09 Series Fast-Lead Screws

Studs · Small

Material and Finish

Low carbon steel, case hardened, zinc plated, chromate plus sealer or stainless steel

How to Specify:

1. Determine your outer panel and frame thicknesses:
Outer panel P =
Frame thickness F =
2. Choose your receptacle
3. Choose the retainer style
4. Find the correct constant in table opposite using the receptacle and retainer selected
5. Add outer panel thickness (P), frame thickness (F), and the constant found in step 4 to determine your total material thickness (TMT)
TMT = P+F+Constant
6. Find the TMT value in the ranges given in Column 1 in the part number table
7. Confirm that the outer panel thickness P does not exceed the value given in Column 2. This will confirm that your retainer will install properly beyond the last thread and retain your screw to the outer panel
8. Going across the row in the part number table, find the part number that matches your desired head style

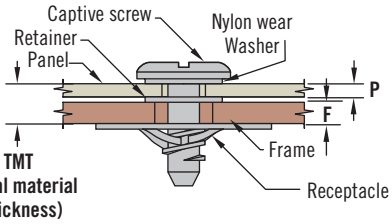
Part Number

See table

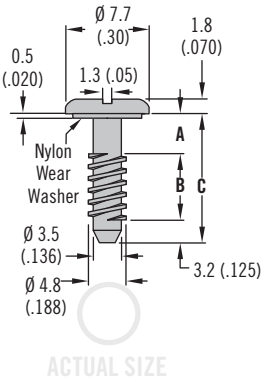
Notes

For full screw retraction, **B** must be less than frame thickness plus receptacle height

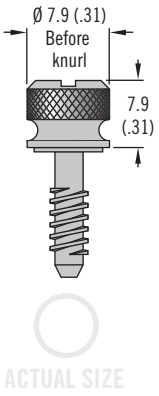
For stainless steel screw (slotted, and knurled ONLY) replace last 2 digits of part number with "26". Example: 09-11-102-26



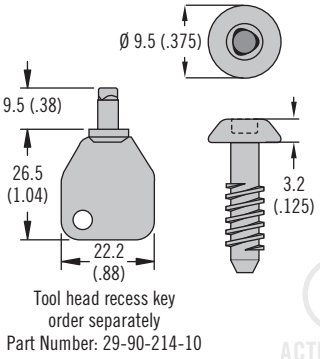
Slot



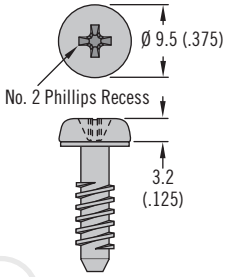
Knurled Head



Tool head Recess



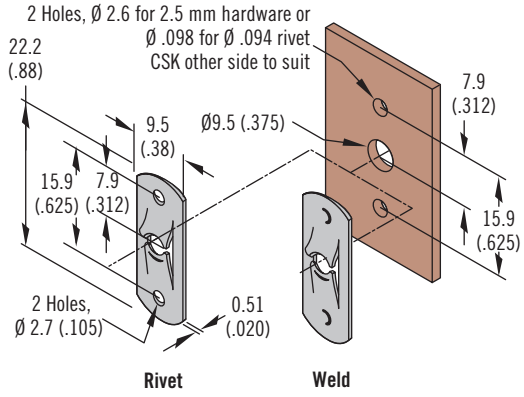
Phillips Recess



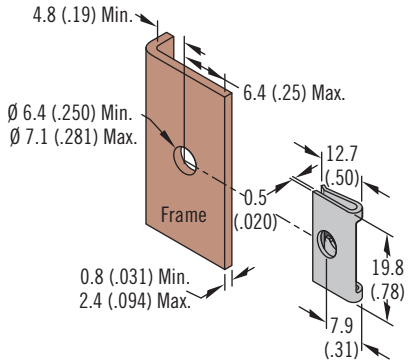
Constant Table				
Retainer Type	Receptacle Type			
	Flat Rivet or Weld	Clip	Saddle	Press-In
Stainless steel	0.3 (.012)	1.0 (.032)	4.5 (.177)	-1.3 (-.050)
Nylon	1.1 (.043)	1.6 (.063)	5.3 (.208)	-0.5 (-.020)

Column 1		Column 2	Screw Assembly Part Number				Dimensions		
TMT		Outer Panel P	Slotted	Knurled	Tool Head Recess	Phillips Recess	A	B	C
Min.	Max.								
1.3 (.050)	3.2 (.125)	0.9 (.035)	09-11-102-11	09-13-102-11	09-T-102	09-P-102	2.5 (.100)	5.0 (.197)	10.7 (.422)
2.5 (.100)	3.2 (.125)	2.2 (.085)	09-11-103-11	09-13-103-11	09-T-103	09-P-103	3.8 (.150)	3.7 (.147)	
1.3 (.050)	6.4 (.250)	0.9 (.035)	09-11-202-11	09-13-202-11	09-T-202	09-P-202	2.5 (.100)	8.2 (.322)	13.9 (.547)
2.5 (.100)	6.4 (.250)	2.2 (.085)	09-11-203-11	09-13-203-11	09-T-203	09-P-203	3.8 (.150)	6.9 (.272)	
3.8 (.150)	6.4 (.250)	3.4 (.135)	09-11-204-11	09-13-204-11	09-T-204	09-P-204	5.1 (.200)	5.6 (.222)	
5.1 (.200)	6.4 (.250)	4.7 (.185)	09-11-205-11	09-13-205-11	09-T-205	09-P-205	6.4 (.250)	4.4 (.172)	
1.3 (.050)	9.5 (.375)	0.9 (.035)	09-11-302-11	09-13-302-11	09-T-302	09-P-302	2.5 (.100)	11.4 (.447)	17.1 (.672)
2.5 (.100)	9.5 (.375)	2.2 (.085)	09-11-303-11	09-13-303-11	09-T-303	09-P-303	3.8 (.150)	10.1 (.397)	
3.8 (.150)	9.5 (.375)	3.4 (.135)	09-11-304-11	09-13-304-11	09-T-304	09-P-304	5.1 (.200)	8.8 (.347)	
5.1 (.200)	9.5 (.375)	4.7 (.185)	09-11-305-11	09-13-305-11	09-T-305	09-P-305	6.4 (.250)	7.3 (.297)	
7.6 (.300)	9.5 (.375)	7.2 (.285)	09-11-307-11	09-13-307-11	09-T-307	09-P-307	8.9 (.350)	5.0 (.197)	

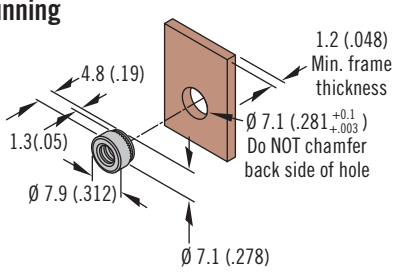
Flat Type Receptacle



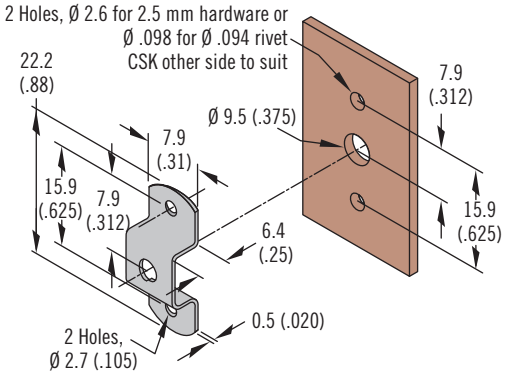
Clip-On Type Receptacle



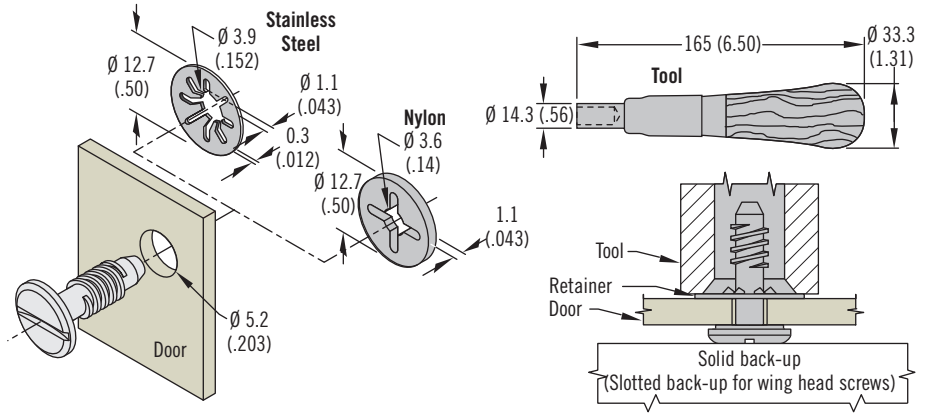
Self-Clinching Receptacle Free Running



Saddle Type Receptacle



Retainers



Type	Receptacle Part Number	
	Steel	Stainless steel
Flat receptacle rivet-on	09-41-101-11	09-41-101-24
Flat receptacle weld-on	~	09-41-103-24
Clip-on receptacle	09-43-101-11	09-43-101-24
Press-in receptacle	09-44-101-11	~
Saddle type receptacle	09-42-101-11	09-42-101-24

Retainer Style	Retainer Part Number	Tool Part Number
302 Stainless steel, passivated	09-6-1	12-0-20980-11
Nylon, black	09-49-102-42	

Material and Finish

Steel, zinc immersion coating or stainless steel

Installation Notes

See page 543 for self-clinching installation guidelines

Part Number

See table

12 Series Fast-Lead Screws

Studs · Medium

Material and Finish

Low carbon steel, case hardened, zinc plate, chromate plus sealer or stainless steel

How to Specify:

1. Determine your outer panel and frame thicknesses:
Outer panel P =
Frame thickness F =

2. Choose your receptacle

3. Choose the retainer style

4. Find the correct constant in table opposite using the receptacle and retainer selected

5. Add outer panel thickness (P), frame thickness (F), and the constant found in step 4 to determine your total material thickness (TMT)
TMT = P+F+Constant

6. Find the TMT value in the ranges given in Column 1 in the part number table

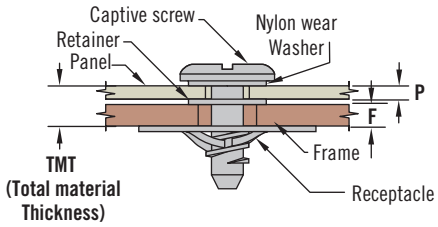
7. Confirm that the outer panel thickness P does not exceed the value given in Column 2. This will confirm that your retainer will install properly beyond the last thread and retain your screw to the outer panel

8. Going across the row in the part number table, find the part number that matches your desired head style

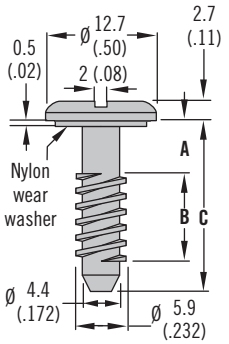
Notes

For full screw retraction, **B** must be less than inner panel thickness plus receptacle height

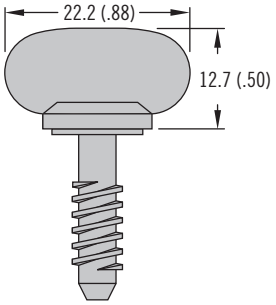
For stainless steel screw (slot, wing and knurled ONLY) replace last 2 digits of part number with "12". Example: 12-11-102-12



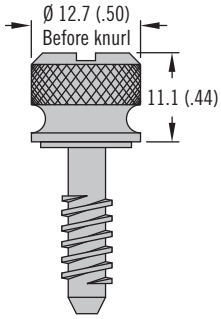
Slot



Wing Head

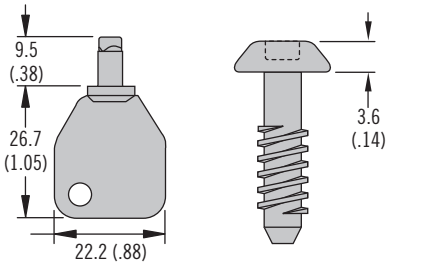


Knurled Head



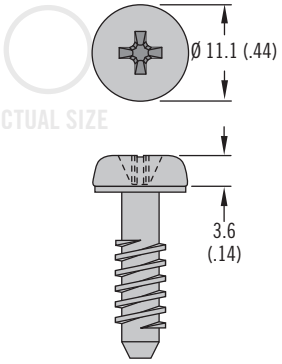
ACTUAL SIZE

Tool head Recess



Tool head recess key order separately
Part number 29-90-214-10

Phillips Recess



ACTUAL SIZE

Constant Table					
Retainer type	Receptacle Type				
	Flat	Clip	Saddle	Side	Press-In
Stainless steel	0.38 (.015)	1.1 (.045)	4.0 (.156)	1.5 (.060)	-1.3 (-.050)
Nylon	1.4 (.054)	2.0 (.079)	5.31 (.210)	1.5 (.060)	-0.5 (-.020)

Part Number

See table

Column 1		Column 2	Screw Assembly Part Number					Dimensions		
TMT to be Fastened		Max. Thickness of Outer Panel P	Slotted	Wing	Knurled	Tool Head Recess	Phillips Recess	A	B	C
Min.	Max.									
1.3 (.050)	3.2 (.125)	0.6 (.025)	12-11-102-11	12-12-102-11	12-13-102-11	12-T-102	12-P-102	2.5 (.100)	5.8 (.228)	12.3 (.486)
2.5 (.100)		1.9 (.075)	12-11-103-11	12-12-103-11	12-13-103-11	12-T-103	12-P-103	3.8 (.150)	4.5 (.178)	
1.3 (.050)	6.4 (.250)	0.6 (.025)	12-11-202-11	12-12-202-11	12-13-202-11	12-T-202	12-P-202	2.5 (.100)	9.0 (.353)	15.5 (.611)
2.5 (.100)		1.9 (.075)	12-11-203-11	12-12-203-11	12-13-203-11	12-T-203	12-P-203	3.8 (.150)	7.7 (.303)	
3.8 (.150)		3.2 (.125)	12-11-204-11	12-12-204-11	12-13-204-11	12-T-204	12-P-204	5.1 (.200)	6.4 (.253)	
5.1 (.200)		4.5 (.175)	12-11-205-11	12-12-205-11	12-13-205-11	12-T-205	12-P-205	6.4 (.250)	5.2 (.203)	
1.3 (.050)	9.5 (.375)	0.6 (.025)	12-11-302-11	12-12-302-11	12-13-302-11	12-T-302	12-P-302	2.5 (.100)	12.1 (.478)	18.7 (.736)
2.5 (.100)		1.9 (.075)	12-11-303-11	12-12-303-11	12-13-303-11	12-T-303	12-P-303	3.8 (.150)	10.9 (.428)	
3.8 (.150)		3.2 (.125)	12-11-304-11	12-12-304-11	12-13-304-11	12-T-304	12-P-304	5.1 (.200)	9.6 (.378)	
5.1 (.200)		4.5 (.175)	12-11-305-11	12-12-305-11	12-13-305-11	12-T-305	12-P-305	6.4 (.250)	8.3 (.328)	
7.6 (.300)		7.0 (.275)	12-11-307-11	12-12-307-11	12-13-307-11	12-T-307	12-P-307	8.9 (.350)	5.8 (.228)	
2.5 (.100)	12.7 (.500)	1.9 (.075)	12-11-403-11	12-12-403-11	12-13-403-11	12-T-403	12-P-403	3.8 (.150)	14.1 (.553)	21.9 (.861)
3.8 (.150)		3.2 (.125)	12-11-404-11	12-12-404-11	12-13-404-11	12-T-404	12-P-404	5.1 (.200)	12.8 (.503)	
5.1 (.200)		4.5 (.175)	12-11-405-11	12-12-405-11	12-13-405-11	12-T-405	12-P-405	6.4 (.250)	11.5 (.453)	
7.6 (.300)		7.0 (.275)	12-11-407-11	12-12-407-11	12-13-407-11	12-T-407	12-P-407	8.9 (.350)	9.0 (.353)	
10.2 (.400)		9.5 (.375)	12-11-409-11	12-12-409-11	12-13-409-11	12-T-409	12-P-409	11.4 (.450)	6.4 (.253)	
2.5 (.100)	15.9 (.625)	1.9 (.075)	12-11-503-11	12-12-503-11	12-13-503-11	12-T-503	12-P-503	3.8 (.150)	17.2 (.678)	25 (.986)
3.8 (.150)		3.2 (.125)	12-11-504-11	12-12-504-11	12-13-504-11	12-T-504	12-P-504	5.1 (.200)	16.0 (.628)	
5.1 (.200)		4.5 (.175)	12-11-505-11	12-12-505-11	12-13-505-11	12-T-505	12-P-505	6.4 (.250)	14.7 (.578)	
7.6 (.300)		7.0 (.275)	12-11-507-11	12-12-507-11	12-13-507-11	12-T-507	12-P-507	8.9 (.350)	12.1 (.478)	
10.2 (.400)		9.5 (.375)	12-11-509-11	12-12-509-11	12-13-509-11	12-T-509	12-P-509	11.4 (.450)	9.6 (.378)	
12.7 (.500)		12.1 (.475)	12-11-511-11	12-12-511-11	12-13-511-11	12-T-511	12-P-511	14 (.550)	7.1 (.278)	
2.5 (.100)	19.1 (.750)	1.9 (.075)	12-11-603-11	12-12-603-11	12-13-603-11	12-T-603	12-P-603	3.8 (.150)	20.4 (.803)	28.2 (1.111)
3.8 (.150)		3.2 (.125)	12-11-604-11	12-12-604-11	12-13-604-11	12-T-604	12-P-604	5.1 (.200)	19.1 (.753)	
5.1 (.200)		4.5 (.175)	12-11-605-11	12-12-605-11	12-13-605-11	12-T-605	12-P-605	6.4 (.250)	17.9 (.703)	
7.6 (.300)		7.0 (.275)	12-11-607-11	12-12-607-11	12-13-607-11	12-T-607	12-P-607	8.9 (.350)	15.3 (.603)	
10.2 (.400)		9.5 (.375)	12-11-609-11	12-12-609-11	12-13-609-11	12-T-609	12-P-609	11.4 (.450)	12.8 (.503)	
12.7 (.500)		12.1 (.475)	12-11-611-11	12-12-611-11	12-13-611-11	12-T-611	12-P-611	14 (.550)	10.2 (.403)	
15.3 (.600)		14.6 (.575)	12-11-613-11	12-12-613-11	12-13-613-11	12-T-613	12-P-613	16.5 (.650)	7.7 (.303)	
17.8 (.700)		17.2 (.675)	12-11-615-11	12-12-615-11	12-13-615-11	12-T-615	12-P-615	19.1 (.750)	5.2 (.203)	

12 Series Fast-Lead Screws

Receptacles · Medium

Material and Finish

Steel, zinc immersion coating or stainless steel

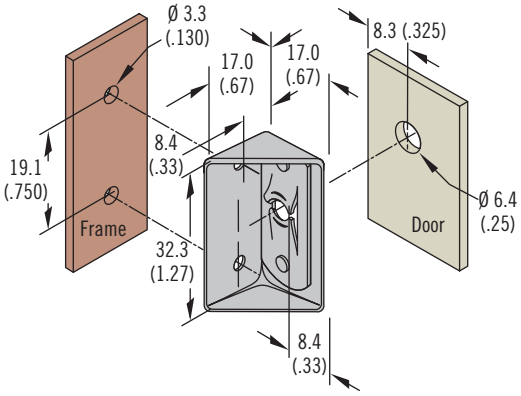
Side mount receptacle: 1064 steel, zinc immersion coating

Press-in receptacle: low carbon steel, case hardened and zinc plate, chromate plus sealer

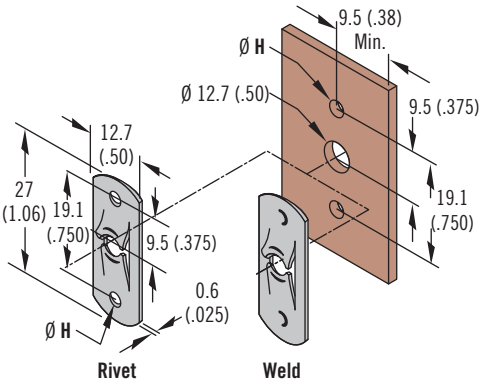
Installation Notes

See page 543 for self-clinching installation guidelines

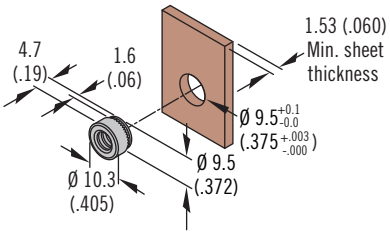
Side Mount Receptacle



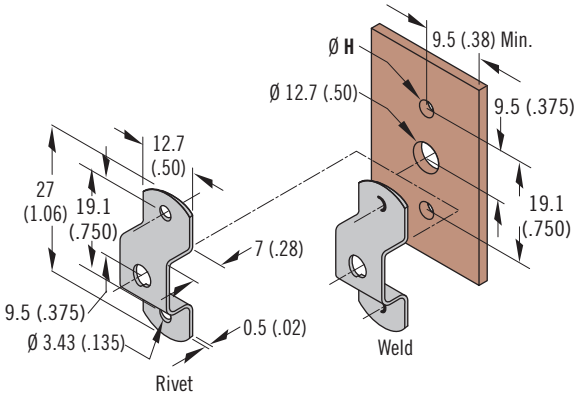
Flat Type Receptacle



Self-Clinching Receptacle Free Running



Saddle Type Receptacle

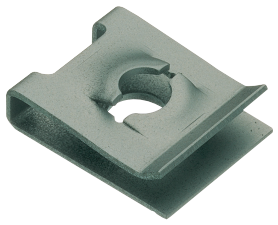


Part Number

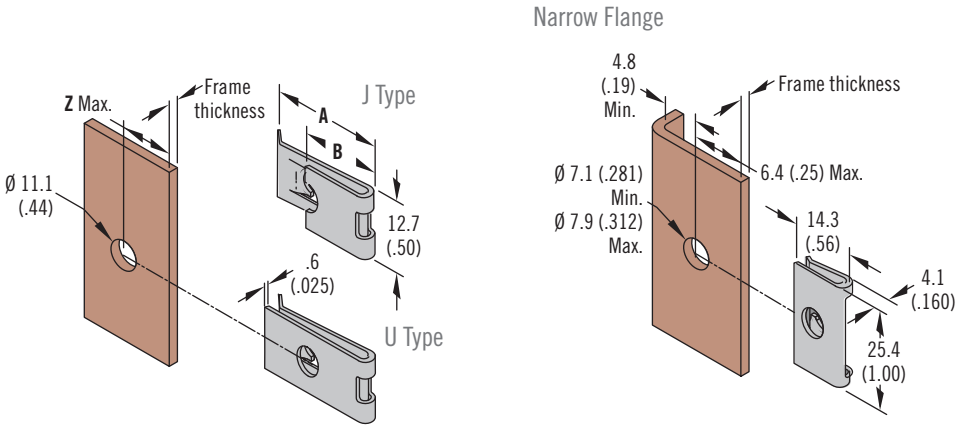
See table

Type	Ø H	Receptacle Part Number	
		Steel	Stainless steel
Side mount receptacle	~	12-90-101-10	~
Flat receptacle rivet	2.7 (.105)	12-11015-13	12-11015-14
	3.4 (.135)	12-11020-11	12-11020-13
Flat receptacle weld-on	~	~	12-11016-11
Press-in receptacle	~	12-44-101-11	~
Saddle receptacle rivet	3.4 (.135)	12-11043-11	12-11043-12
Saddle receptacle weld-on	~	~	12-11044-12

Dimensions in millimeters (inch) unless otherwise stated



Clip-On Type Receptacle

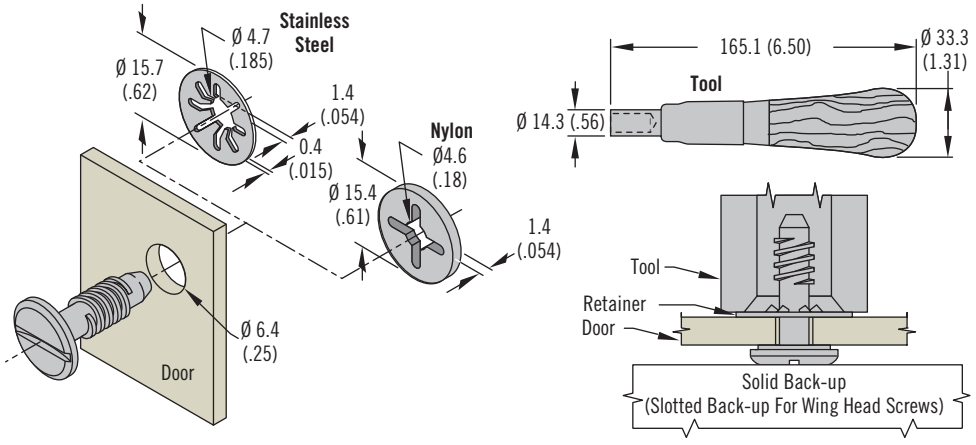


Type	Frame Thickness	A	B	Z Max.	Receptacle Part Number	
					Steel	Stainless steel
Clip-on receptacle - J	0.8 (.031) to 2.8 (.109)	24.8 (.98)	14.2 (.56)	12.7 (.50)	12-11025-11	~
Clip-on receptacle - U	0.8 (.031) to 2.8 (.109)	25.9 (1.02)			12-11017-11	12-11017-12
	2.8 (.109)- 4.1 (.161)			11.9 (.47)	12-11027-11	~
	2.8 (.109)- 4.1 (.161)				~	12-11027-12
	4.1 (.161)- 5.5 (.213)	24.8 (.98)	13.5 (.53)	11.1 (.44)	12-11029-11	~
	5.4 (.213)- 6.7 (.265)	24.5 (.97)	13.01 (.51)		12-11031-11	~
Clip-on receptacle - Narrow flange	0.8 (.031)- 2.8 (.109)	~	~	~	12-11050-27	~

Material and Finish
Steel, zinc immersion coating or stainless steel

Part Number
See table

Retainers



Retainer Style	Retainer Part Number	Tool Part Number
304 Stainless steel, passivated	12-6-1	12-0-20980-11
Nylon, black	12-11064-42	

Part Number
See table

17 Series Fast-Lead Screws

Studs · Large

Material and Finish

Low carbon steel, case hardened, zinc plated, chromate plus sealer or stainless steel

1. Determine your outer panel and frame thicknesses:
Outer panel P =
Frame thickness F =

2. Choose your receptacle

3. Choose the retainer style

4. Find the correct constant in table opposite using the receptacle and retainer selected

5. Add outer panel thickness (P), frame thickness (F), and the constant found in step 4 to determine your total material thickness (TMT)
TMT = P+F+Constant

6. Find the TMT value in the ranges given in Column 1 in the part number table

7. Confirm that the outer panel thickness P does not exceed the value given in Column 2. This will confirm that your retainer will install properly beyond the last thread and retain your screw to the outer panel

8. Going across the row in the part number table, find the part number that matches your desired head style

Notes

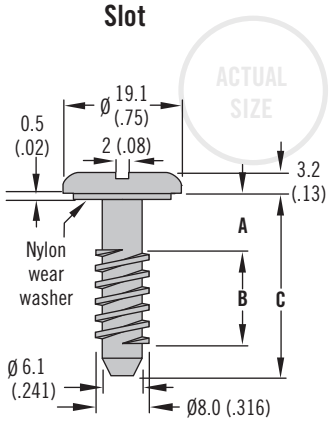
For full screw retraction, **B** must be less than inner panel thickness plus receptacle height

For stainless steel screw (slotted, wing and knurled ONLY) replace last 2 digits of part number with "12". Example: 17-11-104-12

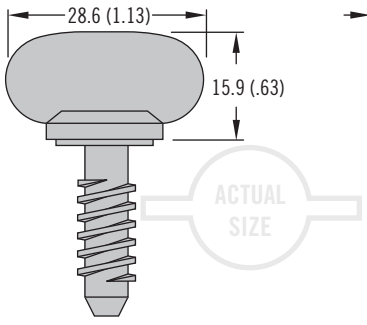
Part Number

See table

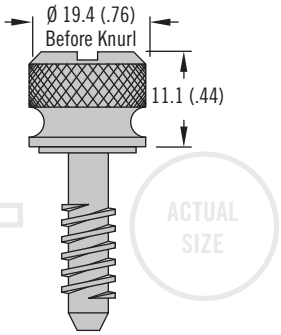
Slot



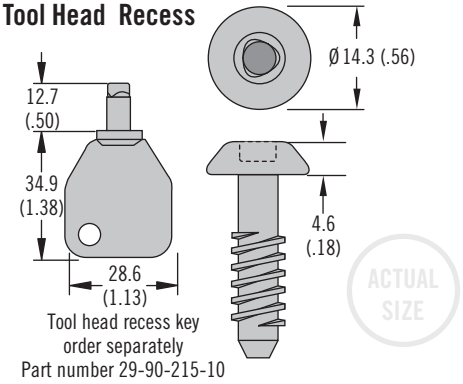
Wing Head



Knurled Head



Tool Head Recess

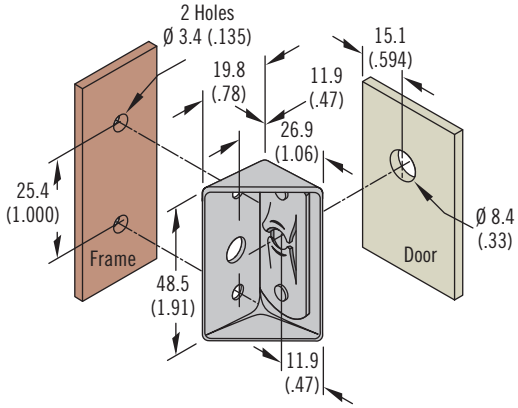


Tool head recess key order separately
Part number 29-90-215-10

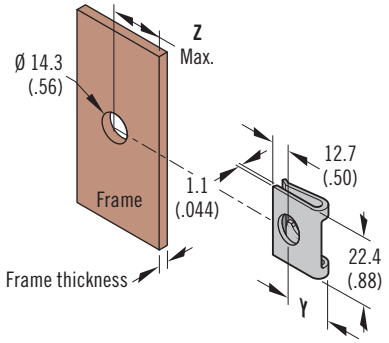
Constant Table			
Retainer type	Receptacle Type		
	Flat	Clip	Side
Stainless steel	0.38 (.015)	2.2 (.086)	1.5 (.060)
Nylon	1.9 (.076)	3.5 (.137)	1.5 (.060)

Column 1		Column 2	Screw Assembly Part Number				Dimensions		
TMT to be Fastened		Max. Thickness Of Outer Panel P	Slotted	Wing	Knurled	Tool Head Recess	A	B	C
Min.	Max.								
2.5 (.100)	6.4 (.250)	3.1 (.120)	17-11-104-11	17-12-104-11	17-13-104-11	17-T-104	5.1 (.200)	9.1 (.360)	19.1 (.751)
5.1 (.200)		5.6 (.220)	17-11-106-11	17-12-106-11	17-13-106-11	17-T-106	7.6 (.300)	6.6 (.260)	
2.5 (.100)	9.5 (.375)	3.1 (.120)	17-11-204-11	17-12-204-11	17-13-204-11	17-T-204	5.1 (.200)	12.3 (.485)	22.3 (.876)
5.1 (.200)		5.6 (.220)	17-11-206-11	17-12-206-11	17-13-206-11	17-T-206	7.6 (.300)	9.8 (.385)	
7.6 (.300)		8.1 (.320)	17-11-208-11	17-12-208-11	17-13-208-11	17-T-208	10.2 (.400)	7.2 (.285)	
2.5 (.100)	12.7 (.500)	3.1 (.120)	17-11-304-11	17-12-304-11	17-13-304-11	17-T-304	5.1 (.200)	15.5 (.610)	25.4 (1.001)
5.1 (.200)		5.6 (.220)	17-11-306-11	17-12-306-11	17-13-306-11	17-T-306	7.6 (.300)	13 (.510)	
7.6 (.300)		8.1 (.320)	17-11-308-11	17-12-308-11	17-13-308-11	17-T-308	10.2 (.400)	10.4 (.410)	
10.2 (.400)		10.7 (.420)	17-11-310-11	17-12-310-11	17-13-310-11	17-T-310	12.7 (.500)	7.9 (.310)	
2.5 (.100)	15.9 (.625)	3.1 (.120)	17-11-404-11	17-12-404-11	17-13-404-11	17-T-404	5.1 (.200)	18.7 (.735)	28.6 (1.126)
5.1 (.200)		5.6 (.220)	17-11-406-11	17-12-406-11	17-13-406-11	17-T-406	7.6 (.300)	16.1 (.635)	
7.6 (.300)		8.1 (.320)	17-11-408-11	17-12-408-11	17-13-408-11	17-T-408	10.2 (.400)	13.6 (.535)	
10.2 (.400)		10.7 (.420)	17-11-410-11	17-12-410-11	17-13-410-11	17-T-410	12.7 (.500)	11.1 (.435)	
12.7 (.500)		13.2 (.520)	17-11-412-11	17-12-412-11	17-13-412-11	17-T-412	15.2 (.600)	8.5 (.335)	
15.2 (.600)		15.8 (.620)	17-11-414-11	17-12-414-11	17-13-414-11	17-T-414	17.8 (.700)	6.0 (.235)	

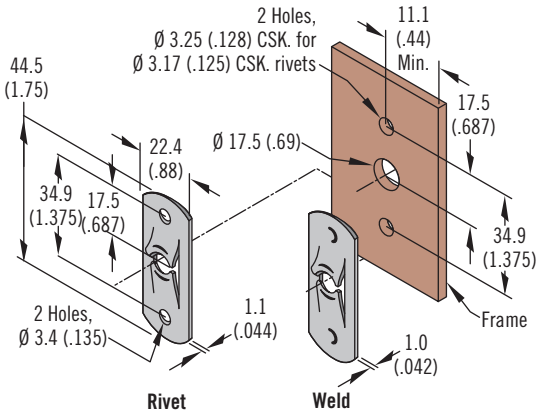
Side Mount Receptacle



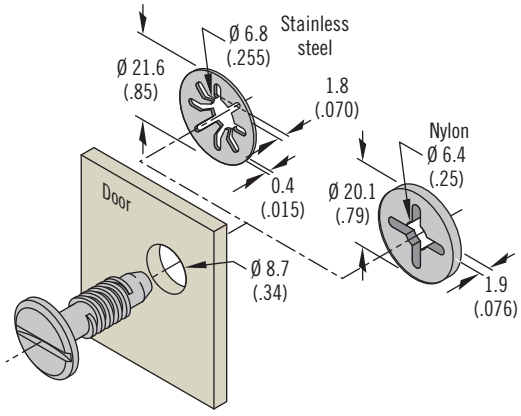
Clip-On Type Receptacle



Flat Type Receptacle



Retainers



Material and Finish

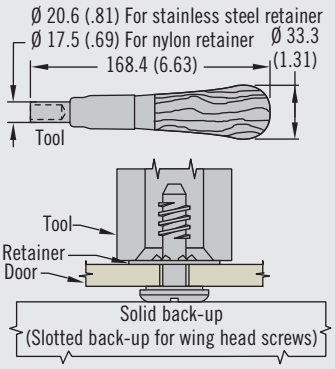
Steel, zinc immersion coating or stainless steel

Type	Frame Thickness	Y	Z Max.	Receptacle Part Number	
				Steel	Stainless steel
Side mount receptacle	~	~	~	17-90-101-10	~
Clip-on type receptacle	1.1 - 2.4 (.045 - .093)	15.7 (.62)	15.0 (.59)	17-10017-11	~
	2.4 - 3.6 (.093 - .142)	14.7 (.58)	14.2 (.56)	17-10027-11	~
	3.6 - 4.9 (.142 - .191)	13.7 (.54)		17-10029-11	~
	4.9 - 6.1 (.191 - .240)	13.5 (.53)	13.5 (.53)	17-10031-11	~
	6.1 - 7.3 (.240 - .289)	13.0 (.51)	12.7 (.50)	17-10033-11	~
Flat type receptacle - Rivet	~	~	~	17-10015-13	17-10015-14
Flat type receptacle - Weld	~	~	~	~	17-10016-11

Retainer Style	Retainer Part Number	Tool Part Number
302 Stainless steel, passivated	17-6-1	17-0-24585-11
Nylon, black	17-10054-42	17-0-21333-11

Part Number

See table



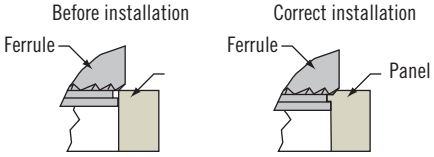
Installation Guidelines

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:

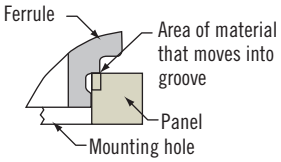
Material:

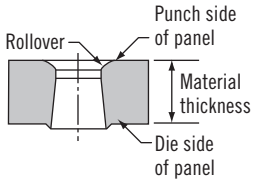
The hardness of the panel material must not exceed *SOUTHCO®* recommendations. If the panel is too hard, the fastener will not install correctly.

Installation Holes:

Mounting holes may be drilled, punched, or cast.

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

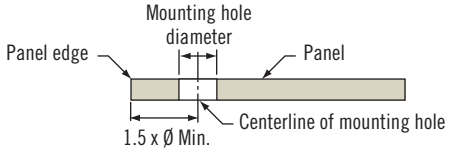




Do not chamfer or debur edge.

- 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.