

HARDWARE



05**Hardware**

| | | | |
|--|-------------------|---|-------------------|
| Blind Fasteners | 05.0450 - 05.0455 | Specialty Self-Tapping/Self-Drilling Screws | 05.0365 - 05.0370 |
| Blind Rivets | 05.0425 - 05.0430 | Two Piece Fastener | 05.0460 |
| Conversion Charts | 05.0465 - 05.0470 | U.S. Machine Screws | 05.0150 - 05.0155 |
| Dowel Spring Pins | 05.0195 | U.S. Stainless Steel | 05.0375 - 05.0395 |
| Grade 10.9 Metric Hex Head Cap Screws | 05.0225 | US Cotter Pins | 05.0185 |
| Grade 10.9 Metric Hex Head Cap Screws Fine Thread | 05.0255 | US License Plate Screws | 05.0200 - 05.0210 |
| Grade 5 & 8 Hex Head Cap Screws | 05.0050 - 05.0095 | Washers | 05.0125 - 05.0145 |
| Grade 8.8 Metric Hex Head Cap Screws | 05.0230 - 05.0250 | Wing Nuts | 05.0120 |
| Hardware Assortments | 05.0005 - 05.0045 | Zebra® Blind Rivets | 05.0415 - 05.0420 |
| Hex Nuts | 05.0100 - 05.0120 | | |
| Hitch Pins | 05.0175 - 05.0180 | | |
| Manifold Studs | 05.0290 | | |
| Metric Blind Rivet Nuts | 05.0430 - 05.0440 | | |
| Metric Blind Rivet Studs | 05.0445 | | |
| Metric Cotter Pins | 05.0320 | | |
| Metric E-Clips | 05.0325 | | |
| Metric Exhaust Nuts | 05.0285 | | |
| Metric Flange Bolts | 05.0255 - 05.0260 | | |
| Metric Hex Nuts | 05.0265 - 05.0280 | | |
| Metric License Plate Screws | 05.0215 - 05.0225 | | |
| Metric Machine Screws | 05.0310 | | |
| Metric Socket Head Cap Screws | 05.0315 | | |
| Metric Stainless Steel | 05.0400 - 05.0410 | | |
| Metric Washers | 05.0295 - 05.0305 | | |
| Nylon Insert Lock Nuts | 05.0105 | | |
| Replacement Hardware for Frame Machines | 05.0165 - 05.0170 | | |
| Self-Drilling Screws (Tek®) | 05.0355 - 05.0360 | | |
| Self-Tapping Screws | 05.0325 - 05.0350 | | |
| Socket Head Cap Screws/Button Head | 05.0160 | | |
| Socket Cap Screws | | | |
| Socket Set Screws | 05.0190 | | |

HARDWARE ASSORTMENTS

Metric Hex Bolts
Art. 1964 00004

- 585 Pieces
- M5 - M8
 - Zinc Plated 8.8


Metric Euro/ISO Hex Bolts
Art. 1964 00005

- 330 Pieces
- M8 - M12
 - Zinc Plated
 - Grade 8.8


USS Grade 5 Hex Bolts w/Nuts
Art. 1964 00001

- 1140 Pieces
- 1/4" - 7/16"
 - Zinc Plated


Flange Hex Head Bolts & Flange Nuts
Art. 1964 1274

- 490 Pieces
- M6 - M10
 - Zinc Plated


Reduced Hex Head Flange Bolts
Art. 1964 1275

- 350 Pieces
- M6
 - Zinc & Black


Metric Manifold Studs, Exhaust Nuts, Bolts, Lock Nuts & O-Rings
Art. 1964 0366

- 500 Pieces
- 6mm - 12mm
 - Zinc, Black & Copper


SAE Hex Head Bolts, Nuts, Flat & Lock Washers
Art. 1964 0071

- 600 Pieces
- 1/4" - 5/16"
 - Zinc Plated
 - Grade


USS Hex Head Bolts, Nuts, Flat & Lock Washers
Art. 1964 0072

- 600 Pieces
- 1/4" - 3/8"
 - Zinc Plated
 - Grade 5

HARDWARE ASSORTMENTS
Stainless Steel

**USS Hex Head Bolts,
Nuts, Flat & Lock
Washers**
Art. 1964 1095

600 Pieces

- 1/4" - 3/8"
- Stainless Steel


**JIS Hex Bolts, Nuts,
Flat & Lock Washers**
Art. 1964 1060

470 Pieces

- 6mm - 12mm, M6 - M12
- Zinc Plated
- Grade 8.8


**Metric Hex Head
Bolts, Nuts, Flat & Lock
Washers**
Art. 1964 0057

490 Pieces

- 6mm - 10mm, M6 - M10
- Zinc Plated
- Grade 8.8


**Metric Hex Head
Bolts, Nuts, Flat & Lock
Washers**
Art. 1964 00570

490 Pieces

- 6mm - 10mm, M6 - M10
- Yellow Chromate
- Grade 8.8


**Metric Allen
Head Bolts**
Art. 1964 0084

400 Pieces

- M4 - M8
- Zinc Plated
- Grade 8.8


**Japanese Pan Head
Machine Screws**
Art. 1964 0047

1225 Pieces

- 3mm - 6 mm
- Zinc Plated


**USS / SAE Pan Head
Machine Screws, Hex
Nuts, Flat & Lock
Washers**
Art. 1964 0035

825 Pieces

- #6 - #10
- Zinc Plated


**USS / SAE Grade 5
Hex Nuts**
Art. 1964 033031

850 Pieces

- 1/4" - 3/4"
- Zinc Plated

HARDWARE ASSORTMENTS


**USS / SAE Nylon Insert
Lock Nuts**
Art. 1964 037374
320 Pieces
• 1/4" - 1/2"
• Zinc Plated



**Metric Nylon Insert
Lock Nuts**
Art. 1964 0368
400 Pieces
• 4mm - 14mm
• Zinc Plated



Metric Hex Nuts
Art. 1964 0317
825 Pieces
• 3mm - 14mm
• Zinc Plated



Metric Hex Nuts
Art. 1964 03170
950 Pieces
• 4mm - 16mm
• Yellow Chromate



**Metric Hex Nuts,
Flange Nuts & Fender
Washers**
Art. 1964 00002
1825 Pieces
• 4mm - 10mm
• Zinc Plated & Yellow
Chromate



**SAE Flat
& Lock Washers**
Art. 1964 140742
1350 Pieces
• 1/4" - 3/4"
• Zinc Plated



**SAE / USS / Metric Flat
& Lock Washers**
Art. 1964 00003
2250 Pieces
• 3mm - 12mm & 1/4" -
1/2"
• Zinc Plated



**Metric Flat &
Lock Washers**
Art. 1964 040701
700 Pieces
• 4mm - 14mm
• Yellow Chromate

HARDWARE ASSORTMENTS**Metric Flat Washers****Art. 1964 0407**

- 1350 Pieces
- 3mm - 14mm
 - Zinc Plated

**Metric Fender Washers****Art. 1964 0411**

- 700 Pieces
- 4mm - 12mm
 - Zinc Plated

**USS / SAE****Manifold Studs****Art. 1964 1252**

- 60 Pieces
- 5/16" - 3/8"
 - Black

**Metric Manifold Studs****Art. 1964 0250**

- 120 Pieces
- 6mm - 10mm
 - Black

**License Plate Screws****Art. 1964 1210**

- 600 Pieces
- A variety of our most popular license plate screws.

**Self-Tap Phillips, Oval & Hex Head w/Free Spin Washer****Art. 1964 000010**

- 1200 Pieces
- #6 - #16
 - Zinc Plated & Yellow Chromate

**Hex Tek Assortment****Art. 1964 0214**

- 600 Pieces
- #16 - #14
 - Zinc Plated

**Self-Tap Hex Head Free Spin Washer Head Screws****Art. 1964 0129**

- 425 Pieces
- #10 - #16
 - Yellow Chromate

HARDWARE ASSORTMENTS


Self-Tap Sems® Phillips Washer Head Screws
Art. 1964 000011
 1200 Pieces
 • #7 - #10
 • Black Zinc Plated



Self-Tap Phillips Pan & Oval Head Screws
Art. 1964 011517
 1500 Pieces
 • #6 - #10
 • Zinc Plated



Self-Tap Phillips Oval Head Screws
Art. 1964 0117
 1500 Pieces
 • #6 - #12
 • Zinc Plated



Self-Tap Phillips Pan & Oval Head Screws & Cup Washers
Art. 1964 000012
 1200 Pieces
 • #4 - #12
 • Black Finish



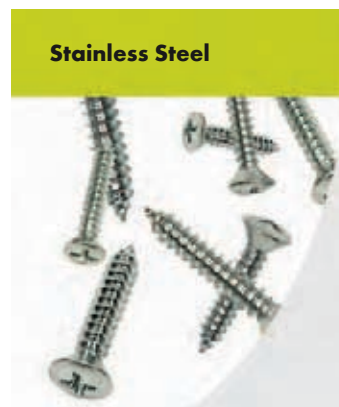
Self-Tap Phillips Pan Washer Head Screws
Art. 1964 01340
 750 Pieces
 • #7 - #10
 • Black Finish



Self-Tap Phillips Pan Head Screws
Art. 1964 0134
 950 Pieces
 • #4 - #12
 • Black Finish



Self-Tap Phillips Oval Head Screws & Cup Washers
Art. 1964 0137
 1000 Pieces
 • #4 - #10, 4.3mm - 6mm
 • Black Finish


Stainless Steel

Self-Tap Phillips Oval Head Screws
Art. 1964 0124
 750 Pieces
 • #6 - #12
 • Stainless Steel

HARDWARE ASSORTMENTS
Stainless Steel

Self-Tap Phillips Pan Head Screws
Art. 1964 0119

1350 Pieces

- #6 - #14
- Stainless Steel

Stainless Steel

Self-Tap Phillips Pan & Oval Head Screws
Art. 1964 011923

2150 Pieces

- #6 - #12
- Stainless Steel

Stainless Steel

Self-Tap Phillips Flat Head Screws & Cup Washers
Art. 1964 0123

1650 Pieces

- #6 - #12
- Stainless Steel


Washer Hex Head & Slotted Screws
Art. 1964 0130

850 Pieces

- #8 - #14
- Zinc Plated


Self Tap Pan Head Phillips Screws
Art. 1964 00009

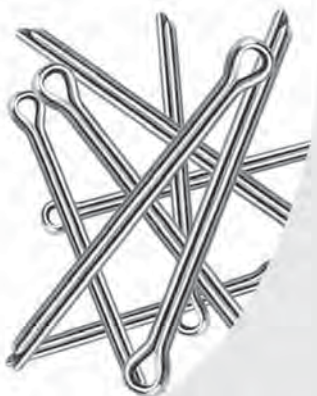
1200 Pieces

- #6 - #14
- Zinc Plated


Metric E-Clips
Art. 1964 0490

800 Pieces

- 1.5mm - 8mm
- Black


US Cotter Pins
Art. 1964 1470

1100 Pieces

- 1/16" - 5/32"
- Zinc Plated

Stainless Steel

US Cotter Pins
Art. 1964 1474

825 Pieces

- 1/16" - 5/32"
- Stainless Steel

HARDWARE ASSORTMENTS**Metric Cotter Pins****Art. 1964 0470**

625 Pieces

- 1.0mm - 4.5mm
- Zinc Plated

**Shims & Cotter Pins****Art. 1964 00007**

1600 Pieces

- 1/16" - 5/32"
- 5/8" - 1 3/4"
- Zinc Plated

**USS****Dowel Springs Pins****Art. 1964 1475**

500 Pieces

- 5/32" - 1/4"
- Black Finish

**Rivets & Nutserts****Art. 1964 00006**

1550 Pieces

- 1/8", 3/16", 5mm & 6.6mm
- Zinc & Plastic

**Large Flange & Button Head Blind Rivets****Art. 1964 1914**

580 Pieces

- 1/8" - 3/16"
- Aluminum

**Large Flange, Blind Countersunk & Flat Head Rivets****Art. 1964 1935**

600 Pieces

- 1/8" - 3/16"
- Steel

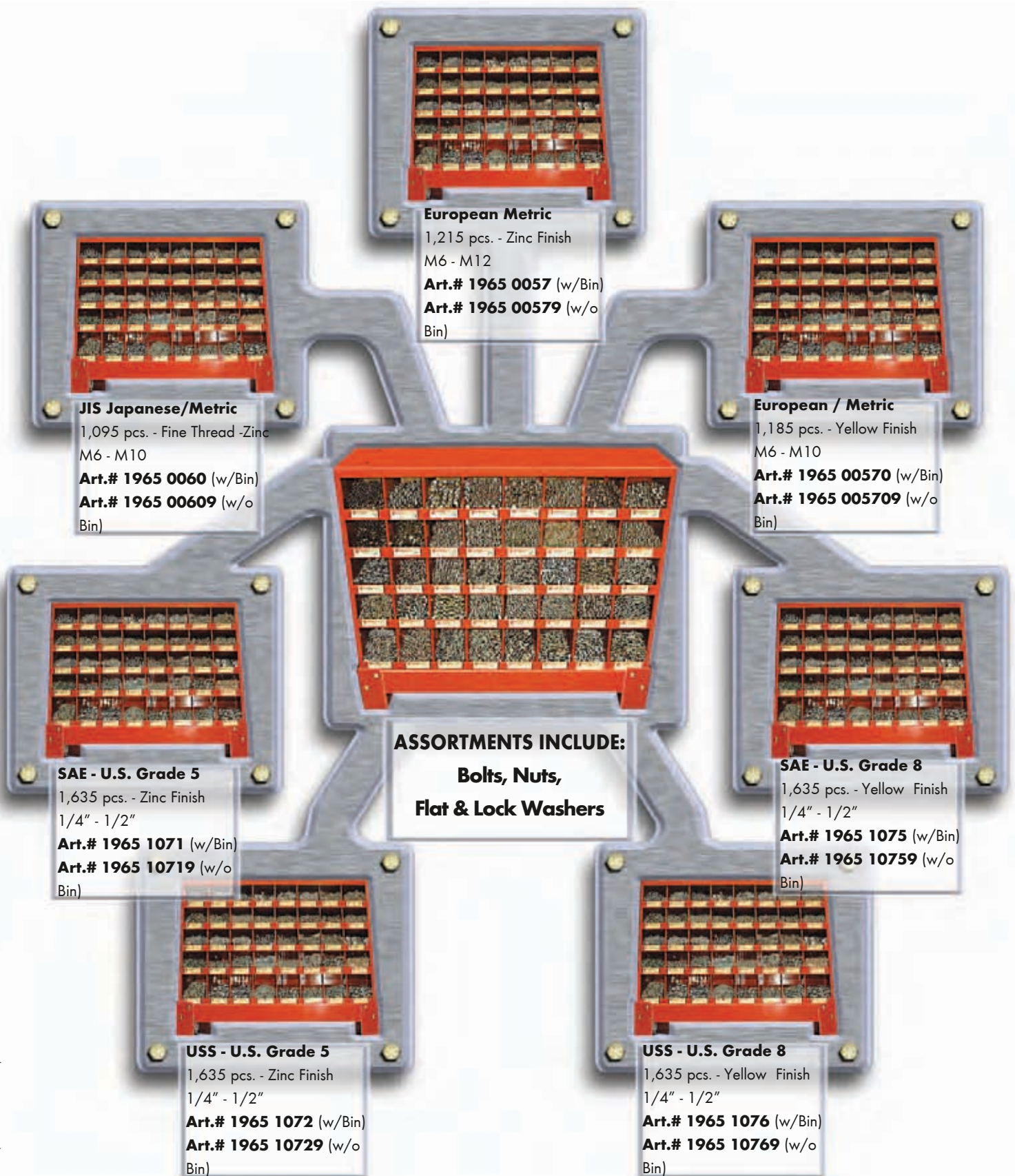
HARDWARE ASSORTMENTS**A/B Hardware Assortment****Art. 1964 0000**

over 14,000 Pieces

Top 12 hardware assortments including:

- USS Hex Bolt & Nut
- Flat / Lock Washers
- Metric Hex Bolts
- Euro/ISO Hex Bolts
- Rivets/Nutserts
- Shims & Cotter Pins
- Self-Tap Screws
- Sems Washer Head Screws
- Black Self-Tap Screws
- Mini/ Maxi ATO Blade Fuses
- Pan Head Sheet Metal Phillips Screws
- Metric Hex Nut/Flange Nut & Fender Washers

**4 Drawer Cabinet****Art. # 1955 104****Stand****Art. # 1966 1041**

LARGE BIN ASSORTMENTS


European Metric
1,215 pcs. - Zinc Finish
M6 - M12
Art.# 1965 0057 (w/Bin)
Art.# 1965 00579 (w/o Bin)

JIS Japanese/Metric
1,095 pcs. - Fine Thread - Zinc
M6 - M10
Art.# 1965 0060 (w/Bin)
Art.# 1965 00609 (w/o Bin)

European / Metric
1,185 pcs. - Yellow Finish
M6 - M10
Art.# 1965 00570 (w/Bin)
Art.# 1965 005709 (w/o Bin)

SAE - U.S. Grade 5
1,635 pcs. - Zinc Finish
1/4" - 1/2"
Art.# 1965 1071 (w/Bin)
Art.# 1965 10719 (w/o Bin)

**ASSORTMENTS INCLUDE:
Bolts, Nuts,
Flat & Lock Washers**

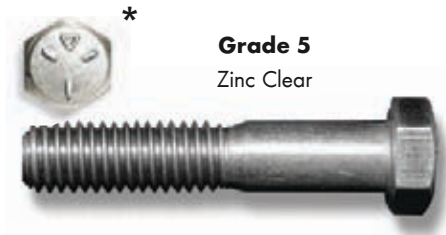
SAE - U.S. Grade 8
1,635 pcs. - Yellow Finish
1/4" - 1/2"
Art.# 1965 1075 (w/Bin)
Art.# 1965 10759 (w/o Bin)

USS - U.S. Grade 5
1,635 pcs. - Zinc Finish
1/4" - 1/2"
Art.# 1965 1072 (w/Bin)
Art.# 1965 10729 (w/o Bin)

USS - U.S. Grade 8
1,635 pcs. - Yellow Finish
1/4" - 1/2"
Art.# 1965 1076 (w/Bin)
Art.# 1965 10769 (w/o Bin)

GRADE 5 AND GRADE 8 HEX HEAD CAP SCREWS

- SAE J-429, ANSI/ASME B18.2.1
- Threads per ANSI B1.1 Class 2A
- All materials used to manufacture these fasteners are Mercury and Asbestos-free
- Mechanical properties are tested according to ASTM F606 corrosion resistance tested according to ASTM B117



Plating for

Grade 5: Zinc plating is relatively economical and offers good corrosion resistance in environments not subject to excessive moisture. Standard minimum thickness for commercial zinc plating is 0.00015 inches. A clear chromate finish is applied on the zinc to provide additional protection against white oxidation spots which can form due to moisture. Made from medium carbon steel, tempered and zinc plated. Best for automotive use and other areas where higher strength is desired.



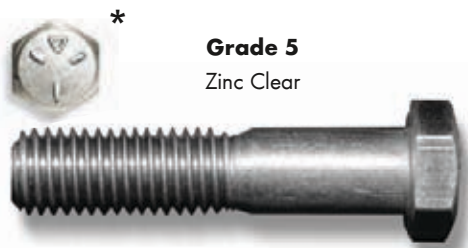
Plating for

Grade 8: Yellow chromate offers a greater degree of protection from white corrosion than clear chromate. Standard minimum thickness for commercial zinc-yellow plating is 0.00020 inches. Grade 8 Hex Head Cap Screws are oil quenched and tempered at a temperature above 800° F. Made from medium carbon alloy steel, tempered, and zinc plated. Best suited for applications where high strength and hardness is required.

| 1/4" | Width Across Flats 7/16" | | | | | | |
|--------|--------------------------|--------------------|-----|------------------------|-----|----------------------|-----|
| | Grade 5 | | | Grade 8 | | | |
| Length | Zinc 1/4 - 20 Coarse | Zinc 1/4 - 28 Fine | Qty | Yellow 1/4 - 20 Coarse | Qty | Yellow 1/4 - 28 Fine | Qty |
| 1/2" | 00721412 | 00711412 | 100 | 10761412 | | 10751412 | 100 |
| 5/8" | 00721458 | | 100 | | | | |
| 3/4" | 00721434 | 00711434 | 100 | 10761434 | 120 | 10751434 | 100 |
| 7/8" | 00721478 | | 100 | | | | |
| 1" | 0072141 | 0071141 | 100 | 1076141 | 100 | 1075141 | 50 |
| 1-1/4" | 007214114 | 007114114 | 100 | 107614114 | 50 | 107514114 | 50 |
| 1-1/2" | 007214112 | 007114112 | 100 | 107614112 | 50 | 107514112 | 50 |
| 1-3/4" | 007214134 | 007114134 | 100 | 107614134 | 50 | 107514134 | 50 |
| 2" | 0072142 | 0071142 | 100 | 1076142 | 50 | 1074142 | 50 |
| 2-1/4" | 007214214 | 007114214 | 100 | 107614214 | 50 | 107514214 | 50 |
| 2-1/2" | 007214212 | 007114212 | 50 | 107614212 | 50 | 107514212 | 50 |
| 2-3/4" | 007214234 | | 50 | 107614234 | 50 | 107514234 | 50 |
| 3" | 0072143 | 0071143 | 50 | 1076143 | 50 | 1075143 | 25 |
| 3-1/4" | 007214314 | 007114314 | 50 | | | | |
| 3-1/2" | 007214312 | 007114312 | 50 | 107614312 | 50 | 107514312 | 25 |
| 4" | 0072144 | 0071144 | 50 | 1076144 | 50 | 1075144 | 25 |
| 4-1/2" | 007214412 | 007114412 | 50 | | | 107514412 | 25 |
| 5" | 0072145 | 0071145 | 50 | | | | |
| 5-1/2" | 007214512 | 007114512 | 50 | | | | |
| 6" | 0072146 | 0071146 | 50 | | | | |
| 7" | 0072147 | | 25 | | | | |
| 8" | 0072148 | | 25 | | | | |

GRADE 5 AND GRADE 8 HEX HEAD CAP SCREWS

| 5/16" | Width Across Flats 1/2" | | | | | | |
|--------|-------------------------|---------------------|-----|-------------------------|-----|-----------------------|-----|
| | Grade 5 | | | Grade 8 | | | |
| Length | Zinc 5/16 - 18 Coarse | Zinc 5/16 - 24 Fine | Qty | Yellow 5/16 - 18 Coarse | Qty | Yellow 5/16 - 24 Fine | Qty |
| 1/2" | 007251612 | 007151612 | 50 | 107651612 | 50 | 1075 51612 | 50 |
| 5/8" | 007251658 | | 50 | | | | |
| 3/4" | 007251634 | 007151634 | 50 | 107651634 | 25 | 1075 51634 | 50 |
| 7/8" | 007251678 | | 50 | 107651678 | 25 | | |
| 1" | 00725161 | 00715161 | 50 | 10765161 | 50 | 1075 5161 | 50 |
| 1-1/4" | 0072516114 | 0071516114 | 50 | 1076516114 | 50 | 1075 516114 | 50 |
| 1-1/2" | 0072516112 | 0071516112 | 50 | 1076516112 | 50 | 1075 516112 | 50 |
| 1-3/4" | 0072516134 | 0071516134 | 50 | 1076516134 | 50 | 1075 516134 | 50 |
| 2" | 00725162 | 00715162 | 50 | 10765162 | 50 | 1075 5162 | 50 |
| 2-1/4" | 0072516214 | 0071516214 | 50 | 1076516214 | 50 | 1075 516214 | 50 |
| 2-1/2" | 0072516212 | 0071516212 | 50 | 1076516212 | 50 | 1075 516212 | 50 |
| 2-3/4" | 0072516234 | 0071516234 | 50 | 107516234 | 50 | 1075 516234 | 50 |
| 3" | 00725163 | 00715163 | 50 | 10765163 | 50 | 1075 5163 | 50 |
| 3-1/4" | | 0071516314 | 50 | 1076516314 | 50 | | |
| 3-1/2" | 0072516312 | 0071516312 | 50 | 1076516312 | 50 | 1075 516312 | 50 |
| 4" | 00725164 | 00715164 | 50 | 10765164 | 50 | 1075 5164 | 25 |
| 4-1/2" | | 0071516412 | 50 | 1076516412 | 25 | 1075 516412 | 25 |
| 5" | 00725165 | 00715165 | 50 | 10756165 | 25 | 1075 5165 | 25 |
| 5-1/2" | | 0071516512 | 50 | | | | |
| 6" | 00725166 | 00715166 | 50 | | | | |
| 7" | 00725167 | | 25 | | | | |
| 8" | 00725168 | | 25 | | | | |



Grade 5
Zinc Clear

Plating for Grade 5: Zinc plating is relatively economical and offers good corrosion resistance in environments not subject to excessive moisture. Standard minimum thickness for commercial zinc plating is 0.00015 inches. A clear chromate finish is applied on the zinc to provide additional protection against white oxidation spots which can form due to moisture. Made from medium carbon steel, tempered and zinc plated. Best for automotive use and other areas where higher strength is desired.

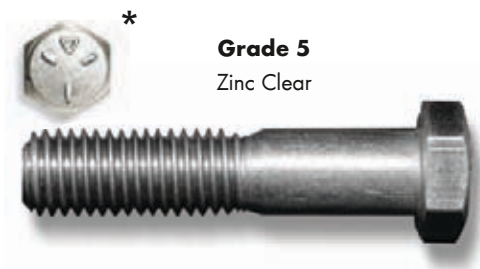


Grade 8
Yellow Chromate

Plating for Grade 8: Yellow chromate offers a greater degree of protection from white corrosion than clear chromate. Standard minimum thickness for commercial zinc-yellow plating is 0.00020 inches. Grade 8 Hex Head Cap Screws are oil quenched and tempered at a temperature above 800° F. Made from medium carbon alloy steel, tempered, and zinc plated. Best suited for applications where high strength and hardness is required.

GRADE 5 AND GRADE 8 HEX HEAD CAP SCREWS

| 3/8" | Width Across Flats 9/16" | | | | | | |
|--------|--------------------------|--------------------|-----|------------------------|-----|----------------------|-----|
| | Grade 5 | | | Grade 8 | | | |
| Length | Zinc 3/8 - 16 Coarse | Zinc 3/8 - 24 Fine | Qty | Yellow 3/8 - 16 Coarse | Qty | Yellow 3/8 - 24 Fine | Qty |
| 1/2" | 00723812 | 00713812 | 50 | 1076 3812 | 50 | | |
| 5/8" | 00723858 | | 50 | | | | |
| 3/4" | 00723834 | 00713834 | 50 | 1076 3834 | 50 | 1075 3834 | 50 |
| 7/8" | 00723878 | | 50 | | | | |
| 1" | 0072381 | 0071381 | 50 | 1076 381 | 50 | 1075 381 | 50 |
| 1-1/4" | 007238114 | 007138114 | 50 | 1076 38114 | 60 | 1075 38114 | 25 |
| 1-1/2" | 007238112 | 007138112 | 50 | 1076 38112 | 50 | 1075 38112 | 25 |
| 1-3/4" | 007238134 | 007138134 | 50 | 1076 38134 | 25 | | |
| 2" | 0072382 | 0071382 | 50 | 1076 382 | 25 | 1075 382 | 25 |
| 2-1/4" | 007238214 | 007138214 | 25 | 1076 38214 | 25 | 1075 38214 | 50 |
| 2-1/2" | 007238212 | 007138212 | 25 | 1076 38212 | 25 | 1075 38212 | 25 |
| 2-3/4" | 007238234 | 007138234 | 25 | 1076 38234 | 25 | 1075 38234 | 25 |
| 3" | 0072383 | 0071383 | 25 | 1076 383 | 25 | 1075 383 | 25 |
| 3-1/4" | 007238314 | 007138314 | 25 | | | | |
| 3-1/2" | 007238312 | 007138312 | 25 | 1076 38312 | 25 | 1075 38312 | 25 |
| 4" | 0072384 | 0071384 | 25 | 1076 384 | 25 | 1075 384 | 10 |
| 4-1/2" | 007238412 | 007138412 | 25 | 1076 38412 | 10 | 1075 38412 | 10 |
| 5" | 0072385 | 0071385 | 25 | 1076 385 | 10 | 1075 385 | 10 |
| 5-1/2" | 007238512 | 007138512 | 25 | 1076 38512 | 10 | | |
| 6" | 0072386 | 0071386 | 25 | 1076 386 | 10 | | |
| 6-1/2" | 007238612 | | 25 | | | | |
| 7" | 0072387 | | 25 | | | | |
| 8" | 0072388 | | 25 | | | | |

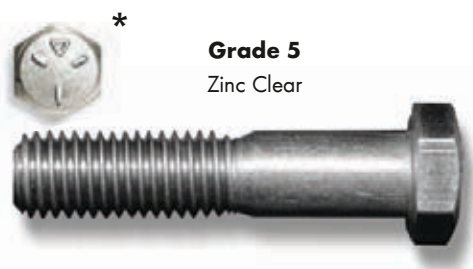


Plating for Grade 5: Zinc plating is relatively economical and offers good corrosion resistance in environments not subject to excessive moisture. Standard minimum thickness for commercial zinc plating is 0.00015 inches. A clear chromate finish is applied on the zinc to provide additional protection against white oxidation spots which can form due to moisture. Made from medium carbon steel, tempered and zinc plated. Best for automotive use and other areas where higher strength is desired.

Plating for Grade 8: Yellow chromate offers a greater degree of protection from white corrosion than clear chromate. Standard minimum thickness for commercial zinc-yellow plating is 0.00020 inches. Grade 8 Hex Head Cap Screws are oil quenched and tempered at a temperature above 800° F. Made from medium carbon alloy steel, tempered, and zinc plated. Best suited for applications where high strength and hardness is required.

GRADE 5 AND GRADE 8 HEX HEAD CAP SCREWS

| 7/16" | Width Across Flats 5/8" | | | | | | |
|--------|-------------------------|----------------------|-----|---------------------------|-----|-------------------------|-----|
| | Grade 5 | | | Grade 8 | | | |
| Length | Zinc 7/16-14 Coarse | Zinc 7/16-20 Fine | Qty | Yellow 3/8 - 16 Coarse | Qty | Yellow 3/8 - 24 Fine | Qty |
| 3/4" | 0072 71634 | 0071 71634 | 50 | 1076 71634 | 25 | 1075 71634 | 25 |
| 1" | 0072 7161 | 0071 7161 | 25 | 1076 7161 | 25 | 1075 7161 | 25 |
| 1 1/4" | 0072 716114 | 0071 716114 | 25 | 1076 716114 | 25 | 1075 716114 | 25 |
| 1 1/2" | 0072 716112 | 0071 716112 | 25 | 1076 716112 | 25 | 1075 716112 | 25 |
| 1 3/4" | 0072 716134 | 0071 716134 | 25 | 1076 716134 | 25 | 1075 716134 | 25 |
| 2" | 0072 7162 | 0071 7162 | 25 | 1076 7162 | 25 | 1075 7162 | 25 |
| 2 1/4" | 0072 716214 | 0071 716214 | 25 | 1076 716214 | 25 | 1075 716214 | 25 |
| 2 1/2" | 0072 716212 | 0071 716212 | 25 | 1076 716212 | 25 | 1075 716212 | 25 |
| 2 3/4" | 0072 716234 | 0071 716234 | 25 | 1076 716234 | 25 | 1075 716234 | 25 |
| 3" | 0072 7163 | 0071 7163 | 25 | 1076 7163 | 25 | | |
| 3 1/4" | 0072 716314 | 0071 716314 | 25 | | | | |
| 3 1/2" | 0072 716312 | 0071 716312 | 25 | 1076 716312 | 25 | 1075 716312 | 25 |
| 4" | 0072 7164 | 0071 7164 | 25 | 1076 7164 | 25 | 1075 7164 | 10 |
| 4 1/4" | 0072 716414 | | 25 | | | | |
| 4 1/2" | | 0071 716412 | 25 | | | 1075 716412 | 10 |
| 5" | 0072 7165 | 0071 7165 | 25 | 1076 7165 | 10 | 1075 7165 | 10 |
| 5 1/2" | 0072 716512 | 0071 716512 | 25 | 1076 716512 | 10 | 1075 716512 | 25 |
| 6" | 0072 7166 | 0071 7166 | 25 | 1076 7166 | 10 | | |
| 6 1/2" | 0072 71612 | | 25 | | | | |
| 6 3/4" | 0072 71634 | | 25 | | | | |
| 7" | 0072 7167 | | 25 | | | | |
| 8" | 0072 7168 | | 25 | | | | |

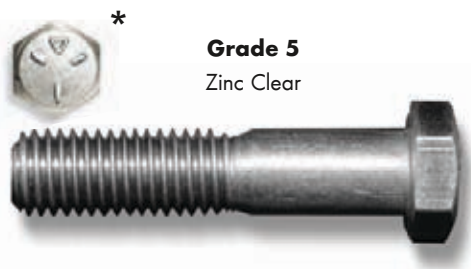


Plating for Grade 5: Zinc plating is relatively economical and offers good corrosion resistance in environments not subject to excessive moisture. Standard minimum thickness for commercial zinc plating is 0.00015 inches. A clear chromate finish is applied on the zinc to provide additional protection against white oxidation spots which can form due to moisture. Made from medium carbon steel, tempered and zinc plated. Best for automotive use and other areas where higher strength is desired.

Plating for Grade 8: Yellow chromate offers a greater degree of protection from white corrosion than clear chromate. Standard minimum thickness for commercial zinc-yellow plating is 0.00020 inches. Grade 8 Hex Head Cap Screws are oil quenched and tempered at a temperature above 800° F. Made from medium carbon alloy steel, tempered, and zinc plated. Best suited for applications where high strength and hardness is required.

GRADE 5 AND GRADE 8 HEX HEAD CAP SCREWS

| 1/2" | Width Across Flats 3/4" | | | | | | |
|--------|-------------------------|---------------------|-----|-------------------------|-----|-----------------------|-----|
| | Grade 5 | | | Grade 8 | | | |
| Length | Zinc 1/2-13 Coarse | Zinc 1/2-20 Fine | Qty | Yellow 1/2-13 Coarse | Qty | Yellow 1/2-20 Fine | Qty |
| 3/4" | 0072 1234 | 0071 1234 | 25 | | | | |
| 1" | 0072 121 | 0071 121 | 25 | 1076 121 | 25 | 1075 121 | 25 |
| 1 1/4" | 0072 12114 | 0071 12114 | 25 | 1076 12114 | 25 | | |
| 1 1/2" | 0072 12112 | 0071 12112 | 25 | 1076 12112 | 25 | 1075 12112 | 25 |
| 1 3/4" | 0072 12134 | 0071 12134 | 25 | 1076 12134 | 25 | | |
| 2" | 0072 122 | 0071 122 | 25 | 1076 122 | 25 | 1075 122 | 25 |
| 2 1/4" | 0072 12214 | 0071 12214 | 25 | 1076 12214 | 10 | | |
| 2 1/2" | 0072 12212 | 0071 12212 | 25 | 1076 12212 | 10 | 1075 12212 | 25 |
| 2 3/4" | 0072 12234 | 0071 12234 | 25 | 1076 12234 | 10 | | |
| 3" | 0072 123 | 0071 123 | 25 | 1076 123 | 10 | 1075 123 | 25 |
| 3 1/4" | 0072 12314 | 0071 12314 | 25 | | | | |
| 3 1/2" | 0072 12312 | 0071 12312 | 25 | 1076 12312 | 10 | 1075 12312 | 10 |
| 3 3/4" | 0072 12334 | 0071 12334 | 25 | | | | |
| 4" | 0072 124 | 0071 124 | 25 | 1076 124 | 10 | 1075 124 | 10 |
| 4 1/2" | 0072 12412 | 0071 12412 | 25 | 1076 12412 | 10 | 1075 12412 | 10 |
| 5" | 0072 125 | 0071 125 | 25 | 1076 125 | 10 | 1075 125 | 10 |
| 5 1/2" | 0072 12512 | 0071 12512 | 25 | | | | |
| 6" | 0072 126 | 0071 126 | 25 | | | | |
| 6 1/2" | 0072 12612 | 0071 12612 | 25 | | | | |
| 7" | 0072 127 | 0071 127 | 25 | 1076 12512 | 10 | 1075 12512 | 10 |
| 7 1/2" | 0072 12712 | 0071 12712 | 25 | | | | |
| 8" | 0072 128 | 0071 128 | 25 | 1076 126 | 10 | 1075 126 | 10 |
| 10" | 0072 1210 | | 5 | | | | |

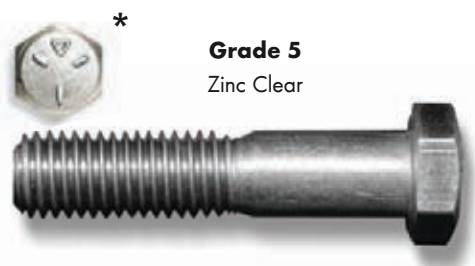


Plating for Grade 5: Zinc plating is relatively economical and offers good corrosion resistance in environments not subject to excessive moisture. Standard minimum thickness for commercial zinc plating is 0.00015 inches. A clear chromate finish is applied on the zinc to provide additional protection against white oxidation spots which can form due to moisture. Made from medium carbon steel, tempered and zinc plated. Best for automotive use and other areas where higher strength is desired.

Plating for Grade 8: Yellow chromate offers a greater degree of protection from white corrosion than clear chromate. Standard minimum thickness for commercial zinc-yellow plating is 0.00020 inches. Grade 8 Hex Head Cap Screws are oil quenched and tempered at a temperature above 800° F. Made from medium carbon alloy steel, tempered, and zinc plated. Best suited for applications where high strength and hardness is required.

GRADE 5 AND GRADE 8 HEX HEAD CAP SCREWS

| 9/16" | Width Across Flats 13/16" | | | | | | |
|--------|---------------------------|---------------------|-----|-------------------------|-----|-----------------------|-----|
| | Grade 5 | | | Grade 8 | | | |
| Length | Zinc 1/2-13 Coarse | Zinc 1/2-20 Fine | Qty | Yellow 1/2-13 Coarse | Qty | Yellow 1/2-20 Fine | Qty |
| 1" | 0072 9161 | 0071 9161 | 25 | 1076 9161 | 25 | 1075 9161 | 10 |
| 1 1/4" | 0072 916114 | 0071 916114 | 25 | | | 1075 916114 | 10 |
| 1 1/2" | 0072 916112 | 0071 916112 | 25 | 1076 916112 | 25 | 1075 916112 | 10 |
| 1 3/4" | 0072 916134 | 0071 916134 | 25 | 1076 916134 | 25 | 1075 916134 | 10 |
| 2" | 0072 9162 | 0071 9162 | 25 | 1076 9162 | 25 | 1075 9162 | 10 |
| 2 1/4" | 0072 916214 | 0071 916214 | 25 | | | 1075 916214 | 10 |
| 2 1/2" | 0072 916212 | 0071 916212 | 25 | 1076 916212 | 25 | 1075 916212 | 10 |
| 2 3/4" | 0072 916234 | | 25 | | | | |
| 3" | 0072 9163 | 0071 9163 | 25 | 1076 9163 | 10 | 1075 9163 | 10 |
| 3 1/4" | 0072 916314 | 0071 916314 | 25 | | | | |
| 3 1/2" | 0072 916312 | 0071 916312 | 25 | 1076 916312 | 10 | | |
| 4" | 0072 9164 | 0071 9164 | 25 | 1076 9164 | 10 | 1075 9164 | 5 |
| 4 1/2" | | 0071 916412 | 25 | | | 1075 916412 | 10 |
| 5" | 0072 9165 | 0071 9165 | 25 | | | 1075 9165 | 5 |
| 5 1/2" | 0072 916512 | | 25 | | | 1075 916512 | 10 |
| 6" | 0072 9166 | 0071 9166 | 25 | | | 1075 9166 | 5 |



Grade 5
Zinc Clear



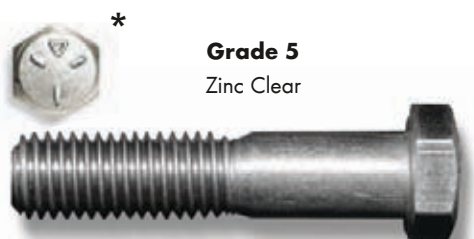
Grade 8
Yellow Chromate

Plating for Grade 5: Zinc plating is relatively economical and offers good corrosion resistance in environments not subject to excessive moisture. Standard minimum thickness for commercial zinc plating is 0.00015 inches. A clear chromate finish is applied on the zinc to provide additional protection against white oxidation spots which can form due to moisture. Made from medium carbon steel, tempered and zinc plated. Best for automotive use and other areas where higher strength is desired.

Plating for Grade 8: Yellow chromate offers a greater degree of protection from white corrosion than clear chromate. Standard minimum thickness for commercial zinc-yellow plating is 0.00020 inches. Grade 8 Hex Head Cap Screws are oil quenched and tempered at a temperature above 800° F. Made from medium carbon alloy steel, tempered, and zinc plated. Best suited for applications where high strength and hardness is required.

GRADE 5 AND GRADE 8 HEX HEAD CAP SCREWS

| 5/8" | Width Across Flats 15/16" | | | | | | |
|--------|---------------------------|---------------------|-----|-------------------------|-----|-----------------------|-----|
| | Grade 5 | | | Grade 8 | | | |
| Length | Zinc 5/8-11 Coarse | Zinc 5/8-18 Fine | Qty | Yellow 5/8-11 Coarse | Qty | Yellow 5/8-18 Fine | Qty |
| 1" | 0072 581 | 0071 581 | 25 | 1076 581 | 25 | 1075 581 | 25 |
| 1 1/4" | 0072 58114 | 0071 58114 | 25 | 1076 58114 | 25 | 1075 58114 | 25 |
| 1 1/2" | 0072 58112 | 0071 58112 | 25 | 1076 58112 | 25 | 1075 58112 | 25 |
| 1 3/4" | 0072 58134 | 0071 58134 | 25 | 1076 58134 | 25 | 1075 58134 | 25 |
| 2" | 0072 582 | 0071 582 | 25 | 1076 582 | 25 | 1075 582 | 25 |
| 2 1/4" | 0072 58214 | 0071 58214 | 25 | 1076 58214 | 25 | 1075 58214 | 10 |
| 2 1/2" | 0072 58212 | 0071 58212 | 25 | 1076 58212 | 10 | 1075 58212 | 10 |
| 2 3/4" | 0072 58234 | 0071 58234 | 25 | 1076 58234 | 10 | 1075 58234 | 10 |
| 3" | 0072 583 | 0071 583 | 25 | 1076 583 | 10 | 1075 583 | 10 |
| 3 1/4" | 0072 58314 | 0071 58314 | 25 | | | | |
| 3 1/2" | 0072 58312 | 0071 58312 | 25 | 1076 58312 | 10 | 1075 58312 | 10 |
| 3 3/4" | | | | 1076 58334 | 10 | | |
| 4" | 0072 584 | 0071 584 | 25 | 1076 584 | 10 | 1075 584 | 10 |
| 4 1/2" | 0072 58412 | 0071 58412 | 25 | 1076 58412 | 10 | 1075 58412 | 10 |
| 5" | 0072 585 | 0071 585 | 25 | 1076 585 | 10 | 1075 585 | 10 |
| 5 1/2" | 0072 58512 | 0071 58512 | 25 | | | | |
| 6" | 0072 586 | 0071 586 | 25 | 1076 586 | 10 | | |
| 6 1/2" | 0072 58612 | 0071 58612 | 20 | | | | |
| 7" | 0072 587 | 0071 587 | 20 | | | | |
| 7 1/2" | 0072 58712 | | 20 | | | | |
| 8" | 0072 588 | 0071 588 | 20 | | | | |
| 8 1/2" | 0072 58812 | 0071 58812 | 5 | | | | |
| 9" | 0072 589 | 0071 589 | 5 | | | | |
| 9 1/2" | | 0071 58912 | 5 | | | | |
| 10" | 00725810 | 0071 5810 | 5 | | | | |



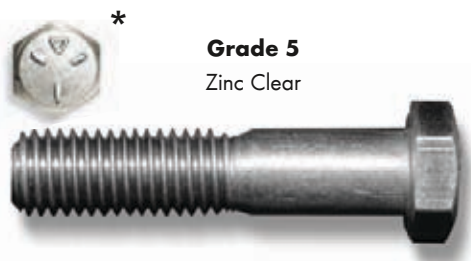
Plating for Grade 5: Zinc plating is relatively economical and offers good corrosion resistance in environments not subject to excessive moisture. Standard minimum thickness for commercial zinc plating is 0.00015 inches. A clear chromate finish is applied on the zinc to provide additional protection against white oxidation spots which can form due to moisture. Made from medium carbon steel, tempered and zinc plated. Best for automotive use and other areas where higher strength is desired.



Plating for Grade 8: Yellow chromate offers a greater degree of protection from white corrosion than clear chromate. Standard minimum thickness for commercial zinc-yellow plating is 0.00020 inches. Grade 8 Hex Head Cap Screws are oil quenched and tempered at a temperature above 800° F. Made from medium carbon alloy steel, tempered, and zinc plated. Best suited for applications where high strength and hardness is required.

GRADE 5 AND GRADE 8 HEX HEAD CAP SCREWS

| 3/4" | Width Across Flats 1 1/8" | | | | | | |
|--------|---------------------------|---------------------|-----|-------------------------|-----|-----------------------|-----|
| | Grade 5 | | | Grade 8 | | | |
| Length | Zinc 3/4-10 Coarse | Zinc 3/4-16 Fine | Qty | Yellow 3/4-10 Coarse | Qty | Yellow 3/4-16 Fine | Qty |
| 1" | 0072 341 | 0071 341 | 20 | | | | |
| 1 1/4" | 0072 34114 | 0071 34114 | 20 | | | | |
| 1 1/2" | 0072 34112 | 0071 34112 | 20 | 1076 34112 | 10 | 1075 34112 | 5 |
| 1 3/4" | 0072 34134 | 0071 34134 | 20 | 1076 34134 | 10 | | |
| 2" | 0072 342 | 0071 342 | 20 | 1076 342 | 10 | 1075 342 | 10 |
| 2 1/4" | 0072 34214 | | 20 | 1076 34214 | 10 | | |
| 2 1/2" | 0072 34212 | 0071 34212 | 20 | 1076 34212 | 10 | 1075 34212 | 10 |
| 2 3/4" | 0072 34234 | 0071 34234 | 20 | | | | |
| 3" | 0072 343 | 0071 343 | 20 | 1076 343 | 10 | 1075 343 | 10 |
| 3 1/4" | 0072 34314 | 0071 34314 | 20 | | | | |
| 3 1/2" | 0072 34312 | 0071 34312 | 20 | 1076 34312 | 10 | | |
| 4" | 0072 344 | 0071 344 | 20 | 1076 344 | 10 | 1075 344 | 10 |
| 4 1/2" | 0072 34412 | 0071 34412 | 20 | 1076 34412 | 10 | | |
| 5" | 0072 345 | 0071 345 | 20 | 1076 345 | 10 | | |
| 5 1/2" | 0072 34512 | 0071 34512 | 20 | 1076 34512 | 10 | | |
| 6" | 0072 346 | 0071 346 | 15 | 1076 346 | 5 | | |
| 6 1/2" | 0072 34612 | 0071 34612 | 15 | | | | |
| 7" | 0072 347 | 0071 347 | 15 | | | | |
| 7 1/2" | 0072 34712 | 0071 34712 | 15 | | | | |
| 8" | 0072 348 | 0071 348 | 15 | | | | |
| 8 1/2" | 0072 34812 | 0071 34812 | 5 | | | | |
| 9" | 0072 349 | 0071 349 | 5 | | | | |
| 10" | 0072 3410 | 0071 3410 | 5 | | | | |
| 12" | | 0071 34120 | 5 | | | | |



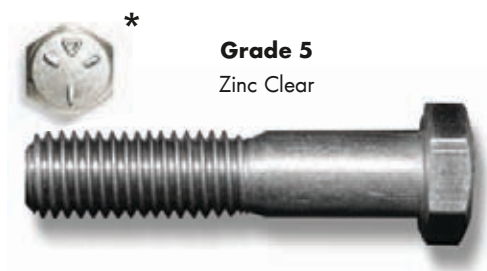
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Plating for Grade 5: Zinc plating is relatively economical and offers good corrosion resistance in environments not subject to excessive moisture. Standard minimum thickness for commercial zinc plating is 0.00015 inches. A clear chromate finish is applied on the zinc to provide additional protection against white oxidation spots which can form due to moisture. Made from medium carbon steel, tempered and zinc plated. Best for automotive use and other areas where higher strength is desired.

Plating for Grade 8: Yellow chromate offers a greater degree of protection from white corrosion than clear chromate. Standard minimum thickness for commercial zinc-yellow plating is 0.00020 inches. Grade 8 Hex Head Cap Screws are oil quenched and tempered at a temperature above 800° F. Made from medium carbon alloy steel, tempered, and zinc plated. Best suited for applications where high strength and hardness is required.

GRADE 5 AND GRADE 8 HEX HEAD CAP SCREWS

| 7/8" | Width Across Flats 1 5/16" | | | | | | |
|--------|----------------------------|-----------------------|-----|---------------------------|-----|-------------------------|-----|
| | Grade 5 | | | Grade 8 | | | |
| Length | Zinc 7/8 - 9 Coarse | Zinc 7/8 - 14 Fine | Qty | Yellow 1/4 - 20 Coarse | Qty | Yellow 1/4 - 28 Fine | Qty |
| 1 1/2" | 0072 78112 | 0071 78112 | 15 | | | 1075 78112 | 25 |
| 1 3/4" | 0072 78134 | 0071 78134 | 15 | | | | |
| 2" | 0072 782 | 0071 782 | 15 | 1076 782 | 10 | 1075 782 | 5 |
| 2 1/4" | 0072 78214 | 0071 78214 | 15 | | | | |
| 2 1/2" | 0072 78212 | 0071 78212 | 15 | 1076 78212 | 10 | 1075 78212 | 5 |
| 2 3/4" | 0072 78234 | 0071 78234 | 15 | | | | |
| 3" | 0072 783 | 0071 783 | 15 | 1076 783 | 10 | 1075 783 | 5 |
| 3 1/4" | 0072 78314 | 0071 78314 | 15 | | | | |
| 3 1/2" | 0072 78312 | 0071 78312 | 15 | 1076 78312 | 10 | | |
| 4" | 0072 784 | 0071 784 | 15 | 1076 784 | 5 | 1075 784 | 5 |
| 4 1/2" | 0072 78412 | 0071 78412 | 15 | 1076 78412 | 5 | | |
| 5" | 0072 785 | 0071 785 | 15 | 1076 785 | 5 | 1075 785 | 5 |
| 5 1/2" | 0072 78512 | 0071 78512 | 15 | | | | |
| 6" | 0072 786 | 0071 786 | 10 | | | 1075 786 | 5 |
| 6 1/2" | 0072 78612 | 0071 78612 | 10 | | | | |
| 7" | 0072 787 | 0071 787 | 10 | | | | |
| 7 1/2" | | 0071 78712 | 10 | | | | |
| 8" | 0072 788 | 0071 788 | 10 | | | | |
| 8 1/2" | 0072 78812 | 0071 78812 | 5 | | | | |
| 9" | 0072 789 | 0071 789 | 5 | | | | |
| 10" | 0072 7810 | 0071 7810 | 5 | | | | |



Plating for Grade 5: Zinc plating is relatively economical and offers good corrosion resistance in environments not subject to excessive moisture. Standard minimum thickness for commercial zinc plating is 0.00015 inches. A clear chromate finish is applied on the zinc to provide additional protection against white oxidation spots which can form due to moisture. Made from medium carbon steel, tempered and zinc plated. Best for automotive use and other areas where higher strength is desired.

Plating for Grade 8: Yellow chromate offers a greater degree of protection from white corrosion than clear chromate. Standard minimum thickness for commercial zinc-yellow plating is 0.00020 inches. Grade 8 Hex Head Cap Screws are oil quenched and tempered at a temperature above 800° F. Made from medium carbon alloy steel, tempered, and zinc plated. Best suited for applications where high strength and hardness is required.

GRADE 5 AND GRADE 8 HEX HEAD CAP SCREWS

| 1" | Width Across Flats 1 1/2" | | | | | | |
|--------|---------------------------|-------------------|-----|---------------------------|-----|-------------------------|-----|
| | Grade 5 | | | Grade 8 | | | |
| Length | Zinc 1-8 Coarse | Zinc 1-12 Fine | Qty | Yellow 1/4 - 20 Coarse | Qty | Yellow 1/4 - 28 Fine | Qty |
| 1 1/2" | 0072 1112 | | 15 | | | | |
| 1 3/4" | 0072 1134 | 0071 1134 | 15 | | | | |
| 2" | 0072 12 | 0071 12 | 15 | | | | |
| 2 1/4" | 0072 1214 | | 15 | | | | |
| 2 1/2" | 0072 1212 | 0071 1212 | 15 | | | | |
| 2 3/4" | 0072 01234 | | 15 | | | | |
| 3" | 0072 13 | 0071 13 | 15 | | | | |
| 3 1/2" | 0072 1312 | 0071 1312 | 15 | | | | |
| 4" | 0072 14 | 0071 14 | 15 | | | | |
| 4 1/2" | 0072 01412 | 0071 11412 | 15 | | | | |
| 5" | 0072 15 | 0071 15 | 15 | | | | |
| 5 1/2" | 0072 1512 | 0071 1512 | 15 | | | | |
| 6" | 0072 16 | 0071 16 | 15 | | | | |
| 6 1/2" | 0072 1612 | 0071 1612 | 5 | | | | |
| 7" | 0072 17 | 0071 17 | 5 | | | | |
| 7 1/2" | 0072 1712 | 0071 1712 | 5 | | | | |
| 8" | 0072 18 | 0071 18 | 5 | | | | |
| 8 1/2" | 0072 1812 | 0071 1812 | 5 | | | | |
| 9" | 0072 19 | 0071 19 | 5 | | | | |
| 10" | 0072 110 | 0071 110 | 5 | | | | |
| 11" | | 0071 1120 | 5 | | | | |

CROSSOVERS


**USS Hex Head
Bolts, Nuts, Flat &
Lock Washers**

Art. 1964 0072

- 600 Pieces
- 1/4" - 3/8"
 - Zinc Plated
 - Grade 5



**USS Grade 5 Hex
Bolts w/Nuts**

Art. 1964 00001

- 1140 Pieces
- 1/4" - 7/16"
 - Zinc Plated



**SAE Hex Head
Bolts, Nuts, Flat &
Lock Washers**

Art. 1964 0071

- 600 Pieces
- 1/4" - 5/16"
 - Zinc Plated
 - Grade

HEX NUTS

Finished Hex Nuts


Finished hex nuts are typically cold formed from steel wire on high speed precision nutformers. Grade 5 nuts achieve their strength through the cold forming while Grade 8 nuts are through-hardened to provide a greater level of strength.

MECHANICAL PROPERTIES

The mechanical properties of finished hex nuts are covered in the Society of Automotive Engineers (SAE) SAE J995.

DIMENSIONS

The dimensions for finished hex nuts are covered in the American National Standards Institute (ANSI) B18.22. The size of the hex is the same as a cap screw head to permit standard wrench sizes to be used. The thread dimensions as listed in ANSI B1.1 are unified national coarse or unified national fine to a class 2B thread tolerance.

APPLICATIONS

In general the proof load of the nut should be greater than the minimum tensile strength of the bolt to ensure that if overloaded, the bolt breaks rather than the nut threads shearing. Grade 5 hex nuts are designed to be used with Grade 5 capscrews and Grade 8 nuts with Grade 8 caps screws. A stronger nut can always be used with a weaker bolt (i.e.: Grade 8 nut is okay to use on a Grade 5 bolt).

COATINGS

All of our finished hex nuts are zinc electroplated in accordance with American Society For Testing And Materials (ASTM) Specification B633, "Electrodeposited Coatings of Zinc or Iron And Steel". Grade 5 nuts have a clear chromate finish, while Grade 8 nuts have a yellow chromate finish as standard.

GRADE 5 & 8 FINISHED HEX NUTS


Grade 5 bolts are hardened to increase strength and are the most common bolts found in automotive applications. Grade 5 bolts have 3 evenly spaced radial line on the head.

Grade 8 bolts have been hardened more than grade 5 bolts. Thus they are stronger and are used in demanding applications such as automotive suspensions. Grade 8 bolts have 6 evenly spaced radial lines on the head.

Specifications: Gr. 5: SAE J995 USS 120,000 psi, SAE 109,000 psi
Gr. 8: SAE J995, 150,000 psi

| Size | Grade 5 | | | Grade 8 | | | | |
|-------|-----------------|-----------------|-----|--------------------|-------------------|-----|-------------------|-----|
| | USS Zinc Finish | SAE Zinc Finish | Qty | Width Across Flats | USS Yellow Finish | Qty | SAE Yellow Finish | Qty |
| 1/4" | 0330 14 | 0331 14 | 100 | 7/16" | 1332 14 | 120 | 1333 14 | 100 |
| 5/16" | 0330 516 | 0331 516 | 100 | 1/2" | 1332 516 | 120 | 1333 516 | 100 |
| 3/8" | 0330 38 | 0331 38 | 100 | 9/16" | 1332 38 | 120 | 1333 38 | 100 |
| 7/16" | 0330 716 | 0331 716 | 50 | 5/8" | 1332 716 | 100 | 1333 716 | 100 |
| 1/2" | 0330 12 | 0331 12 | 50 | 3/4" | 1332 12 | 60 | 1333 12 | 50 |
| 9/16" | 0330 916 | 0331 916 | 25 | 7/8" | 1332 916 | 50 | 1333 916 | 25 |
| 5/8" | 0330 58 | 0331 58 | 25 | 15/16" | 1332 58 | 50 | 1333 58 | 50 |
| 3/4" | 0330 34 | 0331 34 | 25 | 1 1/8" | 1332 34 | 25 | 1333 34 | 25 |
| 7/8" | 0330 78 | 0331 78 | 15 | 1 5/16" | 1332 78 | 25 | | |
| 1" | 0330 1 | 0331 1 | 10 | 1 1/2" | | | | |

NYLON INSERT LOCK NUTS



- Hex nut with a nylon-filled collar at its back end
- When a screw reaches the collar, the threads and nylon form a tight, frictional fit, restricting movement of the screw when it is subjected to vibration
- Nylon insert comes in various colors

Specifications: Gr. 5 & 8: IFI -100/107, Mil-n-25027
Gr. 8: Heat treated Rockwell C26-34

| NE | Grade 5 | | | Grade 8 | | | | |
|--------|-----------------|-----------------|-----|--------------------|-------------------|-----|-------------------|-----|
| | USS Zinc Finish | SAE Zinc Finish | Qty | Width Across Flats | USS Yellow Finish | Qty | SAE Yellow Finish | Qty |
| 1/4" | 0373 14 | 0374 14 | 100 | 7/16" | 137011 14 | 25 | 137028 14 | 25 |
| 5/16" | 0373 516 | 0374 516 | 100 | 1/2" | 137011 516 | 25 | 137028 516 | 25 |
| 3/8" | 0373 38 | 0374 38 | 100 | 9/16" | 137011 38 | 25 | 137028 38 | 25 |
| 7/16" | 0373 716 | 0374 716 | 50 | 5/8" | 137011 716 | 25 | 137028 716 | 25 |
| 1/2" | 0373 12 | 0374 12 | 50 | 3/4" | 137011 12 | 25 | 137028 12 | 25 |
| 9/16" | 0373 916 | 0374 916 | 25 | 7/8" | | | | |
| 5/8" | 0373 58 | 0374 58 | 25 | 15/16" | 137011 58 | 25 | 137028 58 | 25 |
| 3/4" | 0373 34 | 0374 34 | 15 | 1 1/8" | 137011 34 | 25 | | |
| 7/8" | 0373 78 | 0374 78 | 10 | 1 5/16" | | | | |
| 1" | 0373 1 | 0374 1 | 5 | 1 1/2" | | | | |
| 1 1/8" | 0373 118 | 0374 118 | 5 | 1 11/16" | | | | |
| 1 1/4" | 0373 114 | 0374 114 | 5 | 1 7/8" | | | | |
| 1 1/2" | 0373 112 | 0374 112 | 5 | 2 1/4" | | | | |

| NM | Grade 5 | | | Grade 8 | | | | |
|-------|------------------|------------------|-----|--------------------|-------------------|-----|-------------------|-----|
| | USS Zinc Finish | SAE Zinc Finish | Qty | Width Across Flats | USS Yellow Finish | Qty | SAE Yellow Finish | Qty |
| 6-32 | 0373 632 | | 100 | 5/16" | | | | |
| 8-32 | 0373 832 | | 100 | 11/32" | | | | |
| 10-32 | | 0374 1032 | 100 | 3/8" | | | | |
| 10-24 | 0373 1024 | | 100 | 3/8" | | | | |
| 12-24 | 0373 1224 | | 100 | 11/64" | | | | |

NE = Popular standard for most commercial applications

NM = Smaller diameter than standard size

HEX NUTS

Stover® Lock Nuts Flange Style

A one-piece hex nut which derives its prevailing torque characteristics from controlled distortion of its top threads from their normal helical form to a more elliptical shape.

Frequently used in farm machinery, plus in the automotive and metalworking industries. Can withstand severe vibration and shock loads. Reusable and can withstand temperatures of up to 450° F.

- For use with Grade 8 bolts
- Eliminates need for using washers
- Specifications: C-1022-1045 steel
- Meets IFI and ANSI specs.: 1/2 + 5/8 - RC 24 - 32; 3/4 - RC 26 - 34

Grade G

| Art. # | Size | Width Across Flats |
|----------------|------|--------------------|
| 1367112 | 1/2" | 3/4" |
| 1367158 | 5/8" | 15/16" |
| 1367134 | 3/4" | 1-1/8" |


Nylon Insert Lock Nuts (Thin Height)

Used for fastening to a bolt when mechanically joining materials together. The bolt threads into the nylon material located at the top of the nut. This helps prevent loosening from vibration.

- Identical to standard nylon insert lock nuts, but not as high
- Specifications: IFI - 100/107
- MIL-N-25027

Grade 5

| USS Zinc Finish | SAE Zinc Finish | Size | Width Across Flats | Height |
|-----------------|-----------------|-------|--------------------|--------|
| 137514 | 137814 | 1/4" | 7/16" | .203 |
| 1375516 | 1378516 | 5/16" | 1/2" | .260 |
| 137538 | 137838 | 3/8" | 9/16" | .266 |

SERRATED HEX FLANGE NUTS



Serrated Hex Flange Nuts

A flanged hex nut with serrations on the bearing surface. The serrations displace material on the mating surface when the nut is tightened, forming a connection that resists loosening.

It requires a greater amount of torque to loosen the nut than tightening. They will span oversized or poorly aligned holes. The flange provides a more uniform bearing-stress to clamp-force ratio than other low carbon lock nuts. They do not gall screw threads.

Made from a carbon steel which conforms to the following chemical composition requirements: Phosphorus: .12% max; Carbon: .47% max; Sulfur: .23% max.

Case hardened to the proper surface hardness to ensure the serrations will have sufficient gripping strength.

- Specifications: Case hardened - Rockwell hardness C40

| RC40 | | | |
|------------------------|--------------------|-------------|---------------------------|
| USS Zinc Finish | Black Oxide | Size | Width Across Flats |
| 1367414 | 1367514 | 1/4" | 7/16" |
| 13674516 | 13675516 | 5/16" | 1/2" |
| 1367438 | 1367538 | 3/8" | 9/16" |
| 13674716 | | 7/16" | 11/16" |
| 1367412 | | 1/2" | 3/4" |



Grade B Metal Lock Nuts

All metal lock nuts are non-reversible and often used high temperature applications. These nuts are non-reversible because removal often damages the threads.

- All metal, one-piece hex nut which derives its prevailing torque characteristics from controlled distortion of its top threads
- Can withstand severe vibration and shock loads
- Designed to be used for Grade 5 applications

| RC40 | | | |
|------------------------|------------------------|-------------|---------------------------|
| USS Zinc Finish | SAE Zinc Finish | Size | Width Across Flats |
| 1369114 | 1369214 | 1/4" | 7/16" |
| 13691516 | 13692516 | 5/16" | 1/2" |
| 1369138 | 1369238 | 3/8" | 9/16" |
| 13691716 | 13692716 | 7/16" | 11/16" |
| 1369112 | 1369212 | 1/2" | 3/4" |
| 1369158 | 1369258 | 5/8" | 15/16" |
| 1369134 | | 3/4" | 1-1/8" |

HEX NUTS

KEP Nuts

A hex nut pre-assembled with a free spinning external tooth lock washer. The locking action is achieved when the nut is tightened against a bearing surface as the teeth of the lock washer dig into it.

A popular type of lock nut because of its versatility, cost, and ease of installation. Does not gall screw threads.

- A hex nut pre-assembled with a free spinning external tooth lock washer
- Does not gall screw threads
- Specifications: AISI 1008-1020
- Finish: Zinc plated

Grade 5

| USS Zinc Finish | SAE Zinc Finish | Size | Width Across Flats |
|-----------------|-----------------|-------|--------------------|
| 1343832 | | 8-32 | 11/32" |
| 13431024 | | 10-24 | 3/8" |
| | 13431032 | 10-32 | 3/8" |
| 134314 | | 1/4" | 7/16" |
| 1343516 | | 5/16" | 1/2" |


Wing Nuts

A nut that can be turned by hand.

Steel is zinc plated for moderate protection against rust.

- Nylon insert wing nut used when a part is frequently assembled & disassembled at a place where torque greater than that achieved with finger pressure is not needed
- Nylon insert wing nut used on various lawn mower applications
- Specifications: Carbon steel adaptable to the cold-forging process

Grade 5

| Regular Zinc Finish | Nylon Insert Zinc Finish | Size |
|---------------------|--------------------------|-------|
| 1342114 | 13421 | 1/4" |
| 13421516 | | 5/16" |
| | 13422 | 3/8" |

FLAT WASHERS



Grade 5 & Grade 8 SAE Flat Washers

Used under the head of a bolt or nut to distribute the forces applied when tightening. SAE pattern is a tighter fit on the bolt and a smaller outside diameter.

Made from tempered medium carbon alloy steel and zinc plated. Best for applications where high strength and hardness is required.

- For use with all Grade 5 & Grade 8 fastener components
- Durable finish protects against rust and corrosion
- Specifications: Meets ANSI B18.22.1 type A Narrow (SAE)

| Bolt Size | I.D. | O.D. | Gr. 5 Zinc | Qty. | Gr. 8 Yellow | Qty. |
|-----------|---------|----------|-----------------|------|------------------|------|
| #4 | 1/8" | 5/16" | 1407247 | 100 | | |
| #6 | 5/32" | 3/8" | 1407267 | 100 | | |
| #8 | 3/16" | 7/16" | 1407287 | 100 | | |
| #10 | 7/32" | 1/2" | 14072107 | 100 | | |
| #12 | 1/4" | 9/16" | 14072127 | 100 | | |
| 1/4" | 9/32" | 5/8" | 1407214 | 100 | 14080214 | 120 |
| 5/16" | 11/32" | 11/16" | 14072516 | 100 | 140802516 | 120 |
| 3/8" | 13/32" | 13/16" | 1407238 | 100 | 14080238 | 120 |
| 7/16" | 15/32" | 15/16" | 14072716 | 50 | 140802716 | 120 |
| 1/2" | 17/32" | 1-1/16" | 1407212 | 50 | 14080212 | 120 |
| 9/16" | 19/32" | 1-5/32" | 14072916 | 50 | 140802916 | 50 |
| 5/8" | 21/32" | 1-5/16" | 1407258 | 25 | 14080258 | 50 |
| 3/4" | 13/16" | 1-15/32" | 1407234 | 25 | 14080234 | 25 |
| 7/8" | 15/16" | 1-3/4" | 1407278 | 25 | | |
| 1" | 1-1/16" | 2" | 140721 | 15 | | |
| 1-1/4" | 1-5/16" | 2-1/2" | 14072114 | 15 | | |
| 1-3/8" | 1-7/16" | 2-3/4" | 14072138 | 10 | | |
| 1-1/2" | 1-5/8" | 3" | 14072112 | 10 | | |

FLAT WASHERS
Grade 5 & Grade 8 USS Flat Washers

Used under the head of a bolt or nut to distribute the forces applied when tightening. USS pattern is the most common type of flat washer.

Made from tempered medium carbon alloy steel and zinc plated. Best for applications where high strength and hardness is required.

- For use with all Grade 5 & Grade 8 fastener components
- Yellow finish exceeds ASTM B633-85 standards
- Specifications: Heat treated and through hardened per ASTM F-436 specifications



| Bolt Size | I.D. | O.D. | Gr. 5 Zinc | Qty. | Gr. 8 Yellow | Qty. |
|-----------|---------|--------|------------------|------|-------------------|------|
| 3/16" | 1/4" | 9/16" | 1407 1316 | 100 | 14080 114 | 100 |
| 1/4" | 5/16" | 3/4" | 1407 114 | 100 | | |
| 5/16" | 3/8" | 7/8" | 1407 1516 | 100 | 14080 1516 | 100 |
| 3/8" | 7/16" | 1" | 1407 138 | 100 | 14080 138 | 120 |
| 7/16" | 1/2" | 1 1/4" | 1407 1716 | 50 | 14080 1716 | 50 |
| 1/2" | 9/16" | 1 3/8" | 1407 112 | 50 | 14080 112 | 25 |
| 9/16" | 5/8" | 1 1/2" | 1407 1916 | 50 | 14080 1916 | 25 |
| 5/8" | 11/16" | 1 3/4" | 1407 158 | 50 | 14080 158 | 25 |
| 3/4" | 13/16" | 2" | 1407 134 | 25 | 14080 134 | 25 |
| 7/8" | 15/16" | 2 1/4" | 1407 178 | 25 | 14080 178 | 25 |
| 1" | 1-1/16" | 2 1/2" | 1407 11 | 10 | 14080 11 | 25 |
| 1-1/8" | 1-1/4" | 2 3/4" | 1407 1118 | 10 | | |
| 1-1/4" | 1-3/8" | 3" | 1407 1114 | 5 | | |
| 1-1/2" | 1-5/8" | 3 1/2" | 1407 1112 | 5 | | |

FLAT WASHERS

Fender Washers

Fender washers provide a greater bearing surface under the fastener. This helps prevent a nut, bolt or screw from pulling through the material.

Steel is Zinc plated for moderate protection against rust.

- Flat washer with significantly more surface than a USS or SAE washer
- Made from thinner gauge steel than most flat washers
- Specifications: Meets ANSI B18.22.1 type A Narrow (SAE)

| Gr. 5 Zinc | Bolt Size | I.D. | O.D. | Qty. |
|---------------------|-----------|-------|--------|------|
| 14111 141 | 1/4" | 5/16" | 1" | 100 |
| 14111 14114 | 1/4" | 5/16" | 1 1/4" | 100 |
| 14111 14112 | 1/4" | 5/16" | 1 1/2" | 100 |
| 14111 3634 | 3/16" | 1/4" | 3/4" | 100 |
| 14111 361 | 3/16" | 1/4" | 1" | 100 |
| 14111 36114 | 3/16" | 1/4" | 1 1/4" | 100 |
| 14111 56114 | 5/16" | 3/8" | 1 1/4" | 100 |
| 14111 56112 | 5/16" | 3/8" | 1 1/2" | 100 |
| 14111 38114 | 3/8" | 7/16" | 1 1/4" | 100 |
| 14111 38112 | 3/8" | 7/16" | 1 1/2" | 100 |
| 14111 716138 | 7/16" | 1/2" | 1 3/8" | 100 |
| 14111 122 | 1/2" | 9/16" | 2" | 50 |


SAE - Extra Thick, Heavy Duty Hardened Washers

- Steel mechanically zinc yellow plated and baked after plating
- Extra thickness prevents splitting, bellying and dishing
- For use with Grade 5 & Grade 8 hardware
- Specifications: through hardened steel
- Hardness: Rockwell C38 - 45
- Yellow plated

| Gr. 5 Zinc | Bolt Size | I.D. | O.D. | Thickness |
|-------------------|-----------|--------|---------|-----------|
| 1407 3214 | 1/4" | 9/32" | 5/8" | .09 |
| 1407 32516 | 5/16" | 11/32" | 11/16" | .09 |
| 1407 3238 | 3/8" | 13/32" | 13/16" | .09 |
| 1407 32716 | 7/16" | 15/32" | 15/16" | .09 |
| 1407 3212 | 1/2" | 17/32" | 1 1/16" | .156 |
| 1407 32916 | 9/16" | 19/32" | 1 3/16" | .156 |
| 1407 3258 | 5/8" | 21/35" | 1 5/16" | .17 |
| 1407 3234 | 3/4" | 13/16" | 1 1/2" | .17 |

WASHERS

Grade 5 & Grade 8 Split Lock Washers

Split-lock washers are made from carbon steel and Grade 8 are manufactured from AISI-4037 alloy steel. All are heat-treated to a Rockwell hardness of 38-46 C scale and manufactured according to the ASME B18.21.1 specifications.

- Applies greater bolt tension per unit of applied torque
- Resists loosening cause by vibration and corrosion SAE 1055-1065
- Grade 8 dimensionally identical to a Grade 5 but made from 4037 alloy steel
- Specifications: Both are RC 38-46

| Gr. 5 Zinc | Bolt Size | Qty | Gr. 8 Yellow | Qty |
|-----------------|-----------|-----|------------------|-----|
| 0442 6 | #6 | 100 | | |
| 0442 8 | #8 | 100 | | |
| 0442 10 | #10 | 100 | | |
| 0442 012 | #12 | 100 | | |
| 0442 14 | 1/4" | 100 | 1442 014 | 120 |
| 0442 516 | 5/16" | 100 | 1442 0516 | 120 |
| 0442 38 | 3/8" | 100 | 1442 038 | 120 |
| 0442 716 | 7/16" | 100 | 1442 0716 | 50 |
| 0442 12 | 1/2" | 100 | 1442 012 | 50 |
| 0442 916 | 9/16" | 50 | | |
| 0442 58 | 5/8" | 50 | 1442 058 | 25 |
| 0442 34 | 3/4" | 50 | 1442 034 | 120 |
| 0442 78 | 7/8" | 25 | 1442 078 | 25 |
| 0442 1 | 1" | 25 | | |
| 0442 118 | 1 1/8" | 5 | | |
| 0442 114 | 1 1/4" | 5 | | |
| 0442 138 | 1 3/8" | 5 | | |
| 0442 112 | 1 1/2" | 5 | | |
| 0442 2 | 2" | 5 | | |

WASHERS

External & Internal Tooth Washers

External Type: Should be used wherever possible, as the tapered, twisted teeth are on the largest radius to provide maximum torsional resistance. Best used with a fastener having a round, pan, binding or other head large enough to make contact with the washer teeth. External tooth washers are also available with left hand or alternatively twisted teeth for special applications.

- This is the most preferable of all tooth-lock washers. It offers the greatest locking efficiency since the teeth are on the largest radius.

Internal Type: Recommended for use with smaller head screws such as fillisters. Also recommended for applications where it is best to hide the teeth either for appearance or to prevent scratching or snagging.

- Preferred when finished appearance is crucial

| Zinc External | Zinc Internal | Bolt Size |
|----------------|----------------|-----------|
| 142314 | 142414 | 1/4" |
| 1423516 | 1424516 | 5/16" |
| 142338 | 142438 | 3/8" |
| 142312 | 142412 | 1/2" |


Rivet Backup Washer

Backup washers are .056"-.062" thick. They are used when fastening soft materials or to compensate for oversize holes where access to both sides of the work is possible.

| Zinc Art. # | O.D. | Rivet Dia. |
|-----------------|--------|------------|
| 1408718 | 1/2" | 1/8" |
| 14087532 | 1/2" | 5/32" |
| 14087316 | 15/32" | 3/16" |

U.S. MACHINE SCREWS

Pan Head Phillips Machine Screws

Our Pan Head Machine Screws are the highest quality you can find. Get excellent driving power and low clearance from the low profile, large diameter head.

- Machine screws form a fastening superior in strength to spaced thread screws
- Always use a driver bit of the proper size which is in good condition
- Specification: AISI 1006 - 1022 or equivalent steel
- Rockwell Hardness: B70 - B100
- Finish: Zinc plated

| Zinc | Size | Length |
|-------------------|-------------|--------|
| 00351614 | 6-32 | 1/4" |
| 00351612 | | 1/2" |
| 00351634 | | 3/4" |
| 0035161 | | 1" |
| 003516112 | | 1-1/2" |
| 00351814 | 8-32 | 1/4" |
| 00351812 | | 1/2" |
| 00351834 | | 3/4" |
| 0035181 | | 1" |
| 003518112 | | 1-1/2" |
| 003511014 | 10-24 | 1/4" |
| 003511012 | | 1/2" |
| 003511034 | | 3/4" |
| 00351101 | | 1" |
| 003521014 | 10-32 (SAE) | 1/4" |
| 003521012 | | 1/2" |
| 003521034 | | 3/4" |
| 00352101 | | 1" |
| 0035210112 | | 1-1/2" |
| 003511212 | 12-24 | 1/2" |
| 003511234 | | 3/4" |
| 00351121 | | 1" |

U.S. MACHINE SCREWS



Finished Hex Nut

Machine screw nuts are designed to be used specifically with machine screws in light to moderate load assemblies.

- Specifications: ANSI/ASME B18.6.3
- Finish: Zinc

| Zinc | Size |
|-----------------|-------|
| 0330632 | 6-32 |
| 0330832 | 8-32 |
| 03301024 | 10-24 |
| 03311032 | 10-32 |
| 03301224 | 12-24 |



Nylon Insert Lock Nuts

- Specifications: Low carbon steel
- Unified standard class 2B threads

| USS Zinc Finish | Size | Width Across Flats |
|-----------------|-------|--------------------|
| 037410 | 10-32 | 3/8" |



Machine Screw Flat Washers

| Zinc | Size |
|-----------------|------|
| 1407267 | #6 |
| 1407287 | #8 |
| 14072107 | #10 |
| 14072127 | #12 |

SOCKET HEAD CAP SCREWS/BUTTON HEAD SOCKET CAP SCREWS



Socket Head Cap Screws

These are the familiar "Allen Head" screws (socket head). They are a high quality, high-strength fastener (180,000 psi) with a black oxide finish.

- Supplies greater tensile strength than equivalent sizes of Grade 5 or Grade 8 Hex Head cap screws
- Head diameter: 0.31"
- Accepts 5/32" hex key
- 0.250" unthreaded portion
- Specifications: ANSI B18.3.86
- Class Fit: 3A
- Rockwell Hardness: C38-43
- Tensile Strength: 180,000 psi

Button Head Socket Cap Screws

- Button head provides a finished look
- Drive system is a hexagon-shaped hole
- Coarse threads are better for brittle materials, and will assemble and disassemble more quickly than fine threads
- Does not afford the strength of Socket Head Cap Screws
- They are not recommended for critical, high strength applications

| Dia. - Thread Pitch | Length | Socket Head Cap Screws | Key Size | Button Head Cap Screws | Key Size |
|---------------------|--------|------------------------|----------|------------------------|----------|
| 10 - 24 | 1/2" | 108311012 | 5/32" | | 1/8" |
| | 3/4" | 108311034 | | | |
| | 1" | 10831101 | | | |
| 10 - 32 (SAE) | 1/2" | | 5/32" | 108621012 | 1/8" |
| | 3/4" | | | 108621034 | |
| 1/4 - 20 | 1/2" | 108311412 | 3/16" | | |
| | 3/4" | 108311434 | | | |
| | 1" | 10831141 | | | |
| | 1-1/4" | 1083114114 | | | |
| | 1-1/2" | 1083114112 | | | |
| 5/16 - 18 | 3/4" | 108315634 | 1/4" | | |
| | 1" | 10831561 | | | |
| | 1-1/2" | 1083156112 | | | |
| | 2" | 10831562 | | | |
| 3/8 - 16 | 3/4" | 108313834 | 5/16" | | |
| | 1" | 10831381 | | | |
| | 1-1/2" | 1083138112 | | | |

REPLACEMENT HARDWARE FOR FRAME MACHINES

Hex Head Cap Screws

| Article # | Grade | Size | Length |
|---------------------|-------|--------|--------|
| 10767162 | 8 | 7/16" | 2" |
| 107612114 | 8 | 1/2" | 1-1/4" |
| 107612112 | 8 | | 1-1/2" |
| 1076122 | 8 | | 2" |
| 107612212 | 8 | | 2-1/2" |
| 1076123 | 8 | | 3" |
| 107612312 | 8 | | 3-1/2" |
| 1076124 | 8 | | 4" |
| 1076916212 | 8 | | 9/16" |
| 10769163 | 8 | 3" | |
| 1076916312 | 8 | 3-1/2" | |
| 10769164 | 8 | 4" | |
| 1076583 | 8 | 5/8" | 3" |
| 107658312 | 8 | | 3-1/2" |
| 1076584 | 8 | | 4" |
| 107658412 | 8 | | 4-1/2" |
| 1076585 | 8 | | 5" |
| XECA10550 (Eastern) | 8 | | 5-1/2" |
| 1706586 | 8 | | 6" |
| 1076343 | 8 | 3/4" | 3" |
| 107634312 | 8 | | 3-1/2" |
| 1076344 | 8 | | 4" |
| 107634412 | 8 | | 4-1/2" |
| 1076345 | 8 | | 5" |
| 107634512 | 8 | | 5-1/2" |
| 1076346 | 8 | | 6" |

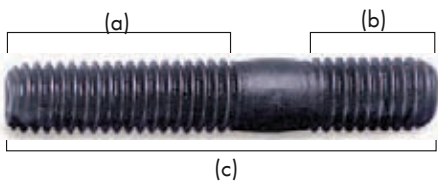
REPLACEMENT HARDWARE FOR FRAME MACHINES

Hex Nuts

| Article # | Grade | Size | Finish |
|----------------|-------|-------|--------|
| 031816 | 10.9 | 7/16" | Black |
| 133212 | 8 | 1/2" | Black |
| 1332916 | 8 | 9/16" | Black |
| 133258 | 8 | 5/8" | Yellow |
| 133234 | 8 | 3/4" | Black |


Washers

| Article # | Grade | Size | Finish |
|------------------|-------|-------|--------|
| 140801716 | 8 | 7/16" | Yellow |
| 14080112 | 8 | 1/2" | Yellow |
| 140801916 | 8 | 9/16" | Yellow |
| 14080158 | 8 | 5/8" | Yellow |
| 14080134 | 8 | 3/4" | Yellow |


Manifold Studs

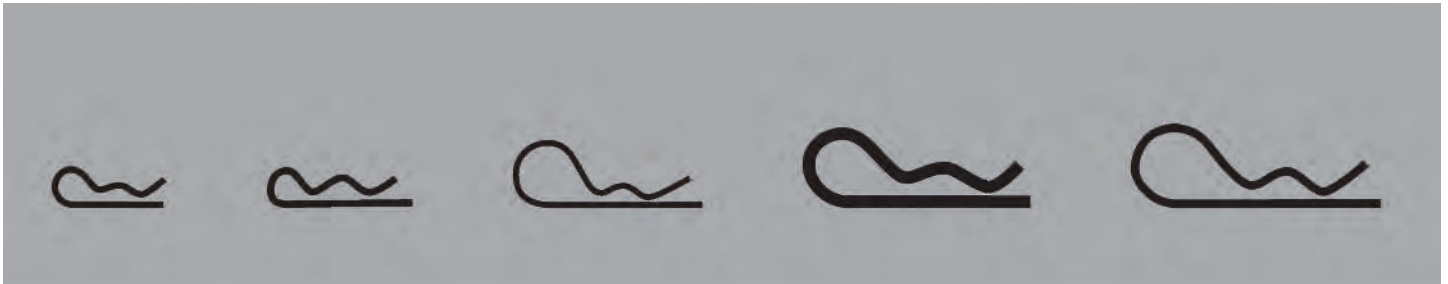
- Specifications: Heat treated
- Finish: Black

| Article # | Dia. | (a) Thread | (b) Thread | (c) Length |
|-------------------|-------|------------|------------|------------|
| 025256112 | 5/16" | SAE | USS | 1-1/2" |
| 0252561121 | | USS | USS | 1-1/2" |
| 025256134 | | SAE | USS | 1-3/4" |
| 0252561341 | | USS | USS | 1-3/4" |
| 0252562 | | SAE | USS | 2" |
| 02525621 | | USS | USS | 2" |
| 025238112 | 3/8" | SAE | USS | 1-1/2" |
| 0252381121 | | USS | USS | 1-1/2" |
| 025238134 | | SAE | USS | 1-3/4" |
| 0252381341 | | USS | USS | 1-3/4" |
| 0252382 | | SAE | USS | 2" |
| 02523821 | | USS | USS | 2" |
| 02523831 | | USS | USS | 3" |

HITCH PINS (US SIZES)

The long straight arm of the internal hitch pin (R-Clip) is designed to pass through a hole in a shaft with other arm passing around the curved surface of the shaft. This provides a relatively inprecise but simple method for locating parts on a shaft.

- Specifications: Zinc Plated



Wire Dia. .047
Max Shaft Size
3/16"

Art. # 147305

Universal Clip for
brakes
1.2mm x 20

Art. # 18202050

Wire Dia. .041
Max Shaft Size
1/4"

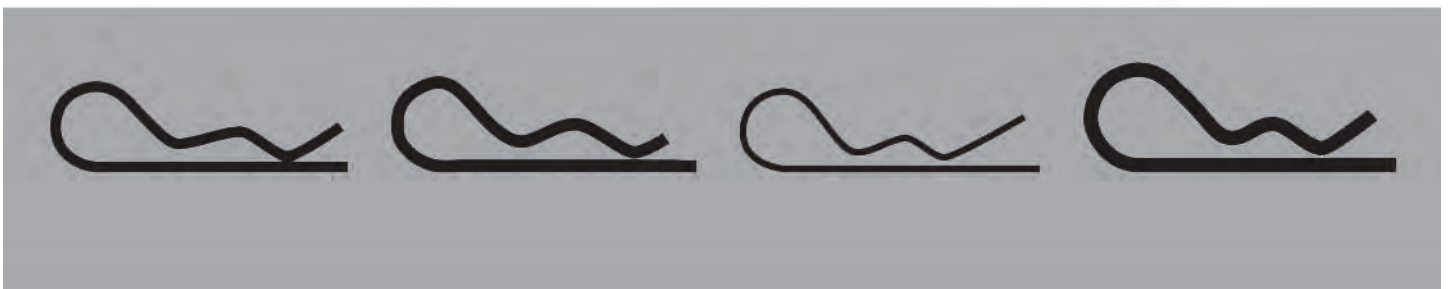
Art. # 147308

Wire Dia. .080
Max Shaft Size
3/8"

Art. # 147314

Wire Dia. .062
Max Shaft Size
1/2"

Art. # 147312



Wire Dia. .062
Max Shaft Size
1/2"

Art. # 147310

Wire Dia. .080
Max Shaft Size
1/2"

Art. # 147315

Wire Dia. .047
Max Shaft Size
3/8"

Art. # 147309

Wire Dia. .094
Max Shaft Size
1/2"

Art. # 147322



Wire Dia. .125
Max Shaft Size
3/4"

Art. # 147325

Wire Dia. .094
Max Shaft Size
5/8"

Art. # 147321

Wire Dia. .094
Max Shaft Size
3/4"

Art. # 147320

PINS SHOWN ARE ACTUAL SIZE

HITCH PINS (US SIZES)


Wire Dia. .080
 Max Shaft Size
 3/8"
Art. # 147330



Wire Dia. .148
 Max Shaft Size
 1"
Art. # 147337



Wire Dia. .148
 Max Shaft Size
 1-1/8"
Art. # 147340



Wire Dia. .177
 Max Shaft Size
 1"
Art. # 147345



Wire Dia. .177
 Max Shaft Size
 1-1/4"
Art. # 147335



Wire Dia. .243
 Max Shaft Size
 1"
Art. # 147347

PINS SHOWN ARE ACTUAL SIZE

US COTTER PINS



A split pin that can be inserted through a hole and then bent to hold something in place. Manufactured with various metals and sizes. Can be straightened and removed.

- Finish: Zinc Plated

| Article # | Size | Length |
|------------|-------|--------|
| 147011612 | 1/16" | 1/2" |
| 147011634 | | 3/4" |
| 14701161 | | 1" |
| 1470116112 | | 1-1/2" |
| 1470116134 | | 1-3/4" |
| 147033234 | 3/32" | 3/4" |
| 14703321 | | 1" |
| 1470332114 | | 1-1/4" |
| 1470332112 | | 1-1/2" |
| 1470332134 | | 1-3/4" |
| 14703322 | 2" | |
| 14701834 | 1/8" | 3/4" |
| 1470181 | | 1" |
| 147018114 | | 1-1/4" |
| 147018112 | | 1-1/2" |
| 147018134 | | 1-3/4" |
| 1470182 | | 2" |
| 1470183 | | 3" |
| 14705321 | 5/32" | 1" |
| 1470532114 | | 1-1/4" |
| 1470532112 | | 1-1/2" |
| 14705322 | | 2" |
| 1470532212 | | 2-1/2" |
| 14703161 | 3/16" | 1" |
| 1470316114 | | 1-1/4" |
| 1470316112 | | 1-1/2" |
| 14703162 | | 2" |
| 1470316212 | | 2-1/2" |
| 14703163 | | 3" |
| 14707323 | 7/32" | 3" |
| 147014112 | 1/4" | 1-1/2" |
| 1470142 | | 2" |
| 147014212 | | 2-1/2" |

SOCKET SET SCREWS


Socket screws, also known as Allen heads are fastened with a hex Allen wrench. Available in several head styles and materials.

Made from heat treated alloy steel. Best for applications where extreme strength and hardness are required. Not recommended for exterior use.

- The cup point is the most used style set screw
- Designed for fast permanent and semi-permanent location on shafts
- Rockwell Hardness: C45-53
- Finish: Black oil (plain)

| Article # | Size | Length |
|-------------------|------------|--------|
| 12551614 | 6-32 | 1/4" |
| 12551638 | | 3/8" |
| 12551814 | 8-32 | 1/4" |
| 125511014 | 10-24 | 1/4" |
| 125511038 | | 3/8" |
| 12551414 | 1/4" - 20 | 1/4" |
| 12551438 | | 3/8" |
| 12551412 | | 1/2" |
| 1255151612 | 5/16" - 18 | 1/2" |
| 12553812 | 3/8" - 16 | 1/2" |

DOWEL SPRING PINS



Dowel spring pins are slotted pins made from high carbon spring steel (EN-42J) material having 44-51 HRC.

Dowel spring pins are accurately made to diameter greater than the drilled hole into which it is pressed. When inserted the elasticity of the material then exerting a continuous radial force over the full length of the pin. The purpose of the slot in the pins is to allow compression when inserted in the hole.

Advantages & Uses

- A dowel spring pin is the most economical, quick, simple and easy fastening system, which is particularly suitable for bulk production
- It has shock and vibrating absorption capacity and can be removed and reutilize for maintenance
- It causes no interlocking and exerts less radial pressure reducing component damage and trouble free working
- It replaces rivets, bolts and washers, clevis pins and retaining rings as well as set screw and other threaded components
- No special skills are required as pins are easy to insert either by hand or by automated assembly and it can be carried out quite safely with unskilled labours
- It is used in countless applications, in huge quantities and in widely ranging industries from automobile production to electronics

| Article # | Diameter | Length |
|-------------------|----------|--------|
| 14751834 | 1/8" | 3/4" |
| 1475181 | | 1" |
| 147518112 | | 1-1/2" |
| 14755321 | 5/32" | 1" |
| 1475532114 | | 1-1/4" |
| 1475532112 | | 1-1/2" |
| 147531634 | 3/16" | 3/4" |
| 14753161 | | 1" |
| 1475316112 | | 1-1/2" |
| 14753162 | | 2" |
| 1475141 | 1/4" | 1" |
| 1475142 | | 2" |

US LICENSE PLATE SCREWS


Zinc 1/4" x 3/4"
Art. # 021038



Black 1/4" x 3/4"
Art. # 021037



Zinc 1/4"-20 x 1/2"
Art. # 021019



Zinc 1/4"-20 x 1/2"
Art. # 021013



Black 1/4"-20 x 5/8"
Art. # 021015



Zinc 1/4"-20 x 3/4"
Art. # 121030



Zinc 1/4" x 3/4"
Art. # 021017



Black 1/4" x 5/8"
Art. # 121036



Zinc 1/4"
Art. # 150159591

US LICENSE PLATE SCREWS


Zinc 1/4" x 3/4"
Art. # 121042



Zinc #12 x 5/8"
Art. # 021025



Zinc #12 x 3/4"
Art. # 021026



Zinc #12 x 3/4"
Art. # 0115519



Zinc #12 x 1"
Art. # 0115525



Zinc #10 x 1/2"
Art. # 021028



Zinc #10 x 3/4"
Art. # 021032



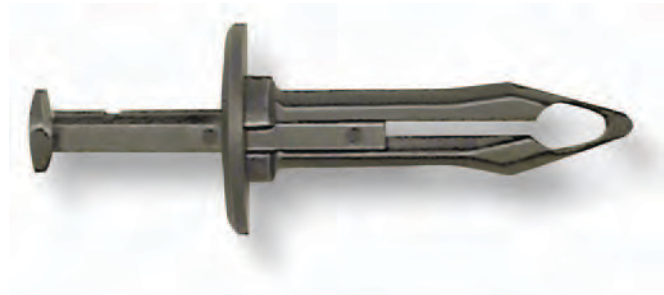
Zinc #8 x 1/2"
Art. # 150159144



Phosphate #14 x 3/4"
Art. # 021031

US LICENSE PLATE SCREWS


GM P.U. Trucks, Front LP '94 & up
Art. # 150155383



GM S-10 P.U. Trucks w/decor pkg Front LP '94 & up
Art. # 150155384

METRIC LICENSE PLATE SCREWS

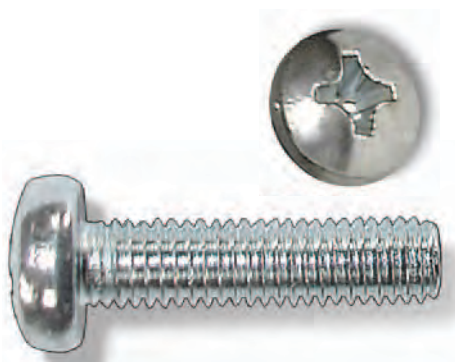

Yellow M5 x 8
Art. # 021039



Yellow M5 x 12
Art. # 021040



Zinc M5 x 16
Art. # 0046516



Zinc M5 x 20
Art. # 0046520



Yellow M6 x 16
Art. # 00460616



Black M6 x 16
Art. # 021002

METRIC LICENSE PLATE SCREWS

Black M6 x 20
Art. # 021003



Nylon M6 x 20
Art. # 021020



Nylon M6 x 12
Art. # 021021



Nylon M6 x 16
Art. # 021022



Nylon M6 x 20
Art. # 021023



Zinc M6 x 16
Art. # 004166



Zinc M6 x 20
Art. # 0041620



Nylon M6 x 20
Art. # 021008



Zinc M6 x 16
Art. # 021043

METRIC LICENSE PLATE SCREWS

Zinc M6 x 20
Art. # 021033



Zinc M6 x 10
Art. # 0046610



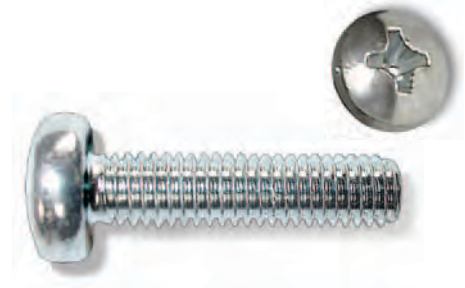
Zinc M6 x 12
Art. # 0046612



Zinc M6 x 16
Art. # 0046616



Zinc M6 x 20
Art. # 0046620



Zinc M6 x 25
Art. # 0046625



Yellow M6 x 20
Art. # 021009



Yellow M6 x 15
Art. # 021012



Zinc M6 x 20
Art. # 150159452

METRIC LICENSE PLATE SCREWS



Zinc M6 x 20
Art. # 021014



Black M6 x 30
Art. # 121035

YELLOW GRADE 10.9 METRIC HEX HEAD CAP SCREWS FULL THREAD



- The symbol 10.9 is required on each bolt head for diameters M5 and higher.
- Specifications: ANSI B1.13M-1979, ASTM F 548-1979
- Property Class: 10.9 bolts (equivalent to a U.S. grade 8) are manufactured from medium carbon steel with additives such as boron.
- Tensile Strength: Min. 150,800 psi.

Prefix 11070

Grade 10.9 (DIN 933) Full Thread, Yellow Finish

| Yellow 10.9 | Dia. - Thread Pitch | Length (mm) | W.A.F* |
|-------------|---------------------|-------------|--------|
| 11070616 | M6 (1.0) | 16 | M10 |
| 11070620 | | 20 | |
| 11070816 | M8 (1.25) | 16 | M13 |
| 11070820 | | 20 | |
| 11070825 | | 25 | |
| 11070830 | | 30 | |
| 11070840 | | 40 | |
| 110701020 | M10 (1.50) | 20 | M17 |
| 110701025 | | 25 | |
| 110701030 | | 30 | |
| 110701035 | | 35 | |
| 110701045 | | 45 | |
| 110701220 | M12 (1.75) | 20 | M19 |
| 110701230 | | 30 | |
| 110701235 | | 35 | |
| 110701240 | | 40 | |
| 110701245 | | 45 | |

*W.A.F. is an abbreviation for Width Across Flats

ZINC GRADE 8.8 METRIC HEX HEAD CAP SCREWS FULL THREAD

Prefix 0057

Grade 8.8 (DIN 933) Full Thread, Zinc Finish

- Internationally, grade 8.8 (equivalent to a U.S. grade 5) is most widely used for hex head bolts.
- The symbol 8.8 is required on each bolt head for diameters M5 and higher.
- Specifications: ANSI B18.2.3.1, M 1979 ASTM F548
- Property Class: 8.8 bolts are manufactured with medium carbon steel.
- Tensile Strength: Min. 120,000 psi.

| Zinc 8.8 | Dia. - Thread Pitch | Length (mm) | W.A.F.* |
|----------|---------------------|-------------|---------|
| 0057410 | M4 (0.7) | 10 | M7 |
| 0057412 | | 12 | |
| 0057416 | | 16 | |
| 0057420 | | 20 | |
| 0057425 | | 25 | |
| 0057510 | M5 (0.8) | 10 | M8 |
| 0057512 | | 12 | |
| 0057516 | | 16 | |
| 0057520 | | 20 | |
| 0057525 | | 25 | |
| 0057530 | | 30 | |
| 0057535 | | 35 | |
| 0057540 | 40 | | |
| 0057610 | M6 (1.0) | 10 | M10 |
| 0057612 | | 12 | |
| 0057616 | | 16 | |
| 0057618 | | 18 | |
| 0057620 | | 20 | |
| 0057622 | | 22 | |
| 0057625 | | 25 | |
| 0057630 | | 30 | |
| 0057635 | | 35 | |
| 0057640 | | 40 | |
| 0057645 | | 45 | |
| 0057650 | | 50 | |
| 0057655 | | 55 | |
| 0057660 | | 60 | |
| 0057665 | | 65 | |
| 0057670 | | 70 | |
| 0057680 | | 80 | |
| 0057810 | M8 (1.25) | 10 | M13 |
| 0057812 | | 12 | |
| 0057816 | | 16 | |
| 0057818 | | 18 | |
| 0057820 | | 20 | |
| 0057822 | | 22 | |
| 0057825 | | 25 | |
| 0057830 | | 30 | |
| 0057835 | | 35 | |
| 0057840 | | 40 | |
| 0057845 | | 45 | |
| 0057850 | | 50 | |
| 0057855 | | 55 | |
| 0057860 | | 60 | |
| 0057865 | | 65 | |
| 0057870 | | 70 | |
| 0057875 | | 75 | |
| 0057880 | 80 | | |
| 00578100 | 100 | | |

*W.A.F. is an abbreviation for Width Across Flats

LARGE BIN ASSORTMENTS AVAILABLE

05.0230

ZINC GRADE 8.8 METRIC HEX HEAD CAP SCREWS FULL THREAD

Prefix 0057 - Continued

Grade 8.8 (DIN 933) Full Thread, Zinc Finish

| Zinc 8.8 | Dia. - Thread Pitch | Length (mm) | W.A.F* |
|----------|---------------------|-------------|--------|
| 00571016 | M10 (1.50) | 15 | M17 |
| 00571020 | | 20 | |
| 00571025 | | 25 | |
| 00571030 | | 30 | |
| 00571035 | | 35 | |
| 00571040 | | 40 | |
| 00571045 | | 45 | |
| 00571050 | | 50 | |
| 00571055 | | 55 | |
| 00571060 | | 60 | |
| 00571070 | 70 | | |
| 00571220 | M12 (1.75) | 20 | M19 |
| 00571225 | | 25 | |
| 00571230 | | 30 | |
| 00571235 | | 35 | |
| 00571240 | | 40 | |
| 00571245 | | 45 | |
| 00571250 | | 50 | |
| 00571260 | | 60 | |
| 00571270 | | 70 | |
| 00571290 | | 90 | |

*W.A.F. is an abbreviation for Width Across Flats

YELLOW GRADE 8.8 METRIC HEX HEAD CAP SCREWS FULL THREAD

Prefix 00570

Grade 8.8 (DIN 933) Full Thread, Yellow Finish

| Yellow 8.8 | Dia. - Thread Pitch | Length (mm) | W.A.F.* |
|------------|---------------------|-------------|---------|
| 00570410 | M4 (0.7) | 10 | M7 |
| 00570416 | | 16 | |
| 00570420 | | 20 | |
| 00570512 | M5 (0.8) | 12 | M8 |
| 00570516 | | 16 | |
| 00570520 | | 20 | |
| 00570525 | | 25 | |
| 00570530 | | 30 | |
| 00570610 | M6 (1.0) | 10 | M10 |
| 00570612 | | 12 | |
| 00570616 | | 16 | |
| 00570620 | | 20 | |
| 00570625 | | 25 | |
| 00570630 | | 30 | |
| 00570635 | | 35 | |
| 00570640 | 40 | | |
| 00570712 | M7 (1.0) | 12 | M11 |
| 00570716 | | 16 | |
| 00570720 | | 20 | |
| 00570725 | | 25 | |
| 00570730 | | 30 | |
| 00570735 | 35 | | |
| 00570812 | M8 (1.25) | 12 | M13 |
| 00570816 | | 16 | |
| 00570820 | | 20 | |
| 00570825 | | 25 | |
| 00570830 | | 30 | |
| 00570835 | | 35 | |
| 00570840 | | 40 | |
| 00570845 | | 45 | |
| 00570850 | | 50 | |
| 00570860 | 60 | | |
| 005701020 | M10 (1.50) | 20 | M17 |
| 005701025 | | 25 | |
| 005701030 | | 30 | |
| 005701035 | | 35 | |
| 005701040 | | 40 | |
| 005701050 | | 50 | |
| 005701060 | 60 | | |

*W.A.F. is an abbreviation for Width Across Flats

GRADE 8.8 METRIC HEX HEAD CAP SCREWS PARTIAL THREAD



Prefix 0053

Grade 8.8 (DIN 931)/(ISO 4014) Partial Thread, Zinc Finish



Prefix 00530

Grade 8.8 (DIN 931)/(ISO 4014) Partial Thread, Yellow Finish

- Partial thread cap screws with shank according to (DIN 931)/(ISO 4014)

| Zinc 8.8 | Yellow 8.8 | Dia. - Thread Pitch | Length (mm) | W.A.F* |
|-----------------|-----------------|---------------------|-------------|--------|
| 0053640 | | M6 (1.0) | 40 | M10 |
| 0053655 | | | 55 | |
| 0053660 | | | 60 | |
| 0053835 | | M8 (1.25) | 35 | M13 |
| 0053840 | 00530840 | | 40 | |
| 0053845 | 00530845 | | 45 | |
| | 00530850 | | 50 | |
| | 00530855 | | 55 | |
| | 00530860 | | 60 | |
| 0053870 | 00530870 | | 70 | |
| 0053880 | | 80 | | |
| 00531050 | | M10 (1.50) | 50 | M17 |
| 00531060 | | | 60 | |
| 00531070 | | | 70 | |

*W.A.F. is an abbreviation for Width Across Flats

GRADE 8.8 METRIC HEX HEAD CAP SCREWS

Prefix 1060

Grade 8.8 JIS B 1180 Full Thread - Zinc

Reduced Head

- Reduced Hex Head bolts are used primarily on Japanese vehicles.
- Specifications: JIS B 1180-Heat Treated I.S.O. Class 8.8, Pitch 1.25
- Tensile Strength: Approx. 120,000 psi.
- Manufactured to DIN specs.

| Zinc | Dia. Thread Pitch | Length (mm) | W.A.F.* |
|-----------------|-------------------|-------------|---------|
| 1060812 | M8 (1.25) | 12 | M12 |
| 1060816 | | 16 | |
| 1060820 | | 20 | |
| 1060825 | | 25 | |
| 1060830 | | 30 | |
| 1060835 | | 35 | |
| 1060840 | | 40 | |
| 1060845 | | 45 | |
| 1060850 | | 50 | |
| 1060855 | | 55 | |
| 1060860 | | 60 | |
| 10601020 | M10 (1.25) | 20 | M14 |
| 10601025 | | 25 | |
| 10601030 | | 30 | |
| 10601035 | | 35 | |
| 10601040 | | 40 | |
| 10601045 | | 45 | |
| 10601050 | | 50 | |
| 10601060 | | 60 | |
| 10601070 | | 70 | |
| 10601080 | | 80 | |
| 10601090 | | 90 | |
| 10601220 | M12 (1.25) | 20 | M17 |
| 10601225 | | 25 | |
| 10601230 | | 30 | |
| 10601235 | | 35 | |
| 10601240 | | 40 | |
| 10601250 | | 50 | |

*W.A.F. is an abbreviation for Width Across Flats

GRADE METRIC HEX HEAD CAP SCREWS



Prefix 0067

Grade 10.9 (DIN 961)/(ISO 8676) Full Thread Yellow Finish

10.9 Fine Thread Galvanized, Yellow Passivated

- Fine thread bolts have greater self-locking properties, higher torque and a higher load bearing capacity.
- Specifications: DIN 960-class 10.9, DIN 961/ISO 8676
- Tensile Strength: Min. 158,800 psi.

| Full Thread 10.9 Yellow | Dia. Thread Pitch | Length (mm) | W.A.F. * |
|-------------------------|-------------------|-------------|----------|
| 0067820 | M8 (1.0) | 20 | M13 |
| 0067825 | | 25 | |
| 0067835 | | 35 | |
| 00671020 | M10 (1.0) | 20 | M17 |
| 00671025 | | 25 | |
| 00671030 | | 30 | |
| 00671035 | | 35 | |
| 00671040 | M12 (1.5) | 40 | M19 |
| 00671220 | | 20 | |
| 00671225 | | 25 | |
| 00671230 | | 30 | |
| 00671235 | | 35 | |
| 00671240 | | 40 | |
| 00671250 | 50 | | |

*W.A.F. is an abbreviation for Width Across Flats

METRIC FLANGE BOLTS



Metric Flange Bolts (Reduced Head)

- Manufactured specifically for motorcycle applications.
- Specifications: ASTM A307, ANSI/ASME B18.5
- Finishes: Zinc & Black Plated

| Zinc | Black | Dia. Thread Pitch | Length (mm) | W.A.F. * |
|----------------|-----------------|-------------------|-------------|----------|
| 1275612 | 12755612 | M6 (1.0) | 12 | M8 |
| 1275616 | 12755616 | | 16 | |
| 1275620 | 12755620 | | 20 | |
| 1275625 | 12755625 | | 25 | |
| 1275630 | 12755630 | | 30 | |
| 1275635 | 12755635 | | 35 | |
| 1275640 | 12755640 | | 40 | |

*W.A.F. is an abbreviation for Width Across Flats

METRIC FLANGE BOLTS

Metric Flange Bolts

- For use with all grade 8.8 (class 8) fasteners
- Specifications: DIN 522
- Finishes: Zinc & Yellow Plated

| Zinc | Yellow | Dia. Thread Pitch | Length (mm) | W.A.F.* |
|-----------------|-----------------|-------------------|-------------|---------|
| | 12740610 | M6 (1.0) | 10 | M10 |
| 1274612 | 12740612 | | 12 | |
| 1274616 | 12740616 | | 16 | |
| 1274620 | 12740620 | | 20 | |
| 1274625 | | | 25 | |
| 1274630 | | | 30 | |
| 1274635 | | | 35 | |
| 1274640 | | | 40 | |
| 1274645 | | | 45 | |
| 1274812 | 12740812 | M8 (1.25) | 12 | M12 |
| 1274816 | 12740816 | | 16 | |
| 1274820 | 12740820 | | 20 | |
| 1274825 | 12740825 | | 25 | |
| 1274830 | | | 30 | |
| 1274835 | | | 35 | |
| 1274840 | | | 40 | |
| 1274845 | | | 45 | |
| 1274850 | | | 50 | |
| 12741020 | | M10 (1.25) | 20 | M14 |
| 12741025 | | | 25 | |
| 10741030 | | | 30 | |
| 14741035 | | | 35 | |
| 12741040 | | | 40 | |
| 12741045 | | | 45 | |
| 12741050 | | | 50 | |

*W.A.F. is an abbreviation for Width Across Flats


Metric Hex Head Sems® Body Bolts

- Found on many import cars.
- Indented hex head Sems® bolts.
- Specifications: Grade 8.8
- JIS standard, fully threaded, fine thread pitch
- Zinc Yellow Plated

| Yellow | Dia. Thread Pitch | Length (mm) | Washer O.D. (mm) | W.A.F.* |
|----------------|-------------------|-------------|------------------|---------|
| 0062612 | M6 (1.0) | 12 | 12.5 | M10 |
| 0062616 | | 16 | | |
| 0062620 | | 20 | | |
| 0062820 | M8 (1.25) | 20 | 17 | M12 |

*W.A.F. is an abbreviation for Width Across Flats

METRIC HEX NUTS



Class 8 & Class 10 Hex Nuts

- Specifications: DIN 934 Class 8, 10: ISO 4032
- Metric hex nuts with a thread diameter of M5 and larger and a property class of 8 or higher, are marked with the property class.

| Zinc 8.8 | Yellow 8.8 | Dia. | Thread Pitch | W.A.F. * |
|------------------|-------------------|------|--------------|----------|
| 03173 | | M3 | 0.5 | M5 |
| 03174 | 031704 | M4 | 0.7 | M7 |
| 03175 | 031705 | M5 | 0.8 | M8 |
| 03176 | 031706 | M6 | 1.0 | M10 |
| 03177 | 031707 | M7 | 1.0 | M11 |
| 03178113 | 031708113 | M8 | 1.0 | M13 |
| 03178 | 031708 | | 1.25 | M13 |
| 0317812 | 03170812 | | 1.25 | M12 |
| 0317101 | | M10 | 1.0 | M17 |
| 031710125 | | | 1.25 | M17 |
| 031710141 | 0317010141 | | 1.25 | M14 |
| 03171015 | 031701015 | | 1.5 | M15 |
| 031710 | 0317010 | | 1.5 | M17 |
| 031712125 | | M12 | 1.25 | M19 |
| 031712171 | | | 1.25 | M17 |
| 03171215 | | | 1.5 | M19 |
| 031712 | 0317012 | | 1.75 | M19 |
| 031714 | 0317014 | M14 | 2.0 | M22 |
| 03171415 | | | 1.5 | M22 |
| 031716 | 0317016 | M16 | 2.0 | M24 |

*W.A.F. is an abbreviation for Width Across Flats

Nut Mating Screw Property Class

| Nut property class designation | Bolt property class | Diameter Range |
|--------------------------------|-------------------------|-------------------------------|
| 5 | 3.6, 4.6, 4.8, 5.6, 5.8 | M16 and smaller all diameters |
| 6 | 6.8 | all diameters |
| 8 | 8.8 | all diameters |
| 9 | 8.8 | larger than M16 |
| | 9.8 | M16 and smaller |
| 10 | 10.9 | all diameters |
| 12 | 12.9 | M39 and smaller |

METRIC HEX NUTS



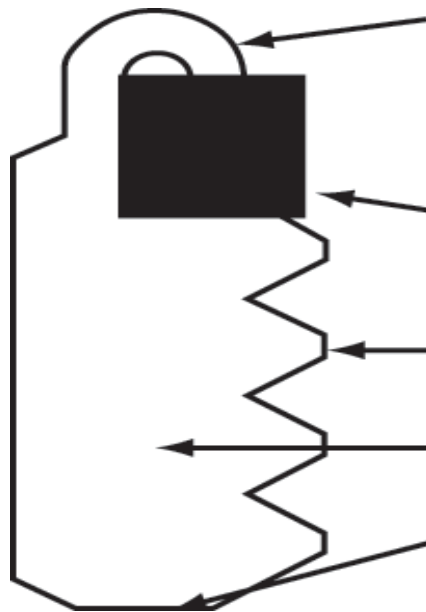
Class 8 & Class 10 Nylon Insert Lock Nuts

- Specifications: DIN 985 Class 8, 10: ISO 985
- Temperature Range: 100° F +250° F



| Zinc 8.8 | Yellow 8.8 | Yellow 10.9 | Dia. | Thread Pitch | W.A.F.* |
|------------------|------------------|---------------|------|--------------|---------|
| 03683 | | | M3 | 0.5 | M5 |
| 03684 | | | M4 | 0.7 | M7 |
| 03685 | 036805 | | M5 | 0.8 | M8 |
| 03686 | 036806 | | M6 | 1.0 | M10 |
| 03687 | | | M7 | 1.0 | M11 |
| 036881 | | | M8 | 1.0 | M13 |
| 03688 | 036808 | 03708 | | 1.25 | M13 |
| 0368101 | 03680101 | | M10 | 1.0 | M17 |
| 036810125 | 036810125 | | | 1.25 | M17 |
| 03681015 | | | | 1.5 | M15 |
| 036810 | 0368010 | 037010 | | 1.5 | M17 |
| 036812125 | | | M12 | 1.25 | M19 |
| 03681215 | | | | 1.5 | M19 |
| 036812 | 0368012 | | | 1.75 | M19 |
| 03681415 | | | M14 | 1.5 | M22 |

*W.A.F. is an abbreviation for Width Across Flats



Closure: Unique crown rolover style eliminates stake marks, thus providing a more uniform and consistent prevailing torque. Fully rounded, imbedding steel in 75% of nylon insert. Air space allows nylon flow during assembly.

Nylon Ring: Made only from DuPont Zytel 101 nylon, 100% virgin material. Resists temperatures to 250°F. Minimum 15-time reusability. .001-inch tolerance.

Threads: For use on 2B and 3B tolerance applications, assuring quality fit and performance.

Nut Body: Made from scrapless, nut quality steel. Free from seams and decarb.

Bearing Surface: 5° perpendicularity – twice as good as IFI standards. Smoothness to 120 micro inches.

Wing Nut

- Similar to DIN 314
- Zinc plated steel
- American shape



| Zinc 8.8 | Dia. | Thread Pitch |
|--------------|------|--------------|
| 03426 | M6 | 1.0 |
| 03428 | M8 | 1.0 |

METRIC HEX NUTS



Flange Nuts

- DIN 6923
- Large bearing surface gives more pressure distribution
- Strength: Class 8

| Zinc 8.8 | Yellow 8.8 | Dia. | Thread Pitch | W.A.F.* |
|------------------|--|------|--------------|---------|
| 03945 | 039405 | M5 | 0.8 | M8 |
| 03946 | 039406 (self-locking) | M6 | 1.0 | M10 |
| 03948 | 039408 | M8 | 1.25 | M13 |
| 03948125 | 03940812 Honda Exhaust (self-locking) | | 1.25 | M12 |
| 039410125 | 0394010125 | M10 | 1.25 | M14 |
| 039410 | 0394010 | | 1.5 | M15 |

*W.A.F. is an abbreviation for Width Across Flats



Metal Locking Nuts

- DIN 980
- All metal hex nut which derives its prevailing torque characteristics from controlled distortion of its top threads
- Tensile: Class 8

| Zinc 8.8 | Dia. | Thread Pitch | W.A.F.* |
|--------------|------|--------------|---------|
| 03696 | M6 | 1.0 | M10 |
| 03698 | M8 | 1.25 | M13 |

*W.A.F. is an abbreviation for Width Across Flats



Well Nuts

- Well nut top carrier attaching 1/4-20" anodized aluminum anchor.
- Outside diameter, 5/16".
- Station wagons and trucks.

Art. # 13091420



- 6mm nut, washer and screw anchor kit for top carriers.
- Outside diameter: 12mm.
- Station wagons and trucks.

Art. # 13096

METRIC HEX NUTS

Nut with Captive Washer

- Easy mounting - Lock washer and nut form a single unit
- One piece - Ordering and stock-keeping are made easier
- Quicker and easier mounting - Especially with overhead work and in hard-to-reach places
- Large contact surface - Better distribution of tension
- Better covering of large through-holes and oblong holes
- Gentle on workpiece surface - Prevents paint damage and corrosion
- Can be used at higher temperatures
- Maintains locking effect even under harsh conditions - The drive tension in the washer is greater than the bolt preload
- Shorter tightening distance than with standard nuts - No forcing over thread turns
- Washer made of spring steel, easier on the component part in contact
- Tensile: Class 8

| Yellow 8.8 | Dia. | Thread Pitch | W.A.F.* | Flange Dia. (mm) | Height (mm) |
|-------------------------------|------|--------------|---------|------------------|-------------|
| 03795 BMW Bumper | M5 | 0.8 | M8 | 15 | 6 |
| 03796 | M6 | 1.0 | M10 | 18 | 7.5 |
| 03798 | M10 | 1.25 | M13 | 23 | 9.7 |

*W.A.F. is an abbreviation for Width Across Flats



Cap Nut DIN 917

Dome Nuts

- Covers screw threads
- Prevents thread damage

| Zinc Plated | Chrome Plated | Type | Dia. | Thread Pitc | W.A.F.* | Height (mm) |
|--------------|---------------|--------------|------|-------------|---------|-------------|
| 03576 | | Cap | M6 | 1.0 | M10 | 9 |
| 03566 | | High Profile | | | | 12 |
| | 03526 | High Profile | | | | 12 |

*W.A.F. is an abbreviation for Width Across Flats



High Profile Shape DIN 1587

METRIC EXHAUST NUTS

Split Copper Exhaust Nuts (standard hex size)

- Heat resistant. Steel covered with a heavy copper coating.
- Specifications: DIN 14440 (standard hex sizes)

| Copper | Dia. | Thread Pitch | W.A.F.* | Height (mm) |
|--------------|------|--------------|---------|-------------|
| 03652 | M8 | 1.0 | M13 | 8.5 |
| 03653 | M10 | 1.5 | M17 | 10.5 |

*W.A.F. is an abbreviation for Width Across Flats


Split Copper Exhaust Nuts (small hex size)

- Heat resistant. Steel covered with a heavy copper coating.
- Specifications: DIN 14440 (standard hex sizes)

| Copper | Dia. | Thread Pitch | W.A.F.* | Height (mm) |
|--------------|------|--------------|---------|-------------|
| 03661 | M6 | 1.0 | M9 | 7.0 |
| 03662 | M8 | 1.25 | M12 | 8.5 |
| 03668 | M8 | 1.0 | M12 | 8.5 |
| 03667 | M10 | 1.25 | M14 | 10.5 |
| 03663 | M10 | 1.5 | M14 | 10.5 |

*W.A.F. is an abbreviation for Width Across Flats


Copper Exhaust Flange Nuts (standard hex size)

- Heat resistant. Steel covered with a heavy copper plating.
- Specifications: DIN 14440 (standard hex sizes)

| Copper | Remarks | Dia. | Thread Pitch | W.A.F.* | Height (mm) |
|---------------|--------------|------|--------------|---------|-------------|
| 03656 | | M8 | 1.25 | M13 | 10 |
| 036561 | self-locking | M8 | 1.25 | M13 | 8 |
| 03658 | BMW | M8 | 1.25 | M12 | 8.6 |
| 036565 | self-locking | M10 | 1.5 | M15 | 10 |

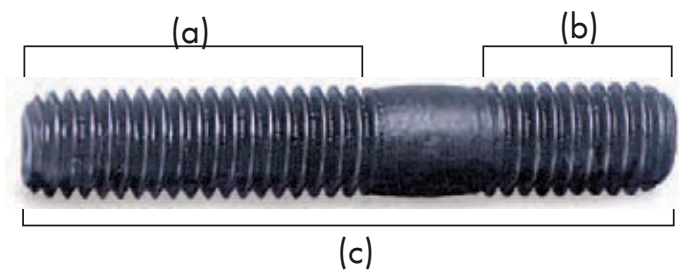
*W.A.F. is an abbreviation for Width Across Flats


All Metal Exhaust Nuts (Mercedes Benz)

- Heat resistant. Steel covered with a heavy copper coating.
- Temperature resistant from -94 °F to 482 °F
- Specifications: DIN 980, Class 8

| Copper | Dia. | Thread Pitch | W.A.F.* | Height (mm) |
|------------------|------|--------------|---------|-------------|
| 0369812 | M8 | 1.0 | M12 | 7.5 |
| 036910149 | M10 | 1.5 | M14 | 9 |

*W.A.F. is an abbreviation for Width Across Flats

MANIFOLD STUDS

Manifold Studs

- Specifications: Heat treated
- Finish: Black

| Black | Dia. (mm) | (a) Thread | (a) Length (mm) | (b) Thread Pitch | (b) Length (mm) | (c) Length (mm) |
|-------------------|-----------|------------|-----------------|------------------|-----------------|-----------------|
| 0250615 | 6 | 1.0 | 7.5 | 1.0 | 9.5 | 22.5 |
| 0250620 | 6 | 1.0 | 7.5 | 1.0 | 14.5 | 27.5 |
| 0250625 | 6 | 1.0 | 7.5 | 1.0 | 18 | 32.5 |
| 0250630 | 6 | 1.0 | 7.5 | 1.0 | 18 | 37.5 |
| 0250820 | 8 | 1.25 | 10.5 | 1.25 | 15.5 | 30 |
| 0250825 | 8 | 1.25 | 10.5 | 1.25 | 20.5 | 35 |
| 12518382 | 8 | 1.25 | 16 | 1.25 | 16 | 38 |
| 0250830 | 8 | 1.25 | 10 | 1.25 | 22 | 40 |
| 02508381 * | 8 | 1.25 | _____ | 1.25 | _____ | 40 |
| 0250835 | 8 | 1.25 | 10 | 1.25 | 22 | 45 |
| 025046 | 8 | 1.25 | 25 | 1.25 | 16 | 46 |
| 0250840 | 8 | 1.25 | 10 | 1.25 | 22 | 50 |
| 0250845 | 8 | 1.25 | 10 | 1.25 | 22 | 55 |
| 02501025 | 10 | 1.5 | 12 | 1.5 | 19.7 | 37 |
| 02501030 | 10 | 1.5 | 12 | 1.25 | 20 | 42 |
| 0250101251 | 10 | 1.25 | 12 | 1.5 | 24.7 | 42 |
| 02501035 | 10 | 1.5 | 12 | 1.5 | 26 | 47 |
| 0250101252 | 10 | 1.25 | 12 | 1.25 | 26 | 48 |
| 02501040 | 10 | 1.5 | 12 | 1.5 | 26 | 52 |
| 02501050 | 10 | 1.5 | 12 | 1.5 | 26 | 62 |

*Fully Threaded VW Stud

METRIC WASHERS

Flat Washers

- For use with all grade 8.8 (class 8) fasteners.
- Specifications: Zinc plated DIN 125
Yellow plated DIN 125

| Zinc 8.8 | Yellow 8.8 | Size |
|---------------|----------------|------|
| 04073 | | M3 |
| 04074 | 040704 | M4 |
| 04075 | 040705 | M5 |
| 04076 | 040706 | M6 |
| 04077 | 040707 | M7 |
| 04078 | 040708 | M8 |
| 040710 | 0407010 | M10 |
| 040712 | 0407012 | M12 |
| 040714 | 0407014 | M14 |
| 040716 | | M16 |


Fender Washers

- For use with all grade 8.8 (class 8) fasteners.
- Specifications: DIN 522 medium

| Zinc 8.8 | Yellow 8.8 | Size | I.D. (mm) | O.D. (mm) |
|-----------------|------------------|------|-----------|-----------|
| 0411310 | | M3 | 3.5 | 10 |
| 0411412 | | M4 | 4.3 | 12 |
| 0411420 | | | | 20 |
| 0411515 | | M5 | 5.3 | 15 |
| 0411520 | 04110520 | | | 20 |
| 0411525 | | | | 25 |
| 0411530 | | | | 30 |
| 0411615 | | | | M6 |
| 0411618 | 04110618 | 18 | | |
| 0411620 | 04110620 | 20 | | |
| 0411625 | | 25 | | |
| 0411630 | | 30 | | |
| 0411640 | | 40 | | |
| 0411820 | | M8 | 8.5 | 20 |
| 0411824 | 04110824 | | | 24 |
| 0411825 | | | | 25 |
| 0411830 | | | | 30 |
| 0411840 | | | | 40 |
| 04111020 | | M10 | 10.5 | 20 |
| 04111025 | | | | 25 |
| 04111030 | 041101030 | | | 30 |
| 04111040 | | | | 40 |
| 04111230 | | M12 | 13 | 32 |

METRIC WASHERS

Zinc Type A
Spring Washers

- Spring washers are locking devices with a spring effect which is achieved through their axial spring force.
- Type A: Convex, Type B: Twisted
- Specifications: DIN 137 Spring Steel HRC 45-50

| Zinc Type A | Yellow Type B | Zinc Type B | Size |
|---------------|----------------|---------------|------|
| 04344 | | | M4 |
| 04345 | 043505 | 04355 | M5 |
| 04346 | 043506 | 04356 | M6 |
| | 043507 | 04357 | M7 |
| 04348 | 043508 | 04358 | M8 |
| 043410 | 0435010 | 043510 | M10 |
| | | 043512 | M12 |


Yellow Type B

Zinc Type B

Lock Washers

- For use with all grade 8.8 (class 8) fasteners.
- Specifications: Zinc plated DIN 127, Yellow plated DIN 127 ZY, Spring Steel HRC 44-51

| Zinc | Yellow | Size |
|---------------|----------------|------|
| 04413 | | M3 |
| 04414 | 044104 | M4 |
| 04415 | 044105 | M5 |
| 04416 | 044106 | M6 |
| 04417 | 044107 | M7 |
| 04418 | 044108 | M8 |
| 044110 | 0441010 | M10 |
| 044112 | 0441012 | M12 |
| 044114 | 0441014 | M14 |

METRIC WASHERS

External Star Washers

- Star or toothed washers are prestressed lock washers that offer excellent locking power.
- Use the internal type when appearance is crucial.
- Specifications: DIN 6797 Steel

| Zinc | Size |
|---------------|------|
| 14236 | M6 |
| 14238 | M8 |
| 142310 | M12 |


Porsche Valve Washers

| Aluminum | Description | Bolt Size (mm) | I.D. (mm) | O.D. (mm) |
|----------------|---|----------------|-----------|-----------|
| 1401996 | Porsche valve cover washer, OEM # 90003101130 | 6 | 6 | 11 |
| 1401998 | Porsche valve cover washer | 8 | 8 | 14 |


Internal
Internal/External Serrated Washers

- Serrated washers offer many of the same properties as the star washers.
- Specifications: DIN 6798 Steel

| Zinc Internal | Zinc External | Size |
|---------------|---------------|------|
| 04285 | 04295 | M5 |
| 04286 | 04296 | M6 |
| 04288 | 04298 | M8 |
| 042810 | 042910 | M10 |


External

METRIC MACHINE SCREWS

Pan Head Phillips Machine Screws with Reduced Head

- Used mainly for Motorcycle applications, these pan head screws have a smaller head than other standard screws.
- Specifications: JIS B 1111 Class 4, 8
- Finishes: Zinc plated

| Zinc | Dia. Thread Pitch | Length (mm) |
|------------------|-------------------|-------------|
| 104738 | M3 (0.5) | 8 |
| 1047316 | | 16 |
| 1047320 | | 20 |
| 104748 | M4 (0.7) | 8 |
| 1047410 | | 10 |
| 1047412 | | 12 |
| 1047416 | | 16 |
| 1047420 | | 20 |
| 1047425 | | 25 |
| 1047510 | M5 (0.8) | 10 |
| 1047512 | | 12 |
| 1047516 | | 16 |
| 1047520 | | 20 |
| 1047525 | | 25 |
| 1047530 | | 30 |
| 1047535 | | 35 |
| 1047610 | M6 (1.0) | 10 |
| 1047612 | | 12 |
| 1047614 | | 14 |
| 1047616* | | 16 |
| 1047620** | | 20 |
| 1047625 | | 25 |
| 1047630 | | 30 |
| 1047635 | | 35 |
| 1047640 | | 40 |
| 1047645 | | 45 |
| 1047650 | 50 | |

METRIC SOCKET HEAD CAP SCREWS

Prefix 0084

Grade 8.8 (DIN 912) Zinc Plated

- Specifications: ASTM B695-91, Type 1 Class 5 ANSI B18.3, Class 3A, DIN 912, ISO 4762
- Rockwell Hardness: C45-53
- Finish: Zinc Plated or Black


Prefix 0082

Grade 8.8 (DIN 912) Black Finish

| Zinc 8.8 | Black 8.8 | Dia. Thread Pitch | Key Size | Length (mm) | | |
|-----------------|----------------|-------------------|----------|-------------|---|----|
| 0084410 | | M4 (0.7) | 3 | 10 | | |
| 0084416 | | | | 16 | | |
| 0084420 | | | | 20 | | |
| 0084510 | | M5 (0.8) | 5 | 10 | | |
| 0084512 | | | | 12 | | |
| 0084516 | | | | 16 | | |
| 0084520 | | | | 20 | | |
| 0084525 | | | | 25 | | |
| 0084530 | | | | 30 | | |
| 0084535 | | | | 35 | | |
| 0084610 | | M6 (1.0) | 5 | 10 | | |
| 0084612 | 0082612 | | | 12 | | |
| 0084616 | 0082616 | | | 16 | | |
| 0084620 | 0082620 | | | 20 | | |
| 0084625 | 0082625 | | | 25 | | |
| 0084630 | 0082630 | | | 30 | | |
| 0084635 | 0082635 | | | 35 | | |
| 0084640 | | | | 40 | | |
| 0084645 | | | | 45 | | |
| 0084650 | | | | 50 | | |
| 0084660 | | | | 60 | | |
| 0084670 | | | | 70 | | |
| 0084810 | | | | M8 (1.25) | 6 | 10 |
| 0084812 | | | | | | 12 |
| 0084816 | 0082816 | 16 | | | | |
| 0084820 | 0082820 | 20 | | | | |
| 0084825 | 0082825 | 25 | | | | |
| 0084830 | 0082830 | 30 | | | | |
| 0084835 | 0082835 | 35 | | | | |
| 0084840 | 0082840 | 40 | | | | |
| 0084845 | | 45 | | | | |
| 0084850 | | 50 | | | | |
| 0084860 | | 60 | | | | |
| 0084870 | | 70 | | | | |
| 00841020 | | M10 (1.5) | 8 | 20 | | |
| 00841030 | | | | 30 | | |
| 00841035 | | | | 35 | | |
| 00841040 | | | | 40 | | |
| 00841050 | | | | 50 | | |

METRIC COTTER PINS


- Used for securing slotted or castle nuts fitted on bolts. Reusable.
- For securing castellated nuts in conjunction with bolts or threaded pins with cotter pin hole (e.g. steering and tracking gears in motor vehicles)
- For securing cotter bolts
- Specifications: DIN 94 (ISO 1234)

| Zinc | Hole Dia. (mm) | Cotter Pin Dia. (mm) | Length (mm) |
|-----------------|----------------|----------------------|-------------|
| 0470116 | 1.0 | .75 | 16 |
| 0470120 | | | 20 |
| 0470125 | | | 25 |
| 04701620 | 1.6 | 1.0 | 20 |
| 04701625 | | | 25 |
| 04701632 | | | 32 |
| 0470220 | 2.0 | 1.5 | 20 |
| 0470222 | | | 22 |
| 0470225 | | | 25 |
| 0470235 | | | 35 |
| 0470240 | | | 40 |
| 04702520 | 2.5 | 2.0 | 20 |
| 04702525 | | | 25 |
| 04702540 | | | 40 |
| 04702545 | | | 45 |
| 04703225 | 3.2 | 2.7 | 25 |
| 04703232 | | | 32 |
| 04703236 | | | 36 |
| 04703240 | | | 40 |
| 04703245 | | | 45 |
| 04703250 | | | 50 |
| 0470425 | 4.0 | 3.5 | 25 |
| 0470432 | | | 32 |
| 0470436 | | | 36 |
| 0470440 | | | 40 |
| 0470445 | | | 45 |
| 0470450 | 50 | | |
| 04704540 | 4.5 | 4.0 | 40 |
| 04704550 | | | 50 |
| 0470540 | 5.0 | 4.5 | 40 |
| 0470545 | | | 45 |
| 0470550 | | | 50 |
| 0470556 | | | 56 |
| 04706363 | 6.3 | 5.8 | 63 |

METRIC E-CLIPS



- Used to restrict the movement of a component along a shaft.
- Specifications: DIN 6799

| Black | Shaft Groove Dia. | Shaft End Dia. |
|----------------|-------------------|----------------|
| 049023 | 2.3 | 3.0-4.0 |
| 049032 | 3.2 | 4.0-5.0 |
| 049040 | 4.0 | 5.0-7.0 |
| 049050 | 5.0 | 6.0-8.0 |
| 049060 | 6.0 | 7.0-9.0 |
| 049070 | 7.0 | 8.0-11.0 |
| 049080 | 8.0 | 9.0-12.0 |
| 0490100 | 10.0 | 11.0-15.0 |
| 0490120 | 12.0 | 13.0-18.0 |

SELF-TAPPING SCREWS



Square Drive Pan Head Self-Tapping Screws

- For self starting in thin metal or resin-filled drywood
- AISI 1016 - 1024 or equivalent

| Zinc | Size | Length |
|-----------------|------|--------|
| 12133513 | #6 | 1/2" |
| 12133519 | | 3/4" |
| 12133525 | | 1" |
| 12133532 | | 1-1/4" |
| 12134213 | | 1/2" |
| 12134225 | #8 | 1" |
| 12134232 | | 1-1/4" |
| 12134813 | #10 | 1/2" |
| 12134819 | | 3/4" |
| 12134825 | | 1" |
| 12134832 | | 1-1/4" |
| 12134838 | | 1-1/2" |

For self starting in thin metals

Note: Fastening stainless steel parts to aluminum or steel can cause a type of corrosion known as a galvanic couple in some environments.

- Specifications: AISI 1006 - 1022 or equivalent steel.
- Rockwell Hardness: C45
- Type A thread

#4 = 2.9mm

#6 = 3.5mm

#8 = 4.2mm

#10 = 4.8mm

#12 = 5.5mm

#14 = 6.3mm

SELF-TAPPING SCREWS

Pan Head Phillips Self-Tapping Screws (sheet metal screws)

- Tallow-drop head with Phillips head shape with tip

| Zinc | Black | Size | Length |
|-----------------|-----------------|------|--------|
| | 01342995 | #4 | 3/8" |
| | 01342913 | | 1/2" |
| 01153565 | | #6 | 1/4" |
| 01153595 | 01343595 | | 3/8" |
| 01153513 | 01343513 | | 1/2" |
| 01153516 | 01343516 | | 5/8" |
| 01153519 | 01343519 | | 3/4" |
| 01153522 | | | 7/8" |
| | 01343913 | #7 | 1/2" |
| | 01343916 | | 5/8" |
| | 01343919 | | 3/4" |
| 01154295 | 01344295 | #8 | 3/8" |
| 01154213 | 01344213 | | 1/2" |
| 01154216 | 01344216 | | 5/8" |
| 01154219 | 01344219 | | 3/4" |
| 01154222 | 01344222 | | 7/8" |
| 01154225 | 01344225 | | 1" |
| 01154232 | 01344232 | | 1-1/4" |
| 01154238 | 01344238 | | 1-1/2" |
| 01154895 | | #10 | 3/8" |
| 01154813 | 01344813 | | 1/2" |
| 01154816 | 01344816 | | 5/8" |
| 01154819 | 01344819 | | 3/4" |
| 01154822 | 01344822 | | 7/8" |
| 01154825 | 01344825 | | 1" |
| 01154832 | 01344832 | | 1-1/4" |
| 01154838 | 01344838 | | 1-1/2" |
| 01154850 | | 2" | |
| 01155513 | 01345513 | #12 | 1/2" |
| 01155516 | 01345516 | | 5/8" |
| 01155519 | 01345519 | | 3/4" |
| 01155525 | 01345525 | | 1" |
| 01155532 | 01345532 | | 1-1/4" |
| 01155538 | | | 1-1/2" |
| 01156316 | | #14 | 5/8" |
| 01156319 | | | 3/4" |
| 01156325 | | | 1" |
| 01156332 | | | 1-1/4" |
| 01156338 | | | 1-1/2" |
| 01156350 | | | 2" |

SELF-TAPPING SCREWS

Phillips Oval Head Self-Tapping Screws

- Raised countersunk head with Phillips head shape and tip
- Preferred over a flat head in conical applications, or when a decorated finished look is desired
- Always use a driver bit of the proper size and in good condition
- Specifications: DIN 7983/ISO 7051, AISI 1006 - 1022 or equivalent steel
- Rockwell Hardness: B70 - B100

| Zinc | Black | Chrome | Chrome Undersized (#6 head) | Size | Length | |
|-----------------|-----------------|------------------|-----------------------------|--------|--------|------|
| | 01372995 | | | #4 | 3/8" | |
| | 01372913 | 11762913 | | | 1/2" | |
| | 01372916 | | | | 5/8" | |
| 01173513 | 01373513 | | | #6 | 1/2" | |
| 01173516 | 01373516 | | | | 5/8" | |
| 01173519 | 01373519 | | | | 3/4" | |
| 01173525 | 01373525 | | | | 1" | |
| 01174213 | 01374213 | 111764213 | | #8 | 1/2" | |
| 01174216 | 01374216 | | | | 5/8" | |
| 01174219 | 01374219 | 111764219 | 111774219 | | 3/4" | |
| 01174222 | 01374222 | | | | 7/8" | |
| 01174225 | 01374225 | 111764225 | 111774225 | | 1" | |
| 01174232 | 01374232 | 111764232 | 111774232 | | 1-1/4" | |
| 01174238 | 01374238 | | | | 1-1/2" | |
| 01174813 | | | | | #10 | 1/2" |
| 01174816 | 01374816 | | | | | 5/8" |
| 01174819 | 01374819 | | | | | 3/4" |
| 01174822 | | | | 7/8" | | |
| 01174825 | 01374825 | | | 1" | | |
| 01174832 | 01374832 | | | 1-1/4" | | |
| 01174838 | | | | 1-1/2" | | |
| 01175519 | | | | #12 | 3/4" | |
| 01175525 | | | | | 1" | |

SELF-TAPPING SCREWS

Phillips Washer Head Self-Tapping Screw

- For exterior and interior fastening of dashboards, instrument panels, spoilers, etc.
- Specifications: DIN 7981
- Finish: Black burnished

| Black | Size | Length |
|------------------|------|--------|
| 013403995 | #7 | 3/8" |
| 013403913 | | 1/2" |
| 013403916 | | 5/8" |
| 013403919 | | 3/4" |
| 013403922 | | 7/8" |
| 013403925 | | 1" |
| 013404295 | #8 | 3/8" |
| 013404213 | | 1/2" |
| 013404216 | | 5/8" |
| 013404219 | | 3/4" |
| 013404222 | | 7/8" |
| 013404225 | | 1" |
| 013404232 | | 1-1/4" |
| 013404895 | #10 | 3/8" |
| 013404813 | | 1/2" |
| 013404816 | | 5/8" |
| 013404819 | | 3/4" |
| 013404822 | | 7/8" |
| 013404825 | | 1" |
| 013404838 | | 1-1/2" |


Phillips Flat Top Washer Head Self-Tapping Screw

- For exterior and interior fastening of dashboards, instrument panels, spoilers, etc.
- Finish: Black E-coat

| Black | Size | Length |
|-------------------|------|--------|
| 0134074213 | #8 | 1/2" |
| 0134074219 | | 3/4" |
| 0134074225 | | 1" |
| 0134074230 | | 1-1/4" |
| 0134074238 | | 1-1/2" |

SELF TAPPING SCREWS



Cup Washers

Rosettes are used as an underlay for the various countersunk screws. They can be used as washers, as centering devices, and especially to compensate the pressure in the parts to be fastened, in particular in soft materials such as wood, plastic, leather, etc.

- Cup washers are used as washers for all types of countersunk screws.
- In addition to their function as washers, they center the screw and distribute pressure evenly over the fastened components.
- DIN 1760, DIN 1712

| Black Plastic | Black Finish | Inside Dia. (mm) |
|-----------------|-----------------|------------------|
| 04580124 | | 4.3 |
| | 04584136 | 6.0 |

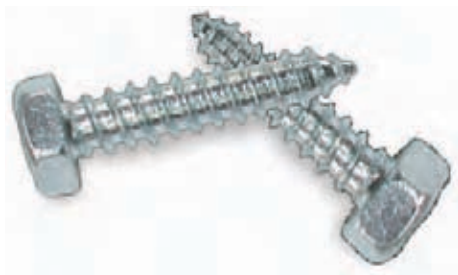


Slotted Hex Washer Head Screws

- Increased bearing area reduces likelihood of crushing mating surface.
- Accepts hex wrench. Slotted drive is added to make it easier to remove.
- Specifications: AISI 1016 - 1024
- Finish: Zinc plated

| Zinc | Size | Length | W.A.F. * |
|-----------------|------|--------|----------|
| 01303513 | #6 | 1/2" | 1/4" |
| 01303519 | | 3/4" | |
| 01303525 | | 1" | |
| 01304213 | #8 | 1/2" | 1/4" |
| 01304216 | | 5/8" | |
| 01304219 | | 3/4" | |
| 01304225 | | 1" | |
| 01304813 | #10 | 1/2" | 5/16" |
| 01304816 | | 5/8" | |
| 01304819 | | 3/4" | |
| 01304825 | | 1" | |
| 01304832 | | 1-1/4" | |
| 01304838 | | 1-1/2" | |
| 01305513 | #12 | 1/2" | 5/16" |
| 01305519 | | 3/4" | |
| 01305525 | | 1" | |
| 01305532 | | 1-1/4" | |
| 01305538 | | 1-1/2" | |
| 01306319 | #14 | 3/4" | 3/8" |
| 01306325 | | 1" | |
| 01306338 | | 1-1/2" | |
| 01306350 | | 2" | |

*W.A.F. is an abbreviation for Width Across Flats

SELF-TAPPING SCREWS

Unslotted Hex Head Sheet Metal Screws

- Preferred in applications where pneumatic equipment is used to drive the screw. Non-slotted.
- Specifications: AISI 1016 - 1024 , DIN 7976 (ISO 1479)
- Finish: Zinc plated

| Zinc | Size | Length | W.A.F.* (mm) |
|-----------------|------|--------|--------------|
| 01144219 | #8 | 3/4" | 7 |
| 01144813 | #10 | 1/2" | 8 |
| 01144819 | | 3/4" | |
| 01144825 | | 1" | |
| 01144832 | | 1-1/4" | |
| 01146316 | #14 | 5/8" | 10 |
| 01146319 | | 3/4" | |
| 01146325 | | 1" | |
| 01146332 | | 1-1/4" | |
| 0114819 | 8 mm | 3/4" | 13 |
| 0114825 | | 1" | |

*W.A.F. is an abbreviation for Width Across Flats


Fixed Washer Hex Head Screws

- DIN 7976 - compliant screw with hexagon head Shape C, with tip, including captive washer
Galvanized steel, blue passivated.
- Used primarily in Body Shops for fastening heavy body panels.
- Specifications: DIN 7976
- Finish: Zinc plated

| Yellow | Size | Length |
|-----------------|--------|--------|
| 01294813 | #10 | 1/2" |
| 01294816 | | 5/8" |
| 01294819 | | 3/4" |
| 01295613 | #12 | 1/2" |
| 01295516 | 5.6 mm | 5/8" |
| 01296316 | #14 | 5/8" |
| 01296516 | 6.5 mm | 5/8" |
| 01296520 | 6.5 mm | 3/4" |
| 0129819 | 8 mm | 3/4" |

SELF-DRILLING SCREWS (TEKS®)

Hex Washer Head Self-Drilling Screws

- Eliminates alignment problems encountered with drilled holes.
- Use in structural, galvanized steel as well as aluminum, plastics and wood.
- Specifications: AISI 1016 - 1024
- Rockwell Hardness: C52 - C58
- Finish: Zinc plated

| Zinc | Size | Length | W.A.F. * (mm) |
|-----------------|------|--------|---------------|
| 02143513 | #6 | 1/2" | 1/4" |
| 02143516 | | 5/8" | |
| 02146519 | | 3/4" | |
| 02143525 | | 1" | |
| 02144213 | #8 | 1/2" | 1/4" |
| 02144216 | | 5/8" | |
| 02144219 | | 3/4" | |
| 02144225 | | 1" | |
| 02144232 | | 1-1/4" | |
| 02144250 | 2" | | |
| 02144813 | #10 | 1/2" | 5/16" |
| 02144819 | | 3/4" | |
| 02144825 | | 1" | |
| 02144832 | | 1-1/4" | |
| 02144838 | | 1-1/2" | |
| 02145519 | #12 | 3/4" | 5/16" |
| 02145525 | | 1" | |
| 02145532 | | 1-1/4" | |
| 02145538 | | 1-1/2" | |
| 02145545 | | 1-3/4" | |
| 02146319 | #14 | 3/4" | 3/8" |
| 02146325 | | 1" | |
| 02146332 | | 1-1/4" | |
| 02146338 | | 1-1/2" | |
| 02146345 | | 1-3/4" | |
| 02146350 | | 2" | |

*W.A.F. is an abbreviation for Width Across Flats

SELF-DRILLING SCREWS (TEKS®)

Phillips Pan Head Self Drilling Screws

- Preferred in applications where mechanical equipment is used to drive the screw.
- Non-slotted.
- Specifications: AISI 1016 - 1024
- Finish: Zinc plated

| Zinc | Size | Length |
|-----------------|------|--------|
| 02113513 | #6 | 1/2" |
| 02113519 | | 3/4" |
| 02114213 | #8 | 1/2" |
| 02114216 | | 5/8" |
| 02114219 | | 3/4" |
| 02114225 | | 1" |
| 02114232 | | 1-1/4" |
| 02114813 | #10 | 1/2" |
| 02114816 | | 5/8" |
| 02114819 | | 3/4" |
| 02114825 | | 1" |
| 02114838 | | 1-1/2" |


Square Drive Pan Head Self Drilling Screws

| Zinc | Size | Length |
|-----------------|------|--------|
| 12124295 | #8 | 3/8" |
| 12124213 | | 1/2" |
| 12124219 | | 3/4" |
| 12124225 | | 1" |
| 12124232 | | 1-1/4" |
| 12124250 | | 2" |
| 12124813 | #10 | 1/2" |
| 12124819 | | 3/4" |
| 12124832 | | 1-1/4" |
| 12124838 | | 1-1/2" |
| 12124850 | | 2" |

SPECIALTY SELF-TAPPING / SELF-DRILLING SCREWS

Phillips Oval Head Sems® Self-Tapping Screws

| Chrome | Black | Size | Length |
|------------------|------------------|--------------|--------|
| | 013154216 | #8 (6hd) | 5/8" |
| 0131834 | 013154220 | | 3/4" |
| | 013154225 | | 1" |
| | 013154230 | | 1-1/4" |
| 013164816 | | #10 (8hd) | 5/8" |
| 013164820 | 013154820 | | 3/4" |
| 013164825 | 013154825 | | 1" |
| 013164830 | 013154830 | | 1-1/4" |


Oval Sems® (w/ washer) Self-Tapping Screws Phillips Drive

| Black | Size | Length |
|-------------------|------|--------|
| 0124754216 | #8 | 5/8" |
| 0124754219 | | 3/4" |
| 150159530 | | 1" |


Oval Sems® (w/ washer) Self-Drilling Phillips Drive (Tek®)

| Chrome | Black | Size | Length | Washer Type |
|-------------------|-------------------|------|--------|-------------|
| 0132674216 | 0132574216 | #8 | 5/8" | Flush |
| 013264216 | 013254216 | | 5/8" | Ctrsnk |
| 013264219 | 013254219 | | 3/4" | Ctrsnk |
| 013264225 | 013254225 | | 1" | Ctrsnk |
| 013264230 | 013254230 | | 1-1/4" | Ctrsnk |

Countersunk

Flush

SPECIALTY SELF-TAPPING / SELF-DRILLING SCREWS

Pan Head Torx® Self-Tapping Screws

| Black | Size | Length |
|---------------------|------|--------|
| 0125354216 | #8 | 5/8" |
| 0125354220* | | 3/4" |
| 0125354225** | | 1" |
| 0125354230 | | 1-1/4" |

* 7.9 mm washer

** 12 mm washer

U.S. STAINLESS STEEL

- Material: 18-8 Stainless Steel ANSI B18.6.4 1981


Hex Head Cap Screws

| Stainless Steel | Size | Length |
|-----------------|------------|--------|
| 109511412 | 1/4" - 20 | 1/2" |
| 109511434 | | 3/4" |
| 10951141 | | 1" |
| 1095114114 | | 1-1/4" |
| 1095114112 | | 1-1/2" |
| 10951142 | | 2" |
| 109515634 | 5/16" - 18 | 3/4" |
| 10951561 | | 1" |
| 1095156112 | | 1-1/2" |
| 10951562 | | 2" |
| 109513834 | 3/8" - 16 | 3/4" |
| 10951381 | | 1" |
| 1095138114 | | 1-1/4" |
| 1095138112 | | 1-1/2" |
| 10951382 | | 2" |
| 10951761 | 7/16" - 14 | 1" |
| 1095176112 | | 1-1/2" |
| 10951762 | | 2" |
| 1095176212 | | 2-1/2" |
| 10951122 | 1/2" - 13 | 2" |
| 1095112212 | | 2-1/2" |


Socket Head Cap Screws

| Stainless Steel | Size | Length |
|-----------------|------------|--------|
| 109411412 | 1/4" - 20 | 1/2" |
| 109411434 | | 3/4" |
| 10941141 | | 1" |
| 1094114114 | | 1-1/4" |
| 1094114112 | | 1-1/2" |
| 109415634 | | 3/4" |
| 10941561 | 5/16" - 18 | 1" |
| 1094156114 | | 1-1/4" |
| 1094156112 | | 1-1/2" |
| 10941562 | | 2" |
| 109413834 | 3/8" - 16 | 3/4" |
| 10941381 | | 1" |
| 1094138114 | | 1-1/4" |
| 1094138112 | | 1-1/2" |
| 10941382 | | 2" |

U.S. STAINLESS STEEL

- Material: 18-8 Stainless Steel ANSI B18.6.4 1981


Finished Hex Nuts

| Stainless Steel | Size |
|------------------|----------|
| 13221632 | 6-32 |
| 13221832 | 8-32 |
| 132211024 | 10-24 |
| 1322210 | 10-32 |
| 1322114 | 1/4"-20 |
| 13221516 | 5/16"-18 |
| 1322138 | 3/8"-16 |
| 13221716 | 7/16"-14 |
| 1322112 | 1/2"-13 |


Nylon Insert Lock Nuts

| Stainless Steel | Size |
|-----------------|----------|
| 139116 | 6-32 |
| 139118 | 8-32 |
| 1391110 | 10-24 |
| 1391210 | 10-32 |
| 1391114 | 1/4"-20 |
| 13911516 | 5/16"-18 |
| 1391138 | 3/8"-16 |
| 1391112 | 1/2"-13 |


Split Lock Washers

| Stainless Steel | Size |
|-----------------|-------|
| 144767 | #6 |
| 144787 | #8 |
| 1447107 | 3/16" |
| 144714 | 1/4" |
| 1447516 | 5/16" |
| 144738 | 3/8" |
| 1447716 | 7/16" |
| 144712 | 1/2" |

U.S. STAINLESS STEEL

- Material: 18-8 Stainless Steel ANSI B18.6.4 1981


SAE
SAE/USS Flat Washers

| SAE | I.D. | O.D. | Size |
|----------|--------|---------|-------|
| 1409267 | 5/32" | 3/8" | #6 |
| 1409287 | 3/16" | 7/16" | #8 |
| 14092127 | 1/4" | 9/16" | #12 |
| 1409214 | 9/32" | 5/8" | 1/4" |
| 14092516 | 11/32" | 11/16" | 5/16" |
| 1409238 | 13/32" | 13/16" | 3/8" |
| 14092716 | 15/32" | 59/64" | 7/16" |
| 1409212 | 17/32" | 1-1/16" | 1/2" |


USS

| SAE | I.D. | O.D. | Size |
|----------|--------|-------|-------|
| 14091107 | 1/4" | 9/16" | 3/16" |
| 1409114 | 5/16" | 3/4" | 1/4" |
| 14091516 | 11/16" | 7/8" | 5/16" |
| 1409138 | 13/16" | 1" | 3/8" |


US Cotter Pins

- Material: 18-8 Stainless Steel

| Stainless Steel | Dia. | Length |
|-----------------|-------|--------|
| 147411612 | 1/16" | 1/2" |
| 147411634 | | 3/4" |
| 14741161 | | 1" |
| 147433234 | 3/32" | 3/4" |
| 14743321 | | 1" |
| 1474332114 | | 1-1/4" |
| 1474332112 | | 1-1/2" |
| 14743322 | | 2" |
| 14741834 | 1/8" | 3/4" |
| 1474181 | | 1" |
| 147418114 | | 1-1/4" |
| 147418112 | | 1-1/2" |
| 1474182 | | 2" |
| 14745321 | 5/32" | 1" |
| 1474532114 | | 1-1/4" |
| 1474532112 | | 1-1/2" |

U.S. STAINLESS STEEL

- Material: 18-8 Stainless Steel ANSI B18.6.4 1981

Pan Head, Oval Head & Flat Head Phillips Screws

Pan Head

Oval Head

Flat Head

| Pan Head | Oval Head | Flat Head | Size | Length |
|----------|-----------|-----------|------|--------|
| 01193513 | 01243513 | 01233513 | #6 | 1/2" |
| 01193519 | 01243519 | 01233519 | | 3/4" |
| 01193525 | 01243525 | 01233525 | | 1" |
| 01193538 | | | | 1-1/2" |
| 01194213 | 01244213 | 01234213 | #8 | 1/2" |
| 01194219 | 01244219 | 01234219 | | 3/4" |
| 01194225 | 01244225 | 01234225 | | 1" |
| 01194232 | 01244232 | | | 1-1/4" |
| | 01244238 | | | 1-1/2" |
| 01194250 | | | | 2" |
| 01194813 | 01244813 | | #10 | 1/2" |
| 01194819 | 01244819 | 01234819 | | 3/4" |
| 01194825 | 01244825 | 01234825 | | 1" |
| 01194832 | 01244832 | | | 1-1/4" |
| 01194838 | 01244838 | 01234838 | | 1-1/2" |
| | 01244850 | | | 2" |
| 01195519 | 01245519 | 01235519 | #12 | 3/4" |
| 01195525 | 01245525 | 01235525 | | 1" |
| 01195538 | 01245538 | 01235538 | | 1-1/2" |
| 01196319 | | | #14 | 3/4" |
| 01196325 | | | | 1" |
| 01196338 | | | | 1-1/2" |

U.S. STAINLESS STEEL

- Material: 18-8 Stainless Steel ANSI B18.6.4 1981



Pan Head



Oval Head



Round Head



Pan Head, Oval Head & Round Head Phillips Machine Screws

| Pan Head | Oval Head | Round Head | Size | Length |
|-------------------|-------------------|-------------------|---------|--------|
| 12801614 | | | 6-32 | 1/4" |
| | 1282161 | | | 1" |
| 12801814 | | | 8-32 | 1/4" |
| 12801812 | | | | 1/2" |
| 12801834 | | | | 3/4" |
| 1280181 | | 0283181 | | 1" |
| 128011058 | | | 10-24 | 5/8" |
| | 128211034 | | | 3/4" |
| | 12821101 | | | 1" |
| 128021012 | | | 10-32 | 1/2" |
| 128021034 | | | | 3/4" |
| 12802101 | | | | 1" |
| | 128211434 | 028311434 | 1/4"-20 | 3/4" |
| | 12821141 | 02831141 | | 1" |
| | | 0283114114 | | 1-1/4" |
| | 1282114112 | | | 1-1/2" |
| | 12821142 | | | 2" |
| 1280114212 | | | | 2-1/2" |
| 12801143 | | | | 3" |

Cup Washers

| Stainless Steel | Size |
|-----------------|------|
| 1457567 | #6 |
| 1457587 | #8 |
| 14575107 | #10 |
| 14575127 | #12 |

METRIC STAINLESS STEEL

- Material: A2 (18-8) Stainless Steel Property Class 70


Metric Socket Head Cap Screws

- Specifications: DIN 912 / ISO 4762
- A2 (18-8) Stainless Steel
- Property class 70-cold worked, normal tensile strength

| Stainless Steel | Dia. Thread Pitch | Key (mm) | Length (mm) |
|-----------------|-------------------|----------|-------------|
| 0094310 | M3 (0.5) | 2.5 | 10 |
| 0094312 | | | 12 |
| 009448 | M4 (0.7) | 3 | 8 |
| 0094412 | | | 12 |
| 0094510 | M5 (0.8) | 4 | 10 |
| 0094512 | | | 12 |
| 0094516 | | | 16 |
| 0094520 | | | 20 |
| 0094610 | M6 (1.0) | 5 | 10 |
| 0094612 | | | 12 |
| 0094616 | | | 16 |
| 0094620 | | | 20 |
| 0094625 | | | 25 |
| 0094630 | | | 30 |
| 0094635 | | | 35 |
| 0094640 | | | 40 |
| 0094645 | 45 | | |
| 0094816 | M8 (1.25) | 6 | 16 |
| 0094820 | | | 20 |
| 0094825 | | | 25 |
| 0094830 | | | 30 |
| 0094840 | | | 40 |

METRIC STAINLESS STEEL

- Material: A2 (18-8) Stainless Steel Property Class 70


Metric Hex Head Cap Screws

- Specifications: DIN 933
- A2 (18-8) Stainless Steel
- Property class 70-cold worked, normal tensile strength

| Stainless Steel | Dia. Thread Pitch | W.A.F.* | Length (mm) |
|-----------------|-------------------|---------|-------------|
| 0096516 | M5 (0.8) | M8 | 16 |
| 0096520 | | | 20 |
| 0096612 | M6 (1.0) | M10 | 12 |
| 0096616 | | | 16 |
| 0096620 | | | 20 |
| 0096625 | | | 25 |
| 0096630 | | | 30 |
| 0096635 | | | 35 |
| 0096640 | | | 40 |
| 0096816 | M8 (1.25) | M13 | 16 |
| 0096820 | | | 20 |
| 0096825 | | | 25 |
| 0096830 | | | 30 |
| 0096835 | | | 35 |
| 0096840 | | | 40 |
| 0096850 | | | 50 |
| 00961030 | M10 (1.5) | M17 | 30 |
| 00961040 | | | 40 |

*W.A.F. is an abbreviation for Width Across Flats


Metric Flat Washers

| Stainless Steel | Size |
|-----------------|------|
| 04095 | M5 |
| 04096 | M6 |
| 04098 | M8 |
| 040910 | M10 |


Metric Lock Washers

| Stainless Steel | Size |
|-----------------|------|
| 04474 | M4 |
| 04475 | M5 |
| 04476 | M6 |
| 04478 | M8 |
| 044710 | M10 |

METRIC STAINLESS STEEL

- Material: A2 (18-8) Stainless Steel Property Class 70


Metric Hex Nuts

| Stainless Steel | Dia. | Thread Pitch | W.A.F.* |
|-----------------|------|--------------|---------|
| 03224 | M4 | 0.7 | M7 |
| 03225 | M5 | 0.8 | M8 |
| 03226 | M6 | 1.0 | M10 |
| 03228 | M8 | 1.25 | M13 |
| 032210 | M10 | 1.50 | M17 |

*W.A.F. is an abbreviation for Width Across Flats


Metric Nylon Insert Lock Nuts

| Stainless Steel | Dia. | Thread Pitch | W.A.F.* |
|-----------------|------|--------------|---------|
| 03915 | M5 | 0.8 | M8 |
| 03916 | M6 | 1.0 | M10 |
| 03918 | M8 | 1.25 | M13 |
| 039110 | M10 | 1.50 | M17 |

*W.A.F. is an abbreviation for Width Across Flats


Metric Machine Screws

- Specifications: DIN 7985 ISO 7045v • A2 (18-8) Stainless Steel

| Stainless Steel | Dia. | Length (mm) |
|-----------------|------|-------------|
| 0283512 | M5 | 12 |
| 0283516 | | 16 |
| 0283520 | | 20 |
| 0283612 | M6 | 12 |
| 0286616 | | 16 |
| 0283620 | | 20 |

ZEBRA® BLIND RIVETS

- Zebra® rivets cover more sizes, thus reducing inventory.
- Expand radially, providing complete hole fill resulting in tighter joints and added weather resistance.
- Mandrel core is locked into the eyelet providing a rattle free, weather tight fastener.
- A large blind-side expansion giving better support when used in applications with thinner materials or over-sized holes.



Button Head Aluminum Body Steel Mandrel

| Art. # | Diameter | | Body Length | | Grip Range | |
|------------|----------|--------|-------------|--------|-------------|---------------|
| | mm | inches | mm | inches | mm | inches |
| 091553248 | 3.2 | 1/8" | 8 | 5/16" | 0.5 - 4.8 | 1/64" - 3/16" |
| 091553280 | | | 11 | 7/16" | 4.0 - 8.0 | 5/32" - 5/16" |
| 091554064 | 4.0 | 5/32" | 10 | 3/8" | 1.2 - 6.3 | 3/64" - 1/4" |
| 091554096 | | | 13 | 1/2" | 4.0 - 9.6 | 5/32" - 3/8" |
| 0915540127 | | | 17 | 11/16" | 6.4 - 12.7 | 1/4" - 1/2" |
| 091554864 | 4.8 | 3/16" | 10 | 3/8" | 1.6 - 6.3 | 1/16" - 1/4" |
| 0915548198 | | | 25 | 1" | 12.7 - 19.8 | 1/2" - 5/8" |



Button Head Aluminum Black Body Steel Mandrel

| Art. # | Diameter | | Body Length | | Grip Range | |
|-----------|----------|--------|-------------|--------|------------|--------------|
| | mm | inches | mm | inches | mm | inches |
| 091594064 | 4.0 | 5/32" | 10 | 3/8" | 1.2 - 6.3 | 3/64" - 1/4" |
| 091594096 | | | 13 | 1/2" | 4.0 - 9.6 | 5/32" - 3/8" |



Large Flange Aluminum Body Steel Mandrel

| Art. # | Diameter | | Body Length | | Grip Range | |
|-------------|----------|--------|-------------|--------|-------------|--------------|
| | mm | inches | mm | inches | mm | inches |
| 091504864* | 4.8 | 3/16" | 10 | 3/8" | 1.6 - 6.3 | 1/16" - 1/4" |
| 0915048127* | | | 17 | 11/16" | 6.4 - 12.7 | 1/4" - 1/2" |
| 0915048198* | | | 25 | 1" | 12.7 - 19.8 | 1/2" - 5/8" |

*Large Flange rivets have a 15.6 mm diameter head



One Size Zebra® Rivet Covers Multiple Grip Ranges

ZEBRA® BLIND RIVETS

Rivet Backup Washers

- Use when fastening soft materials or when hole is oversized.
- Specifications: Steel material.

| Zinc | Rivet Dia. | O.D. |
|-----------------|------------|--------|
| 1408718 | 1/8" | 1/2" |
| 14087532 | 5/32" | 1/2" |
| 14087316 | 3/16" | 15/32" |


Hand Riveter

- The best selling model! Application of the rivet with minimum effort and leverage.
- Universal hand riveter made of steel for use with all common rivets (aluminum, copper or steel).
- For rivet sizes 3mm (1/8"), 4mm (5/32") and 5mm (3/16").

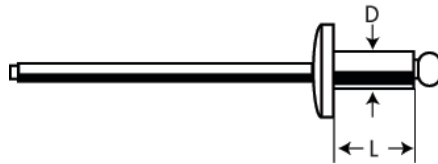
Art. #
1949915510

BLIND RIVETS

Measuring Information

D = Body Diameter

L = Body Length



Head Styles

| | |
|--|---|
| | Low profile head diameter is twice the rivet body diameter, providing adequate bearing surface for nearly all applications. |
| | Provides greater bearing surface for fastening soft materials and over-sized holes. |
| | 120° countersunk rivets for applications where flush appearance is required. |



Button Head Rivets Regular Flange

- Especially useful for fastening where there is no access to opposite side of work.
- Simple and easy to fasten two or more pieces of material together.
- Wide variety of sizes.

| Alum. Body Alum. Mandrel | Alum. Body Steel Mandrel | Steel Body Steel Mandrel | Stainless Body Stainless Mandrel | Dia. | Body Length | Grip Range |
|-----------------------------|-----------------------------|-----------------------------|-------------------------------------|-------|----------------|--------------|
| 191433218 | | | | 3/32" | 1/4" | 1/64" - 1/8" |
| 191433214 | | 193533214 | | | 3/8" | 1/8" - 1/4" |
| 19141818 | 19361818 | 19351818 | 19311818 | 1/8" | 1/4" | 1/16" - 1/8" |
| 191418316 | 093638 | 193518316 | 193118316 | | 5/16" | 1/8" - 3/16" |
| 19141814 | 19371814 | 19351814 | 19311814 | | 3/8" | 3/16" - 1/4" |
| | 193618516 | 193518516 | 193118516 | | 7/16" | 1/4" - 5/16" |
| 19141838 | | 19351838 | | | 1/2" | 5/16" - 3/8" |
| 19141812 | | 19351812 | | | 5/8" | 3/8" - 1/2" |
| 0937325 | 19361834 | | | | 7/8" | 5/8" - 3/4" |
| | 093648 | 1935532316 | 1931532316 | 5/32" | 5/16" | 1/8" - 3/16" |
| 0937410 | 0936410 | 193553214 | 193153214 | | 3/8" | 3/16" - 1/4" |
| 0937412 | | | | | 1/2" | 1/4" - 3/8" |
| | 193631618 | | | 3/16" | 5/16" | 1/64" - 1/8" |
| 191431614 | 093658 | 193531614 | 193131614 | | 3/8" | 1/8" - 1/4" |
| 191431638 | | 193531638 | 193131638 | | 1/2" | 1/4" - 3/8" |
| 191431612 | | | | | 5/8" | 3/8" - 1/2" |
| 191431658 | | | | | 3/4" | 1/2" - 5/8" |

BLIND RIVETS



Button Head Rivets Large Flange

| Alum. Body Alum. Mandrel | Steel Body Steel Mandrel | Dia. | Body Length | Grip Range |
|-----------------------------|-----------------------------|-------|-------------|--------------|
| 191411814 | 193511814 | 1/8" | 5/16" | 1/8" - 1/4" |
| 1914131614 | | 3/16" | 7/16" | 1/64" - 1/4" |
| 1914131638 | 1935131638 | | 1/2" | 1/4" - 3/8" |
| 1914131612 | | | 5/8" | 3/8" - 1/2" |
| 1914131658 | | | 3/4" | 1/2" - 5/8" |
| 1914131634 | | | 1" | 5/8" - 3/4" |

1/8" Large Flange rivets have a 3/8" diameter head

3/16" Large Flange rivets have a 5/8" diameter head



120° Countersunk Rivets

| Steel Body Steel Mandrel | Dia. | Body Length | Grip Range |
|-----------------------------|------|-------------|--------------|
| 1935218316 | 1/8" | 5/16" | 1/8" - 3/16" |
| 193521814 | | 3/8" | 3/16" - 1/4" |

METRIC BLIND RIVET NUTS

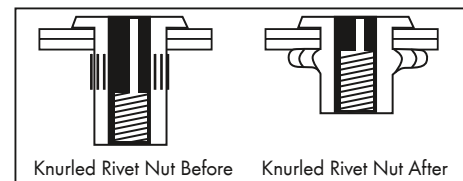
Steel Metric Rivet Nuts (with Countersunk Flange)

A blind rivet nut is a fastener which allows the installation of load bearing threads into sheet metal, fiberglass or plastics. "Blind" meaning that it can be installed having access to only one side of the work.

It is referred to as a "Rivet Nut" because it works similarly to a blind rivet in that when it is installed, it forms a bulge on the backside of the material it is being put into.

Because it functions like a blind rivet, it can also be used to hold two or more sheets of material together while installing threads.

Uses include: Automotive/truck accessories, luggage racks, mirrors, cell phones...



| Art. # | Thread Dia. | Size Hole Needed (mm) | Grip Range (mm) |
|---------------|-------------|-----------------------|-----------------|
| 09174 | M4 | 6.4 | 0.5 - 1.8 |
| 09175 | M5 | 7.2 | 0.5 - 2.5 |
| 09176 | M6 | 9.6 | 0.8 - 3.3 |
| 09178 | M8 | 10.7 | 0.9 - 3.3 |
| 091710 | M10 | 12.7 | 1.0 - 5.0 |

METRIC BLIND RIVET NUTS


| Rivet Nut Mandrels for Gun # 191755102 | Size |
|---|------|
| 091713 | M3 |
| 091714 | M4 |
| 091415 | M5 |
| 091416 | M6 |
| 091718 | M8 |


Steel Metric Rivet Nuts (with Knurled Body and Countersunk Flange)

| Art. # | Thread Dia. | Size Hole Needed (mm) | Grip Range (mm) |
|--------|-------------|-----------------------|-----------------|
| 091774 | M4 | 6.4 | 0.5 - 1.8 |
| 091775 | M5 | 7.2 | 0.5 - 2.5 |
| 091776 | M6 | 9.6 | 0.8 - 3.3 |
| 091778 | M8 | 10.7 | 0.9 - 3.3 |


Aluminum Metric Rivet Nuts (with Large Flange)

| Art. # | Thread Dia. | Size Hole Needed (mm) | Grip Range (mm) |
|----------|-------------|-----------------------|-----------------|
| 09481520 | M5 | 7.1 | 0.3 - 3.0 |
| 09481530 | | | 0.3 - 5.0 |
| 09481615 | M6 | 9.1 | 0.5 - 3.0 |
| 09481630 | | | 0.3 - 5.5 |
| 09481840 | M8 | 11.1 | 3.0 - 5.5 |

USS BLIND RIVET NUTS

Steel USS Rivet Nuts (with Countersunk Flange)

| Art. # | Thread Dia. | Drill Bit Needed | Grip Range (in.) |
|------------------|-------------|------------------|------------------|
| 1917632 | #6-32 | #12 | .020 - .080 |
| 1917832 | #8-32 | 7/32" | .020 - .080 |
| 19171024 | #10-24 | 1/4" | .020 - .130 |
| 19171032 | #10-32 | 1/4" | .020 - .130 |
| 19171420 | 1/4"-20 | | .027 - .165 |
| 191751618 | 5/16"-1/8" | 27/64" | .027 - .050 |
| 19173816 | 3/8"-16 | 1/2" | .027 - .050 |


Steel USS Rivet Nuts (with Knurled Body and Countersunk Flange)

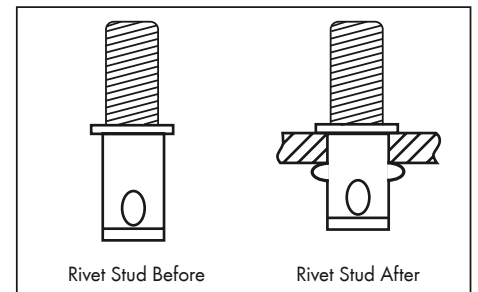
| Art. # | Thread Dia. | Drill Bit Needed | Grip Range (in.) |
|-------------------|-------------|------------------|------------------|
| 19177832 | #8-32 | 17/64" | .020 - .080 |
| 191771024 | #10-24 | 19/64" | .020 - .130 |
| 191771032 | #10-32 | 19/64" | .020 - .130 |
| 191771420 | 1/4"-20 | 25/64" | .027 - .165 |
| 1917751618 | 5/16"-1/8" | 17/32" | .027 - .050 |
| 191773816 | 3/8"-16 | 17/32" | .027 - .050 |



| Rivet Nut Mandrels for Gun # | Size |
|------------------------------|------------|
| 19175510 | |
| 19176321 | 6 - 32 |
| 19178321 | 8 - 32 |
| 191710241 | 10 - 24 |
| 191710321 | 10 - 32 |
| 191714201 | 1/4" - 20 |
| 1917516181 | 5/16" - 18 |
| 191738161 | 3/8" - 16 |

METRIC BLIND RIVET STUDS

A blind rivet stud is a fastener which, once installed leaves a threaded stud protruding from the work-piece (sheet metal, fiberglass or plastics), an alternative to clinch or weld studs.



| Art. # | Thread Dia. | Grip Range |
|---------------|-------------|------------|
| 191784 | M4 | 0.5 - 1.9 |
| 191785 | M5 | 0.5 - 1.9 |
| 191786 | M6 | 0.5 - 2.4 |
| 191788 | M8 | 0.5 - 2.9 |

BLIND FASTENERS

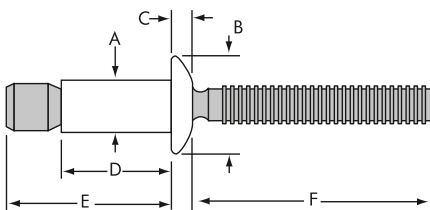
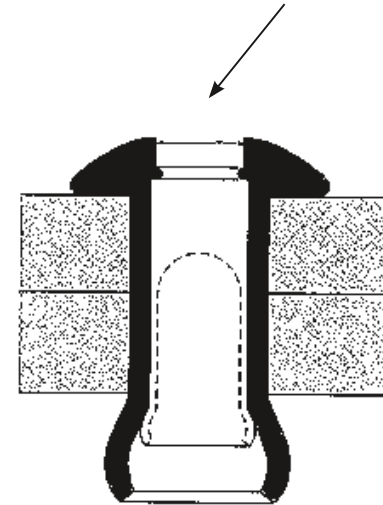
Magna-Lok®

Employing a unique solid-circle lock, the Magna-Lok® creates an internal lock during installation that ensures maximum strength and resistance to vibration, and is designed to eliminate pin pushout. The expansion of the body tightly fills the hole creating a weather-resistant joint, and the flush break eliminates the need for grinding.

- Applications: Roof caps, window deflectors, corner castings and side sheets.
- Specifications: Steel/Aluminum



Unique circle lock ensures maximum strength



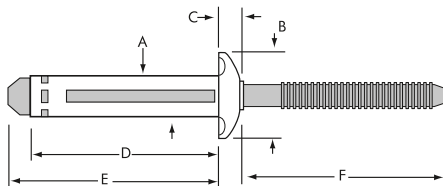
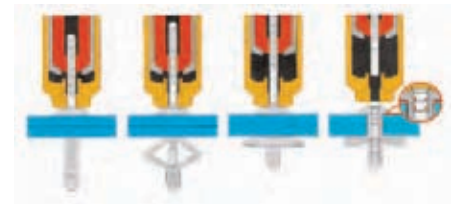
| Art. # | Dia. | Material | Grip Range | Hole Size | A | B | C | D | E | F |
|----------|-------|----------|------------|-----------|------|------|------|-------|------|------|
| 19211515 | 3/16" | Steel | .062-.270 | .191-.201 | .188 | .500 | .085 | .415 | .675 | 1.00 |
| 19211415 | | Steel | .214-.437 | | | | | .572 | .825 | |
| 1921154 | | Aluminum | .062-.270 | | | | | .415 | .675 | |
| 1921157 | | Aluminum | .062-.437 | | | | | .572 | .825 | |
| 19211510 | 1/4" | Steel | .080-.375 | .261-.272 | .253 | .525 | .117 | .810 | .970 | |
| 19211410 | | Steel | .350-.625 | | | | | 1.220 | | |
| 1921156 | | Aluminum | .080-.375 | | | | | .970 | | |
| 1921146 | | Aluminum | .350-.625 | | | | | 1.220 | | |

BLIND FASTENERS

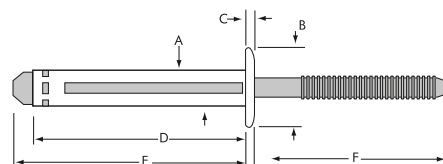
Magna-Tite® Rivets

An applied watertight sealant makes this rivet especially suitable for oversize holes and repair applications. A large blind-side footprint also makes the fastener ideal for installation in thin or low-strength materials such as aluminum, fiber-glass and plastic.

- Applications: Trailer and truck construction, sheet metal manufacturing, awnings, roofing and RV's.
- Specifications: Aluminum



| Protruding Head Style | | | | | | | | | | |
|-----------------------|-------|----------|------------|-----------|------|------|------|------|------|------|
| Art. # | Dia. | Material | Grip Range | Hole Size | A | B | C | D | E | F |
| 194423165 | 3/16" | Aluminum | .050-.312 | .205-.221 | .199 | .453 | .117 | .890 | 1.02 | 9.40 |
| 194423166 | | | .100-.375 | | | | | .940 | 1.07 | |
| 194423168 | | | .250-.500 | | | | | 1.09 | 1.22 | |



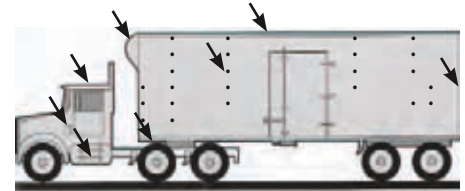
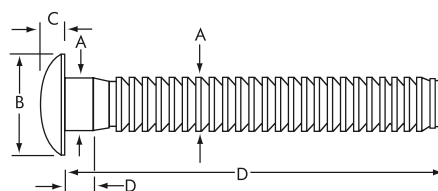
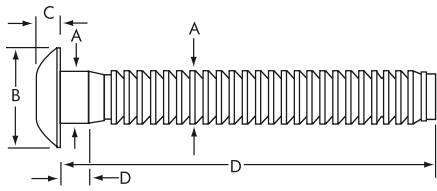
| Low Profile Style | | | | | | | | | | |
|-------------------|-------|----------|------------|-----------|------|------|------|------|------|------|
| Art. # | Dia. | Material | Grip Range | Hole Size | A | B | C | D | E | F |
| 194433164 | 3/16" | Aluminum | .050-.250 | .205-.221 | .199 | .453 | .052 | .840 | 1.04 | 1.18 |
| 194433168 | | | .187-.500 | | | | | 1.09 | 1.14 | .93 |

TWO PIECE FASTENER

Magna-Grip® Bolts (Steel Huck Bolts)

This unique fastener is the only fastening system of its kind to automatically accommodate varying thickness. Allows the user to stock less inventory, which saves costs. Hole preparation is not critical. Built-in system valves give high, consistent clamp loads, and gap removal. Vibration resistant.

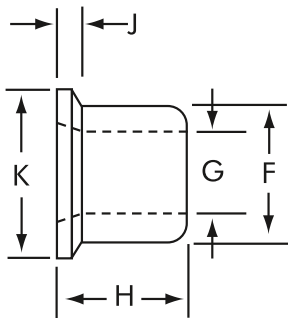
- Applications: Truck trailer applications: Name plates, lower rub rails, roof caps, wind deflectors, corner castings, side sheet panels. Truck cab applications: Drip moulding attachment, firewall assembly, fender attachments, door frame assemblies, roof assembly, ventilator attachment.
- Specifications: Steel/Aluminum



Truss Head Style

Rivet Head Style

| Art. # | Style | Dia. | Material | Grip Range | Hole Size | A | B | C | D | E | F |
|------------|-------|-------|----------|------------|-----------|-----------|-----------|-----------|-------|-----------|------|
| 19200142 | Truss | 1/4" | Steel | .062-.625 | .265 | .245-.249 | .531-.594 | .103-.115 | 1.965 | .250-.259 | .114 |
| 1920014212 | Truss | 1/4" | | .312-1.25 | .265 | .245-.249 | .531-.594 | .103-.115 | 2.560 | .250-.259 | .312 |
| 19201316 | Rivet | 3/16" | | .062-.625 | .203 | .183-.187 | .450-.488 | .91-.105 | 1.788 | .191-.195 | .087 |



Huck Bolt Collar

| Art. # | Dia. | Material | F | G | H | J | K |
|---------|-------|----------|-----------|-----------|-----------|-----------|-----------|
| 1920316 | 3/16" | Steel | .309-.312 | .190-.194 | .270-.280 | .042-.050 | .368-.382 |
| 192014 | 1/4" | | .403-.406 | .252-.255 | .370-.380 | .057-.067 | .459-.510 |
| 1920516 | 5/16" | | .503-.507 | .314-.318 | .432-.444 | .071-.084 | .612-.637 |

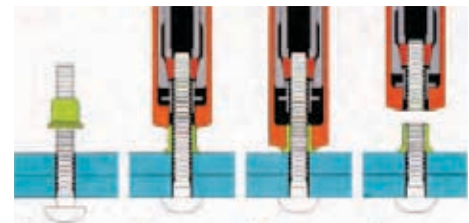
Installation Tool

Special Order # GBP713

- Use for installing Magna-Grip® Bolts up to 5,000 pulling force.
 - Installs all materials thru 1/4".
 - Accepts 3/4" dia. Huck® noses.
- (Nose assemblies may be needed)

Special Order # GBP52B

- Use for installing Magna-Lok® Rivets all materials thru 1/4".
 - Use for installing Magna-Grip® Bolts all materials thru 3/16" and 1/4" aluminum.
 - Accepts 3/4" dia. Huck® noses.
- (Nose assemblies may be needed)



05.0460

CONVERSION CHARTS

Thread Pitch & Wrench Size

| Size of Bolt or Nut (mm) | Thread Pitches | | | Width Across Flat Wrench Size | | Tapping Drill Dia. (mm) |
|--------------------------|----------------|-------------|-------------|-------------------------------|------------------|-------------------------|
| | ISO (mm) | Euro Normal | Metric Fine | ISO (mm) | Euro Metric (mm) | |
| 3 | 0.5 | 0.5 | 0.35 | 5.5 | 5.5 | 2.5 |
| 4 | 0.7 | 0.7 | 0.5 | 7.0 | 7.0 | 3.3 |
| 5 | 0.8 | 0.8 | 0.5 | 8.0 | 8.0 | 4.2 |
| 6 | 1.0 | 1.0 | 0.75 | 10.0 | 10.0 | 5.0 |
| 7 | 1.0 | 1.0 | 0.75 | 11.0 | 11.0 | 6.0 |
| 8 | 1.25 | 1.25 | 1.0 | 12.0 | 13.0 | 7.5 |
| 9 | 1.25 | 1.25 | 1.0 | 17.0 | 17.0 | 7.5 |
| 10 | 1.25 | 1.5 | 1.0 | 14.0 | 17.0 | 8.5 |
| 12 | 1.25 | 1.75 | 1.5 | 17.0 | 19.0 | 10.2 |
| 14 | 1.5 | 2.0 | 1.5 | 19.0 | 22.0 | 12.0 |
| 16 | 1.5 | 2.0 | 1.5 | 22.0 | 24.0 | 14.0 |
| 18 | 1.5 | 2.5 | 1.5 | 24.0 | 27.0 | 15.5 |
| 20 | 1.5 | 2.5 | 1.5 | 27.0 | 30.0 | 17.5 |

Wire Conversions

| Gauge | MM ⁽²⁾ |
|-------|-------------------|
| 3 | 2.5 |
| 4 | 3.3 |
| 5 | 4.2 |
| 6 | 5.0 |
| 7 | 6.0 |
| 20 | 17.5 |

Formula for Thread Length on Partially Domestic Bolts

Up to 6" Long - 2 x Dia. + 1/4"

Over 6" Long - 2 x Dia. + 1/2"

Decimal Equivalents & Drill Size Chart

| Drill Size | Inch (Dec.) | Metric (mm) | Drill Size | Inch (Dec.) | Metric (mm) | Drill Size | Inch (Dec.) | Metric (mm) | Drill Size | Inch (Dec.) | Metric (mm) | Drill Size | Inch (Dec.) | Metric (mm) |
|------------|-------------|-------------|------------|-------------|-------------|------------|-------------|-------------|------------|-------------|-------------|------------|-------------|-------------|
| 80 | .0135 | .343 | 50 | .0700 | 1.778 | 22 | .1570 | 3.988 | G | .2610 | 6.630 | 31/64 | .4844 | 12.304 |
| 79 | .0145 | .368 | 49 | .0730 | 1.854 | 21 | .1590 | 4.039 | 17/64 | .2656 | 6.746 | 1/2 | .5000 | 12.700 |
| 1/64 | .0156 | .396 | 48 | .0760 | 1.930 | 20 | .1610 | 4.089 | H | .2666 | 6.756 | 33/64 | .5156 | 13.096 |
| 78 | .0160 | .406 | 5/64 | .0781 | 1.984 | 19 | .1660 | 4.216 | I | .2720 | 6.909 | 17/32 | .5312 | 13.492 |
| 77 | .0180 | .457 | 47 | .0785 | 1.994 | 18 | .1695 | 4.305 | J | .2770 | 7.036 | 35/64 | .5459 | 13.891 |
| 76 | .0200 | .508 | 46 | .0810 | 2.057 | 11/64 | .1719 | 4.366 | K | .2810 | 7.137 | 9/16 | .5625 | 14.288 |
| 75 | .0210 | .533 | 45 | .0820 | 2.083 | 17 | .1730 | 4.394 | 9/32 | .2812 | 7.142 | 37/64 | .5781 | 14.684 |
| 74 | .0225 | .572 | 44 | .0860 | 2.184 | 16 | .1770 | 4.496 | L | .2900 | 7.366 | 19/32 | .5938 | 15.083 |
| 73 | .0240 | .609 | 43 | .0890 | 2.261 | 15 | .1800 | 4.572 | M | .290 | 7.493 | 39/64 | .6094 | 15.479 |
| 72 | .0250 | .635 | 42 | .0935 | 2.375 | 14 | .1820 | 4.623 | 19/64 | .2969 | 7.541 | 5/8 | .6250 | 15.875 |
| 71 | .0260 | .660 | 3/32 | .0938 | 2.383 | 13 | .1850 | 4.700 | N | .3020 | 7.671 | 41/64 | .6406 | 16.271 |
| 70 | .0280 | .711 | 41 | .0960 | 2.438 | 3/16 | .1875 | 4.763 | 5/16 | .3125 | 7.938 | 21/32 | .6562 | 16.667 |
| 69 | .0292 | .742 | 40 | .0980 | 2.489 | 12 | .1890 | 4.801 | O | .3160 | 8.026 | 43/64 | .6719 | 17.066 |
| 68 | .0312 | .792 | 39 | .0995 | 2.527 | 11 | .1910 | 4.851 | P | .3230 | 8.204 | 11/16 | .6875 | 17.463 |
| 1/32 | .0312 | .792 | 38 | .1015 | 2.578 | 10 | .1935 | 4.915 | 21/64 | .3281 | 8.334 | 45/64 | .7031 | 17.859 |
| 67 | .0320 | .813 | 37 | .1040 | 2.642 | 9 | .1960 | 4.978 | Q | .3320 | 8.433 | 23/32 | .7188 | 18.258 |
| 66 | .0330 | .838 | 36 | .1065 | 2.705 | 8 | .1990 | 5.055 | R | .3390 | 8.611 | 47/64 | .7344 | 18.654 |
| 65 | .0350 | .889 | 7/64 | .1094 | 2.779 | 7 | .2010 | 5.105 | 11/32 | .3438 | 8.733 | 3/4 | .7500 | 19.050 |
| 64 | .0360 | .914 | 35 | .1100 | 2.794 | 13/64 | .2031 | 5.159 | S | .3480 | 8.937 | 49/64 | .7656 | 19.446 |
| 63 | .0370 | .940 | 34 | .1110 | 2.819 | 6 | .200 | 5.182 | T | .3580 | 9.093 | 25/32 | .7812 | 19.842 |
| 62 | .0380 | .965 | 33 | .1130 | 2.870 | 5 | .2055 | 5.220 | 23/64 | .3594 | 9.129 | 51/64 | .7969 | 20.240 |
| 61 | .0390 | .991 | 32 | .1160 | 2.946 | 4 | .2090 | 5.309 | U | .3680 | 9.347 | 13/16 | .8125 | 20.638 |
| 60 | .0400 | 1.016 | 31 | .1200 | 3.048 | 3 | .2130 | 5.410 | 3/8 | .3750 | 9.525 | 53/64 | .8281 | 21.034 |
| 59 | .0410 | 1.041 | 1/8 | .1250 | 3.175 | 7/32 | .2188 | 5.558 | V | .3770 | 9.576 | 27/32 | .9062 | 20.017 |
| 58 | .0420 | 1.067 | 30 | .1285 | 3.261 | 2 | .2210 | 5.613 | W | .3860 | 9.804 | 55/64 | .8594 | 23.829 |
| 57 | .0430 | 1.092 | 29 | .1360 | 3.454 | 1 | .2280 | 5.791 | 25/64 | .3906 | 9.921 | 7/8 | .8750 | 22.225 |
| 56 | .0465 | 1.181 | 28 | .1405 | 3.569 | A | .2340 | 6.147 | X | .3970 | 10.084 | 57/64 | .8906 | 22.621 |
| 3/64 | .0469 | 1.191 | 9/64 | .1406 | 3.571 | 15/64 | .2344 | 5.954 | Y | .4040 | 10.262 | 29/32 | .9062 | 23.017 |
| 55 | .0520 | 1.321 | 27 | .1440 | 3.658 | B | .2380 | 6.045 | 13/32 | .4062 | 10.317 | 59/64 | .9219 | 23.416 |
| 54 | .0550 | 1.397 | 26 | .1470 | 3.734 | C | .2420 | 6.147 | Z | .4130 | 10.490 | 15/16 | .9375 | 23.813 |
| 53 | .0595 | 1.511 | 25 | .1495 | 3.797 | D | .2460 | 6.248 | 27/64 | .4219 | 10.716 | 61/64 | .9531 | 24.209 |
| 1/16 | .0625 | 1.588 | 24 | .1520 | 3.861 | 1/4 | .2500 | 6.350 | 7/16 | .4375 | 11.113 | 31/32 | .9688 | 24.608 |
| 52 | .0635 | 1.613 | 23 | .1540 | 3.912 | E | .2500 | 6.350 | 29/64 | .4531 | 11.509 | 63/64 | .9844 | 25.004 |
| 51 | .0670 | 1.702 | 5/32 | .1562 | 3.967 | F | .2570 | 6.528 | 15/32 | .4688 | 11.908 | 1 | 1.000 | 25.400 |

CONVERSION CHARTS

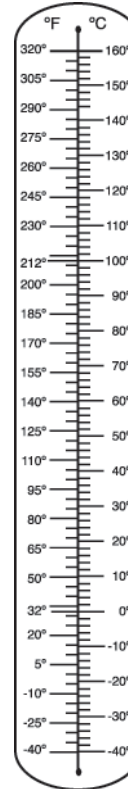
Decimal Equivalent of Standard Gauge Sheet Aluminum & Sheet Metal

| No. of Gauge | Gauge | |
|--------------|-------------|-----------------|
| | Alum. (B&S) | Steel (US Std.) |
| 10 | .1019 | .1345 |
| 11 | .0907 | .1196 |
| 12 | .0808 | .1046 |
| 13 | .0720 | .0897 |
| 14 | .0641 | .0747 |
| 15 | .0571 | .0673 |
| 16 | .0508 | .0598 |
| 17 | .0453 | .0538 |
| 18 | .0403 | .0478 |
| 19 | .0359 | .0418 |
| 20 | .0320 | .0359 |
| 21 | .0285 | .0329 |
| 22 | .0253 | .0299 |
| 23 | .0226 | .0269 |
| 24 | .0201 | .0239 |
| 25 | .0179 | .0209 |
| 26 | .0159 | .0179 |
| 27 | .0142 | .0164 |
| 28 | .0126 | .0149 |
| 29 | .0113 | .0135 |
| 30 | .0100 | .0120 |

Temperature General Information

| Item | Degree F | Degree C |
|------------------|----------|----------|
| Iron Melts | 2802 | 1540 |
| Copper Melts | 1981 | 1083 |
| Gold Melts | 1945 | 1063 |
| Silver Melts | 1760 | 960 |
| Aluminum Melts | 1220 | 660 |
| Zinc Melts | 788 | 420 |
| Lead Melts | 621 | 327 |
| Water Boils | 212 | 100 |
| Body Temperature | 98.6 | 37 |
| Water Freezes | 32 | 0 |
| Absolute Zero | 459.6 | -273 |

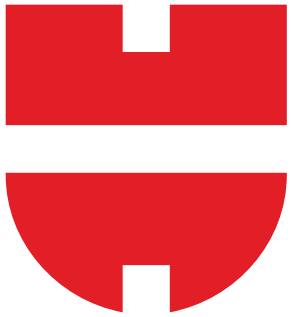
Temperature Conversions



A Fahrenheit degree is smaller than a Celsius (Centigrade) degree, one Fahrenheit degree being 5/9 of a Celsius degree. To convert Fahrenheit degrees into Celsius, subtract 32, multiply by 5, and divide by 9. To convert Celsius to Fahrenheit, multiply by 9, divide by 5, and add 32.

Metric Conversions

| | | | | | | |
|---------------|----------------------|------------|---------------------------|-----------------------------|-----------|--------------------|
| Linear | Multiply Inches | by 25.4 | to get Millimeters (mm) | Multiply Millimeters (mm) | by .03937 | to get Inches |
| | Multiply Feet | by 0.3048 | to get Meters (M) | Multiply Meters (M) | by 3.281 | to get Feet |
| | Multiply Inches | by 2.54 | to get Centimeters (cm) | Multiply Centimeters (cm) | by .3937 | to get Inches |
| Torque | Multiply Inch-Pound | by 0.11298 | to get Newton-Meters (Nm) | Multiply Newton-Meters (Nm) | by 8.851 | to get Inch-Pound |
| | Multiply Foot-Pounds | by 1.3558 | to get Newton-Meters (Nm) | Multiply Newton-Meters (Nm) | by 0.7376 | to get Foot-Pounds |
| Force | Multiply Pounds | by 0.445 | to get Kilo-Newtons (kN) | Multiply Kilo-Newtons (kN) | by 2.2472 | to get Pounds |



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