

ACCURATE MANUFACTURED GROUP

# 2022 Look Book



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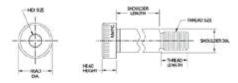
#### **Knurled Head Shoulder Screw**



Materials offered in: 316 SS, 18-8 SS, Alloy Drive type: Hex drive

\***Exotic Alloys:** 17-4 PH SS, 316 H5 SS, Aluminum, Monel, Grade 2 & 5 Titanium

AMPG has assembled the most complete line of nonferrous shoulder screws manufactured in North America. Each shoulder bolt is made in one operation on state of the art Swiss Lathes. AMPG begins with precision ground DFARS compliant material. A finished part is made in one operation without the need for secondary broaching, slotting or thread rolling which can lead to many inconsistencies. AMPG's process ensures shoulder diameter concentricity and tight tolerances. Each part is then carefully cleaned and packaged.



Inch			
Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)	
1/8	4-40 x 5/32	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, 1/2, 9/16, 5/8,	
5/32	6-32 x 3/16	11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2	
3/16	8-32 x 3/16	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, 1/2, 9/16, 5/8,	
7/32	8-32 x 3/16	<sup>-</sup> 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2, 2-1/4, 2-1/2	
1/4 Course	10-24 x 3/8	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2, 2-1/4, 2-1/2, 2-3/4, 3, 3-1/4, 3-1/2, 4, 4-1/2, 5	
1/4 Fine	10-32 x 1/4	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2, 2-1/4, 2-1/2, 2-3/4, 3	
5/16	1/4-20 x 7/16	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2, 2-1/4, 2-1/2, 2-3/4, 3, 3-1/2, 4, 4-1/2, 5, 5-1/2, 6	
3/8	5/16-18 x 1/2	3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2, 2-1/4, 2-1/2, 2-3/4, 3, 3-1/2, 3-3/4, 4, 4-1/2, 5, 5-1/2, 6, 6-1/2, 7, 7-1/2, 8	
3/8	1/4-20 x 3/4	3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2, 2-1/4, 2-1/2, 2-3/4, 3	
1/2	3/8-16 x 5/8	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 7/8, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2, 2-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/2, 6, 6-1/2, 7, 7-1/2, 8	
5/8	1/2-13 x 3/4	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2, 2-3/4, 3, 3-1/4, 3-1/2, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/2, 6, 6-1/2, 7, 7-1/2, 8	
3/4	5/8-11 x 7/8	1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2, 2-3/4, 3, 3-1/4, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/2, 6, 6-1/2, 7, 7-1/2, 8	
1	3/4-10 × 1	1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2, 2-3/4, 3, 3-1/4, 3-1/2, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/2, 6, 6-1/2, 7, 7-1/2, 8	
1-1/4	7/8-9 x 1-1/8	1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/2, 3, 3-1/2, 4	
1-1/2	1-1/8-7 x 1-1/2	1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/2, 3	

### Metric

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (mm)
3mm	M2 x 0.4 x 3.8	3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 22, 25, 30, 35, 40, 45, 50
4mm	M3 x 0.5 x 4.5	3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 22, 25, 28, 30, 35, 40, 45, 50
5mm	M4 x 0.7 x 4.5	4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 22, 25, 30, 35, 40, 45, 50, 60, 70
6mm	M5 x 0.8 x 9.5	4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 22, 25, 30, 35, 40, 45, 50, 52, 60, 70, 80, 90, 100, 110
8mm	M6 x 1 x 11	6, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 22, 25, 28, 30, 35, 40, 45, 50, 55, 60, 70, 80, 90, 100, 110, 120, 130, 140
10mm	M8 x 1.25 x 13	6, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 22, 25, 30, 35, 40, 45, 50, 55, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150
12mm	M10 x 1.5 x 16	6, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 22, 25, 30, 35, 40, 45, 50, 55, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180
16mm	M12 x 1.75 x 18	10, 12, 16, 19, 20, 22, 25, 30, 35, 40, 45, 50, 55, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190
20mm	M16 x 2 x 22	12, 16, 20, 25, 30, 35, 40, 45, 50, 55, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190
24mm	M20 x 3 x 27	12, 16, 20, 25, 30, 35, 40, 45, 50, 55, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190
30mm	M27 x 3 x 35	- 50, 60, 70, 80, 90, 100, 120
36mm	M33 x 3.5 x 40	50, 60, 70, 60, 70, 100, 120

\*Exotic alloys may not be available in all sizes

# **Shortened Thread Knurled Head**



Materials offered in: Alloy (Inch only) 316 SS, 18-8 SS (Metric only)

These speciality shoulder screws have thread lengths that are shorter than our standard knurled head shoulder screws.

#### Inch

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)
1/4	10-32 x 5/32	
5/16	1/4-28 x 11/64	- 1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 2
3/8	5/16-24 x 3/16	
1/2	3/8-24 x 13/64	- 1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 2
		Metric

#### Shoulder Thread Shoulder Lengths Available (mm) Diameter Size x Lg. 4, 5, 6, 7, 8, 10 3mm M2 x 0.4 x 2.5 4mm M3 x 0.5 x 3.8 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50 M4 x 0.7 x 4.5 5mm 4, 5, 6, 8, 10, 12, 16, 20, 25, 30 M5 x 0.8 x 8 4, 5, 6, 7, 8, 10, 12, 16, 20, 25, 30, 40, 50, 70 6mm

#### Inch

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)
1/8	4-40 x 5/32	
5/32	6-32 x 3/16	- 1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 3/4, 1
3/16	8-32 x 3/16	1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1
1/4	10-24 x 3/8	
5/16	1/4-20 x 7/16	- 1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2
3/8	5/16-18 x 1/2	1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2
1/2	3/8-16 x 5/8	1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/2
5/8	1/2-13 x 3/4	1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 2
3/4	5/8-11 x 7/8	1, 1-1/2, 2

# Self-Locker Knurled Head



Materials offered in: 316 SS, 18-8 SS

Shoulder screws with AMPG Self-Locker adhesive securely lock against loosening from vibration. The pre-applied patch is a micro-encapsulated adhesive designed for threaded fasteners.

# Left Hand Threaded Knurled Head



Materials offered in: 18-8 SS

Tighten these shoulder screws by turning them to the left; once fastened, they resist loosening from counterclockwise motion and vibration.

# **Oversized Thread Knurled Head**



Materials offered in: 316 SS, 18-8 SS, Alloy

With threads are the same size as the shoulder, these screws offer higher strength properties than standard sized shoulder screws.

#### Inch

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)
1/8	4-40 x 5/32	1/8, 3/16, 1/4, 3/8, 1/2
5/32	6-32 x 3/16	
3/16	8-32 x 3/16	1/8, 3/16, 1/4, 3/8, 1/2, 3/4, 1
1/4	10-24 x 3/8	1/4, 3/8, 1/2, 5/8, 3/4, 1
5/16	1/4-20 x 7/16	
3/8	5/16-18 x 1/2	1/2, 3/4, 1, 1-1/2, 2
1/2	3/8-16 x 5/8	

incri		
Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)
1/8	5-40 x 5/32	2/14 1/4 2/9 1/2 5/9 2/4
3/16	10-32 x 3/16	- 3/16, 1/4, 3/8, 1/2, 5/8, 3/4
1/4	1/4-20 x 3/8	- 1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2
5/16	5/16-18 x 7/16	
3/8	3/8-16 x 1/2	1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2
1/2	1/2-13 x 5/8	

Inch

Metric on page 3

# **Oversized Thread Knurled Head**

Shoulder

Diameter

4mm

5mm 6mm

8mm

10mm

12mm

Thread

**Size x Lg.** M4 x 0.7 x 4.5

M5 x 0.8 x 9.5

M8 x 1.25 x 13

M10 x 1.5 x 16

M12 x 1.75 x 18

M6 x 1 x 11



Materials offered in: 316 SS, 18-8 SS, Alloy

### 82° Flat Head



Materials offered in: 18-8 SS Drive type: Hex drive

Flat head screws are angled under the head to sit flush within countersunk holes. Head angle is 82°.

## **External Wrenching Hex Head**



 Shoulder Diameter
 Thread Size x Lg.
 Shoulder Lengths Available (inch)

 3/8
 1/4-20 × 3/4
 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-9/16, 1-5/8, 1-3/4, 1-7/8, 2, 2-1/8, 2-1/4, 2-1/2

 1/2
 3/8-16 × 3/4
 2-1/4, 2-1/2

Materials offered in: 18-8 SS, Zinc-Plated Steel Drive type: Hex head

These can be used for the same basic applications as our stripper bolts, but with a hex head for wrenching.

# **Double Drive Knurled Head**



Materials offered in: 18-8 SS Drive type: Hex drive

Screws have an additional internal hex socket drive at the threaded end of the screw.

# Shoulder Nut for Studs and Bolts



Materials offered in: 18-8 SS Drive type: Hex drive

Internal threads allow you to screw these shoulders onto a stud and bolt.

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)
3/16	8-32 x 3/16	1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1
1/4	10-24 x 3/8	1/4, 3/8, 1/2, 5/8, 3/4, 1
5/16	1/4-20 x 7/16	1/4, 3/8, 1/2, 3/4, 1
3/8	5/16-18 x 1/2	1/2, 3/4, 1

Inch

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)
1/4	4-40 x 1/4	1/2, 3/4, 1, 1-1/4, 1-1/2, 2
5/16	6-32 x 1/4	
3/8	8-32 x 1/4	1/2, 3/4, 1, 1-1/4, 1-1/2, 2
1/2	10-32 x 1/4	

#### Inch

Metric

4, 5, 6, 8, 10, 12, 16

Shoulder Lengths Available (mm)

6, 8, 10, 12, 16, 20, 25, 30, 35, 40, 45, 50

6, 8, 10, 12, 16, 20, 25, 30, 35, 40, 45, 50

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)
1/4	10-24 x 3/8	
5/16	1/4-20 x 7/16	- 1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 2
3/8	5/16-18 x 1/2	- 1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 2
1/2	3/8-16 x 5/8	

# Low Profile Knurled Head Shoulder Screw



Materials offered in: Alloy Steel, Black Oxide Drive type: Hex drive

These speciality shoulder screws have 2/3 the head height of a standard shoulder screw.

## Ultra Low Profile Knurled Head Shoulder Screw



Materials offered in: Alloy Steel, Black Oxide Drive type: Hex drive

These speciality shoulder screws have 1/3 the head height of a standard shoulder screw.

		Inch
Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)
1/4	10-24 x 3/8	1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2
5/16	1/4-20 x 7/16	1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2
3/8	5/16-18 x 1/2	1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2
1/2	3/8-16 x 5/8	3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 2

#### Metric

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (mm)
6mm	M5 x 0.8 x 10	8, 10, 12, 16, 20, 25, 30
8mm	M6 x 1 x 11	6, 8, 10, 12, 16, 20, 25, 30
10mm	M8 x 1.25 x 13	10, 12, 16, 20, 25, 30
12mm	M10 x 1.5 x 16	12, 16, 20, 25, 30

#### Inch

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)
1/4	10-24 x 3/8	1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2
5/16	1/4-20 x 7/16	1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2
3/8	5/16-18 x 1/2	1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2
1/2	3/8-16 x 5/8	3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 2

### Metric

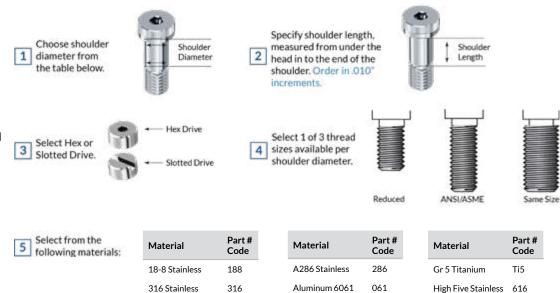
Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (mm)
6mm	M5 x 0.8 x 10	8, 10, 12, 16, 20, 25, 30
8mm	M6 x 1 x 11	6, 8, 10, 12, 16, 20, 25, 30
10mm	M8 x 1.25 x 13	10, 12, 16, 20, 25, 30
12mm	M10 x 1.5 x 16	12, 16, 20, 25, 30

# **Custom Shoulder Screws**

All parts are USA made in Indiana from DFARS compliant bar stock.

Thread Class is 3A and Shoulder Length Tolerance is ±.005.

Certification is available, if chemical and physical certification is required on the material.



Brass 360

Gr 2 Titanium

360

Ti2

Monel 405

405

17-4 Stainless

416 Stainless

174

416



## **Tight Tolerance Smooth Head**



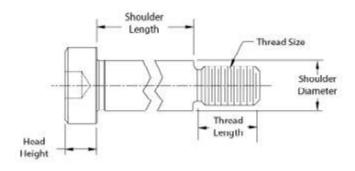
\*Materials offered in: 316 SS, 18-8 SS, 416 SS, A286 SS, Alloy Steel, Brass

Drive type: Hex drive, slotted drive, 6-lobe drive

 $^{\ast}416$  SS, A286 SS, Alloy Steel and Brass may not be available in all sizes and head styles

Tight Tolerance Smooth Head shoulder screws are available with Standard Profile Heights, Low Profile Heights and Ultra Low Profile heights. Tight Tolerance Smooth Head shoulder screws are available with Standard Profile Head Heights, Low Profile Head Heights, and Ultra Low Profile Head Heights.

Screws are machined with hex socket, slotted and 6-lobe drives on precise unmarked smooth heads, with an undercut portion between the thread and shoulder to allow a close fit.



#### 2-56 x 1/8 3/32 7/16, 1/2, 5/8, 3/4, 1 1/8 4-40 x 5/32 1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 13/32. 7/16, 15/32, 1/2, 9/16, 5/8, 5/32 6-32 x 3/16 11/16, 3/4, 7/8, 1 1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/16 8-32 x 3/16 11/32, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 7/8, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 2 1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 10-32 x 1/4 11/32, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 7/8, 1, 1/4 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 2 1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1, 1/4 10-24 x 3/8 1-1/4, 1-1/2 1/8, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 5/16 1/4-20 x 7/16 1-1/2 3/8 5/16-18 x 1/2 1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4 1/4-20 x 7/16 5/16, 3/8, 1/2, 5/8 3/8 1/2 3/8-16 x 5/8 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 2

Inch

Shoulder Lengths Available (inch)

1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8,

Shoulder

Diameter

**Thread Size** 

x Lg.

#### Metric

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (mm)	
3mm	M2 x 0.4 x 4	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25	
4mm	M3 x 0.5 x 4	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35,	
5mm	M4 x 0.7 x 5	40, 45, 50	
6mm	M5 x 0.8 x 6	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65	
8mm	M6 x 1 x 11	4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50	
10mm	M6 x 1 x 11	8, 10, 12, 16	
10mm	M8 x 1.25 x 12	8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50	
12mm	M10 x 1.5 x 16		

## **Extended Thread Smooth Head**



Materials offered in: 18-8 SS Drive type: Hex drive

### **Mil Spec Smooth Head**



Materials offered in: 18-8 SS Drive type: Hex drive, slotted drive

#### Inch

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)	
1/8	4-40 x 5/16	- 1/0 2/14 1/4 5/14 2/0 1/2 5/0 2/4 1	
5/32	6-32 x 3/8	- 1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1	
3/16	8-32 x 3/8	1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2	
1/4	10-24 x 3/4	1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2	

#### Inch

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)
1/8	4-40 x 5/32	1/8, 3/16, 1/4, 5/16, 3/8
3/16	8-32 x 3/16	1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4
1/4	10-32 x 1/4	3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2
5/16	14-20 x 7/16	1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2
3/8	5/16-18 x 1/2	5/8
1/2	3/8-16 x 5/8	5/8, 3/4, 1, 1-1/4, 1-1/2

# Alignment (Spherical) Washer



Materials offered in: 18-8 SS & 316 SS Finishes: Plain, black oxide, zinc-plated

Also known as Spherical Washers, these consist of a male and female washer that, when nested, swivel slightly to compensate for tolerance variations and uneven surfaces.

# **ANSI B Washer**



Materials offered in: 18-8 SS & Zinc-Plated Steel Finishes: Plain

Type B Plain Washers were designed to distribute load pressures over larger areas of primarily lower strength materials. All washers are made in the USA, and conform to all ANSI specifications. Available in Narrow, Regular and Wide OD.

# **Component Thick Washer**



Materials offered in: 18-8 SS, Case Hardened Steel, Low Carbon Steel, 17-4 PH, Brass, 4140, 316H5

Finishes: Plain, black oxide, zinc yellow

These washers are thicker than general purpose washers for covering large holes or for use as spacers and levelers.

# **Component (Roughneck) Thick Washer**



Materials offered in: 18-8 SS. Steel Case Hardened

Finishes: Plain, black oxide A thick Flat Washer used for spacing applications where appearance and tight tolerances are not needed.

# Countersunk Washer



Materials offered in: 18-8 SS, 316 SS, Steel Case Hardened

Finishes: Plain. black oxide

Flat and oval head screws sit flush within them for a neater appearance. Inch has a 82° and 100° countersunk angle, for metric screws, washers are available with a 90° and 100° countersunk angle.

# **Countersunk Pyramid Washer**



#### Materials offered in: 316 SS Finishes: Plain

Machined with a fine surface finish out of Type 316 Stainless Steel. Inner Diameters are 82° countersunk to accept Flat Head Machine Screws, or Oval Countersunk Machine Screws and present a finished appearance.

# **DIN Washer**



Materials offered in: Titanium Grade 2 Finishes: Plain

# Inch

1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4, 1-1/2

Thickness: .187 - .500

For Screw Sizes

For Screw Sizes (mm)

Thickness: 4.20 - 19.20mm

#0, #1, #2, #4, #6, #8, #10, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4

Thickness : .022 - .266

For Screw Sizes

#### Inch

#### For Screw Sizes

#0, #1, #2, #4, #6, #8, #10, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4

Thickness : .019 - .281

#### Metric

#### For Screw Sizes (mm)

M3, M4, M5, M6, M8, M10, M12, M14, M16, M20, M24, M30, M36 Thickness: 2.00 - 5.00mm

#### Inch

#### For Screw Sizes

3/8, 1/2, 5/8, 3/4

Thickness: .187 - .250

#### Inch

For Screw Sizes

#4, #5, #6, #8, #10, 1/4

Thickness: .093 - .125

### Metric

For Screw Sizes (mm) M3, M4, M5, M6, M8, M10, M12, M14, M16, M20, M24, M30, M36

Thickness: 2.00 - 5.00mm

#### Inch

For Screw Sizes

#10. 1/4

Thickness: .125

# Metric

For Screw Sizes (mm)

M2, M2.5, M3, M3.5, M4, M5, M6, M8, M10, M12

Thickness: .20 - 2.70mm

Metric

M6, M8, M10, M12, M16, M20, M24, M30

### Inch

# **Easy On Slotted Washer**



Materials offered in: 18-8 SS, Steel Case Harded Finishes: Plain, black oxide

Also known as C Washers. The slot allows addition or removal of the washer without taking the assembly completely apart.

# Fender (Large O.D) Washer

Materials offered in: 18-8 SS, 316 SS, Steel, Steel Case Hardened

Finishes: Plain, black oxide, zinc-plated

These washers have exaggerated diameters and/ or thicknesses for covering oversized holes or for use as spacers and levelers.

# Fender (Jumbo O.D) Washer



Materials offered in (Inches): 18-8 SS, 316 SS, 4140 Thru-Hardened, Steel Case Hardened, Steel, Brass, 17-4 PH SS

**Finishes:** Plain, black oxide, hot dip galvanized **Materials offered in (Metric):** 18-8 SS, 316 SS, 17-4 PH SS

Finishes: Plain

Used on machinery, presses, large diameter bolts, shafts, studs and rollers or whatever a large flat washer is needed.

# **Machined Spacing Washer**



Materials offered in: Steel, 4140 Alloy Hardened Finishes: Plain, black oxide

A thick Flat Washer used for spacing applications. These washers are manufactured on our screw machines — NOT stamped.

# Machined Spacing Beveled Washer



Materials offered in: Steel, Case Harded Steel, 18-8 SS

Finishes: Plain, oiled, zinc plating

A thick Flat Washer used for spacing applications. These washers are manufactured on our screw machines – NOT stamped – with a large bevel on the outside edge.

# **Machined Dress Washer**



Materials offered in: 18-8 SS, Case Hardened Steel

Finishes: Plain, nickel plated

Turned — Not Stamped A superior finished straight side washer, perfect for a finished appearance. These washers have straight sides, and present a finely finished appearance.

#### Inch

#### For Screw Sizes

1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4

Thickness:.250-.438

### Inch

#### For Screw Sizes

#4, #6, #8, #10, #12, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4, 1-1/2

Thickness:.024 - .500

#### Inch

#### For Screw Sizes

#4, #5, #6, #8, #10, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-3/8, 1-1/2, 1-3/4, 2, 2-1/2, 3, 3-1/2, 4

Thickness : .024 - .385

#### Metric

#### For Screw Sizes (mm)

M3, M4, M5, M6, M8, M10, M12, M14, M16, M18, M20, M24, M30, M36 Thickness : 2.50- 9.80mm

#### Inch

#### For Screw Sizes

#5, #8, #10, #12, 5/16, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4

Thickness: .060 - .312

### Inch

#10, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4

Thickness : .060 - .312

For Screw Sizes

## Inch

#### For Screw Sizes

#4, #6, #8, #10, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1

Thickness : .056 - .187

# Military Specification Washer



Materials offered in: 18-8 SS Finishes: Passivated

Made to Military specifications. Certification is available at no charge if requested at the time of order. Washers are passivated to provide added protection against oxidation and corrosion.

# SAE Washer



Materials offered in: 17-4 PH SS Finishes: Plain

Flat washers distribute pressure of a threaded fastener to prevent damage during tightening. SAE washers generally have a smaller ID and OD than other standard flat washers.

# **USS Washer**



Materials offered in: 18-8 SS, 316 SS Finishes: Plain

USS washers generally have a larger ID and OD than SAE washers.

# Flat Washer for Socket Head Cap Screw



Materials offered in: 18-8 SS, Steel Finishes: Plain, black oxide

Flat washer to be used in combination with a socket head cap screw.

# Non-Metal Washer



Materials offered in: Fiberglass, Nylatron, Phenolic Finishes: Plain

AMPG stocks flat washers that are also available in non-metal materials.

### **Bearing Plate**



Materials offered in: 18-8 SS



Finishes: Plain

With their flat sides, bearing plates are designed to prevent rotation and fit in restricted spaces that do not accommodate round washers, such as slots and channels. Available in round or slotted ID.

# **Square Washer**



Materials offered in: 18-8 SS, Steel Case Hardened, Steel, Diamond Back Steel, Fiberglass Finishes: Plain, black oxide, galvanized, zinc-plated

Square washers offer wider and thicker dimensions making them good for distributing heavier loads than round washers.

### Inch

#### For Screw Sizes

#0, #2, #3, #4, #5, #6, #8, #10, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1

Thickness: .006 - .192

#### For Screw Sizes

1/4, 5/16, 3/8, 1/2 Thickness: .051 - .067

Metric

For Screw Sizes (mm) M6, M8, M10, M12

#### Thickness: 1.40 - 2.70mm

### Inch

#10, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1

Thickness: .036 - .192

For Screw Sizes

### Inch

#### #2, #3, #4, #5, #6, #8, #10, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2

Thickness: .028 - .160

For Screw Sizes

### Inch

#### For Screw Sizes

#3, #4, #6, #8, #10, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1

Thickness : .031 - .093

# Inch

# For Screw Sizes 1/2.5/8.3/4.7/8

Thickness: .141 - .390

# Inch

For Screw Sizes 1/4, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2, 1-3/4, 2

Thickness: 112 - 515

For Screw Sizes (mm)

# Metric

M6, M8, M10, M12, M16, M20, M22, M24, M30

Thickness: 6.00mm

# **Tapped Flange Washer**



Materials offered in: Steel Finishes: Hot dip galvanized

The threaded hole and the raised flange make these washers very easy to tighten down. Available in square or rounded corners.

### Wave Washer



Materials offered in: 18-8 SS Finishes: Plain, black oxide, galvanized, zinc-plated

These wave washers act as springs because of their flexible shape. These washers expand/ compress to take up the space. Available in single and triple wave.

## Shim for Bearing



Materials offered in: 18-8 SS, 316 SS, Brass Finishes: Plain

Used for Inner Race Spacers on shafts, or for a precision special dimensioned flat washer.

### Shim for D Shaft



Materials offered in: 18-8 SS Finishes: Plain

Shaped to fit and made from 18-8 stainless steel.

# Shim for Shaft



Materials offered in: 18-8 SS, 316 SS, Brass Finishes: Plain

# Shim for Shoulder Diameter



## Materials offered in: 18-8 SS

Finishes: Plain Add these washers over the threads or shoulders of our shoulder screws to extend or reduce the shoulder.

### **Horseshoe Shim**



Materials offered in: 316 SS

Finishes: Plain Used where regular plastic shims are prohibited, where a fire resistant shim is specified, and where the installer needs to weld to the shim.

# Wide Rim Shim



### Materials offered in: 18-8 SS. Steel

Finishes: Plain Sometimes called Machinery Bushings or Oversized Shims.

### **Peel Away Shim**

# Materials offered in: Brass

Finishes: Plain Remove layers with a utility knife until you get the thickness you need.

## Inch

For Screw Sizes 1/2-13, 5/8-11

Thickness: .187

# Inch

For Screw Sizes

#0, #2, #4, #5, #6, #8, #10, 1/4, 5/16

Thickness: .004 - .013

#### Inch

#### For Screw Sizes

5/32, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 7/8

Thickness: .002 - .020

#### Inch

For Screw Sizes 1/4, 3/8, 1/2, 5/8, 3/4, 1

Thickness: .031 - .125

### Inch

#### For Screw Sizes

1/32, 3/64, 1/16, 5/64, 3/32, 1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8

Thickness: .001 - .016

#### Inch

For Screw Sizes 1/4, 5/16, 3/8, 1/2, 5/8, 3/4

Thickness: .0045 - .033

### Inch

### For Screw Sizes 2, 2-5/8, 3, 3-1/2 Thickness: .063 - .250

Inch

1/2, 5/8, 3/4, 1, 1/4, 1-1/2

Thickness: .048 - .187

For Screw Sizes

#### Inch

Length 1/8, 3/16, 1/4

Thickness: .031

# **Barrels, Screws & Posts**

## Binding Post (Chicago Screw)



Materials offered in: 18-8 SS, Aluminum, Brass, Copper, Plastic, Steel

**Finishes:** Plain, black anodized, black color, black oxide, white color, zinc plated

Head styles: Truss, rivet Drive type: No drive, slotted



A binding barrel and screw are designed to clamp material between the head of the barrel and the head of the screw, or to bridge the gap between two parts.

# Socket Drive Button Head Post (Architect Designed)



Materials offered in: 18-8 SS Finishes: Plain Head styles: Button Drive type: Hex drive

For a contemporary look, the combination of an AMPG button head barrel with a button head screw delivers a high-tech look in applications. Now available in sets as well as in a black-oxide finish.

# Socket Drive Flat Head Post (Architect Designed)



Materials offered in: 18-8 SS Finishes: Plain Head styles: Low profile Drive type: Hex drive

For a smooth, sleek and snag-free assembly, both 82° countersunk heads of an AMPG flat head sex bolt mount flush to each side of your panel.

# Socket Drive Low Profile Head Post (Architect Designed)



Materials offered in: 316 SS Finishes: Plain Head styles: Low profile Drive type: Hex socket

The heads of these low-profile drive posts are ideal in applications where material to be fastened is too thin to countersink.

Materials offered in: Brass, Steel, 18-8 SS, 316SS,

# Door Hardware Post (Architectural Series)

Aluminum





#### Head styles: Truss

**Drive type:** No drive barrel, Phillips drive screw The knurled barrel keeps the sex bolt from spinning while the flat head screw is tightened from the other side.

### Inch

Barrel Diameter	Barrel Length	Screw Length
13/64	1/8, 3/16, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2, 2-3/4, 3, 3-1/4, 3-1/2, 4, 4-1/2, 5, 6	3/16, 3/8, 1/4, 5/16
15/64*	1/4, 1/2, 3/4, 1, 1-1/4, 1-1/2, 2	3/16

\*Offered in plastic black or white only

#### Inch

Barrel Diameter	Barrel Length	Screw Length
1/4	3/8, 1/2, 5/8, 3/4, 1, 1-1/4	1/4, 3/8, 1/2, 1
3/8	1/2, 3/4, 1	3/8, 3/4, 1
1/2	1/2, 5/8, 3/4, 7/8, 1, 1-1/2, 1-3/4, 2, 2-1/2, 3	1/2, 1, 1-1/2, 2
5/8	1/2, 3/4, 1, 1-1/2, 1-3/4, 2, 2-1/2, 3	1/2, 1, 1-1/2, 2
3/4	1/2, 3/4, 1, 1-1/2, 1-3/4, 2, 2-1/2, 3	1/2, 1, 1-1/2, 2
7/8	1/2, 3/4, 1, 1-1/2, 1-3/4, 2, 2-1/2, 3	1/2, 1, 1-1/2, 2

### Metric

Barrel Diameter	Barrel Length	Screw Length
6	12, 16, 20, 25, 30, 40	6, 8
10	16, 20, 25, 30, 40	8
12	20, 25, 40, 50	10

#### Inch

Barrel Diameter	Barrel Length	Screw Length
1/4	3/8, 1/2, 3/4, 1, 1-1/4	1/4, 3/8, 1/2, 1
3/8	1/2, 3/4, 1	3/8, 3/4, 1
1/2	1/2, 3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/2, 3	1/2, 1, 1-1/2, 2
5/8	1/2, 3/4, 1, 1-1/2, 1-3/4, 2, 2-1/2, 3	1/2, 1, 1-1/2, 2
3/4	1/2, 3/4, 1, 1-1/2, 1-3/4, 2, 2-1/2, 3	1/2, 1, 1-1/2, 2
7/8	1/2, 3/4, 1, 1-1/2, 1-3/4, 2, 2-1/2, 3	1/2, 1, 1-1/2, 2

#### Inch

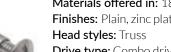
Barrel Diameter	Barrel Length	Screw Length
1/4	3/8, 1/2, 3/4, 1, 1-1/4	1/4, 1/2, 1
3/8	1/2, 3/4, 1	3/8, 3/4, 1
1/2	1/2, 3/4, 1, 1-1/2, 1-3/4, 2, 2-1/2, 3	1/2, 1, 1-1/2, 2
5/8	3/4, 1, 1-1/2, 1-3/4, 2, 2-1/2, 3	1/2, 1, 1-1/2, 2
3/4	3/4, 1, 1-1/2, 1-3/4, 2, 2-1/2, 3	1/2, 1, 1-1/2, 2
7/8	3/4, 1, 1-1/2, 1-3/4, 2, 2-1/2, 3	1/2, 1, 1-1/2, 2

#### Inch

Barrel Diameter	Barrel Length	Screw Length
1/4	1-3/16, 1-9/16, 2, 3	3/4, 7/8, 1
5/16	1-3/16, 1-9/16, 2, 2-1/16, 3	1
3/8	3/4, 1, 1-3/16, 1-7/8, 1-9/16, 1-11/16, 2-1/16, 3, 4	1/2, 3/4, 7/8, 1, 1-1/2
1/2	1-9/16, 1-3/4, 2-1/16, 3	1, 1-1/2

# **Barrels, Screws & Posts**

# **Combo Drive Post**



Materials offered in: 18-8 SS, 316 SS, 410 SS, Steel Finishes: Plain, zinc plated, black zinc

Drive type: Combo drive, slotted

Set of standards for "off the shelf" Sex Bolts and Mating Parts.

	Inch	
Barrel Diameter	Barrel Length	Screw Length
3/16	3/8, 1/2, 5/8, 3/4, 7/8, 1	5/16
13/64	3/8, 1/2, 3/4	5/16
1/4	1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 2	5/16
5/16	3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2, 2	5/16
3/8	1/2, 5/8, 3/4, 7/8, 1	5/16
1/2	3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2, 2	5/16

#### Inch

Barrel Diameter	Barrel Length	Screw Length
1/2	1/2, 3/4, 1, 1-1/2, 2	3/4, 1-1/2
5/8	1/2, 3/4, 1, 1-1/2, 2	1
3/4	1/2, 3/4, 1, 1-1/2, 2	3/4, 1-1/2
7/8	1/2, 3/4, 1, 1-1/2, 2	3/4, 1-1/2

#### Metric (mm)

Barrel Diameter	Barrel Length	Screw Length
6	10, 12, 20, 40	6,8
8	12, 20, 30	6,8

#### Inch

Barrel Diameter	Barrel Length	Screw Length
1/4	1/4, 3/8, 1/2, 5/8, 3/4, 1	1/4, 3/8, 7/32, 11/32,1/2, 11/16, 15/16, 1-1/16

### Metric (mm)

Barrel Diameter	Barrel Length	Screw Length
6mm	10, 12, 20, 40	6,8
8mm	12, 20, 30	6,8

#### Inch

Barrel Dia.	Thread Size	Barrel Length
13/64	8-32	1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2

### Inch

Barrel Length
1/2, 3/4, 1

# 6-Lobe Drive Tamper Resistant Post



Materials offered in: 18-8 SS. Steel Finishes: Plain, passivated, black oxide Head styles: Truss Drive type: 6 lobe with pin

Set of standards for "off the shelf" Sex Bolts and Mating Parts. A solution that replaces the traditional partition binding post, with superior drive characteristics, and a wider range of sizes.

# **One-Way Drive Tamper Resistant Post**



Materials offered in: 18-8 SS Finishes: Plain Head styles: Truss Drive type: One way slot

Set of standards for "off the shelf" Sex Bolts and Mating Parts. Standard items for joining bathroom partitions and other secure installations.

# **Spanner Drive Post**



Materials offered in: 18-8 SS Finishes: Plain Head styles: Truss

Drive type: Drilled spanner

Also known as Snake-Eye Spanner Bolts. These sex bolt barrels and screws have identical truss heads.

# **Binding Post Extension**



Materials offered in: 18-8 SS, 316 SS, Aluminum, Steel, Brass

Finishes: Plain

AMPG's Binding Post Extension can be used to extend the length of any binding post.

# Hex Drive Barrel



Materials offered in: 18-8 SS Finishes: Plain Head styles: Hex Drive type: Hex head These drive posts have hex heads, no knurl under the head and no mating screw.

# **Barrels, Screws & Posts**

# **Phillips Drive Barrel**



Materials offered in: 18-8 SS, Steel Finishes: Plain, chrome plated Head styles: Truss Drive type: Phillips

These barrel nuts have Phillips truss head, no knurl under the head, no mating screw.

# Slotted Hinge Barrel (Grommet Nut)



Materials offered in: 18-8 SS, Steel Finishes: Plain, brass plated, zinc plated Head styles: Truss

Drive type: No drive, slotted, tapped thru head

For hinge installations. Available with slot for ease of installation or without any slot for security installations.

# **Slotted Drive Truss Head Barrel**



Materials offered in: 18-8 SS, 410 SS, Aluminum, Brass, Steel Finishes: Plain, black oxide, brass plated, nickel plated, zinc black plated, zinc plated Head styles: Truss Drive type: Slotted

This barrel nut is designed to clamp material between the head of the barrel and the head of the screw.

# **Slotted Drive Oval Head Barrel**



Materials offered in: Brass, Steel Finishes: Nickel plated Head styles: 82° countersunk Drive type: Slotted These barrel nuts have a standard 82° countersunk head.

# **Slotted Drive Flat Head Barrel**



Materials offered in: 18-8 SS, Steel, Brass Finishes: Plain, zinc plated Head styles: 82° countersunk Drive type: Tapped thru head, slotted

These barrel nuts have a standard 82 degree countersunk head with a slotted drive.

# **T-Slot Railing Barrel**



Materials offered in: Aluminum
Finishes: Plain
Head styles: T-slot
Drive type: None
Special T Slot style head is used in commercial railing systems.

# Furniture Barrel (Connector Nut)



Materials offered in: Steel Finishes: Plain, black oxide, brass plated, dark bronze plated, nickel plated, zinc plated Head styles: Truss Drive type: Hex drive

Inch				
Barrel Diameter	Barrel Length		Barrel Diameter	Barrel Length
3/16	3/8		5/16	5/8
7/32	3/8		3/8	3/4
1/4	1/2		7/16	3/4

Inch		
Barrel Diameter	Barrel Length	
5/16	1/2	
3/8	1/2	
1/2	1/2	

#### Inch

Barrel Diameter	Barrel Length	Barrel Diameter	Barrel Length
13/64	3/8	3/8	1/2, 19/32, 3/4, 1, 1-9/16
1/4	1/4, 1/2, 3/4, 1	1/4	1/4, 1/2, 3/4, 1
5/16	1/2, 5/8, 3/4	5/16	1/2, 3/4

## Metric (mm)

Barrel Diameter	Barrel Length	
6mm	6, 12, 20, 25	
8mm	12, 20	
10mm	12, 16, 20, 25	

### Inch

Barrel Diameter	Overall Length
13/64	27/64, 1/2, 3/4
5/16	7/16, 3/4, 1
.425	3/4, 1

#### Inch

Barrel Diameter	Overall Length
13/64	27/64, 1/2, 3/4
5/16	7/16, 3/4, 1
.425	3/4, 1

# Inch

Barrel Diameter	Head Length	Head Width
3/8	.406	.210
1/2	.406	.210
5/8	.406	.210
3/4	.406	.210

# Metric

Barrel Diameter	Barrel Length
9mm	12, 17
11mm	17

### **Button Head Screw**



Materials offered in: 18-8 SS, A286 SS, Brass Finishes: Plain, passivated

Head styles: Button head

Drive type: Hex drive, 6-lobe, left-hand hex drive

\*Available in Right and Left hand threads.

These high-performance fasteners have a hex or 6-lobe drive that has more points of contact than other drives, allowing you to tighten the screw without damaging the recess.

## **Flange Button Head Screw**



Materials offered in: 316 SS Finishes: Plain Head styles: Button head

Drive type: Hex drive

The flange is wider and thicker than other flanged screws, to distribute pressure over a larger surface.

# Wide Flange Button Head Screw



Materials offered in: 18-8 SS. Aluminum Finishes: Plain Head styles: Button head

Drive type: Hex drive

The extra-large flange helps to prevent crushing when fastening thin and softer materials.

# Flange Hex Head Screw (Prairie Bolt<sup>™</sup>)



Materials offered in: 18-8 SS, 316 SS, 17-4 PH. Aluminum Finishes: Plain

Head styles: Socket head, hex head

Drive type: Hex drive, hex head



The heavy heads of a Prairie Bolt<sup>™</sup> are designed with a flange which increases surface contact, improves holding power, and distributes loads over a large area.

# Flat Head Socket Cap Screw (82°, 90°, 100°)



Materials offered in: 18-8 SS, 316 SS, 17-4 PH SS, A286 SS Finishes: Plain, passivated

Head styles: Flat head

\*Available in Right and Left hand threads.

Drive type: Hex drive, 6-lobe Flat head screws are designed for light-duty fastening applications. They're angled under the head to sit flush within countersunk holes.

# **Hex Head Cap Screw**



Materials offered in: 316 H5, 17-4 PH SS Finishes: Plain

Head styles: Hex head

Drive type: Hex drive

These bolts have a hexagonal or six sided head. Available in fully threaded or partially threaded threads.

#### Inch

#### **Overall Length**

4-40, 6-32, 8-32, 10-24, 10-32, 1/4-20 3/16, 1/4, 3/8, 1/2, 3/4, 1, 1-1/2

#### Metric (mm)

**Thread Size** Length M3 x 0.35, M3 x 0.5, M4 x 0.5, M4 x 0.7, M5 x 0.5, 5, 6, 8, 10, 12, 16, 20, 25 M5 x 0.8, M6 x 0.75, M6 x 1

# Inch

Length

Length 4-40, 6-32, 8-32, 10-24, 10-32, 1/4-20, 5/16-18 1/4, 3/8, 1/2, 3/4, 1, 1-1/4, 1-1/2

### Metric (mm)

M3 x 0.5, M4 x 0.7, M5 x 0.8, M6 x 1 5, 6, 8, 10, 12, 16, 20, 25

#### Inch

Thread Size Length 4-40, 6-32, 8-32, 10-24, 3/16, 1/4, 3/8, 1/2, 3/4, 1, 1-1/2 10-32, 1/4-20, 5/16-18

**Thread Size** 

**Thread Size** 

**Thread Size** 

## Metric (mm)

Thread Size	Length
M3 x 0.5, M4 x 0.7, M5 x 0.8, M6 x 1	5, 6, 8, 10, 12, 16, 20, 25

#### Inch

5/16, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 1/8, 1/2, 3/8, 1/2, 5/8, 3/4, 15/16, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-9/16, 1-5/8, 1-11/16, 1-3/4, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2, 2-1/8, 2-1/4, 2-3/8, 2-1/2, 2-3/8, 2-1/4, 2-7/16, 2-1/2, 2-9/16, 2-5/8, 2-11/16, 2-5/8, 2-3/4, 2-7/16, 2-1/8, 2-3/16, 2-3/4, 2-13/16, 2-5/6, 2-7/8, 2-15/16, 3, 3-1/16,	Grip Length	Thread Length
3-1/4, 3-3/8, 3-1/2, 3-5/8,         3-1/8, 3-3/16, 3-1/4, 3-5/16, 3-3/8, 3-7/16, 3-1/2,           3-3/4, 3-7/8, 4         3-9/16, 3-5/8, 3-11/16, 3-3/4, 3-13/16, 3-7/8,           3-15/16, 4, 4-1/16, 4-1/8, 4-3/16, 4-1/4, 4-3/8	7/8, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2, 2-1/8, 2-1/4, 2-3/8, 2-1/2, 2-5/8, 2-3/4, 2-7/8, 3, 3-1/8, 3-1/4, 3-3/8, 3-1/2, 3-5/8,	$15/16, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-5/16, \\1-3/8, 1-7/16, 1-1/2, 1-9/16, 1-5/8, 1-11/16, 1-3/4, \\1-13/16, 1-7/8, 1-15/16, 2, 2-1/16, 2-1/8, 2-3/16, \\2-3/8, 2-1/4, 2-7/16, 2-1/2, 2-9/16, 2-5/8, 2-11/16, \\2-3/4, 2-13/16, 2-5/6, 2-7/8, 2-15/16, 3, 3-1/16, \\3-1/8, 3-3/16, 3-1/4, 3-5/16, 3-3/8, 3-7/16, 3-1/2, \\3-9/16, 3-5/8, 3-11/16, 3-3/4, 3-13/16, 3-7/8, \\ \end{array}$

#### Inch

**Overall Length** 

#### Thread Size

Threa

M6 x 1

4-40, 6-32, 8-32, 10-24, 10-32, 1/4-20, 5/16-18, 3/8-16, 1/2-13, 5/8-11, 3/4-10

#### 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/2, 3

6.8.10.12.16.20.25.30.35

# Metric (mm)

Length

Thread Size M3.5 x 0.6, M4.5 x 0.75, M6 x 1, M6.3 x 1. M7 x 1. M8 x 1.25.

M9 x 1.25, M10 x 1.5, M11 x 1.5

#### Inch

Thread Size	Length
1/4-20, 5/16-18, 3/8-16, 1/2-13	1/2, 3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/2, 3, 3-1/2, 4

### Metric (mm)

d Size	Length
., M8 x 1.25, M10 x 1.5, M12 x 1.75	10, 12, 14, 16, 20, 25, 30, 35, 40, 50

## Low Head Socket Head Cap Screw



Materials offered in: 316 SS, 17-4 PH, Aluminum, Titanium Finishes: Plain

Head styles: Socket head Drive type: Hex drive

Perfect for tight areas, low heads are about half the height of standard socket heads.

## Socket Head Cap Screw



Materials offered in: 17-4 PH, 316 H5, Aluminum, Brass, Titanium Grade 2, Titanium Grade 5 Finishes: Plain

Head styles: Socket head

Drive type: Hex drive

Socket head cap screws have heavy heads with a hex socket drive. Extra-long lengths available in 18-8 and 316 SS materials.

# **Extra Tall Socket Head Cap Screw**



Materials offered in: 18-8 SS Finishes: Plain Head styles: Socket head

Drive type: Hex drive

These screws have deep, accurate hex socket drives to facilitate tightening and removing screws in tightfit applications. A higher head can help with locating a screw in spots where they are hard-to-reach in assembly.

# **Square Drive Socket Head Cap Screw**



Materials offered in: 17-4 PH. 316 H5. Aluminum. Brass, Titanium Grade 2, Titanium Grade 5 Finishes: Plain Head styles: Socket head Drive type: Hex drive Square Drive Socket Screws offer more than easy

tool insertion and retention of a screw on a tool tip.

### **Thumb Screw**



### Materials offered in: 18-8 SS

Finishes: Plain Thumb Screws have textured heads that allow for fastening and unfastening by hand.

# Extra Length Thumb Screw



Materials offered in: 18-8 SS, Steel Finishes: Plain, black oxide Extra long thread for increased reach and adjustability.

# **Extra Length Narrow Head Thumb Screw**



Materials offered in: 18-8 SS Finishes: Plain

Extra long thread for increased reach and adjustability. Available with slot or no slot.

#### Inch

Length

## **Thread Size**

6-32, 8-32, 10-32, 1/4-20, 5/16-18.3/8-16.1/2-13

1/4, 3/8, 1/2, 3/4, 1, 1-1/4, 1-1/2, 2

Length

#### Inch

**Thread Size** 2-56, 4-40, 6-32, 8-32, 10-32, 1/4-20, 1/4/28, 5/16-18 5/16-24, 3/8-16, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18

1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 2, 3, 4-1/2, 5, 5-1/2, 6, 6-1/2, 7, 7-1/2, 8

## Metric (mm)

**Thread Size** Length M2 x 0.4, M3 x 0.5, M4 x 0.7, M5 x 0.8, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, M6 x 1, M8 x 1.25, M10 x 1.5, M12 x 1.75 40,50

	Inch
Thread Size	Length
2-56, 4-40, 6-32, 8-32, 10-32, 1/4-20, 5/16-18, 3/8-16	1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 2

	Inch
Thread Size	Length
1/4-20, 5/16-18, 3/8-16, 1/2-13	3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2, 1-3/4, 2

#### Inch

Thread Size	Length
4-40, 6-32, 6-48, 8-32, 8-40,	5/16, 3/8, 1/2, 5/16, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4,
10-24, 10-32	1-1/2, 2

#### Inch

Thread Size	Length
10-32, 10-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 1/2-13, 1/2-20	1-1/2, 1-3/4, 2, 2-1/4, 2-1/2, 3

#### Inch

Thread Size	Length
10-32, 10-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 1/2-13, 1/2-20	1-1/2, 1-

Th

-3/4.2.2-1/4.2-1/2.3

## **Steel Connector Bolt**



Materials offered in: Steel

Finishes: Plain, black oxide, bronze plated, nickel plated, brass plated, zinc plated

These bolts are available with or without a shoulder. Most commonly used to join panels together alongside a Connector Nut.

### **Thumb Screw with Shoulder**



Materials offered in: 18-8 SS. Steel Finishes: Plain. black oxide

#### Inch **Thread Size** Shoulder Length (mm) Thread Length (mm) 13, 17, 20, 22, 25, 30, 1/4-20, 5/16-18 10, 18 35,40

	Inch	
Thread Size	Shoulder Diameter	Length
4-40, 4-48, 6-32, 8-32, 10-32, 1/4-20	1/4, 3/8	1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 1

# **Knurled Thumb Screw**



Materials offered in: Steel Finishes: Black oxide

Inch	
Thread Size	Length
1/4-20, 5/16-18, 3/8-16, 1/2-13	1/2, 3/4, 1

# **Knurled Thumb Screw with Shoulder**



Materials offered in: 18-8 SS Steel Finishes: Black oxide

	Inch	
Thread Size	Shoulder Diameter	Length
1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24	1/2, 5/8, 3/4	3/8, 1/2, 11/16

# **Thumb Screw with Dog Point**



Materials offered in: Case Hardened Steel Finishes: Black oxide

Ir	nch
Thread Size	Length
10-24 10-22 1/4-20 5/16-18 3/8-16	1 1-1/2 2 2-1/2 3 3-1/2 4

10-24, 10-32, 1/4-20, 5/16-18, 3/8-16 1, 1-1/2, 2, 2-1/2, 3, 3-1/2, 4

# **T-Slot Bolt**



#### Materials offered in: 18-8 SS

Finishes: Plain Head styles: T slot Heads are designed to fit a T Slot, and will not twist or jam.

# Ultra Low Head Cap Screw



Materials offered in: 316 SS Finishes: Plain Head styles: Socket head Drive type: Hex drive Excellent for tight areas and fastening applications which will not accept a countersunk flat head screw.

Wide Head Slotted Screw



Materials offered in: 18-8 SS, 316 SS Finishes: Plain, passivated Head styles: Ultra-wide truss Drive type: Slotted

Also known as shutter screws, they have an ultrawide truss head to distribute the load over a large area for excellent holding pressure.

Inch		
Thread Size	Fits Table Slot	Length
3/8-16, 1/2-13, 5/8-11, 3/4-10	3/8, 1/2, 5/8, 3/4	5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4, 1-1/2, 1-3/4, 2

#### Inch

3/4, 1, 1-1/4, 1-1/2, 2

# Inch

**Thread Size** Length 4-40, 6-32, 8-32, 10-24, 10-32, 1/4, 3/8, 1/2, 3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2, 1/4-20, 5/16-18 2-1/2, 3

Length

### Metric (mm)

Thread Size M3 x 0.5, M4 x 0.7, M5 x 0.8, M6 x 1

т

5, 6, 8, 10, 12, 16, 20, 25

15

Thread Size	Length
10-32, 1/4-20, 5/16-18, 3/8-16, 1/2-13	3/8, 1/2,

# **DIN 922 Pan Head Slot Screw**



Materials offered in: 18-8 SS. Low Carbon Steel Finishes: Plain. Black oxide Head styles: Cheese head

Drive type: Slotted drive

With a narrower head than pan head screws, these cheese head screws fit in tight spaces, such as in electrical panels and next to flanges and raised surfaces.

#### Metric (mm)

Length

M3.5 x 0.6, M4 x 0.7, M5 x 0.8, M6 x 1, 4, 6, 10, 16 M8 x 1.25 M10 x 1.5

# DIN 925 Flat Head Slot Screw



Materials offered in: Low Carbon Steel Finishes: Black oxide Head styles: Flat head Drive type: Slotted drive

Angled under the head, these metric screws fit in countersunk holes and sit flush with the surface of your part.

Metric (mm)	
Thread Size	Length
M1.4 x 0.3, M1.6 x 0.35, M2 x 0.4, M2.5 x 0.45, M3 x 0.5	2.5, 4, 6

# **Locking Bolt fo**



or Drum Rings	li li	nch
Materials offered in: Brass	Thread Size	Length
Finishes: Plain Head styles: Hex head	5/8-11	4.85
These Locking Bolts are suitable for fastening most machinery and equipment with a lock and key.		

**Thread Size** 

# **Standoffs & Spacers**

# **Round Unthreaded Spacer**



Materials offered in: 18-8 SS, 316 SS, Aluminum, Titanium Grade 2

Finishes: Plain Spacers are unthreaded hollow tubes that are primarily used to maintain space between components in assemblies. They are also selected to provide heat or electrical isolation and to connect parts to each other.

Inch		
Outer Diameter	Screw Size	Length
1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1, 1-1/2, 2	#0, #2, #4, #6, #10, 1/4, 5/16, 1/2, 3/4, 1	3/32, 3/16, 7/32, 9/32, 11/32, 13/32, 7/16, 15/32, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-5/8, 1-7/8, 2-1/4, 2-1/2, 2-3/4, 3, 3-1/4, 3-1/2, 3-3/4, 4, 4-1/2, 5, 5-1/2, 6
Metric (mm)		
Outer Diameter	Screw Size	Length
4.5. 6. 8. 10. 13.	M3. M5. M6.	5, 7, 9, 10, 11, 12, 15, 17, 18, 20, 22, 24,

# **Hex Thread Adapters**



Materials offered in: 18-8 SS, 316 SS, Aluminum, Steel

Finishes: Plain, black oxide

These adapters are male to female adapters with over 10,000 thread sizes with Inch to Inch. Metric to Metric, Metric to Inch and Inch to Metric combinations. Position components in assemblies, as well as separate or connect parts with these standoffs.

	Inch/Metric	
le Thread Sizes	Female Thread Sizes	
x 0.35, M4 x 0.5, M5 x 0.8, M6 x 0	.75, M2.5 x 0.45, M3 x 0.35, N	

M10, M12

МЗ M6 x 1, M8 x 1.25, M10 x 1, M10 x 1.25, M10 x 1.5, M12 x 1.25, M12 x 1.5, M12 x 1.75

16, 19

Ma

2-56, 4-40, 4-48, 6-32, 6-40, 8-32, 8-36, 10-24, 10-32, 1/4-20, 1/4-28, 1/4-32, 5/16-18, 5/16-24, 5/16-32, 3/8-16, 3/8-24, 3/8-32, 1/2-13, 1/2-20, 1/2-28

x 0.45, M3 x 0.35, M4 x 0.7, M3.5 x 0.6, M4 x 0.5, M4 x 0.7, M5 x 0.5, M5 x 0.8, M6 x 0.75, M6 x 1, M8 x 1, M10 x 1, M10 x 1.25, M12 x 1.25, M12 x 1.5, M12 x 1.75

25, 26, 28, 30, 35, 40, 45, 50, 51

4-48, 6-32, 6-40, 8-32, 8-36, 10-24, 10-36, 1/4-20, 1/4-28, 1/4-32, 5/16-18, 5/16-24, 5/16-32, 3/8-16, 3/8-24, 3/8-32, 1/2-13, 1/2-20, 1/2-28

# **Standoffs & Spacers**

# Hex Standoff Male-Male



Materials offered in: 18-8 SS Finishes: Plain

Use these standoffs to separate and position components in assemblies. A hex size in the middle insures a firm grip when tightening with a wrench.

# Standoff Base



Materials offered in: Aluminum, 18-8 SS Finishes: Clear anodized, black anodized, bright stainless, satin stainless, chrome plated, clear coat

Standoff base and cap system is used to design and build creative and visually pleasing living, office, and retail environments. Available in round or square bases.

# Standoff Cap Assembly



Materials offered in: Aluminum, 18-8 SS

**Finishes:** Clear anodized, black anodized, bright stainless, stain stainless

Standoff base and cap system is used to design and build creative and visually pleasing living, office, and retail environments. Available in round or square bases.

# **Slot Mount Standoff**



Materials offered in: Brass, Aluminum, 18-8 SS Finishes: Clear anodized, black anodized, bright stainless, satin stainless, chrome plated, clear coat

These are designed to be mounted either vertically or horizontally, and can be used for installing partition panels, shelving or signage.

# **Edge Mount Standoff**



Materials offered in: Brass, Aluminum, 18-8 SS Finishes: Clear anodized, black anodized, bright stainless, satin stainless, chrome plated, clear coat

Edge Grips provide flexibility in attaching decorative panels or signage to walls.

# **Standoff Base and Cap Set**



Materials offered in: Aluminum Finishes: Clear anodized, black anodized

Set includes 1 Standoff Base, 1 Threaded Stud, 1 Matching Cap with Set Screw, and 1 Hanger Bolt.

Inch		
Outer Diameter	Hex Size	Length
7/32, 1/4, 7/16, 1/2	7/32, 7/16	1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2, 2-3/4, 3, 3-1/2, 4, 4-1/2, 5, 5-1/2, 6

#### Inch

Outer Diameter	Length
.375, .500, .625, .750, 1.00, 1.25, 1.50	1/4, 1/2, 3/4, 1, 1-1/4, 1-1/2, 2, 3, 4

	Inch	
Cap Diameter	Cap Height	Thread Size
3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2	1/4, 3/8, 7/16, 1/2, 5/16, 7/16, 1/2	10-24, 1/4-20, 5/16-18

#### Inch

Fits Panel Thickness

1/4, 3/8, 1/2

#### Inch

**Fits Panel Thickness** 

1/4, 3/8, 1/2

#### Inch

Standoff & Cap Across Flats	Standoff Height	Thread Size
3/8, 1/2, 1	1/2, 3/4, 1, 2, 3	10-24, 1/4-20, 5/16-18

# **Standoffs & Spacers**

# **Structural Standoff Base**



Materials offered in: 18-8 SS

Finishes: Plain

This line of Bases are designed for the larger architectural project.

# **Structural Standoff Cap**



Materials offered in: 18-8 SS Finishes: Plain This line of Caps are designed for the larger architectural project to be used with the Base.

Outer Diameter	Length	

Inch

2.0, 2.5, 3.0 1/2, 3/4, 1, 1-1/2, 2

#### Inch

Outer Diameter	Length
2.0, 2.5, 3.0	1/2, 3/4, 1

# Bumpoff Cap with Attached Stud



Materials offered in: Brass, Aluminum, 18-8 SS, Steel Finishes: Plain, zinc-plated

# Round Angled Spacer (45° angle, unthreaded)



Materials offered in: 12L14 Low Carbon Steel, 18-8 SS, 316 SS, Nylon Finishes: Plain For attaching end fittings on angled holes at stair end posts.

	Inch	
Cap Diameter	Cap Height	Thread Size
1/4	1/4	4-40, 6-32, 8-32, 10-32

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# Inch

Inch Bolt Size	Inside Diameter	Outside Diameter
#4, #6, #10, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4	.129, .169, .216, .287, .334, .413, .571, .699, .826	.315, .394, .512, .709, .866, .945, 1.26

Inch

Inch

3/4

**Body Diameter** 

1/2

**Thread Size** 

10-24, 1/4-20, 5/16-18

**Body Length** 

Diameter

3/8, 1/2, 5/8

# **Standoff Mounting Hardware**



Materials offered in: 12L14 Low Carbon Steel Finishes: Plain These kits are an easy way to mount standoffs in

These kits are an easy way to mount standoffs into drywall with a simple 3-step process.

# The Art Dart™



Materials offered in: Aluminum Finishes: Plain

A revolutionary design that turns a standard push pin into a contemporary architectural mounting statement.

# Nuts

# **Giant Acorn Nut**



Materials offered in: Brass, 316 SS Finishes: Plain, nickel plating, chrome plating

Use these Acorn Nuts to conceal the threaded end of a fastener or act as cover from protruding threads.

	Inch	
Thread Size	Height	Thread Depth
3/4-10, 3/4-16, 1-8	7/8, 1-5/32, 1-1/4	1/2, 5/8, 3/4



### **Coupling Nuts**



Materials offered in: 18-8 SS, 316 SS, Aluminum, Brass

Finishes: Plain, black oxide

Also known as extension nuts, use them to connect and extend threaded rods. They are about threetimes taller than standard hex nuts.

N	et	rı	r
1.4	Lι		L

-		
Thread Size (mm)	Length	Width
eq:massessessessessessessessessessessessesse	6, 9, 12, 15, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72, 81, 90, 99, 108	4, 5, 8, 10, 13, 17, 19, 22, 24, 27, 30, 32, 36, 41, 46, 50, 55

Inch

## **Right-Hand Left-Hand Coupling Nuts**



Materials offered in: 18-8 SS, 316 SS, Aluminum, 12L14 Steel **Finishes:** Plain. black oxide

Also known as sleeve nuts, thread adapters fasten parts with right-hand threads to parts with left-hand threads.

		men		
	Left or Right Thread Size	Thread Lg.	Hex Size	Length
ers	5-40, 12-24, 1/4-28, 5/16-24, 3/8-24, 7/16-14, 5/8-11, 3/4-10, 7/8-9, 1-8, 4-40, 5-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16- 24, 3/8-16, 3/8-24, 7/16-14, 1/2-13, 5/8-11, 3/4-10, 7/8-9, 1-8	1/4, 1/2, 3/4, 1, 1-1/2	5/16, 3/8, 7/16, 1-1/8, 1-1/4, 1- 1-5/8	,
arts	N	letric (mr	n)	
	Left or Right Thread Size	Thread Lg.	Hex Size	Length
	M4 x 0.7, M5 x 0.8, M6 x 1, M8 x 1.25, M10 x 1.5, M12 x 1.75	8, 12, 20, 25	10, 11, 16	25, 38, 50, 65, 75
		Inch		
	Thread Size	O'all I	_g.	OD
W	8-32, 10-32, 1/4-20, 1/4-28, 5/16-18, 5/1 3/8-16, 3/8-24, 1/2-13, 1/2-20, 1/2-28, 5 5/8-18, 3/4-10, 3/4-6		1-1/4, 1-1/2, 2	19/64, 23/64, 27/64, 31/64. 55/64, 63/64
ed	Ν	letric (mr	n)	
nd	Thread Size	O'all I	Lg.	OD
	M4 x 0.7, M5 x 0.8, M6 x 1.0, M8 x 1.25, N 1.5, M12 x 1.75, M14 x 2, M16 x 2.0, M20	20.25	, 30, 40, 50	8, 10, 11, 13, 15,18, 22, 28

# **Round Coupling Nuts**



Materials offered in: 18-8 SS, 316 SS, Low Carbon Steel Finishes: Plain, black oxide

With a smooth rounded body for a finished look, use these nuts to connect and extend threaded rods.

# **Knurled Thumb Nut**



Materials offered in: 18-8 SS, 316 SS, Brass Finishes: Plain, black oxide

These thumb nuts have a knurled head for slip-resistant controlled adjustment and the collar raises the head to make it easy to grip.

Thread Size	Collar Dia.	Collar Ht.	Head Dia.	O'all Height
0-80, 1-72, 2-56, 3-48, 4-40, 5-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20	7/32, 1/4, 5/16, 3/8, 1/2, 5/8	3/16, 1/4, 1/2, 3/4	1/2, 3/4, 1, 1-1/8	3/8, 7/16, 5/8, 7/16, 1/2, 11/16, 3/4, 15/16, 1, 1-1/8
	Metric	(mm)		
Thread Size	Collar Dia.	Collar Ht.	Head Dia.	O'all Height
$M2 \times 0.4, M2.5 \times 0.45, M3 \times 0.5, M3.5 \times 0.6, M4 \times 0.7, M5 \times 0.8, M6 \times 1, M8 \times 1.25, M10 \times 1.5, M12 \times 1.75, M14 \times 2, M16 \times 2$	4.5, 5, 6, 8, 10, 12, 16, 19, 20, 28, 32	0.5, 1, 2, 4, 6, 7.5, 10, 12.5, 14, 15, 20, 25	9, 10, 11, 12, 16, 20, 24, 25.4, 30, 36, 56, 64	2.5, 3, 4, 5, 6, 7.5, 8, 9.5, 10, 11.5, 15, 15.5, 17.5, 18, 19, 22, 23,

Inch

### Hex Nut



Materials offered in: Aluminum Finishes: Plain

Hex Nuts are the most common nuts for general fastening applications.

#### Inch Width Thread Size Height 4-40, 6-32, 8-32, 10-24, 10-32, 1/4, 5/16, 11/32, 3/32, 7/64, 1/8, 7/32, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8, 7/16, 1/2, 17/64, 21/64, 3/8, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 9/16, 11/16, 3/4, 7/16, 35/64, 41/64, 1/2-13, 1/2-20, 5/8-11, 5/8-18, 15/16, 1-1/8, 3/4, 27/32, 55/64

1-5/16, 2-1/4

3/4-10, 3/4-16, 7/8-9, 1-8, 1-1/2-12

30, 35

# Nuts

# **Too Tall Acorn Nut**



Materials offered in: 18-8 SS, 316 SS, Aluminum Finishes: Plain, high polish

The added height allows for a greater internal thread depth for a fastener to be inserted.

# **Jig & Fixture Acorn Nut**



**Hex Nut** 

Materials offered in: C1018 Steel, Case Hardened Steel Finishes: Plain, black oxide plated

Materials offered in: 18-8, Aluminum, Brass, A286 SS, 17-4 PH, 405, C276, 410, 316 H5, Titanium Grade 2 & 5, Carpenter 20 **Finishes:** Plain, black-oxide plated

Hex Nuts are the most common nuts for general

Inch			
Thread Size	Height	Thread Depth	
3/8-16, 1/2-13	.781, 1.062, 1-5/16, 1-7/16, 1-9/16, 1-3/4, 2	15/32, 5/8, 3/4, 1, 1-1/4, 1-1/2	

	Inch	
Thread Size	Width	Height
5/16-18, 3/8-16, 1/2-13, 5/8-11	5/8, 3/4, 7/8, 1-1/16	5/8, 3/4, 15/16, 1-3/16

#### Inch

Thread Size	Width	Height
4-40, 6-32, 8-32, 10-24, 10-32, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 1-8, 1-1/2-12	1/4, 5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 11/16, 3/4, 15/16, 1-1/8, 1-5/16, 2-1/4	3/32, 7/64, 1/8, 7/32, 17/64, 21/64, 3/8, 7/16, 35/64, 41/64, 3/4, 27/32, 55/64

#### Metric (mm)

Thread Size	Width	Height
$\begin{array}{l} M2 \times 0.4, M2.5 \times 0.45, \\ M3 \times 0.5, M4 \times 0.7, M5 \times 0.8, \\ M6 \times 1, M8 \times 1.25, M10 \times 1.5, \\ M12 \times 1.75, M16 \times 2, M20 \times 2.5, \\ M24 \times 3 \end{array}$	4, 5, 5.50, 7, 8, 10, 13, 16, 18, 24, 30, 36	1.60, 2.00, 2.40, 3.20, 4.70, 5.20, 6.80, 8.40, 10.80, 13.00, 16.00, 19.00

# **Hex Nuts Narrow**

Hex Thin (Jam) Nut

Grade 2 & 5

Finishes: Plain, black oxide

height of standard hex nuts.



Materials offered in: 18-8 SS, 316 SS Finishes: Black oxide

fastening applications.

These hex nuts are about 20% narrower than standard hex nuts and best used in tight spaces where you need a shorter hex nut.

**Materials offered in:** 18-8 SS, 17-4 PH, A286 SS, 410 SS, Aluminum, 316 H5, 405, C276, Titanium

Also known as Jam Nuts, they are about half the

	Inch	
Thread Size	Width	Height
4-40, 5-40, 6-32, 8-32, 10-32, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 1/2-13, 1/2-20, 5/8-11, 5/8-18, 3/4-10, 3/4-16	3/16, 1/4, 5/16, 11/32, 7/16, 1/2, 9/16, 3/4, 15/16, 1-1/8	1/16, 3/32, 7/64, 1/8, 5/32, 3/16, 7/32, 5/16, 3/8, 27/64

#### Inch

Thread Size	Width	Height
1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 1-8, 1-14	7/16, 1/2, 9/16, 11/16, 3/4, 15/16, 1-1/8, 1-1/2	5/32, 3/16, 7/32, 1/4, 5/16, 3/8, 27/64, 35/64

#### Metric (mm)

Thread Size	Height	Flange Diameter
M6 x 1, M8 x 1.25, M10 x 1.5, M12 x 1.75, M16 x 2, M20 x 2.5, M24 x 3	6.00, 7.94, 8.00, 9.53, 10.00, 12.00, 12.70, 17.46, 20.64, 25.40, 31.75	14.20, 15.88, 17.90, 19.05, 21.80, 22.23, 26.00, 28.58, 34.93, 41.28, 50.80

# Panel Nut (Special Threads)



Materials offered in: Brass, 18-8 SS Finishes: Plain, nickel-plated Inch

Thread Size (NPS, NEF, NS)	Width	Height
1/8-27, 1/4-32, 1/4-40, 5/16-32,	1/2, 5/8, 5/16,	1/8, 3/16, 5/64, 3/32, 7/32, 1/16,
3/8-32, 7/16-28, 15/32-32, 1/2-28,	3/8, 7/16, 1/2,	3/16, 7/64, 17/64, 3/32, 1/2,
5/8-24, 5/8-27, 11/16-24, 3/4-20,	9/16, 11/16, 3/4,	9/16, 3/32, 3/8, 5/64, 3/32, 9/16,
7/8-20	15/16, 1, 1-5/16	3/32, 1/8, 3/8, 27/64, 31/64

20



## Hex Flange Nut



Materials offered in: 18-8 SS, 316 SS, A286, 17-4 PH. Titanium Grade 2 & 5. 316 H5 Finishes: Plain

Flange distribute pressure where the nut meets the material surface, eliminating the need for a separate washer.

## **Giant Hex Nut**



Materials offered in: Low Carbon Steel, Grade 2H Steel

Finishes: Plain

These Giant Hex Nuts are used with larger mating screws and bolts to help secure items.

#### **Round Knurled Nut**



Materials offered in: Steel Zinc, Stainless Steel, Black Nylon Finishes: Plain

## **Round Knurled Nut with Wrench Flats**



Materials offered in: Low Carbon Steel, Case Hardened Steel Finishes: Plain, black oxide plated

### Insert (Allen) Nut for Screw & Bolt



Materials offered in: 18-8 SS, Alloy Steel Finishes: Plain, black oxide plated Also known as Allen nuts, you can use these versatile fasteners as both threaded inserts and nuts. To use as inserts, press or draw them into any nonhardened steel, cast iron, or soft nonferrous metal.

# **Knurled Lock Nut**



Materials offered in: Low Carbon Steel, Case Hardened Steel Finishes: Plain, black oxide plated

### **Check Nut**



Materials offered in: Low Carbon Steel, Case Hardened Steel Finishes: Plain, black oxide plated

Inch
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**Thread Size** Height 2-56, 4-40, 6-32, 8-32, 10-24, 10-32, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 1-8, 1-14, 1-1/4-7

3/32, 7/32, 1/4, 5/16, 3/8.1/2.9/16.11/16. 13/16, 1, 1-1/8, 1-1/4

3/16, 3/8, 13/32, 15/32, 1/2, 5/8, 3/4, 7/8, 1, 1-1/8, 1-3/8, 1-5/8, 1-3/4, 2, 2-1/4

**Flange Diameter** 

### Metric (mm)

**Thread Size** Height M6 x 1 M8 x 1 25 M10 x 1.5, M12 x 1.75, M16 x 2, M20 x 2.5, M24 x 3

5/16-18

6.00, 7.94, 8.00, 9.53, 10.00 12.00 12.70 17.46, 20.64, 25.40, 31.75

14.20, 15.88, 17.90, 19.05, 21.80, 22.23, 26.00, 28.58, 34.93, 41.28, 50.80

**Flange Diameter** 

	Inch		
Thread Size	Width	Height	
3-1/2 - 4, 3-1/2 - 8, 4 - 4, 4 - 8	5-3/8,6	3-7/16,4	

Inch Thread Size Width Height

		-
1/8-27NPT, 1/4-40NEF, 3/8-32NEF, 15/32-32NEF, 5/8-27NS	5/8, 3/4	3/32, 1/8, 3/16, 3/32, 1/2, 9/16

7/16, 9/16

Inch Across Flats Thread Size O.D Height 2-56, 4-40, 5-40, 6-32, 1/4, 5/16, 3/16.1/4. 1/6.3/32.7/64.1/8. 8-32, 10-32, 1/4-20, 11/32, 3/8, 5/16, 3/8, 1/2 3/16.7/32

Inch			
Thread Size	Body Diameter	Length	
4-40, 5-40, 6-32, 8-32, 10-24, 10-32, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 7/8-14, 1-8, 1-14	.183-1.87, .253257, .275- .280, .302307, .398403, .493498, .585590, .705- .710, .795800, .980986, 1.152-1.158, 1.355-1.361, 1.527-1.533	.172-179, .198-205, .223-230, .266273, .309-319, .409419, .512-522, .606621, .718-733, .821836, .995-1.010, 1.170-1.185, 1.343-1.358, 1.517-1.532	

#### Metric (mm)

Thread Size	Body Diameter (Inch)	Length (Inch)
M3 x 0.5, M4 x 0.7, M5 x 0.8, M6 x 1, M8 x 1.25, M10 x 1.5, M12 x 1.75, M14 x 2, M18 x 2.5, M20 x 2.5, M24 x 3	.183187, .275280, .302- .307, .398403, .493498, .585590, .705710, .795- .800, .980986, 1.152- 1.158, 1.527-1.533	.172-179, .266273, .309- .319, .409419, 5.12522, .606621, .718733, .821- .836, .995-1.010, 1.170- 1.185, 1.517-1.532
	Inch	

Inch			
Thread Size	O.D	Height	Holes (4)
3/8-16, 1/2-13, 5/8-11, 3/4-10, 1-8	1, 1-1/4, 1-3/8, 1-3/4, 2	3/8,7/16,9/16	.188, .257, .316

Inch			
Thread Size	O.D	O'all Thickness	Minor Thickness
10-24, 1/4-20, 5/16-18, 3/8-16, 1/2-13	3/4, 1	7/32, 5/16, 3/8	5/32, 1/4

# **Round Pin Blank**

#### Materials offered in: 4140 Steel, 18-8 SS Finishes: Plain

Cut end pin blanks manufactured from various materials.

## **Small Diameter Dowel Pin**

Materials offered in: 18-8 SS Finishes: Plain

#### Inch

1/8, 5/32, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 1

Length 12

Short Length

3/16, 3/8, 9/16,

3/4, 1, 1-3/16

Inch		
Diameter	Length	
1/64	1/4, 3/8, 1/2	

Inch

**Small Diameter** 

5/32, 3/16, 1/4,



Materials offered in: 416 SS Finishes: Plain

These pins have two different diameters in body for more unique applications.

Diameter	Length
3/16, 1/4, 5/16, 3/8, 1/2	9/16, 3/4, 1, 1-1/8, 1-3/8, 1-1/2, 1-3/4, 2-1/4, 2-3/4

Diameter

Metri	c (mm)
1-3/8, 1-1/2, 1-3/4, 2-1/4, 2-3/4	5/16, 3/8

Diameter	Length	Small Diameter	Short Length
5, 6, 8, 10, 13	15, 20, 25, 35, 40, 45, 55, 70	4, 5, 6, 8, 10	5, 10, 15, 20, 25, 30

# **Threaded Stepped Dowel Pin**

Materials offered in: 416 SS Finishes: Plain The large end has internal threads for a more secure mount.

Inch				
Diameter	Length	Small Diameter	Short Length	Internal Thread
1/4, 5/16, 3/8, 1/2	1-1/8, 1-3/8, 1-1/2, 1-3/4, 2-1/4, 2-3/4	3/16, 1/4, 5/16, 3/8	9/16, 3/4, 1, 1-3/16	6-32, 8-32, 10-24, 1/4-20
Metric (mm)				
Diam	eter Le	ength S	mall Diameter	Short Length

6, 8, 10, 13 25, 30, 35, 40, 45, 55, 70	5, 6, 8, 10	10, 15, 20, 25, 30
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## Inch

Diameter	Length	Thread Size
1/4, 5/16, 3/8, 7/16, 1/2,	3/4, 1, 1-1/4, 1-1/2, 2,	8-32, 10-32, 1/4-20,
5/8, 3/4, 1	2-1/2, 3	5/16-18, 3/8-16

#### Inch

Pin Diameter	O'all Length	Usable Length
1/4, 3/8, 1/2, 3/4	1-3/4, 1, 1-1/4, 1-1/2, 2-1/4, 2-1/2, 2-3/4, 3, 3-1/4, 3-1/2, 4, 4-1/4, 4-1/8, 4-5/8, 5-1/8, 5-5/8, 6-1/8	3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/2, 3, 3-1/2, 4

#### Inch

Pin Diameter	Length	Usable Length
3/6, 1/2, 1-1/4	3/4, 1-1/8, 4, 5	15/16, 1/2, 3-3/8, 4-3/8

#### Inch

Pin Diameter	Length	Usable Length
3/16, 1/4, 5/16, 3/8, 1/2	12, 16, 20, 24	11, 15, 19, 23



# Materials offered in: Low Carbon Steel

Finishes: Case hardened

Designed with a flat on the side to release trapped air in blind holes.

# **Double Drilled Clevis Pin**



Materials offered in: Hi-strength Aluminum Clevis pins are useful for quick disconnect or temporary fasteners.

# **Clevis Pin**

#### Materials offered in: 18-8 SS

With all the advantages of a bolt or rivet, plus quick installation or removal with the use of a cotter pin (not included).

# **Headless Extra Long Clevis Pin**

Materials offered in: 18-8 SS

Lengths from 12" to 24" provide extra length



15, 19, 20, 23, 24, 25, 28, 29, 30, 31,

34, 38, 39, 41, 43, 44, 49, 51, 53, 54,

### **Precision Tolerance Clevis Pin**

**Connector Stud** (Hood Pin)



Materials offered in: 18-8 SS, 316 SS, 17-4 PH SS Finishes: Plain, black oxide

These pins combine the locking abilities of a clevis pin with the precision of a dowel pin for a tight fit.

These clevis pins are threaded so you can bolt them to a component on one end and lock the other end with the reusable cotter pin.

#### Inch

8, 10, 12, 16, 20

Pin Diameter	Length	Usable Length	
1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2	1/2, 5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2, 2-1/8, 2-1/4, 2-3/8, 2-1/2, 2-3/4, 3, 3-1/2, 4	5/16, 7/16, 9/16, 11/16, 3/4, 13/16, 15/16, 1, 1-1/16, 1-3/16, 1-1/4, 1-5/16, 1-7/16, 1-1/2, 1-9/16, 1-11/16, 1-3/4, 1-13/16, 1-15/16, 2-5/16, 2-9/16, 2-3/4, 2-13/16, 3-5/16	
Metric			
Pin Diameter	Length	Usable Length	

# Inch

64

20, 24, 25, 30, 35, 40,

45, 50, 60, 65, 80

Pin Diameter	Length	Usable Length	Thread Size
5/16, 3/8, 1/2	2, 3, 4	1.4, 2.4, 3.4,	5/16-24, 3/8-24, 1/2-20

## **Cut Teflon Pin**



#### Materials offered in: Teflon

Materials offered in: 18-8 SS

	Inch
Pin Diameter	Length
.120130, .182-192, .245-255	1/4, 3/8, 1/2, 1, 1-1/2, 2

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#### Inch

Thread Size	O'all Length	Threaded Shank Length
6-32, 6-40, 6-48, 8-32, 8-36, 8-40, 10-24, 10-32, 1/4-20, 1/4-28, 3/8-16, 3/8-24	5/8, 7/8, 1-1/8, 1-1/4, 1-5/8	.400, .625, .750, .875, 1.125
	Metric	

# **Spring Anchor**

Materials offered in: 18-8 SS, Steel Finishes: Plain, black oxide

Attach an extension spring to a stud and then thread the stud into your part for a secure connection.

Metric				
Thread Size	O'all Length	Threaded Shank Length		
M3.5, M4, M5, M6, M8, M10	16, 22, 28, 32, 38, 41	10, 16, 19, 22, 25, 28		

### Inch

### **Swivel Spring Anchor**



Materials offered in: 18-8 SS, Steel Finishes: Plain, black oxide These allow for the adjustment of tension on the spring, without twisting it.

Thread Size	O'all Length	Head Height
6-32, 6-40, 8-32, 8-36, 10-24, 10-32, 1/4-20, 1/4-28, 3/8-16, 3/8-24	.625, .875, 1.125, 1.250, 1.625	.150, .160, .190, .250, .360

#### Metric

Thread Size	O'all Length	Threaded Shank Length
M3.5, M4, M5, M6, M8, M10	16, 22, 28, 32, 38, 41	10, 16, 19, 22, 25, 28

# **Headless Spring Anchor with Grooves**



Materials offered in: 18-8 SS

Finishes: Plain Headless anchors come with a 18-8 SS Jam Nut ready for installation.

Major Dia.	O'all Length	Groove Dia.	Thread Size
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	5/8, 3/4, 1, 1-1/4, 1-1/2, 2, 2-1/2, 3	.078, .125, .156, .188, .250, .281	5-40, 10-32, 1/4-20, 5/16-18, 3/8-16, 1/2-13

**Partially Threaded Studs** 

## Headed Spring Anchor with Grooves



Materials offered in: 18-8 SS Finishes: Plain Multiple grooves allow for height adjustments after installation. 3 grooves on each anchor.

Use the unthreaded end as a pivot point, hinge,

Materials offered in: 18-8 SS, Aluminum,

Designed for use with right-hand threaded rod ends, these rods have right-hand threads on both ends. Use them for remote valve operators,

throttle controllers, shifting mechanisms, and

virtually any push/pull assembly.

Materials offered in: 18-8 SS

Finishes: Plain

**External Threaded Connecting Rods** 

12L14 Steel Finishes: Plain

shaft, or locator pin.

#### Inch End Inner Dia. Groove Dia Shaft Length Thread Size .070, 1/8, 11/64, .017, .063, .094, 3/8, 1/2, 3/4, 1, 1-72, 4-40, 8-32, .126, .094, .170, 3/16, 13/64, 1-1/4, 1-1/2, 1-3/4, 10-24, 1/4-20, 17/64, 19/64, .214, .238, .326, 2, 2-1/4, 2-1/2, 5/16-18, 1/2-13, 3/8, 27/64, 9/16, .360, .488, .610, 2-3/4, 3 5/8-11, 3/4-10 5/8, 13/16, 1 .700

#### Inch

Thread Size	Thread Length	Shaft Length	Diameter
6-32, 8-32, 10-24, 10-32, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24	1/2, 3/4, 5/8, 1, 1-1/2, 1-3/4, 2-1/4, 2-3/4, 3-1/4, 4-1/4, 4-3/4, 5-1/4	1/2, 3/4, 1-1/4, 1-3/4, 2-1/4, 2-3/4, 3-1/4, 3-3/4, 4-1/4, 4-1/2, 4-3/4, 5-1/4	.198, .164, .190, 1/4, 5/16, 3/8

#### Inch

Thread Size	O'all Length	Thread Length	OD
10-24, 10-32, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-20, 1/2-20, 5/8-11, 5/8-18	3, 6, 9, 12, 18, 24, 30, 36	1, 1-3/16, 1-1/2, 1-5/8, 2, 3-5/8	3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4

Metric				
Thread Size O'all Length Thread Length OD				
M3 x 0.5, M4 x 0.7, M5 x 0.8, M6 x 1, M8 x 1.25, M10 x 1.5, M12 x 1.75, M14 x 2, M16 x 2, M20 x 2.5	75, 150, 225, 305, 455, 610	25, 30, 35, 40, 50, 75	3, 4, 5, 6, 8, 10, 12, 14, 16, 20	

# Internally Threaded Connecting Rods

Materials offered in: 18-8 SS, Aluminum, 12L14 Steel

Finishes: Plain

Designed for use with right-hand thread rod ends, these rods have right-hand threads on both ends. Use them for remote valve operators, throttle controllers, shifting mechanisms, and virtually any push/pull assembly.

#### Inch

Thread Size	O'all Length	Internal Thread Depth	OD
10-24, 10-32, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-20, 1/2-20, 5/8-18	3, 6, 9, 12, 18, 24, 30, 36	3/4, 1, 1-1/4, 1-3/8, 1-1/2, 1-5/8	1/4, 3/8, 7/16, 9/16, 5/8, 3/4, 7/8

#### Metric

Thread Size	O'all Length	Internal Thread Depth	OD
M3 x 0.5, M4 x 0.7, M5 x 0.8, M6 x 1, M8 x 1.25, M10 x 1.5, M12 x 1.75, M16 x 2, M20 x 2.5	75, 150, 225, 305, 455, 610	25, 30, 35, 40, 50, 75	6.3, 9.5, 11, 12.5, 15.8, 19, 22.2

#### Inch Thread Size O'all Length Thread Length Hex Size 6-32, 10-32, 1/4-28, 5/16-18, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 5/8-11, 5/8-18 2, 3, 4, 12, 18, 24 1/2, 3/4, 1, 1-1/4, 1-3/4, 2 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8

### Metric

Thread Size	O'all Length	Thread Length	Hex Size
M5 x 0.8, M6 x 1, M8 x 1.25, M10 x 1.5, M12 x 1.75, M14 x 2, M16 x 2, M20 x 2.5	50, 76, 100, 150, 305, 455, 610	12, 16, 20, 25, 30, 40, 50	5, 6, 8, 10, 12, 14, 16, 20

# RH/LH Externally Threaded Turnbuckle Rods



Materials offered in: 18-8 SS, Aluminum, 12L14 Steel Finishes: Plain

Similar to turnbuckles, these rods have right-hand threads on one end and left-hand threads on the other so you can make a linkage that adjusts for tension. Add right- and left-hand threaded rod ends to build your linkages. Rods have a hexshaped body so you can adjust them with a wrench. Grove indicates Left-Hand thread side.

# **RH/LH Internally Threaded Turnbuckle Rods**



**Rod End Bolts** 

Materials offered in: 18-8 SS, Aluminum, 12L14 Steel

Finishes: Plain

Similar to turnbuckles, these rods have right-hand threads on one end and left-hand threads on the other so you can make a linkage that adjusts for tension. Add right- and left-hand threaded rod ends to build your linkages. Rods have a hexshaped body so you can adjust them with a wrench. Grove indicates Left-Hand thread side.

Materials offered in: 18-8 SS, 316, 17-4 PH SS,

Rod End Bolts also known as swing blots, pivoting

bolts and hinge eyebolts. These threaded bolts can

Brass, 4140 Alloy Steel, 12L14 Steel

be cut to length to fit your application.

\*Available in Right and Left hand threads for 18-8 inch.

Finishes: Plain, black oxide

Inch			
Thread Size	O'all Length	Internal Thread Depth	Hex Size
6-32, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 5/8-18, 3/4-16	2, 3, 4, 6, 12, 18	1/2, 3/4, 1	5/16 3/8, 1/2, 5/8, 3/4, 7/8, 1

Metric			
Thread Size	O'all Length	Internal Thread Depth	Hex Size
M5 x 0.8, M6 x 1, M8 x 1.25, M10 x 1.5, M12 x 1.75, M14 x 2, M16 x 2, M20 x 2.5	50, 76, 100, 150, 305	12, 16, 20, 25,	10, 12, 17, 19, 22, 24, 30,

# Inch

#### Shank Center Lg. Thread ID **Thread Length** Size 6-32, 8-32, 10-32, 1/4-20, 1/8, 5/32, 1/2, 3/4, 1, 1-1/8, 1/4-28, 5/16-18, 5/16-24, 3/4, 1, 3/16, 1/4, 1-1/4, 1-1/2, 1-3/4, 3/8-16, 3/8-24, 1/2-13, 1-1/2, 2, 3, 5/16, 3/8, 2-1/2, 2-3/4, 3, 3-1/2, 1/2-20, 5/8-11, 5/8-24, 3-1/2, 4, 5, 1/2, 5/8, 3/4, 4-1/4, 4-1/8, 4-1/2, 3/4-10, 3/4-16, 7/8-9, 1-8, 7/8, 1, 1-1/4, 6,8 4-3/16, 5-5/8, 6 1-1/4-7, 1-1/2-6 1-1/2

## Metric (mm)

Thread Size	Shank Center Lg.	ID	Thread Length
M5 x 0.8, M6 x 1, M8 x 1.25, M10 x 1.5, M12 x 1.75, M16 x 2, M20x 2.5, M24 x 3	25, 30, 35, 40, 45, 50, 60, 70, 75, 80, 90, 110, 120, 130, 140, 150	5, 6, 8, 10, 12, 16, 18, 22	16, 18, 21, 22, 24, 26, 29, 31, 36, 37, 38, 42, 44, 46, 48, 52, 54, 56, 57, 58, 67, 68, 72, 74, 78, 87, 88, 92, 97, 98, 108, 118

# **Machine Tool Accessories**

### **Lathe Mandrels**



Materials offered in: Alloy Steel

Finishes: Black oxide

These Mandrels are ground to a .0005 per inch taper – starting at the nominal to .0005 under size at the small end.

# Handle and Extension Rod Kits for Brushes



Materials offered in: Alloy Steel Finishes: Black oxide

Add length to your brush and get a better grip. T-Handle with Six Extension Rods, One Wiper and One 8-32 To 5/1 Adapter.

Inch		
Diameter	Length	
1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1	2-1/2, 3, 3-3/4, 4, 4-1/4, 4-1/2, 5, 5-1/4, 5-1/2, 6, 6-1/2, 7	

#### Inch

#### Product Description

T-Handle with Extension Rods for Tube Brushes - (6) Extensions, (1) Handle, (1) Wiper, (1) 8-32 to 5/16-27 Adapter



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