



ACCURATE
MANUFACTURED
PRODUCTS
GROUP

Beautiful Parts, Right Now

2026 Lookbook



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“Beautiful Parts, Right Now”



Longevity

AMPG is a privately-owned family business started by the current management in 1987. We are members of the Tugboat Institute – an organization of private businesses that pledge to remain independent.

Philosophy

We are proud to be an American manufacturer dedicated to solving large problems that affect small numbers of customers. We are committed to our team, our products, and our customers.

Our continuous capital investments in production equipment, employees, automation, and inspection technologies allows us to design thousands of new items a year, get them into large distributor channels and produce on demand small quantities in a few days.

Stock & Custom...*FAST*

As a precision manufacturer of specialized fasteners, architectural hardware, mechanical components and industrial accessories, AMPG stocks over 80,000 products. We also offer custom manufacturing supported by design, product testing and engineering services. To see the latest and most complete catalog of our over 80,000 different items, visit www.ampg.com.

How to Buy and See Our Products

Visit us online at ampg.com, email us at sales@ampg.com or give us a call at **317.472.9000** and we can help you with your inquiry. Our stock line of parts ships same day from Indianapolis, Indiana.



Aluminum

- Aluminum has the strength of mild steel with one third the weight.
- Resists corrosion in wet environments.
- Lightweight material used for fittings, hardware and fasteners.
- Nonmagnetic.

Brass

- Brass is a softer material approximately two-thirds copper and one-third zinc.
- Provides good resistance to rust and atmospheric corrosion.
- Friction-resistant material used for gears, bearings, fasteners and valves.
- Nonmagnetic.

Nickel Alloy 405 (Monel)

- Nickel (Monel) aka nickel-copper alloy is a higher-strength material.
- Excellent resistance in corrosive environments: sea water, some acids, alkalies.
- Marine industry material used for propellers, heat exchangers and valves.
- May be mildly magnetic.

Copper-Nickel (Cupronickel)

- Composed of approximately 90% copper & 10% nickel it exhibits excellent resistance to seawater, stress-corrosion cracking
- Preferred choice for marine applications. Its higher thermal conductivity makes it ideal for heat exchangers, ship components and condenser tubes.
- Nonmagnetic.

Silicon Bronze

- 30% stronger than brass & provides corrosion resistance to salt water, gases, and sewage.
- ASTM B98 material is an alloy noted for its braze ability, strength, corrosion resistance & electrical properties.
- Used for a wide range of applications, including marine hardware, fasteners, electrical components, and architectural features.
- Nonmagnetic

Stainless Steel 18-8 (303)

- Type 303 stainless offers excellent corrosion resistance.
- Resists chemicals, most dyes, food and nitric acid.
- Corrosion-resistant material used for screws, bushings, nuts and hardware.
- May be mildly magnetic.

Stainless Steel 316 (316/316L)

- Type 316 stainless offers superior corrosion resistance than Type 303 stainless.
- Resists salt water, acids, chlorides, alkalis and other industrial solvents.
- Low-maintenance material used in commercial kitchens and food processing.
- May be mildly magnetic.

***AMPG uses dual certified Type 316/316L stainless material. Meets all 316 stainless properties but has lower carbon content, making it more suitable for welding.**

Stainless Steel Alloy 20

- Ultra-Corrosion Resistant
- Nickel-iron-chromium "super" stainless steel was developed to resist sulfuric acid and chloride stress corrosion cracking.
- Good mechanical properties at elevated temperatures, up to approx. 930°F.
- Applications include tanks, valve & pump parts, food processing equipment, fasteners, and fittings.
- May be mildly magnetic.

Stainless Steel High Five® (316H5)

- High Five® Stainless is AMPG's higher strength grade of 316 stainless steel.
- Resists salt water, acids, chlorides, alkalis and other industrial solvents.
- Corrosion-resistance material with strength equivalent to Grade 5 steel materials.
- May be mildly magnetic.

Stainless Steel 410

- Wear-Resistant 410 SS offers a good balance of high strength and hardness (which can be adjusted with heat treatment)
- Moderate corrosion resistance in mild environments.
- Often used for fasteners and valves.
- Wear resistant and magnetic material.

Stainless Steel 416

- Type 416 stainless can be hardened up to Maximum Rockwell C40 after heat treatment.
- Resists acids, alkalis, fresh water and dry air.
- Non-galling and hardenable material used for fittings, gears, shafts and screws.
- Magnetic.

Stainless Steel 17-4 PH

- Type 17-4 PH stainless maintains excellent corrosion resistance and strength at high temperatures.
- Resists chemicals, most dyes, food and nitric acid.
- High-strength material used for fittings, valves, bolts and shafts.
- Mildly magnetic.

Stainless Steel A286

- Type A286 stainless maintains superior corrosion resistance and strength at high temperatures, exceeding 17-4 PH performance.
- Resists salt water, acids, chlorides, alkalis and other industrial solvents.
- High-strength material used for fittings, valves, bolts and shafts. Used in high heat/stress applications such as jet engines, gas turbines, and super-charges.
- Nonmagnetic.

Steel Carbon 12L14

- 12L14 steel is used in many general-purpose applications.
- Material requires a finish to resist rust, such as black-oxide treatment or zinc plating.
- Low-strength material used for bushings, washers, inserts, fittings, screws and nuts.
- Magnetic.

Steel Alloy 4140/41L40 (Alloy Steel)

- Alloy 4140 is a "primary" material used high strength fasteners and components.
- Material requires a finish to resist rust, such as black-oxide treatment or zinc plating.
- High-strength material that exceed Grade 8 used for socket screws, studs and components, only after heat treatment.
- Magnetic.

Titanium Gr 2

- Titanium Grade 2 is best known for being strong, lightweight and corrosion resistant.
- Resists chlorides, hypochlorites, chlorates, perchlorates and chlorine dioxide.
- Lightweight material used for chemical-processing equipment, heat exchangers and fasteners.
- Nonmagnetic.

Titanium Gr 5 (6AL-4V)

- Titanium Grade 5 is two times stronger than Grade 2, and four times stronger than 316 stainless at nearly half the weight.
- Resists chlorides, hypochlorites, chlorates, perchlorates & chlorine dioxide.
- Lightweight material used for higher-strength fasteners, racing components and marine hardware.
- Nonmagnetic.

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Longevity

Since 1987, Accurate Manufactured Products Group (AMPG) has been a stocking manufacturer of precision components, hard-to-find fasteners and industrial products.



Strategic Location

AMPG's 163,000 square foot facility is located in the Heart of the Midwest which gives us access to high-quality machinists/employees as well as being strategically located for fast delivery.



Advanced Equipment

Our manufacturing facility operates 24/7, producing precision parts on state-of-the-art CNC Swiss Lathes. Parts are made from high quality materials with a superior machined finish.



Superior Quality

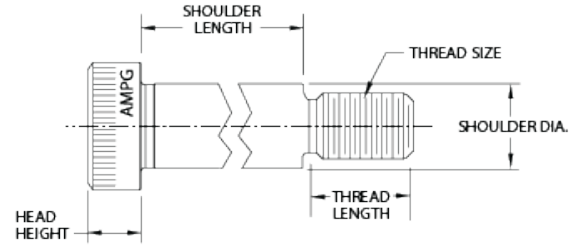
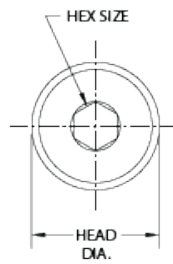
Our advanced electronic Quality Control systems are employed on the manufacturing floor to catch trends before bad parts are produced.



Shoulder Screws

Knurled Head Shoulder Screws

NEW SIZES



Materials offered in: 316 SS, 18-8 SS, Alloy Steel
Black Oxide plating available on Steel and 18-8 and 316 stainless steels

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

Finishes: Natural, black oxide

Drive type: Hex drive

P/N Series: STR

*Exotic alloys may not be available in all sizes

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. The shoulder diameter tolerance is -.002 to -.004 inches and the shoulder length tolerance is $\pm .005$ inches. ASME tolerance shoulder screws have a Class 3A thread fit. Metric shoulder length tolerance is $\pm .25$ to $-.00\text{mm}$. Metric screws have a Class 5g6g thread fit. Head diameter, head height and drive size are determined by size and found in our Shoulder Screws catalog available online.

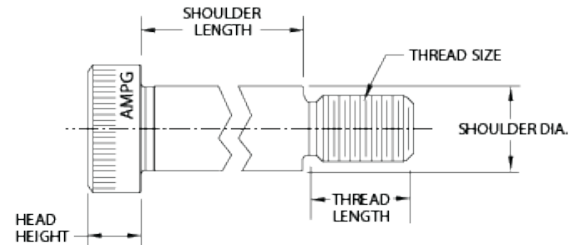
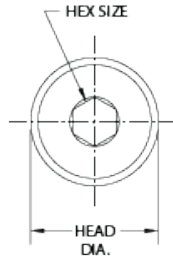
Inch

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)
3/32	1-64 x 1/8 2-56 x 1/8	.130, .160, 1/16, 3/32, 1/8, 5/32, 1/4, 3/16, 7/32, 1/4, 9/32, .310, 5/16, 11/32, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 15/16, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2
1/8	3-48 x 5/32 4-40 x 5/32	1/16, 3/32, .130, .160, .190, 1/8, 5/32, 3/16, 7/32, 1/4, .310, 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
5/32	6-32 x 3/16	1/16, 3/32, .130, .160, .190, 1/8, 5/32, 3/16, 7/32, 1/4, .310, 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, 3
3/16	6-32 x 3/16 8-32 x 3/16	.130, .190, 1/8, 5/32, 3/16, 7/32, 1/4, 9/32, .310, 5/16, 11/32, 3/8, .380, 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
7/32	6-32 x 3/16 8-32 x 3/16	.130, .190, 1/8, 5/32, 3/16, 7/32, 1/4, 9/32, .310, 5/16, 11/32, 3/8, .380, 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
1/4	8-32 x 3/8 10-24 x 3/8 10-24 x 1/4	.130, .190, 1/8, 5/32, 3/16, 7/32, 1/4, .310, 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, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6
9/32	10-24 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, 3-1/4, 3-1/2, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6
5/16	10-24 x 7/16 1/4-28 x 5/16 1/4-20 x 7/16	.130, 1/8, 5/32, 3/16, 7/32, 1/4, .310, 9/32, 5/16, 11/32, .380, 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, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6
11/32	1/4-20 x 1/2	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, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6
3/8	1/4-20 x 3/4 1/4-28 x 3/8 5/16-18 x 1/2	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, 3-3/4, 4, 4-1/2, 5, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 7, 7-1/4, 7-1/2, 7-3/4, 8
7/16	5/16-18 X.605	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, 3-3/4, 4, 4-1/2, 5, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 7, 7-1/4, 7-1/2, 7-3/4, 8
1/2	5/16-18 x 5/8 3/8-24 x 1/2 3/8-16 x 5/8	1/4, .9/32, .310, .380, 9/32, 5/16, 11/32, 3/8, 12/32, 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, 1-3/4, 2, 2-1/8, 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, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 7, 7-1/4, 7-1/2, 7-3/4, 8
9/16	3/8-16 x 3/4	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, 3-1/2, 3-3/4, 4, 4-1/2, 5, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 7, 7-1/4, 7-1/2, 7-3/4, 8
5/8	3/8-16 x 1/4 1/2-13 x 3/4	1/4, .310, .380, 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, 1-3/8, 1-1/4, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2, 2-1/8, 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, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 7, 7-1/4, 7-1/2, 7-3/4, 8
3/4	1/2-13 x 7/8 5/8-11 x 7/8	1/2, 9/16, 5/8, 3/8, 11/16, 7/16, 1/2, 5/8, 3/4, 13/16, 7/8, 15/16, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-3/4, 1-7/8, 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, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 7, 7-1/4, 7-1/2, 7-3/4, 8
7/8	3/4-10 x 1	1/2, 9/16, 5/8, 3/8, 11/16, 7/16, 1/2, 5/8, 3/4, 13/16, 7/8, 15/16, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-3/4, 1-7/8, 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, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 7, 7-1/4, 7-1/2, 7-3/4, 8

Shoulder Screws

Knurled Head Shoulder Screws

NEW SIZES



Inch (continued)

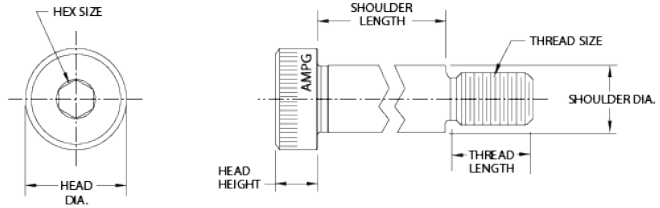
Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)
1	3/4-10 x 1	1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2, 2-1/4, 2-1/2, 2-3/4, 3, 3-1/4, 3-1/2, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 7, 7-1/4, 7-1/2, 7-3/4, 8
1-1/8	3/4-10 x 1	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, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 7, 7-1/4, 7-1/2, 7-3/4, 8
1-3/16	7/8-9 x 1-1/8	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, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 7, 7-1/4, 7-1/2, 7-3/4, 8
1-1/4	7/8-9 x 1-1/8	1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2, 2-1/4, 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, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 7, 7-1/4, 7-1/2, 7-3/4, 8
1-3/8	1-8 x 1-3/8	1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2, 2-1/4, 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, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 7, 7-1/4, 7-1/2, 7-3/4, 8
1-1/2	1-1/8-7 x 1-1/2	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, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 7, 7-1/4, 7-1/2, 7-3/4, 8
1-3/4	1-1/4-7 x 1-3/4	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, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 7, 7-1/4, 7-1/2, 7-3/4, 8
2	1-1/2-6 x 2	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, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 7, 7-1/4, 7-1/2, 7-3/4, 8
2-1/4	1-3/4-5 x 2-1/4	1, 1-1/2, 2, 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 5-1/2, 6, 7, 8
2-1/2	2-1/4-4-1/2 x 2-1/2	1, 1-1/2, 2, 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 5-1/2, 6, 7, 8

Metric

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (mm)
2mm	M1.6 x 0.35 x 3	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30
3mm	M1.6 x 0.35 x 4 M2 x 0.4 x 3.8	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 16, 18, 20, 22, 25, 30, 35, 40, 45, 50
3.5mm	M2 x 0.4 x 5	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30
4mm	M2 x 0.4 x 5 M3 x 0.5 x 4.5	2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 15, 16, 18, 20, 22, 25, 28, 30, 35, 40, 45, 50, 55, 60, 65, 70
4.5mm	M3 x 0.5 x 5	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50
5mm	M3 x 0.5 x 5 M4 x 0.7 x 4.5	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 25, 30, 35, 40, 45, 50, 60, 70
5.5mm	M4 x 0.7 x 5	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70
6mm	M4 x 0.7 x 10 M5 x 0.8 x 9.5	2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 22, 25, 30, 35, 40, 45, 50, 52, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110
6.5mm	M5 x 0.8 x 10	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
7mm	M6 x 1 x 11	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
8mm	M5 x 0.8 x 11 M6 x 1 x 11	4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 25, 28, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140

Shoulder Screws

Knurled Head Shoulder Screws **NEW SIZES**



Metric (continued)

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (mm)
9mm	M8 x 1.25 x 13	4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110
10mm	M6 x 1 x 13 M8 x 1.25 x 13	4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 22, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
12mm	M8 x 1.25 x 16 M10 x 1.5 x 16	6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180
13mm	M10 x 1.5 x 16	6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
16mm	M10 x 1.5 x 18 M12 x 1.75 x 18	10, 12, 14, 16, 18, 20, 22, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190
18mm	M14 x 2.0 x 18	10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190
20mm	M12 x 1.75 x 22 M16 x 2 x 22	12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 160, 170, 180, 190
22mm	M16 x 2 x 22	12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
24mm	M20 x 3 x 27	12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 160, 170, 180, 190
26mm	M22 x 2.5 x 27	12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
30mm	M27 x 3 x 35	25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
36mm	M33 x 3.5 x 40	25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
45mm	M42 x 4.5 x 40	30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 175, 200
50mm	M42 x 4.5 x 40	30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 175, 200

Self-Locker Knurled Head **NEW STEEL SIZES**



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

Finishes: Natural, black oxide

Drive type: Hex drive

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.

Double Drive Knurled Head



Materials offered in: 18-8 SS

Finishes: Natural, black oxide

Drive type: Hex drive

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

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, 1/2, 3/4, 1
5/32	6-32 x 3/16	
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	1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2
5/16	1/4-20 x 7/16	
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

Inch

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

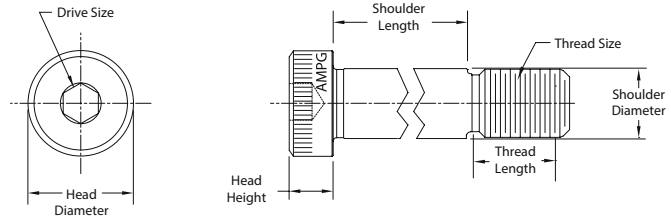
Shoulder Screws

Oversized Thread Knurled Head

NEW SIZES



Materials offered in: 316 SS, 18-8 SS, Alloy Steel
Finishes: Natural, black oxide



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

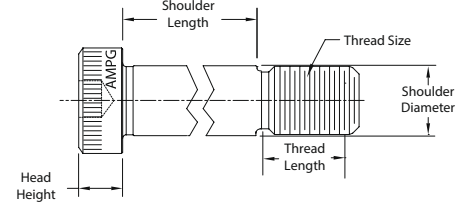
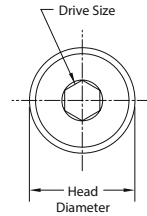
Shoulder Screws

Oversized Thread Knurled Head

NEW SIZES
NEW MATERIAL



Materials offered in: 316 SS, 18-8 SS, Alloy Steel
Finishes: Natural, black oxide



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

Metric

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (mm)
2mm	M2 x 0.4 x 3	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30
3mm	M3 x 0.5 x 4	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 30, 35, 40, 45, 50, 55
3.5mm	M3.5 x 0.6 x 5	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30
4mm	M4 x 0.7 x 4.5	2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 60, 70
4.5mm	M4.5 x 0.75 x 5	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50
5mm	M5 x 0.8 x 9.5	2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70
5.5mm	M5.5 x 0.9 x 10	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70
6mm	M6 x 1 x 11	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110
6.5mm	M6.5 x 1 x 12	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
7mm	M7 x 1 x 12	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
8mm	M8 x 1.25 x 13	4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140
9mm	M9 x 1.25 x 13	4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110
10mm	M10 x 1.5 x 16	4, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
12mm	M12 x 1.75 x 18	6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180
13mm	M13 x 1.75 x 16	6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
16mm	M16 x 2 x 22	7, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190
18mm	M18 x 2.5 x 18	10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
20mm	M20 x 2.5 x 27	12, 14, 15, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190
22mm	M22 x 2.5 x 22	12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
24mm	M24 x 3 x 27	12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190
26mm	M26 x 1.5 x 27	12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
30mm	M30 x 3.5 x 35	25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
36mm	M36 x 4 x 40	25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
45mm	M45 x 4.5 x 40	30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 175, 200
50mm	M50 x 5.0 x 40	30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 175, 200

Left Hand Threaded Knurled Head



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

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

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	

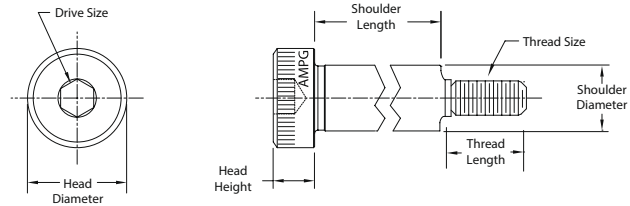
Shoulder Screws

Undersized Thread Knurled Head



NEW ITEM

Materials offered in: 18-8 SS,
Finishes: Natural, black oxide
Drive type: Hex drive



These Undersize Thread Shoulder Screw design allows the threaded portion to pass through smaller clearance holes while the precision-ground shoulder maintains a tight-tolerance fit for bearings, bushings, or pivoting parts.

Inch

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)
3/32	1-64 x 1/8	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, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2
1/8	3-48 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, 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
5/32	5-40 x 3/16	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, 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
3/16	6-32 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, 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
7/32	6-32 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, 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
1/4	8-32 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, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6
9/32	8-32 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, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6
5/16	10-24 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, 3-1/4, 3-1/2, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6
11/32	10-24 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, 3-1/4, 3-1/2, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6
3/8	1/4-20 x 1/2	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, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 6-3/4, 7, 7-1/4, 7-1/2, 7-3/4, 8
7/16	1/4-20 x 1/2	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, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 6-3/4, 7, 7-1/4, 7-1/2, 7-3/4, 8
1/2	5/16-18 x 5/8	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, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 6-3/4, 7, 7-1/4, 7-1/2, 7-3/4, 8
9/16	5/16-18 x 3/4	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, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 6-3/4, 7, 7-1/4, 7-1/2, 7-3/4, 8
5/8	3/8-16 x 3/4	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, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 6-3/4, 7, 7-1/4, 7-1/2, 7-3/4, 8
3/4	1/2-13 x 7/8	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, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 6-3/4, 7, 7-1/4, 7-1/2, 7-3/4, 8
7/8	5/8-11 x 1	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, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 6-3/4, 7, 7-1/4, 7-1/2, 7-3/4, 8
1	5/8-11 x 1	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, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 6-3/4, 7, 7-1/4, 7-1/2, 7-3/4, 8
1-1/8	5/8-11 x 1	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, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6
1-3/16	3/4-10 x 1-1/8	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, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6
1-1/4	3/4-10 x 1-1/8	1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2, 2-1/4, 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, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 6-3/4, 7, 7-1/4, 7-1/2, 7-3/4, 8
1-3/8	7/8-9 x 1-3/8	1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2, 2-1/4, 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, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 6-3/4, 7, 7-1/4, 7-1/2, 7-3/4, 8
1-1/2	1-8 x 1-1/2	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, 3-3/4, 4, 4-1/4, 4-1/2, 4-3/4, 5, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 6-3/4, 7, 7-1/4, 7-1/2, 7-3/4, 8
1-3/4	1-1/8-7 x 1-3/4	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, 5-1/4, 5-1/2, 5-3/4, 6, 6-1/4, 6-1/2, 6-3/4, 7, 7-1/4, 7-1/2, 7-3/4, 8

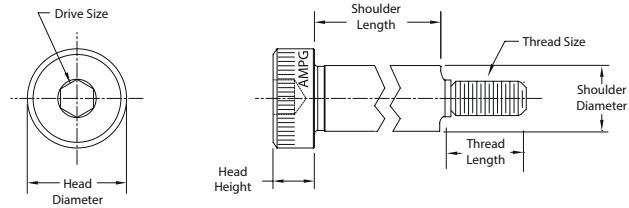
Shoulder Screws

Undersized Thread Knurled Head



NEW ITEM

Materials offered in: 18-8 SS,
Finishes: Natural, black oxide
Drive type: Hex drive



These Undersize Thread Shoulder Screw design allows the threaded portion to pass through smaller clearance holes while the precision-ground shoulder maintains a tight-tolerance fit for bearings, bushings, or pivoting parts.

Metric (mm)

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (mm)
3mm	M1.6 x 0.35 x 4	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30
3.5mm	M1.6 x 0.35 x 4	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30
4mm	M2 x 0.4 x 5	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70
4.5mm	M2 x 0.4 x 5	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50
5mm	M3 x 0.5 x 5	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70
5.5mm	M3 x 0.5 x 5	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70
6mm	M4 x 0.7 x 10	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110
6.5mm	M4 x 0.7 x 10	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
7mm	M5 x 0.8 x 11	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
8mm	M5 x 0.8 x 11	4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140
9mm	M6 x 1 x 13	4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110
10mm	M6 x 1 x 13	4, 6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
12mm	M8 x 1.25 x 16	6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180
13mm	M8 x 1.25 x 16	6, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
16mm	M10 x 1.5 x 18	10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190
18mm	M12 x 1.75 x 18	10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
20mm	M12 x 1.75 x 22	12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190
22mm	M12 x 1.75 x 22	12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
24mm	M16 x 2 x 27	12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190
26mm	M20 x 2.5 x 27	12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
30mm	M24 x 3 x 35	25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
36mm	M27 x 3 x 40	25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150
45mm	M33 x 3.5 x 40	30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 175, 200

Headless Slotted Shoulder Screws



NEW ITEM

Materials offered in: 18-8 SS, 316 SS, Alloy Steel
Finishes: Natural, black oxide
Drive type: Slotted **P/N Series:** STR703
Precision tolerance shoulder screws fit in tight spaces where headed screws cannot.

Inch

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available
3/32	2-56 x 1/8	1/8, 1/4, 3/8, 1/2,
1/8	4-40 x 5/32	5/8, 3/4
5/32	6-32 x 5/32	1/8, 1/4, 3/8, 1/2,
3/16	8-32 x 3/16	5/8, 3/4
1/4	10-24 x 1/4	1/8, 1/4, 3/8, 1/2,
1/4	10-32 x 1/4	5/8, 3/4
5/16	1/4-20 x 7/16	
3/8	5/16-18 x 1/2	1/4, 3/8, 1/2, 5/8,
1/2	3/8-16 x 5/8	3/4, 1

Metric

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available
2.2mm	M1.6 x 0.35 x 2.5	1.2, 1.6, 2, 2.5, 3
2.8mm	M2 x 0.4 x 2.8	1.6, 2, 2.5, 3, 4
3.5mm	M2.5 x 0.45 x 3.5	2, 2.5, 3, 4, 5
4mm	M3 x 0.5 x 4.5	2.5, 3, 4, 5, 6, 8, 10
5.5mm	M4 x 0.74 x 6	3, 4, 5, 6, 8, 10, 12, 16
6.5mm	M5 x 0.8 x 7	4, 5, 6, 8, 10, 12, 16
8mm	M6 x 1 x 8	5, 6, 8, 10, 12, 16
10mm	M8 x 1.25 x 11	6, 8, 10, 12, 16
12mm	M10 x 1.5 x 12	8, 10, 12, 16

Shoulder Screws

Shortened Thread Knurled Head



Materials offered in: 316 SS, 18-8 SS, Alloy Steel
Finishes: Natural, black oxide
Drive type: Hex drive

These specialty shoulder screws have thread lengths that are shorter than our standard knurled head shoulder screws. Made in the USA with DFARS compliant material, each screw is manufactured in one complete operation, which produces a tightly controlled consistent and concentric product. Inch shoulder length tolerance is $\pm .005$ inches and have a Class 3A thread fit. Metric shoulder length tolerance is $\pm .25\text{mm}/-.0\text{mm}$ with a Class 5g6g thread fit.

**Sizes only available in Alloy Steel, Black Oxide.*

Inch

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)
1/4	10-32 x 5/32	1/4, 5/16, 3/8, 7/16, 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
5/16	1/4-28 x 11/64	
3/8	5/16-24 x 3/16	1/4, 5/16, 3/8, 7/16, 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
1/2	3/8-24 x 13/64	
5/8	1/2-20 x 3/8	5/16, 3/8, 7/16, 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
3/4	5/8-18 x 7/16	3/8, 7/16, 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
1	3/4-16 x 1/2	1, 1-1/2, 1-3/4, 2, 2-1/2, 3, 3-1/2, 4

Metric

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (mm)
3mm	M2 x 0.4 x 2.5	4, 5, 6, 7, 8, 10
4mm	M3 x 0.5 x 3.8	4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50
5mm	M4 x 0.7 x 4.5	4, 5, 6, 8, 10, 12, 16, 20, 25, 30
6mm	M5 x 0.8 x 8	4, 5, 6, 7, 8, 10, 12, 16, 20, 25, 30, 40, 50, 70
8mm*	M6 x 1 x 6.5	6, 8, 10, 12, 16, 20, 25, 30, 40, 50
10mm*	M8 x 1.25 x 8	
12mm*	M10 x 1.5 x 9	6, 8, 10, 12, 16, 20, 25, 30, 40, 50
16mm*	M12 x 1.75 x 12	

82° Flat Head



Materials offered in: 18-8 SS
Finishes: Natural, black oxide
Drive type: Hex drive
P/N Series: STR630

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

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, 2
5/16	1/4-20 x 7/16	
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	

External Wrenching Hex Head



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

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

Inch

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)
3/8	1/4-20 x 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 x 3/4	

Shoulder Nut for Studs and Bolts



Materials offered in: 18-8 SS
Finishes: Natural, black oxide
Drive type: Hex drive

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

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	

Shoulder Screws

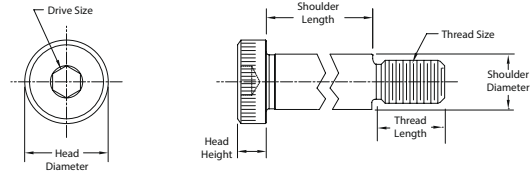
Low Profile Knurled Head Shoulder Screw NEW SIZES

Materials offered in: Alloy Steel

Finishes: Black oxide

Drive type: Hex drive

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



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, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2, 2-3/4
5/32	6-32 x 3/16	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2
3/16	8-32 x 3/16	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
7/32	8-32 x 3/16	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
1/4	10-24 x 3/8	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
9/32	10-24 x 7/16	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
5/16	1/4-20 x 7/16	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
11/32	1/4-20 x 1/2	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
3/8	5/16-18 x 1/2	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
7/16	5/16-18 x .605	1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
1/2	3/8-16 x 5/8	1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
9/16	3/8-16 x 3/4	1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
5/8	1/2-13 x 3/4	1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
3/4	5/8-11 x 7/8	1/2, 9/16, 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, 2, 2-1/4, 2-1/2, 2-3/4, 3
7/8	3/4-10 x 1	1/2, 9/16, 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, 2, 2-1/4, 2-1/2, 2-3/4, 3
1	3/4-10 x 1	1/2, 9/16, 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, 2, 2-1/4, 2-1/2, 2-3/4, 3
1-3/16	7/8-9 x 1-1/8	3/4, 7/8, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 2, 2-1/4, 2-1/2, 2-3/4, 3
1-1/4	7/8-9 x 1-1/8	1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 2, 2-1/4, 2-1/2, 2-3/4, 3, 3-1/4, 3-1/2

Metric (mm)

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (mm)
3mm	M2 x 0.4 x 3.8	2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30
3.5mm	M2 x 0.4 x 5	2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30
4mm	M3 x 0.5 x 4.5	2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70
4.5mm	M3 x 0.5 x 5	2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50
5mm	M4 x 0.7 x 4.5	2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70
5.5mm	M4 x 0.7 x 5	2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70
6mm	M5 x 0.8 x 9.5	2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
6.5mm	M5 x 0.8 x 10	2, 3, 4, 5, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
7mm	M6 x 1 x 11	2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
8mm	M6 x 1 x 11	4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
9mm	M8 x 1.25 x 13	4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
10mm	M8 x 1.25 x 13	4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
12mm	M10 x 1.5 x 16	6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
13mm	M10 x 1.5 x 16	6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
16mm	M12 x 1.75 x 18	10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
18mm	M14 x 2 x 18	10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
20mm	M16 x 2 x 22	12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
22mm	M16 x 2 x 22	12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
24mm	M20 x 2.5 x 27	12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100

Shoulder Screws

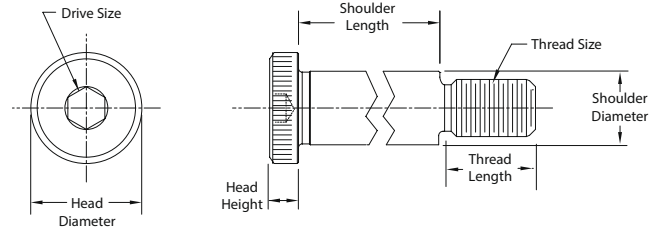
Ultra Low Profile Knurled Head Shoulder Screw NEW SIZES

Materials offered in: Alloy Steel

Drive type: Hex drive

Finishes: Black oxide

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



Inch

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)
1/8	4-40 x 5/32	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2, 2-3/4
5/32	6-32 x 3/16	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2
3/16	8-32 x 3/16	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
7/32	8-32 x 3/16	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
1/4	10-24 x 3/8	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
9/32	10-24 x 7/16	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
5/16	1/4-20 x 7/16	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
11/32	1/4-20 x 1/2	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
3/8	5/16-18 x 1/2	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
7/16	5/16-18 x .605	1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
1/2	3/8-16 x 5/8	1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
9/16	3/8-16 x 3/4	1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
5/8	1/2-13 x 3/4	1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 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, 2, 2-1/4, 2-1/2
3/4	5/8-11 x 7/8	1/2, 9/16, 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, 2, 2-1/4, 2-1/2, 2-3/4, 3
7/8	3/4-10 x 1	1/2, 9/16, 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, 2, 2-1/4, 2-1/2, 2-3/4, 3
1	3/4-10 x 1	1/2, 9/16, 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, 2, 2-1/4, 2-1/2, 2-3/4, 3
1-3/16	7/8-9 x 1-1/8	3/4, 7/8, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 2, 2-1/4, 2-1/2, 2-3/4, 3

Metric (mm)

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (mm)
3mm	M2 x 0.4 x 3.8	2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30
3.5mm	M2 x 0.4 x 5	2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30
4mm	M3 x 0.5 x 4.5	2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70
4.5mm	M3 x 0.5 x 5	2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50
5mm	M4 x 0.7 x 4.5	2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70
5.5mm	M4 x 0.7 x 5	2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70
6mm	M5 x 0.8 x 9.5	2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
6.5mm	M5 x 0.8 x 10	2, 3, 4, 5, 7, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
7mm	M6 x 1 x 11	2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
8mm	M6 x 1 x 11	4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
9mm	M8 x 1.25 x 13	4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
10mm	M8 x 1.25 x 13	4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
12mm	M10 x 1.5 x 16	6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
13mm	M10 x 1.5 x 16	6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
16mm	M12 x 1.75 x 18	10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
18mm	M14 x 2 x 18	10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
20mm	M16 x 2 x 22	12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
22mm	M16 x 2 x 22	12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80
24mm	M20 x 2.5 x 27	12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100

Shoulder Screws

Tight Tolerance Smooth Head



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

Finishes: Natural, black oxide

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

P/N Series: ZR

*416 SS, A286 SS, Alloy Steel & Brass may not be available in all sizes & head styles

These shoulder screws are available with Standard, Low and Ultra Low Profile 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.

Inch

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (inch)
3/32	2-56 x 1/8	1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8, 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, 11/16, 3/4, 7/8, 1
5/32	6-32 x 3/16	1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 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
3/16	8-32 x 3/16	1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 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
1/4	10-32 x 1/4	1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 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
1/4	10-24 x 3/8	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2
5/16	1/4-20 x 7/16	1/8, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 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
3/8	1/4-20 x 7/16	5/16, 3/8, 1/2, 5/8
1/2	3/8-16 x 5/8	1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 2

Metric

NEW SIZES

Shoulder Diameter	Thread Size x Lg.	Shoulder Lengths Available (mm)
2mm	M1.6 x 0.35 x 3	0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15, 15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 20.5, 21, 21.5, 22, 22.5, 23, 23.5, 24, 24.5, 25, 26, 27, 28, 29, 30
2.5mm	M1.6 x 0.35 x 3	2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15, 15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 20.5, 21, 21.5, 22, 22.5, 23, 23.5, 24, 24.5, 25
2.5mm	M1.7 x 0.35 x 3	4, 6, 7
3mm	M2 x 0.4 x 4	2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15, 15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 20.5, 21, 21.5, 22, 22.5, 23, 23.5, 24, 24.5, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50
3.5mm	M2.5 x 0.45 x 4	2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15, 15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 20.5, 21, 21.5, 22, 22.5, 23, 23.5, 24, 24.5, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60
4mm	M3 x 0.5 x 4	4, 5, 6, 8, 10, 12, 16, 20, 25, 30
5mm	M4 x 0.7 x 5	2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15, 15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 20.5, 21, 21.5, 22, 22.5, 23, 23.5, 24, 24.5, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60
5mm	M4 x 0.7 x 8.3	4, 5, 6, 8, 10, 12, 16, 20, 25, 30
5.5mm	M4 x 0.7 x 5	2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15, 15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 20.5, 21, 21.5, 22, 22.5, 23, 23.5, 24, 24.5, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70
6mm	M5 x 0.8 x 6	2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15, 15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 20.5, 21, 21.5, 22, 22.5, 23, 23.5, 24, 24.5, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70
6mm	M5 x 0.8 x 9.5	4, 5, 6, 8, 10, 12, 16, 20, 25, 30, 35, 40
7mm	M5 x 0.8 x 6	4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15, 15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 20.5, 21, 21.5, 22, 22.5, 23, 23.5, 24, 24.5, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50
8mm	M6 x 1 x 11	4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15, 15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 20.5, 21, 21.5, 22, 22.5, 23, 23.5, 24, 24.5, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80
9mm	M6 x 1 x 11	8, 10, 12, 16
10mm	M6 x 1 x 11	4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15, 15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 20.5, 21, 21.5, 22, 22.5, 23, 23.5, 24, 24.5, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80
10mm	M8 x 1.25 x 12	6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15, 15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 20.5, 21, 21.5, 22, 22.5, 23, 23.5, 24, 24.5, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60
11mm	M8 x 1.25 x 12	6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15, 15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 20.5, 21, 21.5, 22, 22.5, 23, 23.5, 24, 24.5, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60
12mm	M10 x 1.5 x 16	6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15, 15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 20.5, 21, 21.5, 22, 22.5, 23, 23.5, 24, 24.5, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80
13mm	M10 x 1.5 x 16	10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15, 15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 20.5, 21, 21.5, 22, 22.5, 23, 23.5, 24, 24.5, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60

Shoulder Screws

Extended Thread Smooth Head



Materials offered in: 18-8 SS
Finishes: Natural, black oxide
Drive type: Hex drive

Mil Spec Smooth Head



Materials offered in: 18-8 SS
Finishes: Natural, black oxide
Drive type: Hex drive, slotted drive

Inch

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

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

Washers & Shims

Alignment (Spherical) Washer



Materials offered in: 18-8 SS & 316 SS
Finishes: Natural, 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.

Inch

For Screw Sizes

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"

Metric

For Screw Sizes (mm)

M6, M8, M10, M12, M16, M20, M24, M30
Thickness : 4.20 - 19.20mm

ANSI Type B Washer



Materials offered in: 18-8 SS, 316 SS, Steel, Aluminum, Brass, Copper, PTFE, PVC, Fiber, Neoprene

Finishes: Natural, Zinc (Steel)

P/N Series: WASB

Type B 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.

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 : .022 - .266"

Metric

For Screw Sizes (mm)

M2.5, M3, M4, M5, M6, M8, M10, M12, M14, M16, M20, M24, M30, M36
Thickness : .60 to 8.50mm

Component Thick Washer



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

Finishes: Natural, black oxide, zinc yellow

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

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

Component (Roughneck) Thick Washer



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

Finishes: Natural, black oxide

A thick Flat Washer used for spacing applications where appearance and tight tolerances are not needed.

Inch

For Screw Sizes

3/8, 1/2, 5/8, 3/4
Thickness : .187 - .250"

Countersunk Washer



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

Finishes: Natural, black oxide

Flat & 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 90° and 100° countersunk angles.

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

Countersunk Pyramid Washer



Materials offered in: 316 SS

Finishes: Natural

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.

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

DIN Washer



Materials offered in: Titanium Grade 2

Finishes: Natural

Easy On Slotted Washer



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

Finishes: Natural, black oxide

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

Inch

For Screw Sizes

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

Thickness : .250 - .438"

Fender (Large O.D) Washer



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

Finishes: Natural, black oxide, zinc-plated

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

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"

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: Natural, black oxide, hot dip galvanized

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

Finishes: Natural

Used on machinery, presses, large diameter bolts, shafts, studs and rollers.

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

Machined Spacing Washer



Materials offered in: Steel, 4140 Alloy Hardened

Finishes: Natural, black oxide

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

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"

Machined Spacing Beveled Washer



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

Finishes: Natural, 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.

Inch

For Screw Sizes

#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"

Washers & Shims

Machined Dress Washer



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

Finishes: Natural, 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

#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

Types: MS15795, AN960, NAS620, NAS1149

Made to Military specifications with certification available. Washers are passivated to provide added protection against oxidation and corrosion.

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"

SAE Washer



Materials offered in: 17-4 PH SS

Finishes: Natural

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.

Inch

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

USS Washer



Materials offered in: 18-8 SS, 316 SS

Finishes: Natural

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

Inch

For Screw Sizes

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

Thickness

.036 - .192"

Flat Washer for Socket Head Cap Screw



Materials offered in: 18-8 SS, Steel

Finishes: Natural, black oxide

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

Inch

For Screw Sizes

#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"

Non-Metal Washer



Materials offered in: PTFE, PVC, Fiberglass, Fiber, Phenolic, Neoprene and Nylatron

Shapes: Round and Square

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

Inch

For Screw Sizes

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

Thickness

.022 - .174"

Metric

For Screw Sizes (mm)

M2.5, M3, M4, M5, M6, M8, M10, M12, M14, M16, M20, M24, M30

Thickness

6mm

Bearing Plate



Materials offered in: 18-8 SS

Finishes: Natural

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.

Inch

For Screw Sizes

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

Thickness

.141 - .390"

Square Washer



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

Finishes: Natural, 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

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"

Metric

For Screw Sizes (mm)

M4, M5, M6, M8, M10, M12, M14, M16, M18, M20, M22, M24, M30, M32, M35, M42

Thickness

6mm

Washers & Shims

Carriage Bolt Washers

NEW ITEM



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

Specifically designed for carriage bolts, the square hole (ID) provides a tight fit and prevents the bolt from rotating.

Tapped Weld Plates (Threaded Washers)

NEW ITEM



Materials offered in: 316 SS, Steel
Finishes: Natural

Available in round or square, they are designed to be welded onto a surface, such as the end of tubing, to create a threaded attachment point.

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

Shim for Shaft



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

Shim for Shoulder Diameter



Materials offered in: 18-8 SS
Finishes: Natural
Add these shims over the threads or shoulders of our shoulder screws to extend or reduce the shoulder.

Horseshoe Shim



Materials offered in: 316 SS
Finishes: Natural
Used where fire-resistant shims are required or when welding to the shim is necessary.

Wide Rim Shim



Materials offered in: 18-8 SS, Steel
Finishes: Natural
Sometimes called Machinery Bushings or Oversized Shims.

Peel Away Shim



Materials offered in: Brass
Finishes: Natural
Thin to your desired thickness using a utility knife.

Inch

For Screw Sizes Thickness

No 10, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1
.094 - .266

Metric

For Screw Sizes (mm) Thickness

M5, M6, M8, M10, M12, M16, M20
2.40 - 6.00mm

Inch

Diameter Thickness Thread Size

1, 1-1/2, 2
1/4
3/8-16, 1/2-13, 5/8-11, 3/4-10

Inch

For Screw Sizes Thickness

1/2-13, 5/8-11
.187

Inch

For Screw Sizes Thickness

#0, #2, #4, #5, #6, #8, #10, 1/4, 5/16
.004 - .013

Inch

For Screw Sizes Thickness

5/32, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 7/8
.002 - .020

Inch

For Screw Sizes Thickness

1/4, 3/8, 1/2, 5/8, 3/4, 1
.031 - .125"

Inch

For Screw Sizes Thickness

1/32, 3/64, 1/16, 5/64, 3/32, 1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8
.001 - .016

Inch

For Screw Sizes Thickness

1/4, 5/16, 3/8, 1/2, 5/8, 3/4
.0045 - .033

Inch

For Screw Sizes Thickness

2, 2-5/8, 3, 3-1/2
.063 - .250

Inch

For Screw Sizes Thickness

1/2, 5/8, 3/4, 1, 1/4, 1-1/2
.048 - .187

Inch

For Screw Sizes Thickness

1/8, 3/16, 1/4
.031

Barrels, Screws & Posts

Binding Post (Chicago Screw)



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

Binding Post Extension



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

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

Socket Drive Button Head Post (Architect Designed)



Materials offered in: 18-8 SS
Finishes: Natural
Head style: 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: Natural
Head style: 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: Natural
Head style: 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.

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 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 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

Barrels, Screws & Posts

Door Hardware Post (Architectural Series)



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

Finishes: Natural, chrome plated, dark bronze plated, zinc plated

Head style: 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
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

Combo Drive Post



Materials offered in: 18-8 SS, 316 SS, Steel, 410 SS Hardened

Finishes: Natural, zinc plated, black zinc

Head style: Truss

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

6-Lobe Drive Tamper Resistant Post



Materials offered in: 18-8 SS, Steel

Finishes: Natural, passivated, black oxide

Head style: 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.

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

One-Way Drive Tamper Resistant Post



Materials offered in: 18-8 SS

Finishes: Natural

Head style: 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.

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

Spanner Drive Post



Materials offered in: 18-8 SS

Finishes: Natural

Head style: Truss

Drive type: Drilled spanner

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

Metric (mm)

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

Hex Drive Barrel



Materials offered in: 18-8 SS

Finishes: Natural

Head style: Hex head

These drive posts have hex heads, no knurl under the head and no mating screw.

Inch

Barrel Diameter	Barrel Length
5/16	
3/8	1/2, 3/4, 1
1/2	

Barrels, Screws & Posts

Phillips Drive Barrel



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

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

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

Slotted Hinge Barrel (Grommet Nut)



Materials offered in: 18-8 SS, Steel
Finishes: Natural, brass plated, zinc plated
Head style: 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.

Inch

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

Slotted Drive Truss Head Barrel



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

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

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

Slotted Drive Oval Head Barrel



Materials offered in: Brass, Steel
Finishes: Nickel plated
Head style: 82° countersunk
Drive type: Slotted

These barrel nuts have a standard 82° countersunk head.

Inch

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

Slotted Drive Flat Head Barrel



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

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

Inch

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

T-Slot Railing Barrel



Materials offered in: Aluminum
Finishes: Natural
Head style: T-slot
Drive type: None

Special T Slot style head is used in commercial railing systems.

Inch

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

Furniture Barrel (Connector Nut)



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

Metric

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

Flange Button Head Screw



Materials offered in: 316 SS
Finishes: Natural, black oxide
Head style: Button head **Drive type:** Hex drive
P/N Series: ZFB
 The flange is wider and thicker than other flanged screws, to distribute pressure over a larger surface.

Inch

Thread Size	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)

Thread Size	Length
M3 x 0.5, M3.5 x 0.6, M4 x 0.7, M5 x 0.8, M6 x 1, M8 x 1.25	6, 8, 10, 12, 14, 16, 20, 25, 30, 40

Wide Flange Button Head Screw



Materials offered in: 18-8 SS, Aluminum
Finishes: Natural
Head style: Button head **Drive type:** Hex drive
P/N Series: ZF
 The extra-large flange helps to prevent crushing when fastening thin and softer materials.

Inch

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

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

Flange Hex Head Screw (Prairie Bolt™)



Materials offered in: 18-8 SS, 316 SS, 17-4 PH, Aluminum
Finishes: Natural
Head style: Socket head, hex head
Drive type: Hex drive, hex head
P/N Series: ZPS (hex drive), ZPH (hex head)
 The heavy heads of a Prairie Bolt™ are designed with a flange which increases surface contact, improves holding power, and distributes loads over a large area. Designed with partial threads specifically for grip.

Inch

Grip Length	Thread Length
1/8, 1/2, 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, 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, 3-3/4, 3-7/8, 4	5/16, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 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, 3-15/16, 4, 4-1/16, 4-1/8, 4-3/16, 4-1/4, 4-3/8

Flange Head Socket Cap Screws (Fully Threaded)



Materials offered in: Aluminum, Alloy Steel, Brass
Finishes: Natural, Black oxide
Head style: Socket head
Drive type: Hex drive
P/N Series: ZFH
 Like a built-in washer, the flange head distributes holding pressure, so screws are less likely to come loose. Fully threaded.

Inch

Thread Size	Length
4-40, 6-32, 8-32, 10-32, 1/4-20, 3/8-16, 1/2-13	1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2

Serrated-Flange Hex Head Screw



Materials offered in: 18-8 SS, 316 SS
Finishes: Natural, Black oxide
Head style: Hex head
P/N Series: ZFHS

A flange head bolt has a built-in washer with serrations for a better grip and resistance to loosening from vibrations.

NEW ITEM

Inch

Thread Size	Length
4-40, 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, 7/16-20, 1/2-13, 1/2-20, 5/8-11, 3/4-10, 7/8-9	1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2, 2

Metric

Thread Size	Length
M3x.05, M4x0.7, M5x0.8, M6x1, M8x1, M8x1.25, M10x1.5, M12x1.75, M16x2	6, 8, 10, 12, 16, 18, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 100, 110, 120, 150

Low-Profile External 6-Lobe Flange Screws



Materials offered in: 18-8, 316 H5 SS
Finishes: Natural
Head style: 6-lobe
P/N Series: ZPE
 These screws have a low-profile drive configuration and flange size to allow for installation in tight areas.

NEW ITEM

Inch

Thread Size	Length
6-32, 8-32, 10-32, 1/4-20, 5/16-18, 3/8-16, 1/2-13, 1/2-20, 9/16-12, 5/8-11, 3/4-10	3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2, 3, 3-1/2, 4

Metric (mm)

Thread Size	Length
M4x0.7, M5x0.8, M6x1, M8x1.25, M10x1.5, M12x1.75	8, 12, 16, 20, 25, 30, 35, 40, 50, 75, 90, 100

Screws & Bolts

Captive Screws

NEW ITEM



Materials offered in: 316 SS

Finishes: Natural

Head styles: Socket head, Button head, Flat Head

Drive type: Hex drive

P/N Series: ZCS (Socket), ZCB (Button), ZCF (Flat)

Designed to self-retain in a panel to prevent the loss of screws.

Button Socket Head Cap Screw



Materials offered in: 18-8 SS, A286 SS, Brass

Finishes: Natural, passivated

Head style: Button head

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

P/N Series: ZBC

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.



*Available in Right and Left hand threads.

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



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

Finishes: Natural, black oxide, passivated

Head style: Flat head

Drive type: Hex drive, 6-lobe

P/N Series: ZF (82° & 90°), ZFLH (82° & 90° Left-Hand thread), ZF602M (Low 90°), ZHF (100°)

Flat head screws are designed for light-duty fastening applications. They're angled under the head to sit flush within countersunk holes.



*Available in Right and Left hand threads.

Socket Head Cap Screw



Materials offered in: 18-8 SS, 316 SS, 17-4 PH, 316 H5, Aluminum, Brass, Titanium Grade 2, Titanium Grade 5

Finishes: Natural

Head style: Socket head

Drive type: Hex drive, **P/N Series:** ZS

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

Low Head Socket Head Cap Screw



Materials offered in: 18-8 SS, 316 SS, Alloy Steel, 17-4 PH SS, Aluminum, Titanium

Finishes: Natural, black oxide

Head style: Socket head

Drive type: Hex drive, **P/N Series:** ZL

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

Inch

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

Metric (mm)

Thread Size	Length
M2 x 0.4, M2.5 x 0.45, M3 x 0.5, M3.5 x 0.6, M4 x 0.7, M5 x 0.8, M6 x 1, M8 x 1.25, M10 x 1.5, M12 x 1.75	8, 10, 12, 14, 16, 18, 20, 22, 25, 30, 35, 40, 45, 50

Inch

Thread Size	Length
2-56, 2-64, 3-48, 3-56, 4-40, 4-48, 5-40, 5-44, 4-40, 6-32, 6-40, 6-48, 8-32, 8-36, 8-40, 10-24, 10-32, 1/4-20, 1/4-32, 5/16-18, 5/16-24, 5/16-32, 3/8-16, 3/8-24, 3/8-32, 7/16-14, 1/2-13, 1/2-20, 5/8-11	1/8, 5/32, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1, 1-1/4, 1-3/8, 1-1/2, 1-3/4, 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, M5 x 0.8, M6 x 0.75, M6 x 1	5, 6, 8, 10, 12, 16, 20, 25

Inch

Thread Size	Overall Length
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

Metric (mm)

Thread Size	Length
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	6, 8, 10, 12, 16, 20, 25, 30, 35

Inch

Thread Size	Length
0-80, 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, M2.5 x 0.45, 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	6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 50

Inch

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

Metric

Thread Size	Length
M2 x 0.4, 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	3, 4, 5, 6, 8, 10, 12, 14, 16, 20, 25, 30, 35, 40, 50, 60, 70, 80

Screws & Bolts

Ultra Low Head Socket Head Cap Screw



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

Finishes: Natural

Head style: Socket head

Types: Shoulder and No Shoulder

Drive type: Hex drive, **P/N Series:** ZUL

Excellent for tight areas & fastening applications where a countersunk screw won't fit. These screws have a reduced head height that's about one-third less than a standard low-head socket cap screw.

Extra Tall Socket Head Cap Screw



Materials offered in: 18-8 SS

Finishes: Natural

Head style: Socket head

Drive type: Hex drive, **P/N Series:** ZSE

Deep, accurate hex sockets allow for easy tightening and removal in tight spaces, while a higher head helps in hard-to-reach locations.

Square Drive Socket Head Cap Screw



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

Finishes: Natural

Head style: Socket head

Drive type: Hex drive, **P/N Series:** ZSQ

Square Drive Socket Screws offer more than easy tool insertion and retention of a screw on a tool tip.

Hex Head Cap Screw



NEW SIZES

NEW MATERIAL

Materials offered in: 18-8 SS, 316 SS, 316 H5, 17-4 PH SS, A286 SS, Aluminum, Brass

Finishes: Natural, black oxide, black anodized (alum)

Head style: Hex head, **P/N Series:** ZH

These bolts have a hexagonal or six sided head. Available in fully threaded or partially threaded threads. **Machined, not headed.**

Flanged Hex Head Screw

NEW ITEM



Materials offered in: Aluminum, Brass

Finishes: Natural

Head style: Hex head, **P/N Series:** ZFH

These screws distribute load and prevent the screw from pulling through the material. Both fully and partially threaded for longer lengths.

Wide Head Slotted Screw



Materials offered in: 18-8 SS, 316 SS

Finishes: Natural, passivated

Head style: Ultra-wide truss

Drive type: Slotted, **P/N Series:** ZFO

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

Inch

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

Metric (mm)

Thread Size	Length
M2 x 0.4, M2.5 x 0.45, M3 x 0.5, M3.5 x 0.6, M4 x 0.7, M5 x 0.8, M6 x 1, M7 x 1, M8 x 1.25, M10 x 1.5, M12 x 1.75, M14 x 2	3, 4, 5, 6, 8, 10, 12, 14, 15, 16, 18, 20, 25, 30, 35, 40, 50, 60, 70

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, 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, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 5/8-18, 7/8-9, 1-8, 1-14, 1 1/8-7, 1 1/4-7, 1 3/8-6, 1 1/2-6	3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 5-1/2, 6, 6-1/2, 7, 7-1/2, 8, 9, 11, 18, 20

Metric (mm)

Thread Size	Length
M2x0.4, M3x0.5, M4x 0.7, M5x0.8, M6x1, M8x1.25, M10x1.5, M12x1.75, M14x2, M16x2, M18x2.5, M20x2.5, M22x2.5, M24x3	6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75, 80, 85, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200

Inch

Thread Size	Length
1/4-20, 5/16-18, 3/8-16, 1/2-13, 5/8-11, 3/4-10	1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 2, 2-1/2, 3, 3-1/2, 4

Metric

Thread Size	Length
M6x1, M8x1.25, M10x1.5, M12x1.75	12, 16, 20, 25, 30, 40, 45, 50, 60

Inch

Thread Size	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, 1-3/4, 2, 2-1/2, 3

Metric (mm)

Thread Size	Length
M3x0.5, M4x0.7, M5x0.8, M6x1	5, 6, 8, 10, 12, 16, 20, 25

Screws & Bolts

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 Low Head Thumb Screw



Materials offered in: 18-8 SS
Finishes: Natural
Thumb Screws have textured low heads that allow for fastening and unfastening by hand.

Inch

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

Thumb Screw with Shoulder



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

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

Extra Length Thumb Screw



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

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

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

Inch

Thread Size	Length
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

Extra Length Narrow Head Thumb Screw



Materials offered in: 18-8 SS
Finishes: Natural
Extra long thread for increased reach and adjustability. Available with slot or no slot.

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

Steel Connector Bolt



Materials offered in: Steel
Finishes: Natural, 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.

Inch

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

T-Slot Bolt



Materials offered in: 18-8 SS
Finishes: Natural
Head style: T slot
Heads are designed to fit a T Slot, and will not twist or jam.

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

Screws & Bolts

DIN 922 Pan Head Slot Screw



Materials offered in: 18-8 SS, Low Carbon Steel
Finishes: Natural, black oxide
Head style: 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)

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

DIN 925 Flat Head Slot Screw



Materials offered in: Low Carbon Steel
Finishes: Black oxide
Head style: 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 for Drum Ring



Materials offered in: Brass
Finishes: Natural
Head style: Hex head

These Locking Bolts are suitable for fastening most machinery and equipment with a lock and key.

Inch

Thread Size	Length
5/8-11	4.85

Standoffs & Spacers

Round Unthreaded Spacer



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

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, 16, 19	M3, M5, M6, M10, M12	5, 7, 9, 10, 11, 12, 15, 17, 18, 20, 22, 24, 25, 26, 28, 30, 35, 40, 45, 50, 51

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.

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

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.

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

The Art Dart™



Materials offered in: Aluminum
Finishes: Natural

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

Inch

Body Diameter	Body Length
1/2	3/4

Standoffs & Spacers

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.

Inch

Fits Panel Thickness

1/4, 3/8, 1/2

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.

Inch

Fits Panel Thickness

1/4, 3/8, 1/2

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

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

Structural Standoff Base



Materials offered in: 18-8 SS
Finishes: Natural

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

Inch

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

Structural Standoff Cap



Materials offered in: 18-8 SS
Finishes: Natural

This line of Caps are designed for the larger architectural project to be used with the Base.

Inch

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

Bump-off Cap with Attached Stud



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

Inch

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

Hex Standoff Male-Male



Materials offered in: 18-8 SS
Finishes: Natural

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.

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

Round Angled Spacer (45° angle, unthreaded)



Materials offered in: 12L14 Low Carbon Steel, 18-8 SS, 316 SS, Nylon
Finishes: Natural

For attaching end fittings on angled holes at stair end posts.

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

Standoff Mounting Hardware



Materials offered in: 12L14 Low Carbon Steel
Finishes: Natural

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

Inch

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

Coupling Nuts



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

Finishes: Natural, black oxide

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

Right-Hand Left-Hand Coupling Nut



Materials offered in: 18-8 SS, 316 SS, Aluminum, 12L14 Steel

Finishes: Natural, black oxide

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

Round Coupling Nut



Materials offered in: 18-8 SS, 316 SS, Low Carbon Steel

Finishes: Natural, 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: Natural, 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.

Too Tall Acorn Nut



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

Finishes: Natural, high polish

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

Giant Acorn Nut



Materials offered in: Brass, 316 SS

Finishes: Natural, nickel plating, chrome plating

Conceal or cover protruding threads with these Acorn Nuts.

Inch

Thread Size	Length	Width
0-80, 2-56, 4-40, 6-32, 8-32, 10-24, 10-32, 1/4-20, 5/16-18, 5/16-24, 3/8-16, 7/16-14, 7/16-20, 1/2-13, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 1-8, 1-14, 1-1/8-7, 1-1/4-7, 1-1/2-12, 1-1/2-6	5/16, 7/16, 1/2, 5/8, 3/4, 7/8, 1-1/8, 1-1/4, 1-3/4, 2-1/8, 2-1/4, 2-1/2, 2-3/4, 3, 3-1/2	3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 9/16, 5/8, 11/16, 13/16, 1, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 2

Metric (mm)

Thread Size (mm)	Length	Width
M2x0.4, M2.5x0.45, M3x0.5, M4x0.7, M5x0.8, M6x1, M8x1.25, M10x1.5, M12x1.75, M14x2, M16x2, M18x2.5, M20x2.5, M22x2.5, M24x3, M27x3, M30x3.5, M33x3.5, M36x4	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

Left or Right Thread Size	Thread Lg.	Hex Size	Length
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, 1/2, 1-1/8, 1-1/4, 1-3/8, 1-5/8	1, 2, 2-1/2, 5

Metric (mm)

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 Lg.	OD
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, 1/2-28, 5/8-11, 5/8-18, 3/4-10, 3/4-6	3/4, 1, 1-1/4, 1-1/2, 2	19/64, 23/64, 27/64, 31/64, 55/64, 63/64

Metric (mm)

Thread Size	O'all Lg.	OD
M4 x 0.7, M5 x 0.8, M6 x 1.0, M8 x 1.25, M10 x 1.5, M12 x 1.75, M14 x 2, M16 x 2.0, M20 x 2.5	20, 25, 30, 40, 50	8, 10, 11, 13, 15, 18, 22, 28

Inch

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
M2x0.4, M2.5x0.45, M3x0.5, M3.5x0.6, M4x0.7, M5x0.8, M6x1, M8x1.25, M10x1.5, M12x1.75, M14x2, M16x2	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, 30, 35

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	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

Nuts

Jig & Fixture Acorn Nut



Materials offered in: C1018 Steel, Case Hardened Steel

Finishes: Natural, black oxide plated

Hex Nut



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

Finishes: Natural, black-oxide plated

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

Hex Nuts Narrow



Materials offered in: 18-8 SS, 316 SS

Finishes: Black oxide

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

Hex Thin (Jam) Nut



Materials offered in: 18-8 SS, 17-4 PH, A286 SS, 410 SS, Aluminum, 316 H5, 405, C276, Titanium Grade 2 & 5

Finishes: Natural, black oxide

Also known as Jam Nuts, they are about half the height of standard hex nuts.

Panel Nut (Special Threads)



Materials offered in: Brass, 18-8 SS

Finishes: Natural, nickel-plated

Giant Hex Nut (Import)



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

Finishes: Natural

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

Round Knurled Nut with Wrench Flats



Materials offered in: Low Carbon Steel, Case Hardened Steel

Finishes: Natural, black oxide plated

Round Knurled Nut



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

Finishes: Natural

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
M2x0.4, M2.5x0.45, M3x0.5, M4x0.7, M5x0.8, M6x1, M8x1.25, M10x1.5, M12x1.75, M16x2, M20x2.5, M24x3	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

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
M6x1, M8x1.25, M10x1.5, M12x1.75, M16x2, M20x2.5, M24x3	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

Inch

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

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	O.D	Across Flats	Height
2-56, 4-40, 5-40, 6-32, 8-32, 10-32, 1/4-20, 5/16-18	1/4, 5/16, 11/32, 3/8, 7/16, 9/16	3/16, 1/4, 5/16, 3/8, 1/2	1/6, 3/32, 7/64, 1/8, 3/16, 7/32

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

Hex Flange Nut



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

Finishes: Natural

P/N Series: ZNF

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

Inch

Thread Size	Height	Flange Diameter
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

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

Inch

Thread Size	Height	Flange Dia.
4-40, 4-48, 5-40, 5-44, 6-32, 6-40, 8-32, 8-36, 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, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 1-8, 1-12, 1-14, 1-1/8-12, 1-1/4-7, 1/4-12, 1-3/8-12, 1-1/2-6, 1-1/2-12	11/64, 7/32, 15/64, 9/32, 11/32, 9/16, 11/16, 13/16, 1, 1-1/8, 1-1/4, 2, 2-1/4	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

Metric (mm)

Thread Size	Height	Flange Diameter
M3x.35, M3x.5, M4x.5, M5x.5, M6x.75, M6x1, M7x1, M8x1, M8x1.25, M10x1, M10x1.25, M12x1.25, M12x1.5, M14x1.5, M16x1.5, M18x1.5, M18x2.5, M20x2.5, M22x2.5, M24x3, M27x3, M30x3.5, M36x4	4.40, 5.60, 6, 7, 8.70, 14.30, 17.50, 20.60, 25.40, 30, 38	10, 10.30, 12, 12.70, 15, 17, 19, 25.40, 28.60, 35, 41.30, 50.80, 57, 70

Hex Serrated Flange Nut NEW ITEM



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

Finishes: Natural, Zinc Plated, Black Oxide

P/N Series: ZNF

These Hex Serrated Flange Nut have serrations that can gripe the material surface rather than the threads that allows for minimal amount of vibration resistance.

Inch

Thread Size	Body Diameter	Length
2-56, 2-64, 3-48, 3-56, 4-40, 4-48, 5-40, 6-32, 8-32, 8-36, 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	.121-.125, .152-.156, .183-.187, .253-.257, .275-.280, .302-.307, .398-.403, .493-.498, .585-.590, .705-.710, .795-.800, .980-.986, 1.152-1.158, 1.355-1.361, 1.527-1.533	.144-.118, .172-.179, .198-.205, .223-.230, .266-.273, .309-.319, .409-.419, .512-.522, .606-.621, .718-.733, .821-.836, .995-1.010, 1.170-1.185, 1.343-1.358, 1.517-1.532

Metric (mm)

Thread Size	Body Diameter (Inch)	Length (Inch)
M2x0.4, M2.5x0.45, M3x0.5, M3x0.35, M4x0.7, M4x0.5, M5x0.8, M5x0.5, M6x1, M6x0.75, M8x1.25, M8x1, M10x1.5, M10x1.25, M12x1.75, M12x1.25, M14x2, M14x1.5, M16x2, M16x1.5, M18x2.5, M18x1.5, M20x2.5, M20x1.5, M24x3, M24x2	.121-.125, .152-.156, .183-.187, .253-.257, .275-.280, .302-.307, .398-.403, .493-.498, .585-.590, .705-.710, .795-.800, .980-.986, 1.152-1.158, 1.355-1.361, 1.527-1.533	.144-.118, .172-.179, .198-.205, .223-.230, .266-.273, .309-.319, .409-.419, .512-.522, .606-.621, .718-.733, .821-.836, .995-1.010, 1.170-1.185, 1.343-1.358, 1.517-1.532

Socket Drive Nut (Allen Nut) NEW SIZES NEW MATERIAL



Materials offered in: Alloy Steel, 18-8 SS, A286, 7075 Aluminum, Grade 2 Titanium

Finishes: Natural, black oxide plated

Types: Socket Drive Nut, Socket Drive Nut Self Locking Wedge Ramp Threads

P/N Series: Z1990 - Z1989,

Z1990-WR - Z1989-WR

Also known as Allen nuts, you can use these versatile fasteners as both threaded inserts and nuts. Our standard Socket Drive Nuts (Allen Nuts) are also offered with a vibration-controlling Wedge Ramp thread.

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

Knurled Lock Nut



Materials offered in: Low Carbon Steel, Case Hardened Steel

Finishes: Natural, black oxide plated

Check Nut



Materials offered in: Low Carbon Steel, Case Hardened Steel

Finishes: Natural, black oxide plated

Power Transmission & Gas Spring Accessories

Keyed Rotary Shaft

NEW ITEM



Full



Partial

Types: Full Keyed, Partial Keyed

Materials offered in: 18-8 SS, 316 SS, Aluminum, C1045 Carbon Steel, 1144 Stressproof Steel

Finishes: Natural

P/N Series: ZSHK (full), ZSHKK (partial)

A keyed rotary shaft is a mechanical component used to transmit rotational motion and torque in machinery. It is characterized by a linear keyway cut along part of its length, into which a matching key is inserted.

D-Profile Rotary Shaft

NEW ITEM



Full



Partial



Tapped

Types: Full D-Profile, Partial Ends, Tapped

Materials offered in: 18-8 SS, 316 SS, Aluminum, C1045 Carbon Steel, 1144 Stressproof Steel

Finishes: Natural

P/N Series: ZSHD (full), ZSHDD (partial), ZSHDTT (one end tapped)

D-Profile shafts are a specialized type of rotary shaft, offering a unique mounting solution. D-Profile shafts feature a flattened surface area along a portion of their circumference.

Tapped End(s) Rotary Shaft

NEW ITEM



Types: Full Keyed, Partial Keyed

Materials offered in: 18-8 SS, 316 SS, Aluminum, C1045 Carbon Steel, 1144 Stressproof Steel

Finishes: Natural

P/N Series: ZSHI (one end), ZSHII (both ends)

Internal threads enable direct mounting of these shafts to threaded fasteners, eliminating the need for additional support.

Threaded Stud Rotary Shaft

NEW ITEM



One End



Both Ends

Types: One End, Both Ends

Materials offered in: 18-8 SS, 316 SS, Aluminum, C1045 Carbon Steel, 1144 Stressproof Steel

Finishes: Natural

P/N Series: ZSHT (one end), ZSHTT (both ends)

Threaded Rotary Shafts are precision-engineered metal rods designed for rotational applications. Featuring threaded end(s) for secure component attachment, these shafts excel in transmitting power and motion.

Step-Down Rotary Shaft

NEW ITEM



One End



Both Ends

Types: One End, Both Ends

Materials offered in: 18-8 SS, 316 SS, Aluminum, C1045 Carbon Steel, 1144 Stressproof Steel

Finishes: Natural

P/N Series: ZSHS (one end), ZSHSS (both ends)

This rotary shaft has a diameter that decreases along its length. This creates a shoulder on the shaft that can be used for various purposes.

Inch

Diameter	Length	Keyway Width	Keyway Depth
5/16, 3/8, 1/2, 9/16, 5/8, 3/4, 7/8, 1, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 1-15/16, 2, 2-1/8, 2-3/16, 2-3/8, 2-7/16, 2.624, 2-7/8, 3-3/8	3, 6, 9, 12, 18, 24, 36, 48, 60, 72	3/32, 1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 7/8	3/64, 1/16, 3/32, 1/8, 5/32, 3/16, 1/4, 5/16, 3/8, 7/16

Metric (mm)

Diameter	Length (mm)	Keyway Width	Keyway Depth
8, 10, 12, 15, 17, 20, 24, 28, 25, 38, 40, 42, 50, 55	300, 500, 1000, 1200, 1500, 1800	2, 3, 4, 5, 6, 8, 12, 14	1.2, 1.8, 2.5, 3, 3.5, 4, 5, 5.5

Inch

Diameter	Length	Flat Width
1/4, 5/16, 3/8, 1/2, 9/16, 5/8, 3/4, 7/8, 15/16, 1, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 1-15/16, 2, 2-1/8, 2-3/16, 2-3/8, 2-7/16, 2.624, 2-7/8, 3-3/8	6, 9, 12, 18, 24, 36, 48	1/8, 5/32, 3/16, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 19/32, 5/8, 21/32, 11/16, 23/32, 3/4, 13/16, 7/8, 15/16, 31/32, 1, 1-1/16, 1-3/32, 1-3/16, 1-7/32, 1-5/16, 1-7/16, 1-5/8

Metric (mm)

Diameter	Length (mm)	Flat Width
8, 10, 12, 15, 17, 20, 24, 25, 28, 38, 40, 42, 50, 55	300, 500, 1000, 1200, 1500, 1800	4, 5, 6, 7.5, 8.5, 10, 12, 12.5, 14, 19, 21, 25, 27.5

Inch

Diameter	Length	Thread Size	Tap Depth
5/16, 3/8, 1/2, 9/16, 5/8, 3/4, 7/8, 15/16, 1	3, 6, 9, 12, 18, 24, 36, 48, 60, 72	10-32, 1/4-20, 5/16-18, 3/8-16, 1/2-13,	.375, .500, .625, .750, 1, 1.125, 1.375, 1.50

Metric (mm)

Diameter	Length (mm)	Thread Size	Tap Depth
8, 10, 12, 15, 17, 20, 24, 25, 28	300, 500, 1000, 1200, 1500, 1800	M5x0.8, M6x1, M8x1, M10x1.25, M12x1.25, M16x1.5	10, 12, 16, 20, 24, 30

Inch

Diameter	O'all Lg.	Stud Lg	Thread Size
5/16, 3/8, 1/2, 9/16, 5/8, 3/4, 7/8, 15/16, 1	3, 6, 9, 12, 18, 24, 36, 48, 60, 72	.437, .875, 1, 1.25, 1.50, 1.75, 2	1/4-20, 5/16-18, 3/8-16, 1/2-13, 5/8-11, 7/8-9

Metric (mm)

Diameter	O'all Lg.	Stud Lg	Thread Size
8, 10, 12, 15, 17, 20, 24, 25, 28	300, 500, 1000, 1200, 1500, 1800	16, 20, 24, 30, 40, 45	M6 x 1, M8 x 1, M10 x 1.25, M12 x 1.2, M16 x 1.5, M20 x 1.50

Inch

Diameter	Length	Step Down Dia.	Step Down Lg.
5/16, 3/8, 1/2, 5/8, 3/4, 7/8, 15/16, 1	3, 6, 9, 12, 18, 24, 36, 48, 60, 72	.250, .375, .500, .625, .750	.750, 1, 1.50, 3

Metric (mm)

Diameter	Length (mm)	Step Down Dia.	Step Down Lg.
8, 10, 12, 15, 20, 24, 25	300, 500, 1000, 1200, 1500, 1800	6, 8, 10, 12, 16	1.2, 1.8, 2.5, 3, 3.5, 4, 5, 5.5

Power Transmission & Gas Spring Accessories

Shafts with Retaining Ring Groove

NEW ITEM



Types: Full Keyed, Partial Keyed

Materials offered in: 18-8 SS, 316 SS, Aluminum, C1045 Carbon Steel, 1144 Stressproof Steel

Finishes: Natural

P/N Series: ZSHGG

Grooved Rotary shafts feature machined grooves that are specially designed to accommodate retaining rings.

Ground Blank Rotary Shaft

NEW ITEM



Materials offered in: 18-8 SS, 316 SS, Aluminum, C1045 Carbon Steel, 1144 Stressproof Steel

Finishes: Natural

P/N Series: ZSHR

These plain ground rotary shafts serve as the backbone for countless mechanical systems, transmitting rotational motion.

Round Pin Blank



Materials offered in: 4140 Steel, 18-8 SS

Finishes: Natural

Cut end pin blanks manufactured from various materials.

Small Diameter Dowel Pin



Materials offered in: 18-8 SS

Finishes: Natural

Unthreaded Stepped Dowel Pin



Materials offered in: 416 SS

Finishes: Natural

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

Threaded Stepped Dowel Pin



Materials offered in: 416 SS

Finishes: Natural

The large end has internal threads for a more secure mount.

Pull Dowel



Materials offered in: Low Carbon Steel

Finishes: Case hardened

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

Cut Teflon Pin



Materials offered in: Teflon

Inch

Diameter	Length
5/16, 3/8, 1/2, 5/8, 3/4, 7/8, 1	3, 6, 9, 12, 18, 24, 36, 48, 60, 72

Metric (mm)

Diameter	Length (mm)
8, 10, 12, 15, 20, 24, 25	300, 500, 1000, 1200, 1500, 1800

Inch

Diameter	Length
5/16, 3/8, 1/2, 5/8, 3/4, 7/8, 15/16, 1, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2, 2-1/8, 2-3/16, 2-3/8, 2-7/16	3, 6, 9, 12, 18, 24, 36, 48, 60, 72

Metric (mm)

Diameter	Length (mm)
8, 10, 12, 15, 20, 24, 25, 40, 50	300, 500, 1000, 1200, 1500, 1800

Inch

Diameter	Length
1/8, 5/32, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 1	12

Inch

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

Inch

Diameter	Length	Small Diameter	Short 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	5/32, 3/16, 1/4, 5/16, 3/8	3/16, 3/8, 9/16, 3/4, 1, 1-3/16

Metric (mm)

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

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)

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

Inch

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

Inch

Pin Diameter	Length
.120-.130, .182-.192, .245-.255	1/4, 3/8, 1/2, 1, 1-1/2, 2

Studs & Rods

Single-End Partial Thread Stud

NEW ITEM



Materials offered in: 18-8 SS, 316 SS, Steel
Finishes: Natural
Styles: Single End Partial Thread Stud, Slotted Drive and Plain

A single-end stud provides a threaded connection on one side, while the unthreaded end can function as a pivot point, hinge, shaft, or locator pin. The slotted drive allows for easy installation & adjustment.

Fully-Threaded Rods & Studs

NEW ITEM



Materials offered in: 18-8 SS, 316 SS, Brass, Silicon Bronze, Aluminum, 17-4PH, A286, Alloy 20 SS, 410 SS, Monel, Cupro CuNi90/10
Finishes: Natural
Styles: Threaded Studs 1/2" thru 10" (STUD), Threaded Rods 1 Ft thru 3 Ft (ROD)

A fully threaded stud is a fastener with threads along its entire length, while a fully threaded rod is a long, continuous bar with threads from end to end.

Precision Tolerance Clevis Pin



Materials offered in: 18-8 SS, 316 SS, 17-4 PH SS
Finishes: Natural, black oxide
 These pins combine the locking abilities of a clevis pin with the precision of a dowel pin for a tight fit.

Clevis Pin – Standard



Materials offered in: 18-8 SS, 316, C1018
P/N Series: PIN321, PIN322, PIN350
 With all the advantages of a bolt or rivet, plus quick installation or removal with the use of a cotter pin.

Headless Extra Long Clevis Pin



Materials offered in: 18-8 SS
 Lengths from 12" to 24" provide extra length.

Double Drilled Clevis Pin



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

Connector Stud (Hood Pin)

NEW SIZES



Materials offered in: 18-8 SS
P/N Series: PIN700
 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.

Spring Anchor



Materials offered in: 18-8 SS, Steel
Finishes: Natural, black oxide
 Attach an extension spring to a stud and then thread the stud into your part for a secure connection.

Inch

Thread Size	O'all Lg.	Thread Lg.
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, 1/2-13, 5/8-11, 3/4-10, 7/8-9, 1-8	1, 1-1/2, 2, 2-1/2, 3, 4, 4-1/2, 5, 5-1/2, 6	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, 4-3/4, 5-1/4

Metric (Slotted Only)

Thread Size	O'all Lg.	Thread Lg.
M3x0.5, M4x0.7, M5x0.8, M6x1, M8x1.25, M10x1.5, M12x1.75, M16x2	6, 10, 12, 16, 18, 20, 25, 30, 35, 40, 50	3.5, 3.6, 4.8, 6, 7.2, 9.6, 12, 14, 16, 18

Inch

Thread Size	Length
0-80, 2-56, 3-48, 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, 1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 7/8-14, 1-8, 1-14	Studs: 1/2, 3/4, 1, 1-1/4, 1-1/2, 2, 2-1/2, 3, 4, 4-1/2, 5, 6, 7, 8 Rods: 1 Ft, 3 Ft

Inch

Pin Dia.	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
8, 10, 12, 16, 20	20, 24, 25, 30, 35, 40, 45, 50, 60, 65, 80	15, 19, 20, 23, 24, 25, 28, 29, 30, 31, 34, 38, 39, 41, 43, 44, 49, 51, 53, 54, 64

Inch

Pin Diameter	Length	Usable Length
1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2	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

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 Lg.	Thread Size
5/16, 3/8, 5/8, 1/2, 3/4, 7/8, 1	2, 2-1/2, 3, 4, 5, 6	1.4, 2.4, 3.4	5/16-18, 5/16-24, 3/8-16, 3/8-24, 1/2-13, 1/2-20, 5/8-11, 3/4-10, 7/8-9, 1-8

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

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

Power Transmission & Gas Spring Accessories

Swivel Spring Anchor



Materials offered in: 18-8 SS, Steel

Finishes: Natural, black oxide

These allow for the adjustment of tension on the spring, without twisting it.

Headless Spring Anchor with Grooves



Materials offered in: 18-8 SS

Finishes: Natural

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

Headed Spring Anchor with Grooves



Materials offered in: 18-8 SS

Finishes: Natural

Multiple grooves allow for height adjustments after installation. 3 grooves on each anchor.

Flange-Mount Shaft Support

NEW SIZES



Materials offered in: Aluminum

Finishes: Natural

Provides support to ends of linear shafts. For use with light load shafts where shaft alignment is not critical. Commonly used with closed-style linear bearings.

External Threaded Connecting Rod



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

Finishes: Natural

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.

Internal Thread Connecting Rod



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

Finishes: Natural

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	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

Inch

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

Inch

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

Inch

Shaft OD	Mount Hole	Clamping Screw Size
1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4, 1-1/2, 2	1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/8, 2-1/4, 2-3/8, 2-1/2, 2-7/8	6-32, 8-32, 10-32, 1/4-20, 5/16-18

Metric

Shaft OD	Mount Hole	Clamping Screw Size
10mm, 12mm, 20mm, 25mm, 30mm	5, 7, 8	M4, M5, M6

Inch

Thread Size	O'all Lg.	Thread Lg.	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 Lg.	Thread Lg.	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

Inch

Thread Size	O'all Lg.	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 Lg.	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

Power Transmission & Gas Spring Accessories

RH/LH Turnbuckle Rod — Internally and Externally Threaded



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

Finishes: Natural

These rods are like turnbuckles, featuring right-hand threads on one end and left-hand threads on the other to create tension-adjusting linkages. They have a hex-shaped body for wrench adjustments, and a groove indicates the left-hand thread side. Available in internal or external threads.

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,

Rod End Bolt



Materials offered in: 18-8 SS, 316, 17-4 PH SS, Brass, 4140 Alloy Steel, 12L14 Steel

Finishes: Natural, black oxide

Rod End Bolts also known as swing blots, pivoting bolts and hinge eyebolts. These threaded bolts can be cut to length to fit your application.



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

Inch

Thread Size	Shank Center Lg.	ID	Thread Length
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, 5/8-24, 3/4-10, 3/4-16, 7/8-9, 1-8, 1-1/4-7, 1-1/2-6	3/4, 1, 1-1/2, 2, 3, 3-1/2, 4, 5, 6, 8	1/8, 5/32, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2	1/2, 3/4, 1, 1-1/8, 1-1/4, 1-1/2, 1-3/4, 2-1/2, 2-3/4, 3, 3-1/2, 4-1/4, 4-1/8, 4-1/2, 4-3/16, 5-5/8, 6

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, M20 x 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

Internally Threaded Solid Rod Ends



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

Finishes: Natural, Black Oxide

These Rod End Bolts have an internal thread.

Inch

Thread Size	Shank Outside Dia	Eye ID	O'all Length
1/4-20, 3/8-16, 1/2-13, 5/8-11, 3/4-10	3/8, 5/8, 3/4, 7/8, 1	3/16, 3/8, 5/8, 3/4	2-1/4, 3-3/8, 4-1/4, 4-1/2, 5-1/8, 5-5/8, 6-5/8, 5-1/4

Gas Spring Attachment Points



Inverted



Long Neck



Flat

Types: Inverted, Long Neck and Flat Brackets

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

Finishes: Natural, Zinc (Steel)

Used as mounting points for Gas Springs where extra strength is needed. These Brackets are the thickest and strongest

Stud Size	Thickness
13mm, 16mm	1/4

Hex Thread Adapter — Male-Female, Male-Male, Female-Female



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

Finishes: Natural, black oxide

Types: Male-Female, Male-Male, Female-Female

P/N Series: ZTA (Male-Female), ZTAE (Male-Male), NUT601, NUT602, NUT720 (Female-Female)

These Male-Female, Male-Male and Female-Female Thread Adapters are available in Inch-to-Inch, Inch-to-Metric, and Metric-to-Metric sizes. Join threads with small diameters to large or coarse threads to fine with adapters.

Male Thread(s) Size	Female Thread(s) Size	Hex Length
Inch : 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, 5/8-11, 3/4-10, 2-5/6	Inch : 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, 5/8-11, 3/4-10, 2-5/6	Inch : 1/8, 3/16, 1/4, 3/8, 9/16, 11/16, 3/4, 1, 1-1/2, 2, 2-1/4
Metric : M3 x 0.5, M4 x 0.7, M5 x 0.8, M6 x 0.75, M6 x 1, M8 x 1, M8 x 1.25, M10 x 1.5, M10 x 1.25, M12 x 1.75	Metric : M3 x 0.5, M4 x 0.7, M5 x 0.8, M6 x 0.75, M6 x 1, M8 x 1, M8 x 1.25, M10 x 1.5, M10 x 1.25, M12 x 1.75	Metric : 3.2mm, 4.8mm, 6.4mm, 9.5mm, 12.7mm, 19.1mm, 25.4mm, 38.1mm

Machine Tool Accessories

QUICK OUTS™ Socket-Screw Extractors

NEW ITEM



Materials offered in: Alloy Steel

Finishes: Black oxide

USA made socket-screw extractors that don't need a drill. Extract socket drive screws that have damaged round recesses without drilling. Just tap them into the stripped drive for socket head, socket button head, socket flat head and socket set screws or any fastener with a hex socket drive. Available in individual sizes or in sets.

Threaded Hole Transfer Punches



Materials offered in: 1144 Stress-Proof Steel

Finishes: Black oxide

Also known as transfer screws, these punches can be used in any threaded hole to transfer the hole location. Each set includes six steel punches stored in the handle. Use the handle to screw a punch into a hole. Place your workpiece against the punch and strike it with a hammer to mark the hole location. Useful for tool and machine maintenance, die making and other general repairs. Also available as a set with case.

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.

Vise Speed Handles



Materials offered in: Aluminum

Finishes: Natural

New design nests the steel arms inside the solid aluminum hub for a much stronger unit.

Shell End Mill Arbor Screw



Materials offered in: Cold Rolled Steel

Finishes: Black oxide and oil

Fits Style "C" and other styles of Shell End Mill Arbor

Soft Collet Heads



Materials offered in: Steel, Aluminum

Finishes: Natural

Each Soft Collet Head comes with one expander pin.

Inch

For Screw Size	Recess Wd.	Across the Flats	O'all Length
#6, #8, #10, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	1/16, 5/64, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8, 1/2, 9/16	5/16, 3/8, 7/16, 9/16, 5/8	2-1/4, 2-3/4, 3, 3-1/4, 3-1/2, 3-5/8

Metric

For Screw Size	Recess Wd. (mm)	Across the Flats	O'all Length
M3, M4, M5, M6, M8, M10, M12, M14, M16	1.5, 2, 2.5, 3, 4, 5, 6, 8	8, 9	2-1/4, 2-3/4, 3-1/4, 3-1/2, 3-5/8

Inch

Thread Size
1-64, 2-56, 3-48, 3-56, 4-40, 4-48, 5-40, 5-44, 6-32, 6-40, 8-32, 8-36, 10-24, 10-32, 12-24, 12-28, 3/16-24, 3/16-32, 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, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 7/8-14, 1-8, 1-14, 1-1/8-7, 1-1/8-12, 1-1/4-7, 1-1/4-12, 1-1/2-6, 1-1/2-12

Metric

Thread Size
M2.5 x 0.45, M2.6 x 0.45, M3 x 0.50, M3.5 x 0.60, M4 x 0.70, M5 x 0.80, M6 x 1.00, M8 x 1.25, M10 x 1.50, M12 x 1.75, M14 x 2.00, M16 x 2.00, M18 x 2.50, M20 x 2.50, M22 x 2.50, M24 x 3.00, M27 x 3.00, M30 x 3.50

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

Inch

Product Description
9/16" Hex Broach - Fits 4" Vise 5/8 Hex Broach - Fits 5" Vise 3/4 Hex Broach - Fits 6" Vise 7/8 Hex Broach - Fits 8" Vise 5/8 Square Broach - Fits Imports

Inch

Thread Size	Thread Length
1/4-28, 3/8-24, 1/2-20, 5/8-18, 3/4-16, 1-14	1/2, 5/8, 13/16, 61/64, 1-1/8, 1-1/4

Inch

Head Diameter	Head Thickness
1-1/2, 2, 2-1/2, 3, 4	7/8, 3/4, 1-1/4, 1, 1-1/2, 1-5/8

Measuring Tools

AGD Drop Dial Indicator Points



Inch

Point Types	Thread Size	Body Dia.	Length
Flat, Ball and Cone	4-48	7/32, 3/16, 5/16	1/8, .175, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, .895, 1, 1-1/4, 1-1/2, 1-3/4, 2

Stem Indicator Points



Inch

Stem Types	Thread Size	Body Dia.	Length
Double, Bent and Single	4-48	7/32, 3/16	7/16, 45/64, 3/4, 15/16, 31/32, 1-23/64

Flat Needle Carbide Point



Inch/Metric

Needle Tip Dia.	Needle Lg.	O'all Lg.	Thread Size
.015 to .078	.120 to 1	.400 to 1.30	4-48, M2.5

Ruby and Carbide Ball Points



Inch/Metric

Thread Size	Ball Diameter	Body Dia.	Length
4-48 or M2.5	2mm, 3mm, 4mm	.187	.250, .500, .750, 1

Gage Ball Tip



Inch/Metric

Thread Size	Diameter
4-48 or M2.5	.032 to 1.15"

Gage Ball Point



Inch/Metric

Thread Size	Ball Dia.	Stem Length
4-48 or M2.5	0.0310 to 1.250"	.025 to .500"

Indicator Extension Point



Inch/Metric

Thread Size	Length
4-48 or M2.5 x 0.45 internal and external	1/2, 3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/2, 3, 4, 6

Button Indicator Point



Inch/Metric

Thread Size	Diameter
4-48 or M2.5	3/8, 1/2, 3/4

Roller Anvil Contact



Inch/Metric

Thread Size	Roller Size
4-48 or M2.5	3/8

Shock Absorbing Point



Inch/Metric

Thread Size
4-48 or M2.5

Flat Indicator Point



Inch/Metric

Thread Size	Diameter
4-48 or M2.5	1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/2, 2

Contact Point Sets



Drop Dial Indicator Depth Base



Drop Dial Indicator Backs



Magnetic Backs for Drop Dial Indicator



Universal Dovetail Holder for Test Indicators



Granite Gage Stand



Mini Vee Block Set



Surface Plate Cleaner



Depth Base Attachment for Calipers



Axial Bracket for Test Indicators



Centerline Gages for 4", 6", 8", 12" Calipers



Caliper Extender Attachments 26"-91" Lengths



Dovetail Stems



Dovetail Clamps



ZeroSet Test Indicator Holder



Replacement Tips for Test Indicators

Brown & Sharpe, Peacock, Tesa, Interapid, Compac, TeClock, Fowler, Mitutoyo, Starret



Mic Anvils



Ball Attachment for Mics



Pin Gage Holder



CMM Styli



Parallel Sets 1/8" Thick, 10 Pair



Parallel Sets 1/4" Thick, 9 Pair



Parallel Sets 1/3" Thick, 20 Pair

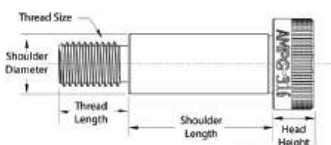




MADE TO ORDER PROGRAM

AMPG's Made to Order Shoulder Screws, Socket Head Cap Screws, Hex Head Cap Screws, Spacers and Pins are precision manufactured to your exact specifications on Swiss lathes. Items can be ordered in small to large quantities machined from DFARS compliant materials. **Minimum Quantity 1 Piece.** Order online using our [Online Configurator](#), using the QR code or contact us at sales@ampg.com with your dimensions.

Made to Order items are non-returnable.

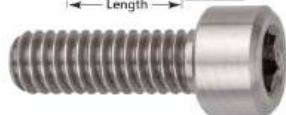
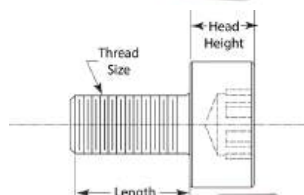


Shoulder Screws

Custom shoulder diameters, shoulder lengths and 3 thread choices in Inch and Metric sizes. Shoulder length are available in 0.01" increments up to 6" or 0.25mm up to 150mm.

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

Finishes: Natural, black oxide

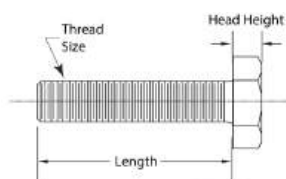


Socket Head Cap Screws

Custom overall lengths and thread lengths in Inch sizes. Thread lengths are available in 0.125" increments. Overall length from .125 to 6".

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

Finishes: Natural, black oxide

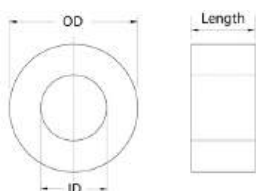


Hex Head Cap Screws

Custom overall lengths and thread lengths. Thread lengths are available in 0.125" increments. Overall length from .125 to 6".

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

Finishes: Natural, black oxide



Spacers

Custom OD and Length in Inches. OD ranges from a minimum of 0.125 to a maximum of 3". Length ranges from a minimum of 0.125 to 6".

Materials offered in: 18-8 SS, 1144 Stressproof Plain Steel, Aluminum, Brass

Finishes: Natural



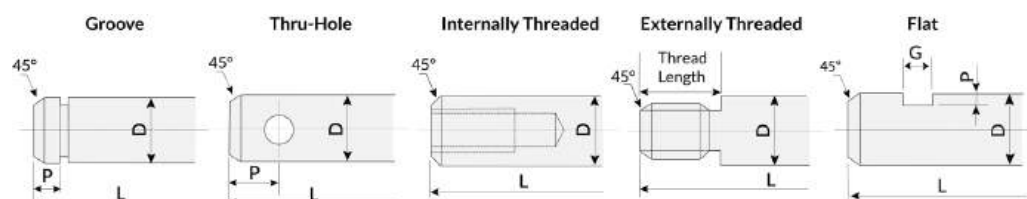
Straight and Headed Pins

Custom Diameter, Length and Pin Features (combination of 1 or 2 Pin Features). Diameter ranges from 1/4 to 3/4". Length ranges up to 4 or 5" depending on the OD.

Materials offered in: 18-8 SS, 416 SS, 1144 Stressproof Plain Steel

Finishes: Natural

Pin Features: Groove, Thru-Hole, Internally Threaded, Externally Threaded, Set Screw Flat





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