



52 Captive Screws

Miniature low profile series · Press-in style

- Low profile for limited space application
- Heat treated steel screw for optimum strength
- Designate access points with color
- Color match captive screws to your industrial design

Material and Finish

Screw: Hardened carbon steel, zinc plated, chromate, plus sealer

Spring: 300 series stainless steel, passivated

Standoff: Carbon steel, zinc plated, chromate, plus sealer

Prism: PC/ABS

Performance Details

Flamability Rating: UL94-V0

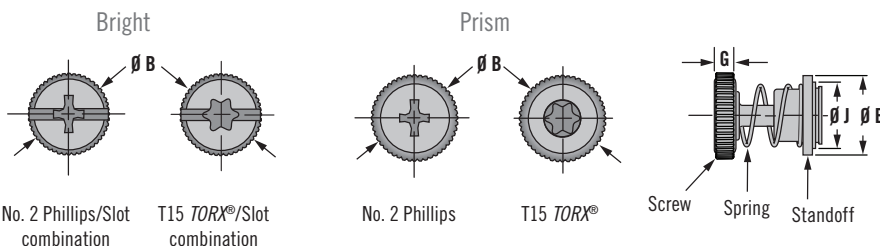
Installation Notes

For use in most aluminum or low carbon steels that are 1/4 hard or softer. Visit www.southco.com for more information.

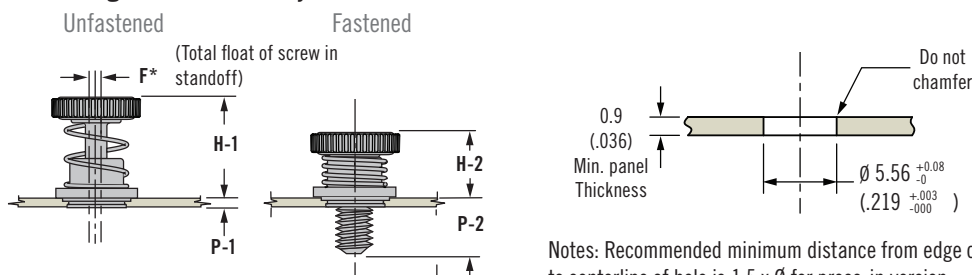
Part Number

See table

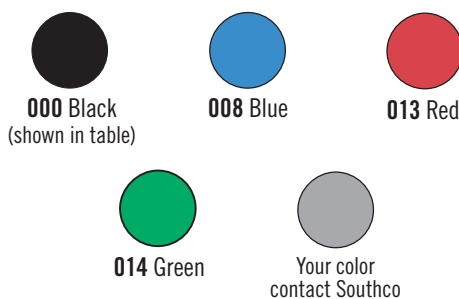
Recess Styles



Knob Height and Screw Projection



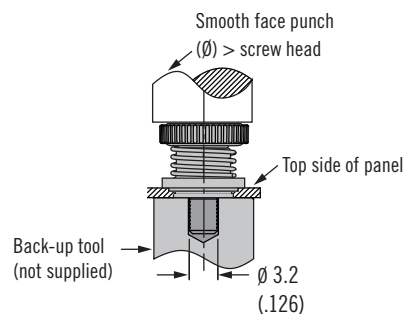
F* - Value represents float in unfastened position
Notes: P-1, P-2 measured from the top side of panel



Specifying Color: To indicate color, change the last three digits of the part number

Example: 52-A11-51-4-000 Black, 52-A11-51-4-013 Red

Notes: Recommended minimum distance from edge of panel to centerline of hole is 1.5 x Ø for press-in version.



Visit www.southco.com for additional installation guidelines

Color/ Appearance	Thread Size	Part Number						H-1	H-2	P-1	P-2	Ø J	Ø E	G	F*
		Knurled Head			Smooth Head										
		Phillips / Slotted	TORX®/ Slotted	Ø B	Phillips / Slotted	TORX®/ Slotted	Ø B								
Bright	4-40	52-A19-51-4	52-A17-51-4	7	52-A1A-51-4	52-A18-51-4	6.75	9	6	0.9	3.9	6.35	7.6	1.7	0.5
	M3 x 0.5	52-A39-51-4	52-A37-51-4	(.28)	52-A3A-51-4	52-A38-51-4	(.27)	(.36)	(.24)	(.04)	(.17)	(.25)	(.3)	(.07)	(.02)
		Phillips	TORX®	Ø B	Phillips	TORX®	Ø B								
Prism (black shown)	4-40	52-A11-51-4-000	52-A15-51-4-000	8.1	52-A13-51-4-000	52-A16-51-4-000	7.8	9.5	6.2	0.9	3.9	6.35	7.6	2.2	0.5
	M3 x 0.5	52-A31-51-4-000	52-A35-51-4-000	(.32)	52-A33-51-4-000	52-A36-51-4-000	(.31)	(.37)	(.26)	(.04)	(.17)	(.25)	(.3)	(.09)	(.02)

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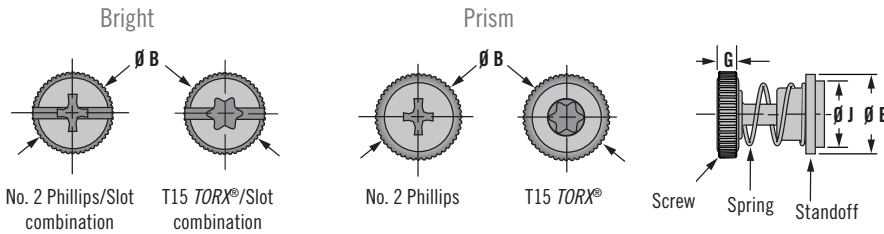
52 Captive Screws

Miniature low profile series · Surface Mount Technology (SMT) Style

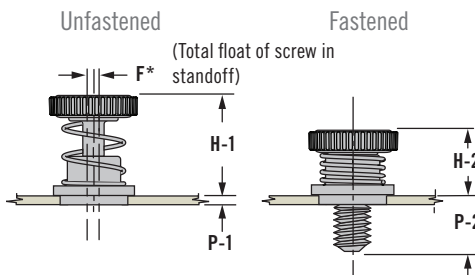


477B

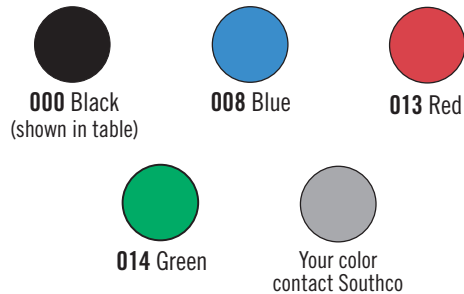
Recess Styles



Knob Height and Screw Projection



F* Value represents float in unfastened position
Notes: P-1, P-2 measured from the top side of panel

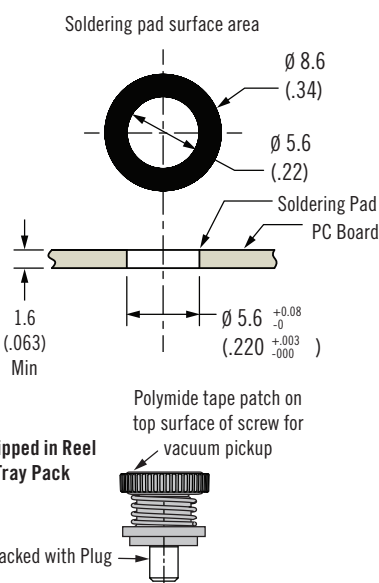


Specifying Color: To indicate color, change the last three digits of the part number

Example: 52-SM-A1111-K000-R, 52-SM-A1111-K013-R

Visit www.southco.com for additional installation guidelines

PC Board Preparation



Screw as Shipped in Reel Pack or Tray Pack

Packed with Plug

Specify Package - SMT Style

Indicate package option with last digit of the part number

Example

52-SM-A1311-K-R: Reel Package (as shown in table)

52-SM-A1311-K-T: Tray Package

- For installation to PC Board material utilizing surface mount technology
- Heat treated steel screw for optimum strength
- Designate access points with color
- Color match captive screws to your industrial design

Material and Finish

Screw: Hardened carbon steel, zinc plated, chromate, plus sealer

Spring: 300 series stainless steel, passivated

Standoff: Carbon steel, tin plated, chromate, plus sealer

Prism: High heat resistant plastic

Performance Details

Flamability Rating: UL94-V0

Installation Notes

Visit www.southco.com for additional installation guidelines

Part Number

See table

Color/ Appearance	Thread Size	Part Number						H-1	H-2	P-1	P-2	Ø J	Ø E	G	F*
		Knurled Head			Smooth Head										
		Phillips / Slotted	TORX®/ Slotted	Ø B	Phillips / Slotted	TORX®/ Slotted	Ø B								
Bright	4-40	52-SM-A1311-K-R	52-SM-A1411-K-R	7	52-SM-A1311-N-R	52-SM-A1411-N-R	6.75	8.4	5.4	1.5	4.5	5.5	7.6	1.7	0.5
	M3 x 0.5	52-SM-A3311-K-R	52-SM-A3411-K-R	(.28)	52-SM-A3311-N-R	52-SM-A3411-N-R	(.27)	(.33)	(.21)	(.06)	(.18)	(.22)	(.3)	(.07)	(.02)
		Phillips	TORX®	Ø B	Phillips	TORX®	Ø B								
Prism (black shown)	4-40	52-SM-A1111-K000-R	52-SM-A1211-K000-R	8.1	52-SM-A1111-N000-R	52-SM-A1211-N000-R	7.8	8.9	5.9	1.5	4.5	5.5	7.6	2.2	0.5
	M3 x 0.5	52-SM-A3111-K000-R	52-SM-A3211-K000-R	(.32)	52-SM-A3111-N000-R	52-SM-A3211-N000-R	(.31)	(.35)	(.23)	(.06)	(.18)	(.22)	(.3)	(.09)	(.02)

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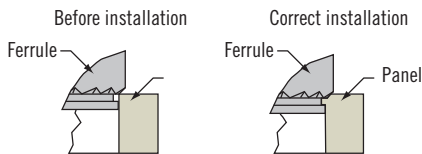
Installation Guidelines

for *SOUTHCO*® Self-Clinching products

Self-clinching product installation is offered on these *SOUTHCO*® products, making them easy-to-use captive panel fasteners:

- Captive Screws
- Receptacles for Quarter-turn Fasteners
- Receptacles for Fast-lead Thread Screws

When pressed into a properly prepared hole, self-clinching captive fasteners cold-flow (move) the panel material into the retaining groove of the fastener. This material then retains the fastener in the panel.



Successful press-in installations depend on:

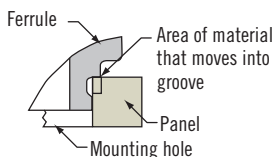
Material:

The hardness of the panel material must not exceed *SOUTHCO*® recommendations. If the panel is too hard, the fastener will not install correctly.

Installation Holes:

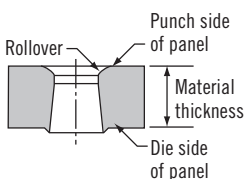
Mounting holes may be drilled, punched, or cast.

- Hole edge: the top hole edge must be sharp but with no broken edges.



Do not chamfer or debur edge.

- Punched holes: use a punch and die with a small clearance to minimize the rollover and fracture angle.
- Hole diameter: measure the hole diameter at the panel surface on the side on which the fastener will be installed. The diameter must be within *SOUTHCO*® specifications for that product.



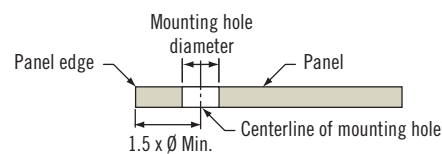
- If the hole is too large, not enough material will flow into the

retaining groove and the fastener may not be retained adequately.

- If the hole is too small, the fastener will not fit and installation may become difficult and unsafe.
- Hole distance from the edge of panel: the minimum recommended distance is 1.5 x the diameter of the mounting hole, unless otherwise indicated.

- Spring-loaded Plungers
- Captive Nuts
- Threaded Inserts

- Installing too close to the edge will cause the material to flow in the opposite direction, deforming the edge of the panel. To install closer to the edge, you may need to restrain the panel edge.



Panel Thickness:

The thickness of the panel at the mounting hole location must meet or exceed Southco's stated minimum recommendations.

If the material is too thin, panel deformation and/or damage to the fastener may result.

Installation is fast and easy if you follow these tips:

How to install: Use the recommended force where noted and a proper back-up tool.

- use any parallel-acting press
- use a punch whose diameter is larger than the head of the fastener

Installation Force: Proper installation requires an even distribution of adequate force. It does not depend on the distance the fastener is pressed into the panel.

- Southco does not recommend using a hammer. The impact force does not provide an even distribution of force to allow the panel material to completely flow into the fastener's retaining groove.
- Installation force varies from application to application, depending on the criteria noted above.
- On parts without a collar to provide a hard stop, press-in until the edge of the knurl is just barely visible.

When to Install:

Installation is recommended after plating or finishing has been applied to the panel.

The hole diameter must meet specifications before finish or plating is applied.

- Do not over-install parts. This interrupts the material and will reduce the retention strength.

