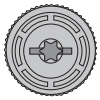
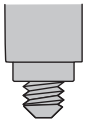
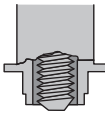
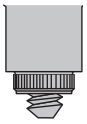
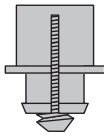
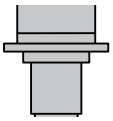
Select the product features that you need

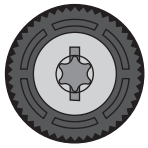
Tool Recess

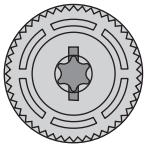
Which access is best for your application?				
Slotted: Common recess	**Phillips:** Better tool retention Meets certain limited-access restrictions	**Phillips / Slot:** Combine the better tool retention of Phillips with the convenience of a slotted recess	***TORX®*:** Higher torque transfer Reduced cam-out and end load High speed assembly Longer tool life	***TORX®* / Slot:** Combine the benefits of *TORX®* with the convenience of a slotted recess
				

Installation Style

Which installation method is best for your application?					
Self-Clinching, Press-In: One-step press operation	**Flare-In:** Near edge installation in plastics, castings and any material	**Floating:** Provides additional radial float to accommodate a significant amount of misalignment	**P.C. Board:** Designed for use in P.C. boards and other composites such as fiberglass	**Snap-In:** Install by hand, no special tools required	**SMT:** For installation to PC Board material utilizing surface mount technology
					

Color



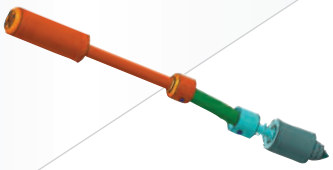


When an off-the-shelf design doesn't quite meet your needs….

Lower profile, ergonomic, extended reach, small space envelope…no problem!

Speed up service and decrease assembly time in tight spaces!

Have a wish list?
Southco can give you the solution.



southco®
CONNECT · CREATE · INNOVATE

TORX® is a registered trademark of *ACUMENT®* Intellectual Properties, LLC

Dimensions in millimeters (inch) unless otherwise stated

47 Captive Screws

Styled knob series · M3 thread size

- **Smooth knob meets UL-1950**
- **Designed for hand operation**
- **Spring ejected**
- **Wide variety of sizes, recesses and installation options**

Material and Finish

Ferrule:
Press-in: Hardened carbon steel, zinc plated, chromate, plus sealer
Flare-in and Floating:
Aluminum, natural
P.C. board style: 300 Series stainless steel, passivated

Knob:
Aluminum, natural or black powder coated

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

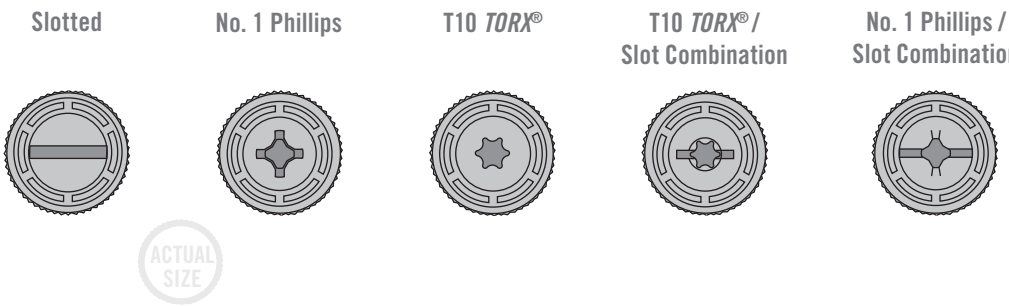
Installation Notes

See pages 468-469, 543

Notes

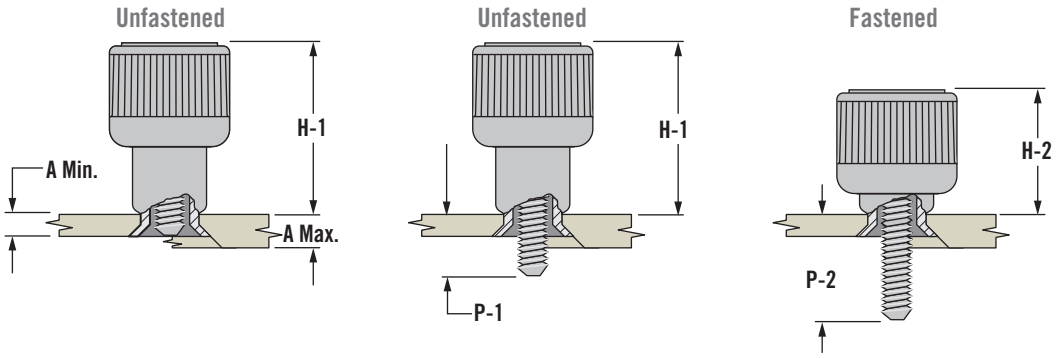
To ensure you receive *SOUTHCO*® quality parts, look for the segmented circle

Recess Styles

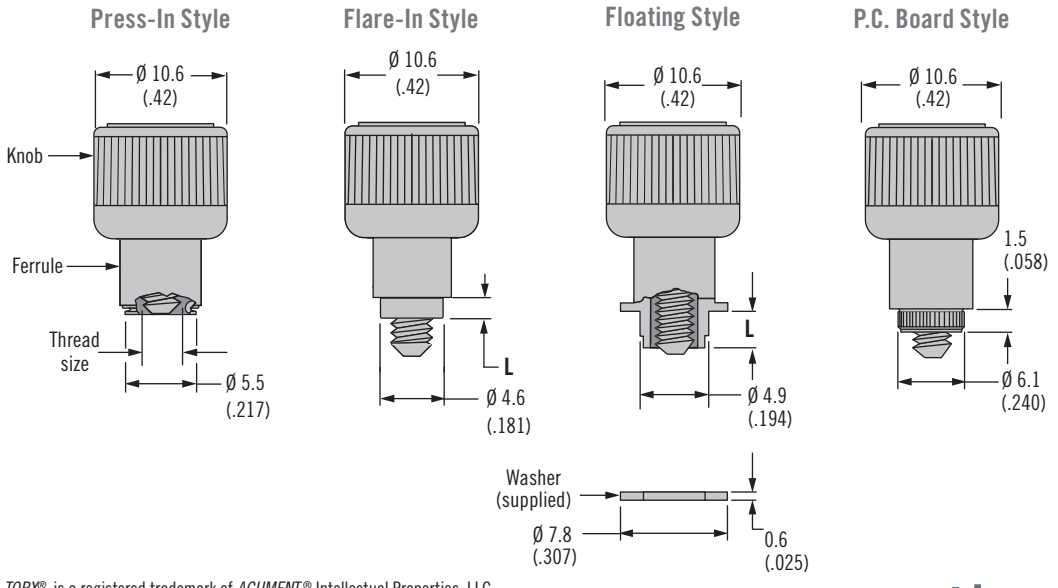


Knob Height and Screw Projection

(Flare-in style shown)



Installation Styles

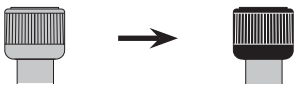


TORX® is a registered trademark of *ACUMENT*® Intellectual Properties, LLC

Dimensions in millimeters (inch) unless otherwise stated

Installation Style	Knob Height		Outer Panel Dimensions		B	Total Float	Flange Length L	Screw Projection Beyond Outer Surface of Panel		Part Number				
	H-1	H-2	A Min.	A Max.				P-1	P-2	Slotted Recess	Phillips Recess	*TORX*® Recess	*TORX*® / Slot Combination	Phillips / Slot Combination
Press-In Style	11.3 (.45)	8.3 (.33)	0.9 (.036)	~	~	0.7 (.03)	~	0.8 (.03)	3.8 (.15)	47-90-101-24	47-90-121-24	47-90-141-24	47-90-161-20	47-90-181-24
								2.5 (.10)	5.5 (.22)	47-91-101-24	47-91-121-24	47-91-141-24	47-91-161-20	47-91-181-24
								4 (.16)	7 (.28)	47-92-101-24	47-92-121-24	47-92-141-24	47-92-161-20	47-92-181-24
								5.6 (.22)	8.6 (.34)	47-93-101-24	47-93-121-24	47-93-141-24	47-93-161-20	47-93-181-24
P.C. Board Style	11.5 (.45)	8.3 (.33)	1.6 (.061)	~	~	0.7 (.03)	~	1.5 (.06)	4.5 (.18)	47-95-101-34	47-95-121-34	47-95-141-34	47-95-161-30	47-95-181-34
Flare-In Style	11.5 (.45)	8.1 (.32)	0.8 (.031)	1.5 (.058)	0.4 (.015)	0.7 (.03)	1.0 (.041)	0.8 (.03)	4 (.16)	47-80-101-14	47-80-121-14	47-80-141-14	47-80-161-10	47-80-181-14
			1.5 (.059)	2.5 (.098)	0.4 (.015)		1.8 (.070)	1.5 (.06)	4.7 (.19)	47-80-102-14	47-80-122-14	47-80-142-14	47-80-162-10	47-80-182-14
			2.5 (.098)	4 (.156)	0.8 (.031)		2.6 (.104)	2.5 (.10)	5.7 (.22)	47-80-103-14	47-80-123-14	47-80-143-14	47-80-163-10	47-80-183-14
			4 (.157)	5.6 (.219)	2.4 (.093)		4.2 (.166)	4 (.16)	7.2 (.28)	47-80-105-14	47-80-125-14	47-80-145-14	47-80-165-10	47-80-185-14
			5.6 (.220)	7.1 (.281)	4 (.156)		5.8 (.299)	5.6 (.22)	8.8 (.35)	47-80-107-14	47-80-127-14	47-80-147-14	47-80-167-10	47-80-187-14
			0.8 (.031)	1.5 (.058)	0.4 (.015)		1.0 (.041)	2.5 (.10)	5.7 (.22)	47-81-101-14	47-81-121-14	47-81-141-14	47-81-161-10	47-81-181-14
								4 (.16)	7.2 (.28)	47-82-101-14	47-82-121-14	47-82-141-14	47-82-161-10	47-82-181-14
								5.6 (.22)	8.8 (.35)	47-83-101-14	47-83-121-14	47-83-141-14	47-83-161-10	47-83-181-14
			1.5 (.058)	2.5 (.098)	0.4 (.015)		1.8 (.070)	3.2 (.13)	6.4 (.25)	47-81-102-14	47-81-122-14	47-81-142-14	47-81-162-10	47-81-182-14
								4.7 (.19)	7.9 (.31)	47-82-102-14	47-82-122-14	47-82-142-14	47-82-162-10	47-82-182-14
								6.3 (.25)	9.5 (.37)	47-83-102-14	47-83-122-14	47-83-142-14	47-83-162-10	47-83-182-14
Floating Style	11.4 (.45)	8.6 (.34)	~	0.8 (.031)	2 (.080)	2.0 (.08)	2.6 (.101)	1.9 (.07)	5.1 (.20)	47-80-110-14	47-80-130-14	47-80-150-14	47-80-170-10	47-80-190-14
								3.4 (.13)	6.6 (.26)	47-81-110-14	47-81-130-14	47-81-150-14	47-81-170-10	47-81-190-14
								5 (.19)	8.2 (.32)	47-82-110-14	47-82-130-14	47-82-150-14	47-82-170-10	47-82-190-14
			0.8 (.031)	1.6 (.063)	2.8 (.111)		3.4 (.132)	1.9 (.07)	5.1 (.20)	47-80-111-14	47-80-131-14	47-80-151-14	47-80-171-10	47-80-191-14
								3.4 (.13)	6.6 (.26)	47-81-111-14	47-81-131-14	47-81-151-14	47-81-171-10	47-81-191-14
								5 (.19)	8.2 (.32)	47-82-111-14	47-82-131-14	47-82-151-14	47-82-171-10	47-82-191-14
			1.6 (.063)	2.4 (.094)	3.6 (.143)		4.2 (.164)	3.4 (.13)	6.6 (.26)	47-80-112-14	47-80-132-14	47-80-152-14	47-80-172-10	47-80-192-14
								5 (.19)	8.2 (.32)	47-81-112-14	47-81-132-14	47-81-152-14	47-81-172-10	47-81-192-14

Part numbers in shaded rows (shown in table) are fully retracting in minimum panel thickness

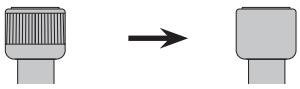


To add a black powder coated finish, change the part number from the table as shown:

Change 1 to 5: 47-80-102-**1**4
47-80-102-**5**4

Change 2 to 6: 47-80-102-**2**4
47-80-102-**6**4

Change 3 to 7: 47-80-102-**3**4
47-80-102-**7**4



For a smooth knob, change the part number from the table as shown:

Change 0 to 1: 47-90-161-2**0**
47-90-161-2**1**

Change 4 to 5: 47-90-101-2**4**
47-90-101-2**5**

Part Number

See table

All screw part numbers shown in table are for a natural knob finish and a knurled knob

For black finish and smooth knob options, minimums may apply

TORX® is a registered trademark of *ACUMENT*® Intellectual Properties, LLC

Dimensions in millimeters (inch) unless otherwise stated

47 Captive Screws

Styled knob series · M3.5 thread size

- **Smooth knob meets UL-1950**
- **Designed for hand operation**
- **Spring ejected**
- **Wide variety of sizes, recesses and installation options**

Material and Finish

Ferrule:
Press-in: Hardened carbon steel, zinc plate, chromate, plus sealer
P.C. board: 300 Series stainless steel, passivated
Flare-in, floating and snap-in: Aluminum, natural

Knob: Aluminum, natural or black powder coated

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

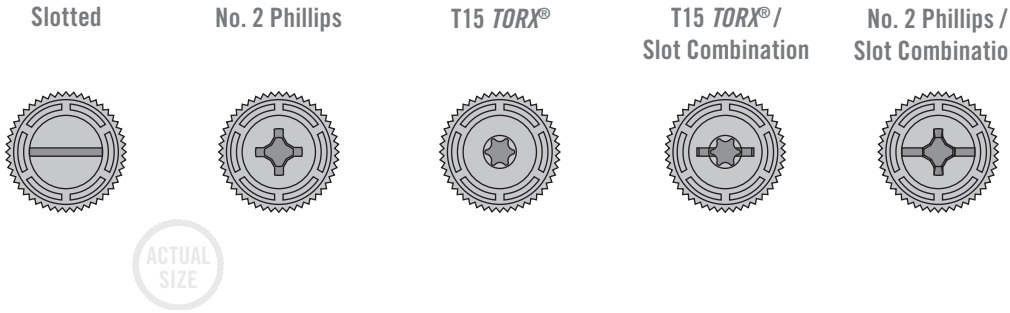
Installation Notes

See pages 468-469, 543

Notes

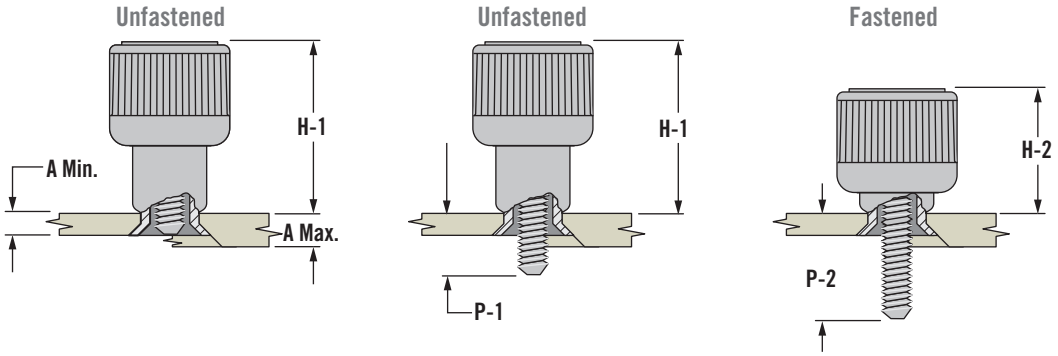
To ensure you receive *SOUTHCO*® quality parts, look for the segmented circle

Recess Styles

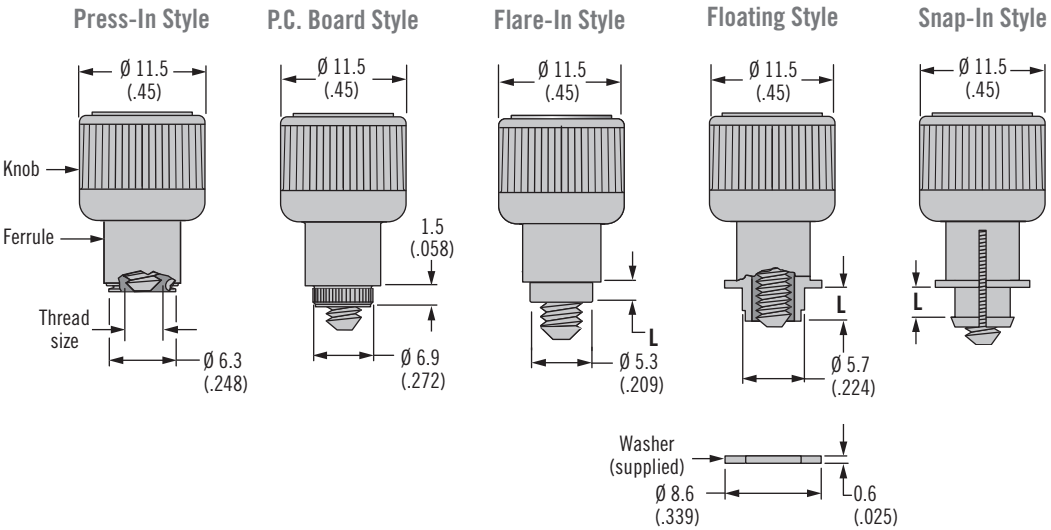


Knob Height and Screw Projection

(Flare-in style shown)



Installation Styles



TORX® is a registered trademark of *ACUMENT*® Intellectual Properties, LLC

Dimensions in millimeters (inch) unless otherwise stated

Installation Style	Knob Height		Outer Panel Dimensions		B	Total Float	Flange Length L	Screw Projection Beyond Outer Surface of Panel		Part Number				
	H-1	H-2	A Min.	A Max.				P-1	P-2	Slotted Recess	Phillips Recess	*TORX*® Recess	*TORX*® / Slot Combination	Phillips / Slot Combination
Press-In Style	15.9 (.63)	11.2 (.44)	0.9 (.036)	~	~	0.8 (.03)	~	0.5 (.02)	5.3 (.21)	47-90-201-24	47-90-221-24	47-90-241-24	47-90-261-20	47-90-281-24
								2.1 (.09)	6.9 (.27)	47-91-201-24	47-91-221-24	47-91-241-24	47-91-261-20	47-91-281-24
								3.7 (.15)	8.5 (.33)	47-92-201-24	47-92-221-24	47-92-241-24	47-92-261-20	47-92-281-24
								5.3 (.21)	10.1 (.40)	47-93-201-24	47-93-221-24	47-93-241-24	47-93-261-20	47-93-281-24
P.C. Board Style	14.8 (.58)	10 (.39)	1.6 (.061)	~	~	0.8 (.03)	~	1.4 (.06)	6.2 (.24)	47-95-201-34	47-95-221-34	47-95-241-34	47-95-261-30	47-95-281-34
Flare-In Style	15.3 (.60)	10.4 (.41)	1.5 (.058)	3.2 (.125)	0.4 (.015)	0.8 (.03)	1.8 (.07)	1.1 (.04)	6 (.24)	47-80-202-14	47-80-222-14	47-80-242-14	47-80-262-10	47-80-282-14
			3.2 (.126)	4.8 (.189)	1.6 (.062)		3.4 (.135)	2.7 (.11)	7.6 (.30)	47-80-204-14	47-80-224-14	47-80-244-14	47-80-264-10	47-80-284-14
			4.8(.188)	6.4 (.250)	3.2 (.125)		5 (.197)	4.3 (.17)	9.2 (.36)	47-80-206-14	47-80-226-14	47-80-246-14	47-80-266-10	47-80-286-14
			6.4 (.252)	7.9 (.312)	4.8 (.189)		6.6 (.26)	5.9 (.23)	10.8 (.43)	47-80-208-14	47-80-228-14	47-80-248-14	47-80-268-10	47-80-288-14
			1.5 (.058)	3.2 (.125)	0.4 (.015)		1.8 (.07)	2.7 (.11)	7.6 (.30)	47-81-202-14	47-81-222-14	47-81-242-14	47-81-262-10	47-81-282-14
								4.3 (.17)	9.2 (.36)	47-82-202-14	47-82-222-14	47-82-242-14	47-82-262-10	47-82-282-14
								5.9 (.23)	10.8 (.43)	47-83-202-14	47-83-222-14	47-83-242-14	47-83-262-10	47-83-282-14
			3.2 (.126)	4.8 (.189)	1.6 (.062)		3.4 (.135)	4.3 (.17)	9.2 (.36)	47-81-204-14	47-81-224-14	47-81-244-14	47-81-264-10	47-81-284-14
								5.9 (.23)	10.8 (.43)	47-82-204-14	47-82-224-14	47-82-244-14	47-82-264-10	47-82-284-14
			4.8 (.189)	6.4 (.250)	3.2 (.125)		5 (.197)	5.9 (.23)	10.8 (.43)	47-81-206-14	47-81-226-14	47-81-246-14	47-81-266-10	47-81-286-14
Floating Style	15.4 (.60)	10.6 (.42)	~	0.8 (.031)	2.1 (.083)	2.2 (.09)	2.9 (.113)	2.4 (.09)	7.2 (.28)	47-80-210-14	47-80-230-14	47-80-250-14	47-80-270-10	47-80-290-14
								4 (.16)	8.8 (.35)	47-81-210-14	47-81-230-14	47-81-250-14	47-81-270-10	47-81-290-14
								5.6 (.22)	10.4 (.41)	47-82-210-14	47-82-230-14	47-82-250-14	47-82-270-10	47-82-290-14
			0.8 (.031)	1.6 (.063)	2.9 (.114)		3.7 (.144)	2.4 (.09)	7.2 (.28)	47-80-211-14	47-80-231-14	47-80-251-14	47-80-271-10	47-80-291-14
								4 (.16)	8.8 (.35)	47-81-211-14	47-81-231-14	47-81-251-14	47-81-271-10	47-81-291-14
								5.6 (.22)	10.4 (.41)	47-82-211-14	47-82-231-14	47-82-251-14	47-82-271-10	47-82-291-14
			1.6 (.063)	2.4 (.094)	3.7 (.146)		4.5 (.176)	4 (.16)	8.8 (.35)	47-80-212-14	47-80-232-14	47-80-252-14	47-80-272-10	47-80-292-14
								5.6 (.22)	10.4 (.41)	47-81-212-14	47-81-232-14	47-81-252-14	47-81-272-10	47-81-292-14
Snap-In Style	15.4 (.60)	10.6 (.42)	0.5 (.02)	1 (.039)	2 (.079)	0.8 (.03)	1.1 (.044)	0.8 (.03)	5.6 (.22)	47-90-210-14	47-90-230-14	47-90-250-14	47-90-270-10	47-90-290-14
								2.4 (.09)	7.2 (.28)	47-91-210-14	47-91-230-14	47-91-250-14	47-91-270-10	47-91-290-14
								4 (.16)	8.8 (.35)	47-92-210-14	47-92-230-14	47-92-250-14	47-92-270-10	47-92-290-14
								5.6 (.22)	10.4 (.41)	47-93-210-14	47-93-230-14	47-93-250-14	47-93-270-10	47-93-290-14
			1 (.039)	1.6 (.063)	2.6 (.103)		1.7 (.067)	2.4 (.09)	7.2 (.28)	47-90-212-14	47-90-232-14	47-90-252-14	47-90-272-10	47-90-292-14
								4 (.16)	8.8 (.35)	47-91-212-14	47-91-232-14	47-91-252-14	47-91-272-10	47-91-292-14
								5.6 (.22)	10.4 (.41)	47-92-212-14	47-92-232-14	47-92-252-14	47-92-272-10	47-92-292-14

Part numbers in shaded rows (shown in table) are fully retracting in minimum panel thickness

To add a black powder coated finish, change the part number from the table as shown:

Change 1 to 5: 47-80-102-**1**4
47-80-102-**5**4

Change 2 to 6: 47-80-102-**2**4
47-80-102-**6**4

Change 3 to 7: 47-80-102-**3**4
47-80-102-**7**4

For a smooth knob, change the part number from the table as shown:

Change 0 to 1: 47-90-161-2**0**
47-90-161-2**1**

Change 4 to 5: 47-90-101-2**4**
47-90-101-2**5**

Part Number

See table

All screw part numbers shown in table are for a natural knob finish and a knurled knob

For black finish and smooth knob options, minimums may apply

TORX® is a registered trademark of *ACUMENT*® Intellectual Properties, LLC

Dimensions in millimeters (inch) unless otherwise stated

47 Captive Screws

Styled knob series · M4 thread size

- **Designed for hand operation**
- **Spring ejected**
- **Wide variety of sizes, recesses and installation options**

Material and Finish

Ferrule:
Press-in: Hardened carbon steel, zinc plate, chromate, plus sealer
Flare-in, floating and snap-in: Aluminum, natural

Knob: Aluminum, natural or black powder coated

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

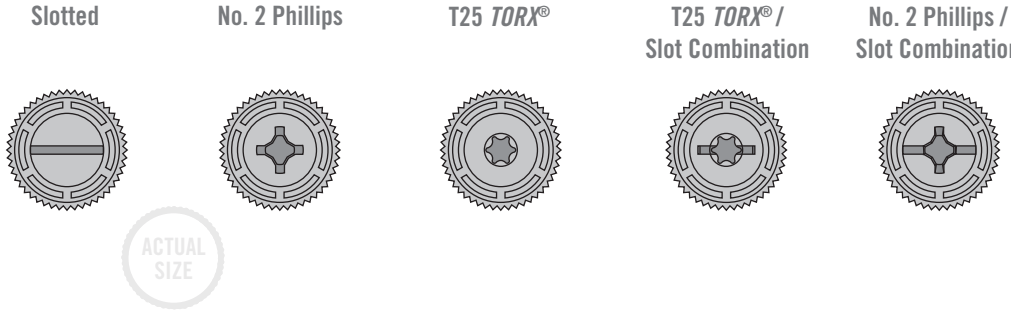
Installation Notes

See pages 468-469, 543

Notes

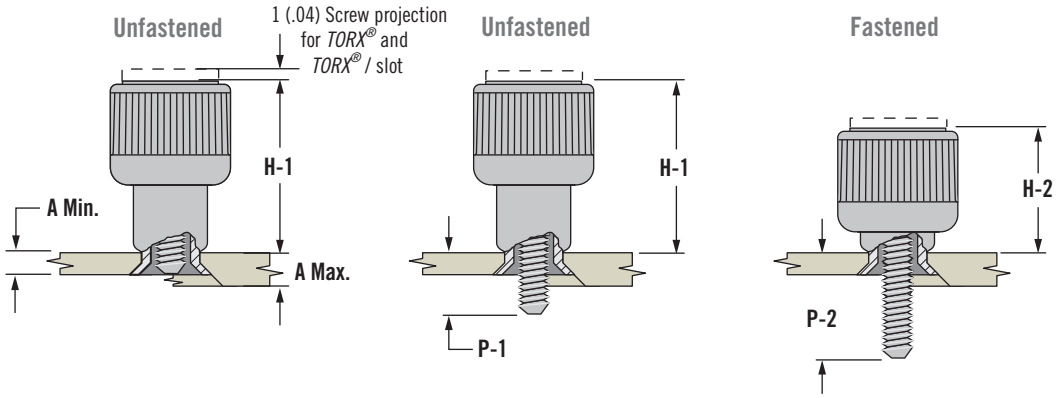
To ensure you receive *SOUTHCO*® quality parts, look for the segmented circle

Recess Styles

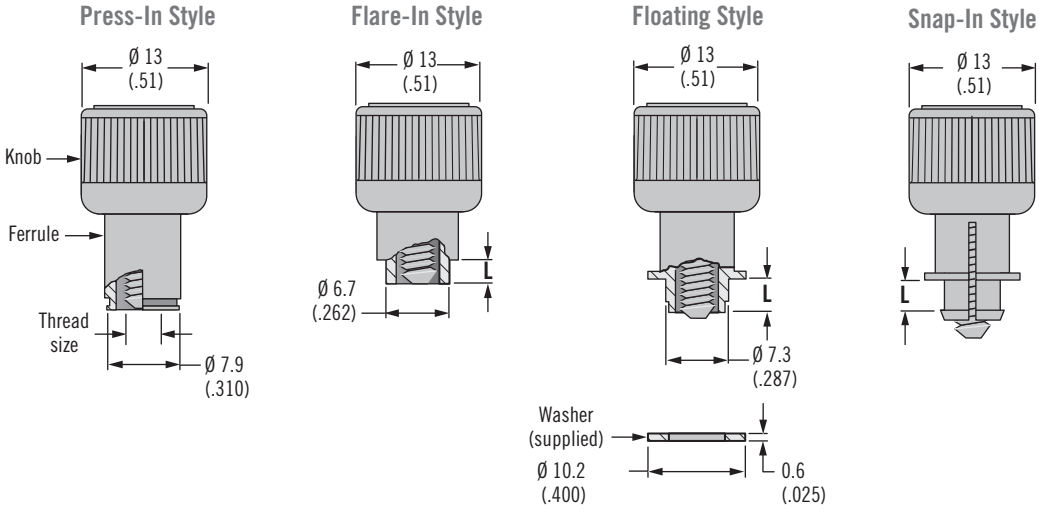


Knob Height and Screw Projection

(Flare-in style shown)



Installation Styles



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Dimensions in millimeters (inch) unless otherwise stated

Installation Style	Knob Height		Outer Panel Dimensions		B	Total Float	Flange Length L	Screw Projection Beyond Outer Surface of Panel		Part Number				
	H-1	H-2	A Min.	A Max.				P-1	P-2	Slotted Recess	Phillips Recess	*TORX*® Recess	*TORX*® / Slot Combination	Phillips / Slot Combination
Press-In Style	16.2 (.64)	11.3 (.45)	0.9 (.036)	~	~	0.8 (.03)	~	0.6 (.02)	5.6 (.22)	47-90-301-24	47-90-321-24	47-90-341-20	47-90-361-20	47-90-381-20
								2.2 (.09)	7.2 (.28)	47-91-301-24	47-91-321-24	47-91-341-20	47-91-361-20	47-91-381-20
								3.8 (.15)	8.7 (.34)	47-92-301-24	47-92-321-24	47-92-341-20	47-92-361-20	47-92-381-20
								5.4 (.21)	10.3 (.41)	47-93-301-24	47-93-321-24	47-93-341-20	47-93-361-20	47-93-381-20
Flare-In Style	15.6 (.61)	10.5 (.41)	1.5 (.058)	3.2 (.125)	0.4 (.015)	0.9 (.03)	1.8 (.070)	1.2 (.05)	6.3 (.25)	47-80-302-14	47-80-322-14	47-80-342-10	47-80-362-10	47-80-382-10
			3.2 (.126)	4.8 (.189)	1.6 (.062)		3.4 (.135)	2.8 (.11)	7.9 (.31)	47-80-304-14	47-80-324-14	47-80-344-10	47-80-364-10	47-80-384-10
			4.8 (.189)	6.4 (.251)	3.2 (.125)		5 (.197)	4.4 (.17)	9.5 (.37)	47-80-306-14	47-80-326-14	47-80-346-10	47-80-366-10	47-80-386-10
			6.4 (.251)	7.9 (.312)	4.8 (.187)		6.6 (.26)	6 (.24)	11.1 (.44)	47-80-308-14	47-80-328-14	47-80-348-10	47-80-368-10	47-80-388-10
			1.5 (.058)	3.2 (.125)	0.4 (.015)		1.8 (.07)	2.8 (.11)	7.9 (.31)	47-81-302-14	47-81-322-14	47-81-342-10	47-81-362-10	47-81-382-10
								4.4 (.17)	9.5 (.37)	47-82-302-14	47-82-322-14	47-82-342-10	47-82-362-10	47-82-382-10
								6 (.24)	11.1 (.44)	47-83-302-14	47-83-322-14	47-83-342-10	47-83-362-10	47-83-382-10
			3.2 (.126)	4.8 (.189)	1.6 (.062)		3.4 (.135)	4.4 (.17)	9.5 (.37)	47-81-304-14	47-81-324-14	47-81-344-10	47-81-364-10	47-81-384-10
								6 (.24)	11.1 (.44)	47-82-304-14	47-82-324-14	47-82-344-10	47-82-364-10	47-82-384-10
			4.8 (.189)	6.4 (.250)	3.2 (.125)		5 (.197)	6 (.24)	11.1 (.44)	47-81-306-14	47-81-326-14	47-81-346-10	47-81-366-10	47-81-386-10
Floating Style	16.2 (.64)	11.2 (.44)	~	0.8 (.031)	2.3 (.09)	2.3 (.09)	3.2 (.127)	2.4 (.09)	7.2 (.28)	47-80-310-14	47-80-330-14	47-80-350-10	47-80-370-10	47-80-390-10
								4 (.16)	8.8 (.35)	47-81-310-14	47-81-330-14	47-81-350-10	47-81-370-10	47-81-390-10
								5.6 (.22)	10.4 (.41)	47-82-310-14	47-82-330-14	47-82-350-10	47-82-370-10	47-82-390-10
			0.8 (.031)	1.6 (.063)	3.1 (.121)		4 (.158)	2.4 (.09)	7.2 (.28)	47-80-311-14	47-80-331-14	47-80-351-10	47-80-371-10	47-80-391-10
								4 (.16)	8.8 (.35)	47-81-311-14	47-81-331-14	47-81-351-10	47-81-371-10	47-81-391-10
								5.6 (.22)	10.4 (.41)	47-82-311-14	47-82-331-14	47-82-351-10	47-82-371-10	47-82-391-10
			1.6 (.063)	2.4 (.094)	3.9 (.153)		4.8 (.190)	4 (.16)	7.2 (.28)	47-80-312-14	47-80-332-14	47-80-352-10	47-80-372-10	47-80-392-10
								5.6 (.22)	8.8 (.35)	47-81-312-14	47-81-332-14	47-81-352-10	47-81-372-10	47-81-392-10
Snap-In Style	15.7 (.62)	11.2 (.44)	0.5 (.02)	1 (.039)	2 (.079)	0.9 (.03)	1.1 (.044)	1.1 (.04)	5.6 (.22)	47-90-310-14	47-90-330-14	47-90-350-10	47-90-370-10	47-90-390-10
								2.7 (.11)	7.2 (.28)	47-91-310-14	47-91-330-14	47-91-350-10	47-91-370-10	47-91-390-10
								4.3 (.17)	8.8 (.35)	47-92-310-14	47-92-330-14	47-92-350-10	47-92-370-10	47-92-390-10
								5.8 (.23)	10.4 (.41)	47-93-310-14	47-93-330-14	47-93-350-10	47-93-370-10	47-93-390-10
			1 (.039)	1.6 (.063)	2.6 (.102)		1.7 (.068)	2.7 (.11)	7.2 (.28)	47-90-312-14	47-90-332-14	47-90-352-10	47-90-372-10	47-90-392-10
								4.3 (.17)	8.8 (.35)	47-91-312-14	47-91-332-14	47-91-352-10	47-91-372-10	47-91-392-10
								5.9 (.23)	10.4 (.41)	47-92-312-14	47-92-332-14	47-92-352-10	47-92-372-10	47-92-392-10
			1.6 (.063)	2.5 (.098)	3.5 (.138)		2.6 (.103)	2.7 (.11)	7.2 (.28)	47-90-314-14	47-90-334-14	47-90-354-10	47-90-374-10	47-90-394-10
								4.3 (.17)	8.8 (.35)	47-91-314-14	47-91-334-14	47-91-354-10	47-91-374-10	47-91-394-10
								5.9 (.23)	10.4 (.41)	47-92-314-14	47-92-334-14	47-92-354-10	47-92-374-10	47-92-394-10

Part numbers in shaded rows (shown in table) are fully retracting in minimum panel thickness

To add a black powder coated finish, change the part number from the table as shown:

Change 1 to 5: 47-80-102-**1**4
47-80-102-**5**4

Change 2 to 6: 47-80-102-**2**4
47-80-102-**6**4

For a smooth knob, change the part number from the table as shown:

Change 0 to 1: 47-90-161-2**0**
47-90-161-2**1**

Change 4 to 5: 47-90-101-2**4**
47-90-101-2**5**

Part Number

See table

All screw part numbers shown in table are for a natural knob finish and a knurled knob

For black finish and smooth knob options, minimums may apply

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Dimensions in millimeters (inch) unless otherwise stated

47 Captive Screws

Styled knob series · M5 thread size

- **Designed for hand operation**
- **Spring ejected**
- **Wide variety of sizes, recesses and installation options**

Material and Finish

Ferrule:
Press-in: Hardened carbon steel, zinc plate, chromate, plus sealer
Flare-in, floating and snap-in: Aluminum, natural

Knob: Aluminum, natural or black powder coated

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

Installation Notes

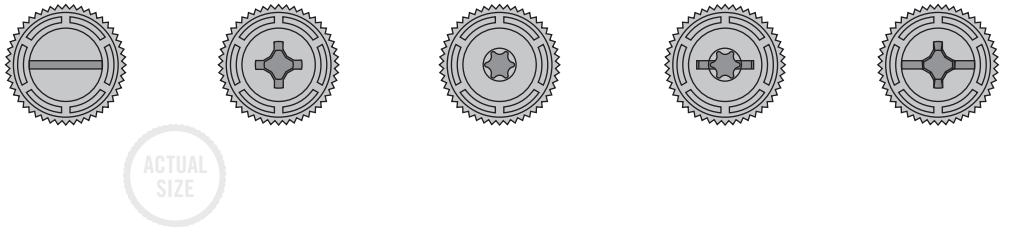
See pages 468-469, 543

Notes

To ensure you receive *SOUTHCO*® quality parts, look for the segmented circle

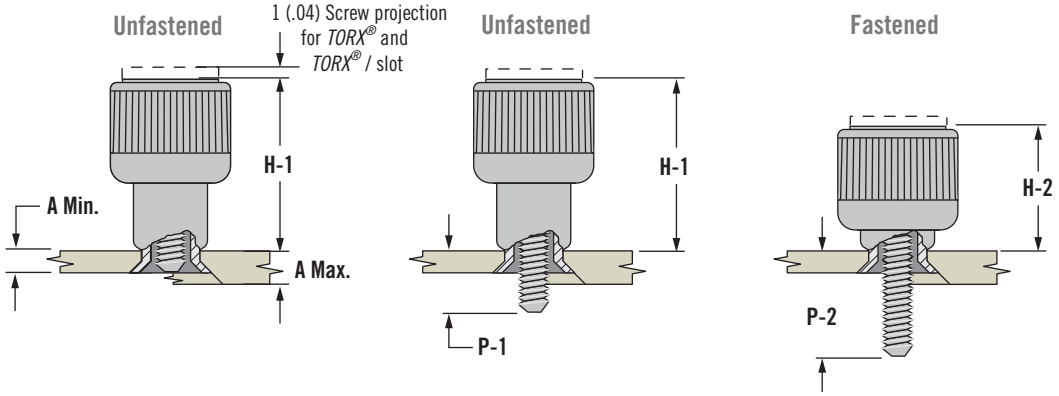
Recess Styles

Slotted | No. 2 Phillips | T25 *TORX*® | T25 *TORX*® / Slot Combination | No. 2 Phillips / Slot Combination

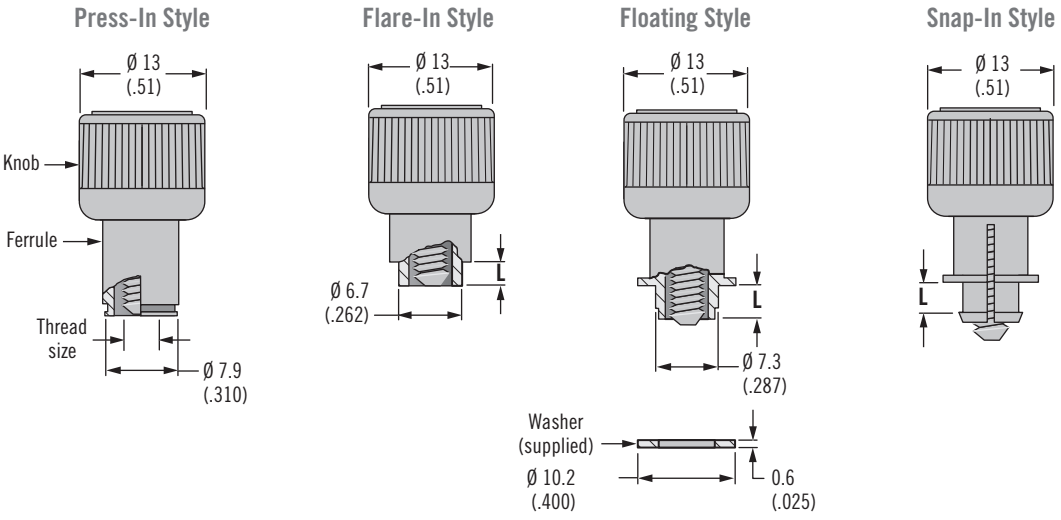


Knob Height and Screw Projection

(Flare-in style shown)



Installation Styles



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Dimensions in millimeters (inch) unless otherwise stated

Installation Style	Knob Height		Outer Panel Dimensions			Total Float	Flange Length L	Screw Projection Beyond Outer Surface of Panel		Part Number				
	H-1	H-2	A Min.	A Max.	B			P-1	P-2	Slotted Recess	Phillips Recess	*TORX*® Recess	*TORX*® / Slot Combination	Phillips / Slot Combination
Press-In Style	16.2 (.64)	11.3 (.45)	0.9 (.036)	~	~	0.6 (.02)	~	0.6 (.024)	5.5 (.22)	47-90-501-24	47-90-521-24	47-90-541-20	47-90-561-20	47-90-581-20
								2.2 (.087)	7.1 (.28)	47-91-501-24	47-91-521-24	47-91-541-20	47-91-561-20	47-91-581-20
								3.8 (.15)	8.7 (.34)	47-92-501-24	47-92-521-24	47-92-541-20	47-92-561-20	47-92-581-20
								5.4 (.21)	10.3 (.41)	47-93-501-24	47-93-521-24	47-93-541-20	47-93-561-20	47-93-581-20
Flare-In Style	15.6 (.61)	10.5 (.41)	1.5 (.058)	3.2 (.125)	0.4 (.015)	0.6 (.02)	1.8 (.070)	1.2 (.05)	6.3 (.25)	47-80-502-14	47-80-522-14	47-80-542-10	47-80-562-10	47-80-582-10
			3.2 (.126)	4.8 (.189)	1.6 (.062)		3.4 (.135)	2.8 (.11)	7.9 (.31)	47-80-504-14	47-80-524-14	47-80-544-10	47-80-564-10	47-80-584-10
			4.8 (.189)	6.4 (.250)	3.2 (.125)		5 (.197)	4.4 (.17)	9.5 (.37)	47-80-506-14	47-80-526-14	47-80-546-10	47-80-566-10	47-80-586-10
			6.3 (.251)	7.9 (.312)	4.8 (.189)		6.6 (.260)	6 (.24)	11.1 (.44)	47-80-508-14	47-80-528-14	47-80-548-10	47-80-568-10	47-80-588-10
			1.5 (.058)	3.2 (.125)	0.4 (.015)		1.8 (.070)	2.8 (.11)	7.9 (.31)	47-81-502-14	47-81-522-14	47-81-542-10	47-81-562-10	47-81-582-10
								4.4 (.17)	9.5 (.37)	47-82-502-14	47-82-522-14	47-82-542-10	47-82-562-10	47-82-582-10
								6 (.24)	11.1 (.44)	47-83-502-14	47-83-522-14	47-83-542-10	47-83-562-10	47-83-582-10
			3.2 (.126)	4.8 (.189)	1.6 (.062)		3.4 (.135)	4.4 (.17)	9.5 (.37)	47-81-504-14	47-81-524-14	47-81-544-10	47-81-564-10	47-81-584-10
								6 (.24)	11.1 (.44)	47-82-504-14	47-82-524-14	47-82-544-10	47-82-564-10	47-82-584-10
			4.8 (.189)	6.4 (.250)	3.2 (.125)		5 (.197)	6 (.24)	11.1 (.44)	47-81-506-14	47-81-526-14	47-81-546-10	47-81-566-10	47-81-586-10
Floating Style	16 (.63)	11.2 (.44)	~	0.8 (.031)	2.3 (.090)	2.3 (.09)	3.2 (.127)	2.4 (.09)	7.2 (.28)	47-80-510-14	47-80-530-14	47-80-550-10	47-80-570-10	47-80-590-10
								4 (.16)	8.8 (.35)	47-81-510-14	47-81-530-14	47-81-550-10	47-81-570-10	47-81-590-10
								5.6 (.22)	10.4 (.41)	47-82-510-14	47-82-530-14	47-82-550-10	47-82-570-10	47-82-590-10
			0.8 (.031)	1.6 (.063)	3.1 (.121)		4 (.158)	2.4 (.09)	7.2 (.28)	47-80-511-14	47-80-531-14	47-80-551-10	47-80-571-10	47-80-591-10
								4 (.16)	8.8 (.35)	47-81-511-14	47-81-531-14	47-81-551-10	47-81-571-10	47-81-591-10
								5.6 (.22)	10.4 (.41)	47-82-511-14	47-82-531-14	47-82-551-10	47-82-571-10	47-82-591-10
			1.6 (.063)	2.4 (.094)	3.9 (.153)		4.8 (.190)	4 (.16)	8.8 (.35)	47-80-512-14	47-80-532-14	47-80-552-10	47-80-572-10	47-80-592-10
								5.6 (.22)	10.4 (.41)	47-81-512-14	47-81-532-14	47-81-552-10	47-81-572-10	47-81-592-10
Snap-In Style	15.7 (.62)	11.2 (.44)	0.5 (.020)	1 (.039)	2 (.079)	.9 (.04)	1.1 (.044)	1.1 (.04)	5.6 (.22)	47-90-510-14	47-90-530-14	47-90-550-10	47-90-570-10	47-90-590-10
								2.7 (.11)	7.2 (.28)	47-91-510-14	47-91-530-14	47-91-550-10	47-91-570-10	47-91-590-10
								4.3 (.17)	8.8 (.35)	47-92-510-14	47-92-530-14	47-92-550-10	47-92-570-10	47-92-590-10
								5.9 (.23)	10.4 (.41)	47-93-510-14	47-93-530-14	47-93-550-10	47-93-570-10	47-93-590-10
			1 (.039)	1.6 (.063)	2.6 (.103)		1.7 (.068)	2.7 (.11)	7.2 (.28)	47-90-512-14	47-90-532-14	47-90-552-10	47-90-572-10	47-90-592-10
								4.3 (.17)	8.8 (.35)	47-91-512-14	47-91-532-14	47-91-552-10	47-91-572-10	47-91-592-10
								5.9 (.23)	10.4 (.41)	47-92-512-14	47-92-532-14	47-92-552-10	47-92-572-10	47-92-592-10
			1.6 (.063)	2.5 (.098)	3.5 (.138)		2.6 (.103)	2.7 (.11)	7.2 (.28)	47-90-514-14	47-90-534-14	47-90-554-10	47-90-574-10	47-90-594-10
								4.3 (.17)	8.8 (.35)	47-91-514-14	47-91-534-14	47-91-554-10	47-91-574-10	47-91-594-10
								5.9 (.23)	10.4 (.41)	47-92-514-14	47-92-534-14	47-92-554-10	47-92-574-10	47-92-594-10

Part numbers in shaded rows (shown in table) are fully retracting in minimum panel thickness

To add a black powder coated finish, change the part number from the table as shown:

Change 1 to 5: 47-80-102-**1**4
47-80-102-**5**4

Change 2 to 6: 47-80-102-**2**4
47-80-102-**6**4

For a smooth knob, change the part number from the table as shown:

Change 0 to 1: 47-90-161-2**0**
47-90-161-2**1**

Change 4 to 5: 47-90-101-2**4**
47-90-101-2**5**

Part Number

See table

All screw part numbers shown in table are for a natural knob finish and a knurled knob

For black finish and smooth knob options, minimums may apply

TORX® is a registered trademark of *ACUMENT*® Intellectual Properties, LLC

Dimensions in millimeters (inch) unless otherwise stated

47 Captive Screws

Styled knob series · M6 thread size

- **Designed for hand operation**
- **Spring ejected**
- **Wide variety of sizes, recesses and installation options**

Material and Finish

Ferrule:
Press-in: Hardened carbon steel, zinc plate, chromate, plus sealer
Flare-in and Floating: Aluminum, natural

Knob: Aluminum, natural or black powder coated

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

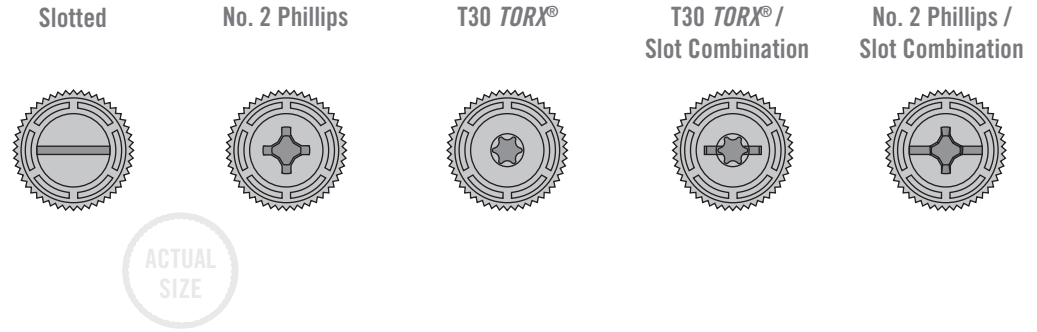
Installation Notes

See pages 468-469, 543

Notes

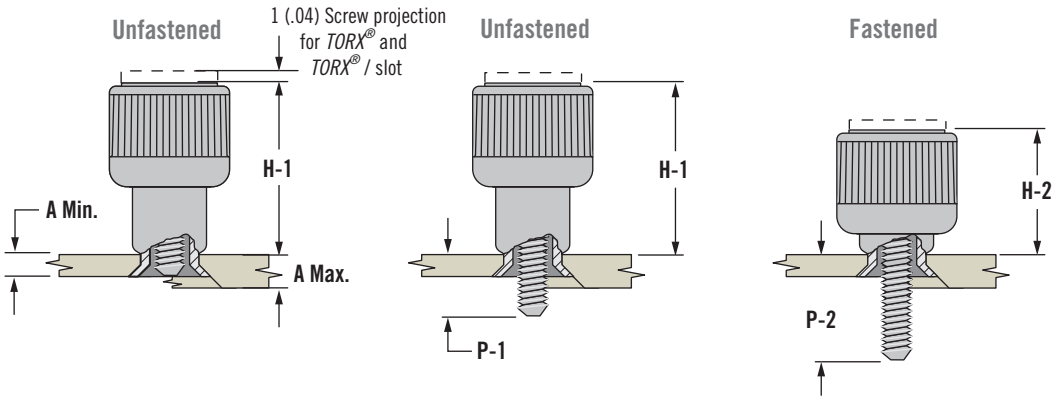
To ensure you receive *SOUTHCO*® quality parts, look for the segmented circle

Recess Styles

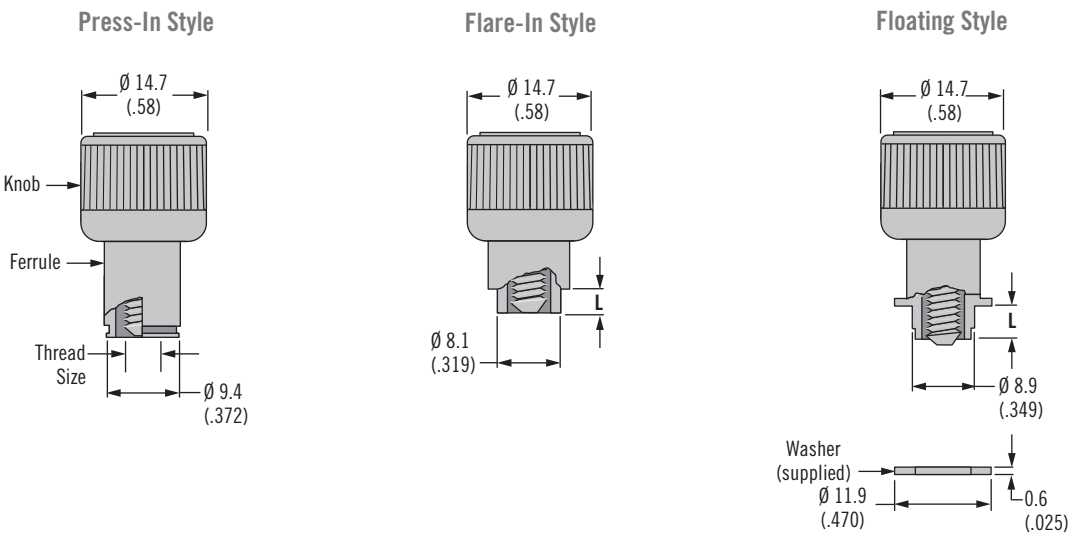


Knob Height and Screw Projection

(Flare-in style shown)



Installation Styles



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Dimensions in millimeters (inch) unless otherwise stated

Installation Style	Knob Height		Outer Panel Dimensions		B	Total Float	Flange Length L	Screw Projection Beyond Outer Surface of Panel		Part Number				
	H-1	H-2	A Min.	A Max.				P-1	P-2	Slotted Recess	Phillips Recess	*TORX*® Recess	*TORX*® / Slot Combination	Phillips / Slot Combination
Press-In Style	20 (.79)	13.4 (.53)	0.9 (.036)	~	~	0.8 (.03)	~	0.5 (.02)	7.1 (.28)	47-90-601-24	47-90-621-24	47-90-641-20	47-90-661-20	47-90-681-20
								2.1 (.08)	8.7 (.34)	47-91-601-24	47-91-621-24	47-91-641-20	47-91-661-20	47-91-681-20
								3.7 (.15)	10.3 (.41)	47-92-601-24	47-92-621-24	47-92-641-20	47-92-661-20	47-92-681-20
								5.3 (.21)	11.9(.47)	47-93-601-24	47-93-621-24	47-93-641-20	47-93-661-20	47-93-681-20
Flare-In Style	19.3 (.76)	12.7 (.50)	1.5 (.058)	3.2 (.125)	0.4 (.015)	0.9 (.03)	1.8 (.070)	1.2 (.05)	7.8 (.31)	47-80-602-14	47-80-622-14	47-80-642-10	47-80-662-10	47-80-682-10
			3.2 (.126)	4.8 (.189)	1.6 (.062)		3.4 (.135)	2.8 (.11)	9.4 (.31)	47-80-604-14	47-80-624-14	47-80-644-10	47-80-664-10	47-80-684-10
			4.8 (.189)	6.4 (.250)	3.2 (.125)		5 (.197)	4.4 (.17)	11 (.43)	47-80-606-14	47-80-626-14	47-80-646-10	47-80-666-10	47-80-686-10
			6.4 (.251)	7.9 (.312)	4.8 (.189)		6.6 (.260)	6 (.24)	12.6 (.50)	47-80-608-14	47-80-628-14	47-80-648-10	47-80-668-10	47-80-688-10
			1.5 (.058)	3.2 (.125)	0.4 (.015)		1.8 (.070)	2.8 (.11)	9.4 (.37)	47-81-602-14	47-81-622-14	47-81-642-10	47-81-662-10	47-81-682-10
								4.4 (.17)	11 (.43)	47-82-602-14	47-82-622-14	47-82-642-10	47-82-662-10	47-82-682-10
								6 (.24)	12.6 (.50)	47-83-602-14	47-83-622-14	47-83-642-10	47-83-662-10	47-83-682-10
			3.2 (.126)	4.8 (.189)	1.6 (.062)		3.4 (.135)	4.4 (.17)	11 (.43)	47-81-604-14	47-81-624-14	47-81-644-10	47-81-664-10	47-81-684-10
								6 (.24)	12.6 (.50)	47-82-604-14	47-82-624-14	47-82-644-10	47-82-664-10	47-82-684-10
			4.8 (.189)	6.4 (.250)	3.2 (.125)		5 (.197)	6 (.24)	12.6 (.50)	47-81-606-14	47-81-626-14	47-81-646-10	47-81-666-10	47-81-686-10
Floating Style	20 (.79)	13.3 (.52)	~	0.8 (.031)	2.5 (.097)	2.3 (.09)	3.2 (.127)	2.1 (.08)	8.8 (.35)	47-80-610-14	47-80-630-14	47-80-650-10	47-80-670-10	47-80-690-10
								3.7 (.15)	10.4 (.41)	47-81-610-14	47-81-630-14	47-81-650-10	47-81-670-10	47-81-690-10
								5.3 (.21)	12 (.47)	47-82-610-14	47-82-630-14	47-82-650-10	47-82-670-10	47-82-690-10
			0.8 (.031)	1.6 (.063)	3.3 (.128)		4 (.158)	2.1 (.08)	8.8 (.35)	47-80-611-14	47-80-631-14	47-80-651-10	47-80-671-10	47-80-691-10
								3.7 (.15)	10.4 (.41)	47-81-611-14	47-81-631-14	47-81-651-10	47-81-671-10	47-81-691-10
								5.3 (.21)	12 (.47)	47-82-611-14	47-82-631-14	47-82-651-10	47-82-671-10	47-82-691-10
			1.6 (.063)	2.4 (.094)	4.1 (.160)		4.8 (.189)	3.7 (.15)	10.4 (.41)	47-80-612-14	47-80-632-14	47-80-652-10	47-80-672-10	47-80-692-10
								5.3 (.21)	12 (.47)	47-81-612-14	47-81-632-14	47-81-652-10	47-81-672-10	47-81-692-10

Part numbers in shaded rows (shown in table) are fully retracting in minimum panel thickness

To add a black powder coated finish, change the part number from the table as shown:

Change 1 to 5: 47-80-102-**1**4
47-80-102-**5**4

Change 2 to 6: 47-80-102-**2**4
47-80-102-**6**4

For a smooth knob, change the part number from the table as shown:

Change 0 to 1: 47-90-161-2**0**
47-90-161-2**1**

Change 4 to 5: 47-90-101-2**4**
47-90-101-2**5**

Part Number

See table

All screw part numbers shown in table are for a natural knob finish and a knurled knob

For black finish and smooth knob options, minimums may apply

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Dimensions in millimeters (inch) unless otherwise stated

47 Captive Screws

Styled knob series · 4-40 thread size

- **Smooth knob meets UL-1950**
- **Designed for hand operation**
- **Spring ejected**
- **Wide variety of sizes, recesses and installation options**

Material and Finish

Ferrule:
Press-in: Hardened carbon steel, zinc plate, chromate, plus sealer
P.C. board style:
300 Series stainless steel
Flare-in and Floating:
Aluminum, natural

Knob: Aluminum, natural or black powder coated

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

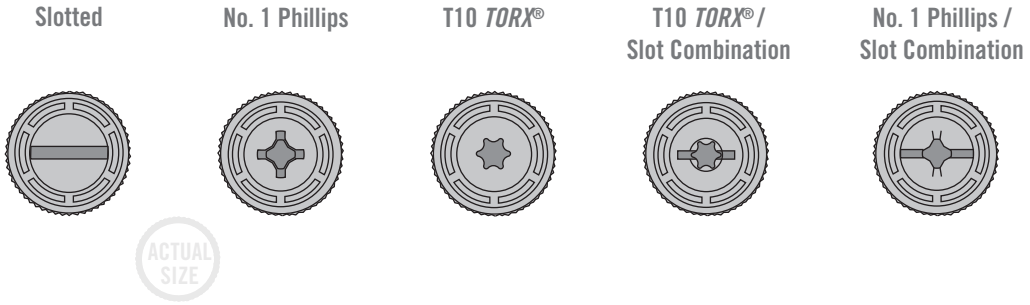
Installation Notes

See pages 468-469, 543

Notes

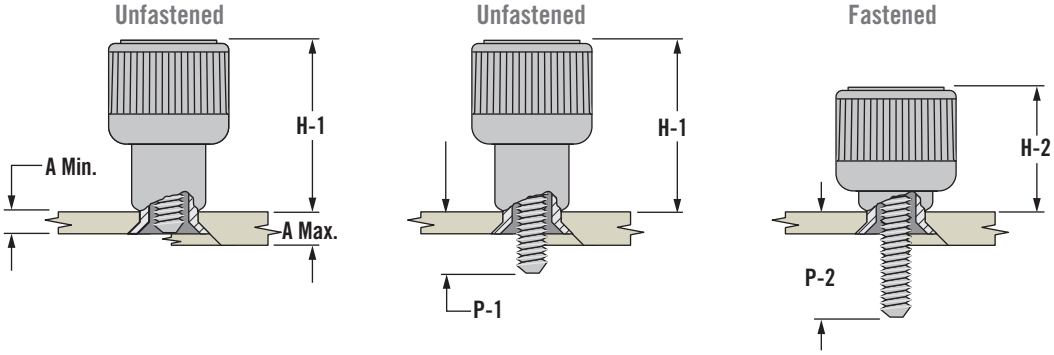
To ensure you receive *SOUTHCO*® quality parts, look for the segmented circle

Recess Styles

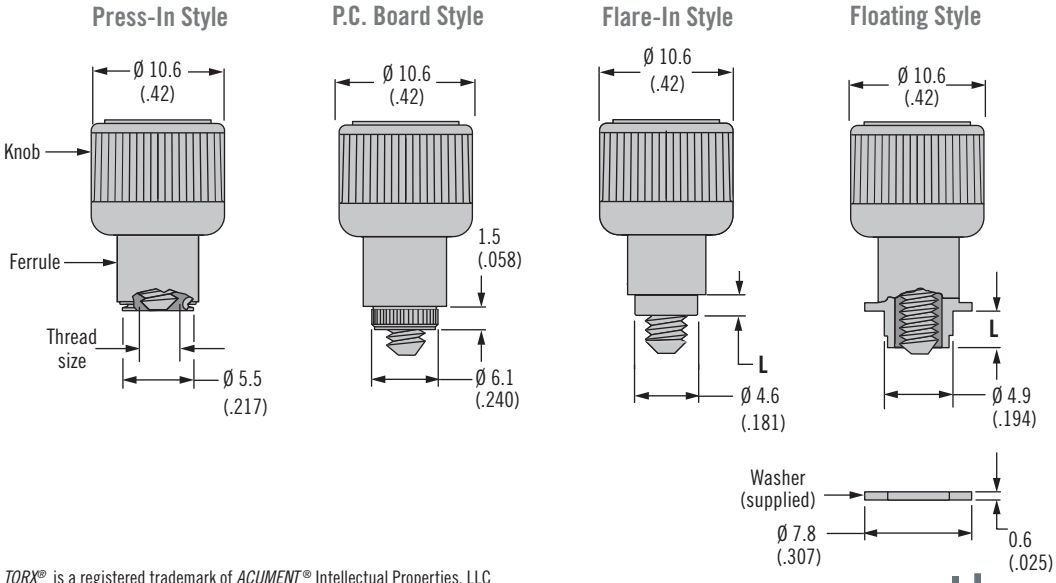


Knob Height and Screw Projection

(Flare-in style shown)



Installation Styles



TORX® is a registered trademark of *ACUMENT*® Intellectual Properties, LLC

Dimensions in millimeters (inch) unless otherwise stated

Installation Style	Knob Height		Outer Panel Dimensions		B	Total Float	Flange Length L	Screw Projection Beyond Outer Surface of Panel		Part Number				
	H-1	H-2	A Min.	A Max.				P-1	P-2	Slotted Recess	Phillips Recess	*TORX*® Recess	*TORX*® / Slot Combination	Phillips / Slot Combination
Press-In Style	11.3 (.45)	8.3 (.33)	0.9 (.036)	~	~	0.8 (.03)	~	0.8 (.03)	3.8 (.15)	47-60-101-24	47-60-121-24	47-60-141-24	47-60-161-20	47-60-181-24
								2.5 (.10)	5.5 (.22)	47-61-101-24	47-61-121-24	47-61-141-24	47-61-161-20	47-61-181-24
								4 (.16)	7 (.28)	47-62-101-24	47-62-121-24	47-62-141-24	47-62-161-20	47-62-181-24
								5.6 (.22)	8.6 (.34)	47-63-101-24	47-63-121-24	47-63-141-24	47-63-161-20	47-63-181-24
P.C. Board Style	11.5 (.45)	8.3 (.33)	1.6 (.061)	~	~	0.8 (.03)	~	1.5 (.06)	4.5 (.18)	47-65-101-34	47-65-121-34	47-65-141-34	47-65-161-30	47-65-181-34
Flare-In Style	11.5 (.45)	8.1 (.32)	0.8 (.031)	1.5 (.058)	0.4 (.015)	0.6 (.03)	1 (.041)	0.8 (.03)	4 (.16)	47-10-101-14	47-10-121-14	47-10-141-14	47-10-161-10	47-10-181-14
			1.5 (.059)	2.5 (.100)	0.4 (.015)		1.8 (.070)	1.5 (.06)	4.7 (.19)	47-10-102-14	47-10-122-14	47-10-142-14	47-10-162-10	47-10-182-14
			2.5 (.1)	4 (.156)	0.8 (.031)		2.6 (.104	2.5 (.10)	5.7 (.22)	47-10-103-14	47-10-123-14	47-10-143-14	47-10-163-10	47-10-183-14
			4 (.157)	5.6 (.219)	2.4 (.093)		4.2 (.166)	4 (.16)	7.2 (.28)	47-10-105-14	47-10-125-14	47-10-145-14	47-10-165-10	47-10-185-14
			5.6 (.220)	7.1 (.281)	4 (.156)		5.8 (.229)	5.6 (.22)	8.8 (.35)	47-10-107-14	47-10-127-14	47-10-147-14	47-10-167-10	47-10-187-14
			0.8 (.031)	1.5 (.058)	0.4 (.015)		1 (.041)	2.5 (.10)	5.7 (.22)	47-11-101-14	47-11-121-14	47-11-141-14	47-11-161-10	47-11-181-14
								4 (.16)	7.2 (.28)	47-12-101-14	47-12-121-14	47-12-141-14	47-12-161-10	47-12-181-14
								5.6 (.22)	8.8 (.35)	47-13-101-14	47-13-121-14	47-13-141-14	47-13-161-10	47-13-181-14
			1.5 (.059)	2.5 (.100)	0.4 (.015)		1.8 (.070)	3.2 (.13)	6.4 (.25)	47-11-102-14	47-11-122-14	47-11-142-14	47-11-162-10	47-11-182-14
								4.7 (.19)	7.9 (.31)	47-12-102-14	47-12-122-14	47-12-142-14	47-12-162-10	47-12-182-14
								6.3 (.25)	9.5 (.37)	47-13-102-14	47-13-122-14	47-13-142-14	47-13-162-10	47-13-182-14
Floating Style	11.4 (.45)	8.6 (.34)	~	0.8 (.031)	2 (.080)	2.1 (.08)	2.6 (.101)	1.9 (.07)	5.1 (.20)	47-10-110-14	47-10-130-14	47-10-150-14	47-10-170-10	47-10-190-10
								3.4 (.13)	6.6 (.26)	47-11-110-14	47-11-130-14	47-11-150-14	47-11-170-10	47-11-190-14
								5 (.19)	8.2 (.32)	47-12-110-14	47-12-130-14	47-12-150-14	47-12-170-10	47-12-190-14
			0.8 (.031)	1.6 (.063)	2.8 (.111)		3.4 (.132)	1.9 (.07)	5.1 (.20)	47-10-111-14	47-10-131-14	47-10-151-14	47-10-171-10	47-10-191-14
								3.4 (.13)	6.6 (.26)	47-11-111-14	47-11-131-14	47-11-151-14	47-11-171-10	47-11-191-14
								5 (.19)	8.2 (.32)	47-12-111-14	47-12-131-14	47-12-151-14	47-12-171-10	47-12-191-14
			1.6 (.063)	2.4 (.094)	3.6 (.143)		4.2 (.164)	3.4 (.13)	6.6 (.26)	47-10-112-14	47-10-132-14	47-10-152-14	47-10-172-10	47-10-192-14
								5 (.19)	8.2 (.32)	47-11-112-14	47-11-132-14	47-11-152-14	47-11-172-10	47-11-192-14

Part numbers in shaded rows (shown in table) are fully retracting in minimum panel thickness

To add a black powder coated finish, change the part number from the table as shown:

Change 1 to 5: 47-80-102-**1**4
47-80-102-**5**4

Change 2 to 6: 47-80-102-**2**4
47-80-102-**6**4

Change 3 to 7: 47-80-102-**3**4
47-80-102-**7**4

For a smooth knob, change the part number from the table as shown:

Change 0 to 1: 47-90-161-2**0**
47-90-161-2**1**

Change 4 to 5: 47-90-101-2**4**
47-90-101-2**5**

Part Number

See table

All screw part numbers shown in table are for a natural knob finish and a knurled knob

For black finish and smooth knob options, minimums may apply

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Dimensions in millimeters (inch) unless otherwise stated

47 Captive Screws

Styled knob series · 6-32 thread size

- **Smooth knob meets UL-1950**
- **Designed for hand operation**
- **Spring ejected**
- **Wide variety of sizes, recesses and installation options**

Material and Finish

Ferrule:
Press-in: Hardened carbon steel, zinc plate, chromate, plus sealer
P.C. board style: 300 Series stainless steel, passivated
Flare-in, floating and snap-in: Aluminum, natural

Knob: Aluminum, natural or black powder coated

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

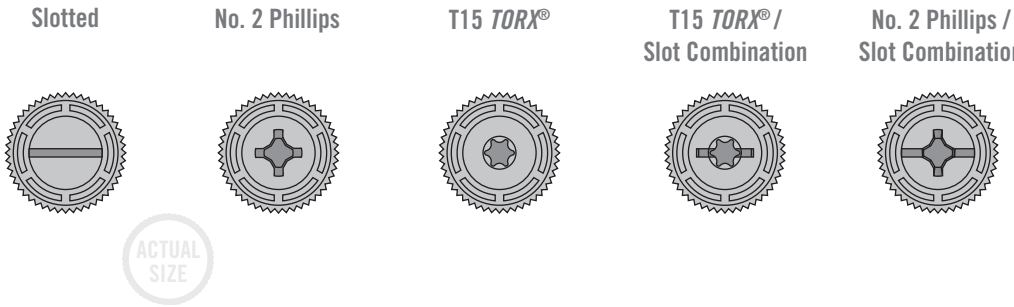
Installation Notes

See pages 468-469, 543

Notes

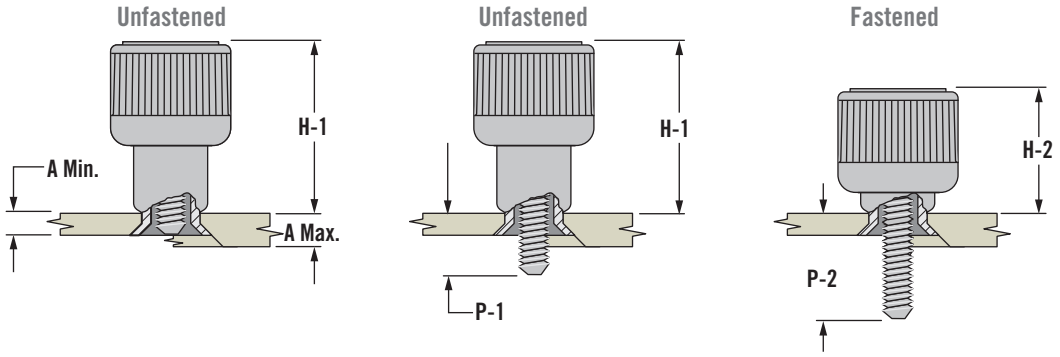
To ensure you receive *SOUTHCO*® quality parts, look for the segmented circle

Recess Styles

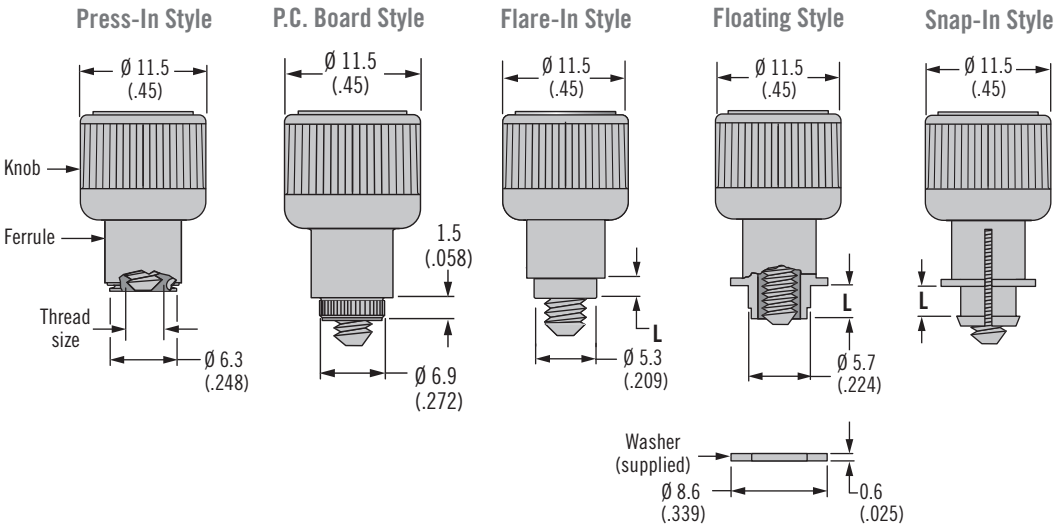


Knob Height and Screw Projection

(Flare-in style shown)



Installation Styles



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Dimensions in millimeters (inch) unless otherwise stated

Installation Style	Knob Height		Outer Panel Dimensions		B	Total Float	Flange Length L	Screw Projection Beyond Outer Surface of Panel		Part Number				
	H-1	H-2	A Min.	A Max.				P-1	P-2	Slotted Recess	Phillips Recess	*TORX*® Recess	*TORX*® / Slot Combination	Phillips / Slot Combination
Press-In Style	15.9 (.63)	11.2 (.44)	0.9 (.036)	~	~	0.8 (.03)	~	0.5 (.02)	5.3 (.21)	47-60-201-24	47-60-221-24	47-60-241-24	47-60-261-20	47-60-281-24
								2.1 (.08)	6.9 (.27)	47-61-201-24	47-61-221-24	47-61-241-24	47-61-261-20	47-61-281-24
								3.7 (.15)	8.5 (.33)	47-62-201-24	47-62-221-24	47-62-241-24	47-62-261-20	47-62-281-24
								5.3 (.21)	10.1 (.40)	47-63-201-24	47-63-221-24	47-63-241-24	47-63-261-20	47-63-281-24
P.C. Board Style	14.8 (.58)	10 (.39)	1.6 (.061)	~	~	0.8 (.03)	~	1.4 (.06)	6.1 (.24)	47-65-201-34	47-65-221-34	47-65-241-34	47-65-261-30	47-65-281-34
Flare-In Style	15.3 (.60)	10.4 (.41)	1.5 (.058)	3.2 (.125)	0.4 (.015)	0.8 (.03)	1.8 (.07)	1.1 (.04)	6 (.24)	47-10-202-14	47-10-222-14	47-10-242-14	47-10-262-10	47-10-282-14
			3.2 (.125)	4.8 (.189)	1.6 (.062)		3.4 (.135)	2.7 (.11)	7.6 (.30)	47-10-204-14	47-10-224-14	47-10-244-14	47-10-264-10	47-10-284-14
			4.8 (.189)	6.4 (.250)	3.2 (.125)		5 (.197)	4.3 (.17)	9.2 (.36)	47-10-206-14	47-10-226-14	47-10-246-14	47-10-266-10	47-10-286-14
			6.4 (.250)	7.9 (.312)	4.8 (.189)		6.1 (.26)	5.9 (.23)	10.8 (.43)	47-10-208-14	47-10-228-14	47-10-248-14	47-10-268-10	47-10-288-14
			1.5 (.058)	3.2 (.125)	0.4 (.015)		1.8 (.07)	2.7 (.11)	7.6 (.30)	47-11-202-14	47-11-222-14	47-11-242-14	47-11-262-10	47-11-282-14
								4.3 (.17)	9.2 (.36)	47-12-202-14	47-12-222-14	47-12-242-14	47-12-262-10	47-12-282-14
								5.9 (.23)	10.8 (.43)	47-13-202-14	47-13-222-14	47-13-242-14	47-13-262-10	47-13-282-14
			3.2 (.125)	4.8 (.189)	1.6 (.062)		3.4 (.135)	1.6 (.062)	4.8 (.189)	47-11-204-14	47-11-224-14	47-11-244-14	47-11-264-10	47-11-284-14
								5.9 (.23)	10.8 (.43)	47-12-204-14	47-12-224-14	47-12-244-14	47-12-264-10	47-12-284-14
			4.8 (.189)	6.4 (.250)	3.2 (.125)		5 (.197)	5.9 (.23)	10.8 (.43)	47-11-206-14	47-11-226-14	47-11-246-14	47-11-266-10	47-11-286-14
Floating Style	15.3 (.60)	10.6 (.42)	~	0.8 (.031)	2.1 (.083)	2.2 (.09)	2.9 (.113)	2.4 (.09)	7.2 (.28)	47-10-210-14	47-10-230-14	47-10-250-14	47-10-270-10	47-10-290-14
								4 (.16)	8.8 (.35)	47-11-210-14	47-11-230-14	47-11-250-14	47-11-270-10	47-11-290-14
								5.6 (.22)	10.4 (.41)	47-12-210-14	47-12-230-14	47-12-250-14	47-12-270-10	47-12-290-14
			0.8 (.031)	1.6 (.063)	2.9 (.114)		3.7 (.144)	2.4 (.09)	7.2 (.28)	47-10-211-14	47-10-231-14	47-10-251-14	47-10-271-10	47-10-291-14
								4 (.16)	8.8 (.35)	47-11-211-14	47-11-231-14	47-11-251-14	47-11-271-10	47-11-291-14
								5.6 (.22)	10.4 (.41)	47-12-211-14	47-12-231-14	47-12-251-14	47-12-271-10	47-12-291-14
			1.6 (.063)	2.4 (.094)	3.7 (.146)		4.5 (.176)	4 (.16)	8.8 (.35)	47-10-212-14	47-10-232-14	47-10-252-14	47-10-272-10	47-10-292-14
								5.6 (.22)	10.4 (.41)	47-11-212-14	47-11-232-14	47-11-252-14	47-11-272-10	47-11-292-14
Snap-In Style	15.3 (.60)	10.6 (.42)	0.5 (.020)	1 (.039)	2 (.079)	0.8 (.03)	1.1 (.044)	0.8 (.03)	5.6 (.22)	47-60-210-14	47-60-230-14	47-60-250-14	47-60-270-10	47-60-290-14
								2.4 (.09)	7.2 (.28)	47-61-210-14	47-61-230-14	47-61-250-14	47-61-270-10	47-61-290-14
								4 (.16)	8.8 (.35)	47-62-210-14	47-62-230-14	47-62-250-14	47-62-270-10	47-62-290-14
								5.6 (.22)	10.4 (.41)	47-63-210-14	47-63-230-14	47-63-250-14	47-63-270-10	47-63-290-14
			1 (.039)	1.6 (.063)	2.6 (.103)		1.7 (.067)	2.4 (.09)	7.2 (.28)	47-60-212-14	47-60-232-14	47-60-252-14	47-60-272-10	47-60-292-14
								4 (.16)	8.8 (.35)	47-61-212-14	47-61-232-14	47-61-252-14	47-61-272-10	47-61-292-14
								5.6 (.22)	10.4 (.41)	47-62-212-14	47-62-232-14	47-62-252-14	47-62-272-10	47-62-292-14

Part numbers in shaded rows (shown in table) are fully retracting in minimum panel thickness

To add a black powder coated finish, change the part number from the table as shown:

Change 1 to 5: 47-80-102-**1**4
47-80-102-**5**4

Change 2 to 6: 47-80-102-**2**4
47-80-102-**6**4

Change 3 to 7: 47-80-102-**3**4
47-80-102-**7**4

For a smooth knob, change the part number from the table as shown:

Change 0 to 1: 47-90-161-2**0**
47-90-161-2**1**

Change 4 to 5: 47-90-101-2**4**
47-90-101-2**5**

Part Number

See table

All screw part numbers shown in table are for a natural knob finish and a knurled knob

For black finish and smooth knob options, minimums may apply

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TORX® is a registered trademark of *ACUMENT*® Intellectual Properties, LLC

Dimensions in millimeters (inch) unless otherwise stated

INFO CLIC www.southco.com/47

47 Captive Screws

Styled knob series · 8-32 thread size

- **Designed for hand operation**
- **Spring ejected**
- **Wide variety of sizes, recesses and installation options**

Material and Finish

Ferrule:
Press-in: Hardened carbon steel, zinc plate, chromate, plus sealer
Flare-in, floating and snap-in: Aluminum, natural

Knob: Aluminum, natural or black powder coated

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

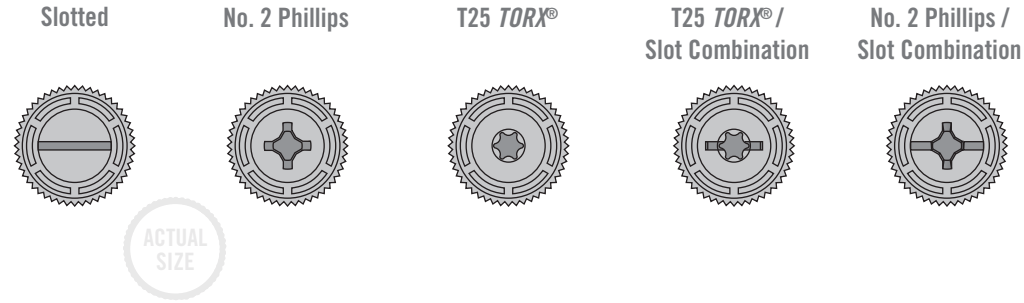
Installation Notes

See pages 468-469, 543

Notes

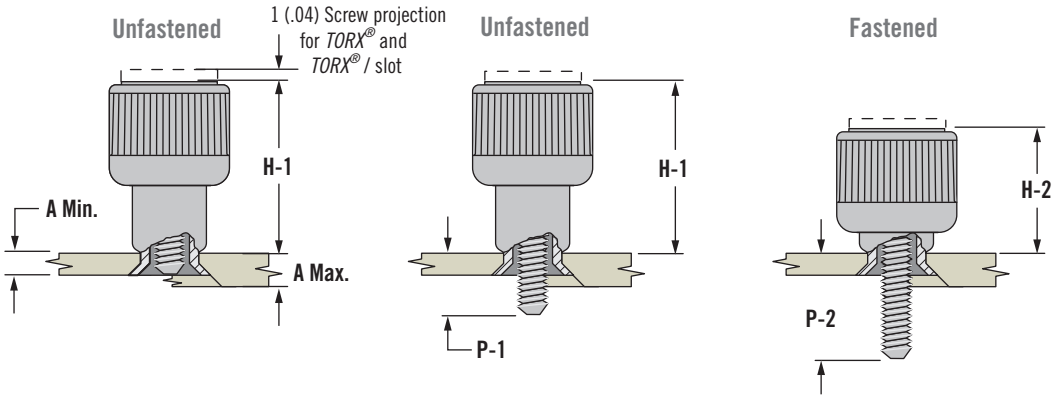
To ensure you receive *SOUTHCO*® quality parts, look for the segmented circle

Recess Styles

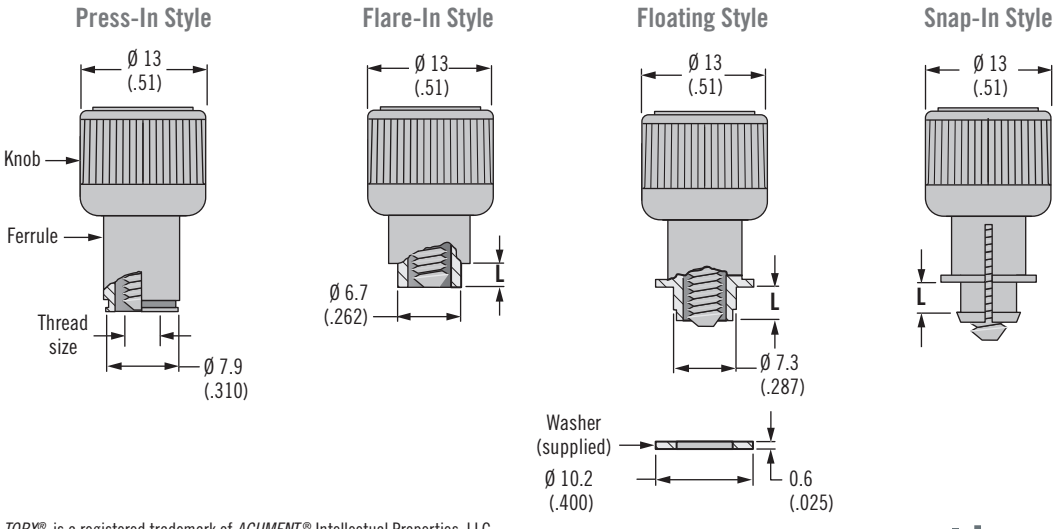


Knob Height and Screw Projection

(Flare-in style shown)



Installation Styles



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Dimensions in millimeters (inch) unless otherwise stated

Installation Style	Knob Height		Outer Panel Dimensions		B	Total Float	Flange Length L	Screw Projection Beyond Outer Surface of Panel		Part Number				
	H-1	H-2	A Min.	A Max.				P-1	P-2	Slotted Recess	Phillips Recess	*TORX*® Recess	*TORX*® / Slot Combination	Phillips / Slot Combination
Press-In Style	16.2 (.64)	11.2 (.44)	0.9 (.036)	~	~	0.8 (.03)	~	0.5 (.02)	5.6 (.22)	47-60-301-24	47-60-321-24	47-60-341-20	47-60-361-20	47-60-381-20
								2 (.08)	7.1 (.28)	47-61-301-24	47-61-321-24	47-61-341-20	47-61-361-20	47-61-381-20
								3.8 (.15)	8.9 (.35)	47-62-301-24	47-62-321-24	47-62-341-20	47-62-361-20	47-62-381-20
								5.3 (.21)	10.4 (.41)	47-63-301-24	47-63-321-24	47-63-341-20	47-63-361-20	47-63-381-20
Flare-In Style	15.6 (.61)	10.5 (.41)	1.5 (.058)	3.2 (.125)	0.4 (.015)	0.9 (.03)	1.8 (.070)	1 (.04)	6 (.24)	47-10-302-14	47-10-322-14	47-10-342-10	47-10-362-10	47-10-382-10
			3.2 (.126)	4.8 (.189)	1.6 (.062)		3.4 (.135)	2.8 (.11)	7.6 (.3)	47-10-304-14	47-10-324-14	47-10-344-10	47-10-364-10	47-10-384-10
			4.8 (.189)	6.4 (.250)	3.2 (.125)		5 (.197)	4.3 (.17)	9.2 (.36)	47-10-306-14	47-10-326-14	47-10-346-10	47-10-366-10	47-10-386-10
			6.3 (.251)	7.9 (.312)	4.8 (.189)		6.6 (.260)	5.8 (.23)	10.8 (.43)	47-10-308-14	47-10-328-14	47-10-348-10	47-10-368-10	47-10-388-10
			1.5 (.058)	3.2 (.125)	0.4 (.015)		1.8 (.07)	2.8 (.11)	7.6 (.3)	47-11-302-14	47-11-322-14	47-11-342-10	47-11-362-10	47-11-382-10
								4.3 (.17)	9.2 (.36)	47-12-302-14	47-12-322-14	47-12-342-10	47-12-362-10	47-12-382-10
								5.8 (.23)	10.8 (.43)	47-13-302-14	47-13-322-14	47-13-342-10	47-13-362-10	47-13-382-10
			3.2 (.126)	4.8 (.189)	1.6 (.062)		3.4 (.135)	4.3 (.17)	9.2 (.36)	47-11-304-14	47-11-324-14	47-11-344-10	47-11-364-10	47-11-384-10
								5.8 (.23)	10.8 (.43)	47-12-304-14	47-12-324-14	47-12-344-10	47-12-364-10	47-12-384-10
			4.8 (.189)	6.4 (.250)	3.2 (.125)		5 (.197)	5.8 (.23)	10.8 (.43)	47-11-306-14	47-11-326-14	47-11-346-10	47-11-366-10	47-11-386-10
Floating Style	16 (.63)	11.2 (.44)	~	0.8 (.031)	2.3 (.09)	2.3 (.09)	3.2 (.127)	2.3 (.09)	7.1 (.28)	47-10-310-14	47-10-330-14	47-10-350-10	47-10-370-10	47-10-390-10
								3.8 (.15)	8.9 (.35)	47-11-310-14	47-11-330-14	47-11-350-10	47-11-370-10	47-11-390-10
								5.6 (.22)	10.4 (.41)	47-12-310-14	47-12-330-14	47-12-350-10	47-12-370-10	47-12-390-10
			0.8 (.031)	1.6 (.063)	3.1 (.121)		4 (.158)	2.3 (.09)	7.1 (.28)	47-10-311-14	47-10-331-14	47-10-351-10	47-10-371-10	47-10-391-10
								3.8 (.15)	8.9 (.35)	47-11-311-14	47-11-331-14	47-11-351-10	47-11-371-10	47-11-391-10
								5.6 (.22)	10.4 (.41)	47-12-311-14	47-12-331-14	47-12-351-10	47-12-371-10	47-12-391-10
			1.6 (.063)	2.4 (.094)	3.9 (.153)		4.8 (.190)	3.8 (.15)	8.9 (.35)	47-10-312-14	47-10-332-14	47-10-352-10	47-10-372-10	47-10-392-10
								5.6 (.22)	10.4 (.41)	47-11-312-14	47-11-332-14	47-11-352-10	47-11-372-10	47-11-392-10
Snap-In Style	15.7 (.62)	11.2 (.44)	0.5 (.020)	1 (.039)	2 (.079)	0.9 (.03)	1.1 (.044)	1 (.04)	3 (.22)	47-60-310-14	47-60-330-14	47-60-350-10	47-60-370-10	47-60-390-10
								2.8 (.11)	7.1 (.28)	47-61-310-14	47-61-330-14	47-61-350-10	47-61-370-10	47-61-390-10
								4.3 (.17)	8.9 (.35)	47-63-310-14	47-62-330-14	47-62-350-10	47-62-370-10	47-62-390-10
								5.8 (.23)	10.4 (.41)	47-63-310-14	47-63-330-14	47-63-350-10	47-63-370-10	47-63-390-10
			1 (.039)	1.6 (.063)	2.6 (.103)		1.7 (.068)	2.8 (.11)	7.1 (.28)	47-60-312-14	47-60-332-14	47-60-352-10	47-60-372-10	47-60-392-10
								4.3 (.17)	8.9 (.35)	47-61-312-14	47-61-332-14	47-61-352-10	47-61-372-10	47-61-392-10
								5.8 (.23)	10.4 (.41)	47-62-312-14	47-62-332-14	47-62-352-10	47-62-372-10	47-62-392-10
			1.6 (.063)	2.5 (.098)	3.5 (.138)		2.6 (.103)	2.8 (.11)	7.1 (.28)	47-60-314-14	47-60-334-14	47-60-354-10	47-60-374-10	47-60-394-10
								4.3 (.17)	8.9 (.35)	47-61-314-14	47-61-334-14	47-61-354-10	47-61-374-10	47-61-394-10
								5.8 (.23)	10.4 (.41)	47-62-314-14	47-62-334-14	47-62-354-10	47-62-374-10	47-62-394-10

Part numbers in shaded rows (shown in table) are fully retracting in minimum panel thickness

To add a black powder coated finish, change the part number from the table as shown:

Change 1 to 5: 47-80-102-**1**4
47-80-102-**5**4

Change 2 to 6: 47-80-102-**2**4
47-80-102-**6**4

For a smooth knob, change the part number from the table as shown:

Change 0 to 1: 47-90-161-2**0**
47-90-161-2**1**

Change 4 to 5: 47-90-101-2**4**
47-90-101-2**5**

Part Number

See table

All screw part numbers shown in table are for a natural knob finish and a knurled knob

For black finish and smooth knob options, minimums may apply

TORX® is a registered trademark of *ACUMENT*® Intellectual Properties, LLC

Dimensions in millimeters (inch) unless otherwise stated

47 Captive Screws

Styled knob series · 10-32 thread size

- **Designed for hand operation**
- **Spring ejected**
- **Wide variety of sizes, recesses and installation options**

Material and Finish

Ferrule:
Press-in: Hardened carbon steel, zinc plate, chromate, plus sealer
Flare-in, floating and snap-in: Aluminum, natural

Knob: Aluminum, natural or black powder coated

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

Installation Notes

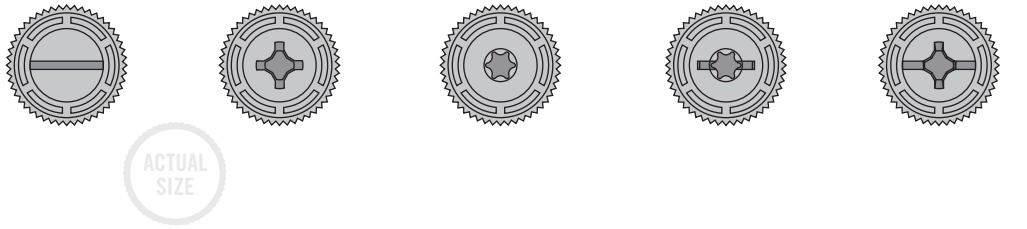
See pages 468-469, 543

Notes

To ensure you receive *SOUTHCO*® quality parts, look for the segmented circle

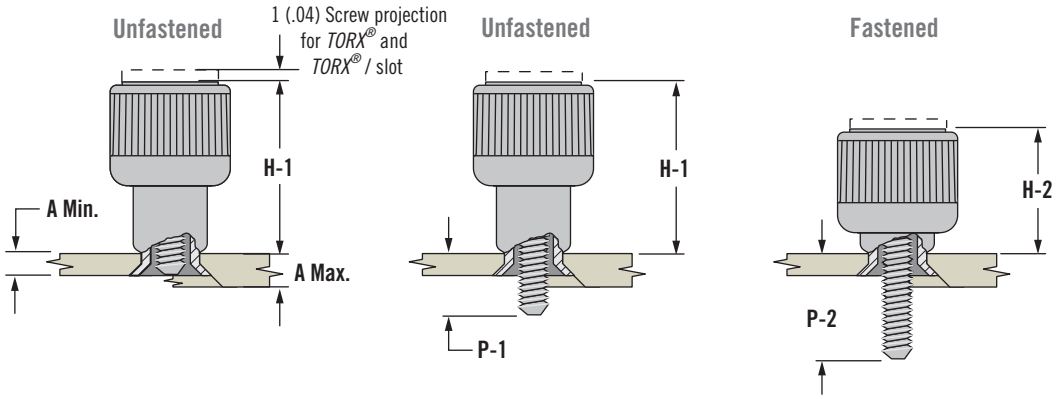
Recess Styles

Slotted | No. 2 Phillips | T25 *TORX*® | T25 *TORX*® / Slot Combination | No. 2 Phillips / Slot Combination

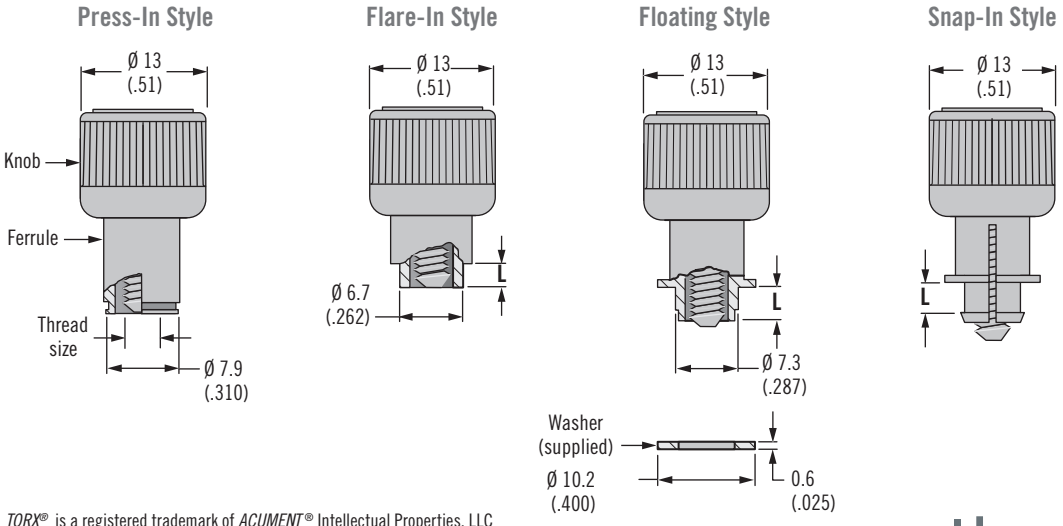


Knob Height and Screw Projection

(Flare-in style shown)



Installation Styles



TORX® is a registered trademark of *ACUMENT*® Intellectual Properties, LLC

Dimensions in millimeters (inch) unless otherwise stated

Installation Style	Knob Height		Outer Panel Dimensions		B	Total Float	Flange Length L	Screw Projection Beyond Outer Surface of Panel		Part Number				
	H-1	H-2	A Min.	A Max.				P-1	P-2	Slotted Recess	Phillips Recess	*TORX*® Recess	*TORX*® / Slot Combination	Phillips / Slot Combination
Press-In Style	16.2 (.64)	11.2 (.44)	0.9 (.036)	~	~	0.6 (.02)	~	0.6 (.02)	5.5 (.22)	47-60-501-24	47-60-521-24	47-60-541-20	47-60-561-20	47-60-581-20
								2.2 (.09)	7.2 (.28)	47-61-501-24	47-61-521-24	47-61-541-20	47-61-561-20	47-61-581-20
								3.8 (.15)	8.9 (.35)	47-62-501-24	47-62-521-24	47-62-541-20	47-62-561-20	47-62-581-20
								5.4 (.21)	10.3 (.41)	47-63-501-24	47-63-521-24	47-63-541-20	47-63-561-20	47-63-581-20
Flare-In Style	15.6 (.61)	10.5 (.41)	1.5 (.058)	3.2 (.125)	0.4 (.015)	0.6 (.02)	1.8 (.070)	1.2 (.05)	6.3 (.25)	47-10-502-14	47-10-522-14	47-10-542-10	47-10-562-10	47-10-582-10
			3.2 (.125)	4.7 (.187)	1.6 (.062)		3.4 (.135)	2.8 (.11)	7.9 (.31)	47-10-504-14	47-10-524-14	47-10-544-10	47-10-564-10	47-10-584-10
			4.8 (.189)	6.4 (.250)	3.2 (.125)		5 (.197)	4.4 (.17)	9.5 (.37)	47-10-506-14	47-10-526-14	47-10-546-10	47-10-566-10	47-10-586-10
			6.3 (.251)	7.9 (.312)	4.8 (.187)		6.6 (.260)	6 (.24)	11.1 (.44)	47-10-508-14	47-10-528-14	47-10-548-10	47-10-568-10	47-10-588-10
			1.5 (.058)	3.2 (.125)	0.4 (.015)		1.8 (.070)	2.8 (.11)	7.9 (.31)	47-11-502-14	47-11-522-14	47-11-542-10	47-11-562-10	47-11-582-10
								4.4 (.17)	9.5 (.37)	47-12-502-14	47-12-522-14	47-12-542-10	47-12-562-10	47-12-582-10
								6 (.24)	11.1 (.44)	47-13-502-14	47-13-522-14	47-13-542-10	47-13-562-10	47-13-582-10
			3.2 (.125)	4.8 (.187)	1.6 (.062)		3.4 (.135)	4.4 (.17)	9.5 (.37)	47-11-504-14	47-11-524-14	47-11-544-10	47-11-564-10	47-11-584-10
								6 (.24)	11.1 (.44)	47-12-504-14	47-12-524-14	47-12-544-10	47-12-564-10	47-12-584-10
			4.8 (.189)	6.4 (.250)	3.2 (.125)		5 (.197)	6 (.24)	11.1 (.44)	47-11-506-14	47-11-526-14	47-11-546-10	47-11-566-10	47-11-586-10
Floating Style	16 (.63)	11.2 (.44)	~	0.8 (.031)	2.3 (.090)	2.3 (.09)	3.2 (.127)	2.3 (.09)	7.1 (.28)	47-10-510-14	47-10-530-14	47-10-550-10	47-10-570-10	47-10-590-10
								4 (.16)	8.8 (.35)	47-11-510-14	47-11-530-14	47-11-550-10	47-11-570-10	47-11-590-10
								5.6 (.22)	10.4 (.41)	47-12-510-14	47-12-530-14	47-12-550-10	47-12-570-10	47-12-590-10
			0.8 (.031)	1.6 (.063)	3.1 (.122)		4 (.158)	2.4 (.09)	7.1 (.28)	47-10-511-14	47-10-531-14	47-10-551-10	47-10-571-10	47-10-591-10
								4 (.16)	8.8 (.35)	47-11-511-14	47-11-531-14	47-11-551-10	47-11-571-10	47-11-591-10
								5.6 (.22)	10.4 (.41)	47-12-511-14	47-12-531-14	47-12-551-10	47-12-571-10	47-12-591-10
			1.6 (.063)	2.4 (.094)	3.9 (.153)		4.8 (.190)	4 (.16)	8.8 (.35)	47-10-512-14	47-10-532-14	47-10-552-10	47-10-572-10	47-10-592-10
								5.6 (.22)	10.4 (.41)	47-11-512-14	47-11-532-14	47-11-552-10	47-11-572-10	47-11-592-10
Snap-In Style	15.7 (.62)	11.2 (.44)	0.5 (.020)	1 (.039)	2 (.079)	.9 (.04)	1.1 (.044)	1.2 (.04)	5.6 (.22)	47-60-510-14	47-60-530-14	47-60-550-10	47-60-570-10	47-60-590-10
								2.8 (.11)	7.1 (.28)	47-61-510-14	47-61-530-14	47-61-550-10	47-61-570-10	47-61-590-10
								4.3 (.17)	8.8 (.35)	47-63-510-14	47-62-530-14	47-62-550-10	47-62-570-10	47-62-590-10
								5.9 (.23)	10.4 (.41)	47-63-510-14	47-63-530-14	47-63-550-10	47-63-570-10	47-63-590-10
			1 (.039)	1.6 (.063)	2.6 (.103)		1.7 (.068)	2.8 (.11)	7.1 (.28)	47-60-512-14	47-60-532-14	47-60-552-10	47-60-572-10	47-60-592-10
								4.3 (.17)	8.8 (.35)	47-61-512-14	47-61-532-14	47-61-552-10	47-61-572-10	47-61-592-10
								5.9 (.23)	10.4 (.41)	47-62-512-14	47-62-532-14	47-62-552-10	47-62-572-10	47-62-592-10
			1.6 (.063)	2.5 (.098)	3.5 (.138)		2.6 (.103)	2.8 (.11)	7.1 (.28)	47-60-514-14	47-60-534-14	47-60-554-10	47-60-574-10	47-60-594-10
								4.3 (.17)	8.8 (.35)	47-61-514-14	47-61-534-14	47-61-554-10	47-61-574-10	47-61-594-10
								5.9 (.23)	10.4 (.41)	47-62-514-14	47-62-534-14	47-62-554-10	47-62-574-10	47-62-594-10

Part numbers in shaded rows (shown in table) are fully retracting in minimum panel thickness

To add a black powder coated finish, change the part number from the table as shown:

Change 1 to 5: 47-80-102-**1**4
47-80-102-**5**4

Change 2 to 6: 47-80-102-**2**4
47-80-102-**6**4

For a smooth knob, change the part number from the table as shown:

Change 0 to 1: 47-90-161-2**0**
47-90-161-2**1**

Change 4 to 5: 47-90-101-2**4**
47-90-101-2**5**

Part Number

See table

All screw part numbers shown in table are for a natural knob finish and a knurled knob

For black finish and smooth knob options, minimums may apply

TORX® is a registered trademark of *ACUMENT*® Intellectual Properties, LLC

Dimensions in millimeters (inch) unless otherwise stated

47 Captive Screws

Styled knob series · 1/4-20 thread size

- **Designed for hand operation**
- **Spring ejected**
- **Wide variety of sizes, recesses and installation options**

Material and Finish

Ferrule:
Press-in: Hardened carbon steel, zinc plate, chromate, plus sealer
Flare-in and Floating: Aluminum, natural

Knob: Aluminum, natural or black powder coated

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

Installation Notes

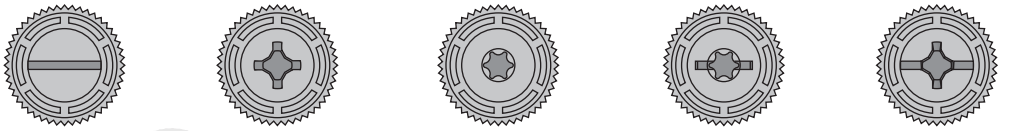
See pages 468-469, 543

Notes

To ensure you receive *SOUTHCO*® quality parts, look for the segmented circle

Recess Styles

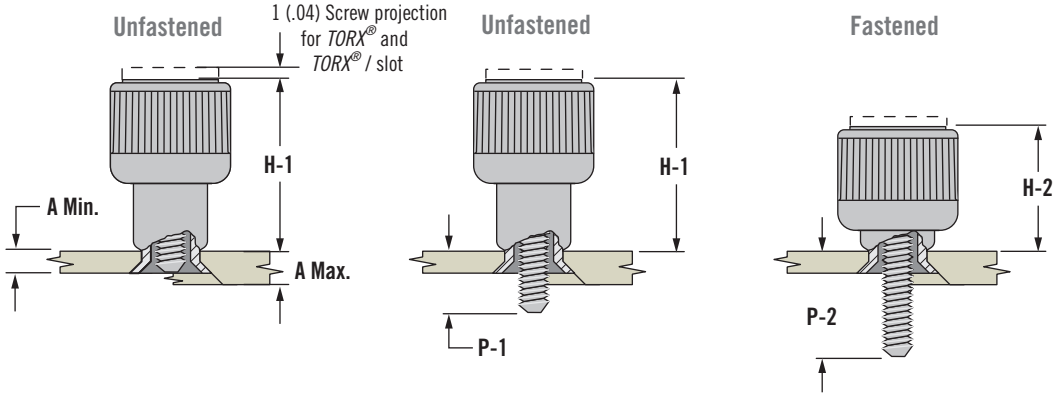
Slotted | No. 2 Phillips | T30 *TORX*® | T30 *TORX*® / Slot Combination | No. 2 Phillips / Slot Combination



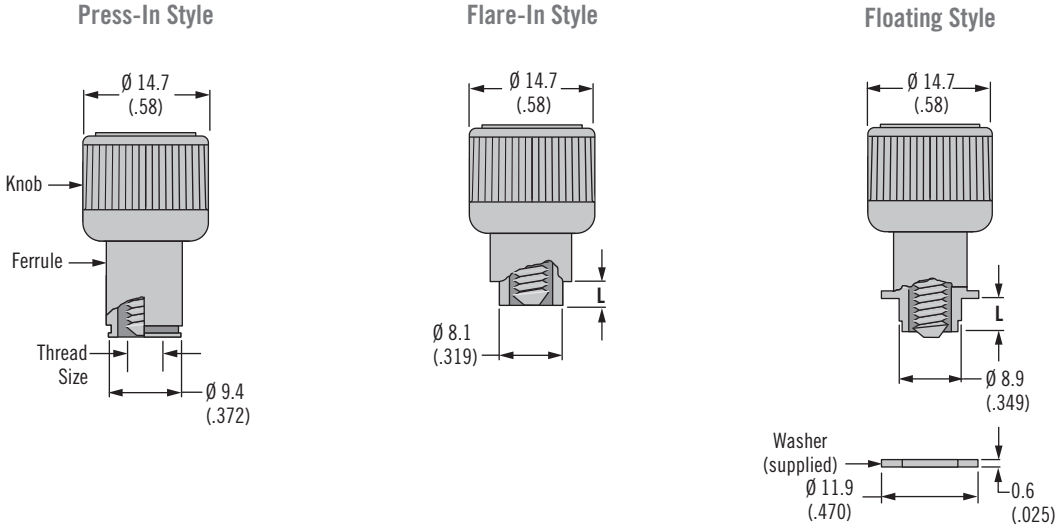
ACTUAL SIZE

Knob Height and Screw Projection

(Flare-in style shown)



Installation Styles



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Dimensions in millimeters (inch) unless otherwise stated

Installation Style	Knob Height		Outer Panel Dimensions		B	Total Float	Flange Length L	Screw Projection Beyond Outer Surface of Panel		Part Number				
	H-1	H-2	A Min.	A Max.				P-1	P-2	Slotted Recess	Phillips Recess	*TORX*® Recess	*TORX*® / Slot Combination	Phillips / Slot Combination
Press-In Style	20 (.79)	13.4 (.53)	0.9 (.036)	~	~	0.8 (.03)	~	0.5 (.02)	7.1 (.28)	47-60-601-24	47-60-621-24	47-60-641-20	47-60-661-20	47-60-681-20
								2.1 (.08)	8.7 (.34)	47-61-601-24	47-61-621-24	47-61-641-20	47-61-661-20	47-61-681-20
								3.7 (.15)	10.3 (.41)	47-62-601-24	47-62-621-24	47-62-641-20	47-62-661-20	47-62-681-20
								5.3 (.21)	11.9(.47)	47-63-601-24	47-63-621-24	47-63-641-20	47-63-661-20	47-63-681-20
Flare-In Style	19.3 (.76)	12.7 (.50)	1.5 (.058)	3.2 (.125)	0.4 (.015)	0.9 (.03)	1.8 (.070)	1.2 (.05)	7.8 (.31)	47-10-602-14	47-10-622-14	47-10-642-10	47-10-662-10	47-10-682-10
			3.2 (.126)	4.8 (.189)	1.6 (.062)		3.4 (.135)	2.8 (.11)	9.4 (.37)	47-10-604-14	47-10-624-14	47-10-644-10	47-10-664-10	47-10-684-10
			4.8 (.188)	6.4 (.250)	3.2 (.125)		5 (.197)	4.4 (.17)	11 (.43)	47-10-606-14	47-10-626-14	47-10-646-10	47-10-666-10	47-10-686-10
			6.4 (.251)	7.9 (.312)	4.8 (.189)		6.6 (.260)	6 (.24)	12.6 (.50)	47-10-608-14	47-10-628-14	47-10-648-10	47-10-668-10	47-10-688-10
			1.5 (.058)	3.2 (.125)	0.4 (.015)		1.8 (.070)	2.8 (.11)	9.4 (.37)	47-11-602-14	47-11-622-14	47-11-642-10	47-11-662-10	47-11-682-10
								4.4 (.17)	11 (.43)	47-12-602-14	47-12-622-14	47-12-642-10	47-12-662-10	47-12-682-10
								6 (.24)	12.6 (.50)	47-13-602-14	47-13-622-14	47-13-642-10	47-13-662-10	47-13-682-10
			3.2 (.126)	4.8 (.189)	1.6 (.062)		3.4 (.135)	4.4 (.17)	11 (.43)	47-11-604-14	47-11-624-14	47-11-644-10	47-11-664-10	47-11-684-10
								6 (.24)	12.6 (.50)	47-12-604-14	47-12-624-14	47-12-644-10	47-12-664-10	47-12-684-10
			4.8 (.189)	6.4 (.250)	3.2 (.125)		5 (.197)	6 (.24)	12.6 (.50)	47-11-606-14	47-11-626-14	47-11-646-10	47-11-666-10	47-11-686-10
Floating Style	20 (.79)	13.3 (.52)	~	0.8 (.031)	2.3 (.090)	2.3 (.09)	3.2 (.127)	2.1 (.08)	8.8 (.35)	47-10-610-14	47-10-630-14	47-10-650-10	47-10-670-10	47-10-690-10
								3.7 (.15)	10.4 (.41)	47-11-610-14	47-11-630-14	47-11-650-10	47-11-670-10	47-11-690-10
								5.3 (.21)	12 (.47)	47-12-610-14	47-12-630-14	47-12-650-10	47-12-670-10	47-12-690-10
			0.8 (.031)	1.6 (.063)	3.1 (.122)		4 (.158)	2.1 (.08)	8.8 (.35)	47-10-611-14	47-10-631-14	47-10-651-10	47-10-671-10	47-10-691-10
								3.7 (.15)	10.4 (.41)	47-11-611-14	47-11-631-14	47-11-651-10	47-11-671-10	47-11-691-10
								5.3 (.21)	12 (.47)	47-12-611-14	47-12-631-14	47-12-651-10	47-12-671-10	47-12-691-10
			1.6 (.063)	2.4 (.094)	3.9 (.153)		4.8 (.190)	3.7 (.15)	10.4 (.41)	47-10-612-14	47-10-632-14	47-10-652-10	47-10-672-10	47-10-692-10
								5.3 (.21)	12 (.47)	47-11-610-14	47-11-632-14	47-11-652-10	47-11-672-10	47-11-692-10

Part numbers in shaded rows (shown in table) are fully retracting in minimum panel thickness

To add a black powder coated finish, change the part number from the table as shown:

Change 1 to 5: 47-80-102-**1**4
47-80-102-**5**4

Change 2 to 6: 47-80-102-**2**4
47-80-102-**6**4

For a smooth knob, change the part number from the table as shown:

Change 0 to 1: 47-90-161-2**0**
47-90-161-2**1**

Change 4 to 5: 47-90-101-2**4**
47-90-101-2**5**

Part Number

See table

All screw part numbers shown in table are for a natural knob finish and a knurled knob

For black finish and smooth knob options, minimums may apply

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Dimensions in millimeters (inch) unless otherwise stated

4C Captive Screws

Prism series · M3, M4 and M5 thread size

- **Designate access points with color**
- **Color match captive screws to your industrial design**
- **High strength screw for use with high torque drivers**
- **Knurled and smooth knobs available**

Material and Finish

Knob: PC/ABS

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

Spring: 300 series stainless steel, passivated

Standoff:
Press-in: Carbon steel, zinc plate, chromate, plus sealer
PCB: Stainless steel
Flare-in and Floating: Aluminum, natural

Performance Details

Flammability Rating: UL94-V0

Installation Notes

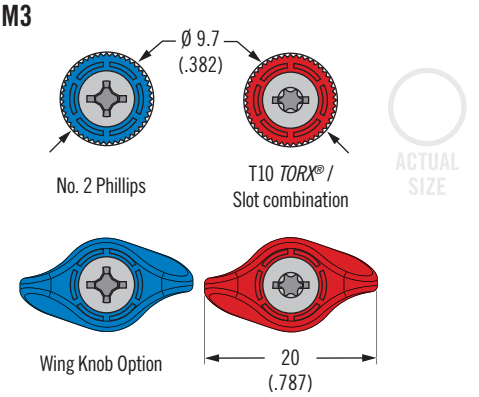
See pages 468-469, 543

See page 480 for details on ATCA compliant captive screws.

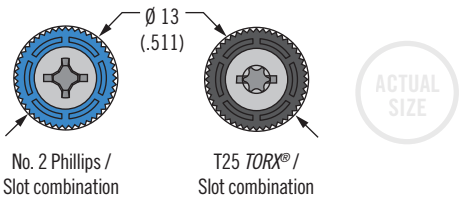
To ensure you receive *SOUTHCO*® quality parts, look for the segmented circle.

Recess Styles

M3

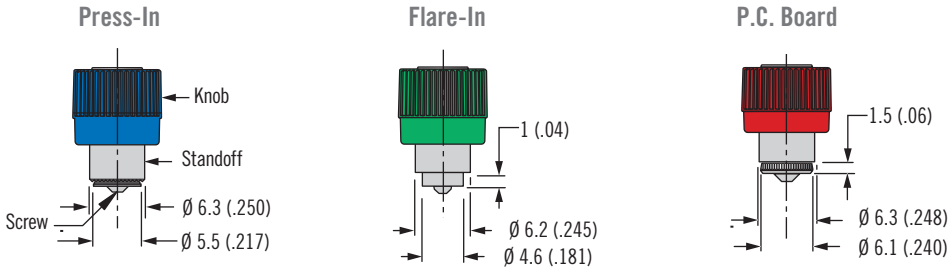


M4 and M5

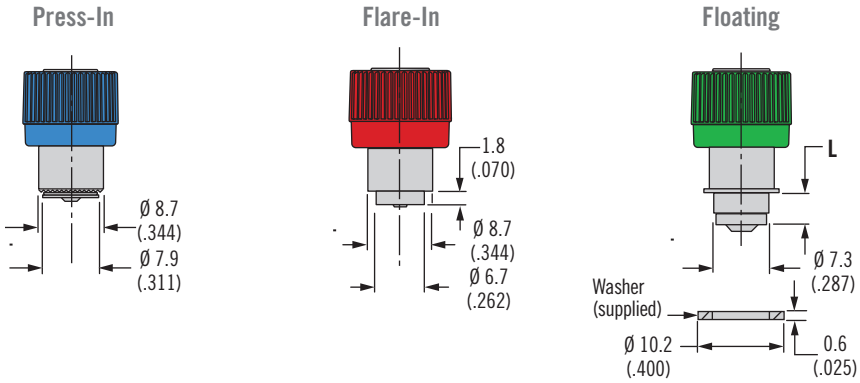


Installation Styles

M3

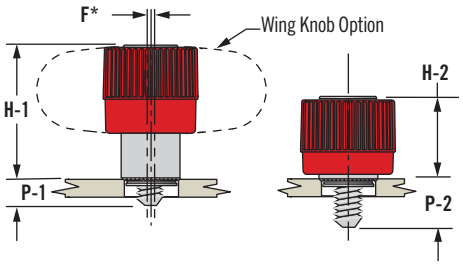


M4 and M5



Knob Height and Screw Projection

(Press-in style shown)



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Dimensions in millimeters (inch) unless otherwise stated

M3 Thread Size

Installation Style	Outer Panel Dimensions		B	Part Number		Screw Projection Beyond Outer Surface of Panel		Knob Height†		Total Float	Panel Preparation	
	A Min.	A Max.		Phillips Recess	*TORX*® / Slot Combination	P-1	P-2	H-1	H-2	F*	Ø D	Ø Z
Press-In Style	0.9 (.036)	~	~	4C-PH-M3-1P0-K000	4C-TS-M3-1P0-K000	0.8 (.03)	3.7 (.15)	11.5 (.45)	8.6 (.34)	0.7 (.03)	5.6 $^{+0.04}_{-0.04}$ (.219 $^{+.002}_{-.002}$)	3.2 $^{+0.2}_{-0.1}$ (.125 $^{+.008}_{-.004}$)
				4C-PH-M3-2P0-K000	4C-TS-M3-2P0-K000	2.5 (.10)	5.4 (.21)					
	0.8 (.031)	1.2 (.047)	~	4C-P1-P-0637-K000	4C-B1-P-0637-K000	0.6 (.024)	3.7 (.15)	12.7 (.50)	9.6 (.38)		5.6 $^{+0.08}_{-0.0}$ (.219 $^{+.003}_{-.0}$)	3.2 $^{+0.2}_{-0.1}$ (.125 $^{+.008}_{-.004}$)
				4C-P1-P-0647-K000	4C-B1-P-0647-K000		4.7 (.19)	15.1 (.59)	11 (.43)			
				4C-P1-P-0657-K000	4C-B1-P-0657-K000		5.7 (.22)	16.1 (.63)				
P.C. Board Style	1.6 (.063)	~	~	4C-PH-M3-1B0-K000	4C-TS-M3-1B0-K000	1.5 (.06)	3.8 (.15)	10.9 (.43)	8.5 (.33)		5.6 $^{+0.1}_{-0.05}$ (.220 $^{+.004}_{-.002}$)	3.2 $^{+0.2}_{-0.1}$ (.220 $^{+.008}_{-.004}$)
Flare-In Style	0.8 (.031)	1.5 (.058)	0.4 (.016)	4C-PH-M3-1F1-K000	4C-TS-M3-1F1-K000	0.8 (.03)	3.7 (.15)	11.5 (.45)	8.6 (.34)		4.8 $^{+0.08}_{-0.05}$ (.189 $^{+.003}_{-.002}$)	3.0 $^{+0.2}_{-0.1}$ (.125 $^{+.008}_{-.004}$)
				4C-PH-M3-2F1-K000	4C-TS-M3-2F1-K000	2.5 (.10)	5.4 (.21)					
		1.2 (.047)	0.2 (.008)	4C-P1-F-0637-K000	4C-B1-F-0637-K000	0.6 (.024)	3.7 (.15)	12.7 (.50)	9.6 (.38)			
				4C-P1-F-0647-K000	4C-B1-F-0647-K000		4.7 (.19)	15.1 (.59)	11 (.43)			
				4C-P1-F-0657-K000	4C-B1-F-0657-K000		5.7 (.22)	16.1 (.63)				

(shown in table)

000
Black

008
Blue

013
Red

014
Green

Your Color
Contact Southco

Part Number

See table

Specify Wing Knob:
(M3, Press-in, Flare-in only)
To indicate Wing Knob option, change K to W of the part number
Example:
4C-PH-M3-1P0-K000, Round Knob
4C-PH-M3-1P0-W000, Wing Knob

Notes: *F indicates the maximum float in the unfastened position.
† For panels thinner than 0.9 (.036), contact Southco.

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Part Number

See table

To indicate color, change the last three digits of the part number. For knob style, K = knurled and N = smooth. For smooth knob change K to N. Example:
4C-PS-06-1P0-K000, black, knurled
4C-PS-06-1P0-N013, red, smooth

M4 Thread Size

Installation Style	Outer Panel Dimensions		B	L	Part Number		Screw Projection Beyond Outer Surface Of Panel		Knob Height†		Total Float	Panel Preparation	
	A Min.	A Max.			Phillips / Slot Combination	*TORX*® /Slot Combination	P-1	P-2	H-1	H-2	F*	Ø D	Ø Z
Press-In Style	0.9 (.036)v	~	~	~	4C-PS-M4-1P0-K000	4C-TS-M4-1P0-K000	0.5 (.02)	5.6 (.22)	16.3 (.64)	11.3 (.45)	0.7 (.03)	8 $^{+0}_{-0.08}$ (.315 $^{+0}_{-.003}$)	4.4 $^{+0.2}_{-0.1}$ (.173 $^{+.008}_{-.004}$)
					4C-PS-M4-2P0-K000	4C-TS-M4-2P0-K000	2 (.08)	7.1 (.28)					
Flare-In Style	1.5 (.060)	3.2 (.058)	0.4 (.016)	~	4C-PS-M4-1F1-K000	4C-TS-M4-1F1-K000	0.6 (.02)	5.6 (.22)	16.3 (.64)	11.3 (.45)	0.6 (.02)	6.8 $^{+0.08}_{-0.04}$ (.266 $^{+.005}_{-.0}$)	4.2 $^{+0.05}_{-0}$ (.165 $^{+.002}_{-.0}$)
					4C-PS-M4-2F1-K000	4C-TS-M4-2F1-K000	2.1 (.08)	7.1 (.28)					
Floating Style	0.8 (.031)	1.6 (.063)	3.1 (.122)	4 (.158)	4C-PS-M4-3T2-K000	4C-TS-M4-3T2-K000	3.8 (.15)	8.8 (.35)	16.2 (.64)	11.2 (.44)	2.3 (.09)	8.8 $^{+0.08}_{-0.03}$ (.346 $^{+.003}_{-.001}$)	~
					4C-PS-M4-4T2-K000	4C-TS-M4-4T2-K000	5.4 (.21)	10.4 (.41)					
	1.6 (.063)	2.4 (.094)	3.9 (.153)	4.8 (.190)	4C-PS-M4-3T3-K000	4C-TS-M4-3T3-K000	3.8 (.15)	8.8 (.35)					
					4C-PS-M4-4T3-K000	4C-TS-M4-4T3-K000	5.4 (.21)	10.4 (.41)					

M5 Thread Size

Installation Style	Outer Panel Dimensions		B	L	Part Number		Screw Projection Beyond Outer Surface of Panel		Knob Height†		Total Float	Panel Preparation	
	A Min.	A Max.			Phillips / Slot Combination	*TORX*® / Slot Combination	P-1	P-2	H-1	H-2	F*	Ø D	Ø Z
Press-In Style	0.9 (.036)†	~	~	~	4C-PS-M5-1P0-K000	4C-TS-M5-1P0-K000	0.4 (.2)	5.6 (.22)	16.4 (.65)	11.3 (.45)	0.8 (.03)	8 $^{+0}_{-0.08}$ (.315 $^{+0}_{-.003}$)	5.2 $^{+0.2}_{-0.1}$ (.205 $^{+.008}_{-.004}$)
					4C-PS-M5-2P0-K000	4C-TS-M5-2P0-K000	2 (.08)	7.2 (.28)					
Flare-In Style	1.5 (.06)	3.2 (.058)	0.4 (.016)	~	4C-PS-M5-1F1-K000	4C-TS-M5-1F1-K000	0.5 (.02)	5.6 (.22)	16.4 (.65)	11.3 (.45)	0.7 (.03)	6.8 $^{+0.08}_{-0.04}$ (.266 $^{+.005}_{-.0}$)	4.9 $^{+0.05}_{-0}$ (.191 $^{+.002}_{-.0}$)
					4C-PS-M5-2F1-K000	4C-TS-M5-2F1-K000	2.1 (.08)	7.2 (.28)					
Floating Style	0.8 (.031)	1.6 (.063)	3.1 (.122)	4 (.158)	4C-PS-M5-3T2-K000	4C-TS-M5-3T2-K000	3.7 (.15)	8.9 (.35)	16.3 (.64)	11.2 (.44)	2.3 (.09)	8.8 $^{+0.08}_{-0.03}$ (.346 $^{+.003}_{-.001}$)	~
					4C-PS-M5-4T2-K000	4C-TS-M5-4T2-K000	5.3 (.21)	10.5 (.41)					

Part Number

See table

To indicate color, change the last three digits of the part number. For knob style, K = knurled and N = smooth. For smooth knob change K to N. Example:

4C-PS-06-1P0-K000, black, knurled

4C-PS-06-1P0-N013, red, smooth

Part Number

See table

Specify Wing Knob:

(M3, Press-in, Flare-in only)

To indicate Wing Knob option, change K to W of the part number

Example:

4C-PH-M3-1P0-K000, Round Knob

4C-PH-M3-1P0-W000, Wing Knob

Notes: *F indicates the maximum float in the unfastened position.

† For panels thinner than 0.9 (.036), contact Southco.

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000
Black

008
Blue

013
Red

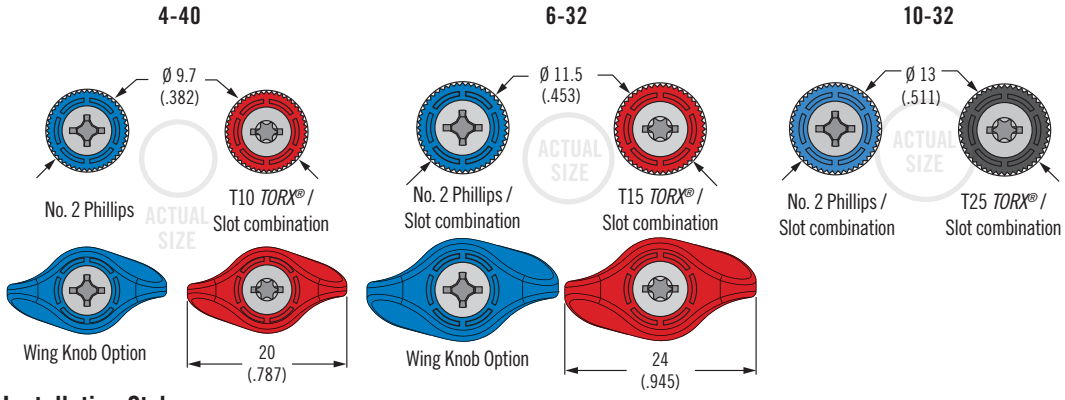
014
Green

Your Color
Contact Southco

4C Captive Screws

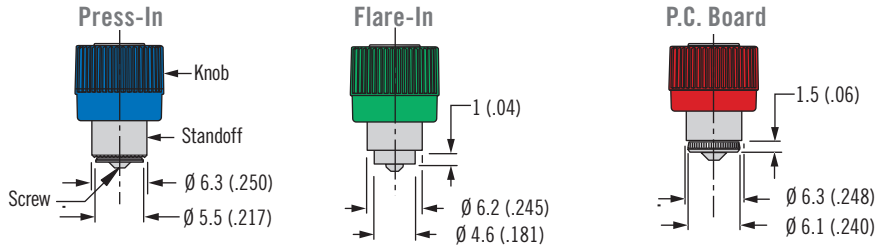
Prism series · 4-40, 6-32 and 10-32 thread size

Recess Styles

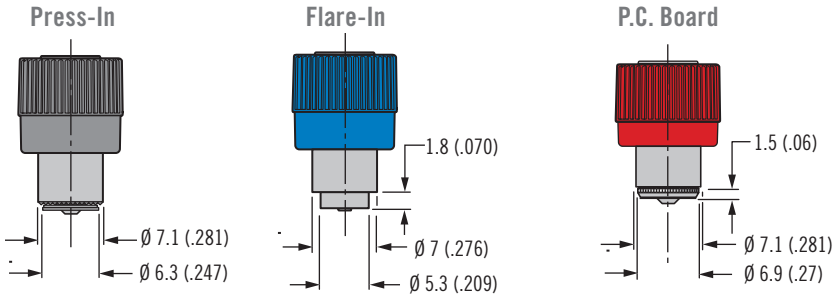


Installation Styles

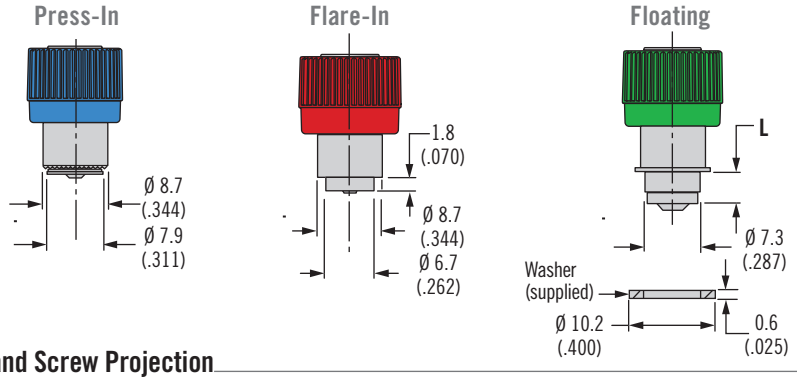
4-40



6-32

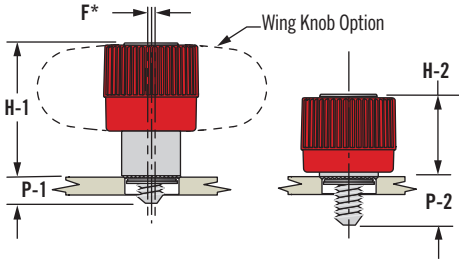


10-32



Knob Height and Screw Projection

(Press-in style shown)



- **Designate access points with color**
- **Color match captive screws to your industrial design**
- **High strength screw for use with high torque drivers**
- **Knurled, smooth and wing knobs available**

Material and Finish

Knob: PC/ABS

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

Spring: 300 series stainless steel, passivated

Standoff:
Press-in: Carbon steel, zinc plate, chromate, plus sealer
PCB: Stainless steel
Flare-in and Floating: Aluminum, natural

Performance Details

Flammability Rating: UL94-V0

Installation Notes

See pages 468-469, 543

To ensure you receive *SOUTHCO*® quality parts, look for the segmented circle.

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Dimensions in millimeters (inch) unless otherwise stated

4-40 Thread Size

Installation Style	Outer Panel Dimensions		B	Part Number		Screw Projection Beyond Outer Surface of Panel		Knob Height†		Total Float	Panel Preparation	
	A Min.	A Max.		Phillips Recess	*TORX*® / Slot Combination	P-1	P-2	H-1	H-2	F*	Ø D	Ø Z
Press-In Style	0.9† (.036)	~	~	4C-PH-04-1P0-K000	4C-TS-04-1P0-K000	0.8 (.03)	3.8 (.15)	11.5 (.45)	8.6 (.34)	0.7 (.03)	5.6 $^{+.04}_{-.04}$ (.219 $^{+.003}_{-0}$)	3.2 $^{+0.2}_{-0.1}$ (.125 $^{+.008}_{-.004}$)
				4C-PH-04-2P0-K000	4C-TS-04-2P0-K000	2.5 (.10)	5.3 (.21)					
P.C. Board Style	1.6 (.063)	~	~	4C-PH-04-1B0-K000	4C-TS-04-1B0-K000	1.5 (.06)	3.8 (.15)	10.9 (.43)	8.5 (.33)	0.7 (.03)	5.6 $^{+0.1}_{-0.05}$ (.219 $^{+.004}_{-.002}$)	3.2 $^{+0.2}_{-0.1}$ (.125 $^{+.008}_{-.004}$)
				4C-PH-04-2B0-K000	4C-TS-04-2B0-K000	3.3 (.13)	5.5 (.22)					
Flare-In Style	0.8 (.031)	1.5 (.059)	0.4 (.016)	4C-PH-04-1F1-K000	4C-TS-04-1F1-K000	0.8 (.03)	3.7 (.15)	11.5 (.45)	8.6 (.34)	0.7 (.03)	4.8 $^{+0.08}_{-0.05}$ (.187 $^{+.005}_{-.000}$)	3.0 $^{+0.2}_{-0.1}$ (.125 $^{+.008}_{-.004}$)
				4C-PH-04-2F1-K000	4C-TS-04-2F1-K000	2.5 (.10)	5.4 (.21)					

Part Number

See table

To indicate color, change the last three digits of the part number. For knob style, K = knurled and N = smooth. For smooth knob change K to N. Example:
4C-PS-06-1P0-K000, black, knurled
4C-PS-06-1P0-N013, red, smooth

000
Black

008
Blue

013
Red

014
Green

Your Color
Contact Southco

Part Number

See table

Specify Wing Knob:
(4-40 and 6-32, Press-in and Flare-in only)
To indicate Wing Knob option, change K to W of the part number
Example:
4C-PS-06-1P0-K000, Round Knob
4C-PS-06-1P0-W000, Wing Knob

Notes: *F indicates the maximum float in the unfastened position.
† For panels thinner than 0.9 (.036), contact Southco.

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6-32 Thread Size

Installation Style	Outer Panel Dimensions		B	Part Number		Screw Projection Beyond Outer Surface of Panel		Knob Height†		Total Float	Panel Preparation	
	A Min.	A Max.		Phillips / Slot Combination	*TORX*® / Slot Combination	P-1	P-2	H-1	H-2	F*	Ø D	Ø Z
Press-In Style	0.9† (.036)	~	~	4C-PS-06-1P0-K000	4C-TS-06-1P0-K000	0.7 (.03)	5 (.20)	15.5 (.61)	11.3 (.44)	0.7 (.03)	6.4 +0.03 -0.05 (.250 +.001 -.002)	3.7 +0.2 -0.1 (.146 +.008 -.004)
				4C-PS-06-2P0-K000	4C-TS-06-2P0-K000	2.3 (.09)	6.6 (.26)					
	0.8 (.031)	1.6 (.063)	~	4C-AB-P-0740-K000	4C-BB-P-0740-K000	0.7 (.03)	4 (.16)	14.6 (.57)			5.8 +0.08 -0.00 (.228 +.003 -.000)	3.7 +0.2 -0.1 (.146 +.008 -.004)
				4C-AB-P-0750-K000	4C-BB-P-0750-K000		5 (.20)	15.6 (.61)				
				4C-AB-P-0760-K000	4C-BB-P-0760-K000		6 (.24)	16.6 (.65)				
				4C-AB-P-0770-K000	4C-BB-P-0770-K000		7 (.28)	17.6 (.69)				
				4C-AB-P-0740-W000	4C-BB-P-0740-W000		4 (.16)	14.6 (.57)				
				4C-AB-P-0750-W000	4C-BB-P-0750-W000		5 (.20)	15.6 (.61)				
P.C. Board Style	1.5 (.06)	~	~	4C-PS-06-1B0-K000	4C-TS-06-1B0-K000	1.7 (.07)	6.2 (.25)	14.5 (.57)	10 (.39)		6.4 ± 0.1 (.252 ± .004)	3.7 +0.2 -0.1 (.146 +.008 -.004)
Flare-In Style	1.5 (.059)	3.2 (.125)	0.4 (.016)	4C-PS-06-1F1-K000	4C-TS-06-1F1-K000	0.8 (.03)	5 (.20)	15.5 (.61)	11.3 (.44)		5.4 +0.1 -0.0 (.213 +.005 -.000)	3.7 +0.2 -0.1 (.146 +.008 -.004)
				4C-PS-06-2F1-K000	4C-TS-06-2F1-K000	2.3 (.09)	6.6 (.26)					
	0.8 (.031)	1.6 (.063)	0.2 (.008)	4C-AB-F-0740-K000	4C-BB-F-0740-K001	0.7 (.03)	4 (.16)	14.6 (.57)				
				4C-AB-F-0750-K000	4C-BB-F-0750-K000		5 (.20)	15.6 (.61)				
				4C-AB-F-0760-K000	4C-BB-F-0760-K000		6 (.24)	16.6 (.65)				
				4C-AB-F-0770-K000	4C-BB-F-0770-K000		7 (.28)	17.6 (.69)				
				4C-AB-F-0740-W000	4C-BB-F-0740-W000		4 (.16)	14.6 (.57)				
				4C-AB-F-0750-W000	4C-BB-F-0750-W000		5 (.20)	15.6 (.61)				

10-32 Thread Size

Installation Style	Outer Panel Dimensions		B	L	Part Number		Screw Projection Beyond Outer Surface of Panel		Knob Height†		Total Float	Panel Preparation	
	A Min.	A Max.			Phillips / Slot Combination	*TORX*® / Slot Combination	P-1	P-2	H-1	H-2	F*	Ø D	Ø Z
Press-In Style	0.9† (.036)	~	~	~	4C-PS-10-1P0-K000	4C-TS-10-1P0-K000	0.5 (.02)	5.6 (.22)	16.3 (.64)	11.3 (.45)	0.6 (.02)	8 +0 -0.08 (.315 +0 -.003)	5.2 +0.2 -0.1 (.205 +.008 -.004)
					4C-PS-10-2P0-K000	4C-TS-10-2P0-K000	2 (.08)	7.1 (.28)					
Flare-In Style	1.5 (.058)	3.2 (.125)	0.4 (.016)	1.8 (.070)	4C-PS-10-1F1-K000	4C-TS-10-1F1-K000	0.6 (.02)	5.6 (.22)		11.3 (.45)	0.6 (.02)	6.8 +0.08 -0.04 (.266 +.005 -.0)	4.9 +0.05 -0 (.191 +.002 -.0)
					4C-PS-10-2F1-K000	4C-TS-10-2F1-K000	2.1 (.08)	7.1 (.28)					
Floating Style	0.8 (.031)	1.6 (.063)	3.1 (.122)	4 (.158)	4C-PS-10-3T2-K000	4C-TS-10-3T2-K000	3.8 (.15)	8.8 (.35)		11.2 (.44)	2.3 (.09)	8.8 +0.08 -0.03 (.346 +.003 -.001)	~
					4C-PS-10-4T2-K000	4C-TS-10-4T2-K000	5.4 (.21)	10.4 (.41)					
	1.6 (.063)	2.4 (.094)	3.9 (.153)	4.8 (.190)	4C-PS-10-3T3-K000	4C-TS-10-3T3-K000	3.8 (.15)	8.8 (.35)					
					4C-PS-10-4T3-K000	4C-TS-10-4T3-K000	5.4 (.21)	10.4 (.41)					

(shown in table)

000
Black

008
Blue

013
Red

014
Green

Your Color
Contact Southco

Part Number

See table

Specify Wing Knob:
(4-40 and 6-32, Press-in and Flare-in only)
To indicate Wing Knob option, change K to W of the part number
Example:
4C-PS-06-1P0-K000, Round Knob
4C-PS-06-1P0-W000, Wing Knob

Notes: *F indicates the maximum float in the unfastened position.
† For panels thinner than 0.9 (.036), contact Southco.

TORX is a registered trademark of *ACUMENT*® Intellectual Properties, LLC

47 Captive Screws

Restricted access series · M4 and M5 thread size

- **Reduces risk of unauthorized access**
- **Meets UL-1950, IEC 950 and EN-60950**
- **Hand operation to secure with tool-only removal**

Material and Finish

Ferrule:
Press-in: Hardened carbon steel, zinc plate, chromate, plus sealer
Flare-in and Floating: Aluminum, natural

Knob: Aluminum, natural or black organic coating

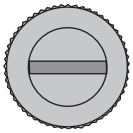
Screw: Hardened carbon steel, zinc plate, chromate, plus sealer

Installation Notes

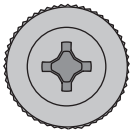
See pages 468-469, 543

Recess Styles

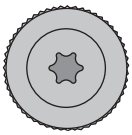
Slotted



No. 2 Phillips



T25 *TORX*®

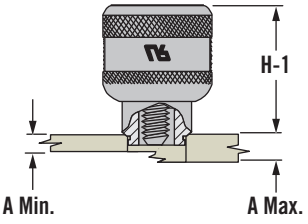


ACTUAL SIZE

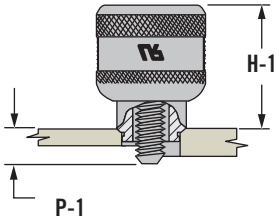
Knob Height and Screw Projection

(Press-in style shown)

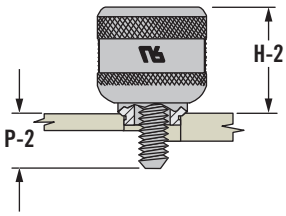
Unfastened



Unfastened

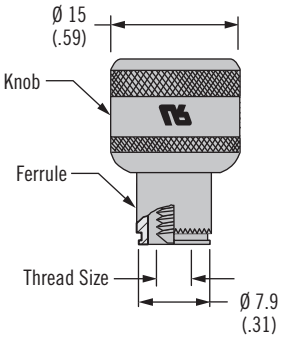


Fastened

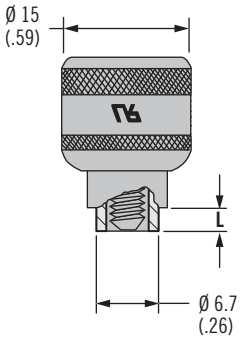


Installation Styles

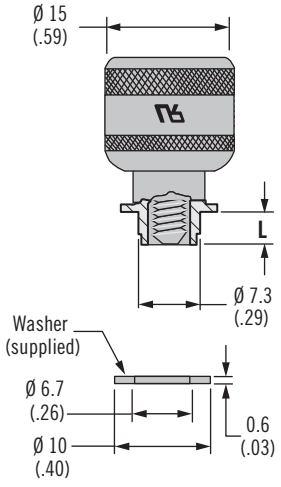
Press-In Style



Flare-In Style



Floating Style



TORX® is a registered trademark of *ACUMENT*® Intellectual Properties, LLC

Dimensions in millimeters (inch) unless otherwise stated

M4 Thread Size

Installation Style	Knob Height		Outer Panel Dimensions		Dimension B*	Flange Length L	Screw Projection Beyond Outer Surface of Panel		Part Number		
	H-1	H-2	A Min.	A Max.			P-1	P-2	Slotted Recess	Phillips Recess	*TORX*® Recess
Press-In Style	18.5 (.73)	14 (.55)	0.9 (.036)	~	~	~	0.7 (.03)	5.6 (.22)	47-90-301-22	47-90-321-22	47-90-341-22
							2.3 (.09)	7.2 (.28)	47-91-301-22	47-91-321-22	47-91-341-22
							3.8 (.15)	8.7 (.34)	47-92-301-22	47-92-321-22	47-92-341-22
							5.4 (.21)	10.3 (.41)	47-93-301-22	47-93-321-22	47-93-341-22
Flare-In Style	18 (.70)	13 (.51)	1.5 (.058)	3.2 (.125)	0.6 (.023)	1.8 (.07)	1.4 (.06)	6.2 (.24)	47-80-302-22	47-80-322-22	47-80-342-22
			3.2 (.125)	4.8 (.188)	1.6 (.062)	3.4 (.14)	3.1 (.12)	7.9 (.31)	47-80-304-22	47-80-324-22	47-80-344-22
			1.5 (.058)	3.2 (.125)	0.6 (.023)	1.8 (.07)	3.1 (.12)	7.9 (.31)	47-81-302-22	47-81-322-22	47-81-342-22
							4.1 (.16)	8.9 (.35)	47-82-302-22	47-82-322-22	47-82-342-22
							6.1 (.24)	10.9 (.43)	47-83-302-22	47-83-322-22	47-83-342-22
Floating Style	18 (.70)	14 (.55)	0.1 (.001)	0.8 (.031)	2.3 (.09)	3.2 (.13)	2.4 (.09)	7.2 (.28)	47-80-310-22	47-80-330-22	47-80-350-22
							3.4 (.13)	8.2 (.32)	47-81-310-22	47-81-330-22	47-81-350-22
							5.4 (.21)	10.2 (.40)	47-82-310-22	47-82-330-22	47-82-350-22
			0.8 (.031)	1.6 (.063)	3.1 (.12)	4 (.16)	2.4 (.09)	7.2 (.22)	47-80-311-22	47-80-331-22	47-80-351-22
							3.4 (.13)	8.2 (.32)	47-81-311-22	47-81-331-22	47-81-351-22
							5.4 (.21)	10.2 (.40)	47-82-311-22	47-82-331-22	47-82-351-22

M5 Thread Size

Press-In Style	18.5 (.73)	14 (.55)	0.9 (.036)	~	~	~	0.7 (.03)	5.6 (.22)	47-90-501-22	47-90-521-22	47-90-541-22
							2.3 (.09)	7.2 (.28)	47-91-501-22	47-91-521-22	47-91-541-22
							3.8 (.15)	8.7 (.34)	47-92-501-22	47-92-521-22	47-92-541-22
							5.4 (.21)	10.3 (.41)	47-93-501-22	47-93-521-22	47-93-541-22
Flare-In Style	18 (.70)	13 (.51)	1.5 (.058)	3.2 (.125)	0.6 (.023)	1.8 (.07)	1.4 (.06)	6.2 (.24)	47-80-502-22	47-80-522-22	47-80-542-22
			3.2 (.125)	4.8 (.188)	1.6 (.062)	3.4 (.14)	3.1 (.12)	7.9 (.31)	47-80-504-22	47-80-524-22	47-80-544-22
			1.5 (.058)	3.2 (.125)	0.6 (.023)	1.8 (.07)	3.1 (.12)	7.9 (.31)	47-81-502-22	47-81-522-22	47-81-542-22
							4.1 (.16)	8.9 (.35)	47-82-502-22	47-82-522-22	47-82-542-22
							6.1 (.24)	10.9 (.43)	47-83-502-22	47-83-522-22	47-83-542-22
			3.2 (.125)	4.8 (.188)	1.6 (.062)	3.4 (.14)	4.1 (.16)	8.9 (.35)	47-81-504-22	47-81-524-22	47-81-544-22
							6.1 (.24)	10.9 (.43)	47-82-504-22	47-82-524-22	47-82-544-22
Floating Style	18 (.70)	14 (.55)	0.1 (.001)	0.8 (.031)	2.3 (.09)	3.2 (.13)	2.4 (.09)	7.2 (.28)	47-80-510-22	47-80-530-22	47-80-550-22
							3.4 (.13)	8.2 (.32)	47-81-510-22	47-81-530-22	47-81-550-22
							5.4 (.21)	10.2 (.40)	47-82-510-22	47-82-530-22	47-82-550-22
			0.8 (.031)	1.6 (.063)	3.1 (.12)	4 (.16)	2.4 (.09)	7.2 (.28)	47-80-511-22	47-80-531-22	47-80-551-22
							3.4 (.13)	8.2 (.32)	47-81-511-22	47-81-531-22	47-81-551-22
							5.4 (.21)	10.4 (.40)	47-82-511-22	47-82-531-22	47-82-551-22
			1.6 (.063)	2.4 (.094)	3.9 (.15)	4.8 (.19)	3.4 (.15)	8.2 (.35)	47-80-512-22	47-80-532-22	47-80-552-22
							5.4 (.21)	10.2 (.40)	47-81-512-22	47-81-532-22	47-81-552-22

Part numbers in shaded rows (shown in table) are fully retracting in minimum panel thickness

To add a black finish, change the part number from the table as shown:

Change 2 to 6: 47-80-102-**2**2

47-80-102-**6**2

Part Number

See table

All screw part numbers shown in table are for a natural finish

For black finish minimums may apply

TORX® is a registered trademark of *ACUMENT*® Intellectual Properties, LLC

Dimensions in millimeters (inch) unless otherwise stated

47 Captive Screws

Restricted access series · 6-32 and 10-32 thread size

- **Reduces risk of unauthorized access**
- **Meets UL-1950, IEC 950 and EN-60950**
- **Hand operation to secure with tool-only removal**

Material and Finish

Ferrule:
Press-in: Hardened carbon steel, zinc plate, chromate, plus sealer
Flare-in and Floating: Aluminum, natural

Knob: Aluminum, natural or black organic coating

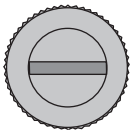
Screw: Hardened carbon steel, zinc plate, chromate, plus sealer

Installation Notes

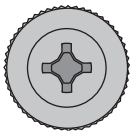
See pages 468-469, 543

Recess Styles

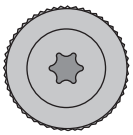
Slotted



No. 2 Phillips



T15 *TORX*® - 6-32
T25 *TORX*® - 10-32

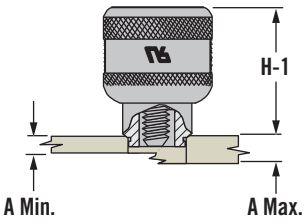


ACTUAL SIZE

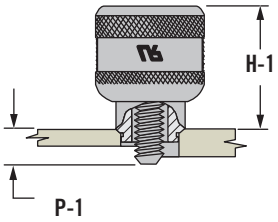
Knob Height and Screw Projection

(Press-in style shown)

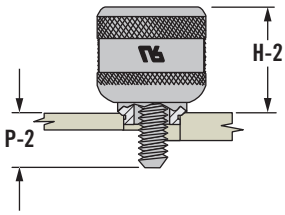
Unfastened



Unfastened

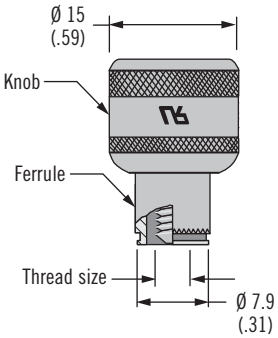


Fastened

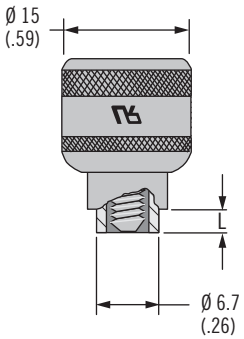


Installation Styles

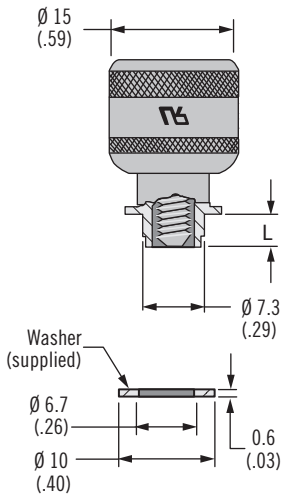
Press-In Style



Flare-In Style



Floating Style



TORX® is a registered trademark of *ACUMENT*® Intellectual Properties, LLC

Dimensions in millimeters (inch) unless otherwise stated

6-32 Thread Size

Installation Style	Knob Height†		Outer Panel Dimensions		Dimension B*	Flange Length L	Screw Projection Beyond Outer Surface Of Panel		Part Number		
	H-1	H-2	A Min.	A Max.			P-1	P-2	Slotted Recess	Phillips Recess	*TORX*® Recess
Press-In Style	18.5 (.73)	14 (.54)	0.9 (.036)	~	~	~	0.5 (.02)	5.3 (.21)	47-60-201-22	47-60-221-22	47-60-241-22
							2.3 (.09)	6.9 (.27)	47-61-201-22	47-61-221-22	47-61-241-22
							3.8 (.15)	8.3 (.33)	47-62-201-22	47-62-221-22	47-62-241-22
							5.3 (.21)	10.1 (.41)	47-63-201-22	47-63-221-22	47-63-241-22
Flare-In Style	18 (.70)	13 (.51)	1.5 (.058)	3.2 (.125)	0.6 (.023)	1.8 (.07)	1.4 (.06)	6.2 (.24)	47-10-202-22	47-10-222-22	47-10-242-22
			3.2 (.125)	4.8 (.189)	1.6 (.062)	3.4 (.14)	3.1 (.12)	7.9 (.31)	47-10-204-22	47-10-224-22	47-10-244-22
			1.5 (.058)	3.2 (.125)	0.6 (.023)	1.8 (.07)	3.1 (.12)	7.9 (.31)	47-11-202-22	47-11-222-22	47-11-242-22
							4.1 (.16)	8.9 (.35)	47-12-202-22	47-12-222-22	47-12-242-22
							6.1 (.24)	10.9 (.43)	47-13-202-22	47-13-222-22	47-13-242-22
			3.2 (.125)	4.8 (.189)	1.6 (.062)	3.4 (.14)	4.1 (.16)	8.9 (.35)	47-11-204-22	47-11-224-22	47-11-244-22
							6.1 (.24)	10.9 (.43)	47-12-204-22	47-12-224-22	47-12-244-22
Floating Style	18 (.70)	14 (.54)	0.1 (.001)	0.8 (.031)	2.3 (.09)	3.2 (.13)	2.4 (.09)	7.2 (.28)	47-10-210-22	47-10-230-22	47-10-250-22
							3.4 (.13)	8.2 (.32)	47-11-210-22	47-11-230-22	47-11-250-22
							5.4 (.21)	10.2 (.40)	47-12-210-22	47-12-230-22	47-12-250-22
			0.8 (.031)	1.6 (.063)	3.1 (.12)	4 (.16)	2.4 (.09)	7.2 (.22)	47-10-211-22	47-10-231-22	47-10-251-22
							3.4 (.13)	8.2 (.32)	47-11-211-22	47-11-231-22	47-11-251-22
							5.4 (.21)	10.2 (.40)	47-12-211-22	47-12-231-22	47-12-251-22
			1.6 (.063)	2.4 (.094)	3.9 (.15)	4.8 (.19)	3.4 (.13)	8.2 (.32)	47-10-212-22	47-10-232-22	47-10-252-22
							5.4 (.21)	10.2 (.40)	47-11-212-22	47-11-232-22	47-11-252-22

10-32 Thread Size

Installation Style	Knob Height†		Outer Panel Dimensions		Dimension B*	Flange Length L	Screw Projection Beyond Outer Surface Of Panel		Part Number		
	H-1	H-2	A Min.	A Max.			P-1	P-2	Slotted Recess	Phillips Recess	*TORX*® Recess
Press-In Style	18.5 (.73)	14 (.54)	0.9 (.036)	~	~	~	0.7 (.03)	5.6 (.22)	47-60-501-22	47-60-521-22	47-60-541-22
							2.3 (.09)	7.2 (.28)	47-61-501-22	47-61-521-22	47-61-541-22
							3.8 (.15)	8.7 (.34)	47-62-501-22	47-62-521-22	47-62-541-22
							5.4 (.21)	10.3 (.41)	47-63-501-22	47-63-521-22	47-63-541-22
Flare-In Style	18 (.70)	13 (.51)	1.5 (.058)	3.2 (.125)	0.6 (.023)	1.8 (.07)	1.4 (.06)	6.2 (.24)	47-10-502-22	47-10-522-22	47-10-542-22
			3.2 (.125)	4.8 (.189)	1.6 (.062)	3.4 (.14)	3.1 (.12)	7.9 (.31)	47-10-504-22	47-10-524-22	47-10-544-22
			1.5 (.058)	3.2 (.125)	0.6 (.023)	1.8 (.07)	3.1 (.12)	7.9 (.31)	47-11-502-22	47-11-522-22	47-11-542-22
							4.1 (.16)	8.9 (.35)	47-12-502-22	47-12-522-22	47-12-542-22
							6.1 (.24)	10.9 (.43)	47-13-502-22	47-13-522-22	47-13-542-22
			3.2 (.125)	4.8 (.189)	1.6 (.062)	3.2 (.14)	4.1 (.16)	8.9 (.35)	47-11-504-22	47-11-524-22	47-11-544-22
							6.1 (.24)	10.9 (.43)	47-12-504-22	47-12-524-22	47-12-544-22
Floating Style	18 (.70)	14 (.54)	0.1 (.001)	0.8 (.031)	2.3 (.09)	3.2 (.13)	2.4 (.09)	7.2 (.28)	47-10-510-22	47-10-530-22	47-10-550-22
							3.4 (.13)	8.2 (.32)	47-11-510-22	47-11-530-22	47-11-550-22
							5.4 (.21)	10.2 (.40)	47-12-510-22	47-12-530-22	47-12-550-22
			0.8 (.031)	1.6 (.063)	3.1 (.12)	4 (.16)	2.4 (.09)	7.2 (.28)	47-10-511-22	47-10-531-22	47-10-551-22
							3.4 (.13)	8.2 (.32)	47-11-511-22	47-11-531-22	47-11-551-22
							5.4 (.21)	10.2 (.40)	47-12-511-22	47-12-531-22	47-12-551-22
			1.6 (.063)	2.4 (.094)	3.9 (.15)	4.8 (.19)	3.4 (.13)	8.2 (.32)	47-10-512-22	47-10-532-22	47-10-552-22
							5.4 (.21)	10.2 (.40)	47-11-512-22	47-11-532-22	47-11-552-22

Part numbers in shaded rows (shown in table) are fully retracting in minimum panel thickness

To add a black finish, change the part number from the table as shown:

Change 2 to 6: 47-80-102-**2**2

47-80-102-**6**2

TORX® is a registered trademark of *ACUMENT*® Intellectual Properties, LLC

Dimensions in millimeters (inch) unless otherwise stated

Part Number

See table

All screw part numbers shown in table are for a natural finish

For black finish minimums may apply

INFO CLIC www.southco.com/47

47/4C Captive Screws

Panel preparation and installation

Installation Notes

1. Prepare panel as shown. Top edge of hole should be sharp
2. Press captive screw into panel until ferrule is installed as shown

Installation closer to the panel edge requires a fixture to constrain the panel edges

Notes

Recommended minimum distance from edge of panel to centerline of hole is 1.5 x Ø D

Performance Details

Pullout force: 360 N (80 lbf)
Side load against unfastened knob: 200 N (45 lbf)

Installation Notes

1. Prepare panel as shown.
2. Use pilot lead-in to guide assembly into hole and press knurl into panel until ferrule shoulder contacts surface

Notes

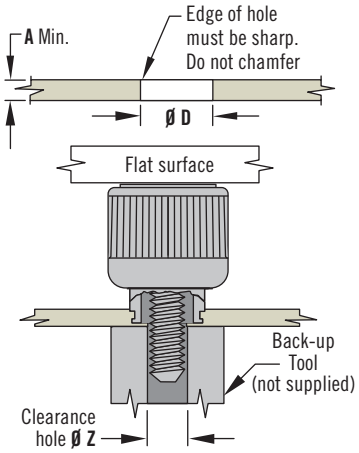
Strength data based on drilled holes in G-10 P.C. Board

Installation Notes

1. Prepare panel as shown.
2. Install tool in suitable press. Only LIGHT pressure will be required
3. Insert screw assembly into prepared hole in panel
4. Place work under press, center tool over screw thread and flare ferrule into counter-sink in panel. Use LIGHT pressure

Installation Force:
1600 N (350 lbf) to 2500 N (550 lbf)
Installation force depends on thread size

Press-In Style

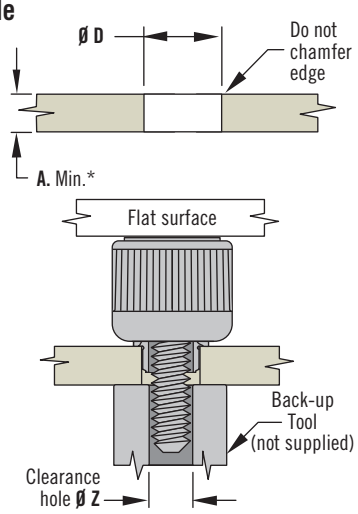


See page 543 for additional installation guidelines

Thread Size	Ø D	Clearance Hole Ø Z $^{+0.2}_{-0.1}$ ($^{+.008}_{-.004}$)
M3 or 4-40	$5.6^{+0.03}_{-0.05}$ ($.219^{+.003}_{-0}$)	3.2 (.125)
M3.5 or 6-32	$6.4^{+0.03}_{-0.05}$ ($.250^{+.003}_{-0}$)	3.7 (.146)
M4 or 8-32	$8^{+0}_{-0.08}$ ($.315^{+0}_{-.003}$)	4.4 (.173)
M5 or 10-32	$8^{+0}_{-0.08}$ ($.315^{+0}_{-.003}$)	5.2 (.205)
M6 or 1/4-20	$9.5^{+0.1}_{-0}$ ($.375^{+.003}_{-0}$)	6.2 (.260)

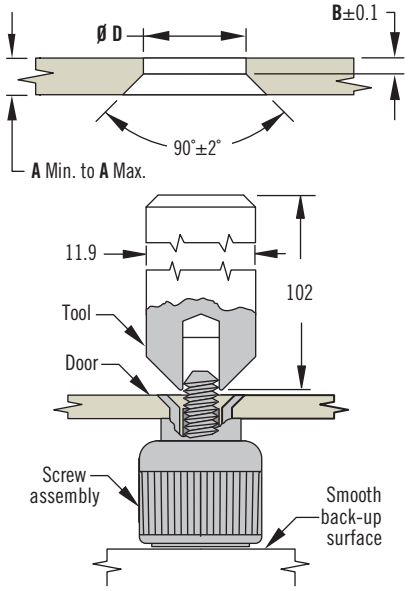
Notes: (47) For use in material hardness Rb85 or less, such as low carbon steels that are half hard or softer, stainless steels in the annealed condition and aluminum. (4C/52) For use in material hardness Rb65 or less, such as low carbon steels that are quarter hard or softer, stainless steels in the annealed condition and aluminum.

P.C. Board Style



Thread Size	Ø D	Clearance Hole Ø Z $^{+0.2}_{-0.1}$ ($^{+.008}_{-.004}$)
M3 or 4-40	$5.6^{+0.1}_{-0.05}$ ($.219^{+.004}_{-.002}$)	3.2 (.125)
M3.5 or 6-32	6.4±1 (.252±.004)	3.7 (.146)

Flare-In Style

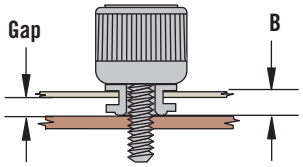


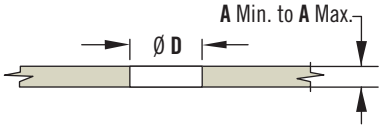
Thread Size	Ø D	Tool Part Number
M3 or 4-40	$4.8^{+0.08}_{-0.05}$ ($.187^{+.005}_{-0}$)	47-104
M3.5 or 6-32	$5.4^{+0.1}_{-0}$ ($.213^{+.005}_{-0}$)	47-106
M4 or 8-32	$6.8^{+0.08}_{-0.04}$ ($.266^{+.005}_{-0}$)	47-108
10-32	$6.8^{+0.08}_{-0.04}$ ($.266^{+.005}_{-0}$)	47-110
M5	$6.8^{+0.08}_{-0.04}$ ($.266^{+.005}_{-0}$)	47-115
M6 or 1/4-20	$8.2^{+0.1}_{-0}$ ($.323^{+.005}_{-0}$)	47-125

Dimensions in millimeters (inch) unless otherwise stated

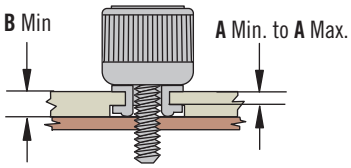
Floating Style

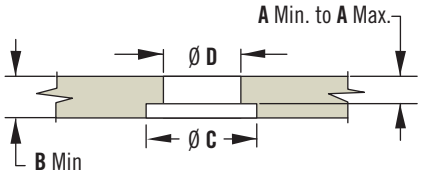
Panel preparation 1





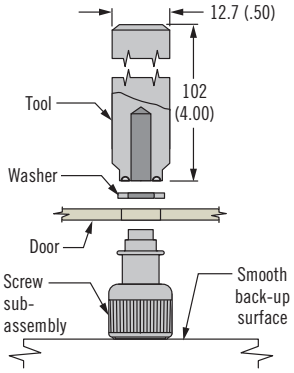
Panel preparation 2





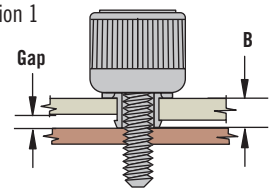
Thread Size	Tool Part Number
M3 or 4-40	47-04
M3.5 or 6-32	47-06
M4 or 8-32	47-08
M5	47-05
10-32	47-10
M6 or 1/4-20	47-25

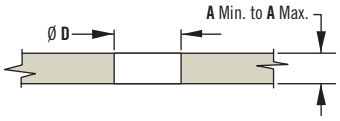
Thread Size	Ø D $^{+.008}_{-0.03}$ ($^{+.003}_{-.001}$)	Counterbore Min. Ø C
M3 or 4-40	6.4 (.250)	9.4 (.375)
M3.5 or 6-32	7.2 (.283)	10.5 (.413)
M4 or 8-32	8.8 (.346)	12 (.469)
M5 or 10-32	8.8 (.346)	12 (.469)
M6 or 1/4-20	10.5 (.413)	13.5 (.531)



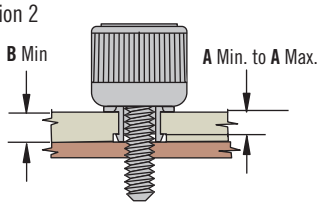
Snap-In Style

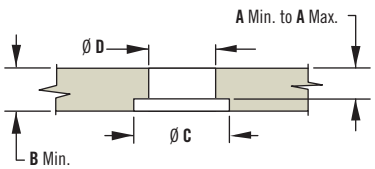
Panel preparation 1



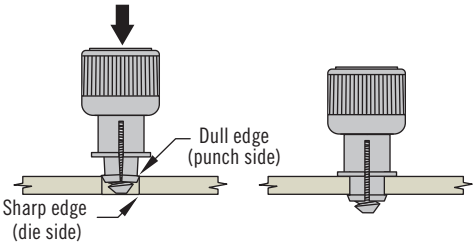


Panel preparation 2





Thread Size	Ø D $^{+0}_{-0.1}$ (± .002)	Counterbore Min. Ø C
M3.5 or 6-32	6.4 (.250)	7.5 (.295)
M4 or 8-32	6.4 (.250)	7.5 (.295)
M5 or 10-32	6.4 (.250)	7.5 (.295)



Dimensions in millimeters (inch) unless otherwise stated

Installation Notes

Floating and Snap-in style:
Panel preparation 1:
Requires space between inner and outer panels.
Specify the fastener for panel thickness A to fall between the range A Minimum to A Maximum:
gap = B - A outer panel thickness

Panel preparation 2:
Counter bore the panel (B = Minimum panel thickness) to a thickness (A) between the range of A Minimum and A Maximum

Minimum bore depth = panel thickness - A Maximum

For gap = Ø, panel thickness must be ≥ to B value (before counterbore) for the given part number

Notes

B and A Maximum values are provided in the corresponding fastener selection tables for each part number

If holes are drilled, top edge of hole should be chamfered

47-SM Captive Screws

Styled knob series · Surface Mount Technology (SMT) Style

- **For installation to PC Board material utilizing surface mount technology**
- **Smooth knob meets UL-1950**
- **Designed for hand operation**
- **Spring ejected**
- **Variety of sizes, recesses**

Material and Finish

Ferrule: Steel, Tin plated

Knob:
Aluminum, natural

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

Internal spring: 300 series stainless steel passivated

Plug: Silicone rubber

Installation Notes

Visit www.southco.com for additional installation guidelines

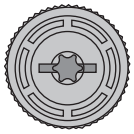
To ensure you receive *SOUTHCO*® quality parts, look for the segmented circle.

Part Number

See table

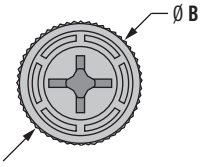
Recess Styles

TORX® / Slot Combination

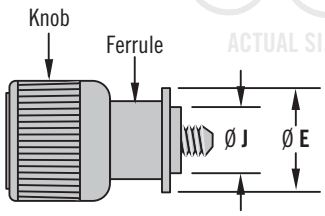


T10 *TORX*® / Slot Combination (M3,4-40)
T15 *TORX*® / Slot (6-32)

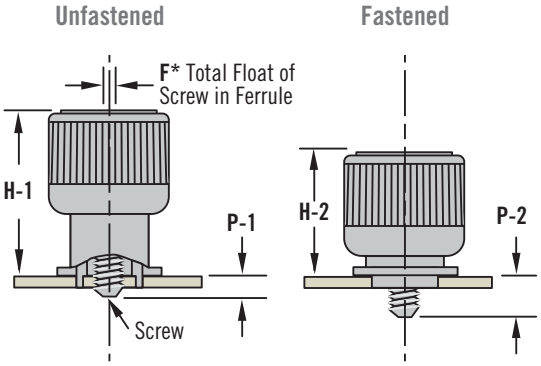
Phillips / Slot Combination



No. 1 Phillips / Slot Recess (M3,4-40)
No. 2 Phillips / Slot Recess (6-32)

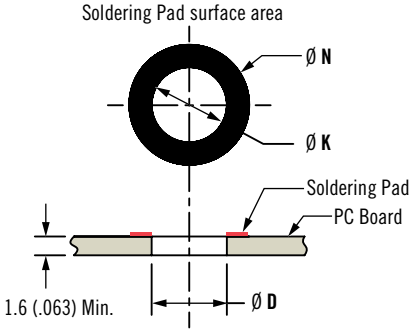


Knob Height and Screw Projection

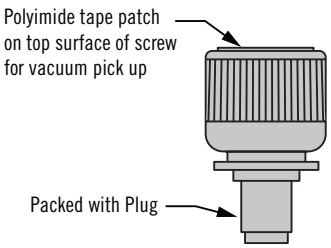


* Value represents float in unfastened position
Notes: P-1, P-2 Screw Projection measured from the top side of panel

PC Board Preparation



Screw as Shipped in Reel Pack



47 Captive Screws
Styled knob series - SMT Style

Thread Size	Part Number (Reel package shown)				H-1	H-2	P-1	P-2	ØB	ØJ	ØE	F*	Ø K	Ø N	Panel Preparation
	Knurled Head		Smooth Head												
	Phillips / Slotted	*TORX*® / Slotted	Phillips / Slotted	*TORX*® / Slotted											Ø D
M3 x 0.5	47-SM-3311-K-R	47-SM-3411-K-R	47-SM-3311-N-R	47-SM-3411-N-R	11.4 (.45)	8.4 (.33)	1.4 (.05)	4.4 (.17)	10.7 (.42)	5.5 (.217)	7.6 (.30)	0.7 (.03)	5.6 (.22)	8.6 (.34)	5.6 +0.08/-0 (.220 +.003/-.000)
	47-SM-3321-K-R	47-SM-3421-K-R	47-SM-3321-N-R	47-SM-3421-N-R			2.2 (.09)	5.2 (.20)							
4-40	47-SM-1311-K-R	47-SM-1411-K-R	47-SM-1311-N-R	47-SM-1411-N-R			1.4 (.05)	4.4 (.17)							
	47-SM-1321-K-R	47-SM-1421-K-R	47-SM-1321-N-R	47-SM-1421-N-R			2.2 (.09)	5.2 (.20)							
6-32	47-SM-2311-K-R	47-SM-2411-K-R	47-SM-2311-N-R	47-SM-2411-N-R	15.5 (.61)	10.7 (.42)	0.8 (.03)	5.6 (.22)	11.4 (.45)	6.2 (.244)	8.1 (.32)	0.7 (.03)	6.4 (.25)	10.2 (.40)	6.4 +0.08/-0 (.252 +.003/-.000)
	47-SM-2321-K-R	47-SM-2421-K-R	47-SM-2321-N-R	47-SM-2421-N-R			2.3 (.09)	7.1 (.28)							

Other options available. For complete details on variety, part numbers, installation and specification, go to

INFO CLIC *www.southco.com/47*

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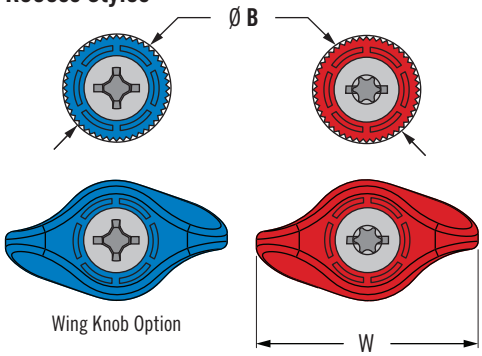
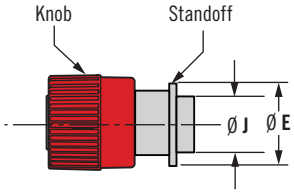
Dimensions in millimeters (inch) unless otherwise stated

4C-SM Captive Screws

Prism series · Surface Mount Technology (SMT) Style

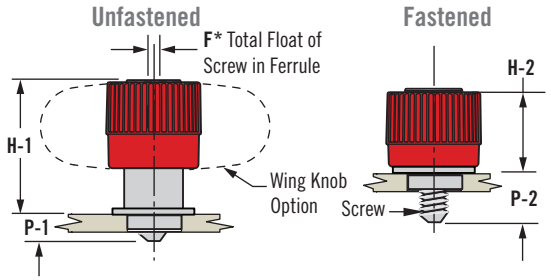
Recess Styles





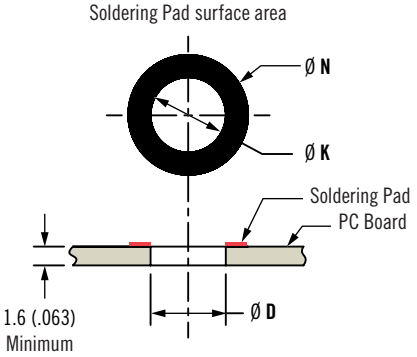
No. 2 Phillips Recess (M3,4-40)
No. 2 Phillips / Slot Recess (6-32)
T10 *TORX*® / Slot Combination (M3,4-40)
T15 *TORX*® / Slot Combination (6-32)

Knob Height and Screw Projection



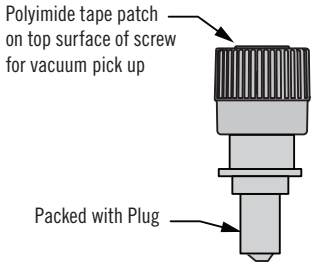
F* Value represents float in unfastened position
Notes: P-1, P-2 Screw Projection measured from the top side of panel

PC Board Preparation



000 Black **008** Blue **013** Red **014** Green **Your Color** Contact Southco

Screw as Shipped in Reel Pack



- **For installation to PC Board material utilizing surface mount technology**
- **Designate access points with color**
- **Color match captive screws to your industrial design**
- **High strength screw for use with high torque drivers**

Material and Finish

Standoff: Steel, Tin plated

Knob: High heat resistant plastic

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

Internal spring: 300 series stainless steel passivated

Plug: Silicone rubber

Installation Notes

Visit www.southco.com for additional installation guidelines

To ensure you receive *SOUTHCO*® quality parts, look for the segmented circle

Part Number

See table

Thread Size	Part Number (Reel package shown)				H-1	H-2	P-1	P-2	Ø B	Ø J	Ø E	F*	Ø K	Ø N	W	Panel Preparation
	Knurled Head		Smooth Head													Ø D
	Phillips	*TORX*® / Slotted	Phillips	*TORX*® / Slotted												
M3 x 0.5	4C-SM-3111-K000-R	4C-SM-3411-K000-R	4C-SM-3111-N000-R	4C-SM-3411-N000-R	10.8 (.43)	8.6 (.34)	1.5 (.06)	3.7 (.15)	9.7 (.38)	5.5 (.217)	7.6 (.30)	0.7 (.03)	5.6 (.22)	8.6 (.34)	20 (.7878)	5.6 +0.08/-0 (.220 +.003/-.000)
	4C-SM-3121-K000-R	4C-SM-3421-K000-R	4C-SM-3121-N000-R	4C-SM-3421-N000-R			3.3 (.13)	5.5 (.22)								
4-40	4C-SM-1111-K000-R	4C-SM-1411-K000-R	4C-SM-1411-N000-R	4C-SM-1411-N000-R			1.5 (.06)	3.7 (.15)								
	4C-SM-1121-K000-R	4C-SM-1421-K000-R	4C-SM-1421-N000-R	4C-SM-1421-N000-R			3.3 (.13)	5.5 (.22)								
	Phillips / Slotted	*TORX*®/Slotted	Phillips / Slotted	*TORX*®/Slotted												
6-32	4C-SM-2311-K000-R	4C-SM-2411-K000-R	4C-SM-2311-N000-R	4C-SM-2411-N000-R	16.3 (.64)	11.7 (.46)	0.1 (.004)	4.6 (.18)	11.4 (.45)	6.2 (.244)	8.1 (.32)	0.8 (.03)	6.4 (.25)	10.2 (.40)	24 (.945)	6.4 +0.08/-0 (.252 +.003/-.000)
	4C-SM-2321-K000-R	4C-SM-2421-K000-R	4C-SM-2321-N000-R	4C-SM-2421-N000-R			1.8 (0.7)	6.1 (.24)								

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Dimensions in millimeters (inch) unless otherwise stated

Other options available. For complete details on variety, part numbers, installation and specification, go to
www.southco.com/4C

52-SM Captive Screws

Miniature series · Surface Mount Technology (SMT) Style

- **For installation to PC Board material utilizing surface mount technology**
- **Smaller footprint for limited space applications**
- **Heat treated steel screw for optimum strength**

Material and Finish

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

Internal spring: 300 series stainless steel, passivated

Standoff: Steel, Tin plated

Plug: Silicone rubber

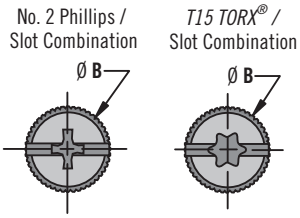
Installation Notes

Visit www.southco.com for additional installation guidelines

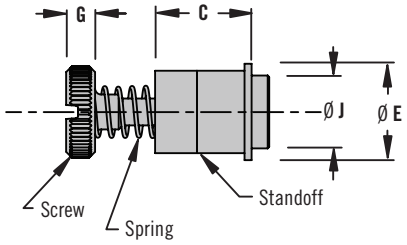
Part Number

See table

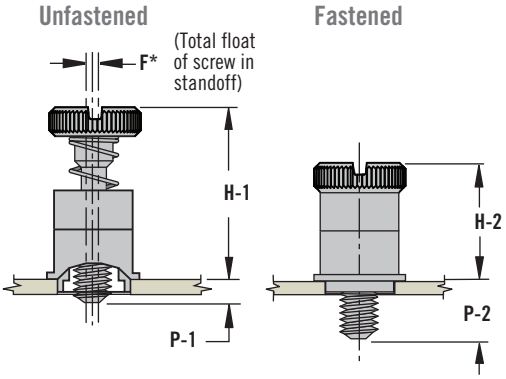
Recess Styles



ACTUAL SIZE



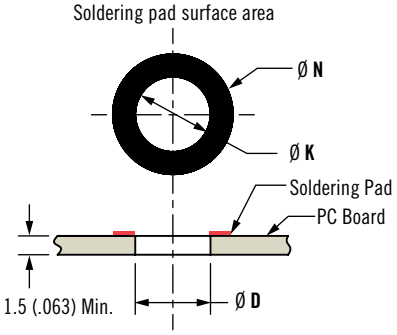
Screw Height and Screw Projection



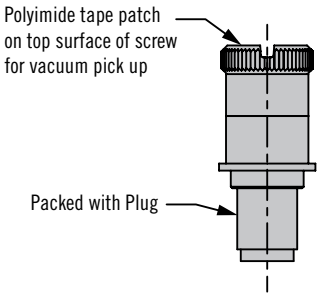
* Value represents float in unfastened position
Notes: P-1, P-2 Screw Projection measured from the top side of panel

52 Captive Screws
Minature Series - SMT Style

PC Board Preparation



Screw as Shipped in Reel Pack



Thread Size	Part Number (Reel package shown)				H-1	H-2	P-1	P-2	Ø B Knurled Head	Ø B Smooth Head	Ø J	Ø E	C	G	F*	Ø K	Ø N	Panel Preparation Ø D
	Knurled Head		Smooth Head															
	Phillips / Slotted	TORX®/Slotted	Phillips / Slotted	TORX®/Slotted														
M3 x 0.5	52-SM-3311-K-R	52-SM-3411-K-R	52-SM-3311-N-R	52-SM-3411-N-R	14 (.55)	9.6 (.38)	0.8 (.03)	5.3 (.21)	7 (.28)	6.8 (.27)	5.5 (.217)	7.6 (.30)	7 (.28)	2.5 (.1)	0.5 (.02)	5.6 (.22)	8.6 (.34)	5.6 +0.08/-0 (.220 +.003/-.000)
	52-SM-3321-K-R	52-SM-3421-K-R	52-SM-3321-N-R	52-SM-3421-N-R			2.3 (.09)	6.8 (.27)										
4-40	52-SM-1311-K-R	52-SM-1411-K-R	52-SM-1311-N-R	52-SM-1411-N-R	14 (.55)	9.6 (.38)	0.8 (.03)	5.3 (.21)	7 (.28)	6.8 (.27)	5.5 (.217)	7.6 (.30)	7 (.28)	2.5 (.1)	0.5 (.02)			5.6 +0.08/-0 (.220 +.003/-.000)
	52-SM-1321-K-R	52-SM-1421-K-R	52-SM-1321-N-R	52-SM-1421-N-R			2.3 (.09)	6.8 (.27)										
6-32	52-SM-2311-K-R	52-SM-2411-K-R	52-SM-2311-N-R	52-SM-2411-N-R	15.7 (.62)	10.7 (.42)	0.7 (.028)	5.8 (.23)	7.9 (.31)	7.6 (.30)	6.2 (.244)	8.1 (.32)	8.1 (.32)	2.5 (.1)	0.8 (.03)	6.4 (.25)	10.2 (.40)	6.4 +0.08/-0 (.252 +.003/-.000)
	52-SM-2321-K-R	52-SM-2421-K-R	52-SM-2321-N-R	52-SM-2421-N-R			2.2 (.087)	7.4 (.29)										

Other options available. For complete details on variety, part numbers, installation and specification, go to
www.southco.com/52

TORX® is a registered trademark of *ACUMENT®* Intellectual Properties, LLC

Dimensions in millimeters (inch) unless otherwise stated

Installation Guidelines

Southco Surface Mounted Technology (SMT) Captive Screws include installation and packaging features for installation onto PC Boards during the Reflow Process as a surface mounted device (SMD).

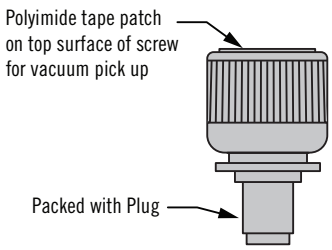
SMT product installation is offered on these Southco Captive Screws for 4-40, 6-32 and M3 thread sizes:

- **47 Styled Knob Series**
- **4C Prism Series**
- **52 Miniature Series**

Installation Features

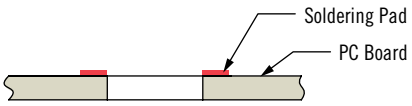
Each Southco SMT style captive screw includes a polymide patch covering the screw head tool recess allowing for vacuum pick up during placement on the PC Board. The screw threads are protected from excess solder during the reflow process by a plug pre-assembled to the screw by Southco. The patch and plug are then removed after the final cool down phase.

Screw as Shipped in Reel or Tray Pack



Preparing the PC Board to accept SMT Captive Screws

- See literature for optimum soldering pad surface area for the specific Southco Captive Screw being utilized



Packaging Features/Options

- Reel Pack

Reel Pack

Reflow Process

- Reflow of Solder
  - Pre-heat
  - Soak
  - Reflow
  - Cooling
- Cleaning
  - Remove excess solder paste

47/4C Captive Screws

ATCA captive screws

- **M3 thread**
- **No. 2 Phillips recess**
- **Color match available**

Material and Finish

Screw, ferrule and internal spring stainless steel, knob aluminum or PC/ABS

Performance Details

Flammability rating: UL94-V0
ATCA R3.0 compliant screw

Installation Notes

Please refer to installation drawings on www.southco.com for reference on dimensions **B***, **Ø D*** and **Ø Z***

F* indicates maximum float in the unfastened position

Part Number

See table

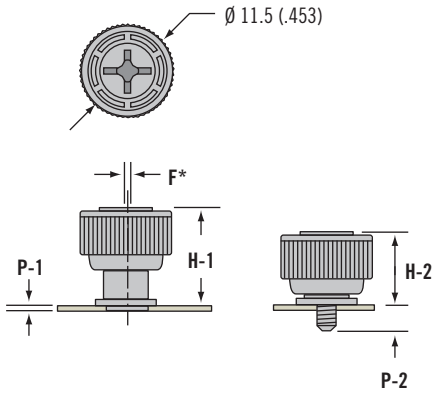
Specifying Color:
To indicate color, change the last three digits of the part number.
Example:
47-99-945-1P0-K000, black

47-99-945-1P0-K013, red

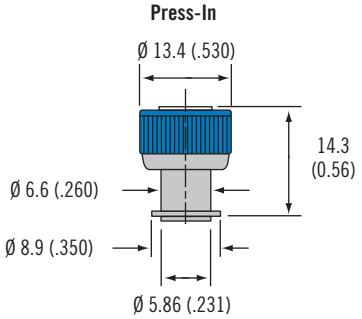
Metal Version

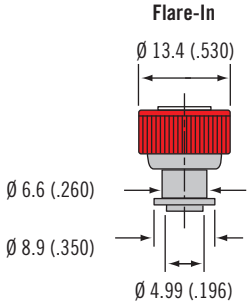
ATCA

ACTUAL SIZE



Overmolded Version





000 Black | 008 Blue | 013 Red | 014 Green | Your color (contact Southco)

Series	Installation Method	Panel Thickness			Part Number	H-1	H-2	P-1	P-2	F*	Panel Preparation	
		A Min.	A Max.	B*	No. 2 Phillips						Ø D*	Ø Z*
ATCA compliant (Metal Version)	Press-in	0.9 (.036)	~	~	47-99-945-1P0	14.3 (.56)	10.1 (.40)	1.0 (.39)	5.0 (.20)	1 (.039)	5.95 ±0.04 (.234±.002)	$3.2^{+0.2}_{-0.1}$ ($.125^{+.008}_{-.004}$)
	Flare-in	0.8 (.031)	1.5 (.060)	0.4 (.016)	47-99-944-1F1	14.3 (.56)	10.1 (.40)	1.0 (.39)	5.0 (.20)	1 (.039)	$5.1^{+0.1}_{-0}$ ($.20^{+.004}_{-0}$)	$3.0^{+0.1}_{-0}$ ($.118^{+.004}_{-.000}$)
ATCA compliant (Overmolded Version)	Press-in	0.9 (.036)	~	~	47-99-945-1P0-K000	14.3 (.56)	10.1 (.40)	1.0 (.39)	5.0 (.20)	1 (.039)	5.95 ±0.04 (.234±.002)	$3.2^{+0.2}_{-0.1}$ ($.125^{+.008}_{-.004}$)
	Flare-in	0.8 (.031)	1.5 (.060)	0.4 (.016)	47-99-944-1F1-K000	14.3 (.56)	10.1 (.40)	1.0 (.039)	5.0 (.20)	1 (.039)	$5.1^{+0.1}_{-0}$ ($.20^{+.004}_{-0}$)	$3.0^{+0.1}_{-0}$ ($.118^{+.004}_{-.000}$)

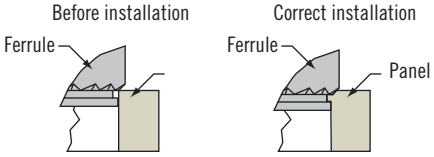
Installation Guidelines

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**
- **Spring-loaded Plungers**
- **Captive Nuts**
- **Threaded Inserts**

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:

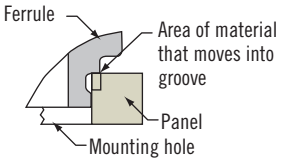
Material:

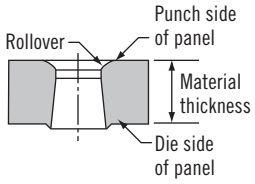
The hardness of the panel material must not exceed *SOUTHCO®* recommendations. If the panel is too hard, the fastener will not install correctly.

Installation Holes:

Mounting holes may be drilled, punched, or cast.

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

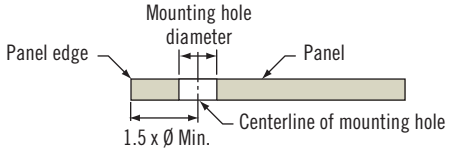




Do not chamfer or debur edge.

- 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.
  - 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:

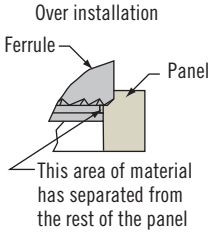
How to install: Use the recommended force where noted and a proper back-up tool.

- 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 interupts the material and will reduce the retention strength.