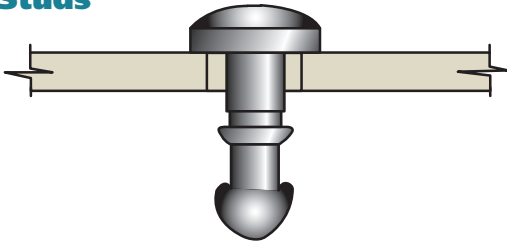


# Southco® Quarter-turn Fasteners

## Small Series

- For limited-space applications
- Quick access

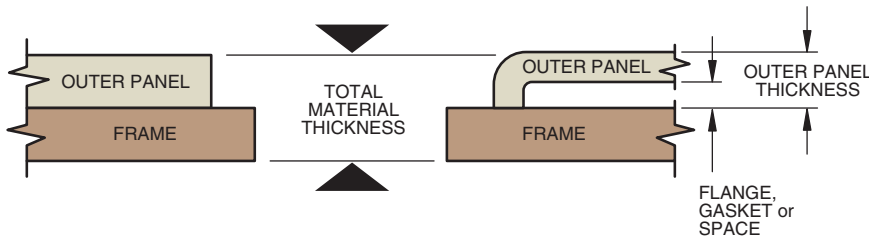
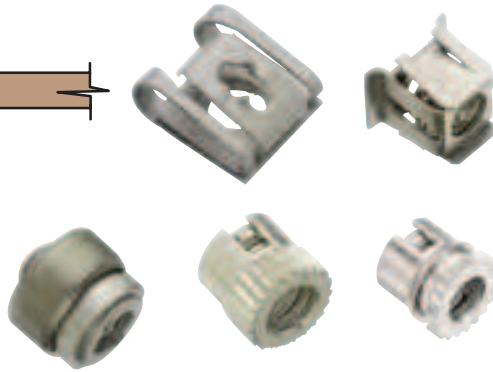
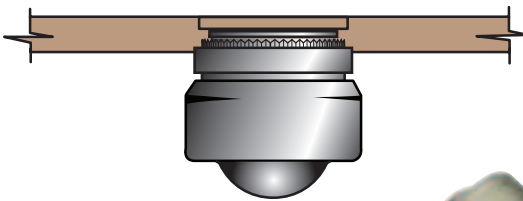
### Studs



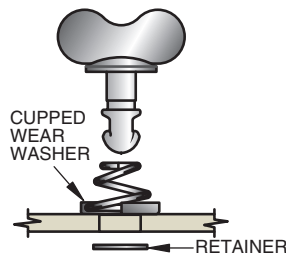
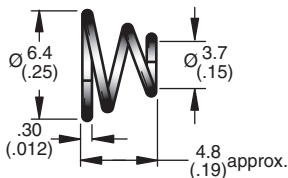
### Retainer



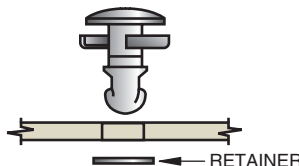
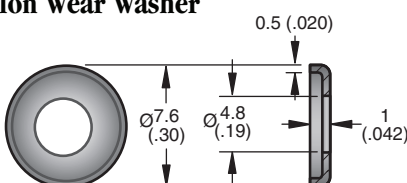
### Receptacles



### Stud Ejector



### Nylon Wear Washer



### To select correct fastener:

1. Choose a receptacle (note any frame thickness limitations).
2. To select a stud,
  - a) measure your Outer Panel Thickness or Total Material Thickness (note under receptacle part number will tell you which to use).
  - b) if adjustment formula is shown under receptacle part number apply this formula to your measurement.
  - c) use measurement (or adjusted measurement) to find part number in table, pg. 273 under stud head style you want.
3. Choose a retainer.
4. Order each component and tool (if required) separately by part number.

### Material and Finish

EJECTOR SPRING: 302 Stainless steel, passivated.

WEAR WASHER: Nylon, black or white (see table).

EJECTOR SPRING	PART NUMBER	
	WEAR WASHER Black	WEAR WASHER White
81-41-102-24 •	81-46-101-41 •	81-46-101-39 •

### NOTE: Adjustment Formula

When using a **stud ejector** (ejector spring and wear washer), add 0.8 (.032) to your Outer Panel Thickness or Total Material Thickness.

When using a **wear washer**, add 0.5 (.020) to your Outer Panel Thickness or Total Material Thickness.

millimeter (inch)  
millimeter (inch)

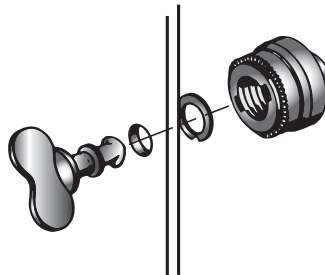
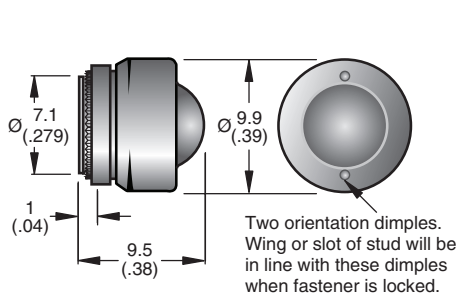
Dimensions without tolerances are for reference only.

# Southco® Quarter-turn Fasteners

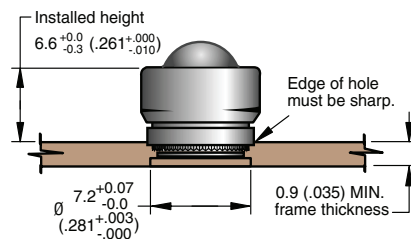
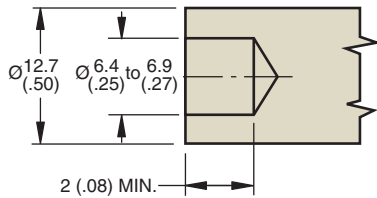
## Small Series, Receptacles

### Shielded press-in for sheet metal

- Provides RFI-EMI shielding



### Installation Tool



NOTE: For use in low carbon steels, aluminum and stainless steels in the annealed condition that are R<sub>b</sub>85 or less.

#### TOOL PART NUMBER

54-0-5466-11 •

### Material and Finish

RECEPTACLE: 1010 Steel, zinc plate, chromate plus sealer.  
 SHELL: Low carbon steel, zinc plate, chromate plus sealer.  
 SPRING: 302 Stainless steel, zinc immersion coating.  
 CAP: 305 Stainless steel, zinc immersion coating.

#### PART NUMBER

81-35-311-55 •

### Adjustment Formula

To enter Stud Selection Table determine your Total Material Thickness.

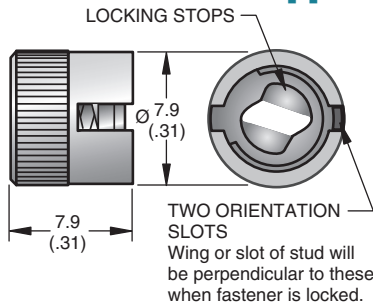
Substitute 1.3 (.050) (constant) for frame thickness if frame thickness is less than 1.27 (.050).

### Product Strength Guidelines

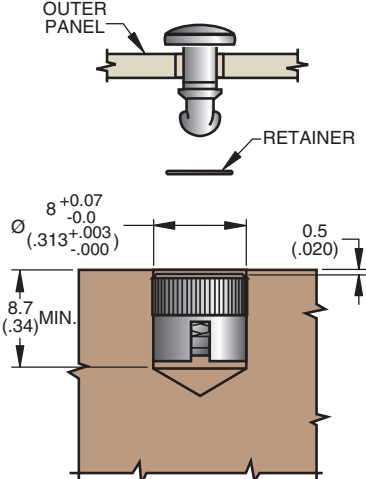
(To assist in your product selection; samples are available for your evaluation.)

Maximum static load: 440 N (100 lbs.)

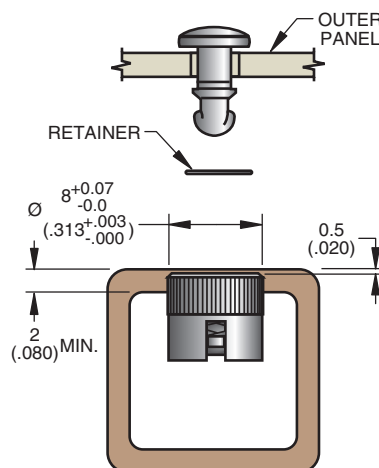
## Press-in for blind applications and solid materials



### Solid Materials



### Blind Applications



### Material and Finish

RECEPTACLE: 1010 Steel hardened and zinc plate, chromate plus sealer.  
 SHELL: Low carbon steel hardened and zinc plate, chromate plus sealer.  
 RETAINER and SPRING: 302 Stainless steel, zinc immersion coating.

#### PART NUMBER

81-35-308-55 •

### Adjustment Formula

To enter Stud Selection Table determine your Outer Panel Thickness.

### Product Strength Guidelines

(To assist in your product selection; samples are available for your evaluation.)

Maximum static load: 440 N (100 lbs.)

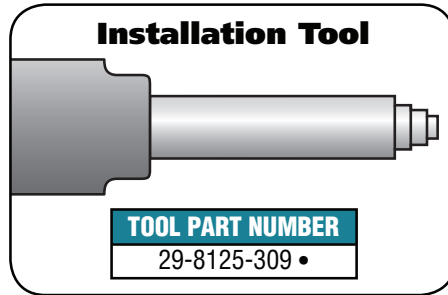
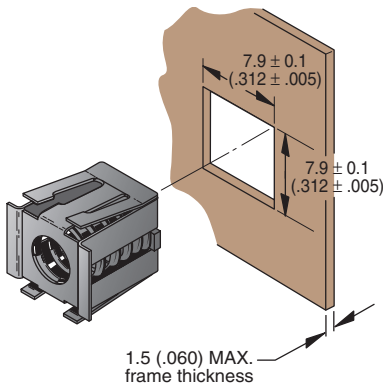
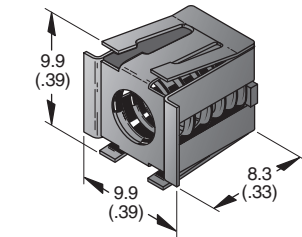
millimeter (inch)  
 millimeter  
 (inch)

Dimensions without tolerances are for reference only.

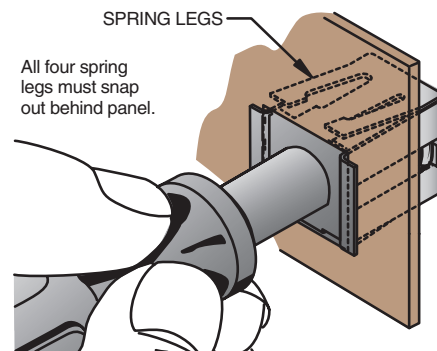
# Southco® Quarter-turn Fasteners

## Small Series, Receptacles

### Snap-in



Push only on the center area of the receptacle as shown until all four spring legs snap out behind your panel.



### Material and Finish

HOUSING and RETAINER: 301 Stainless steel, natural.  
RECEPTACLE: 1010 Steel, zinc plate, chromate plus sealer.  
SPRING: 302 Stainless steel, passivated.  
TOOL: 12L14 Steel, zinc plated, plus bright chromate dip.

PART NUMBER
81-35-309-56 •

### Adjustment Formula

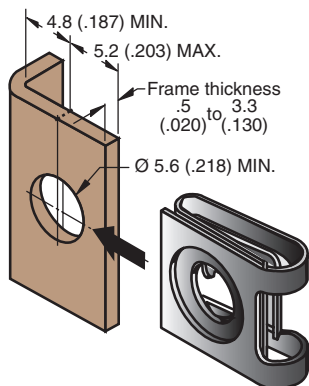
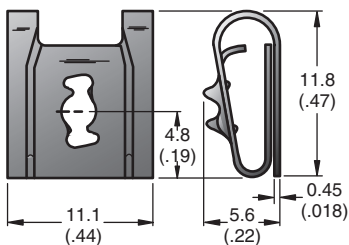
To use Stud Selection Table on pg. 273 calculate:  
Outer Panel Thickness + 1.5 (.060) but use Total Material Thickness column.

**NOTE:** This tool will bear against the top surface of the receptacle, it will not enter the top opening.

### Product Strength Guidelines

(To assist in your product selection; samples are available for your evaluation.)  
Maximum static load: 440 N (100 lbs.)

### Clip-on



### To Install

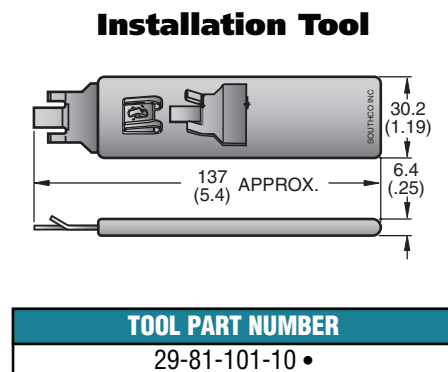
#### By hand



#### With screwdriver



#### With tool



### Material and Finish

RECEPTACLE: 1064 Steel, zinc immersion coating or 17-7PH stainless steel, passivated (see table).

Part Description	PART NUMBER
Steel	81-47-101-15 •
Stainless steel	81-47-101-20 •

### Adjustment Formula

To use Stud Selection Table on pg. 273 determine your Total Material Thickness by calculating:

Figure I  
 $P + F - 1.07 (.042)$  (constant) when G is 0.45 (.018).

Figure II  
 $P + F + G - 1.5 (.060)$  (constant) when G is 0.46 (.019) or greater.

### Product Strength Guidelines

(To assist in your product selection; samples are available for your evaluation.)  
Maximum static load: 440 N (100 lbs.)

millimeter (inch)  
millimeter (inch)

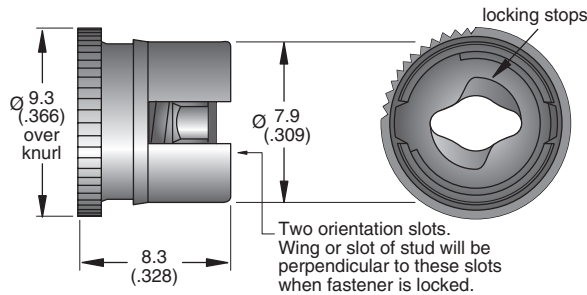
Dimensions without tolerances are for reference only.

# Southco® Quarter-turn Fasteners

## Small Series, Receptacles

### For ultrasonic installation in thermoplastics

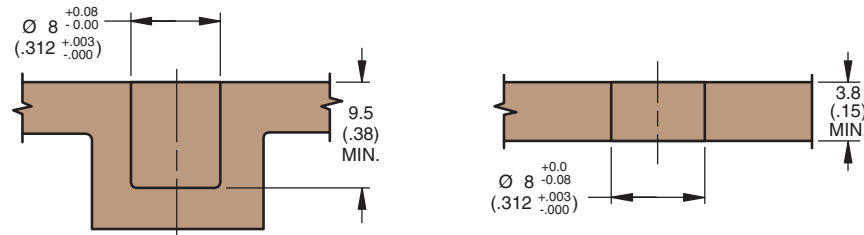
- Minimize residual stress
- Increased pull-out resistance
- Increased torque-out resistance



**PART NUMBER**  
81-35-310-55 •

### Installation

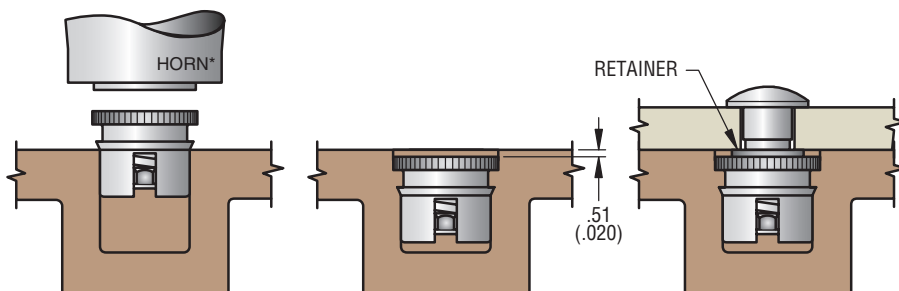
#### 1. Prepare hole.



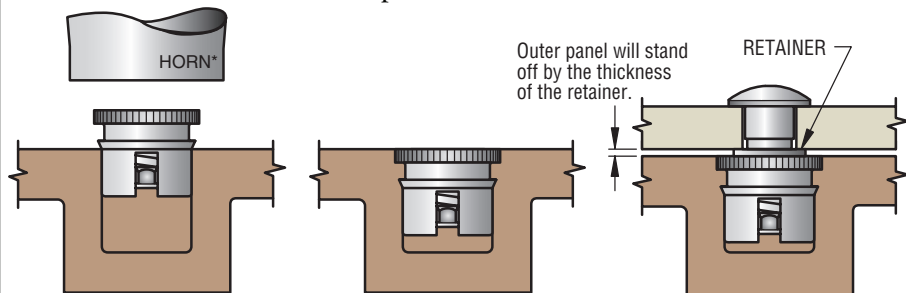
#### 2. Use one of the methods shown.

Enter the No. 81 Stud Selection Table on pg. 273 with your Outer Panel Thickness using column for Part Number 81-35-310-55.

#### METHOD A—Horn recesses receptacle to a 0.5 (.020) depth.



#### METHOD B—Horn installs receptacle flush with surface.



\*Horn design may vary with material and applications.

### Material and Finish

RECEPTACLE: 1010 Steel, case hardened and zinc plate, chromate plus sealer.  
SHELL: Low carbon steel, zinc plate, chromate plus sealer.  
SPRING: 302 Stainless steel, zinc immersion coating.

### Product Strength Guidelines

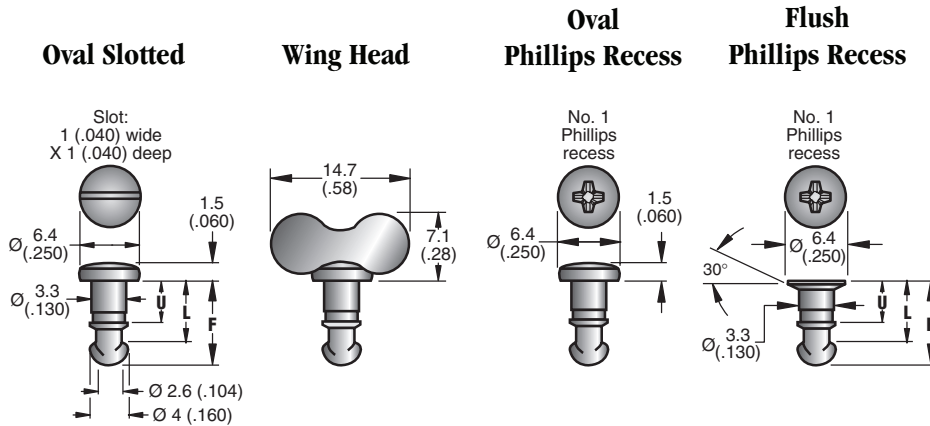
(To assist in your product selection; samples are available for your evaluation.)  
Maximum static load: 440 N (100 lbs.)

millimeter (inch)  
millimeter  
(inch)

Dimensions without tolerances are for reference only.

# Southco® Quarter-turn Fasteners

## Small Series, Stud Selection



FOR:		FOR:		STUD PART NUMBER				DIMENSIONS		
Press-in Part No. 81-35-308-55 and Ultrasonic Part No. 81-35-310-55		ALL OTHER RECEPTACLES*		Zinc plate, chromate plus sealer		Case hardened and zinc plate chromate plus sealer.		U	L	F
				OVAL SLOTTED	WING HEAD	OVAL PHILLIPS RECESS	FLUSH PHILLIPS RECESS			
MIN.	MAX.	MIN.	MAX.							
1 (.040)	1.5 (.059)	2.3 (.090)	2.8 (.109)	81-11-100-16 •	81-12-100-16 •	81-18-100-16 •	81-19-100-16 •	4.9 (.193)	7.2 (.285)	9.8 (.385)
1.5 (.060)	2 (.079)	2.8 (.110)	3.3 (.129)	81-11-120-16 •	81-12-120-16 •	81-18-120-16 •	81-19-120-16 •	5.4 (.213)	7.8 (.305)	10.3 (.405)
2 (.080)	2.5 (.099)	3.3 (.130)	3.8 (.149)	81-11-140-16 •	81-12-140-16 •	81-18-140-16 •	81-19-140-16 •	5.9 (.233)	8.3 (.325)	10.8 (.425)
2.5 (.100)	3 (.119)	3.8 (.150)	4.3 (.169)	81-11-160-16 •	81-12-160-16 •	81-18-160-16 •	81-19-160-16 •	6.4 (.253)	8.8 (.345)	11.3 (.445)
3 (.120)	3.5 (.139)	4.3 (.170)	4.8 (.189)	81-11-180-16 •	81-12-180-16 •	81-18-180-16 •	81-19-180-16 •	6.9 (.273)	9.3 (.365)	11.8 (.465)
3.6 (.140)	4.1 (.159)	4.8 (.190)	5.3 (.209)	81-11-200-16 •	81-12-200-16 •	81-18-200-16 •	81-19-200-16 •	7.4 (.293)	9.8 (.385)	12.3 (.485)
4.1 (.160)	4.6 (.179)	5.3 (.210)	5.8 (.229)	81-11-220-16 •	81-12-220-16 •	81-18-220-16 •	81-19-220-16 •	8 (.313)	10.3 (.405)	12.8 (.505)
4.6 (.180)	5.1 (.199)	5.8 (.230)	6.3 (.249)	81-11-240-16 •	81-12-240-16 •	81-18-240-16 •	81-19-240-16 •	8.5 (.333)	10.8 (.425)	13.3 (.525)
5.1 (.200)	5.6 (.219)	6.4 (.250)	6.9 (.269)	81-11-260-16 •	81-12-260-16 •	81-18-260-16 •	81-19-260-16 •	9 (.353)	11.0 (.445)	13.8 (.545)
5.6 (.220)	6.1 (.239)	6.9 (.270)	7.4 (.289)	81-11-280-16 •	81-12-280-16 •	81-18-280-16 •	81-19-280-16 •	9.5 (.373)	11.8 (.465)	14.4 (.565)
6.1 (.240)	6.6 (.259)	7.4 (.290)	7.9 (.309)	81-11-300-16 •	81-12-300-16 •	81-18-300-16 •	81-19-300-16 •	10 (.393)	12.3 (.485)	14.9 (.585)
6.6 (.260)	7.1 (.279)	7.9 (.310)	8.4 (.329)	81-11-320-16 •	81-12-320-16 •	81-18-320-16 •	81-19-320-16 •	10.5 (.413)	12.8 (.505)	15.4 (.605)

### Material and Finish

WING HEAD STUD: 1008 Steel.

WING: 1010 Steel.

OTHERS: 1008 Steel (see table for finishes).

\*Please check for any special conditions or constant required by your specific receptacle on the receptacle description pages.

‡ If using ejector spring or nylon wear washers, see bottom of page 269.

millimeter (inch)  
millimeter  
(inch)

Dimensions without tolerances are for reference only.

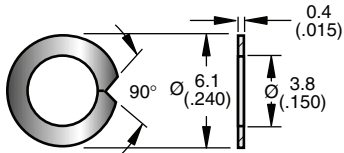
# Southco® Quarter-turn Fasteners

## Small Series

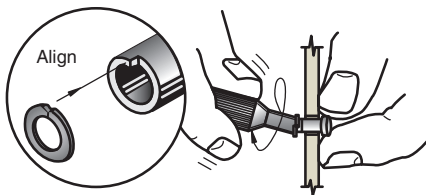
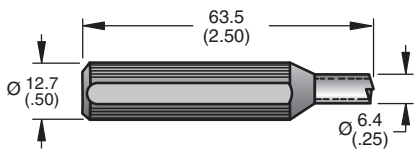
### Retainers

#### Split-Ring Retainer

Hand or tool installation

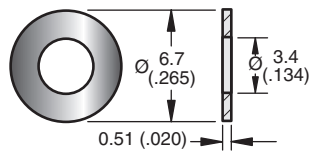


#### Installation Tool

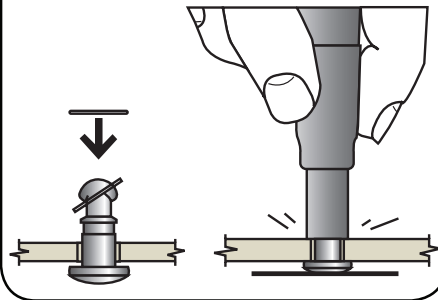
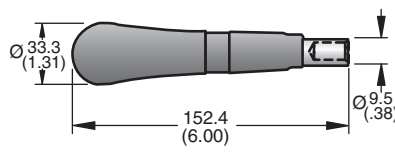


#### Push-On Retainer

Tool installation



#### Installation Tool



### Material and Finish

SPLIT-RING RETAINER: 302 Stainless steel, passivated.

PUSH-ON RETAINER: Nylon, black.

SPLIT-RING TOOL: Steel, zinc plated.

PUSH-ON TOOL: Hardened low carbon steel, zinc plated.

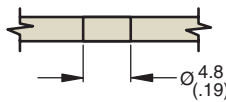
RETAINER/TOOL	PART NUMBERS
Split-Ring Retainer	81-32-101-20 •
Split-Ring Tool	81-0-15129-11 •
Push-On Retainer	81-32-301-12 •
Push-On Tool	81-0-18173-11 •

### Installation

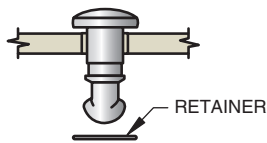
#### For Above-surface styles



#### 1. Drill.



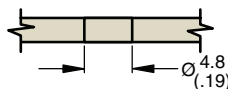
#### 2. Insert stud and add retainer.



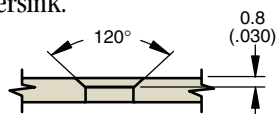
#### For Flush-head style



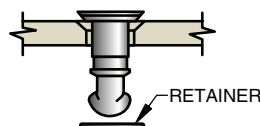
#### 1. Drill.



#### 2. Countersink.



#### 3. Insert stud and add retainer.



millimeter (inch)  
millimeter  
(inch)

Dimensions without tolerances are for reference only.