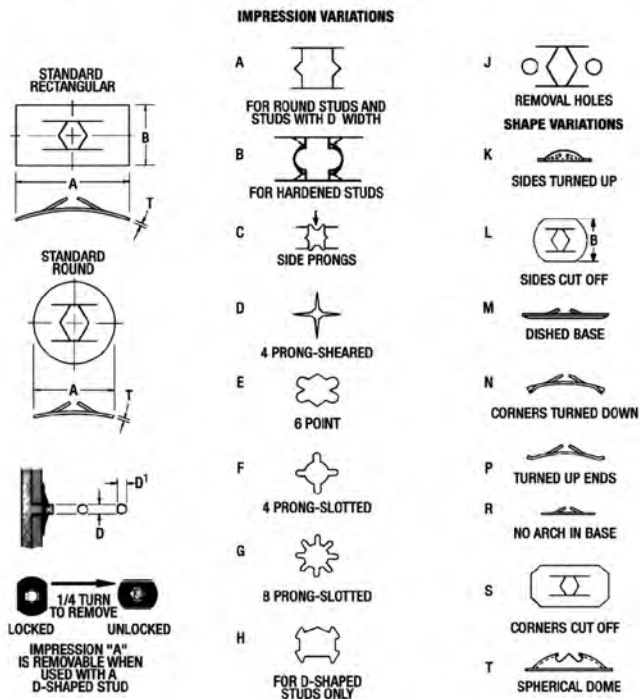
TINNERMAN

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



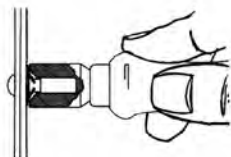
Push-on-Type Fasteners (Round Studs)

Tinnerman **Push-On-Type Fasteners** provide lightning-fast attachments to plain unthreaded studs such as rivets, die cast studs, tubing, nails, rods, etc. They make a positive "bite" on metal, plastic or wood and grip securely even on very smooth, hard surfaces. No threaded devices of any kind are necessary; therefore, the rate of assembly can be greatly increased through their use. Attachments can be made permanent or removable, as the product requires, by simply using the proper fastener or stud modification recommended. Made of quality high carbon spring steel, heat treated, they assure long, dependable service life at a minimum of assembly cost.



| Stud Size D Dia. | D1 Width | Type | Des. Vari- ation | A Length or Dia. | B Width | T Mat'l. Thick. | Part Number |
|------------------------|-------------|-------|------------------------|------------------------|------------|-----------------------|----------------|
| .059-.065 | .044-.054 | Rect. | A | .380 | .220 | .012 | C12001-012 |
| | | Round | Std. | .500 | — | .012 | C11033-012 |
| .091-.097 | .069-.079 | Rect. | A | .450 | .230 | .012 | C12002-012 |
| | | Round | CR | .220 | — | .010 | C13388SS-010 |
| .122-.128 | .095-.105 | Rect. | A | .580 | .310 | .012 | C12003-012 |
| | | Round | Std. | .430 | — | .012 | C17969-012 |
| .153-.159 | .120-.130 | Rect. | AJ | .870 | .560 | .012 | C17182-012 |
| | | Round | DM | .380 | — | .012 | C13790-012 |
| .185-.191 | .145-.155 | Rect. | A | .630 | .380 | .017 | C12005-017 |
| | | Round | FM | .560 | — | .011 | C18234-187 |
| .216-.222 | .170-.180 | Rect. | A | .620 | .440 | .012 | C12006-017 |
| | | Round | L | .500 | .380 | .017 | C12045-017 |
| 6.100-6.250 | — | Round | AR | 19.050 | — | .300 | C71631-030M |
| .247-.253 | .182-.192 | Rect. | A | .640 | .560 | .012 | C573-012 |
| | | Round | L | .560 | .440 | .017 | C12046-017 |
| .309-.315 | — | Rect. | Std. | .630 | .500 | .014 | C7818-014 |
| | | Round | GR | .630 | — | .010 | C17022SS-010 |
| .372-.378 | .295-.305 | Rect. | A | .750 | .560 | .020 | C12009-020 |
| | | Round | FM | .730 | — | .014 | C18235-375 |
| .436-.438 | — | Rect. | Std. | 1.000 | .690 | .020 | C6313-020 |
| .470-.475 | — | Round | BL | .910 | .630 | .017 | C11600-017 |
| .495-.505 | — | Rect. | P | .920 | .750 | .017 | C867-017 |
| | | Round | FR | .790 | — | .014 | C70524-014 |
| 14.000-14.000 | — | Rect. | Std. | 31.000 | 22.300 | .430 | D98166-043M |
| .620-.630 | — | Rect. | Std. | .980 | .810 | .017 | C1529-017 |
| .622-.628 | — | Round | GR | .960 | — | .014 | C70891SS-014 |
| .740-.750 | — | Round | GR | 1.630 | — | .025 | C15802-025 |
| .745-.755 | — | Rect. | P | 1.480 | 1.250 | .017 | C1583-017 |
| | | Round | PS | 1.450 | 1.250 | .017 | C7195-017 |
| .995-1.005 | — | Rect. | PS | 1.450 | 1.250 | .017 | C7195-017 |
| | | Round | A | 2.300 | — | .017 | C13232-017 |
| 1.997-2.003 | — | Rect. | FN | 2.750 | 2.750 | .014 | C10044-014 |

How to apply Push-on-Type Speed Nut Fasteners



Stud engaging **Speed Nut** brand fasteners are used in two ways. Either as free parts which are pressed over shaft, stud or rod ends; or captive parts which are retained on a panel in stud-receiving position. Whether the fastener is applied to the work or the work is applied to the fastener, the method is simply to position the two in square alignment and zip into locked position.

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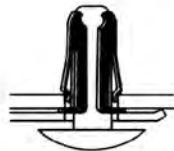
Tubular-Type Fasteners

Tubular-Type Speed Clips team up with unthreaded studs or rivets to virtually "nail" assemblies together. Hand-snapped into punched or molded holes in metal, plastic or wood, they retain themselves in stud-receiving position. The mating panel is positioned with mounting studs properly aligned and pressed home to complete the assembly. **Tubular-Type Speed Clips** are ideal for making fast, practical attachments where only one side of an assembly is accessible ... perfect for attaching name plates, instruction plates, grille work and decorative trim, knobs, insulation dust shields and other lightweight equipment.

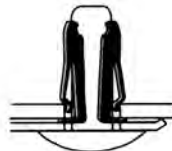
How to apply Tubular-Type Speed Clip Fasteners



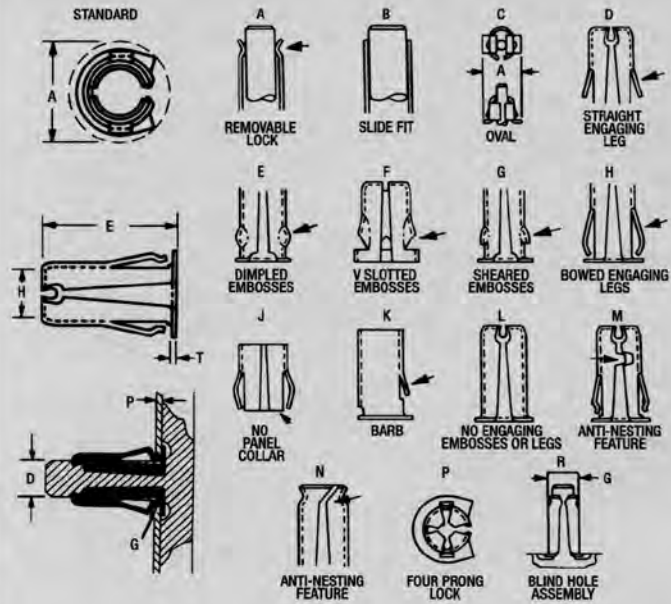
Insert the **Speed Clip** into the panel hole causing spring arms to compress. When fully seated, the spring arms snap out behind the panel to hold the clip in position.



Line up the mating panel and start rivet or stud into **Speed Clip**.



Seat rivet, causing it to engage turned-in end of **Speed Clip**, locking assembly. A rounded stud end is recommended for greater ease of assembly.



| D Stud Dia. | P Panel Range | Des. Variation | A | E Height | H Opening at End | G Panel Hole Dia. | T Mat'l. Thick. | Part Number |
|----------------------|----------------------|----------------|---------------|---------------|------------------|--------------------------|-----------------|--------------------|
| .088-.098 | .070-.085 | DP | .270 | .270 | .050 | .185-.189 | .012 | C21017-070 |
| .091-.097 | --- | ALR | .190 | .230 | .080 | .115-.125 | .010 | C3385-010 |
| 2.970-3.120 | 2.290-2.790 | CDM | 11.470 | 10.160 | 2.030 | 6.350x12.700 | .430 | C57238-229M |
| .122-.128 | .038-.044 | Std. | .210 | .260 | .104 | .156-.166 | .012 | C2204-040 |
| | .079-.085 | Std. | .230 | .260 | .104 | .156-.166 | .012 | C2477-081 |
| | --- | ALR | .240 | .250 | .110 | .155-.160 | .012 | C2997-012 |
| 3.650-4.150 | 1.150-1.650 | BD | 7.130 | 5.600 | 3.980 | 5.330 - 5.330 | .430 | C57969-043M |
| .151-.161 | .052-.066 | Std. | .320 | .450 | .136 | .223-.233 | .012 | C25152-052 |
| | .100-.110 | Std. | .320 | .450 | .136 | .223-.233 | .012 | C25152-100 |
| | .123-.129 | A | .310 | .470 | .140 | .223-.233 | .012 | C24316-125 |
| .182-.192 | .115-.121 | Std. | .310 | .470 | .163 | .223-.233 | .012 | C22519-115 |
| .184-.190 | .045-.055 | DP | .340 | .310 | .125 | .245-.255 | .017 | C40776-045 |
| .185-.191 | .049-.055 | A | .320 | .470 | .166 | .223-.233 | .012 | C2350SS-051 |
| | .062-.068 | Std. | .320 | .460 | .163 | .223-.233 | .012 | C2822-064 |
| .245-.255 | .030-.034 | AE | .410 | .370 | .232 | .307-.317 | .014 | C22310-030 |
| | .040-.062 | E | .360 | .390 | .220 | .307-.317 | .014 | C27947-040 |
| | --- | ALR | .410 | .370 | .232 | .276-.286 | .014 | C23764-014 |
| .309-.315 | .036-.045 | AFM | .440 | .250 | .300 | .340-.350 | .012 | C4601-036 |
| 8.000 - 8.000 | 5.850 - 5.850 | CG | 14.750 | 10.490 | 6.780 | 10.15 x 10.15 sq. | .430 | C57779-043M |
| .497-.503 | .046-.052 | AF | .680 | .330 | .470 | .528-.534 | .012 | C23205-046 |
| .747-.750 | .240-.260 | ADM | .855 | 1.090 | .703 | .812-.820 | .017 | C57928-240 |

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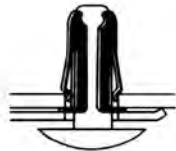
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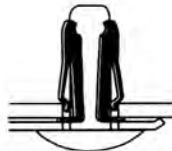
How to apply Tubular-Type Speed Clip Fasteners



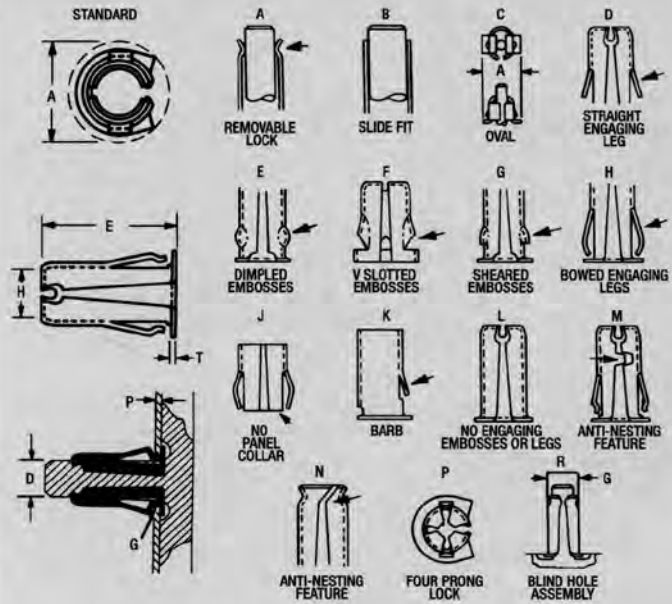
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| | .079-.085 | Std. | .230 | .260 | .104 | .156-.166 | .012 | C2477-081 |
| | --- | ALR | .240 | .250 | .110 | .155-.160 | .012 | C2997-012 |
| 3.650-4.150 | 1.150-1.650 | BD | 7.130 | 5.600 | 3.980 | 5.330 - 5.330 | .430 | C57969-043M |
| .151-.161 | .052-.066 | Std. | .320 | .450 | .136 | .223-.233 | .012 | C25152-052 |
| | .100-.110 | Std. | .320 | .450 | .136 | .223-.233 | .012 | C25152-100 |
| | .123-.129 | A | .310 | .470 | .140 | .223-.233 | .012 | C24316-125 |
| .182-.192 | .115-.121 | Std. | .310 | .470 | .163 | .223-.233 | .012 | C22519-115 |
| .184-.190 | .045-.055 | DP | .340 | .310 | .125 | .245-.255 | .017 | C40776-045 |
| .185-.191 | .049-.055 | A | .320 | .470 | .166 | .223-.233 | .012 | C2350SS-051 |
| | .062-.068 | Std. | .320 | .460 | .163 | .223-.233 | .012 | C2822-064 |
| .245-.255 | .030-.034 | AE | .410 | .370 | .232 | .307-.317 | .014 | C22310-030 |
| | .040-.062 | E | .360 | .390 | .220 | .307-.317 | .014 | C27947-040 |
| | --- | ALR | .410 | .370 | .232 | .276-.286 | .014 | C23764-014 |
| .309-.315 | .036-.045 | AFM | .440 | .250 | .300 | .340-.350 | .012 | C4601-036 |
| 8.000 - 8.000 | 5.850 - 5.850 | CG | 14.750 | 10.490 | 6.780 | 10.15 x 10.15 sq. | .430 | C57779-043M |
| .497-.503 | .046-.052 | AF | .680 | .330 | .470 | .528-.534 | .012 | C23205-046 |
| .747-.750 | .240-.260 | ADM | .855 | 1.090 | .703 | .812-.820 | .017 | C57928-240 |

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The dimensions of the above parts are envelope dimensions only. For complete design information, please request a blueprint from your Tinnerman representative or the Tinnerman Engineering department.

Metric parts listed in italic>



Ball-Stud Fasteners

Ball-Stud Speed Clips were originally developed as spring catch fasteners on aircraft access doors, inspection panels, sealing strips and other similar assemblies requiring repeated disengagement. Their versatility soon found them used extensively in other fields where they secured kitchen cabinet doors, removable toe plates, electronic cabinets, protective covers, etc. There is no direct contact between the stud and panel surfaces. This eliminates wear or chipping of painted or porcelainized surfaces and resulting corrosion. When latched, the spring legs of the **Speed Clip** continually bear inward on the spherical or serrated studs, holding the latched unit snug against the panel.

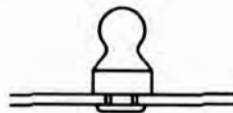
Where adjustability or wide latching ranges are required, the serrated stud is used. They are mainly used for attaching compressionable materials such as rubber, fabric, insulation, etc.

Pull-out tensions, depending on the material thickness of the **Speed Clip** and the stud used, can be provided from 3.5 pounds to 50-65 pounds. Various panel thicknesses are accommodated by varying the stud lengths.

How to apply Ball-Stud Speed Clip Fasteners



The **Speed Clip** is riveted in position on the panel with either plain or 100 degree counter-sunk head rivets.

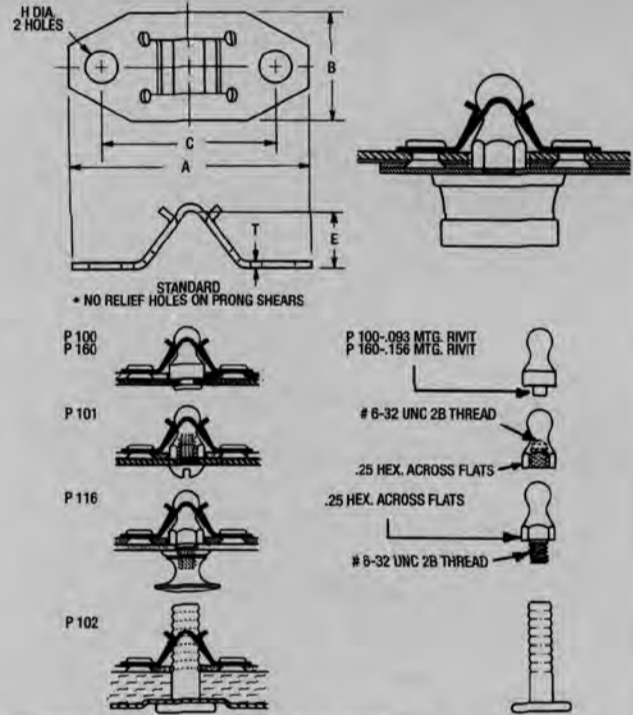


The **Ball-Stud*** is riveted, bolted or screwed into the mating panel.



The panels are snapped together. Owing to the resiliency of the spring legs, misalignment resulting from a normal amount of manufacturing tolerances can be readily absorbed.

*Ball-studs are not manufactured by Tinnerman.



Request further Stud information from your Eaton representative.

| H Hole Dia. | Des. Variation | Pull-Out Tension | Stud Type | A Length | B Width | C Ctr. to Ctr. | E Height | T Mat'l. Thick. | Part Number |
|-------------|----------------|------------------|-----------|----------|---------|----------------|----------|-----------------|-------------|
| .105 | Std. | 3.5 lbs. | Ball | .970 | .440 | .685 | .220 | .012 | C4893-012 |
| | Std. | 8 lbs. | Serrated | .970 | .440 | .685 | .220 | .017 | C4893-017 |
| | Std. | 12 lbs. | Ball | .970 | .440 | .685 | .220 | .022 | C4893-022 |
| | Std. | 18 lbs. | Ball | .970 | .440 | .685 | .220 | .028 | C4893-028 |
| | Std. | 30 lbs. | Ball | .970 | .440 | .685 | .220 | .031 | C4893-031 |
| .135 | Std. | 3.5 lbs. | Ball | .970 | .440 | .685 | .220 | .012 | C1663-012 |
| | Std. | 8 lbs. | Serrated | .970 | .440 | .685 | .220 | .017 | C1663-017 |
| | Std. | 8 lbs. | Ball | .970 | .440 | .685 | .220 | .017 | C1663SS-017 |
| | Std. | 12 lbs. | Ball | .970 | .440 | .685 | .220 | .022 | C1663-022 |
| | Std. | 18 lbs. | Ball | .970 | .440 | .685 | .220 | .028 | C1663-028 |
| .140 | Std. | 17 lbs. | Ball | 1.060 | .440 | .750 | .240 | .020 | C6273-020 |
| | Std. | 21 lbs. | Ball | 1.060 | .440 | .750 | .240 | .022 | C6273-022 |
| .145 | Std. | 3.5 lbs. | Ball | .970 | .440 | .685 | .220 | .012 | C4883-012 |
| | Std. | 8 lbs. | Serrated | .970 | .440 | .685 | .220 | .017 | C4883-017 |
| | Std. | 12 lbs. | Ball | .970 | .440 | .685 | .220 | .022 | C4883-022 |
| | Std. | 18 lbs. | Ball | .970 | .440 | .685 | .220 | .028 | C4883-028 |
| | Std. | 30 lbs. | Ball | .970 | .440 | .685 | .220 | .031 | C4883-031 |
| .156 | Std. | 50-65 lbs. | Ball | .970 | .440 | .700 | .220 | .031 | C40488-031* |

* No relief holes on prong shears.