



QUALITY FASTENERS™

**Q SERIES**  
**QUARTER-TURN FASTENERS ASSEMBLY**  
**Designer's Guide**



# QUARTER-TURN FASTENER - Medium

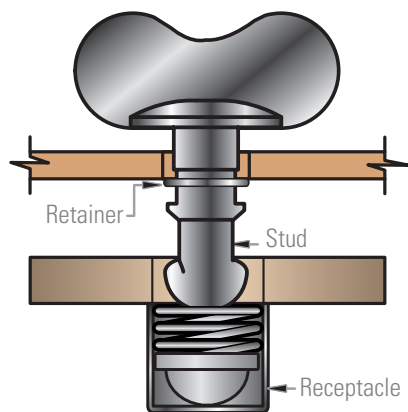
## Features & Benefits

- Combines quick access with captive fastening
- Tool or hand-operated
- Available in materials suited for both indoor or outdoor environments

## Choosing a Quarter-turn Fastener Assembly

1. Choose your receptacle (note any frame thickness limitations)
2. Choose your stud (or "headstyle" type)
  - Measure your Outer Panel Thickness or Total Material Thickness (chart on page 5 lists range of thickness by receptacle and will tell you to use either Outer Panel Thickness or Total Material Thickness)
  - Apply adjustment calculation to your measurement if listed next to receptacle drawings
  - Utilize measurement (or adjusted calculation) to locate stud part number in table
3. Choose your retainer

## Typical Assembly



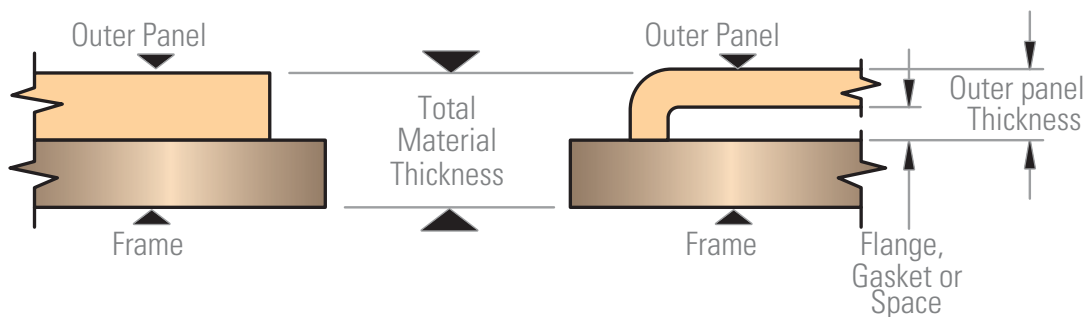
Component Shown Installed

In typical applications, an installed stud is used to fasten an outer panel with an inner panel (frame). An installed receptacle is permanently installed to the inner panel. The stud is held captive in the outer panel with a retainer.

To fasten, apply 1/4 turn to the stud. The stud now engages with the installed receptacle and secures both panels.

By applying a 1/4 turn to the stud in the opposite direction, the stud disengages with the receptacle, but remains captive for future use.

## Material Thickness

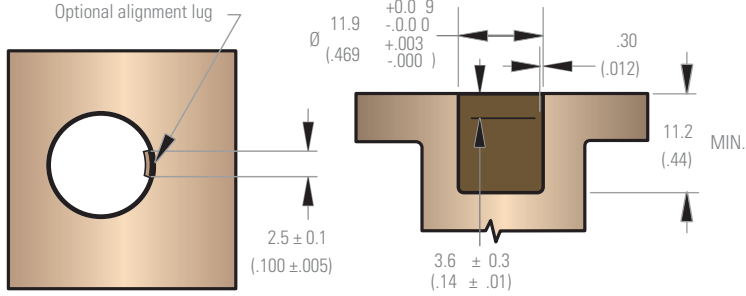


# QUARTER-TURN RECEPTACLES - Medium

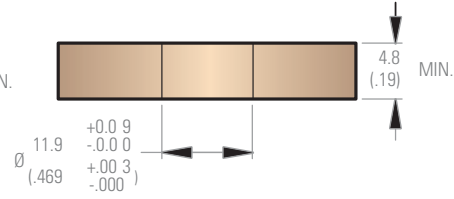
## Ultrasonic (Installation into thermoplastics)

### Installation

1. Prepare hole as shown

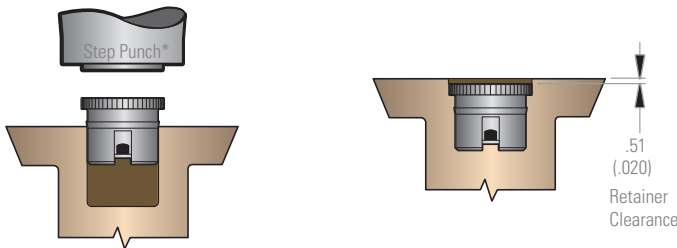


\*Do not chamfer Installation hole



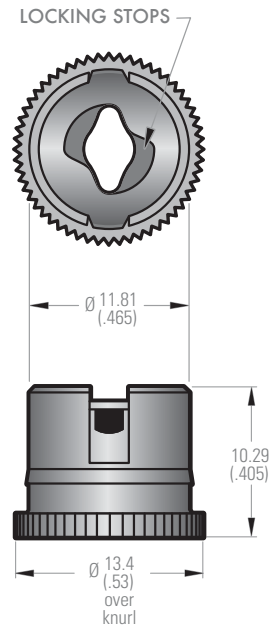
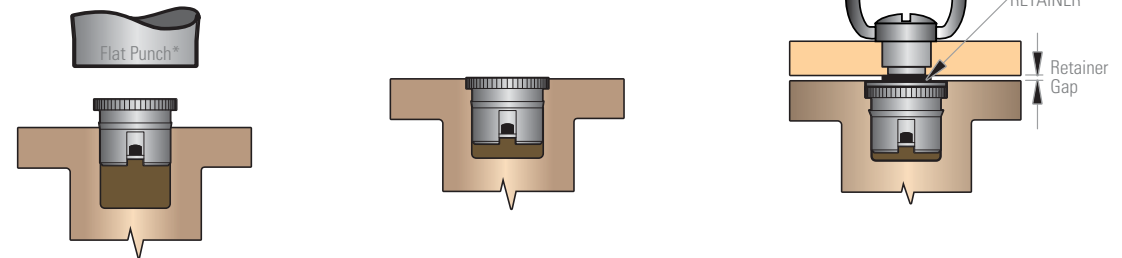
2. Choose one of the methods below:

A - Recessed to 0.5 (.020) depth



\*Step Punch allows clearance for retainer.

B - Flush with surface



### Material and Finish

**Receptacle:** 1010 Steel, case hardened, zinc plate, chromate plus sealer

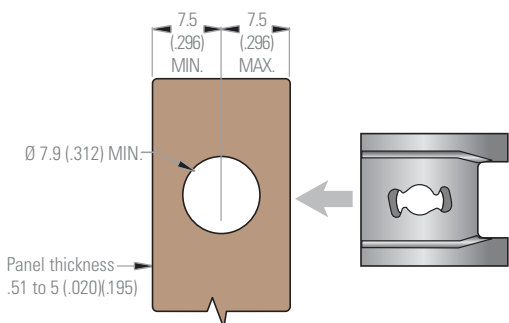
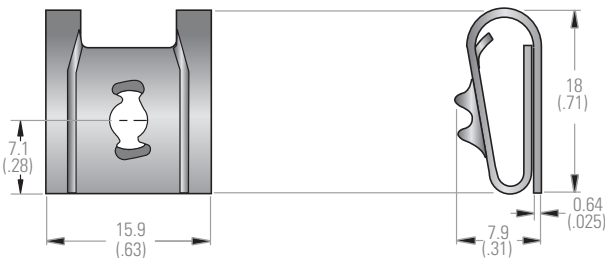
**Shell:** Low carbon steel, zinc plate, chromate plus sealer

**Spring:** 302 SS, zinc immersion coating

**PART NUMBER**

QR-MU-C

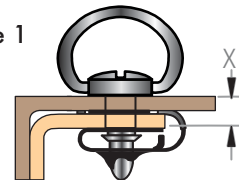
## Clip-On



### Adjustment Calculation:

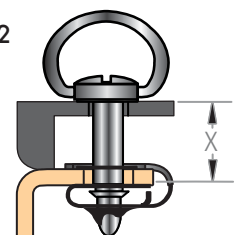
To determine your total material thickness for stud selection use:

Figure 1



$$X + 1.40 (.055) \text{ (constant)}$$

Figure 2



$$X + 0.76 (.030) \text{ (constant)}$$

### Material and Finish

1064 Steel, zinc immersion coating or 17-7 SS, passivated

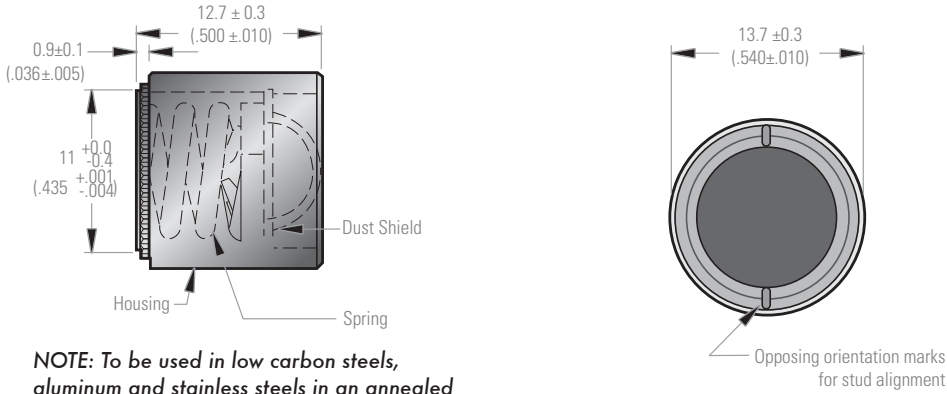
**PART NUMBER**

STEEL QR-MC-C

STAINLESS QR-MC-S

# QUARTER-TURN RECEPTACLES - Medium

## Press-in (Shielded Type)



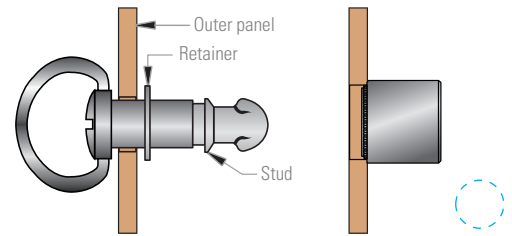
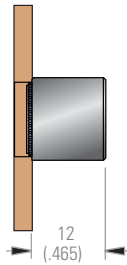
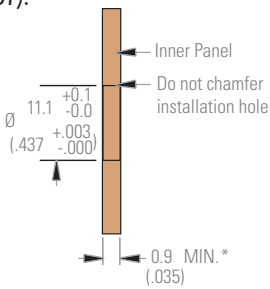
**NOTE:** To be used in low carbon steels, aluminum and stainless steels in an annealed condition  $R_p85$  or softer.

### Installation

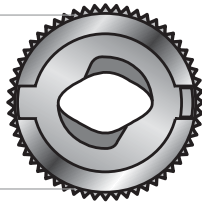
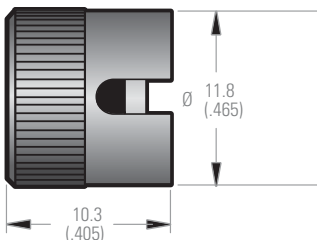
1. Drill or punch hole in panel as shown. **NOTE:** For inner panels less than 1.3 (.051) thick, the retainer will create a small gap. To select the proper stud, assume the inner panel thickness as 1.3 (.051).

2. Press receptacle into hole until shoulder meets panel surface.

3. To select proper stud grip, determine total panel thickness and select stud from corresponding stud selection table.



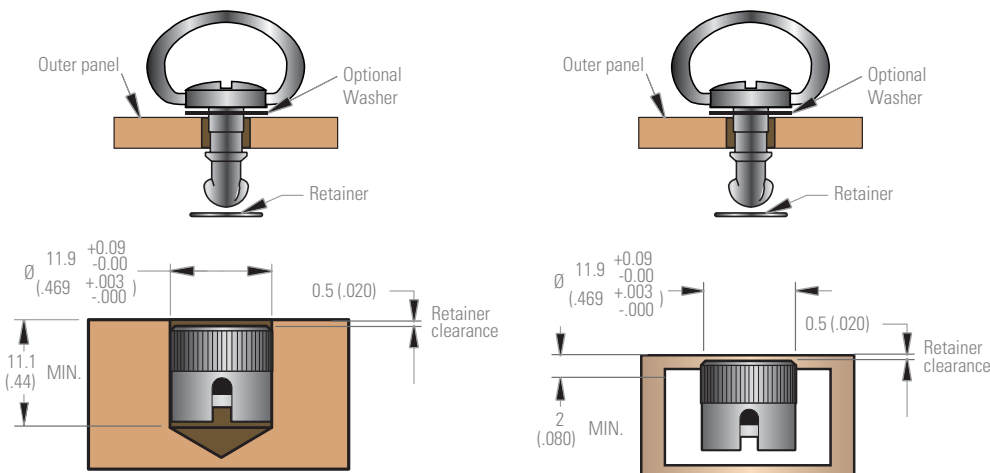
## Press-in (Blind Applications & Solid Materials)



### Material and Finish

**Receptacle:** 1010 Steel, hardened, zinc plate, chromate plus sealer  
**Shell:** Low carbon Steel, hardened, zinc plate, chromate plus sealer  
**Retainer & Spring:** 302 SS, zinc immersion

### Installation



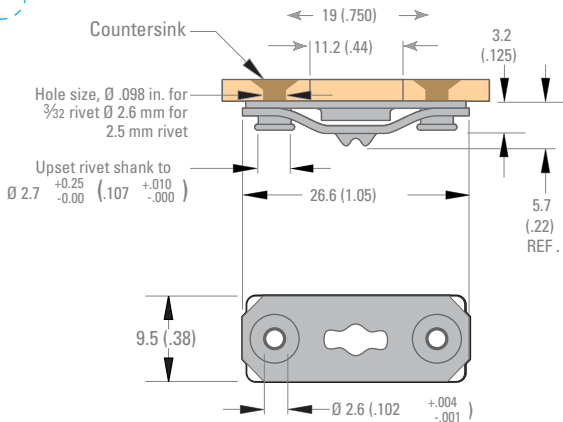
### PART NUMBER

WITH 90° LOCKING STOPS	QR-MPBI-C
W/O 90° LOCKING STOPS	QR-MPB2-C

# QUARTER-TURN RECEPTACLES - Medium

## Leaf Spring

### Riveting Type - with base



#### Material and Finish

**Spring:** 1065 Steel, zinc immersion coating

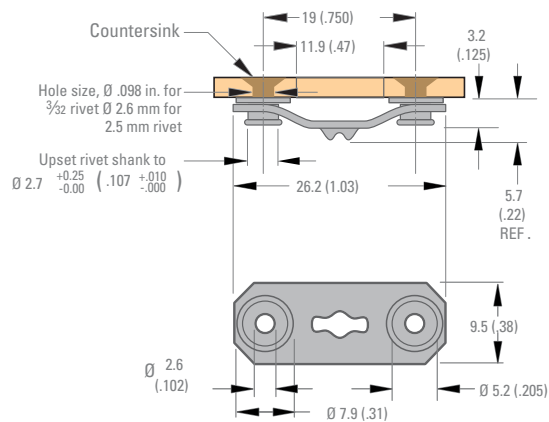
**Base:** 1010 Steel, zinc immersion coating

#### PART NUMBER

QR-MLB-C

NOTE: Spring must float freely before riveting.

### Riveting Type - without base



#### Material and Finish

**Spring:** 1065 Steel, zinc immersion coating or 17-7 SS, passivated

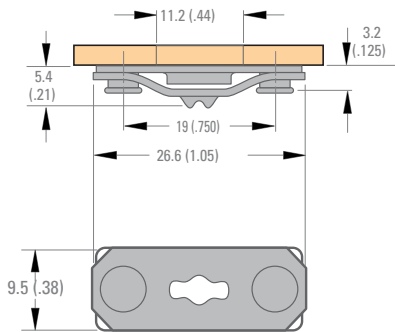
**Eyellet:** Steel, zinc immersion coating or 300 SS, passivated

#### PART NUMBER

STEEL	QR-MLO-C
STAINLESS	QR-MLO-S

NOTE: Spring must float freely before riveting.

### Welding Type



#### Material and Finish

**Spring:** 1065 Steel, zinc immersion coating

**Base:** 1010 Steel, zinc immersion coating

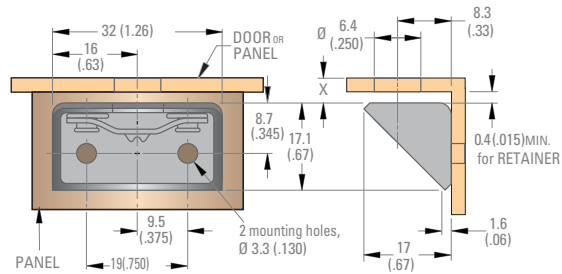
**Welding studs:** Steel, copper plate

#### PART NUMBER

QR-MLW-C

NOTE: Spring must float freely before riveting.

### Side Mount Type



#### Material and Finish

**Spring:** 1065 Steel, zinc immersion coating

**Angle Bracket:** 1010 Steel, zinc plate, Chromate plus sealer

**Eyellet:** Steel, zinc immersion coating

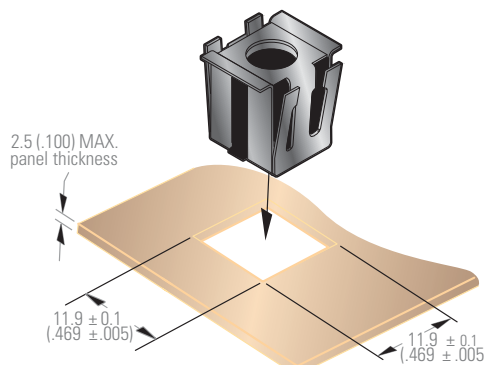
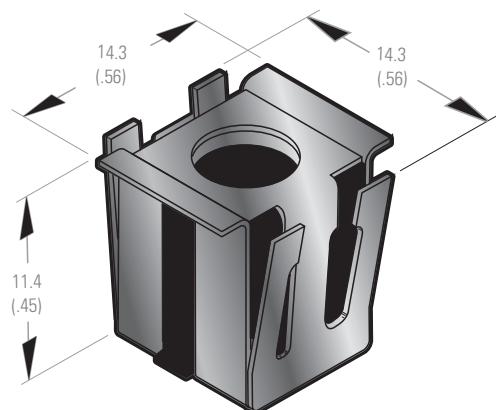
#### Adjustment Calculation

To determine your total material thickness calculate:  $X + 1.5 (.060)$ . Please use total material thickness column.

#### PART NUMBER

QR-LS-C

## Snap-in



#### Material and Finish

**Housing:** 301 SS, natural

**Receptacle:** 1010 Steel, case hardened zinc plate, chromate plus sealer

**Spring:** 302 SS, passivated

**Retainer:** 301 SS, natural

#### PART NUMBER

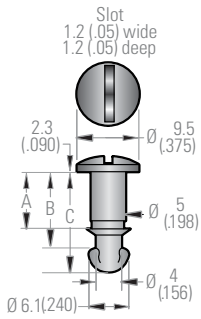
QR-MN-C

#### ADJUSTMENT CALCULATION

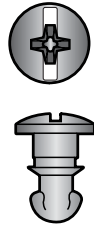
To determine your total material thickness calculate: outer panel thickness + 5.08 (.200) - please use total material thickness column.

# QUARTER-TURN STUDS - Medium

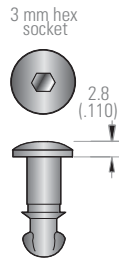
## Oval Slotted



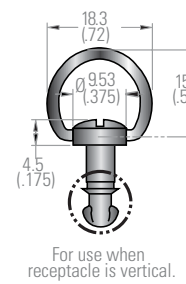
## Combo



## Hex

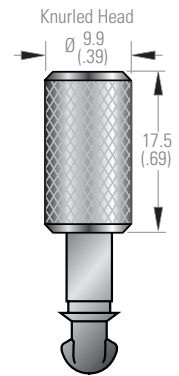


## Bail Vertical

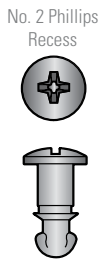


For use when receptacle is vertical.

## Knurled



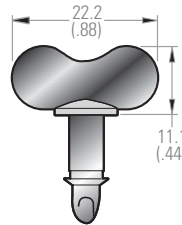
## Oval Phillips



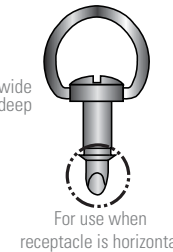
## Six-lobe



## Wing

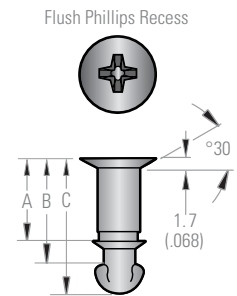


## Bail Horizontal



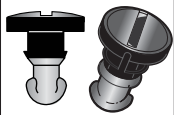
For use when receptacle is horizontal.

## Flush



No. 2 Phillips recess

### OPTIONAL SNAP-IN ASSEMBLY



**TO ORDER:**  
Change first 3 digits of part number to: QSS  
Outer panel thickness:  
1.5 (.060) Min. 3.2 (.125) Max  
Minimum stud grip range:  
4.5 (.180)

### MATERIAL AND FINISH

**Standard:** Carbon Steel, Case Hardened, Zinc Plate, Chromate plus sealer  
**Optional:** 300 Stainless Steel, Passivated

### HEAD STYLE CODE

S: Oval Slotted	W: Wing
K: Knurled	H: Hex
PO: Oval #2 Phillips	PF: #2 Phillips Flush
C: Combo Phillips/Slot	BV: Bail Vertical
T: Six-Lobe	BH: Bail Horizontal

### ORDERING NOTES:

- For stainless steel studs, replace last 2 digits of part number with SS.
- For black oxide finish - change last digit to B

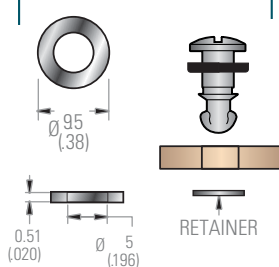
FOR PRESS-IN RECEPTACLES: QR-MU-C QR-MPB1-C QR-MPB2-C		FOR PRESS-IN RECEPTACLE: QR-MPS		FOR ALL OTHER RECEPTACLES: QR-MC-C / QR-MC-S QR-MLO-C / QR-MLO-S QR-MLW-C QR-MLB-C QR-MN-C QR-LS-C		STUD PART NUMBERS  TO COMPLETE PART NUMBER IN ( ) BELOW, SELECT HEAD STYLE	DIMENSIONS		
MIN.	MAX.	MIN.	MAX.	MIN.	MAX.		A	B	C
---	---	---	---	2.3 (.090)	2.8 (.109)	QS-M (Drive) -395-CZ	3.2 (.127)	6.2 (.245)	10 (.395)
---	---	---	---	2.8 (.110)	3.3 (.129)	QS-M (Drive) -415-CZ	3.7 (.147)	6.7 (.265)	10.5 (.415)
---	---	---	---	3.3 (.130)	3.8 (.149)	QS-M (Drive) -435-CZ	4.2 (.167)	7.2 (.285)	11.1 (.435)
0 (.000)	0.5 (.019)	1.3 (.050)	1.8 (.069)	3.8 (.150)	4.3 (.169)	QS-M (Drive) -455-CZ	4.8 (.187)	7.8 (.305)	11.6 (.455)
0.5 (.020)	1 (.039)	1.8 (.070)	2.3 (.089)	4.3 (.170)	4.8 (.189)	QS-M (Drive) -475-CZ	5.3 (.207)	8.3 (.325)	12.1 (.475)
1 (.040)	1.5 (.059)	2.3 (.090)	2.8 (.109)	4.8 (.190)	5.3 (.209)	QS-M (Drive) -495-CZ	5.8 (.227)	8.8 (.345)	12.6 (.495)
1.5 (.060)	2 (.079)	2.8 (.110)	3.3 (.129)	5.3 (.210)	5.8 (.229)	QS-M (Drive) -515-CZ	6.3 (.247)	9.3 (.365)	13.1 (.515)
2 (.080)	2.5 (.099)	3.3 (.130)	3.8 (.149)	5.8 (.230)	6.3 (.249)	QS-M (Drive) -535-CZ	6.8 (.267)	9.8 (.385)	13.6 (.535)
2.5 (.100)	3 (.119)	3.8 (.150)	4.3 (.169)	6.4 (.250)	6.9 (.269)	QS-M (Drive) -555-CZ	7.3 (.287)	10.3 (.405)	14.1 (.555)
3 (.120)	3.5 (.139)	4.3 (.170)	4.8 (.189)	6.9 (.270)	7.4 (.289)	QS-M (Drive) -575-CZ	7.8 (.307)	10.8 (.425)	14.6 (.575)
3.6 (.140)	4.1 (.159)	4.8 (.190)	5.3 (.209)	7.4 (.290)	7.9 (.309)	QS-M (Drive) -595-CZ	8.3 (.327)	11.3 (.445)	15.1 (.595)
4.1 (.160)	4.6 (.179)	5.3 (.210)	5.8 (.229)	7.9 (.310)	8.4 (.329)	QS-M (Drive) -615-CZ	8.8 (.347)	11.8 (.465)	15.6 (.615)
4.6 (.180)	5.1 (.199)	5.8 (.230)	6.3 (.249)	8.4 (.330)	8.9 (.349)	QS-M (Drive) -635-CZ	9.3 (.367)	12.3 (.485)	16.1 (.635)
5.1 (.200)	5.6 (.219)	6.4 (.250)	6.9 (.269)	8.9 (.350)	9.4 (.369)	QS-M (Drive) -655-CZ	9.8 (.387)	12.8 (.505)	16.6 (.655)
5.6 (.220)	6.1 (.239)	6.9 (.270)	7.4 (.289)	9.4 (.370)	9.9 (.389)	QS-M (Drive) -675-CZ	10.3 (.407)	13.3 (.525)	17.2 (.675)
6.1 (.240)	6.6 (.259)	7.4 (.290)	7.9 (.309)	9.9 (.390)	10.4 (.409)	QS-M (Drive) -695-CZ	10.9 (.427)	13.8 (.545)	17.7 (.695)
6.6 (.260)	7.1 (.279)	7.9 (.310)	8.4 (.329)	10.4 (.410)	10.9 (.429)	QS-M (Drive) -715-CZ	11.4 (.447)	14.4 (.565)	18.2 (.715)
7.1 (.280)	7.6 (.299)	8.4 (.330)	8.9 (.349)	10.9 (.430)	11.4 (.449)	QS-M (Drive) -735-CZ	11.9 (.467)	14.9 (.585)	18.7 (.735)
7.6 (.300)	8.1 (.319)	8.9 (.350)	9.4 (.369)	11.4 (.450)	11.9 (.469)	QS-M (Drive) -755-CZ	12.4 (.487)	15.4 (.605)	19.2 (.755)
8.1 (.320)	8.6 (.339)	9.4 (.370)	9.9 (.389)	11.9 (.470)	12.4 (.489)	QS-M (Drive) -775-CZ	12.9 (.507)	15.9 (.625)	19.7 (.775)
8.6 (.340)	9.1 (.359)	9.9 (.390)	10.4 (.409)	12.5 (.490)	12.9 (.509)	QS-M (Drive) -795-CZ	13.4 (.527)	16.4 (.645)	20.2 (.795)
9.1 (.360)	9.6 (.379)	10.4 (.410)	10.9 (.429)	13 (.510)	13.5 (.529)	QS-M (Drive) -815-CZ	13.9 (.547)	16.9 (.665)	20.7 (.815)
9.6 (.380)	10.1 (.399)	10.9 (.430)	11.4 (.449)	13.5 (.530)	14 (.549)	QS-M (Drive) -835-CZ	14.4 (.567)	17.4 (.685)	21.2 (.835)
10.2 (.400)	10.7 (.419)	11.4 (.450)	11.9 (.469)	14 (.550)	14.5 (.569)	QS-M (Drive) -855-CZ	14.9 (.587)	17.9 (.705)	21.7 (.855)
10.7 (.420)	11.2 (.439)	11.9 (.470)	12.4 (.489)	14.5 (.570)	15 (.589)	QS-M (Drive) -875-CZ	15.4 (.607)	18.4 (.725)	22.2 (.875)

\* Please see corresponding pages for potential adjustment calculation required on ejector spring, washers and on some receptacles and retainers. Additional sizes, and finishes available. Contact Matdan for assistance.

# QUARTER-TURN MISCELLANEOUS - Medium

## Washers

### Sealing Washer



#### Material

Nitrite fibre core rubber, black

#### Adjustment Calculation:

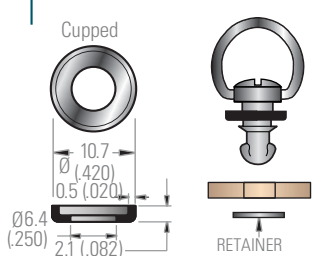
Add 0.51 (.020) to your outer panel thickness or total material thickness

#### PART NUMBER

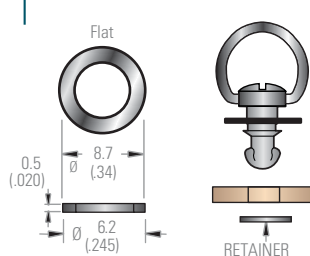
QW-MS

### Nylon Wear Washers

#### Cupped



#### Flat



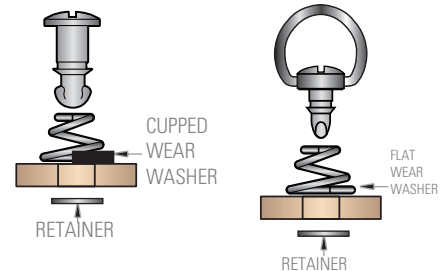
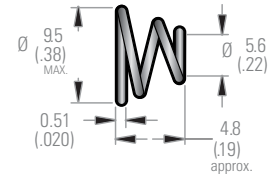
#### Adjustment Calculation

Add 0.50 (.020) to your outer panel thickness or total material thickness

#### PART NUMBER

FLAT	QW-MNF
CUPPED BLACK	QW-MNC-B
CUPPED WHITE	QW-MNC-W

## Ejector Spring



#### Material

302 SS, passivated

#### Adjustment Calculation:

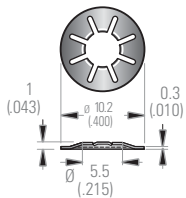
Add 1 (.040) to your outer panel thickness or total material thickness (ejector spring and wear washer)

#### PART NUMBER

QES-M

## Retainers

### Push-On

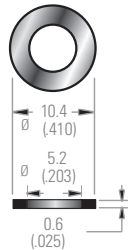


Material: 304 SS, passivated

#### PART NUMBER

QW-M-RSP

### Oval-Nylon

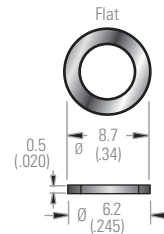


Material: Nylon, black

#### PART NUMBER

QW-M-ON

### Split



Material: 302 SS, passivated

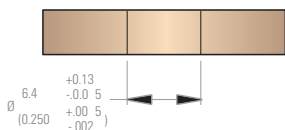
#### PART NUMBER

QW-M-RS

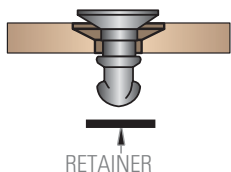
## Stud Installation

### Above surface studs (any panel thickness)

1. Prepare hole.

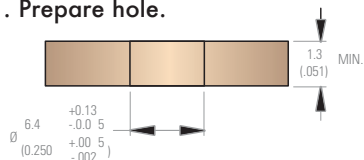


2. Insert stud and add retainer.

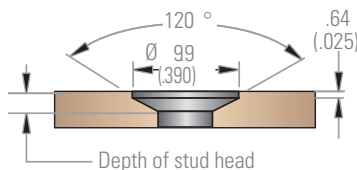


### Flush surface studs (Panel must be 1.3 (.050) or greater)

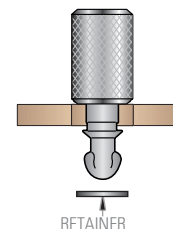
1. Prepare hole.

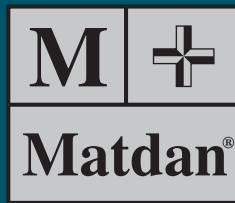


2. Countersink to depth of stud head.



3. Insert stud and add retainer.





Standard Products	Installation Styles				Replaces Southco®	Replaces PEM®
	Press-In	Flare-In	Floating	PC Board		
MC Series Retractable Captive Screws	MCP	MCF	MCL	MCB	47	PF11 PF12 PF13 PF14
MP Series Retractable Captive Screws	MPP	MPF	MPL	MPB	–	PF30 PF31 PF32 PF50 PF60
MM Series “Low Head” Miniature Retractable Screws	MMP	MMF	MML	MMB	52	PFS2 PFC2
MS Series “High Head” Miniature Retractable Screws	MSP	MSF	MSL	MSB	52	–
MF Series Flush Mount Captive Screws	√	–	–	–	F5	PF10
Spring Loaded Plungers	√	√	–	√	56	PTL2
MFL Product Series “Speed Lead” Captive Screws					09 12	–
SLS “Speed Latch” System					–	–
MTS Series “Snap-In” Captive Screws					–	–
Q Series Quarter-Turn Fasteners & Receptacles					81 82 85	–
MSI Series Threaded Inserts					71 72	–
BCS Series Knurled Captive Screws					58	–

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