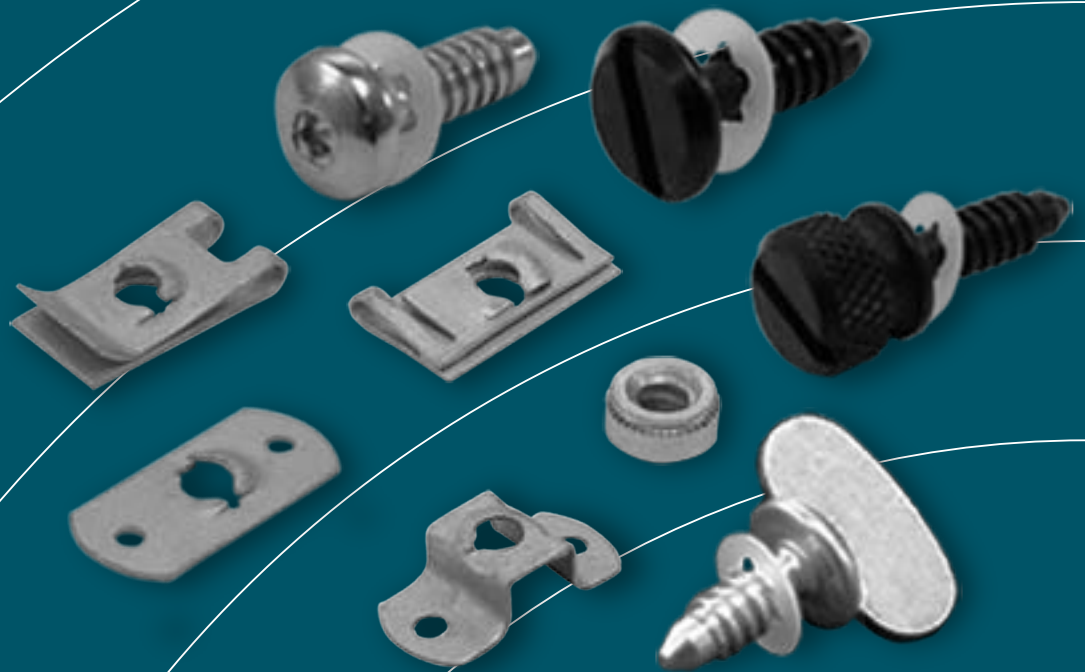




**QUALITY FASTENERS™**

**MFL SERIES  
SPEED-LEAD CAPTIVE SCREW ASSEMBLY  
Designer's Guide**

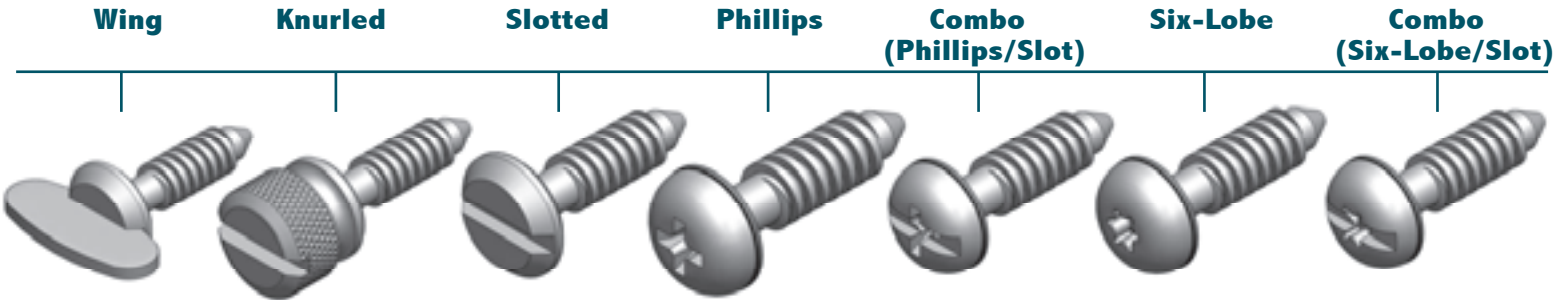


# SPEED-LEAD CAPTIVE SCREWS

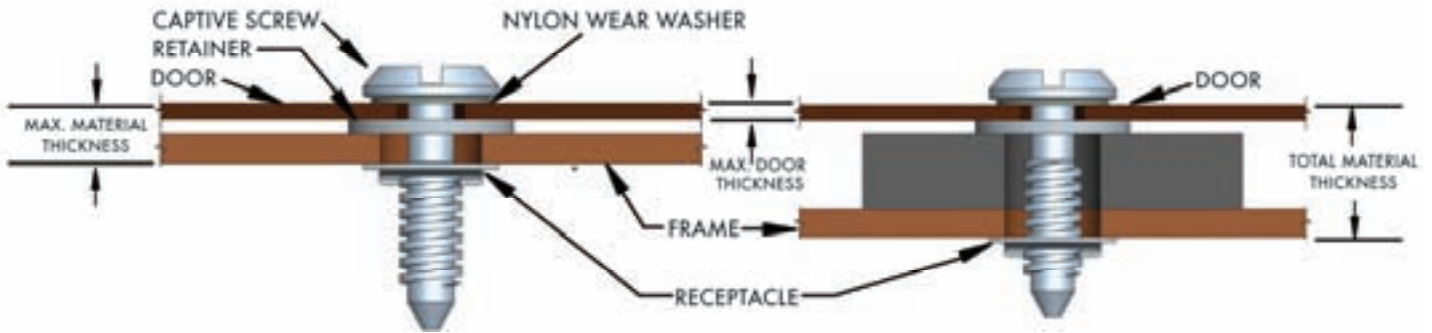
## Screw Features & Benefits

- Unique modified "square" threads install twice as fast, and with reduced effort versus standard threads.
- Ideal for repeated access applications.
- Provides resistance to cross-threading.
- Single screw assembly allows fastening for a range of panel thickness.

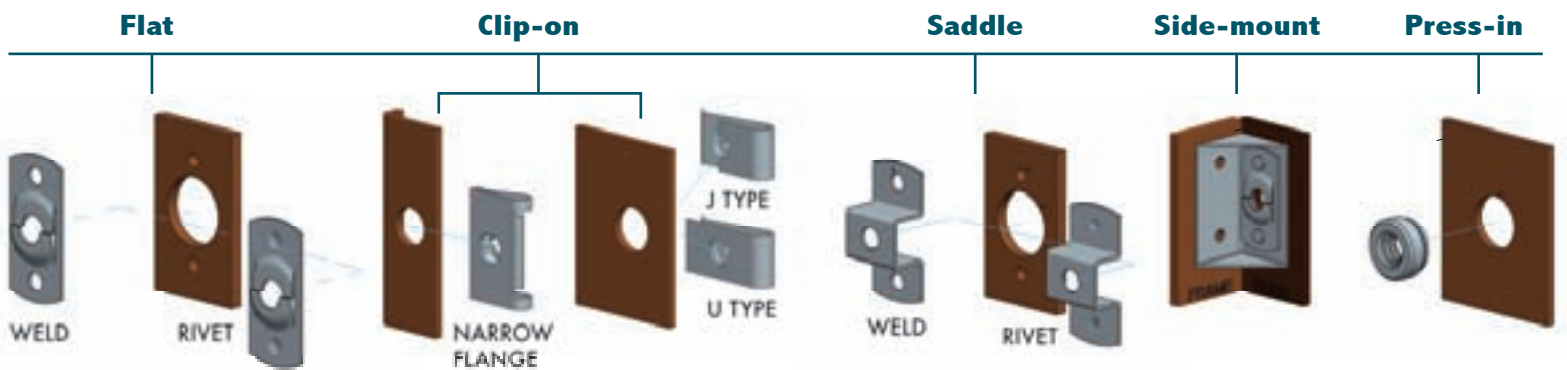
## Head Styles



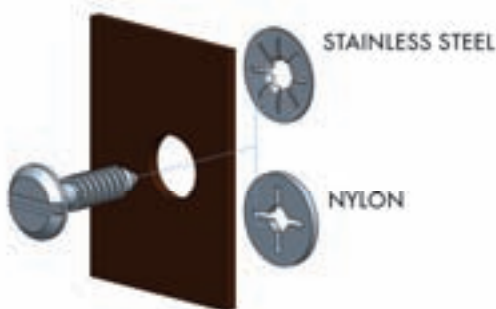
## Typical Assembly



## Receptacles



## Retainers



## Fixed Dimensional Requirements Table

Screw Size	Retainer Type	Receptacle				
		Flat	Clip-on	Saddle	Side Mount	Press-in
Small	Stainless	.30 (.012)	1.0 (.032)	4.5 (.177)		-1.3 (-.050)
	Nylon	1.0 (.043)	1.6 (.063)	5.3 (.208)		-0.5 (-.020)
Medium	Stainless	.38 (.015)	1.1 (.045)	4 (.156)	1.5 (.060)	-1.3 (-.050)
	Nylon	1.4 (.054)	2.0 (.079)	5.31 (.210)	1.5 (.060)	-0.5 (-.020)

# Choosing a Speed-Lead Captive Screw Assembly

## 1. Select size

- Small (for limited space applications)
- Medium

## 2. Determine maximum panel and total material thickness (see Typical Assembly, page 1)

## 3. Select receptacle

- | <u>Small</u>                          | <u>Medium</u>                           |
|---------------------------------------|---|
| <input type="checkbox"/> Flat Rivet   | <input type="checkbox"/> Flat Rivet     |
| <input type="checkbox"/> Flat Weld    | <input type="checkbox"/> Flat Weld      |
| <input type="checkbox"/> Clip-on      | <input type="checkbox"/> Press-in       |
| <input type="checkbox"/> Press-in     | <input type="checkbox"/> Side Mount     |
| <input type="checkbox"/> Saddle Rivet | <input type="checkbox"/> Saddle Rivet   |
|                                       | <input type="checkbox"/> Saddle Weld    |
|                                       | <input type="checkbox"/> Clip-on J      |
|                                       | <input type="checkbox"/> Clip-on U      |
|                                       | <input type="checkbox"/> Clip-on Narrow |

## 4. Select retainer

- Stainless steel (low profile, corrosion resistant)
- Nylon (corrosion resistant, electrical / thermal insulator)

## 5. Determine retainer / receptacle thickness (see Fixed Dimensional Requirements Table, page 1)

## 6. Utilize retainer/receptacle thickness to determine "Range of Thickness" in chart for small and medium Speed Lead screws

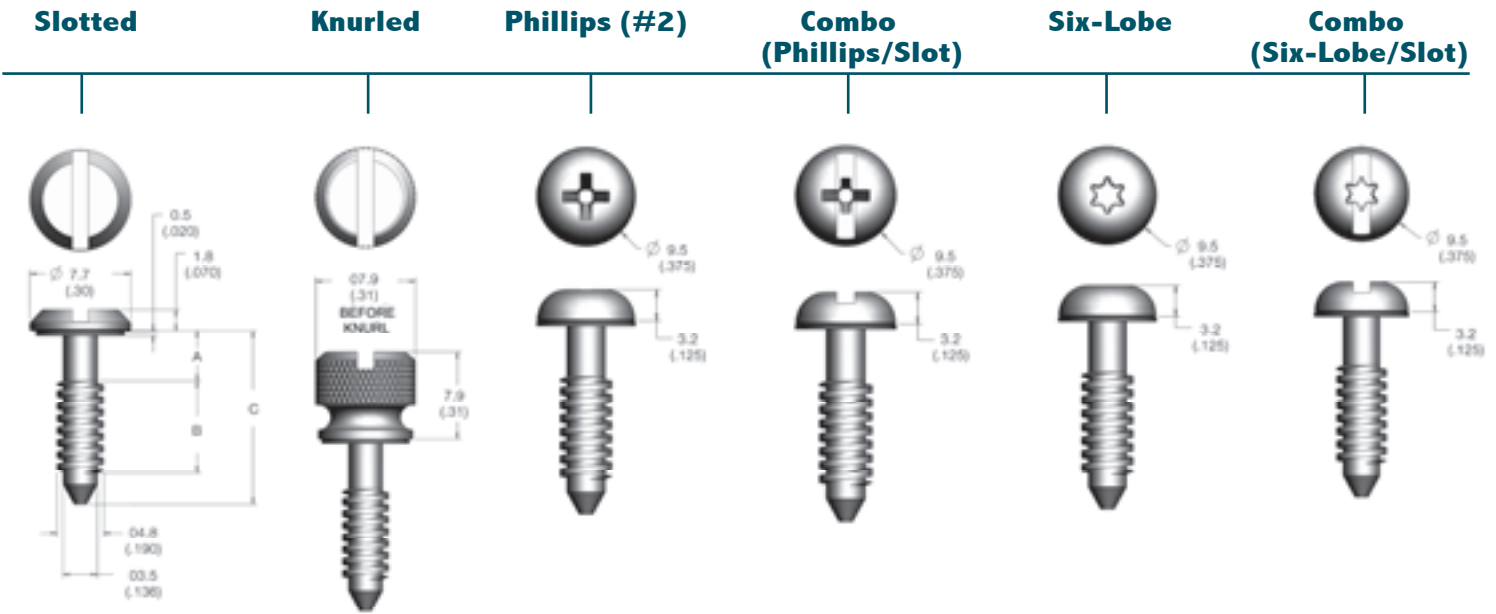
## 7. Select proper screw on the following pages based upon overall material thickness required.

## 8. Select screw head style

## 9. Determine screw material / finish

Additional sizes and finishes available. Contact factory for details.

# Small Speed-Lead Screws



## Matdan MFL Screws - Small

Range of Total Thickness to be Fastened		MAX Outer Panel Thickness	SCREW PART NUMBERS TO COMPLETE PART NUMBER IN ( ) BELOW, SELECT DRIVE CODE TYPE	DIMENSIONS		
MIN.	MAX			A	B <small>(For full screw retraction, "B" must be less than inner panel thickness plus receptacle height)</small>	C
1.3 (.050) 2.5 (.100)	3.2 (.125) 3.2 (.125)	0.9 (.035) 2.2 (.085)	MFL-S (Drive) 012-CZ MFL-S (Drive) 013-CZ	2.5 (.100) 3.8 (.150)	5 (.197) 3.7 (.147)	10.7 (.422)
1.3 (.050) 2.5 (.100) 3.8 (.150) 5.1 (.200)	6.4 (.250) 6.4 (.250) 6.4 (.250) 6.4 (.250)	0.9 (.035) 2.2 (.085) 3.4 (.135) 4.7 (.185)	MFL-S (Drive) 022-CZ MFL-S (Drive) 023-CZ MFL-S (Drive) 024-CZ MFL-S (Drive) 025-CZ	2.5 (.100) 3.8 (.150) 5.1 (.200) 6.4 (.250)	8.2 (.322) 6.9 (.272) 5.6 (.222) 4.4 (.172)	13.9 (.547)
1.3 (.050) 2.5 (.100) 3.8 (.150) 5.1 (.200) 7.6 (.300)	9.5 (.375) 9.5 (.375) 9.5 (.375) 9.5 (.375) 9.5 (.375)	0.9 (.035) 2.2 (.085) 3.4 (.135) 4.7 (.185) 7.2 (.285)	MFL-S (Drive) 032-CZ MFL-S (Drive) 033-CZ MFL-S (Drive) 034-CZ MFL-S (Drive) 035-CZ MFL-S (Drive) 037-CZ	2.5 (.100) 3.8 (.150) 5.1 (.200) 6.4 (.250) 8.9 (.350)	11.4 (.447) 10.1 (.397) 8.8 (.347) 7.3 (.297) 5 (.197)	17.1 (.672)
1.3 (.050) 2.5 (.100) 3.8 (.150) 5.1 (.200) 7.6 (.300) 10.2 (.400)	10.8 (.425) 10.8 (.425) 10.8 (.425) 10.8 (.425) 10.8 (.425) 10.8 (.425)	0.9 (.035) 2.2 (.085) 3.4 (.135) 4.7 (.185) 7.2 (.285) 9.8 (.385)	MFL-S (Drive) 042-CZ MFL-S (Drive) 043-CZ MFL-S (Drive) 044-CZ MFL-S (Drive) 045-CZ MFL-S (Drive) 047-CZ MFL-S (Drive) 049-CZ	2.5 (.100) 3.8 (.150) 5.1 (.200) 6.4 (.250) 8.9 (.350) 11.4 (.450)	14.5 (.572) 13.3 (.522) 12.0 (.472) 10.7 (.422) 8.2 (.322) 5.6 (.222)	20.2 (.797)
1.3 (.050) 2.5 (.100) 3.8 (.150) 5.1 (.200) 7.6 (.300) 10.2 (.400) 12.7 (.500)	13.3 (.525) 13.3 (.525) 13.3 (.525) 13.3 (.525) 13.3 (.525) 13.3 (.525) 13.3 (.525)	0.9 (.035) 2.2 (.085) 3.4 (.135) 4.7 (.185) 7.2 (.285) 9.8 (.385) 12.3 (.485)	MFL-S (Drive) 052-CZ MFL-S (Drive) 053-CZ MFL-S (Drive) 054-CZ MFL-S (Drive) 055-CZ MFL-S (Drive) 057-CZ MFL-S (Drive) 059-CZ MFL-S (Drive) 151-CZ	2.5 (.100) 3.8 (.150) 5.1 (.200) 6.4 (.250) 8.9 (.350) 11.4 (.450) 14.0 (.550)	17.7 (.697) 16.4 (.647) 15.2 (.597) 13.9 (.547) 11.4 (.447) 8.8 (.347) 6.3 (.247)	23.4 (.922)
1.3 (.050) 2.5 (.100) 3.8 (.150) 5.1 (.200) 7.6 (.300) 10.2 (.400) 12.7 (.500) 15.2 (.600) 17.8 (.700)	18.4 (.725) 18.4 (.725) 18.4 (.725) 18.4 (.725) 18.4 (.725) 18.4 (.725) 18.4 (.725) 18.4 (.725) 18.4 (.725) 18.4 (.725)	0.9 (.035) 2.2 (.085) 3.4 (.135) 4.7 (.185) 7.2 (.285) 9.8 (.385) 12.3 (.485) 14.9 (.585) 17.4 (.685)	MFL-S (Drive) 062-CZ MFL-S (Drive) 063-CZ MFL-S (Drive) 064-CZ MFL-S (Drive) 065-CZ MFL-S (Drive) 067-CZ MFL-S (Drive) 069-CZ MFL-S (Drive) 161-CZ MFL-S (Drive) 163-CZ MFL-S (Drive) 165-CZ	2.5 (.100) 3.8 (.150) 5.1 (.200) 6.4 (.250) 8.9 (.350) 11.4 (.450) 14.0 (.550) 16.5 (.650) 19.1 (.750)	20.9 (.822) 19.1 (.752) 17.8 (.722) 17.1 (.672) 14.5 (.572) 12.0 (.472) 9.5 (.372) 6.9 (.272) 4.4 (.172)	26.6 (1.047)

### STANDARD MATERIAL AND FINISH

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

### NOTES

1. For Stainless Steel screw, replace last 2 digits of part number with SS.

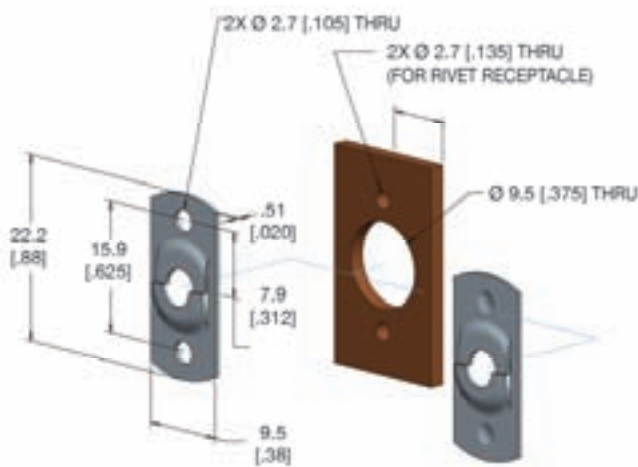
### DRIVE CODE

S: Slotted  
K: Knurled  
P: #2 Phillips  
C: Combo Phillips/Slot  
T: Six-Lobe  
E: Combo Six-Lobe/Slot

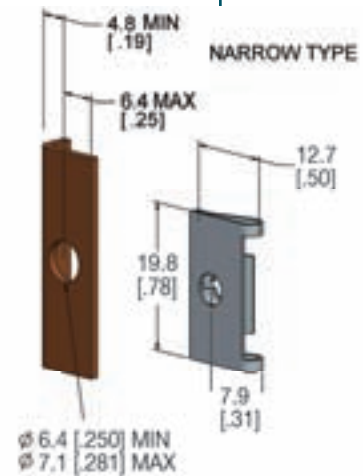
Additional sizes, and finishes available. Contact Matdan for assistance.

# Small Size Receptacles and Retainers

## Flat type receptacle



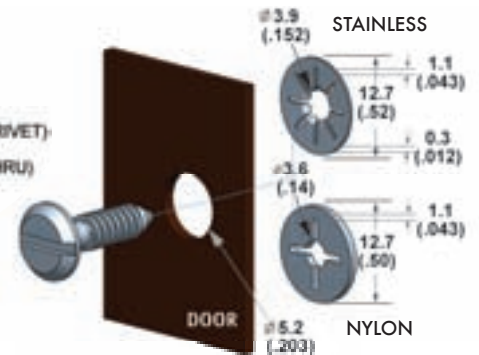
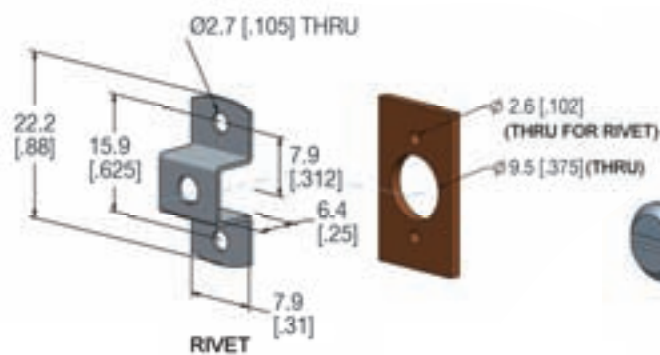
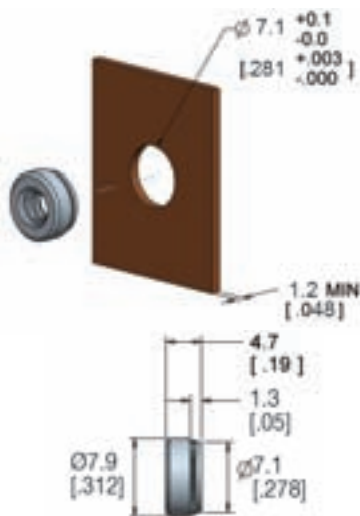
## Clip-on type receptacle



## Press-in receptacle

## Saddle type receptacle

## Retainers

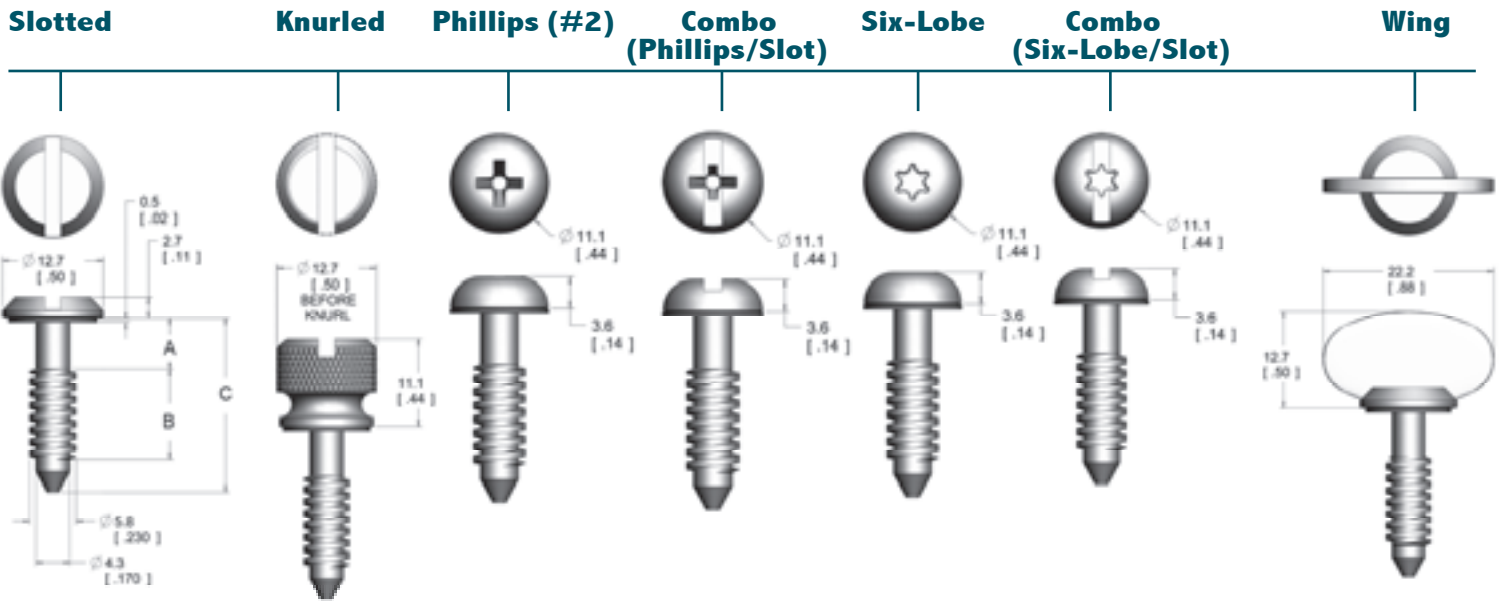


MFL RECEPTACLE CHART - SMALL

PRODUCT	TYPE	MATERIAL & FINISH	PART NUMBER
Receptacles	Flat Rivet	Spring Steel with Protective Sealant	MFL-SFR-C
		302 Stainless Steel, Passivated	MFL-SFR-S
	Flat Weld	302 Stainless Steel, Passivated	MFL-SFW-S
	Clip-on Narrow	Spring Steel with Protective Sealant	MFL-SCN-C
		17-7 Stainless Steel, Passivated	MFL-SCN-S
	Press-in	Carbon Steel, Case Hardened with Zinc Plate, Chromate Plus Sealer	MFL-SPR-C
Saddle Rivet	Spring Steel with Protective Sealant	MFL-SSR-C	
	17-7 Stainless Steel, Passivated	MFL-SSR-S	
Retainers	Stainless Steel	302 Stainless Steel, Passivated	MFL-SRS
	Nylon	Nylon, Black	MFL-SRN
Retainer Installation Tool			MFL-ST



# Medium Speed-Lead Screws



## Matdan MFL Screws - Medium

Range of Total Thickness to be Fastened		MAX Outer Panel Thickness	SCREW PART NUMBERS TO COMPLETE PART NUMBER IN ( ) BELOW, SELECT DRIVE CODE TYPE	DIMENSIONS		
MIN.	MAX			A	B <small>(For full screw retraction, "B" must be less than inner panel thickness plus receptacle height)</small>	C
1.3 (.050) 2.5 (.100)	3.2 (.125) 3.2 (.125)	.6 (.025) 1.9 (.075)	MFL-M (Drive) 012-CZ MFL-M (Drive) 013-CZ	2.5 (.100) 3.8 (.150)	5.8 (.228) 4.5 (.178)	12.3 (.486)
1.3 (.050) 2.5 (.100) 3.8 (.150) 5.1 (.200)	6.4 (.250) 6.4 (.250) 6.4 (.250) 6.4 (.250)	0.6 (.025) 1.9 (.075) 3.2 (.125) 4.5 (.175)	MFL-M (Drive) 022-CZ MFL-M (Drive) 023-CZ MFL-M (Drive) 024-CZ MFL-M (Drive) 025-CZ	2.5 (.100) 3.8 (.150) 5.1 (.200) 6.4 (.250)	9.0 (.353) 7.7 (.303) 6.4 (.253) 5.2 (.203)	15.5 (.611)
1.3 (.050) 2.5 (.100) 3.8 (.150) 5.1 (.200) 7.6 (.300)	9.5 (.375) 9.5 (.375) 9.5 (.375) 9.5 (.375) 9.5 (.375)	0.6 (.025) 1.9 (.075) 3.2 (.125) 4.5 (.175) 7.0 (.275)	MFL-M (Drive) 032-CZ MFL-M (Drive) 032-CZ MFL-M (Drive) 034-CZ MFL-M (Drive) 035-CZ MFL-M (Drive) 037-CZ	2.5 (.100) 3.8 (.150) 5.1 (.200) 6.4 (.250) 8.9 (.350)	12.1 (.478) 10.9 (.428) 9.6 (.378) 8.3 (.328) 5.8 (.228)	18.7 (.736)
2.5 (.100) 3.8 (.150) 5.1 (.200) 7.6 (.300) 10.2 (.400)	12.7 (.500) 12.7 (.500) 12.7 (.500) 12.7 (.500) 12.7 (.500)	1.9 (.075) 3.2 (.125) 4.5 (.175) 7.0 (.275) 9.5 (.375)	MFL-M (Drive) 043-CZ MFL-M (Drive) 044-CZ MFL-M (Drive) 045-CZ MFL-M (Drive) 047-CZ MFL-M (Drive) 049-CZ	3.8 (.150) 5.1 (.200) 6.4 (.250) 8.9 (.350) 11.4 (.450)	14.1 (.553) 12.8 (.503) 11.5 (.453) 9.0 (.353) 6.4 (.253)	21.9 (.861)
2.5 (.100) 3.8 (.150) 5.1 (.200) 7.6 (.300) 10.2 (.400) 12.7 (.500)	15.9 (.625) 15.9 (.625) 15.9 (.625) 15.9 (.625) 15.9 (.625) 15.9 (.625)	1.9 (.075) 3.2 (.125) 4.5 (.175) 7.0 (.275) 9.5 (.375) 12.1 (.475)	MFL-M (Drive) 053-CZ MFL-M (Drive) 054-CZ MFL-M (Drive) 055-CZ MFL-M (Drive) 057-CZ MFL-M (Drive) 059-CZ MFL-M (Drive) 151-CZ	3.8 (.150) 5.1 (.200) 6.4 (.250) 8.9 (.350) 11.4 (.450) 14.0 (.550)	17.2 (.678) 16.0 (.628) 14.7 (.578) 12.1 (.478) 9.6 (.378) 7.1 (.278)	25.0 (.986)
2.5 (.100) 3.8 (.150) 5.1 (.200) 7.6 (.300) 10.2 (.400) 12.7 (.500) 15.3 (.600) 17.8 (.700)	19.1 (.750) 19.1 (.750) 19.1 (.750) 19.1 (.750) 19.1 (.750) 19.1 (.750) 19.1 (.750) 19.1 (.750)	1.9 (.075) 3.2 (.125) 4.5 (.175) 7.0 (.275) 9.5 (.375) 12.1 (.475) 14.6 (.575) 17.2 (.675)	MFL-M (Drive) 063-CZ MFL-M (Drive) 064-CZ MFL-M (Drive) 065-CZ MFL-M (Drive) 067-CZ MFL-M (Drive) 069-CZ MFL-M (Drive) 161-CZ MFL-M (Drive) 163-CZ MFL-M (Drive) 165-CZ	3.8 (.150) 5.1 (.200) 6.4 (.250) 8.9 (.350) 11.4 (.450) 14.0 (.550) 16.5 (.650) 19.1 (.750)	20.4 (.803) 19.1 (.753) 17.9 (.703) 15.3 (.603) 12.8 (.503) 10.2 (.403) 7.7 (.303) 5.2 (.203)	28.2 (1.111)

### STANDARD MATERIAL AND FINISH

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

### NOTES

1. For Stainless Steel screw, replace last 2 digits of part number with SS.

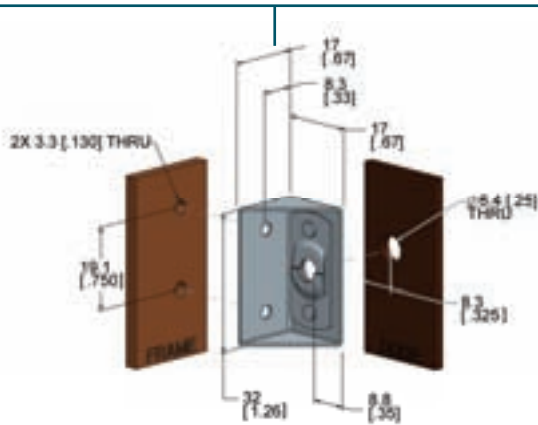
### DRIVE CODE

- S: Slotted
- K: Knurled
- P: #2 Phillips
- C: Combo Phillips/Slot
- T: Six-Lobe
- E: Combo Six-Lobe/Slot

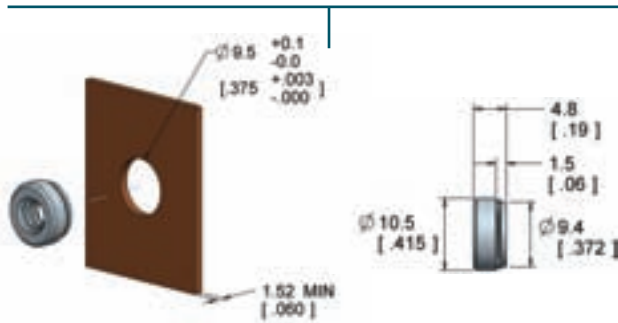
Additional sizes, and finishes available. Contact Matdan for assistance.

# Medium Receptacles and Retainers

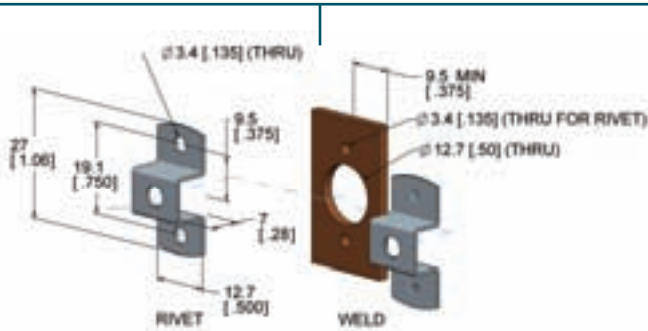
## Side mount receptacle



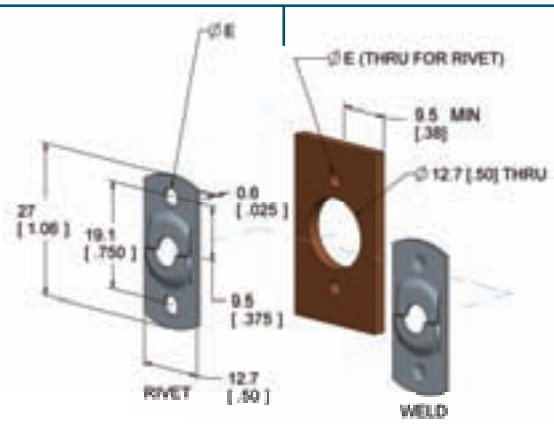
## Press-in receptacle



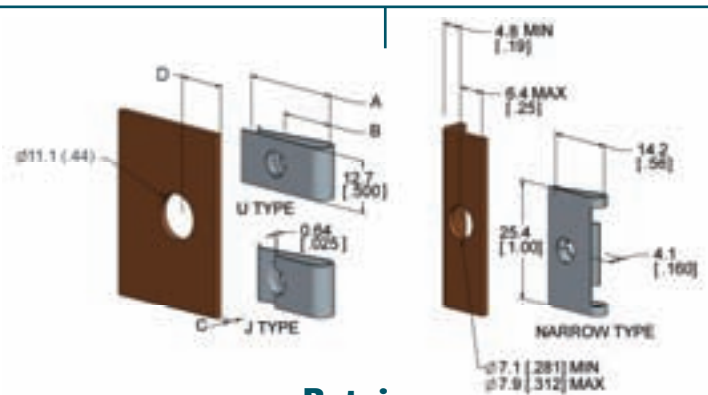
## Saddle type receptacle



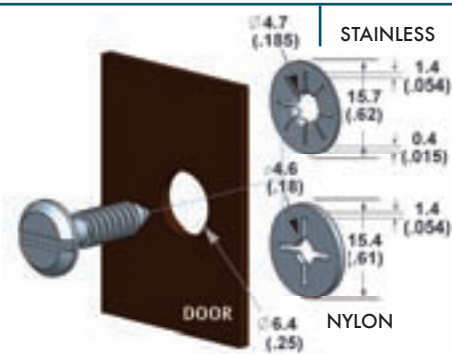
## Flat type receptacle



## Clip-on type receptacle

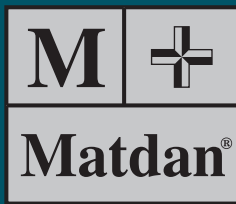


## Retainers



MFL RECEPTACLE CHART - MEDIUM

PRODUCT	TYPE	MATERIAL & FINISH	A	B	C	D (MAX)	E	PART NUMBER	
Receptacle	Flat Rivet	1064 Steel with Protective Sealant					2.7 (.105)	MFL-MFR15-C	
		302 Stainless Steel, Passivated					3.4 (.135)	MFL-MFR20-C	
	Flat Weld	1064 Steel with Protective Sealant					2.7 (.105)	MFL-MFR15-S	
		302 Stainless Steel, Passivated					3.4 (.135)	MFL-MFR20-S	
	Press-in	Carbon Steel, Case Hardened, Zinc Plate, Chromate plus Sealer						MFL-MPR-C	
	Saddle Rivet	1070 Steel with Protective Sealant						MFL-MSR-C	
		302 Stainless Steel, Passivated						MFL-MSR-S	
	Saddle Weld	302 Stainless Steel, Passivated						MFL-MSW-S	
	Clip-on J	Carbon Steel, Case Hardened, Zinc Plate, Chromate plus Sealer		24.8 (.98)	14.9 (.59)	0.8-2.8 (.031-109)	12.7 (.50)		MFL-MCJ-C
				25.9 (1.02)	14.9 (.59)	0.8-2.8 (.031-109)	12.7 (.50)		MFL-MCU17-C
		Carbon Steel, Case Hardened, Zinc Plate, Chromate plus Sealer		25.9 (1.02)	14.9 (.59)	2.8-4.1 (.109-.161)	11.9 (.47)		MFL-MCU27-C
				24.8 (.98)	14.9 (.59)	4.1-5.5 (.161-.213)	11.1 (.44)		MFL-MCU29-C
				24.5 (.97)	13.4 (.53)	5.4-6.7 (.213-.265)	11.1 (.44)		MFL-MCU31-C
				25.9 (1.02)	14.9 (.59)	0.8-2.8 (.031-109)	12.7 (.50)		MFL-MCU17-S
Clip-on U	17-7 Stainless Steel, Passivated		25.9 (1.02)	15.5 (.61)	2.8-4.1 (.109-.161)	11.9 (.47)		MFL-MCU27-S	
	1064 Steel with Protective Sealant				0.8-2.8 (.031-109)	6.4 (.25)		MFL-MCN-C	
Retainer	Side Mount	1064 Carbon Steel, Zinc Coating						MFL-MD-C	
	Stainless Steel	304 Stainless Steel, Passivated						MFL-MRS	
	Nylon	Nylon, Black						MFL-MRN	
Retainer Installation Tool								MFL-MT	



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	—

©Southco is a registered trademark of Southco, Inc. PF11, PF12, PF13, PF14, PF30, PF31, PF32, PF50, PF60, PFC, PFC2 & ©PEM are trademarks of Penn Engineering & Manufacturing Corp.

**Headquarters:**  
**Matdan Corporation**  
 Cincinnati, Ohio 45242, USA  
 Tel: 513 - 794 - 0500 Fax: 513 - 794 - 0651  
 E-mail: sales@matdanfasteners.com

**China Division:**  
**Matdan (Ningbo)**  
**Specialty Hardware Co., Ltd.**  
 Ningbo, Zhejiang Province, China 315120  
 E-mail: sales\_cn@matdanfasteners.com

[www.matdanfasteners.com](http://www.matdanfasteners.com)

Matdan, matdanfasteners.com and the Matdan logo are trademarks of the Matdan Corporation. Use allowed only with written permission from Matdan. The contents of this publication are copyrighted 2007 Matdan Corporation. All rights reserved. Copies may be obtained from the company. Published specifications are subject to change without notice.

For ordering information call 513-794-0500 or E-mail: sales@matdanfasteners.com  
 Published specifications are subject to change without notice. ©2007 Matdan Corporation. All rights reserved.